

## ARCHITECT'S ADDENDUM

Addendum Number: 02

Date: 04.21.2021

RE: Rantoul Forum Fitness Center

Prepared By: Cullen Andersen  
Cordogan, Clark & Associates

CCA Project No.: 20-437

To: Prospective Bidders

Subject: Addendum No. 01 to the Construction Documents for the Bid Set.

This Addendum forms a part of the Construction Documents and modifies the original Construction Documents, dated 04.01.2021. Acknowledge receipt of this Addendum in space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

### THE FOLLOWING ITEMS ARE TO BE INCLUDED IN THE PROPOSAL.

#### General Information:

1. Regarding email bid proposals, all bids either email or in-person submissions need to be received by Rantoul by 3:00 pm, April 23, 2021. All bids shall be read aloud at 3:15 pm.
2. Regarding electrical lighting, Lighting Associates, Inc. is an approved manufacturer's representative. Contact info: Bill Hudgins, Lighting Associates, Inc., 314-606-6013, [bhudgins@laiweb.net](mailto:bhudgins@laiweb.net).

#### Clarifications To The Specifications:

1. Section 095123 Acoustical Tile Ceilings –  
Revise Sections 095123;2.3; D ADD "1) ACT-01: 2x4, 2) ACT-02: 2x2."
2. Section 042000 Unit Masonry –  
Addition of Section 042000
3. Section 093013 Ceramic Tiling –  
Revision of Section 093013:2.3;.A  
Addition of Section 093013:2.3;B

#### 4. Section 099800 Masonry Color Treatment – Addition of Section 099800

##### Clarifications To The Drawings:

T2.1 – Revision to Life Safety Plan Legend fire extinguisher types.

A1.0 – Clarification to bidders that note 105 applies to lockers in women's showers room.

A1.2 – Revision to demolition keynotes in areas outside scope of work.

A2.1 – Clarification of glazing tags.  
Revision of partition types.  
Revision of Fire extinguisher cabinet mounting.  
Clarification of infill wall construction.

A2.2 – Revision of partition Type-B  
Addition of partition Type-D

A3.1 – Revision to reflected ceiling legend.

A4.1 – Clarification to details 1/A4.2 and 6/A4.2 metal flashing dimensions.

A6.1 – Revision to details 1/A6.1 and 2/A6.1 rooftop equipment curb.  
Clarification to detail 1/A6.1 : RTU horizontal duct to penetrate exterior wall above roof flashing. Mechanical contractor to coordinate with roofing contractor.

A6.4 - Revisions to detail 1/A6.4.

A8.2 – Revisions to interior elevations tile sizes.

A8.3 – Revisions to Details 1/A8.3; 2/A8.3, and 4/A8.3. Clarifies tile sizes.

A9.1 - Revisions to frame type legend.

A10.1 - Revisions to room finish schedule.

E1.1 – Revisions to General Lighting & Power Notes. Note #7 to read "EM lights and Exit signs are to be fed from the unswitched portion of the local lighting circuit."

FA101 – Omit drawing. All existing and new fire alarm work with associated electrical work to be completed later by owner.

End of Addendum No. 02

L:\CCA\2015jobs\ Job# \ Folder\Document Name

## SECTION 095123 - ACOUSTICAL TILE CEILINGS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Acoustical tiles for interior ceilings.
  - 2. Fully concealed, direct-hung, suspension systems.
- B. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete.

#### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

#### 1.5 CLOSEOUT SUBMITTALS

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

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Acoustical Ceiling Units: Full-size tiles equal to 2 percent of quantity installed.
  - 2. Suspension-System Components: Quantity of each concealed grid and exposed component equal to 2 percent of quantity installed.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical tiles, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical tiles, permit them to reach room temperature and a stabilized moisture content.

## 1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical tile ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
  - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical tile ceiling installation.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations:
  - 1. Suspended Acoustical Tile Ceilings: Obtain each type of acoustical ceiling tile and its suspension system from single source from single manufacturer.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Suspended ceilings shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
- B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Flame-Spread Index: Class A according to ASTM E 1264.
  - 2. Smoke-Developed Index: 50 or less.
- C. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Indicate design designations from UL or from the listings of another qualified testing agency.

## 2.3 ACOUSTICAL TILES

- A. Basis of Design: Subject to compliance with requirements, provide Armstrong World Industries, Inc; Fine Fissured w/ Humi-Guard+ or similar product by one of the following:
  - 1. CertainTeed Corporation.
  - 2. USG Corporation.
- B. Acoustical Tile Standard: Provide manufacturer's standard tiles of configuration indicated that comply with ASTM E 1264 classifications as designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.
- C. Classification: Provide tiles as follows:
  - 1. Type and Form: Type III, mineral base with painted finish; Form 2, water felted.
  - 2. Pattern: CE (perforated, small holes and lightly textured).
- D. Size:
  - 1. ACT-01: 2x4 ACT
  - 2. ACT-02: 2x2 ACT
- E. Color: White.
- F. Light Reflectance (LR): Not less than 0.85.
- G. Ceiling Attenuation Class (CAC): Not less than 33.
- H. Noise Reduction Coefficient (NRC): Not less than 0.55.
- I. Edge/Joint Detail: Tegular
- J. Thickness: 5/8 inch.
- K. Modular Size: As indicated in Drawings.
- L. Antimicrobial Treatment: Manufacturer's standard broad spectrum, antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D 3273, ASTM D 3274, or ASTM G 21 and evaluated according to ASTM D 3274 or ASTM G 21.

## 2.4 METAL SUSPENSION SYSTEM

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - 1. Armstrong World Industries, Inc.
  - 2. USG Corporation.

- B. Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, fully concealed, metal suspension system and accessories of type, structural classification, and finish indicated that complies with applicable requirements in ASTM C 635/C 635M.
  - 1. High-Humidity Finish: Where indicated, provide coating tested and classified for "severe environment performance" according to ASTM C 635/C 635M.
- C. Direct-Hung, Double-Web Suspension System: Main and cross runners roll formed from and capped with cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized, G30 coating designation.
  - 1. Structural Classification: Intermediate-duty system.
  - 2. Access: Upward, with initial access openings of size indicated below and located throughout ceiling within each module formed by main and cross runners, with additional access available by progressively removing remaining acoustical tiles.
    - a. Initial Access Opening: In each module, 24 by 24 inches.

## 2.5 ACCESSORIES

- A. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
  - 1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing according to ASTM E 488/E 488M or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.
    - a. Type: Postinstalled expansion anchors.
    - b. Corrosion Protection: Carbon-steel components zinc plated according to ASTM B 633, Class SC 1 (mild) service condition.
  - 2. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing according to ASTM E 1190, conducted by a qualified testing and inspecting agency.
- B. Wire Hangers, Braces, and Ties: Provide wires as follows:
  - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
  - 2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.106-inch-diameter wire.

## 2.6 METAL EDGE MOLDINGS AND TRIM

- A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations complying with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for of suspension-system runners.
  - 1. Finish: Painted white.

## 2.7 ACOUSTICAL SEALANT

- A. Acoustical Sealant: As specified in Section 079219 "Acoustical Joint Sealants."

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing and substrates to which acoustical tile ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine acoustical tiles before installation. Reject acoustical tiles that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- B. Layout openings for penetrations centered on the penetrating items.

### 3.3 INSTALLATION OF SUSPENDED ACOUSTICAL TILE CEILINGS

- A. Install suspended acoustical tile ceilings according to ASTM C 636/C 636M and manufacturer's written instructions.
- B. Suspend ceiling hangers from building's structural members and as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
  - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
  4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
  5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
  6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
  7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
  8. Do not attach hangers to steel deck tabs.
  9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
  10. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
  11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
- C. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical tiles.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
  2. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends. Miter corners accurately and connect securely.
  3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- D. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Install acoustical tiles in coordination with suspension system and exposed moldings and trim. Place splines or suspension-system flanges into kerfed edges of tiles so tile-to-tile joints are interlocked.
1. Fit adjoining tiles to form flush, tight joints. Scribe and cut tiles for accurate fit at borders and around penetrations through ceiling.
  2. Hold tile field in compression by inserting leaf-type, spring-steel spacers between tiles and moldings, spaced 12 inches o.c.

3.4 ADJUSTING

- A. Clean exposed surfaces of acoustical tile ceilings, including trim and edge moldings. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
- B. Remove and replace tiles and other ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095123

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 WORK INCLUDES

- A. Base Bid: Unless noted otherwise, the General Contractor shall provide all labor and materials for the complete installation of work as specified in this section.
  - 1. Section Includes:
    - a. Concrete masonry units.
    - b. Mortar and grout.
    - c. Steel reinforcing bars.
    - d. Masonry-joint reinforcement.
    - e. Ties and anchors.
    - f. Embedded flashing.
    - g. Miscellaneous masonry accessories.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).
- B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Weep holes/cavity vents.

## 1.6 INFORMATIONAL SUBMITTALS

- A. Cold-Weather: Detailed description of methods, materials, and equipment to be used to comply with requirements.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

## 1.8 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
  - 1. Extend cover a minimum of 24 inches down both sides of walls, and hold cover securely in place.
  - 2. Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe, and hold cover in place.
- B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
  - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
  - 2. Protect sills, ledges, and projections from mortar droppings.
  - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.

4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Provide unit masonry that develops indicated net-area compressive strengths at 28 days.
1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to TMS 602/ACI 530.1/ASCE 6.
  2. Determine net-area compressive strength of masonry by testing masonry prisms according to ASTM C 1314.

### 2.3 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.
- C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.

1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

## 2.4 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
  1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
  2. Provide bullnose units for outside corners unless otherwise indicated.
- B. CMUs: ASTM C 90.
  1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2500 psi.
  2. Density Classification: Normal weight.
  3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.

## 2.5 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
  1. Alkali content shall not be more than 0.1 percent when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in masonry mortar.
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Davis Colors.
    - b. Euclid Chemical Company (The); an RPM company.
    - c. Lanxess Corporation.
    - d. Solomon Colors, Inc.
- D. Aggregate for Mortar: ASTM C 144.
  1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
  2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
  3. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

- E. Aggregate for Grout: ASTM C 404.
- F. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. BASF Corp. - Construction Chemicals.
    - b. Euclid Chemical Company (The); an RPM company.
    - c. GCP Applied Technologies Inc. (formerly Grace Construction Products).
- G. Water: Potable.

## 2.6 REINFORCEMENT

- A. Uncoated-Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.
- B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.
- C. Masonry-Joint Reinforcement, General: ASTM A 951/A 951M.
  - 1. Interior Walls: Mill- galvanized carbon steel.
  - 2. Exterior Walls: Hot-dip galvanized carbon steel.
  - 3. Wire Size for Side Rods: 0.187-inch diameter.
  - 4. Wire Size for Cross Rods: 0.148-inch diameter.
  - 5. Wire Size for Veneer Ties: 0.187-inch diameter.
  - 6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
  - 7. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units.
- D. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder type with single pair of side rods.
- E. Masonry-Joint Reinforcement for Multiwythe Masonry:
  - 1. Adjustable (two-piece) type, either ladder or truss design, with one side rod at each face shell of backing wythe and with separate adjustable ties with pintle-and-eye connections having a maximum horizontal play of 1/16 inch and maximum vertical adjustment of 1-1/4 inches. Size ties to extend at least halfway through facing wythe but with at least 5/8-inch cover on outside face.

## 2.7 EMBEDDED FLASHING MATERIALS

- A. Flexible Flashing: Use the following unless otherwise indicated:

1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch.
  - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - 1) Advanced Building Products Inc.
    - 2) Carlisle Coatings & Waterproofing Inc.
    - 3) Heckmann Building Products, Inc.
    - 4) Hohmann & Barnard, Inc.
    - 5) Polyguard Products, Inc.
  - b. Accessories: Provide preformed corners, end dams, other special shapes, and seaming materials produced by flashing manufacturer.
- B. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.
- C. Termination Bars for Flexible Flashing: Aluminum bars 0.075 inch by 1 inch.

## 2.8 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.
- B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
- C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D 226/D 226M, Type I (No. 15 asphalt felt).
- D. Weep/Cavity Vent Products: Use the following unless otherwise indicated:
  1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch less than depth of outer wythe, in color selected from manufacturer's standard.
- E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
  1. Configuration: Provide one of the following:
    - a. Strips, full depth of cavity and 10 inches high, with dovetail-shaped notches 7 inches deep that prevent clogging with mortar droppings.

## 2.9 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
  - 1. Do not use calcium chloride in mortar or grout.
  - 2. Use portland cement-lime mortar unless otherwise indicated.
  - 3. For exterior masonry, use portland cement-lime mortar.
  - 4. For reinforced masonry, use portland cement-lime mortar.
  - 5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
  
- B. Mortar for Unit Masonry: Comply with ASTM C 270, Property Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.
  - 1. For masonry below grade or in contact with earth, use Type M.
  - 2. For reinforced masonry, use Type S.
  - 3. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.
  - 4. For interior nonload-bearing partitions, Type O may be used instead of Type N.
  
- C. Grout for Unit Masonry: Comply with ASTM C 476.
  - 1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
  - 2. Proportion grout in accordance with ASTM C 476, Table 1.
  - 3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
  - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
  - 2. Verify that foundations are within tolerances specified.
  - 3. Verify that reinforcing dowels are properly placed.
  - 4. Verify that substrates are free of substances that impair mortar bond.
  
- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

- A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.
- B. Build chases and recesses to accommodate items specified in this and other Sections.
- C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match construction immediately adjacent to opening.
- D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- F. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- G. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested according to ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

### 3.3 TOLERANCES

- A. Dimensions and Locations of Elements:
  - 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch.
  - 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
  - 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.
- B. Lines and Levels:
  - 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet, or 1/2-inch maximum.
  - 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.
  - 3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.
  - 4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.

5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet or 1/2-inch maximum.
7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
5. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

### 3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4 inches. Bond and interlock each course of each wythe at corners. Do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- D. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.
- E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- F. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- G. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.

- H. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.
- I. Build nonload-bearing interior partitions full height of story to underside of solid floor or roof structure above unless otherwise indicated.
  - 1. Install compressible filler in joint between top of partition and underside of structure above.
  - 2. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide 1/2-inch clearance between end of anchor rod and end of tube. Space anchors 48 inches o.c. unless otherwise indicated.
  - 3. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Section 078443 "Joint Firestopping."

### 3.5 MORTAR BEDDING AND JOINTING

- A. Lay CMUs as follows:
  - 1. Bed face shells in mortar and make head joints of depth equal to bed joints.
  - 2. Bed webs in mortar in all courses of piers, columns, and pilasters.
  - 3. Bed webs in mortar in grouted masonry, including starting course on footings.
  - 4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
  - 5. Fully bed units and fill cells with mortar at anchors and ties as needed to fully embed anchors and ties in mortar.
- B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

### 3.6 CAVITY WALLS

- A. Bond wythes of cavity walls together as follows:
  - 1. Masonry-Joint Reinforcement: Installed in horizontal mortar joints.
    - a. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable-type (two-piece-type) reinforcement to allow for differential movement regardless of whether bed joints align.
- B. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

### 3.7 MASONRY-JOINT REINFORCEMENT

- A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
  - 1. Space reinforcement not more than 16 inches o.c.
  - 2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
  - 3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.
- B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.
- C. Provide continuity at wall intersections by using prefabricated T-shaped units.
- D. Provide continuity at corners by using prefabricated L-shaped units.
- E. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

### 3.8 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

- A. Anchor masonry to structural steel and concrete, where masonry abuts or faces structural steel or concrete, to comply with the following:
  - 1. Provide an open space not less than 1/2 inch wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
  - 2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
  - 3. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o.c. horizontally.

