

**Addendum No. 1  
May 13<sup>th</sup>, 2022**

Project: APSD ATEC Addition & Greenhouse Project  
Aberdeen Public School District  
Aberdeen, South Dakota, 57401

Architect: CO-OP Architecture

Letting: May 17<sup>th</sup>, 2022  
10:30 AM. CDT,  
Aberdeen District Service Center  
Terry O’Keefe Conference Room  
1244 S. 3<sup>rd</sup> Street – Aberdeen, SD

**SCOPE OF THIS ADDENDUM:**

To all bidders and all others to whom drawings and specifications have been issued by CO-OP Architecture.

Acknowledge receipt of this addendum by listing its number and date in the bidders Form of Proposal. Failure to do so may subject bidder to disqualification. This Addendum forms a part of the Contract Documents.

It modifies them as follows:

**GENERAL ITEMS:**

- a) See attached Plan holders List.
- b) SEE ATTACHED PRE-BID MEETING MINUTES & SIGN IN SHEET
- c) HVAC CONTROLS ARE VERIFIED AS G & R CONTROLS.
- d) GREENHOUSE STEM WALL IS 3’-0” ABOVE GRADE. T.O.W. ELEVATION TO BE VERIFIED BY STRUCTURAL DRAWINGS/ENGINEER.

**APPROVED SUBSTITUTIONS:**

<u>SECTION</u>	<u>PARAGRAPH</u>	<u>SPECIFIED</u>
08113-1	2.01	Approved Manufacturer: Aluflam's AW60 fire-rated aluminum frames with Vetrotech's
		Contraflam 120 IGU fire-resistant glazing
08113-1	2.01	Approved Manufacturer: Aluflam's AF93 fire-rated aluminum doors with Contraflam 90 IGU
		fire-resistant glazing

**REVISIONS TO SPECIFICATIONS:**

- a. Specification 068316-1
  - a.) 2.02 PANEL SYSTEMS –
    - 1. #3 – SURFACE TEXTURE TO BE SMOOTH.
- b. Specification 068316-1
  - a.) 2.02 PANEL SYSTEMS –
    - 1. #5 – TO INCLUDE ALL JOINT & PERMITER TRIM PIECES AS REQUIRED
- c. Specification 090300-3

- a.) 2.04 – GROUTS
  - 1. OMIT/DELETE LETTER C – EPOXY GROUT AS NOT APPLICABLE.
  
- d. Specification 072119
  - a.) FOAMED IN PLACE INSULATION
    - 1. DELETE ENTIRE SECTION. DOES NOT APPLY.
- e. Specification 122400
  - a.) WINDOW SHADES
    - 1. DELETE ENTIRE SELECTION. DOES NOT APPLY.
- f.) Specification 013000
  - a.) ADMINISTRATIVE REQUIREMENTS
    - 3.01 – ELECTRONIC SUBMITTAL EXCHANGE SERVICE:  
ELECTRONIC SUBMITTAL EXCHANGE SERVICE IS NOT REQUIRED.  
ALL SUBMITTALS WILL BE EMAILED DIRECLTY TO THE A/E:  
[kody@co-oparch.com](mailto:kody@co-oparch.com)
- g.) Specification 079513
  - a.) EXPANSION JOINT COVER ASSEMBLIES
    - 1. DELETE ENTIRE SELECTION. DOES NOT APPLY
- h.) Specification 078400
  - a.) FIRESTOPPING
    - 1. DELETE ENTIRE SELECTION. DOES NOT APPLY
- i.) Specification 087100
  - a.) DOOR HARDWARE
    - 1. ENTIRE SECTION WAS ADDED AND DOOR HARDWARE PACKAGES WERE ALL UPDAED ON THE DOOR SCHEDULE.
- J.) Specification 102800
  - a.) TOILET, BATH, AND LAUNDRY ACCESSORIES
    - 1.) ENTIRE SECTION WAS ADDED.

**KEYNOTE UPDATES:**

<u>KEYNOTE</u>	<u>DESCRIPTION</u>
KEYNOTE 2.41	DEMO AND DISPOSE OF EXISTING WINDOW UNITS. G.C TO INFILL OPENING WITH STEEL STUDS AND GYP WALL BOARD ON CLASSROOM SIDE AND PAINT TO MATCH ADJACENT WALL.

**REVISIONS TO DRAWINGS:**

- 1) Sheet A115 – INTERIOR ELEVATIONS
  - a.) DETAIL #16 – (P-1) ADDED TO WALL ELEVATION ABOVE TILE WAINSCOTT.
  - b.) DETAIL #17 – (P-1) ADDED TO WALL ELEVATION ABOVE TILE WAINSCOTT.
  - c.) DETAIL #18 – FRP-1 (TEXTURE TO BE SMOOTH) SEE REVISION TO SPEC SECTION 068316-1
  
- 2.) Sheet A100 – ATEC ADDITION OVERALL PLANS AND WALL DETAILS
  - a.) GENERAL NOTE #11: - DOOR SIGNAGE SHALL BE PROVIDED AND INSTALLED AT EACH NEW DOOR LOCATION. BASIS OF DESIGN 4"H X 6"W PLASTIC SIGNAGE W/ BRAILE, AND INSTALLED PER ADA REQUIREMENTS, VERIFY ROOM SCHEDULE WITH A/E AND MOUNTING REQUIREMENTS.

b.) ADDED (QTY -3) RECESSED FIRE EXTINGUISHER CABINETS AS SHOWN. G.C. TO SUPPLY 10 LBS FIRE EXTINGUISHER, TO INCLUDE INSPECTION AND TAG.

c.) ADDED KEYNOTE 2.41: DEMO AND DISPOSE OF EXISTING WINDOW UNITS. G.C TO INFILL OPENING WITH STEEL STUDS AND GYP WALL BOARD ON CLASSROOM SIDE AND PAINT TO MATCH ADJACENT WALL.

d.) ADDED DIMENSION OF 27'-10 3/4" FOR LENGTH OF WALL TO BE DEMOED. WALL TO BE DEMOED FROM FLOOR UP TO B.O. DECK.

3.) Sheet A201 – DOOR & WINDOW SCHEDULE & DETAILS

a.) Revised Door Schedule as shown in clouded Region

b.) Added Details #11 and #12 for Window Type A and Window Type B w/ Dimensions.

4.) Sheet A202- DOOR AND WINDOW DETAILS

a.) ADDED ENTIRE SHEET – MISSING FROM 100% CD DRAWING SET

**ADDENDA ITEMS – CIVIL**

2) SEE ATTACHED ADDENDA ITEMS FROM HELMS ENGINEERING & ASSOCIATES

**ADDENDA ITEMS – LANDSCAPE**

3) None at this time.

**ADDENDA ITEMS – STRUCTURAL**

4) None at this time.

**ADDENDA ITEMS – MEP**

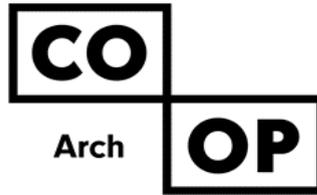
5) SEE ATTACHED ELECTRICAL ADDENDA ITEMS FROM PROFESSIONAL DESIGN ENGINEERS

**PRE-BID MEETING MINUTES 06-02-2021**

6) SEE ATTACHED

**END OF ADDENDUM-1**

**Directed by: Kody Schochenmaier – CO-OP Architecture**



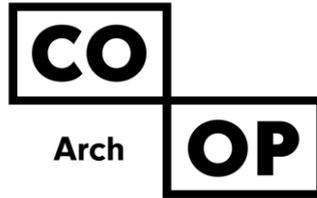
**APSD ATEC Addition & Greenhouse Project  
Plan Holders List**

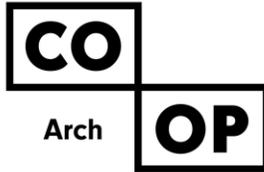
**Architectural Estimate: \$3,025,000**

Trade	Name	Location	e-Mail	Phone
Architect	CO-OP Architecture	Aberdeen, SD	<a href="mailto:kody@co-oparch.com">kody@co-oparch.com</a>	605-262-0377
Owner	Aberdeen Public School District	Aberdeen, SD	<a href="mailto:ben.schnell@k12.sd.us">ben.schnell@k12.sd.us</a>	605-725-7100
Printer	Quality Quick Prints	Aberdeen, SD	<a href="mailto:jordonm@myqqp.com">jordonm@myqqp.com</a>	605-226-2541

		<b>General Contractors</b>		
General Cont.	Comstock Construction	Wahpeton, SD	<a href="mailto:jflack@comstockconst.com">jflack@comstockconst.com</a>	701-892-7241
General Cont.	Huff Construction	Aberdeen, SD	<a href="mailto:Chad@huffconstructioninc.com">Chad@huffconstructioninc.com</a>	605-226-0052
General Cont.	JDH Construction	Aberdeen, SD	<a href="mailto:jhollinsworth@jdhconstruction.biz">jhollinsworth@jdhconstruction.biz</a>	605-725-0050
General Cont.	Kyburz-Carlson Construction	Aberdeen, SD	<a href="mailto:mkeller@kyburzcarlson.com">mkeller@kyburzcarlson.com</a>	605-225-6161
General Cont.	Quest Construction	Aberdeen, SD	<a href="mailto:kurtw@questdc.net">kurtw@questdc.net</a>	605-725-6000
Elec. Cont.	Schwan Electric	Aberdeen, SD	<a href="mailto:scottn@schwanelectric.biz">scottn@schwanelectric.biz</a>	605-225-9211
General Cont.	Tellinghuisen Inc	Willow Lake, SD	<a href="mailto:stacier@tellinghuisen.com">stacier@tellinghuisen.com</a>	605-625-5469
		<b>Builders Exchange</b>		
BX	Minnesota Builders Exchange	Minneapolis, MN	<a href="mailto:jb@mbex.org">jb@mbex.org</a>	612-381-2647
BX	Sioux Falls Builders Exchange	Sioux Falls, SD	<a href="mailto:info@sfbx.com">info@sfbx.com</a>	605-357-8687
BX	Plains Builders Exchange	Sioux Falls, SD	<a href="mailto:info@plainsbuilders.com">info@plainsbuilders.com</a>	605-334-8886
BX	Aberdeen Builders Exchange	Aberdeen, SD	<a href="mailto:dakotabuild@midconetwork.com">dakotabuild@midconetwork.com</a>	605-290-4210
BX	Fargo-Moorhead	Fargo, ND	<a href="mailto:info@fmbx.org">info@fmbx.org</a>	701-237-6772
BX	Construction Industry Center	Rapid City, SD	<a href="mailto:constructionindustrycenter@gmail.com">constructionindustrycenter@gmail.com</a>	605-343-5252
BX	Master Builders of Iowa	Des Moines, IA	<a href="mailto:jknudson@mbionline.com">jknudson@mbionline.com</a>	712-276-3681
BX	Omaha Builders Exchange	Omaha, NE	<a href="mailto:lisa.shockey@omahaplanroom.com">lisa.shockey@omahaplanroom.com</a>	402-991-6906

BX	Construct Connect	Cincinnati, OH	<a href="mailto:amanda.beyer@constructconnect.com">amanda.beyer@constructconnect.com</a>	877-205-9854
BX	Dodge Data & Analytics	Arlington, TX	<a href="mailto:milica.yurong@constrion.com">milica.yurong@constrion.com</a>	413-507-3174
BX	Lincoln Builders Bureau	Lincoln, NE	<a href="mailto:info@buildersbureau.com">info@buildersbureau.com</a>	402-421-8332
BX	DBE	Pierre, SD	<a href="mailto:lance.demers@state.sd.us">lance.demers@state.sd.us</a>	
BX	Watertown Builders Exchange	Watertown, SD	<a href="mailto:duanesfloorcovering@iw.net">duanesfloorcovering@iw.net</a>	402-421-8332
BX	SD Association of Plmb & Heat	Sioux Falls, SD	<a href="mailto:phcc@midco.net">phcc@midco.net</a>	605-271-7255



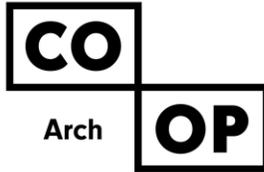


Date: May 10<sup>th</sup>, 2022  
Project: **#2162 – APSD ATEC Addition and Greenhouse Project**  
Subject: Pre-Bid Meeting **MINUTES**  
Present: See Sign-In Sheet  
To: Plan Holders

1. Introductions / Sign In
2. Date, Time, and Place of bid opening (accepting until **10:30 AM CST on May 17th, 2022**)
  - i. Aberdeen District Service Center
    1. Terry O’Keefe Conference Room
  - b. Review the “Instruction to Bidders” for all required information and documentation.
  - c. No bids will be accepted after bid time. –
  - d. Must be Sealed and noted on the sealed envelope what the project bid is for as per the specs.
  - e. All Addendums must be acknowledged or the bid will be rejected.
3. Notice to Proceed: **On or near May 24<sup>th</sup>, 2022**
  - a. Work Commencement Date: June 1<sup>st</sup>, 2022
  - b. Substantial Completion Date: **August 18<sup>th</sup>, 2023**
4. Special Conditions - Use of the Site
  - a. GC is responsible for access to the site.
  - b. GC is responsible for contractor parking & staging locations (exact locations will be discussed and finalized at the Pre-Construction Meeting).
  - c. GC is responsible of Temporary Facilities and Controls per Section 015000.
5. Submittals: Electronic Via Email:
  1. [kody@co-oparch.com](mailto:kody@co-oparch.com)
    - a. Shall be reviewed by the General Contractor prior to submittal to the architect for review.
6. Explanation of Bid Package:
  - **Base Bid Package: General Contractor is responsible for the labor and materials for construction of the ATEC Addition and the new adjacent Greenhouse structure. There are no ALTERNATES for this project**

Communication during Bidding

- a. Questions – to be formally addressed by addendum only.
- b. Conversations that are not documented in an addendum or in these minutes attached to the addendum are not part of the Contract Documents.



