DOW GARDENS

CONSTRUCTION MANAGER'S PROJECT MANUAL

Dow Gardens New Welcome Center

BID PACKAGE #3

ADDENDUM #2

January 31, 2025

SPENCE BROTHERS

CONSTRUCTION MANAGER
SPENCE BROTHERS

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Project Manual Revisions

Issued as Addendum NO.2

For

The New Dow Welcome Center

Bid Pack #3

The following clarifications, modifications and / or revisions to the above project shall be considered a part of the original drawings and specifications.

It shall be the responsibility of the contractor to notify their subcontractors and/or suppliers of the clarifications, modifications, and / or revisions included herein.

1. The bid date remains Wednesday February 5, 2025 @ 2:00 P.M.
2. Refer to **BC 301Excavation and Site Utilities.** The following clarifications apply to this bid category:
    a. Include the dumpster pad area with Bid Pack 3
    b. Include the long curb along the South side of the property in Bid Pack 3
    c. Include the splash dissipater with this bid category
    d. The bioswale is to be included in this bid package by BC 301
    e. Include all of the soil preparation per the provided plans with bid pack 3 by BC 301
    f. The interior drain tile shown on M2.00 is not to be included in bid package 3
    g. Existing building demolition will be included in bid package 4
3. Refer to **BC 302 Asphalt Paving**. The following clarifications apply to this bid category:
    a. Carry a $2,500 allowance total to cover the temporary handicap parking signs and markings required for each phase.
4. Refer to **BC 303 Concrete-Site**. The following clarifications apply to this bid category:
    a. Include the long curb along the south side of the property with bid package 3
5. Refer to **BC 304 Concrete – Slab on grade**. The following clarifications apply to this bid category:

    a. Include floor protection on all areas after polishing is completed.
    b. Provide poly caulk in joints with color to match adjacent concrete.
    c. Use an integral dye for the polished finish.
6. Refer to **BC 305 Masonry**. The following clarifications apply to this bid category:
    a. This bid category is responsible for the interior split stone ST-1, ST-2, ST-3, and ST-4.
7. Refer to **BC 307 General Trades.** The following clarifications apply to this bid category:
    a. See sheet A8.13 detail 3 the quartz planter cap is to be included in BC 307
8. Refer to **BC 308 Roofing PVC**. The following clarifications apply to this bid category:
    a. This bid category is to include all materials and labor Supply to Install FRP Roof Sheathing for all areas of the roof. Both PVC and Standing seam areas
9. Refer to **BC 310 Glass and aluminum**. The following clarifications apply to this bid category:
    a. Complete pricing for alternate 1 – bird glass
10. Refer to **BC 311 Drywall, Acoustical, and Framing**. The following clarifications apply to this bid category:
    a. Cement Board will be supplied and installed by BC 312
    b. Include all interior and exterior linear faux wood ceiling LC-1 and LC-2 in this bid category.
11. Refer to **BC 312 Flooring Hard Tile & Base**. The following clarifications apply to this bid category:
    a. Include all cement board behind tiled areas in this bid category
12. Refer to **BC 316 Mechanical and Plumbing**. The following clarifications apply to this bid category:
    a. Interior drain tile will be completed by bid package 1.
    b. Include sump crock, pump, and pipe to tie into drain tile in this bid category.
    c. Include a $10,000 allowance for the gas meter and main gas regulator in this bid category.

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ADDENDUM NO. 2

DOW GARDENS WELCOME CENTER
MIDLAND, MICHIGAN

WTA Project No. 2022022
January 31, 2025

The following clarifications, modifications and/or revisions to the above project shall be considered a part of the original drawings and specifications.

It shall be the responsibility of the contractor to notify their subcontractors and/or suppliers of the clarifications, modifications, and/or revisions included herein.

GENERAL

ARCHITECTURAL

Item G1: Refer to 074213 Metal Plate Wall Panels (re-issued)
- a. Revisions as indicated by highlighted sections.

Item G2: Refer to 087100 Door Hardware (re-issued)
- a. Revisions as indicated by highlighted sections.

Item G3: Refer to 095113 Acoustical Panel Ceilings (re-issued)
- a. Revisions as indicated by highlighted sections.

Item G4: Refer to 114000 Kitchen Equipment (re-issued)
- a. Revisions as indicated by highlighted sections.

ARCHITECTURAL

Item A1: Sheet A0.01 (re-issued)
- a. Revised Wall Types.
  - i. 5.1
- b. New Wall Type
  - i. 5.4

Item A2: Sheet A2.12 (Re-issued)
- a. Wall types updated.

Item A3: Sheet A2.21 (re-issued)
- a. Revised Detail.
  - i. 2/A2.21
- b. Revised “KITCHEN EQUIPMENT SCHEDULE”

WIGEN TINCKNELL ASSOCIATES ARCHITECTS

SPACE SOLVED.

Item A4: Sheet A3.10 (re-issued)
- a. "DOOR TYPES" updated.
- b. "DOOR SCHEDULE" updated.
- c. Revised Detail
  - i. 10/A3.10

Item A5: Sheet A3.22 (re-issued)
- a. Revised Detail.
  - i. 13/A3.22
  - ii. 16/A3.22

Item A6: Sheet A5.03 (re-issued)
- a. New Detail.
  - i. 7/A5.03

Item A7: Sheet A7.10 (re-issued)
- a. Revised Details
  - i. 2/A7.10, 3/A7.10, 14/A7.10

Item A8: Sheet A7.11 (re-issued)
- a. Revised Detail
  - i. 12/A7.11

Item A9: Sheet A7.12 (re-issued)
- a. Revised Details.
  - i. 5/A7.12, 7/A7.12

END OF ADDENDUM NO. 2

WTA Architects

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SECTION 074213 - METAL PLATE WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes aluminum metal plate wall panels.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site to review and finalize schedule, verify availability of materials and personnel, review means and methods of installation, examine support conditions, and review flashings, special details, penetrations, and other conditions that affect Work. Conference shall include the representatives from the following:

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal plate wall panel and accessory.

B. Shop Drawings: Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment assembly, trim, flashings, closures, and accessories; and special details.

C. Coordination Drawings: Submit exterior elevations, drawn to scale, that have the following items shown and coordinated with each other, using input from installers of the following items:
   1. Metal plate wall panels and attachments.
   2. Girts.
   3. Wall-mounted items including doors, windows, louvers, and lighting fixtures.
   4. Penetrations of wall by pipes and utilities.

D. Samples: For each type of metal panel indicated.
   1. Aluminum Metal Plate Wall Panels: At least 2 inch by 3 inch.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Warranties: Samples of special warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
   1. Install system in strict compliance with manufacturer's installation instructions.

B. Source Limitations: Obtain each type of metal plate wall panel from single source and from single manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
B. Storage and Handling: Store materials in clean, dry, interior area in accordance with manufacturer's instructions.
C. Deliver panels, components, and other manufactured items without damage or deformation.
D. Protect panels during transportation, handling, and installation from weather, excessive temperatures and construction operations.
E. Handle panels in strict compliance with manufacturer's instructions and recommendations, and in a manner to prevent bending, warping, twisting, and surface damage.
    1. Store panels vertically with top of panel down, storage of panels horizontally is not permitted.
F. Store panels covered with suitable weather tight and ventilated covering.
G. Provide storage of panels to ensure dryness, with positive slope for drainage of moisture.
H. Do not store panels in contact with other materials that might cause staining, denting, or other surface damage.
I. Remove strippable protective covering from aluminum panel prior to installation.

1.8 SITE CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of this Work to be performed according to manufacturer's installation instructions and warranty requirements.
B. Field Measurements: Verify locations of structural members and wall opening dimensions by field measurements before panel fabrication and indicate measurements on Shop Drawings.
    1. Coordinate with construction schedule.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
    1. Warranty Period: Two years from date of Substantial Completion.
B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
    1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 330:
    1. Wind Loads: As indicated on Drawings.
    2. Other Design Loads: As indicated on Drawings.

3. Deflection Limits: For wind loads, no greater than 1/180 of the span.

B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested according to ASTM E 283 at the following test-pressure difference:
   1. Test-Pressure Difference: 1.57 lbf/sq. ft. (75 Pa).

C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 331 at the following test-pressure difference:
   1. Test-Pressure Difference: 2.86 lbf/sq. ft. (137 Pa).

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

E. 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's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 METAL PLATE WALL PANELS

A. General: Provide metal panels designed to be field assembled by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using stainless steel fasteners. Include accessories required for weathertight installation.

B. Flat plate, Open Joint Exposed-Fastener Metal Wall Panels (**MP-1**): Formed with vertical panel edges and a flat pan between panel edges; with open joint between panels.
   1. Basis-of-Design: , ¼" plate steel Wall panels.
      a. Subject to meeting the specified requirements, formed metal wall panels by the following manufacturers are also acceptable:
         1) IRONBOUND WEATHERING STEEL
         2) Substitutions: See Section 012500 – Product Requirements
   2. Weathering Steel Sheet
      a. Nominal Thickness: ¼" (0.25 inch).
      b. Surface: Smooth.
      c. Panel Coverage: VARIES.
      d. Exterior Finish: Weathering Steel.

2.3 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A 792/A 792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance.

Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

D. Panel Fasteners: Designed to withstand design loads, with at least 7/16 inch diameter head and neoprene washer.
   1. Aluminum Wall Panel Material: Provide stainless steel fasteners, or coated fastener approved by panel manufacturer.

E. Panel Sealants: ASTM C 920; as recommended in writing by metal panel manufacturer.

2.4 FABRICATION

A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

2.5 FINISHES

A. Aluminum Panels and Accessories:
   1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, and Work areas and conditions with Installer present for compliance with requirements for installation tolerances, wall panel supports, and other conditions affecting performance of this Work.

B. Examine wall framing to verify that girts, angles, channels, studs, and other structural wall panel support members and anchorage have been installed within alignment tolerances required by wall panel manufacturer.

C. Verify that weather barrier has been installed over sheathing or substrate to prevent air infiltration or water penetration.

D. Examine rough-in for components and systems penetrating wall panels to coordinate actual penetration locations relative to wall panel joint locations prior to installation.

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

3.2 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

3.3 INSTALLATION

A. Install wall panels in accordance with manufacturer's installation instructions, including pressure equalized rainscreen installation method and installation guidelines.
   1. Wall panels consist of single sheets of metal formed with interlocking gutter and drainage system integral to the panel with single horizontal attachment for dry-joint rainscreen assembly.
   2. Use of secondary drainage channels, brackets, support pins, joint sealants or gaskets to manage the drainage of wall panel system is not permitted.
   3. Attach wall panels using progressive interlocking method, engaging bottom of panel in top of previous panel working bottom up, and left to right.
   4. Install wall panels with single top attachment in pre-punched holes to allow individual panels to move due to thermal expansion.
   5. Do not compromise internal gutter.
B. Install wall panels for orientation, sizes, and locations as indicated on Drawings.
C. Install wall panels with proper anchorage and other components for this Work securely in place.
D. Install wall panels with provisions for thermal and structural movement.
E. Install shims to plumb substrates as necessary for installation of wall panels.
F. Install weather tight seals at perimeter of wall panel openings.
   1. Test for proper adhesion on small unexposed area of solid surfacing prior to use.
G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA - Architectural Sheet Metal Manual.
   1. Provide concealed fasteners where possible, and set units true to line and level as indicated.
   2. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
   3. Install flashing and trim as wall panel Work proceeds.
H. Install weather tight escutcheons for pipe and conduit penetrating exterior walls.
I. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action as recommended by wall panel manufacturer.
J. Install attachment system to support wall panels and with provisions to provide a complete weather tight wall system, including sub girts, extrusions, flashings and trim.
   1. Include attachment to supports and trims at locations using dissimilar materials.
   2. Do not apply sealants to joints, unless noted otherwise on Drawings or Shop Drawings.
   3. Install starter extrusion at base course and at cut panel locations.
K. Install accessories with positive anchorage to building and weather tight mounting and provisions for thermal expansion, and coordinate installation with flashings and other components.
L. Weather Barrier: Install weather barrier behind wall panels and over substrate in accordance with requirements of Section 07 2500.

3.4 TOLERANCES

A. Shim and align wall panel units with installed tolerances of 1/4 inch in 20 feet, non-cumulative, on level, plumb, and location lines as indicated.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing agency to perform field tests and inspections.
B. Water-Spray Test: After installation and in coordination with Mockup requirements, test area of assembly as directed by Architect for water penetration in accordance with AAMA 501.2.
C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect completed metal wall panel installation, including accessories.
D. Remove and replace metal wall panels where tests and inspections indicate that they do not comply with specified requirements.
E. Perform additional tests and inspections, at Contractor's expense, to verify compliance of replaced wall panels or necessary additional work with specified requirements.
F. Prepare test and inspection reports.

3.6 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
B. Protect installed products from damage during subsequent construction.
C. Replace wall panels damaged or deteriorated beyond successful repair by finish touchup or similar minor repair procedures

END OF SECTION 074213

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Metal Doors and Frames"
   b. "Flush Wood Doors"
   c. "Stile and Rail Wood Doors"
   d. "Interior Aluminum Doors and Frames"
   e. "Aluminum-Framed Entrances and Storefronts"
   f. "Stainless Steel Doors and Frames"
   g. "Special Function Doors"
   h. "Entrances"
6. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
7. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.
      2) Schematic diagram of systems that interface with electrified door hardware.
      3) Point-to-point wiring.
      4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
   a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.
      2) Quantity, type, style, function, size, and finish of each hardware item.
      3) Name and manufacturer of each item.
      4) Fastenings and other pertinent information.
      5) Location of each hardware set cross-referenced to indications on Drawings.
      6) Explanation of all abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for hardware.
      8) Door and frame sizes and materials.
      9) Degree of door swing and handing.
      10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Final keying schedule
   e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.

d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
   a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
      1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
      2) Preliminary key system schematic diagram.
      3) Requirements for key control system.
      4) Requirements for access control.
      5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.

e. Review required testing, inspecting, and certifying procedures.
f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
   a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

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

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

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
   a. Mechanical Warranty
      1) Locks
         a) 10 years
      2) Exit Devices
         a) 10 years
      3) Closers
         a) 30 years
      4) Automatic Operators
         a) 2 years
   b. Electrical Warranty
      1) Locks
         a) 3 years
      2) Exit Devices
         a) 3 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

B. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

2. Acceptable Manufacturers and Products:
   a. McKinney TB series
   b. Best FBB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high

b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Select
   b. Roton

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.

6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Von Duprin EPT-10

2. Acceptable Manufacturers and Products:
   a. Securitron CEPT-10
   b. Security Door Controls PTM

B. Requirements:

1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.06 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Rockwood
   b. Trimco

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.07 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Trimco
   b. Rockwood

B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes, or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.08 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage L9000 series

2. Acceptable Manufacturers and Products:
   a. Sargent 8200 series
   b. Best 45H series

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-3/5-inch x 3/5 inch with 180-degree visibility. Provide messages color-coded using ANSI Z535 Safety Red with full text and/or symbols, as scheduled, for easy visibility. When applicable allows for lock status indication on both sides of the door.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
7. Provide motor based electrified locksets that comply with the following requirements:
   a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.

b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
e. Connections – provide quick-connect Molex system standard.

8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
   a. Lever Design: 17A

2.09 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 98/35A series

2. Acceptable Manufacturers and Products:
   a. Detex Advantex series
   b. Precision APEX 2000 series

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide smooth touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
7. Provide flush end caps for exit devices.
8. Provide exit devices with manufacturer's approved strikes.
9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.

12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
14. Provide electrified options as scheduled.
15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.10 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 6000 Series

2. Acceptable Manufacturers and Products:
   a. Folger Adam 300 Series
   b. HES 1006 Series

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.11 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage/Von Duprin PS900 Series

2. Acceptable Manufacturers and Products:
   a. Securitron BPS series
   b. Security Door Controls 600 series

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.

2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
   a. 12/24 VDC Output, field selectable.
   b. Class 2 Rated power limited output.
   c. Universal 120-240 VAC input.
   d. Low voltage DC, regulated and filtered.
   e. Polarized connector for distribution boards.
   f. Fused primary input.
   g. AC input and DC output monitoring circuit w/LED indicators.
   h. Cover mounted AC Input indication.
   i. Tested and certified to meet UL294.
   j. NEMA 1 enclosure.
   k. Hinged cover w/lock down screws.
   l. High voltage protective cover.