### 3.9 CONTROL AND EXPANSION JOINTS

- A. General: Install control- and expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
- B. Form control joints in concrete masonry as follows:
  - 1. Install preformed control-joint gaskets designed to fit standard sash block..
- C. Form expansion joints in brick as follows:
  - 1. Build in compressible joint fillers where indicated.
- D. Provide horizontal, pressure-relieving joints by either leaving an airspace or inserting a compressible filler of width required for installing sealant and backer rod specified in Section 079200 "Joint Sealants," but not less than 3/8 inch.
  - 1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

### 3.10 LINTELS

- A. Install steel lintels where indicated.
- B. Provide minimum bearing of 8 inches at each jamb unless otherwise indicated.

### 3.11 FLASHING, WEEP HOLES, AND CAVITY VENTS

- A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated. Install cavity vents at shelf angles, ledges, and other obstructions to upward flow of air in cavities, and where indicated.
- B. Install flashing as follows unless otherwise indicated:
  - 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
  - 2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches, and through inner wythe to within 1/2 inch of the interior face of wall in exposed masonry. Where interior face of wall is to receive furring or framing, carry flashing completely through inner wythe and turn flashing up approximately 2 inches on interior face.
  - 3. At lintels and shelf angles, extend flashing a minimum of 6 inches into masonry at each end. At heads and sills, extend flashing 6 inches at ends and turn up not less than 2 inches to form end dams.
  - 4. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
- C. Install weep holes in exterior wythes and veneers in head joints of first course of masonry immediately above embedded flashing.
  - 1. Use specified weep/cavity vent products to form weep holes.
  - 2. Space weep holes 24 inches o.c. unless otherwise indicated.
- D. Place cavity drainage material in airspace behind veneers to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.
- E. Install cavity vents in head joints in exterior wythes at spacing indicated. Use specified weep/cavity vent products to form cavity vents.

### 3.12 REINFORCED UNIT MASONRY INSTALLATION

- A. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.

- B. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
  - 1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
  - 2. Limit height of vertical grout pours to not more than 60 inches.

### 3.13 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.
- B. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.
- C. Prism Test: For each type of construction provided, according to ASTM C 1314 at 7 days and at 28 days.

### 3.14 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
  - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
  - 3. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
  - 4. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.

### 3.15 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

- B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042000

---

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Porcelain tile.
2. Waterproof membrane.
3. Crack isolation membrane.
4. Metal edge strips.

B. Related Requirements:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.

1.3 RELATED WORK:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Section 092900 "Gypsum Board" for cementitious backer units.
3. Section 093023 "Glass Mosaic Tiling."

1.4 DEFINITIONS

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. ANSI A108 Series: ANSI A108.01, ANSI A108.02, ANSI A108.1A, ANSI A108.1B, ANSI A108.1C, ANSI A108.4, ANSI A108.5, ANSI A108.6, ANSI A108.8, ANSI A108.9, ANSI A108.10, ANSI A108.11, ANSI A108.12, ANSI A108.13, ANSI A108.14, ANSI A108.15, ANSI A108.16, and ANSI A108.17, which are contained in its "Specifications for Installation of Ceramic Tile."
- C. Module Size: Actual tile size plus joint width indicated.

- D. Face Size: Actual tile size, excluding spacer lugs.

#### 1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

#### 1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.
- C. Samples for Initial Selection: For tile, grout, and accessories involving color selection.
- D. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.
  - 2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

#### 1.7 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Build mockup of each type of wall tile installation.
  - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.

## 1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations for Tile: Obtain tile of each type from single source or producer.
  - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Source Limitations for Waterproofing, Crack Suppression, Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.
  - 1. Obtain waterproofing, crack suppression, setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:
  - 1. Metal edge strips.

### 2.2 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
  - 1. Provide tile complying with Standard grade requirements unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.
- C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.
  - 1. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.

## 2.3 TILE PRODUCTS

### A. Ceramic Tile Type [CT-<01>, CT-02]: Unglazed porcelain tile.

1. Performance: A137.1 and recommended by manufacturer for use in steam rooms.
2. Basis of Design: Subject to compliance with requirements, provide Daltile, or comparable product by one of the following:
  - a. American Marazzi Tile, Inc.
  - b. American Olean; a division of Dal-Tile Corporation.
  - c. Daltile.
  - d. Florim USA.
  - e. Grupo Porcelanite.
3. Face Size: 24 by 24 inches, [CT-02]; 6 by 36 inches [CT-01]
4. Face Size Variation: Rectified.
5. Thickness: Saddle Brook XT 5/16 inch; Exhibition 3/8 inch.
6. Face: Plain with square edges.
7. Dynamic Coefficient of Friction: Not less than 0.42.
8. Tile Color, Glaze, and Pattern:
  - a. Steam Room Walls: Daltile Saddle Brook XT, color: Oak Trail SD83 6x36"
  - b. Steam Room Bench: Daltile Exhibition, color: Dark Grey EX04 24x24"
9. Grout Color: As selected by Architect from manufacturer's full range.

### B. Ceramic Tile Type [CT-<03>]: Unglazed porcelain tile.

1. Performance: A137.1 and recommended by manufacturer for use in steam rooms.
2. Basis of Design: Subject to compliance with requirements, provide Congoleum, or comparable product by one of the following:
  - a. American Marazzi Tile, Inc.
  - b. American Olean; a division of Dal-Tile Corporation.
  - c. Congoleum.
  - d. Florim USA.
  - e. Grupo Porcelanite.
3. Face Size: 12 by 24 inches, [CT-03]
4. Face Size Variation: Rectified.
5. Thickness: Triversa Prime Rocky Crest 5/16 inch
6. Face: Plain with square edges.
7. Dynamic Coefficient of Friction: Not less than 0.42.
8. Tile Color, Glaze, and Pattern:
  - a. Steam Room Floor: Triversa Prime Rocky Crest, color: White Wool TX800 12x24"
9. Grout Color: As selected by Architect from manufacturer's full range.

## 2.4 PERFORMANCE SPECIFICATION - TILE INSTALLATION ACCESSORIES

- ### A. Products: Subject to compliance with requirements, provide systems by one of the following:
- a. Custom Building Products

- b. MAPEI Corporation
- c. LatiCrete.

B. Waterproofing Membrane to be thin, cold applied, single component liquid and load bearing. Reinforcing fabric to be non-woven rot-proof specifically intended for waterproofing membrane. Waterproofing Membrane to be non-toxic, non-flammable and non-hazardous during storage, mixing, application and when cured. It shall be certified by IAPMO and ICC approved as a shower pan liner and shall also meet the following physical requirements:

- |  |                           |
|--|---------------------------|
| 1. Hydrostatic Test (ASTM D4068):            | Pass                      |
| 2. Elongation @ break (ASTM D751):           | 20-30%                    |
| 3. System Crack Resistance (ANSI A118.12):   | Pass (High)               |
| 4. 7 day Tensile Strength (ANSI A118.10):    | >265 psi (1.8 MPa)        |
| 5. 7 day Shear Bond Strength (ANSI A118.10)  | >200 psi (1.4 MPa)        |
| 6. 28 Day Shear Bond Strength (ANSI A118.4): | >214 psi (1.48 – 2.4 MPa) |
| 7. Service Rating (TCA/ASTM C627):           | Extra Heavy               |
| 8. Total VOC Emissions:                      | ≤0.22 mg/m <sup>3</sup>   |

C. Epoxy Waterproofing Membrane to be 3 component epoxy, trowel applied specifically designed to be used under ceramic tile, stone, masonry veneer, or brick and requires only 24 hours prior to flood testing:

- |  |                           |
|--|---------------------------|
| 1. Breaking Strength (ANSI A118.10):           | 450-530 psi (3.1-3.6 MPa) |
| 2. Waterproofness (ANSI A118.10):              | No Water penetration      |
| 3. 7 day Shear Bond Strength (ANSI A118.10):   | 110-150 psi (0.8-1 MPa)   |
| 4. 28 Day Shear Bond Strength (ANSI A118.10):  | 90-120 psi (0.6–0.83 MPa) |
| 5. 12 Week Shear Bond Strength (ANSI A118.10): | 110-130 psi (0.8-0.9 MPa) |
| 6. Total VOC Content:                          | <3.4 g/L                  |

D. Crack Suppression Membrane to be thin, cold applied, single component liquid and load bearing. Reinforcing fabric (if required or used) to be non-woven, rot-proof specifically intended for crack suppression membrane. Materials to be non-toxic, non-flammable, and non-hazardous during storage, mixing, application and when cured. Crack Suppression Membrane shall also meet the following physical requirements:

- |  |                                 |
|--|---------------------------------|
| 1. Elongation @ break (ASTM D751):           | 20-30%                          |
| 2. System Crack Resistance (ANSI A118.12)    | Pass (High)                     |
| 3. 7 day Tensile Strength (ANSI A118.10):    | 265 – 300 psi (1.8 – 2.0 MPa)   |
| 4. 7 day Shear Bond Strength (ANSI A118.10): | 200 – 275 psi (1.4 – 1.9 MPa)   |
| 5. 28 Day Shear Bond Strength (ANSI A118.4): | >214 – 343 psi (1.48 – 2.4 MPa) |
| 6. Service Rating (TCA/ASTM C627):           | Extra Heavy                     |
| 7. Total VOC Emissions:                      | ≤0.22 mg/m <sup>3</sup>         |

E. Lightweight, Waterproof Tile Backer Board to comprised of high-density polystyrene core and reinforced, waterproof cementitious coating on both sides. Available in thicknesses from 1/4” to 5/8” (6mm to 16mm) and specifically designed for use in bonded tile and stone installations.

- |   |                       |
|---|-----------------------|
| 1. Compressive Strength (ASTM D1621):     | 133 psi (0.9 MPa)     |
| 2. Compressive Modulus (ASTM D1621):      | ≥ 1200 psi (8.3 MPa)  |
| 3. Flatwise Tensile Strength (ASTM C297): | 55 psi (0.4 MPa)      |
| 4. Linear Variation (ASTM G1, G2):        | 0.07%                 |
| 5. Shear Strength (ASTM C482):            | 43 psi (0.3 MPa)      |
| 6. Waterproofness (ASTM D4068):           | Pass                  |
| 7. R-Value (ASTM C578):                   | R=5.2 / inch (25.4mm) |
| 8. Flexural Strength (ASTM C947):         | 673 psi (4.6 MPa)     |

- |     |                                    |     |
|-----|------------------------------------|-----|
| 9.  | Smoke Index (ASTM E84):            | 100 |
| 10. | Flame Spread (ASTM E84):           | 45  |
| 11. | Sound Transmission (ASTM E90 STC): | 17  |

- F. Wire Reinforcing: 2 inch x 2 inch (50 x 50 mm) x 16 ASW gauge or 0.0625 inch (1.6mm) diameter galvanized steel welded wire mesh complying with ANSI A108.02 3.7, ASTM A185 and ASTM A82.
- G. Cleavage membrane: 15 pound asphalt saturated, non-perforated roofing felt complying with ASTM D226, 15 pound coal tar saturated, non-perforated roofing felt complying with ASTM D227 or 4.0 mils (0.1 mm) thick polyethylene plastic film complying with ASTM D4397.
- H. Cementitious backer board units: size and thickness as specified, complying with ANSI A118.9.

## 2.5 PERFORMANCE SPECIFICATION - TILE INSTALLATION MATERIALS.

- A. Products: Subject to compliance with requirements, provide systems by one of the following:
1. Custom Building Products
  2. MAPEI Corporation
  3. LatiCrete.
- B. Tile Board shall be high density, waterproof extruded polystyrene core with a reinforced, waterproof membrane on both sides. Board to be available in multiple thicknesses and suitable for use on interior walls, floors, ceilings, shower/tub surrounds, and steam rooms, as well as meet the following physical requirements:
- |    |   |                    |
|----|---|--------------------|
| 1. | Water Vapor Transmission (ASTM E96 Method E): | 0.034 Perms        |
| 2. | Compressive Strength (ASTM D1621):            | >55 psi (0.38 MPa) |
| 3. | Flexural Strength (IAPMO Z124):               | Pass               |
| 4. | Linear Expansion (ASTM D1037):                | -0.04%             |
- C. Sound Abatement & Crack Isolation Mat shall be load bearing, shock and vibration resistant. It shall be certified by independent laboratory testing to meet the specified acoustical performance when installed in a Floor Assembly with a 6" (150mm) concrete slab, as well as meet the following physical requirements:
- |    |   |  |
|----|---|--|
| 1. | Service Rating (ASTM C627):                       | Moderate   |
| 2. | Point Load (ANSI A118.12 5.2):                    | >1,250 psi (8.6 MPa)                               |
| 3. | Installed Weight (ASTM C905 Modified):            | 2.6 lbs./ft <sup>2</sup> (12.8 kg/m <sup>2</sup> ) |
| 4. | Delta Impact Insulation Class (ΔIIC; ASTM E2179): | 22   |
- D. Sound Abatement & Crack Suppression Adhesive shall comply with ANSI A118.12, provide an Extra Heavy rating, be UL GREENGUARD Gold certified, and provide a minimum ΔIIC of 22:
- |    |   |                          |
|----|---|--------------------------|
| 1. | Service Rating (ASTM C627):                       | Extra Heavy              |
| 2. | Delta Impact Insulation Class (ΔIIC; ASTM E2179): | 22                       |
| 3. | Point Load (ANSI A118.12 5.2):                    | >1,000 psi (6.9 MPa)     |
| 4. | Minimum Shear Bond Strength (ANSI A118.12):       | 100psi (0.7 MPa)         |
| 5. | VOC Content:                                      | 0.00 g/L                 |
| 6. | Total VOC Emissions:                              | < 0.22 mg/m <sup>3</sup> |
- E. Uncoupling Membrane shall comply with ANSI A118.12, provide an Extra Heavy rating and allow for use with ANSI A118.4 thin-bed mortars:

