

**ADDENDUM #3**

**CITY OF PORTLAND, MAINE  
Riverton Expansion and Renovation Project  
BID #7706**

**DATE: June 6, 2006**

The attention of firms submitting proposals for the work named in the above Invitation is called to the following modifications to the documents as were issued.

The items set forth herein, whether of clarification, omission, addition and/or substitution, shall be included and form a part of the Contractor's submitted material and the corresponding Contract when executed. No claim for additional compensation, due to lack of knowledge of the contents of this Addendum will be considered.

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**ALL BIDDERS ARE ADVISED THAT RECEIPT OF THIS NOTICE MUST BE DULY ACKNOWLEDGED ON THE BID PROPOSAL FORM OR BY THE INSERTION OF THIS SHEET, SIGNED, AND SUBMITTED WITH YOUR PROPOSAL.**

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**MATTHEW F. FITZGERALD  
PURCHASING AGENT**

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**Please See Attached.**

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**Receipt of Addendum No. 3 to the City of Portland's BID #7706: Riverton Expansion and Renovation Project, is hereby acknowledged.**

COMPANY NAME: \_\_\_\_\_

SIGNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PRINT NAME & TITLE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_ Zip Code

Addendum #3

**ADDENDUM #3  
CITY OF PORTLAND  
RIVERTON EXPANSION AND RENOVATION PROJECT  
Portland, Maine**

DATE: June 6, 2006

FROM: Semple & Drane Architects  
496 Congress Street  
Portland, ME 04101

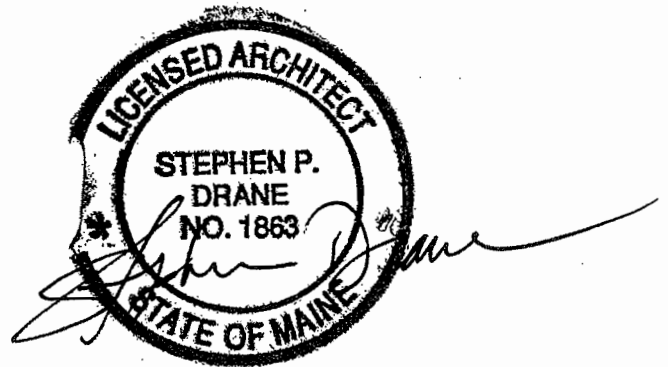
TO: All Prospective Bidders

RE: Addendum No. 3 to the Bidding Documents for:

**CITY OF PORTLAND  
RIVERTON EXPANSION AND RENOVATION PROJECT  
Project Bid # 7706  
Portland, Maine**

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated May 9, 2006. Acknowledge receipt of this Addendum in the space provided in the Bid Form that has been included in the Project Manual.

Stephen Drane, AIA  
Semple & Drane Architects



**ADDENDUM #3  
CITY OF PORTLAND  
RIVERTON EXPANSION AND RENOVATION PROJECT  
Portland, Maine**

**PERTAINING TO THE PROJECT MANUAL**

Table of Contents:

**ADD** the following:

Division 3; Section 03410 – Architectural Precast Concrete

Section 01100 – Summary of Work:

**DELETE** Appendix A in entirety. **ADD** the attached replacement Section 01100 Appendix A/Add #3.

Section 03300 – Cast-In-Place Concrete:

**DELETE** Section 03300 in entirety. **ADD** the replacement Section 03300, attached to Addendum #2, dated May 25, 2006, previously issued..

Section 03450 – Architectural Precast Concrete:

**ADD** this Specification Section 03410 in its entirety, attached at the end of this Addendum.

Section 04810 – Unit Masonry Assemblies:

Page 1, Part 1, Item 1.2.B.5.; **ADD** the following text at blank line: “5. Division 9 Section “Painting” for preparation and finishing of existing steel lintels over all existing exterior masonry openings.”

Page 5, Part 2, Item 2.1.C.; **DELETE** entire product and all related text describing SMU.

Page 6, Item 2.2.7.a.; **CHANGE** to read as follows: “a. Accent Brick – Color and Texture: Match Morin-Lachance Old Port Full Range without darks. **ADD** the following; “b. Field Brick – Color and Texture: Match Glen-Gery Corporation’s Hanley W30 extruded, wire-cut grey series standard modular brick fabricated in York, PA.”

Page 15, Part 3, Item 3.13.; **DELETE** entire subsection and renumber all subsequent subsections to be sequential.

Section 05120 – Structural Steel:

**DELETE** Section 05120 in entirety. **ADD** the replacement Section 05120, attached to Addendum #2, dated May 25, 2006, previously issued.

Section 05310 – Steel Deck:

**DELETE** Section 05310 in entirety. **ADD** the replacement Section 05310, attached to Addendum #2, dated May 25, 2006, previously issued.

Section 07612 – Sheet Metal Roofing:

Page 6, Part 2, Item 2.6.A.1.; **ADD** the following: “f. Englert Incorporated.”

Section 08710 – Door Hardware:

Page 4, Part 2, Item 2.01.C.1.; **ADD** the following:

“28) Dorma Architectural Hardware	Reamstown, PA	<a href="http://www.dorma-usa.com">www.dorma-usa.com</a>
29) PBB World Class Hinges	Ontario, CA	<a href="http://www.pbbinc.com">www.pbbinc.com</a>

Item 2.02.B.1.; **ADD** the following:

“Type:	PBB
Type 1	SC4B81
Type 2	BB81
Type 3	BB51
Type 4	4B81
Type 5	4B51”

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Portland, Maine**

Page 6, Item F.1.; **ADD** the following: "Dorma Series ML9000 X LRA"

Item G.1.; **ADD** the following: "Dorma Series DB860"

Item H.1.; **ADD** the following: "Dorma Touchpad 9000 Series"

Page 8, Item J.1.; <b>ADD</b> the following:	<u>"Type:</u>	<u>Dorma</u>
	Stop Arm	8916-S-DS
	Stop/Holder Arm	8916-S-DST
	Regular Arm	8916 DS
	HD Parallel Arm	8916-SPA"

Item K.1.; **ADD** the following: "e. Dorma ED 800."

Page 9, Item L.1.; **ADD** the following: "Dorma Surface Medium Duty 700/900 Series."

Section 08950 – Translucent Panel Glazed Roof Assemblies:

Page 2, Part 2, Item 2.2.D; **CHANGE** the word "Wall" to read "Skylight". **DELETE** related subparagraph number 1.

Section 09900 – Painting:

Page 6, Part 3, Item 3.2.C.; **ADD** the following:

"6. Exterior Steel Lintel (Existing) Restoration:

- A. All existing steel lintels shall remain unless otherwise indicated in Drawings and shall be restored as follows:
  - 1. After mason rakes all joints in which lintel is located to expose all edges of steel possible.
  - 2. Remove all rust, corrosion, scale and paint from exposed steel of lintels using hand and/or blast cleaning methods protecting adjacent surfaces and materials as necessary.
    - a. Achieve SSPC – SP2 level of preparation to receive primer specified herein."

**PERTAINING TO THE DRAWINGS**

**Drawing A102 – Roof Plans and Details:**

At Plan D1 – P&R Addition; **CHANGE** the Canopy Roof Plan (only) to be as shown on C/ASK-14 attached to this Addendum.

**Drawing A200 – Exterior Elevations:**

**ADD** the following General Notes: "1) ALL BRICK USED IN THE VENEER FIELD OF THE NEW CONSTRUCTION SHALL BE THE LIGHT COLORED FIELD UNITS AS SPECIFIED IN ADDENDUM #3. 2) ACCENT BRICK INDICATED FOR THE CLASSROOM ADDITION ONLY SHALL BE THE ACCENT BRICK CLARIFIED IN ADDENDUM #3. SEE ALSO, HATCH PATTERN AT C5."

At Detail C5, Hatch Pattern; **ADD** the note "ALL BRICK SHOWN WITH SHADING SHALL BE THE ACCENT UNITS (RED BRICK). THE UNSHADED UNITS ARE THE FIELD COLORED (LIGHT) BRICK."

At elevation A1; **CHANGE** the "Control Joint" note to read "CONTROL JOINTS AT FOUR (4) LOCATIONS – EXTEND FROM JAMBS OF STOREFRONT TO COPING EACH SIDE OF ENTRANCE CANOPY, ONE FROM LEFT OF COLUMN 'M' AND AT JAMB OF WINDOW 'B'."

**Drawing A201 – Existing Exterior Elevations and Window Replacement Plans:**

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**Portland, Maine**

At Part Plan D4; **CHANGE** the Title to read "PART PLAN AT COURTYARD".

At D1-Door and Storefront Panels; **ADD** the following keys and Notes:

For North Classrooms – "Entrance & Storefront Type 11"

Admin. Areas – "2 Ea. of Window Type Y"

Public Library – "Window Type X and Entrance & Storefront Type 12"

Teacher's Room - "Entrance & Storefront Type 7"

"NOTE: SEE A500 FOR ENTRANCE & STOREFRONT TYPES AND SEE A501 FOR WINDOW TYPES."

**Drawing A203 – Exterior Canopies, Plans and Details:**

**ADD** the following Sketch Drawings to this sheet;

ASK-14      Canopy (Entry B101) Roof Details and Plan

ASK-15      Small Canopy Sections

**Drawing A204 – Wall Sections and Details:**

**ADD** the following Sketch Drawings to this sheet;

ASK-18      Aluminum Framing (Sill) Detail.