2.12 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage

2. Acceptable Manufacturers and Products:
   a. Best
   b. Sargent

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Patented Open: cylinder with interchangeable core

3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.13 KEYING

A. Scheduled System:

1. New factory registered system:
   a. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Construction Keying:
   a. Replaceable Construction Cores.
      1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
         a) 3 construction control keys
         b) 12 construction change (day) keys.
      2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
      1) Master Keying system as directed by the Owner.
   b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
   c. Provide keys with the following features:
      1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
      2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
   d. Identification:
      1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
      2) Identification stamping provisions must be approved by the Architect and Owner.
      3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
      4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
      5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
   e. Quantity: Furnish in the following quantities.
      1) Permanent Control Keys: 3.
      2) Master Keys: 6.
      3) Change (Day) Keys: 3 per cylinder/core that is keyed differently
      4) Key Blanks: Quantity as determined in the keying meeting.

2.14 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Telkee

2. Acceptable Manufacturers:
   a. HPC
   b. Lund

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
   a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
   b. Provide hinged-panel type cabinet for wall mounting.

2.15 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4010/4110/4020 series

2. Acceptable Manufacturers and Products:
   a. Corbin-Russwin DC8000 series
   b. Sargent 281 series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. Certify surface mounted mechanical closers to meet fifteen million (15,000,000) full load cycles. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter double heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers. When closers are parallel arm mounted, provide closers which mount within 6-inch (152 mm) top rail without use of mounting plate so that closer is not visible through vision panel from pull side.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI/BHMA Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).

10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.16 ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4600 series

2. Acceptable Manufacturers and Products:
   a. Precision D4990 series
   b. Besam Power Swing

B. Requirements:

1. Provide low energy automatic operator units with hydraulic closer complying with ANSI/BHMA A156.19.
2. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
3. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check, and opening and closing speed adjustment valves to control door
4. Provide units with on/off switch for manual operation, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay.
5. Provide drop plates, brackets, and adapters for arms as required for details.
6. Provide actuator switches and receivers for operation as specified.
7. Provide weather-resistant actuators at exterior applications.
8. Provide key switches with LED's, recommended and approved by manufacturer of automatic operator as required for function described in operation description of hardware group below. Cylinders: Refer to "KEYING" article, herein.
9. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
10. Provide units with vestibule inputs that allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

2.17 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Trimco
   b. Rockwood

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.18 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Trimco
   b. Rockwood

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.19 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

2. Acceptable Manufacturers:
   a. Rixson
   b. Sargent

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.20 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:

a. Ives

2. Acceptable Manufacturers:
   a. Trimco
   b. Rockwood

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.21 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Zero International

2. Acceptable Manufacturers:
   a. National Guard
   b. Pemko

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.22 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Rockwood
   b. Trimco

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.23 DOOR POSITION SWITCHES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Schlage

2. Acceptable Manufacturers:
   a. GE-Interlogix
   b. Sargent

B. Requirements:

1. Provide recessed or surface mounted type door position switches as specified.
2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

2.24 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

B. FINISH: BHMA 643E/716 (US11); EXCEPT:

1. Door Closers: Powder Coat to Match.
2. Weatherstripping: Dark Bronze Anodized Aluminum.
3. Thresholds: Extruded Architectural Bronze, Oil-Rubbed

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.

M. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

N. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

O. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

P. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

Q. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

R. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

S. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

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

3.03 ADJUSTING

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

   1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
   2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

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

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

HARDWARE GROUP NO. 01

For use on Door #(s):
121.1 122.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	PUSH PLATE	8200 6" X 16"	630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 02

For use on Door #(s):
126.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	OFFICE/ENTRY LOCK	L9050J 17A L583-363	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 03

For use on Door #(s):
130.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	MANUAL FLUSH BOLT	FB358/FB458 (AS REQ'D)	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	OFFICE/ENTRY LOCK	L9050J 17A L583-363	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	WALL STOP	WS33/WS33X	626	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
2	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 04

For use on Door #(s):
115.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	CORRIDOR LOCK W/ OUTSIDE & INSIDE INDICATOR	L9456J 17A L583-363 OS-OCC IS-LOC DM XL13-369	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE 12/16/24/28 VAC/VDC	630	VON
1	EA	SURF. AUTO OPERATOR	4630	689	LCN
2	EA	WALL MOUNT PUSHPLATE	8310-852T	630	LCN
2	EA	MOUNT BOX	8310-869F		LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE
1	EA	POWER SUPPLY	PS902	LGR	SCE

PRESSING EXTERIOR ACTUATOR WHEN BATHROOM IS NOT IN USE RELEASES ELECTRIC STRIKE AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. THROWING THUMBTURN DISABLES EXTERIOR ACTUATOR. PRESSING INTERIOR ACTUATOR RELEASES ELECTRIC STRIKE AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR.

XL13-369 IS A SPECIAL PART NUMBER WHERE DEADBOLT MONITORING IS INCLUDED, BUT DEADBOLT IS EXCLUDED IN ORDER TO SHUNT OUTSIDE ACTUATOR. RFQ REQUIRED PRIOR TO ORDER.

HARDWARE GROUP NO. 05

For use on Door #(s):
119A.1 120B.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	OFFICE W/SIM RETRACT W/ OUTSIDE & INSIDE INDICATOR	L9056J 17A L583-363 OS-OCC IS-LOC	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 06

For use on Door #(s):
113.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	OFFICE W/SIM RETRACT W/ OUTSIDE & INSIDE INDICATOR	L9056J 17A L583-363 OS-OCC IS-LOC	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 07

For use on Door #(s):
128.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	PANIC HARDWARE	LD-98-L-2SI-17	626	VON
1	EA	FSIC RIM HOUSING	20-079	626	SCH
1	EA	THUMBTURN CYLINDER	XB13-379	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 08

For use on Door #(s):
130.2

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	OFFICE/ENTRY LOCK	L9050J 17A L583-363	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP/HOLDER	WS40	626	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 09

For use on Door #(s):
102.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	ELEC CLASSROOM LOCK	CO-100-MS-70-KP-SPA-J 4B BATTERY OPERATED	626	SCE
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

DOOR NORMALLY LOCKED. ENTERING A VALID COMBINATION ON THE STAND ALONE BATTERY POWERED KEYPAD LOCK ALLOWS ACCESS.

HARDWARE GROUP NO. 10

For use on Door #(s):
119B.1 120A.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080J 17A	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 11

For use on Door #(s):
114.1 123.1 127.1 129A.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080J 17A	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 12

For use on Door #(s):
128.2 131.1 133.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	CONST LATCHING BOLT	FB51P/FB61P (AS REQ'D)	630	IVE
1	EA	STOREROOM LOCK	L9080J 17A	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	628	IVE
2	EA	SURFACE CLOSER	4111 SHCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	OVERLAPPING ASTRAGAL	139A-S	A	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	GASKETING	429AA-S	AA	ZER
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HARDWARE GROUP NO. 13

For use on Door #(s):
129.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	CONST LATCHING BOLT	FB51P/FB61P (AS REQ'D)	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080J 17A	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	COORDINATOR	COR X FL (MB AS REQ'D)	628	IVE
2	EA	OH STOP	100S	630	GLY
2	EA	SURFACE CLOSER	4011 ST-1544	689	LCN
2	EA	MOUNTING PLATE	4020-18	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

HARDWARE GROUP NO. 14

For use on Door #(s):
119.1 120.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	PANIC HARDWARE	LD-98-EO	626	VON
1	EA	ELEC EXIT DEVICE TRIM	CO-100-993R-70-KP-SPA-J 4B BATTERY OPERATED	626	SCE
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE

DOOR NORMALLY LOCKED. ENTERING A VALID COMBINATION ON THE STAND ALONE BATTERY POWERED KEYPAD LOCK ALLOWS ACCESS.

HARDWARE GROUP NO. 15

For use on Door #(s):
100.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY EPT	710	IVE
2	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
1	EA	ELEC PANIC HARDWARE	LX-RX-QEL-98-NL-OP	313	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-EO	313	VON
1	EA	FSIC MORTISE HOUSING	20-059 (BLOCKING RINGS & CAM AS REQ)	643e	SCH
1	EA	FSIC RIM HOUSING	20-079	643e	SCH
2	EA	FSIC CORE	23-030	613	SCH
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
1	EA	OH STOP	100S	643E/716	GLY
1	EA	OH STOP	100SE	643E/716	GLY
1	EA	SURFACE CLOSER	4021	695	LCN
1	EA	SURF. AUTO OPERATOR	4640	695	LCN
1	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	ACTUATOR, TOUCH	8310-836T	630	LCN
1	EA	WALL MOUNT PUSHPLATE	8310-852T	630	LCN
1	EA	MOUNT BOX	8310-869F		LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		
2	EA	DOOR SWEEP	8198D	D	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	MULTITECH READER	MTB11/MTB15 - BY ACCESS CONTROL PROVIDER	BLK	SCE
2	EA	DOOR CONTACT	679-05 WD/HM AS REQ'D	BLK	SCE
1	EA	POWER SUPPLY	PS902 900-4RL	LGR	SCE

UNLOCKED HOURS:
PANIC DEVICE(S) ELECTRICALLY DOGGED (I.E. IN PUSH/PULL MODE) AND BOTH AUTO OPERATOR ACTUATORS ACTIVE. PUSHING EITHER ACTUATOR SIGNALS AUTOMATIC OPERATOR TO MOMENTARILY OPEN THE DOOR. PANIC DEVICE(S) LATCH AND LOCK WITH LOSS OF POWER.

LOCKED HOURS:
DOOR NORMALLY CLOSED AND LOCKED AND EXTERIOR ACTUATOR BUTTON INACTIVE. PRESENTING VALID CREDENTIAL TO READER MOMENTARILY RETRACTS PANIC DEVICE LATCH AND MOMENTARILY ENABLES EXTERIOR ACTUATOR BUTTON. PUSHING ENABLED EXTERIOR ACTUATOR BUTTON SIGNALS AUTOMATIC OPERATOR TO MOMENTARILY OPEN DOOR. INTERIOR ACTUATOR ENABLED AT ALL TIMES. PUSHING THE INTERIOR ACTUATOR BUTTON MOMENTARILY RETRACTS PANIC DEVICE LATCH AND SIGNALS AUTOMATIC OPERATOR TO MOMENTARILY OPEN DOOR. FREE EGRESS AT ALL TIMES.

DOOR CONTACT MONITORS DOOR POSITION. RX SWITCH BYPASSES DOOR CONTACT WHILE EGRESSING.

HARDWARE GROUP NO. 16

For use on Door #(s):
116.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-OP	313	VON
1	EA	FSIC RIM HOUSING	20-079	643e	SCH
1	EA	FSIC CORE	23-030	613	SCH
1	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
1	EA	OH STOP	100S	643E/716	GLY
1	EA	SURFACE CLOSER	4021	695	LCN
1	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		
1	EA	DOOR SWEEP	8198D	D	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	MULTITECH READER	MTB11/MTB15 - BY ACCESS CONTROL PROVIDER	BLK	SCE
1	EA	DOOR CONTACT	679-05 WD/HM AS REQ'D	BLK	SCE
1	EA	POWER SUPPLY	PS902	LGR	SCE

DOOR NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER MOMENTARILY RETRACTS PANIC DEVICE LATCH ALLOWING ENTRY. FREE EGRESS AT ALL TIMES.

DOOR CONTACT MONITORS DOOR POSITION. RX SWITCH BYPASSES DOOR CONTACT WHILE EGRESSING.

HARDWARE GROUP NO. 17

For use on Door #(s):
117.3

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	PANIC HARDWARE	LD-98-EO	626	VON
1	EA	SURFACE CLOSER	4111 CUSH	695	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	655A-223	A	ZER

EXIT ONLY

HARDWARE GROUP NO. 18

For use on Door #(s):
100.2

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY EPT	710	IVE
2	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
2	EA	ELEC PANIC HARDWARE	RX-QEL-98-EO	313	VON
1	EA	FSIC MORTISE HOUSING	20-059 (BLOCKING RINGS & CAM AS REQ)	643e	SCH
1	EA	FSIC CORE	23-030	613	SCH
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
2	EA	OH STOP	100S	643E/716	GLY
2	EA	SURFACE CLOSER	4021	695	LCN
2	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		
2	EA	DOOR SWEEP	8198D	D	ZER
1	EA	THRESHOLD	655A-223	A	ZER
2	EA	DOOR CONTACT	679-05 WD/HM AS REQ'D	BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS	LGR	SCE

UNLOCKED HOURS:
PANIC DEVICE(S) ELECTRICALLY DOGGED (I.E. IN PUSH/PULL MODE). PANIC DEVICE(S) LATCH AND LOCK WITH LOSS OF POWER.

LOCKED HOURS:
DOOR NORMALLY CLOSED AND LOCKED. FREE EGRESS AT ALL TIMES.

DOOR CONTACT MONITORS DOOR POSITION. RX SWITCH BYPASSES DOOR CONTACT WHILE EGRESSING.

HARDWARE GROUP NO. 19

For use on Door #(s):
103.3

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY EPT	710	IVE
2	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-OP	313	VON
1	EA	FSIC MORTISE HOUSING	20-059 (BLOCKING RINGS & CAM AS REQ)	643e	SCH
1	EA	FSIC RIM HOUSING	20-079	643e	SCH
2	EA	FSIC CORE	23-030	613	SCH
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
2	EA	OH STOP	100S	643E/716	GLY
2	EA	SURFACE CLOSER	4021	695	LCN
2	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		
2	EA	DOOR SWEEP	8198D	D	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	MULTITECH READER	MTB11/MTB15 - BY ACCESS CONTROL PROVIDER	BLK	SCE
2	EA	DOOR CONTACT	679-05 WD/HM AS REQ'D	BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS	LGR	SCE

DOORS NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER MOMENTARILY RETRACTS PANIC DEVICE LATCH ALLOWING ENTRY. FREE EGRESS AT ALL TIMES.

DOOR CONTACT MONITORS DOOR POSITION. RX SWITCH BYPASSES DOOR CONTACT WHILE EGRESSING.

HARDWARE GROUP NO. 20

For use on Door #(s):
101.2 103.2

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
2	EA	DUMMY PUSH BAR	350	313	VON
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
2	EA	OH STOP	100S	643E/716	GLY
2	EA	SURFACE CLOSER	4021	695	LCN
2	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		

HARDWARE GROUP NO. 21

For use on Door #(s):
103.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
2	EA	DUMMY PUSH BAR	350	313	VON
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
1	EA	OH STOP	100S	643E/716	GLY
1	EA	OH STOP	100SE	643E/716	GLY
1	EA	SURFACE CLOSER	4021	695	LCN
1	EA	SURF. AUTO OPERATOR	4640	695	LCN
1	EA	MOUNTING PLATE	4020-18G	695	LCN
2	EA	ACTUATOR, JAMB MOUNT	8310-818T	630	LCN
2	EA	MOUNT BOX	8310-819F		LCN
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		

HARDWARE GROUP NO. 22

For use on Door #(s):
101.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
2	EA	DUMMY PUSH BAR	350	313	VON
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
1	EA	OH STOP	100S	643E/716	GLY
1	EA	SURFACE CLOSER	4021	695	LCN
1	EA	SURF. AUTO OPERATOR	4640	695	LCN
1	EA	MOUNTING PLATE	4020-18G	695	LCN
2	EA	WALL MOUNT PUSHPLATE	8310-852T	630	LCN
2	EA	MOUNT BOX	8310-869F		LCN
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		

HARDWARE GROUP NO. 23

For use on Door #(s):
117.1 117.2

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	WOOD DOORS PER 08-1614	(PROVIDED WITH SLIDING DOOR SYSTEM)		VTI
1	EA	SLIDING DOOR SERIES	OFFICESLIDE SYSTEM , SECTION 08 34 00		ADS
1	EA	SELF-LATCHING OFFICE LOCK	AD6450-L L17	626	ADS
1	EA	DUAL SOFT CLOSE DAMPERS	2KIT DUAL ADS 220LB		ADS
1	EA	FSIC CYLINDER HOUSING	AS REQUIRED	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	PERIMETER DOOR SEALS (HEAD/JAMB)	(PROVIDED WITH SLIDING DOOR SYSTEM)	GRY	ADS
1	EA	STILE POCKET GASKETING	(PROVIDED WITH SLIDING DOOR SYSTEM)	GRY	ADS
1	EA	Acoustic Door Bottom	(PROVIDED WITH SLIDING DOOR SYSTEM)		ADS

HARDWARE GROUP NO. 24

For use on Door #(s):
102.2

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC PANIC HARDWARE	RX-98-EO-ALK	626	VON
1	EA	FSIC MORTISE HOUSING	20-059 (BLOCKING RINGS & CAM AS REQ)	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64/SR65 AS REQ'D	GRY	IVE
1	EA	POWER SUPPLY	PS902	LGR	SCE

WHEN TOUCHBAR OF EXIT DEVICE IS DEPRESSED, AN INTERNAL HORN SOUNDS INDICATING UNAUTHORIZED USE OF THE OPENING. ALARM CAN BE ARMED OR DISARMED BY KEYED CYLINDER.