1. Service Rating (ASTM C627): Extra Heavy
  2. System Crack Resistance (ANSI A118.12 5.4): Pass (High)
  3. Point Load (ANSI A118.12 5.2): Pass
- F. Moisture Vapor Reduction to be epoxy based and UL GREENGUARD Gold compliant as well as meet the following physical requirements:
1. Shear Bond to Concrete (ANSI A118.12-5.1.5): >285 psi (2.0 MPa)
  2. Alkalinity Resistance (ASTM C267): Pass
  3. Permeability (ASTM F1869): 9.7 lbs/1,000ft<sup>2</sup>/24 hours down to 0.2 lbs/1,000 ft<sup>2</sup>/24hours (248 µg/s•m<sup>2</sup> down to 11 µg/s•m<sup>2</sup>)
  4. Total VOC Emissions: ≤0.22 mg/m<sup>3</sup>
- G. Latex Portland Cement Mortar for thick beds, screeds, leveling beds and scratch/plaster coats to be weather, frost, shock resistant, UL GREENGUARD Gold compliant, and meet the following physical requirements:
1. Compressive Strength (ANSI A118.4 Modified): >4,000 psi (27.6 MPa)
  2. Water Absorption (ANSI A118.6): ≤ 5%
  3. Service Rating (TCA/ASTM C627): Extra Heavy
  4. Smoke & Flame Contribution (ASTM E84 Modified): 0
  5. Total VOC Emissions: ≤0.22 mg/m<sup>3</sup>
- H. Self-Leveling Underlayment shall be mixed with water to produce a pumpable, fast setting, free flowing cementitious underlayment which can be poured from 1/8" to 1 1/4" (3 - 32mm) thick in one pour.
1. Flexural Strength (ASTM C1708): >840 psi (5.8 MPa)
  2. 28 Day Compressive Strength (ANSI A118.4 Mod.): >4,000 psi (27.6 MPa)
  3. Tensile Strength (ANSI A118.7): >270 psi (1.9 MPa)
  4. Time to Foot Traffic @ 70°F (21°C): 1 – 4 Hours
  5. Total VOC Emissions: ≤0.22 mg/m<sup>3</sup>
- I. Epoxy Adhesive to be chemical resistant 100% solids epoxy with high temperature resistance, UL GREENGUARD Gold compliant, conform to ISO R2, and meet the following minimum physical requirements:
1. Compressive strength (ANSI A118.3): >5,000 psi (34.4 MPa)
  2. Shear Bond Strength (ANSI A118.3): >1,250 psi (8.6 MPa)
  3. Thermal Shock Resistance (ANSI A118.3): >600 psi (4.1 MPa)
  4. Tensile Strength (ANSI A118.3): >1,400 psi (9.6 MPa)
  5. Shrinkage (ANSI A118.3): 0 – 0.1%
  6. Total VOC Emissions: ≤0.22 mg/m<sup>3</sup>
- J. Cured Epoxy Adhesive to be chemically and stain resistant to ketchup, mustard, tea, coffee, milk, soda, beer, wine, bleach (5% solution), ammonia, juices, vegetable oil, detergents, brine, sugar, cosmetics and blood, as well as chemically resistant to dilute food acids, dilute alkalis, gasoline, turpentine and mineral spirits.
- K. Latex Portland Cement Thin Bed Mortar for thin set and slurry bond coats to be weather, frost, shock resistant, non-flammable, UL GREENGUARD Gold compliant, conform to ISO C2TES1 and meet the following physical requirements:
1. Compressive strength (ANSI A118.4): >2,500 psi (17.2 MPa)
  2. Bond strength (ANSI A118.4): >450 psi (3.1 MPa)
  3. Smoke & Flame Contribution (ASTM E84 Modified): 0

4. Total VOC Emissions:  $\leq 0.22$  mg/m<sup>3</sup>
- L. Latex Portland Cement Large, Heavy Tile (Medium Bed) Mortar for thin set and slurry bond coats to be weather, frost, shock resistant, non-flammable, UL GREENGUARD Gold compliant, and meet the following physical requirements:
1. Compressive strength (ANSI A118.4):  $>2,500$  psi (17.2 MPa)
  2. 28 Day bond strength (ANSI A118.4):  $\geq 300$  psi (2.1 MPa)
  3. 7 day water soak bond strength (ANSI A118.4):  $\geq 190$  psi (1.3 MPa)
  4. Sag Resistance (EN 1308): 0 mm
  5. Total VOC Emissions:  $\leq 0.22$  mg/m<sup>3</sup>
- M. Organic Adhesive shall be a non-flammable, water resistant, latex adhesive and shall meet the following physical requirements:
1. Open Time (ANSI A136.1): 70 minutes @ 75°F (24°C)
  2. Color: White
  3. Density (ANSI A136.1): 13.2 lbs/gal (1.6 kg/l)
  4. Total VOC Content  $<36.00$  g/L
- N. Epoxy Grout (Industrial) to be non-flammable, chemical resistant 100% solids epoxy with high temperature resistance, UL GREENGUARD Gold compliant, and meeting the following physical requirements:
1. Initial Set Time (ANSI A118.5): Pass (4 hours)
  2. Service Set Time (ANSI A118.5): Pass ( $< 7$  days)
  3. Shrinkage (ANSI A118.3): 0.07%
  4. Sag (ANSI A118.3): Pass (No sag)
  5. Shear Bond Strength (ANSI A118.3; quarry tile): 2,200 psi (15.2 MPa)
  6. Compressive Strength (ANSI A118.3): 8,300 psi (57.2 MPa)
  7. Tensile Strength (ANSI A118.5): 3,000 psi (20.7 MPa)
  8. Thermal Shock Resistance (ANSI A118.3): 2,100 psi (14.5 MPa)
  9. Total VOC Emissions:  $\leq 0.22$  mg/m<sup>3</sup>
- O. Cured Epoxy Grout to be chemically and stain resistant to ketchup, mustard, tea, coffee, milk, soda, beer, wine, bleach (3% solution), ammonia, juices, vegetable oil, detergents, brine, sugar, cosmetics, and blood, as well as being chemically resistant to dilute food/mineral acids, gasoline and mineral spirits.
- P. Epoxy Grout (Commercial/Residential) shall be non-toxic, non-flammable, non-hazardous during storage, mixing, application and when cured, UL GREENGUARD Gold compliant, and shall meet the following physical requirements:
1. Compressive Strength (ANSI A118.3): 3,800 psi (26.2 MPa)
  2. Shear Bond Strength (ANSI A118.3): 1,100 psi (7.6 MPa)
  3. Tensile Strength (ANSI A118.3): 1,100 psi (7.6 MPa)
  4. Thermal Shock (ANSI A118.3):  $>800$  psi (5.5 MPa)
  5. Water Absorption (ANSI A118.3):  $<0.05\%$
  6. Vertical Joint Sag (ANSI A118.3): Pass
  7. Total VOC Emissions:  $\leq 0.22$  mg/m<sup>3</sup>
- Q. Cured Epoxy Grout to be chemically and stain resistant to ketchup, mustard, tea, coffee, milk, soda, beer, wine, bleach (5% solution), ammonia, juices, vegetable oil, brine, sugar, cosmetics, and blood, as well as chemically resistant to dilute acids and dilute alkalis.

- R. Latex Portland Cement Grout to be weather, frost and shock resistant, UL GREENGUARD Gold compliant, as well as meet the following physical requirements:
1. Compressive Strength (ANSI A118.7): 4,500 psi (31 MPa)
  2. Tensile Strength (ANSI A118.7): 500 psi (3.4 MPa)
  3. Flexural Strength (ANSI A118.7): 1,250 psi (8.6 MPa)
  4. Water Absorption (ANSI A118.7): < 5%
  5. Linear Shrinkage (ANSI A118.7): < 0.05 %
  6. Smoke & Flame Contribution (ASTM E84 Modified): 0
  7. Total VOC Emissions: ≤0.22 mg/m<sup>3</sup>
- S. Expansion and Control Joint Sealant to be a one component, neutral cure, exterior grade silicone sealant and meet the following requirements:
1. Tensile Strength (ASTM C794): 280 psi (1.9 MPa)
  2. Hardness (ASTM D751; Shore A): 25 (colored sealant) /15 (clear sealant)
  3. Weather Resistance (QUV Weather-ometer): 10,000 hours (no change)
  4. VOC Emissions: ≤0.5 mg/m<sup>3</sup>
  5. VOC Content: ≤37.16 g/L
- T. Spot Bonding Epoxy Adhesive for installing tile, brick, masonry veneer, and stone over vertical and overhead surfaces shall be high strength, high temperature resistant, non-sag and shall meet the following physical requirements:
1. Thermal Shock Resistance (ANSI A118.3): >1,000 psi (6.9 MPa)
  2. Water Absorption (ANSI A118.3): 0.1 %
  3. Compressive Strength (ANSI A118.3): >8,300 psi (57.2 MPa)
  4. Shear Bond Strength (ANSI A118.3 Modified): >730 psi (5 MPa)
- U. Sealer shall be water-based and provide maximum protection against both water- and oil- based stains, and meet the following requirements:
1. Surface Traffic: 6 – 8 hours
  2. Full Cure in 24 – 72 hours
  3. VOC Compliant: 12 g/L (low solids coating)
  4. Natural Look Sealer

## 2.6 MISCELLANEOUS MATERIALS

- A. Metal Edge Strips: Angle or L-shaped, height to match tile and setting-bed thickness; stainless-steel, ASTM A 666, 300 Series exposed-edge material.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Blanke Corporation.
    - b. Ceramic Tool Company, Inc.
    - c. Schluter Systems L.P.
- B. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

## 2.7 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
  - 1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
  - 2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
  - 3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

### 3.3 CERAMIC TILE INSTALLATION

- A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.
- E. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
  - 1. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
  - 2. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
- F. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
  - 1. Porcelain Tile: 1/4 inch.
- G. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.
- H. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
- I. Metal Edge Strips: Install at all exposed edges and where exposed edge of tile flooring meets flooring cove base.

### 3.4 TILE BACKING PANEL INSTALLATION

- A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

### 3.5 WATERPROOFING INSTALLATION

- A. Install waterproofing to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.
- B. Allow waterproofing to cure and verify by testing that it is watertight before installing tile or setting materials over it.

### 3.6 CRACK ISOLATION MEMBRANE INSTALLATION

- A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.

- B. Allow crack isolation membrane to cure before installing tile or setting materials over it.

### 3.7 ADJUSTING AND CLEANING

- A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
- B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
  - 1. Remove grout residue from tile as soon as possible.
  - 2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

### 3.8 PROTECTION

- A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

### 3.9 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

- A. Steam Room: TCNA Environmental Exposure Com4:
  - 1. Ceramic Tile Installation: TCNA SR613-20

END OF SECTION 093013

SECTION 099800 – MASONRY COLOR TREATMENT

PART 1 - GENERAL

1.1 WORK INCLUDES

- A. General Contractor shall provide all labor and materials for the complete installation of work.

1.2 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer with a minimum of 20 years experience in the production the stains and coatings of type specified.
- B. Installer Qualifications: Installer licensed by Manufacturer to apply the stain products specified and with a minimum of 3 years documented experience in applying stains and coatings similar in type and scale to this Project.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish areas designated by Architect.
  - 2. Prepare samples in an area where they will be exposed to the same conditions as will be present on the building during curing.
  - 3. Allow samples to cure a minimum of three days before obtaining approval.
  - 4. Samples should be viewed from a minimum distance of 20 feet.
  - 5. Do not proceed with remaining work until color and finish is approved by Architect.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and handle products in accordance with requirements of manufacturer.
- C. Store materials inside if possible, away from sparks or open flame. Store in a secure area to avoid tampering and contamination. Water based materials must be kept from freezing.
- D. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

#### 1.4 WARRANTY

- A. Against failure in material and workmanship for a period of twenty-five (25) years from the date of application.

### PART 2 - PRODUCTS

#### 2.1 EMULSION COLOR TREATMENT

- A. Basis of Design: Subject to requirements, provide Nawkaw, NawTone Emulsion Color Treatment or comparable products by one of the following.
  - 1. Brick Staining, Inc.
  - 2. Masonry Cosmetics
- B. Performance
  - 1. Specific Gravity: 1.27 – 1.31.
  - 2. Viscosity at 72F: 70 – 95 KU
  - 3. Solids (Weight): 36 to 39 percent.
  - 4. Solids (Volume): 31 to 34 percent.
  - 5. pH: 8.5 – 9.5
  - 6. Gloss / Sheen: Flat
- C. Finish:
  - 1. Color: Formulate to match vertical fiber cement panel system paint color 07.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that surfaces to receive Work are structurally sound and fully intact.
- C. Verify that new masonry and concrete have cured at least 21 days prior to starting Work.
- D. Verify that surfaces to receive Work have a neutral pH.

#### 3.2 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Clean surfaces thoroughly prior to installation. Allow surfaces to dry completely before applying coating.

- C. Verify that walls, masonry, concrete, stucco, block split faced/fluted and mortar that may have been treated with any form of chemical/acid wash are neutralized.
- D. Verify that masonry, concrete, stucco, block split faced/fluted and mortar units in existing building are structurally sound and fully intact.
- E. Treat alkali or efflorescence with proper neutralizing compounds as recommended by masonry supplier before stain application.
- F. Before application verify that the masonry walls have a neutral pH level.
- G. Before application verify that surface to be treated is clean, dry and contains no frozen water.
- H. Mix products as recommended immediately prior to application.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Ensure that stained surfaces are not exposed to rain for at least 24 hours after application.
- C. Apply stain using airless spray pump to help control airborne particles or overspray. If site conditions prohibit spray application, apply by hand; utilizing brushes and rollers.
- D. Do not proceed with Work when ambient temperatures are less than 25 degrees F (4 degrees C) or greater than 110 degrees F (43 degrees C).
- E. Verify color uniformity 12 to 36 hours after application. Recoat areas where blotches, blemishes or imperfections are present.

### 3.4 FIELD QUALITY CONTROL

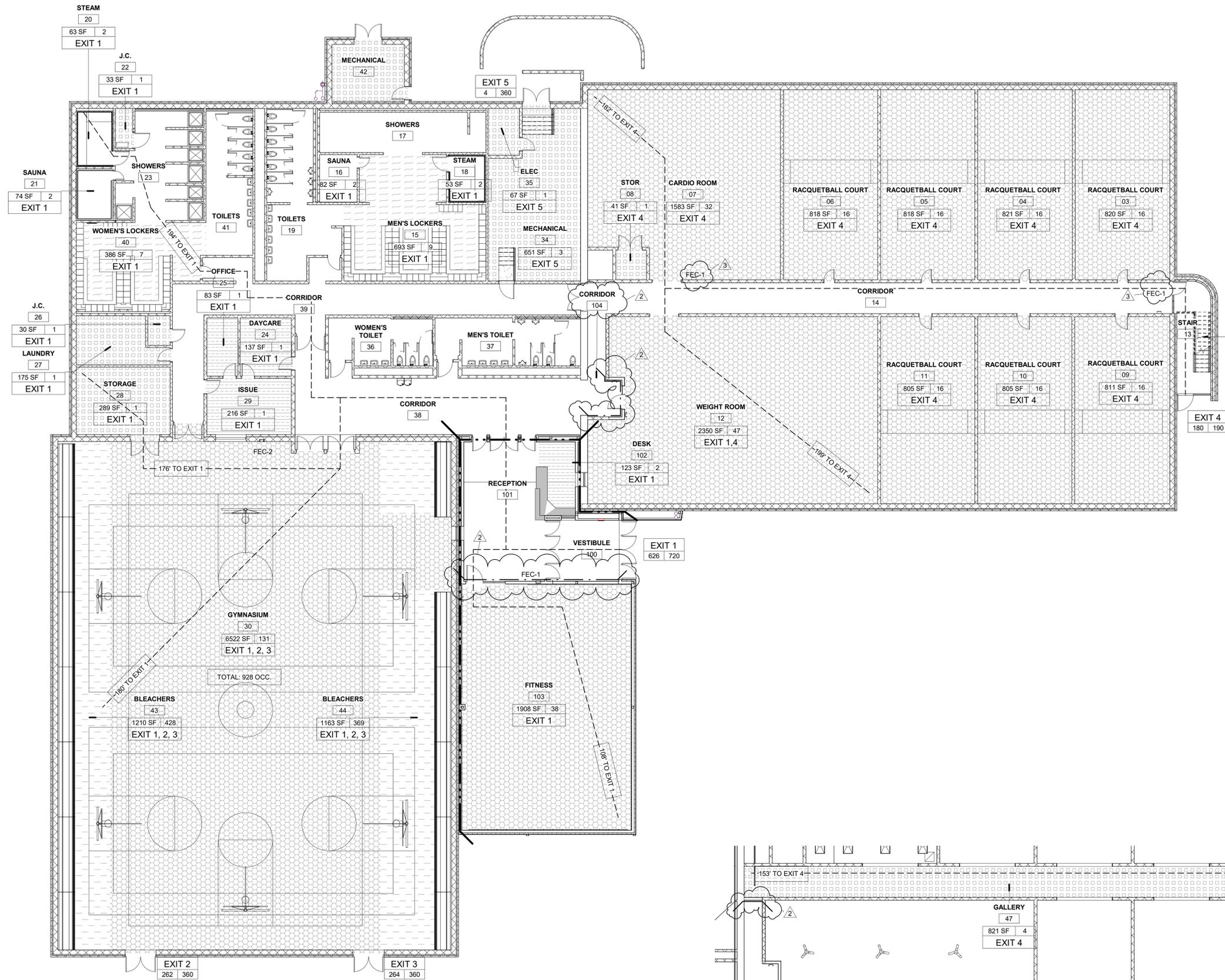
- A. After masonry stain has cured a minimum of 12 hours, verify color uniformity. Recoat any area that are unacceptable.

