LIONAKIS

ADDENDUM

Addendum No. #02

Janurary 4, 2024

To all bidders for furnishing all labor and materials necessary and required for constructing:

Meadow Heights MP Building INC-2
2619 Dolores St.
San Mateo, CA 94403
DSA#: 01-120018 INC-2

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated 11/16/2023 (Approval date), Addendum No.01, dated December 20, 2023, and Addendum No.02, dated January 4,2024. Acknowledge all addenda in the space provided on the Bid Form; failure to do so will result in disqualification of the bidder.

NOTICE TO BIDDERS:

RFIs – QUESTIONS AND ANSWERS

1. **Question:** Is this project subject to the State of California's Skilled and Trained Workforce Requirements
   Answer: No

2. **Question:** Please provide a logistics plan
   Answer: See 2.C-2.0 – Demolition Plan –
   a. All areas shaded by light gray is within the zone for Contractor to phase construction activities.
   b. The demolition of existing sidewalk along east side of Building D and the construction of replaced sidewalk is required to be scheduled for construction during Summer Break 2024.
   c. Bldg. D – All classroom doors on the east side will be closed to students' access for the duration of the construction. They are not required exits and are not required accessible entries.
   d. South of Building D – work scope for fence / sidewalk to be scheduled for construction during Summer Break 2024.

3. **Question:** SPECS: Document 00 45 10 – Agreement
   5. Time for Completion: It is hereby understood and agreed that the Contractor shall complete the Work within February 19, 2024-July 11, 2025 (508) consecutive calendar days ("Contract Time") from the date specified in the District's Notice to Proceed. The District shall not approve an early completion schedule by Contractor. A schedule showing the Work completed in less than the Contract Time indicated in the Contract, shall be considered to have Project Float.
   Answer: The Contract will be specific as of date of Notice to Proceed (NTP), Spec Section 00 45 00 stated an estimated project schedule.

4. **Question:** Is there a DVBE requirement?
   Answer: See Addendum #1 response.

5. **Question:** Spec 26 09 61 is listed twice. Please confirm only 1 is applicable.
   Answer: Delete the 2nd set of spec section 26 09 6, bookmarked as "performance dimming and control.

6. **Question:** Reference spec 05 50 00 - Metal Fabrications. Please list all "Tubing" items required to be Stainless Steel.

Answer: Spec Section 05 50 00 - specifies interior rails / tubing, and specific exterior Drinking Fountain rails. See Spec Section 05 52 00 for all site related railing / tubing material.

7. **Question:** Reference spec 07 26 50 - Please identify where the vapor emission control barriers are required.
   Answer: Spec Section 07 26 50 - Article 1.1 provided where the system is required and see further requirements under article 1.2 - in each specific "Related Sections".

8. **Question:** 4/2.C-3.0 – Grading keynote references risers shown on landscape plans. Landscape layout and materials plans do not show this information. Please provide.
   Answer: Revise the design of the “risers” at the location called out by Keynote #4 – Delete bottom riser, continue top of north/south curb southward to end at the curb with fence. Adjust landscape finish grade on the east to match adjacent surfaces.

9. **Question:** Please clarify the extent of the motorized roller shade for the Nana wall. Sheet A-121 implies a single roller shade over the full length of the nana wall however, since GL-111 shows that these doors are needed for egress, a single shade is not compliant as it would block people in. The door schedule A-621 does not list these doors separately from the nana wall. Please clarify if the roller shade should only be between the two doors or if there should be 3 motorized shades.
   Answer: Delete "roller shades" over doors.

10. **Question:** Per mounting details 2 and 3/ 2.M-201 do the rod stiffeners and struts must only be B-line product? (SC228 and B22 channel) Or can we use other brands?
    Answer: Other manufacturers are acceptable providing they are an OPM certified seismic restraint system.

11. **Question:** For grease duct is the material to be carbon steel 16ga or stainless steel? If stainless steel (316 or 304) I looked thru specs and I didn't see where it states
    Answer: Grease exhaust ducts are to be constructed entirely of 16-gauge carbon steel using continuous external welded joints. Refer to section 2.3.2 for Grease exhaust duct specifications.

12. **Question:** On sheets M-100 and M-102 there are missing key notes that show on drawings but not listed. Can we get this information? (A17, A19, H23,H118 etc.)
    Answer: Keynotes have been updated and added to sheets. See attached 2.M100 and 2.M102

13. **Question:** On sheet M-100 the 10" x 10" exhaust drop-in electrical room 113, how is this being terminated? with a grill, cap with mesh?
    Answer: Terminate with metal mesh bird screen

14. **Question:** I want to confirm that the kitchen hood is to be furnished and installed by others? Shown on sheets QF-111M thru 411M.
    Answer: Kitchen hood shall be by food service contractor.

15. **Question:** Roof top ductwork on sheet 2.M102 is this to be external wrapped or internal lined?
    Answer: Rooftop ductwork is to be external wrapped

16. **Question:** On sheet 2.M102 keynote A14 how does this support detail apply to ductwork? This detail seems to be towards the piping trades.?
    Answer: Refer to roof duct support details on sheet 2.M201 added in addendum 2

17. **Question:** Will there be any roof duct supports details? I assume there will be some to support this ductwork.

Answer: Refer to roof duct support details on sheet 2.M201added in addendum 2

18. **Question:** On sheet 2.M-202 detail # 1 it talks about this Hushcore deck system model# DS-53. What contractor is reasonable for this SOW?
    Answer: Insulation shown in this detail within the footprint of the mechanical curb, shall be furnished and installed by the mechanical contractor.

19. **Question:** 2.L01.00 – Little/no expansion joints shown at pedestrian concrete paving area at western edge of site (at the top of the ADA ramp), only control joints. Please confirm this is correct or revise layout play to show expansion joints.
    Answer: Expansion joints occur along the western elevated walkway every fourth joint as is typical in the rest of the project.

20. **Question:** 2.L02.00 – The cut labeled 1/L.03.03 at the mid-section of the ramp appears to be mislabeled as that is the “Tree Section” cut through the terraced turf area. Please revise.
    Answer: Section cut should be labeled 4/L03.02.

21. **Question:** Will the (2) ducted fan coil units be getting a secondary drain pan?
    Answer: The (2) ducted fan coil units do not need a secondary drain pan. Drain level pan sensors have been specified on the VRV Fan Coil Unit Schedule (Note 1.D.c.), this eliminates the requirement for a secondary drain pan

22. **Question:** 1) Spec Part 1 1.1 A-notes toilet partitions to be floor mounted & overhead braced configuration. Plan sheet 2A.411 - notes for toilet partitions to be floor to ceiling configuration. These are very different with very different cost impacts. Please clarify which configuration they would like.?
    Answer: Follow Specification for toilet partition product. Revise Sheet 2A.411 - Toilet Accessory Schedule - Type "M" description to "Toilet Partition" - Model Sierra Series 1090 Series.

23. **Question:** Plan sheet 2.A-411 (5,9,12 & 18) Show a combination Paper Towel / Waste unit, however there is no spec.
    Answer: Add to Sheet 2.A-411 - Toilet Accessory Schedule: Type "H", Description: "Paper Towel / Waste Combo", Manufacturer: "Bobrick", Model: "B-369".

24. **Question:** Plan sheet 2.A-411 15) Shows a Baby Changing Station, however there is no spec. Please provide Manufacturer & model # for the above listed items
    Answer: Add to Sheet 2.A-411 - Toilet Accessory Schedule: Type "Q", Description: "Baby Changing Station", Manufacturer: "Koala", Model: "KB310-SSWM"
25. Add Accessory Key "Q" to baby changing station in Room 105.

26. **Question:** Please provide information as to what is required for HW Sets 105, 106 and 107. The set description of “After 50% final to be selected” makes no sense?
    Answer: Replace Spec Section 08 71 00 Door Hardware in its entirety with new section attached.

27. **Question:** A subcontractor is requesting this substitution. “I would be interested in bidding this project if my turf could be approved. Could you check to see if the design team is willing to accept alternates that exceed their specified landscape turf for a heavier face weight turf that is more durable and still a non-infill system. Attached is what I would highly suggest. This turf exceeds their specification requirement and is currently installed at USF so we would gladly secure a site visit for their review”
    Answer: See Addendum #1 for response for how to handle "substitutions". The project team is not evaluating substitutions currently. Regarding alternate synthetic turf products, the INC-1 project installed “MaxPlay” Turf, therefore, the product is considered an acceptable equal product.

REVISIONS TO SPECIFICATIONS:

1. Per Q&A listed revisions

REVISIONS TO DRAWINGS:

1. Per Q&A listed revisions
2. Revise Sheet QF-111M - “Equipment Schedule”: the following Kitchen Equipment will be Owner Furnish / Contractor Install (OFCI) following Kitchen Equipment in items:
    a. #11 – Refrigerator, Roll-In
    b. #12 – Freezer, Roll-In
    c. #14 – Oven, Convection, Electric
    d. #15 – Cabinet, Holding/Proofing
    e. #19 – Milk Cooler
    f. #20 – Buffet/Cafeteria, cold food station
    g. #20.1 – Sneeze Guard, Full Serve/self-serve, island
    h. #21 – Speedline Heated Cabinet
    i. #25 – Warewasher, door type, high temp

END OF ADDENDUM

SECTION 08 71 00

DOOR HARDWARE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. BHMA finish door hardware for gates, wood, hollow metal and aluminum doors.

B. Accessories including but not limited to door stops, kickplates, and push/pull plates.

C. Weatherstripping, seals, and thresholds.

1.2 PRODUCTS SUPPLIED BUT NOT INSTALLED UNDER THIS SECTION

A. Hardware templates for gates, doors, and frames.

1.3 RELATED SECTIONS

A. Summary of Work: Division 01, applicable Sections.

B. Swinging Gates: Division 05 and/or Division 32 Metal Fabrications, applicable Sections including, but not limited to, ornamental, wood, and/or chain link gates.

C. Section 06 10 00 – Rough Carpentry.

D. Section 07 92 00 – Joint Sealants.

E. Section 08 11 13 – Hollow Metal Doors and Frames.

F. Section 08 14 00 – Wood Doors.

G. Section 08 41 13 – Aluminum Framed Entrances and Storefronts.

H. Divisions 26 through 28: Electrical rough in, wiring and connectors for electrified hardware including, but not limited to:

1. Wire and connectivity from ceiling through frame to electrified hardware devices including non-Section 08 71 00 task of providing wiring inside of doors.

I. Section 32 31 13 – Chain Link Fences and Gates.

J. Section 32 31 19.16 – Swinging Decorative Metal Gates.

1.4 REFERENCES

A. The publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by the basic designation only.

1. Refer to Division 01 for definitions, acronyms, and abbreviations.
2. Unless otherwise noted; standards, manuals, and codes refer to the latest edition as of the issue date of this Project Manual.

B. Conform to the following Referenced Standards and Requirements:

1. CBC – 2019 California Building Code.

2. ADA – Americans with Disabilities Act - 2010 Standards for Accessible Design.
3. NFPA 80 – Standard for Fire Doors and other Opening Protectives.
4. NFPA 101 – Life Safety Code.
5. ANSI A156 Series – Builders Hardware Manufacturers Association (BHMA) Standards Set.
6. California State Fire Marshal Fire Door Assembly Tests Standard 12-7-4:
    a. Smoke-rated and fire-rated doors and frames shall meet UL rated assembly requirements.
    b. Manufacturers of UL rated assemblies and devices shall provide documentation that assemblies have been tested and comply with California State Fire Marshal.

C. Conform to the following Regulatory Requirements (CBC – 2019 California Building Code):
1. Smoke-rated and fire-rated doors and frames shall meet UL rated assembly requirements. Manufacturers of UL rated assemblies and devices shall provide documentation that assemblies have been tested and comply with California State Fire Marshall, Fire Door Assembly Tests/Standards #12-7-4 and shall be installed accordingly.
2. Doors / Doorways as part of an accessible route shall comply with CBC Section 11B-404.
3. All hardware for accessible doors shall meet the requirements of CBC Sections 11B-404.2.7, 11B-404.2.9, and 1010.1.9.1.
4. The clear opening width for a door shall be 32 inches minimum. The swinging doors it shall be measured between the face of the door and the frame stop, with the door open 90 degrees.
    a. There shall be no projections into it below 34 inches above finish floor and 4 inch maximum projections into it between 34 inches and 80 inches above finish floor or ground.
    b. Door closers and stops shall be permitted to be 78 inches minimum above finish floor or ground per CBC Section 11B-404.2.3.2.
5. Hand-activated door opening hardware, handles, pulls, latches, locks, and other operating devices on accessible doors:
    a. Shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
    b. Lever hardware shall be so mounted / centered between 36 inches and 44 inches above finished floor or ground.
    c. Panic hardware shall be so mounted / centered between 36 inches and 44 inches above finished floor or ground. The clear width of the exit way is not less than 32 inches measured between the face of the door and the opposite stop per CBC Section 11B-404.2.3.
    d. Where slider doors are in the fully open position, operating hardware shall be fully exposed and usable from both sides per CBC Section 11B-404.2.7.
    e. Hardware for door handles, pulls, latches, locks and other operating devices for use on means of egress doors shall comply with SFM Standard 12-10-2, Section 12-10-202 as contained in CCR Title 24, Part 12.

6. The force for pushing or pulling a door open shall be as follows per CBC Section 11B-404.2.9:
    a. Interior hinged doors, sliding or folding doors and exterior hinged doors operating force required to push or pull open a door shall not exceed 5 pounds. Required fire doors shall have the minimum opening force allowable by DSA, not to exceed 15 pounds.
        1) These forces do not apply with to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.
    b. The force required to activate any operable parts, such as retracting latch bolts or disengaging other devices, shall be no greater than 5 pounds to comply with CBC Section 11B-309.4.
    c. Forces shall be applied to the latch side of the door per CBC Section 1010.1.3.1.
7. Door closing speeds shall be as follows per CBC Section 11B-404.2.8:
    a. Mount door closers for maximum swing of door before setting stops.
    b. Doors/gates closers, when provided, shall have sweep period adjusted: minimum of 5 seconds for a door/gate to close from the 90 degree position to the 12 degree position.
    c. Doors/gates with spring hinges require a minimum of 1.5 seconds to close from the 70 degree to the closed position.
8. Thresholds shall comply with CBC 2019.
9. Floor stops shall not be located in the path of travel and 4 inches maximum from walls.
10. Hardware, including panic hardware, shall not be provided with “Night Latch” (NL) function for any accessible doors or gates unless the following conditions are met. Such conditions must be clearly demonstrated and indicated in the specifications for devices:
    a. Such hardware has a “dogging” feature.
    b. It is dogged during the time the facility is open.
    c. Such “dogging” operation is performed only by employees as their job function (non-public use).
11. Pair of doors: limit swing of one leaf to 90 degrees so that a clear floor space is provided beyond the arc of the swing for the wall-mounted tactile sign per CBC Section 11B-703.4.2.

