



State of Utah

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Department of Administrative Services

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Executive Director

Division of Facilities Construction and Management

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Director

## ADDENDUM NO. 4

Date: May 20, 2010

To: Prime Contractors/RFP Respondents:  
Big-D, Jacobsen, Layton, McCarthy/Westland, Okland, Walbridge

From: Dave McKay, Project Manager

Reference: Utah Valley University  
Pope Science Building Addition - Request for Proposals for Construction Services  
DFCM Project No. 09020790

Subject: **Addendum No. 4**

Pages	Addendum Cover Sheet	1 page
	<u>Architect's Addendum 4</u>	<u>98 pages</u>
	Total	99 pages

**Note:** *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

**4.1 SCHEDULE CHANGES:** There are no Project Schedule changes.

**4.2 GENERAL ITEMS:** See attached Architect's Addendum No. 4 dated May 19, 2010 containing revised specifications and drawings.

# NEW SCIENCE BUILDING

## ADDENDUM NO. 4

May 19, 2010

The original specifications and drawings, dated May 07, 2010 for the project referenced above are amended in the Addendum No. 4, dated May 19, 2010.

Receipt of this addendum shall be acknowledged by inserting its number and date in the space provided on the bid form.

This addendum consists of 98 total pages.

Attachments: This addendum includes the following attachments:

Revised architectural specifications and drawings (83 sheets) as referred to in addendum items (each drawing numbered to match addendum item that refers to it).

Electrical Addendum (11 pages)

- AD4-A01      General  
Signage, including that which is required by code, will be owner provided and installed. All stenciled lettering or "door to remain unlocked during business hours" lettering shall be provided by the contractor.
- AD4-A02      General  
Projection screens are to be included in the bid. A schedule and description of the different screens can be found on sheet EJ-601. The description of the screens provided in the AV Rough-in Equipment Schedule shall allow equal products to the one specified.
- AD4-A03      General  
Horizontal louvered blinds, while shown in the plans, have been removed from the contract. Any roller shades in the west towers or atrium will be clarified in a later addendum.
- AD4-A04      General  
There are no fire extinguishers or fire extinguisher cabinets in the job.
- AD4-A05      General  
There is an additive alternate for a greenhouse. This is an allowance for this alternate of \$250,000. This amount will be pre-entered on the final bid-form. No additional pricing is necessary.
- AD4-A06      General  
The room finish symbol near grids 6.55 & E8.25 is intended to call out finishes for the alcove. No room number will be assigned for this area.

- AD4-A07      Specification Section 015000 Temporary Facilities and Controls  
Delete item C under 2.1 Materials. Wood enclosure fence is not required.  
Delete item E.1 under 3.2 Temporary Utility Installation. No UVU toilet facilities may be used by construction personnel.
- AD4-A08      Specification Section 051200 Structural Steel Framing  
Remove 1.6 Quality Assurance, section B and C
- AD4-A09      Specification Section 077200 Roof Accessories  
This is a new specification section. See attachment.
- AD4-A10      Specification Section 078100 Applied Fireproofing  
This is a new specification section. See attachment.
- AD4-A11      Specification Section 087100 Door Hardware, Door Schedule Appendix  
The following changes have been made:  
  
The bronze door hardware finish included in several hardware sets has been replaced.  
  
Doors 030C, 140V, 240P and 240J are larger.  
Doors 132B, 136B and 137A have been added.  
Doors 030C and 140V are now rated doors.  
Door information has been added in the schedule for door 240H.  
Hardware set 03 is modified to accommodate the larger door 030C.  
There is a new hardware set 08.1 for door 140V.  
Door 240P was assigned to hardware set 20.  
There is a new hardware set GL-02 for door 254A.  
Hardware set GL-01 has been modified.  
Hardware set AL-01 has been deleted.  
  
See the attached modified section 3.7 Hardware Sets and Door Schedule from the Specifications Volume 1 Appendix.
- AD4-A12      Specification Section 092900 Gypsum Board  
Add the following items under 2.6 Trim Accessories, A. Interior Trim, 2. Shapes:  
  
f. "F" Reveal Molding for painted finish, Fry Reglet DRMF-50-25 or equivalent.  
g. Reveal Molding for painted finish, Fry Reglet DRM-50-25 or equivalent.
- AD4-A13      Specification Section 095133 Acoustical Metal Pan Ceilings  
See the attached spec section for modifications.
- AD4-A14      Specification Section 096723 Resinous Flooring  
This section has been added to address flooring in the wash-down area of room 148F. See the attached spec section
- AD4-A15      Specification Section 099600 High Performance Coatings  
The section has been modified to include an epoxy wall system. See the attached spec .

- AD4-A16      Specification Section 126100 Fixed Audience Seating  
Modify paragraph 2.2K to read as follows:  
K. Armrests: Molded plastic with rounded edges and concealed mounting.  
  
Delete paragraph 2.3E – Modesty Panels.  
  
Modify paragraph 2.3M to read as follows:  
M. Armrests: Molded plastic with rounded edges and concealed mounting.
- AD4-A17      Drawing Sheet GI-102  
The shaded areas indicate a rated floor ceiling assembly that does require spray applied fireproofing. The required assemblies are indicated on sheet AE-534. Specification section 078100 has been added to indicate the type of fireproofing.
- AD4-A18      Drawing Sheet GI-200  
Special inspection for Seismic Resistance item Mechanical & Electrical Items shall include additional items as shown in the attached sheet.
- AD4-A19      Drawing Sheet GI-201  
Clarification: The Deferred Submittals section lists Foundation Elements. These submittals shall be submitted to DFCM as quickly as possible and a submission date of July is listed. This submittal (s) is not technically a deferred submittal because DFCM will withhold their approval stamp until the information has been fully reviewed and any required responses approved.
- AD4-A20      Drawing Sheets LI-100, LI-101, LP-100, LP-101  
These 4 sheet designations have been changed / renamed as follows:  
  
LI-100 is now AS-102  
LI-101 is now AS-103  
LP-100 is now AS-104  
LP-101 is now AS-105
- AD4-A21      Drawing Sheet LP-100 (is now AS-104)  
Displaced / destroyed trees must be replaced on the west side of the site. See the attached sheets.
- AD4-A22      Drawing AE-101, AE-121  
Additive Alternate numbers have been modified as follows:  
  
Alternate 2A is now Alternate 2  
Alternate 2B is now Alternate 3  
Alternate 2C is now Alternate 4  
Alternate 3 is now Alternate 5
- AD4-A23      Drawing AE-101A  
The double doors leading to the exterior from room 056 shall have the door number 056A.
- AD4-A24      Drawings AE-101C, AE-102C, AE-501  
The floor sink / wash-down area has been reconfigured and finishes defined in the area. Floor plan and Wall Types and Finishes Plans are modified. Elevations 23 and 24 have been added to sheet AE-501. See 3 attached sheets.

- AD4-A25      Drawing Sheet AE-112A  
Rooms 155 and 156 – Change the west wall in each of these rooms to wall type D2C to accommodate the electrical panels at this location.
- Zoology Teaching Lab 176 - Delete D1C wall type tag on the south end of the east wall. Revise the wall type tag at the north wall from H4A to J2D.
- AD4-A26      Drawing Sheet AE-131  
The extent of the roof walkway surfaces have been added to the sheet. See attached sheet.
- AD4-A27      Drawing Sheets AE-201, AE-702  
Window W7a has been modified. See attached sheets.
- AD4-A28      Drawing Sheet AE-403  
The projector platform note located at grids F5 and 6.6 shall be modified to read: *Fabricated steel platform for projector w/ tube steel support frame. Platform to place projector lens at the bottom edge of the projection screen. Platform size to be approximately 2'-4" wide by 3'-0" deep. Coordinate final size w/ projector supplier.*
- AD4-A29      Drawing Sheet AE-509, Details 3 and 5  
Details 3 and 5 have been modified. See the attached sheets.
- AD4-A30      Drawing Sheet AE-605, Detail 7  
The aluminum sunshade shall extend from the face of the curtainwall system 1'-4".
- AD4-A31      Drawing Sheet AE-611, Detail 19  
Detail 19 has been modified. See the attached sheet.
- AD4-A32      Drawing Sheet AE-612, Details 9 and 18  
Detail 9 has been modified and detail 18 has been added to the sheet. See the attached sheets.
- AD4-A33      Drawing Sheet AE-614, Detail 18  
Detail 18 has been added to the sheet. See the attached sheet.
- AD4-A34      Drawing Sheet AE-641, Details 18 and 21  
Detail 18 has been modified and detail 21 has been added to the sheet. See the attached sheets.
- AD4-A35      Drawing Sheet SB-101B  
The note that currently reads "Shoring Wall By Others" shall be modified to read "Shoring wall to be designed and built by shoring contractor."

## **SECTION 077200 - ROOF ACCESSORIES**

Add#4

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes the following:
  - 1. Roof curbs.
  - 2. Roof hatches.
- B. Related Sections include the following:
  - 1. Division 05 Section "Metal Fabrications" for metal vertical ladders, ships' ladders, and stairs for access to roof hatches.
  - 2. Division 06 Section "Miscellaneous Rough Carpentry" for roof sheathing, wood cants, and wood nailers.
  - 3. Division 07 low-slope roofing Sections for roofing accessories.
  - 4. Division 07 Section "Sheet Metal Flashing and Trim" for shop- and field-fabricated metal flashing and counterflashing, and miscellaneous sheet metal trim and accessories.
  - 5. Division 08 Section "Unit Skylights" for small individual skylights.

#### **1.3 SUBMITTALS**

- A. Product Data: For each type of roof accessory indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show fabrication and installation details for roof accessories. Show layouts of roof accessories including plans and elevations. Indicate dimensions, weights, loadings, required clearances, method of field assembly, and components. Include plans, elevations, sections, details, and attachments to other work.
- C. Coordination Drawings: Roof plans, drawn to scale, and coordinating penetrations and roof-mounted items. Show the following:
  - 1. Size and location of roof accessories specified in this Section.
  - 2. Method of attaching roof accessories to roof or building structure.
  - 3. Other roof-mounted items including mechanical and electrical equipment, ductwork, piping, and conduit.

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- D. Samples: For each type of exposed factory-applied color finish required and for each type of roof accessory indicated, prepared on Samples of size to adequately show color.
- E. Warranty: Special warranty specified in this Section.

#### 1.4 QUALITY ASSURANCE

- A. Sheet Metal Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap flashing to coordinate with type of roofing indicated.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Pack, handle, and ship roof accessories properly labeled in heavy-duty packaging to prevent damage.

#### 1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify required openings for each type of roof accessory by field measurements before fabrication and indicate measurements on Shop Drawings.

#### 1.7 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.

#### 1.8 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace roof accessories that show evidence of deterioration of factory-applied finishes within specified warranty period.
  - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
    - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
    - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
  - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers listed in other Part 2 articles.

### 2.2 METAL MATERIALS

- A. Stainless-Steel Shapes or Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304 or Type 316, No. 2D finish.
- B. Steel Shapes: ASTM A 36/A 36M, hot-dip galvanized to comply with ASTM A 123/A 123M, unless otherwise indicated.

### 2.3 MISCELLANEOUS MATERIALS

- A. Glass-Fiber Board Insulation: ASTM C 726, 1 inch thick.
- B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
- C. Polyethylene Sheet: 6-mil- thick, polyethylene sheet complying with ASTM D 4397.
- D. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
  - 1. Slip Sheet: Rosin-sized paper, minimum 3 lb/100 sq. ft..
- E. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by roof accessory manufacturer. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners.
- F. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, or PVC; or flat design of foam rubber, sponge neoprene, or cork.
- G. Elastomeric Sealant: ASTM C 920, polyurethane, polysulfide, or silicone sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- H. Roofing Cement: ASTM D 4586, nonasbestos, fibrated asphalt cement designed for trowel application or other adhesive compatible with roofing system.

## 2.4 ROOF CURBS

- A. Roof Curbs: Provide metal roof curbs, internally reinforced and capable of supporting superimposed live and dead loads, including equipment loads and other construction to be supported on roof curbs. Fabricate with welded or sealed mechanical corner joints, with stepped integral metal cant raised the thickness of roof insulation and integral formed mounting flange at perimeter bottom. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1. Available Manufacturers:

- a. Colony Custom Curbs.
- b. Commodity Products Company, Inc.
- c. Conn-Fab Sales, Inc.
- d. Curbs Plus Inc.
- e. Custom Curb, Inc.
- f. LM Curbs.
- g. Loren Cook Company.
- h. Metallic Products Corporation.
- i. Pate Company (The).
- j. Roof Products & Systems Corporation.
- k. Roof Products, Inc.
- l. Thaler Metal Industries Ltd.
- m. ThyCurb; Div. of Thybar Corporation.
- n. Uni-Curb, Inc.
- o. Vent Products Company, Inc.

2. Load Requirements: Refer to Drawings.

3. Material: Galvanized steel sheet, 0.052 inch thick.

4. Liner: Same material as curb, of manufacturer's standard thickness and finish.

5. Factory install wood nailers at tops of curbs.

6. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.

7. Factory insulate curbs with 1-1/2-inch- thick, glass-fiber board insulation.

8. Curb height may be determined by adding thickness of roof insulation and minimum base flashing height recommended by roofing membrane manufacturer. Fabricate units to minimum height of 12 inches, unless otherwise indicated.

9. Sloping Roofs: Where slope of roof deck exceeds 1:48, fabricate curb units with water diverter or cricket and with height tapered to match slope to level tops of units.

## 2.5 ROOF HATCHES

- A. Roof Hatches: Fabricate roof hatches with insulated double-wall lids and insulated single-wall curb frame with integral deck mounting flange and lid frame counterflashing. Fabricate with welded or mechanically fastened and sealed corner joints. Provide continuous weathertight perimeter gasketing and equip with corrosion-resistant or hot-dip galvanized hardware.

1. Available Manufacturers:

- a. Babcock-Davis; a Cierra Products Inc. Company.
  - b. Bilco Company (The).
  - c. Bristolite Skylights.
  - d. Custom Curb, Inc.
  - e. Dur-Red Products.
  - f. Hi Pro International, Inc.
  - g. J. L. Industries, Inc.
  - h. Milcor Inc.; a Gibraltar Company.
  - i. Roof Products & Systems Corporation.
  - j. Wasco Products, Inc.
2. Loads: Fabricate roof hatches to withstand 40-lbf/sq. ft. external and 20-lbf/sq. ft. internal loads.
  3. Type and Size: Single-leaf lid, 48 by 48 inches.
  4. Insulation: Glass-fiber board.
  5. Interior Lid Liner: Manufacturer's standard metal liner of same material and finish as outer metal lid.
  6. Exterior Curb Liner: Manufacturer's standard metal liner of same material and finish as metal curb.
  7. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
  8. Fabricate units to minimum height of 12 inches, unless otherwise indicated.
  9. Sloping Roofs: Where slope or roof deck exceeds 1:48, fabricate hatch curbs with height tapered to match slope to level tops of units.
  10. Hardware: Galvanized steel spring latch with turn handles, butt- or pintle-type hinge system, and padlock hasps inside and outside.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of work.
  1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored and is ready to receive roof accessories.
  2. Verify dimensions of roof openings for roof accessories.
  3. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. General: Install roof accessories according to manufacturer's written instructions. Anchor roof accessories securely in place and capable of resisting forces specified. Use fasteners, separators, sealants, and other miscellaneous items as required for completing roof accessory installation. Install roof accessories to resist exposure to weather without failing, rattling, leaking, and fastener disengagement.

- B. Install roof accessories to fit substrates and to result in watertight performance.
- C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
  - 1. Coat concealed side of stainless-steel roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
  - 2. Underlayment: Where installing exposed-to-view components of roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene underlayment.
  - 3. Bed flanges in thick coat of asphalt roofing cement where required by roof accessory manufacturers for waterproof performance.
- D. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
- E. Roof Curb Installation:
  - 1. Set roof curb so top surface of roof curb is level.
- F. Roof Hatch Installation:
  - 1. Check roof hatch for proper operation. Adjust operating mechanism as required. Clean and lubricate joints and hardware.
  - 2. Attach safety railing system to roof hatch curb.
  - 3. Attach ladder safety post according to manufacturer's written instructions.
- G. Seal joints with elastomeric sealant as required by manufacturer of roof accessories.

### 3.3 TOUCH UP

- A. Touch up factory-primed surfaces with compatible primer ready for field painting in accordance with Division 09 painting Sections.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

### 3.4 CLEANING

- A. Clean exposed surfaces according to manufacturer's written instructions.

**END OF SECTION 077200**

## **SECTION 078100 - APPLIED FIREPROOFING**

### **PART 1 - GENERAL**

Add.#4

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes sprayed fire-resistive materials (SFRM).

#### **1.3 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review products, design ratings, restrained and unrestrained conditions, densities, thicknesses, bond strengths, and other performance requirements.

#### **1.4 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. LEED Submittals:
  - 1. Product Data for Credit EQ 4.2: For paints and coatings, documentation including printed statement of VOC content.
- C. Shop Drawings: Framing plans, schedules, or both, indicating the following:
  - 1. Applicable fire-resistance design designations of a qualified testing and inspecting agency acceptable to authorities having jurisdiction.
  - 2. Minimum fireproofing thicknesses needed to achieve required fire-resistance rating of each structural component and assembly.

#### **1.5 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For Installer and testing agency.
- B. Product Certificates: For each type of fireproofing.
- C. Evaluation Reports: For fireproofing, from ICC-ES.

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- D. Field quality-control reports.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual certified, licensed, or otherwise qualified by fireproofing manufacturer as experienced and with sufficient trained staff to install manufacturer's products according to specified requirements.

## 1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not apply fireproofing when ambient or substrate temperature is 44 deg F or lower unless temporary protection and heat are provided to maintain temperature at or above this level for 24 hours before, during, and for 24 hours after product application.
- B. Ventilation: Ventilate building spaces during and after application of fireproofing, providing complete air exchanges according to manufacturer's written instructions. Use natural means or, if they are inadequate, forced-air circulation until fireproofing dries thoroughly. Coordinate ventilation requirements with LEED IEQ credit 3.

## PART 2 - PRODUCTS

### 2.1 MATERIALS, GENERAL

- A. Assemblies: Provide fireproofing, including auxiliary materials, according to requirements of each fire-resistance design and manufacturer's written instructions.
- B. Source Limitations: Obtain fireproofing for each fire-resistance design from single source.
- C. Fire-Resistance Design: Indicated on Drawings, tested according to UL 263 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Steel members are to be considered unrestrained unless specifically noted otherwise.
- D. VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction and the following VOC limits when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - 1. Flat Paints and Coatings: 50 g/L.
  - 2. Nonflat Paints and Coatings: 150 g/L.
  - 3. Primers, Sealers, and Undercoaters: 200 g/L.
  - 4. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
- E. Asbestos: Provide products containing no detectable asbestos.

## 2.2 SPRAYED FIRE-RESISTIVE MATERIALS

- A. SFRM: Manufacturer's standard, factory-mixed, lightweight, dry formulation, complying with indicated fire-resistance design, and mixed with water at Project site to form a slurry or mortar before conveyance and application.
1. Bond Strength: Minimum 150-lbf/sq. ft. cohesive and adhesive strength based on field testing according to ASTM E 736.
  2. Density: Not less than 15 lb/cu. ft. and as specified in the approved fire-resistance design, according to ASTM E 605.
  3. Thickness: As required for fire-resistance design indicated, measured according to requirements of fire-resistance design or ASTM E 605, whichever is thicker, but not less than 0.375 inch.
  4. Combustion Characteristics: ASTM E 136.
  5. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
    - a. Flame-Spread Index: 10 or less.
    - b. Smoke-Developed Index: 0 or less.
  6. Corrosion Resistance: No evidence of corrosion according to ASTM E 937.
  7. Deflection: No cracking, spalling, or delamination according to ASTM E 759.
  8. Effect of Impact on Bonding: No cracking, spalling, or delamination according to ASTM E 760.
  9. Air Erosion: Maximum weight loss of 0.025 g/sq. ft. in 24 hours according to ASTM E 859.
  10. Fungal Resistance: Treat products with manufacturer's standard antimicrobial formulation to result in no growth on specimens per ASTM G 21.

