

<b>ADDENDUM NO. :</b>	<b>Two (2)</b>
<b>BID DUE TIME AND DATE:</b>	2:00 p.m., April 30, 2019 <b>(No Change)</b>
<b>BIDDER QUESTIONS BY:</b>	<del>11:59 p.m.,</del> 10:00 a.m., April 23, 2019
<b>LAST ADDENDUM ISSUED:</b>	11:59 p.m., April 25, 2019

**THE PURPOSE FOR THIS ADDENDUM IS:**

- **To provide a response to questions raised by Plan Holders;**
- **To modify/clarify specifications and drawings as a result of above and items identified by the Design Team.**

Addendum 03 is scheduled to be released by 2pm Wednesday, 04/17/19; generally it addresses:

- Sections to clarify flashing, cast stone sills, and stucco reveals.
- Sections to show roof canopy over Truck Dock identified below in this Addendum 02.
- Sections and Plan to show retaining wall & guardrail extension at Truck Dock identified below in this Addendum 02.
- Floor Plan to call out interior storefront, along with revision to sheet A602 to show triangular interior storefront starting 10' AFF and visible on B1 and C1/A301.
- As well as address other Bidder questions that may be raised.

**GENERAL:**

Additional Notes from 03/26/2019 Pre-Bid Meeting

Site utilities: Irrigation to be noted; cap prior to starting work adjacent and if any damaged cap and notify College. Probable location of lines shown on the attached site sketch provided by the College.

Electrical Feeder: mentioned at the Pre-Bid that it was just that day noted that Load Test revealed necessity for additional Feeder. As a result, a few changes required on Electrical; see Drawings section on page 3 of this addenda.

In addition to those identified in Addendum 01, Remove/Relocate/Re-install: Bookstore mailboxes, and various Marker Boards and Tackboards throughout building:

Existing Community Center: During the construction of Phase 1 and 2B, the existing Community Center will be available to the Contractor for storage, office, staging of materials to be removed and relocated, etc., as the required Life Safety/Exiting for this Assembly occupancy space is not possible during the construction of Phase 1 and 2B; use is contingent on the Contractor providing some form of accommodations for access into the Staff Breakroom.

NOTE: The Additional Resources of Existing Drawings and Photos have been made available via Drop Box; if you were interested in looking at any of these, and have not received please let us know.

**Q&A - Responding to Bidders Questions:**

**Q1: Window Treatments:** Please confirm there are no window treatments as part of this contract.

**A1:** Correct; no window treatments. Window treatments by Owner.

**Q2: Wall tile in the vestibule and restrooms:** Confirm the height.

**A2:** B1/A304 sections do not provide height of existing ceiling, and the RCP and schedule are silent on the issue. The existing ceiling height is 9'. The intent is that there is minimal wall work OTHER than a new wing wall and the new wall between the ADA stall and vestibule, and it is an accent wall. Addenda to provide design intent on A601; know that the West facing side will be three color design.

**Q3: Canopy at Truck Dock:** On drawings A301 & A303 there is a note showing a "Pre-Fab Walkway Canopy." If this is a pre-fab walkway canopy there is not a specification in the Manual; Structural Drawings show support steel and steel decking. Please clarify this area's scope of work.

**A3:** NO Pre-Fab Walkway Canopy. The low roof between Addition and Existing continues east over Truck Dock. Correcting the Section and Roof Plan to re-issue. See also "Contractor Option" below.

Contractor Option: 6/S503 shows a change in elevation between main low roof and canopy accounting for no need for insulation (other than to provide slope); however can adjust the decks to be the same height and run the insul/mod bit system straight across to simplify construction.

**Q4: New Guardrail at Truck Dock:** Confirm material.

**A4: New Guardrail at Truck Dock:** Matching existing, believed to be standard galvanized 2" pipe rail (2 3/8"); we will not be painting.

**Q5: New Guardrail at Truck Dock:** Confirm the location and extent:

**A5a: New Guardrail at Truck Dock:** Current may still be provided, however below Revised simplifies:

A1/A301 & A2/A303 show location of the new rail as attached to the retaining wall to give the greatest sidewalk width possible, and with two bottom horizontals (also seen in elevation on A1/A302).

HOWEVER, to simplify that rail section and make use of exist pipe, section may change as follows:

- Utilize the six (6) existing roughly 8' oc vertical pipe embedded in the existing Retaining Wall, and add five (5) new vertical pipe attached to top of the existing Retaining Wall, horizontally centered between each existing.
- Eliminate the 2<sup>nd</sup> bottom rail
- The rail system can be assembled via components similar to those available from Kee Safety: [https://www.keesafety.com/images/uploads/us/documents/Kee\\_Safety\\_components\\_catalog.pdf](https://www.keesafety.com/images/uploads/us/documents/Kee_Safety_components_catalog.pdf)
- A new top rail is required and attached to the existing posts via Three Socket Tee (such as Kee 25).
- Two new intermediate rails and new bottom rail are required and attached to the existing posts via Two Socket Cross (such as Kee 26).
- New vertical pipe/posts required between each existing and attachment via Standard Railing Flange (such as Kee 62)
- Last pipe North end would turn corner at each intermediate and bottom horizontal via 90 degree Side Outlet Tee (such as Kee 21), w/ top horizontal attached via Side Outlet Elbow (such as Kee 20).
- This last existing vertical pipe would connect 90 degrees +/- to a new vertical pipe at the location of the new in-filled vertical CMU (7/S302 previous location of stairs), closing the circuit. The dimension on this E/W section is 3'-8" (field verify).
- The total length of this N/S section of rail system on existing Retaining Wall is +/- 40' (field verify).

**A5b: New Guardrail at Truck Dock:** The above question brought to light that the Retaining Wall needs to extend South; extension point selected to align with the new Addition South Wall as it also corresponds to where the difference in height allows elimination of the guardrail; +/- 12'-8" extension south.

Civil and Structural have revised drawings indicating retaining wall extension (attached). Architectural Plan to be revised, to indicate same, intend to issue with Addendum 03.

**Q6: Aluminum storefront windows:** Show locations of aluminum (main issue is interior) storefront windows on the drawings. (F3-F8)

**A6: Floor Plan to be revised to call out interior storefront, along with revision to sheet A602 to add Type F9, F10, and F11:**

- F9 to show rectangular interior storefront, similar to F4 and F5 but with 6' width dimension. Visible in A1/A302 (left storefront in that Section incorrect/should match two to the right/north).
- F10 to show triangular interior storefront starting 10' AFF and visible on B1 and C1/A301.
- F11 to show rectangular interior storefront with perforated panel, similar to F4 but without internal mullions, and visible on A1/A301 with "BOOKSTORE" graphic.

## **MODIFY/CLARIFY SPECIFICATIONS:**

### **General:**

REVISING INDEX PAGE(S) and adding to the Project Manual:

06 16 33 Wood Board Sheathing

**REVISING INDEX PAGE(S) and Modifying as follows:**

~~10 11 16~~ ~~Marker and Tackboards~~ *Section Deleted. Previously to be issued, but Addendum 02 deletes this Section, and advises that existing Markers & Tackboards to be removed, and reinstalled existing units.*

**ADDING to INDEX PAGE(S) and including ATTACHED (Sections added to the Project Manual and Index):**

**REVISING INDEX PAGE(S) and incl ATTACHED Sections previously indicated to be issued via Addenda:**

- 07 21 00 Building Insulation
- 07 27 20 Fluid Applied Air & Water Resistive Barrier (*Short page is provided guiding to Stucco Section, where it is identified that Barrier criteria found under Section 09 24 23*)
- 07 32 16 Concrete Roof Tile
- 09 24 23 Portland Cement Stucco System

**MODIFY/CLARIFY DRAWINGS:**

The following sheet(s) are modified and/or attached and are Issued with Revisions as a part of Addendum 02

**ARCHITECTURAL (A)**

General: Regarding above descriptions under Bidder Q & A that modify the drawings:

- A301, A304, A601 – Height of Wall Tile and scope (Q2/A2).
- A107, A202, A301, A302, A303 - Canopy over Truck Dock (Q3/A3).
- A102, A202, A302, A303 - Retaining Wall Extension (A5b).
- A102, A201, A202, A301, A303 - Guardrail extent identification (Q4/A4, Q5/A5).
- A102 - Interior Storefront Type identification (Q6/A6).

**CIVIL (C):**

Issue Drawing(s) with Revisions identifying the following regarding above descriptions under Bidder Q & A that modify the drawings.

- C-1 - Retaining Wall Extension (A5b).

**STRUCTURAL (S):**

Issue Drawing(s) with Revisions identifying the following regarding above descriptions under Bidder Q & A that modify the drawings.

- S110, S323 (Masonry Wall Schedule) - Retaining Wall Extension (A5b).

**ELECTRICAL (E):**

- E002 - Issue Drawing(s) with Revisions identifying revisions necessitated for additional Feeder. As a result, revisions required on Drawings as follows: Ex Panel VH1, Ex Panel VH2, Panel VL3, and Vh3.
- E302 – Access Control Changes: Plan Notes, and Data Room V0124
- E401 - Issue Drawing(s) with Revisions identifying revisions necessitated for additional Feeder. As a result, revisions required on Drawings as follows: New Power Riser Diagram with Feeder Schedule, and Misc.

**TECHNICAL PROVISIONS**

<b>DIVISION 1</b>		<b>GENERAL REQUIREMENTS</b>	
		See Preceding Pages Div 00 & 01 for Non-Technical Requirements	
<b>DIVISION 2</b>		<b>EXISTING CONDITIONS</b>	
Section	02 30 00	Subsurface Investigation	
	02 41 20	Selective Demolition	
		<i>("Selective Structure Demolition" inadvertently included with Bid Documents, deleted UNDER Addendum 01)</i>	
<b>DIVISION 3</b>		<b>CONCRETE</b>	
Section	03 30 00	Cast-In-Place Concrete	
	03 60 30	Non-Metallic Grout - Structural	
<b>DIVISION 4</b>		<b>MASONRY</b>	
Section	04 05 00	Masonry Grout	
	04 20 00	Masonry Assemblies	
	04 23 00	Reinforced Unit Masonry	
<b>DIVISION 5</b>		<b>METALS</b>	
Section	05 12 00	Structural Steel	
	05 22 00	Steel Joists	
	05 33 00	Steel Roof Deck	
	05 40 00	Cold Formed Metal Framing	
	05 50 00	Metal Fabrications	<i>Issued Addendum 01</i>
<b>DIVISION 6</b>		<b>WOOD AND PLASTICS</b>	
Section	06 10 00	Rough Carpentry	
<i>Section Added:</i>	06 16 33	Wood Board Sheathing	<i>Issued Addendum 02</i>
	06 25 00	Slatwall Panel System	
	06 40 00	Architectural Woodwork and Millwork	
<b>DIVISION 7</b>		<b>MOISTURE PROTECTION</b>	
Section	07 21 00	Building Insulation	<i>Issued Addendum 02</i>
	07 27 20	Fluid Applied Air & Water Resistive Barrier	<i>Issued Addendum 02</i>
		<i>(where it is identified that Barrier criteria found under Section 09 24 23)</i>	
	07 32 16	Concrete Roof Tile	<i>Issued Addendum 02</i>
	07 55 52	Modified Bitumen Membrane Roofing	<i>Issued Addendum 01</i>
	07 62 00	Sheet Metal Flashing and Trim	<i>Issued Addendum 01</i>
	07 70 00	Fastener Schedule	<i>Issued Addendum 01</i>
	07 84 00	Firestopping	<i>Issued Addendum 01</i>
	07 90 00	Joint Protection	<i>Issued Addendum 01</i>
<b>DIVISION 8</b>		<b>DOORS AND WINDOWS</b>	
Section	08 11 00	Steel Doors and Frames	<i>Issued Addendum 01</i>
	08 14 16	Wood Doors	<i>Issued Addendum 01</i>
	08 31 13	Access Doors and Panels	<i>Issued Addendum 01</i>
	08 34 00	Installation of Exist Overhead Roll-up Counter Doors	<i>Issued Addendum 01</i>
	08 41 13	Entrances and Storefronts	<i>Issued Addendum 01</i>
	08 71 00	Door Hardware	<i>Issued Addendum 01</i>
	08 71 13	Automatic Entrance Door Operators	<i>Issued Addendum 01</i>
	08 80 00	Glazing	<i>Issued Addendum 01</i>
	08 91 00	Wall Louvers	<i>Issued Addendum 01</i>

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### DIVISION 9

### FINISHES

Section	09 21 16	Gypsum Wallboard	<i>Issued Addendum 01</i>
	09 24 23	Portland Cement Stucco System	<i>Issued Addendum 02</i>
	09 31 00	Ceramic Tile	<i>Issued Addendum 01</i>
	09 51 00	Acoustical Ceilings	<i>Issued Addendum 01</i>
	09 65 20	Luxury Vinyl Tile Flooring	<i>Issued Addendum 01</i>
	09 68 13	Carpet Tile	<i>Issued Addendum 01</i>
	09 80 00	Acoustical Treatment	<i>Issued Addendum 01</i>
	09 90 00	Painting and Coatings	<i>Issued Addendum 01</i>
	09 97 23	Concrete and Masonry Coatings	<i>Issued Addendum 01</i>

### DIVISION 10

### SPECIALTIES

Section	<del>10 11 16</del>	<del>Marker and Tackboards</del>	<i>Deleted under Addendum 02</i>
		<i>(Previously to be issued, but deleted Markers &amp; Tackboards to be reinstalled Existing Units)</i>	
	10 14 00	Signage	<i>Issued Addendum 01</i>
	10 21 00	Toilet Compartments	<i>Issued Addendum 01</i>
	10 26 00	Wall Protection	<i>Issued Addendum 01</i>
	10 28 13	Toilet Accessories	<i>Issued Addendum 01</i>
	10 44 00	Fire Extinguishers and Cabinets	<i>Issued Addendum 01</i>

### DIVISION 22

### PLUMBING

Section	22 00 00	Common Requirements for Plumbing Work
	22 00 02	Plumbing Demolition
	22 01 00	Operation and Maintenance Manuals
	22 07 00	Thermal Insulation
	22 11 00	Potable Water Pipe Valves and Fittings
	22 13 00	Soil, Waste, Vent, and Drain Piping Systems
	22 33 00	Residential Electric Domestic Water Heaters
	22 42 00	Plumbing Specialties

### DIVISION 23

### HEATING, VENTILATION, & AIR CONDITIONING (HVAC)

Section	23 00 00	Common Requirements for Mechanical Work
	23 00 02	Mechanical Demolition
	23 05 29	Hangers and Supports
	23 05 93	Test and Balance
	23 07 00	Thermal Insulation
	23 09 09	Building Automation System
	23 11 00	Fuel Gas Piping
	23 21 00	Chilled Water Piping
	23 21 30	Thermometers
	23 21 40	Gauges
	23 23 00	Refrigerant Piping and Accessories
	23 26 00	Condensate Drain Piping
	23 34 11	Light Duty Inline Exhaust Fans
	23 36 16	VAV Terminal Units – DDC
	23 36 17	VAV Terminal Units – VAV - DDC
	23 37 00	Air Distribution Equipment
	23 73 23	Custom Air Handling Units

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26 05 10	Basic Electrical Materials & Methods
26 05 19	Conductors and Cables
26 05 26	Grounding and Bonding
26 05 29	Electrical Supports
26 05 33	Raceways and Boxes
26 05 53	Electrical Identification
26 22 00	Dry-Type Transformers (600 V and Less)
26 24 16	Panelboards
26 27 26	Wiring Devices
26 28 13	Fuses
26 28 16	Enclosed Switches & Circuit Breakers
26 43 13	Surge Protective Devices
26 51 00	Interior Lighting
26 56 00	Exterior Lighting

### DIVISION 27

#### COMMUNICATIONS

27 10 00	Voice and Data Communication Cabling
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### DIVISION 28

#### ELECTRIONIC SAFETY & SECURITY

28 05 00	Common Work Results-Electronic Safety & Security	<i>Issued Addendum 01</i>
28 05 13	Conductors & Cables for Electronic Safety & Security	<i>Issued Addendum 01</i>
28 13 01	Access Control System*	<i>Issued Addendum 01</i>
28 46 00	Fire Alarm	

### DIVISION 31

#### EARTHWORK

Section	31 10 00	Site Clearing
	31 20 00	Earth Moving
	31 31 16	Termite Control
	31 50 00	Excavation Support and Protection

### DIVISION 32

#### EXTERIOR IMPROVEMENTS

Section	32 13 13	- Concrete Paving
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### DIVISION 33

#### UTILITIES

Section	Common Work Results for Utilities
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End of Index

**SECTION 06 16 33**  
**WOOD BOARD SHEATHING Preface**

*Issued under ADDENDUM 02*

**PART 1 – GENERAL**

1.1 RELATED DOCUMENTS

*No Change*

1.2 SUMMARY

*Modify as follows:*

- A. This Section includes the following:
  - 1. Wall sheathing
  - 2. Roof sheathing
  - 3. ~~Building wrap~~ (Not found in this Section)
  - 4. Flexible flashing at openings in sheathings
  - 5. ~~Composite nail base insulated roof sheathing~~ (Not found in this Section)

**SECTION 06 16 33  
WOOD BOARD SHEATHING**

*Issued under ADDENDUM 02*

**PART 1 – GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections.

1.2 SUMMARY

- A. This Section includes the following:
  - 1. Wall sheathing
  - 2. Roof sheathing
  - 3. Building wrap
  - 4. Flexible flashing at openings in sheathings
  - 5. Composite nail base insulated roof sheathing
- B. Related sections include Section 06 10 53 – Rough Carpentry.