1.5 QUALITY ASSURANCE

A. Supplier Qualifications and Documentation:
    1. Hardware Supplier Qualifications: Firm specializing in the supply and servicing of institutional and commercial door hardware; accredited by manufacturers; and having a minimum of three years documented experience. Hardware supplier to furnish list of at least ten past, finished projects. Include date competed, project location, and references. At least one member of the firm’s staff shall be a member of DHI in good standing and is a DHI certified consultant having earned the title Architectural Hardware Consultant (AHC).

B. Manufacturer of Submitted Devices - Qualifications and Documentation:

1. Manufacturer Qualifications: Manufacturer specializing in manufacturing institutional and commercial door hardware with a minimum five years with the following documented experience. Furnish list of at least ten past, finished projects. Include date competed, project location, and references. Past project contact information will determine if Builders Hardware is acceptable.

C. Installer of Submitted Devices - Qualifications and Documentation:

1. Installer of assembly shall be trained in the trade of hanging commercial doors on commercial frames with commercial hardware. Supplier and Installer of door assemblies shall be authorized representative of manufacturers and have minimum of five years successful experience in detailing, supplying, and installing door assemblies specified on projects of similar size, complexity, and type to this Project. Provide written documentation to show closers will be installed by an individual with successful experience installing closers to meet 5-pound opening force for non-rated door complexity.

1.6 SUBMITTALS

A. The hardware groups/sets specified in Section 08 71 00 - Part 3 are intended to establish type and design standard when used together with the requirements of this Section, Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections. Examine Contract Documents and furnish proper hardware for door openings. Refer to specifications for clarification and detailed requirements and provide products and services in specifications even if not written in hardware groups/sets in Section 08 71 00 - Part 3.

B. For each opening submit coordinated (means and methods) requirements in accordance with Division 01 and a detailed door, frame and hardware schedule. See pre-hardware and hardware scheduling requirements below. Submittals that do not meet means and methods, including missing related doors/frames submittal/shop drawings, will be returned for correction before checking.

C. Pre-Hardware Scheduling Tasks:

1. Coordinate work of this Section with other directly affected Sections and scope.
2. Provide required Division 08, means and method type work in accordance with Contract Documents at no additional cost to project, including Division 01 and language below. This Section supplier shall be provided with full documents, not just Section 08 71 00 Part 3 hardware group/sets as that process does not meet Contract requirements.
3. Means and method type work includes, but is not limited to, coordination with plans and other specifications, templating, Section 08 71 00, and other Division 08 Section engineering and coordination. Starting submittal work or labor before means and method type work is completed does not constitute change orders.
4. Provide RFIs (request for information) for clarification items before submittals. This Section is not to be a stand-alone submittal but requires multiple Sections and Drawings coordination before submittals will be reviewed.
    a. Coordinate length and sizes for hardware devices before submittals, Verify the door hardware is compatible for use with the doors and door/frames.

b. Report all prevailing conditions that will adversely affect satisfactory execution of work before submittals.

1) Example 1: If door stiles would inhibit the use of specified hardware, provide RFIs before starting detailed hardware headings or group submittal process.

2) Example 2: Coordinate length and sizes for hardware devices before ordering materials (verify the door hardware is compatible for use with the doors and/or door/frames) included, but not limited to special templates and sizes of devices.

c. This Section clarification items (RFIs) shall be reviewed by a non-design team coordinator before sending to design team for review.

1) For clarification items that are means and methods (directed to or from one vendor to another vendor, framer/installer), Contractor shall coordinate and answer or list questions that are not design scope.

5. Multiple submittals for this Section work will not meet Contract requirements. Exceptions are as follows:

a. Submittals may be broken up into different door vendor packages (for example: one glazing vendor package, one hollow metal door vendor package, one aluminum/storefront vendor package, one gate vendor package, but breaking each of these packages into multiple or separate packages is not permissible (example: separate project buildings or different floors broken out not permitted).

b. Frames that are required to be ordered early in the build process (under ten frames / openings required to meet project deadlines for early site work) may be broken into separate packages but remaining hardware in these packages will be rejected and not reviewed.

6. Coordinate with door/frame internal reinforcement for door hardware. In particular, coordinate door preparation in accordance with applicable regulatory and trade standards specified.

7. Coordinate keying requirements with all openings with one Vendor. For keying scope, even if different Section door/frame/gate scope packages are submitted with different hardware schedule submittals, only one Section 08 71 00 supplier is to oversee, coordinate, submit, furnish, and install keying. Coordinate per Section 08 71 00 and per means and methods before submits begin.

8. To detail submittals and nomenclature for electrified hardware, review and coordinate electrical specifications and drawings for scope that could affect hardware selections:

a. For electrified hardware interface with non-Division 08 access control or electrified tasks, the non-Division 08 access control or security vendor task shall provide a written agenda/plan how access control or security scope will be installed for a complete and operational system. Written agenda shall include power requirements and additional relays at no additional cost.

D. Hardware Schedule:

1. Submit required vendor qualification letters and documentation (see above “QUALITY ASSURANCE”).

2. Non-design team coordination and requirements:
   a. Submittals for coordinated door/frame/hardware items, shall be submitted at the same time for review of total opening requirements. Do not submit Section 08 71 00 scope without coordinated door and frame packages and above RFI/clarification process tasks completed. Submittals that do not include related doors/frames will be returned for correction before checking.
   b. Section submittals and/or shop drawings to be reviewed and have comments by non-design team (Contractor) before sending to design team. If submittals do not meet Contract requirements, return to hardware vendor for re-submittal. In many cases, unacceptable submittals are passed though without non-design team (Contractor) comments (coordinate per Contract).
3. Submit hard copies of hardware schedule (number of copies per Division 01) as well as submit editable, PDF files via electronic email of ftp site process in Vertical Format as illustrated by the Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Horizontal-type schedules will be returned for correction before reviewing.
   a. Shop drawings / hardware schedule shall clearly indicate each hardware group specified and manufacturer of each item proposed as well as each door number that the hardware is assigned to.
   b. Vertical schedule format sample:

Heading Number 1 (Door Schedule or Architectural Assigned Hardware Group/Set number from part 3 = HW #__)				
1 Single Door #1 - Exterior from Corridor 101		Opening Size	90°	RH	Rating
Quantity	Device Description	Device # (include specification language)	Finish	Manu-facturer
4	Hinges	4.5 x 4.5 NRP x fasteners	630	
1	Lockset		630	SC
1	I/C Cylinders	Rim or Mortise x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Permanent Core		626	SC
1	Door Silencers	SR64 or SR65 (as required)	GR	IV

4. Illustrations from manufacturer's catalogs and product data:
   a. Provide cut sheets and product data with vertical format hardware submittal (same timeframe) as well as door and frame information to be reviewed as one submittal package. Manufacturer's hard copy as well as PDF catalog cut sheets and product data shall not be submitted before editable, PDF files vertical format hardware submittal. See above Sequence of Format requirement. Catalog cut sheets and product data sent as submittals before the typed out nomenclature of hardware part numbers (vertical format hardware submittal) will be returned without review.

5. Provide hardware schedule and hardware templates to door and frame manufacturer. Provide two templates to those manufacturers who are not currently registered template book holders.
6. Wiring Information: Provide manufacturers' wiring information including manufacturers' door elevation diagrams for electrified hardware based on Door Hardware Institute (DHI) core class "Electrified Architectural Hardware" DHI class #COR133. Openings where only magnetic hold-opens or door position switches are specified do not require wiring information. Provide information with hardware schedule submittal for review. Provide detailed wiring diagrams with hardware delivery to jobsite.

E. Vendor meetings or coordination prior to purchasing materials:
1. Convene coordination meeting between all opening vendors and installers at least two weeks prior to purchasing doors, frames, door hardware, and electrical devices required for complete systems. Attendance includes but is not limited to hardware supplier and/or installer, door supplier and/or installer, frame supplier and/or installer, security card reader vendor and/or installer, and electrical. If hardware changes are required due to these meetings, communicate changes to design team before ordering materials.

F. Templates:
1. Provide listing of manufacturer's template numbers for each item of hardware in hardware schedule.
2. Submit templates and "Reviewed Hardware Schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.

G. Installation Instructions:
1. Provide manufacturer's written installation and adjustment instructions for finish hardware.
2. Send installation instructions to site with hardware.

H. Contract Closeout Submittals: Include specific requirements indicated below.
1. Operating and maintenance manuals: Submit three sets containing the following:
a. Complete information in 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. Parts list for each product.
e. Copy of final accepted hardware schedule, edited to reflect "As installed".
f. Copy of final keying schedule.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of Division 01.

B. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.

C. Storage: Store materials in a cool and dry location, elevated from the ground and protected from the elements, and secured from theft or pilferage.

1.8 WARRANTY

A. Comply with provisions of Division 01.

B. Warranty installed units shall be free from defects in material and workmanship as follows:
   1. Hinges: Lifetime Warranty (Life of Building).
   2. Locksets and Exit Devices: Three years.
   3. All other hardware: Two years.

1.9 MAINTENANCE

A. Provide special wrenches and tools applicable to each special hardware component.

B. Provide maintenance tools and accessories supplied by hardware manufacturer.

PART 2 PRODUCTS

2.1 FINISHES

A. Typical BHMA finish designation references:
   1. Typical BHMA finish designation references:
      a. BHMA 626– Satin chromium plated brass or bronze.
      b. BHMA 628– Satin or dull aluminum, clear anodized (uncoated).
      c. BHMA 630– Satin stainless steel.
   2. Closers and Magnetic Holder (electrified, hold-open device):
      a. BHMA 689 - Sprayed aluminum paint finish (back of house where specified).
   3. Nomenclature and specifications for antimicrobial finish as shown in hardware groups/sets (Part 3 below):
      a. Antimicrobial Finish nomenclature example: Healthy Hardware™ antimicrobial surface or Antimicrobial finish nomenclature example: BHMA 626MA antimicrobial finish.
      b. Provide antimicrobial finish that is an FDA recognized, antimicrobial coating with built in protection to prevent the growth of a broad range of bacteria, mold, and mildew.
      c. Provide full warranty of locking manufacturer and other devices in both 630 and 626 base finishes with added antimicrobial finish.

2.2 HARDWARE TEMPLATE

A. Make templates for hardware to be applied to metal doors or pre-finished doors.

B. Hinge templates shall conform to ANSI A156.7.

C. Promptly furnish template information or templates to door and frame manufacturers.

D. Coordinate hardware items to prevent interference with each other.

2.3 FIRE RATED DOORS AND EXIT DOORS

A. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on drawings and detailed requirements for each type of device. Provide all specifications even if not written in hardware sets/groups.

B. Provide all hardware necessary to meet the requirements of CBC for fire doors and exit doors, as well as to other requirements specified, even if such hardware is not specifically mentioned under Article “Hardware Schedule” of this Section.

2.4 SCREWS, BOLTS, AND FASTENING DEVICES

A. All exposed fasteners to be stainless steel or zinc plated.

B. Exposed head oval phillips type screws in countersunk holes unless otherwise specified. Use screws, bolts, washers, grommets, nuts, and other fastening devices of appropriate length, type, head, metal, and finish as necessary for proper match and application of hardware.

C. Threshold anchors shall be Flat Sleeve Anchors cadmium plated expansion anchor screw in one unit.

2.5 SUBSTITUTIONS

A. Products referenced by specific brand names and model numbers have been identified by Owner to match other products in use either completed or in the course of completion. No substitutions permitted per Public Contract Code Section 3400.

1. Otherwise refer to Division 01 for substitutions.

2.6 HANGING HARDWARE

A. Gate Hanging Devices:

1. Ornamental and Steel Gate Self-Closing Hinges:
    a. Acceptable Manufacturers:
        1) Locinox Manufacturing (no known equal).
    b. Mammoth 180 Hydraulic Closers/Hinges Set. Heavy duty 180° 330 lbs. capacity or ultra-heavy duty 180° hydraulic gate closer and hinge for gates up to 440 lbs (see Part 3).
    c. Heavy duty full surface mounted hinge and vertical built-in closer not exceed 5 pounds opening force.
2. High-Capacity Precision Engineered (heavy duty) hinges:
    a. CBI-8500 series hinges by Crown Industrial, South San Francisco, CA; (650) 952-5150; http://www.crown-industrial.com/, or accepted equal.
    b. Provide additional number of offset hinge devices to meet hinge manufacturer device warranty and gate warranty.
    c. Confirm hinge sizing with frame details. All doors shall swing 180 degrees if opening will allow. Provide wide throw hinges where required. Provide widths sufficient to clear trim projection when door swings 180 degrees.
    d. Provide non-removable pins.

3. Gate hinges shall be mounted and welded in accordance with manufacturer's recommendations.
    a. Coordinate with welding requirements in Contact Documents.
    b. Provide devices ground smooth and painted to match gate/fence system – see Section 09 91 00 for paint and primer requirements.
4. Products by the following manufacturers will be considered for acceptance providing all specified criteria have been met in full. Furnish all items and components of hardware required to complete the work in accordance with specifications, Contract Documents, and intended operation.
    a. Ameristar.
    b. Monumental Iron Works.