- c. Alternate requests of any alternate materials must be submitted 1 business day prior to last Addendum Date in order to be reviewed and/or considered for approval as an alternate
  
7. Last Addendum Date: **Friday, May 13<sup>th</sup>, 2022 at Noon (12:00 PM CST)**
  - a. Prior Approvals: Must be turned in by 5:00 PM on: **Thursday, May 12<sup>th</sup>, 2022**
  
8. Requirement of the contractor to discuss any conflict between the plans and specifications and/or the project requirements with Design Professional prior to the last addendum date.
  - a. All Contractors shall carefully study and compare the Contract Documents and shall at once report to the A/E of any error, inconsistency or omission they may discover.
  - b. Should the Drawings or the Specifications disagree in themselves or with each other, the Contractor shall provide the better quality of work and/or materials unless otherwise directed by written change
  - c. All trades are required to review the entire Contract Documents. Not reviewing the Contract Documents in their entirety is at the sole risk of the Contractor. Errors and Omissions from not reviewing the entire project scope will not be acceptable.
  
9. 10% bid bond or a 5% cashier's check; certified check must accompany the bid.
  - a. Bid bond or cashier's check must be made payable to: **ABERDEEN PUBLIC SCHOOL DISTRICT**
  
10. Liquidated damages:
  - i. Liquidated damages shall be applied at a rate of \$300 per day from **AUGUST 18<sup>TH</sup>, 2023** thru date of substantial completion.
  
11. Review of Drawing Set / Construction Documents
  1. APSD ATEC Academy Addition and Greenhouse DRAWINGS
  
12. Questions, Comments, and Discussions:
  - a. **Is there a spare breaker at the panel? – Eframson Electric**
  - b. **SHEET E200 – IS THIS FIXTURE TYPE F – ADDRESSED VIA ADDENDUM #1**
  - c.



**SECTION 068316  
FIBERGLASS REINFORCED PANELING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Fiberglass reinforced plastic panels.
- B. Trim.

**1.02 REFERENCE STANDARDS**

- A. ASTM D5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels 2017.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2021a.

**1.03 SUBMITTALS**

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 - Product Requirements, for additional provisions.

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Store panels flat, indoors, on a clean, dry surface. Remove packaging and allow panels to acclimate to room temperature for 48 hours prior to installation.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Fiberglass Reinforced Plastic Panels:
  - 1. Marlite, Inc: [www.marlite.com/#sle](http://www.marlite.com/#sle).
  - 2. Nudo Products, Inc: [www.nudo.com/#sle](http://www.nudo.com/#sle).
  - 3. Panolam Industries International, Inc: [www.panolam.com/#sle](http://www.panolam.com/#sle).
  - 4. Basis of Design Glasbord by Crane Composites
  - 5. Substitutions: See Section 01 6000 - Product Requirements.

**2.02 PANEL SYSTEMS**

- A. Wall Panels:
  - 1. Panel Size: 4 by 10 feet.
  - 2. Panel Thickness: 0.09 inch.
  - 3. Surface Design: ~~Embossed.~~
  - 4. Color: Smooth White.
  - 5. Attachment Method: Adhesive only, ~~sealant joints, no trim.~~

SURFACE TEXTURE TO BE SMOOTH.

TO INCLUDE ALL JOINT AND PERIMETER TRIM PIECES.

**2.03 MATERIALS**

- A. Panels: Fiberglass reinforced plastic (FRP), complying with ASTM D5319.
  - 1. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.
- B. Trim: Vinyl; color coordinating with panel.
- C. Sealant: Type recommended by panel manufacturer; white.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify existing conditions and substrate flatness before starting work.
- B. Verify that substrate conditions are ready to receive the work of this section.

- a. Open edges of wall tile.
  - b. Open edges of floor tile.
  - c. Wall corners, outside and inside.
  - d. Transition between floor finishes of different heights.
  - e. Thresholds at door openings.
  - f. Expansion and control joints, floor and wall.
  - g. Floor to wall joints.
  - h. Borders and other trim as indicated on drawings.
2. Manufacturers:
- a. Schluter-Systems: [www.schluter.com/#sle](http://www.schluter.com/#sle).
  - b. Genesis APS International: [www.genesis-aps.com/#sle](http://www.genesis-aps.com/#sle).

### 2.03 SETTING MATERIALS

- A. Manufacturers:
- 1. ARDEX Engineered Cements: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
  - 2. Bostik Inc: [www.bostik-us.com/#sle](http://www.bostik-us.com/#sle).
  - 3. Custom Building Products: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
  - 4. LATICRETE International, Inc: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
  - 5. Merkrete, by Parex USA, Inc: [www.merkrete.com/sle](http://www.merkrete.com/sle).
  - 6. ProSpec, an Oldcastle brand: [www.prospec.com](http://www.prospec.com).
- B. Provide setting materials made by the same manufacturer as grout.
- C. Latex-Portland Cement Mortar Bond Coat:
- 1. Products:
    - a. ARDEX Engineered Cements; ARDEX X 77 MICROTEC: [www.ardexamericas.com](http://www.ardexamericas.com).
    - b. AVM Industries, Inc; Thin-Set 780: [www.avmindustries.com](http://www.avmindustries.com).
    - c. LATICRETE International, Inc; LATICRETE 254 Platinum: [www.laticrete.com](http://www.laticrete.com).
    - d. Substitutions: See Section 016000 - Product Requirements.

### 2.04 GROUTS

- A. Manufacturers:
- 1. ARDEX Engineered Cements: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
  - 2. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
  - 3. Mapei.
  - 4. Substitutions: See Section 016000 - Product Requirements.
- B. Standard Grout: ANSI A118.6 standard cement grout.
- 1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
  - 2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
  - 3. Color(s): As indicated on drawings.
  - 4. Products:
    - a. LATICRETE International, Inc; LATICRETE 1500 Sanded Grout: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
- ~~C. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.~~
- ~~1. Color(s): As indicated on drawings.~~
  - ~~2. Products:
 
    - ~~a. LATICRETE International, Inc; LATICRETE SPECTRALOCK PRO Premium Grout: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).~~
    - ~~b. Substitutions: See Section 016000 - Product Requirements.~~~~
- D. Grout Sealer: Liquid applied moisture and stain protection for existing or new Portland cement grout.
- 1. Composition: Water-based colorless silicone.

**SECTION 013000  
ADMINISTRATIVE REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Electronic document submittal service.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Submittals for review, information, and project closeout.
- E. Number of copies of submittals.
- F. Submittal procedures.

submittal's will be received via email directly to: kody@co-oparch.com

Electronic Document Submittal Service is not required and is removed from the spec as it is not applicable.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE**

- A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF) format and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
  - 1. Besides submittals for review, information, and closeout, this procedure applies to requests for information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
  - 2. It is Contractor's responsibility to submit documents in PDF format.
  - 3. Users of the service need an email address, Internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, [www.adobe.com](http://www.adobe.com), or Bluebeam PDF Revu, [www.bluebeam.com](http://www.bluebeam.com)), unless such software capability is provided by the service provider.
  - 4. Paper document transmittals will not be reviewed; emailed PDF documents will not be reviewed.
- B. Submittal Service: Use one of the following:
  - 1. Submittal Exchange (tel: 1-800-714-0024): [www.submittalexchange.com/#sle](http://www.submittalexchange.com/#sle).
  - 2. Procore (tel: 1-877-994-0587): [www.procore.com](http://www.procore.com)
  - 3. Newforma ConstructEx: [www.newforma.com/products/constructex/#sle](http://www.newforma.com/products/constructex/#sle).
  - 4. Substitutions: See Section 016000 - Product Requirements.

**3.02 PRECONSTRUCTION MEETING**

- A. Architect will schedule a meeting after Notice of Award.
- B. Attendance Required:
  - 1. Owner.
  - 2. Architect.
  - 3. Contractor.
- C. Agenda:
  - 1. Execution of Owner-Contractor Agreement.
  - 2. Submission of executed bonds and insurance certificates.
  - 3. Distribution of Contract Documents.
  - 4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
  - 5. Designation of personnel representing the parties to Contract and .
  - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.

**SECTION 08 71 00**  
**DOOR HARDWARE**

**PART 1 - GENERAL**

**1.1 CONDITIONS**

- A. Conditions of the contract (General and Supplementary Conditions) and Division One General Requirements, govern the work of this section.
- B. This section includes all material, and related service necessary to furnish all finish hardware indicated on the drawings, or specified herein.
- C. Furnish UL listed hardware for all labeled and 20 min. openings in conformance with the requirements for the class of opening scheduled. Underwriters' requirements shall have precedence over specification where conflicts exist.
- D. All work shall be in accordance with all applicable state and local building codes. Code requirements shall have precedence over this specification where conflicts exist.

**1.2 WORK INCLUDED**

- A. This section includes the following:
  - 1. Furnish door hardware (for hollow metal, wood and aluminum doors) specified herein, listed in the hardware schedule, and/or required by the drawings.
  - 2. Cylinders for Aluminum Doors
  - 3. Thresholds and Weather-stripping (Aluminum frame seals to be provided by aluminum door supplier)
  - 4. Electro-Mechanical Devices
  - 5. Access Control components and or systems specified within this section.
- B. Where items of hardware are not definitely or correctly specified and is required for the intended service, such omission, error or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise furnish such items in the type and quantity established by this specification for the appropriate service intended.

**1.3 RELATED WORK IN OTHER SECTIONS**

- A. This section includes coordination with related work in the following sections:
  - 1. Division 6 Section "Finish Carpentry".
  - 2. Division 6 Section "Cabinet Hardware"
  - 3. Division 8 Section "Hollow Metal Doors and Frames".
  - 4. Division 8 Section "Wood Doors"
  - 5. Division 8 Section "Storm Doors"
  - 6. Division 8 Section "Aluminum Entrances and Storefronts"
  - 7. Division 28 Sections "Electrical".

**1.4 REFERENCES**

- A. Publications of agencies and organizations listed below form a part of this specification section to the extent referenced.
  - 1. DHI - Recommended Locations for Builders' Hardware.
  - 2. NFPA 80 - Standards for Fire Doors and Windows.
  - 3. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures.
  - 4. UL - Building Material Directory.
  - 5. DHI - Door and Hardware Institute
  - 6. WHI - Warnock Hersey
  - 7. BHMA - Builders Hardware Manufacturers Association
  - 8. ANSI – American National Standards Institute
  - 9. ANSI ICC500 – Standard for the Design and Construction of Storm Shelters
  - 10. IBC 2015 - International Building Code 2015 Edition (as amended by local building code)

## 1.5 SUBMITTALS

- A. Within ten days after award of contract, submit detailed hardware schedule in quantities as required by Division 1 - General Conditions.
- B. Schedule format shall be consistent with recommendations for a vertical format as set forth in the Door & Hardware Institute's (DHI) publication "Sequence and Format for the Hardware Schedule". Hardware sets shall be consolidated to group multiple door openings which share similar hardware requirements. Schedule shall include the following information:
  - 1. Door number, location, size, handing, and rating.
  - 2. Door and frame material, handing.
  - 3. Degree of swing.
  - 4. Manufacturer
  - 5. Product name and catalog number
  - 6. Function, type and style
  - 7. Size and finish of each item
  - 8. Mounting heights
  - 9. Explanation of abbreviations, symbols, etc.
  - 10. Numerical door index, indicating the hardware set/ group number for each door.
- C. When universal type door closers are to be provided, the schedule shall indicate the application method to be used for installation at each door: (regular arm, parallel arm, or top jamb).
- D. The schedule will be prepared under the direct supervision of a certified Architectural Hardware Consultant (AHC), or certified Door Hardware Consultant (DHC) employed by the hardware distributor. The hardware schedule shall be signed and embossed or stamped with the DHI certification seal of the supervising AHC or DHC. The supervising AHC or DHC shall attend any meetings related to the project when requested by the architect.
- E. Check the specified hardware for suitability and adaptability to the details and surrounding conditions.
- F. Review drawings from related trades as required to verify compatibility with specified hardware. Indicate unsuitable or incompatible items, and proposed substitutions in the hardware schedule.
- G. Provide documentation for all hardware to be furnished on labeled fire doors indicating compliance with positive pressure fire testing UL 10C.
- H. Furnish manufacturers' catalog data for each item of hardware in quantities as required by Division 1 - General Conditions.
- I. Submit a sample of each type of hardware requested by the architect. Samples shall be of the same finish, style, and function as specified herein. Tag each sample with its permanent location so that it may be used in the final work.
- J. Furnish with first submittal, a list of required lead times for all hardware items.
- K. After final approved schedule is returned, transmit corrected copies for distribution and field use in quantities as required by Division 1 - General Conditions.
- L. Furnish approved hardware schedules, template lists, and pertinent templates as requested by related trades.
- M. Furnish necessary diagrams, schematics, voltage and amperage requirements for all electro-mechanical devices or systems as required by related trades. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.
- N. After receipt of approved hardware schedule, Hardware supplier shall initiate a meeting including the owner's representative to determine keying requirements. Upon completion of initial key meeting, hardware supplier shall prepare a proposed key schedule with symbols and abbreviations as set forth in the door and hardware institute's publication "Keying Procedures, Systems, and Nomenclature". Submit copies of owner approved key schedule for review and

field use in quantities as required by Division 1 – General Conditions. Wiring diagrams shall be included in final submittals transmitted for distribution of field use.