HARDWARE GROUP NO. 25

For use on Door #(s):
118.1 119.3

Provide each opening with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR

ALL HARDWARE BY MANUFACTURER

HARDWARE GROUP NO. 26

For use on Door #(s):
103.4 110 111 112 125.1 128.3

Provide each opening with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR

CASED OPENING - NO HARDWARE REQUIRED

HARDWARE GROUP NO. 27

For use on Door #(s):
119.2 120.2

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	710	IVE
1	EA	PANIC HARDWARE	CD-98-NL-OP-110MD	313	VON
1	EA	FSIC MORTISE HOUSING	20-059 (BLOCKING RINGS & CAM AS REQ)	643e	SCH
1	EA	FSIC RIM HOUSING	20-079	643e	SCH
2	EA	FSIC CORE	23-030	613	SCH
1	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
1	EA	OH STOP	100S	643E/716	GLY
1	EA	SURFACE CLOSER	4021	695	LCN
1	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		
1	EA	DOOR SWEEP	8198D	D	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HARDWARE GROUP NO. 28

For use on Door #(s):
103A.2

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	710	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
2	EA	PANIC HARDWARE	CD-98-EO	313	VON
3	EA	FSIC MORTISE HOUSING	20-059 (BLOCKING RINGS & CAM AS REQ)	643e	SCH
3	EA	FSIC CORE	23-030	613	SCH
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
2	EA	OH STOP	100S	643E/716	GLY
2	EA	SURFACE CLOSER	4021	695	LCN
2	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		
2	EA	DOOR SWEEP	8198D	D	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HARDWARE GROUP NO. 29

For use on Door #(s):
103A.1 132.1

Provide each opening with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	710	IVE
1	EA	CONT. HINGE	112XY EPT	710	IVE
1	EA	POWER TRANSFER	EPT10	695	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	695	VON
1	EA	PANIC HARDWARE	CD-98-EO	313	VON
1	EA	ELEC PANIC HARDWARE	CD-LX-98-NL-OP-110MD	313	VON
3	EA	FSIC MORTISE HOUSING	20-059 (BLOCKING RINGS & CAM AS REQ)	643e	SCH
1	EA	FSIC RIM HOUSING	20-079	643e	SCH
4	EA	FSIC CORE	23-030	613	SCH
2	EA	LONG DOOR PULL	9264F 72"	BLK	IVE
1	EA	OH STOP	100S	643E/716	GLY
1	EA	OH STOP	100SE	643E/716	GLY
1	EA	SURFACE CLOSER	4021	695	LCN
1	EA	SURF. AUTO OPERATOR	4640	695	LCN
1	EA	MOUNTING PLATE	4020-18G	695	LCN
1	EA	ACTUATOR, JAMB MOUNT	8310-818T	630	LCN
1	EA	MOUNT BOX	8310-819F		LCN
1	EA	ACTUATOR, TOUCH	8310-836T	630	LCN
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	WEATHERSTRIPPING/GASKETING	BY DOOR/FRAME MANUFACTURER		
2	EA	DOOR SWEEP	8198D	D	ZER
1	EA	THRESHOLD	655A-223	A	ZER

UNLOCKED HOURS:
PANIC DEVICE(S) MECHANICALLY DOGGED (I.E. IN PUSH/PULL MODE) AND BOTH AUTO OPERATOR ACTUATORS ACTIVE. PUSHING EITHER ACTUATOR SIGNALS AUTOMATIC OPERATOR TO MOMENTARILY OPEN THE DOOR.

LOCKED HOURS:
DOOR NORMALLY CLOSED AND LOCKED. FREE EGRESS AT ALL TIMES.

LATCH MONITORING SWITCH (LX) TOGGLES ACTUATORS ENABLED/DISABLED.

END OF SECTION

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes acoustical panels and exposed suspension systems for ceilings.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Maintenance data.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of acoustical ceiling panel and supporting suspension system through one source from a single manufacturer.
B. Fire-Test-Response Characteristics:
   1. Surface-Burning Characteristics: Acoustical panels complying with ASTM E 1264 for Class A materials, when tested per ASTM E 84.
      a. Smoke-Developed Index: 450 or less.
C. Preinstallation Conference: Conduct conference at Project site.

1.4 WARRANTY

A. Manufacturer's standard form where manufacturer agrees to replace defective products within the specified period:
   1. Warranty Period: 30 years against visible sag, mold, mildew, and bacteria.

1.5 PROJECT CONDITIONS

A. Environmental Limitation: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, 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.
B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.6 COORDINATION

A. Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment and partition assemblies.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Acoustical Ceiling Panels: Full-size panels equal to 5.0 percent of quantity installed.
   2. Suspension System Components: Quantity of each exposed component equal to 2.0 percent of quantity installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
   1. Basis-of-Design products: Armstrong World Industries, Inc.,

Subject to compliance with requirements, provide products specified.
   a. Celotex Corporation
   b. CertainTeed Corp.
   c. Substitutions: See Section 012500 - Substitution Procedures.

2.2 GENERAL

A. Acoustical Panel Standard: Comply with ASTM E 1264.
B. Metal Suspension System Standard: Comply with ASTM C 635.
C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
D. Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel wire; ASTM A 641/A 641M Class 1 zinc coating, soft temper.
   1. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- (2.69-mm-) diameter wire.
E. Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that fit acoustical panel edge details and suspension systems indicated; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension system runners. Where bullnose corners occur, provide preformed corners to match edge moldings.
F. Antimicrobial Fungicide Treatment: Provide acoustical panels with face and back surfaces coated with antimicrobial treatment consisting of manufacturer's standard formulation with fungicide added to inhibit growth of mold and mildew and showing no mold or mildew growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274 or ASTM G 21.

2.3 ACOUSTICAL PANELS,

A. Products: **AP-1**:
   1. Basis-of-Design: Armstrong, Inc.; Product: Calla High-NRC.
   2. Color: White.
   3. LR: Not less than 0.84.
   4. NRC: Not less than 0.70.
   5. CAC: Not less than 35.
   6. Edge Detail: Square.
   7. Thickness: 3/4 inch.
   8. Size: 24 by 24.

B. Products: **AP-2**:
   1. Basis-of-Design: Armstrong, Inc.; Product: Clean Room Lay In Gypsum Ceiling panels
   2. Color: White
   3. LR: Not less than 0.75.
   4. Edge Detail: Square.
   5. Thickness: 1 inch.
   6. Size: 24 by 24.

C. Products: **AG-1**:
   1. Basis-of-Design: Armstrong, Inc.; Product: Acoustibuilt
   2. Color: White
   3. LR: Not less than 0.75.
   4. Edge Detail: Square.
   5. Thickness: 1 inch.
   6. Accessories: 5823 - 1" Fiberglass Infill Panel – BLACK MATTE

2.4 METAL SUSPENSION SYSTEM

A. Basis-of-Design Manufacturer: USG Interiors, Inc.
   1. Equal products as manufactured by Armstrong World Industries, Inc., CertainTeed Corporation, or Celotex Corporation are also acceptable.
   2. Substitutions: See Section 012500 - Substitution Procedures.
B. Schedule of Suspension System Types:
   1. Donn Brand Identitee DXI Fineline.
   2. Substitutions: See Section 012500 - Substitution Procedures.
C. Provide manufacturer's standard wall molding for all ceiling types.
D. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with ASTM C 636 per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
B. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.
C. Suspend ceiling hangers from building's structural members, plumb and free from contact with insulation or other objects within ceiling plenum. Splay hangers only where required and, if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers, use trapezes or equivalent devices. 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.
   1. Do not attach hangers to steel deck tabs or to steel roof deck. Attach hangers to structural members.
   2. Space hangers not more than 48-inches (1200 mm) o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than 8-inches (200 mm) from ends of each member.
   3. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
D. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs.
E. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm)

from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3.2 mm in 3.6 m). Miter corners accurately and connect securely.

F. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

G. Install acoustical panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.

3.2 CLEANING

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

END OF SECTION 095113

SECTION 11 4000 – KITCHEN EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The general provisions of the Contract, including instructions to bidders, General Conditions, Supplementary Conditions, General Requirements, apply to the work specified in this section.

1.2 DESCRIPTION

A. The fabrication requirements attached are a governing part of this specification and shall be consulted for all matters pertaining to the work. When references are made to FSEC, the same shall be construed to designate the Food Service Equipment Contractor.

B. The FSEC is to provide all items, articles, materials, transportation, operations, and methods listed, mentioned, or scheduled on the drawings and specifications, including all labor, materials, equipment, and incidentals necessary and as required for their completion.

1.3 QUALITY ASSURANCE

A. Brands and Names

1. The manufacturer's catalog designations used in the following specifications are intended to illustrate and represent the standards which will be required by the Owner. Bidders are to list, by item number, manufacturer's name and quantities on itemized proposal form attached to the specifications for approval by the Owner. When not attached, the FSEC shall make up his own itemized list and submit same attached with his bid. NOTE! Base Bid must be on fixtures specified for fair comparison of all bids.

B. Substitutions

1. Substitutions by any bidder wishing to supply alternate equipment other than that specified may submit a separate itemized proposal on similar articles of other manufacturers of the same standard performance, capacity, size, durability and appearance but must accompany their alternate proposal with complete descriptive literature of the item quoted.

2. Owner and Architect reserve the right to accept or reject such proposed substitutions. Bidders recommending such substitutions are cautioned to examine the mechanical plans that may have already been approved and conditions at the building site to determine if such substitutions require changes in mechanical connections already planned or installed.

3. If the proposed substitutions require such changes, the Bidder shall include the cost of same in his bid and call it to the attention of the Architect and Owner by including a descriptive notation in his bid.

C. Discrepancies

1. Where model numbers, quantities, sizes or gauges of material differ on plans and specifications, it shall be understood that the FSEC shall figure the larger quantities, longest size and heavier gauge unless advised otherwise in writing.

2. Where an accessory or piece of equipment is shown on elevation or plan, it shall be deemed part of the Food Service Contract, even if it is not listed in the Item Specifications.

3. Where an item is listed in Item Specifications and not shown on plan or elevations, the item shall be deemed part of the Food Service Equipment Contract.

D. Measurements

1. All dimensions given on bidding documents are approximate and are as accurate as can be determined at the time. The Equipment Contractor shall check all measurements at the building prior to fabrication of equipment and shall bring any deviation from the dimensions shown or required by building conditions to the Consultant's attention. All equipment must conform to the finished building conditions. Where obstructions occur, equipment must be neatly scribed fitting to and around same resulting in a sanitary fixture.

2. Prior to fabrication, the Consultant or the Owner reserves the right to require the Contractor to make reasonable modifications in the routing of the work and relocation of the equipment. This specifically refers to conditions where interference occurs or where materials cannot be installed because of structural or mechanical conditions encountered. The Contractor will receive no additional compensation for such work.

E. Ordinances

1. Work and materials shall be in full accord with the latest rules of U.S. Public Health Service, National Board of Fire Underwriters, O.S.H.A., local and state ordinances, State Accident Commissions Safety Ordinances, regulations of the Bureau of Fire Services and with prevailing ordinances.

2. Ordinances including building codes, gas codes, steam codes, and other codes applying to this contract shall be followed.

3. All applicable items shall conform to latest Standards Revisions established by the National Sanitation Foundations, (N.S.F.), Ann Arbor, Michigan.

4. Electric operated and/or heated equipment, fabricated or otherwise shall conform to the latest standards of National Electric Manufacturer's Association, Underwriters Laboratories, Inc., National Electric Code or local standards such as to be acceptable to authorities having jurisdiction.

5. Standard steam heated equipment shall be manufactured in accordance with A.S.M.E. code requirements and carry the A.S.M.E. stamp.

6. Burners for gas heated equipment shall be equipped with automatic lighters. Oven burners and other concealed burners shall have automatic safety pilots and conform to A.G.A. standards. All gas equipment is to be furnished with appliance pressure regulators.

7. The drawings and specifications shall govern whenever they require longer sizes or higher standards than are required by the ordinances.

8. The Ordinances shall govern whenever drawings and specifications require something which will violate the ordinances.

9. No extra change will be paid for furnishing items required by local and state ordinances not specified or shown on drawings. Rulings and interpretations of the enforcing agencies shall be considered as part of the ordinances.

10. Should any change in the drawings and specifications be required to conform to the above, the Architect shall be notified when bid is submitted.

11. After entering into contract, all necessary work shall be done to meet above laws, ordinances, Bureau of Fire Services requirements, etc., without additional expense to the Owner.

F. Samples

1. Samples of all hardware, locks, feet, brackets, and other materials that may be requested shall be submitted for approval before use.

G. Scheduling of Work

1. The work shall be scheduled so there will be no interference with work of other trades and so that it will cause no delay. A time schedule will be worked out for the entire building and this work shall keep pace with the set schedule, working nights, Sundays and holidays, if necessary, to complete the work within the time limit.

1.4 SUBMITTALS

A. All submittals to be reviewed, stamped and dated by FSEC prior to sending them to the Contractor, Architect and Consultant. Submittals not bearing the FSEC's stamp will be rejected.

B. FSEC shall submit required number of drawings, brochures and portfolios of all equipment, apparatus, materials, etc., which are applicable to this contract together with detailed specifications. Each piece of equipment, apparatus, and accessory to be checked by the FSEC to insure compliance with requirements of Architect's drawings and specifications and also brochures or any other item of information to be clearly marked for identification with respect to their application and installation locations. This specification page shall appear on every shop drawing.

C. Approval and/or review of shop drawings, details, and equipment by the Consultant is for design and concept only and does not relieve the FSEC of responsibility for compliance with design drawings, details and specifications, verification of all dimensions of equipment and building conditions and reasonable adjustments due to deviations.

D. While the Architect's drawings and specifications propose to be complete in all respects as to layout, type of equipment and materials, they are not intended to serve as detailed sleeve or insert drawings, and preparation of such drawings, required or necessary for this purpose, or to set equipment accurately, are to be the responsibility of the FSEC.

E. FSEC shall submit drawings of all custom fabricated equipment within thirty (30) days after notification of contract award. Drawings to be accurately laid out and correlated with other contractors work and latest architectural final construction plans. Equipment elevation shop drawings must be on 3/4″ scale (3/4″ = 1′-0″).

F. Drawings to show detailed construction for each piece of equipment. Before submitting detail drawings for review, they must be checked by the FSEC with the specifications and shall show exactly how item will be fabricated. Construction of equipment shall not deviate from approved shop drawings without written approval from the Architect and/or Food Service Consultant.

G. FSEC shall submit rough-in drawings for approval at a scale of 1/4″ = 1′-0″, locating accurately all utility connections for each item of equipment requiring the same. Rough-in plan to be drawn up using final architectural building drawings. NOTE! All rough-in connections to conform with normal acceptable standards. Rough-in requirements for present or future food service equipment shall be included on all drawings.

H. FSEC 1/4″ scale rough-in drawings are to be dimensioned from ends of finished walls. Shop drawings with dimensions from centerline of columns will not be accepted, unless approval has been given by Architect, Consultant or the General Contractor.

I. Drawings showing all dimensions of bases or platforms and depressions to be submitted on a scale of l/4″ = 1′-0″.

J. Rough in connection notes are not to be listed under numbered rough in schedule, except for general purpose outlets or where drawing space is limited.

K. Equipment rough in plans are to be furnished complete with layout plan and item schedule similar to food service consultants drawings. Plumbing, electrical, ventilation & depression plan, and base detail when required.

L. Plumbing and electrical plans are to be on separate sheets when drawings are prepared at 1/4″ scale. NOTE! Food Service Consultants documents are not to be traced.

M. Manufacturers to strictly adhere to approved and reviewed drawings, except where field conditions require changes and in that event the Architect must be

notified in writing.

N. Manufacturing of any equipment fitting between walls or between columns and walls to be withheld until actual field dimensions are set and approved by the General Contractor. All other items which do not require field dimensions are to be manufactured upon receipt of reviewed shop drawings.

O. Upon completion of contract, the contractor is to deliver to the Owner two (2) complete sets of final working drawings and two (2) portfolios of purchased equipment bound in a binder.
P. A time schedule will be worked out for the entire building and this work shall keep pace with set schedule, working nights, Sundays, and holidays, if necessary, to complete the work within the time limit.

1.5 JOB CONDITIONS

A. Job Meetings

1. It shall be the responsibility of the FSEC to have a qualified representative at all monthly or special job meetings to help the Architect and other contractors on the job to correlate work or answer questions so that the job can progress without any obstructions.

B. Examination of Premises

1. FSEC to check the Architectural Contract Plans and visit the premises at a suitable time to determine maximum size of equipment he can safely get into the building in one piece. Field joints to be held to a minimum. Should door openings not be large enough, FSEC shall provide field joints in equipment as required and re-weld inside of building.