### 3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Protect prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels as required.
- C. Protect shrubs, metal, wood trim, glass, asphalt and other building hardware during application from overspray.
- D. Do not permit mist (if spraying) or liquid to drift onto surrounding properties or parking lots.
- E. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 099800

**1** FIRST FLOOR LIFE SAFETY PLAN  
 3/32" = 1'-0"



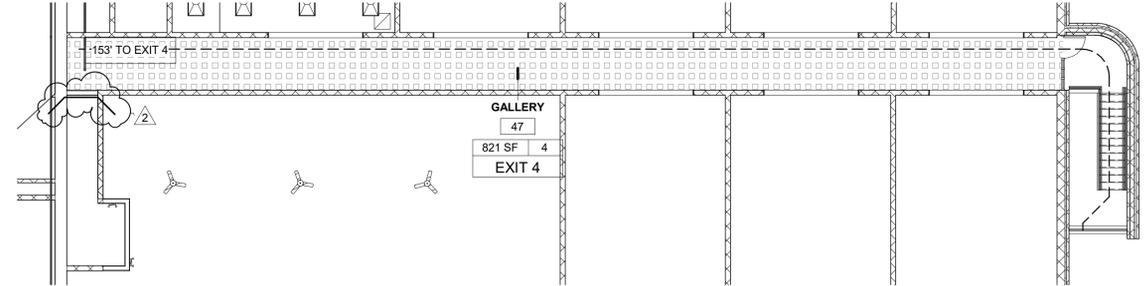
**SYMBOL LEGEND**

- 2 HOUR RATED FIRE WALL
- 1 HOUR RATED FIRE PARTITION
- EGRESS TRAVEL DISTANCES IN FEET
- EXIT # - EXIT NUMBER
- ACT, MAX - MAXIMUM CAPACITY TO EXIT
- ACTUAL NUMBER OF OCCUPANTS EXITING
- Room name - ROOM NAME & NUMBER
- 150 SF, # Occ - TOTAL NUMBER OF OCCUPANTS
- EXIT # - AREA IN SQUARE FEET
- EXIT NUMBER TO EXIT FROM SPACE
- FEC-1 - NEW SURFACE MOUNTED FIRE EXTINGUISHER CABINET (BY CONTRACTOR) WITH FIRE EXTINGUISHER (BY OWNER)
- FEC-2 - EXISTING FIRE EXTINGUISHER CABINET WITH FIRE EXTINGUISHER (BY OWNER)

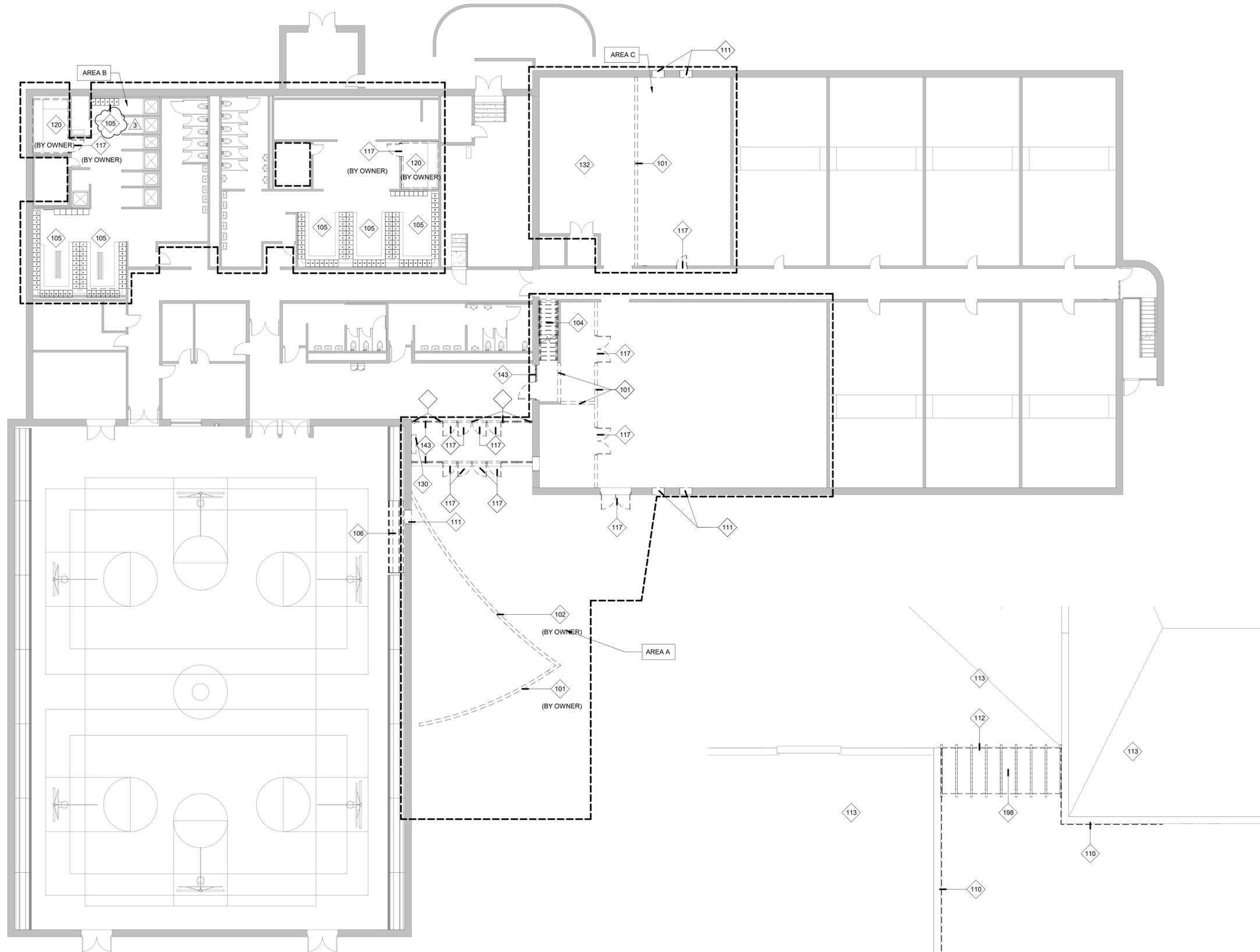
**OCCUPANCY LEGEND**

SYMBOL	CODE REQUIREMENT
[Symbol]	ASSEMBLY - FIXED SEATS 2 L.F. PER PERSON
[Symbol]	BUSINESS 100 G.S.F. PER PERSON
[Symbol]	LOCKER ROOM 50 G.S.F. PER PERSON
[Symbol]	EXERCISE ROOM 50 G.S.F. PER PERSON
[Symbol]	STORAGE / MECHANICAL / EQUIPMENT 300 G.S.F. PER PERSON

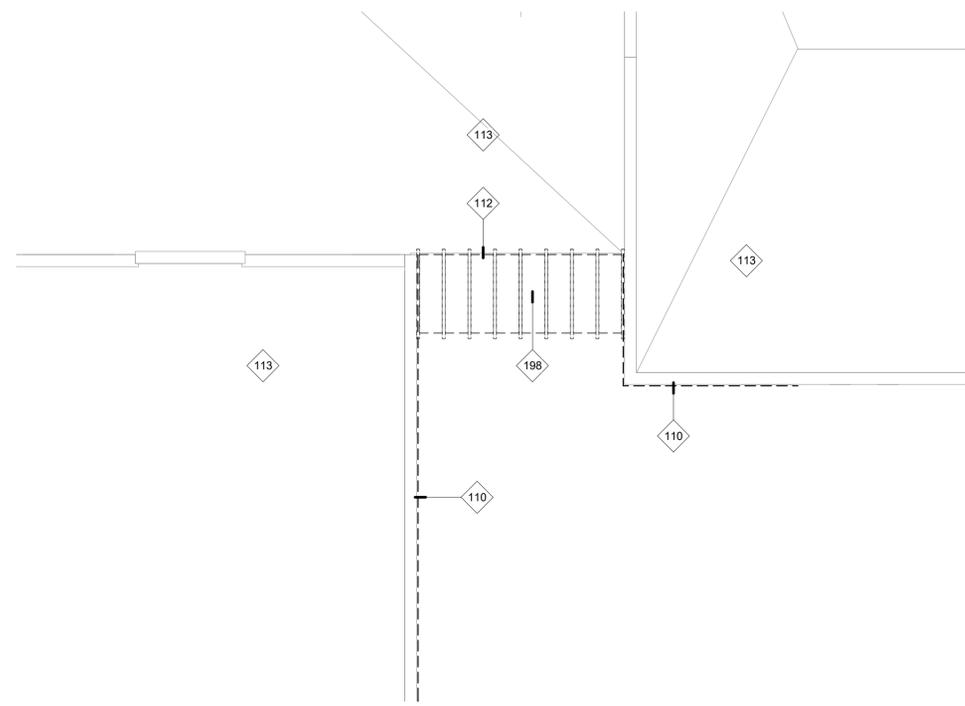
**2** GALLERY LIFE SAFETY PLAN  
 3/32" = 1'-0"



**1** FIRST FLOOR DEMOLITION PLAN  
 3/32" = 1'-0"



**2** ROOF DEMOLITION PLAN  
 3/32" = 1'-0"



**GENERAL DEMOLITION NOTES**

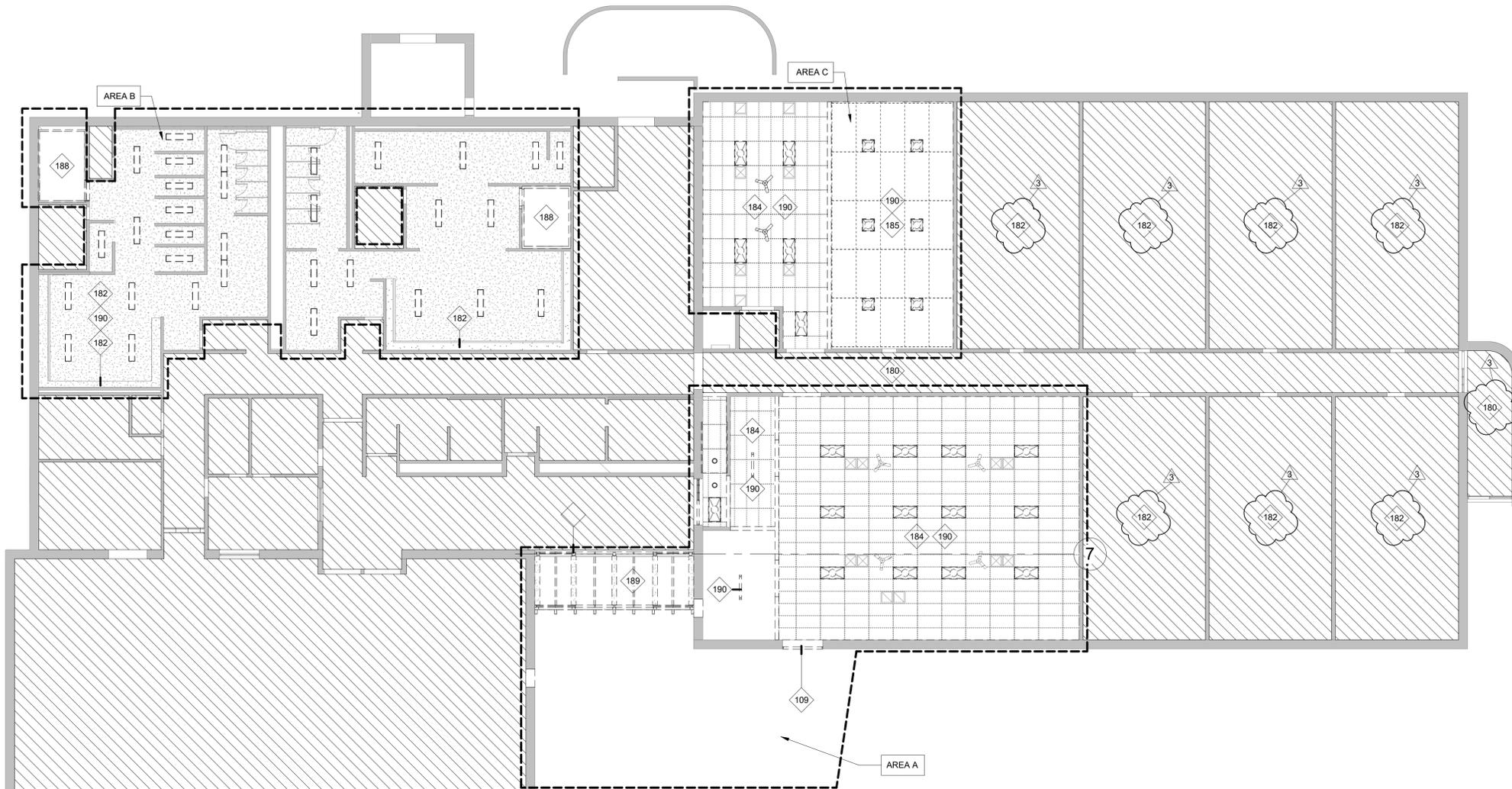
1. REFER TO DRAWING T1.1 FOR FULL GENERAL DEMOLITION NOTES.
2. REFER TO SPECIFICATION SECTION 024119 FOR ADDITIONAL REQUIREMENTS REGARDING SELECTIVE STRUCTURAL DEMOLITION.
3. REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR FULL MECHANICAL, PLUMBING, AND ELECTRICAL DEMOLITION SCOPE OF WORK.
4. IN AREAS WHERE EXISTING WALLS, PARTITIONS, ETC. ARE TO BE REMOVED, IT SHALL BE NECESSARY TO REPAIR EXISTING CEILINGS, ADJUST AND RELOCATE OR REWIRE LIGHTING FIXTURES, AND REMOVE OR RELOCATE ELECTRICAL AND MECHANICAL COMPONENTS AS REQUIRED OR DIRECTED.
5. WASH AND CLEAN ALL EXISTING INTERIOR HVAC GRILLES AND DIFFUSERS WHICH ARE TO REMAIN (CEILING AND WALL-CONSTRUCTION).
6. EXISTING WALLS, FLOORS, AND CEILINGS WHICH ARE DAMAGED AND ARE TO REMAIN SHALL BE PATCHED AND REBUILT AS REQUIRED TO MATCH SURROUNDING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
7. ACTIVE PIPES, CONDUITS, AND OTHER UTILITIES OF ALL TYPES, WHETHER SHOWN IN THE CONSTRUCTION DOCUMENTS OR NOT, MUST BE PROTECTED AT ALL TIMES DURING THE CONSTRUCTION OF THE WORK. EXTREME CARE SHALL BE EXERCISED AT ALL TIMES NOT TO DAMAGE ANY SUCH PIPES AND CONDUITS. WHERE DAMAGE OCCURS, CONTRACTOR CAUSING THE DAMAGE SHALL REPAIR SUCH DAMAGE IN A MANNER APPROVED BY THE ARCHITECT AND OWNER, AND AT NO CHANGE IN THE CONTRACT PRICES OF CONTRACTOR.