## 2.3 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that are compatible with fireproofing and substrates and are approved by UL or another testing and inspecting agency acceptable to authorities having jurisdiction for use in fire-resistance designs indicated.
- B. Bonding Agent: Product approved by fireproofing manufacturer and complying with requirements in UL's "Fire Resistance Directory" or in the listings of another qualified testing agency acceptable to authorities having jurisdiction.
- C. Metal Lath: Expanded metal lath fabricated from material of weight, configuration, and finish required, according to fire-resistance designs indicated and fireproofing manufacturer's written recommendations. Include clips, lathing accessories, corner beads, and other anchorage devices required to attach lath to substrates and to receive fireproofing.
- D. Sealer: Transparent-drying, water-dispersible, tinted protective coating recommended in writing by fireproofing manufacturer for each fire-resistance design.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrates and other conditions affecting performance of the Work and according to each fire-resistance design. Verify compliance with the following:
  - 1. Substrates are free of dirt, oil, grease, release agents, rolling compounds, mill scale, loose scale, incompatible primers, paints, and encapsulants, or other foreign substances capable of impairing bond of fireproofing with substrates under conditions of normal use or fire exposure.
  - 2. Objects penetrating fireproofing, including clips, hangers, support sleeves, and similar items, are securely attached to substrates.
  - 3. Substrates receiving fireproofing are not obstructed by ducts, piping, equipment, or other suspended construction that will interfere with fireproofing application.
- B. Verify that concrete work on steel deck has been completed before beginning fireproofing work.
- C. Verify that roof construction, installation of roof-top HVAC equipment, and other related work is complete before beginning fireproofing work.
- D. Conduct tests according to fireproofing manufacturer's written recommendations to verify that substrates are free of substances capable of interfering with bond.
- E. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- F. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Cover other work subject to damage from fallout or overspray of fireproofing materials during application.
- B. Clean substrates of substances that could impair bond of fireproofing.
- C. For applications visible on completion of Project, repair substrates to remove surface imperfections that could affect uniformity of texture and thickness in finished surface of fireproofing. Remove minor projections and fill voids that would telegraph through fire-resistive products after application.

### 3.3 APPLICATION

- A. Construct fireproofing assemblies that are identical to fire-resistance design indicated and products as specified, tested, and substantiated by test reports; for thickness, primers, sealers, topcoats, finishing, and other materials and procedures affecting fireproofing work.
- B. Comply with fireproofing manufacturer's written instructions for mixing materials, application procedures, and types of equipment used to mix, convey, and apply fireproofing; as applicable to particular conditions of installation and as required to achieve fire-resistance ratings indicated.
- C. Coordinate application of fireproofing with other construction to minimize need to cut or remove fireproofing.
  - 1. Do not begin applying fireproofing until clips, hangers, supports, sleeves, and other items penetrating fireproofing are in place.
  - 2. Defer installing ducts, piping, and other items that would interfere with applying fireproofing until application of fireproofing is completed.
- D. Metal Decks:
  - 1. Do not apply fireproofing to underside of metal deck substrates until concrete topping, if any, has been completed.
  - 2. Do not apply fireproofing to underside of metal roof deck until roofing has been completed; prohibit roof traffic during application and drying of fireproofing.
- E. Install auxiliary materials as required, as detailed, and according to fire-resistance design and fireproofing manufacturer's written recommendations for conditions of exposure and intended use. For auxiliary materials, use attachment and anchorage devices of type recommended in writing by fireproofing manufacturer.
- F. Spray apply fireproofing to maximum extent possible. Following the spraying operation in each area, complete the coverage by trowel application or other placement method recommended in writing by fireproofing manufacturer.
- G. Extend fireproofing in full thickness over entire area of each substrate to be protected.
- H. Install body of fireproofing in a single course unless otherwise recommended in writing by fireproofing manufacturer.
- I. Where sealers are used, apply products that are tinted to differentiate them from fireproofing over which they are applied.
- J. Provide a uniform finish complying with description indicated for each type of fireproofing material and matching finish approved for required mockups.
- K. Cure fireproofing according to fireproofing manufacturer's written recommendations.

- L. Do not install enclosing or concealing construction until after fireproofing has been applied, inspected, and tested and corrections have been made to deficient applications.

### 3.4 FIELD QUALITY CONTROL

- A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:
  - 1. Test and inspect as required by the IBC, 1704.12.
- B. Perform the tests and inspections of completed Work in successive stages. Do not proceed with application of fireproofing for the next area until test results for previously completed applications of fireproofing show compliance with requirements. Tested values must equal or exceed values as specified and as indicated and required for approved fire-resistance design.
- C. Fireproofing will be considered defective if it does not pass tests and inspections.
  - 1. Remove and replace fireproofing that does not pass tests and inspections, and retest.
  - 2. Apply additional fireproofing, per manufacturer's written instructions, where test results indicate insufficient thickness, and retest.
- D. Prepare test and inspection reports.

### 3.5 CLEANING, PROTECTING, AND REPAIRING

- A. Cleaning: Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.
- B. Protect fireproofing, according to advice of manufacturer and Installer, from damage resulting from construction operations or other causes, so fireproofing will be without damage or deterioration at time of Substantial Completion.
- C. As installation of other construction proceeds, inspect fireproofing and repair damaged areas and fireproofing removed due to work of other trades.
- D. Repair fireproofing damaged by other work before concealing it with other construction.
- E. Repair fireproofing by reapplying it using same method as original installation or using manufacturer's recommended trowel-applied product.

**END OF SECTION 078100**

operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
2. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

### 3.5 CLEANING AND PROTECTION

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

### 3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

### 3.7 DOOR HARDWARE SETS

#### HW SET: 01

DOOR NUMBER: (Includes but is not limited to the following doors)

**030K                      033G                      130A                      130B                      240H                      303A**

EACH TO HAVE:

1	EA	STD COMBINATED CORE	1C7- 2	626	BES
1	EA	CYLINDER	CYLINDER AS REQ'D BY DOOR MFG	626	BES
1			REMAINING HARDWARE BY DOOR MFG		B/O

**HW SET: 02**

DOOR NUMBER: (Includes but is not limited to the following doors)

**240C                    240E**

EACH TO HAVE:

1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	EA	KEYSWITCH	653-04	630	SCE
1			REMAINING HARDWARE BY DOOR MFG		B/O

**HW SET: 03**

DOOR NUMBER: (Includes but is not limited to the following doors)

Add.#4

**030C**

EACH TO HAVE:

6	EA	HINGE	5BB1HW 5 X 4.5 NRP	630	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
2	EA	EXIT DEVICE	19-43-GL-8810 4' X TB	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
2	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	AL	NGP
2	EA	DOOR SWEEP	95WH	AL	NGP
1	EA	THRESHOLD	896V	AL	NGP
2	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE

**HW SET: 03.1**

DOOR NUMBER: (Includes but is not limited to the following doors)

**302B                    302C**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	ENTRANCE LOCK	93K7AB 15D	626	BES
1	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	AL	NGP
1	EA	DOOR SWEEP	95WH	AL	NGP
1	EA	THRESHOLD	896V	AL	NGP
1	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE

**HW SET: 04**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030E**

EACH TO HAVE:

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
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**DOOR HARDWARE**

**087100 - 17**

2	EA	POWER TRANSFER	EPT-10	689	VON
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
1	EA	EXIT DEVICE	19-43-56-GL-8810 X TB	626	SAR
1	EA	EXIT DEVICE	19-43-56-GL-8863 FLL X TB	626	SAR
1	EA	RIM CYLINDER	34	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	SET	ASTRAGAL	A617A	AL	NGP
2	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	AL	NGP
2	EA	DOOR SWEEP	95WH	AL	NGP
1	EA	THRESHOLD	896V	AL	NGP
1	EA	2 AMP POWER SUPPLY	3540		SAR
2	EA	DOOR POSITION SWITCH	679-05		SCE
1	EA	SMART CARD READER	SXF1100	BLK	SCE

ENTRANCE BY CARD READER. USER PRESENTS CREDENTIAL, EXIT DEVICE LATCHES RETRACT, USER OPENS DOOR. DOOR POSITION MONITORED BY SECURITY SYSTEM. COORDINATE LOCATION OF CARD READER WITH ARCHITECT.

**HW SET: 05**

DOOR NUMBER: (Includes but is not limited to the following doors)

**033H                    033J**

EACH TO HAVE:

2	EA	CONTINUOUS HINGE	224HD	628	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
1	EA	EXIT DEVICE	19-43-GL-8810 4' X TB	626	SAR
1	EA	EXIT DEVICE	19-43-GL-8863 FLL 4' X TB	626	SAR
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	SET	ASTRAGAL	A617A	AL	NGP
2	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	AL	NGP
2	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425HD	AL	NGP
2	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE

**HW SET: 06**

DOOR NUMBER: (Includes but is not limited to the following doors)

**177B**

EACH TO HAVE:

1	EA	CONTINUOUS HINGE	224HD	612	IVE
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**DOOR HARDWARE**

**087100 - 18**

1	EA	EXIT DEVICE	19-43-GL-8810 4' X TB	612	SAR
1	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	696	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	612	IVE
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	DKB	NGP
1	EA	DOOR SWEEP	C627A	DKB	NGP
1	EA	THRESHOLD	425HD	DKB	NGP
1	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE

**HW SET: 07**

DOOR NUMBER: (Includes but is not limited to the following doors)

**035D**

EACH TO HAVE:

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
1	EA	EXIT DEVICE	19-43-GL-8810 X TB	626	SAR
1	EA	EXIT DEVICE	19-43-GL-8863 FLL X TB	626	SAR
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	SET	ASTRAGAL	A617A	AL	NGP
2	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	AL	NGP
2	EA	DOOR SWEEP	C627A	AL	NGP
1	EA	THRESHOLD	425HD	AL	NGP
2	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE

**HW SET: 08**

DOOR NUMBER: (Includes but is not limited to the following doors)

**134G                    134N**

EACH TO HAVE:

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
2	EA	EXIT DEVICE	19-43-GL-8810 X TB	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	SET	ASTRAGAL	A617A	AL	NGP
2	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	AL	NGP
2	EA	DOOR SWEEP	95WH	AL	NGP
1	EA	THRESHOLD	896V	AL	NGP
2	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE

**DOOR HARDWARE**

**087100 - 19**

**HW SET: 08.1**

DOOR NUMBER: (Includes but is not limited to the following doors)

Add.#4

**140V**

## EACH TO HAVE:

2	EA	CONTINUOUS HINGE	224HD	628	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
2	EA	EXIT DEVICE	19-43-GL-8810 4' X TB	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	SET	ASTRAGAL	A617A	AL	NGP
2	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	700SA (DO NOT CUT AROUND CLOSER BRACKET)	AL	NGP
2	EA	DOOR SWEEP	95WH	AL	NGP
1	EA	THRESHOLD	896V	AL	NGP
2	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE

**HW SET: 09**

DOOR NUMBER: (Includes but is not limited to the following doors)

**134A**

## EACH TO HAVE:

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT-10	689	VON
1	EA	REMOV. MULLION	12-L980 (PAINT TO MATCH FRAME)	600	SAR
1	EA	FIRE EXIT DEVICE	12-19-43-56-GL-8810 FLLDT X TB	626	SAR
1	EA	FIRE EXIT DEVICE	12-19-43-56-GL-8863 FLL X TB	626	SAR
1	EA	RIM CYLINDER	34	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	SET	ASTRAGAL	A617A	AL	NGP
2	EA	SETRONIC CLOSER	4410ME 24VDC	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	5050B	BRN	NGP
1	EA	2 AMP POWER SUPPLY	3540		SAR
1			POINT TO POINT WIRING DIAGRAM		SAR
1	EA	KEYSWITCH	653-04	630	SCE
2	EA	DOOR POSITION SWITCH	679-05		SCE
1	EA	SMART CARD READER	SXF1100	BLK	SCE
2			REMOTE MOMENTARY BUTTON BY DIV 16		B/O

EXIT DEVICES ELECTRONICALLY DOGGED FOR PUSH/PULL OPERATION FOR NORMAL OPERATING HOURS BY KEYSWITCH. REMOTE RELEASE BUTTONS TO RELEASE CLOSERS TO ALLOW DOORS TO CLOSE WITHOUT LATCHING. ONE BUTTON LOCATED AT FRONT AND ONE AT REAR OF AUDITORIUM. COORDINATE LOCATION WITH ARCHITECT.

AFTER HOURS ENTRANCE BY CARD READER. USER PRESENTS CREDENTIAL, EXIT DEVICE LATCH RETRACTS, USER OPENS DOOR. DOOR POSITION MONITORED BY SECURITY SYSTEM. COORDINATE LOCATION OF CARD READER WITH ARCHITECT.

**DOOR HARDWARE****087100 - 20**

INTERFACE REQUIRED WITH FIRE-LIFE SAFETY SYSTEM FOR IMMEDIATE RELEASE OF CLOSERS AND RETRACTION OF EXIT DEVICE LATCHES IN THE EVENT OF A FIRE.

**HW SET: 10**

DOOR NUMBER: (Includes but is not limited to the following doors)

**134B                    134C                    134E**

EACH TO HAVE:

6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT-10	689	VON
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
2	EA	FIRE EXIT DEVICE	12-19-43-56-GL-8810 FLLDT X TB	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	SET	ASTRAGAL	A617A	AL	NGP
2	EA	SETRONIC CLOSER	4410ME 24VDC	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	5050B	BRN	NGP
1	EA	2 AMP POWER SUPPLY	3540		SAR

EXIT DEVICES ELECTRONICALLY DOGGED FOR PUSH/PULL OPERATION FOR NORMAL OPERATING HOURS THROUGH KEYSWITCH SCHEDULED FOR DOOR 134A. REMOTE RELEASE BUTTON TO RELEASE CLOSERS AS SCHEDULED AND NOTED FOR DOOR 134A.

INTERFACE REQUIRED WITH FIRE-LIFE SAFETY SYSTEM FOR IMMEDIATE RELEASE OF CLOSERS AND EXIT DEVICE LATCHES IN THE EVENT OF A FIRE.

**HW SET: 11**

DOOR NUMBER: (Includes but is not limited to the following doors)

**044D                    048A                    049A                    052A                    052B                    053A**

EACH TO HAVE:

2	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR. VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 12**

DOOR NUMBER: (Includes but is not limited to the following doors)

**057B**

## EACH TO HAVE:

2	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
 VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 13**

DOOR NUMBER: (Includes but is not limited to the following doors)

**042A**

## EACH TO HAVE:

2	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
 VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 14**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030H**

## EACH TO HAVE:

2	EA	CONTINUOUS HINGE	224HD	628	IVE
2	EA	PUSH PLATE	8200 4" X 16"	630	IVE

**DOOR HARDWARE****087100 - 22**

2	EA	PULL PLATE	8305-0 4" X 16"	630	IVE
1	SET	ASTRAGAL	9605A 84"	AL	NGP
2	EA	SENTRONIC CLOSER	4410ME 24VDC	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

**HW SET: 15**

DOOR NUMBER: (Includes but is not limited to the following doors)

**034A**

EACH TO HAVE:

2	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 16**

DOOR NUMBER: (Includes but is not limited to the following doors)

**037A 039A**

EACH TO HAVE:

3	EA	SPRING HINGE	3SP1 4.5 X 4.5 (INACTIVE LEAF)	652	IVE
2	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	SET	AUTO FLUSH BOLT	FB41P	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	COORDINATOR	COR X FL X BRACKETS AS REQ'D	628	IVE
1	EA	ASTRAGAL	178SA	DKB	NGP
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL		

**DOOR HARDWARE**

**087100 - 23**

## COMPONENTS

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

### HW SET: 17

DOOR NUMBER: (Includes but is not limited to the following doors)

**030D 270C**

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT DEVICE	12-19-43-8828 FLL X TB	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

### HW SET: 18

DOOR NUMBER: (Includes but is not limited to the following doors)

**130C 130D**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	FIRE EXIT DEVICE	12-19-43-8828 FLL X TB	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

### HW SET: 19

DOOR NUMBER: (Includes but is not limited to the following doors)

**240D**

EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	REMOV. MULLION	12-L980 (PAINT TO MATCH FRAME)	600	SAR
2	EA	FIRE EXIT DEVICE	12-19-43-8828 FLL X TB	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	SET	ASTRAGAL	9605A 84"	AL	NGP
2	EA	SETRONIC CLOSER	4410ME 24VDC	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

INTERFACE WITH FIRE-LIFE SAFETY SYSTEM REQUIRED FOR IMMEDIATE RELEASE OF ME

**DOOR HARDWARE**

**087100 - 24**

CLOSERS IN THE EVENT OF A FIRE.

**HW SET: 20**

DOOR NUMBER: (Includes but is not limited to the following doors)

Add.#4

**240J                      240P**

EACH TO HAVE:

6	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	REMOV. MULLION	12-L980 (PAINT TO MATCH FRAME)	600	SAR
2	EA	FIRE EXIT DEVICE	12-19-43-8828 FLL X TB	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	SET	ASTRAGAL	9605A 84"	AL	NGP
2	EA	SEINTRONIC CLOSER	4410ME 24VDC	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

INTERFACE WITH FIRE-LIFE SAFETY SYSTEM REQUIRED FOR IMMEDIATE RELEASE OF ME CLOSERS IN THE EVENT OF A FIRE.

**HW SET: 21**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030J**

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT DEVICE	12-19-43-8828 FLL X TB	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	MAGNETIC HOLD-OPEN	SEM 7850	630	LCN
1	SET	SEALS	2525B	BRN	NGP

**HW SET: 22**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030P**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	FIRE EXIT DEVICE	12-19-43-8828 FLL X TB	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	MAGNETIC HOLD-OPEN	SEM 7850	630	LCN
1	SET	SEALS	2525B	BRN	NGP

**DOOR HARDWARE**

**087100 - 25**

**HW SET: 23**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030M**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

**HW SET: 24**

DOOR NUMBER: (Includes but is not limited to the following doors)

**300A**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

**HW SET: 25**

DOOR NUMBER: (Includes but is not limited to the following doors)

**036B**

## EACH TO HAVE:

3	EA	SPRING HINGE	3SP1 4.5 X 4.5 (INACTIVE LEAF)	652	IVE
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	SET	AUTO FLUSH BOLT	FB41P	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	COORDINATOR	COR X FL X BRACKETS AS REQ'D	628	IVE
1	EA	ASTRAGAL	178SA	DKB	NGP
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

**DOOR HARDWARE****087100 - 26**

**HW SET: 26**

DOOR NUMBER: (Includes but is not limited to the following doors)

**033B**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	SET	AUTO FLUSH BOLT	FB41P	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	COORDINATOR	COR X FL X BRACKETS AS REQ'D	628	IVE
1	SET	ASTRAGAL	9605A 84"	AL	NGP
2	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

**HW SET: 27**

DOOR NUMBER: (Includes but is not limited to the following doors)

**280A 280B**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

**HW SET: 28**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>047E</b>	<b>057A</b>	<b>062A</b>	<b>066A</b>	<b>069A</b>	<b>069C</b>
<b>071A</b>	<b>140A</b>	<b>147A</b>	<b>152A</b>	<b>154A</b>	<b>157A</b>
<b>160A</b>	<b>166A</b>	<b>169A</b>	<b>171A</b>	<b>173A</b>	<b>175A</b>
<b>175B</b>	<b>176A</b>	<b>244A</b>	<b>247A</b>	<b>248A</b>	<b>255A</b>
<b>257A</b>	<b>258A</b>	<b>262A</b>	<b>273A</b>	<b>275A</b>	<b>277A</b>
<b>278A</b>					

## EACH TO HAVE:

2	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

**DOOR HARDWARE****087100 - 27**

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 29**

DOOR NUMBER: (Includes but is not limited to the following doors)

**068A**

EACH TO HAVE:

2	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	5050B	BRN	NGP
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 30**

DOOR NUMBER: (Includes but is not limited to the following doors)

**134D            143A            251A**

EACH TO HAVE:

2	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 31**

DOOR NUMBER: (Includes but is not limited to the following doors)

**144A                    163A                    252A                    265A**

EACH TO HAVE:

2	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	SURFACE CLOSER	4041 SCUSH X 30 X 61 X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 32**

DOOR NUMBER: (Includes but is not limited to the following doors)

**240B                    240K**

EACH TO HAVE:

2	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
1	EA	PANIC HARDWARE	98EO X TB	626	VON
1	EA	ELECT EXIT TRIM	AD-300-993R-70-MT-RHO-LD	626	SCE
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 33**

DOOR NUMBER: (Includes but is not limited to the following doors)

**148A                    151A                    161A                    167A                    170A                    254A  
271A**

EACH TO HAVE:

5	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC HINGE	TEF10C	652	MAR
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	KEY-IN-LEVER CYL	13-3266 LL	626	SAR
1	EA	ELECT LOCK	AD-300-CY-70-MT-RHO-LD-SAR	626	SCE
1	EA	ASTRAGAL	178SA	DKB	NGP
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
1			POWER SUPPLY BY SECURITY INTEGRATOR		B/O
1			REF DIV 28 FOR ACCESS CONTROL COMPONENTS		

USER PRESENTS CREDENTIAL, LEVER IS RELEASED, USER OPENS DOOR.  
 VOLTAGE DRAW ON AD LOCK IS 1.1 AMPS @ 12V OR .6 AMPS @ 24V

**HW SET: 34**

DOOR NUMBER: (Includes but is not limited to the following doors)

**242D**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	ELECTRIC STRIKE	6216 FS 24VDC	630	VON
1	EA	PRIVACY W/ DEADBOLT	49-8266-LB	626	SAR
1	EA	AUTO-EQUALIZER	4631 REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	EA	DBL WARDROBE HOOK	582	626	IVE
3	EA	SILENCER	SR64	GRY	IVE
2	EA	ACTUATOR, WALL MOUNT	8310-853		LCN

USER PUSHES ACTUATOR, ELECTRIC STRIKE KEEPER RELEASES AND AUTO OPERATOR OPENS DOOR. INSIDE, USER TURNS ADA DEADBOLT FOR PRIVACY, INDICATOR ON LOCK SHOWS "OCCUPIED". IF EXTERIOR ACTUATOR IS PUSHED WHEN OCCUPIED AND DEADBOLT IS THROWN, OPERATOR WILL TIME OUT AND DOOR REMAINS CLOSED. TO EXIT, USER DEPRESSES INTERIOR LEVER RELEASING DEADBOLT AND LATCH. USER THEN PUSHES ACTUATOR AND AUTO OPERATOR OPENS DOOR FOR EXITING. EMERGENCY ENTRANCE BY KEY.