At Wall Section D2, **ADD** the following note: "SEE ASK-18 FOR SILL DETAIL CONDITION. REVISE ALL NOTES AND DIMENSIONS IN THIS PORTION OF SECTION TO BE AS SHOWN ON NEW DETAIL ASK-18."

**Drawing A300 – Plan Details and Wall Types:**

**D3:** **ADD** Plan Detail ASK-16 attached to this addendum, in blank space.

**D4:** **ADD** Plan Detail ASK-17 attached to this addendum, in blank space.

**C1:** **ADD** Plan Detail ASK-19 attached to this addendum, in blank space.

**Drawing A400 – Reflected Ceiling Plans and Details:**

**A5:** **REPLACE** with attached ASK-21.

**D1:** At Toilet B112, **CHANGE** Plan to reflect a 2 x 2 ceiling tile and grid system with a single 2 x 4 lay-in hydronic radiant heating panel positioned as shown on A4/MP-100.

At Toilets B109 and B110, **CHANGE** Plan to reflect a single 2 x 4 lay-in hydronic radiant heating panel positioned as shown on A4/MP-100.

**Drawing A500 – Doors, Frames, Schedule & Miscellaneous Details**

**Door Schedule:** **CHANGE** Doors E102A, E102B, and E103A door and frame materials to be HM/HM (Hollow Metal).

At Door E101A, **CHANGE** Size to read "EXISTING". In Remarks column, **ADD** the remark Key "8 – Repaint Existing Door and Frame". **DELETE** reference to "AL" materials for frame and door.

**Drawing A501 – Windows and Miscellaneous Details:**

At A1, Exterior Window Types; **DELETE** Type L window. This configuration is not used.

At D1, Frame Details; **ADD** the Plan Detail ASK-20 attached to this addendum, to indicate "typical" outside corner condition.

**Drawing A601 – Interior Elevations:**

**ADDENDUM #3  
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RIVERTON EXPANSION AND RENOVATION PROJECT  
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**C2: REVISE** Corridor B117 Elevation to show surface mounted bi-level ADA water fountain on wall area to right of Door B104A. See also SKP-02 issued with Addendum #2.

**Drawing A602 – Interior Elevations:**

At Elevation A1, Lobby C102; **CHANGE** graphic and note at door opening being filled in with CMU located to right of new door C103A as follows: “INFILL FULL MASONRY OPENING AT REMOVED FRAME AND DOOR (EXTENDS FLOOR TO CEILING) WITH CMU-2, 8 INCHES THICK AND PAINT BOTH FACES. APPLY TACK BOARD TYPE AS INDICATED IN ADDENDUM 2.”

**Drawing A604 – Enlarged Toilet Room Plans, Misc. Details & Finish Schedule:**

At Part Plan C3, on existing Door from Office to New Toilet E101; **ADD** Door Number “E101A”.  
**ADD** a note reading “ALL OTHER DOORS SHOWN ARE EXISTING TO REMAIN AS-IS.”

At Part Plan D4, on new Door from Corridor to New Toilet E102; **ADD** Door Number “E102A”.

On new Door from Pool to Family Locker E103; **ADD** Door Number “E102B”.

On new Door from Family Locker E103 to Storage Closet; **ADD** Door Number “E103A”.

**ADD** a note reading “ALL OTHER DOORS SHOWN ARE EXISTING TO REMAIN AS-IS.”

**SPECIFICATION SECTIONS ATTACHED TO THIS ADDENDUM**

Section 01100 - Summary of Work - Appendix A/Add#3 – Phasing pages 1 and 2.

Section 03450 – Architectural Precast Concrete.

**SKETCH DETAILS AND DRAWINGS ADDED BY THIS ADDENDUM**

ASK-14, ASK-15, ASK-16, ASK-17, ASK-18, ASK-19, ASK-20, ASK-21.

**SKETCH DETAILS ATTACHED TO THIS ADDENDUM (NOTED PREVIOUSLY IN  
ADDENDUM #2 BUT NOT ATTACHED THEREWITH)**

SKP-01

**END OF ADDENDUM TEXT**

# Phasing

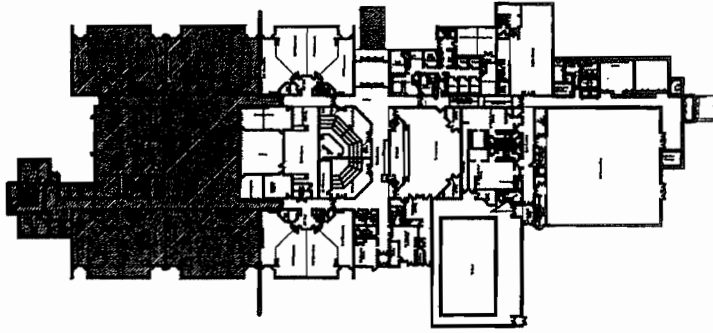
PHASE	DESCRIPTION OF WORK	ROOMS	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	
1	CLASSROOM ADDITION	A101 THRU A109																	
2	SCHOOL ADMINISTRATION RENOVATIONS & LOBBY SPRINKLER SYSTEM	C100 thru C121																	
3	MECHANICAL CLASSROOM WORK	101 THRU 104, 201 THRU 204, 401 THRU 404, 501 THRU 504																	
4	MAIN ENTRANCE CANOPY FOUNDATIONS																		
5	MECHANICAL CLASSROOM WORK	301 THRU 304, 601 THRU 604																	
6	COMMUNITY ADDITION	B101 THRU B117																	
7	EXISTING WINDOW REPLACEMENT	WHOLE BUILDING																	
8	GYM TOILET	E101																	
9	FAMILY LOCKER ROOM	E102, E103																	
10	DISCOVERY ROOM	D100																	
11	COMMISSIONING	WHOLE BUILDING																	
12	ALTERNATE 4 - LIBRARY CARPET																		
13	ALTERNATE 5 - SPRINKLER SYSTEM PHASE 3	101 THRU 104, 201 THRU 204, 401 THRU 404, 501 THRU 504																	
14	ALTERNATE 5 - SPRINKLER SYSTEM PHASE 5	301 THRU 304, 601 THRU 604																	
15	ALTERNATE 5 - SPRINKLER SYSTEM REMAINING BUILDING	WHOLE BUILDING EXCEPT WHAT HAS BEEN COMPLETED IN PHASE 14 AND 15																	



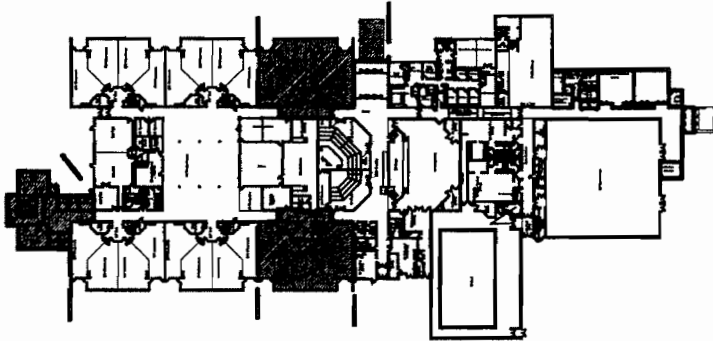
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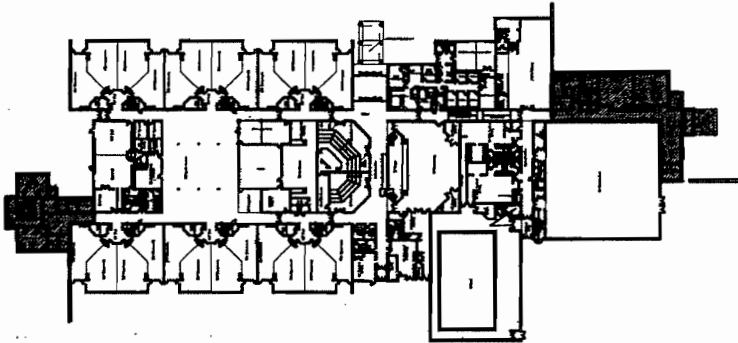
AVAILABLE FOR CONSTRUCTION



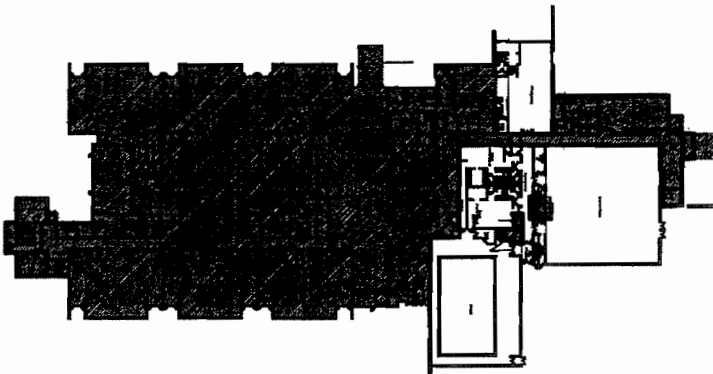
JUNE 20, 2006 TO JULY 20, 2006



JULY 20, 2006 TO AUGUST 20, 2006



AUGUST 20, 2006 TO JUNE 20, 2007



JUNE 20, 2007 TO AUGUST 7, 2007

NOTE: IF ALTERNATE 5 - SPRINKLER SYSTEM IS ACCEPTED, THE ENTIRE BUILDING INCLUDING PUBLIC LIBRARY, GYM AND LOCKER ROOMS WILL BE PART OF THIS PHASE



**SECTION 03450 – ARCHITECTURAL PRECAST CONCRETE**

**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, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes the following Architectural precast concrete:
  - 1. Structural, reinforced, exterior concrete columns for use at “Entrance Canopies” as indicated on Architectural and Structural Drawings.
- B. Related Sections include the following:
  - 1. Division 5 Section "Structural Steel" for furnishing and installing connections attached to structural-steel framing.
  - 2. Division 5 Section "Metal Fabrications" for kickers and other miscellaneous steel shapes.