1.3 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. For building wrap, include data on air/moisture-infiltration protection based on testing according to referenced materials.
- B. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:
  - 1. Building Wrap

1.4 DELIVERY, STORAGE AND HANDLING

- A. Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

**PART 2 – PRODUCTS**

2.1 WOOD PANEL PRODUCTS

- A. Plywood: Either DOC PS 1 or DOC PS 2, unless otherwise indicated
- B. Thickness: As needed to comply with requirements specified, but not less than thickness directed
- C. Factory mark panels to indicate compliance with applicable standard

2.2 ROOF SHEATHING

- A. Plywood Roof Sheathing: Exterior Sheathing
  - 1. Span Rating: Not less than 24/0
  - 2. Nominal Thickness: Not less than ½"

2.3 FASTENERS

- A. Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  - 1. For roof and wall sheathing, provide fasteners with hot-dip coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, Staples: ASTM F 1667
- C. Power-Driven Fasteners: NES NER-272



- D. Wood Fasteners: NES NER 272
- E. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for materials being fastened.
  - 1. For wall and roof sheathing panels, provide screws with organic polymer or other corrosion protective coating having a salt spray resistance of more than 800 hours according to ASTM B 117.
- F. Screws for fastening sheathing structural panels through rigid insulation to metal roof framing shall comply with current Florida Building Code and State Requirements for Educational Facilities (SREF), current edition.
- G. Screws for Fastening Oriented Strand Board Surfaced, Polyisocyanurate Foam Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing board to be attached, with organic-polymer or other corrosive-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.
  - 1. Provide washers or plates if recommended by plywood sheathing manufacturer.

## 2.4 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 or ASTM D 3498 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.
- B. Flexible Flashing: Composite, self-adhesive flashing product consisting of a pliable, rubberized asphalt compound, bonded to a high density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040"
  - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the work include, but are not limited to:
    - a. Carlisle Coatings and Waterproofing: CCW-705-TWF Thru-Wall Flashing
    - b. Grace Construction Products, a unit of W.R. Grace & Co.: Vycor V40 Weather Barrier Strips.
    - c. MFM Building Products Corp: Window Wrap
    - d. Polyguard Products, Inc.: Polyguard 300
    - e. Protecto Wrap Company: PS-45
- C. Primer for Flexible Flashing: Product recommended by manufacturer of flexible flashing for substrate.

## PART 3 – EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Cut panels at penetrations, edges and other obstructions of work; fit tightly against abutting construction, unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
  - 1. NES NER-272 for power-driven fasteners
  - 2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."
- D. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of workday when rain is forecasted.

### 3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30S "Engineered Wood Construction Guide," for types of structural use panels and applications indicated.
- B. Fastening Method: Fasten panels as indicated below:
  - 1. Wall and Roof Sheathing:
    - a. Screw to cold-formed metal framing
    - b. Space panels as recommended by sheathing manufacturer.

### 3.3 FLEXIBLE FLASHING INSTALLATION

- A. Apply flexible flashing where indicated to comply with manufacturer's written instructions
  - 1. Prime substrates as recommended by flashing manufacturer.
  - 2. Lap seams and junctures with other materials at least 4", except that at flashing flanges of other construction, laps need not exceed flange width.
  - 3. Lap flashing over weather resistant building paper at bottom and sides of opening.
  - 4. Lap weather resistant building paper over flashing at heads of openings.
  - 5. After flashing has been applied, roll surfaces with a hard rubber or metal roller to ensure that flashing is completely adhered to substrates.

END OF SECTION

**SECTION 07 21 00  
BUILDING INSULATION**

*Issued under ADDENDUM 02*

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. Work Included:
  - 1. Batt and blanket thermal insulation: acoustical, for use at the few locations of stud system exterior walls (stucco on ci on sheathing on mtl studs), such as at rebuilt dormers.
  - 2. Acoustical Batt and blanket mineral wool/rock wool for use in wall between existing restrooms and offices, and above office ceilings where indicated (cut in 2x2 and adhered to ceiling panel).
  - 3. Installation accessories.
- B. Related Work Specified Elsewhere:
  - 1. Div 05, Metal Framing
  - 3. Div 09, Metal studs and Gypsum Board
  - 5. Div 09, Acoustical Ceilings.
- C. The general provisions of the Contract, including General Conditions, Supplementary Conditions, and Special Conditions (if any) along with the General Requirements, apply to the work specified in this section.
- D. Examine all Drawings and all other Sections of the Specifications for requirements therein affecting the work of this trade.

**1.02 SUBMITTALS**

- A. Certificates: Furnish manufacturer's certification that materials meet or exceed specification requirements.
- B. Submit manufacturer's descriptive data and installation instruction.

**1.03 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials to project site in original sealed containers or packages bearing manufacturer's labels intact and legible.
  - 1. Store and handle materials with care to prevent damage.

**PART 2 - PRODUCTS**

**2.01 INSULATION**

- A. Batt or Blanket Insulation:
  - 1. Thermal insulation: Preformed glass or mineral fiber, batt or blanket, foil faced, ASTM C 665, Type III, Class A.
    - a. Flame Spread: 25 or less when tested in accordance with ASTM E 84.
    - b. R Value: 11.0 for walls.
  - 2. Acoustical: Unfaced, mineral wool/rock wool, 3" min thickness; tight fitting.

## **2.02 ACCESSORIES**

- A. Adhesive: As recommended by insulation manufacturer.
- B. Tape: Foil faced, as recommended by insulation manufacturer.

## **PART 3 - EXECUTION**

### **3.01 PREPARATION**

- A. Verify that substrate surfaces and adjacent materials are dry and ready to receive insulation and are compatible.

### **3.02 INSTALLATION OF INSULATION**

- A. General:
  - 1. Maintain integrity of insulation over entire area to be insulated.
  - 2. Carefully cut and fit insulation around pipes, conduits and other obstructions, but completely filling all voids.
  - 3. Where pipes or conduit are located in stud spaces of exterior walls or walls between conditioned and non-conditioned spaces, or spaces to be separated acoustically, place insulation between exterior wall or wall of non-conditioned space and pipe, compressing where necessary.
- B. Batt or Blanket Insulation:
  - 1. Attach flanges of blankets to framing members or friction fit blankets between framing members.
  - 2. Install with integral vapor barrier facing exterior side of wall.
- C. 2x2 Acoustical Batt Insulation to be adhered to top surface of lay-in ceiling panels to facilitate access.

End of Section

**SECTION 07 27 20  
FLUID APPLIED AIR & WATER RESISTIVE BARRIER**

*Issued under ADDENDUM 02*

**PART I - GENERAL**

**1.01 DESCRIPTION**

- A. Moisture Control: Prevent the accumulation of water into or behind the stucco, either by condensation or leakage into the wall construction:
  - 1. Air Leakage Prevention—prevent excess air leakage in the design and detailing of the wall assembly. Provide continuity between air barrier components in the wall assembly.
  - 2. Provide Air/Moisture Barrier over CMU (& over sheathing at locations of mtl framing).
- B. Scope and requirements for Fluid Applied Air & Water Resistive Barrier is specified within Specification Section 09 24 23 as a part of the overall building envelope.
  - 1. System specified is StoGuard as a part of the total 102 StoPowerall Stucco System.
  - 2. Air/Moisture Barrier approved equal Prosoco R-Guard system including similar fill, tape, etc. identified below under 09 24 23, 2.02, if material compatibility with insulation and submitted and approved Stucco System.

**SECTION 073216**  
**CONCRETE ROOF TILE, Preface**

Issued under *ADDENDUM 02*

**PART 1 – GENERAL**

*Add the following before "Section Includes":*

- 1.1 SUMMARY: This Section includes labor, equipment, and materials (some specified under this section, some identified in Related Sections) to install the Concrete Roof Tile System.  
As Part of Bid Alternate 03 Arched Walkway Canopy, the entire outer perimeter includes Rake Tile to match existing Arched Walkway Canopy System edge, described as  
"Concrete Roof Tiles Set on 1 x 2 x 3" Aluminum Blocking at 16 ½" oc with 1" Dia x 3/8" Bead of Roof Tile Adhesive."

1.2 RELATED SECTIONS

*Modify as follows:*

- A. ~~Section 00-54-22—Unit Price Schedule Not Used~~
- B. Section 0616 33 – Wood Board Sheathing (*Roof Sheathing, installed below Mod Bit, over Insulation*)
- C. ~~Section 070150.19—Preparation for Re-Roofing Not Used~~
- D. ~~Section 0721-00—Insulation Not Used~~; Required insulation specified in Modified Bitumen Section.
- E. Section 0755 52 - SBS Modified Bituminous Membrane Roofing (including Insulation)
- F. Section 0760 00 – ~~Flashing Sheet Metal~~ Sheet Metal Flashing and Trim
- G. ~~Section 07-72-00—Roof Accessories Not Used~~

1.3 REFERENCES

*Modify as follows:*

- N. FRSA/TRI – *Florida High Wind Tile Installation Manual, 5th Edition, 2014*
- R. Florida Building Code, Product Approval – *FL560 No. 120, ~~FL610~~, FL7781, FL7849*

1.4 DESIGN REQUIREMENTS

*Modify as follows:*

- B. Roofing tile materials shall conform to the requirements of the Miami-Dade County Notice of Acceptance (NOA) as follows
  - 1. ~~NOA 07-1023-09 Villa~~ NOA 18-0509.16 - Villa 900 Concrete Roof Tile
  - 2. NOA 18-0502.03 - Boral TileSeal
  - 3. NOA 14-0416.10 - Wakaflex Flashing
- C. Roofing tile materials and installation shall conform to the ~~SBCCI Standard for Hurricane Resistant Residential Construction, SSTD10-99, and the~~ Florida Building Code (latest edition including any revisions and supplements); *tile materials and installation shall conform to the requirements of the State of Florida Product Approvals as follows:*
  - 1. *FL 7849-R11*
  - 2. *FL 14317-R10*
  - 3. *FL 7804-R10*
  - 4. *FL 601-R13*

**PART 2 – PRODUCTS**

*Modify as follows:*

2.2 RELATED MATERIALS

- A. Underlayment
  - 1. Base Membrane: The new roofing base membrane assembly shall consist of one-ply SBS modified bitumen smooth surface membrane, mechanically fastened.

*Add the following*

- a. Roofing base membrane also includes the two layers of insulation specified under 07 55 52 Modified Bitumen Membrane Roofing plus Sheathing specified under Section 06 16 33 Wood Board Sheathing.

# SECTION 073216 CONCRETE ROOF TILE

*Issued under ADDENDUM 02*

## PART 1 – GENERAL

### 1.1 SECTION INCLUDES

- A. Concrete roof tiles and roof system components
- B. Metal roof flashing
- C. Underlayments and self seal membranes
- D. Related roof accessories

### 1.2 RELATED SECTIONS

- A. Section 00 54 22 – Unit Price Schedule
- B. Section 0616 33 – Wood Board Sheathing
- C. Section 070150.19 – Preparation for Re-Roofing
- D. Section 0721 00 – Insulation
- E. Section 0755 52 - SBS Modified Bituminous Membrane Roofing
- F. Section 0760 00 – Flashing Sheet Metal
- G. Section 0772 00 – Roof Accessories

### 1.3 REFERENCES

- A. ASTM A 90 – Standard Test Method for Weight (Mass) of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
- B. ASTM A 525 – Standard Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process
- C. ASTM A 641 – Standard Specification for Zinc-Coated (galvanized) Carbon Steel Wire
- D. ASTM A 653/A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Inron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- E. ASTM C 1492 – Standard Specification for Concrete Roof Tile
- F. ASTM D 226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- G. ASTM D 249 – Standard Specification for Asphalt Roll Roofing (Organic Felt) Surfaced with Mineral Granules
- H. ASTM C 270 – Mortar for Unit Masonry
- I. ASTM D 2178 – Asphalt Glass Felt Used in Roofing and Waterproofing
- J. ASTM D 4586 – Asphalt Roof Cement, Asbestos-Free
- K. ASTM D 2626 – Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing
- L. AWPA C2 – Lumber, Timber Bridge Ties and Mine Ties - - Preservative Treatment by Pressure Processes
- M. Tile Roofing Institute (TRI) – Concrete and Clay Design Criteria for Cold and Snow Regions

- N. FRSA/TRI – Concrete and Clay Roof Tile Installation Manual Fourth Edition (For Florida High Wind Applications)
- O. ICC ESR 1647 (ICC-ES) – International Code Council Evaluation Services
- P. ICBO ESR-2015P Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions
- Q. ICC AC 180 – Acceptance Criteria for Clay and Concrete Roof Tiles
- R. Florida Building Code, Product Approval – FL560, FL610, FL7781, FL7849
- S. NRCA SRM – The NRCA Steep Roofing Manual, Latest Edition
- T. FS FF-N-105 Nails, Brads, Staples and Spikes: Wire, Cut and Wrought.

#### 1.4 DESIGN REQUIREMENTS

- A. Roofing tile materials and installation shall conform to the requirements of ICC ESR 1647 and LA RR 23700
- B. Roofing tile materials shall conform to the requirements of the Miami-Dade County Notice of Acceptance (NOA) as follows:
  - 1. NOA 07-1023.09 Villa
- C. Roofing tile materials and installation shall conform to the SBCCI Standard for Hurricane Resistant Residential Construction, SSTD10-99, and the Florida Building Code (latest edition including any revisions and supplements).

#### 1.5 SUBMITTALS – Submit the following in accordance with Section 01330 Submittal Procedures

- A. Manufacturer’s data on concrete tile and membrane underlayment including:
  - 1. Preparation instructions and recommendations
  - 2. Storage and handling requirements and recommendations
  - 3. Installation methods
- B. Shop Drawings: Indicate metal flashing profiles, joint locations, fastening locations, and installation details. Indicate tile layout with location of cut and special shaped tiles identified.
- C. Selection Samples: For the product specified, submit samples indicating manufacturer’s available colors which in the Architect’s and Owner’s opinion will match as closely as possible the color of the salvaged tile which is to be removed.
- D. Verification Samples: Submit three representative samples of the material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.
- E. Certificates of Compliance: Submit to certify compliance with referenced standards.

#### 1.6 QUALITY ASSURANCE

- A. Product Requirements: Comply with governing codes and regulations. Provide products of manufacturers which have in satisfactory use in similar services for five years.
- B. Manufacturer Qualifications: Minimum five years documented experience producing concrete roof tile and member of Tile Roof Institute.
- C. Installer Qualifications: Minimum five years documented installing products specified in this section and/or supervision by a manufacturer’s authorized installation representative.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship
  - 1. Finish areas designated by Architect
  - 2. Mock-up shall be a minimum of a 6’ by 6’; area and include the edge, ridge, valley and other typical transition conditions anticipated.



3. Do not proceed with remaining work until installation workmanship and appearance is approved by Architect.
4. Accepted mock-up may remain as part of Work.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Deliver products to project site in manufacturer's unopened pallets, labeled with data indicating compliance with specified requirements.
- C. Maintain dry storage area for products of this section until installation of products.

#### 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Do not overload the roof. Distribute stacks of tile uniformly on roof at not greater than 12" in height

#### 1.9 WARRANTY

- A. Roof Tile: Manufacturer's Limited Lifetime, Fully Transferrable, Non-Prorated Product Warranty against defects in roof tile for the life of the structure.
- B. Installation Warranty: Contractor shall warrant for five (5) years that the concrete tile roofing system, as installed, is free from defects in workmanship. When repairs are required due to defective workmanship during the Contractor's warranty period, the Contractor shall make the required repairs within seventy-two (72) hours of notification. When required repairs are not performed within the specified time period, emergency repairs performed by others will not void the warranty. Products of this section, as installed, shall be installed in accordance with all of the Contract Documents and shall be free from faults and defects in workmanship for a period of five (5) years after Substantial Completion.

#### 1.10 EXTRA MATERIALS

- A. Provide additional 1% of installed roof tiles, but not less than one full square, for Owner's use in roof maintenance.
- B. Furnish extra materials packaged with protective covering for storage and identified with labels clearly describing contents.

### **PART 2 – PRODUCTS**

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
  1. Boral Roofing (formerly MonierLifetile), Irvine, CA – NO EXCEPTIONS
- B. Requests for substitutions will not be considered.
- C. Concrete Roof Tile: This section is based on the products of Boral Roofing, Irvine, CA.
  1. Standard Weight Tile: Villa 900 profile, NO EXCEPTIONS
  2. Finish Tile: Manufacturer's ridge and hip starter
  3. Size: 17"x13", nominal
  4. Coverage: 85 roof tiles per 100 ft<sup>2</sup> of roof area
  5. Installed weight per square: Approximately 920 pounds
  6. Color and Finish: "Gold Dust"

#### 2.2 RELATED MATERIALS

- A. Underlayment
  1. Base Membrane: The new roofing base membrane assembly shall consist of one-ply SBS modified bitumen smooth surface membrane, mechanically fastened.

2. Self-adhering Membrane Underlayment: ASTM D 412, polyethylene-sheet backed, rubberized asphalt membrane, 40 mil thickness.
  3. Flexible Hip and Ridge Flashing: SBS modified rubberized asphalt adhesive on a lineal, low density polyethylene membrane with a 60 mil total thickness.
- B. Horizontal Battens – Elevated Batten System
1. Material: Boral Elevated Batten system.
  2. Size: Nominal 1"x2"x8'0" or 1"x2"x4'0"
  3. Do not use bowed or twisted battens
  4. Provide manufacturer's standard shims as for elevating battens off the roof deck
- C. Eave/Closure/Riser/Bird Stop: Comply with the 4<sup>th</sup> Edition Installation Guide (ICC-ES ESR2015P)
1. Prefabricated metal eave closure, profile to match tile, fastened at a minimum 18" on center along eave.
    - a. Formed 26 gauge galvanized steel "L" section with 3" wide horizontal leg and vertical leg cut to conform with bottom profile of tile. Provide pre-finished to match tile color with drain holes punched in vertical leg prior to application of finish.
- D. Mortar: ASTM C 270, proportion specification for Type M mortar mix.
- E. Asphaltic Plastic Cement: ASTM D 4586, Type I
- F. Profile Flashing
1. Wakaflex Universal Flashing – NO EXCEPTIONS
    - a. Color to match roofing tiles (terracotta)
- G. Steep Slope Roof Sheet Metal
1. See Section 07 60 00 – Flashing and Sheet Metal, Paragraph 2.7
- H. Tile Fasteners:
1. Corrosive resistant fastener meeting ASTM A641 Class I or approved equal. Number 11 gauge diameter and of sufficient length to penetrate  $\frac{3}{4}$ " into or through the thickness of the batten. Comply with FRSA/TRI 07320/8-05 4<sup>th</sup> Edition Installation Guide.
  2. Screw Fasteners: Corrosion resistant meeting ASTM A 641 Class 1 and/or corrosion resistance equal (according to ASTM B 117). Screws shall be 2  $\frac{1}{2}$ " in length or penetrate a minimum  $\frac{3}{4}$ " into the batten. ASTM A 641 Class 1 is a nail specification that can be converted to screw fasteners through performance testing (ASTM B 117). Each fastener manufacturer is responsible for supplying this support data. Minimum #8 course thread.