B. Aluminum Continuous Hinges:
1. Acceptable Manufacturers.
    a. Ives Manufacturing by Allegion.
    b. NGP Manufacturing Hinges.
2. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:
    a. Provide widths sufficient to clear trim projection when door swings 180 degrees. Confirm hinge sizing with frame details. All doors shall swing 180 degrees if opening will allow. Provide wide throw hinges where required.
    b. Provide continuous hinge that meet cycle testing in accordance with ANSI/BHMA Standard A156.26, Grade 1.
    c. Stainless steel hinges shall meet abuse test per ASTM F1450.
    d. Aluminum material: Extruded tempered aluminum. Material Standard: 6063-T6 alloy. Configuration: Three interlocking extrusions in pinless assembly, installed to full height of door frame.
    e. Continuous hinges shall not obscure fire rated labels of the doors or frames.

2.7 SECURING DEVICES (LATCHING SYSTEMS)

A. Provide all latching devices that are lockable including, but not limited to, door locks and panic/exit devices that comply with CBC Sections 1010.1.9 through 1010.1.11. All new construction projects shall include locks that allow the doors to be locked from the inside. This requirement applies to classrooms and any other school room with an occupancy of five or more persons but does not include doors that are locked from the outside at all times or student restrooms.

B. Cylindrical Locksets and Latchsets:
   1. Acceptable Manufacturers:
      a. Schlage Lock Co. ND Series.
      b. Owner's standard, no substitutions permitted.
   2. Levers:
      a. Provide levers to return to door within 1/2 inch (levers that have return to door within 1/2 inch to meet California State Fire Marshal mandates: no space/gap greater than 1/2 inch between face of door and lever return).
      b. Lever Style: Traditional Square Style RHO.
         1) Provide exterior side lever trim with vandal resistant feature. Locked exterior lever freely rotates withstanding abuse and vandalism while remaining securely locked. Example: Schlage ND series Vandlgard™.
   3. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:
      a. Cylindrical locksets shall be a BHMA Certified Product, meeting requirements per ANSI A156.2, 1996.
      b. Backsets: 2-3/4 inches.
      c. Strikes:
         1) Provide ANSI 4-7/8 inch standard strike.
         2) Provide curved lip-type strike at all locations if possible to prevent catching clothing or other objects on strike. Where required, provide detail and flat strike.
         3) Where required, provide extended lip strike so that the lock or latchset latch will not come in contact with frame or added trim on or adjacent to the frame. Example: Don Jo device #MEST-104, but provide submitted manufacturer equivalent extended lip strike.

C. Mortise Locksets, Latchsets:
   1. Acceptable Manufacturers:
      a. Schlage Lock Co. L9000 Series.
      b. Owner's standard, no substitutions permitted.
   2. Levers:
      a. Provide levers to return to door within 1/2 inch.
      b. Provide exterior side lever trim with vandal resistant feature (heavy duty lever trim designed to withstand abuse and vandalism):
         1) Schlage L9000 series Vandlgard™. Vandlgard example nomenclature: Storeroom Lockset LV9080 (added "V" nomenclature after the "L" nomenclature for lockset to have increased strength against abuse or vandalism) Locked lever freely rotates up and down while remaining securely locked. Provide seven-year warranty.
   3. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:

a. Locksets shall meet the requirements of ANSI/BHMA A156.13-1994, Operational Grade 1.

b. Provide only thumbturn devices that meet accessibility requirements. Example: Schlage #09-509 x L583-363 devices. No center pivoting thumbturns allowed.

c. Provide thumbturn devices that meet accessibility requirements (no center pivoting thumbturns allowed). Example: Schlage thumbturn #09-509 x L583-363 device.

d. If deadbolts or lockbolts are utilized on the project, devices shall be interconnected with the latching mechanism on all egress doors to provide single movement function to unlatch doors.

e. Backset: 2-3/4 inches. Provide minimum 1 inch throw stainless steel deadbolt Provide minimum 3/4 inch throw for latch bolt.

f. Strikes:

1) Provide ANSI 4-7/8 inch standard strike.

2) Provide curved lip-type strike at all locations if possible to prevent catching clothing or other objects on strike. Where required, provide detail and flat strike.

3) Where required, provide extended lip strike so that the lock or latchset latch will not come in contact with frame or added trim on or adjacent to the frame. Example: Don Jo device #MEST-104, but provide submitted manufacturer equivalent extended lip strike.

D. Exit Devices and Removable Mullions:

1. Acceptable Manufacturers:

a. Von Duprin.

b. Owner’s standard, no substitutions permitted.

2. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:

a. The unlatching force of panic hardware shall not exceed 5 pounds, applied in the direction of travel, certified by UL to meet requirements of CBC Section 11B-309.4 (Von Duprin nomenclature “AX”).

b. Exit devices shall be ANSI A156.3, Grade 1; UL Listed.

c. All exit devices shall be UL listed for panic. Exit devices for labeled doors shall be UL listed as "Fire Exit Hardware".

d. Provide cylinders for exit devices with locking trim and cylinder dogging. Provide interior-side ADA large thumbturn cylinder (no center pivoting thumbturns allowed). ADA large thumbturn cylinder dogging feature for non-rated exit devices And ADA large thumbturn cylinder for 2SI at rated conditions.

e. Where removable mullions are not specified in hardware groups, provide keyed removable mullions at all locations in order for door to properly latch and secure rooms and buildings with rim or mortise type exit/panic bar devices.

1) Provide stabilizers for removable mullions at all locations.

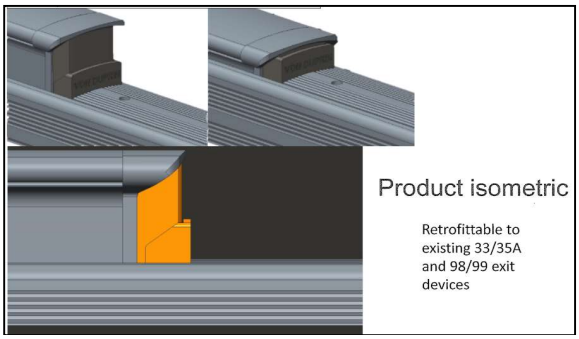
f. Trim:

1) Where lever trim is specified, provide lever design to match lockset lever #06.

2) Provide exit device lever trim with vandal resistant feature (heavy duty lever trim designed to with stand abuse and vandalism):

a) Von Duprin 996 R/V.

g. All exit devices shall be shipped to project site with exit device, isometric cap as to not catch items on panic device push bar (Von Duprin nomenclature “PA”).



E. Flush Bolts and Dust Proof Strikes:

1. Acceptable Manufacturers:

a. Ives Manufacturing.

b. Triangle Brass Manufacturing Company, Inc. (Trimco).

c. Rockwood.

d. Hager Manufacturing.

2. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:

a. Non-rated Openings: Where not specified in hardware sets, provide two flush bolts for inactive leaf of pairs of locked and latched doors. Locate centerline of top bolt not more than 78 inches from finished floor. Provide dustproof strike for bottom bolts, type as required for floor condition.

2.8 ACCESS CONTROL CARDREADER LEVER TRIM:

A. Schlage AD-300 Series proximity devices:

1. Where lever trim is specified, provide lever design to match lockset levers. The inside lever and/or panic bar shall always allow free egress.

2. Provide ANSI Grade 1 devices.

3. Locket Backsets: 2-3/4 inches.

4. Provide key override at exterior for emergency entrance.

2.9 KEY SYSTEMS (CYLINDERS, CORES, AND KEYS.)

A. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on drawings and detailed requirements for each type of device. Keying specifications below override hardware set/group nomenclature.

B. For all locking or dogging devices, provide complete cylinder system and coordination whether or not specified in Section 08 71 00, Part 3 hardware sets as required by locking device.

1. Different locking devices require a set of different requirements including, but not limited to, appropriate cams for mortise-type cylinders, appropriate tail pieces and size for rim-type cylinders, blocking rings as required for locking and cylinder devices to not rattle and meet manufacturers' warranties, as well as cylinders that are to be coordinated with construction cores/cylinders and final pinned cores/cylinders shipped to Owner by Registered Mail per below to meet system requirements.
2. Scope is means and method type work by a certified locksmith and/or DHI individual to engineer rim or mortise cylinders and blocking rings or tail-piece components as required for submitted locking devices. Since there could be as many as 500 options for rim or mortise cylinders with the locking devices and different manufactures that may be submitted, this means/methods-type work is required, similar to templating doors and frames to accept hardware. Coordinate as required.

C. Key Systems (Cylinders, Cores, and Keys):

1. Manufacturers:
   a. Schlage manufacturing.
   b. Owner's standard, no substitutions permitted.
2. For all locking or dogging devices, provide complete keying system whether or not specified in Section 08 71 00, Part 3 hardware sets including lock cores, mortise cylinders, and rim cylinders keyed as directed by Owner in submittal process. Key System shall be:
   a. Patented Schlage manufacturing Primus Level 3.
3. Keyway: Provide as instructed by Owner during submittal process.

D. Keying Requirements:

1. Provide keyed, construction cores and keys during the construction period.
   a. Provide full sized cylinders or brass construction cores and brass keys at all interior and exterior doors. Plastic cores are not permitted.
   b. Construction control and operating keys and core shall not be part of the Owner's permanent keying system or furnished in the same keyway or key section as the Owner's permanent keying system. Permanent cores and keys prepared according to the accepted keying schedule shall be furnished to the Owner.

2. Keying Meeting and Programming Schedule:
    a. Do not provide keying matrix in original hardware submittals. After hardware has been submitted and reviewed in accordance with Division 01 and Section 08 71 00 requirements, arrange a keying matrix/programming meeting with Owner Representative and various hardware suppliers/vendors representing both the cylinders/keying system and different, reviewed submittals (design team not required).
        1) Copies of the reviewed door and frame submittals shall be brought to the meeting with card reader and keyed doors highlighted for review.
        2) Follow procedures for keying meeting and programming schedule as outlined by the Door Hardware Institute. DHI procedures are based on Door Hardware Institute core class entitled Masterkeying class #AHC200.
    b. Keying meeting to produce a programming schedule/matrix based on the following:
        1) Furnish keys in the following quantities (total quantity of keys part of bid package):
            a) 5 each Grand master-keys per set.
            b) 6 each Masterkeys per set.
            c) 3 each Change keys each lock, core or cylinder.
            d) 5 each Permanent Extractor keys.
            e) 9 each Construction masterkeys.
            f) 2 each Construction Core Extractor keys.
        2) Provide keying system expansion parameters.
            a) Plan twenty changes directly under the grand.
            b) Plan ten master keys.
            c) Plan fifty changes each for each master.
        3) Permanent keys and cores shall be stamped with the applicable key mark for identification. The visual key control marks or codes shall not include the actual key cuts.
        4) Permanent keys shall be stamped "Do Not Duplicate".
    c. Furnish typed programming meeting matrix and notes in PDF, editable electronic format as well as mailed, hard copy to Owner Representative for final review.
    d. Furnish keying and programming schedule to key/core/cylinder manufacturing factory for production of key/core/cylinder devices.
    e. Transmit pinned cores/cylinders as well as cut grand masterkeys, masterkeys, change keys and other security keys to Owner Representative by Registered Mail, return receipt requested. All permanent cores and keys shall be sent directly from the factory to the Owner Representative for ID and verification.
        1) Accompany Owner Representative to install permanent cylinders and/or cores in permanent locking or keying housings (responsible to prepare locking systems, installation ready for final cylinders and/or cores, free from dirt, debris or overtightening of locking devices that my cause binding of keyed devices).
        2) Provide instructions for adjustments and maintenance of hardware and hardware finishes.

E. Fire Control Key Boxes/Product: Rapid Entry System:

1. Manufacturer and Product:
   a. Knox Box 3200 Series x The Knox Co.
   b. Or comparable product approved by Architect prior to bidding.
2. Recessed mount, UL-listed, heavy-duty unit; fabricate from 1/4-inch-thick steel plate.
3. Provide with restricted keying as required by Local Fire Department.

2.10 CLOSING DEVICES

A. Surface Mounted Closers:

1. Rack and Pinion Manufacturers:
   a. LCN Manufacturing: 4040XP as scheduled.
   b. Owner's standard, no substitutions permitted.

B. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:

1. ANSI A156.4, Grade 1; UL Listed; meets UL 10C and SFM Standard 12-7-4 for positive pressure fire test. Whether or not specified in hardware groups/sets, submit 4040XP or approved equal closer at all openings that are smoke-rated or fire-rated even if closer is omitted from groups/sets.
2. Closers shall have multi-size spring power adjustment to permit setting of spring from 1 through 6 with additional spring power available. Provide ADA compliant setting nomenclature during submittals as recommended by closer manufacturer.
3. Submit correct closer type as to be able to install closers on non–public side of doors (examples include but are not limited to 1) interior side of storage/electrical type rooms; 2) not in corridors/public areas 3) stair side of stairway doors; and at exterior locations, install closers inside of building (in conditioned spaces)).
4. Installation Plates, Brackets, and Miscellaneous Adapters:
   a. Furnished and installed all door closers with thru bolts.
   b. Provide drop plates, brackets, or adapters for arms as required to suit details and install as directed by manufacturer's templates.
      1) Furnish and install drop plates at reverse bevel doors and at doors with 170 degrees to 180 degrees swing.
      2) Furnish and install blade, angle or applied stops as required where frame does not permit installation of the standard soffit plate (see example LCN #419 Flush Panel Adapter to be shown in submittals below). If LCN or equal manufacturer #419 Flush Panel Adapter is not in submittals as required for transom panel applications or if other drop plates, blade, angle or applied stops are not in submittals the submittal will be marked revise and resubmit. After doors are installed, hardware Vendor to field verify additional brackets and shims required before installing closers. Provide written language in submittals for how areas requiring special applications will be installed.

2.11 STOPS AND HOLDERS

A. Overhead Door Holder/Stops:
   1. Acceptable Manufacturers:
      a. Rixson Manufacturing.
      b. ABH Manufacturing.
      c. Glynn Johnson.
   2. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device.
      a. Overhead Stops and/or Holders shall meet the requirements of BHMA A156.8, Type 1, Grade 1.
      b. If overhead stops are specified in hardware groups/sets, do not provide wall or floor stops as alternative method of stopping door.
      c. If manual overhead “stop and hold-open” type devices are specified on fire-rated doors, provide the non-hold open function at time of submittals. Manual hold opens not allowed on fire rated doors.