ELECTRIC STRIKE IS POWERED BY AUTO OPERATOR.

**HW SET: 35**

DOOR NUMBER: (Includes but is not limited to the following doors)

**242E**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY SET	28-10U65 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	EA	DBL WARDROBE HOOK	582	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 36**

DOOR NUMBER: (Includes but is not limited to the following doors)

**241M**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	28-10U15 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 37**

DOOR NUMBER: (Includes but is not limited to the following doors)

**036A**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	PASSAGE SET	28-10U15 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 38**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>033C</b>	<b>033D</b>	<b>062B</b>	<b>062C</b>	<b>066B</b>	<b>066C</b>
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## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**DOOR HARDWARE****087100 - 31**

**HW SET: 39**

DOOR NUMBER: (Includes but is not limited to the following doors)

**033F**

EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	MANUAL FLUSH BOLT	FB458 (TOP)	630	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
2	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 40**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>030F</b>	<b>054A</b>	<b>070A</b>	<b>072A</b>	<b>130F</b>	<b>166B</b>
<b>176B</b>	<b>240F</b>	<b>268C</b>	<b>272B</b>	<b>280C</b>	

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 41**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>051B</b>	<b>052C</b>	<b>055A</b>	<b>057C</b>	<b>068K</b>	<b>071C</b>
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EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 42**

DOOR NUMBER: (Includes but is not limited to the following doors)

**068F**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	5050B	BRN	NGP

**DOOR HARDWARE****087100 - 32**

**HW SET: 43**

DOOR NUMBER: (Includes but is not limited to the following doors)

**173C**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HCUSH X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 44**

DOOR NUMBER: (Includes but is not limited to the following doors)

**153B                    277B**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	OVERHEAD STOP	900S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 45**

DOOR NUMBER: (Includes but is not limited to the following doors)

**043A                    134J                    145A                    162A                    243G                    253A**  
**264A**

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	SURFACE CLOSER	4041 HCUSH X TB	689	LCN
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 46**

DOOR NUMBER: (Includes but is not limited to the following doors)

**273C                    274C                    275B**

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	10-28-10G04 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	OVERHEAD STOP	900S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

**DOOR HARDWARE**

**087100 - 33**

**HW SET: 47**

DOOR NUMBER: (Includes but is not limited to the following doors)

**061A                    301A**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 48**

DOOR NUMBER: (Includes but is not limited to the following doors)

**067A**

## EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 49**

DOOR NUMBER: (Includes but is not limited to the following doors)

**059A**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 50**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030G                    130G                    240G**

## EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**DOOR HARDWARE****087100 - 34**

**HW SET: 51**

DOOR NUMBER: (Includes but is not limited to the following doors)

**033E**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
2	EA	OVERHEAD STOP	900S	630	GLY
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 52**

DOOR NUMBER: (Includes but is not limited to the following doors)

**304A**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	SURFACE CLOSER	4041 HEDA (ACTIVE LEAF ONLY)	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 53**

DOOR NUMBER: (Includes but is not limited to the following doors)

**302A**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 54**

DOOR NUMBER: (Includes but is not limited to the following doors)

**072B**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	STOREROOM LOCK	93K7D 15D	626	BES
1	EA	ASTRAGAL	139A	600	NGP
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	5050B	BRN	NGP
2	EA	DOOR SWEEP	601A	AL	NGP

**HW SET: 55**

DOOR NUMBER: (Includes but is not limited to the following doors)

**035C**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
1	EA	EXIT DEVICE	19-43-GL-8810 X TB	626	SAR
1	EA	EXIT DEVICE	19-43-GL-8863 FLL X TB	626	SAR
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 56**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>044A</b>	<b>044B</b>	<b>047A</b>	<b>047C</b>	<b>047F</b>	<b>053B</b>
<b>064D</b>	<b>069B</b>	<b>071B</b>	<b>140B</b>	<b>147B</b>	<b>148D</b>
<b>148F</b>	<b>156A</b>	<b>170B</b>	<b>171B</b>	<b>272A</b>	

## EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**DOOR HARDWARE****087100 - 36**

**HW SET: 57**

DOOR NUMBER: (Includes but is not limited to the following doors)

**068B                    068C                    068D                    068E                    068H**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	WALL STOP	WS407CCV	630	IVE
1		SET SEALS	5050B	BRN	NGP

**HW SET: 58**

DOOR NUMBER: (Includes but is not limited to the following doors)

**048B                    148E                    157B                    157C                    167B                    167C  
167D                    167E                    173B                    173D                    251B                    251C  
258B                    262B**

EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	OVERHEAD STOP	900S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 59**

DOOR NUMBER: (Includes but is not limited to the following doors)

**034B                    034C                    044C                    047B                    047D                    052E  
057E                    064B                    070B                    072C                    134H                    139C  
148G                    241D                    241K                    246C                    273B**

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 60**

DOOR NUMBER: (Includes but is not limited to the following doors)

**068G**

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	WALL STOP	WS407CCV	630	IVE
1		SET SEALS	5050B	BRN	NGP

**DOOR HARDWARE****087100 - 37**

**HW SET: 61**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>141A</b>	<b>148B</b>	<b>170C</b>	<b>248B</b>	<b>248C</b>	<b>254B</b>
<b>255B</b>	<b>255C</b>				

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	OVERHEAD STOP	900S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 62**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>040A</b>	<b>131A</b>	<b>132A</b>	<b>132B</b>	<b>149A</b>	<b>150A</b>	Add.#4
<b>172A</b>	<b>172B</b>	<b>174A</b>	<b>256A</b>	<b>261A</b>	<b>269A</b>	

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 63**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>051A</b>	<b>153A</b>
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EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HCUSH X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 64**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>274A</b>
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EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**DOOR HARDWARE****087100 - 38**

**HW SET: 65**

DOOR NUMBER: (Includes but is not limited to the following doors)

**064A 148C**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 66**

DOOR NUMBER: (Includes but is not limited to the following doors)

**134K 134L**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	FLOOR STOP	FS448 (DOOR 134L)	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**HW SET: 67**

DOOR NUMBER: (Includes but is not limited to the following doors)

**161B**

## EACH TO HAVE:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	630	IVE
1	EA	DUST PROOF STRIKE	DP1	630	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	OVERHEAD STOP	900S	630	GLY
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

**DOOR HARDWARE****087100 - 39**

**HW SET: 68**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>046A</b>	<b>050A</b>	<b>052D</b>	<b>057D</b>	<b>063A</b>	<b>065A</b>
<b>068J</b>	<b>142A</b>	<b>155A</b>	<b>158A</b>	<b>158B</b>	<b>159A</b>
<b>168A</b>	<b>174B</b>	<b>174C</b>	<b>241C</b>	<b>241E</b>	<b>241F</b>
<b>241G</b>	<b>241H</b>	<b>241J</b>	<b>241P</b>	<b>242B</b>	<b>242C</b>
<b>242F</b>	<b>242G</b>	<b>242J</b>	<b>242K</b>	<b>242M</b>	<b>242N</b>
<b>242Q</b>	<b>242R</b>	<b>242S</b>	<b>242T</b>	<b>242U</b>	<b>242V</b>
<b>242W</b>	<b>242X</b>	<b>242Y</b>	<b>242Z</b>	<b>243A</b>	<b>243B</b>
<b>243C</b>	<b>243D</b>	<b>243E</b>	<b>243F</b>	<b>243H</b>	<b>243J</b>
<b>243K</b>	<b>243M</b>	<b>243P</b>	<b>243Q</b>	<b>243R</b>	<b>243T</b>
<b>249A</b>	<b>250B</b>	<b>270A</b>	<b>274B</b>	<b>277C</b>	

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE LOCK	10-28-10G05 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 69**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>241Q</b>	<b>241R</b>
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EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE LOCK	10-28-10G05 LL (2-3/4 LATCH, ANSI STRIKE)	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 70**

DOOR NUMBER: (Includes but is not limited to the following doors)

<b>031A</b>	<b>031B</b>	<b>032A</b>	<b>032B</b>	<b>038A</b>	<b>038B</b>	
<b>060A</b>	<b>060B</b>	<b>073A</b>	<b>073B</b>	<b>074A</b>	<b>074B</b>	
<b>132B</b>	<b>136B</b>	<b>138A</b>	<b>138B</b>	<b>139A</b>	<b>139B</b>	
<b>246A</b>	<b>246B</b>	<b>259A</b>	<b>259B</b>	<b>260A</b>	<b>260B</b>	
<b>263A</b>	<b>263B</b>	<b>268A</b>	<b>268B</b>	<b>276A</b>	<b>276B</b>	
<b>279A</b>	<b>279B</b>					

Add.#4

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	EXIT DEVICE	16-19-43-GL-8863 FLL X TB	626	SAR
1	EA	RIM CYLINDER	34	626	SAR
1	EA	THUMBTURN CYLINDER	985T	626	FAL
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**DOOR HARDWARE**

**087100 - 40**

**HW SET: 71**

DOOR NUMBER: (Includes but is not limited to the following doors)

**035B**

## EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	EXIT DEVICE	19-43-GL-8863 FLL 4' X TB	626	SAR
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 72**

DOOR NUMBER: (Includes but is not limited to the following doors)

**035A**

## EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	EXIT DEVICE	19-43-GL-8862 FLL 4' X TB	626	SAR
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: 73**

DOOR NUMBER: (Includes but is not limited to the following doors)

**177A**

## EACH TO HAVE:

3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	EXIT DEVICE	19-43-GL-8828 FLL 4' X TB	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

**HW SET: AL-02**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030A            030B            240M**

## EACH TO HAVE:

2	EA	POWER TRANSFER	EPT-10	689	VON
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**DOOR HARDWARE****087100 - 41**

2	EA	CONTINUOUS HINGE	112HD EPT	628	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
1	EA	EXIT DEVICE	19-43-56-GL-8810 FLLDT X TB	626	SAR
1	EA	EXIT DEVICE	19-43-56-GL-8863 FLL X TB	626	SAR
1	EA	RIM CYLINDER	34	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	AUTO-EQUALIZER	4642 REG FC CS	689	LCN
2	EA	OVERHEAD STOP	100S-ADJ	630	GLY
1	EA	2 AMP POWER SUPPLY	3540		SAR
2	EA	DOOR POSITION SWITCH	679-05		SCE
1	EA	ACTUATOR, JAMB MOUNT	8310-818		LCN
1	EA	ACTUATOR, WALL MOUNT	8310-853		LCN
1	EA	BOLLARD POST	8310-866		LCN
1	EA	SMART CARD READER	SXF1100	BLK	SCE
1		THRESHOLD AND PERIMETER SEAL BY DOOR MFG			B/O

EXIT DEVICES ARE ELECTRONICALLY DOGGED FOR PUSH/PULL OPERATION FOR NORMAL OPERATING HOURS. AFTER HOURS ENTRANCE BY CARD READER. USER PRESENTS CREDENTIAL, EXIT DEVICE LATCH RETRACTS, AUTO OPERATOR OPENS DOOR. EXTERIOR ACTUATOR TURNED OFF/ON THROUGH TIME/CALENDAR FEATURE OF SECURITY SYSTEM. DOOR POSITION MONITORED BY SECURITY SYSTEM. COORDINATE LOCATION OF CARD READER WITH ARCHITECT. ADA OPERATOR FUNCTIONS IN CONCERT WITH INTERIOR OPERATOR. TIMING OF OPERATORS TO BE DETERMINED BY OWNER.

**HW SET: AL-03**

DOOR NUMBER: (Includes but is not limited to the following doors)

**030L                    030N                    240N**

EACH TO HAVE:

2	EA	CONTINUOUS HINGE	112HD	628	IVE
2	EA	DUMMY RAIL X TRIM	19-43-8893 X 874 FLLDT	626	SAR
1	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
1	EA	AUTO-EQUALIZER	4642 REG FC CS	689	LCN
2	EA	OVERHEAD STOP	100S-ADJ	630	GLY
1	EA	ACTUATOR, JAMB MOUNT	8310-818		LCN
1		PERIMETER SEAL BY DOOR MFG			B/O

USER PUSHES ACTUATOR, AUTO OPERATOR OPENS DOOR. OPERATOR FUNCTIONS IN CONCERT WITH EXTERIOR OPERATOR. TIMING OF OPERATORS TO BE DETERMINED BY OWNER.

**DOOR HARDWARE**

**087100 - 42**

**HW SET: AL-04**

DOOR NUMBER: (Includes but is not limited to the following doors)

**056A**

EACH TO HAVE:

2	EA	CONTINUOUS HINGE	112HD	628	IVE
1	EA	MULLION	L980S (PAINT TO MATCH FRAME)	600	SAR
2	EA	EXIT DEVICE	19-43-GL-8810 X TB	626	SAR
1	EA	MTSE CYL, SGT CAM	41	626	SAR
2	EA	SURFACE CLOSER	4041 HEDA X TB	689	LCN
2	EA	OVERHEAD STOP	100S-ADJ	630	GLY
2	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE
1			THRESHOLD AND PERIMETER SEAL BY DOOR		B/O
			MFG		

DOOR POSITION IS MONITORED BY SECURITY SYSTEM.

**HW SET: AL-05**

DOOR NUMBER: (Includes but is not limited to the following doors)

**130H**

EACH TO HAVE:

1	EA	CONTINUOUS HINGE	112HD	628	IVE
1	EA	EXIT DEVICE	19-43-GL-8863 FLL X TB	626	SAR
1	EA	RIM CYLINDER	34	626	SAR
1	EA	CONCEALED CLOSER	2030 BUMPER	689	LCN
1	EA	SIGN	"THIS DOOR TO REMAIN UNLOCKED DURING....."		
1	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE
1			THRESHOLD AND PERIMETER SEAL BY DOOR		B/O
			MFG		

**HW SET: AL-06**

DOOR NUMBER: (Includes but is not limited to the following doors)

**136A**

EACH TO HAVE:

1	EA	CONTINUOUS HINGE	112HD	628	IVE
1	EA	EXIT DEVICE	19-43-GL-8810 X TB	626	SAR
1	EA	SURFACE CLOSER	4041 EDA X TB	689	LCN
1	EA	OVERHEAD STOP	100S-ADJ	630	GLY
1	EA	DOOR POSITION SWITCH	679-05 (FOR FUTURE USE)		SCE
1			THRESHOLD AND PERIMETER SEAL BY DOOR		B/O
			MFG		

DOOR POSITION IS MONITORED BY SECURITY SYSTEM.

**DOOR HARDWARE**

**087100 - 43**

**HW SET: GL-01**

DOOR NUMBER: (Includes but is not limited to the following doors)

Add.#4

**240A                    241B**

EACH TO HAVE:

2	SET	PIVOTS	PIVOTS BY DOOR MFG	626	B/O
2	EA	PANIC DEVICE	H100-C X DEADBOLT HOUSING	626	BLU
2	EA	MTSE CYL, SGT CAM	41	626	SAR
2	EA	THUMBTURN CYLINDER	09-900	630	SCH
1	EA	CONCEALED CLOSER	2030 BUMPER	689	LCN
1	EA	AUTO-EQUALIZER	2610	689	LCN
1	EA	CONTROL BOX	7982ES (ONLY 1 REQUIRED)	GRY	LCN
2	EA	DOOR POSITION SWITCH	679-05		SCE
2	EA	ACTUATOR, WALL MOUNT	8310-853		LCN
1			PERIMETER SEAL BY DOOR MFG		B/O

EXIT DEVICES AUTOMATICALLY MECHANICALLY DOG WHEN USED THE FIRST TIME FOR PUSH/PULL OPERATION DURING NORMAL OPERATING HOURS. ADA ENTRANCE WHEN USER PUSHES ACTUATOR, AUTO OPERATOR OPENS DOOR FOR ENTRANCE.

SECURITY SYSTEM TO TURN OFF/ON EXTERIOR ACTUATOR ON TIME/CALENDAR SCHEDULE.

LOCATE CONTROL BOX/COMPRESSOR IN 241K. 1 COMPRESSOR REQUIRED TO OPERATE BOTH 240A AND 241B.

**HW SET: GL-02**

DOOR NUMBER: (Includes but is not limited to the following doors)

Add.#4

**241A**

EACH TO HAVE:

1	SET	PIVOTS	PIVOTS BY DOOR MFG	626	B/O
1	SET	DUMMY HANDLES	DH-130F	630	BLU
1	EA	CONCEALED CLOSER	2030 H BUMPER	689	LCN
1			PERIMETER SEAL BY DOOR MFG		B/O

**MISC ITEMS**

30	EA	INTERFACE BOARD	PIB300-2D (1 REQ'D FOR 2 LOCKS)		SCE
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**DOOR HARDWARE**

**087100 - 44**

**DOOR SCHEDULE**

Door Number	Width	Description	Height	Thickness	Door Type	Material	Glazing	Finish	Hardware	Frame Type	Frame Material	Frame Depth	Finish	Fire Rating	Remarks
030A	6'-0"	PR	7'-0"	1 3/4"	D4a	ALUM	B	-	AL-02	W3	ALUM	7 1/2"	-		Power Operator, CR
030B	6'-0"	PR	7'-0"	1 3/4"	D4a	ALUM	B	-	AL-02	W10	ALUM	7 1/2"	-		Power Operator, CR
030C	6'-0"	PR	7'-0"	1 3/4"	D1	HM	-	PNT	03	F1a	HM	5 3/4"	PNT	20 Min.	Level 2 Physical Performance B
030D	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	17	F1	HM	5 3/4"	PNT	60 Min.	
030E	6'-0"	PR	7'-0"	1 3/4"	D5	WD	-	STN	04	F2	HM	7 1/2"	PNT		CR, Mechanical Lock
030F	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	40	F1	HM	5 3/4"	PNT		
030G	1'-6"	SNGL	7'-0"	1 3/4"	D1	HM	-	PNT	50	F1	HM	5 3/4"	PNT		Level 1 Physical Performance C
030H	6'-0"	PR	7'-0"	1 3/4"	D5a	WD	-	STN	14	F2	HM	5 3/4"	PNT		Hold Open
030J	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	21	F1	HM	5 3/4"	PNT	60 Min.	Hold Open
030K	8'-0"	OH	8'-11"	0"	D9	STL	-	CLR	01	-	-	-	-	60 Min.	
030L	6'-0"	PR	7'-0"	1 3/4"	D4a	ALUM	B	-	AL-03	W25	ALUM	4 1/2"	-		Power Operator
030M	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	23	F1	HM	5 3/4"	PNT		
030N	6'-0"	PR	7'-0"	1 3/4"	D4a	ALUM	B	-	AL-03	W10	ALUM	5"	-		Power Operator
030P	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	22	F1	HM	5 3/4"	PNT	60 Min.	
031A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	5 3/4"	PNT		
031B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	5 3/4"	PNT		
032A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	5 3/4"	PNT		
032B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	5 3/4"	PNT		
033A	12'-0"	OH	10'-0"	2"	D9	STL	-	CLR	01	-	-	-	-		
033B	6'-0"	PR	7'-0"	1 3/4"	D5a	HM	-	PNT	26	F2	HM	5 3/4"	PNT	60 Min.	Level 3 Physical Performance A
033C	3'-0"	SNGL	7'-0"	1 3/4"	D1	HM	-	PNT	38	F1	HM	5 3/4"	PNT		Level 2 Physical Performance B
033D	3'-0"	SNGL	7'-0"	1 3/4"	D1	HM	-	PNT	38	F1	HM	5 3/4"	PNT		Level 2 Physical Performance B
033E	6'-0"	PR	7'-0"	1 3/4"	D5a	HM	-	PNT	51	F2	HM	8 1/4"	PNT		Level 3 Physical Performance A
033F	6'-0"	PR	7'-0"	1 3/4"	D5	HM	-	PNT	39	F2	HM	5 3/4"	PNT		Level 3 Physical Performance A
033G	10'-0"	OH	10'-0"	2"	D9	STL	-	CLR	01	-	-	-	-		Level 1 Physical Performance C
033H	9'-0"	PR	7'-0"	1 3/4"	D5	HM	-	PNT	05	F2a	HM	7 1/2"	PNT		Level 2 Physical Performance B
033J	9'-0"	PR	7'-0"	1 3/4"	D5	HM	-	PNT	05	F2a	HM	7 1/2"	PNT		Level 2 Physical Performance B
034A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	15	F1	HM	5 3/4"	PNT	60 Min.	CR
034B	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
034C	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
034D	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
035A	3'-6"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	72	F1	HM	5 3/4"	PNT	60 Min.	
035B	3'-6"	SNGL	7'-0"	1 3/4"	D1	HM	-	PNT	71	F1	HM	5 3/4"	PNT		Level 1 Physical Performance C
035C	6'-0"	PR	8'-0"	1 3/4"	D5	HM	-	PNT	55	F2	HM	5 3/4"	PNT		Level 1 Physical Performance C, Removable Mullion Req.
035D	6'-0"	PR	8'-0"	1 3/4"	D5	HM	-	PNT	07	F2a	HM	7 1/2"	PNT		Level 2 Physical Performance B, Removable Mullion Req.
036A	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	37	F2	HM	5 3/4"	PNT		
036B	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	25	F2	HM	5 3/4"	PNT	60 Min.	
037A	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	16	F2	HM	5 3/4"	PNT	60 Min.	CR
038A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
038B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
039A	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	16	F2	HM	5 3/4"	PNT	60 Min.	CR
040A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	62	F3	HM	5 3/4"	PNT		
042A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	13	F1	HM	5 3/4"	PNT		CR
043A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	45	F1	HM	5 3/4"	PNT		
044A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
044B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
044C	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
044D	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	11	F1	HM	5 3/4"	PNT		CR
046A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
047A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	8 1/4"	PNT		
047B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	59	F1	HM	5 3/4"	PNT		
047C	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	8 1/4"	PNT		
047D	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
047E	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	5 3/4"	PNT		CR
047F	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
048A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	11	F1	HM	8 1/4"	PNT		CR
048B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
049A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	11	F1	HM	8 1/4"	PNT		CR
050A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
051A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	63	F1	HM	8 1/4"	PNT		
051B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	41	F1	HM	5 3/4"	PNT		
052A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	11	F1	HM	8 1/4"	PNT		CR
052B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	11	F1	HM	8 1/4"	PNT		CR
052C	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	41	F1	HM	5 3/4"	PNT		
052D	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
052E	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	59	F3	HM	5 3/4"	PNT		
053A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	11	F1	HM	8 1/4"	PNT		CR
053B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
054A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	40	F1	HM	5 3/4"	PNT		
055A	3'-6"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	41	F1	HM	5 3/4"	PNT		
056A	6'-0"	PR	7'-0"	1 3/4"	D4a	ALUM	B	-	AL-04	W11	ALUM	7 1/2"	-		
057A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR

