ADDENDUM

Project: Renovation and Expansion Alpha Zeta Pi Kappa Alpha Fraternity House  Addendum #: 2

Location: 320 Arkansas Avenue, Fayetteville Arkansas  Addendum Date: July 5, 2013

This Addendum forms a part of the Pricing Documents and modifies previous Documents, Specifications, and Drawings pertaining to these items dated 6.20.13. The Construction Manager and Bidders shall notify the Engineer immediately with any discrepancies, or errors found in these documents.

Item No

ADD 2.1 Pre-Bid Meeting Agenda and Minutes refer to attached meeting minutes:
   A. Contractor sign in sheet included in addendum #2.

Specifications

ADD 2.2 Section 00410 – Bid Form refer to attached Bid Form:
   A. Revise Bid Time from 2:00 pm to 2:30pm (revisions are in Bold Red).
   B. Revise Bid Date from July 9, 2013 to July 11, 2013 (revisions are in Bold Red).

ADD 2.3 Section 015000 Temporary Facilities and Controls (refer to attached revised section; changes in Bold Red)
   A. Part 2 Products
      Revise to include 2.1 Common-Use Field Office: Allow field office space to accommodate needs of Owner Representative. Also provide adequate space to accommodate project meetings specified in other Division 01 Sections.

ADD 2.4 Section 075214 Roofing System:
   A. Remove 1.6.G. Letter from Proposed manufacture confirming that the filler content in the elastomeric blend of the proposed roof membrane and flashing components does not exceed 35% by weight.

ADD 2.5 Section 084112 Aluminum Framed Entrances refer to attached revised section (revisions are in Bold Red):
   A. Revise Type of Kawneer Aluminum Entrances from 500 Tuffline to 500 Heavy Wall.
   B. Part 2.1.A add #6 2” Horizontal rail to align with adjunct store front.
   C. Part 2.5.C add doors A100B and B008C.

ADD 2.6 Section 087100 Door Hardware refer to attached revised section
   A. Section 3.8 – Door Hardware Schedule: (revisions are in Bold Red).
      1. Revise Sets 01, 02, 10, 11, 12 to remove hardware set info and read “Refer to Section 084112, Coordinate Hardware with Security System”
      2. Revise Set 05 to 3 pr hinges and Add Closers
      3. Add Set 14

ADD 2.7 Specification Section 230900 “Instrumentation and Control for HVAC”: The entire system shall be provided and installed by Johnson Controls; all pricing shall reflect the University of Arkansas IDIQ agreement. Contact Lee Wilson at 479-790-5970.
ADD 2.8  Approved Substitutions:
A. Section 075214 Roofing systems add Approved Manufactures systems to match specification:
   1. CertainTeed
   2. Firestone

Drawing Revisions (Note: revisions below are narrative only)

ADD 2.9  Drawing A106:
A. Sleeping Wing First Floor Plan
   Revise Vertical Platform Lift note to read “(HARMAR 36"x48" CPL 400 W/ PIT, OR EQUAL).

ADD 2.10 Drawing A601:
A. Door and Frame Schedule
   Doors “BGST2, B104, B209J, B209L AND B209M” shall be door elevation type “F”.
   Door BGST2 shall receive hardware set 14 in lieu of set 9
B. Frame Elevations
   Revise Double Door Frame to number 2.

ADD 2.11 Drawing A603:
A. Refer to Addendum #1 ADD 1.10.A revise aluminum doors to include 2” horizontal rail to align with store front.

ADD 2.12 Drawing FA008:
A. 1st Floor - Access Control and CCTV
   Add Card Reader to both upper and lower doors at platform lift, to be interlocked with lift call button and door operator.

Drawing Revisions (Note: revised drawings are attached to this Addendum #2)

ADD 2.13 Drawing S002:
A. Embed Plate Details 8/S002
   Add new embed plate type F

ADD 2.14 Drawing S104:
A. Commons Wing Roof Framing Plan 1/S104
   Add note “HSS5x4x1/4 (LSH) Low.”
   Revise note to “Embed PI Type A, RE: 8/S002; Embed PI Type F at HSS5x4x1/4 Low.”

ADD 2.15 Drawing S401:
A. Enlarged Plan at Elevator Pit 7/S401
   Add pit ladder recess and dimensions at north wall of elevator pit.
   Add note “Pit ladder recess to 8’-0” above basement floor, coord. with elevator manuf.”

ADD 2.16 Drawing S504:
A. Section at CW Roof at Trellis 2/S504
   Add shear plate connection at horizontal HSS5x4x1/4 (LSH).
   Add note “6”x4”x3/8” shear plate.”
   Add note “HSS5x4x1/4 (LSH), slot HSS at shear plate end.”
ADD 2.17 Drawing S504:
   A. Section at CW Roof Garden Floor at SW Door 10/S504
      Add slab recess at slab edge.
      Add note “3/4”x3 1/2” cont. recess at slab edge.”

ADD 2.18 Drawing S507:
   A. CW East Sunscreen at Roof 12/S507
      Add shear plate connection at horizontal HSS5x4x1/4 (LSH).
      Add note “6”x4”x3/8” shear plate.”
      Add note “HSS5x4x1/4 (LSH), slot HSS at shear plate each end.”

Specification and Drawing Revisions (Note: revisions below are narrative only)

ADD 2.19 On Call Construction Testing will be provided by the Owner for the following items. The Contractor shall coordinate required testing with the On-Call Testing firm as to allow adequate opportunity to perform and document all required testing. All other testing requirements noted in the Project Documents shall be provided by the Contractor.