C. Utilities Services

1. Rough-in cold water, hot water, waste and vent piping, duct work and electrical wiring to be installed by Plumbing and Electrical Trades. Such items are to be brought away from surface of floors, walls and/or ceilings by these Trades and capped prior to installation of food service equipment.

1.6 GUARANTEE

A. FSEC is to furnish one (1) year written guarantee for equipment starting from date of acceptance by the Owner or the Owner's duly authorized representative. Guarantee to be in accordance with Architect's General Conditions.

B. Refrigeration - Self-contained

1. All self-contained refrigeration compressors for milk coolers, ice cream cabinets, cold food counters, reach in refrigerators or freezers, etc., shall be furnished with a five (5) year compressor warranty and one (1) year refrigeration service starting from date of final acceptance.

PART 2 PRODUCTS

2.1 PRODUCTS

A. Fabrication Requirements – See following page for details

1. All food service equipment is to be constructed in strict compliance with the latest standards of the National Sanitation Foundation and to meet all requirements of the local and State Health Regulations. All equipment to bear the N.S.F. seal of approval.

B. Welding

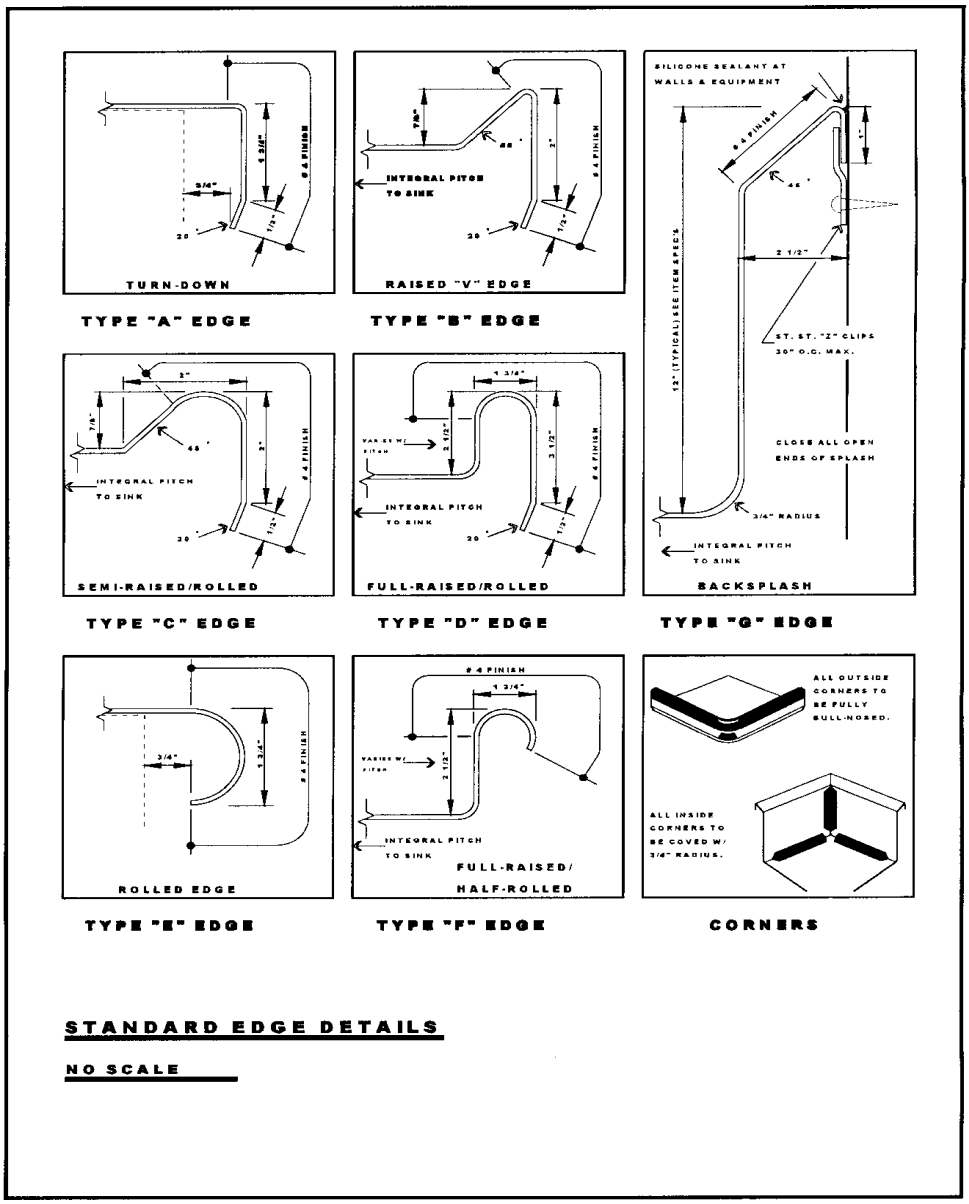
1. The words "weld", "welded", or "welding" as used in the item specifications, mean a metal joint continuously welded then all exposed parts ground smooth and polished to match adjoining surfaces.

2. All welding to be done in a thorough manner with welding rod of same composition as sheets or parts welded. Welds to be strong, ductile with excess metal and discoloration ground off and joint finished smooth to match adjoining surfaces.

3. Welds to be free of imperfections such as pits, runs, splatters, cracks, warping or discoloration. All welded joints to be homogeneous with parent metal itself. All fabricated equipment items where metal to metal butt joints occur to be joined and properly welded then ground and polished smooth.

C. Grinding, Polishing and Finishing

1. All exposed welded joints to be ground flush with adjoining material and neatly finished to harmonies therewith.



STANDARD EDGE DETAILS

NO SCALE

2.2

1. Whenever material has been depressed or sunken in by welding operations, such depressions shall be suitably hammered and peened flush with adjoining surfaces to then be polished and/or buffed to match adjoining surfaces to a degree consistent with good workmanship. Care shall be exercised in all grinding operations to avoid excessive heating of metal and metal discoloration. Abrasive wheels and belts used in grinding to be iron free and not having been used on carbon steel. In all cases, the grain or rough finish to be removed by successively finer polishing operations to be consistent with reasonable care and good workmanship. Final polishing operations to be uniform and smooth.

2. Where break band occurs, free of open texture or orange peel appearance, all such marks shall be removed by grinding, polishing and finishing. Wherever sheared edges occur, they shall be free from burrs, projections and fins to obviate all danger from cutting or laceration when hand is drawn over such sheared edges.

3. Where miters or bullnosed corner, they will be neatly ground to uniform condition and in no case will overlapping materials be acceptable.

4. Equipment quality finish consistent with high grade of manufacturing practiced in industry. All exposed surfaces to be commercial mill finishes known as #4 satin finish for corrosion resistant steel. All exposed edges to be furnished with a #7 mirror finish, unless otherwise noted in item specifications.

5. All cabinets, doors and shelves where exposed to be interpreted as meaning inside surface exposed to view when swinging door or sliding doors are opened. Unless otherwise specified, underside of shelves need not be satin finish.

B. Doors - Hinged

1. To be full height of door opening. Each door shall not be over 30″ wide for high cabinets and 24″ wide for low cabinets. Doors to be double pan construction flush type and braced and thoroughly sound deadened made of 18 ga. st. st. Inner and outer pans to be sealed with 3/4″ long tack welds spaces approximately 6″ apart. Balance of the space to be completely sealed between tack welds with silver solder or N.S.F. approved hard solder (Silicone not approved).

2. All welds ground and polished smooth. All bracings to be on proper centers to fit door size.

3. Doors to be mounted on heavy semi concealed nickel bronze olive knuckle hinges fastened to inside ledge of door and cabinet so that only pin will be exposed to heavy st. st. piano hinges. Provide each door with Component Hardware #M22-2420.

C. Doors - Sliding

1. Make same as specified for hinged doors, except they shall operate on Component Hardware #B58-5513 and #B58-5523 nylon tire wheels running on one (1) piece drawn aluminum overhead Component Hardware #B57 tracks. Bottom shall be guided by st. st. Component Hardware #B56-1096 guide pins at center of door openings. Provide locks where called for in item specifications. Provide flush type polished handles. (Heated cabinets with sliding doors to use Component Hardware #B58-5511 and #B58-5523 st. st. ball bearing wheels).

2. "High" type fixtures to be fitted with two (2) sets of doors in height, each set opening into half height of fixture.

3. "Low" type fixtures to be fitted with (1) set of full height doors. No door length to exceed 36".

D. Sinks

1. All sinks to be made of 14 ga. st. st. unless otherwise specified. All corners shall be coved at least 5/8" radius, with all corners and joints welded, ground and polished smooth to a #4 satin finish. Sinks, unless otherwise specified, shall not be less than 14" deep. The use of solder or separate filler pieces to obtain coved corners will not be acceptable. All sink bottoms are to be integrally pitched to insure complete drainage of sink to waste opening. Edges at table height to have exposed edges formed to match adjoining table. Edges adjacent to table to be welded to table with all welds ground and polished smooth.

2. Unless otherwise specified, all sinks to be provided with backsplash 12" high x 2-1/2" wide to allow for pipe space in rear. Flange over at ends, with top edge turned back 2-1/2" at 45 degree angle and down l". Provide openings for combination swinging type water faucet for each compartment.

3. In sinks of two (2) or more compartments, furnish between each sink compartment a 3/4" wide full height portion integrally welded to sinks at front, back and bottom maintaining smooth 5/8" radius coved corners as described in preceding paragraph.

4. Front of multiple compartment sinks shall consist of st. st. apron same gauge as sinks having length same as overall length of sink bowls and same depth as bowls. This apron shall be "L" shaped and welded to or part of the top rim.

5. Design of apron front to be such that sinks shall have an appearance of a continuous one (1) piece front face of all overlapping joints and open spaces between sink compartments.

6. Each compartment to be furnished with Component Hardware rotary handle type drain, connected rear overflow, 6" tailpiece and faucet of make and model number as called for in Item Specifications. Also each sink to be furnished with 14 ga. st. st. waste handle bracket welded to underside of sink.

E. Tables & Tops - Height

1. All working tops to be 34″ high from floor, unless otherwise stated under specific item.

F. Metal Tops

1. Unless otherwise specified in Item Specifications, metal tops to be 14 ga. st. st. reinforced and braced on underside by framework consisting of 1-1/2″ x 1-1/2″ x 3/16″ angles and 1″ x 3″ x 3/16″ channels, galvanized where concealed and st. st. where exposed.

2. Framework angles to run full length and width and with angle crossbrace on not over 2′-6″ centers. Channel reinforcing to run full length of tops down center of top. All tops with sinks shall be integrally pitched towards same.

3. All joints of framework to be welded with weld re-metalized. Tops to be bolted to framework in a concealed manner with st. st. bolts similar to AN-COR-LOX cup nuts. All metal tops to appear as one piece with all field and shop joints reinforced and welded, ground smooth, and polished, also to be made of largest piece obtainable.

4. No short pieces of metal will be acceptable. St. st. tops to have a #4 satin finish and all tops of this metal to be full l/2″ cove at re-entrant corners, also where turned up in rear or in front, such as dishtables. Solder filled corners will not be acceptable.

5. Metal edges to be made as described below and/or shown on detail drawings. Top to have all edges turned down 1-3/4″ then back 1/2″ at a 70 degree angle all around with all corners welded, ground, and polished smooth with no cracks or openings showing. All exterior corners to be well rounded bullnosed in 1-1/4″ radius.

G. Dishtables & Pot Washing Tables

1. All free edges to be turned up 2-3/4″ then rolled to 1-5/8″ x 180 degrees and furnished with apron edge front, as per Edge Detail Sheet. All exposed and exterior corners to be coved at 5/8″ radius with all joints welded, ground, and polished smooth.

2. Where tables abut a wall or other tall equipment, extend back and/or ends up 12″ then back 2-1/2″ at 45 degrees and down l″ parallel to wall. Provide with end filler pieces and all welded surfaces ground and polished smooth.

3. The underside of Dish and Pot Washing tables to be reinforced with 1-1/2″ x 1-1/2″ x 3/16″ st. st. angles and l″ x 3″ st. st. channels. Angles to run full length of tops at both front and rear of tops with crossbrace front to back on 2′-6″ centers. Channel bracing to run down center, full length of tops. Tops shall be integrally pitched to dishwasher and sinks.

H. Fastening Tops to Washers and Other Equipment

1. Where tops are shown adjacent to dish or glass washer, etc., ends are to be turned down 1-1/2" into fixture and bolted tightly to it with approved gaskets between body and turned down edges. Backsplashes to have edge against fixture turned out 1-1/2" and tightly fitted to it. Free edges to be neatly fitted to fixture corners to prevent water from dripping on floor. All tops to have integral pitch to drain towards dishwasher.

I. Dish & Pot Table Drainage

1. During installation of dish tables and dishwasher, FSEC shall water test all counter tops to make sure of proper pitch before final plumbing and electrical connections are made. All water on counter tops shall drain with no standing puddles allowed. Should the FSEC fail to pitch tables properly, he shall be responsible for disconnecting plumbing and electrical connections and re-adjust tables to insure proper pitch. FSEC shall also be responsible for re-connecting all service lines after tables have been re-aligned.

J. Pipe Stands

1. All equipment requiring pipe legs or stands to be provided with sufficient supports to carry superimposed load of 100 lbs. per sq. ft. Top to be fabricated of 16 ga. st. st. Tubing to be Component Hardware #A46-5288 complete leg assembly Model Number 2236HB, 1-5/8" O.D., with st. st. hex head bullet shaped feet as previously specified. All pipe stands to be braced with crossrails, Component Hardware #A46-4288, 1-5/8" st. st. pipe welded to legs approximately 10" above floor or braced by lower shelf as specified hereinafter. Provide Component Hardware #A18-0206 st. st. gussets as previously specified, welded to framework on underside of top.

2. In place of gussets, st. st. legs may be welded to st. st. channels 5" long which shall fit into channel crossbracing. Flange of both channels to be machine bolted together. Holes for bolts to be slotted for adjustment. Provide legs on not over 5'-0" centers and additional if required or requested.

3. All pipe legs or vertical members to be set back from table top on ends and on front and back sufficient distance to offset any interference with workers, columns, walls or other items. Where tops are welded to sinks, omit pipe legs supporting top at sink location.

K. Shelves Under Tables

1. Under tops which are mounted on pipe legs or stands, shelves under table to be fabricated of 16 ga. st. st. with all edges flanged down 1-1/2" or as otherwise noted in the Item Specifications. Shelves to fit tightly around contour of legs and welded from underside. Shelves to be made up from long lengths with all joints welded, ground, and polished smooth.

2. Short lengths will not be permitted. Reinforced, as required, to support

load of 50 lbs. per sq. ft. All sharp edges, burrs, and corners to be ground smooth and removed and then be slightly rounded. All shelves in cabinet bases are to be angle reinforced.

L. Cabinet Bases

1. Exterior cabinet bases to be constructed of 18 ga. st. st. with front face, exposed ends, rear, and corners integrally exposed with all welds ground and polished smooth to form a one piece construction appearance.

2. St. st. exterior to be mounted over a 1-1/2" x 1-1/2" x l/8" all welded galvanized iron angle frame. Where st. st. exterior meets angle framework at drawer, door or shelf openings, exterior shall be turned in 1-1/2" over angle framework inside of openings. All drawers and doors to be flush with cabinet face.

3. All cabinet base bottoms to be enclosed with 18 ga. galvanized iron panels. Interior shelves of cabinet base to be constructed of 16 ga. st. st. and be reinforced with 1-1/2" x 1-1/2" x 1/8" angles. Rear and ends of shelves to be turned up 2" with all interior corners coved to 5/8" radius.

M. Drawers

1. Drawer front to be 3/4" thick double pan construction with 16 ga. st. st. telescoping rear panels. Joints to be sealed same as specified for double pan hinged doors. Drawer front fitted with recessed st. st. grip handle, Component Hardware #CAGP63-1012. Drawer to be furnished with 18 ga. galvanized iron bottom with openings in front to accommodate drawer. Provide with cylinder type lock when specified under Item Specifications or shown on elevation details.

2. Opening in front to have edges turned in to fit drawer front which will be flush when drawer is closed. Bottom of enclosure to be open with edges turned in l" on all sides.

3. All corners on enclosure to be continuously welded, then polished and ground smooth. Exposed rivets or screws will not be acceptable. Component Hardware #S81-2020 Drawer insert to consist of removable die-stamped 18 ga. st. st. pan approximately 20" square x 5" deep. Top edges of drawer insert to be flanged out on all sides, not less than l/2" for resting on drawer extension glides. All sharp edges and burrs to be removed from drawer flange.