**FLOOR PLAN DEMOLITION KEYNOTE LEGEND**

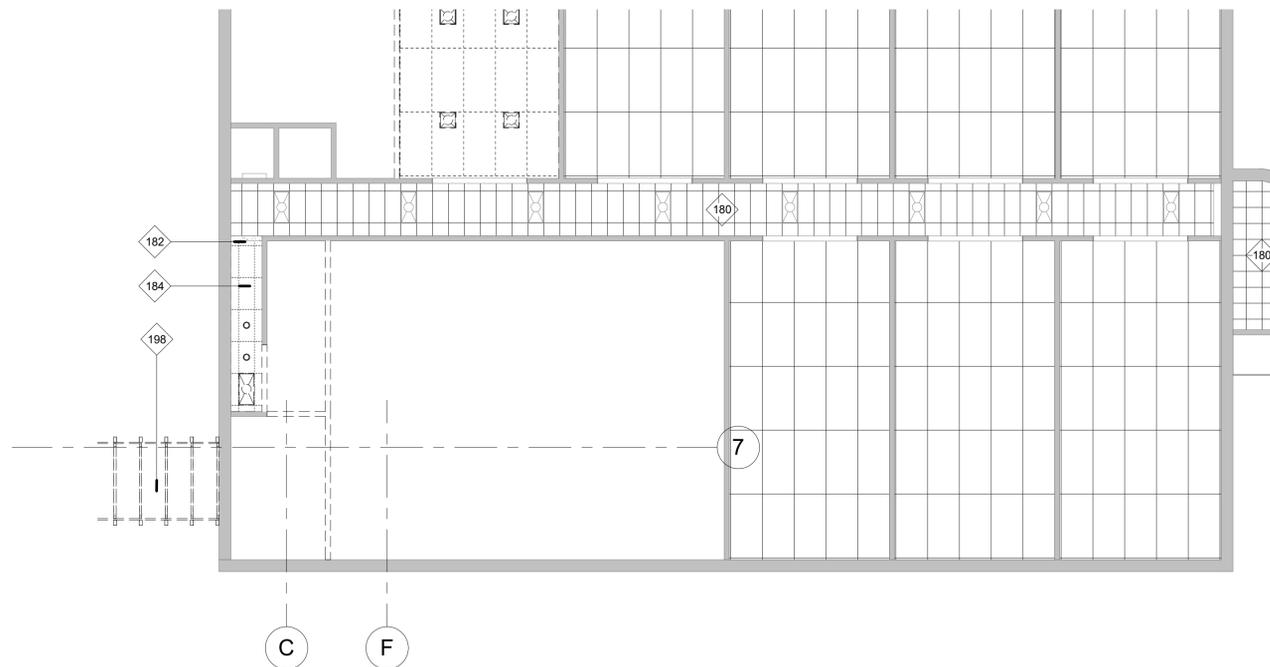
- 101 DEMO EXISTING MASONRY WALL AS INDICATED
- 102 DEMO EXISTING CURB
- 104 REMOVE STAIR WAY AND ALL ASSOCIATED ELEMENTS (TREADS, STRINGERS, NOSINGS, FRAMING, RAILINGS, HANDRAILS, FASTENERS, ANCHORS, ETC.) IN THEIR ENTIRETY
- 105 CAREFULLY REMOVE EXISTING LOCKERS, PLASTER SOFFIT AND BENCH TO REMAIN
- 106 REMOVE EXISTING BLEACHERS
- 109 REMOVE EXISTING LOUVER
- 110 REMOVE BRICK AS REQUIRED TO ACCOMMODATE NEW ROOF FLASHING
- 111 REMOVE PORTION OF EXISTING MASONRY WALL AS INDICATED; PROVIDE NEW STEEL LINTEL AS REQUIRED TO SUPPORT STRUCTURE ABOVE
- 112 EXISTING PARAPET BELOW SKYLIGHT TO REMAIN
- 113 EXISTING ROOF TO REMAIN
- 117 DEMO EXISTING DOOR, FRAME, & HARDWARE COMPLETE
- 120 DEMO EXISTING PARTITION
- 130 REMOVE EXISTING UNIT VENTILATOR, PER MECHANICAL
- 132 CAREFULLY REMOVE EXISTING EQUIPMENT AND WALL MOUNTED MIRRORS AND FIXTURES, SALVAGE FOR REINSTALLATION IN PROJECT
- 143 REMOVE EXISTING STOREFRONT COMPLETE



**1** FIRST FLOOR DEMOLITION RCP  
 3/32" = 1'-0"



**2** GALLERY DEMOLITION RCP  
 3/32" = 1'-0"



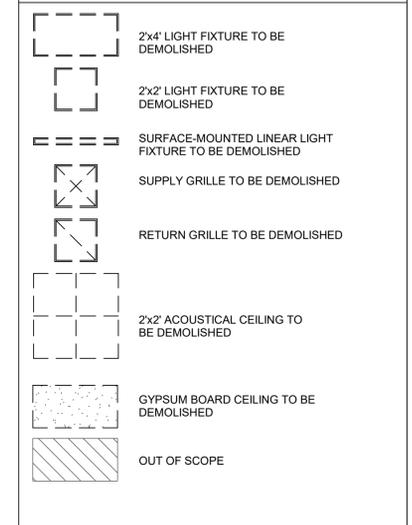
**GENERAL DEMOLITION NOTES**

- REFER TO DRAWING T1.1 FOR FULL GENERAL DEMOLITION NOTES.
- REFER TO SPECIFICATION SECTION 024119 FOR ADDITIONAL REQUIREMENTS REGARDING SELECTIVE STRUCTURAL DEMOLITION.
- REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR FULL MECHANICAL, PLUMBING, AND ELECTRICAL DEMOLITION SCOPE OF WORK.
- IN AREAS WHERE EXISTING WALLS, PARTITIONS, ETC. ARE TO BE REMOVED, IT SHALL BE NECESSARY TO REPAIR EXISTING CEILING, ADJUST AND RELOCATE OR REWIRE EXISTING FIXTURES, AND REMOVE OR RELOCATE ELECTRICAL AND MECHANICAL COMPONENTS AS REQUIRED OR DIRECTED.
- WASH AND CLEAN ALL EXISTING INTERIOR HVAC GRILLES AND DIFFUSERS WHICH ARE TO REMAIN (CEILING AND WALL-MOUNTED, AND FREESTANDING AT EXPOSED CONSTRUCTION).
- EXISTING WALLS, FLOORS, AND CEILING WHICH ARE DAMAGED AND ARE TO REMAIN SHALL BE PATCHED AND REBUILT AS REQUIRED TO MATCH SURROUNDING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- ACTIVE PIPES, CONDUITS, AND OTHER UTILITIES OF ALL TYPES, WHETHER SHOWN IN THE CONSTRUCTION DOCUMENTS OR NOT, MUST BE PROTECTED AT ALL TIMES DURING THE CONSTRUCTION OF THE WORK. EXTREME CARE SHALL BE EXERCISED AT ALL TIMES NOT TO DAMAGE ANY SUCH PIPES AND CONDUITS. WHERE DAMAGE OCCURS, CONTRACTOR CAUSING THE DAMAGE SHALL REPAIR SUCH DAMAGE IN A MANNER APPROVED BY THE ARCHITECT AND OWNER, AND AT NO CHANGE IN THE CONTRACT PRICES OF CONTRACTOR.

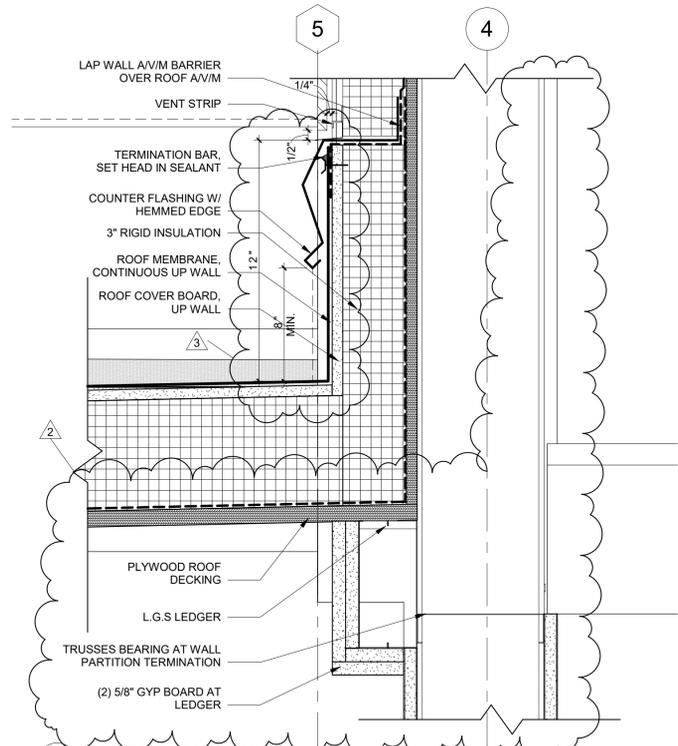
**CEILING-ROOF PLAN DEMO KEYNOTE LEGEND**

- 109 REMOVE EXISTING LOUVER
- 180 EXISTING ACT & GRID TO REMAIN, COORDINATE WITH MEP FOR ANY CHANGES & REMOVE & REINSTALL ACT AS REQ'D
- 182 EXISTING LATH & PLASTER BULKHEAD TO REMAIN, PREP FOR REPAINT
- 184 DEMO EXISTING ACT, GRID TO REMAIN
- 185 DEMO EXISTING PLASTIC LAMINATE CEILING & GRID COMPLETE
- 188 DEMO EXISTING TILE, LATH & PLASTER AND INSULATION, SUSPENDED GRID TO REMAIN
- 189 DEMO EXISTING LIGHTING, CROSS BEAMS AND ALUMINUM PANELS COMPLETE
- 190 REMOVE EXISTING LIGHTING
- 198 DEMO EXISTING ALUMINUM FRAME AND LITES COMPLETE

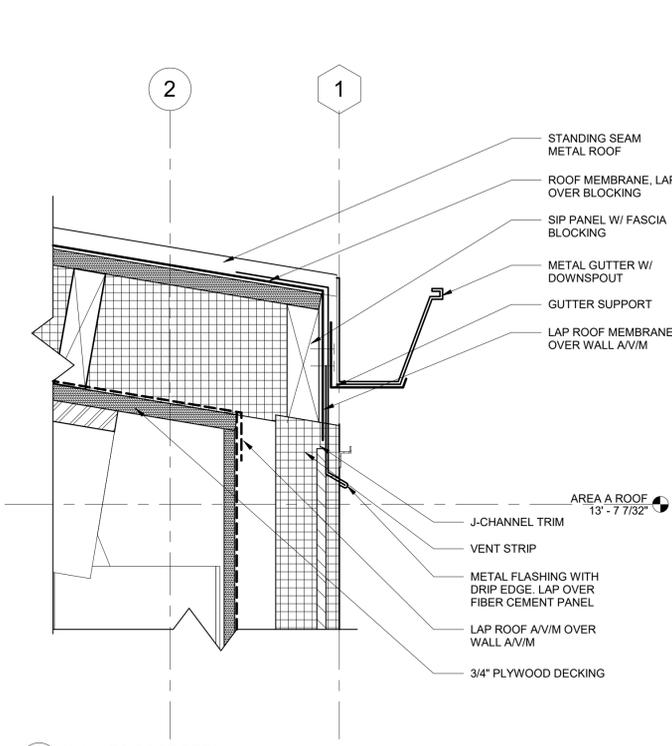
**DEMOLITION CEILING LEGEND**



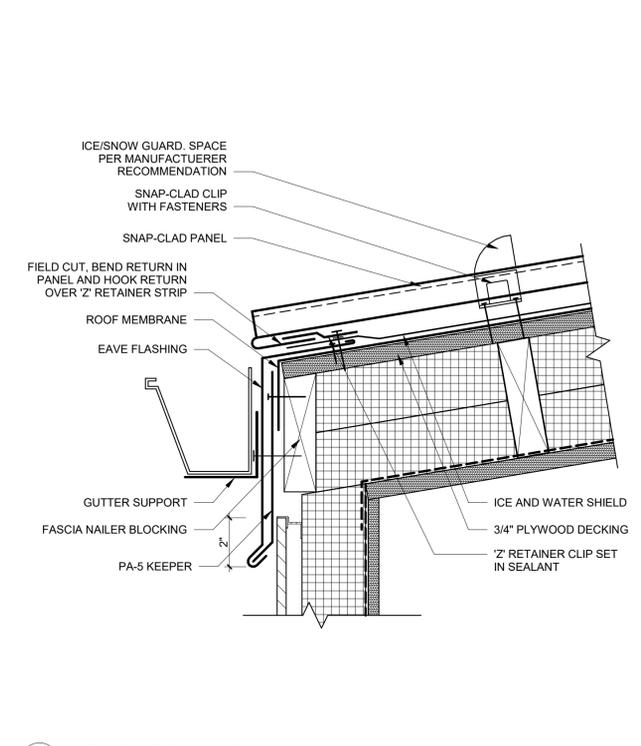




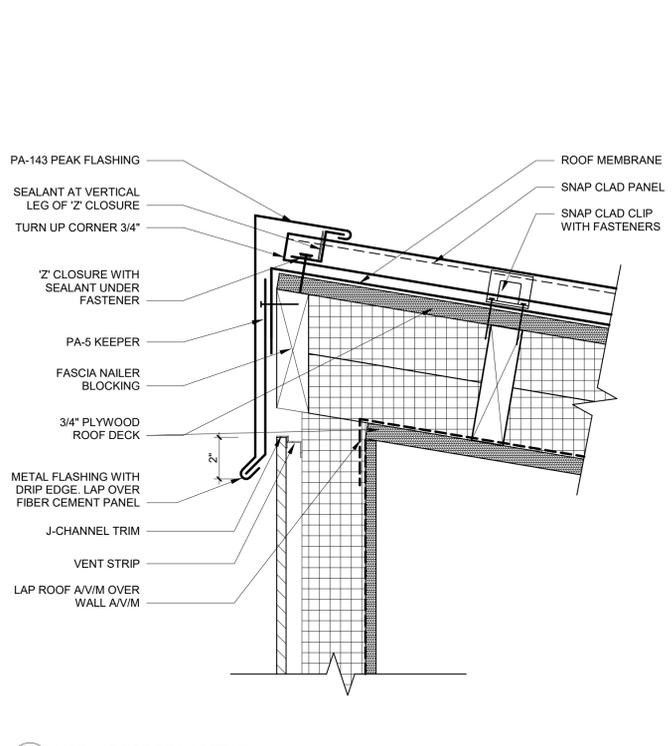
1 WALL TO FLAT ROOF DETAIL  
3" = 1'-0"