## **1.6 QUALITY ASSURANCE**

- A. Manufacturers and model numbers listed are to establish a standard of function and quality. Similar items by approved manufacturers that are equal in design, function, and quality, may be considered for prior approval of the architect, provided the required data and physical samples are submitted for approval as set forth in Division One General Requirements.
- B. Where indicated in this specification, products shall be independently certified by ANSI for compliance with relevant ANSI/BHMA standards A156.1 - A156.36 – Standards for Hardware and Specialties. All products shall meet or exceed certification requirements for the respective grade indicated within this specification. Supplier shall provide evidence of certification when requested by the architect.
- C. Obtain each type of hardware (hinges, latch & locksets, exit devices, closers, etc.) from a single manufacturer, although several may be indicated as offering products complying with requirements.
- D. Electrical drawings and electrical specifications are based on the specific electrified hardware components specified in hardware sets. When electronic hardware components other than those indicated in hardware sets are provided, the supplier shall be responsible for all costs incurred by the design team and their consultants to review, and revise electrical drawings and electrical specifications. Supplier shall also be responsible for any additional costs associated with required changes in related equipment, materials, installation, or final hook up to ensure the system will operate and function as indicated in the construction documents, including hardware set operational / functional descriptions.
- E. All hardware items shall be manufactured no earlier than 6 months prior to delivery to site.
- F. Hardware supplier shall be factory trained and certified by the manufacture to provide and support all computer managed locks and system components.
- G. Installation of hardware shall be installed or directly supervised and inspected by a skilled installer certified by the manufacturer of locksets, door closers, and exit devices used on the project, or with not less than 3 years' experience in successful completion of projects similar in size and scope.
- H. Provide hardware for all labeled fire doors, which complies with positive pressure fire testing UL 10C.
- I. Comply with all applicable provisions of the standards referenced within section 1.4 of this specification.
- J. Hardware supplier shall participate when reasonably requested to meet with the contractor and or architect to inspect any claim for incorrect or non-functioning materials; following such inspection, the hardware supplier shall provide a written statement documenting the cause and proposed remedy of any unresolved items.

## **1.7 DELIVERY, STORAGE AND HANDLING**

- A. Hardware supplier shall deliver hardware to the job site unless otherwise specified.
- B. All hardware shall be delivered in manufacturers' original cartons and shall be clearly marked with set and door number.
- C. Coordinate with contractor prior to hardware delivery and recommend secure storage and protection against loss and damage at job site.
- D. Contractor shall receive all hardware and provide secure and proper protection of all hardware items to avoid delays caused by lost or damaged hardware. Contractor shall report shortages to the Architect and hardware supplier immediately after receipt of material at the job site.
- E. Coordinate with related trades under the direction of the contractor for delivery of hardware items necessary for factory installation.

## 1.8 PRE-INSTALLATION MEETING

- A. Schedule a hardware pre-installation meeting on site to review and discuss the installation of continuous hinges, locksets, door closers, exit devices, overhead stops, and electromechanical door hardware.
- B. Meeting attendees shall be notified 7 days in advance and shall include: Architect, Contractor, Door Hardware Installers (including low voltage hardware), Manufacturers representatives for above hardware items, and any other effected subcontractors or suppliers.
- C. All attendees shall be prepared to distribute installation manuals, hardware schedules, templates, and physical hardware samples.

## 1.9 WARRANTY

- A. All hardware items shall be warranted against defects in material and workmanship as set forth in Division One General Requirements.
- B. Repair, replace, or otherwise correct deficient materials and workmanship without additional cost to owner.

## PART 2 - PRODUCTS

### 2.1 FASTENERS

- A. All exposed fasteners shall be Phillips head or as otherwise specified, and shall match the finish of the adjacent hardware. All fasteners ex-posed to the weather shall be non-ferrous or stainless steel. Furnish correct fasteners to accommodate surrounding conditions.
- B. Coordinate required reinforcements for doors and frames. Seek approval of the architect prior to furnishing through-bolts. Furnish through-bolts as required for materials not readily reinforced.

### 2.2 BUTT HINGES

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Ives</u>	<u>Stanley</u>	<u>Hager</u>	<u>McKinney</u>
1. Standard Weight, Plain Bearing	5PB1	F179	1279	T2714
2. Standard Weight, Ball Bearing	5BB1	BB179	BB1279	TB2714
3. Standard Weight, Ball Bearing, Non-Ferrous	5BB1	FBB191	BB1191	TB2314
4. Heavy Weight, Ball Bearing	5BB1HW	FBB168	BB1168	T4B3786
5. Heavy Weight, Ball Bearing, Non-Ferrous	5BB1HW	FBB199	BB1199	T4B3386

- B. Hinges shall be independently certified by ANSI for compliance with ANSI A156.1 (2006). Hinges shall meet or exceed the following ANSI grade requirements as indicated below:
  - 1. Standard Weight, Plain Bearing Hinges: Grade 3
  - 2. Standard Weight, 2 Ball Bearing Hinges: Grade 2
  - 3. Heavy Weight, 4 Ball Bearing Hinges: Grade 1
- C. Unless otherwise specified, furnish the following hinge quantities for each door leaf.
  - 1. 3 hinges for doors up to 90 inches.
  - 2. 1 additional hinge for every 30 inch on doors over 90 inches.
  - 3. 4 hinges for Dutch door applications.
- D. Unless otherwise specified, top and bottom hinges shall be located as specified in division 8 Section "Hollow Metal Doors and Frames". Intermediate hinges shall be located equidistant from others.
- E. Unless otherwise specified, furnish hinge weight and type as follows:
  - 1. Standard weight: plain bearing hinge 5PB1 for interior openings through 36 inches wide without a door closer.
  - 2. Standard weight: ball bearing hinge 5BB1 for interior opening over 36 through 40 inches wide without a door closer, and for interior openings through 40 inches wide with a door closer.
  - 3. Heavyweight: 4 ball bearing hinge 5BB1HW for interior openings over 40 inches wide, and for all vestibule doors.

- 4. Heavyweight: 4 ball bearing hinge 5BB1HWss for exterior openings unless otherwise listed in groups.
- F. Unless otherwise specified, furnish hinges for exterior doors, fabricated from brass, bronze, or stainless steel. Unless otherwise specified, hinges for interior doors may be fabricated from steel.
- G. Unless otherwise specified, furnish hinges in the following sizes:
  - 1. 5" x 5"                      2-1/4" thick doors
  - 2. 4-1/2" x 4-1/2"        1-3/4" thick doors
  - 3. 3-1/2" x 3-1/2"        1-3/8" thick doors
- H. Furnish hinges with sufficient width to accommodate trim and allow for 180-degree swing.
- I. Unless otherwise specified, furnish hinges with flat button tips with non-rising pins at interior doors, non-removable loose pins (NRP) at exterior, and out-swinging lockable interior doors.
- J. Unless otherwise specified, furnish all hinges to template standards.

**2.3 CONTINUOUS PIN AND BARREL HINGES**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Ives</u>	<u>Marker</u>	<u>Stanley</u>	<u>McKinney</u>
1. Edge Mount Pin & Barrel Stainless Steel Continuous Hinge	700 Series	300 Series	650 Series	300 Series
- B. Hinges shall be independently certified by ANSI for compliance with ANSI A156.26, Grade 1 (2012).
- C. Continuous hinges shall be full height pin and barrel type hinge providing full height door support up to 600 lbs. Edge mount (unless noted otherwise).
- D. Construct hinges of heavy-duty 14-gauge material. The stainless internal pin shall have a diameter of 0.25 and the exterior barrel diameter of 0.438.
- E. Hinge shall be non-handed with symmetrical template hole pattern and factory drilled. Hinge must accept a minimum of 21 fasteners on the door and 21 fasteners on the frame.
- F. Each knuckle to be 2 inch, including split nylon bearing at each separation for quiet, smooth, self-lubricating operation.
- G. Hinge to be able to carry Warnock Hersey Int. or UL for fire rated doors and frames up to 3 hours.
- H. Provide machine screws for doors which have been reinforced to accept machine screws.
- I. Note: Fire label for doors and frames should be placed on the header and top rail of fire rated doors and frames.
- J. Provide adjusting screws equal to Ives "Adjust-a-Stud" for continuous hinges specified as 705. Adjustment to be able to correct frame fit problems up to 3/8 inch.

**2.4 POWER TRANSFERS**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Von Duprin</u>	<u>ASSA</u>
1. Concealed Two Wire	EPT-2	CEPT-10
2. Concealed Ten Wire	EPT-10	CEPT-10
- B. Door cords shall be armored cable with screw on caps.
- C. Concealed power transfers shall be concealed in the door and frame when the door is closed.
- D. Concealed power transfers shall have a steel tube to protect wires from being cut.
- E. Concealed power transfers with spring tubes shall be rejected.
- F. Concealed power transfers shall be supplied with a mud box to house all terminations.

**2.5 FLUSH BOLTS AND DUST PROOF STRIKES**

- A. Acceptable manufacturers and respective catalog numbers:
 

<u>Ives</u>	<u>Door Controls</u>	<u>Hager</u>
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1. Dust Proof Strike	DP2	80	280X
2. Manual Flush Bolt	FB458	780	282D

- B. Unless otherwise specified, provide 12" rods for manual flush bolts for door 7'6" or less, 24" top rods for doors over 7'6" to 8'6".
- C. Unless otherwise specified, provide doors over 8'6" with automatic top bolts.
- D. Provide automatic flush bolts where required to maintain fire door listing and or egress requirements on pairs of doors.
- E. All flush-bolt applications shall be UL listed to be installed with top flush-bolt only. Provide auxiliary fire bolt as required for fire rated openings where less bottom bolt has been specified.
- F. Provide all bottom flush bolts with non-locking dust proof strikes.

**2.6 EXIT DEVICES**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Von Duprin</u>	<u>Detex</u>
1. Wide Stile, Push Pad	99 Series	Advantex (Wide Stile)
2. Wide Stile, Electric Latch Retraction	QEL 99 Series	Advante-ER x (Wide Stile)
3. Pull Trim	990 Series	"C" Trim
- B. Exit devices shall be independently certified by ANSI for compliance with ANSI A156.3, Grade 1 (2008).
- C. Obtain exit devices from a single manufacturer, although several may be indicated as offering products complying with requirements.
- D. All exit devices shall be equipped with a sound-dampening feature to reduce touch pad return noise.
- E. Quiet Electric Latch Retraction shall be accomplished using a motor driven assembly, and shall incorporate the following features:
  - 1. Motor shall retract both the push pad assembly and latchbolt.
  - 2. Automatic calibration of latch throw and pull.
  - 3. Built-in time delay.
  - 4. On-board installation and troubleshooting diagnostics built into power supply and device.
  - 5. Retry mode if device does not pull on the first try.
- F. On full glass doors there shall be no exposed fasteners on the back of the mechanism visible through the glass.
- G. All exit devices shall be provided with flush end caps to reduce potential damage from impact.
- H. All exit devices shall be provided with dead-locking latch bolts to ensure security.
- I. All exit devices shall be U.L. listed for accident hazard. Exit device for use on fire doors shall also be U.L. listed for fire exit hardware.
- J. Provide optional strikes, special length rods, and adapter plates to accommodate door and frame conditions. Provide narrow style series devices in lieu of wide stile series devices where optional strikes will not accommodate door and frame conditions.
- K. Coordinate with related trades to ensure adequate clearance and reinforcement is provided in doors and frames. Provide thru bolts as required.
- L. Refer to hardware groups for exit device applications utilizing the option of: "less bottom rod and floor strike" (LBR)
- M. All exit devices shall be provided with optional trim designs to match other lever and pull designs used on the project.
- N. Unless specific exit device dogging options are noted within hardware sets, provide dogging options as follows:
  - 1. Fire Rated devices: Dogging not permitted.
  - 2. Non-Rated Exit Only functions not equipped with outside trim or pull: Less Dogging.
  - 3. Non-Rated Classroom functions: Less Dogging.

- 4. Non-Rated devices utilizing electric latch retraction or electrified outside trim: Less Dogging.
- 5. All Other Non-Rated devices: Cylinder Dogging utilizing interchangeable core cylinders. Cylinder keyway shall match locksets furnished on this project.
- O. Provide glass bead kits as required to accommodate door conditions. Screws shall not be visible through full glass doors.
- P. Where specified, provide compatible keyed mullions with cylinder for pairs of doors.
- Q. Provide reinforced crossbars for all traditional style exit devices applied to doors over 36" wide.

**2.7 LOCKS AND LATCHES**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Schlage</u>	<u>Falcon</u>	<u>Corbin</u>
1. Grade 1 Cylindrical	ND Series RHO	T Series D	CL3300 NZD
- B. Bored locks shall be independently certified by ANSI for compliance with ANSI A156.2 (2011). Interconnected locks shall be independently certified by ANSI for compliance with ANSI A156.12 (2013). Mortise locks shall be independently certified by ANSI for compliance with ANSI A156.13 (2012).
- C. Unless otherwise specified, all locks and latches to have:
  - 1. 2-3/4" Backset
  - 2. 1/2" minimum throw latchbolt
  - 3. 1" throw deadbolt
  - 4. ANSI A115.2 strikes
- D. Provide guarded latch bolts for all locksets, and latch bolts with sufficient throw to maintain fire rating of both single and paired door assemblies.
- E. Length of strike lip shall be sufficient to clear surrounding trim.
- F. Provide wrought boxes for strikes at inactive doors, wood frames, and metal frames without integral mortar covers.

**2.8 NARROW BACKSET LOCKS AND LATCHES**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Accurate Lock And Hardware</u>
1. Mortise Locks	8800 Series
- B. Provide backset as noted in hardware sets.
- C. Unless otherwise specified, all locks and latches to have:
  - 1. 1/2" minimum throw latchbolt
  - 2. 1" throw deadbolt
  - 3. ANSI A115.2 strikes
- D. Provide guarded latch bolts for all locksets.
- E. Provide cylinders, cylinder cam, and blocking ring as required to accommodate specified lock function. Cylinders and blocking ring shall be of the same manufacture and type as utilized on the rest of the project.
- F. Provide lock strike, faceplate, and all required fasteners.
- G. Provide lock trim including: spindle, levers, roses, thumb turns, fasteners, etc. as required to accommodate specified lock function. Lock trim shall be of the same manufacture and type as utilized on the rest of the project.
- H. Length of strike lip shall be sufficient to clear surrounding trim.
- I. Provide wrought boxes for strikes at inactive doors, wood frames, and metal frames without integral mortar covers.
- J. Provide complete latching assembly including lock body, strike, scalp, spindle, levers, roses, cylinder, cylinder cam, blocking ring, and all required fasteners.

K. Hardware supplier shall coordinate with related trades to ensure door and frame construction will accommodate specified hardware.