### 2.3 FASTENERS

- A. Nails for Applying Underlayment: FS FF N 105, hot-dip galvanized steel, 11 gauge, sharp pointed, conventional roofing nails with barbed shanks, minimum 3/8" diameter head, and of sufficient length to penetrate through sheathing. Verify that nails are compatible with flashing materials to prevent galvanic action.
- B. Screw Fasteners for Installation of Roof Tile: Sized to penetrate deck minimum  $\frac{3}{4}$ " or through thickness of deck batten
1. Manufacturer's Roof System Components: Quik-Drive 2  $\frac{1}{2}$ " or 3" screws, roofing specific, Miami-Dade approved.
  2. Fastener Type: Corrosion resistant fasteners formed from stainless steel.
- C. Wind Locks: 12 gauge galvanized steel formed wire clips. Select material type as recommended by manufacturer for specific locations.
- D. Hurricane Clips: Tile edge clips fabricated from 19 gauge galvanized steel strips,  $\frac{1}{2}$ " wide. Provide with two nail holes in horizontal leg for anchorage to deck substrate. Select material typw as recommended by manufacturer for specific locations.
- E. Preservative Treated Lumber: AWPA C1, provide treated ridge and hip boards, eave starter, and battens.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive tile to verify conditions. Do not commence tile installation until unsatisfactory conditions are corrected.
- B. Do not begin installation until substrates have been properly prepared.
- C. Verify surfaces are uniform, smooth, clean and dry
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result under the project conditions.

### 3.3 INSTALLATION – GENERAL

- A. Install in accordance with manufacturer's instructions and the following:
  - 1. ICBO ESR-2015P Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions
  - 2. FRSA/TRI 07320/8-05 4<sup>th</sup> Edition Installation Guide. ICC-ES ESR 2015P
  - 3. FRSA/TRI Concrete and Clay Roof Tile Installation Manual, 4<sup>th</sup> Edition
- B. Roof Layout: Layout according to FRSA/TRI 07320/8-05, 4<sup>th</sup> Edition.
- C. Battens, Vent Pipes, Eave/Gable, Valleys, and Side Wall Flashing: Install according to FRSA/TRI 07320/8-05, 4<sup>th</sup> Edition.
- D. Underlayment: Install according to FRSA/TRI 07320/8-05, 4<sup>th</sup> Edition and manufacturer's instructions.
- E. Venting: Install according to manufacturer's instructions and local code requirements
- F. Hip and Ridge: Install according to Hip and Ridge Attachment sections of the FRSA/TRI 07320/8-15 Concrete and Clay Roof Tile Installation Manual, 4<sup>th</sup> Edition.
- G. Head and Apron Flashing: Install according to FRSA/TRI 07320/8-05, 4<sup>th</sup> Edition. Allow ½" space between batten ends and between batten and metal edge return.

### 3.4 CONCRETE ROOFING TILE INSTALLATION

- A. Beginning at eaves, install roofing tiles as indicated and in accordance with manufacturer's recommendations. Hook mounting lugs over wood battens and fasten through each tile into batten. Sawcut tiles at valleys to form a straight border. Taper valleys from a 2" exposure on each side of valley at the top and increase exposure by 1" each side, per 8'0" of valley length. Apply flexible hip and ridge flashing over ridge and hip boards and top edge of tile. Apply asphalt plastic cement between tiles at hip and ridge. Screw hip and ridge tiles to hip and ridge boards.

### 3.5 TILE INSTALLATION

- A. Layout:
  - 1. Overhang at Eave: ¾" (19 mm) past drip edge, uniformly aligned
  - 2. Minimum Head Lap: 3" (76 mm)
  - 3. Coursing: Straight bond. Match bond on adjacent new concrete tile, Building 'L'.
- B. Set perimeter tiles in mortar; apply sealer to exposed mortar.
- C. Secure field and perimeter tile in accordance with UBC Table 15-D-2.
- D. Cut field tile to form straight edge at center of hip, ridge and valley.
- E. Install eave closures

- F. Hips: Use prefabricated hip starter
  - 1. Hips: Use standard hip tiles as starter
  - 2. Miter tile as hip starter to match eave lines
  - 3. Form end with color coordinated mortar
  
- G. Hips and Ridges, Mechanically fastened:
  - 1. Install nailer board of sufficient height to support trim tile
  - 2. Protect nailer board with pressure sensitive adhesive, mortar, or preformed metal closure
  - 3. Mechanically fasten trim to nailer board with minimum  $\frac{3}{4}$ " (19 mm) penetration
  - 4. Use approved sealant or clips
  - 5. Point mortar and finish to match tile surfaces

### 3.6 CLEANING

- A. Remove all broken tile, debris and excess tile from roof
- B. Sweep cut tiles clean

### 3.7 REPAIR AND REPLACEMENT

- A. Damaged Tile:
  - 1. Break out damaged roof tile
  - 2. Repair torn underlayment
  - 3. Drive fastener flush
  - 4. Apply minimum  $\frac{3}{8}$ " (10 mm) by 2" (51 mm) bead of approved adhesive at head of cut tile
  - 5. Immediately set replacement tile in position assuring proper contact
  
- B. Damaged Small Valley and Hip Cuts:
  - 1. Apply a minimum of  $\frac{3}{8}$ " (10 mm) bead of approved adhesive at head of cut tile
  - 2. Immediately set tile in course above position assuring proper contact

### 3.8 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

**PORTLAND CEMENT STUCCO WITH AIR/WATER BARRIER SYSTEM****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Materials and installation of exterior system of stucco wall covering backed with continuous insulation, drainage mat, and fluid applied air/ water-resistive barrier for CMU walls along with limited concrete (beams within CMU walls) and frame walls (such as rebuilt dormers).
- B. Related Sections:
  - 1. Div 03, Concrete (See cautionary note below on 3.04 E.3)
  - 2. Div 04, Masonry (See cautionary note below on 3.04 E.3)
  - 3. Div 06, Sheathing for use at the few locations of stud system exterior walls (stucco on ci on sheathing on mtl studs), such as at rebuilt dormers.
  - 4. Div 07, at intersections with Sheet Waterproofing, Modified Bituminous Membrane Roofing, Sheet Metal Flashing and Trim, and Joint Protection
  - 5. Div 08, Entrances and Storefronts, Metal Doors and Frames, Louvers

**1.02 DEFINITIONS**

- A. Air Barrier Material: A primary element that provides a continuous barrier to the movement of air.
- B. Air Barrier Accessory: A transitional component of the air barrier that provides continuity.
- C. Air Barrier Auxiliary Material: A transitional component that provides air barrier continuity whether or not furnished by a source other than the primary air barrier manufacturer.
- D. Air Barrier Assembly: The collection of air barrier materials, accessory and auxiliary materials applied to an opaque wall, including joints and junctions to abutting construction, to control air movement through the wall.

**1.03 PRE-INSTALLATION MEETING**

- A. Pre-installation Conference:
  - 1. Review air barrier and stucco installation requirements and installation details, mock-ups, testing requirements, protection, and sequencing of Work.
  - 2. Provide Submittals prior to Pre-Installation Meeting.

**1.04 REFERENCES**

- A. Building Codes and Standards
  - 1. 2012 and 2015 IBC (International Building Code)
  - 2. 2012 and 2015 IRC (International Residential Code)
  - 3. 2012 and 2015 IECC (International Energy Conservation Code)
  - 4. ICC ES AC 11, Acceptance Criteria for Cementitious Exterior Wall Coatings
  - 5. ICC ES AC 212, Acceptance Criteria for Water-resistive Coatings used as Water-resistive Barriers over Exterior Sheathing
- B. ASTM Standards:

1. A 641 Standard Spec for Zinc-Coated (Galvanized ) Carbon Steel Wire
2. C 578 Specification for Preformed, Cellular Polystyrene Thermal Insulation
3. C 847 Standard Specification for Metal Lath
4. D 4541 Test Method for Pull-Off Strength of Coatings
5. E 84 Test Method for Surface Burning Characteristics, Building Materials
6. E 96 Standard Test Methods for Water Vapor Transmission of Materials
7. E 283 Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
8. E 331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
9. E 783 Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors
10. E 2178 Standard Test Method for Air Permeance of Building Materials
11. E 2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

### 1.05 SUBMITTALS

- A. Manufacturer's specifications, details, installation instructions and product data.
- B. Manufacturer's standard warranty
- C. Samples for approval as directed by architect or owner
- D. Shop drawings: substrate joints, cracks, flashing transitions, penetrations, corners, terminations, and tie-ins with adjoining construction, interfaces with separate materials that form part of the air barrier and stucco wall assembly.

### 1.06 QUALITY ASSURANCE

- A. Moisture Control: Prevent the accumulation of water into or behind the stucco, either by condensation or leakage into the wall construction assembly:
  1. Air Leakage Prevention—prevent excess air leakage in the design and detailing of the wall assembly. Provide continuity between air barrier components in the wall assembly.
  2. Provide Air/Moisture Barrier over CMU (& over sheathing at locations of mtl framing).
- B. Indicative of scope and requirements of this Specification Section, refer to Manufacturer's details such as Sto Guide Details at [www.stocorp.com](http://www.stocorp.com).
- C. Manufacturer requirements
  1. Air barrier products manufacturer for a minimum of ten (10) years.
  2. Stucco finish products & barrier products manufactured under ISO 9001:2008 Quality System & 14001:2004 Environmental Management System.
- D. Contractor requirements
  1. Knowledgeable in the proper use and handling of specific approved materials.
  2. Employ skilled mechanics who are experienced and knowledgeable in portland cement stucco application and requirements of the specified work.
  3. Successful completion of minimum of three (3) projects of similar size and complexity to the specified project.

4. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with manufacturer's published specifications and details and the project plans and specifications.
- E. Insulation board manufacturer requirements
1. Listed by an approved agency. Label insulation board with information required by Stucco manufacturer, the approved listing agency, & applicable building code.
- F. Mock-up and Testing
1. Construct full-scale mock-up of typical stucco/window wall assembly with specified tools and materials and test air and water infiltration and structural performance in accordance with ASTM E 283, E 331 and E 330, respectively, through independent laboratory. Mock-up shall comply with requirements of project specifications. Where mock-up is tested at job site maintain approved mock-up at site as reference standard. If tested off-site accurately record construction detailing and sequencing of approved mock-up for replication during construction.
  2. Conduct air barrier adhesion testing in accordance with ASTM D 4541.
  3. Conduct air barrier assembly testing in accordance with ASTM E 783.
  4. Verify adequacy of pull-out or withdrawal capacity of fasteners used for frame construction with manufacturer in relation to negative design wind pressures.
  5. Conduct pH testing to check stucco surface alkalinity before application of primer or finish materials. Where alkaline resistant primer is used pH testing may be waived.
  6. Conduct wet sealant adhesion testing in accordance with sealant manufacturer's field quality control test procedure.
  7. Notify design professional minimum 7 days prior to testing.

#### **1.07 DELIVERY, STORAGE AND HANDLING**

- A. Deliver all materials in their original sealed containers bearing manufacturer's name and identification of product.
- B. Protect insulation materials from prolonged UV exposure, keep away from sources of heat, sparks, flame, flammable or volatile materials. Store on a clean, flat surface, off the ground in a dry area.
- C. Protect coatings (pail products) from freezing and temperatures in excess of 90°F (32° C). Store away from direct sunlight.
- D. Protect portland cement based materials (bag products) from moisture and humidity. Store under cover off the ground in a dry location.
- E. Handle all products as directed on labeling.

#### **1.08 PROJECT/SITE CONDITIONS**

- A. Weather conditions affect application, drying time and curing requirements. Hot or dry conditions limit working time and accelerate drying and may require adjustments in application, scheduling and curing to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, rain and freezing.

1. Maintain ambient and surface temperatures above 40°F (4°C) during application and for 24 hours after set of stucco, and application of waterproof air barrier and finish materials.
  2. Provide supplementary heat for installation in temperatures less than 40°F (4°C) such that material temperatures are maintained as in 1.08A. Prevent concentration of heat on uncured stucco and vent fumes and other products of combustion to the outside to prevent contact with stucco.
  3. Prevent uneven or excessive evaporation of moisture from stucco during hot, dry or windy weather. For installation under any of these conditions provide special measures to properly moist cure the stucco. Do not install stucco if ambient temperatures are expected to rise above 100°F (38°C) within a 24 hour period.
- B. Provide protection of surrounding areas and adjacent surfaces from application of materials.

### **1.09 COORDINATION/SCHEDULING**

- A. The work in this section requires close coordination with related sections and trades. Sequence work to provide protection of construction materials from weather deterioration and from damage from trades per manufacturer's instructions.
- B. Note: windows and doors are typically installed immediately following installation of the air/moisture barrier and work should be sequenced accordingly. Consult with window manufacturer for installation requirements to maintain air barrier continuity and for head, jamb, sill flashing and perimeter sealant requirements needed to prevent leaks into the wall assembly).
- C. Sequence work such that placement of stucco, stucco primers and finish coat closely follow air barrier installation and drainage mat per manufacturer's instructions, to prevent surfaces from being contaminated by atmospheric conditions, dust, dirt, salts, trades, or other sources of surface contamination.
1. Protect continuous insulation from prolonged UV exposure per manufacturer's published instructions.
  2. Protect sheathing from climatic conditions to prevent weather damage until the installation of the waterproof air barrier.
  3. Commence the stucco installation after completion of all roof construction and other construction that imposes dead loads on mtl framing prior to stucco installation to prevent stud distortion (and potential cracking) of the stucco.
  4. Install diverter flashings wherever water can enter the wall assembly to direct water to the exterior.
- D. Coordinate installation of foundation waterproofing, roofing membrane, windows, doors and other wall penetrations to provide a continuous air barrier and continuous moisture protection. Provide protection of rough openings before installing windows, doors, and other penetrations through the wall and provide sill flashing.

### **1.10 WARRANTY**

- A. Provide manufacturer's standard warranty.

## **PART 2 PRODUCTS**



## 2.01 MANUFACTURERS

- A. Air/Moisture Barrier, Drainage Mat, Portland Cement Stucco.
  - 1. 102 StoPowerwall Stucco Pre-Blended : Sto Corp., 3800 Camp Creek Parkway, Bldg 1400, Suite 120. Atlanta, GA 30331
- B. Substitutions: Approved equal permitted prior to bid
  - 1. Stucco approved equal Quikrete One Coat Fiberglass Reinforced Stucco – Sanded no. 1200-80.
  - 2. Air/Moisture Barrier approved equal Prosoco R-Guard system for barrier including similar fill, tape, etc. identified below under 2.02, if material compatibility with insulation and submitted and approved Stucco System.

## 2.02 AIR/MOISTURE BARRIER

- A. StoGuard-- fluid applied waterproof air barrier for sheathing, concrete, and concrete masonry substrates consisting of multiple compatible components:
  - 1. Sto Gold Fill -- ready mixed acrylic based flexible joint treatment for rough opening protection, joint treatment of wall sheathing, CMU crack repair, and detail component for shiplap connections with flashing, weep screed, and similar ship lap details.
  - 2. Sto GoldCoat -- ready mixed flexible waterproof coating for wall sheathing, concrete and CMU wall surfaces
  - 3. Sto AirSeal™ -- ready mixed medium-high build coating applied by brush, roller or spray for rough opening protection of frame walls and joint treatment of sheathing when used with StoGuard Fabric. Also used as a detail component with StoGuard Fabric to splice over back flange of starter track, flashing, and similar shingle lap details
  - 4. StoGuard Mesh-- nominal 4.2 oz/yd<sup>2</sup> (142 g/m<sup>2</sup>), self-adhesive, flexible, symmetrical, interlaced glass fiber mesh, with alkaline resistant coating for compatibility with Sto materials, used with Sto Gold Fill to reinforce rough openings, inside and outside corners, sheathing joints, and shiplap connections with flashing, weep screed, and similar shingle lap details
  - 5. StoGuard Fabric - nonwoven cloth reinforcement used with Sto EmeraldCoat for rough opening protection, joint treatment of wall sheathing, and detail component for shiplap connections with flashing, weep screed, and similar shingle lap details
  - 6. StoGuard RediCorner - a preformed fabric piece used in the corners of rough openings in tandem with StoGuard Fabric for quicker installation
  - 7. StoGuard Tape and Primer-- self adhering rubberized asphalt tape for rough opening protection in wood or metal frame construction.
  - 8. StoGuard Transition Membrane - flexible air barrier membrane for continuity at static transitions: sheathing to foundation, dissimilar materials (CMU to frame wall), wall to balcony floor slab or ceiling, flashing shingle lap transitions. Also used for dynamic joints: floor line deflection joints, masonry control joints, and through wall joints in masonry or frame construction.
  - 9. Sto RapidGuard™ - one component STPE rapid drying gun-applied treatment for sheathing joints, rough openings, seams, cracks, penetrations and other static transitions in above grade wall construction such as: shingle lap over flashing, wall to balcony floor slab or ceiling, and through wall penetrations – pipes, electrical boxes, and scupper penetrations
  - 10. StoGuard RapidSeal – one component quick drying waterproof air barrier material for rough opening protection incl rough bucks, sheathing joints (with

- StoGuard Mesh), CMU crack repair, and for sealing fish mouths, wrinkles, seams, gaps, holes, or other voids in StoGuard air barrier materials
12. StoGuard RapidFill - one component rapid drying gun-applied joint treatment for sheathing. Also used at static transition joints or seams in construction and to seal fish mouths, wrinkles, seams, gaps, holes, or other voids in StoGuard air barrier materials. Also used as a detail component for shiplap connections to flashing, weep screed, and similar ship lap details

### **2.03 CONTINUOUS INSULATION AUXILLIARY MATERIAL**

- A. Owens Corning Type IV XPS rigid insulation board in compliance with ASTM C 578.
- B. Dow Type IV XPS rigid insulation board in compliance with ASTM C 578.