**1.3 PERFORMANCE REQUIREMENTS**

- A. Structural Performance: Provide Architectural precast concrete units and connections capable of withstanding the following design loads within limits and under conditions indicated:
  - 1. Loads: As indicated for column elements.
  - 2. Design framing system and connections to maintain clearances at openings, to allow for fabrication and construction tolerances, to accommodate live-load deflection, shrinkage and creep of primary building structure, and other building movements as follows:
    - a. Upward and downward movement of 3/8 inch.
  - 3. Thermal Movements: Provide for in-plane thermal movements resulting from annual ambient temperature changes of 150 deg F.

**1.4 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each precast concrete mixture. Include compressive strength and water-absorption tests.
- C. Shop Drawings: Detail fabrication and installation of Architectural precast concrete units. Indicate locations, plans, elevations, dimensions, shapes, and cross sections of each unit. Indicate joints, reveals, and extent and location of each surface finish.
  - 1. Indicate welded connections by AWS standard symbols. Detail loose and cast-in hardware and connections.
  - 2. Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.
  - 3. Indicate location of each Architectural precast concrete unit by same identification mark placed on panel.
  - 4. Indicate relationship of Architectural precast concrete units to adjacent materials.
  - 5. Design Modifications: If design modifications are proposed to meet performance requirements and field conditions, submit design calculations and Shop Drawings. Do

not adversely affect the appearance, durability, or strength of units when modifying details or materials and maintain the general design concept.

- D. Samples: For each type of finish indicated on exposed surfaces of Architectural precast concrete units, in sets of 3, illustrating full range of finish, color, and texture variations expected; approximately 12 by 12 by 2 inches.
- E. Welding certificates.
- F. Qualification Data: For fabricator.
- G. Material Test Reports: For aggregates.
- H. Material Certificates: For the following items, signed by manufacturers:
  - 1. Cementitious materials.
  - 2. Reinforcing materials.
  - 3. Admixtures.
  - 4. Bearing pads.
  - 5. Structural-steel shapes and hollow structural sections.

#### 1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm that assumes responsibility for engineering Architectural precast concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
  - 1. Participates in PCI's plant certification program and is designated a PCI-certified plant for Group A, Category A1 - Architectural Cladding and Load Bearing Units or participates in APA's "Plant Certification Program for Production of Architectural Precast Concrete Products" and is designated an APA-certified plant.
- B. Design Standards: Comply with design recommendations of PCI MNL 120, "PCI Design Handbook - Precast and Prestressed Concrete," applicable to types of Architectural precast concrete units indicated.
- C. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 117, "Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products."
- D. Welding: Qualify procedures and personnel according to AWS D1.1/D.1.1M, "Structural Welding Code - Steel"; and AWS D1.4, "Structural Welding Code - Reinforcing Steel."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver Architectural precast concrete units in such quantities and at such times to limit unloading units temporarily on the ground.
- B. Support units during shipment on nonstaining shock-absorbing material.
- C. Store units with adequate dunnage and bracing and protect units to prevent contact with soil, to prevent staining, and to prevent cracking, distortion, warping or other physical damage.

- D. Place stored units so identification marks are clearly visible, and units can be inspected.
- E. Handle and transport units in a position consistent with their shape and design in order to avoid excessive stresses which would cause cracking or damage.
- F. Lift and support units only at designated points shown on Shop Drawings.

#### 1.7 SEQUENCING

- A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction without delaying the Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Available Fabricators: Subject to compliance with requirements, fabricators offering products that may be incorporated into the Work include, but are not limited to, the following:
  1. Arcon, Inc., Guilford, NH
  2. Northern Design Precast, Inc., Loudon, NH. [www.ndprecast.com](http://www.ndprecast.com)
  3. Precast Structures, Inc., Auburn, ME
  4. Stresscon Limited, St. John, NB, Canada (800)523-3747

#### 2.2 MOLD MATERIALS

- A. Molds: Rigid, dimensionally stable, non-absorptive material, warp and buckle free, that will provide continuous and true precast concrete surfaces within fabrication tolerances indicated; nonreactive with concrete and suitable for producing required finishes.
  1. Mold-Release Agent: Commercially produced liquid-release agent that will not bond with, stain or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.
- B. Surface Retarder: Chemical set retarder, capable of temporarily delaying final hardening of newly placed concrete mixture to depth of reveal specified.

#### 2.3 REINFORCING MATERIALS

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Steel Bar Mats: ASTM A 184/A 184M, fabricated from ASTM A 615/A 615M, Grade 60, deformed bars, assembled with clips.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- D. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.
- E. Supports: Suspend reinforcement from back of mold or use bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place according to PCI MNL 117.

## 2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type III, mix gray with white cement, of same type, brand, and mill source, unless otherwise indicated.
- B. Supplementary Cementitious Materials:
  - 1. Fly Ash: ASTM C 618, Class C or F, with maximum loss on ignition of 3 percent.
- C. Normal-Weight Aggregates: Except as modified by PCI MNL 117, ASTM C 33, with coarse aggregates complying with Class 5S. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.
  - 1. Coarse Aggregates: Selected, hard, and durable; free of material that reacts with cement or causes staining; to match selected finish sample.
    - a. Gradation: Uniformly graded.
  - 2. Fine Aggregates: Selected, natural or manufactured sand of same material as coarse aggregate, unless otherwise approved by Designer.
- D. Coloring Admixture: ASTM C 979, synthetic or natural mineral-oxide pigments or colored water-reducing admixtures, temperature stable, and nonfading.
- E. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 117.
- F. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- G. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.15 percent chloride ions or other salts by weight of admixture.
  - 1. Water-Reducing Admixtures: ASTM C 494/C 494M, Type A.
  - 2. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.

## 2.5 STEEL CONNECTION MATERIALS

- A. Carbon-Steel Shapes and Plates: ASTM A 36/A 36M.
- B. Carbon-Steel Structural Tubing: ASTM A 500, Grade B.
- C. Wrought Carbon-Steel Bars: ASTM A 675/A 675M, Grade 65.
- D. Deformed-Steel Wire or Bar Anchors: ASTM A 496 or ASTM A 706/A 706M.
- E. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A; carbon-steel, hex-head bolts and studs; carbon-steel nuts, ASTM A 563; and flat, unhardened steel washers, ASTM F 844.
- F. Zinc-Coated Finish: For exterior steel items, steel in exterior walls, and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123/A 123M or ASTM A 153/A 153M.
  - 1. For steel shapes, plates, and tubing to be galvanized, limit silicon content of steel to between 0.15 and 0.25 percent or limit sum of silicon and 2.5 times phosphorous content to 0.09 percent.

2. Galvanizing Repair Paint: High-zinc-dust-content paint with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035A or SSPC-Paint 20.

G. Welding Electrodes: Comply with AWS standards.

## 2.6 BEARING PADS

- A. Provide bearing pads for Architectural precast concrete units as recommended by precast fabricator for application.

## 2.7 ACCESSORIES

- A. Precast Accessories: Provide clips, hangers, masonry ties, plastic or steel shims, and other accessories required to install Architectural precast concrete units.

## 2.8 CONCRETE MIXTURES

- A. Prepare design mixtures for each type of precast concrete required.
  1. Limit use of fly ash to 20 percent of portland cement by weight.
- B. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at Architectural precast concrete fabricator's option.
- C. Limit water-soluble chloride ions to maximum percentage by weight of cement permitted by PCI MNL 117 when tested according to ASTM C 1218/C 1218M.
- D. Normal-Weight Concrete Mixtures: Proportion face and backup mixtures or full-depth mixtures, at fabricator's option by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
  1. Compressive Strength (28 Days): 5000 psi minimum.
  2. Maximum Water-Cementitious Materials Ratio: 0.45.
- E. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to PCI MNL 117.
- F. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 117.
- G. When included in design mixtures, add other admixtures to concrete mixtures according to manufacturer's written instructions.

## 2.9 MOLD FABRICATION

- A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement by release agent.
- B. Maintain molds to provide completed Architectural precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.
  1. Form joints are not permitted on faces exposed to view in the finished work.

2.10 FABRICATION

- A. **Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware:** Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
- B. **Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing Architectural precast concrete units to supporting and adjacent construction.**
  - 1. Obtain masonry ties from Masonry Subcontractor for embedment in medallion panels.
- C. **Cast-in reglets, slots, holes, and other design features in Architectural precast concrete units as indicated on the Contract Drawings.**
  - 1. Text shall be chiseled style letters in a font having serifs similar to Times New Roman or Clarendon. Size shall be as shown.
- D. **Reinforcement:** Comply with recommendations in PCI MNL 117 for fabricating, placing, and supporting reinforcement.
  - 1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy-coated reinforcing exceeds limits specified in ASTM A 775/A 775M, repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
  - 2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.
  - 3. Place reinforcement to maintain at least 1-inch minimum coverage. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
- E. Reinforce Architectural precast concrete units to resist handling, transportation, and erection stresses.
- F. Comply with requirements in PCI MNL 117 and requirements in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.
- G. Place face mixture to a minimum thickness after consolidation of the greater of 1 inch or 1.5 times the maximum aggregate size, but not less than the minimum reinforcing cover specified.
- H. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units.
- I. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 117.
  - 1. Place self-consolidating concrete without vibration according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."
- J. Comply with PCI MNL 117 for hot- and cold-weather concrete placement.