## 2.9 PULLS, PUSH BARS, PUSH/PULL PLATES

A. Acceptable manufacturers and respective catalog numbers:

	<u>Burns</u>	<u>Hager</u>	<u>Ives</u>
1. Offset Door Pull (1" dia., 10" ctc)	39C	12J	8190-0
2. Offset Pull / Push-Bar (1" dia., 10" ctc Pull)	422 x 39C	159	9190-0

B. Adjust dimensions of push plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, push plates shall be factory drilled for cylinders or other mortised hardware. All push plates shall be beveled 4 sides and counter sunk.

C. Where possible, provide back-to-back, and concealed mounting for pulls and push bars. Push bar length shall be 3" less door width, or center of stile to center of stile for stile & rail or full glass doors.

## 2.10 CLOSERS

A. Acceptable manufacturers and respective catalog numbers:

	<u>LCN</u>	<u>Yale</u>	<u>Norton</u>
1. 4050/4050A EDA		R4400/PR4400	R7500 / PR7500

B. Door closers shall be independently certified by ANSI for compliance with ANSI A156.4, Grade 1 (2013).

C. Obtain door closers from a single manufacturer, although several may be indicated as offering products complying with requirements.

D. Provide extra heavy duty arm (EDA / HD) when closer is to be installed using parallel arm mounting.

E. Hardware supplier shall coordinate with related trades to ensure aluminum frame profiles will accommodate specified door closers.

F. Closers shall use high strength cast aluminum cylinders, and forged main arms.

G. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with standards UL10C.

H. Unless otherwise specified, all door closers shall have full covers and separate adjusting valves for sweeps, latch, and backcheck.

I. Provide closers for all labeled doors. Provide closer series and type consistent with other closers for similar doors specified elsewhere on the project.

J. Provide closers with adjustable spring power. Size closers to ensure exterior and fire rated doors will consistently close and latch doors under existing conditions. Size all other door closers to allow for reduced opening force not to exceed 5 lbs.

K. Install closers on the room side of corridor doors, stair side of stairways and interior side of exterior doors.

L. Closers shall be furnished complete with all mounting brackets and cover plates as required by door and frame conditions, and by adjacent hardware.

M. Door closers shall be provided with a powder coat finish to provide superior protection against the effects of weathering. Powder coat finish shall successfully pass a 100 hour salt spray test.

## 2.11 LOW ENERGY ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

A. Acceptable manufacturers and respective catalog numbers:

	<u>LCN</u>
1. Electro-Hydraulic Operator	4640

B. Low energy operators shall be independently certified by ANSI for compliance with ANSI A156.19 (2002).

- C. Where low kinetic energy, as defined by ANSI/BHMA Standard A156.19, power operators are indicated for doors required to be accessible to the disabled, provide electrically powered operators complying with the ADA for opening force and time to close standards.
- D. The closing action shall be controlled by modern type cast iron door closer cylinder filled with a flat viscosity fluid, stable from +120F to -30F that would require no seasonal adjustments. The closer shall have field adjustable spring power; have two independent closing speed adjustment valves, and hydraulic back-check.
- E. Full closing force shall be provided when the power or assist cycle ends.
- F. All power operator systems shall include the following features and functions:
  - 1. Provisions for separate conduits to carry high and low voltage wiring in compliance with the National Electrical Code, section 725-31.
  - 2. The operator will be designed with an electronically controlled mechanical clutching mechanism to prevent damage to the operator if the system is actuated while the door is latched or if the door is forced closed during the opening cycle.
  - 3. All covers, mounting plates and arm systems shall be powder coated and successfully pass a minimum of 100 hours testing as outlined in ANSI/BHMA Standard A156.18.
  - 4. UL listed for use on labeled doors.
  - 5. All operators shall be non-handed with spring power over a range of at least four sizes; either 1 through 4 or 2 through 5.
  - 6. The power operator shall incorporate microprocessor controlled digital controls including: factory default memory settings, on-board diagnostics, non-volatile memory, and integrated delay and relay for controlling door release devices.
  - 7. Provisions in the control box or module shall provide control {inputs and outputs} for; electric strike delay, auxiliary contacts, sequential operation, fire alarms systems, actuators, swing side sensors, and stop side sensors.
  - 8. Wall mounted actuators shall consist of a 4-1/2 inch diameter stainless steel touch plate with a blue filled handicapped symbol. Switches shall be weather resistant and mount on a single gang electrical box furnished by Division 16.
- G. All electrically powered operators shall include the following features or functions:
  - 1. When an obstruction or resistance to the opening swing is encountered, the operator will pause at that point, then attempt to continue opening the door. If the obstruction or resistance remains, the operator will again pause the door.
  - 2. Easily accessible main power and maintain hold open switches will be provided on the operator.
  - 3. An electronically controlled clutch to provide adjustable opening force.
  - 4. A microprocessor to control all motor and clutch functions.
  - 5. An on-board power supply capable of delivering both 12V and 24V outputs up to a maximum of 1.0 ampere combined load.
  - 6. All input and output power wiring shall be protected by slow blow fuses. These fuses shall be easily replaceable without special tools or component replacement.
  - 7. If electrical failure occurs, the unit shall operate as a standard door closer.
- H. Power Operators shall be warranted by the manufacture to be free from defects in material and workmanship for a period of two years.

## **2.12 KICK PLATES AND MOP PLATES**

- A. Furnish protective plates as specified in hardware groups.
- B. Where specified, provide 10" kick plates, 34" armor plates, and 4" mop plates. Unless otherwise specified, metal protective plates shall be .050" thick; plastic plates shall be 1/8" thick.
- C. Protective plates shall be 2" less door width, or 1" less door width at pairs. All protective plates shall be beveled 4 sides and counter sunk.
- D. Protection plates over 16" shall not be provided for labeled doors unless specifically approved by door manufacturers listing. When protection plates over 16" are provided for labeled doors, the plate shall be labeled.

- E. Where specified, provide surface mounted door edges. Edges shall butt to protective plates. Provide edges with cutouts as required adjacent hardware.
- F. Adjust dimensions of protection plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, protection plates shall be factory drilled for cylinders or other mortised hardware.

**2.13 OVERHEAD STOPS**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Glynn-Johnson</u>	<u>Rixson</u>	<u>Sargent</u>
1. Heavy Duty Surface Mount	GJ900 Series	9 Series	590
2. Heavy Duty Concealed Mount	GJ100 Series	1 Series	690
- B. Unless otherwise specified, furnish GJ900 series overhead stop for hollow metal or 1-3/4" solid core doors equipped with regular arm surface type closers that swing more than 140 degrees before striking a wall, for hollow metal or 1-3/4" solid core doors that open against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate, and as specified in hardware groups.
- C. Furnish sex bolt attachments for wood and mineral core doors unless doors are supplied with proper reinforcing blocks.
- D. Provide special stop only ("SE" suffix) overhead stops when used in conjunction with electronic hold open closers.
- E. Do not provide holder function for labeled doors.

**2.14 WALL STOPS AND HOLDERS**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Ives</u>	<u>Hager</u>	<u>Burns</u>
1. Wrought Convex Wall Stop	WS406CVX	232W	570
2. Wrought Concave Wall Stop	WS406CCV	236W	575
3. Automatic Wall Holder	WS40	326W	533
- B. Furnish a stop or holder for all doors. Furnish floor stops or hinge pin stops only where specifically specified.
- C. Provide concave style wall stop at all adjacent integral push button locks; provide convex style wall stop at all other locations.
- D. Where wall stops are not applicable, furnish overhead stops.
- E. Do not provide holder function for labeled doors.

**2.15 MAGNETIC HOLD OPENS**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>LCN</u>	<u>ABH</u>	<u>Edwards</u>
1. Wall Holder	SEM 7800	2000	1500
- B. Magnetic hold opens shall be independently certified by ANSI for compliance with ANSI A156.15, Grade 1 (2006).
- C. Magnetic holder's housing and armature shall be constructed of a die cast zinc material.
- D. Provide types as listed in groups.
- E. Where wall conditions do not permit the armature to reach the magnet, provide extensions.
- F. Provide proper voltage and power consumption as required by Division 16.
- G. Coordinate electrical requirements and mounting locations with other trades.

**2.16 WEATHERSTRIP, GASKETING**

- A. Acceptable manufacturers and respective catalog numbers:
 

	<u>Zero</u>	<u>Pemko</u>	<u>NGP</u>	<u>Reese</u>
1. Weatherstrip	429	2891_PK	700NA	755
2. Adhesive Gasket	188	S88	5050	797

3. Mullion Seal/Silencer	8780	5110	5100N	
4. Adhesive Edge Seal	188S	S771	5060	****
5. Automatic Door Bottom (HD Concealed) (When Sealing Against A Solid Surface)	360	434_RL	423N	430
6. Automatic Door Bottom (HD Concealed) (When Sealing Against Carpet)	360	434_NBL	683	943
7. Sweeps	8192	18061_NB	B606	964
8. Drip Cap	142	346	16	R201

B. Weatherstrip and gasketing shall be independently certified by ANSI for compliance with ANSI A156.22 (2005).

C. Where specified in the hardware groups, furnish the above products unless otherwise detailed in groups.

D. Provide weatherstripping all exterior doors and where specified.

E. Provide intumescent and other required edge sealing systems as required by individual fire door listings to comply with positive pressure standards UL 10C.

F. Provide Zero 188 smoke gaskets at all fire rated doors and smoke and draft control assemblies.

G. Provide gasketing for all meeting edges on pairs of fire doors. Gasketing shall be compatible with astragal design provided by door supplier as required for specific fire door listings.

## 2.17 THRESHOLDS

A. Acceptable manufacturers and respective catalog numbers:

	<u>Zero</u>	<u>Pemko</u>	<u>NGP</u>	<u>Reese</u>
1. Saddle Thresholds	8655	171	425	S205
2. Half Saddle Thresholds	1674	227	324	S239
3. Interlocking Threshold	74A	114	442-5	T550

B. Thresholds shall be independently certified by ANSI for compliance with ANSI A156.21 (2001).

C. Hardware supplier shall verify all finish floor conditions and coordinate proper threshold as required to ensure a smooth transition between threshold and interior floor finish.

D. Threshold Types:

1. Unless otherwise specified, provide saddle threshold similar to Zero 8655 for all exterior openings with an interior floor finish less than or equal to 1/4" in height.
2. Unless otherwise specified, provide half saddle threshold similar to Zero 1674 for all exterior openings with an interior floor finish greater than 1/4" in height. Threshold height shall match thickness of interior floor finish.

## 2.18 ELECTRIC STRIKES

A. Acceptable manufacturers and respective catalog numbers:

	<u>Von Duprin</u>	<u>Folger Adams</u>
1. Type 1	6000 Series	300 Series

B. Provide electric strikes designed for use with the type of locks shown at each opening where specified.

C. Electric strikes shall be UL listed as Burglary-Resistant Electric Door Strikes and where required shall be UL listed as Electric Strike for Fire Doors.

D. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

## 2.19 POWER SUPPLIES

A. Provide quantities and types as specified in hardware sets. Shared power supplies will not be accepted without prior approval from the owner.

B. All power supplies shall have the following features:

1. 12/24 VDC Output, field selectable.
2. Class 2 Rated power limited output.

3. Universal 120-240 VAC input.
  4. Low voltage DC, regulated and filtered.
  5. Polarized connector for distribution boards.
  6. Fused primary input.
  7. AC input and DC output monitoring circuit w/LED indicators.
  8. Cover mounted AC Input indication.
  9. Tested and certified to meet UL294.
  10. NEMA 1 enclosure.
  11. Hinged cover w/lock down screws.
  12. High voltage protective cover.
- C. All power supplies shall incorporate fused distribution boards.
- D. All electro-mechanical systems requiring fail safe circuits shall be capable of interfacing with the fire alarm system to cut power to appropriate system components. Unless already provided in another system component, all power supplies utilized in fail safe circuits shall include an integral relay which when connected to the N/C fire alarm contact will cut power to all openings connected to the individual power supply. Power supply, unless otherwise specified, will automatically reset itself when fire alarm relay returns to normal state following a fire alarm.

## 2.20 FINISHES AND BASE MATERIALS

- A. Unless otherwise indicated in the hardware groups or herein, hardware finishes shall be applied over base metals as specified in the following finish schedule:

<u>HARDWARE ITEM</u>	<u>BHMA FINISH AND BASE MATERIAL</u>
1. Butt Hinges: Exterior, or Non-Ferrous	630 (US32D - Satin Stainless Steel)
2. Butt Hinges: Interior	652 (US26D - Satin Chromium)
3. Continuous Hinges	630 (US32D - Satin Stainless Steel)
4. Flush Bolts	626 (US26D - Satin Chromium)
5. Exit Devices	626 (US26D - Satin Chromium)
6. Locks and Latches	626 (US26D - Satin Chromium)
7. Pulls and Push Plates/Bars	630 (US32D - Satin Stainless Steel)
8. Coordinators	600 (Prime painted or mill alum.)
9. Closers	689 (Powder Coat Aluminum)
10. Protective Plates	630 (US32D - Satin Stainless Steel)
11. Overhead Stops	630 (US32D - Satin Stainless Steel)
12. Wall Stops and Holders	630 (US32D - Satin Stainless Steel)
13. Thresholds	628 (Mill Aluminum)
14. Weather-strip, Sweeps Drip Caps (wood and hollow metal doors)	Aluminum Anodized
15. Weather-strip, Sweeps Drip Caps (aluminum doors)	Match finish of aluminum doors.
16. Magnetic Holders	Sprayed Aluminum
17. Miscellaneous	626 (US26D - Satin Chromium)

## 2.21 KEYING

- A. Provide all cylinders in keyways as required to accommodate owners existing key system.
- B. All locks under this section shall be keyed as directed by the owner to an existing Master Key System.
- C. Furnish a total of 2 keys per cylinder. Actual cut keys to be determined by owner.
- D. Master keys, control keys, and change keys shall be delivered by registered mail to the owner. Construction keys shall be delivered to the contractor.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Prior to installation of hardware, installer shall examine door frame installation to ensure frames have been set square and plumb. Installer shall examine doors, door frames, and adjacent wall, floor, and ceiling for conditions, which would adversely affect proper operation and

function of door assemblies. Do not proceed with hardware installation until such deficiencies have been corrected.