4. Housing supports to be made of 12 ga. st. st. formed into angles welded to underside of metal tops or screwed to underside of wood tops and to extend full width of top with rear enclosure, where exposed. All welded items to be ground and polished smooth. Screws for wood tops to be st. st. countersunk. Drawer housings to slide on 14 ga. st. st. telescoping channels with st. st. rollers, Component Hardware #S52 series extension roller slides.

N. Drawers

1. This mechanism must be designed so that drawer will not tilt when fully opened. Provide with stop mechanism to prevent pulling the housing from slides but with suitable extension so it may be removed for cleaning.

O. Tier of Drawers

1. To be two (2) or three (3) in number of same size as specified for above and entirely enclosed with 18 ga. st. st. same as specified under cabinet bases with openings for drawers with all joints flush welded, grounded, and polished smooth.

2. Single drawers under table tops to be one inch (1") back of edge of fixture. All draws shall have front flush with cabinet body.

P. Fasteners

1. Exposed screw or bolt heads will not be permitted on fixtures. Rivets, if specified, shall be countersunk flush. Rivets to be same material as they join. Butt joints made by riveting straps under seams and then filling with solder or caulking will not be permitted or accepted.

Q. Name Plates

1. All buy-out equipment shall be furnished with a permanently affixed metal name plate listing manufacturer's name, model number, voltage, cycle, phase, horsepower, etc., in an easily readable location. Dealers, installers, fabricators or service agencies name plate stickers shall not be fastened to any item without the approval of the Architect or Consultant.

2.3 MATERIALS AND WORKMANSHIP

A. Unless otherwise specified, all material shall be new and of best quality, perfect, and without flaws and shall be delivered upon completion in an undamaged condition.

B. Stainless Steel

1. Shall be type 304 having a standard analysis of 18% chrome and 8% nickel. St. st. to be as manufactured by Republic Steel Company, "Endure", Allegheny Metal Company, Crucible Steel Company, "Rezistal" or approved equal. Gauge to be specified under Item Specifications and furnished with #4 satin finish, unless otherwise specified.

C. Galvanized Iron

1. Shall be American Rolling Mills "Armco", Republic Steel, Inland Steel, "Tocan" or approved equal.

2. Pipe legs shall be Standard-Keil #2235HB, 16 ga. st. st. (0.65" thick), tubing furnished with st. st. adjustable foot and Standard-Keil #481-58 with

enclosed gusset welded to underside of table top reinforcing channel.

3. Tubing to be seamless drawn, ground, and polished smooth to a #4 satin finish. Bottom of legs to be swedged for close fit to adjustable foot. Where space permits furnish 1-1/4" dia. st. st. crossrails welded to leg uprights. All welds shall have radius corners and be ground and polished smooth to a #4 satin finish.

D. Handles, Hinges & Door Fasteners

1. All hardware and other fittings used in connection with the equipment to be cast nickel bronze or st. st. Handles to be welded or bolted to the equipment in a concealed manner. Bolts to be st. st. and hinges to be recessed in door with st. st. Component Hardware #M75-l002 lift-off, N.S.F. approved hinge. Hinges to be fastened in place with st. st. recessed rivets or welded in place with weld ground and polished smooth.

2. Sliding doors to be depressed type and furnished with Component Hardware Model #P62-1010 handles. Hinges to be olive knuckle, semi concealed type of nickel bronze or st. st. piano type as described under the specific item.

E. Painting and Coating

1. All metal that is not st. st. is to be painted with two (2) coats of an approved rust-proof paint such as Rustoleum or other approved equal of highest quality gray enamel.

F. Electric Receptacles

1. All 120V-1 phase duplex receptacles in cabinet bases to be Pass & Seymour Model #6307 and receptacles over 120 volt shall be Hubbel receptacles sized as per the rough-in drawings.

2. All receptacles are to be grounded type being both dust and moisture proof. Furnish outlets with st. st. face plates and neoprene mats. In cabinet bases, all receptacles are to be mounted in Chase #R-1 all coved corners st. st. recessed type enclosure mounted to cabinet base. Component Hardware #R73 -1210 receptacles shall be pre-wired by FSEC to junction box in bottom of base cabinet left ready for final connection by Electrical Trades. All wiring between receptacles and junction box to be run in rigid conduit.

3. All counter top receptacles to be Component Hardware #R58 chrome plated type as specified in Item Specifications. Counter top receptacles to be pre-wired to junction box in rigid conduit same as previously specified. All wiring to be in strict compliance with latest standards of the National Sanitation Foundation and Board of Health Requirements.

4. Quietness of operation of all food service equipment is a requirement and the FSEC shall be required to remove or repair any equipment producing objectionable noises.

G. Shop Drawing Review

1. All submittals to be reviewed, stamped and dated by FSEC prior to sending them to the Contractor, Architect and Consultant. Submittals not bearing the FSEC's stamp will be rejected.

2. By reviewing and submitting shop drawings and samples, the FSEC thereby represents that he has verified all construction criteria, materials, catalog numbers and similar data and that he has checked and coordinated each shop drawing and sample with the requirements of the work and of the contract documents.

3. If shop drawings and/or samples are submitted without proper identification and in the Consultant's opinion it is evident that they have not been properly reviewed by the FSEC or if shop drawings are submitted in an unprofessional manner, they will be returned to the FSEC for identification and/or review and re-submission. In such an event, it will be held that the FSEC has not complied with the above requirements for reviewing and identifying shop drawings and samples. The FSEC shall bear the risk of all delays in work or in work of any other trade, the same as if no shop drawing or samples had been submitted. The above requirements will be strictly enforced.

4. The Consultant will review and process only two (2) submissions of each shop drawing and/or sample. Shop drawings and samples returned because the FSEC has not complied with the above requirements shall be counted as the first submission. If more than two (2) submissions are required, the FSEC shall pay the Consultant's cost for reviewing and processing the third and subsequent submissions. (Which will be so identified by the Consultant when returned to the FSEC)

5. The Consultant's cost shall be computed at two and one half (2-1/2) times payroll plus reproduction and mailing expense.

H. Buy-out Booklets

1. By submitting prepared Buy-out Booklets, the FSEC thereby represents that he has determined and verified voltage and phase requirements and that he has checked and coordinated each item with shop drawings and contract documents.

2. Each item in the Buy-out booklet shall have a typed title page, complete with descriptive details and included accessories.

2.4 TITLE PAGE TO BE AS PER THE FOLLOWING PAGE.

PART 3 EXECUTION

3.1 EXECUTION

A. Inspections

1. The Owner, Architect, and/or their duly authorized representative shall have free access to the contractor's shop or shops during the construction of this equipment for the purpose of making inspections to see that the plans and specifications and detailed drawings are being adhered to carefully.

B. Contractor shall correct any errors found during the inspections, to the extent within the scope of the plans, specifications and detailed drawings.

C. Upon being notified of job completion, it shall be the responsibility of the architect to inspect the job site and prepare an itemized Punch List.

D. If items are found not to be complete per approved drawings, General Requirements and the Consultant's Item Specifications, upon receiving the Punch List, the FSEC shall correct all items on the list within thirty (30) days.

E. It shall be the responsibility of the Plumbing and Electrical Trades to check all rough-in connections installed by their personnel to make sure that they agree with the dimensioned

F. FSEC shall verify with the Electrical Trades the voltage and phase required for each piece of equipment that is to be supplied. Should the FSEC fail to verify the voltage characteristics it shall be his responsibility for changing the equipment on the job site to fit the voltage on the site.

G. When deemed necessary by the Architect or the Consultant, the FSEC shall meet on the job site with the Electrical and Plumbing Trades to determine the best way of offsetting rough-in connections that interfere with beams, foundations, or other possible field obstructions.

H. The FSEC shall check all base sizes, after installation by the Architectural Trades, to make sure that they will fit his equipment. Should base be installed incorrectly, the FSEC shall advise the Architectural Trades in writing at once to have base corrected as required.

I. The FSEC shall check all walls where equipment abuts or fits between, after installation by the Architectural Trades, to make sure that the equipment will fit correctly.

J. FSEC shall verify with the Electrical Trades the voltage and phase required for each piece of equipment that is to be supplied. Should the FSEC fail to verify the voltage characteristics it shall be his responsibility for changing the equipment on the job site to fit the voltage on the site.

K. When deemed necessary by the Architect or the Consultant, the FSEC shall meet on the job site with the Electrical and Plumbing Trades to determine the best way of offsetting rough-in connections that interfere with beams, foundations or other possible field obstructions.

L. The FSEC shall check all base sizes, after installation by the Architectural Trades, to make sure that they will fit his equipment. Should base be installed incorrectly, the FSEC shall advise the Architectural Trades in writing at once to have base corrected as required.

M. FSEC shall verify with the Electrical Trades the voltage and phase required for each piece of equipment that is to be supplied. Should the FSEC fail to verify the voltage characteristics it shall be his responsibility for changing the equipment on the job site to fit the voltage on the site.

SAMPLE TITLE PAGE

Food Service Equipment Contractor _____

ITEM # _____ QUANTITY _____

Description: _____

Electrical

Motor H.P. ____ Volts _____ Phase _____ Cycle _____

Heating Element: KW ____ Volts ____ Phase _____

Lighting and/or Fan Circuit: _____ Volts _____ Phase _____

Refrigeration specs.

Plumbing

Cold Water _____ 140 degree water _____ 180 degree water _____

Steam in _____ Steam Pressure _____ Pounds _____

Steam Return _____ Connected Waste _____ Floor Waste _____

Gas

Kind _____ Size _____ B.T.U. _____

Spec. Gravity _____ Pressure _____

Direction of Feed for Dishwasher

Right to Left, Left to Right, Straight Thru, Corner type, Clockwise, and Counter Clockwise (circle unit required).

Door Hinged

Right Side, Left side (Circle unit required).

N. FSEC shall verify with the Electrical Trades the voltage and phase required for each piece of equipment that is to be supplied. Should the FSEC fail to verify the voltage characteristics it shall be his responsibility for changing the equipment on the job site to fit the voltage on the site.

O. When deemed necessary by the Architect or the Consultant, the FSEC shall meet on the job site with the Electrical and Plumbing Trades to determine the best way of offsetting rough-in connections that interfere with beams, foundations or other possible field obstructions.

P. The FSEC shall check all base sizes, after installation by the Architectural Trades, to make sure that they will fit his equipment. Should base be installed incorrectly, the FSEC shall advise the Architectural Trades in writing at once to have base corrected as required.

Q. The FSEC shall check all walls where equipment abuts or fits between, after installation by the Architectural Trades, to make sure that the equipment will fit correctly.

3.2 PREPARATION

A. All gas equipment is to be furnished with appliance pressure regulators. Electrical requirements shall be in accordance with rough-in plan and verified on the job site.

B. Should the electrical requirements and the item specifications not agree with the rough-in plan or electrical requirements on the job site, it shall be the responsibility of the FSEC to send a written report to the Architect and Consultant advising them of the discrepancy. Should the FSEC fail to verify voltages on the job site, it shall be his full responsibility to make all necessary changes on his equipment at no cost to the Owner.

C. All measurements shall be verified at the building site and full responsibility for their correctness must be assumed by the Contractor.

D. No extra charge or compensation will be allowed on account of difference between actual dimensions and the measurements indicated on the drawings. All or any differences which may be found shall be submitted to the Architect for consideration before proceeding with the work.

3.3 INSTALLATION

A. Food Service Equipment

1. FSEC shall be responsible for assembly and erection of all equipment included herein and in required location as shown on drawings, leaving same with outlets for other contractors to make final steam, plumbing, electrical and ventilation connections.

2. FSEC is to provide a competent foreman to supervise the erection and placing of equipment and to advise other Trades in regards to connections at time of installation. Where applicable, he shall deliver to other Trades all

plumbing, steam fittings, and electrical parts included with his equipment for their proper installation.

3. FSEC to have qualified personnel on job site while the Plumbing, Electrical, and H.V.A.C. Trades are making final connections between rough-in and equipment. Where necessary, FSEC is to move equipment to allow these Trades to make final connections.

4. Should the FSEC fail to assist the other Trades and final location of equipment is incorrect, it shall be the responsibility of the FSEC to move the equipment to correct location and assume the cost of disconnecting and reconnecting the service connections.

5. FSEC is responsible for cutting all holes thru tops, backsplashes, shelves and cabinets so the other Trades can make final connections to outlets in fixtures from his rough-in.

6. Should these Trades fail to check rough-in before slab is poured, they shall assume all responsibility for making necessary changes and paying all the costs involved. Should the dimensioned rough-in drawings be incorrect, it shall be the responsibility of the FSEC to assume costs involved for revising all connections involved in the dimensioned error.

7. FSEC shall verify with the Electrical Trades the voltage and phase required for each piece of equipment that is to be supplied. Should the FSEC fail to verify the voltage characteristics it shall be his responsibility for changing the equipment on the job site to fit the voltage on the site.

8. When deemed necessary by the Architect or the Consultant, the FSEC shall meet on the job site with the Electrical and Plumbing Trades to determine the best way of offsetting rough-in connections that interfere with beams, foundations or other possible field obstructions.

B. Rough-in Inspections

1. It shall be the responsibility of the Plumbing and Electrical Trades to check all rough-in connections installed by their personnel to make sure that they agree with the dimensioned rough-in drawings as prepared by the FSEC.

2. Should these Trades fail to check rough-in before slab is poured, they shall assume all responsibility for making necessary changes and paying all the costs involved. Should the dimensioned rough-in drawings be incorrect, it shall be the responsibility of the FSEC to assume costs involved for revising all connections involved in the dimensioned error.

3. FSEC to have qualified personnel on job site while the Plumbing, Electrical, and H.V.A.C.
4. Trades are making final connections between rough-in and equipment. Where necessary, FSEC is to move equipment to allow these Trades to make final connections. Should the FSEC fail to assist the other Trades and final location of equipment is incorrect, it shall be the responsibility of the FSEC to move the equipment to correct location and

assume the cost of disconnecting and reconnecting the service connections.

5. FSEC is responsible for cutting all holes thru tops, backsplashes, shelves and cabinets so the other Trades can make final connections to outlets in fixtures from his rough-in.

6. Should specified equipment arrive at the job site with incorrect finish, model number, damaged, etc. A replacement item must be ordered immediately. Should the project schedule require the incorrect unit for opening operation, existing unit is to be left in operation until replacement is available, at no cost to the owner. It shall be the responsibility of the FSEC to assume all costs for re-stocking, re-selling, etc., of the incorrect items that have been used by the Owner.

7. All holes or openings must be cut in a workmanlike manner, with all edges ground and polished smooth and free of sharp edges. Opening in rear of base cabinet must not be larger than l" bigger than pipe extending thru cabinet. Oversize cutouts with rough edges will not be approved.

8. All faucets and waste assemblies to be furnished by the FSEC and to be turned over to the Plumbing Trades for their installation. NOTE! Faucets and waste assemblies to be tagged properly to insure proper installation of these items on the correct fixtures.

C. Ventilating Trades

1. This Trade will furnish all ductwork to openings on top hoods, furnished by the FSEC.

D. Electrical and Plumbing Trades

1. These Trades shall furnish all final electrical and plumbing connections between fixtures and rough-in outlets in walls or floors.

2. Internal connections on booster heater and disposer to be furnished by the Plumbing and Electrical Trades and proper installation of these above named items. FSEC shall also include detailed drawings showing proper location of all accessories. General Building Contractor shall furnish all masonry platforms, tile bases and floor depressions.

E. Trimming & Sealing Equipment

1. Space between units to walls, ceilings, and floors and adjoining units not portable and with enclosed bodies, shall be completely sealed against entrance of food particles or vermin by means of st. st. trim strips, welding or commercial joint material suitable to the nature of the equipment. Sealer when not exposed to extreme heat shall be silicone construction sealant in the appropriate color. Ends of hollow sections to be closed. Enclosed fixtures without legs mounted on masonry bases or floor shall be sealed watertight to base of floor.

2. All equipment setting on masonry bases will be constructed to overhang to

provide toe spaces, however, metal framework and/or housings are to be turned under a sufficient distance to overlap masonry base and eliminate openings at these points. Bases to be sealed with Dow Corning sealant #786 or approved G.E. sealant.

3. Caulking at all backsplash areas in pot washing, dishwashing and preparation sinks and counters shall not have any recessed or convex areas which will allow for debris and water to sit on caulk.

4. Upright penetrations in backsplash and counter tops to have gap sealed with silicone.

3.4 ADJUST & CLEAN

A. FSEC shall adjust and lubricate all moving parts for smooth quiet operation. The FSEC shall touch up scratches, marred or abraded surfaces to restore equipment to the original condition.

B. The FSEC shall also remove all crating and packing material from the job site and shall also remove fingerprints and leave equipment and adjacent equipment or surfaces clean.

C. The FSEC shall be responsible for missing items unless he can produce signed receipts from the Owner's personnel that the items were received and an accounted for. Owner cannot be responsible for items that were dropped off at the job site and were not signed for by the Owner's personnel or representatives.