- K. Identify pickup points of Architectural precast concrete units complying with markings indicated on Shop Drawings.
- L. Cure concrete, according to requirements in PCI MNL 117, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.
- M. Discard and replace Architectural precast concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 117 and Designer's approval.

## 2.11 FABRICATION TOLERANCES

- A. Fabricate Architectural precast concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished panel complies with PCI MNL 117 product tolerances as well as position tolerances for cast-in items.

## 2.12 FINISHES

- A. Panel faces shall be free of joint marks, grain, and other obvious defects. False joints where indicated, shall be uniform, straight, and sharp. Finish exposed-face surfaces of Architectural precast concrete units to match approved samples, as indicated on Drawings for various surface texture types, and as follows:
  - 1. Smooth, Steel Form Finish: Standard smooth, natural surface finish provided by steel forms or equivalent, where indicated.
  - 2. Abrasive-Blast Finish: Use abrasive grit, equipment, application techniques, and cleaning procedures to expose aggregate and surrounding matrix surfaces, using Light, Medium or Heavy blast techniques as necessary, AND/OR;
  - 3. Acid-Etched Finish: Use acid and hot-water solution, equipment, application techniques, and cleaning procedures to expose aggregate and surrounding matrix surfaces. Protect hardware, connections, and insulation from acid attack.
- B. Finish unexposed surfaces of Architectural precast concrete units by float finish.

## 2.13 SOURCE QUALITY CONTROL

- A. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 117 requirements. If using self-consolidating concrete, also test and inspect according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."
- B. Strength of precast concrete units will be considered deficient if units fail to comply with ACI 318 requirements for concrete strength.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine supporting structural frame or foundation and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Do not install precast concrete units until supporting cast-in-place building foundations and masonry, as applicable, has attained minimum allowable design compressive strength.

### 3.2 INSTALLATION

- A. Install clips, hangers, dowels, bearing pads, and other accessories required for connecting Architectural precast concrete units to supporting members and backup materials.
- B. Erect Architectural precast concrete level, plumb, and square within specified allowable tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment as units are being permanently connected.
  - 1. Install temporary steel or plastic spacing shims or bearing pads as precast concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.
- C. Connect Architectural precast concrete units in position to structure by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting is completed.
- D. Welding: Comply with applicable AWS D1.1/D1.1M and AWS D1.4 for welding, welding electrodes, appearance, quality of welds, and methods used in correcting welding work.
  - 1. Protect Architectural precast concrete units and bearing pads from damage by field welding or cutting operations, and provide noncombustible shields as required.
  - 2. Welds not specified shall be continuous fillet welds, using no less than the minimum fillet as specified by AWS.
  - 3. Clean weld-affected metal surfaces with chipping hammer followed by brushing, and apply a minimum 4.0-mil- thick coat of galvanized repair paint to galvanized surfaces according to ASTM A 780.
  - 4. Remove, reweld, or repair incomplete and defective welds.
- E. At bolted connections, use lock washers, tack welding, or other approved means to prevent loosening of nuts after final adjustment.
  - 1. Where slotted connections are used, verify bolt position and tightness. For sliding connections, properly secure bolt but allow bolt to move within connection slot. For friction connections, apply specified bolt torque and check 25 percent of bolts at random by calibrated torque wrench.

### 3.3 ERECTION TOLERANCES

- A. Erect Architectural precast concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 117, Appendix I.

### 3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections and prepare test reports.
- B. Field welds will be subject to visual inspections and nondestructive testing according to ASTM E 165 or ASTM E 709. High-strength bolted connections will be subject to inspections.
- C. Testing agency will report test results promptly and in writing to Contractor and Designer.



- D. Repair or remove and replace work where tests and inspections indicate that it does not comply with specified requirements.

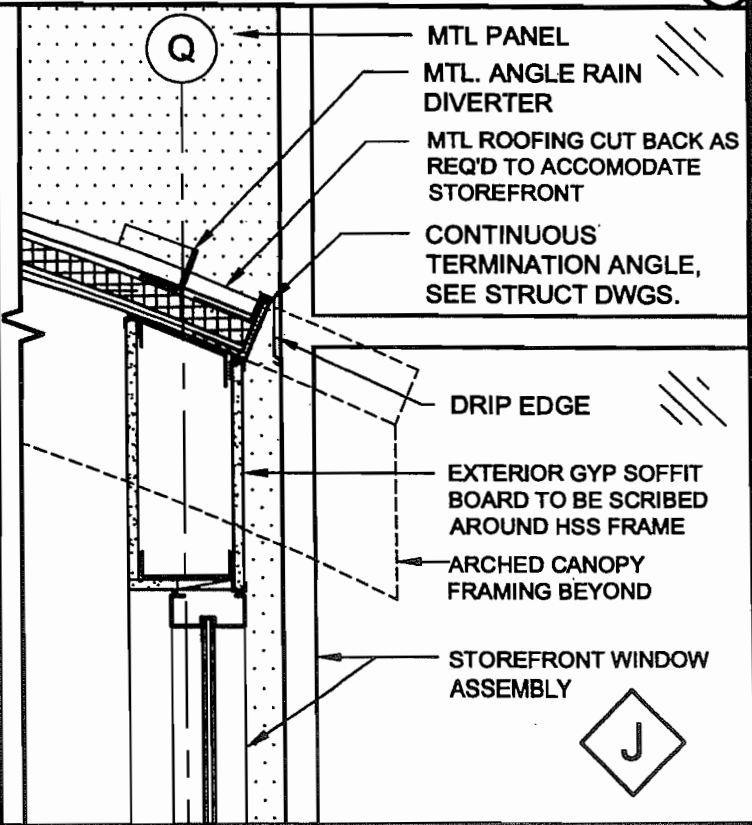
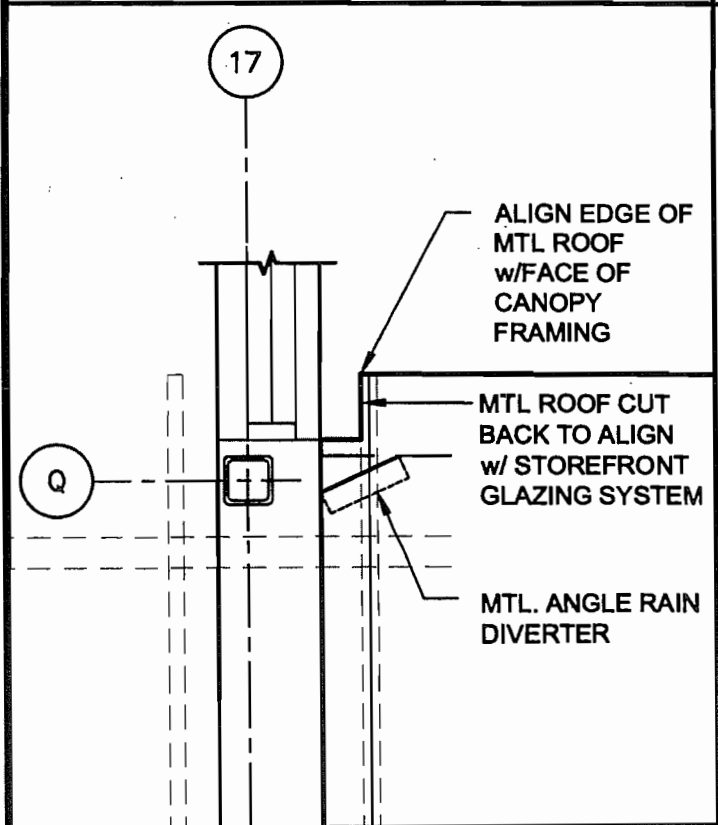
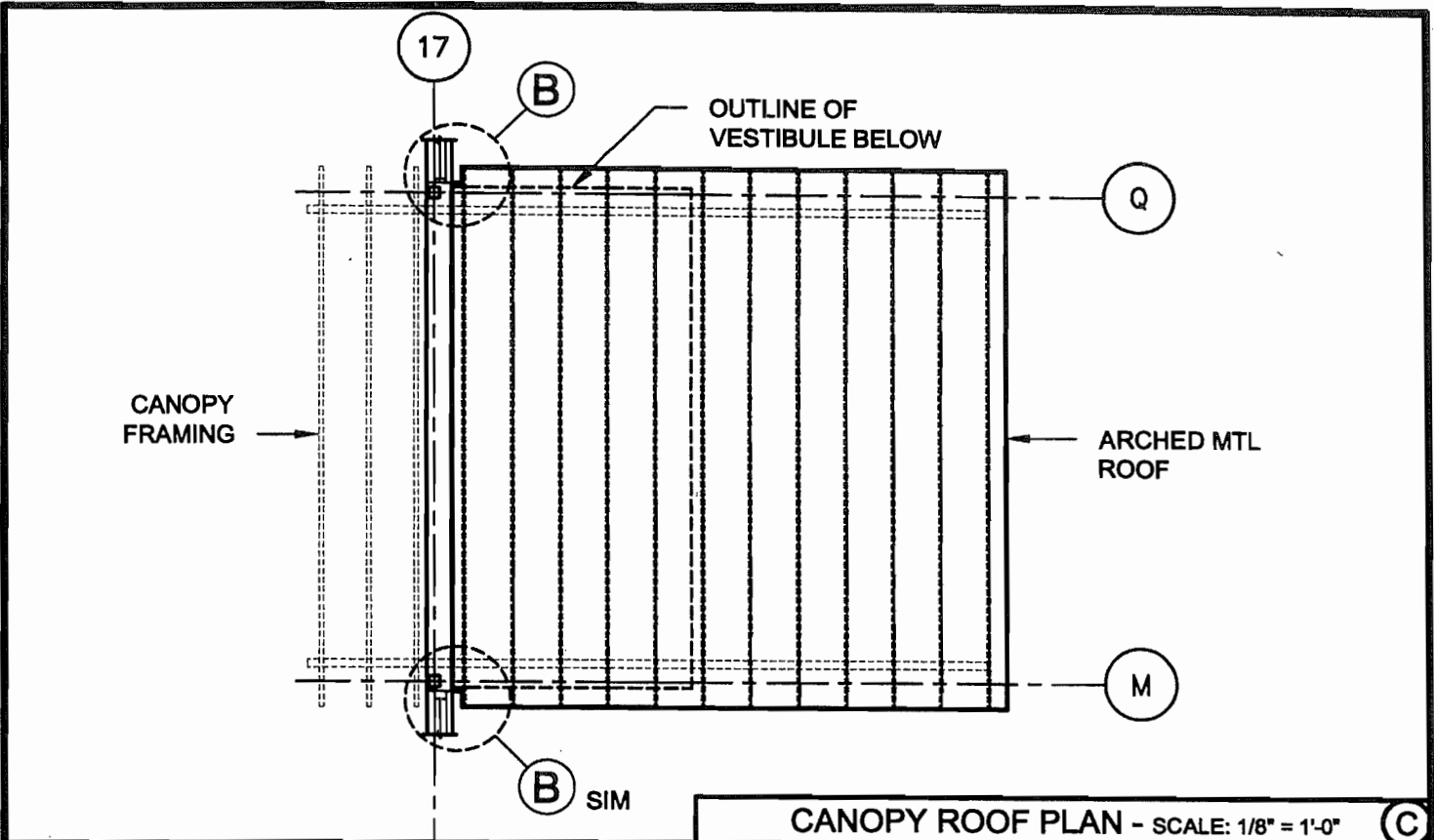
### 3.5 REPAIRS