### 3.2 INSTALLATION

- A. Before hardware installation, general contractor/construction manager shall coordinate a hardware installation seminar with a 1 week notice to all parties involved. The seminar is to be conducted on the installation of hardware, specifically of locksets, closers, exit devices, continuous hinges and overhead stops. Manufacturer's representative of the above products to present seminar. Seminar to be held at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors. Training to include use of installation manuals, hardware schedule, templates and physical products samples.
- B. Install all hardware in accordance with the approved hardware schedule and manufacturers instructions for installation and adjustment.
- C. Set units level, plumb and true to the line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accord with industry standards.
- E. Drill appropriate size pilot holes for all hardware attached to wood doors and frames.
- F. Shim doors as required to maintain proper operating clearance between door and frame.
- G. Unless otherwise specified, locate all hardware in accordance with the recommended locations for builders hardware for standard doors and frames as published by the Door and Hardware Institute.
- H. Use only fasteners supplied by or approved by the manufacturer for each respective item of hardware.
- I. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work.
- J. Conceal push and pull bar fasteners where possible. Do not install through bolts through push plates.
- K. Install hardware on UL labeled openings in accordance with manufacturer's requirements to maintain the label.
- L. Apply self-adhesive gasketing on frame stop at head & latch side and on rabbet of frame at hinge side.
- M. Install hardware in accordance with supplemental "S" label instructions on all fire rated openings.
- N. Install wall stops to contact lever handles or pulls. Do not mount wall stops on casework, or equipment.
- O. Where necessary, adjust doors and hardware as required to eliminate binding between strike and latchbolt. Doors should not rattle.
- P. Overhead stops used in conjunction with electrified hold open closers shall be templated and installed to coincide with engagement of closer hold open position.
- Q. Install door closers on corridor side of lobby doors, room side of corridor doors, and stair side of stairways.
- R. Adjust spring power of door closers to the minimum force required to ensure exterior and fire rated doors will consistently close and latch doors under existing conditions. Adjust all other door closers to ensure opening force does not to exceed 5 lbs.
- S. Adjust "sweep", "latch", & "back check" valves on all door closers to properly control door throughout the opening and closing cycle. Adjust total closing speed as required to comply with all applicable state and local building codes.
- T. Install "hardware compatible" (bar stock) type weatherstripping continuously for an uninterrupted seal. Adjust templating for parallel arm door closers, exit devices, etc., as required to accommodate weatherstripping.

- U. Unless otherwise specified or detailed, install thresholds with the bevel in vertical alignment with the outside door face. Notch and closely fit thresholds to frame profile. Set thresholds in full bed of sealant.
- V. Compress sweep during installation as recommended by sweep manufacturer to facilitate a water resistant seal.
- W. Deliver to the owner 1 complete set of installation and adjustment instructions, and tools as furnished with the hardware.

**3.3 FIELD QUALITY CONTROL**

- A. After installation has been completed, the hardware supplier and manufacturers representative for locksets, door closers, exit devices, and overhead stops shall check the project and verify compliance with installation instructions, adjustment of all hardware items, and proper application according to the approved hardware schedule. Hardware supplier shall submit a list of all hardware that has not been installed correctly.
- B. After installation has been completed, the hardware supplier and manufacturers representative shall meet with the owner to explain the functions, uses, adjustment, and maintenance of each item of hardware. Hardware supplier shall provide the owner with a copy of all wiring diagrams. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.

**3.4 ADJUSTMENT AND CLEANING**

- A. At final completion, and when H.V.A.C. equipment is in operation, installer shall make final adjustments to and verify proper operation of all door closers and other items of hardware. . Lubricate moving parts with type lubrication recommended by the manufacturer.
- B. All hardware shall be left clean and in good operation. Hardware found to be disfigured, defective, or inoperative shall be repaired or replaced.

**3.5 HARDWARE SCHEDULE**

- A. The following schedule of hardware groups are intended to describe opening function. The hardware supplier is cautioned to refer to the preamble of this specification for a complete description of all materials and services to be furnished under this section.

**HW SET 01**

	EA	HINGE	(BY DR/FR SUPPLIER)	BYO
1	EA	MANUAL FLUSH BOLT	FB458	IVE
1	EA	CLASSROOM LOCK	ND70	SCH
1	EA	SURFACE CLOSER	4050 / 4050 EDA	LCN
2	EA	WALL STOP & HOLDER	WS40	IVE
1	EA	SOUND GASKET	(BY DR/FR SUPPLIER)	ZER
1	EA	OVERLAP ASTRAGAL	(BY DR/FR SUPPLIER)	

FUNCTION: ND70 (F84) CLASSROOM LOCK  
 OUTSIDE LEVER LOCKED AND UNLOCKED BY KEY. INSIDE LEVER ALWAYS UNLOCKED.

**HW SET 02**

	EA	HINGES	AS SPECIFIED	IVE
1	EA	PRIVACY LOCK	ND40	SCH
1	EA	SURFACE CLOSER	4050 / 4050 EDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	IVE
1	EA	WALL STOP	WS406/407CCV	IVE
1	EA	SMOKE SEALS	188S (AT RATED OR SMOKE & DRAFT CONTROL DRS ONLY)	ZER

FUNCTION: ND40 (F76) BATH/BEDROOM PRIVACY LOCK  
 PUSH-BUTTON LOCKING. CAN BE OPENED FROM OUTSIDE WITH SMALL SCREWDRIVER.  
 TURNING INSIDE LEVER OR CLOSING DOOR RELEASES BUTTON.

**HW SET 03**

2	EA	CONTINUOUS HINGE	700	IVE
1	EA	KEYED REMOVABLE MULLION	KR4954 STAB	VON
1	EA	PANIC HARDWARE	CD-99-EO	VON
1	EA	PANIC HARDWARE	CD-99-NL-OP	VON
4	EA	INTERCHANGEABLE CORE	CYLINDER AS REQUIRED	SCH
2	EA	90 DEG OFFSET PULL	8190 10"	IVE
2	EA	OH STOP	100S	GLY
2	EA	SURFACE CLOSER	4050 EDA	LCN
1	EA	RAIN DRIP	142	ZER
	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	
2	EA	DOOR SWEEP (BRUSH)	8192	ZER
1	EA	THRESHOLD	PROFILE AS REQUIRED	ZER
1	EA	MULLION SEAL	8780	ZER

FUNCTION: (NL) LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY  
 KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED. ACCESS  
 FROM EXTERIOR WHEN EXIT DEVICE PUSH PAD IS DOGGED DOWN.

**HW SET 04**

2	EA	CONTINUOUS HINGE	700	IVE
1	EA	PANIC HARDWARE	CD-99-EO	VON
1	EA	PANIC HARDWARE	CD-99-NL-OP	VON
2	EA	INTERCHANGEABLE CORE	CYLINDER AS REQUIRED	SCH
1	EA	90 DEG OFFSET PULL	8190 10"	IVE
1	EA	OH STOP	100S	GLY
1	EA	SURFACE CLOSER	4050 EDA	LCN
1	EA	RAIN DRIP	142	ZER
	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	
1	EA	DOOR SWEEP (BRUSH)	8192	ZER
1	EA	THRESHOLD	PROFILE AS REQUIRED	ZER
1	EA	MULLION SEAL	8780	ZER

FUNCTION: (NL) LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED. ACCESS FROM EXTERIOR WHEN EXIT DEVICE PUSH PAD IS DOGGED DOWN.

**END OF SECTION**

**SECTION 102800  
TOILET, BATH, AND LAUNDRY ACCESSORIES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Commercial toilet accessories.
- B. Commercial shower and bath accessories.
- C. Accessories for toilet rooms, showers, and utility rooms.
- D. Utility room accessories.
- E. Grab bars.

**1.02 RELATED REQUIREMENTS**

- A. Section 102113.19 - Plastic Toilet Compartments.

**1.03 REFERENCE STANDARDS**

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service 2015a (Reapproved 2019).
- C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.
- D. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium 2017.
- E. ASTM C1036 - Standard Specification for Flat Glass 2016.
- F. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror 2018.
- G. ASTM F2285 - Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use 2004, with Editorial Revision (2016).

**1.04 SUBMITTALS**

- A. See Section 013000 - Administrative Requirements, for submittal procedures.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Commercial Toilet, Shower, and Bath Accessories: Basis of Design Bobrick Washroom Equipment, Inc.
  - 1. AJW Architectural Products: [www.ajw.com](http://www.ajw.com).
  - 2. ASI - American Specialties, Inc: [www.americanspecialties.com](http://www.americanspecialties.com).
  - 3. Bradley Corporation: [www.bradleycorp.com](http://www.bradleycorp.com).
  - 4. Substitutions: Section 016000 - Product Requirements.

**2.02 MATERIALS**

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
- B. Keys: Provide 2 keys for each accessory to Owner; master key lockable accessories.
- C. Stainless Steel Sheet: ASTM A666, Type 304.
- D. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.
- E. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
- F. Adhesive: Two component epoxy type, waterproof.
- G. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

**2.03 FINISHES**

- A. Stainless Steel: Satin finish, unless otherwise noted.

APSD ATEC ADDITION	102800 - 1	Toilet, Bath, and Laundry Accessories
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- B. Chrome/Nickel Plating: ASTM B456, SC 2, polished finish, unless otherwise noted.
- C. Baked Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats epoxy baked enamel.
- D. Shop Primed Ferrous Metals: Pretreat and clean, spray apply one coat primer and bake.

**2.04 COMMERCIAL TOILET ACCESSORIES**

- A. Toilet Paper Dispenser: Double roll, surface-mounted, stainless steel unit with pivot hinge, tumbler lock.
  - 1. Products:
    - a. Bobrick B-265.
    - b. Substitutions: Section 016000 - Product Requirements.
- B. Paper Towel Dispenser: Folded paper type, stainless steel, surface-mounted, with viewing slots on sides as refill indicator and tumbler lock.
  - 1. Capacity: 400 C-fold minimum.
  - 2. Products:
    - a. Bobrick B-262.
- C. Soap Dispenser: Liquid soap dispenser, wall-mounted, surface, with stainless steel cover and horizontal stainless steel tank and working parts; push type soap valve, check valve, and window gauge refill indicator, tumbler lock.
  - 1. Minimum Capacity: 40 ounces.
  - 2. Products:
    - a. Bobrick B-2111.
- D. Mirrors: 1/4 inch thick annealed float glass; ASTM C1036.
  - 1. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and nonabsorptive filler material.
  - 2. Products:
    - a. Bobrick B-165.
    - b. Substitutions: Section 016000 - Product Requirements.
- E. Grab Bars: Stainless steel, smooth surface.
  - 1. Standard Duty Grab Bars:
    - a. Push/Pull Point Load: 250 pound-force, minimum.
    - b. Dimensions: 1-1/4 inch outside diameter, minimum 0.05 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
    - c. Finish: Satin.
    - d. Length and Configuration: As indicated on drawings.
- F. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.
  - 1. Products:
    - a. Bobrick B-254.
    - b. Substitutions: Section 016000 - Product Requirements.

**2.05 COMMERCIAL SHOWER AND BATH ACCESSORIES**

- A. Shower Curtain Rod: Stainless steel tube, 1 inch outside diameter, 0.04 inch wall thickness, satin-finished, with 3 inch outside diameter, minimum 0.04 inch thick satin-finished stainless steel flanges, for installation with exposed fasteners.
- B. Shower Curtain:
  - 1. Material: Opaque vinyl, 0.008 inch thick, matte finish, with antibacterial treatment, flameproof and stain-resistant.
  - 2. Grommets: Stainless steel; pierced through top hem on 6 inch centers.
  - 3. Color: White.
  - 4. Shower Curtain Hooks: Chrome-plated or stainless steel spring wire designed for snap closure.

APSD ATEC ADDITION	102800 - 2	Toilet, Bath, and Laundry Accessories
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- C. Folding Shower Seat: Wall-mounted surface; welded tubular seat frame, structural support members, hinges, and mechanical fasteners of Type 304 stainless steel, L-shaped, right hand seat.
- D. Robe Hook: Heavy-duty stainless steel, single-prong, rectangular-shaped bracket and backplate for concealed attachment, satin finish.
  - 1. Products:
    - a. Bobrick B-7671.
    - b. Substitutions: Section 016000 - Product Requirements.

**2.06 DIAPER CHANGING STATIONS**

- A. Diaper Changing Station: Wall-mounted folding diaper changing station for use in commercial toilet facilities, meeting or exceeding ASTM F2285.
  - 1. Material: Stainless steel.
  - 2. Mounting: Surface.
  - 3. Color: As selected.
  - 4. Minimum Rated Load: 250 pounds.
  - 5. Products:
    - a. Bobrick KB 110-SSWM.

**2.07 UTILITY ROOM ACCESSORIES**

- A. Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, hat-shaped channel.
  - 1. Holders: Three spring-loaded rubber cam holders.
  - 2. Length: 36 inches.
- B. Combination Utility Shelf/Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
  - 1. Mop/broom holders: Three spring-loaded rubber cam holders at shelf front.
  - 2. Length: 36 inches.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Verify that field measurements are as indicated on drawings.

**3.02 PREPARATION**

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

**3.03 INSTALLATION**

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
  - 1. Grab Bars: As indicated on drawings.

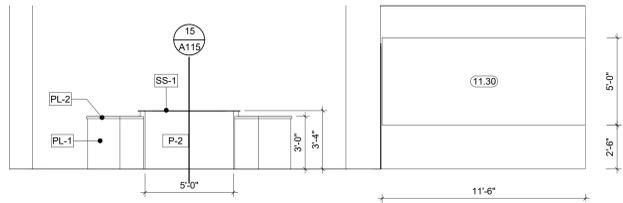
**3.04 PROTECTION**

- A. Protect installed accessories from damage due to subsequent construction operations.