   A. Specification Section 033000 “Cast-in place Concrete”; paragraph 3.19.
   B. Specification Section 042113 “Brick Masonry”; paragraph 3.18.
   C. Specification Section 042200 “Concrete Unit Masonry”; paragraph 3.12.
   D. Specification Section 051200 “Structural Steel Framing”; paragraph 3.5.
   E. Specification Section 052100 “Steel Joist Framing”; paragraph 3.4.
   F. Specification Section 053100 “Steel Decking”; paragraph 3.5.
   G. Specification Section 054000 “Cold-Formed Metal Framing”; paragraph 3.5.
   H. Specification Section 312000 “Earth Moving”; paragraph 3.25.
   I. Specification Section 321216 “Asphalt Paving”; paragraph 3.10.
   J. Drawing S001: Table of “Special Inspections Required”

Bid RFI Question

ADD 2.20 The Fire Marshall at the University stated that a wet stand pipe for the hose valves would be required. The top floor will have 100 psi and our flow test is 95 psi, which would require a pump. The specifications do not mention anything on a fire pump. We also do not see hose valves or stand pipes on the drawings other than the sprinkler supply. Please advise

Response: We are not sure why the Fire Marshall would state that a standpipe is required. All recent versions of the ICC Codes (IBC & IFC, 2003 thru 2012, section 905.3.1) state that a standpipe system is required when the floor level of the highest story is more than 30 ft above the lowest level of fire department access. As I interpret the code there are two things that make me think a standpipe is not required.
1. The fire department access is on Arkansas Avenue which is several feet above the basement level.
2. The distance between the floor level of the highest story and the lowest level of fire department access is less than 30 ft (the distance from the basement floor to the floor of the third level is only 28 ft).

These are the items that force us to interpret the code such that a standpipe system would not be required.

If from the Fire Marshall's opinion as the AHJ they think a standpipe needs to be installed we would recommend a Class 1 manual wet standpipe so that a fire pump would not be required.

End of Addendum 2
CONTRACTED SERVICES
AGENDA FOR PRE-BID CONFERENCE

PROJECT: Renovation and Expansion, Alpha Zeta Pi Kappa Alpha Fraternity House
DATE: July 2, 2013, 2:00pm, Main Conference Room, Facilities Management, Delivered by Robert Beeler

NOTE: This meeting will have limited information primarily for items that could affect the bid amounts. A more in-depth discussion will be held at the pre-construction meeting that will cover the various rules and working conditions.

1 - Introductions: (Sign in sheet circulated)

2 - There will be limited parking at the site for vehicles. All other parking will be off-site. Parking within the construction site will be controlled by the contractor. Parking outside the site will be limited and controlled by Transit and Parking. All construction vehicles parked on campus outside the site must display a current University parking permit. Those can be purchased from the Transit and Parking Department, 155 Razorback Road, ADSB 131, Fayetteville, Arkansas 72701, phone 479-575-PARK, e-mail: parking@uark.edu, web site: www.uark.edu/parking. Visitor parking permits authorize parking in lots designated as Faculty/Staff (yellow), Student (green) and Remote (orange). They DO NOT authorize parking in lots or spaces designated as Reserved or Resident Reserved (blue), 24 Hour Reserved, Handicap or at parking meters without paying the meter fee.

3 - Payment requests for material stored off-site will be approved if the material is stored in a bonded warehouse and adequately marked for use on this specific job. Facilities Management does have a yard on South School St. (“Chilly Billy’s) available free of charge for a storage container or trailer (laydown limited to items such as long lengths of pipe that cannot be stored in a container or trailer. The Architect/Owner will verify this. The requests must have copies of invoices and insurance certificates attached.

4 - Project limits are all shown on the Drawings. Coordinate work to prevent interference with Owner’s operations.

5 - Protect all trees with fencing placed at drip-line.

6 - Portable toilet location will be verified at site (if applicable).

7 - The Contractor is required to install utilities, a telephone and/fax. The University of Arkansas will pay for the construction utilities directly. Telephone and fax line are contractor expenses.

8- Appropriate security measures are to be observed. Any required University keys will be signed out, by the Contractor (with appropriate security deposits made), at the Facilities Management Key Desk. Any Facilities Management keys that are checked out must be returned upon completion of the project, in order to process the Final Pay Request. Any project keys required for Owner's access will be provided by the Contractor.
9- A SWPPP will be drawn by the civil engineer. It is the responsibility of the contractor to fully implement and adhere to storm water protection rules.

10- The University of Arkansas is a tobacco free campus. No smoking materials are allowed on the jobsite or any university grounds or buildings.
11- Renovation projects – asbestos abatement performed in house.

12- UA IDIQ contracts to be used by contractors for AVIT; Security Systems, HVAC controls, etc.

13- Soil and material testing should not be part of contractors bid.