- A. Repair Architectural precast concrete units if permitted by Designer. The Designer reserves the right to reject repaired units that do not comply with requirements.
- B. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet.
- C. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A 780.
- D. Remove and replace damaged Architectural precast concrete units when repairs do not comply with requirements.

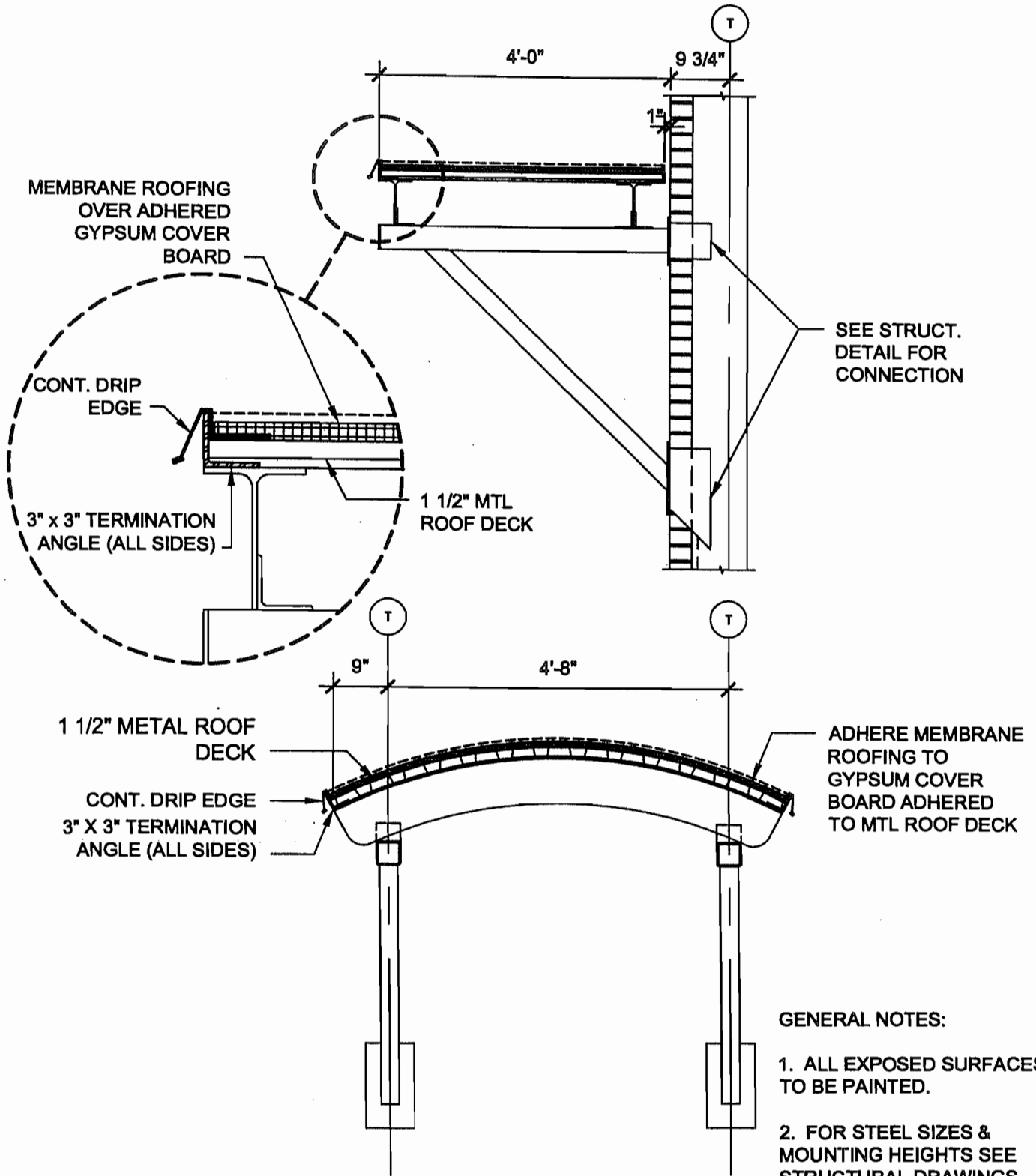
### 3.6 CLEANING

- A. Clean exposed surfaces of precast concrete units and adjacent materials immediately after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.
  - 1. Perform cleaning procedures according to precast concrete fabricator's recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.
  - 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

**END OF SECTION 03450**



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	<b>DRAWING NAME:</b> <b>CANOPY ROOF DETAILS</b>		



- GENERAL NOTES:**
1. ALL EXPOSED SURFACES TO BE PAINTED.
  2. FOR STEEL SIZES & MOUNTING HEIGHTS SEE STRUCTURAL DRAWINGS.

**SMALL CANOPY SECTIONS - SCALE: 1/2" = 1'-0"**

**(A)**

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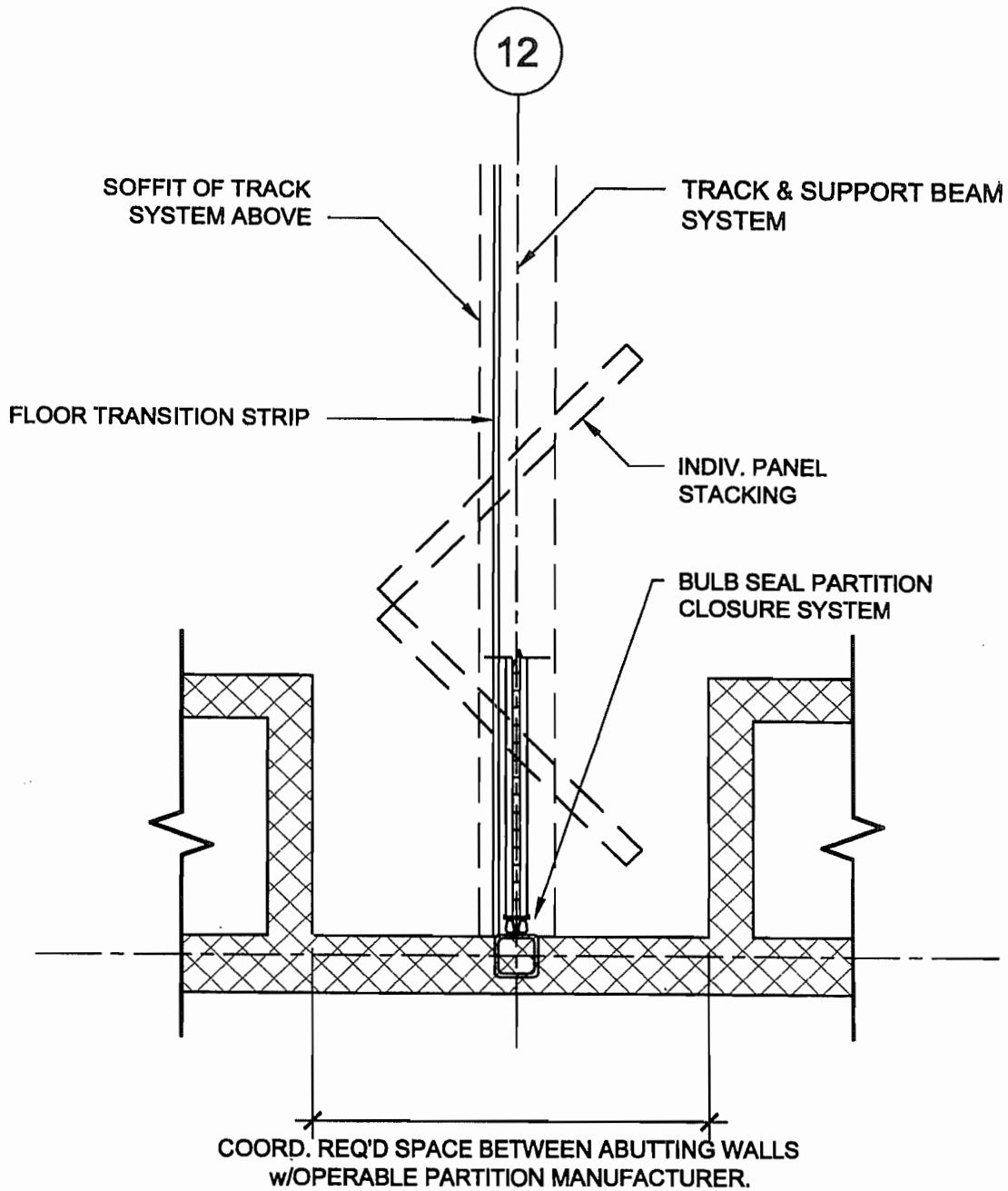
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**SMALL CANOPY SECTIONS**