Door Number	Width	Description	Height	Thickness	Door Type	Material	Glazing	Finish	Hardware	Frame Type	Frame Material	Frame Depth	Finish	Fire Rating	Remarks
057B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	12	F1	HM	5 3/4"	PNT		CR
057C	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	41	F1	HM	5 3/4"	PNT		
057D	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
057E	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	59	F3	HM	5 3/4"	PNT		
059A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	49	F1	HM	5 3/4"	PNT		
060A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
060B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
061A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	47	F1	HM	5 3/4"	PNT		
062A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
062B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	38	F1	HM	5 3/4"	PNT		
062C	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	38	F1	HM	5 3/4"	PNT		
063A	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
064A	4' - 6"	UN	7' - 0"	1 3/4"	D7	WD	F	STN	65	F2	HM	8 1/4"	PNT		
064B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
064D	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
065A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F1	HM	5 3/4"	PNT		
066A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
066B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	38	F1	HM	5 3/4"	PNT		
066C	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	38	F1	HM	5 3/4"	PNT		
067A	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	48	F1	HM	5 3/4"	PNT		
068A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	29	F1	HM	5 3/4"	PNT		CR
068B	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	57	F1	HM	5 3/4"	PNT		
068C	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	57	F1	HM	5 3/4"	PNT		
068D	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	57	F1	HM	5 3/4"	PNT		
068E	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	57	F1	HM	5 3/4"	PNT		
068F	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	42	F1	HM	5 3/4"	PNT		
068G	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	60	F1	HM	5 3/4"	PNT		
068H	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	57	F1	HM	5 3/4"	PNT		
068J	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
068K	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	41	F1	HM	5 3/4"	PNT		
069A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
069B	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
069C	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	28	F1	HM	5 3/4"	PNT		CR
070A	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	40	F1	HM	5 3/4"	PNT		
070B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
071A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
071B	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	56	F1	HM	5 3/4"	PNT		
071C	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	41	F1	HM	5 3/4"	PNT		
072A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	40	F1	HM	5 3/4"	PNT		
072B	6' - 0"	PR	7' - 0"	1 3/4"	D5	WD	-	STN	54	F2	HM	5 3/4"	PNT		Weather Seal
072C	2' - 6"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	59	F1	HM	5 3/4"	PNT		
073A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
073B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
074A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
074B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
130A	10' - 4 1/8"	OH	8' - 11"	0"	D10	ALUM	-	CLR	02	-	-	-	-		Key Operated
130B	10' - 4 1/8"	OH	8' - 11"	0"	D10	ALUM	-	CLR	02	-	-	-	-		Key Operated
130C	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	18	F1	HM	5 3/4"	PNT	60 Min.	
130D	4' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	18	F1	HM	5 3/4"	PNT	60 Min.	
130E	9' - 0"	SNGL	9' - 0"	1 1/4"	D9	STL	-	CLR	-	-	-	-	-	60 Min.	Motor Operated Smoke Control Door
130F	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	40	F1	HM	5 3/4"	PNT		
130G	1' - 6"	SNGL	7' - 0"	1 3/4"	D1	HM	-	PNT	50	F1	HM	5 3/4"	PNT		Level 1 Physical Performance C
130H	3' - 0"	SNGL	7' - 0"	1 3/4"	D4	ALUM	F	-	AL-05	W16	ALUM	0"	-		DOOR TO REMAIN OPEN DURING BUSINESS HOURS
130J	8' - 6"	SNGL	9' - 0"	1 1/4"	D9	STL	-	CLR	-	-	-	-	-	60 Min.	Motor Operated Smoke Control Door
130K	8' - 6"	SNGL	9' - 0"	1 1/4"	D9	STL	-	CLR	-	-	-	-	-	60 Min.	Motor Operated Smoke Control Door
130L	9' - 0"	SNGL	9' - 0"	1 1/4"	D9	STL	-	CLR	-	-	-	-	-	60 Min.	Motor Operated Smoke Control Door
130M	9' - 0"	SNGL	9' - 0"	1 1/4"	D9	STL	-	CLR	-	-	-	-	-	60 Min.	Motor Operated Smoke Control Door
130N	9' - 0"	SNGL	9' - 0"	1 1/4"	D9	STL	-	CLR	-	-	-	-	-	60 Min.	Motor Operated Smoke Control Door
130P	9' - 0"	SNGL	9' - 0"	1 1/4"	D9	STL	-	CLR	-	-	-	-	-	60 Min.	Motor Operated Smoke Control Door
131A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	62	F3	HM	5 3/4"	PNT		
132A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	HM	-	PNT	62	F1a	HM	5 3/4"	PNT		Level 2 Physical Performance B
132B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F1	HM	5 3/4"	PNT		
134A	6' - 0"	PR	7' - 0"	1 3/4"	D5	WD	-	STN	09	F2	HM	7 1/4"	PNT	90 Min.	Hold Open, CR
134B	6' - 0"	PR	7' - 0"	1 3/4"	D5	WD	-	STN	10	F2	HM	7 1/4"	PNT	90 Min.	Hold Open
134C	6' - 0"	PR	7' - 0"	1 3/4"	D5	WD	-	STN	10	F2	HM	7 1/4"	PNT	90 Min.	Hold Open
134D	6' - 0"	PR	7' - 0"	1 3/4"	D5	WD	-	STN	30	F2	HM	7 1/4"	PNT	90 Min.	Hold Open
134E	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	10	F1	HM	5 3/4"	PNT		
134G	6' - 0"	PR	7' - 0"	1 3/4"	D5	HM	-	PNT	08	F2	HM	7 1/4"	PNT		Level 2 Physical Performance B
134H	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	59	F1	HM	5 3/4"	PNT		
134J	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	45	F1	HM	5 3/4"	PNT		
134L	3' - 0"	SNGL	7' - 0"	1 3/4"	D5	WD	-	STN	66	F2	HM	5 3/4"	PNT		
134N	6' - 0"	PR	7' - 0"	1 3/4"	D5	HM	-	PNT	08	F2	HM	7 1/2"	PNT		Level 2 Physical Performance B
136A	3' - 0"	SNGL	7' - 0"	1 3/4"	D4	ALUM	F	-	AL-06	W8a	ALUM	7 1/4"	-		
136B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F1	HM	5 3/4"	PNT		

Door Number	Width	Description	Height	Thickness	Door Type	Material	Glazing	Finish	Hardware	Frame Type	Frame Material	Frame Depth	Frame Finish	Fire Rating	Remarks
137A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	62	F1	HM	5 3/4"	PNT		
138A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
138B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
139A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
139B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
139C	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	59	F1	HM	5 3/4"	PNT		
140A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
140B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
140V	8'-6"	PR	7'-0"	1 3/4"	D5a	HM	-	PNT	08.1	F2a	HM	7 1/2"	PNT	20 Min	Level 3 Physical Performance A
141A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
142A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	8 1/4"	PNT		
143A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	30	F1	HM	5 3/4"	PNT		CR
144A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	31	F1	HM	5 3/4"	PNT		CR
145A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	45	F1	HM	5 3/4"	PNT		
147A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
147B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
148A	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	33	F2	HM	5 3/4"	PNT		CR
148B	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
148C	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	65	F2	HM	5 3/4"	PNT		
148D	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
148E	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
148F	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
148G	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
149A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	62	F3	HM	5 3/4"	PNT		
150A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	62	F3	HM	5 3/4"	PNT		
151A	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	33	F2	HM	8 1/4"	PNT		CR
152A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
153A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	63	F1	HM	5 3/4"	PNT		
153B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	44	F1	HM	5 3/4"	PNT		
154A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
155A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
156A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
157A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	5 3/4"	PNT		CR
157B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
157C	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
158A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
158B	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	8 1/4"	PNT		
159A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	8 1/4"	PNT		
160A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
161A	4'-6"	UN	7'-0"	1 3/4"	D7	WD	F	STN	33	F2	HM	5 3/4"	PNT		CR
161B	4'-6"	UN	7'-0"	1 3/4"	D7	WD	F	STN	67	F2	HM	5 3/4"	PNT		
162A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	45	F1	HM	5 3/4"	PNT		
163A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	31	F1	HM	5 3/4"	PNT		CR
166A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
166B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	40	F1	HM	5 3/4"	PNT		
167A	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	33	F2	HM	8 1/4"	PNT		CR
167B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
167C	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
167D	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
167E	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
168A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
169A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
170A	4'-0"	UN	7'-0"	1 3/4"	D6	WD	F	STN	33	F2	HM	8 1/4"	PNT		CR
170B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	56	F1	HM	5 3/4"	PNT		
170C	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
171A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
171B	3'-6"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	56	F1	HM	5 3/4"	PNT		
172A	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	62	F3	HM	5 3/4"	PNT		
172B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	62	F3	HM	5 3/4"	PNT		
173A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
173B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
173C	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	43	F1	HM	5 3/4"	PNT		
173D	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
174A	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	62	F1	HM	8 1/4"	PNT		
174B	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
174C	3'-0"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
175A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
175B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	5 3/4"	PNT		CR
176A	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
176B	3'-6"	SNGL	7'-0"	1 3/4"	D2	WD	F	STN	40	F1	HM	5 3/4"	PNT		
177A	4'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	73	F1	HM	5 3/4"	PNT		AREA OF REFUGE Sign
177B	4'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	06	F1	HM	5 3/4"	PNT		AREA OF REFUGE Sign
240A	6'-0"	PR	8'-0"	3/4"	D11a	GLS	J	-	AL-01	W32	ALUM	4 1/2"	-		Power Operator, CR
240B	3'-0"	SNGL	7'-0"	1 3/4"	D1	WD	-	STN	32	F1	HM	5 3/4"	PNT	60 Min.	CR

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Door Number	Width	Description	Height	Thickness	Door Type	Material	Glazing	Finish	Hardware	Frame Type	Frame Material	Frame Depth	Finish	Fire Rating	Remarks
240C	12' - 0"	OH	8' - 0"	0"	D9	STL	-	CLR	02	-	-	-	-	60 Min.	Key Operated
240D	6' - 0"	PR	7' - 0"	1 3/4"	D5a	WD	-	STN	19	F2	HM	5 3/4"	PNT	60 Min.	
240E	9' - 4 1/8"	OH	8' - 11"	0"	D10	ALUM	-	CLR	02	-	-	-	-		Key Operated
240F	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	40	F1	HM	5 3/4"	PNT		
240G	1' - 6"	SNGL	7' - 0"	1 3/4"	D1	HM	-	PNT	50	F1	HM	5 3/4"	PNT		Level 1 Physical Performance C
240H	11' - 3"	FD	9' - 0"	1 3/4"	D12	-	-	-	-	-	-	-	-	60 Min.	Refer to 083513 Folding Doors
240J	7' - 4"	PR	7' - 0"	1 3/4"	D5a	WD	-	STN	19	F2	HM	5 3/4"	PNT	60 Min.	
240K	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	32	F1	HM	7 1/4"	PNT		CR
240M	6' - 0"	PR	7' - 0"	1 3/4"	D4a	ALUM	B	-	AL-02	W37	ALUM	4 1/2"	-		Power Operator, CR
240N	6' - 0"	PR	7' - 0"	1 3/4"	D4a	ALUM	B	-	AL-03	W37	ALUM	4 1/2"	-		Power Operator
240P	8' - 6"	PR	7' - 0"	1 3/4"	D5a	WD	-	STN	20	F2	HM	5 3/4"	PNT	60 Min.	
241A	3' - 0"	SNGL	8' - 0"	1 3/4"	D11	GLS	H	-	36	W36	ALUM	4 1/2"	-		
241B	6' - 0"	PR	8' - 0"	3/4"	D11a	GLS	J	-	AL-01	W35	ALUM	4 1/2"	-		Power Operator, CR
241C	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
241D	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	59	F1	HM	5 3/4"	PNT		
241E	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
241F	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
241G	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
241H	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
241J	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
241K	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	59	F1	HM	5 3/4"	PNT		
241M	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	36	F3	HM	5 3/4"	PNT		
241P	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
241Q	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	69	F3	HM	5 3/4"	PNT		
241R	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	69	F3	HM	5 3/4"	PNT		
242B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242C	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242D	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	34	F1	HM	5 3/4"	PNT		Power Operator
242E	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	35	F1	HM	5 3/4"	PNT		
242F	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242G	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F3	HM	5 3/4"	PNT		
242J	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242K	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242M	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242N	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242Q	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242R	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242S	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242T	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242U	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242V	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242W	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242X	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242Y	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
242Z	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243C	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243D	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243E	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243F	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243G	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	45	F1	HM	5 3/4"	PNT		
243H	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243J	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243K	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
243M	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
243P	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243Q	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243R	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
243T	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	68	F4	HM	5 3/4"	PNT		
244A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	28	F2	HM	5 3/4"	PNT		
246A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
246B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
246C	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	59	F1	HM	5 3/4"	PNT		
247A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
248A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
248B	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
248C	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
249A	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	8 1/4"	PNT		
250B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	8 1/4"	PNT		
251A	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	30	F1	HM	5 3/4"	PNT		CR
251B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
251C	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		

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Door Number	Width	Description	Height	Thickness	Door Type	Material	Glazing	Finish	Hardware	Frame Type	Frame Material	Frame Depth	Finish	Fire Rating	Remarks
252A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	31	F1	HM	5 3/4"	PNT		CR
253A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	45	F1	HM	5 3/4"	PNT		
254A	4' - 0"	UN	7' - 0"	1 3/4"	D6	WD	F	STN	GL-02	F2	HM	8 1/4"	PNT		CR
254B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
255A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
255B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
255C	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	61	F1	HM	5 3/4"	PNT		
256A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	62	F1	HM	5 3/4"	PNT		
257A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
258A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
258B	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
259A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
259B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
260A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
260B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
261A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	62	F3	HM	5 3/4"	PNT		
262A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
262B	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	58	F1	HM	5 3/4"	PNT		
263A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
263B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
264A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	45	F1	HM	5 3/4"	PNT		
265A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	31	F1	HM	5 3/4"	PNT		CR
268A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
268B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
268C	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	40	F1	HM	5 3/4"	PNT		
269A	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	62	F1	HM	5 3/4"	PNT		
270A	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	68	F1	HM	5 3/4"	PNT		
270C	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	17	F1	HM	5 3/4"	PNT	60 Min.	
271A	4' - 0"	UN	7' - 0"	1 3/4"	D6	WD	F	STN	33	F2	HM	5 3/4"	PNT		CR
272A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	56	F1	HM	8 1/4"	PNT		
272B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	40	F1	HM	5 3/4"	PNT		
273A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
273B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	59	F1	HM	5 3/4"	PNT		
273C	3' - 0"	SNGL	7' - 0"	1 3/4"	D3	WD	F	STN	46	F1	HM	5 3/4"	PNT		
274A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	64	F1	HM	5 3/4"	PNT		
274B	3' - 0"	SNGL	7' - 0"	1 3/4"	D3	WD	F	STN	68	F1	HM	5 3/4"	PNT		
274C	3' - 0"	SNGL	7' - 0"	1 3/4"	D3	WD	F	STN	46	F1	HM	5 3/4"	PNT		
275A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
275B	3' - 0"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	46	F1	HM	5 3/4"	PNT		
276A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
276B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT		
277A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
277B	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	44	F1	HM	5 3/4"	PNT		
277C	3' - 0"	SNGL	7' - 0"	1 3/4"	D3	WD	F	STN	68	F1	HM	5 3/4"	PNT		
278A	3' - 6"	SNGL	7' - 0"	1 3/4"	D2	WD	F	STN	28	F1	HM	8 1/4"	PNT		CR
279A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT	20 Min.	
279B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	70	F3	HM	8 1/4"	PNT	20 Min.	
280A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	27	F3	HM	8 1/4"	PNT	20 Min.	
280B	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	27	F3	HM	8 1/4"	PNT	20 Min.	
280C	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	WD	-	STN	40	F1	HM	5 3/4"	PNT		
300A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	HM	-	PNT	24	F1	HM	5 3/4"	PNT	60 Min.	Level 2 Physical Performance B
301A	3' - 0"	SNGL	7' - 0"	1 3/4"	D1	HM	-	PNT	47	F1	HM	5 3/4"	PNT		Level 2 Physical Performance B
302A	6' - 0"	PR	7' - 0"	1 3/4"	D5a	HM	-	PNT	53	F2	HM	5 3/4"	PNT		Level 2 Physical Performance B
302B	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	HM	-	PNT	03.1	F1	HM	5 3/4"	PNT		Level 2 Physical Performance B
302C	3' - 6"	SNGL	7' - 0"	1 3/4"	D1	HM	-	PNT	03.1	F1	HM	5 3/4"	PNT		Level 2 Physical Performance B
303A	8' - 0"	OH	10' - 0"	2"	D9	STL	-	CLR	01	-	-	-	-		Chain operated, insulated
304A	6' - 0"	PR	7' - 0"	1 3/4"	D5	HM	-	PNT	52	F2	HM	5 3/4"	PNT		Level 1 Physical Performance C

### GLAZING SCHEDULE

- A - 1/4" CLEAR
- B - 1/4" CLEAR, TEMPERED
- C - 1" INSUL. UNIT (ULTRA-CLEAR)
- D - 1" INSUL. UNIT, TEMPERED (ULTRA-CLEAR)
- E - 1" INSUL. UNIT (GRAY)
- F - 1" INSUL. UNIT, TEMPERED (GRAY)
- G - 1" INSUL. UNIT (GRAY, SPANDREL PANEL)
- H - 1/2" CLEAR, TEMPERED
- J - 3/4" CLEAR, TEMPERED

## **SECTION 095133 - ACOUSTICAL METAL PAN CEILINGS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes lay-in acoustical metal pans and the following suspension system for ceilings:
  - 1. Direct hung, exposed tee grid.
- B. Related Sections:
  - 1. Division 09 Section "Acoustical Panel Ceilings" for ceilings consisting of mineral-base and glass-fiber-base acoustical panels and exposed suspension systems.
  - 2. Divisions 21, 23, and 26 Sections for light fixtures, sprinklers, and air-distribution components.