Revised 5/26/2011, 11/10/10, 7/17/07, 4/25/06, 7/19/04
**Contractor Meeting**

320 S Boston, Suite 1200, Tulsa, OK 74103,

<table>
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<th>PROJECT NAME:</th>
<th>Monticello Corp UA Pike House</th>
<th>DATE:</th>
<th>7/2/2013 2:00 PM</th>
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<td>MCPK09-0001-001</td>
<td>SUBJECT:</td>
<td>Pre-Bid Meeting</td>
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<tr>
<td>ORGANIZER:</td>
<td>Stephen Burgin</td>
<td>LOCATION:</td>
<td>FAMA Main Conference Room A103</td>
</tr>
<tr>
<td>INVITEES:</td>
<td>James Milner, Stephen Burgin, Bobby Harris, Mark Eberhard, Robert Beeler</td>
<td>CC:</td>
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<tr>
<td>ATTENDEES:</td>
<td>James Milner (University of Arkansas), Stephen Burgin (Cyntery, AEC), Bobby Harris (University of Arkansas), Mark Eberhard (Cyntery, AEC), Robert Beeler (University of Arkansas)</td>
<td>MEETING COMMENTS:</td>
<td></td>
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<tr>
<td>ACTUAL START DATE:</td>
<td>7/2/2013 2:00 PM</td>
<td>MEETING MINUTES:</td>
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1. **University of Arkansas Requirements:**
   - **Parking Requirements:**
     - No parking will be provided on site, Contractors can purchase parking passes allowing parking in faculty parking lots or park in approved UofA provided parking off site.
     - No private vehicles are allowed to park on site. One company vehicle per trade will be allowed to park on site.
   - **Off Site Material storage:**
     - Materials stored off site will not to be included in Pay Apps.
     - Stored material on site or in UofA limited storage space may be included in Pay App.
   - **Key Deposit:**
     - No Key Deposit will be required.
   - **Storm Water**
     - Pay attention to storm water and run off. Provide silt fencing per the contract documents.
     - No tracking is allowed and the GC is required to keep the streets clean of debris.
   - **Tobacco Free Campus:**
     - UofA is a tobacco free campus and this policy is enforced by the campus authorities. No tobacco is allowed on site.
   - **Asbestos Abatement:**
     - Assume all asbestos material has been removed from the site.
     - If asbestos material is encountered during the project contact Bobby Harris for removal.
   - **IDIQ Items:**
     - IDIQ items include Fire Alarm, Security, and HVAC controls.
   - **On-Call Testing:**
     - UofA will provide third party testing.

2. **General Project Summary:**
   - The Renovation and Expansion of the Alpha Zeta Pi Kappa Alpha (Pike) Fraternity House will include demolishing the south existing wing, and interior demo of the north existing wing. The south wing will be rebuilt to include a basement, 1st floor, and 2nd floor addition. The north wing will construction will add a third floor to the sleeping wing along with an elevator
tower to the east end of the building.

- Brick salvage and reuse is up to the contractors discretion. If the GC chooses to not salvage and reuse the existing brick any and all new brick and mortar will be required to match the existing the existing brick and mortar.

3. Bid Date:
- Revise the bid date from 2:00 pm on July 9, 2013 to 2:30 pm on July 11, 2013.

4. Pre-Bid RFI's and Material Substitutions:
- Deadline for Pre-Bid RFI's and Material substitutions will be end of business day July 8, 2013.
**Sign In Sheet**

<table>
<thead>
<tr>
<th>Contact Name</th>
<th>Company Name</th>
<th>Phone</th>
<th>email</th>
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</thead>
<tbody>
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<tr>
<td>Plan Holder</td>
<td>Address</td>
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<tr>
<td>1 FLYNCO</td>
<td>7711 DISTRIBUTION DRIVE</td>
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<tr>
<td>2 EAST HARDING CONSTRUCTION</td>
<td>2230 COTTONDALE LANE SUITE 3</td>
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<tr>
<td>3 JAMES CONE CONSTRUCTION</td>
<td>10411 W MARKHAM</td>
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<td>4 CR CRAWFORD CONSTRUCTION</td>
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<td>5 NORTHWEST FIRE PROTECTION</td>
<td>2430 S VICKSBURG ST</td>
<td>FORT SMITH, AR</td>
<td>(479) 646-8934</td>
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<td>6 PERKINS FIRE PROTECTION-ROGERS</td>
<td>201 S 20TH ST SUITE 4</td>
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<td>(479) 878-2202</td>
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<td>7 BRADCO TAPERED</td>
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<td>8 TURN KEY CONST MGMT INC</td>
<td>3732 ROGERS AVE</td>
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<td>(479) 709-0044</td>
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<tr>
<td>9 FLINTCO CONSTRUCTION SPRINGDALE</td>
<td>UA FOOT BALL JOB SITE</td>
<td>FAYETTEVILLE, AR</td>
<td>(479) 750-4565</td>
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<tr>
<td>10 GAG BUILDERS</td>
<td>6785 HWY 89 SOUTH</td>
<td>CABOT, AR</td>
<td>(501) 676-6996</td>
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<tr>
<td>11 CENTER POINT CONTRACTORS, INC.</td>
<td>10316 E HWY 72</td>
<td>BENTONVILLE, AR</td>
<td>(479) 426-7373</td>
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<tr>
<td>12 ELLIOTT ELECTRIC SPRINGDALE</td>
<td>451 ANGES DRIVE</td>
<td>SPRINGDALE, AR</td>
<td>(479) 361-2266</td>
</tr>
<tr>
<td>13 THE BLUE BOOK NETWORK</td>
<td>800 EAST MAIN STREET</td>
<td>JEFFERSON VALLEY, NY</td>
<td>(800) 431-2584</td>
</tr>
</tbody>
</table>
BID FORM
Section 00410

Bid Time:  2:30 2:00 2:30 pm
Bid Date:  July 11 & 11, 2013
Location:  University of Arkansas
Office of Business Affairs
Administration Building Room 321
Fayetteville, AR 72701

BID FROM:


BID TO:  University of Arkansas Board of Trustees acting for and on behalf of The University of Arkansas at Fayetteville.

PROJECT:  Renovation and Expansion of the Alpha Zeta Pi Kappa Alpha Fraternity House

Gentlemen:

1. Having carefully examined the Contract Documents for this project, as well as the premises and all conditions affecting the proposed construction, the undersigned proposes to provide all labor, materials, services, taxes and equipment necessary for, or incidental to, the construction of the project in accordance with the Contract Documents within the time set forth, for the lump sum base bid of:

$______________________________________________________________

Dollar Amount Is To Be Showed Numerically.

DEDUCTIVE ALTERNATES

1. Pex Piping: Deduct the cost of providing copper piping for the domestic water systems above ground as noted in the Project Documents and provide PEX-a distribution system ASTM F 877, SDR 9 Tubing in accordance with all appropriate Codes. Fittings for PEX Tube: ASTM F 1807, metal-insert with copper or stainless steel crimp rings and matching PEX tube dimensions.