### **2.04 SPRAY FOAM ADHESIVE, CI SEAM AND GAP FILLER**

- A. Sto TurboStick – single component polyurethane spray foam adhesive for attaching foam insulation and filling seams and gaps in insulation board surface.

### **2.05 DRAINAGE MAT**

- A. Sto DrainScreen 6mm – nominal ¼” (6 mm) tangled filament nylon core drainage mat with fabric facing.

### **2.07 LATH AUXILLIARY MATERIAL**

- A. Minimum 2.5 lb./yd<sup>2</sup> (1.4 kg/m<sup>2</sup>) self-furred galvanized steel diamond mesh metal lath in compliance with ASTM C 847
1. paper-backed stucco lath as water resistive barrier

### **2.08 LATH MECHANICAL FASTENERS AUXILLIARY MATERIAL**

- A. See Part 3 for additional specifications regarding attaching metal through barriers, and cautions regarding tools/methods. Non-corroding fasteners in compliance with AISI S200 – 2007 and ASTM C 1513:
1. Wood Framing--minimum #10 Type S wafer head fully threaded corrosion resistant screws with minimum 1 inch (25 mm) penetration into studs.
  2. Steel Framing— corrosion resistant fasteners and plates with minimum three thread penetration beyond steel framing members, and with minimum fastener size and length of,
    - #8 x 3 inch (76 mm) for 1 inch (25 mm) insulation board thickness
    - #10 x 3-1/2 inches (89 mm) for 1-1/2 inch (38 mm) insulation board thickness
    - #10 x 4 inch (102 mm) for 2 inch (51 mm) insulation board thickness
  3. Note: pull-out or withdrawal capacity of the selected fastener must be verified with respect to anticipated wind load, desired safety factor and building code requirements. Consult applicable code compliance report for specific assemblies and fastening schedules or conduct project specific testing to verify compliance with design wind pressure requirements.
- B. Tie Wire—18 gauge galvanized and annealed low-carbon steel in compliance with ASTM A 641 with Class I coating.

### **2.09 ACCESSORIES**

- A. Weep screed, casing bead, corner bead, corner lath, expansion and control joint accessories. All accessories shall meet the requirements of ASTM C 1063 and its referenced documents
  - 1. PVC plastic in compliance with ASTM D 1784, cell classification 13244C, or galvanized metal in compliance with ASTM A 653 with G60 coating.
- B. All accessories shall have perforated or expanded flanges and shall be designed with grounds for the specified thickness of stucco.
  - 1. PVC accessories acceptable.
  - 2. Care must be taken when attaching metal lath or other wall assembly components so that fasteners go into [not between] framing supports.
  - 3. Powder actuated or other fastening devices that can damage the water-resistant barrier, sheathing, or CI should be avoided.
  - 4. Do not use channel reveal accessories that interfere with proper drainage and stress relief.

## 2.10 JOB MIXED INGREDIENTS

- A. Water: clean and potable.
- B. Sand: in compliance with ASTM C 897 or C 144, for use with one coat and C 926 stucco concentrates

## 2.11 STUCCO

- A. 102 StoPowerwall Stucco Pre-Blended , uniform  $\frac{3}{4}$  inch thickness throughout the wall area: fiber reinforced one coat portland cement stucco pre-blended with graded sand, and in compliance with ICC AC 11. See ICC ESR 2323.
- B. Stucco Finish
  - 1. Any Sto exterior decorative and protective textured finish as selected and approved by design professional or owner on basis of job site installed mock-ups.
    - a. NOTE: Surface alkalinity (pH) is an important consideration for stucco surfaces to receive acrylic or elastomeric finishes and should be checked to verify pH less than 10 before primer or finish is applied. Priming is also recommended to provide uniform substrate absorption and finish color, to improve adhesion and water resistance, and to retard efflorescence.
    - b. Sto Hot Prime is the preferred primer for use on stucco surfaces to “mask” surface alkalinity. Sto Hot Prime may be applied 48 hours after moist curing the brown coat.
    - c. Other Sto primers and finishes require 28 days curing of brown coat or pH less than 10 before application. Refer to Product Bulletins for complete information on textured finish options.

## 2.12 PERFORMANCE REQUIREMENTS

- A. Water penetration resistance: comply with ICC ES AC 212, par 4.8.3, no water penetration after 5 hours hydrostatic pressure
- B. Adhesion: ASTM D 4541, > 50 psi (344 kPA) on prepared CMU substrates

- C. Water vapor permeance, ASTM E96 Method B, greater than 10 perms (573 ng/Pa·s·m<sup>2</sup>)
- D. Material Air Leakage Res.: ASTM E 2178, < 0.02 L/s·m<sup>2</sup> (0.004 cfm/ft<sup>2</sup> at 1.57 psf)
- E. Field adhesion testing: ASTM D 4541, strength requirements as dictated by design professional based on exposure conditions such as building height, orientation, climate, and building design.
- F. Assembly air leakage resistance: ASTM E2357: < 0.2 L/s·m<sup>2</sup> (cfm/ft<sup>2</sup> at 1.57 psf)
- G. Volatile Organic Compounds: SCAQMD Rule 1113, primary air barrier material, < 50 g/L

### 2.13 CONSTRUCTION CRITERIA

- A. Structural (Wind and Axial Loads)
  - 1. Maximum allowable deflection normal to the plane of the wall: L/360
  - 2. Wind load in conformance with code requirements.
- B. Moisture Control
  - 1. Prevent the accumulation of water in the wall assembly and behind the exterior wall cladding:
    - a. Minimize condensation within the assembly.
    - b. Drain water directly to the exterior where it is likely to penetrate components in the wall assembly (windows and doors, for example).
    - c. Provide corrosion resistant flashing to direct water to the exterior in accordance with code requirements, including: above window and door heads, beneath window and door sills, at roof/wall intersections, floor lines, decks, intersections of lower walls with higher walls, and at the base of the wall.
    - d. Air Leakage Prevention – prevent excess air leakage and provide continuity between air barrier components in the wall assembly.
    - e. Protect rough openings with StoGuard rough opening treatment extended no further than the stucco termination accessory expanded flange (as stucco will not adhere to StoGuard rough opening treatments). Refer to Sto Guide Details.
    - g. Where casing bead is used back-to-back at expansion joints, back joints with appropriate StoGuard Transition Membrane. Refer to Sto Guide Details.
    - h. Seal stucco terminations and accessory butt joints with appropriate sealant. Seal all penetrations through the stucco wall assembly with appropriate sealant, or backer rod and sealant, as dictated by joint type.
    - i. Provide Sto Air/Moisture Barrier over sheathing as specified above in 2.02.
- C. Air Barrier Continuity: provide continuous air barrier assembly of compatible air barrier components.
- D. Substrates
  - 1. Provide surface plane tolerance not to exceed ¼ inch in 10 feet.
  - 2. Remove form ties, trim projecting concrete and fill honeycombs or other surface defects with appropriate patch and repair material.

3. Concrete – provide for removal of form oil, curing compounds, efflorescence, coatings, salts, or other surface contamination, laitance or other surface conditions that could interfere with adhesion.
  4. Concrete Masonry – provide open texture concrete masonry units with flush joints, free of efflorescence, coatings, salts, or other surface contamination, weak surfaces or other surface conditions that could interfere with adhesion.
  5. Do not install air barrier over efflorescence, laitance or weak surface conditions, painted, coated, salt-contaminated surface or any concrete or CMU substrate where adhesion is in question.
- E. Mechanical Ventilation: maintain pressurization and indoor humidity levels in accordance with recommendations of ASHRAE (see 2005 ASHRAE Handbook – Fundamentals).

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Inspect concrete and masonry surfaces, and misc sheathing surfaces for:
1. Contamination: Algae, dirt, dust, efflorescence, form oil, fungus, grease, laitance, mildew or other foreign substances.
  2. Surface deficiencies – weak, friable, chalkiness, laitance, bugholes, honeycombs, and spalls.
  3. Cracks: Measure crack width and record location of cracks.
  4. Damage and deterioration.
  5. Moisture Damage: Record any areas of moisture damage or excess moisture.
- B. Inspect sheathing application for compliance with applicable requirements and installation in conformance with specification and manufacturer requirements:
1. Exterior Grade and Exposure I wood based sheathing - APA Engineered Wood Association E 30
  2. Attachment into structural supports with adjoining sheets abutted (gapped if wood-based sheathing) and fasteners at required spacing to resist design wind pressures as determined by design professional.
  3. Fasteners seated flush with sheathing surface and not over-driven
- C. Report deviations from the requirements of project specifications or other conditions that might adversely affect the waterproof air barrier, CI, or stucco installation to the General Contractor. Do not proceed with air barrier, CI, or stucco installation until deviations are corrected.

### **3.02 SURFACE PREPARATION.**

- A. In accordance with manufacturer's published instructions. Do Not Proceed until surface is acceptable in accordance with same; proceeding with work on unacceptable surfaces puts the responsibility of same on Stucco System installer.
1. Provide surface plane tolerance not to exceed ¼ inch in 10 feet.
  2. Remove or provide for removal of form ties, trim projecting concrete and fill honeycombs or other surface defects with appropriate patch and repair material.

3. Concrete - Remove or provide for removal of form oil, curing compounds, efflorescence, coatings, salts, or other surface contamination, laitance or other surface conditions that could interfere with adhesion.
4. Concrete Masonry – provide open texture concrete masonry units with flush joints, free of efflorescence, coatings, salts, or other surface contamination, weak surfaces or other surface conditions that could interfere with adhesion.
5. Do not install air barrier over efflorescence, laitance or weak surface conditions, painted, coated, salt-contaminated surface or any concrete or CMU substrate where adhesion is in question.
6. Apply conditioner (consult Sto) by spray or roller to chalking or excessively absorptive surfaces or pressure wash to remove surface chalkiness
7. Repair cracks up to 1/8 inch wide by raking with a sharp tool to remove loose, friable material and blow clean with oil-free compressed air. Apply joint reinforcement material centered over crack, then dependent on substrate apply RapidGuard, StoGuard RapidFill, or Sto ExtraSeal with a trowel, drywall or putty knife to cover the reinforcement.

### 3. 04 AIR/MOISTURE BARRIER INSTALLATION

- A. Transition Detailing: Detail transition areas with Sto RapidGuard (static joints and seams) or StoGuard Transition Membrane (dynamic joints and seams) to achieve air barrier continuity. For illustrations of installation, refer to Sto Guide Details and Sto RapidGuard Installation Guide or StoGuard Transition Membrane Installation Guide ([www.stocop.com](http://www.stocop.com))
- B. Rough Opening Protection incl masonry rough openings with wood bucks and similar openings with complex 3-dimensional geometry.
  1. Sto RapidGuard or RapidSeal: apply a fillet bead of material with caulking gun at interior corners inside the opening to seal jamb/sill and jamb/head seams.
  2. Apply material in a zig-zag pattern along sill, jams, and head to form a generous bead of material along the surface to be covered.
  3. Use a 6 inch (152 mm) wide plastic drywall knife to spread the material to a uniform thickness of 12-20 mils (0.3-0.5 mm) before the material skins.
  4. Treat the entire rough opening surface in this manner and overlap onto the face of the sheathing 2 inches (51 mm) minimum all the way around. (refer to Sto Details)
- C. Sheathing Joint Treatment: Sto Gold Fill with StoGuard Mesh: place 4 inch (102 mm) wide mesh centered along sheathing joints and minimum 9 inch (229 mm) wide mesh centered and folded at inside and outside corners. Immediately apply Sto Gold Fill by spray or trowel and spread smooth with a trowel to completely cover the mesh. Or, StoRapid Guard per instructions.
- D. Air/Moisture Barrier Coating Installation
  1. Plywood Sheathing: apply waterproof coating by spray or roller over sheathing surface, including the dry joint treatment, rough opening protection, and transition areas, to a uniform thickness of 10 wet mils in one coat (Sto EmeraldCoat) or 50 wet mils in one coat (Sto AirSeal). Use ½ inch (13 mm) nap roller for plywood. Protect from weather until dry.
  2. CMU Surfaces: Liberally apply coating to the surface with a ¾ inch nap roller or spray equipment to a minimum wet thickness of 10 – 30 mils (Sto Gold Coat) or 20 – 40 wet mils (StoAirSeal), depending on surface condition. Apply to a uniform thickness. Additional coats may be necessary to provide a void and pinhole free surface. Protect from weather until dry.

3. NOTE: The Sto coating functions as an air and moisture barrier on standard concrete and normal weight concrete masonry wall construction with flush (struck flush with the surface of the CMU) or concave joints when minimum two liberal coats are applied. Additional coats may be necessary depending on the condition of the CMU wall surface, CMU porosity, joint profile, and other variables that may exist. For "rough" CMU wall surfaces, skim coat the entire surface with one of Sto's cementitious levelers (Sto BTS Xtra) before application of coating. A VOID AND PINHOLE FREE SURFACE must be achieved for the coating to properly function as an air and moisture barrier on Concrete and CMU wall surfaces.

E. Air /Moisture Barrier Connections and Shingle Laps

1. Coordinate installation of connecting air barrier components with other trades to provide a continuous air tight membrane.
2. Coordinate installation of flashing and other moisture protection components with other trades to achieve complete moisture protection such that water is directed to the exterior, not into the wall assembly, and drained to the exterior at sources of leaks (windows, doors and similar penetrations through the wall assembly).
3. Splice-in head flashings above windows, doors, floor lines, roof/sidewall step flashing, and similar locations with StoGuard detail component to achieve shingle lap of the air/moisture barrier such that water is directed to the exterior.

NOTE: DO NOT ALLOW WATERPROOF AIR BARRIER INSTALLATION TO REMAIN EXPOSED MORE THAN 180 DAYS. PROTECT WITH STUCCO WALL COVERING PROMPTLY AFTER INSTALLATION.

### 3.05 CONTINUOUS INSULATION INSTALLATION

- A. Attach insulation boards to framing with corrosion resistant bugle head metal screws and 1-1/4 inch metal lath locks or other corrosion resistant cap fastener. Use only enough fasteners (typically 3 per board mid-span) to temporarily hold the board in place. Sto TurboStick can also be applied on the back of the insulation board (minimum 4 – 8 vertical ribbons per board) to temporarily hold the insulation in place. (lath attachment is intended to permanently hold it in place).
- B. Attach in courses with vertical joint staggered.
- C. Cut insulation board in an "L" shape around openings. Tightly abut insulation board joints and interlock inside and outside corners. Trim or rasp board flush for square corners.
- D. Seal gaps or open joints with Sto TurboStick spray foam and rasp or shave flush with surface.
- E. Do not allow insulation board to be exposed to weather from more than 60 days.

### 3.06 DRAINAGE MAT INSTALLATION

- A. Install per manufacturer's details and published instructions.
  1. Use as few corrosion-resistant fasteners as needed to hold the mat in place, starting from the bottom of the wall at base flashing or weep screed and working up. Do not fasten through flashing.
  2. Immediately follow installation of drainage mat with stucco lath installation.

### 3.08 STUCCO INSTALLATION

General Note: Apply the stucco in discrete panels without interruption to avoid cold joints and differences in appearance. Abut wet stucco to set stucco at natural or architectural breaks in the wall such as expansion joints, pilasters, terminations, or changes in plane.

Hot or dry conditions accelerate drying and moisture loss from stucco which can diminish strength and resistance to cracking. Under these conditions adjustments in the application, scheduling and curing of stucco to prevent rapid loss of moisture are necessary to achieve a satisfactory stucco installation.

Cold temperatures retard drying and strength gain and adjustments may have to be made in the application, scheduling and curing of stucco to prevent damage from frost and other trades. Do not install stucco during extremely hot, dry and/or windy conditions. Do not install stucco during freezing conditions or on frozen substrates.

Do not install stucco onto grounds of accessories. Completely embed lath and flanges of accessories and completely cover fastener attachments with stucco.

Moist cure stucco minimum 48 hours for optimum strength gain and resistance to cracking. Allow final stucco application to completely dry (28 days) before applying primer or finish or until pH of stucco surface is less than 10 (except in the case of StoPrime Hot which can be applied 48 hours after completing moist cure of stucco).

The finished installation must be true, plumb and square.

Should stucco get into control or expansion joints, remove the stucco from within the joint before the stucco sets.

Refer to Sto Guide Details.

After satisfactory inspection of surfaces and correction of any deviations from specification requirements commence the stucco installation as described below:

- A. Accessories: Install over StoGuard/Sto DrainScreen stucco accessories such as Weep Scream Installation (*may also be done in conjunction with flashing and air/moisture barrier installation to facilitate shingle lapping of components at base of wall*), Casing Bead, Expansion and Control Joint over drainage mat in accordance with manufacturer's and Stucco manufacturers instructions and published details. Provide weeps at window and door heads, and other areas to conduct water to the exterior.
- B. Lath Installation: Paper-backed lath—Lap lath over lath, not paper to lath overlap. For horizontal overlaps the paper backing must lap shingle style behind the lath to lath overlap.
  1. General--install metal lath with the long dimension at right angles to structural framing (horizontally on solid substrates). Terminate lath at expansion joints. Do not install continuously at joints.
  2. Seams/Overlaps--overlap side seams minimum 1/2 inch (13 mm) and end seams minimum 1 inch (25 mm). Stagger end seams. Overlap casing beads and expansion joints minimum 1 inch (25 mm) over narrow wing accessories, minimum 2 inches (51 mm) over expanded flange accessories. Do not install lath continuously beneath expansion joints.
  3. Attachment--fasten securely through sheathing into structural framing at 6 inches (152 mm) on center maximum vertically and 16 inches (406 mm) on center horizontally\*. Wire tie at no more than 9 inches (225 mm) on center at: side laps, accessory overlaps, and where end laps occur between supports..