3.5 DEMONSTRATION

A. The FSEC shall arrange a demonstration date with the Owner and at the same time check out all loose items with the Food Service Manager. Copy of signed receipts shall be mailed to E. F. WHITNEY, INC., showing all loose items, such as st. st. pans, mixer attachments, etc.

3.6 GUARANTEE

A. All items furnished by the Food Service Equipment Contractor as part of this Contract, shall be guaranteed against defects in workmanship and material for a period of one (l) year.

B. Manufacturers of standard items of equipment as supplied under this Contract are to provide a one (l) year warranty on parts and labor.

C. In addition, connected pieces of equipment requiring calibration are to be so calibrated by a qualified person as part of this Contract.

D. Commencement date for warranty purposes is as follows:

1. Connected equipment: - When equipment is started up for intended use."
2. Non-connected equipment: - At date of Owner acceptance."

3.7 PROTECTION OF EQUIPMENT

A. Fabricated fixtures such as custom st. st. & plastic laminate items are to have fiberboard or plywood taped to tops and exposed body panels. Protective covering is to be left in place until all trades are completed.

B. Manufactured equipment is to have fiberboard or plywood tape as required per equipment shape and installation access requirements.

C. Prohibited use of equipment; tool and material storage area, workbench, scaffold, stacking area, etc.

3.8 APPROVED CUSTOM ST. ST. FABRICATORS

A. The following is a list of fabricators who have demonstrated the ability to provide quality equipment.

1. Florida Stainless
    a. Oviedo, FL

2. American Stainless Steel Corp
    a. Englewood, CO.

3. PRS
    a. Warren, MI

4. Great Lakes Stainless
    a. Traverse City, MI

5. MCM Fixture Co.
    a. Hazel Park, MI

6. Midwest Stainless Fabricating Co.
    a. Livonia, MI

7. Nationwide Fabrication, Inc.
    a. Northglenn, CO

8. Stainless Fixtures Inc.
    a. Pomona, CA

B. Use of a food service equipment fabricator other than those listed must be specifically approved in writing by the consultant prior to submission of food service equipment bids on this project.

ITEM A: REFRIGERATOR, REACH-IN

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: True manufacturing T-49F-FLX-HC Refridgerator

CONST: Per manufacturers standards.

ACCESSORIES:

Two (2) Full height stainless steel doors
One (1) Set of Heavy Duty 6" High Casters with wheel locks
One (1) UL. approved grounded cord & plug
One (1) Automatic condensate evaporator
Six (6) Epoxy coated wire shelves per section
Three (3) Year service/labor policy
One (1) Lot Lifetime warranty on door handles and hinges
Five (5) Year non-prorated compressor Warranty.

Details: Refrigerator to have 48 cu. Ft. Capacity, size 54 1/8" w x 29 5/8" d x 78 1/4" high. Compressor to be top mounted, air cooled unit. Include self-closing doors, cylinder locks & Microprocessor Control System with LED Temperature Readout. Door swings hinged per plan.

Elect: Per electrical plan.

ITEM B: FREEZER, REACH-IN

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: True manufacturing T-49F-FLX-HC Refridgerator

CONST: Per manufacturers standards.

ACCESSORIES:

Two (2) Full height stainless steel doors
One (1) Set of Heavy Duty 6" High Casters with wheel locks
One (1) UL. approved grounded cord & plug
One (1) Automatic condensate evaporator
Six (6) Epoxy coated wire shelves per section
Three (3) Year service/labor policy
One (1) Lot Lifetime warranty on door handles and hinges
Five (5) Year non-prorated compressor Warranty.

Details: Refrigerator to have 48 cu. Ft. Capacity, size 54 1/8" w x 29 5/8" d x 78 1/4" high. Compressor to be top mounted, air cooled unit. Include self-closing doors, cylinder locks & Microprocessor Control System with LED Temperature Readout. Door swings hinged per plan.

Elect: Per electrical plan.

ITEM C: ST. ST. THREE COMPARTMENT SINK

One (1) Custom fabricated unit sized per plan x 2'-9" wide x 34" high to working surface.

TOP: Fabricated of 14 ga. st. st. w/front & exposed end furnished with type "D" raised rolled edges. Working surface to have integral pitch towards sink with top of rim parallel with floor. **NOTE! Edge in front of sink area to be 1-1/2" lower than edge on drainboards**. Edges to be integrally tapered at both ends of sink as shown on elevation detail. Top reinforcing and No 4 edge finish furnished in accordance with general requirements and standard edge details.

BACKSPLASH: Rear and sides as shown on plan against walls or equipment to be furnished with 12" high integral backsplash. Top to be turned back at 45 degree angle with 1" return down parallel to wall. Furnish 14 ga. st. st. "Z" clips to hold backsplash tight to wall in neat and workmanlike manner. Provide clear silicone sealant to wall and equipment. Caulking to fill gap without any recessed areas which will allow for debris and water to sit on caulk. Caulking requirements to be typical of all areas.

See Edge Detail type "G" for construction requirements.

SINKS: In top, furnish three (3) integrally welded sink compartments per plan location. Sink compartments to be 16" x 24" x 14" deep. Bottom of each sink compartment furnished with die-stamped opening to accommodate waste flange. Sink bottom all coved cornered, pitched to waste and fabricated per General Requirements.

SINK TRIM: Three (3) compartment unit to be furnished with the following:

Two (2) T&S Model B-0290-112X (3/4" I.P.S) to fit in rear of Backsplash to accommodate 3/4" water lines. Right faucet to have Pre-rinse w/ 10" "Add a Faucet" (1) T&S Model B-0287-427-B, Remove T&S Model 114X, 12" spout and provide T&S Model 112x 10" spout.

Furnish each faucet complete with T&S Model B-0427 Assembly to facilitate fastening to Backsplash

Three (3) T&S Model B-3950-01 Twist Handle Drains with connected rear overflow & 010387-45 removable basket strainers. Twist Handle Drains Furnished with 14 ga. st. st. bracket welded to underside of sink.

Sink trim to be furnished with identification tags and signed over to Plumbing Trades for their internal and final connections to rough-in locations.

DISPOSER CUTOUTS - Where shown, top to be cut out to accommodate disposer cone specified under separate item. Cone to be continuously welded around full perimeter, then ground and polished smooth to a #4 satin finish. Under top furnish 14 ga. st. st. bracket to accommodate disposer control panel or switch. Rear backsplash to be punched out to accommodate vacuum breaker assembly specified under disposers item #24.

LEG SUPPORTS: Top and sink to be mounted on EFW all st. st. one (1) leg support. Gusset leg crossbrace and wall flange fabricated in accordance with isometric detail drawing attached to contract drawings.

~~SHELF UNDER: Over tops, per plan or elevation, furnish 16 ga. st. st. removable shelf. Shelf to be rolled over crossrails in front and sides. Rear to be turned up 3" against walls or side equipment. Shelf to have all coved corners at not less than 5/8" radius.~~

Submit shop drawing for review and approval.

ITEM D: TABLE, WORK

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: ADVANCE TABCO model # KSS-306 st. st. work table furnished per manufacturers standards. Include the following:

One (1) Lot st. st. legs with adjustable bullet feet
One (1) St. St. Lower Shelf

ITEM E: TABLE, WORK

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: ADVANCE TABCO model # KSS-304 st. st. work table furnished per manufacturers standards. Include the following:

One (1) Lot st. st. legs with adjustable bullet feet
One (1) St. St. Lower Shelf

ITEM F: TABLE, WORK

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: ADVANCE TABCO model # KTMS-305 st. st. work table furnished per manufacturers standards. Include the following:

One (1) Lot st. st. legs with adjustable bullet feet
One (1) St. St. Lower Shelf

ITEM G: ICE MAKER

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: Manitowoc IYT0450A with D400 Storage Bin

CONST: Per manufacturers standards.

ACCESSORIES:

One (1) External Scoop Holder
One (1) iAuCS
One (1) Arctic Pure Water Filter

Elect: Per rough-in plan.

ITEM H: TABLE, MOBILE WORK

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: ADVANCE TABCO model # MS-305 st. st. work table furnished per manufacturers standards. Include the following:

One (1) Lot st. st. legs with Heavy Duty 5" High Casters with wheel locks
One (1) St. St. Lower Shelf

ITEM I: DROP-IN ICE BIN

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: ADVANCE TABCO model # D-36-IBL st. st. work table furnished per manufacturers standards.

Details: Drop-in Ice Bin to have 75 lb. ice Capacity, size 33" w x 16 1/2" d x 14" high. Include stainless steel sliding cover.

ITEM J: HAND SINK, WALL MOUNT

QTY: AS INDICATED ON DRAWINGS

MFG. & MODEL: ADVANCE #7-PS-71

CONST: Sink to be constructed of Stainless Steel Sink to be furnished with 8" backsplash with 2" return to wall and flange down.

ACCESSORIES: Furnish with strainer type 6" tailpiece and "P" trap all to be chrome plated brass. Faucet shall be T & S EC 3101 TMV or equal ADVANCE electronic gooseneck faucet, aerator, mixing valve, 120 Volt A.C. transformer. Soap and towel dispenser to be provided by owner.

DETAILS: Sink to be mounted with rim 34" above finished floor with rough-in for water and waste located 4-7/8" below the 6-1/2" deep sink.

ITEM K: DOUBLE BREWER

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: BUNN 51200.0100

CONST: Per manufacturers standards.

ACCESSORIES:

One (1) Twin Drip Tray Product #53452.0000
Two (2) SH Server, 1.5g Product #27850.0200

Details: Double Brewer size 21.9" w x 19.8" d x 32.9" high.

Elect: Per electrical drawings.

ITEM L: DUAL COFFEE BEAN GRINDER

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: Bunn FPG-2 DBC SST

CONST: Per manufacturers' standards.

ACCESSORIES:

One (1) Funnel AY Product #34559.0001

Details: Dual Coffee Bean Grinder size 8.3" w x 10.4" d x 22.4" high.

Elect: Per electrical drawings.

ITEM M: ESPRESSO MACHINE

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: EVERSYS Enigma E'6ms

CONST: Per manufacturers standards.

Details: Espresso Machine size 33.1" w x 25.6" d x 29.2" high.

Accessories: Furnish with Large Drip Tray, Automatic Hot water Temperature.

Elect: Per electrical drawings.

ITEM N: UNDER-COUNTER DISHWASHER

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: CMA DISHMACHINES 180UC

CONST: Per manufacturers' standards.

Details: Under-Counter Dishwasher size 24" w x 25" d x 34 1/4" high.

Elect: Per electrical drawings.

ITEM O: HAND SINK WITH SPLASH GUARDS, WALL MOUNT

QTY: AS INDICATED IN DRAWINGS

MFG. & MODEL: ADVANCE #7-PS-131

CONST: Sink to be constructed of Stainless Steel Sink to be furnished with 8" backsplash with 2" return to wall and flange down.

ACCESSORIES: Furnish with strainer type 6" tailpiece and "P" trap all to be chrome plated brass. Faucet shall be included ADVANCE electronic gooseneck faucet, aerator, mixing valve, 120 Volt A.C. transformer. Soap and towel dispenser included with sink.

DETAILS: Sink to be mounted with rim 34" above finished floor with rough-in for water and waste located 4-7/8" below the 6-1/2" deep sink.

ITEM P: UNDER-COUNTER REFRIDGERATOR

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: True Manufacturing TUC-27-HC-SPEC3

CONST: Per manufacturers standards.

ACCESSORIES:

One (1) Set of Heavy Duty 5" High Casters with wheel locks
One (1) UL. approved grounded cord & plug
One (1) Automatic condensate evaporator

Details: Under-Counter Refrigerator size 27 9/16" w x 31 1/16" d x 36" high.

Elect: Per rough-in plan.

ITEM Q: DISPOSER, GARBAGE

QTY: One (1) Lot

MFG/MODEL: IN-SINK-ERATOR SS-200-15B-AS101 AQUA SAVER

CONSTRUCTION: Unit shall be a commercial, heavy-duty disposer with two (2) horsepower motor, stainless steel and chrome plated finish. Control Panel shall be 18 gauge st. st. NEMA 4, waterproof enclosure.

ELECTRICAL OPTION: 208-230/460V, 60 Hz, 3 Ph, 3.6/4.4/2.2 amps, cULus, short body

ACCESSORIES:

One (1) 15" cone w/ two fixed nozzles
One (1) St. St. Removable Cover and Scrap Block
One (1) Automatic Reversing Feature
One (1) Time Delay Relay set for 30 seconds
One (1) 24 volt line voltage transformer, controls operate on 24 volts
One (1) Line Disconnect Switch, Interlocks with front cover
One (1) Start/Stop Push Button
Two (2) Flow control valves and solenoids
One (1) St. st. support leg
One (1) 14 gauge st. st. mounting bracket
One (1) T&S B-2278 Pre-rinse unit w/ built in vacuum breaker & wall bracket

One (1) T&S B-0455 Vacuum Breaker Assembly w/ chrome plated pipe extension & elbows above backsplash area

DETAILS: Cone to be continuously welded to top with all welds ground and polished smooth. Control panel bracket welded to underside to top and set back so disconnect handle does not project beyond edge of table. Backsplash to be pre-drilled on exact centers to accommodate Vacuum Breaker Assembly. FSEC shall tag all accessories with item numbers and locations of equipment. Accessories are then to be delivered to Plumbing and Electrical Contractors for their internal and final connections. FSEC shall furnish detailed drawings showing proper installation of loose accessories and piping details.

ITEM R: WIRE SHELVING

QTY: (1) One lot arranged per plan.

MFG & MODEL: InterMetro Industries Corp Super Brite Super Erecta Shelving.

CONST: All carbon steel construction. Shelves to have 10 ga. mat wires spaced 21/32" apart. Mat wires to be supported by 6 ga. support wire. Support wire spacing specific to shelf size. Shelf width greater than 18" include one to two 7 ga. snake wire supports running the length of the shelf. Shelf frame to be made up of 7 ga. snake wire with two 6 ga. snake support wire. A round 1 1/2" steel collar is welded at each corner. All contact points are to be welded.

Posts are to be provided as 1" O.D. Round tubes notched every 1" of the post. A polypropylene post cap will be installed on the top of each post. The bottom of the post to have F04-004 hex head leveler and C03-002 post insert for the purpose of leveling the shelving.

Finish will be Super Brite, a zinc based chromate bath.

DETAILS: Each shelving to be furnished five (5) tiers high with four (4) 86" high posts. Shelving size and quantity to be sized per plan. Shared uprights will not be accepted.

ITEM S: MICROWAVE WALL SHELVING

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: ADVANCE TABCO #MS-20-30

CONST: Per manufacturers' standards.

ITEM T: WATER STATION WITH ICE BIN

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: ADVANCE TABCO #D-24-WSIBL2

CONST: Per manufacturers standards.

Details: Water Station w/ Ice Bin size 18" w x 21" d x 12" high. 50lb Ice Capacity.

ITEM U: CUSTOM MILLWORK SHELVING

CUSTOM PER DETAILS IN DRAWINGS

ITEM V: BEVERAGE CONTAINER

QTY: AS INDICATED IN DRAWINGS

MFG/MODEL: CATER GATOR 215BEVDP5BK

CONST: Per manufacturers' standards.

Details: Beverage Container size 17" w x 10 1/2" d x 25 3/4" high. 5 gal. Capacity.

ITEM W: WIRE WALL SHELVING

One (1) Lot Metro SuperBright wire wall shelving sized per plan. Unit to consist of two (2) 15" deep chrome shelves with two (2) 2WD14C chrome wire wall supports. Each chrome wire wall support consists of one shelf support and mount plate with two caps. FSEC to mount wire shelf supports to wall with heavy duty wall anchors and st. st. screws.

ITEM # 39 FIELD ERECTION LABOR

FSEC shall deliver, unload, uncrate, and install all items herein specified ready for final plumbing, electrical and ventilation connections furnished by respective trades as outlined in the General Requirements.

All equipment shall be cleaned and polished before demonstrating equipment to the Owner. All crating and packing material to be removed from job site.

FSEC shall arrange demonstration date with Owner and at the same time check out all loose items with the Food Service Manager.

FSEC shall be responsible for missing items unless he can produce signed receipts from Owner's personnel that the items were received and accounted for. Owner cannot be responsible for items delivered to the job site that were dropped off without being signed for by Owner's personnel or representatives.

Rough-in plans to be submitted at a scale of 1/4" = 1'-0". When present equipment is re-used at new locations, it shall be the FSEC'S responsibility to show necessary rough-in requirements for these items. (See General Requirements for complete details relating to submission of shop drawings). Two (2) Buyout Books to be sent to EFW for review and approval. Additional copies for use in field etc., to be made up as required after being check by EFW.