($______________________________________________________________)

2. Access Control: Deduct the cost of the electronic controls as specified in Section 281300; provide a keyed lock system. Note: this will only apply to the sleeping rooms.

($______________________________________________________________)

3. Dumbwaiter: Deduct the cost of providing the dumbwaiter and associated shaft wall, power, and roof framing described in the Construction Documents

($______________________________________________________________)


($______________________________________________________________)

Dollar Amount Is To Be Showed Numerically.
5. **Completion Time**: Bidder agrees that the work will be substantially complete and ready for final payment in accordance with the Contract Documents within 365 consecutive calendar days of the date established in a written notice to proceed.

6. The undersigned, in compliance with the Contract Documents for the construction of the above named project, does hereby declare:
   a. That the undersigned understands that the Owner reserves the right to reject any and all bids and to waive any formality.
   b. That if awarded the Contract, the undersigned will enter into an Agreement, on a form identical to the form included in the Contract Documents and execute required performance and payment bonds within 15 days after receipt of the Intent to Award, will commence work within 30 days after the date of the Notice to Proceed, and will complete the Contract fully within the time for completion as indicated.
   c. The undersigned further agrees that the bid security payable to Owner and accompanying this proposal shall become the property of the Owner as liquidated damages if the undersigned fails to execute the Contract or to deliver the required bonds to the Owner within 30 days from receipt of the Intent to Award as these acts constitute a breach of the Contractor’s duties.
   d. That this bid may not be withdrawn for a period of 30 days after the bid opening.
   e. The undersigned understands that the Owner's intent is to construct all facilities proposed within the limits established by the funds appropriated for the project.
   f. The names of subcontractors and the nature of the work to be performed by each one have been included on the Bid Form.
   g. The undersigned agrees to pay all prevailing hourly wage rates prescribed and mandated by Ark. Code Ann. § 22-9-301 et. seq., if the bid exceeds $75,000) or the undersigned agrees to pay all prevailing hourly wage rates mandated by the Davis-Bacon Wage Rates and any other applicable federal regulations.
   h. Bids submitted by a “Joint Venture/Joint Adventure” shall be signed by representatives of each component part of the Joint Venture. The licenses of each component part of the Joint Venture shall also be listed in the bid submittal. Therefore, joint venture bidders shall indicate at least two (2) signatures and two (2) license numbers on the Bid Form. Exception: Joint Ventures who have been properly licensed with the Arkansas Contractors Licensing Board as a “Joint Venture” need only to indicate the joint venture license number on the Bid Form. Joint Venture bidders shall indicate at least two (2) signatures on the Bid Form even if they are licensed as a joint venture.

7. The following documents are attached to and made a condition of this Bid.
   a. **Bid security**.
   b. **Listing of Mechanical, Plumbing, Electrical and Roofing Subcontractors**, if required.

8. The undersigned acknowledges receipt of and inclusion as a part of the Contract Documents the following addenda:

   No. ____________________________________________________________ Dated
   No. ____________________________________________________________ Dated
   No. ____________________________________________________________ Dated
   No. ____________________________________________________________ Dated
9. LISTING OF MECHANICAL, PLUMBING, ELECTRICAL AND ROOFING SUBCONTRACTORS

ALL MECHANICAL, PLUMBING, ELECTRICAL AND ROOFING SUBCONTRACTORS SHALL BE LISTED REGARDLESS OF QUALIFICATIONS, LICENSURES OR WORK AMOUNT. BIDDERS SHOULD CONSULT THE PROJECT MANUAL ON HOW TO FILL OUT THIS FORM. FAILURE TO NAME THE SUBCONTRACTOR IN THE SPACE PROVIDED SHALL CAUSE THE BID TO BE DECLARED NON-RESPONSIVE AND THE BID WILL NOT RECEIVE CONSIDERATION.

*Indicate the Name(s), of each entity performing the listed work:*

**MECHANICAL:** (Indicative of HVAC)

Name: __________________________________________________ License No. ______________________

Is the amount of work $20,000.00 or over: Yes ___ No ___

**PLUMBING:**

Name: __________________________________________________ License No. ______________________

Is the amount of work $20,000.00 or over: Yes ___ No ___

**ELECTRICAL:** (Indicative of wiring and illuminating fixtures)

Name: __________________________________________________ License No. ______________________

Is the amount of work $20,000.00 or over: Yes ___ No ___

**ROOFING AND SHEETMETAL** (Indicative of roofing applications)

Name: __________________________________________________ License No. ______________________

Is the amount of work $20,000.00 or over: Yes ___ No ___
Respectfully Submitted:

Name of Bidder (Typed or Printed)

Address

BY:       (Signature and Title)

Contractor’s Joint Venture License Number(s) or Contractor’s License No.

Telephone Number     Fax Number

Federal ID Number or Social Security Number

Date of Bid
SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and
protection facilities.

B. Related Sections:

1. Division 01 Section "Summary" for work restrictions and limitations on utility
interruptions.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included
in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services
and facilities without cost, including, but not limited to, Owner's construction forces, Architect
testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is
available for use without metering and without payment of use charges. Provide temporary
connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is
available for use without metering and without payment of use charges. Provide temporary
connections and extensions of services as required for construction operations.

1.4 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary
electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each
temporary utility before use. Obtain required certifications and permits.
1.5 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS (not used)

2.1 Common-Use Field Office: Allow field office space to accommodate needs of Owner Representative. Also provide adequate space to accommodate project meetings specified in other Division 01 Sections.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Contractor shall be responsible for locating facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work. Coordinate with Owner as may be required.

3.2 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.

B. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

C. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

D. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary fire extinguishers as directed by local AHJ.

3.3 MOISTURE AND MOLD CONTROL


B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard, replace or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use permanent HVAC system to control humidity.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

   a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
   b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record daily readings over a forty-
eight hour period. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.

c. Remove materials that can not be completely restored to their manufactured moisture level within 48 hours.