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**ASK-15**



PLAN DETAIL D3/A300 - SCALE: 1/2" = 1'-0"

(A)

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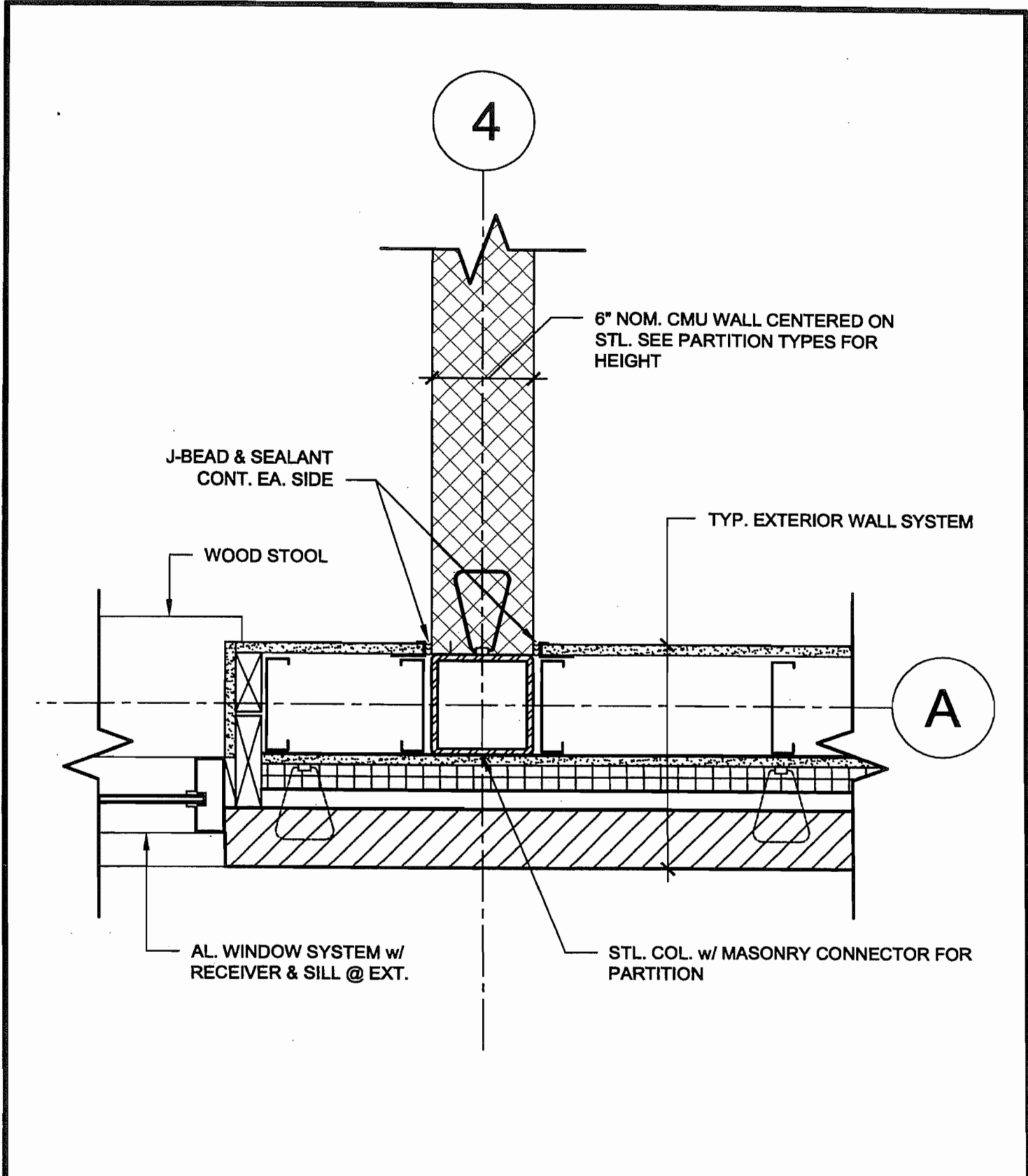
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**D3/A300.**

**DATE:**  
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Scale: 1/2" = 1'-0"  
File: 0515

SKETCH #

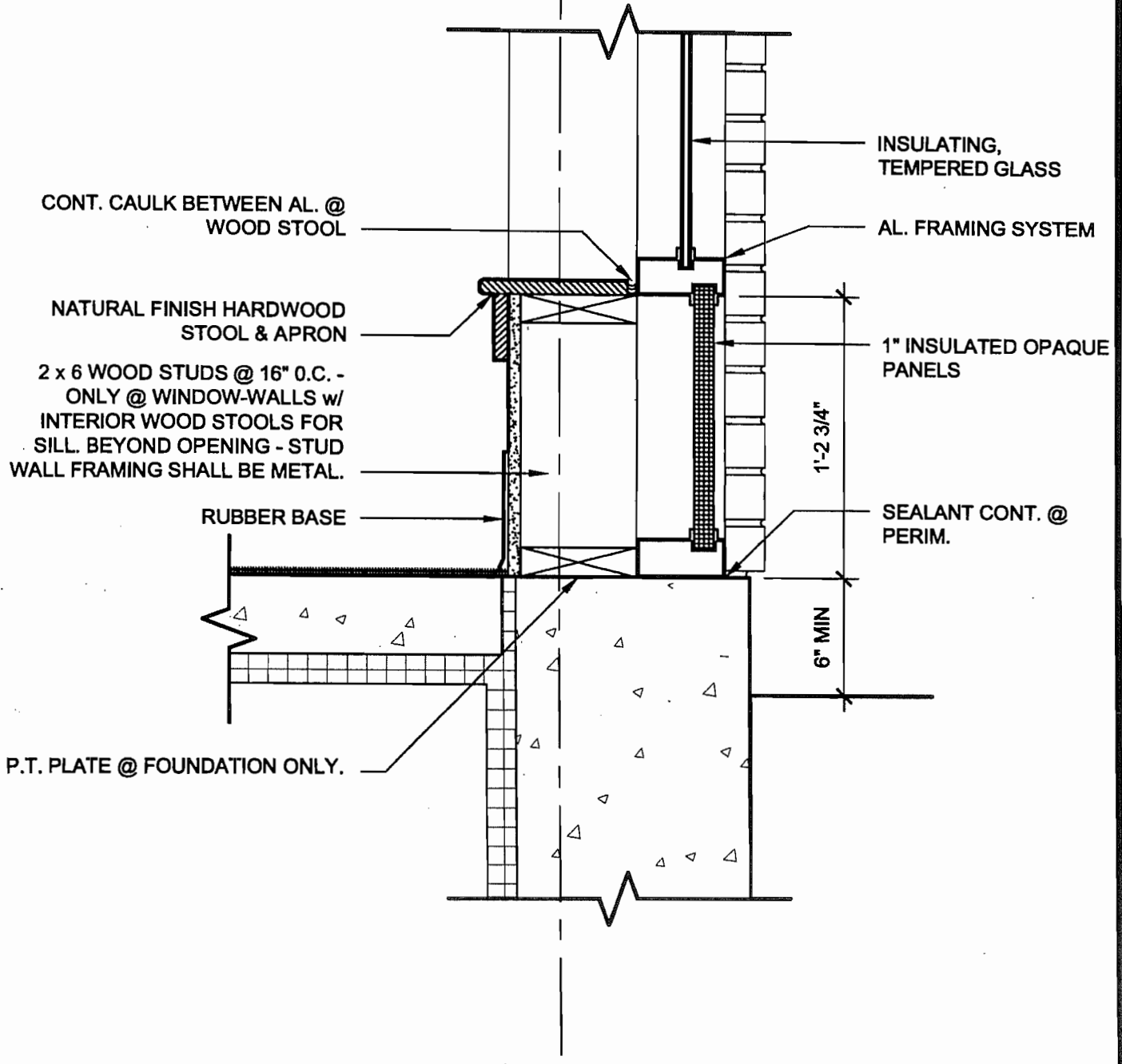
**ASK-16**



PLAN DETAIL D4/A300 - SCALE: 1/2" = 1'-0" (A)

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COL



CONT. CAULK BETWEEN AL. @ WOOD STOOL

NATURAL FINISH HARDWOOD STOOL & APRON

2 x 6 WOOD STUDS @ 16" O.C. - ONLY @ WINDOW-WALLS w/ INTERIOR WOOD STOOLS FOR SILL. BEYOND OPENING - STUD WALL FRAMING SHALL BE METAL.