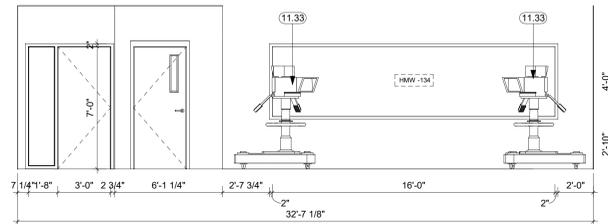
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APSD ATEC ADDITION	102800 - 3	Toilet, Bath, and Laundry Accessories
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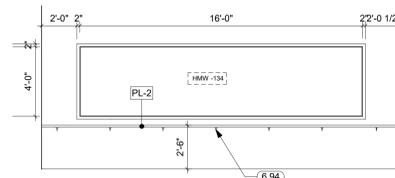




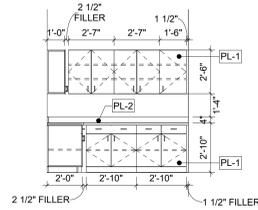
1 TV PRODUCTION-NORTH  
1/4" = 1'-0"



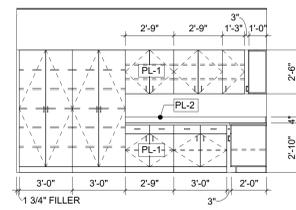
2 TV PRODUCTION - SOUTH  
1/4" = 1'-0"



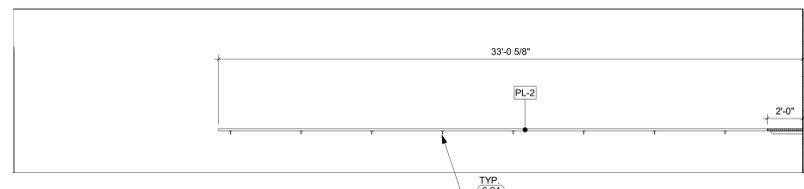
3 TV CONTROL - NORTH  
1/4" = 1'-0"



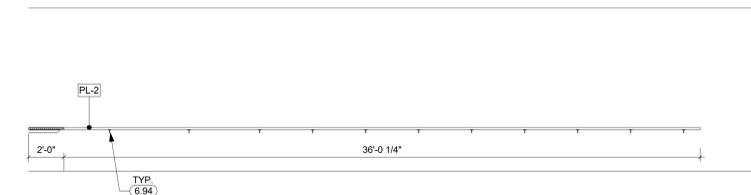
4 TV STORAGE - WEST  
1/4" = 1'-0"



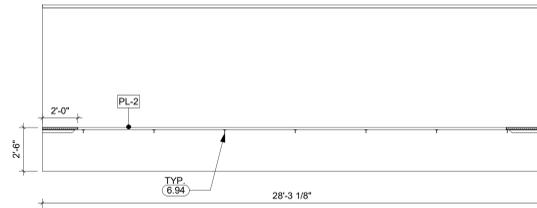
5 TV STORAGE - SOUTH  
1/4" = 1'-0"



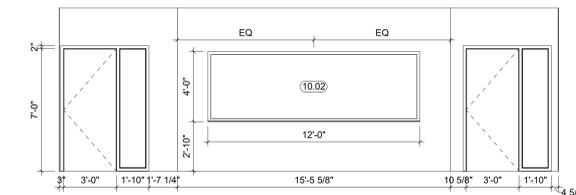
6 COMPUTER CLASSROOM - WEST  
1/4" = 1'-0"



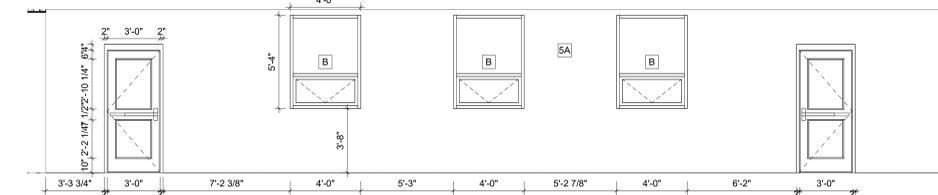
8 COMPUTER CLASSROOM - EAST  
1/4" = 1'-0"



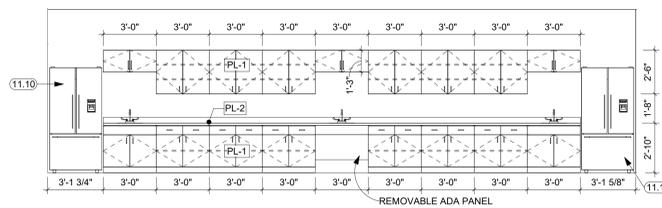
7 COMPUTER CLASSROOM - NORTH  
1/4" = 1'-0"



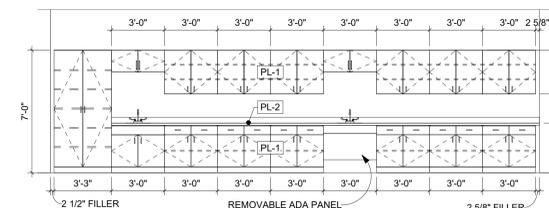
9 COMPUTER CLASSROOM - SOUTH  
1/4" = 1'-0"



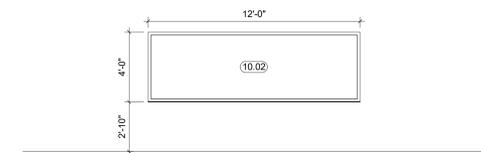
10 AG WORKROOM - EAST  
1/4" = 1'-0"



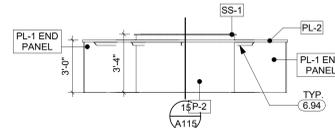
11 AG WORKROOM - WEST  
1/4" = 1'-0"



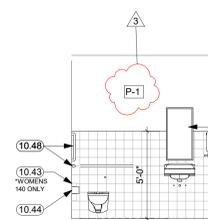
12 FACS CLASS - EAST  
1/4" = 1'-0"



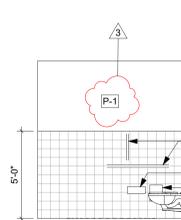
13 FACS CLASS - NORTH INT. ELEV.  
1/4" = 1'-0"



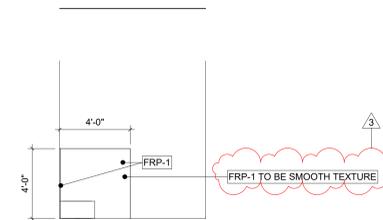
14 TV DESK  
1/4" = 1'-0"



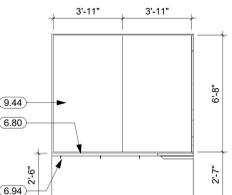
16 140/141 NORTH  
1/4" = 1'-0"



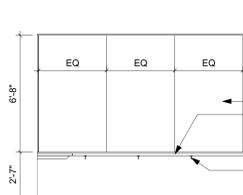
17 RR 139 WEST (140 SIM.)  
1/4" = 1'-0"



18 MOP SINK  
1/4" = 1'-0"



19 AUDIO BOOTH EAST  
1/4" = 1'-0"



20 AUDIO BOOTH SOUTH  
1/4" = 1'-0"

KEYNOTE SCHEDULE	
6.80	PROVIDE AND INSTALL PLASTIC LAMINATE COUNTERTOP W/ BRACING EVERY 36" O.C. (PROVIDE BLOCKING AS NEC. FOR THE BRACING) - CONTRACTOR TO ALSO PROVIDE GROMMETS (QTY. 3), COORDINATE WITH OWNER/RAE GROMMET LOCATION, AND INSTALL.
6.94	COUNTERTOP BRACKET AT 3'-0" O.C. MAXIMUM
9.44	PROVIDE AND INSTALL SOUND ABSORBING WALL PANELS (SEE ELEVATIONS AND SPECS FOR ADD. INFO.)
10.02	PROVIDE AND INSTALL VISUAL DISPLAY BOARD AT DIMENSIONS AS SHOWN ON DRAWINGS.
10.40	MIRROR W/SS TRIM, BASIS OF DESIGN BOBRICK B-165
10.43	SANITARY NAPKIN DISPOSAL, BASIS OF DESIGN BOBRICK B-254
10.44	TOILET TISSUE DISPENSER, BASIS OF DESIGN BOBRICK B-265
10.45	PAPER TOWEL DISPENSER, BASIS OF DESIGN BOBRICK B-262
10.47	SOAP DISPENSER, BASIS OF DESIGN BOBRICK B-2111
10.48	GRAB BAR
11.10	RESIDENTIAL REFRIGERATOR 36" WIDE (OWNER PROVIDED AND INSTALLED)
11.30	TELEVISION PRODUCTION GREEN SCREEN (LOCATION ONLY - OWNER PROVIDED & INSTALLED)
11.33	TELEVISION PRODUCTION CAMERAS (OWNER PROVIDED - COORDINATE IN FLOOR ELECTRICAL)

GENERAL NOTES

- SEE DRAWING SHEET A1-4 FOR WALL TYPES AND RATED ASSEMBLIES AS REQUIRED.
- SEE DOOR AND FRAME SCHEDULE FOR RATED OPENINGS.
- SEE DRAWING SHEET A1-2 FOR ROOM FINISH SCHEDULE & FINISH LEGEND.
- ALL DIMENSIONS ARE FROM FACE OF WALL U.N.O.
- SEE CIVIL, STRUCTURAL, MECHANICAL, AND ELECTRICAL FOR ADDITIONAL INFORMATION AND COORDINATION.
- ALL STUD FRAMED WALLS SHALL BE SOUND INSULATED AND EXTEND TO THE DECK.
- PROVIDE ACOUSTICAL SEALANTS AT THE TOP AND BOTTOM OF ALL GWB WALLS BETWEEN ROOMS.
- PROVIDE FIRE SEALANTS AT ALL PENETRATIONS IN FIRE RATED WALLS.
- FIRE RATED WALLS ARE INDICATED ON CODE PLANS.
- REVIEW ALL INTERIOR ELEVATION SHEETS FOR ACCESSORY AND EQUIPMENT INFORMATION.
- COORDINATE INSTALLATION OF OWNER PROVIDED EQUIPMENT WITH NEW CONSTRUCTION.
- PROVIDE 2X BLOCKING AT ALL GRAB BAR AND FUTURE GRAB BAR LOCATIONS.
- CAULK PERIMETER OF ALL TOILETS, URINALS, SINKS & COUNTERTOPS AS REQUIRED.
- PROVIDE WATER-RESISTANT GYPSUM BOARD PANELS AT ALL BATHROOM WALLS AND ANY WALLS EXPOSED TO MOISTURE.



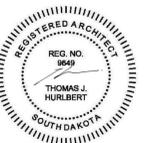
1108 S. Main St. #102  
Aberdeen, SD 57401  
Phone: 605-725-4852

601 Kansas City Street #7  
Rapid City, SD 57701  
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Phone: 605-334-9999

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CO-OP PROJECT NO: 2162

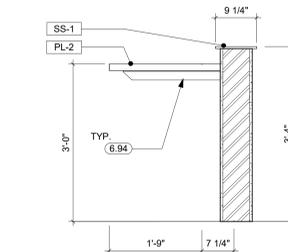


ISSUE:  
05-03-2022 100% CONSTRUCTION DRAWINGS

REVISION SCHEDULE:		
#	REV. DSC	DATE
3	ADDENDUM #1	05-13-2022

PROJECT:  
ATEC ACADEMY ADDITION  
ABERDEEN SCHOOL DISTRICT, 6-1  
ABERDEEN, SOUTH DAKOTA

SHEET TITLE:  
INTERIOR ELEVATIONS



15 TV DESK SECTION  
3/4" = 1'-0"

A115

NO.	DOOR				FRAME		FRAME DETAILS				FIRE	HWRE	ADDITIONAL NOTES
	W	H	T	TYPE	MATL	TYPE	MATL	HEAD	JAMB	SILL			
134	3'-0"	7'-0"	0'-1 3/4"	1	WD	2	HM	12 / A2-2	13 & 14 / A2-2		#HR	01	
134A	3'-0"	7'-0"	0'-1 3/4"	2	WD	2	HM				#HR	01	
134B	3'-0"	7'-0"	0'-1 3/4"	2	WD	2	HM				#HR	01	
134C	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	01	
134D	3'-0"	7'-0"	0'-1 3/4"	2	WD	2	HM				#HR	01	
135A	3'-0"	7'-0"	0'-1 3/4"	1	WD	2	HM	12 / A2-2	13 & 14 / A2-2		#HR	01	
135B	3'-0"	7'-0"	0'-1 3/4"	1	WD	2	HM	12 / A2-2	13 & 14 / A2-2		#HR	01	
135A	3'-0"	7'-0"	0'-1 3/4"	1	WD	2	HM	12 / A2-2	13 & 14 / A2-2		#HR	01	
136B	3'-0"	7'-0"	0'-1 3/4"	1	WD	2	HM	12 / A2-2	13 & 14 / A2-2		#HR	01	
136C	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	01	
138A	3'-0"	7'-0"	0'-1 3/4"	1	WD	2	HM	12 / A2-2	13 & 14 / A2-2		#HR	01	
138B	3'-0"	7'-0"	0'-1 3/4"	4	ALUM	2	ALUM				#2HR	04	
138C	3'-0"	7'-0"	0'-1 3/4"	4	ALUM	2	ALUM				#2HR	04	
138D	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	01	
139	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	02	NO VISION LIGHT - SOLID SLAB AS IS RESTROOM DOOR
140	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	02	NO VISION LIGHT - SOLID SLAB AS IS RESTROOM DOOR
141	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	01	
142	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	01	
143	3'-0"	7'-0"	0'-1 3/4"	3	WD	2	HM				#HR	01	
143A	6'-0"	7'-0"	0'-1 3/4"	FG	ALUM	8	ALUM	1 / A2-2	3 / A2-2	4 / A2-2	#2HR	03	
143B	6'-0"	7'-0"	0'-1 3/4"	FG	ALUM	8	ALUM	1 / A2-2	3 / A2-2	4 / A2-2	#2HR	03	
144	8'-0"	8'-0"	0'-1 3/4"										Greenhouse Kit provided Door - G.C. to Provide and Install Panic Hardware
145	4'-0"	8'-0"	0'-1 3/4"										Greenhouse Kit provided Door - G.C. to Provide and Install Panic Hardware
146	4'-0"	8'-0"	0'-1 3/4"										Greenhouse Kit provided Door - G.C. to Provide and Install Panic Hardware
146A	6'-0"	7'-0"	0'-1 3/4"	FG	ALUM	8	ALUM	1 / A2-2	3 / A2-2	4 / A2-2	#2HR	03	
146B	6'-0"	7'-0"	0'-1 3/4"	FG	ALUM	8	ALUM	1 / A2-2	3 / A2-2	4 / A2-2	#2HR	03	

KEYNOTE SCHEDULE	
8.01	DOOR (SEE SCHED.)
8.02	FRAME (SEE SCHED.)
8.40	ALUMINUM FRAMED ENTRANCE/STOREFRONT
8.80	1/2" FLOAT GLASS
8.82	1/2" TEMPERED GLASS
8.83	1" INSULATED GLASS
8.84	1" INSULATED TEMPERED GLASS

**GENERAL NOTES**

- DIMENSIONS ARE FROM FACE OF WALL U.N.O.
- ALL HM FRAMES IN STUD PARTITIONS SHALL BE WRAPPED AROUND BOTH SIDES OF PARTITION (U.O.N.) SEE PLAN FOR WALL THICKNESS.
- CAULK ENTIRE PERIMETER OF H.M. FRAMES (BOTH SIDES)
- PAIN FRAMES TO MATCH WALL. SPLIT PAINT COLOR AT DOOR GASKET AS REQUIRED.
- ALL DOORS AT GREENHOUSE SHALL INCLUDE PANIC HARDWARE PER CODE. SEE DOOR HARDWARE PACKAGE / SCHEDULE FOR ADDITIONAL INFORMATION.