4. Install corner lath at inside corners and corner bead at outside corners over lath. Attach through lath into solid substrate or framing at no more than 7 inches (178 mm) on center with appropriate fasteners.
- C. Stucco Installation, per Manufacturer's published instructions and as follows:
1. Scratch Coat: apply stucco with sufficient pressure to key into and embed the metal lath. Apply sufficient material, 3/8 or 1/2 inch (9 or 12 mm), to cover the metal lath and to permit scoring the surface. Score the stucco upon completion of each panel in preparation for a second coat. Score horizontally.
  2. Brown Coat: as soon as the first coat is firm enough to receive the second coat without damage, apply the second coat. Alternatively, moist cure the first coat up to 48 hours and dampen the scratched surface with water immediately before applying the second coat. Apply the second coat with sufficient pressure to ensure intimate contact with the first coat and as needed to bring the stucco to a uniform thickness that matches the grounds of the accessories. Use a rod or straight edge to bring the surface to a true, even plane. Fill depressions in plane with stucco. Final thickness of stucco shall be uniform throughout the wall area and shall be either 3/4 inch or 7/8 inch (19 or 22 mm), and shall not exceed 7/8 inch (22 mm).
  3. After the stucco has become slightly firm float the surface lightly with a darby or wood float to densify the surface and to provide a smooth, even surface. The proper time to float is when the wood float no longer sticks to the surface of the stucco.
  4. Moist cure after the stucco has set by lightly fogging for at least 48 hours. Fog as frequently as required during the 48 hour period to prevent loss of moisture from the stucco. Avoid eroding the stucco surface with excess moisture. If relative humidity exceeds 75% the frequency of moist curing can be diminished.
- D. Primer Installation
1. StoPrime Hot—Moist cure stucco for a minimum of 48 hours. Allow stucco to dry an additional 48 hours, then apply primer evenly with brush, roller or proper spray equipment over the clean, dry stucco and foam build-outs, and allow to dry. Final age of primed stucco application must be minimum 7 days before application of finish.
  2. StoPrime Sand—Moist cure stucco for a minimum of 48 hours. Wait until stucco is 28 days old or the pH level of the surface is below 10 before applying primer. Final age of primed stucco application must be minimum 28 days before application of finish or pH must be below 10.
  3. StoPrime— Moist cure stucco for a minimum of 48 hours. Wait until stucco is 28 days old or the pH level of the surface is below 10 before applying primer. Final age of primed stucco application must be minimum 28 days before application of finish or the pH must be below 10.
- D. Finish Installation
1. Apply finish to minimum 28 day old stucco or primed stucco, or when pH of stucco surface is less than 10. If StoPrime Hot is used as the primer the primed stucco/foam build-out surfaces need only be minimum 7 days old. Apply finish by spraying or troweling with a stainless steel trowel, depending on the finish specified. Follow these general rules for application of finish:
    - a. Avoid application in direct sunlight.
    - b. Apply finish in a continuous application, and work a wet edge towards the unfinished wall area. Work to an architectural break in the wall before stopping to avoid cold joints.

- c. Weather conditions affect application and drying time. Hot or dry conditions limit working time and accelerate drying. Adjustments in the scheduling of work may be required to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, rain and freezing. Adjust work schedule and provide protection.
  - d. Float "R" (rilled or swirl texture) finishes with a plastic float to achieve their rilled texture
  - e. Do not install separate batches of finish side-by-side.
  - f. Do not apply finish into or over sealant joints. Apply finish to outside face of wall only.
  - g. Do not apply finish over irregular or unprepared surfaces, or surfaces not in compliance with the requirements of the project specifications.
  - h. Do not install finish over high pH ( $\geq 10$ ) stucco surfaces or surfaces that have not been fully cured.
- E. Provide sealant and backer material at stucco terminations and at fixture penetrations through the stucco to protect against air, water and insect infiltration.

### 3.09 FIELD QUALITY CONTROL

- A. Owner's qualified testing agency or building envelope consultant shall perform inspections and tests.
- B. Inspections: air barrier materials are subject to inspection to verify compliance with requirements.
  - 1. Condition of substrates and substrate preparation.
  - 2. Installation of primary air barrier material, accessory materials, and compatible auxiliary materials over structurally sound substrates and in conformance with architectural design details, contractor's shop drawings, project mock-up, and manufacturer's written installation instructions.
  - 3. Air barrier continuity and connections without gaps and holes at foundation, floor lines, flashings, lintels and shelf angles, openings and penetrations such as pipes, vents, windows and doors, masonry anchors, rafters or beams, joints in construction, projections such as decks and balconies, and roof line.
- C. Tests: air barrier materials and assembly are subject to tests to verify compliance with performance requirements:
  - 1. Qualitative air leakage test: ASTM E 1186
  - 2. Quantitative air leakage test: ASTM E 779, ASTM E 783, and ASTM E 1827
  - 3. Adhesion test: ASTM D 4541
    - a. IMPORTANT: For direct applications to concrete establish testing frequency to verify adhesion to prepared substrates as determined by design professional.
  - 4. Qualitative adhesion and compatibility testing: wet sealant manufacturer's field quality control adhesion test
- D. Repair non-conforming substrates and air barrier material installation to conform with project requirements.
- E. Take corrective action to repair and replace, or reinstall materials, seal openings, gaps, or other sources of air leakage to conform with project performance requirements.

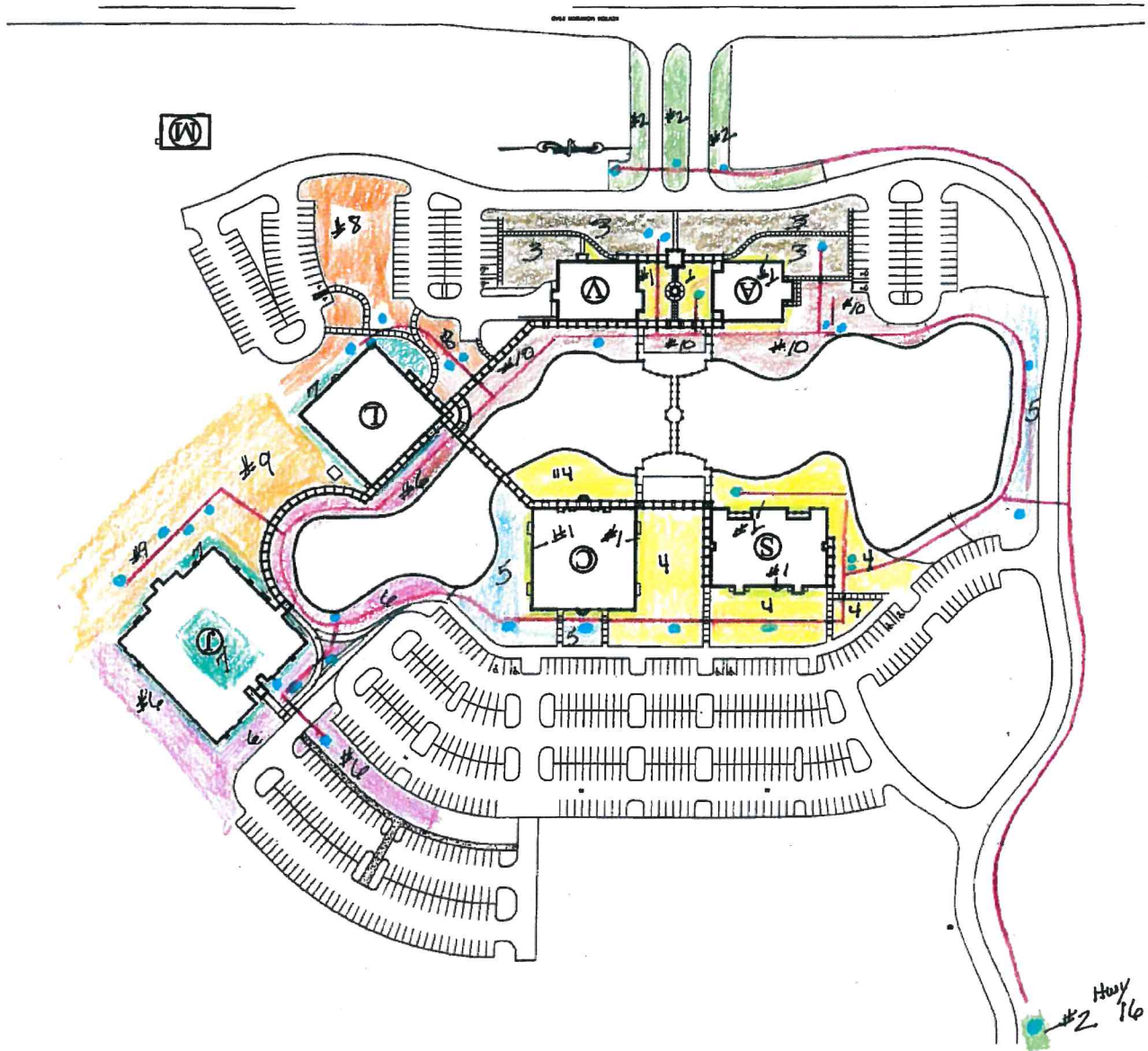
### **3.10 PROTECTION**

- A. Provide protection of installed materials from water infiltration into or behind them.
- B. Provide protection of installed stucco from dust, dirt, precipitation, and freezing.
- C. Provide protection of installed primer and finish from dust, dirt, precipitation, freezing and continuous high humidity until fully dry.

### **3.11 CLEANING, REPAIR AND MAINTENANCE**

- A. Clean and maintain the stucco finish for a fresh appearance and to prevent water entry into and behind the stucco. Repair cracks, impact damage, spalls or delamination promptly.
- B. Maintain adjacent components of construction such as sealants, windows, doors, and flashing, to prevent water entry into the wall assembly.
- C. Refer to Sto reStore Repair and Maintenance Guide ([reStore Program](#)) for detailed information on stucco restoration - cleaning, repairs, recoating, resurfacing and refinishing, or re-cladding.

END OF SECTION



SCALE: 1' = 20'

NOTES:

CONTRACTOR IS RESPONSIBLE FOR JOBSITE SAFETY.

ELEVATIONS AND LOCATION INFORMATION FOR EXISTING BUILDINGS, FEATURES AND UTILITIES ARE BASED ON SURVEYS BY FLOWERS SURVEYING AND MAPPING, PSM #6602 AND CAUSSEAU, HEWETT & WALPOLE, INC., LB-5075.

CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR, LICENSED BY THE STATE OF FLORIDA, TO PERFORM LAYOUT OF ALL NEW SITE FEATURES, ESPECIALLY CURBS, ELECTRONIC COPIES OF CIVIL PLANS WILL BE PROVIDED FOR THIS PURPOSE.

CONTRACTOR IS RESPONSIBLE FOR LAYOUT ACCURACY.

CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO EXCAVATION FOR STRUCTURES OR PIPING. REPORT ANY CONFLICTS TO THE ENGINEER IMMEDIATELY. CONTRACTOR TO LOCATE ALL UTILITIES AND COORDINATE ALL WORK WITH ADJACENT LAND OWNER AND ALL UTILITY COMPANIES. ANY PIPES, CABLES OR CONDUIT CUT OR DAMAGED WILL BE REPAIRED BY THE CONTRACTOR AND ANY ASSOCIATED COST BORN BY THE CONTRACTOR. ANY UTILITY RELOCATION WORK WILL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

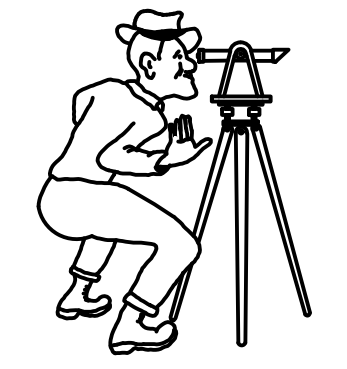
THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN INDEPENDENT TESTING LABORATORY, PAID FOR BY THE CONTRACTOR, TO TEST SOILS, LIMEROCK, ASPHALT AND CONCRETE AS INSTALLED TO ENSURE COMPLIANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. COPIES OF ALL TEST REPORTS ARE TO BE PROVIDED TO THE ENGINEER IN A TIMELY MANNER.

CONTRACTOR RESPONSIBLE TO REPLACE OR REPAIR ANY DAMAGE TO PROPERTY SUCH AS ASPHALT PAVEMENT, CONCRETE CURBS, WHEEL STOPS, PARKING LOT LIGHT POLES, PARKING LOT SIGNAGE, AND LANDSCAPE MATERIALS. SEE GENERAL NOTE J ON A5101.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE CAREFULLY INSPECTED THE SITE DURING THE BIDDING PERIOD TO DETERMINE THE EXTENT AND NATURE OF THE WORK AND THE CONDITIONS UNDER WHICH IT MUST BE PERFORMED.

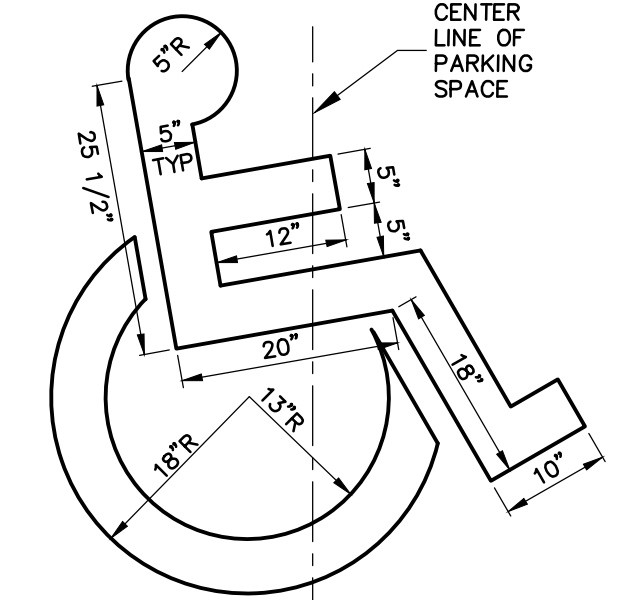
704 Rosselle Street / Jacksonville, Florida 32204  
Telephone (904) 356-2654 / Fax (904) 356-4010  
AAC002135

CONSULTANTS



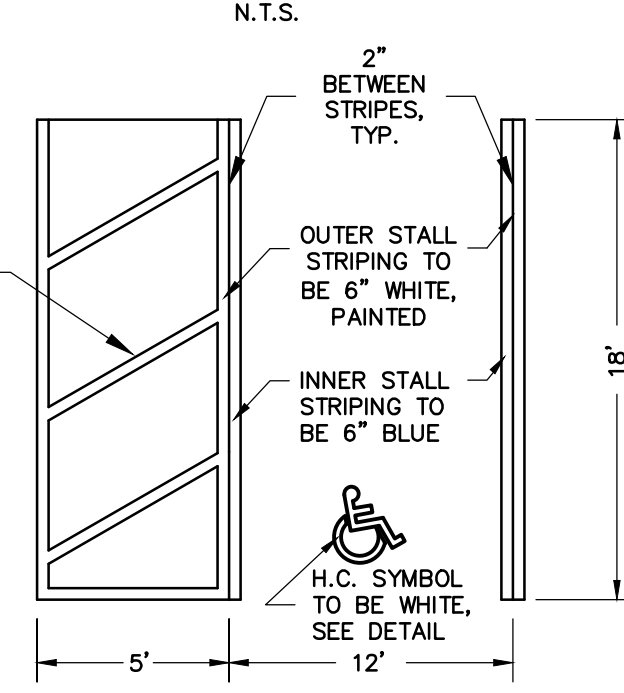
Allyn C. Tidball, P.E.  
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2276 Laurel Grove Lane  
Orange Park, Florida 32073  
(904)-264-3760  
ATidball@AllynCTidballPE.com

NOTES



NOTE:  
PAINT SYMBOL APPROX. 1/2 SIZE SHOWN.  
SYMBOL SHALL BE PAINTED WITH WHITE TRAFFIC PAINT WITHIN OUTLINE SHOWN.