3.4 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

END OF SECTION 015000
SECTION 084112 - ALUMINUM-FRAMED ENTRANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes Kawneer Aluminum Entrances, glass and glazing, and door hardware and components.
   1. Types of Kawneer Aluminum Entrances include:
      a. 500 Tuffline Heavy Wall® Swing Door; Wide stile, 5" (127 mm) vertical face dimension, 2" (51mm) depth, 3/16" (5mm) wall thickness door, high traffic and high abuse applications.

B. Related Sections:
   1. Division 072700 “Air Barriers” for materials used to bridge between aluminum door and building intersection
   2. Division 079200 “Joint Sealants” for joint sealants installed as part of the aluminum door system
   3. Division 084313 "Aluminum-Framed Storefronts"
   4. Division 087000 "Hardware"
   5. Division 088000 "Glazing"

1.3 DEFINITIONS

A. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufactures Association (AAMA) – AAMA Glossary (AAMA AG).

1.4 PERFORMANCE REQUIREMENTS

A. General Performance: Aluminum-framed storefront system shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

   1. Design Wind Loads: Determine design wind loads applicable to the Project from basic wind speed indicated in miles per hour, according to ASCE 7, Section 6.5, "Method 2-Analytical Procedure," based on mean roof heights above grade indicated on Drawings.
      a. Basic Wind Speed (MPH): 90
      b. Importance Factor 1.0
      c. Exposure Category : C
B. Aluminum Framed Entrance Performance Requirements:
   a. Air Infiltration: For single acting offset pivot or butt hung entrances in the closed and locked position, the test specimen shall be tested in accordance with ASTM E 283 at a pressure differential of 6.24 psf (300 Pa) for single doors and 1.567 psf for pairs of doors. A single 3'0" x 7'0" (915 mm x 2134 mm) entrance door and frame shall not exceed 0.50 cfm per square foot. A pair of 6'0" x 7'0" (1830 mm x 2134mm) entrance doors and frame shall not exceed 1.0 cfm per square foot.
   b. Structural Performance: Corner strength shall be tested per the Kawneer dual moment load test procedure and certified by an independent testing laboratory to ensure weld compliance and corner integrity [Testing procedure and certified test results available upon request].

1.5 SUBMITTALS

A. Product Data: Include construction details, material descriptions, and fabrication methods, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum-framed entrance door indicated.

B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.

C. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

D. Samples for Verification: For sliding aluminum-framed glass door and components required.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type, class, grade, and size of aluminum-framed entrance doors. Test results based on use of downsized test units will not be accepted.

F. Warranty: Special warranty specified in this Section.

G. Fabrication Sample: Of each vertical-to-horizontal intersection of aluminum-framed systems, made from 12” (300 mm) lengths of full-size components and showing details of the following:
   1. Joinery, including welds.
   2. Anchorage.

H. Other Action Submittals:

   1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.
1.6 QUALITY ASSURANCE

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum-framed entrance doors and storefronts that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.

C. Source Limitations: Obtain sliding aluminum-framed glass door through one source from a single manufacturer.

D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum-framed glass entrance doors and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements." Do not modify size and dimensional requirements.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

F. Build mockup for type(s) of swing entrance door(s) indicated, in location(s) shown on Drawings.

G. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of sliding aluminum-framed glass door openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.8 WARRANTY

A. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty.

1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product:

1. Kawneer Company Inc.
2. The door stile and rail face dimensions of the 500 Tuffline® Heavy Wall® entrance door will be as follows:

<table>
<thead>
<tr>
<th>Door</th>
<th>Vertical Stile</th>
<th>Top Rail</th>
<th>Bottom Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 Tuffline®</td>
<td>5&quot;</td>
<td>5&quot;</td>
<td>10&quot;</td>
</tr>
</tbody>
</table>

3. Major portions of the door members to be 0.188” (4.8mm) nominal in thickness and glazing molding to be 0.05” (1.5mm) thick.

4. Glazing gaskets shall be either EPDM elastomeric extrusions or a thermoplastic elastomer.

5. Provide adjustable glass jacks to help center the glass in the door opening.

6. **2” Horizontal rail to align with adjacent storefront.**

B. Subject to compliance with requirements, provide a comparable product by the following:

1. Tubelite.
2. United States Aluminum.
3. Vistawall Architectural Products; The Vistawall Group; a Bluescope Steel company.

C. Substitutions: Refer to Substitutions Section for procedures and submission requirements

1. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
2. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid storefront installation and construction delays.
3. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
4. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for storefront system performance criteria, and (2) has been engaged in the design, manufacturer and fabrication of aluminum storefront for a period of not less than ten (10) years. (Company Name)
5. Test Reports: Submit test reports verifying compliance with each test requirement required by the project.
6. Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.

D. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.2 MATERIALS

A. Aluminum Extrusions: Alloy and temper recommended by sliding aluminum-framed glass door manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.090” wall thickness at any location for the main frame and sash members.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with sliding aluminum-framed glass door members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
   1. Weather Seals: Provide weather stripping with integral barrier fin or fins of semi-rigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 701/702.

2.3 STOREFRONT FRAMING SYSTEM

A. Storefront Entrance Framing: Entrance framing to be 2” x 4-1/2” heavy duty framing.

B. Non-Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposes shall be stainless steel.

D. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action

E. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

F. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

2.4 GLAZING

A. Glazing: As specified in Division 08 Section "Glazing."

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

D. Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

2.5 HARDWARE

A. General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, or other corrosion-resistant material compatible with aluminum; designed to smoothly operate, tightly close, and securely aluminum-framed entrance doors.