Two (2) complete sets of all final shop drawings, instructions, and parts lists are to be turned over to the Owner secured in a binder. This booklet shall include the telephone number and address of the service company for each piece of equipment.

NOTE! FSEC shall pay all sales, consumer, use and other similar taxes for the work or portions thereof provided by the Contractor which are legally enacted at the time bids are received, whether or not yet effective.

Final payment cannot be recommended until all of the above items have been completed to our satisfaction.

END OF SECTION

WALL TYPES

1/2" = 1'-0"

1.0 (1' - 3") STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING) W/ 1" AIR GAP AND 2" RIGID INSULATION SYSTEM, R13 MIN. ON 8" C.M.U. WITH 3/4 STONE TILE (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

2.0 (1' - 4 1/8") STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING) W/ 2" RIGID INSULATION SYSTEM, MIN. R13. ON SPRAY FOAM, R7.5 MIN. IN AIR GAP OF 16 GA. 8" MTL. STUDS @ 16" OC ON GYP.

IN LOCATION WITH TILE REPLACE 5/8" GYP. BOARD WITH CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

2.0A SAME AS 2.0; EXCEPT REPLACE 5/8" GYP WITH (1) LAYER OF 5/8" GYP OVER (1) LAYER OF 1/2" GYP PER DETAIL ON SHEET 1/A3.00

2.1 (1' - 3 5/8") STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING)W/ 2" RIGID INSULATION SYSTEM, MIN. R13. ON SPRAY FOAM, R7.5 MIN. IN AIR GAP OF 16 GA. 8" MTL. STUDS @ 16" OC ON GYP. WITH TILE ON CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

2.2 (1' - 2") STONE VENEER (REFER TO EXTERIOR ELEVATIONS FOR COLOR AND COURSING)W/ 2" RIGID INSULATION SYSTEM, MIN. R13. ON SPRAY FOAM, R7.5 MIN. IN AIR GAP OF 16 GA. 6" MTL. STUDS @ 16" OC ON GYP. WITH TILE ON CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

3.0 (4 1/4") 5/8" GYP. BOARD ON 20 GA. 3 5/8" METAL STUDS @ 16" O.C.

3.1 (4 7/8") 5/8" GYP. BOARD ON BOTH SIDES OF 20 GA. 3 5/8" METAL STUDS @ 16" O.C.

3.2 (4 7/8") 5/8" GYPSUM BOARD ON BOTH SIDES OF 3 5/8" METAL STUDS, MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE.

IN LOCATION WITH TILE REPLACE 5/8" GYP. BOARD WITH CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.2A SAME AS 2.0; EXCEPT REPLACE 5/8" GYP ON CORRIDOR SIDE WITH (1) LAYER OF 5/8" GYP OVER (1) LAYER OF 1/2" GYP PER DETAIL ON SHEET 1/A3.00

3.3 (6 3/4") 5/8" GYPSUM BOARD ON BOTH SIDES OF 5 1/2" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE.

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.4 (9 3/8") 5/8" GYPSUM BOARD ON BOTH SIDES OF 8" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE.

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.4A SAME AS 2.0; EXCEPT REPLACE 5/8" GYP ON CORRIDOR SIDE WITH (1) LAYER OF 5/8" GYP OVER (1) LAYER OF 1/2" GYP PER DETAIL ON SHEET 1/A3.00

3.5 (9 3/8") 5/8" GYPSUM BOARD ON 8" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS WITH TILE ON CEMENT BACKER BOARD. (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.6 (9 1/4") 5/8" GYPSUM BOARD ON 5-1/2" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS W/ TILE ON CEMENT BACKER BOARD. (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

UL419 @ RATED WALL LOCATIONS USE TYPE "X" GYPSUM BOARD (REFER TO SHEET LS-1).

3.7 (11 1/8" U.O.N.) 5/8" GYPSUM BOARD ON ONE SIDE OF 3 5/8" METAL STUDS, MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS W/ AIR SPACE CAVITY W/ 3 5/8" METAL STUDS, MIN. 20 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS ON 5/8" GYPSUM BOARD ONE SIDE. EXTEND BOTH FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE

IN LOCATION WITH TILE REPLACE 5/8" GYP. BOARD WITH CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS).

4.0 (10") CORTEN MTL PANEL W/ 2" RIGID INSULATION SYSTEM, R13 MIN. W/ SPRAY FOAM, R7.5 MIN. IN AIR SPACE ON MIN. 16 GA. 8" MTL. STUDS ON 5/8" GYP.

4.1 (10") CORTEN MTL PANEL ON 1" HAT CHANNEL ON 3/4" WOOD SHEATHING ON BOTH SIDES OF 6" MTL STUDS MIN. 16 GA.

4.2 (9 1/4") TILE ON CEMENT BACKER BOARD (REFER TO ELEVATIONS FOR EXTENTS OF MATERIALS) ONE SIDE OF 8" METAL STUDS MIN. 16 GA. @ 16" O.C. W/ SOUND ATTENUATION BLANKETS W/ 5/8" GYPSUM BOARD OTHER SIDE. EXTEND FROM FINISH FLOOR TO UNDERSIDE OF STRUCTURE ABOVE.

5.1 (1' - 0") (A2) 3-5/8" LIMESTONE MASONRY ADHERED TO 7-5/8" CONCRETE MASONRY UNIT

5.2 (11 5/8") 11-5/8" CONCRETE MASONRY UNIT

5.3 (1' - 2") 3-5/8" LIMESTONE MASONRY ADHERED TO 7-5/8" CONCRETE MASONRY UNIT W/ 3/4" LIMESTONE MASONRY ADHERED

5.4 (VARIES RE: DETAILS) (A2) 3-5/8" LIMESTONE MASONRY OVER AIR GAP OVER 7-5/8" CONCRETE MASONRY UNIT W/ 3/4" LIMESTONE MASONRY ADHERED

WIDTH OF AIR GAP TO ALLOW FOR ALIGNMENT OF WING WALL MASONRY TO ADJACENT MASONRY EXTERIOR WALL

ROOF TYPES

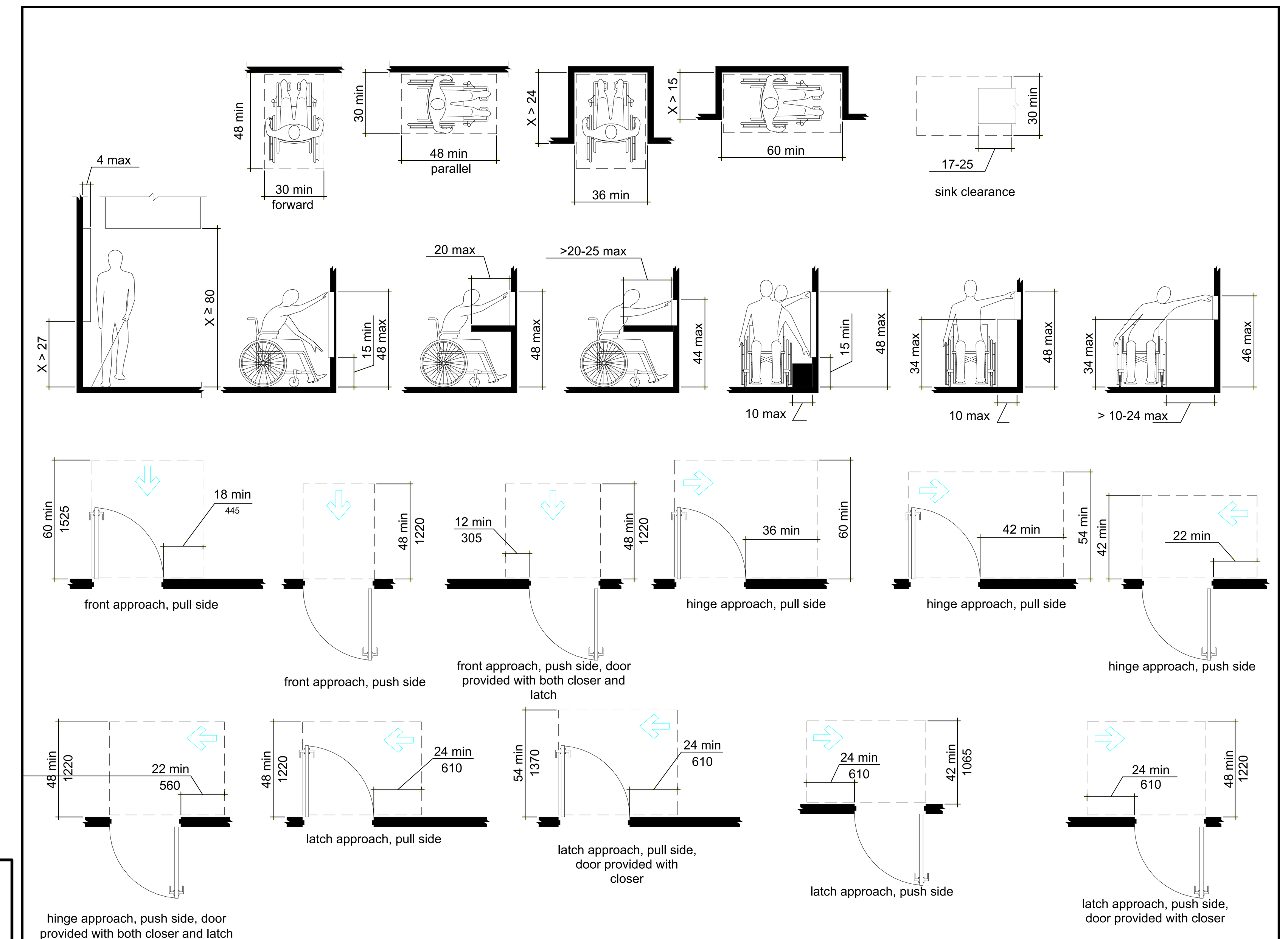
1/2" = 1'-0"

RF1 ROOFING MEMBRANE AND/OR FLASHING ON RIGID INSULATION (MIN. R-30) STAGGER JOINTS ON VAPOR BARRIER ON METAL DECKING (SEE STRUCTURAL).

RF2 STANDING SEAM METAL COPPER ROOF ON UNDERLAYMENT ON RIGID INSULATION (MIN. R-30) STAGGER JOINTS ON METAL DECKING (SEE STRUCTURAL).

NOTE: PROVIDE ICE AND WATER SHIELD UNDERLAYMENT MIN 24" FROM INSIDE THE EXTERIOR WALL LINE OF THE BUILDING.

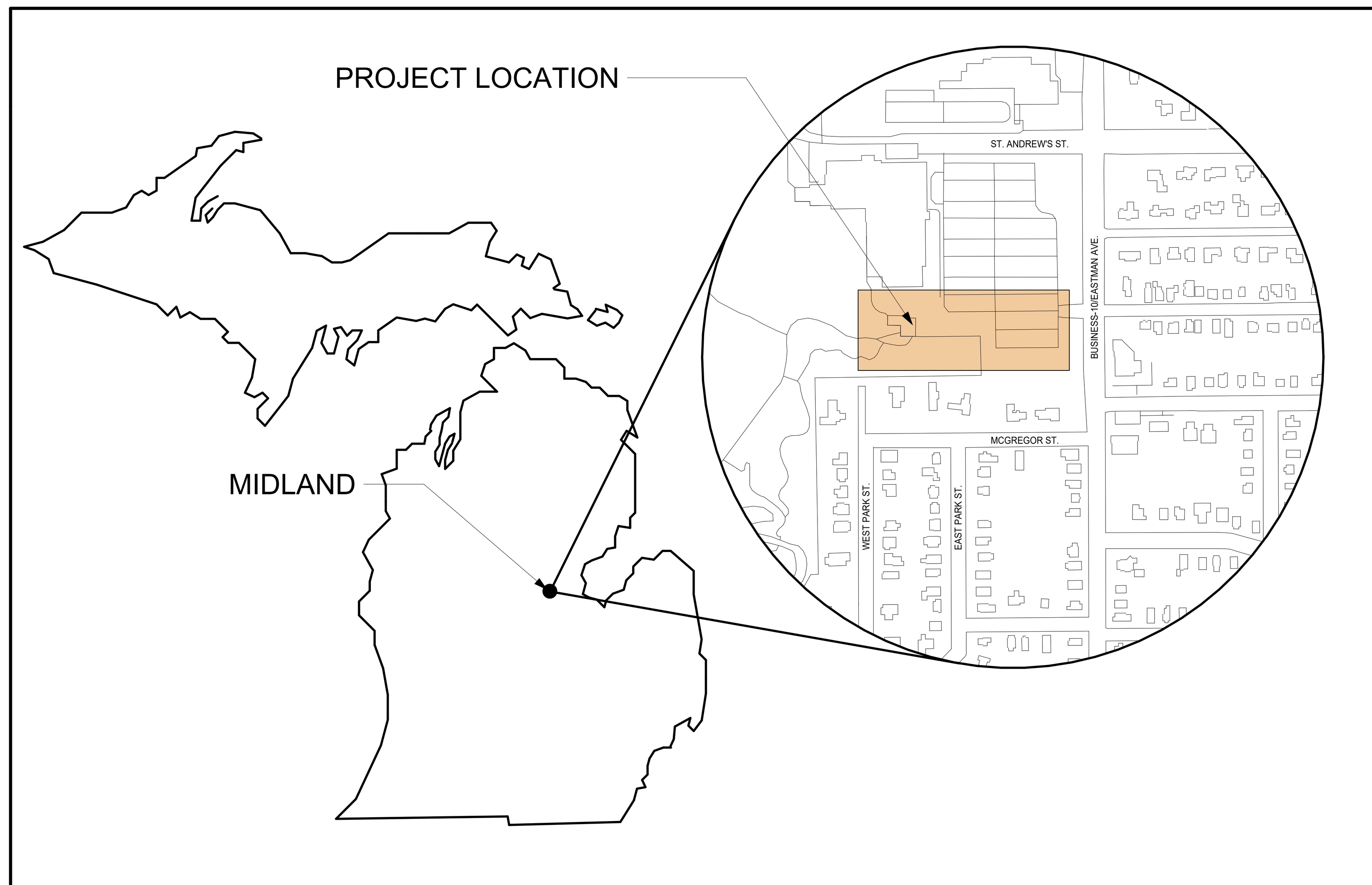
RF3 ROOFING MEMBRANE AND/OR FLASHING ON WEATHER BARRIER ON EXTERIOR GRADE SHEATHING ON METAL DECKING (SEE STRUCTURAL).