HANDICAP SYMBOL

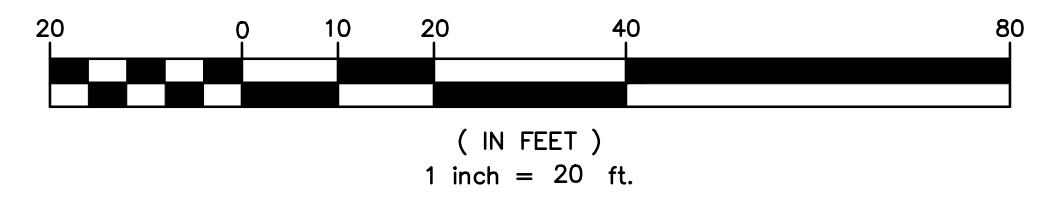


STRIPING FOR H.C. PARKING

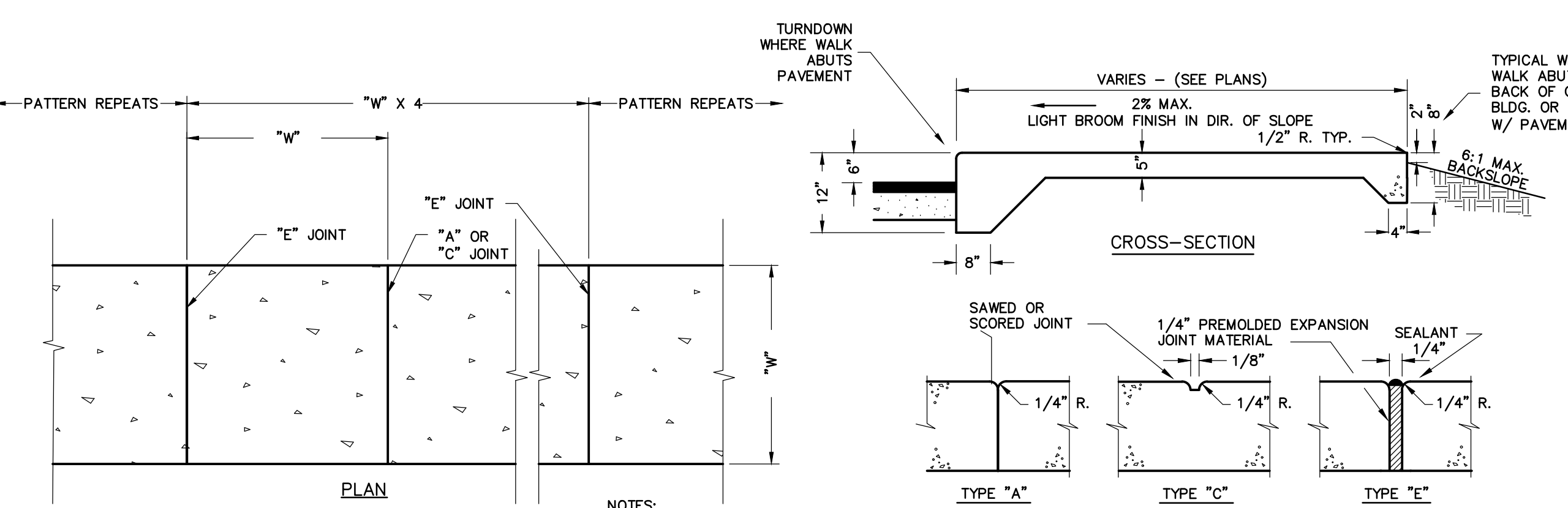
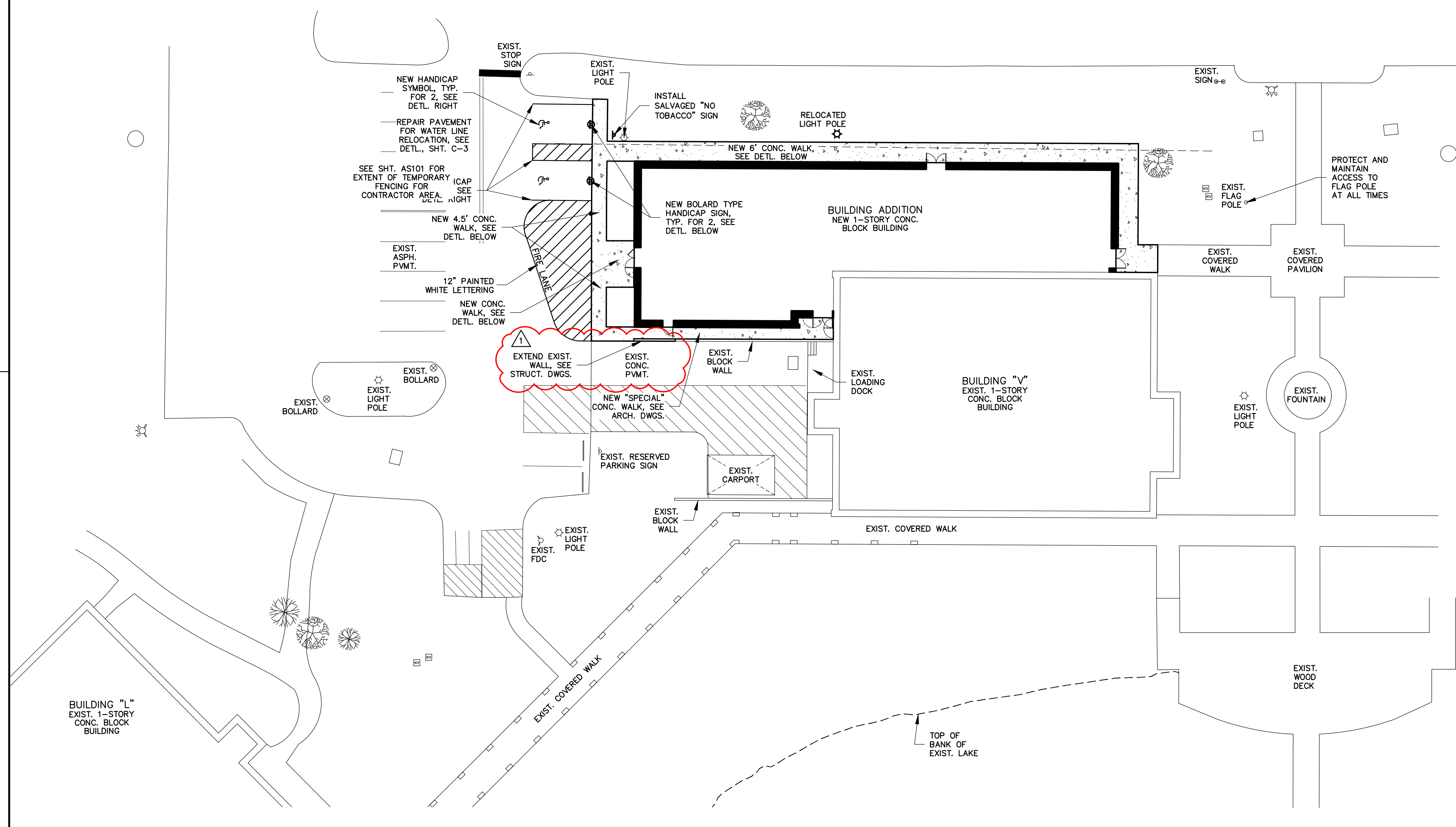
LEGEND

- EXIST. CONCRETE OR ASPHALT PAVEMENT
- NEW ASPHALT PAVEMENT
- NEW CONCRETE PAVEMENT, WALK OR PAD
- EXIST. BUILDING
- NEW BUILDING

GRAPHIC SCALE



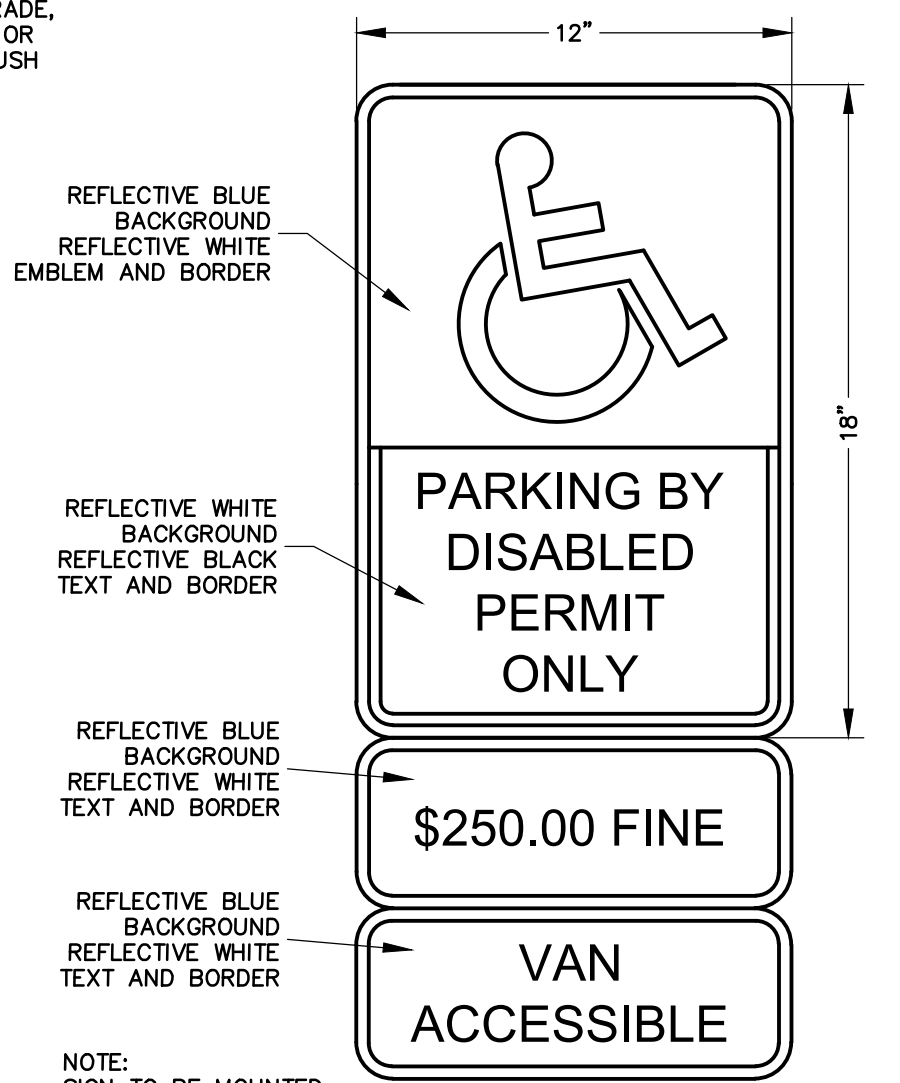
BID DOCUMENTS PHASE



NOTES:  
ALL WALKS ARE TO BE BROOM FINISHED IN THE DIRECTION OF THE SLOPE OF THE WALK.  
CONCRETE DESIGN STRENGTH TO BE 3000 PSI.  
ALL WALKS ARE TO BE REINFORCED W/ FIBERMESH  
PROVIDE "E" JOINTS WHERE NEW WALK ABUTS EXIST. WALK

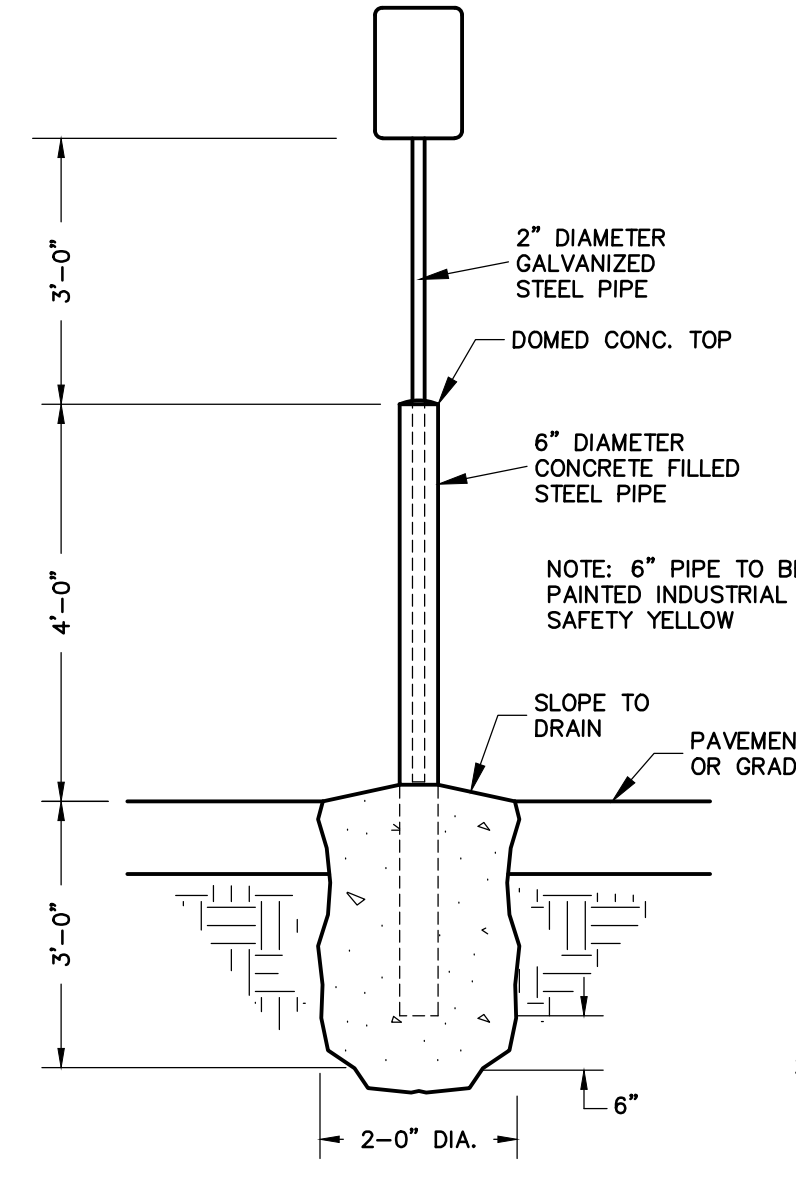
SIDEWALK DETAILS

N.T.S.



HANDICAP SIGN

N.T.S.



BOLLARD TYPE SIGN POST DETAIL

N.T.S.

PROJECT

BID NUMBER: BID-SJR-06-2018

RENOVATION WITH ADDITION TO BUILDING V, ST. AUGUSTINE CAMPUS

FOR



ST. JOHNS RIVER STATE COLLEGE  
PALATKA, FLORIDA

MARK	DATE	DESCRIPTION
1	4/14/19	ADDENDUM #2
ISSUE: MAR 25, 2019		
PROJECT NO: 1809		
CAD DWG FILE: SJRC BLDG V CIVIL.DWG		
DRAWN BY: ACTPE		
CHECKED BY: ACTPE		

BID DOCUMENTS PHASE

SHEET TITLE

SITE PLAN

SHEET NUMBER

C-1



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JACOB A. FRYE P.E.  
FLORIDA P.E. #79527

PROJECT

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**RENOVATION WITH  
ADDITION TO  
BUILDING V**  
ST. AUGUSTINE CAMPUS

FOR



**ST. JOHNS RIVER  
STATE COLLEGE**


1	04/15/19	ADDENDUM 2	
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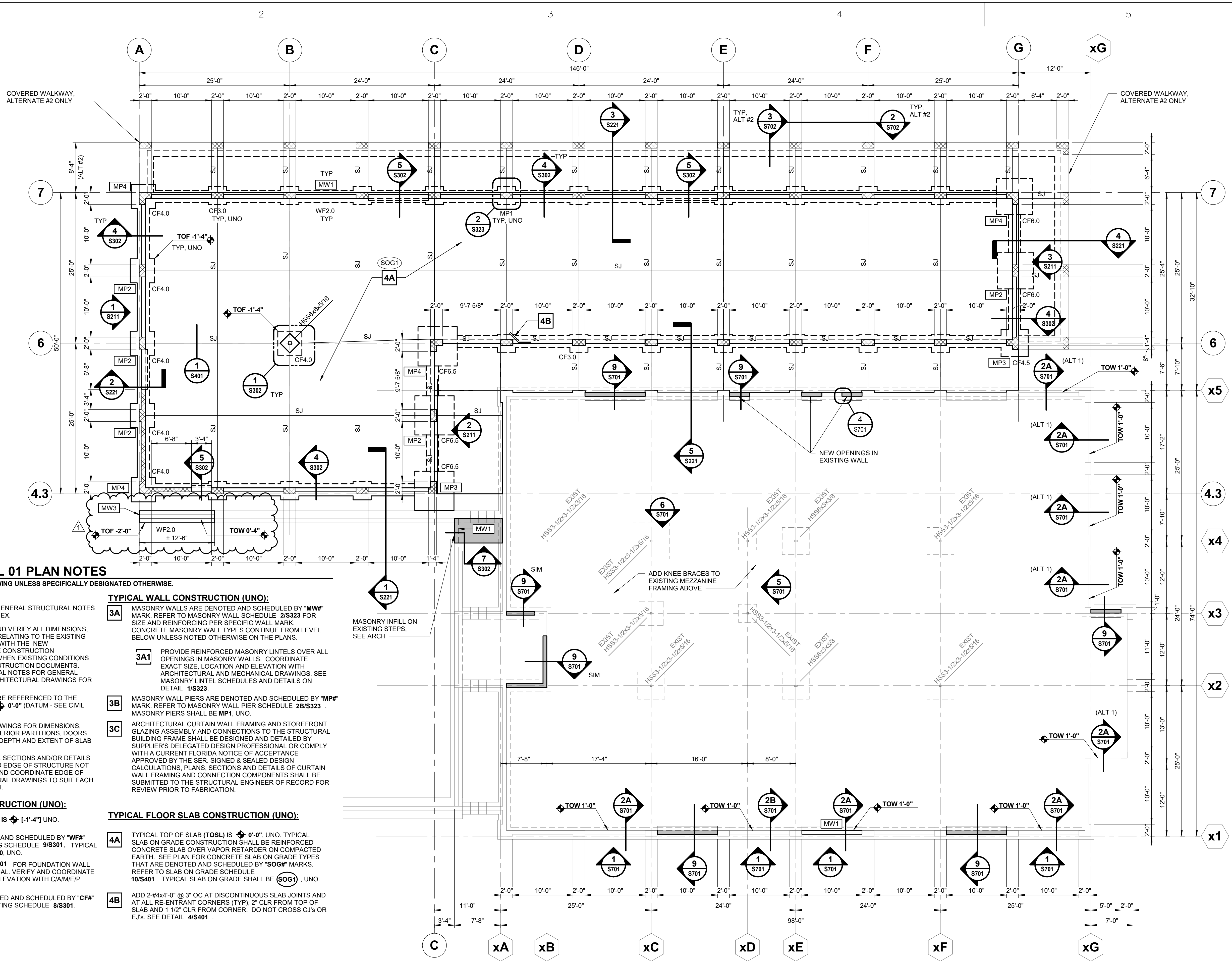
BID DOCUMENTS PHASE