#### **1.3 DEFINITIONS**

- A. CAC: Ceiling Attenuation Class.
- B. LR: Light Reflectance coefficient.
- C. NRC: Noise Reduction Coefficient.

#### **1.4 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. LEED Submittals:
  - 1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
  - 2. Product Data for Credit IEQ 4.1: For sealants, documentation including printed statement of VOC content.
- C. Samples for Initial Selection: For components with factory-applied color and other decorative finishes.

- D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below:
1. Metal Pans: Set of 6-inch- square Samples of each type, finish, color, pattern, and texture. Show pan edge profile.
  2. Exposed Suspension System Members, Moldings and Trim: Set of 12-inch- long Samples of each type, finish, and color.
  3. Sound Absorber: Match size of Sample metal pan.
- E. Performance Data: For installed products indicated to comply with design loads and other criteria, include structural analysis and other analytical data signed and sealed by the qualified professional engineer responsible for their preparation.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:
1. Ceiling suspension members.
  2. Method of attaching hangers to building structure.
    - a. Furnish layouts for cast-in-place anchors, clips, and other ceiling attachment devices whose installation is specified in other Sections.
  3. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
  4. Ceiling perimeter and penetrations through the ceiling; and trim and moldings.
  5. Minimum Drawing Scale: 1/8 inch = 1 foot.
- B. Qualification Data: For testing agency.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each acoustical metal pan ceiling.
- D. Evaluation Reports: For each acoustical metal pan ceiling and components and anchor and fastener type.
- E. Field quality-control reports.

#### 1.6 CLOSEOUT SUBMITTALS

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

## 1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Acoustical Metal Pans: Full-size units equal to 2 percent of quantity installed.
  - 2. Suspension System Components: Quantity of each grid and exposed molding and trim equal to 2 percent of quantity installed.
  - 3. Hold-Down Clips: Equal to 2 percent of quantity installed.

## 1.8 QUALITY ASSURANCE

- A. Acoustical Testing Agency Qualifications: An independent testing laboratory or an NVLAP-accredited laboratory, with the experience and capability to conduct the testing indicated. NVLAP-accredited laboratories must document accreditation, based on a "Certificate of Accreditation" and a "Scope of Accreditation" listing the test methods specified.
- B. Source Limitations:
  - 1. Acoustical Ceiling Pans: Obtain each type from single source from single manufacturer.
  - 2. Suspension Systems: Obtain each type from single source from single manufacturer.
- C. Source Limitations for Acoustical Metal Pan Ceilings: Obtain each combination of acoustical metal pans and exposed suspension systems from one source with resources to provide products of consistent quality in appearance, physical properties, and performance.
- D. Surface-Burning Characteristics: Complying with ASTM E 1264 for Class A materials as determined by testing identical products according to ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
- E. Seismic Standard: Provide acoustical metal pan ceilings designed and installed to withstand the effects of earthquake motions according to the following:
  - 1. SEI/ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads."
- F. Mock-ups: Add.#4
  - 1. Provide two six foot by six foot mock-ups for selection of perforation pattern by architect. The mock-ups shall include a total of two different perforation patterns for comparison and selection purposes.
  - 2. Mock-up shall be constructed and reviewed by architect prior to ordering balance of panel material.

## 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical metal pans, suspension system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they

will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

- B. Handle acoustical metal pans, suspension system components, and accessories carefully to avoid damaging units and finishes in any way.

#### 1.10 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical metal pan ceilings until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

#### 1.11 COORDINATION

- A. Coordinate layout and installation of acoustical metal pans and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

### PART 2 - PRODUCTS

#### 2.1 ACOUSTICAL METAL CEILING PANS

- A. Acoustical Metal Pan Standard: Provide manufacturer's standard acoustical metal pans of configuration indicated that comply with ASTM E 1264 classifications as designated by types, acoustical ratings, and light reflectances unless otherwise indicated.
  - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches away from test surface per ASTM E 795.
- B. Sheet Metal Characteristics: For metal components exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, roughness, stains, or discolorations.
  - 1. Steel Sheet: Commercial-quality, cold-rolled, carbon-steel sheet; stretcher leveled; with protective coating complying with ASTM C 635.
    - a. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
    - b. Painted Finishes: Electrolytic zinc-coated steel complying with ASTM A 591/A 591M, 40Z coating, surface treatment as recommended by finish manufacturer for type of use and finish indicated.
    - c. Chemical/Mechanical Finishes: Uncoated steel sheet complying with ASTM A 1008/A 1008M with luster or bright finish as required by finisher for applying electroplating or other metallic-finishing processes.

- C. Sound-Absorbent Pads: Provide width and length to completely fill concealed surface of pan, with surface-burning characteristics for flame-spread index of 25 or less and smoke-developed index of 50 or less, as determined by testing per ASTM E 84, and to comply with the following requirements:
  - 1. Unwrapped, Glass-Fiber Insulation: Black coated, unfaced, complying with ASTM C 553, Type I, II, or III; not less than 1-lb/cu. ft. density; treated to be nondusting; and as follows:
    - a. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent by weight.
    - b. Thickness: 1 inch.

## 2.2 STEEL PANS FOR ACOUSTICAL METAL PAN CEILING

- A. Steel Metal Pans:
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide MetalWorks Vector as manufactured by Armstrong World Industries or comparable products by one of the following:
    - a. Chicago Metallic Corporation.
    - b. Hunter Douglas Architectural Products, Inc.
    - c. USG Interiors, Inc.
- B. Classification: Units complying with ASTM E 1264 for Type VII, perforated steel facing (pan) with mineral- or glass-fiber-base backing.
  - 1. Pattern: Perforation to be selected from Manufacturer's full range of standard and premium perforation pattern portfolios.
  - 2. Color: Gun Metal Grey Add.#4
- C. Pan Fabrication: Manufacturer's standard units of size, profile, and edge treatment indicated, formed from metal indicated and finished to comply with requirements indicated.
  - 1. Lay-in Pans: Formed to set in exposed suspension grid.
- D. Pan Thickness: Not less than 0.020 inch.
- E. Pan Edge Detail: Manufacturer's standard edge detail.
- F. Pan Size: 24 by 24 inches.
- G. LR: Not less than 0.70.
- H. NRC: Not less than 0.70.
- I. CAC: Not less than 35.

## 2.3 METAL SUSPENSION SYSTEMS

- A. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.
- B. Metal Suspension System Standard: Provide manufacturer's standard metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable ASTM C 635 requirements.
- C. Suspension Systems: Provide systems complete with carriers, runners, splice sections, connector clips, alignment clips, leveling clips, hangers, molding, trim, retention clips, load-resisting struts, and other suspension components required to support ceiling units and other ceiling-supported construction.
- D. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
  - 1. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing and inspecting agency.
- E. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
  - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
  - 2. Size: Select wire diameter so its stress at 3 times the hanger design load indicated in ASTM C 635, Table 1, Direct Hung will be less than yield stress of wire, but provide not less than 0.106-inch- diameter wire.
- F. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
- G. Angle Hangers: Angles with legs not less than 7/8 inch wide; formed with 0.04-inch- thick, galvanized-steel sheet complying with ASTM A 653/A 653M, G90 coating designation; with bolted connections and 5/16-inch- diameter bolts.
- H. Seismic Stabilizer Bars: Manufacturer's standard perimeter stabilizers designed to accommodate seismic forces.
- I. Seismic Struts: Manufacturer's standard compression struts designed to accommodate seismic forces.
- J. Seismic Clips: Manufacturer's standard seismic clips designed and spaced to secure acoustical metal pans in place.
- K. Hold-Down Clips: Manufacturer's standard hold-down clips spaced to secure acoustical metal pans in place to molding and trim at perimeter.

- L. Exposed Metal Edge Moldings and Trim: Provide exposed members as indicated or as required to comply with seismic requirements of authorities having jurisdiction, to conceal edges of and penetrations through ceiling, to conceal edges of pans and runners, for fixture trim and adapters, for fasciae at changes in ceiling height, and for other conditions; of metal and finish matching acoustical metal pan ceiling units, unless otherwise indicated.

2.4 DIRECT-HUNG, STANDARD-GRID, METAL SUSPENSION SYSTEM FOR ACOUSTICAL METAL PAN CEILING

- A. Suspension System: For lay-in pans.
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong Prelude XL 15/16" exposed tee or a comparable product by one of the following:
    - a. Armstrong World Industries, Inc.
    - b. Chicago Metallic Corporation.
    - c. USG Interiors, Inc.
- B. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, prepainted, electrolytic zinc-coated or hot-dip galvanized according to ASTM A 653/A 653M, G30 coating designation, with prefinished, cold-rolled, 15/16-inch- wide sheet metal caps on flanges.
  - 1. Structural Classification: Heavy-duty system.
  - 2. End Condition of Cross Runners: Butt-edge type.
  - 3. Face Design: Flat, flush.
  - 4. Cap Material: Steel cold-rolled sheet.
  - 5. Cap Finish: Gun Metal Grey.
- C. Edge Moldings and Trim:
  - 1. Full Perimeter Panel Installation
    - a. Axiom Vector, 2" height, Gun Metal Grey

Add.#4

2.5 ACOUSTICAL SEALANT

- A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant, with a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), complying with ASTM C 834 and effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
    - b. USG Corporation; SHEETROCK Acoustical Sealant.

## 2.6 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## 2.7 GALVANIZED-STEEL SHEET FINISHES

- A. Color-Coated Finish: Manufacturer's standard baked paint complying with coating manufacturer's written instructions for surface preparation, pretreatment, application, baking, and minimum dry film thickness.

## 2.8 STEEL SHEET FINISHES

- A. Electroplated Finish: Electroplating process complying with finish manufacturer's written instructions for surface preparation, pretreatment, process, and minimum thickness to produce a coating uniform in appearance and free of blisters, pits, roughness, nodules, burning, cracks, unplated areas, and other visible defects.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical metal pan ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical metal pan ceilings.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

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

### 3.3 INSTALLATION

- A. Install acoustical metal pan ceilings to comply with ASTM C 636 and seismic requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Suspend ceiling hangers from building's structural members and as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
  - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
  - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
  - 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
  - 5. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
  - 6. Do not attach hangers to steel deck tabs.
  - 7. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
  - 8. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
- C. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical metal pans.
  - 1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
  - 2. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
  - 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Cut acoustical metal pan units for accurate fit at borders and at interruptions and penetrations by other work through ceilings. Stiffen edges of cut units as required to eliminate evidence of buckling or variations in flatness exceeding referenced standards for stretcher-leveled metal sheet.
- F. Install acoustical metal pans in coordination with suspension system and exposed moldings and trim.

1. For lay-in reveal-edge pans on suspension system runners, install pans with bottom of reveal in firm contact with top surface of runner flanges.
2. Align joints in adjacent courses to form uniform, straight joints parallel to room axis in both directions unless otherwise indicated.
3. Fit adjoining units to form flush, tight joints.
4. Install sound-absorbent pads in perforated metal pans.

G. Install hold-down clips where indicated.

### 3.4 FIELD QUALITY CONTROL

A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:

1. Suspended ceiling system.
2. Hangers, anchors, and fasteners.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Tests and Inspections: Testing and inspecting of completed installations of acoustical panel ceiling hangers and anchors and fasteners shall take place in successive stages, in areas of extent and using methods as follows. Do not proceed with installations of acoustical panel ceiling hangers for the next area until test results for previously completed installations of acoustical panel ceiling hangers show compliance with requirements.

1. Extent of Each Test Area: When installation of ceiling suspension systems on each floor has reached 20 percent completion but no panels have been installed.

D. Acoustical panel ceiling hangers and anchors and fasteners will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports.

### 3.5 CLEANING

A. Clean exposed surfaces of acoustical metal pan ceilings, including trim and edge moldings after removing strippable, temporary protective covering, if any. Comply with manufacturer's written instructions for stripping of temporary protective covering, cleaning, and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage, including dented and bent units.

**END OF SECTION 095133**

## **SECTION 096723 - RESINOUS FLOORING**

### **PART 1 - GENERAL**

Add.#4

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section Includes:

- 1. Resinous flooring systems.

- B. Related Sections:

- 1. Division 07 Section "Joint Sealants" for sealants installed at joints in resinous flooring systems.

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.

- B. LEED Submittals:

- 1. Product Data for Credit IEQ 4.2: For liquid-applied flooring components, documentation including printed statement of VOC content.

- C. Samples for Initial Selection: For each type of exposed finish required.

- D. Samples for Verification: For each resinous flooring system required, 6 inches square, applied to a rigid backing by Installer for this Project.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.

- B. Material Certificates: For each resinous flooring component, from manufacturer.

- C. Material Test Reports: For each resinous flooring system.

**RESINOUS FLOORING**

**096723 - 1**

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of flooring systems required for this Project.
  - 1. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
- B. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

## 1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.
- B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
- C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application unless manufacturer recommends a longer period.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide general polymers EPO-FLEX MER 1 or comparable product by one of the following:
  - 1. Dur-A-Flex, Inc.
  - 2. Sherwin-Williams Company; General Polymers.
  - 3. Tnemec Company, Inc.

## 2.2 MATERIALS

- A. VOC Content of Liquid-Applied Flooring Components: Not more than 100 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

## 2.3 INDUSTRIAL RESINOUS FLOORING

- A. Resinous Flooring: Abrasion-, impact- and chemical-resistant, industrial-aggregate-filled, resin-based, monolithic floor surfacing designed to produce a seamless floor and integral cove base.
- B. System Characteristics:
  - 1. Color and Pattern: As selected by Architect from manufacturer's full range.
  - 2. Wearing Surface: Smooth.
  - 3. Overall System Thickness: 1/16 inch.
- C. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:
  - 1. Tensile Strength: 1700 psi per ASTM D412 per ASTM C 307.
  - 2. Impact Resistance: No chipping, cracking, or delamination and not more than 1/16-inch permanent indentation per MIL-D-3134.
  - 3. Resistance to Elevated Temperature: No slip or flow of more than 1/16 inch per MIL-D-3134.
  - 4. Abrasion Resistance: 100 mgs lost per ASTM D, CS-17 wheel, 1000 cycles.
  - 5. Flammability: Self-extinguishing per ASTM D 635.
  - 6. Hardness: 50/40, Shore D per ASTM D 2240.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean, dry substrate for resinous flooring application.
- B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.
  - 1. Roughen concrete substrates as follows:
    - a. Shot-blast surfaces with an apparatus that abrades the concrete surface, contains the dispensed shot within the apparatus, and recirculates the shot by vacuum pickup.

2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.
  3. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.
  4. Alkalinity and Adhesion Testing: Verify that concrete substrates have pH within acceptable range. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- C. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.
- D. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
- E. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written instructions.

### 3.2 APPLICATION

- A. General: Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.
1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
  2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
- B. Integral Cove Base: Apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details including those for taping, mixing, priming, troweling, sanding, and topcoating of cove base. Round internal and external corners.
1. Integral Cove Base: 4 inches high.

### 3.3 PROTECTION

- A. Protect resinous flooring from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.

**END OF SECTION 096723**

## **SECTION 099600 - HIGH-PERFORMANCE COATINGS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes surface preparation and application of high-performance coating systems on the following substrates:

- 1. Exterior Substrates:

- a. Exposed Steel fabrications, handrails, gates, bent plates and decorative trim..
    - b. Bollards.
    - c. Exposed steel noted to be painted.

- 2. Interior Substrates:

- a. Gypsum Board.

Add#4

- B. Related Sections include the following:

- 1. Division 05 Sections for shop priming of metal substrates with primers specified in this Section.

#### **1.3 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of finish-coat product indicated.
- C. Samples for Verification: For each type of coating system and in each color and gloss of finish coat indicated.
  - 1. Submit Samples on rigid backing, 8 inches square.
  - 2. Step coats on Samples to show each coat required for system.
  - 3. Label each coat of each Sample.
  - 4. Label each Sample for location and application area.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  - 1. Maintain containers in clean condition, free of foreign materials and residue.
  - 2. Remove rags and waste from storage areas daily.

#### 1.5 PROJECT CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 95 deg F.
- B. Do not apply coatings in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

#### 1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
  - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

### PART 2 - PRODUCTS

#### 2.1 HIGH-PERFORMANCE COATINGS, GENERAL

- A. Material Compatibility:
  - 1. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. Provide products of same manufacturer for each coat in a coating system.
- B. Colors: As selected by architect from complete color range.
- C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior coating applied at project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  - 1. Flat Paints and Coatings: 50 g/L.
  - 2. Nonflat Paints and Coatings: 150 g/L.
  - 3. Primers, Sealers, and Undercoaters: 200 g/L.
  - 4. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: 250 g/L. Add.#4

5. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
6. Pre-Treatment Wash Primers: 420 g/L.
7. Floor Coatings: 100 g/L.
8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.

## 2.2 METAL PRIMERS

### A. Aromatic Urethane, Zinc Rich:

1. Products
  - a. Tnemec-Zinc, 90-97.
  - b. PPG; Sigma Zinc 109HS
  - c. Approved equal.

## 2.3 EPOXY COATINGS

### A. High-Build Polyamidoamine Epoxy Satin. (Exterior application on metal substrate).

1. Products:
  - a. Tnemec; Hi-Build Epoxiline II, Series 69.
  - b. PPG; Sigma Cover 435
  - c. Approved equal.

### B. High Build Epoxy. (Interior walls and ceilings).

1. Basis-of-Design Product: General Polymers Saniglaze High Build Wall System.

## 2.4 POLYURETHANE COATINGS

Add.#4

### A. Aliphatic Acrylic Polyurethane, Two-Component, Pigmented, Semi-Gloss.

1. Products:
  - a. Tnemec; Enduralume 1077.
  - b. PPG; Sigma Dur 1800, Metallic Finish.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
3. Coating application indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.
  1. After completing coating operations, reinstall items that were removed; use workers skilled in the trades involved.
- C. Clean substrates of substances that could impair bond of coatings, including dirt, oil, grease, and incompatible paints and encapsulants.
- D. Steel Substrates: Remove rust and loose mill scale.
  1. Clean using methods recommended in writing by coating manufacturer.
  2. Refer to Division 5 specification section "AESS Structural Steel."
- E. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings.

### 3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions.
  1. Use applicators and techniques suited for coating and substrate indicated.
  2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
  3. Coat back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.

- D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

### 3.4 FIELD QUALITY CONTROL

- A. Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when coatings are being applied:
  - 1. Owner may engage the services of a qualified testing agency to sample coating material being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
  - 2. Testing agency will perform tests for compliance with specified requirements.
  - 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with specified requirements. Contractor shall remove noncomplying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.

### 3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

### 3.6 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

- A. Steel Substrates:
  - 1. Polyurethane, Pigmented, Over High-Build Epoxy Coating System:
    - a. Prime Coat: Aromatic urethane, zinc rich primer two component, 2.5-3.5 mils dry film thickness (PFT).
    - b. Intermediate Coat: High build polyamidoamine Epoxy, two component, pigmented satin, 2.0-3.0 mils PFT.
    - c. First Topcoat: Aliphatic Acrylic polyurethane, two component, pigmented, semi-gloss, 3.0-5.0 mils PFT.

B. Galvanized-Metal Substrates:

1. Polyurethane, Pigmented Over High Build Epoxy Coating System:

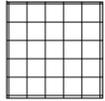
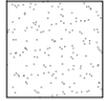
- a. Prime Coat: Not required.
- b. Intermediate Coat: High build polyamidoamine Epoxy, two component, pigmented satin, 2.0-3.0 mils PFT.
- c. First Topcoat: Aliphatic acrylic polyurethane, two component, pigmented, semi-gloss, 3.0-5.0 mils PFT.