B. Floor and Wall Door Stops/Holders and Bumpers:
   1. Acceptable Manufacturers:
      a. Ives Manufacturing.
      b. Triangle Brass Manufacturing Company, Inc. (Trimco).
      c. Rockwood.
      d. Hager Manufacturing.
   2. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:
      a. Stops, Bumpers and/or Holders shall meet the requirements of BHMA A156.16, Grade 1.
      b. Coordinate with specifications in Section 05 40 00 and Section 09 22 16 for required wall backing.

2.12 ACCESSORIES

A. Kick/Mop Plates:
   1. Acceptable Manufacturers:
      a. Ives Manufacturing.
      b. Triangle Brass Manufacturing Company, Inc. (Trimco).
      c. Hager Manufacturing.

B. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device

1. Coordinate length and sizes for hardware devices before ordering materials (verify the door hardware is compatible for use with the doors and door/frames). Protection plate example: LDW nomenclature in Part 3 means “less door width”. A 48-inch-wide door would have a 46 inch wide protection plate. Width shall be one inch less than door width unless doors have protective edge guards or center mullions. Coordinate before submittals.
2. At rated doors (UL smoke or fire), furnish protection plates with engraved UL listing information. Example: Trimco added part #ULS added to all kickplates specified below that are on UL or rated doors/openings.

C. Push/Pull Plates:

1. Acceptable manufacturers.
    a. Ives Manufacturing.
    b. Rockwood.
    c. Hager Manufacturing.

D. Lock Guards:

1. Acceptable Manufacturers:
    a. Ives Manufacturing.
    b. Triangle Brass Manufacturing Company, Inc. (Trimco).
    c. Hager Manufacturing.

E. Smoke Seals, Intumescent Seals, Sound Seals, and/or Weatherstripping.

1. Acceptable Manufacturers:
    a. Pemko Manufacturing, Inc.
    b. National Guard Products (NGP).
    c. Zero International.
2. No intumescent material is allowed on door frames. Where CBC requirements for positive pressure must be met, doors shall include all requirements as part of the door construction per 'Category A' guidelines as published by ITS/Warnock-Hersey. Only smoke gasketing applied around the perimeter of the frame to meet the 'S' smoke rating is permissible in instances where smoke control is required.

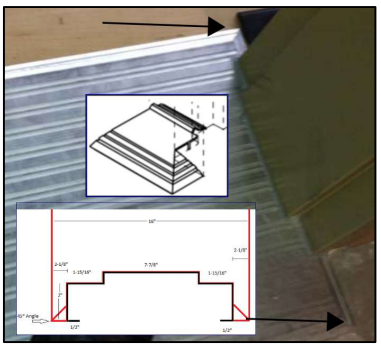
F. Light or Sound Seals:

1. Acceptable Manufacturers:
    a. National Guard Products (NGP).
    b. Pemko Manufacturing, Inc.
    c. Zero International.

2. Where hardware groups/sets have different information, refer to the following for clarification. Provide hardware groups/sets devices along with added devices as indicated on Drawings and detailed requirements for each type of device:
    a. In the field cutting or notching of sound gasket hardware shall not be permitted.
    b. Submit and supply STC type gasketing in lengths appropriate for template hardware. Examples below are not exhaustive; see hardware and door templating requirements.
        1) When rim-type exit/panic devices are used in conjunction with the STC type gasketing, order different lengths of STC type gasketing for latching side jamb to coordinate with -type exit/panic device, surface mounted latch. Do not install seal at roller-type latch location.
        2) When stop mounted overhead closer devices are used in conjunction with the STC type gasketing, provide the correct drop plates, brackets, and/or closer arms to not cut or notch the STC type gasketing. Provide full, header width of STC type gasketing. Example: If a parallel arm closer is utilized then provide offset arms like those used for surface mounted overhead stops, drop plates, and brackets. Example strike plate mounting bracket #770SPB by Zero International manufacturing or approved equal to coordinate with each different application.

G. Door Silencers:
1. Acceptable Manufacturers:
    a. Ives Manufacturing.
    b. Triangle Brass Manufacturing Company, Inc. (Trimco).
    c. Rockwood.
    d. Hager Manufacturing.

H. Astragals, Door Bottoms, and Thresholds:
1. Acceptable Manufacturers:
    a. Pemko Manufacturing, Inc.
    b. National Guard Products (NGP).
    c. Zero International.
2. Thresholds shall comply with CBC 2019 and shall not exceed 1/2 inch in height.
3. Whether or not specified below in hardware sets, thresholds shall be detailed as part of engineering/shop drawings/means and methods before submittals.
    a. Thresholds that extend past door frame shall wrap frame stops. Cut around stops, then continue into rabbits, face of frame and wall conditions if wall conditions are in same application (see example of where threshold meet adjacent walls in snippet below):



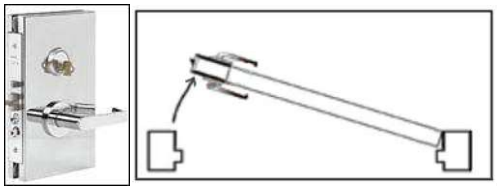
b. Whether or not specified below, where thresholds are larger than frames and/or extend past frames thresholds to have beveled miter ends. 45-degree miter cut and a closed end, welded with returns to door/frame. Example: NGP manufacturing nomenclature RCE throughout (see example snippet below):

I. Drip Guard:

1. Provide at exterior doors exposed to rain.
2. Size: Full Frame Width (FFW).
3. Provide devices painted to match adjacent frame. See Section 09 91 00 for paint and primer requirements.

J. Gates and Gate Hardware Accessories:

1. Provide welded astragals, lock patches (templates), and/or welded mounting devices required for a complete installation of specified hardware, whether or not shown on Drawings and details. Weld in accordance with manufacturer's recommendations. Provide devices ground smooth and paint to match gate/fence system. See Section 09 91 00 for paint and primer requirements. Inserted pictures below are examples of lock patches and/or welded mounting devices. Template gates for each type of hardware device.



2. Gate Astragal:

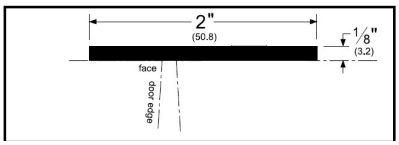
a. Provide fully welded astragal full height of gate to overlap either adjacent fence post or the adjacent gate at pair of gates.

1) Provide full height astragal in width indicated on Drawings. If not indicated, provide astragal width no less than 2 inches wide. See inserted picture below.

2) Provide full height astragal overlap width per details. If not indicated, provide overlap of astragal no less than 3/4 inch wide.

3) Provide 1/8 inch astragal thickness. See inserted picture below.

4) Where Pemko Manufacturing 357 Series astragal is utilized by gate manufacturer, do not use screws or order with screw holes. Nomenclature: ND prefix or suffix required by Pemko on 357 Series astragal.



b. Provide devices ground smooth and painted to match gate/fence system. See Section 09 91 00 for paint and primer requirements.

3. Gate Canebolts:
    a. Where nomenclature or device “524 Series” non-padlock canebolt-type devices are specified in hardware group/sets, provide by Crown Industrial, South San Francisco, CA; (650) 952-5150; http://www.crown-industrial.com/, or accepted equal.
    b. Where nomenclature or device “stock #0524PL and/or part #0000478” series padlockable canebolt-type devices are specified in hardware group/sets, provide series by Crown Industrial, South San Francisco, CA; (650) 952-5150; http://www.crown-industrial.com/, or accepted equal.
    c. On pairs of gates that have egress lever trim and or exit/panic device push-pad trim on active side gate, install canebolt away from the door edge so that both the canebolt and supplied the padlock cannot not impede the active gate from opening at any time, providing free egress.
    d. Provide compatible galvanized steel pipe canebolt receptor and strike plate mounted in concrete slab as required.
        1) At padlockable canebolts, provide sufficient canebolt receptor depth to enable use of padlock.
        2) Provide canebolt receptors at both closed position of gate and open position of gate at 90 degrees, unless shown differently on Drawings.
    e. Canebolts shall be mounted and welded in accordance with manufacturer’s recommendations.
        1) Coordinate with other welding requirements in Contract Documents.
        2) Provide devices ground smooth and painted to match gate/fence system. See Section 09 91 00 for paint and primer requirements.
    f. Products by the following manufacturers will be considered for acceptance providing all specified criteria have been met in full. Furnish all items and components of hardware required to complete the work in accordance with specifications, Contract Documents, and intended operation.
        1) Guardian Gate; www.guardiangatehardware.com.
        2) Ameristar.
        3) Monumental Iron Works.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine doors and frames and verify mounting locations as indicated on shop drawings.

B. Report unacceptable conditions to the Architect. Begin installation only when unacceptable conditions have been corrected.

3.2 INSTALLATION

A. Install in accordance with manufacturer’s printed instructions and accepted shop drawings.

B. Door-Floor Clearances:
   1. Unless otherwise shown, provide the following door-floor clearances:
      a. Maximum 3/8 inch.
   2. Undercut doors so that the sweeps still fit tight against the sill or threshold condition, but as the door opens and sweeps away from sill or threshold, the door bottoms do not rub on the floor. Metal installation parts of door bottoms are typically part of the door assembly and only the gap between the metal part and sill/threshold are seen as the undercut. Means and methods: coordinate as required for door and hardware with finish floors, toppings, thresholds and performance ratings.

C. Hardware Placement:
   1. Unless otherwise shown or required by CBC 2019, ADA Act - 2010 Standards for Accessible Design and/or Title 24, place hardware at the following heights:
      a. Hinges: Door and frame manufacturer's standard scope per additional specifications and plans.
      b. Lever handles for latchsets, lockset and panic/exit device pull, lever trim:
         1) 38 inches above finish floor/surface.
         2) Verify manufacturer's template with door design.
      c. Panic devices push bar:
         1) Panic hardware shall be so mounted / centered between 36 inches and 44 inches above finished floor or ground.
         2) Verify manufacturer's template with door design to meet CBC 2019 exterior, pull side trim.
      d. Door Pulls and Push Bars (centerline): mounted / centered 42 inches above finished floor or ground.
      e. Door Push Plates (centerline): mounted / centered 42 inches above finished floor or ground.
      f. Closers:
         1) To meet opening force requirements
         2) See installation below.
   2. Hardware for door handles, pulls, latches, locks, and other operating devices for use on means of egress doors shall comply with SFM Standard 12-10-2, Section 12-10-202 as contained in CCR Title 24, Part 12.

D. Installation:
   1. Except for hinges, do not install hardware until painting and finishing work is completed.
   2. Drill and tap for surface mounted hardware on metal.
   3. Hinges: Set hinges snug and flat in mortises. Hand turn screws to flat seat – do not drive.
   4. Locksets: Install locks with keyways in proper position. Install levers, roses, and escutcheons firmly affixed.

5. Closers:
    a. To open and latch smoke or fire rated doors correctly (positive latch at all times for rated doors when door is not in use), install closer units per factory templates to meet manufacturer requirements.
    b. To meet non-rated opening/exterior opening force requirements as well as close and latch non-smoke non-fire rated doors:
        1) Closers are to be installed as close to the hinge side of door as possible by a trained installer per this Section, Part 1 “Quality Assurance, Installer Qualifications”, installer an authorized representative of manufacturers, minimum of five years successful experience installing closers to meet 5-pound opening force for non-rated door complexity”.
        2) For non-smoke or non-fire rated doors, before installation of closers install one mockup door for each kind of closer application. Example: parallel, regular arm, stop arm and/or top-jamb arm application if specified. Confirm doors meet 5-pound opening force and still close door. This will ensure proper installation for doors to open at 5 pounds opening force before remaining non-rated opening closers are installed. The closer the closer is installed to the hinge, the better performance for 5 pound opening force, but still close and latch door.
    c. Mount door closers for maximum swing but at non-rated doors to meet 5-pound opening force. At all possible openings, mount door closers for maximum swing of door before setting stops.
    d. Mount door closers for maximum swing, but at non-rated doors to meet 5-pound opening force. Drawings may show doors open to only 90 degrees (Revit or CAD system set up), but unless noted or specified with limiter (stop arm devices below), all doors to open for maximum swing against adjacent 180 wall if nothing inhibits door from doing so. Include wide-throw hinges per specs and installation for 170 degree to180 degree or maximum swing of door before installing stops.
6. Floor Stops: See notes on closers and hinges above. After closer devices are installed, and door is opened as far as possible without #1) occupant excessive force on closer; and #2) door does not hit adjacent wall or other surfaces, stops shall be installed at substantial completion a maximum of 4 inches from adjacent walls and as far away from the hinge point as possible (preference is to have stops installed just below lever or pull locations).
7. Auto Door Bottom to not be adjusted until substantial completion. Door bottoms are to be raised to highest position while construction occurs so to not have rubber seal torn or damaged by debris under the door. At substantial completion, adjust door bottom to fully engage and touch the floor for proper sound dampening.
8. Silencers: Set in place before adjusting strikes.
9. Thresholds and Raindrips: Set in waterproof sealant and fasten anchors in pre-drilled countersunk holes 18 inch on center maximum spacing and within 3 inches of each end. Minimum three anchors per threshold.

3.3 PAINT OR FIELD FINISHES

A. Coordinate with Contact Documents including, but not limited to, Section 09 91 00 for paint and primer requirements.

B. Fire rated labels on doors and frames shall not be painted.

3.4 ADJUSTING

A. Adjust parts for smooth, uniform operation.

B. Lubricate moving parts with manufacturer recommended lubricant.

C. Replace units that cannot be adjusted and lubricated to operate freely and smoothly as intended for the application.

D. Adjust door closer devices:

1. Adjust closer operating.
    a. Interior and Exterior Doors: not to exceed 5.0 pounds force.
    b. When fire doors are required, the maximum effort to operate the door may be increased to the minimum allowed by the appropriate administrative authority, not to exceed 15 pounds opening force.
2. Adjust closer delay and operating speeds to comply with requirements of 2019 CBC Section 11B-404.2.8.1 and ADA – Americans with Disabilities Act - 2010 Standards for Accessible Design.
    a. Doors/gates closers, when provided, shall have sweep period adjusted: minimum of 5 seconds for a door/gate to close from the 90 degree position to the 12 degree position.
    b. Doors/gates with spring hinges require a minimum of 1.5 seconds to close from the 70 degree to the closed position.