B. Standard Tuffline Heavy Wall® Entrance Hardware:
   1. Weatherstripping:
a. Meeting stiles on pairs of doors shall be equipped with an adjustable astragal utilizing wool pile with polymeric fin.
b. The door weathering on a single acting offset pivot or butt hung door and frame (single or pairs) shall be Kawneer Sealair® weathering. This is comprised of a thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing.

2. Sill Sweep Strips: EPDM blade gasket sweep strip in an aluminum extrusion applied to the interior exposed surface of the bottom rail with concealed fasteners (Necessary to meet specified performance tests).

3. Threshold: Extruded aluminum, one piece per door opening, with ribbed surface.

4. Continuous Hinge: Color to match.

5. Push/Pull: CO-12 style.

C. Door: A100A, A100B, B008C

1. Exit Device: Von Duprin 9947 Concealed Rod.
3. Cylinder(s)/Thumbturn: Match University Standard.


1. Flush bolts for inactive leaf
2. Thumb turn for active leaf
3. No exterior access
4. Push pulls

E. Doors: A102A, A102B, A102C

1. Push pulls

F. Access Control Entrance Hardware:

1. University of Arkansas Alarm Company
   a. Triple S-Alarm Company, Inc. (501) 664 4599

2.6 FABRICATION

A. Fabricate aluminum-framed glass entrance doors in sizes indicated. Include a complete system for assembling components and anchoring doors.

B. Fabricate aluminum-framed glass doors that are reglazable without dismantling perimeter framing.
   1. Door corner construction shall consist of mechanical clip fastening, SIGMA deep penetration plug welds and 1-1/8" (29 mm) long fillet welds inside and outside of all four corners. Glazing stops shall be hook-in type with EPDM glazing gaskets reinforced with non-stretchable cord.
   2. Accurately fit and secure joints and corners. Make joints hairline in appearance.
   3. Prepare components with internal reinforcement for door hardware.
   4. Arrange fasteners and attachments to conceal from view.

C. Weather Stripping: Provide weather stripping locked into extruded grooves in door panels or frames as indicated on manufactures drawings and details.
2.7 FINISHES, GENERAL

A. Comply with AAMA-AFPA "Anodic Finishes/Painted Aluminum" for recommendations for applying and designating finishes.

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

2.8 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing:
   1. Kawneer Permafluor™ (70% PVDF), AAMA 2605, Fluoropolymer Coating.
      a. Interior: As selected by Architect
      b. Exterior: Match P8

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight sliding door installation.
   1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
   2. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches (76 mm) of opening.
   3. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
   4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum swing entrance doors, hardware, accessories, and other components.

B. Install aluminum swing entrance doors level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

C. Set sill threshold in bed of sealant, as indicated, for weather tight construction.
D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Upon Owner’s written request, provide periodic site visit by manufacturer’s field service representative.

3.4 ADJUSTING, CLEANING, AND PROTECTION

A. Clean aluminum surfaces immediately after installing aluminum framed storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION 084113
SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Section 281300 - Access Control System for card readers

C. Section 282300 - Video Surveillance

D. Section 283100 - Fire Alarm And Detection Systems

1.2 SUMMARY

A. Section includes:
   1. Mechanical door hardware for the following:
      a. Swinging doors.
   2. Cylinders for door hardware specified in other Sections.

1.2 SUBMITTALS

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

B. Shop Drawings: Details of electrified door hardware, indicating the following:
   1. Wiring Diagrams: For power, signal, and control wiring and including the following:
      a. Details of interface of electrified door hardware and building safety and security systems.
      b. Schematic diagram of systems that interface with electrified door hardware.
      c. Point-to-point wiring.
      d. Risers.
      e. Elevations doors controlled by electrified door hardware.
   2. Operation Narrative: Describe the operation of doors controlled by electrified door hardware.

C. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. **Submittal Sequence**: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule. It is also suggested this submittal be coordinated with UA Housing Director, Mr. Reggie Houser, prior to submission to the Architect.

2. **Format**: Use same scheduling sequence, format, and door numbers as in the Contract Documents.

3. **Content**: Include the following information:
   
   a. Identification number, location, hand, fire rating, size, and material of each door and frame.
   b. Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
   c. Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
   d. Description of electrified door hardware sequences of operation and interfaces with other building control systems.
   e. Fastenings and other pertinent information.
   f. Explanation of abbreviations, symbols, and codes contained in schedule.
   g. Mounting locations for door hardware.
   h. List of related door devices specified in other Sections for each door and frame.

4. **Keying Schedule**: Prepared by or under the supervision of Installer, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents.

D. **Product Certificates**: For electrified door hardware, from the manufacturer.

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

E. **Maintenance Data**: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.

F. **Warranty**: Special warranty specified in this Section.

1.3 **DELIVERY, STORAGE, AND HANDLING**

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

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

1.4 **COORDINATION**

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

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

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

D. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Provide door hardware for each door as scheduled in Part 3 "Door Hardware Schedule" Article to comply with requirements in this Section.

1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products complying with BHMA designations referenced.

2. Subject to compliance with requirements, provide product equivalent to product specified by one of the manufacturers listed.

B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:

1. References to BHMA Designations: Provide products complying with these designations and requirements for description, quality, and function.

2.2 HINGES

A. Hinges: BHMA A156.1. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   a. Baldwin Hardware Corporation.
   b. Bommer Industries, Inc.
   c. Cal-Royal Products, Inc.
   d. Hager Companies.
   e. IVES Hardware; an Ingersoll-Rand company.
   f. Lawrence Hardware Inc.
2.3 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

B. Lock Backset: 2-3/4 inches, unless otherwise indicated.

C. Lock Trim:
   1. Description: As indicated on Drawings.
   2. Levers: Wrought or Forged.
   4. Dummy Trim: Match lever lock trim and escutcheons.
   5. Operating Device: Lever with escutcheons (roses).

D. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.
   1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
   2. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.