**END OF SECTION 099600**

dic	Exterior Cladding	1
dic	Natural gas piping, Boiler flues, Refrigerant relief vent piping, Laboratory exhaust ducts, Generator, Emergency & standby power equip., Emergency lighting, Fire alarm systems, Pendant lighting exceeding 24" in length	
dic	NA	

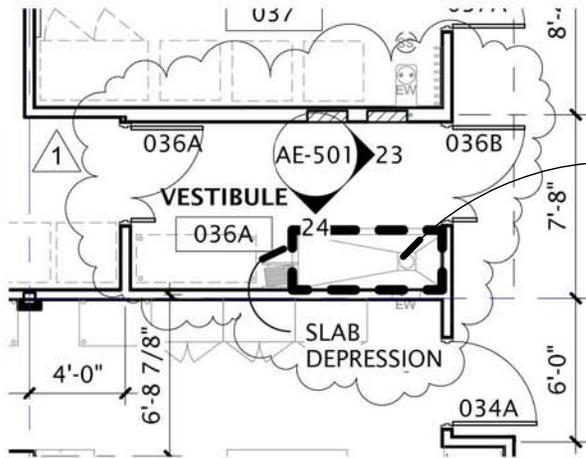
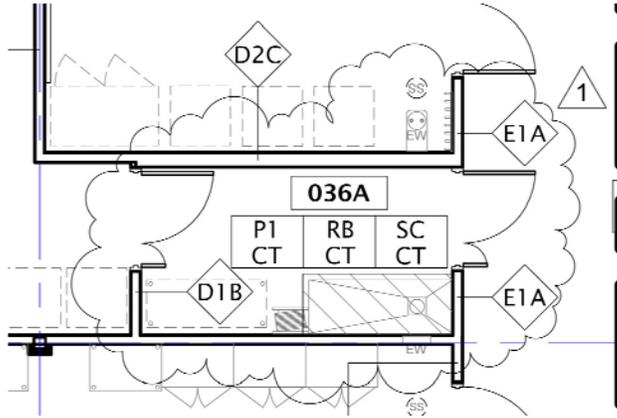


# PLANT SCHEDULE

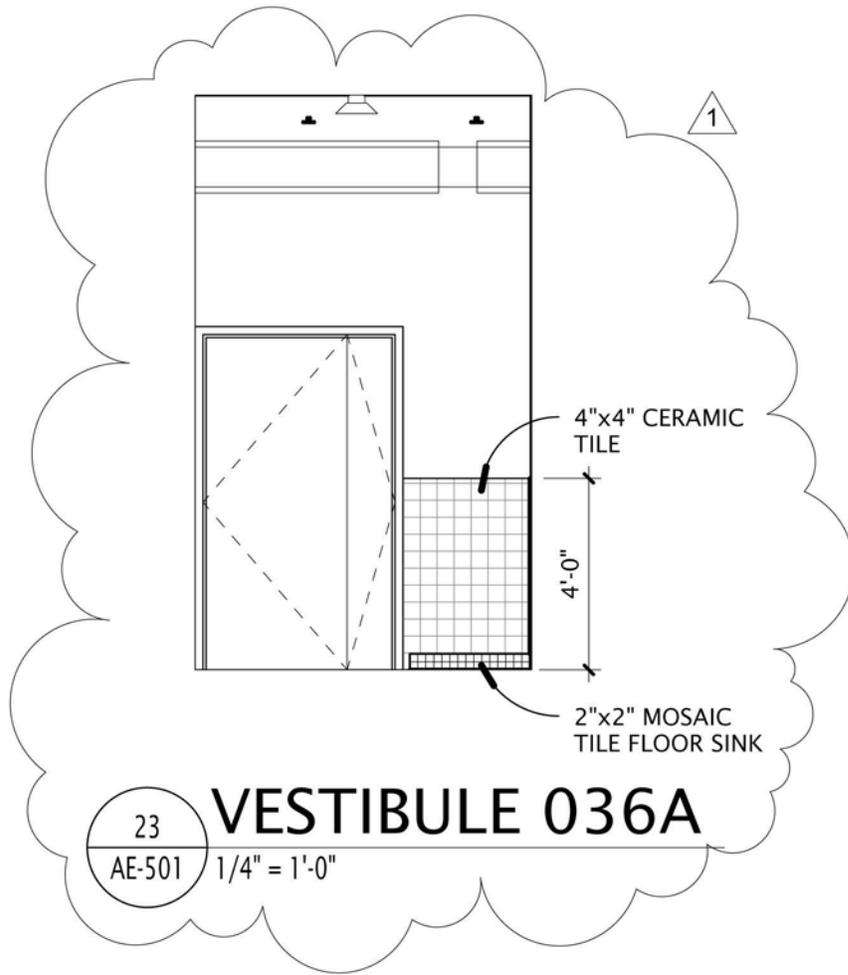
TREES	CODE	BOTANICAL NAME / COMMON NAME	CONT	CAL
	ACE AMU	ACER GINNALA / AMUR MAPLE	B&B	2" CAL
	ACE SUG	ACER SACCHARUM / SUGAR MAPLE	B&B	2" CAL
	CER CAN	CERCIS CANADENSIS / EASTERN REDBUD	B&B	2" CAL
	MAL SNO	MALUS X `SNOWDRIFT` / SNOWDRIFT CRAB APPLE	B&B	2" CAL
	PIN OCU	PINUS DENSIFLORA `OCULUS DRACONIS` / OCULUS DRACONIS TANYOSHO PINE	25 GAL	
SHRUBS	CODE	BOTANICAL NAME / COMMON NAME	CONT	
	BER RED	BERBERIS THUNBERGII `ATROPURPUREA` / RED LEAF JAPANESE BARBERRY	5 GAL	
	COT ACU	COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER	5 GAL	
	HEL SEM	HELICTOTRICHON SEMPERVIRENS / BLUE OAT GRASS	1 GAL	
	MAH COM	MAHONIA AQUIFOLIUM `COMPACTA` / COMPACT OREGON GRAPE	5 GAL	
	SPI AN2	SPIRAEA X BUMALDA `ANTHONY WATERER` / ANTHONY WATERER SPIRAEA	5 GAL	
GROUND COVERS	CODE	BOTANICAL NAME / COMMON NAME	CONT	
	ARC UVA	ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	1 GAL @ 15" OC	
	TUR BIO	TURF SOD BIOBLUE / BIOGRASS	SOD	

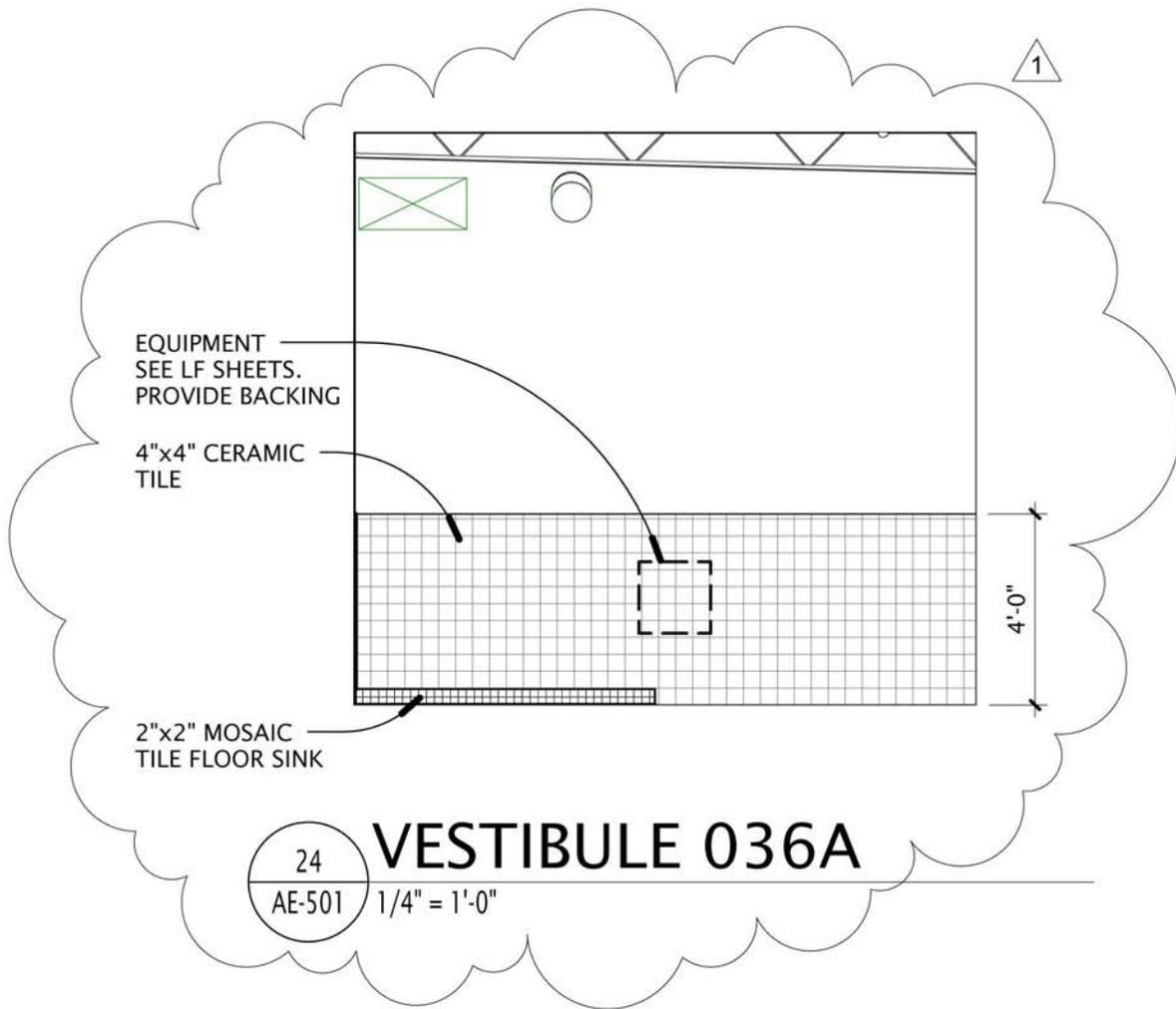
1

NOTE: RESTORE ALL LANDSCAPE AND IRRIGATION DISTURBED BY CONSTRUCTION ACTIVITIES



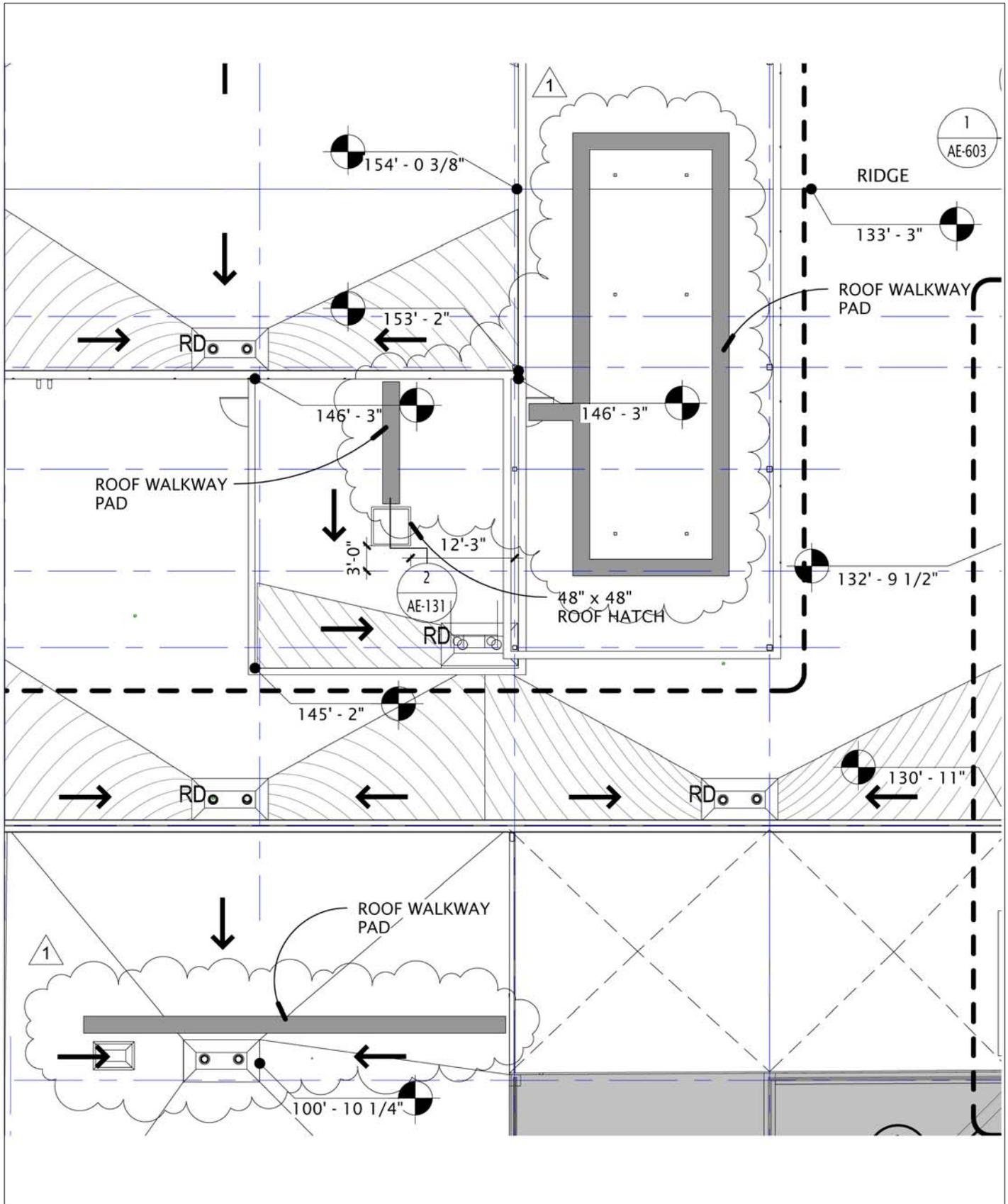
WASHDOWN BASIN TO HAVE 30" x 72" INSIDE OF CURB DIM.

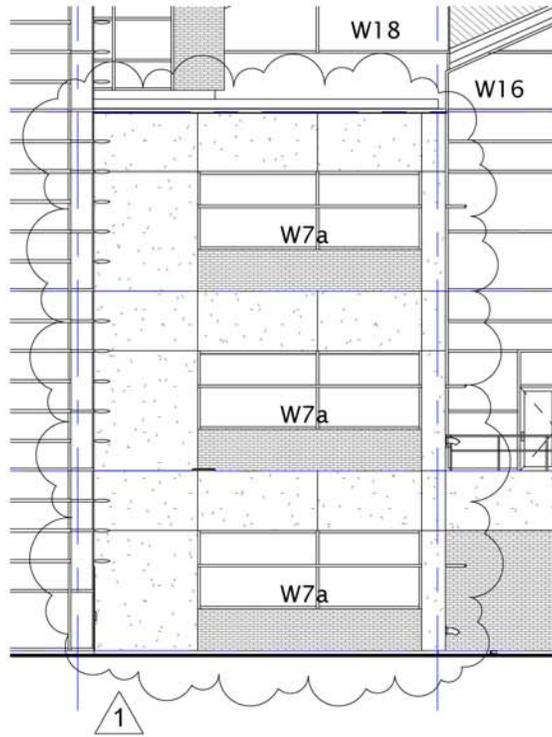


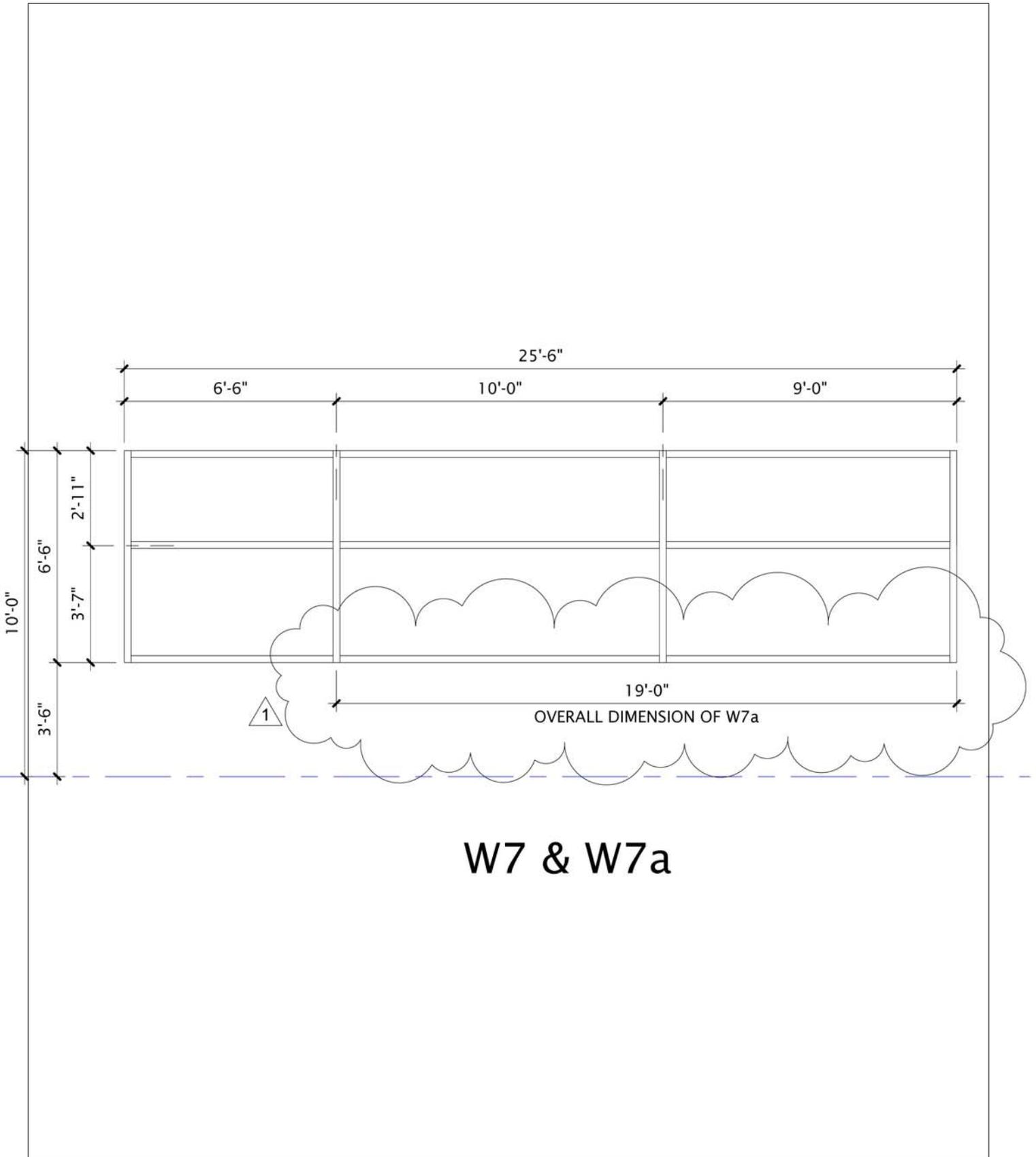


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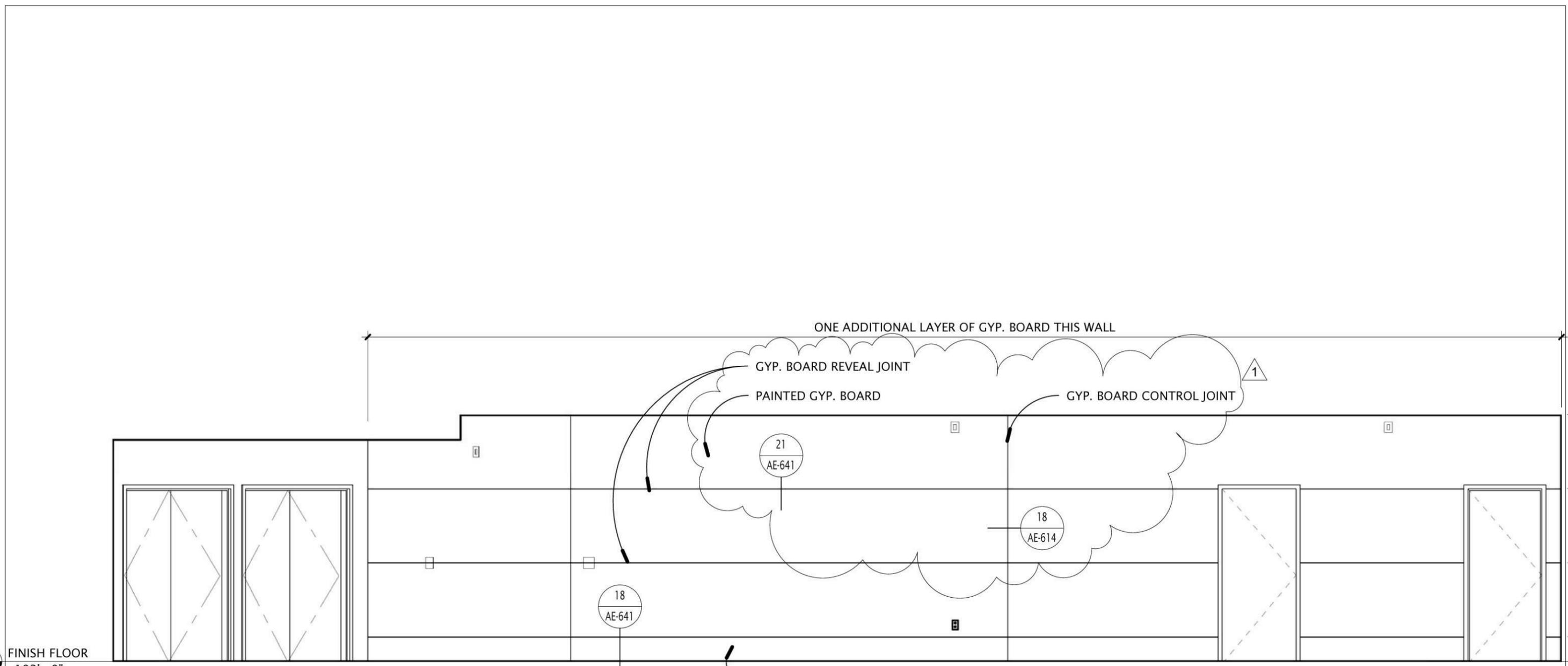
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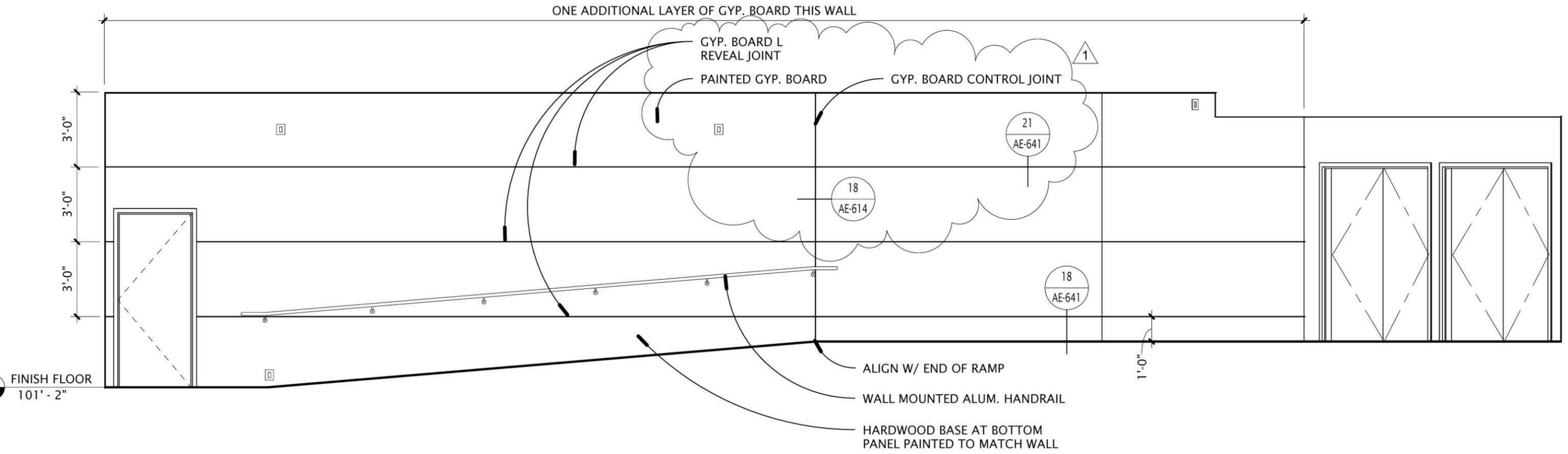
FINISH FLOOR  
103' - 0"