3.5 CLEANING

A. Clean as recommended by manufacturer. Do not use materials or methods which may damage finish or surrounding construction.

3.6 HARDWARE SCHEDULE

A. Manufacturers Legend:

Code	Name
IV	Ives Manufacturing
IV	Ives Manufacturing
SC	Schlage Manufacturing
VO	Von Duprin Manufacturing
LC	LCN Closers
PE	Pemko Manufacturing
TR	Trimco Manufacturing
RX	Rixson Manufacturing
CR	Crown Industrial Manufacturing
HE	HES Manufacturing

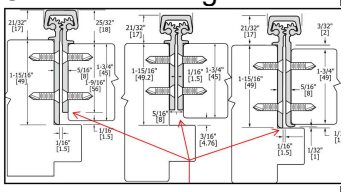
A. Hardware Columns - Example (Legend):

Qty	Device Description	Device # (include specification language)	Finish	Manu
1	- - - - - - - - - - - -	- - - - - - - - - - - -	- -	- -

B. The following hardware sets are intended to establish type and standard of quality when used together with the requirements of this Section. See above Section and related Sections including Division 01. Examine Contract Documents and furnish proper hardware for door openings. Refer to Door Schedule on the Drawings for Hardware Group/Set assignments for each opening

Exterior Hardware Sets (Typically Two-Digit Set Numbers)

Hardware Group/Set #01

2	Ea.	Continuous Hinge	 224-HD device (120 inch or length as required for door height). Different door thicknesses and frame dimensions will affect hinge type. Per specifications whether or not marked throughout all, verify for proper hinge type before submittals. Do not submit hinges until verified for correct hinge application per opening (means and methods not by designer)	AL	IV
1	Ea.	Keyed Removable Mullion	KR4954-STAB (#154 stabilizers)	689	VO
1	Ea.	Rim-Type Exit/Panic Device x Pull x Key Override	CDSI AX PA 99NL x 990NL	626	VO
1	Ea.	Rim-Type Exit/Panic Device x Pull x no exterior key	CDSI AX PA 99DT x 990DT	626	VO
4	Ea.	I/C Cylinders (Rim or Mortise)	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
4	Ea.	Permanent Core	20-740	626	SC
2	Ea.	Closer	4040XP EDA	689	LC
2	Ea.	Concealed Overhead Stop	1ADJ (-336 or size as required for door width)	689	RX
1	Ea.	Seal	Seals are to be furnished by aluminum door/frame manufacturer (head, jambs, meeting stiles for pair doors)		
1	Ea.	Mullion Seal	5110BL by Pemko or approved seal manufacturer		
2	Ea.	Door Bottom	315CN by Pemko or approved seal manufacturer		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
2	Ea.	Door Position Switch (also known as Alarm Contact, Door Contacts)	#679-05-WD or #679-05-HM (as required per door material) by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings).		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Hardware Group/Set #02

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Rim-Type Exit/Panic Device x Pull x Key Override	CDSI AX PA 99NL x 990NL	626	VO
2	Ea.	I/C Cylinders (Rim or Mortise).	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
2	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP EDA	689	LC
1	Ea.	Floor Stop	FS18S (see 087100.Part 3 installation)	630	IV
1	Ea.	Seal	Seals are to be furnished by aluminum door/frame manufacturer (head, jambs)		
1	Ea.	Door Bottom	315CN by Pemko or approved seal manufacturer		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
1	Ea.	Door Position Switch (also known as Alarm Contact, Door Contacts)	#679-05-WD or #679-05-HM (as required per door material) by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings)		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Blank space below and after a Group/Set is intentional to avoid, if possible, splitting a Hardware Group/Set onto two pages

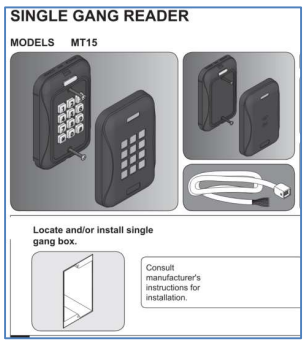
Hardware Group/Set #03

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Rim-Type Exit/Panic Device x Key Override	CDSI AX PA 99NL x 110NL	626	VO
1	Ea.	Anti-Vandal Pulls	VR910NL series	630	IV
1	Ea.	Electrified Strike	9500	630	HE
1	Ea.	I/C Cylinders (Rim or Mortise	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP EDA	689	LC
1	Ea.	Floor Stop	FS18S (see 087100.Part 3 installation)	630	IV
1	Ea.	Seal	Seals are to be furnished by aluminum door/frame manufacturer (head, jambs, meeting stiles for pair doors)		
1	Ea.	Door Bottom	315CN by Pemko or approved seal manufacturer		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
1	Ea.	Door Position Switch (also known as Alarm Contact, Door Contacts)	#679-05-WD or #679-05-HM (as required per door material) by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings).		
1	Ea.	Interior-Side Electrified Emergency Lock Down Station (to meet CBC 1010.1.9 through 1010.1.11 required to "locks down" perimeter of building/room at this door)	 Emergency Lock Down Station (within 8-11 inches from the door) furnish and install SS2_____ series - final to be selected to match District Standard lockdown pictured to the right (see STI manufacturing https://www.sti-usa.com and/or https://www.sti-usa.com/series/stopper-stations/). In case of emergency as described in CBC 1010.1.9 through 1010.1.11 coordinate and verify interior Emergency Lock Down Station shall drop power to card reader and locking system (part of system to lock exterior-side of doors without going outside to lock the door).		

Note 1: Prepare interior side of wall next to door with a single gang box for future Interior-Side Electrified Emergency Lock Down Station (see above). Furnish all devices and components for hardware groups/set above in accordance with Contract Documents including, but not limited to, additional hardware devices required in Section 08 71 00 language, architectural plans, and full specification documents.

Note 2: Wiring and coordination task for security and/or electrical design and additional non-Division 08 Section scope:

- Including but not limited to wire / connectivity from ceiling through frame to electrified hinge and through door to future electrified hardware).
- Door and frames to be submitted with the following: Provide UL rated conduit in frames; doors pre-drilled/cored for future wire-run through door to electrified strike #9500 specified above in this set ordered by Division 28 low voltage security vendor with remaining security package: card reader, power supply, low voltage wiring and connections be Security Contractor). Conduit and j-boxes by Electrical.



Hardware Groups/Sets #04

1	Ea.	Rim Exit/Panic Device	AX CDSI 33A-L x 360L #06 Lever (as required by Nana Door sliding locking device) 	626	VO
2	Ea.	I/C Cylinders (Rim or Mortise	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
2	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Cam-Closer	For this door only, provide Dorma manufacturing #TS93 Series (push-side, do not install in exterior conditions). All other doors closers per specs, LCN no substitution.	689	DO
2	Ea.	I/C Cylinders (Rim or Mortise)	20-757 or 20-763 (Rim or Mortise type & quantity as required by locking device x appropriate cam x blocking rings) as required	626	SC
2	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Floor Stop and Holder	1804	630	AB
1	Ea.	Seal	Seals are to be furnished by aluminum door/frame manufacturer (head, jambs, meeting stiles for pair doors)		

Note 1: For doors/openings assigned this hardware group/set, the cylinder is for unit-type pricing. At each opening assigned this hardware group/set, provide final keying as required per locking and/or key control devices as used on the door system detail and/or specified in the Nana-type doors specifications.

Note 2: Furnish all devices & components for hardware groups/set above in accordance with Contract Documents (including but not limited to notes below, additional hardware devices requirements in the above specification language, architectural plans & full specification documents).

Blank space below and after a Group/Set is intentional to avoid, if possible, splitting a Hardware Group/Set onto two pages

Hardware Group/Set #05

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Rim-Type Exit/Panic Device x Pull x Key Override	CDSI AX PA 99NL x 990NL	626	VO
2	Ea.	I/C Cylinders (Rim or Mortise).	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
2	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP EDA	689	LC
1	Ea.	Floor Stop and Holder	1804	630	AB
1	Ea.	Seal	Seals are to be furnished by aluminum door/frame manufacturer (head, jambs)		
1	Ea.	Door Bottom	315CN by Pemko or approved seal manufacturer		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
1	Ea.	Door Position Switch (also known as Alarm Contact, Door Contacts)	#679-05-WD or #679-05-HM (as required per door material) by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings).		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

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splitting a Hardware Group/Set onto two pages

Hardware Group/Set #06

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Office-Type Lockset	ND91JD RHO x 10-025	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Latch Guard	LG12	630	IV
1	Ea.	Closer	4040XP EDA	689	LC
1	Ea.	Concealed Overhead Stop	1ADJ (-336 or size as required for door width)	689	RX
1	Ea.	Seal	Seals are to be furnished by aluminum door/frame manufacturer (head, jambs)		
1	Ea.	Door Bottom	3452CNB by Pemko or approved seal manufacturer		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
1	Ea.	Overhead Rain Drip	Provide 346C x FFW (fill frame width) by Pemko or approved		
1	Ea.	Door Position Switch (also known as Alarm Contact, Door Contacts)	#679-05-WD or #679-05-HM (as required per door material) by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings).		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Hardware Group/Set #07

2	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Inactive Leaf: Auto Flush Bolt Set	#FB31P x #DP2	626 630	IV
1	Ea.	Storeroom Lockset	ND96TD RHO x 10-025	626	SC
1	Ea.	Permanent Core	Per specifications	626	SC
1	Ea.	Coordinator	#3094 series x filler plates x mounting brackets as required for coordinated hardware		TR
2	Ea.	Closer x Stop Arm	4040XP CUSH	689	LC
2	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Seal	S88D seals (head and jambs) by Pemko or approved		
2	Ea.	Door Bottom	3452CNB by Pemko or approved seal manufacturer		
1	Ea.	Overlapping Astragal	355CS by Pemko or approved seal manufacturer.		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
1	Ea.	Overhead Rain Drip	346C x FFW (fill frame width) by Pemko or approved equal		
2	Ea.	Door Position Switch	#679-05-HM by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings).		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

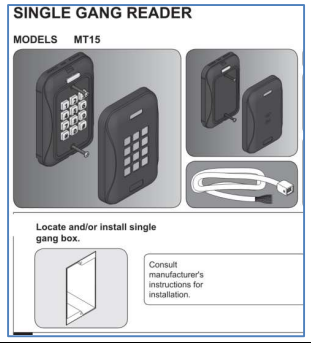
Hardware Group/Set #08

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Rim-Type Exit/Panic Device x Pull x Key Override	CDSI AX PA 99NL x 990NL	626	VO
1	Ea.	Electrified Strike	9500	630	HE
1	Ea.	I/C Cylinders (Rim or Mortise	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP EDA	689	LC
1	Ea.	Armor Plate	8400 34” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Floor Stop and Holder	1804	630	AB
2	Ea.	Door Viewers	975U 160°, UL	626	TR
1	Ea.	Seal	S88D seals (head and jambs) by Pemko or approved		
1	Ea.	Door Bottom	315CN by Pemko or approved seal manufacturer		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
1	Ea.	Overhead Rain Drip	Provide 346C x FFW (fill frame width) by Pemko or approved equal		
1	Ea.	Door Position Switch (also known as Alarm Contact, Door Contacts)	#679-05-WD or #679-05-HM (as required per door material) by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings).		
1	Ea.	Interior-Side Electrified Emergency Lock Down Station (to meet CBC 1010.1.9 through 1010.1.11 required to "locks down" perimeter of building/room at this door)	 Emergency Lock Down Station (within 8-11 inches from the door) furnish and install SS2_____ series - final to be selected to match District Standard lockdown pictured to the right (see STI manufacturing https://www.sti-usa.com and/or https://www.sti-usa.com/series/stopper-stations/). In case of emergency as described in CBC 1010.1.9 through 1010.1.11 coordinate and verify interior Emergency Lock Down Station shall drop power to card reader and locking system (part of system to lock exterior-side of doors without going outside to lock the door).		

Note 1: Prepare interior side of wall next to door with a single gang box for future Interior-Side Electrified Emergency Lock Down Station (see above). Furnish all devices and components for hardware groups/set above in accordance with Contract Documents including, but not limited to, additional hardware devices required in Section 08 71 00 language, architectural plans, and full specification documents.

Note 2: Wiring and coordination task for security and/or electrical design and additional non-Division 08 Section scope:

- Including but not limited to wire / connectivity from ceiling through frame to electrified hinge and through door to future electrified hardware).
- Door and frames to be submitted with the following: Provide UL rated conduit in frames; doors pre-drilled/cored for future wire-run through door to electrified strike #9500 specified above in this set ordered by Division 28 low voltage security vendor with remaining security package: card reader, power supply, low voltage wiring and connections be Security Contractor). Conduit and j-boxes by Electrical.

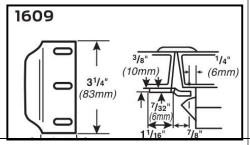


Hardware Group/Set #09

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Storeroom Lockset	ND96TD RHO x 10-025	626	SC
1	Ea.	Permanent Core	Per specifications	626	SC
1	Ea.	Latch Guard	LG12	630	IV
1	Ea.	Closer x Stop Arm	4040XP CUSH	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Seal	S88D seals (head and jambs) by Pemko or approved seal manufacturer.		
1	Ea.	Door Bottom	3452CNB by Pemko or approved seal manufacturer		
1	Ea.	Threshold	2727A offset or 176A flush condition (or per detail for flat of quarter inch offset sill detail) x wrap frame stops x beveled miter ends x mastic per specifications x by Pemko approved equal		
1	Ea.	Overhead Rain Drip	346C x FFW (fill frame width) by Pemko or approved equal		
1	Ea.	Door Position Switch (also known as Alarm Contact, Door Contacts)	#679-05-WD or #679-05-HM (as required per door material) by Schlage manufacturing (coordinate with Divisions 25-28 and applicable drawings).		

Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).