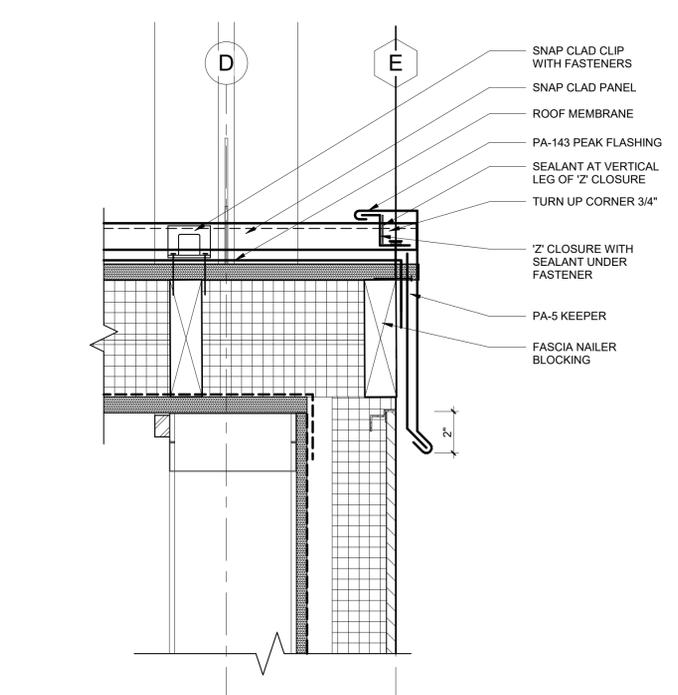
2 WALL TO ROOF DETAIL  
3" = 1'-0"



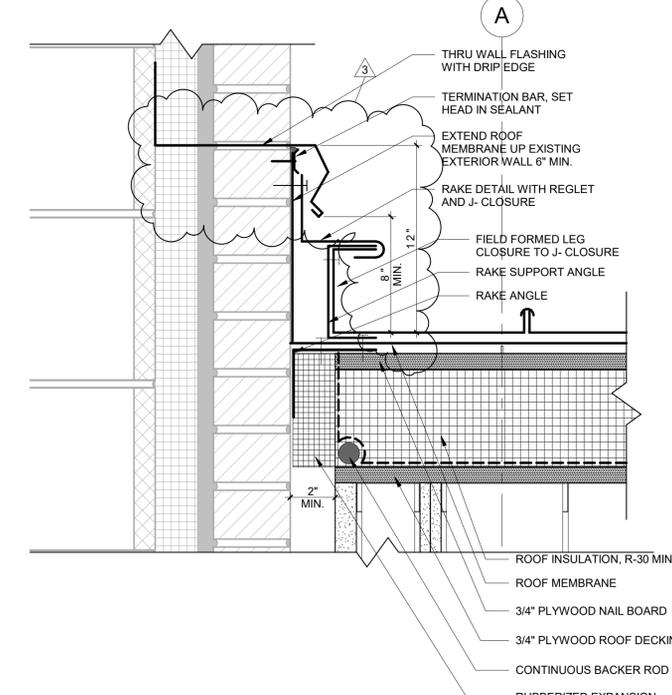
3 METAL ROOF EAVE DETAIL  
3" = 1'-0"



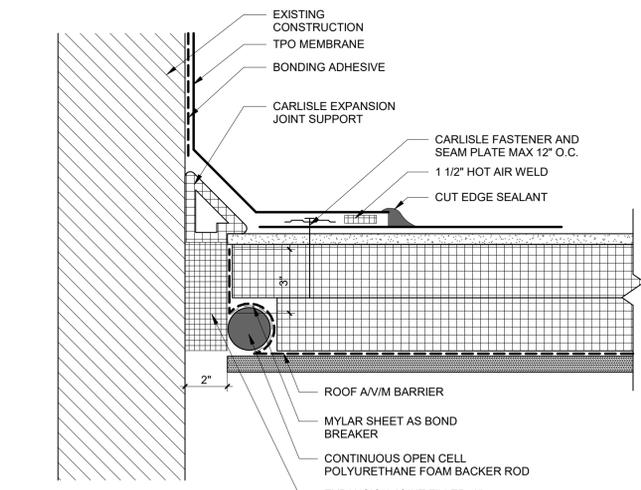
4 METAL ROOF PEAK DETAIL  
3" = 1'-0"



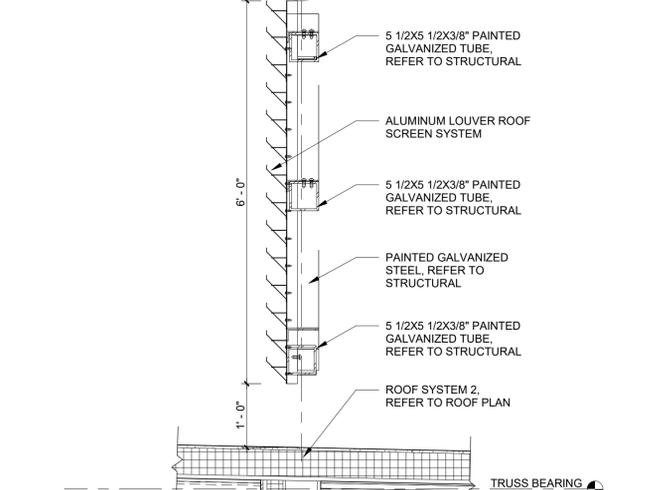
5 ROOF RAKE DETAIL  
3" = 1'-0"



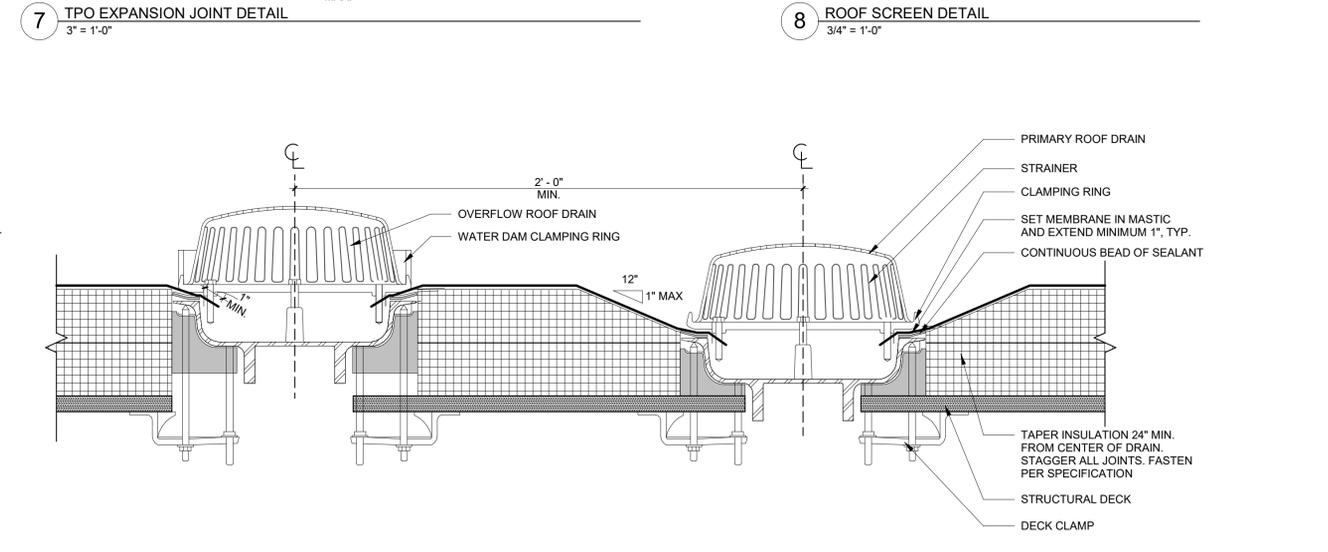
6 GYMNASIUM WALL AT METAL ROOF DETAIL  
3" = 1'-0"



7 TPO EXPANSION JOINT DETAIL  
3" = 1'-0"



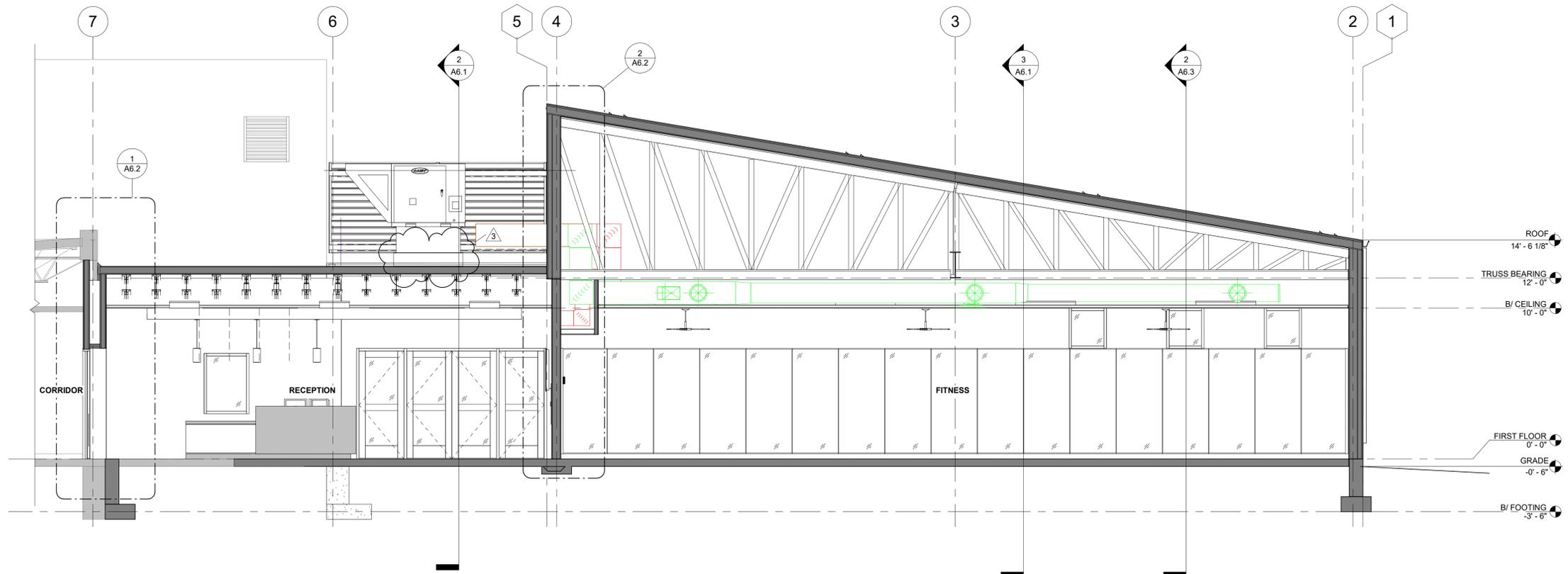
8 ROOF SCREEN DETAIL  
3/4" = 1'-0"



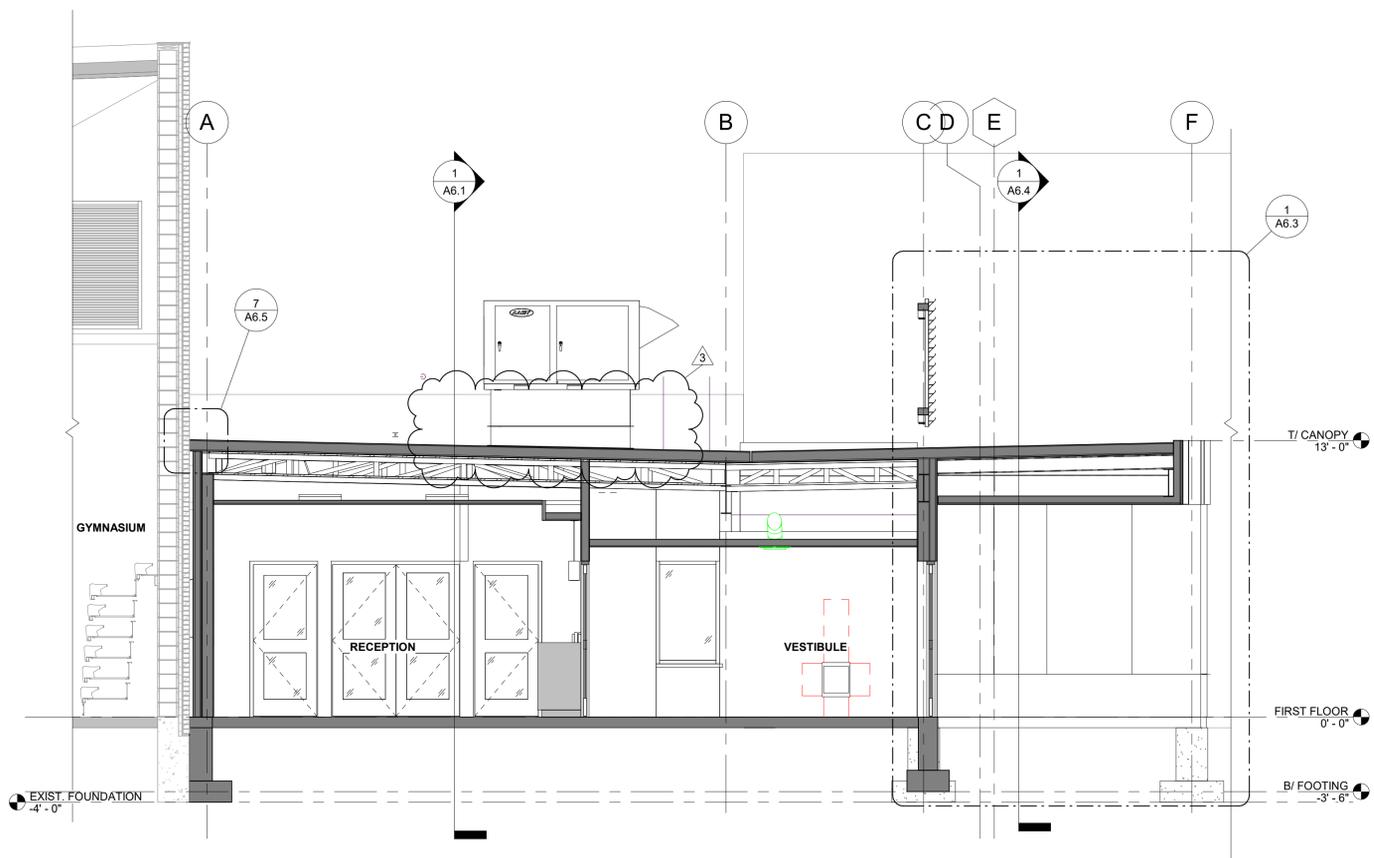
9 ROOF DRAIN DETAIL  
3" = 1'-0"