SHEET TITLE

**FOUNDATION & LEVEL 01  
PLAN**

SHEET NUMBER

**S110**



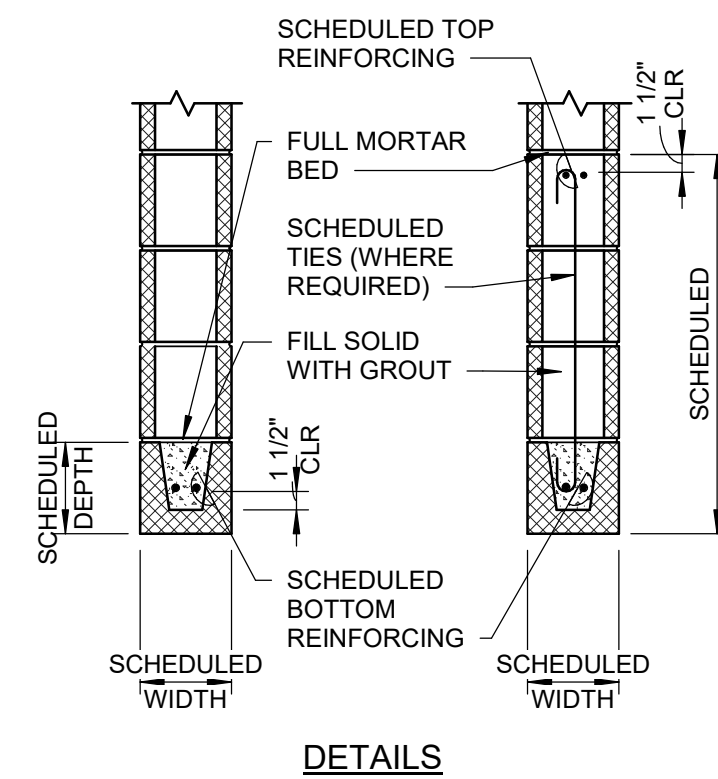
**FOUNDATION & LEVEL 01 PLAN**  
1/8" = 1'-0"

4/15/2019 7:05:35 AM BIM 360://SJRSC Building V Addition\_STRUCTURE.rvt 1841.00

MASONRY OPENING WIDTH	NOMINAL CMU WIDTH						MINIMUM END BEARING	STIRRUP SIZE & SPACING
	6"		8"		12"			
	NOMINAL DEPTH	REINFORCING	NOMINAL DEPTH	REINFORCING	NOMINAL DEPTH	REINFORCING		
UP TO 4'-0"	8"	1-#4 B	8"	2-#4 B	8"	2-#4 B	8"	
UP TO 6'-0"	16"	1-#5 B & T	16"	2-#4 B & T	16"	2-#4 B & T	8"	
UP TO 8'-0"	16"	1-#5 B & T	16"	2-#4 B & T	16"	2-#4 B & T	8"	
UP TO 10'-0"			24"	2-#5 B & T	24"	2-#6 B & T	16"	
UP TO 12'-0"			24"	2-#5 B & T	24"	2-#6 B & T	16"	#3@8"OC
UP TO 14'-0"			32"	2-#5 B & T	32"	2-#6 B & T	16"	#3@12"OC
UP TO 16'-0"			32"	2-#5 B & T	32"	2-#6 B & T	16"	#3@12"OC

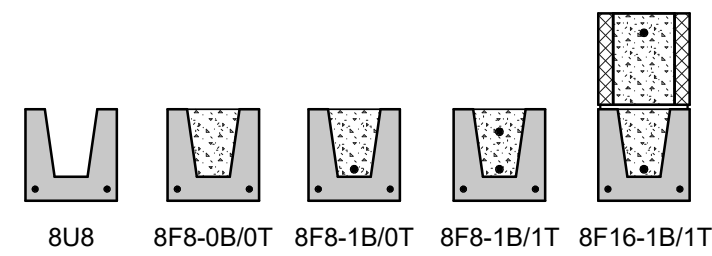
**REINFORCED CMU LINTEL SCHEDULE NOTES:**

- MASONRY DIMENSIONS INDICATED ARE NOMINAL RATHER THAN ACTUAL DIMENSIONS.
- MINIMUM MASONRY STRENGTH  $f_m$  SHALL BE 1500 PSI (UNLESS NOTED OTHERWISE).
- GROUT FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS OR MEET ASTM C476.
- SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS IN MASONRY WALLS REQUIRING LINTELS.
- TOP AND BOTTOM REINFORCING SHALL EXTEND A MINIMUM OF 14" OVER SUPPORT AT EACH END.
- HORIZONTAL WALL REINFORCING SHALL CONTINUE THROUGH MASONRY LINTELS. WHERE BOTH HORIZONTAL WALL REINFORCING AND LINTEL REINFORCING WOULD OCCUR IN THE SAME COURSE, THE LARGER BARS SHALL BE USED.
- EXTEND VERTICAL REINFORCING THROUGH LINTEL AT BEARINGS WHERE END VERTICAL CELL IS REINFORCED.
- FOR WALL ABOVE LINTEL, DOWEL VERTICAL REINFORCING INTO FULL DEPTH OF THE LINTEL AND HOOK OR 48 BAR DIAMETERS, WHICHEVER IS LESS.
- HORIZONTAL JOINT REINFORCING:
  - PROVIDE STANDARD LADDER REINFORCING AT 16" OC IN LINTEL SPANS UP TO 6'.
  - PROVIDE STANDARD LADDER REINFORCING AT 8" OC IN LINTEL SPANS UP TO 12'.
  - PROVIDE HEAVY (W2.8) LADDER REINFORCING AT 8" OC IN LINTEL SPANS OVER 12'.
- FOR CONTINUOUS LINTEL REINFORCING WHERE SPLICES ARE REQUIRED, SPLICE TOP BARS AT MID-SPAN OF OPENINGS AND BOTTOM BARS AT PIERS OR SUPPORT LOCATIONS.
- GROUT MASONRY LINTELS MONOLITHICALLY WITH THE SUPPORT WALL OR COLUMN AT EACH END.
- TYPICAL LINTELS SHOWN ARE TO BE USED WHERE NO SPECIFIC LINTEL OR CAST-IN-PLACE CONCRETE BEAM HAS BEEN DETAILED AND ARE FOR SUPPORT OF WALL LOADS ONLY (UNO).
- WHEN OPENING IS SHOWN ADJACENT TO CAST IN PLACE COLUMN, USE CAST IN PLACE CONCRETE LINTEL DETAILS AND SCHEDULE.

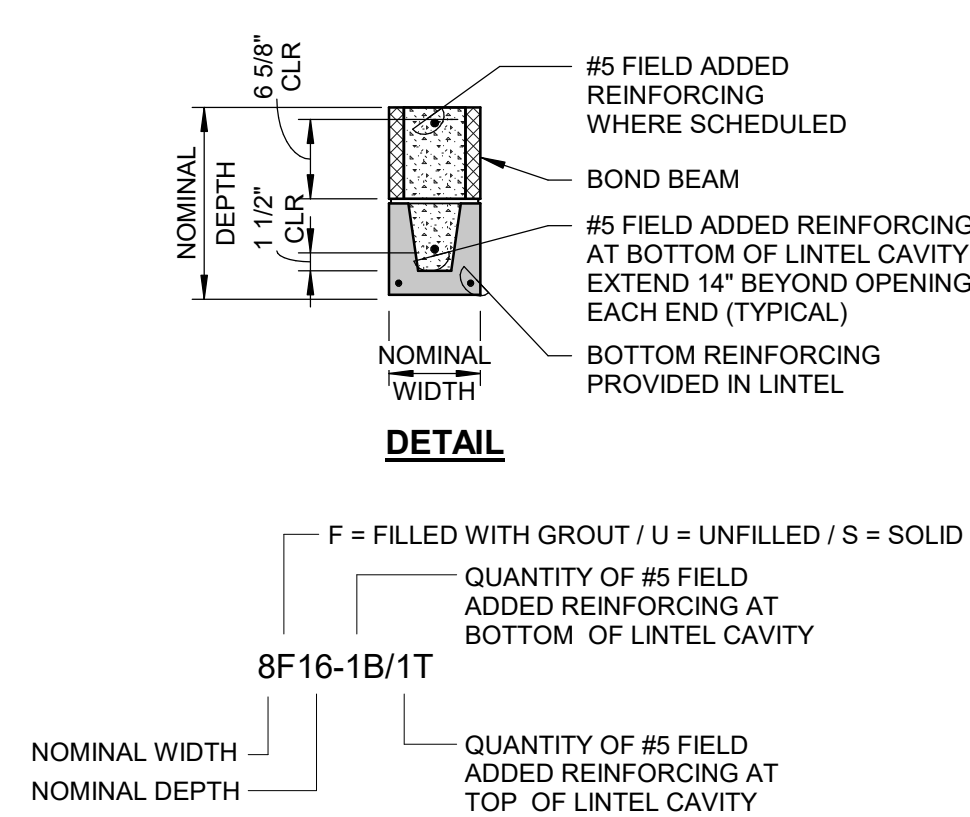


**REINFORCED CONCRETE MASONRY UNIT (CMU) LINTELS**

MASONRY OPENING WIDTH	NOMINAL CMU WIDTH			MINIMUM END BEARING	STIRRUP SIZE & SPACING
	6"	8"	12"		
	6"U	8"U	12"U		
UP TO 2'-0"	6F8-1B/0T	8F8-1B/0T	12F8-2B/0T	8"	
UP TO 4'-0"	6F16-1B/1T	8F16-1B/1T	12F16-2B/1T	8"	
UP TO 6'-0"	6F16-1B/1T	8F16-1B/1T	12F16-2B/2T	8"	
UP TO 8'-0"	6F24-1B/1T	8F24-1B/1T	12F24-2B/2T	16"	
UP TO 10'-0"	6F24-1B/1T	8F24-1B/1T	12F24-2B/2T	16"	#3@8"OC
UP TO 12'-0"		8F24-1B/1T	12F24-2B/2T	16"	#3@12"OC
UP TO 14'-0"		8F32-1B/1T	12F32-2B/2T	16"	#3@12"OC
UP TO 16'-0"		8F32-1B/1T	12F32-2B/2T	16"	#3@12"OC

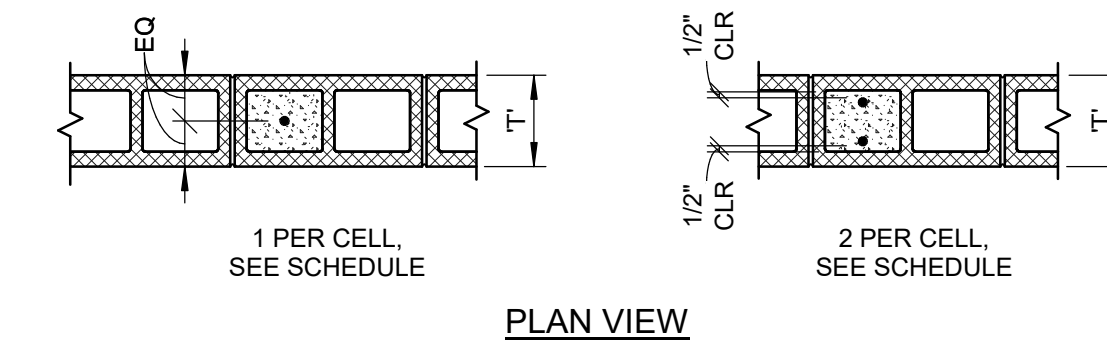


**EXAMPLES FOR 8" CMU**



**PRECAST CONCRETE LINTELS**

NOTE: LINTELS SHALL BE "CAST-CRETE" OR APPROVED EQUAL.

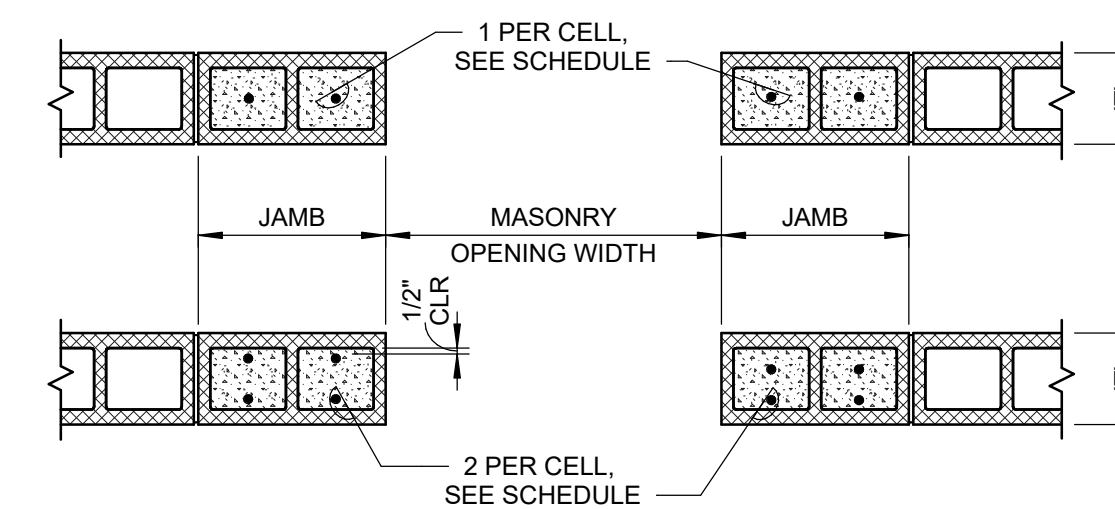


**NOTES:**

- VERTICAL REINFORCING SHALL RUN FROM FOOTING TO 4" CLEAR FROM TOP OF UPPERMOST SUPPORTED BEAM (ROOF BEAM OR OPENING LINTEL). VERTICALS MAY BE LAP SPICED AS REQUIRED FOR EASE OF BLOCK INSTALLATION. PROVIDE HOOKED DOWEL FROM FOOTING OR SUPPORT BEAM AT EACH FILLED BLOCK CELL. PROVIDE HOOK AT TOP OF VERTICAL. EACH POUR OF GROUT SHALL BE STOPPED AT LEAST 1 1/2" BELOW THE TOP OF THE LAST COURSE OF BLOCK LAID (EXCEPT AT PRECAST LINTELS).
- SEE TYPICAL DETAILS AND CODE REQUIREMENTS FOR CLEAN-OUTS.
- SEE SEPARATE DETAILS / SCHEDULES FOR JAMB AND PIER REINFORCING.
- SEE DIAGRAMMATIC MASONRY WALL ELEVATIONS FOR ADDITIONAL INFORMATION.

MARK	WALL THICKNESS T	VERTICAL REINFORCING			REMARKS
		SIZE	MAXIMUM SPACING	SPLICE LENGTH	
MW1	7 5/8"	#6	32"	36"	
MW2	11 5/8"	#6	32"	36"	
MW3	7 5/8"	#5	48"	30"	

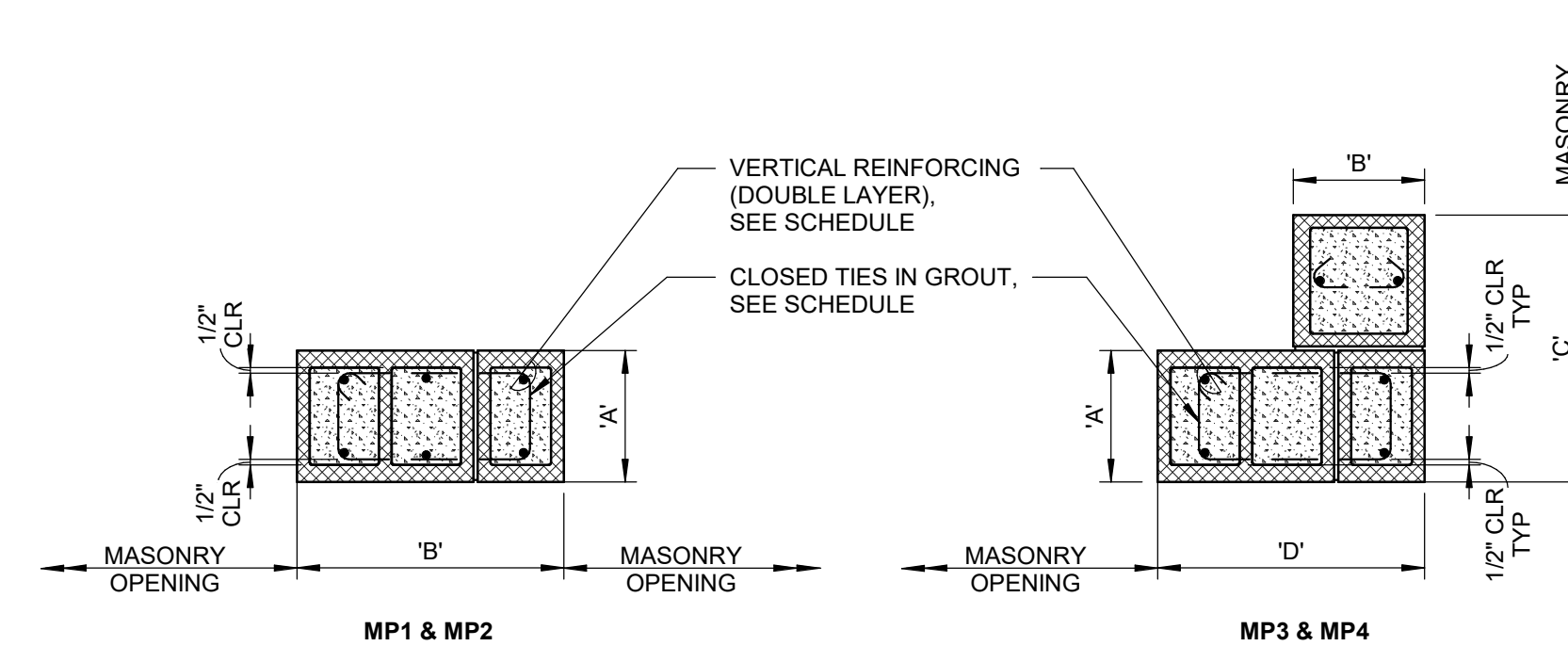
**TYPICAL WALL REINFORCING WITH 1 BAR OR 2 BARS PER FILLED CELL**



**PLAN VIEW**

MASONRY OPENING WIDTH	NUMBER OF REINFORCED CELLS PER JAMB			SPLICE LENGTH
	WALL THICKNESS T	OPENING IN EXTERIOR WALL	OPENING IN INTERIOR WALL	
	UP TO 3'-4"	8" OR 12"	1-#6 PER CELL IN 2 CELLS	
UP TO 6'-8"	8" OR 12"	1-#6 PER CELL IN 3 CELLS	1-#6 PER CELL IN 2 CELLS	36"