Hardware Group/Set #10

1	Ea.	Hydraulic Closers / Hinges Sets	Mammoth 180 Hydraulic Closers/Hinges Set: Ultra heavy duty 180° hydraulic gate closer and hinge for gates up to 440 pounds x Silver Finish (note: if round post similar to chain-link, provide additional Locinox brackets part #CLB Mammoth)		LO
1	Ea.	Rim-Type Exit/Panic Device x Pull and Key Override 	WH CD AX PA 99NL x 990NL x 1609 strike (mount all devices in weldable squared-off boxes as required for panic device and electric strike template requirements 	626	VO
2	Ea.	I/C Cylinders (Rim or Mortise	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
2	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Stop and Hold Open	1804 	630	AB
1	Ea.	10” Bottom Rail	Bottom of gates to be greater than 10” clear, unobstructed and smooth surface (per above specifications and by gate manufacturer push-side, ground smooth, primed and painted to match gate)		
1	Ea.	Painted Full Height Astragal	Per above specifications and by gate manufacturer and per specifications (utilized as a positive stop – when gate closes against the astragals the opening cannot swing back in toward the egress side)		
Note: Furnish all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices requirements in the above specification language, architectural plans and full specification documents).					

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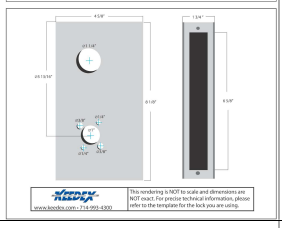
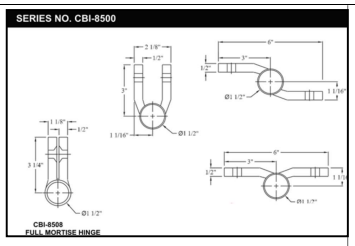
Hardware Group/Set #11

1	Ea.	Hydraulic Closers / Hinges Sets	Mammoth 180 Hydraulic Closers/Hinges Set: Ultra heavy duty 180° hydraulic gate closer and hinge for gates up to 440 pounds x Silver Finish (note: if round post similar to chain-link, provide additional Locinox brackets part #CLB Mammoth)		LO
1	Ea.	Classroom-Type Lockset	LV9070T x 06A (provide Weldable Box #K-BXMOR1-10G as required for locking device – see www.keedex.com) ground smooth finish, primed and painted to match remaining area. Keedex Inc • 510 Cameron Street • Placentia, Ca • 92807 Phone (714) 993-4300 • Fax (714) 993-4303 Email- gates@keedex.com • Web- www.keedex.com 	630	SC
1	Ea.	Weldable Box	#K-BXMOR1-10G as required for locking device – see www.keedex.com) ground smooth finish, primed and painted to match remaining area.  		
1	Ea.	I/C Cylinders (Rim or Mortise	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Stop and Hold Open	1804 	630	AB
1	Ea.	10” Bottom Rail	Bottom of gates to be greater than 10” clear, unobstructed and smooth surface (per above specifications and by gate manufacturer push-side, ground smooth, primed and painted to match gate)		
1	Ea.	Painted Full Height Astragal	Per above specifications and by gate manufacturer and per specifications (utilized as a positive stop – when gate closes against the astragals the opening cannot swing back in toward the egress side)		
Note: Furnish all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices requirements in the above specification language, architectural plans and full specification documents).					

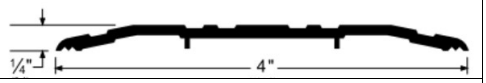
Hardware Group/Set #12

6	Ea.	Gate Hinge/Hanging Devices (Precision Engineered High Capacity by Crown industrial manufacturing or approved equal manufacturer and type)	Full mortise (CBI-8508) and as required per architectural details (final quantity per manufacturer's recommendations) 		CR
1	Ea.	Inactive Leaf: Lockable Cainbolt-Type Devices	0524PL and/or part #0000478 x 24"x black zinc x Stainless Steel Ground Receiver/Strike. Do not block active free egress leaf when installing		CR
1	Ea.	Inactive Leaf: Padlock	KS43F320 (2" inch shackle)		SC
1	Ea.	Inactive Leaf: Padlock Permanent Core	20-740 x Everest 29 keyway	606	SC
1	Ea.	Active Leaf: Classroom-Type Lockset	LV9070T x 06A (provide Weldable Box #K-BXMOR1-10G as required for locking device – see www.keedex.com) ground smooth finish, primed and painted to match remaining area.  Keedex Inc • 510 Cameron Street • Placentia, Ca • 92807 Phone (714) 993-4300 • Fax (714) 993-4303 Email- gates@keedex.com • Web- www.keedex.com	630	SC
1	Ea.	Active Leaf: Weldable Box	#K-BXMOR1-10G as required for locking device – see www.keedex.com) ground smooth finish, primed and painted to match remaining area. 		
1	Ea.	Active Leaf: LV9070T I/C Cylinders (Rim or Mortise	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Active Leaf: LV9070T Permanent Core	20-740	626	SC
2	Ea.	Stop and Hold Open	1804 	630	AB
1	Ea.	Knox Box	3200 Series (per specifications) and for locations as shown on Architectural Drawings		

Note: Furnish all devices & components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices requirements in the above specification language, architectural plans & full specification documents).

Interior Hardware Sets (Typically Three-Digit Set Numbers)

Hardware Group/Set #101

__	Ea.	Hinge	5BB1HW (size and quantity per Section 08 71 00)	630	IV
1	Ea.	Rim-Type Exit/Panic Device x Key Override	AX PA CDSI 99L-NL x 996L-NL-R/V	626	VO
2	Ea.	I/C Cylinders (Rim or Mortise	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
2	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x EDA (push-side 180-degree application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop	WS401/WS402 (Wall Stops)	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
1	Ea.	Auto Door Bottom	411APKL or 420APKL (as required per door material or hollow metal) by Pemko or per Section 08 11 13 approved manufacturer		
1	Ea.	Aluminum Threshold (sound dampening / quarter inch aluminum)	270A x wrap frame stops/beveled miter ends per specifications x mastic by Pemko or equal 		

Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).

Blank space below and after a Group/Set is intentional to avoid, if possible, splitting a Hardware Group/Set onto two pages

Hardware Group/Set #102

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Push Plate	1001-3-20” x custom 20” high plate (total size 4” wide x 20” tall) x BHMA 710CU (Healthy Hardware Antimicrobial)	710 CU	TR
1	Ea.	Pull Plate	1017-3 (4” x 16”) x BHMA 710CU (Healthy Hardware Antimicrobial)	710 CU	TR
1	Ea.	Foot Pull	UFP x 316S marine grade stainless steel	316 S	TR
1	Ea.	Closer	4040XP x REG (pull-side application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Mop Plate	8400 6” tall x 1" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop	WS401/WS402 (Wall Stops)	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Blank space below and after a Group/Set is intentional to avoid, if possible, splitting a Hardware Group/Set onto two pages

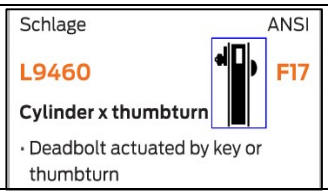
Hardware Group/Set #103

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Privacy x Occupancy Indicator (exterior side lever left unlocked when room is vacant, but can be locked after hours) 	L9456T x 06A emergency cylinder/key override x #L283-722 occupancy indicator (occupied/unoccupied) x #09-509 x L583-363  ADA Thumbturn 	630 AM	SC
1	Ea.	I/C Cylinders (Rim or Mortise)	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x REG (pull-side application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Mop Plate	8400 6” tall x 1" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop	WS401/WS402 (Wall Stops)	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Hardware Group/Set #104

1	Ea.	Swing Clear Continuous Hinge	041XY-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Storeroom Lockset	ND96TD RHO x 10-025	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x REG (pull-side application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop	FS436 (Floor/Dome Stop)	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
1	Ea.	Auto Door Bottom	411APKL or 420APKL (as required per door material or hollow metal) by Pemko or per Section 08 11 13 approved manufacturer		
1	Ea.	Aluminum Threshold (sound dampening / quarter inch aluminum)	270A x wrap frame stops/beveled miter ends per specifications x mastic by Pemko or approved equal		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Hardware Group/Set #105

1	Ea.	Swing Clear Continuous Hinge	041XY-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Push Plate	1001-3-20” x custom 20” high plate (total size 4” wide x 20” tall) x BHMA 710CU (Healthy Hardware Antimicrobial)	710 CU	TR
1	Ea.	Pull Plate	1017-3 (4” x 16”) x BHMA 710CU (Healthy Hardware Antimicrobial)	710 CU	TR
1	Ea.	Foot Pull	UFP x 316S marine grade stainless steel	316 S	TR
1	Ea.	Deadbolt	L9460L (not, this is not an egress door) provide ADA thumb-turn XB11-720 	626	SC
1	Ea.	I/C Cylinders (Rim or Mortise)	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x REG (pull-side application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Mop Plate	8400 6” tall x 1" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop and Hold-Open	FS43	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

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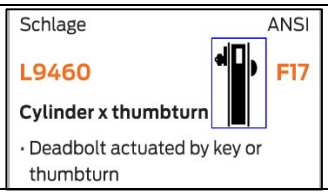
Hardware Group/Set #106

1	Ea.	Swing Clear Continuous Hinge	041XY-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Push Plate	1001-3-20” x custom 20” high plate (total size 4” wide x 20” tall) x BHMA 710CU (Healthy Hardware Antimicrobial)	710 CU	TR
1	Ea.	Pull Plate	1017-3 (4” x 16”) x BHMA 710CU (Healthy Hardware Antimicrobial)	710 CU	TR
1	Ea.	Foot Pull	UFP x 316S marine grade stainless steel	316 S	TR
1	Ea.	Deadbolt	L9460L (not, this is not an egress door) provide ADA thumb-turn XB11-720 	626	SC
1	Ea.	I/C Cylinders (Rim or Mortise)	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x EDA (push-side application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop and Hold-Open	FS43	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

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Hardware Group/Set #107

2	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Inactive Leaf: Auto Flush Bolt Set	#FB31P x #DP2	626 630	IV
1	Ea.	Inactive Leaf: Roller Catch	1559A (install roller latch 4” to 6” away from auto flush bolt to stabilize door when active door is open) 	626	TR
1	Ea.	Classroom-Type Lockset	L9071T x 06 Lever x A rose	626 AM	SC
2	Ea.	I/C Cylinders (Rim or Mortise)	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
2	Ea.	Permanent Core	20-740	626	SC
2	Ea.	Overhead Stop	9ADJ series (-336 or size as required per door width)	630	RX
2	Ea.	Kick Plate	KO050 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	TR
2	Ea.	Door Silencers	1229A or 1229B (as required)	GR	TR
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

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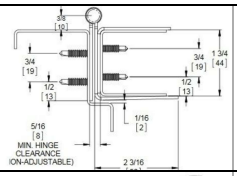
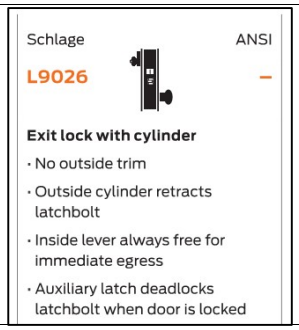
Hardware Group/Set #108

2	Ea.	Continuous Hinge	HG322 with custom through bolts device (length as required for door height) 	630	MA
1	Ea.	Inactive LHR Leaf: Locking Heavy Duty Surface Bolt	#3922 	626	TR
1	Ea.	Storeroom Locksets (Less Outside Lever, Keyed Only)	L9026T x #17 Lever x A rose no exterior lever 	626	SC
1	Ea.	I/C Cylinders (Rim or Mortise).	20-757 or 20-763 x appropriate cam x blocking rings as required (rim or mortise type and quantity as required by locking device)	626	SC
1	Ea.	Permanent Core	20-740	626	SC
2	Ea.	Kick Plate	8400 10” tall x __" LDW (for width provide so that kickplate touches EG308 as well as the HG322 with smooth uninterrupted surface) x B4E (beveled edges) x counter sunk where door allows	630	IV
2	Ea.	Pair Edge Guards	EG308 x EG308 (all cut out for devices)	630	MA
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

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Hardware Group/Set #109

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Security-Type Lockset	ND91TD RHO x 10-025	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x REG (pull-side application)	689	LC
1	Ea.	Armor Plate	8400 34” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop	WS401/WS402 (Wall Stops)	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Hardware Group/Set #110

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Storeroom-Type Lockset	ND96TD RHO x 10-025	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x EDA (push-side application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop	WS401/WS402 (Wall Stops)	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
Note: Furnish and install all devices and components for hardware groups/set above in accordance with Contract Documents (including but not limited to additional hardware devices required in specifications language above, architectural plans and full specification documents).					