4/21/2021 8:25:30 AM  
COPYRIGHT © 2021 ALL RIGHTS RESERVED

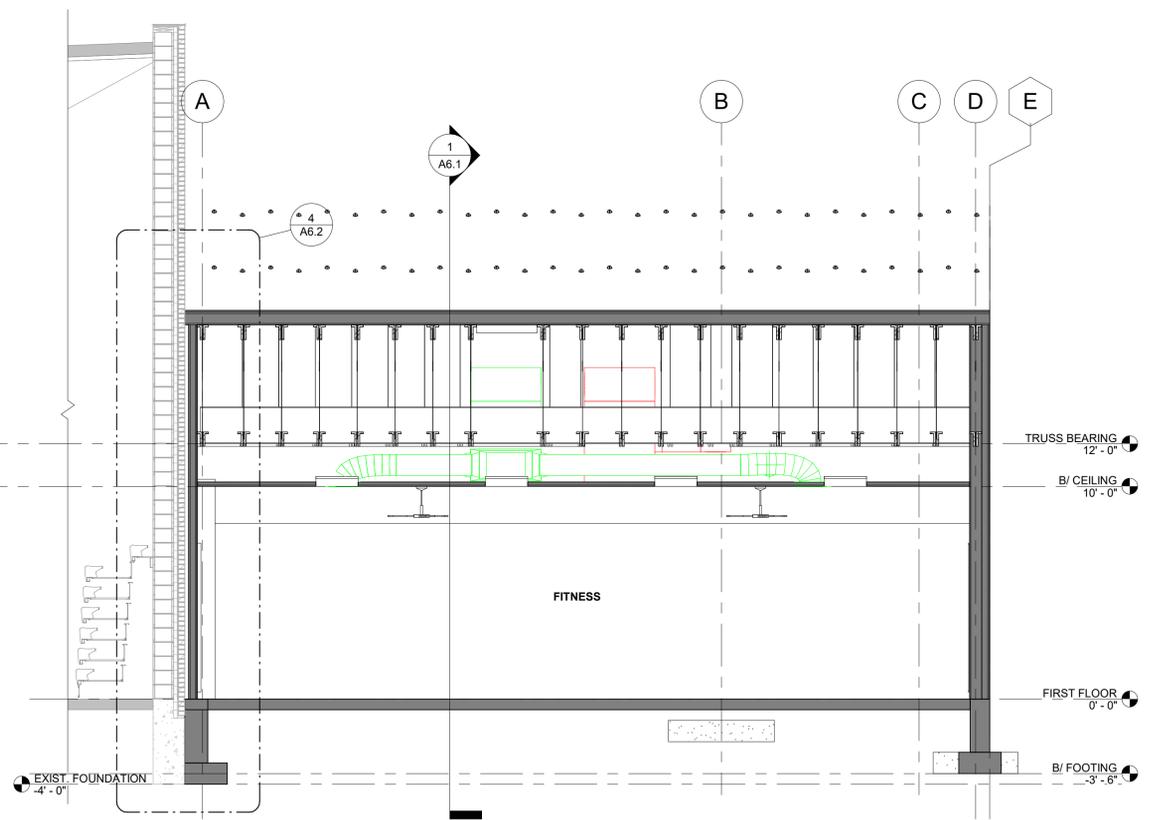




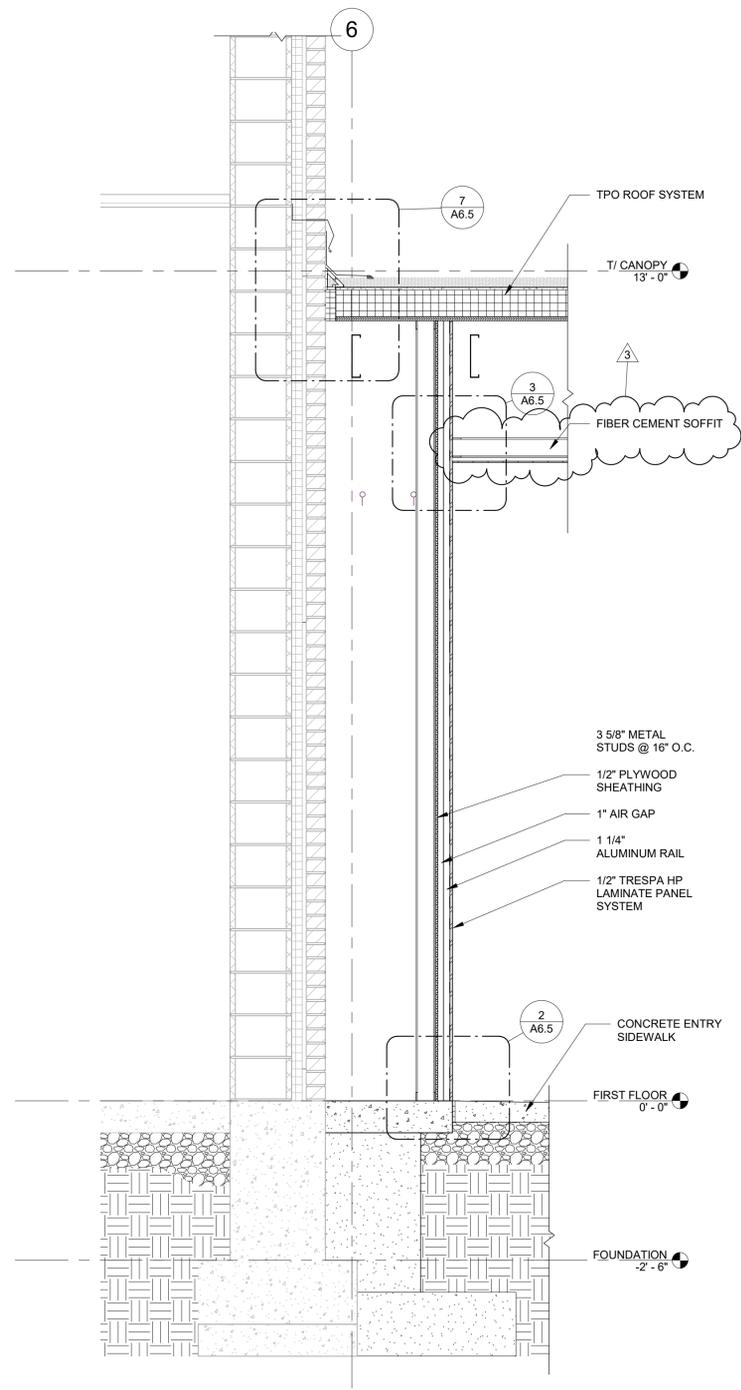
1 NORTH-SOUTH BUILDING SECTIONS  
1/4" = 1'-0"



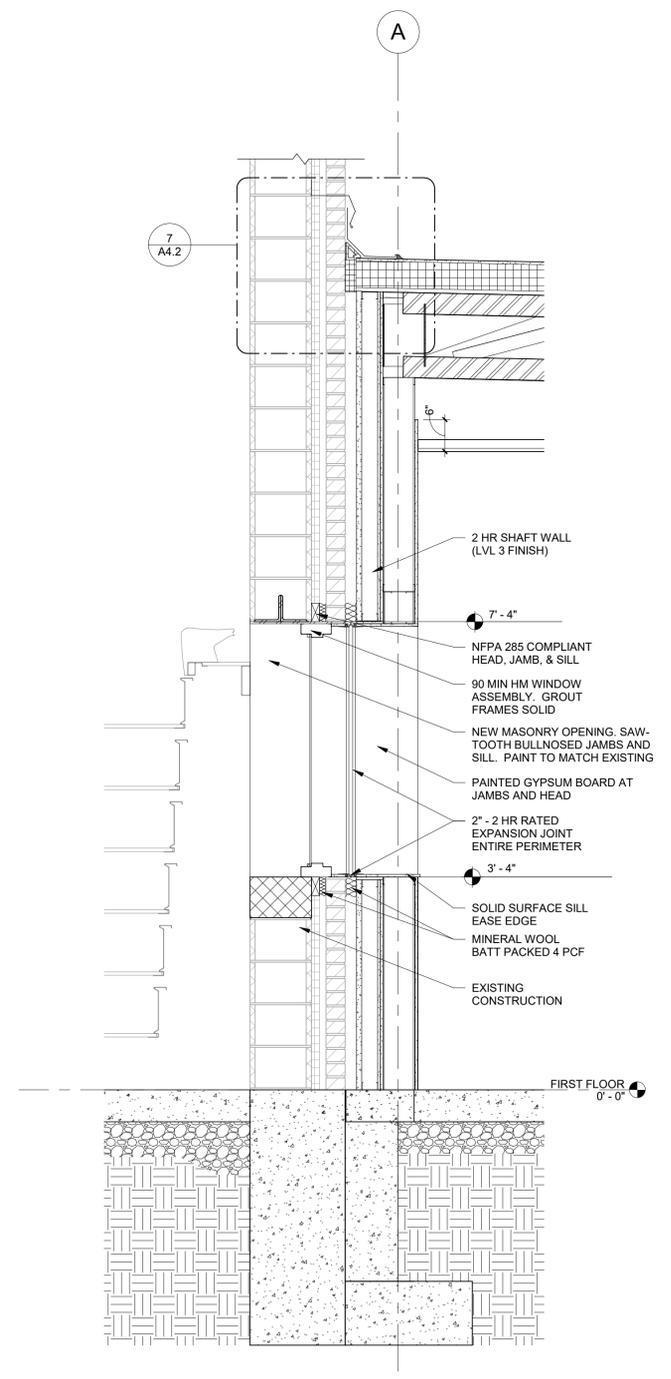
2 EAST-WEST BUILDING SECTION  
1/4" = 1'-0"



3 FITNESS BUILDING SECTION  
1/4" = 1'-0"



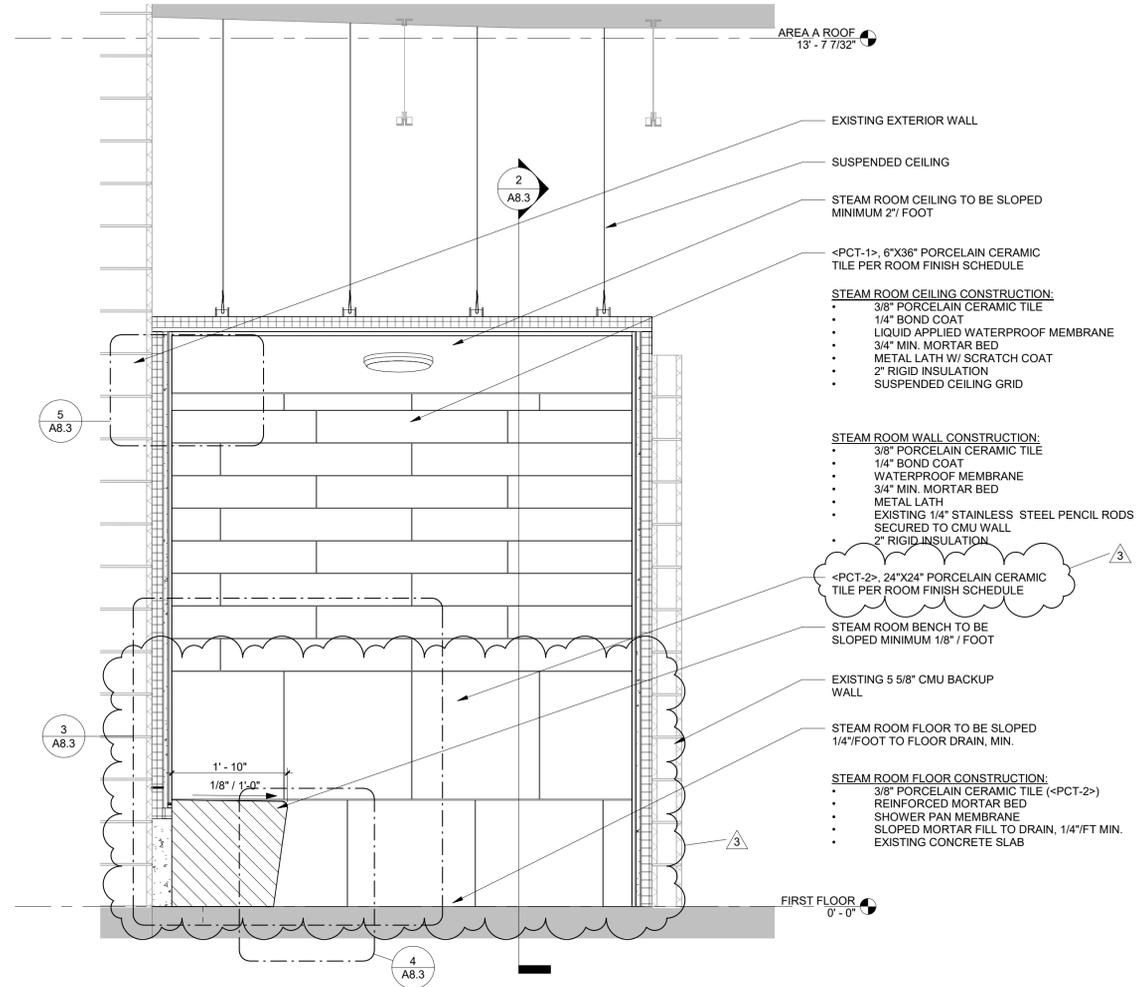
**1** CANOPY WALL SECTION  
 3/4" = 1'-0"



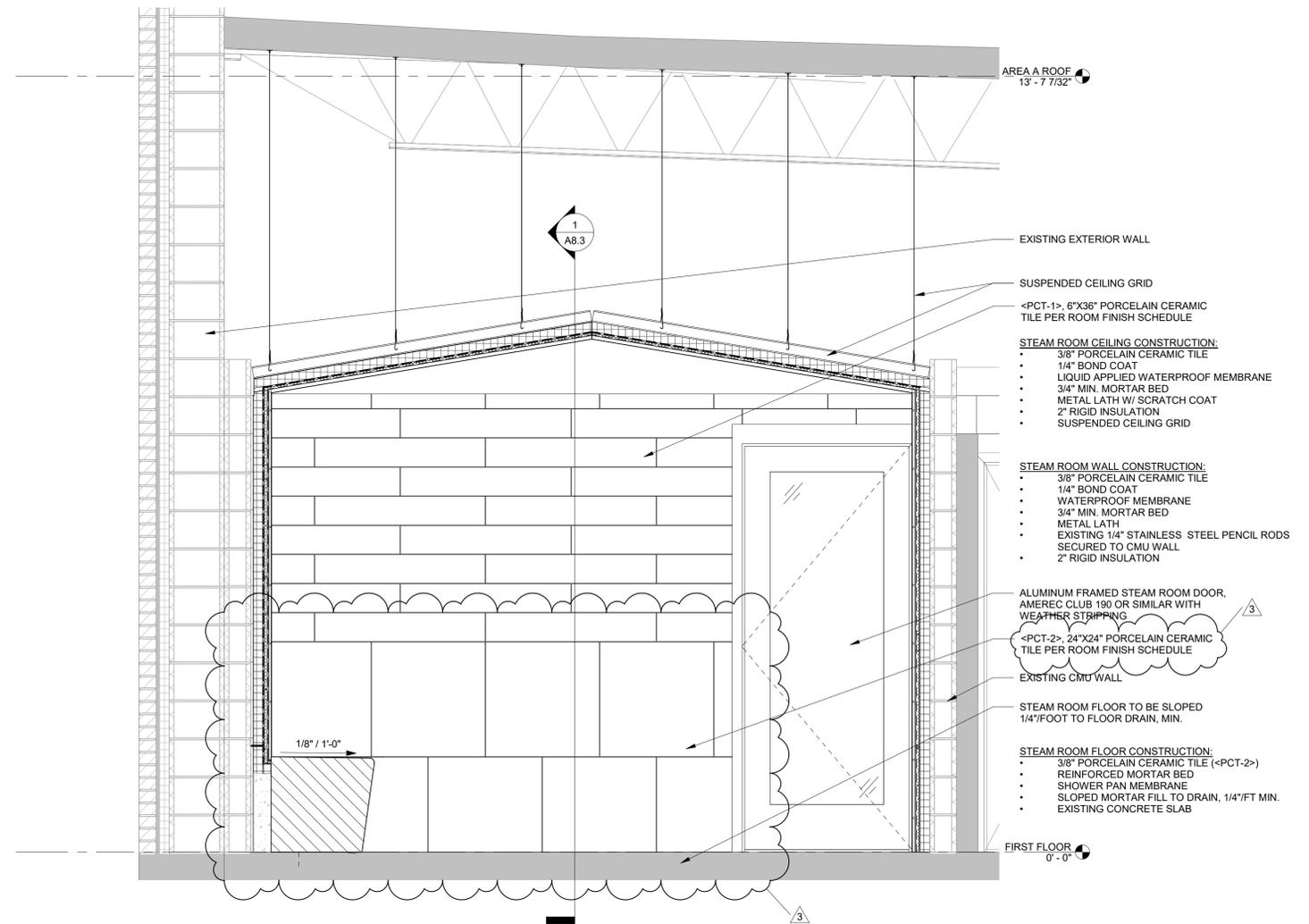
**2** GYMNASIUM WINDOW DETAIL  
 3/4" = 1'-0"