RUBBER BASE

P.T. PLATE @ FOUNDATION ONLY.

INSULATING, TEMPERED GLASS

AL. FRAMING SYSTEM

1" INSULATED OPAQUE PANELS

1'-2 3/4"

SEALANT CONT. @ PERIM.

6" MIN

AL. FRAMING DETAIL - SCALE: 1/2" = 1'-0" (A)

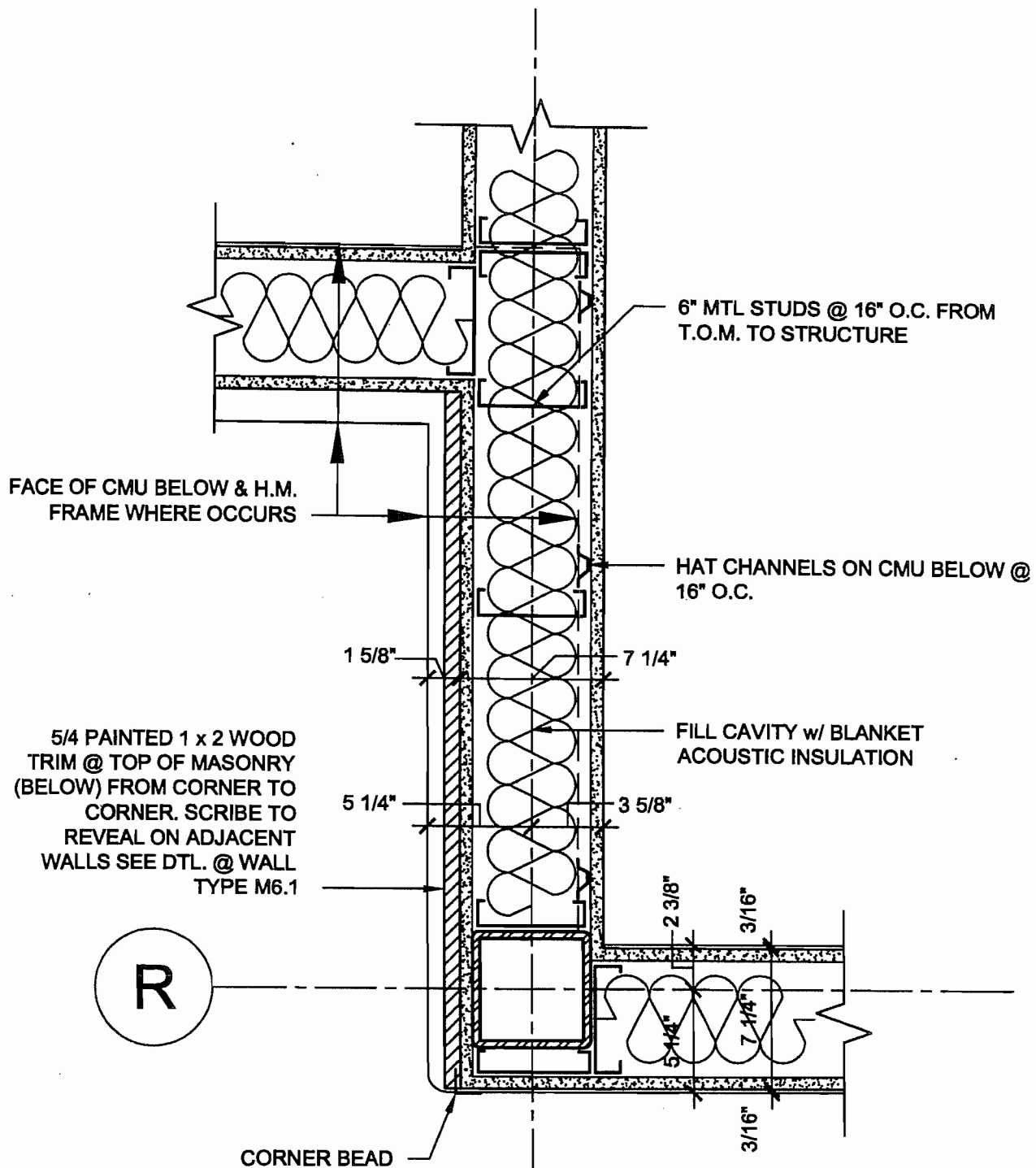
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**DRAWING NAME:**  
 AL. FRAMING DETAIL

**DATE:**  
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 Scale: 1/2" = 1'-0"  
 File:0515

SKETCH #  
**ASK-18**



FACE OF CMU BELOW & H.M. FRAME WHERE OCCURS

6" MTL STUDS @ 16" O.C. FROM T.O.M. TO STRUCTURE

HAT CHANNELS ON CMU BELOW @ 16" O.C.

5/4 PAINTED 1 x 2 WOOD TRIM @ TOP OF MASONRY (BELOW) FROM CORNER TO CORNER. SCRIBE TO REVEAL ON ADJACENT WALLS SEE DTL. @ WALL TYPE M6.1

FILL CAVITY w/ BLANKET ACOUSTIC INSULATION

R

15

CORNER BEAD

GENERAL NOTE:

PLAN DETAIL VIEW FROM TOP OF MASONRY PARTITIONS (7'-4" A.F.F. UPWARD).

PLAN DETAIL C1/A300 - SCALE: 1/2" = 1'-0"

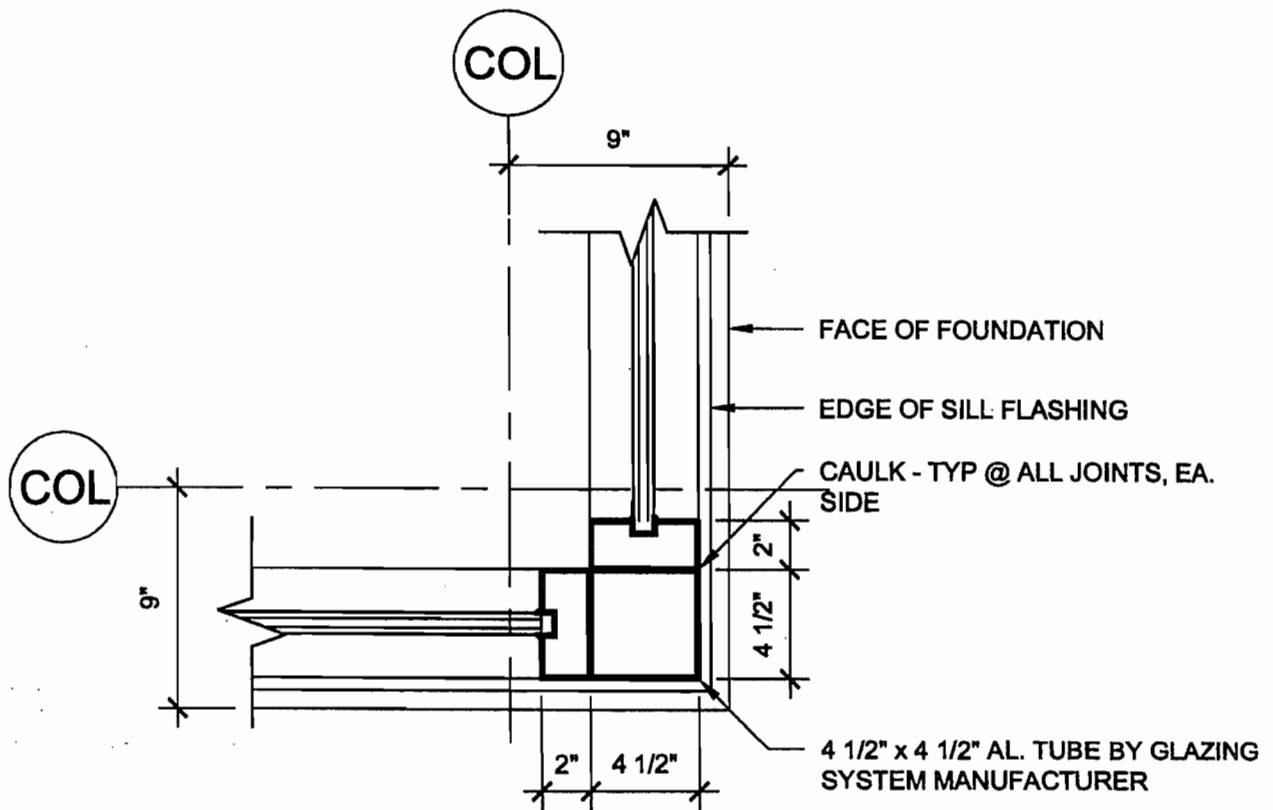
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 C1/A300