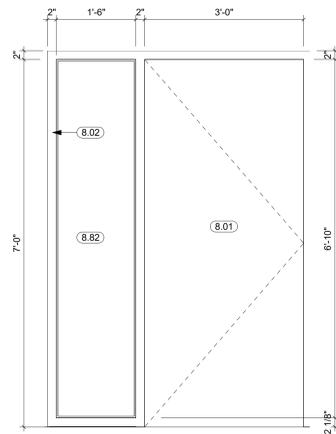
**CO OP**

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Phone: 605-725-4852

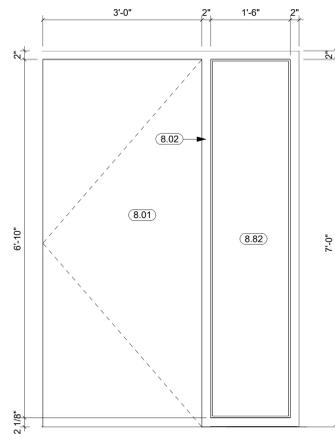
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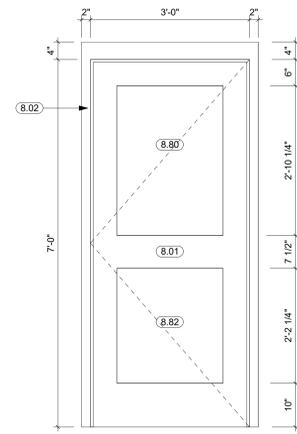
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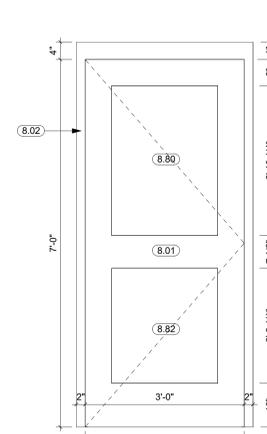
1 DOOR TYPE 1 - LH SWING  
3/4" = 1'-0"



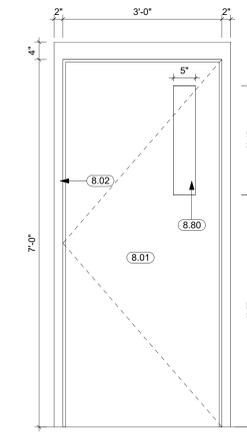
2 DOOR TYPE 1 - RH SWING  
3/4" = 1'-0"



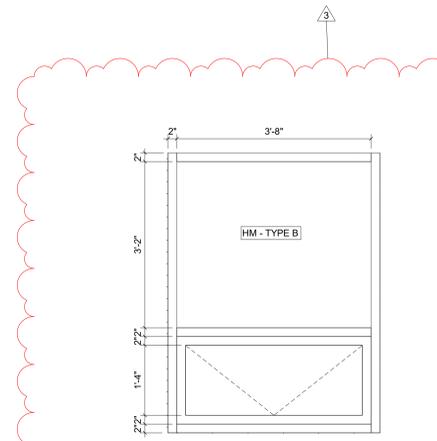
3 DOOR TYPE 2 - LH SWING  
3/4" = 1'-0"



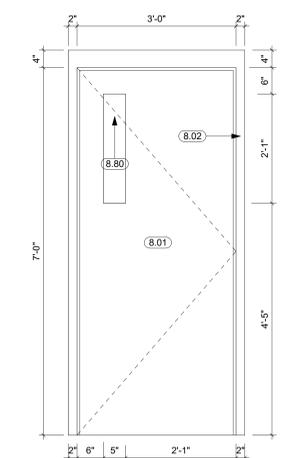
4 DOOR TYPE 2 - RH SWING  
3/4" = 1'-0"



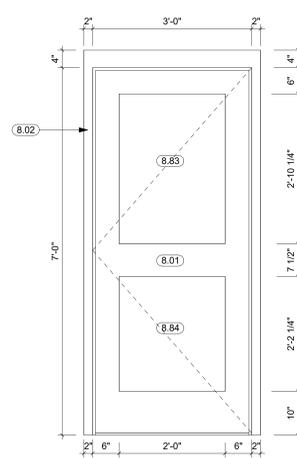
5 DOOR TYPE 3 - LH SWING  
3/4" = 1'-0"



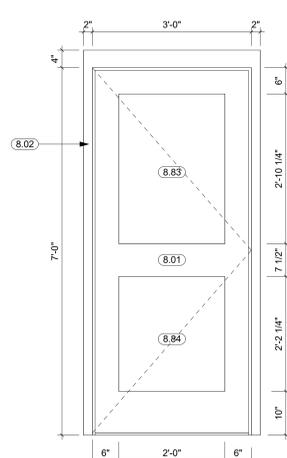
11 WINDOW TYPE B - HM STOREFRONT  
3/4" = 1'-0"



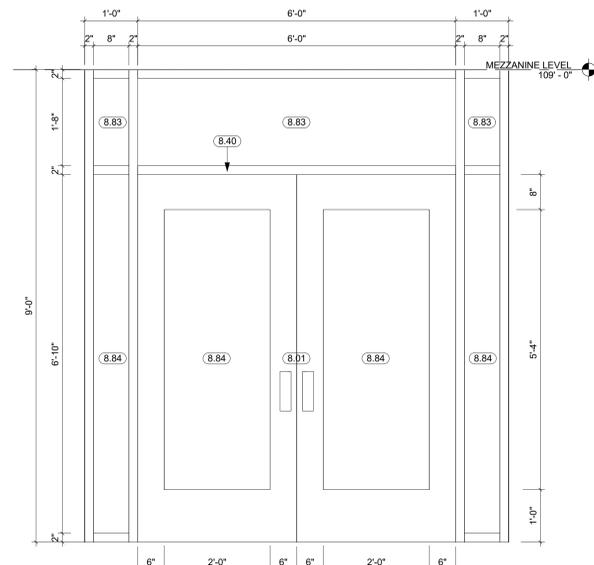
6 DOOR TYPE 3 - RH SWING  
3/4" = 1'-0"



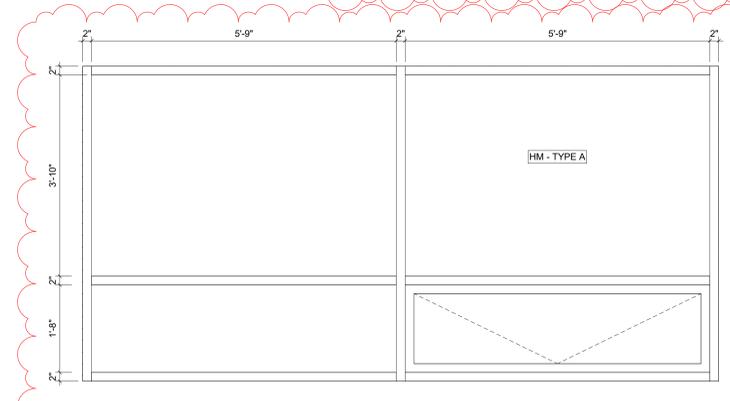
7 DOOR TYPE 4 - LH OUTSWING  
3/4" = 1'-0"



8 DOOR TYPE 4 - RH OUTSWING  
3/4" = 1'-0"

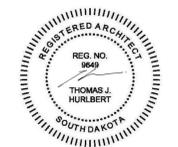


9 DOOR TYPE 5 - HM STOREFRONT  
3/4" = 1'-0"



10 WINDOW TYPE A - HM STOREFRONT  
3/4" = 1'-0"

CO-OP PROJECT NO: 2162

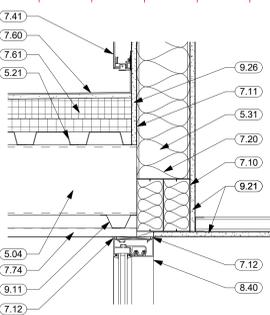


ISSUE:  
05-03-2022 100% CONSTRUCTION DRAWINGS

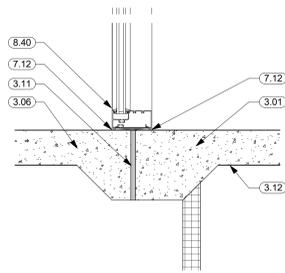
#	REV. DSC.	DATE
3	ADDENDUM #1	05-13-2022

PROJECT:  
ATEC ACADEMY ADDITION  
ABERDEEN SCHOOL DISTRICT, 6-1  
ABERDEEN, SOUTH DAKOTA

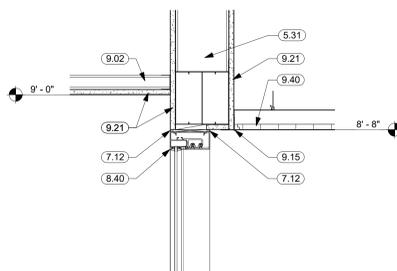
SHEET TITLE:  
DOOR & WINDOW SCHEDULE & DETAILS



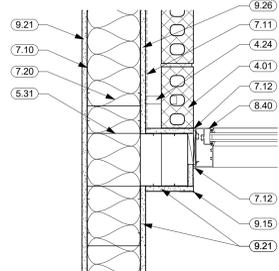
1 FRAME TYPE 3 HEAD DETAIL  
1 1/2" = 1'-0"



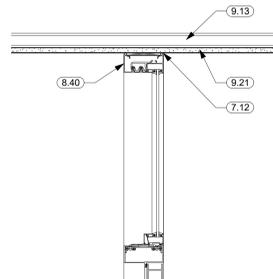
2 FRAME TYPE 3 SILL DETAIL  
1 1/2" = 1'-0"



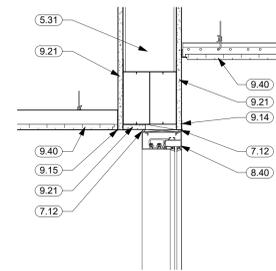
3 FRAME TYPE 4 HEAD DETAIL  
1 1/2" = 1'-0"



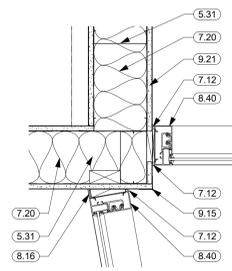
4 FRAME TYPE 4 JAMB DETAIL  
1 1/2" = 1'-0"



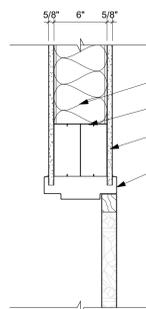
5 FRAME TYPE 5 HEAD DETAIL  
1 1/2" = 1'-0"



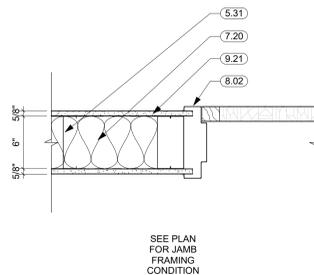
6 FRAME TYPE 6 HEAD DETAIL  
1 1/2" = 1'-0"



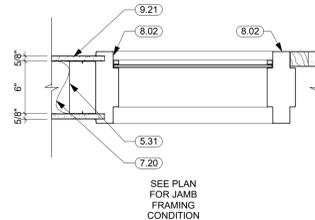
7 FRAME TYPE 6 JAMB DETAIL  
1 1/2" = 1'-0"