Hardware Group/Set #111

1	Ea.	Continuous Hinge	224-HD device (120 inch or length as required for door height)	AL	IV
1	Ea.	Storeroom-Type Lockset	ND96TD RHO x 10-025	626	SC
1	Ea.	Permanent Core	20-740	626	SC
1	Ea.	Closer	4040XP x REG (pull-side application)	689	LC
1	Ea.	Kick Plate	8400 10” tall x 2" LDW (less door width) x B4E (beveled edges) x counter sunk where door allows	630	IV
1	Ea.	Stop	WS401/WS402 (Wall Stops)	626	IV
1	Ea.	Seals	S88D seals (head and jambs) by Pemko or approved seal manufacturer		
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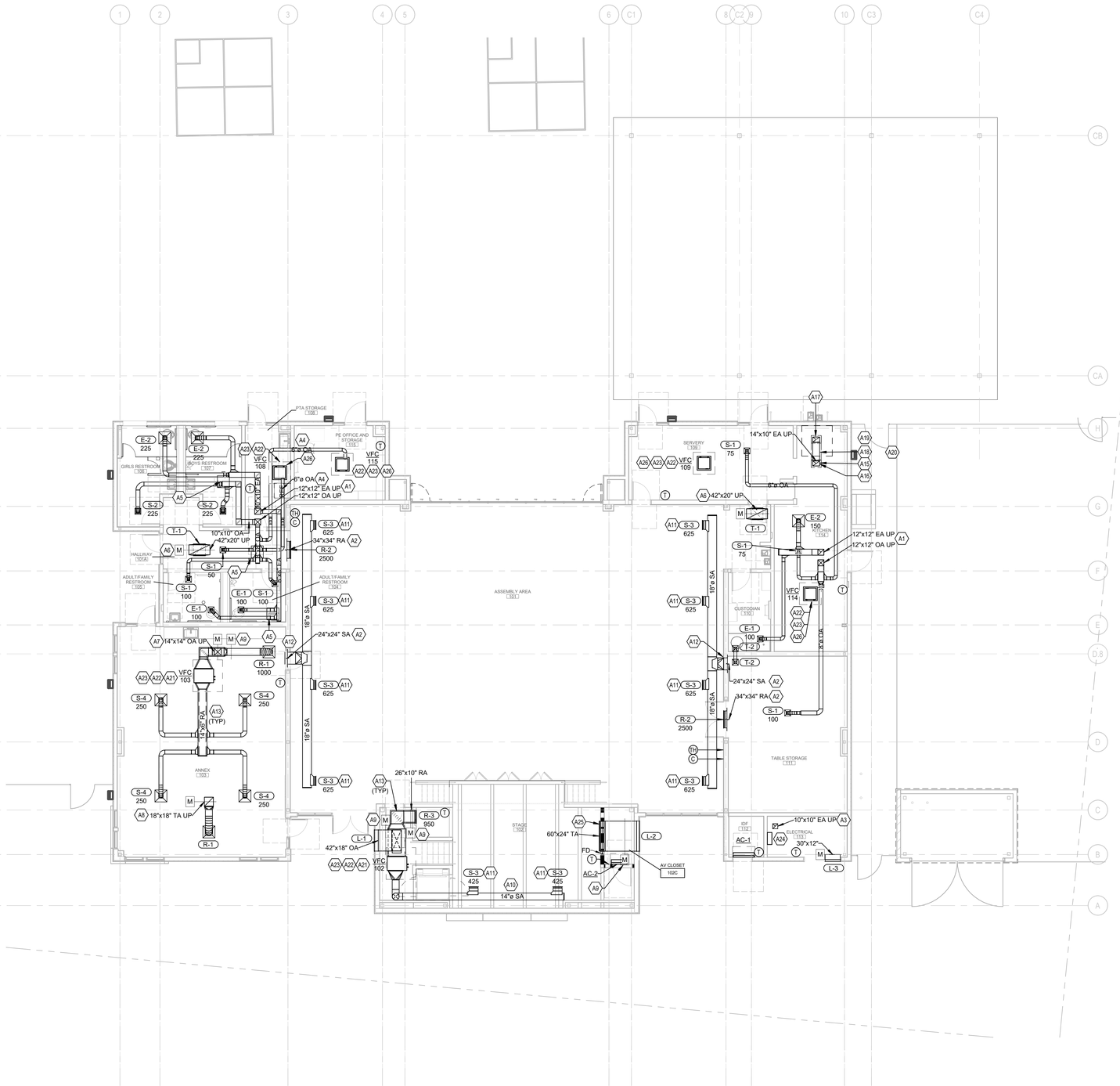
END OF SECTION



MECHANICAL FLOOR PLAN - AIR DISTRIBUTION

1 SCALE: 1/8" = 1'-0"

0 2' 4' 8' 16' 24' 32'

KEYNOTES

A1 DUCTS UP TO ERV ON ROOF. REFER TO ROOF PLAN ON SHEET 2.M-102 FOR CONTINUATION.

A2 DUCTS TO RTU ON ROOF. REFER TO ROOF PLAN ON SHEET 2.M-102 FOR CONTINUATION.

A3 DUCT UP TO EF ON ROOF. REFER TO ROOF PLAN ON SHEET 2.M-102 FOR CONTINUATION.

A4 BALANCE 6"Ø OA CONNECTION TO 25 CFM.

A5 INSTALL CEILING ACCESS PANEL TO MATCH SERVICE AREA SIZE. REFER TO 20/2.A-553 FOR ACCES DOOR DETAIL.

A6 PLENUM DUCT UP TO GRAVITY HOOD. PROVIDE DUCT SIZED MOTORIZED DAMPER FOR ECONOMIZER RELIEF OPERATION. INSTALL MESH METAL BIRD SCREEN AT DUCT OPENING.

A7 INTAKE DUCT UP TO INTAKE HOOD. PROVIDE DUCT SIZED MOTORIZED DAMPER FOR ECONOMIZER OPERATION.

A8 DUCT UP TO GRAVITY HOOD. PROVIDE DUCT SIZED MOTORIZED DAMPER FOR ECONOMIZER RELIEF OPERATION.

A9 DUCT SIZED MOTORIZED DAMPER FOR ECONOMIZER OPERATION.

A10 PROVIDE SINGLE WALL PAINTABLE DUCTWORK . MATCH WITH WALL COLOR.

A11 INSTALL DIFFUSERS PER DETAIL 7/2.M-200.

A12 PENETRATE MULTIPURPOSE WALL PER DETAIL 4/2.M-200. REFER TO 3/2.M-201 FOR DUCT MOUNTING IN MULTIPURPOSE.

A13 ALL DUCT LINING TO BE 1", 3 LB/CU FT DENSITY DUCT LINER.

A15 14"x10" 16GA WELDED GREASE EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST FAN. DUCT TO BE COVERED WITH (2) LAYERS OF 3M FIRE BARRIER DUCT WRAP 615+, INSTALL PER MANUFACTURER'S INSTRUCTIONS. TRANSITION DUCT TO EXHAUST FAN INLET SIZE WITHIN RISER THEN TURN WITH 14"x10" RADIUS ELBOW AND ROUTE AS SHOWN.

A16 14"x10" 16GA WELDED GREASE EXHAUST DUCT.

A17 TURN 14"x10" 16 GA WELDED GREASE DUCT DN WITH RADIUS ELBOW TO CONNECTION AT HOOD. TRANSITION DUCT AS REQUIRED TO MATCH HOOD OUTLET. SEE FOOD SERVICE DRAWINGS FOR BALANCING DAMPER AT HOOD CONNECTION. (2)

A18 16 GA WELDED GREASE DUCT IS TO BE WRAPPED IN ITS ENTIRETY WITH (2) LAYERS OF 3M FIRE BARRIER DUCT WRAP 20A. INSTALL AND SEAL PER MANUFACTURER'S REQUIREMENTS TO PROVIDE A 2-HOUR FIRE RATING AROUND GREASE DUCT.

A19 PROVIDE MIN. 2% SLOPE BACK TO HOOD FOR ALL HORIZONTAL GREASE DUCT PER 2019 CMC SEC 510.1.3. (2)

A20 INSTALL DUCT ACCESS DOORS FOR GREASE DUCT CLEANING. INSTALL AT ALL CHANGES IN DIRECTIONS AND MAX. 12' INTERVAL PER 2019 CMC SEC 510.3. POSITION DOORS IN ACCESSIBLE LOCATIONS.

A21 VRV FAN COIL UNIT MOUNTED ABOVE CEILING, SEE 1/2.M-301 FOR CONTROL. SEE 4/2.M-202 FOR MOUNTING.

A22 VRV FAN COIL UNIT SERVICE ACCESS AND FILTER REMOVAL AREA. THIS AREA IS TO REMAIN FREE OF DUCT, PIPING, CONDUIT, WIRING AND ALL OTHER ITEMS THAT MAY OBSTRUCT THE SERVICE ACCESS TO THE FAN COIL UNIT OR THE FILTER REMOVAL AREA. THE SERVICE ACCESS AND FILTER REMOVAL AREA SHOWN IS TO INCLUDE THE HEIGHT FROM THE TOP OF THE CEILING TO THE TOP OF THE FAN COIL UNIT.

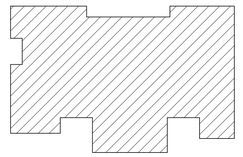
A23 ALL ITEMS INCLUDING REFRIGERANT PIPING, CONDENSATE PUMP, CONDENSATE PIPING, POWER FOR UNIT, AND POWER FOR CONDENSATE PUMP ARE TO BE LOCATED AND/OR RUN ENTIRELY CONCEALED IN WALL OR ABOVE CEILING. INSTALL LONG RADIUS ELBOWS AS REQUIRED IN REFRIGERNAT PIPING AT FINAL CONNECTION TO UNIT TO ALLOW PIPING TO ENTER UNIT CONCEALED, WITHIN UNIT CABINET. COORDINATE WITH ALL TRADES AS REQUIRED.

A24 DDC SYSTEM SUPERVISORY FIELD PANEL. REFER TO EMTCS SYSTEM NETWORK SCHEMATIC 6/2.M-300. SEE 1/2.E7.0 FOR MOUNITNG.

A25 FULLY DUCT TRANSFER GRILLE TO RELIEF PLENUM. REFER TO SCHEDULE FOR DUCT SIZE REQUIRED.

A26 VRV FAN COIL UNIT MOUNTED IN CEILING, SEE 1/2.M-301 FOR CONTROL. SEE 5/2.M-202 FOR MOUNTING.

KEY PLAN



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SEAL

PROJECT
MEADOW HEIGHTS
MULTI--PURPOSE BUILDING
INCREMENT 2
2619 DOLORES ST,
SAN MATEO, CA 94403

CLIENT
SAN MATEO FOSTER CITY SCHOOL DISTRICT
1170 CHESS DRIVE FOSTER CITY, CA 94404

ISSUED

MARK	DATE	DESCRIPTION
	1/4/2024	ADDENDUM 02

MANAGEMENT

LIONAKIS PROJECT NO: 021068
DSA APPLICATION NO: 01-120018

TITLE
MECHANICAL FLOOR PLAN - AIR DISTRIBUTION

SHEET
2.M-100

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

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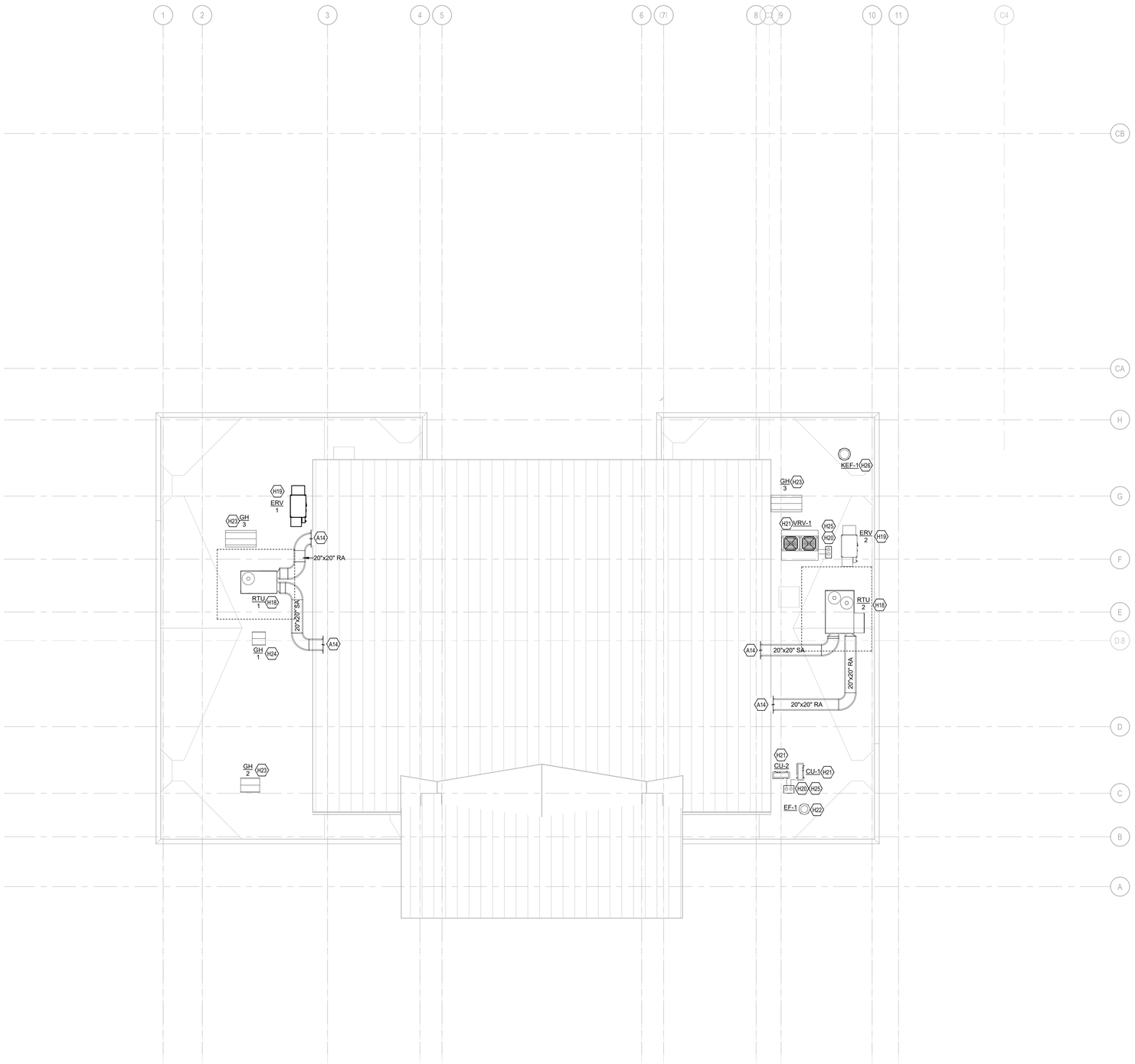


1 MECHANICAL ROOF PLAN

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 16' 24' 32'

KEYNOTES

A14 EXTERIOR DUCT PENETRATION INTO ASSEMBLY. REFER TO 2.M-100 FOR CONTINUATION. TRANSITION DUCTWORK TO ROUND AT EXTERIOR PENETRATION AND PROVIDE FRAME SUPPORT PER DETAIL 8/2.M-200.

H18 RTU ON 2" DEFLECTION SPRING ROOF CURB. SEE 1/2.M-202 FOR MOUNTING. SEE 1/2.M-303 FOR CONTROL.

H19 ERV ON FACTORY ROOF CURB. SEE 6/2.M-201 FOR MOUNTING. SEE 1/2.M-302 FOR CONTROL.

H20 PROVIDE PIPE CHASE ROOF CURB PER DETAIL 3/2.M-200. REFER TO HYDRONIC PLAN ON 2.M-101 FOR CONTINUATION.