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**SKETCH #**  
 ASK-19



OUTSIDE CORNER DETAIL - SCALE: 1:8

(A)

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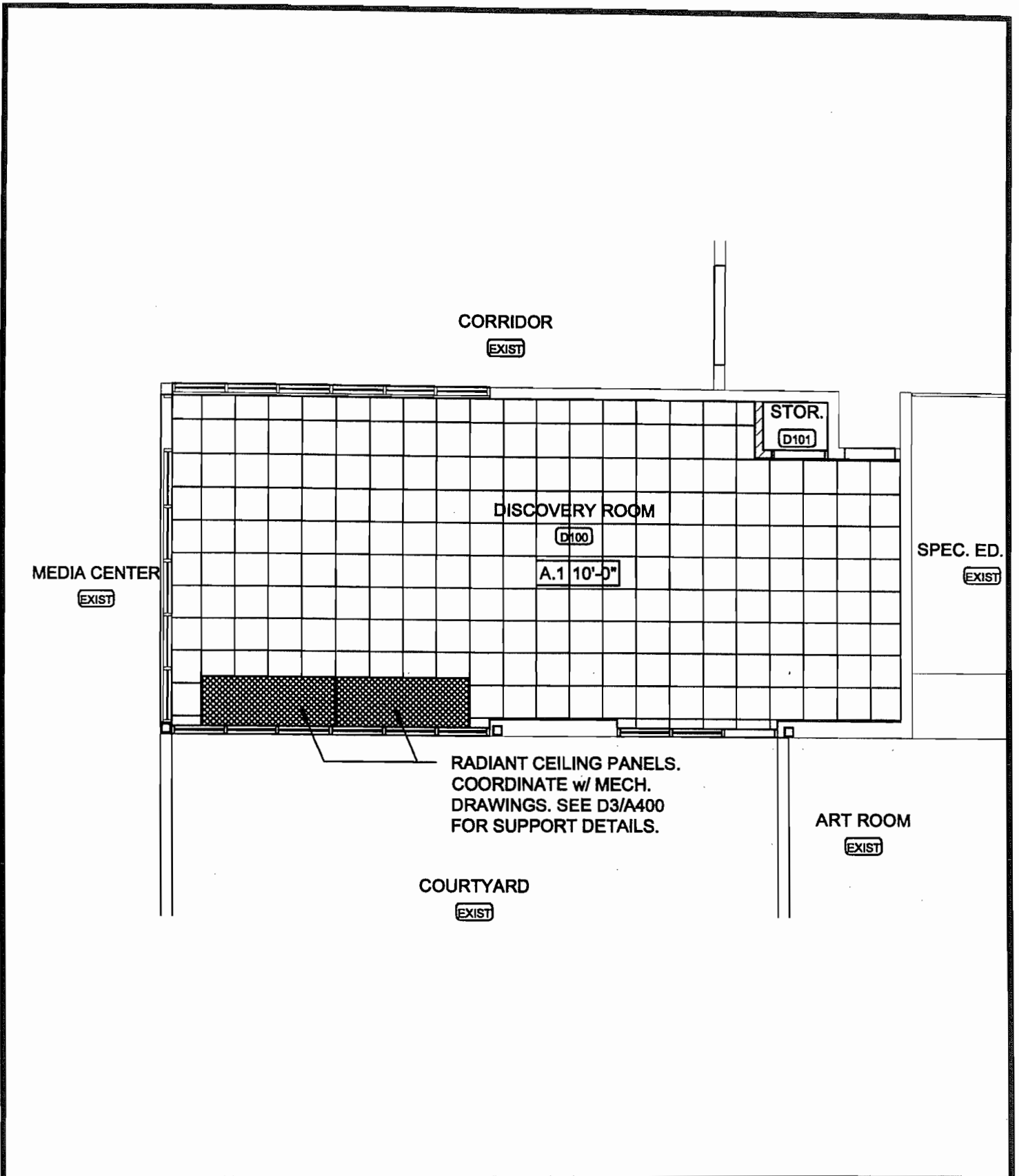
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SKETCH #

**ASK-20**

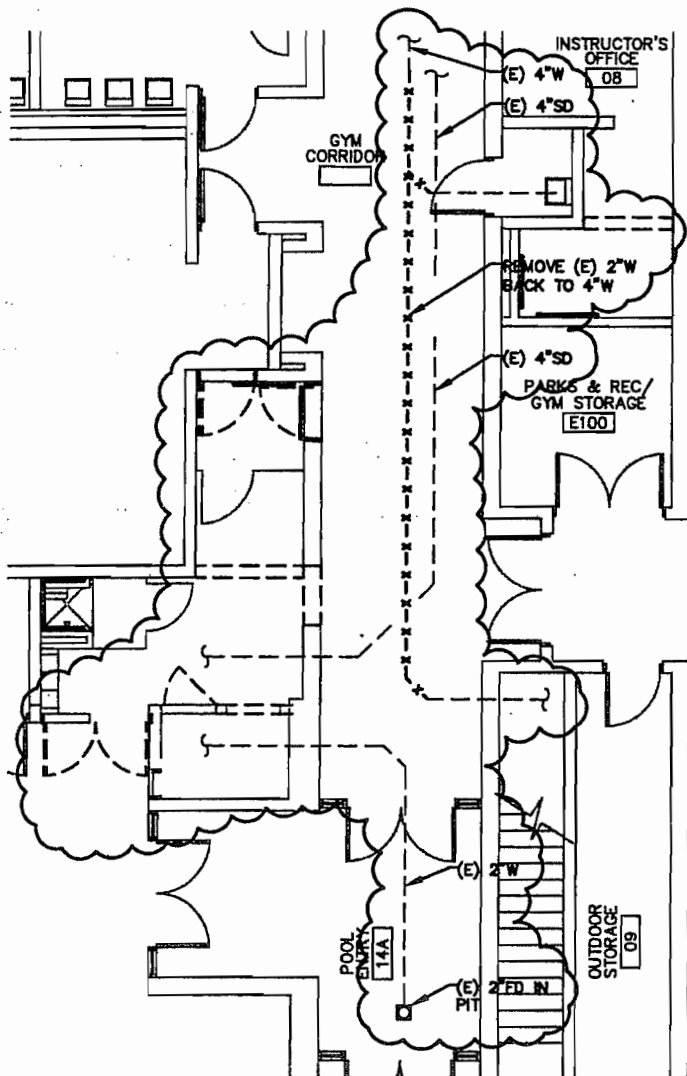




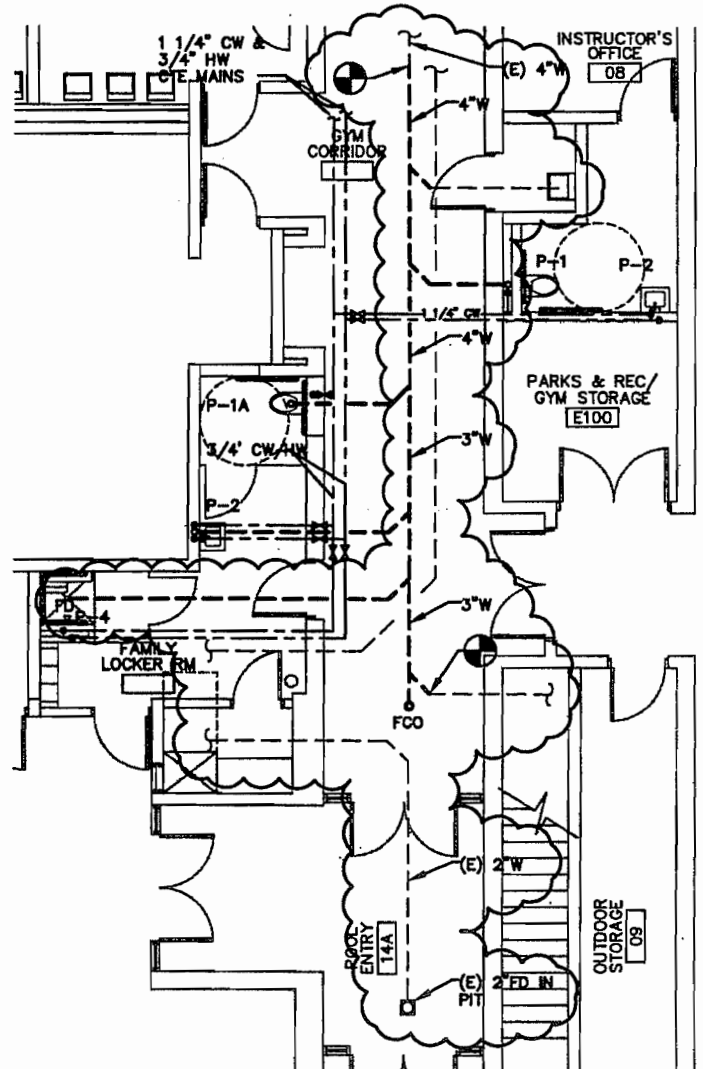
A5/A400 - REFLECTED CLG PLAN - SCALE: 1/8" = 1'-0"

(A)

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DEMOLITION PART PLAN - POOL/GYM AREA



PLUMBING PART PLAN - POOL/GYM AREA

REVISED PLUMBING PART PLANS -  
A1 - SHEET PL-102

RIVERTON EXPANSION AND  
RENOVATION PROJECT  
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SKP-01

Scale: 1/8" = 1'-0" Date: 06-06-2006 Project No: 06014 Cad File: 06014M.DWG

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