8 TYP. INT. H.M. HEAD  
1 1/2" = 1'-0"



9 TYP. INT. H.M. JAMB  
1 1/2" = 1'-0"



10 TYP. INT. H.M. JAMB SIDELITE  
1 1/2" = 1'-0"

KEYNOTE SCHEDULE	
3.01	CONC. FLOOR SLAB ON GRADE (SEE STRUCT. FOR THICKNESS AND REINF.) w/ 15 MIL. VAPOR BARRIER BELOW
3.04	CONT. CONC. FOUNDATION WALL (SEE STRUCTURAL PLANS)
3.06	CONCRETE STOOP-w/FROST FREE FOOTING (SEE STRUCTURAL PLANS)
3.11	1/2" EXPANSION/ISOLATION JOINT MATERIAL
3.12	15 MIL VAPOR BARRIER
4.01	BRICK VENEER
4.24	BRICK WALL TIES
5.04	STRUCTURAL STEEL TUBE (SEE ARCH. & STRUCT.)
5.21	STEEL ROOF DECK (SEE ARCH. & STRUCT.)
5.31	6" STRUCTURAL STEEL STUD & TRACK FRAMING (SEE ARCH. & STRUCT.)
7.10	VAPOR BARRIER
7.11	AIR & MOISTURE WEATHER BARRIER
7.12	SEALANT (PROVIDE BACKER ROD WHERE REQ.)
7.20	MINERAL BATT INSULATION
7.21	RIGID INSULATION (2" POLYISO - U.O.N.)
7.41	METAL WALL PANELS (PROVIDE ALL REQ. TRIM & FLASHING)
7.60	FULLY ADHERED EPDM SINGLE MEMBRANE ROOF (WRAP PARAPET WHERE OCCURS)
7.61	POLYISOCYANURATE INSULATION SYSTEM
7.74	
8.02	FRAME (SEE SCHED.)
8.16	BRAKE METAL
8.40	ALUMINUM FRAMED ENTRANCE/STOREFRONT
9.02	1 5/8" STEEL STUD & TRACK FRAMING
9.11	1 1/2" FLURRING CHANNEL
9.13	1 1/2" CARRYING CHANNEL
9.14	CASING BEAD
9.15	CORNER BEAD
9.21	5/8" GYPSUM BOARD
9.26	5/8" EXTERIOR GYPSUM SHEATHING
9.40	ACOUSTICAL PANEL CEILING SYSTEM (COORD. w/ MECH. & ELEC. FOR FIXTURE REQ., LOCATIONS)

**CO OP**

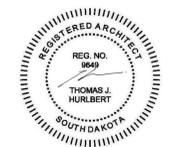
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CO-OP PROJECT NO: 2162



ISSUE:  
05-03-2022 100% CONSTRUCTION DRAWINGS

REVISION SCHEDULE:

#	REV. DSC	DATE
2	OWNER REVISIONS	4-14-15

PROJECT:  
ATEC ACADEMY ADDITION

ABERDEEN SCHOOL DISTRICT, 6-1  
ABERDEEN, SOUTH DAKOTA

SHEET TITLE:  
DOOR & WINDOW DETAILS

A202

May 13, 2022

Re: ATEC Addition and Greenhouse – Aberdeen School District  
Helms A-8612

**ADDENDUM**

The following modifications are made to the plans and specifications for the ATEC Addition and Greenhouse – Aberdeen, SD.

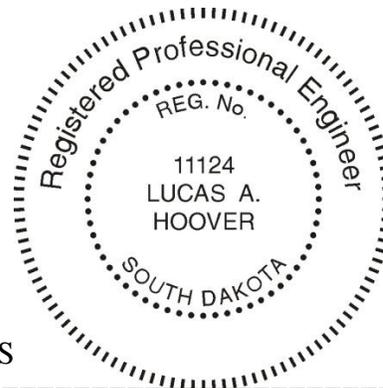
**1.) Construction Civil Site Work Plans; Revisions on Sheet C103:**

- Enclosed is revised Sheet C103, which includes additional concrete surfacing in-between the new ATEC building addition and new Greenhouse building.

**2.) Construction Civil Site Work Plans; Revisions on Sheet C110:**

- Enclosed is revised Sheet C110, which includes revised wording of the order of construction of the haul road.

ALL OTHER ITEMS OF THE CIVIL PLANS AND SPECIFICATIONS REMAIN UNCHANGED.



BY Lucas Hoover  
PROJECT ENGINEER - HELMS AND ASSOCIATES

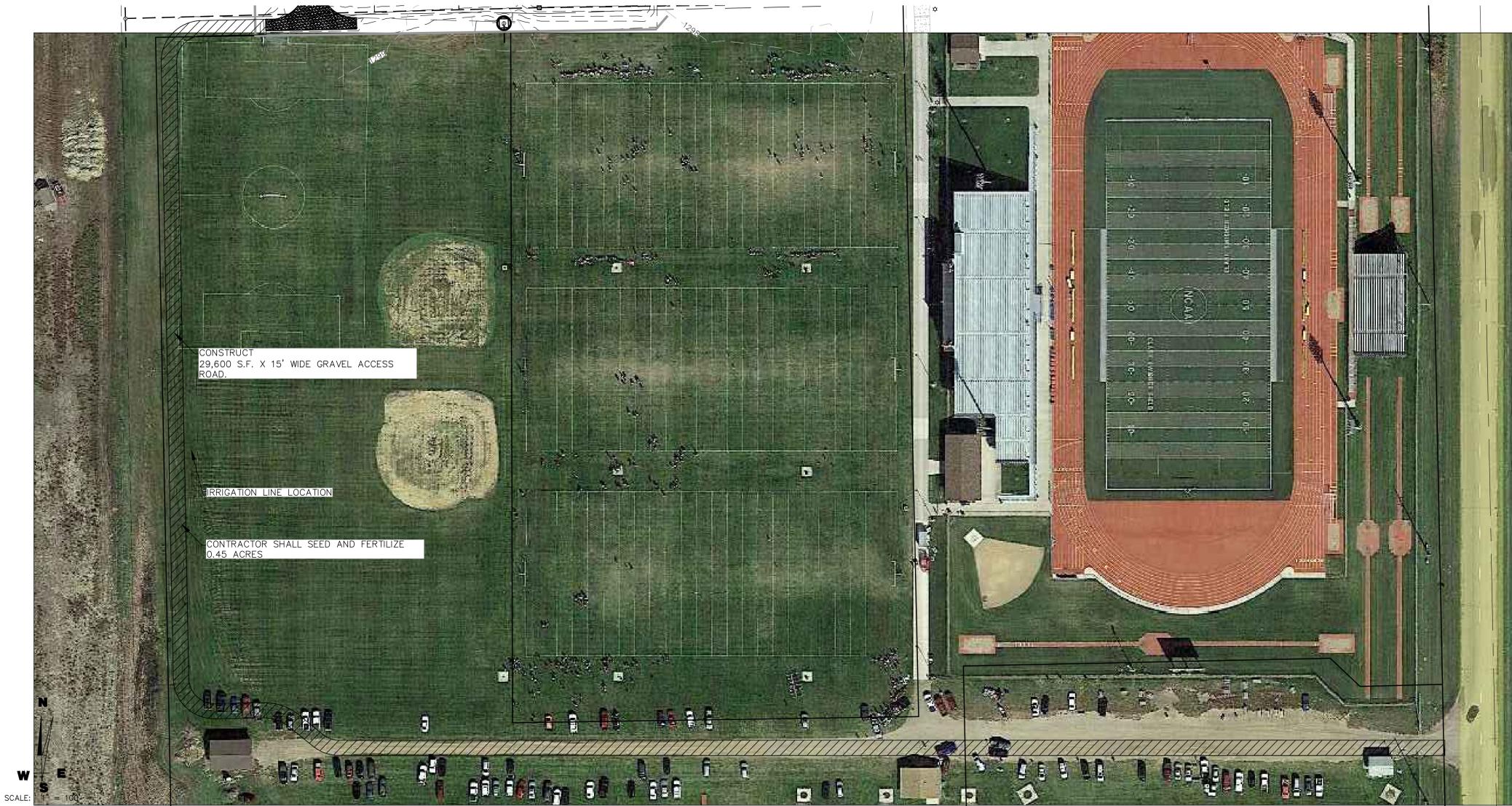
=====

FIRM NAME: \_\_\_\_\_ BY: \_\_\_\_\_

TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

ATTACH THIS SIGNED ADDENDUM TO THE BID FORM WHEN SUBMITTING AND/OR ACKNOWLEDGE THE ADDENDUM ON THE BID FORM.



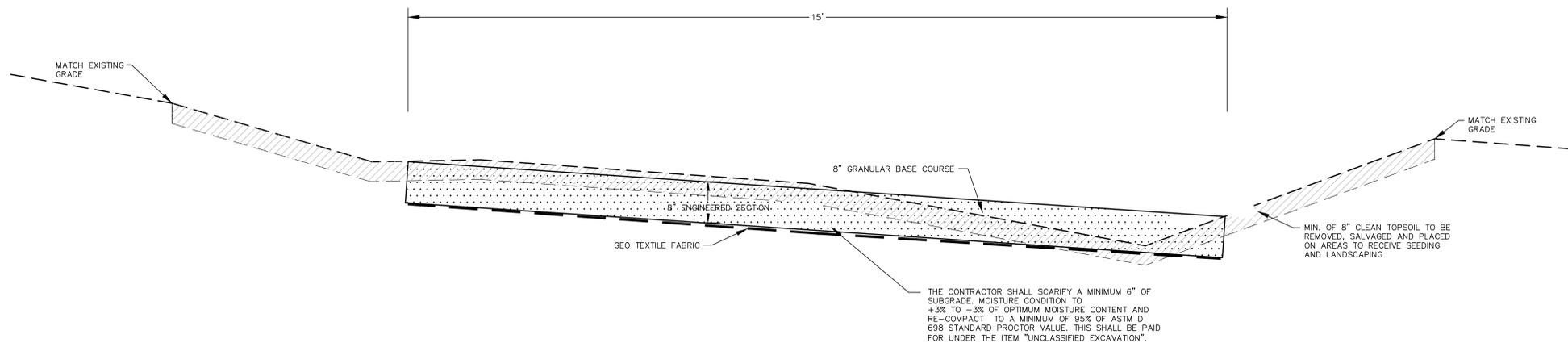


THE GRAVEL ACCESS ROAD SHALL BE CONSTRUCTED FIRST AND AT THE END OF THE PROJECT THE AREA SHALL BE RETURNED TO THE NATURAL STATE. GRAVEL FROM THE ROAD IS TO BE USED ON THE GRAVEL BUILDING PAD.

THIS AREA HAS AN EXISTING IRRIGATION SYSTEM. THIS SYSTEM SHALL BE SALVAGED AND RE-INSTALLED UPON THE COMPLETION OF THE PROJECT.

**ORDER OF CONSTRUCTION**

1. THE IRRIGATION SYSTEM (SPRINKLER HEADS) SHALL BE SALVAGED
2. TOPSOIL SHALL BE SALVAGED AND STOCKPILED MINIMUM 8" DEEP
3. GEOTEXTILE FABRIC INSTALLED
4. 8" GRAVEL BASE COURSE INSTALLED
5. ROAD TO BE MAINTAINED DURING CONSTRUCTION
6. UPON COMPLETION OF PROJECT SALVAGEABLE BASE COURSE SHALL BE SALVAGED AND USED ON HAMMERHEAD AND EXISTING GRAVEL PARKING LOT AND ACCESS ROAD.
7. CONTAMINATED/UNUSABLE GRAVEL AND ALL FABRIC TO BE REMOVED AND DISPOSED.
8. AREA TO BE TOPSOILED MINIMUM 8" DEEP
9. IRRIGATION SYSTEM TO BE REINSTALLED
10. AREA TO BE SEEDDED AND FERTILIZED



THE CONTRACTOR SHALL SCARIFY A MINIMUM 6" OF SUBGRADE. MOISTURE CONDITION TO +3% TO -3% OF OPTIMUM MOISTURE CONTENT AND RE-COMPACT TO A MINIMUM OF 95% OF ASTM D 698 STANDARD PROCTOR VALUE. THIS SHALL BE PAID FOR UNDER THE ITEM "UNCLASSIFIED EXCAVATION".

**CONSTRUCTION ACCESS ROAD SECTION**

NO SCALE

CO-OP PROJECT NO: 2162



ISSUE:  
4/15/2022 CONSTRUCTION DOCUMENTS

REVISION SCHEDULE:

REV. #	REV. DSC.	REV. DATE

PROJECT:  
ATEC ADDITION AND GREENHOUSE  
ABERDEEN SCHOOL DISTRICT  
ABERDEEN, SOUTH DAKOTA

SHEET TITLE:  
HAUL ROAD

**C110**

ELECTRICAL ADDENDUM

Aberdeen Technology Education & Career Building  
Aberdeen, SD

DATE: May 12<sup>th</sup>, 2022

Professional Design Engineers  
48371 265<sup>th</sup> Street  
Brandon, SD 57005

SCOPE OF THIS ADDENDUM:

The following becomes a part of the original Drawings and Project Manual, taking precedence over those items that may conflict.

The Bidder shall note receipt and make acknowledgement of the addendum on the bid form, incorporating its provisions in their bid.

This addendum has been issued to all bidders and to all others to whom the Drawings and Project Manuals have been issued by the office of the Architect/Engineer.

Drawing Items:

Item No. E1

Sheet E100  
Power & Data  
Green House

Add a WP GFI duplex receptacle next to the evaporative cooling system located on the east wall of the greenhouse and add a homerun labeled "G1-8". Change load description for circuit #8 on panel schedule "G1" on sheet E400 to "Evaporative Cooling Pad System".

Item No. E2

Sheet E100  
Power & Data  
Room 143

Add reference to note #4 in Room 143 and add the following note:

4. Data rack located in this room shall be furnished and installed by the owner. Cable tray between Rooms 142 and 143 shall be provided by the electrical contractor.

Item No. E3

Sheet E400  
Panel & Fixture Schedules

Add types "D1", "F" and "FE" to the light fixture schedule as shown below:

D1 LED, surface mounted industrial, 4' in length, flat lens, multi-volt, 0-10 volt dimming, 4000K, 80 CRI, white finish, 5000 lumens. INCLUDED  
LITHONIA NO. CLX L48 5000LM SEF FDL MVOLT GZ10  
40K 80CRI  
DAYBRITE, METALUX and HUBBELL  
shall be considered equal.

F LED, surface mounted industrial, 4' in length, flat lens, multi-volt, 0-10 volt INCLUDED  
FE dimming, 4000K, 80 CRI, white finish, 6000 lumens, vapor tight, 7 watt  
emergency battery in type "FE", stainless steel latches  
LITHONIA NO. CSVTL48 6000LM MVOLT 40K 80CRI STSL (IE7WCP)  
40K 80CRI  
DAYBRITE, METALUX and HUBBELL  
shall be considered equal.

END OF ADDENDUM