H21 INSTALL CONDENSING UNIT ON EQUIPMENT PLATFORM PER DETAIL 1/2.M-200 AND 3/2.M-202.

H22 INSTALL ROOF MOUNTED EXHAUST FAN PER DETAIL 7/2.M-202. SEE 2.M-100 FOR DUCT CONTINUATION BELOW.

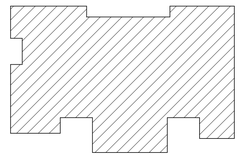
H23 GRAVITY HOOD FOR ROOM PRESSURIZATION RELIEF. SEE DETAIL 5/2.M-201 FOR MOUNTING. INSTALL COUNTERBALANCED BACKDRAFT DAMPER IN THROAT OF HOOD, SET FOR RELIEF. ADJUST DAMPER SENSITIVITY SO THAT NO PRESSURIZATION DIFFERENCE IS NOTICABLE AT DOORS INTO AREA SERVED. 1/2" DIA. SYNTHETIC AXLES, DUSTPROOF BALL BEARINGS, RUSKIN CBD4 OR EQUAL. SEE 2.M-100 FOR DUCT CONTINUATION BELOW.

H24 GRAVITY HOOD FOR VFC UNIT OSA. SEE DETAIL 5/2.M-201 FOR MOUNTING. INSTALL COUNTERBALANCED BACKDRAFT DAMPER IN THROAT OF HOOD, SET FOR INTAKE. DAMPER BLADES ARE TO BE GASKETED AND LINKAGES ARE TO INCLUDE BUSHINGS FOR QUIET OPERATION. 1/2" DIA. SYNTHETIC AXLES, DUCTPROOF BALL BEARINGS, RUSKIN CBD4 OR EQUAL. SEE 2.M-100 FOR DUCT CONTINUATION BELOW.

H25 ALL EXTERIOR PIPING AND INSULATION IS TO BE COVERED WITH 0.016 IN. ALUMINUM JACKETING AND FITTING COVERS, ITW INSULATION SYSTEMS OR EQUAL.

H26 KITCHEN EXHAUST FAN ON FACTORY ROOF CURB. SEE DETAIL 4/2.M-201 FOR MOUNTING.

KEY PLAN



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ISSUED

MARK	DATE	DESCRIPTION
	1/4/2024	ADDENDUM 02

MANAGEMENT

LIONAKIS PROJECT NO: 021068
DSA APPLICATION NO: 01-120018

TITLE
MECHANICAL ROOF PLAN

SHEET
2.M-102

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT. SCALE ACCORDINGLY

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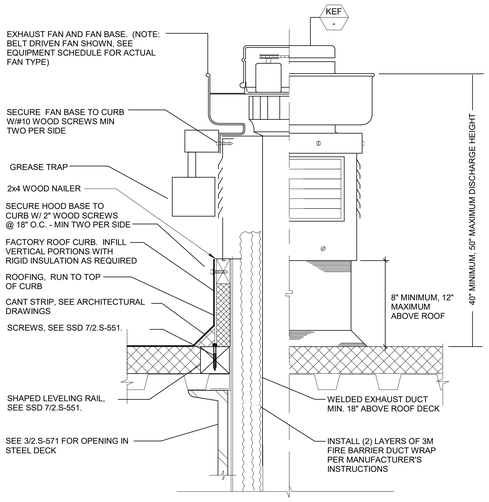


NOTES:

1. CURB HEIGHT AS REQUIRED TO MAINTAIN 8" CLEARANCE FROM ROOF SURFACE.
2. SEE STUCTURAL CALCULATIONS. LOADS ARE MINIMIAL TO CONNECTIONS. SEE CALC FOR ERV FOR GOVERNING LOAD CONDITION. CONNCTIONS OK BY INSPECTION FOR LOW LOADS.
3. MAX UNIT WEIGHT: 47 LBS

4 KITCHEN EXHAUST FAN MOUNTING

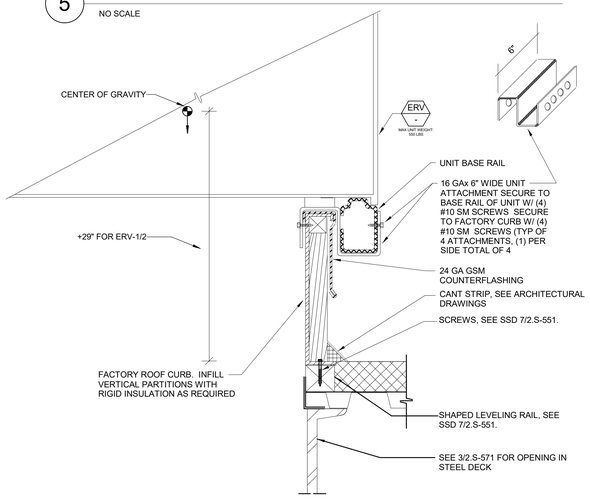
NO SCALE

NOTES:

1. CURB HEIGHT AS REQUIRED TO MAINTAIN 8" CLEARANCE FROM ROOF SURFACE.
2. CALCULATION OF LAG SCREW AND CONNECTION TO SLEEPER PROVIDED BY SEOR. SEE REVISED CALC FOR CHECK OF SLEEPER TO BARE METAL DECK PER REVISED DETAIL 7/2.S-551. FORCES ARE MINIMAL TO CONNECTIONS.
3. MAX HOOD WEIGHT: 84 LBS

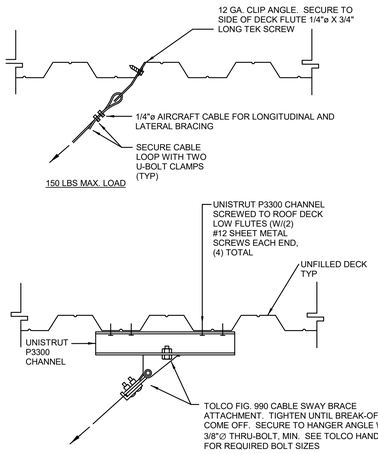
5 GRAVITY HOOD MOUNTING DETAIL

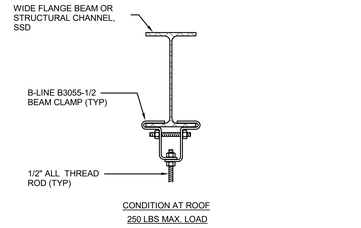
NO SCALE

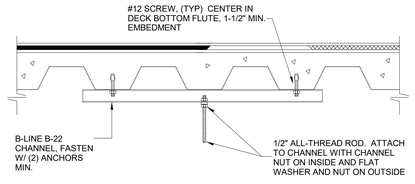


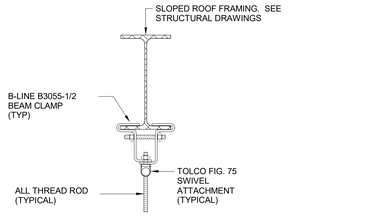
6 ERV UNIT MOUNTING DETAIL

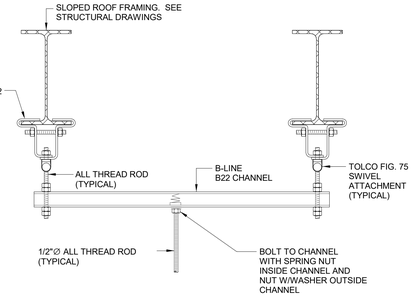
NO SCALE









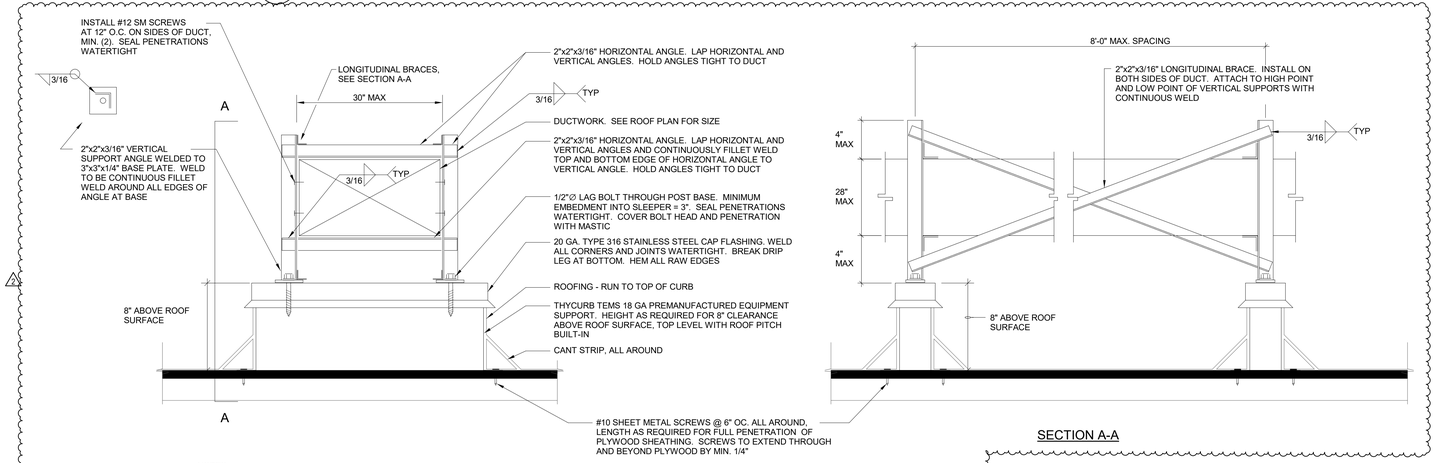


NOTES:

1. LONGITUDAL AND LATERAL SEISMIC RESTRAINT IS REQUIRED WHERE PIPE IS 12" OR MORE FROM SUPPORTING STRUCTURAL MEMBER.
2. VERTICAL HANGER SPACING SHALL NOT EXCEED 6'-0" O.C. FOR PIPE SIZES UP TO 1-1/2" AND 8'-0" O.C. FOR PIPE SIZES 2" AND LARGER.
3. CABLES FOR LONGITUDAL RESTRAINT ARE TO BE ATTACHED TO ALL THREAD ROD CONNECTION AT TOP OF "J" HANGER SO THAT LONGITUDAL BRACING OCCURS ALONG CENTERLINE OF PIPE.
4. FOLLOW TOLCO SEISMIC RESTRAINT GUIDLINES, OSHPD PRE-APPROVED OPM-0052-13 FOR CABLE RESTRAINT SPACING.
5. IT IS ACCEPTABLE TO HANG FROM THE LOW FLUTE OF THE METAL ROOF DECK WITH SAMMY X-PRESS SWIVEL (MODEL SXP 20, IAPMO REPORT #0423) FOR LOADS LESS THAN 30 LBS. ALL HANGERS SHALL BE SPACED AT LEAST 4 FT FROM ALL OTHER HANGER RODS. CONFIRM ACCEPTANCE WITH DSA.
6. UNISTRUT CHANNEL OPTION TO ONLY BE INSTALLED PERPINDICUAL TO METAL DECK FLUTES.

1 ATTACHMENT TO STRUCTURE

NO SCALE

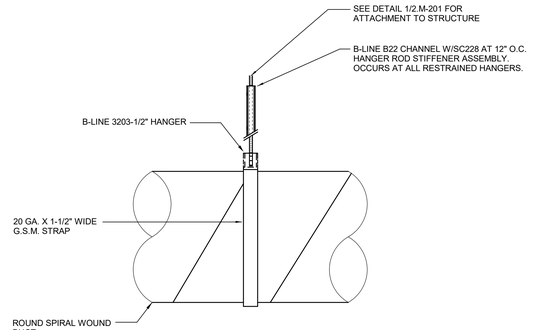


NOTES:

1. SUPPORT FRAMES ARE SPACED 8'-0" MAX. C.C.

7 ROOFTOP DUCT SUPPORT DETAIL

NO SCALE

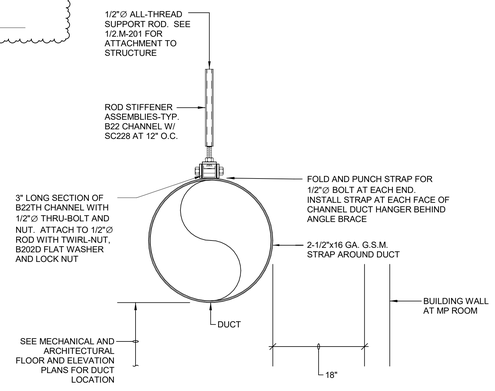


NOTES:

1. VERTICAL HANGER SPACING TO BE NO GREATER THAN 8'-0" O.C.
2. SEE SHEET M0.1 FOR SEISMIC BRACING NOTES AND SEISMIC BRACING GUIDELINES.
3. LONGITUDINAL AND LATERAL SEISMIC RESTRAINT REQUIRED REGARDLESS IF DUCT SPACING IS 12" OR LESS FROM SUPPORTING STRUCTURAL MEMBER.

2 DUCT SUPPORT DETAIL - CONCEALED DUCTWORK

NO SCALE



NOTES:

1. VERTICAL HANGER SPACING AT MAX. 8'-0" O.C.
2. SEE SHEET M0.1 FOR SEISMIC BRACING NOTES AND SEISMIC BRACING GUIDELINES.
3. LONGITUDINAL AND LATERAL SEISMIC RESTRAINT REQUIRED REGARDLESS IF DUCT IS 12" OR LESS FROM SUPPORTING STRUCTURAL MEMBER.
4. ALL FITTINGS AND HARDWARE ARE COOPER B-LINE.

3 DUCT SUPPORT DETAIL - MULTIPURPOSE ROOM

NO SCALE

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SEAL

PROJECT

MEADOW HEIGHTS
MULTI--PURPOSE BUILDING
INCREMENT 2

2619 DOLORES ST,
SAN MATEO, CA 94403

CLIENT

SAN MATEO FOSTER CITY SCHOOL DISTRICT

1170 CHESS DRIVE FOSTER CITY, CA 94404

ISSUED

MARK	DATE	DESCRIPTION
	1/4/2024	ADDENDUM 02

MANAGEMENT

LIONAKIS PROJECT NO:	021068
DSA APPLICATION NO:	01-120018

TITLE

MECHANICAL DETAILS

SHEET

2.M-201