G. Mortise Locks: BHMA A156.13; Operational Grade 1; stamped steel case with steel or brass parts; Series 1000.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Corbin – Russwin ML 2000 Series scheduled or equivalent product by one of the following:
      a. Arrow USA; an ASSA ABLOY Group company.
      b. Best Access Systems; Div. of Stanley Security Solutions, Inc.
      c. Falcon Lock; An Ingersoll-Rand Company.
      d. SARGENT Manufacturing Company; an ASSA ABLOY Group company.
      e. Schlage Commercial Lock Division; an Ingersoll-Rand company.
      f. Yale Security Inc.; an ASSA ABLOY Group company.

2.4 MANUAL FLUSH BOLTS

A. Manual Flush Bolts: BHMA A156.16; minimum 3/4-inch throw; designed for mortising into door edge.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or equivalent product by one of the following:
      a. IVES Hardware; an Ingersoll-Rand company.
      b. Trimco.
2.5 EXIT DEVICES AND AUXILIARY ITEMS

A. Exit Devices and Auxiliary Items: BHMA A156.3.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide VonDuprin Model 99NL or equivalent product by one of the following:
      a. DORMA Architectural Hardware; Member of The DORMA Group North America.
      b. Dor-O-Matic; an Ingersoll-Rand company.
      c. Monarch Exit Devices & Panic Hardware; an Ingersoll-Rand company.

2.6 LOCK CYLINDERS

A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.
   1. Manufacturer: Same manufacturer as for locking devices.
   2. Basis-of-Design Product: Subject to compliance with requirements, provide six pin Corbin - Russwin “Pyramid” cylinder for mortised locks or equivalent product by one of the following:
      a. Arrow USA; an ASSA ABLOY Group company.
      b. ASSA, Inc.; An ASSA ABLOY Group Company.
      c. Best Access Systems; Div. of Stanley Security Solutions, Inc.
      d. Falcon Lock; an Ingersoll-Rand company.
      e. SARGENT Manufacturing Company; an ASSA ABLOY Group company.
      f. Schlage Commercial Lock Division; an Ingersoll-Rand company.
      g. Yale Security Inc.; an ASSA ABLOY Group company.

   B. Standard Lock Cylinders: BHMA A156.5; Grade 1; permanent cores that are removable; face finished to match lockset.

2.7 KEYING

A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference with Owner and manufacturer’s representative.

B. Keys: Nickel silver.
   1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
      a. Notation: "DO NOT DUPLICATE."
   2. Quantity: In addition to one extra key blank for each lock, provide the following:

2.8 KEY CONTROL SYSTEM

A. Key Control Cabinet: BHMA A156.5; metal cabinet with baked-enamel finish; containing key-
holding hooks, labels, 2 sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of 150 percent of the number of locks.

1. Wall-Mounted Cabinet: Cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock. Coordinate cabinet location with the Owner.

2.9 OPERATING TRIM

A. Operating Trim: BHMA A156.6; stainless steel, unless otherwise indicated.  

1. Manufacturers: Subject to compliance with requirements, provide product indicated on schedule or equivalent product by one of the following:  
   a. Hager Companies.  
   b. IVES Hardware; an Ingersoll-Rand company.  
   c. Rockwood Manufacturing Company.  
   d. Trimeco.

2.10 SURFACE CLOSERS

A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.  

1. Basis-of-Design Product: Subject to compliance with requirements, provide LCN Closers, an Ingersoll-Rand company; Model 4041 Super Smoothee surface mount, or equivalent product by one of the following:  
   a. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company.  
   b. DORMA Architectural Hardware; Member of The DORMA Group North America.  
   c. Dor-O-Matic; an Ingersoll-Rand company.  
   d. Norton Door Controls; an ASSA ABLOY Group company.  
   e. Rixson Specialty Door Controls; an ASSA ABLOY Group company.

2.11 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: BHMA A156.16; polished aluminum base metal.  

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or equivalent product by one of the following:  
   a. IVES Hardware; an Ingersoll-Rand company.  
   b. Trimeco.

2.12 OVERHEAD STOPS AND HOLDERS

A. Overhead Stops and Holders: BHMA A156.8.  

1. Manufacturers: Subject to compliance with requirements, provide products by same manufacturer as closers.
2.13 DOOR GASKETING

A. Door Gasketing: BHMA A156.22; air leakage not to exceed 0.50 cfm per foot of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Hager Companies.
   b. National Guard Products.
   c. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
   d. Reese Enterprises, Inc.
   e. Sealeze; a unit of Jason Incorporated.

2.14 THRESHOLDS

A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Hager Companies.
   b. National Guard Products.
   c. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
   d. Reese Enterprises, Inc.
   e. Sealeze; a unit of Jason Incorporated.

2.15 METAL PROTECTIVE TRIM UNITS

A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- thick stainless steel; with manufacturer's standard machine or self-tapping screw fasteners.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. IVES Hardware; an Ingersoll-Rand company.
   b. Trimco.

2.16 AUXILIARY DOOR HARDWARE

A. Auxiliary Hardware: BHMA A156.16.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Hager Companies.
   b. Stanley Commercial Hardware; Div. of The Stanley Works.
   c. Trimco.
2.17 POWERED DOOR OPERATOR

A. Powered Door Operator:
   2. Manufacturers: Subject to compliance with requirements, provide Besam PowerSwing with remote receiver and narrow (single gang) push plate, or an equivalent Product.

2.18 FABRICATION

A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Owner.
   1. Manufacturer's identification is permitted on rim of lock cylinders only.

B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.

C. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
   1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
   2. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
   3. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.19 FINISHES

A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

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

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

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

3.2 PREPARATION

A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

3.3 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.
   2. Custom Steel Doors and Frames: HMMA 831.