**JAMB REINFORCING SCHEDULE & DETAIL**



**PLAN VIEW**

MARK	DIMENSIONS				REINFORCING					REMARKS
	'A'	'B'	'C'	'D'	VERTICALS			TIES		
	No. BARS	SIZE	SPLICE LENGTH	SIZE	SPACING	SIZE	SPACING			
MP1	11 5/8"	1'-11 5/8"			6	#5	30	#2	8"	
MP2	11 5/8"	1'-11 5/8"			6	#7	42	#2	8"	
MP3	11 5/8"	11 5/8"	1'-11 5/8"	1'-4 5/8"	6	#7	42	#2	8"	
MP4	11 5/8"	11 5/8"	1'-11 5/8"	1'-11 5/8"	6	#7	42	#2	8"	

**MASONRY WALL REINFORCING SCHEDULES & DETAILS**

S323 | NO SCALE

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1 04/15/19 ADDENDUM 2  
MARK DATE DESCRIPTION

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**BID DOCUMENTS PHASE**

**SHEET TITLE**

**MASONRY SCHEDULES AND DETAILS**

**SHEET NUMBER**

**S323**

**1 LINTEL SCHEDULES & DETAILS**

S323 | NO SCALE







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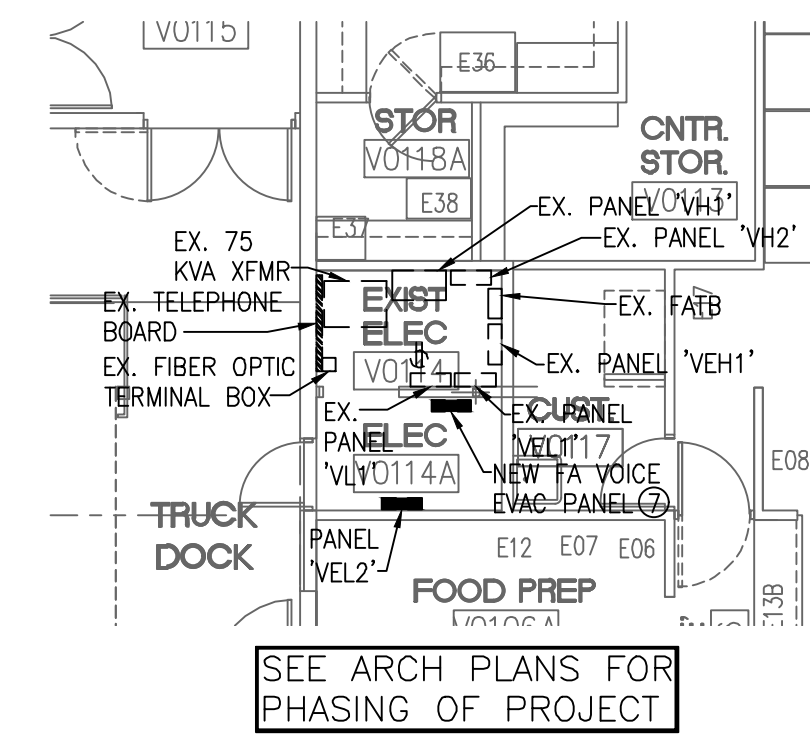
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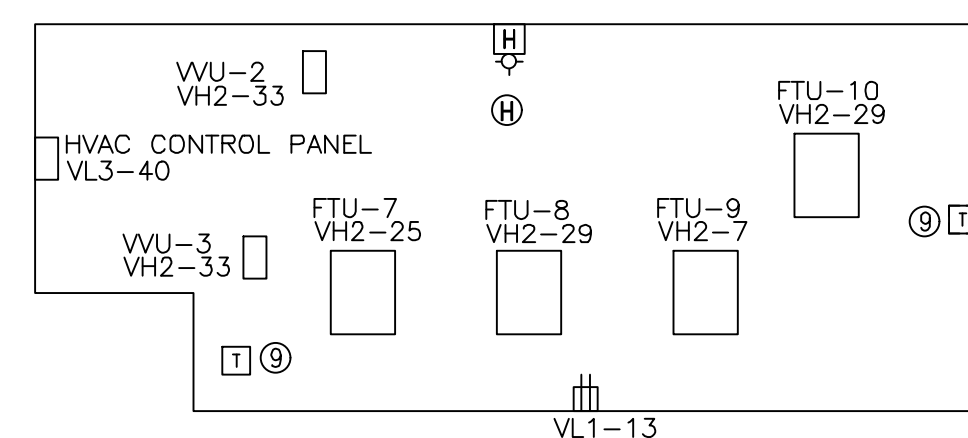
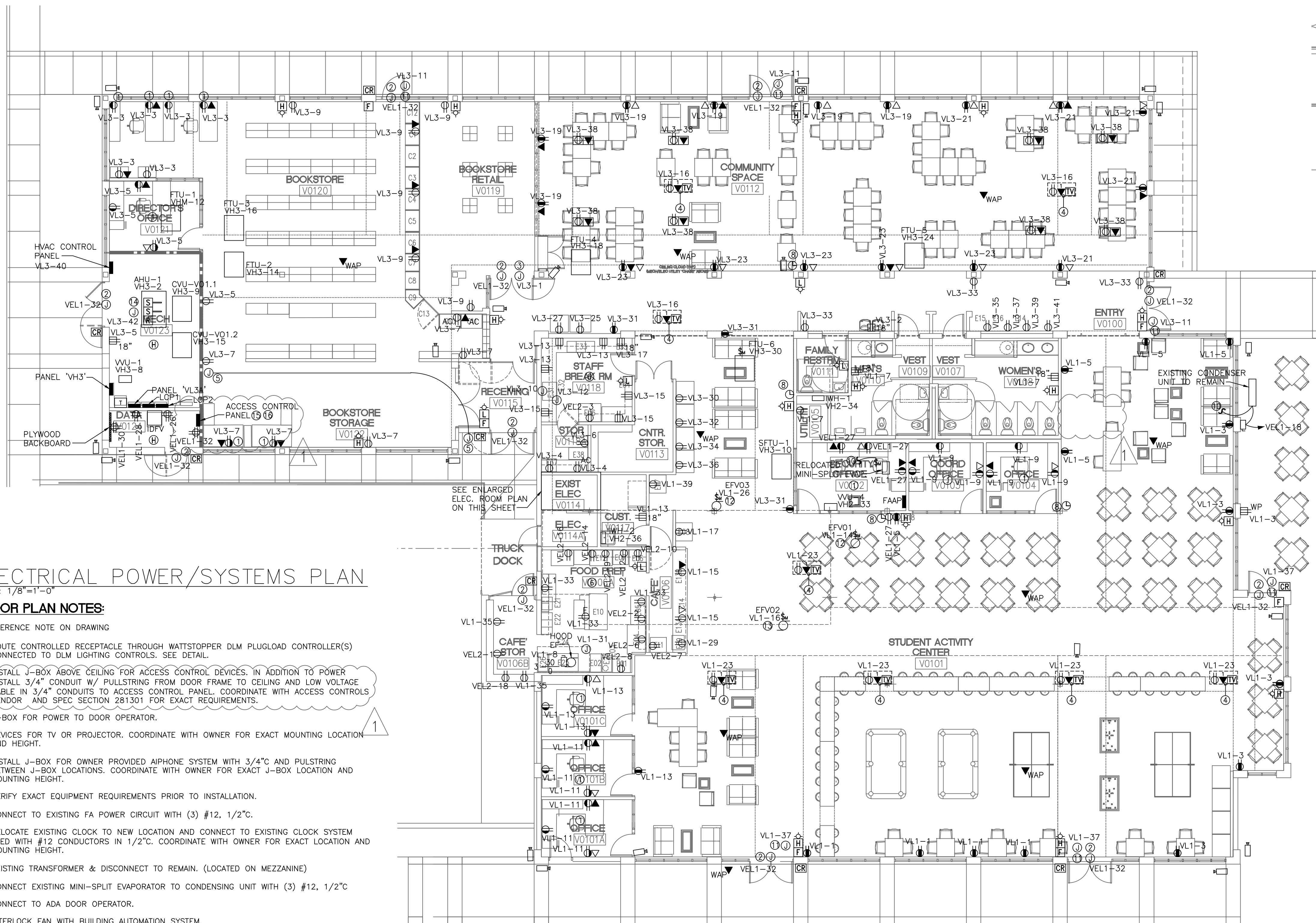
**ELECTRICAL  
POWER/SYSTEMS PLAN**

SHEET NUMBER

**E302**



SEE ARCH PLANS FOR PHASING OF PROJECT



ENLARGED MEZZANINE  
PLAN

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

**ELECTRICAL POWER/SYSTEMS PLAN**

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

**FLOOR PLAN NOTES:**

⊗ REFERENCE NOTE ON DRAWING

- ROUTE CONTROLLED RECEPTACLE THROUGH WATTSTOPPER DLM PLUGLOAD CONTROLLER(S) CONNECTED TO DLM LIGHTING CONTROLS. SEE DETAIL.
- INSTALL J-BOX ABOVE CEILING FOR ACCESS CONTROL DEVICES. IN ADDITION TO POWER INSTALL 3/4" CONDUIT W/ PULLSTRING FROM DOOR FRAME TO CEILING AND LOW VOLTAGE CABLE IN 3/4" CONDUITS TO ACCESS CONTROL PANEL. COORDINATE WITH ACCESS CONTROLS VENDOR AND SPEC SECTION 281301 FOR EXACT REQUIREMENTS.
- J-BOX FOR POWER TO DOOR OPERATOR.
- DEVICES FOR TV OR PROJECTOR. COORDINATE WITH OWNER FOR EXACT MOUNTING LOCATION AND HEIGHT.
- INSTALL J-BOX FOR OWNER PROVIDED AIPHONE SYSTEM WITH 3/4" AND PULSTRING BETWEEN J-BOX LOCATIONS. COORDINATE WITH OWNER FOR EXACT J-BOX LOCATION AND MOUNTING HEIGHT.
- VERIFY EXACT EQUIPMENT REQUIREMENTS PRIOR TO INSTALLATION.
- CONNECT TO EXISTING FA POWER CIRCUIT WITH (3) #12, 1/2"C.
- RELOCATE EXISTING CLOCK TO NEW LOCATION AND CONNECT TO EXISTING CLOCK SYSTEM FEED WITH #12 CONDUCTORS IN 1/2"C. COORDINATE WITH OWNER FOR EXACT LOCATION AND MOUNTING HEIGHT.
- EXISTING TRANSFORMER & DISCONNECT TO REMAIN. (LOCATED ON MEZZANINE)
- CONNECT EXISTING MINI-SPLIT EVAPORATOR TO CONDENSING UNIT WITH (3) #12, 1/2"C
- CONNECT TO ADA DOOR OPERATOR.
- INTERLOCK FAN WITH BUILDING AUTOMATION SYSTEM.
- INTERLOCK FAN WITH BUILDING AUTOMATION SYSTEM AND CAFE HOOD.
- CONNECT TO UV LAMP/ION GENERATOR.
- INSTALL (2) CAT6 CABLES FROM IDFV TO ACCESS CONTROL PANEL.
- INTERLOCK FIRE ALARM WITH ACCESS CONTROL SYSTEM.

J. BRYAN SHAFER, PE  
FL LICENSE #58168



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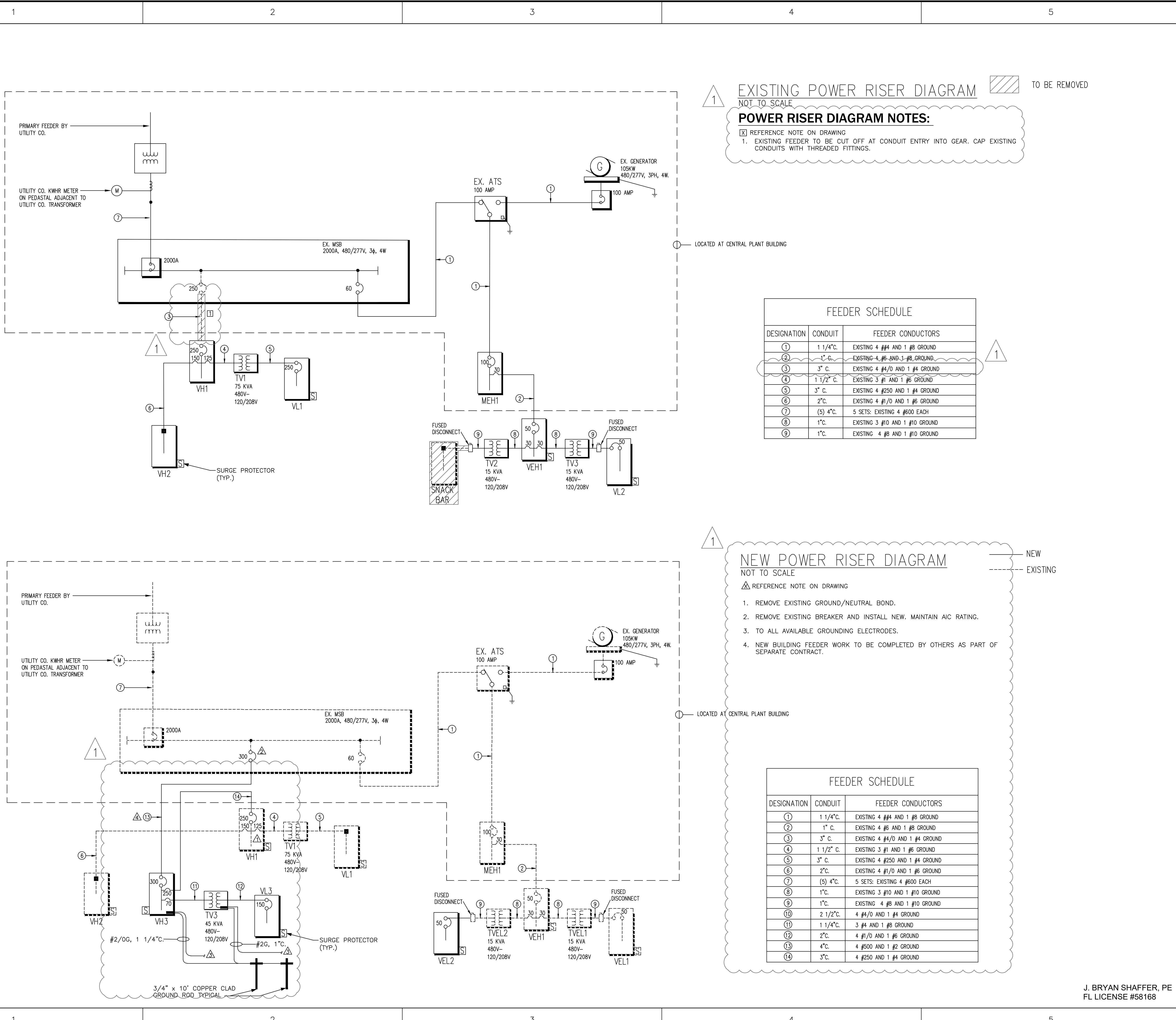
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SHEET TITLE

**ELECTRICAL  
RISERS**

SHEET NUMBER

**E401**



EXISTING POWER RISER DIAGRAM  
NOT TO SCALE  
TO BE REMOVED

**POWER RISER DIAGRAM NOTES:**  
 [X] REFERENCE NOTE ON DRAWING  
 1. EXISTING FEEDER TO BE CUT OFF AT CONDUIT ENTRY INTO GEAR. CAP EXISTING CONDUITS WITH THREADED FITTINGS.

FEEDER SCHEDULE

DESIGNATION	CONDUIT	FEEDER CONDUCTORS
①	1 1/4" C.	EXISTING 4 #4 AND 1 #8 GROUND
②	1" C.	EXISTING 4 #6 AND 1 #8 GROUND
③	3" C.	EXISTING 4 #4/0 AND 1 #4 GROUND
④	1 1/2" C.	EXISTING 3 #1 AND 1 #6 GROUND
⑤	3" C.	EXISTING 4 #250 AND 1 #4 GROUND
⑥	2" C.	EXISTING 4 #1/0 AND 1 #6 GROUND
⑦	(5) 4" C.	5 SETS: EXISTING 4 #600 EACH
⑧	1" C.	EXISTING 3 #10 AND 1 #10 GROUND
⑨	1" C.	EXISTING 4 #8 AND 1 #10 GROUND

NEW POWER RISER DIAGRAM  
NOT TO SCALE

NEW  
EXISTING

REFERENCE NOTE ON DRAWING

- REMOVE EXISTING GROUND/NEUTRAL BOND.
- REMOVE EXISTING BREAKER AND INSTALL NEW. MAINTAIN AIC RATING.
- TO ALL AVAILABLE GROUNDING ELECTRODES.
- NEW BUILDING FEEDER WORK TO BE COMPLETED BY OTHERS AS PART OF SEPARATE CONTRACT.

FEEDER SCHEDULE

DESIGNATION	CONDUIT	FEEDER CONDUCTORS
①	1 1/4" C.	EXISTING 4 #4 AND 1 #8 GROUND
②	1" C.	EXISTING 4 #6 AND 1 #8 GROUND
③	3" C.	EXISTING 4 #4/0 AND 1 #4 GROUND
④	1 1/2" C.	EXISTING 3 #1 AND 1 #6 GROUND
⑤	3" C.	EXISTING 4 #250 AND 1 #4 GROUND
⑥	2" C.	EXISTING 4 #1/0 AND 1 #6 GROUND
⑦	(5) 4" C.	5 SETS: EXISTING 4 #600 EACH
⑧	1" C.	EXISTING 3 #10 AND 1 #10 GROUND
⑨	1" C.	EXISTING 4 #8 AND 1 #10 GROUND
⑩	2 1/2" C.	4 #4/0 AND 1 #4 GROUND
⑪	1 1/4" C.	3 #4 AND 1 #8 GROUND
⑫	2" C.	4 #1/0 AND 1 #6 GROUND
⑬	4" C.	4 #500 AND 1 #2 GROUND
⑭	3" C.	4 #250 AND 1 #4 GROUND

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