3 **AUDITORIUM WEST**  
 AE-509 1/4" = 1'-0"

HARDWOOD BASE AT BOTTOM  
PANEL PAINTED TO MATCH WALL

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FINISH FLOOR  
101' - 2"

5  
AE-509

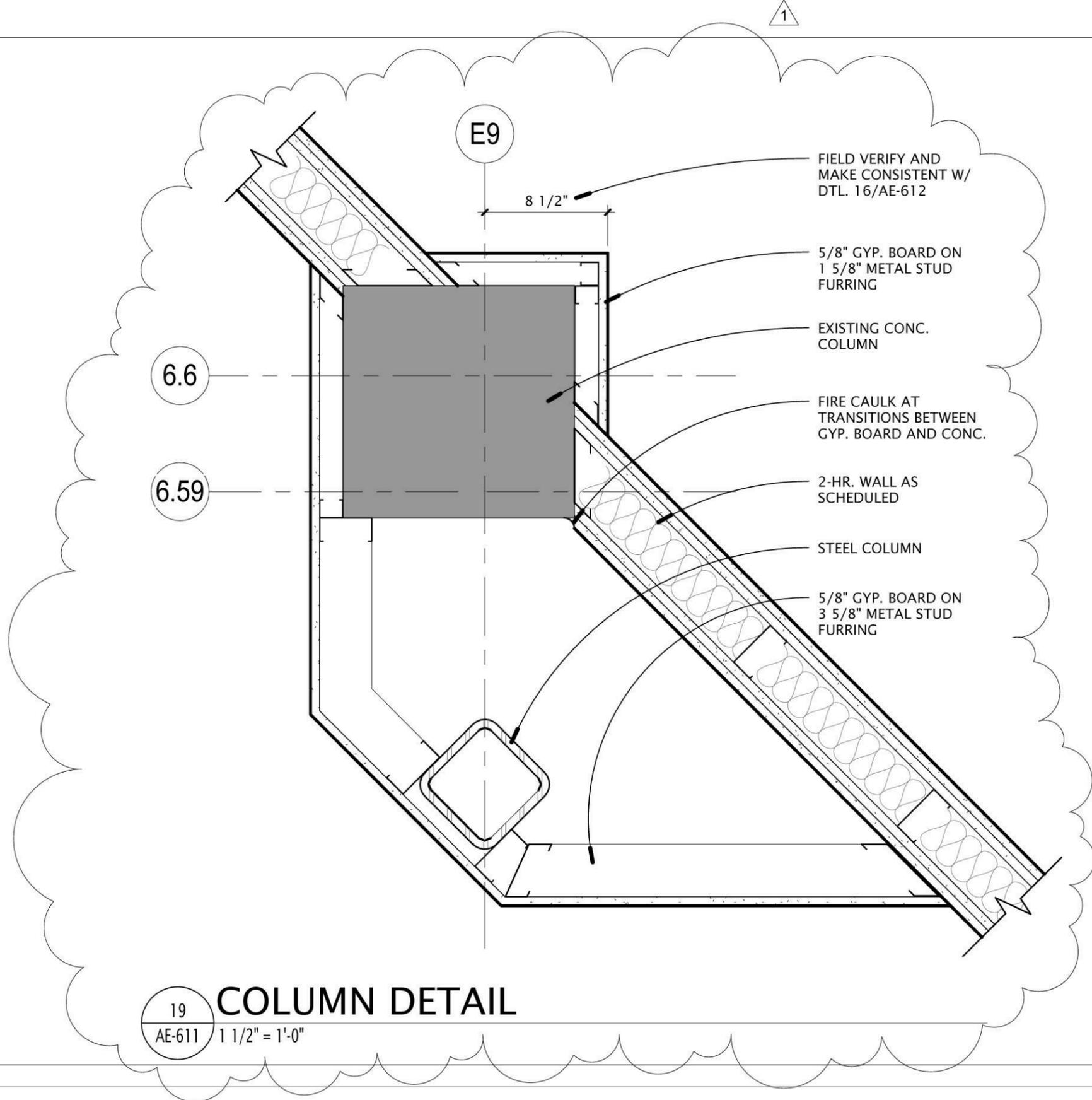
# AUDITORIUM SOUTH

1/4" = 1'-0"

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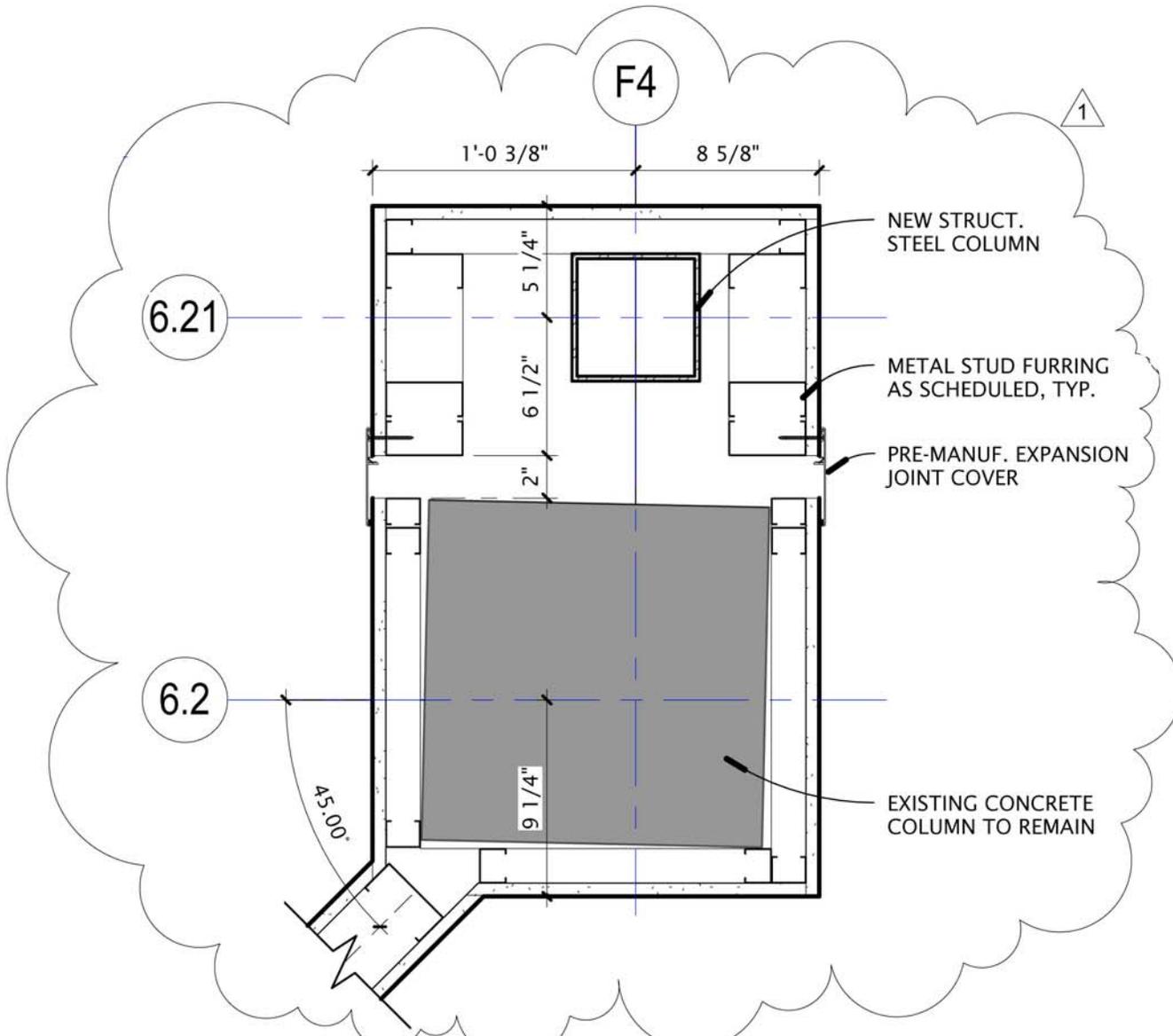
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19  
AE-611 1 1/2" = 1'-0"

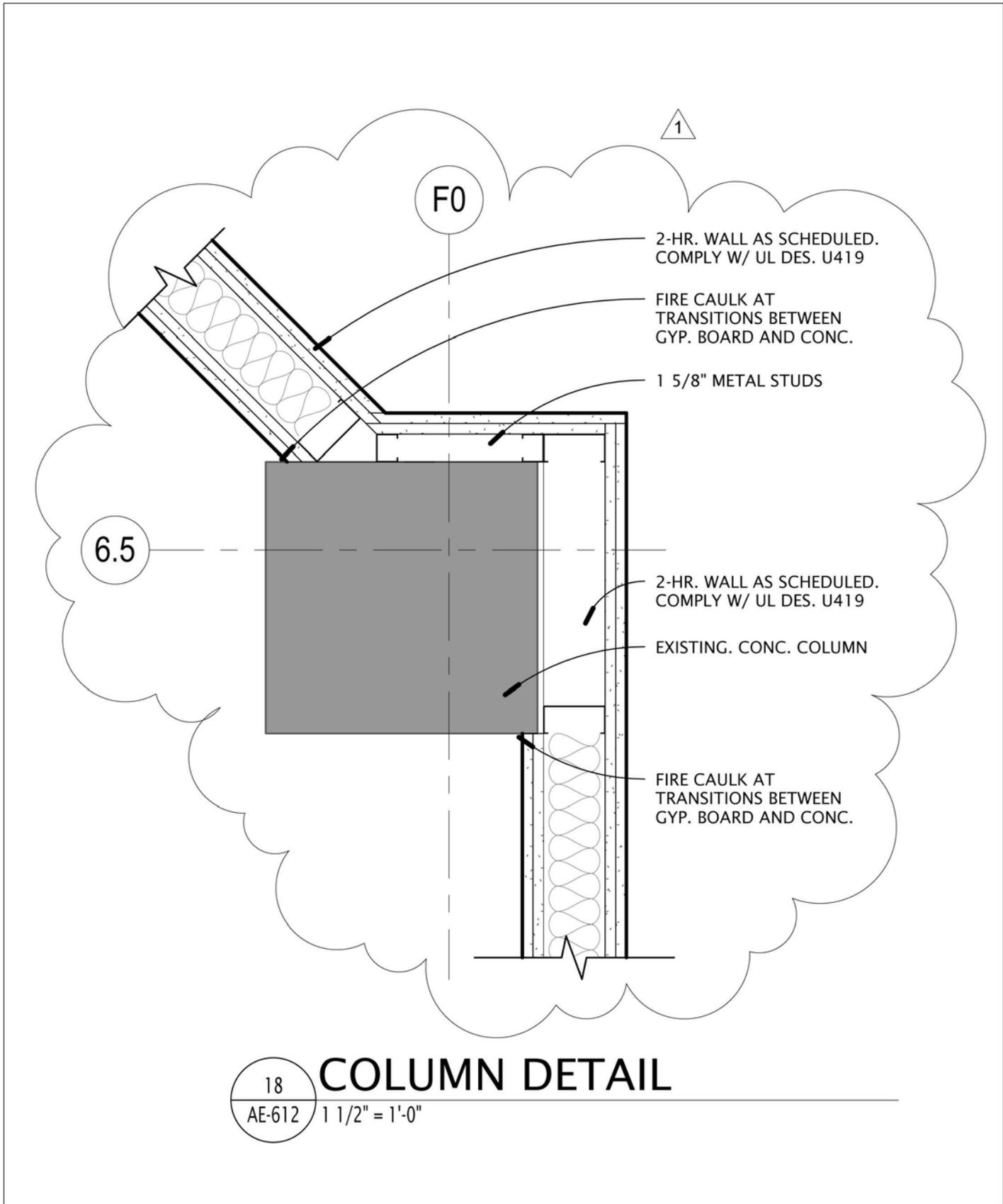
**COLUMN DETAIL**

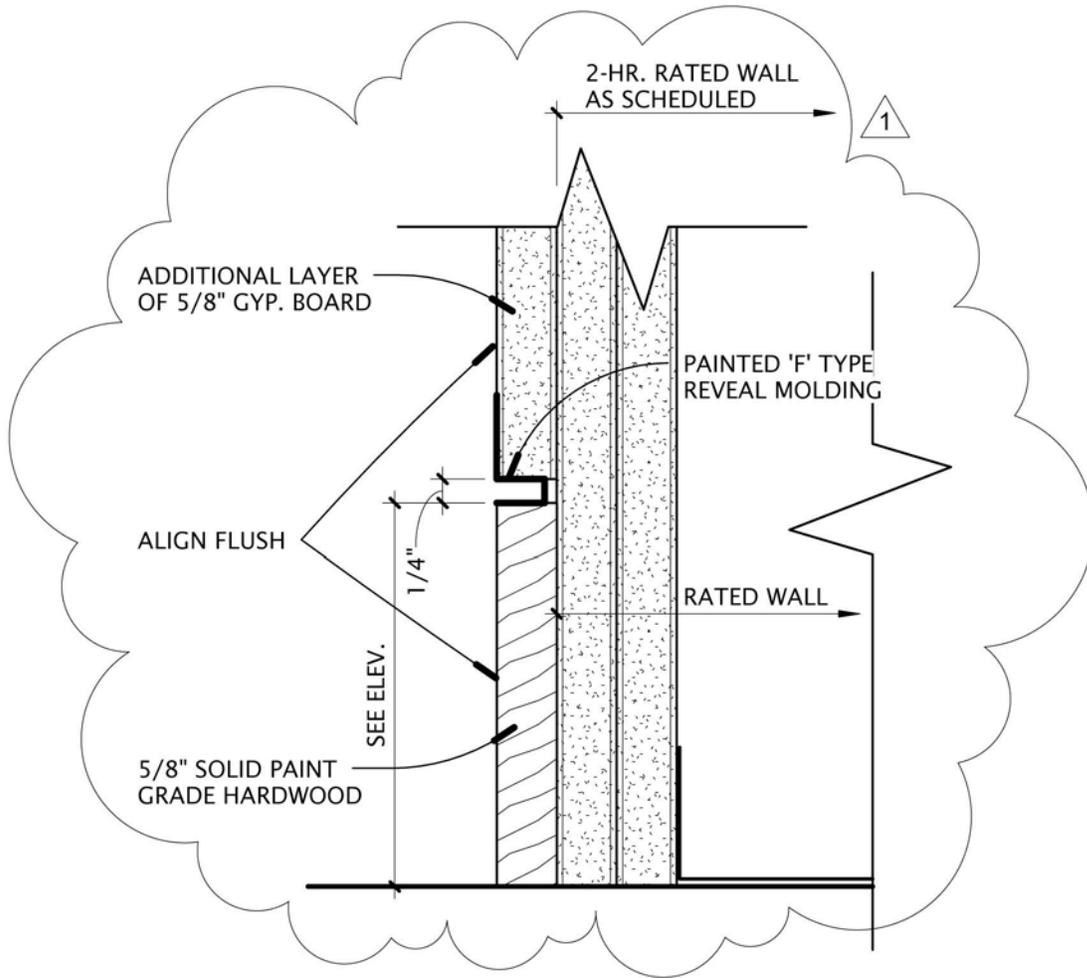


9  
AE-612

### COLUMN DETAIL

1 1/2" = 1'-0"





18 **WOOD BASE DETAIL**  
AE-641 6" = 1'-0"

1

1/2" MAX. GAP  
5/8" GAP

5/8" TYPE 'X' GYP.  
BOARD. 1 OR 2 LAYERS  
AS SCHEDULED

1 5/8" TYPE S  
SCREWS 24" O.C.

5/8" TYPE 'X' GYP.  
BOARD STRIPS

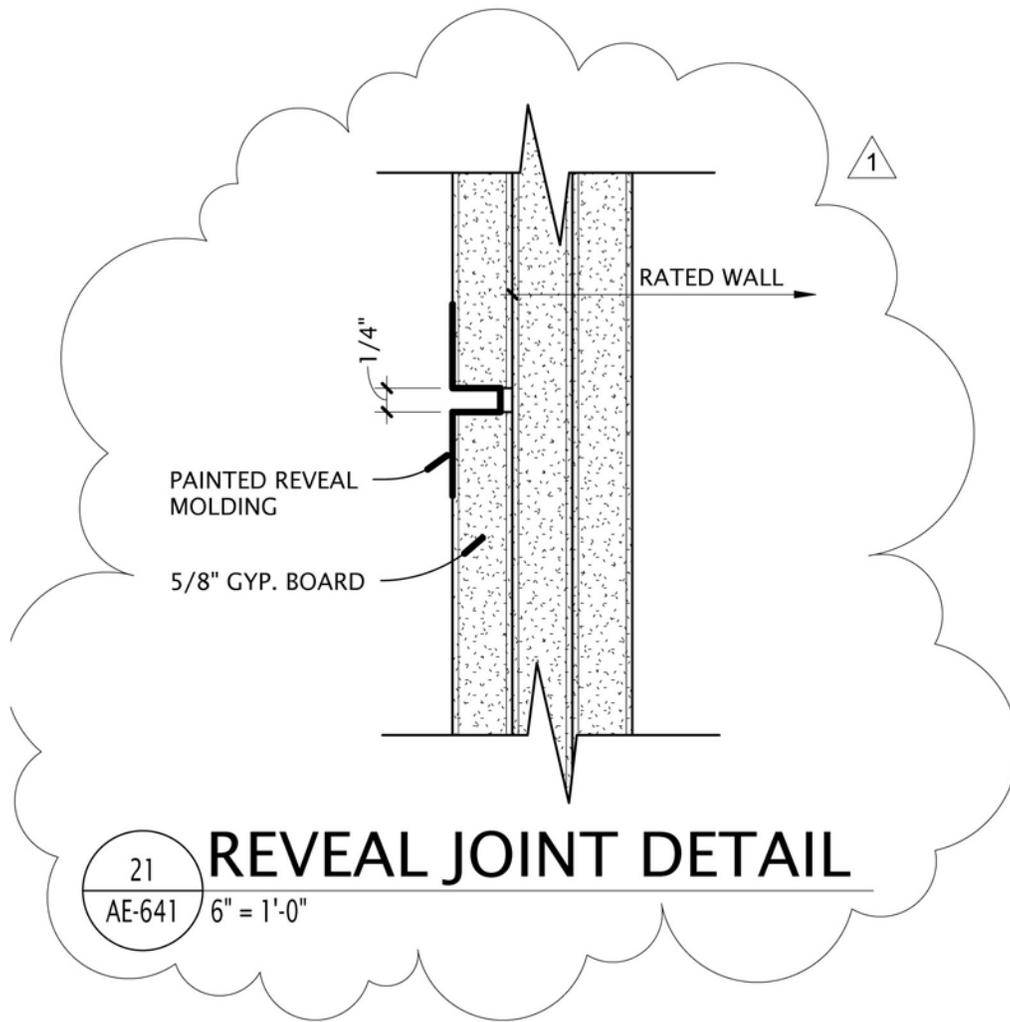
METAL STUD AS  
SCHEDULED

METAL  
CONTROL JOINT

18  
AE-614

### TYP. GYP. BD. C.J. AT RATED WALL

3" = 1'-0"



# UTAH VALLEY UNIVERSITY NEW SCIENCE BUILDING

## ELECTRICAL

### Addendum #4

May 19, 2010

Contents of Electrical Addendum:	Written Addendum	3 pages
	Division 16 Unit Price Bid Form	4 pages
	Revision Drawings	2 pages (8½ x 11)
	Revision Drawings	2 full-size sheets

#### I. GENERAL ITEMS

1. The Electrical Unit Price Bid Form is attached to this addendum and shall be completed by the apparent low bidder after the bid opening and prior to being awarded the contract. The unit prices given shall be guaranteed for the duration of the project, and is the same for adds or deducts.
2. Allowances: Include the following allowances in the bid. Allowances prices shall include all materials and labor for complete installation and operation, and shall be valid for the duration of the project. Unused allowances will be credited back to the Owner using the dollar values in the Unit Price Bid Form:
  - a. Exit Signs (E9-1): 20 each, including 100' of typical branch conduit and wiring.
  - b. Smoke Detectors: 20 each, including 50' of typical fire alarm conduit and wiring.
  - c. Evacuation Speaker/Strobe Lights: 20 each, including 50' of typical fire alarm conduit and wiring.
  - d. Connections to Miscellaneous 120V/20A Equipment: 20 each, including 100' of typical branch conduit and wiring.