B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
   1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
   2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

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

D. Lock Cylinders: Install construction cores to secure building and areas during construction period. Replace construction cores with permanent cores as directed by Owner.

E. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

F. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

G. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
H. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

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

3.4 FIELD QUALITY CONTROL

A. Independent Architectural Hardware Consultant: General Contractor will engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.

1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

3.6 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

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

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

3.7 DEMONSTRATION

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

<table>
<thead>
<tr>
<th>Set No.</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Entry – Pr  Alum Entry Doors (Typical)</td>
<td>Refer to Section 084112, Coordinate hardware with security system</td>
</tr>
<tr>
<td>02</td>
<td>Entry – Pr  Alum Entry Doors (Terrace Doors)</td>
<td>Refer to Section 084112, Coordinate hardware with security system</td>
</tr>
</tbody>
</table>
| 03      | Exit – Single HM in Hollow Steel Frame | **Hinges**  
1 ½ Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.  
**Panic Exit Device with Entry Function (Typical)**  
BHMA Type 10, F11, Lever exterior with slimline touchbar interior. Coordinate hardware with security system  
**Weatherstripping**  
R0D165  
**Door Sweep**  
**Threshold**  
J32130  
**Closer**  
C02021  
**Stops w/ Hold Open**  
L01351  
**Kickplate**  
J102 x 630  
**Rain Drip** |
| 04      | Dormitory – Single HM (Typical Corridor to Suite) | **Hinges**  
1 ½ Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.  
**Lockset with Dormitory Function**  
F48 Interconnect with Access Control System Card Reader.  
**Closer**  
C02021  
**Wall Stop**  
L02251  
**Gasketting**  
R0C254 Optional flange matl, neoprene gasketing matl, adjustable head and jamb type, applied to rabbet, for smoke control.  
**Kickplate**  
J102 x 630  
**Silencers**  
L03011 |
| 04B     | Dormitory – Single HM (Study to Sleeping) | **Hinges**  
1 ½ Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.  
**Lockset with Privacy Function**  
F37  
**Wall Stop**  
L02251  
**Silencers**  
L03011 |
### Set No. 05  Smoke Doors – HM (Double)

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Hinges</td>
<td>3 Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.</td>
</tr>
<tr>
<td>Panic Exit Device</td>
<td>BHMA Type 10, F11, Lever exterior with slimline touchbar interior. Coordinate hardware with security system</td>
</tr>
<tr>
<td>Closer</td>
<td><a href="#">C02021</a></td>
</tr>
<tr>
<td>Wall Stop</td>
<td>L02251</td>
</tr>
<tr>
<td>Kickplate</td>
<td>J102 x 630</td>
</tr>
<tr>
<td>Smoke Gaskets/Seals</td>
<td></td>
</tr>
</tbody>
</table>

### Set No. 06  Toilet – HM (Typical)

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Hinges</td>
<td>1 1/2 Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.</td>
</tr>
<tr>
<td>Lockset with Privacy Function</td>
<td>F37</td>
</tr>
<tr>
<td>Wall Stop</td>
<td>L02251</td>
</tr>
<tr>
<td>Kickplate</td>
<td>J102 x 630</td>
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<tr>
<td>Silencers</td>
<td>L03011</td>
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</tbody>
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### Set No. 07  Single HM - Mechanical / Electrical / Kitchen

<table>
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<tr>
<th>Component</th>
<th>Specification</th>
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<tr>
<td>Hinges</td>
<td>1 1/2 Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.</td>
</tr>
<tr>
<td>Lockset with Storage Function</td>
<td>F44</td>
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<tr>
<td>Wall Stop</td>
<td>L02251</td>
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<tr>
<td>Kickplate</td>
<td>J102 x 630</td>
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<td>Silencers</td>
<td>L03011</td>
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### Set No. 07B  Pr HM - Mechanical / Electrical / Storage / Janitor / Kitchen

<table>
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<th>Component</th>
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<tr>
<td>Hinges</td>
<td>3 Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.</td>
</tr>
<tr>
<td>Lockset with Storage Function</td>
<td>F44</td>
</tr>
<tr>
<td>Kick Down Door Holder</td>
<td>Ives FS 544-555</td>
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<tr>
<td>Flush Bolts</td>
<td>1 pair, concealed, BHMA 156.16, Grade 1, top and bottom</td>
</tr>
<tr>
<td>Kickplate</td>
<td>J102 x 630</td>
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<tr>
<td>Silencers</td>
<td>L03011</td>
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<tr>
<td>Set No.</td>
<td>Description</td>
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<td>08</td>
<td>Storage Pr HM (Ext Bsmnt Stor)</td>
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<tr>
<td>09</td>
<td>Single HM, Gang Bath, Storage, Janitor, Laundry</td>
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<td>10</td>
<td>Entry – Pr Alum Entry Doors</td>
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<td>Entry – Single Alum Entry Doors</td>
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<td>12</td>
<td>Entry – Single Alum Entry Doors (Typical)</td>
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<tr>
<td>Set No. 14 Smoke Doors – HM (Single)</td>
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<tr>
<td><strong>Hinges</strong></td>
<td><strong>1 ½ Pr - 4 1/2 x 4 1/2 Steel w/ non-removable pins.</strong></td>
</tr>
<tr>
<td><strong>Panic Exit Device</strong></td>
<td><strong>BHMA Type 10, F11, Lever exterior with slimline touchbar interior. Coordinate hardware with security system</strong></td>
</tr>
<tr>
<td><strong>Closer</strong></td>
<td><strong>C02021</strong></td>
</tr>
<tr>
<td><strong>Wall Stop</strong></td>
<td><strong>L.02251</strong></td>
</tr>
<tr>
<td><strong>Kickplate</strong></td>
<td><strong>J102 x 630</strong></td>
</tr>
<tr>
<td><strong>Smoke Gaskets/Seals</strong></td>
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END OF SECTION 087100