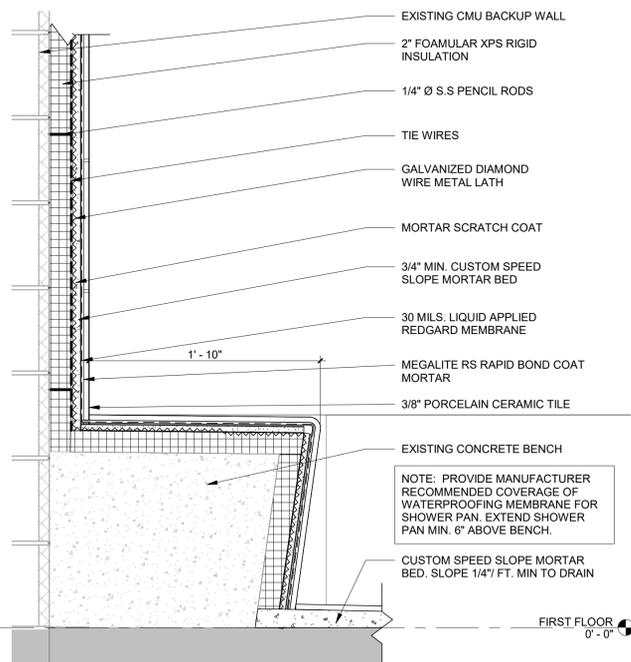




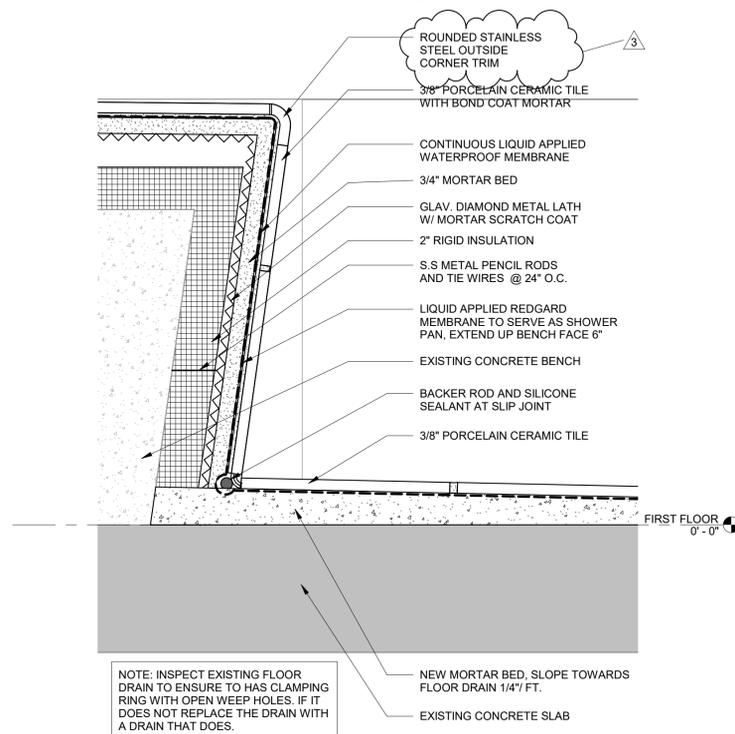
1 WOMEN'S STEAM ROOM SECTION  
3/4" = 1'-0"



2 WOMEN'S STEAM ROOM SECTION - 02  
3/4" = 1'-0"

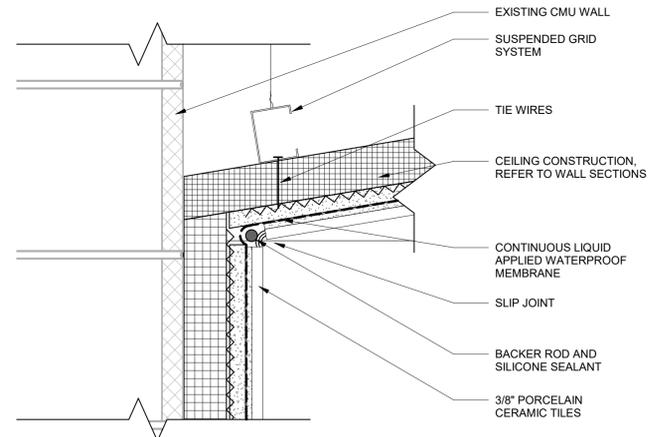


3 TYP. STEAM ROOM BENCH DETAIL  
1 1/2" = 1'-0"



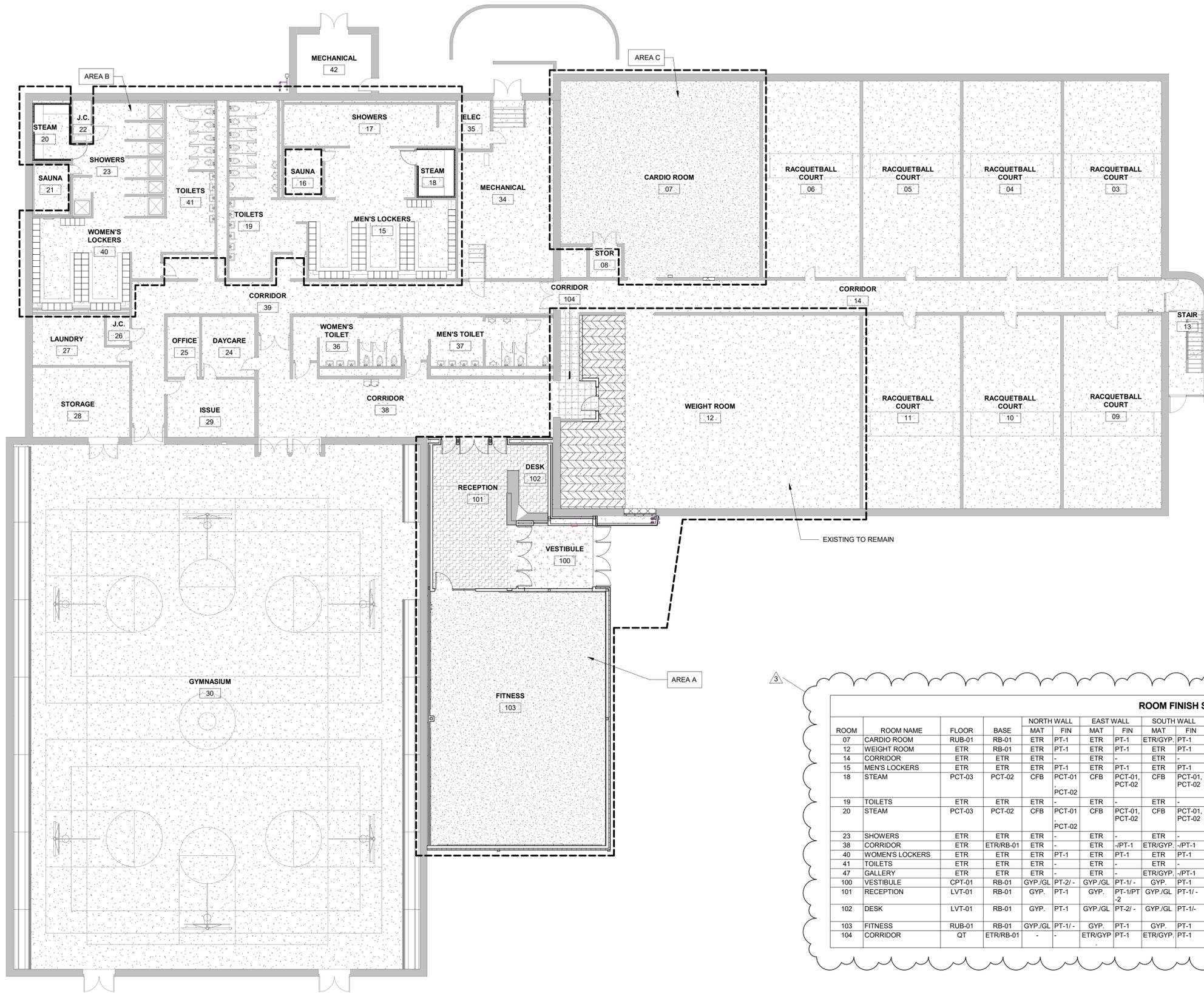
4 BENCH TO FLOOR TRANSITION DETAIL  
3" = 1'-0"

NOTES:  
1. ALL WORK ON SHEET A7.3 PERTAINS TO AREA B  
2. STEAM ROOM CONSTRUCTION SHALL COMPLY WITH TONA SR613-20 AND WATERPROOFING, MORTAR, AND GROUT MANUFACTURERS RECOMMENDATIONS.



5 WOMEN'S STEAM ROOM - WALL TO CEILING TRANSITION  
3" = 1'-0"





ROOM FINISH LEGEND & NOTES			
<b>GENERAL NOTES</b>			
1. REFER TO WALL PAINT FINISH PLANS AND PAINT SCHEDULES FOR PAINT COLORS.			
<b>NOTES</b>			
1. GYPSUM BOARD SOFFITS ARE TO BE PAINTED THE SAME COLOR AS ADJACENT CEILING.			
<b>LEGEND</b>			
ACT	ACOUSTICAL CEILING TILE	LVT	VINYL TILE / PLANK FLOOR
CFB	CEMENTITIOUS BACKER BOARD	PCT	PORCELAIN CERAMIC TILE
CMU	CONCRETE MASONRY UNIT	PT	PAINT
ETR	EXISTING TO REMAIN	PT-AT	PAINT ACOUSTIC TREATMENT
EXP	EXPOSED STRUCTURE	RB	RUBBER BASE
GL	GLAZING	RUB	RUBBER FLOOR

FLOOR FINISH LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	WOOD PLANK LVT <LVT-01>
[Symbol]	RUBBER FLOORING SYSTEM W/ WATERPROOFING <RUB-01>
[Symbol]	QUARY TILE TO MATCH EXISTING <QT-01> RUNNING BOND - CORRIDOR
[Symbol]	WALK-OFF CARPET <CPT-01>
[Symbol]	ETR - EXISTING TO REMAIN
[Symbol]	ATHLETIC FLOOR TO MATCH EXISTING

- PT - 1 BASE WALL PAINT
- PT - 2 ACCENT WALL PAINT
- PT - 3 CEILING PAINT
- PT - 4 DOOR/FRAME PAINT
- PT - 5 EXTERIOR PAINT - COLOR 1
- PT - 6 EXTERIOR PAINT - COLOR 2
- PT - 7 EXTERIOR PAINT - COLOR 3
- PT - 8 EXTERIOR PAINT - COLOR 4
- PT - 9 EXTERIOR PAINT - COLOR 5

ROOM FINISH SCHEDULE														
ROOM	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		REMARKS
07	CARDIO ROOM	RUB-01	RB-01	ETR	PT-1	ETR	PT-1	ETR/GYP	PT-1	ETR	PT-1	ACT-01	-	PAINT WALLS AFFECTED BY NEW CONSTRUCTION
12	WEIGHT ROOM	ETR	RB-01	ETR	PT-1	ETR	PT-1	ETR	PT-1	ETR	PT-1	ACT-01	-	PAINT WALLS AFFECTED BY NEW CONSTRUCTION
14	CORRIDOR	ETR	RB-01	ETR	-	ETR	-	ETR	-	ETR	-	ETR	ETR	PAINT WALLS AFFECTED BY NEW CONSTRUCTION
15	MEN'S LOCKERS	ETR	ETR	ETR	PT-1	ETR	PT-1	ETR	PT-1	ETR	PT-1	ETR	PT-3	
18	STEAM	PCT-03	PCT-02	CFB	PCT-01	CFB	PCT-01, PCT-02	CFB	PCT-01, PCT-02	CFB	PCT-01, PCT-02	CFB	PCT-02	
19	TOILETS	ETR	ETR	ETR	-	ETR	-	ETR	-	ETR	-	ETR	PT-3	
20	STEAM	PCT-03	PCT-02	CFB	PCT-01	CFB	PCT-01, PCT-02	CFB	PCT-01, PCT-02	CFB	PCT-01, PCT-02	CFB	PCT	
23	SHOWERS	ETR	ETR	ETR	-	ETR	-	ETR	-	ETR	PT	ETR	PT-3	PAINT WALLS AFFECTED BY NEW CONSTRUCTION
38	CORRIDOR	ETR	ETR/RB-01	ETR	-	ETR	-/PT-1	ETR/GYP	-/PT-1	ETR	-	ETR	-/PT-3	PAINT WALLS AFFECTED BY NEW CONSTRUCTION
40	WOMEN'S LOCKERS	ETR	ETR	ETR	PT-1	ETR	PT-1	ETR	PT-1	ETR	PT-1	ETR	PT-3	
41	TOILETS	ETR	ETR	ETR	-	ETR	-	ETR	-	ETR	-	ETR	PT-3	
47	GALLERY	ETR	ETR	ETR	-	ETR	-	ETR/GYP	-/PT-1	ETR	-	ETR/ACT	-	
100	VESTIBULE	CPT-01	RB-01	GYP/GL	PT-2/-	GYP/GL	PT-1/-	GYP	PT-1	GYP/GL	PT-1/-	GYP	PT-3	
101	RECEPTION	LVT-01	RB-01	GYP	PT-1	GYP	PT-1/PT-2	GYP/GL	PT-1/-	GYP	PT-1	ACT-02/GYP	-/PT-3	
102	DESK	LVT-01	RB-01	GYP	PT-1	GYP/GL	PT-2/-	GYP/GL	PT-1/-	-	-	ACT-02/GYP	-/PT-3	
103	FITNESS	RUB-01	RB-01	GYP/GL	PT-1/-	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT-01	-	
104	CORRIDOR	QT	ETR/RB-01	-	-	ETR/GYP	PT-1	ETR/GYP	PT-1	ETR	PT-1	ACT-01	-	MATCH EXISTING