#### II. SPECIFICATIONS

##### Section 263213, Engine Generators:

1. Paragraph 2.1.A: Add the following to the list of manufacturers:
  5. Generac

#### III. DRAWINGS

##### Sheet EE-601:

1. Change Main Computer Room number to 069B.
2. Run 4/0 CU conductor from copper bus bar in Main Electrical Room to copper bus bar in IDF Closet 134D.

**Sheet ES-101B:**

1. Change sheet keynote #5 to read "New 15 kV cabling in existing overhead conduit: 3#4/0 15 kV EPP Cu, 1 #4/0 THWN-2 GR."

**Sheet EP-103B:**

1. Electrical receptacles outside Office 243M circuited to 2LD1-63,65 shall be GFI-type.

**Sheet EP-104A:**

1. Change conductor and conduit callout for CT1-1 and CT1-2 from 10 to 11.

**Sheet EP-661:**

1. Starters feeding BP-3 and BP-4 are size 1.

**Sheets EL-101A EL101C:**

1. Hatching that indicates areas of bid alternates was inadvertently omitted from plans. Refer to corresponding EP sheets for hatched areas of bid alternates.

**Sheet EL-101A:**

1. Revised ceiling and lighting in Virology Lab 044. Refer to attached revision sheet.

**Sheet EL-101B:**

1. Lecture 031: Add DMB to location on plans with unnamed circuit home runs. Circuit 1 homerun to 0HA-33 and the second to 0LA1-50.

**Sheet EL-101C:**

1. Revised building plan and lighting adjacent to Vestibule 036A. Refer to attached revision sheet.

**Sheet EL-102B:**

1. Added exterior (OC-32) lights on gridline E9 at 6.31 and 6.2. Refer to attached revision sheet.
2. Added emergency light and ET device in Classroom 132. . Refer to attached revision sheet.
3. Revised Auditorium lighting plan, mostly showing the revision of emergency lights, circuits and ET devices; with minor shift in some lighting positions. . Refer to attached revision sheet.

**Sheet EL-103B:**

1. Revised lighting plan for Atrium and Concourse areas. Refer to attached revision sheet.
2. Revise Sheet Keynote #4 to read: "Refer to Architectural elevations to location (TX-1) LED spot lights at reveals 30" on center vertically in slot along entire height of feature wall.

**Sheet EL-502:**

1. Detail 10 - Ceiling Pipe Detail: Change "TP" callout to "DB-X".

**Sheet ET-101A:**

1. Clarification: 4" conduits shown near gridline E8 are 15kV high voltage conduits.

**Sheet ET-101B:**

1. Clarification: 4" RGS conduits are 15kV high voltage conduits.

**Sheet ET-101C:**

1. Clarification: 4" RGS conduits are 15kV high voltage conduits.

**Sheet ET-102B:**

1. Clarification: 4" RGS conduits are 15kV high voltage conduits.

**END OF ADDENDUM**

Attached:

Division 16 Unit Price Bid Form	4 pages
Revision Drawings	2 pages (8½ x 11)
Revision Drawings	2 full-size sheets

**ELECTRICAL UNIT PRICE BID FORM**

**UNIT PRICES**

1. **Lighting fixtures**

- a. **Lighting fixtures (materials only):** Guarantee unit prices for each item listed. Change order (add or deduct) amounts for lighting fixtures (excluding lamps, sales tax, and installation) shall be the prices listed below multiplied by the quantities added or deducted.

<u>Type</u>	<u>Manufacturer</u>	<u>Unit Price</u>
AS-2		
AS-3		
AS-4D		
AS-14		
CM-1 per 4'		
CM-40 per 4'		
CM-41 per 4'		
CM-42 per 4'		
DD-5		
DF-13		
DF-13D		
DF-13W		
DF-33		
DF-37		
DF-37D		
DF-46		
DF-47 /DF-48		
E9-1		
E9-2		
EP-1		
EP-2		
ET		
FC-11		
FC-11D		
G-1		
G-1D		
G-6		
G-6D		
G-8		
G-9		
G-9D		
G-12		
GC-2F		
GC-3		
GC-3F		
GS-3		
GS-4		
HE-11		

Type	Manufacturer	Unit Price
OC-32		
OJ-1		
OJ-2		
OX-5, 5.4, 5.8 PER FOOT		
S-1		
S-3		
SC-1		
SC-2		
SC-3		
SS-1		
SP-5		
TX-1		
TX-99		
UC-8		
UC-9		
V-1		
W-3		
W-11		
WB-10		

b. **Lighting fixture installation:** Guarantee unit prices for each item listed. Change order (add or deduct) amounts for installation of lighting fixtures (excluding fixtures, lamps, and sales tax) and including 50' of typical branch wiring shall be the prices listed below multiplied by the quantities added or deducted.

2.

Type	Manufacturer	Unit Price
AS-2		
AS-3		
AS-4D		
AS-14		
CM-1 per 4'		
CM-40 per 4'		
CM-41 per 4'		
CM-42 per 4'		
DD-5		
DF-13		
DF-13D		
DF-13W		
DF-33		
DF-37		
DF-37D		
DF-46		
DF-47 /DF-48		
E9-1		
E9-2		
EP-1		

<u>Type</u>	<u>Manufacturer</u>	<u>Unit Price</u>
EP-2		
ET		
FC-11		
FC-11D		
G-1		
G-1D		
G-6		
G-6D		
G-8		
G-9		
G-9D		
G-12		
GC-2F		
GC-3		
GC-3F		
GS-3		
GS-4		
HE-11		
OC-32		
OJ-1		
OJ-2		
OX-5, 5.4, 5.8 PER FOOT		
S-1		
S-3		
SC-1		
SC-2		
SC-3		
SS-1		
SP-5		
TX-1		
TX-99		
UC-8		
UC-9		
V-1		
W-3		
W-11		
WB-10		

3. **Devices:** Guarantee unit prices for each item listed. Change order (add or deduct) amounts for complete installation shall be the prices listed below multiplied by the quantities added or deducted. Unit price shall include material and labor for complete installation of wiring devices.

Include 50' of branch wiring or cabling (as applicable) with the following:

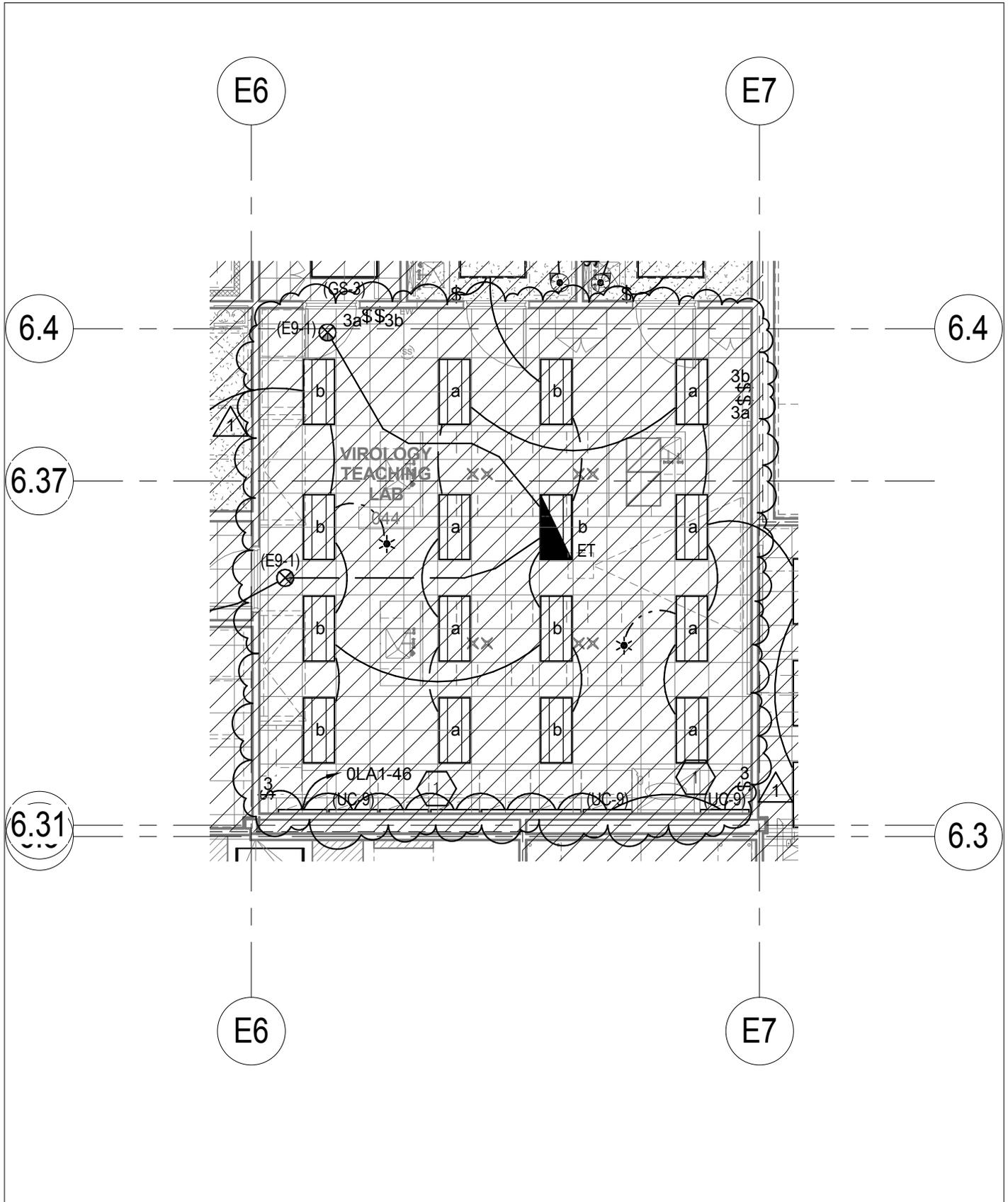
<u>Wiring Device</u>	<u>Unit Price</u>
Convenience Outlet	_____
Switch	_____
Three-way switch	_____
Four-way switch	_____
3-Service Floor box (FB3)	_____
GFCI outlet	_____
Weatherproof outlet	_____
Voice/data: box and conduit stub	_____
Smoke Detector	_____
Duct Detector	_____
Speaker/Strobe	_____
Control Module	_____
Monitor Module	_____
Smoke Damper Connection	_____

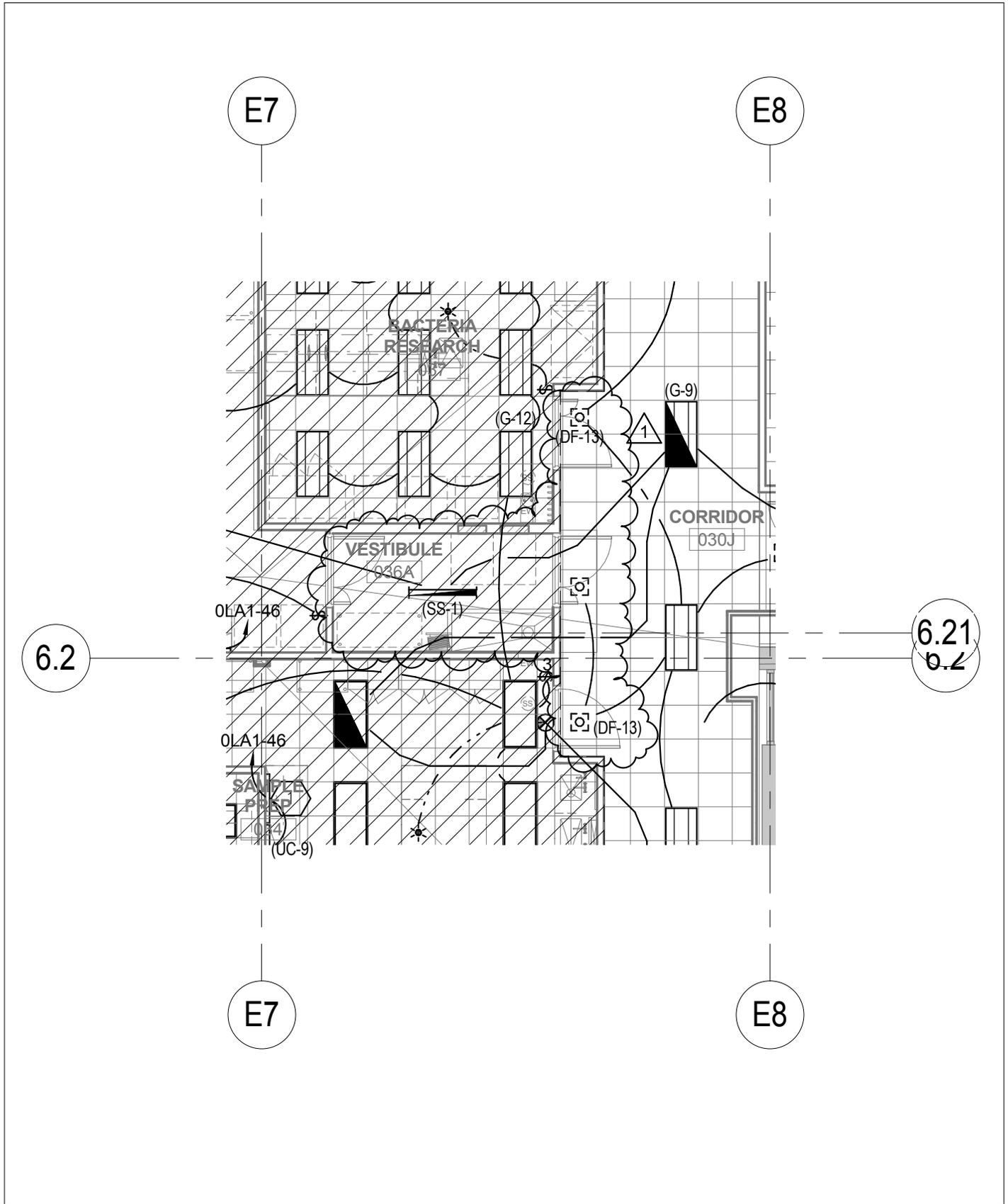
4. Provide unit prices for the following:

3/4" CND, with 4 #14THWN	_____	Lf
3/4" CND, with 4 #12THWN	_____	Lf
3/4" CND, with 4 #10THWN	_____	Lf
1" CND, with 4 #8 THWN	_____	Lf
1.25" CND, with 4 #6 THWN	_____	Lf
3/4" CND	_____	Lf

5. Electrician billing rates per hour:

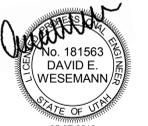
Superintendent	_____
Journeyman	_____
3rd year apprentice	_____
2nd year apprentice	_____
1st year apprentice	_____





**SHEET KEYNOTES**

- 1 MOUNT FIXTURES IN ARCHITECTURAL COVE. REFER TO ARCHITECTURAL DETAILS AND FIELD VERIFY COVE DIMENSIONS.
- 2 TO AISLE LIGHT TRANSFORMER IN ELECTRICAL ROOM. DO NOT LOCATE THESE JUNCTION BOXES UNTIL THE SEATING FIELD DIMENSIONS AND SUBMITTAL IS RECEIVED AND APPROVED. LOCATE JUNCTION BOX FLUSH IN FLOOR TO FIELD ISLE LIGHT PROVIDED WITH SEATING. DIVISION 26 TO DO ALL FIELD WIRING.
- 3 BID ALTERNATE AREA. REFER TO SPECIFICATION SECTION 01234 ALTERNATES AND ARCHITECTURAL/LAB FURNISHINGS/MECHANICAL/PLUMBING/ELECTRICAL/LAB ELECTRICAL DRAWINGS FOR COMPLETE DESCRIPTION OF ALTERNATES. IN EACH ALTERNATE AREA, THE ELECTRICAL PANELBOARD AND FEEDER SHALL REMAIN AS WELL AS TELECOMMUNICATIONS CABLE TRAYS AND MAIN CONDUITS, REGARDLESS OF WHETHER THE ALTERNATES ARE ACCEPTED OR NOT.

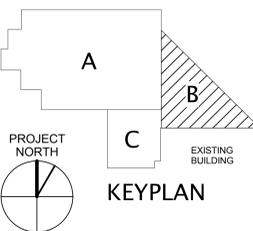


REVISIONS

1	2010-05-19	ADDENDUM #4
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Division of  
Facilities  
Construction and  
Management



DRAWN BY: DLM  
CHECKED BY: DEW  
DFCM PROJECT NO.: 09020790  
GSBS PROJECT NO.: 2009.115.00  
ISSUED DATE: 05.07.2010

**LEVEL 1 LIGHTING PLAN - AREA B**

CONSTRUCTION DOCUMENTS

**EL-102B**

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**1 LEVEL 1 LIGHTING PLAN - AREA B**  
SCALE: 1/8" = 1'-0"



**SHEET KEYNOTES**

- 1 MOUNT AT BOTTOM OF CLERESTORY WINDOWS IN SPACE PROVIDED.
- 2 DIMMING PHOTOCELL TO DIRECTLY CONTROL DIMMING BALLASTS IN ROOM.
- 3 ALTERNATE AREA REFER TO SPECIFICATION SECTION 0224 ALTERNATES AND ELECTRICAL DRAWINGS FOR COMPLETE DESCRIPTION OF ALTERNATES. IN EACH ALTERNATE AREA, THE ELECTRICAL PANEL BOARD AND FEEDER SHALL REMAIN AS WELL AS TELECOMMUNICATIONS CABLETRAYS AND MAIN CONDUITS, REGARDLESS OF WHETHER THE ALTERNATES ARE ACCEPTED OR NOT.
- 4 REFER TO ARCHITECTURAL ELEVATIONS TO LOCATE (TX-1) LED SPOT LIGHTS AT REVEALS, 30" O.C. VERTICALLY IN SLOTS ALONG ENTIRE HEIGHT OF FEATURE WALL.

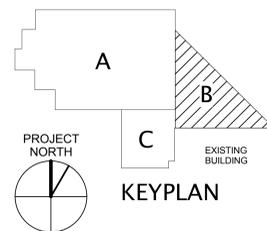
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 05-07-2010

REVISIONS

1	2010-05-19	ADDENDUM #4

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**Division of Facilities Construction and Management**

DRAWN BY: DLM  
 CHECKED BY: DEW  
 DEFCM PROJECT NO.: 09020790  
 GSBS PROJECT NO.: 2009.15.00  
 ISSUED DATE: 05.07.2010

**LEVEL 2 LIGHTING PLAN - AREA B**

CONSTRUCTION DOCUMENTS

**EL-103B**

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**1 LEVEL 2 LIGHTING PLAN - AREA B**  
 SCALE: 1/8" = 1'-0"