ACCESSIBILITY STANDARDS PER ANSI 117.1

LOCATION NUMBER GRID

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30



PROJECT LOCATION

ARCHITECTURAL MATERIAL LEGEND

BRICK MASONRY
CAST STONE
STONE
STUD WALL
BATT INSULATION
SOUND ATTENUATION BLANKETS/SPRAYED INSUL.
RIGID INSULATION & RIGID INSULATION BOARD
DIMENSIONAL LUMBER
FINISH LUMBER
STEEL
SUSPENDED CEILING TILE
TILE ON MORTAR BED
GROUT
GYPSUM BOARD (CEILING/ELEVATION)
GYPSUM BOARD (SECTION)
BACKER BOARD
PARTICLE BOARD & PLYWOOD
SOLID SURFACE
CONCRETE
CONCRETE WALK (PLAN)
GRAVEL OR STONE AS INDICATED
COMPACTED SAND FILL
MORTAR NET
QUARTZ

LEGEND OF ABBREVIATIONS

ABBV.	ABBREVIATIONS
A.F.F.	ABOVE FINISHED FLOOR
AC.	ACOUSTIC(AL)
A.C.P.	ACOUSTIC CEILING PANEL
A.C.T.	ACOUSTIC CEILING TILE
A.R.P.	ACRYLIC RESIN PANEL
ADD'L	ADDITIONAL
ADJ.	ADJUSTABLE
ALT.	ALTERNATE
ALUM.	ALUMINUM
ANOD.	ANODIZED
APPROX.	APPROXIMITE
ARCH.	ARCHITECTURAL
BKR. BD.	BACKER BOARD
BR'G	BEARING
BIT.	BITUMINOUS
BLK('G)	BLOCKING
BD.	BOARD
BTM.	BOTTOM
B.O.C.	BOTTOM OF CURB
B.O.F.	BOTTOM OF FOOTING
BRK.	BRICK
BLDG.	BUILDING
CPT.	CARPET
C.B.	CATCH BASIN
CLG.	CEILING
C.M.TILE/CMT	CERAMIC MOSAIC TILE
CT	CERAMIC TILE
CHBD.	CHALKBOARD
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
C.M.U./CMU	CONCRETE MASONRY UNIT
CONT.	CONTINUOUS
C.J.	CONTINUOUS JOINT
C'TOP.	COUNTER TOP
COVR'G	COVERING
DEPT.	DEPARTMENT
DIA.	DIAMETER
D.O.	DOOR OPENING
DBL.	DOUBLE
DN.	DOWN
D.T.	DRAIN TILE
DWG.	DRAWING
D.F.	DRINKING FOUNTAIN
EA.	EACH
E.W.	EACH WAY
ELEC.	ELECTRIC(AL)
E.H.D.	ELECTRIC HAND DRYER
E.W.C.	ELECTRIC WATER COOLER
EL.	ELEVATION
ELEV.	ELEVATOR
EQ.	EQUAL
E.F.	EXHAUST FAN
EXIST./(E)	EXISTING
EXP.	EXPOSED
EXT.	EXTERIOR
FT.	FEET
F.F.	FINISHED FACE
FIN.	FINISHED
F.O.	FINISHED OPENING
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.R.	FIRE RATED
F.RT.	FIRE RETARDANT
F.R.L./FRL	FIBER REINFORCED LAMINATE
FIXT.	FIXTURE
F.S.F./FSF	FLOCKED SHEET FLOORING
F.T.F./FTF	FLOCKED TILE FLOORING
FLR.	FLOOR
F.D.	FLOOR DRAIN
FTG.	FOOTING
F.R.P./FRP	FIBER REINFORCED POLYESTER
GA.	GAUGE
G. TILE/GT	GLASS TILE
GL.	GLAZING
G.B.	GRAB BAR
GYP. BD.	GYPSUM BOARD
HWD.	HARDWOOD
H.P.	HIGH POINT
H.M./HM	HOLLOW METAL
HORIZ.	HORIZONTAL
H.B.	HOSE BIB
I.DIA./I.D.	INSIDE DIAMETER
I.F.BL.	INSIDE FACE OF BLOCK
I.F.BR.	INSIDE FACE OF BRICK
INSUL.	INSULATE(D)
INT.	INTERIOR
JT.	JOINT
LAM./LAM	LAMINATE(D)
LAV.	LAVATORY (SINK)
L.S.F./LSF	LINOLEUM SHEET FLOORING
L.T.F./LTF	LINOLEUM TILE FLOORING
L.P.	LOW POINT
L.V.T./LVT	LUXURY VINYL TILE
MFR.	MANUFACTURE(R)
M.B.	MARKERBOARD
MAS.	MASONRY
M.O.	MASONRY OPENING
MAT'L	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MTL.	METAL
M.P./MP	METAL PANEL
M.D.O.T.	MICHIGAN DEPARTMENT OF TRANPORTATION
MIN.	MINIMUM
MIR.	MIRROR
MISC.	MISCELLANEOUS
NOM.	NOMINAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO.	NUMBER
O.C.	ON CENTER
OPP.	OPPOSITE (HAND)
O.S.B.	ORIENTED STRAND BOARD
O.DIA./O.D.	OUTSIDE DIAMETER
O.F.BL.	OUTSIDE FACE OF BLOCK
O.F.BR.	OUTSIDE FACE OF BRICK
O.F.C.	OUTSIDE FACE OF CONCRETE
O.F.M.	OUTSIDE FACE OF MASONRY
O.F.S.	OUTSIDE FACE OF STUDS
PT./P	PAINT(ED)
PR.	PAIR
P.T.D.	PAPER TOWEL DISPENSER
PART. BD.	PARTICLE BOARD
PTN.	PARTITION
PLAS.	PLASTER
P.LAM./PL	PLASTIC LAMINATE
PLYWD.	PLYWOOD
P.O.N.C.	POINT OF NEW CONNECTION
P.TILE/PT	PORCELAIN TILE
PWR.	POWER
P.CONC.	PRECAST CONCRETE
P.C./PC	POLISHED CONCRETE
Q.TILE/QT	QUARRY TILE
QTZ./QTZ	QUARTZ
RAD.	RADIUS
REFRIG.	REFRIDGERATOR
REINF.	REINFORCE(MENT)
REQ'D	REQUIRED
R.W.B./RWB	RESILIENT WALL BASE
R.S.F./RSF	RESILIENT SHEET FLOORING
R.T.F./RTF	RESILIENT TILE FLOORING
R.O.	ROUGH OPENING
S.A.T.	SUSPENDED ACOUSTICAL TILE
SF.GL.	SAFETY GLAZING
S.N.DR.	SANITARY NAPKIN DISPENSER
S.N.DL.	SANITARY NAPKIN DISPOSAL
S.O.	SASH OPENING
SCHED.	SCHEDULE
SNT.	SEALANT
SHT.	SHEET
SIM.	SIMILAR
SM.F.	SMOOTH FACE
SPEC.	SPECIFICATION(S)
SP.F.	SPLIT FACE
SQ.FT.	SQUARE FEET
S.STL./SS	STAINLESS STEEL
STD.	STANDARD
STO./STOR.	STORAGE
STRT.	STRAIGHT
STRUC.	STRUCTURE
SUSP.	SUSPENDED
T.B.	TACKBOARD
TEL.	TELEPHONE
T.V.	TELEVISION
TEMP.	TEMPER(ED)
THK.	THICK
T.P.D.	TOILET PAPER DISPENSER
T.O.M.	TOP OF MASONRY
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UR.	URINAL
V.B.	VAPOR BARRIER
V.I.F.	VERIFY IN FIELD
VERT.	VERTICAL
V.T.R.	VENT THROUGH ROOF
VNL./VNL	VINYL
V.C.T./VCT	VINYL COMPOSITION TILE
W.C.	WATER CLOSET
W.MAT/WOM	WALK-OFF MAT
W.W.F.	WELDED WIRE FABRIC
W.W.M.	WELDED WIRE MESH
W.O.	WINDOW OPENING
w/	WITH
WD.	WOOD

ARCHITECTURAL SYMBOL LEGEND

ROOM IDENTIFIER:
ROOM NAME
A100A — OPTIONAL LETTER; ROOM NUMBER; GRADE CLUSTER; UNIT LETTER

DOOR IDENTIFIER:
A100.1 — DOOR NUMBER; ROOM NUMBER; GRADE CLUSTER; UNIT LETTER

KEYED NOTES:
- 2 — MATERIAL KEYNOTE (HEXAGON w/ NUMBER)
- A — PLUMBING OR EQUIPMENT (HEXAGON w/ LETTER)
- 1 — PLAN KEYNOTE (SQUARE w/ NUMBER)
- A — SITE PLAN KEYNOTE (SQUARE w/ LETTER)
- R1 — ROOF PLAN KEYNOTE (SQUARE w/ "R" AND NUMBER)
- 1 — PLAN DEMOLITION KEYNOTE (TRIANGLE w/ NUMBER)
- A — SITE DEMOLITION KEYNOTE (TRIANGLE w/ LETTER)
- TEXT-X — FLOORING/FINISH KEYNOTE (RECTANGLE w/ TEXT)

DEMOLITION IDENTIFIER:
ITEM TO BE REMOVED

ALTERATION CLOUD:
INDICATES A CHANGE TO THE CONSTRUCTION DOCUMENTS VIA ADDENDUM, BULLETIN, AND CHANGE ORDER

MATCH LINE:
MATCH LINE

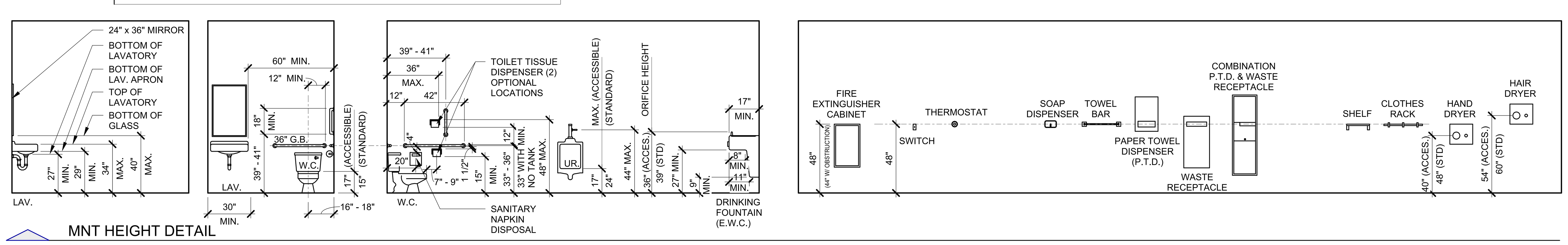
REFERENCE BUBBLES:
- 1 / A1.01 — LOCATION NUMBER; SHEET NUMBER
- 7 / A7.07 — DETAIL MARK
- 5 / A5.05 — BUILDING SECTION
- 2 / A2.02 — ENLARGED DETAIL OR PLAN

ADDITIONAL IDENTIFIERS:
- F2 — DOOR FRAME TYPE (OVAL w/ "F" AND NUMBER)
- D2 — DOOR TYPE (OVAL w/ "D" AND NUMBER)
- W2 — WINDOW TYPE (OVAL w/ "W" AND NUMBER)
- 2.1 — WALL TYPE (DIAMOND w/ NUMBER)
- # — ADDENDUM IDENTIFIER (RHOMBUS w/ NUMBER)
- # — BULLETIN IDENTIFIER (RHOMBUS w/ NUMBER)
- # — CHANGE ORDER IDENTIFIER (RHOMBUS w/ NUMBER)

INTERIOR ELEVATION IDENTIFIER:
8/A8.08 — SHEET NUMBER; LOCATION NUMBER

ALTERATION IDENTIFIER:
ALTERNATE NO. 2

NOTE:
FIXTURES DEPICTED WITHIN THIS SCHEDULE ARE SCHEMATIC ONLY. FOR EXACT FIXTURE TYPES AND QUANTITIES, REFER TO MECHANICAL DRAWINGS AS WELL AS THE SPECIFICATION MANUAL.



3/A0.01 MNT HEIGHT DETAIL SCALE: 1/4" = 1'-0"

NO.	REVISION	DATE
A2	ADDENDUM NO.2	01/31/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24

WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
PROJECT INFORMATION

PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A0.01

Author1/30/2025 10:53:35 PM C:\Users\jjohnston\Documents\Central-2022022-Dow Gardens Welcome Center-Building_V24_jjohnstonYUJQB.rvt

PLAN KEYNOTES

1 MOP SINK; RE: MECHANICAL
2 2" RECESSED SLAB; RE: STRUCTURAL
3 PLANT SINK; RE: MECHANICAL
4 MOP SHELF W/ HOOKS
5 CLEAR ANODIZED ALUMINUM FRAMELESS CONTINUOUS BAR GRILLE; MITER CORNER
6 POLISHED CONCRETE SAW-CUTS
7 OVERFLOW NOZZLE WITH BIRD SCREEN. RE: MECHANICAL.
8 ACCESS PANEL, 60" X 30" FLUSH MOUNTED WITH TOUCH LATCH AND LOCK, PAINT TO MATCH ADJACENT WALL SURFACE.
9 MOP/BROOM HOLDER

GENERAL PLAN NOTES:

1. DIMENSIONS INDICATED ARE FROM FACE OF FINISH AND TO FACE OF MASONRY UNLESS NOTED OTHERWISE. SEE ENLARGED PLANS FOR ADDITIONAL DIMENSIONS NOT INDICATED ON OVERALL PLANS.
2. CONTRACTOR TO COORDINATE LOCATIONS OF ADDITIONAL PENETRATION THROUGH WALLS AND FLOORS NOT INDICATION ON ARCHITECTURAL DRAWINGS, RE: MECH, PLUMBING AND ELECTRICAL. REFER TO STRUCTURAL DRAWINGS FOR LINTEL OR FRAMING REQUIREMENTS.
3. REFER TO SHEET A0.01 FOR TYPICAL BARRIER-FREE AND ACCESSORIES HEIGHTS.
4. REFER TO SHEET A2.31 FIRST FLOOR FURNITURE/EQUIPMENT. CONTRACTOR TO VERIFY ALL ITEMS THAT REQUIRE BLOCKING.
5. REFER TO A3.02 FIRST FLOOR FLOORING PLAN FOR DIMENSIONED FLOOR BOX LOCATIONS.
6. PROVIDE SMOOTH MASONRY UNITS BEHIND ALL APPLIED DEVICES AND FINISHES INCLUDING KNOX BOXES, ADA, PUSH PADS, CARD READERS, AND CANOPY ELEMENTS.

FLOOR PLAN SYMBOL LEGEND:

ADA	ADA PUSH PAD
CR	CARD READER
KB	KNOX BOX
RB	RELEASE BUTTON
FEC-R	FULLY RECESSED FIRE EXTINGUISHER CABINET
FEC-SR	SEMI-RECESSED FIRE EXTINGUISHER CABINET
AED	FULLY RECESSED AED CABINET
FB	POWER/DATA FLOOR BOX. RE: ELECTRICAL.

NOTE: MOUNTING LOCATION TO BE VERIFIED WITH ARCHITECT PRIOR TO ROUGH-IN.

NO.	REVISION	DATE
A2	ADDENDUM NO.2	01/31/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24
	ISSUED FOR BID	08/27/24

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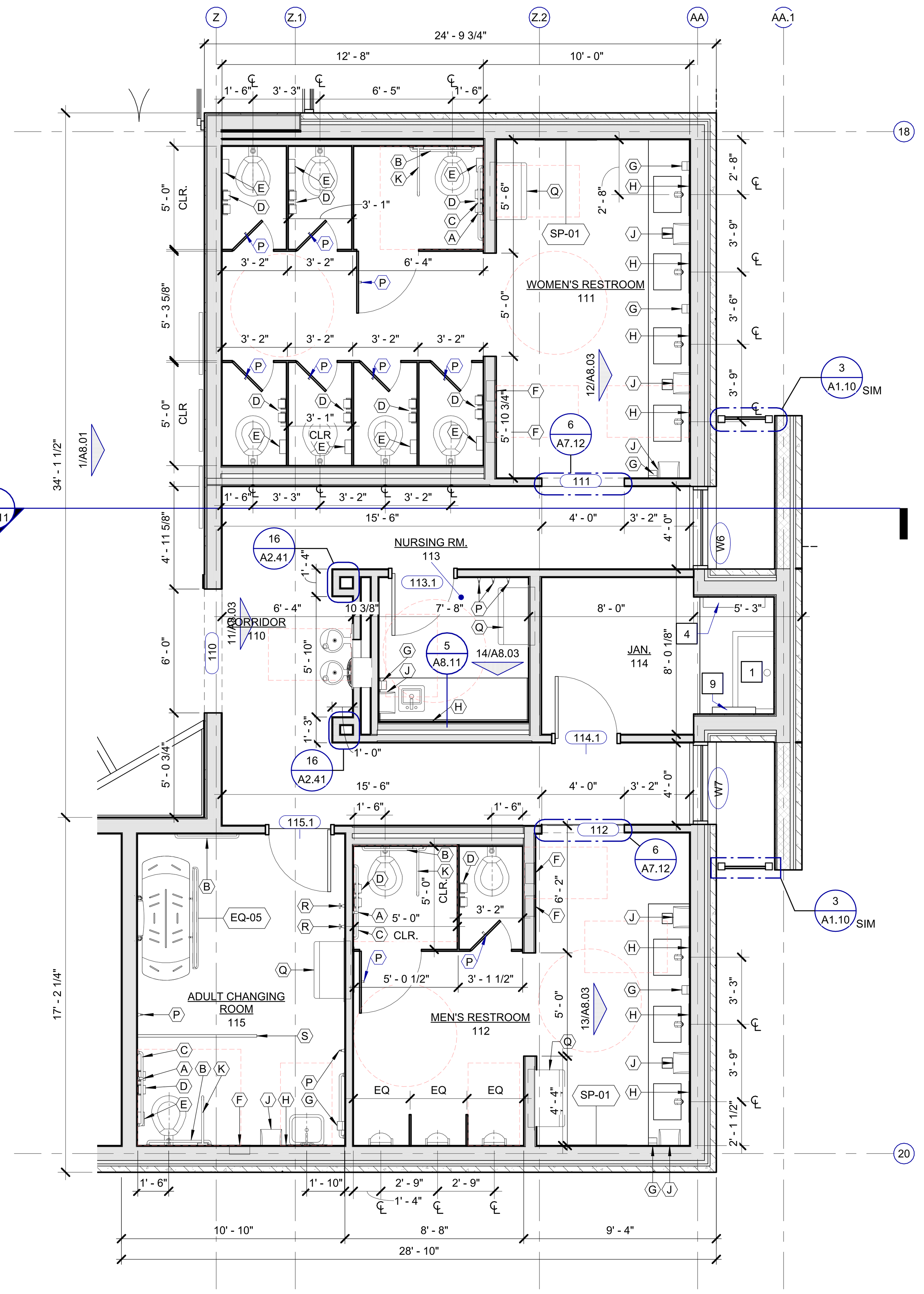
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

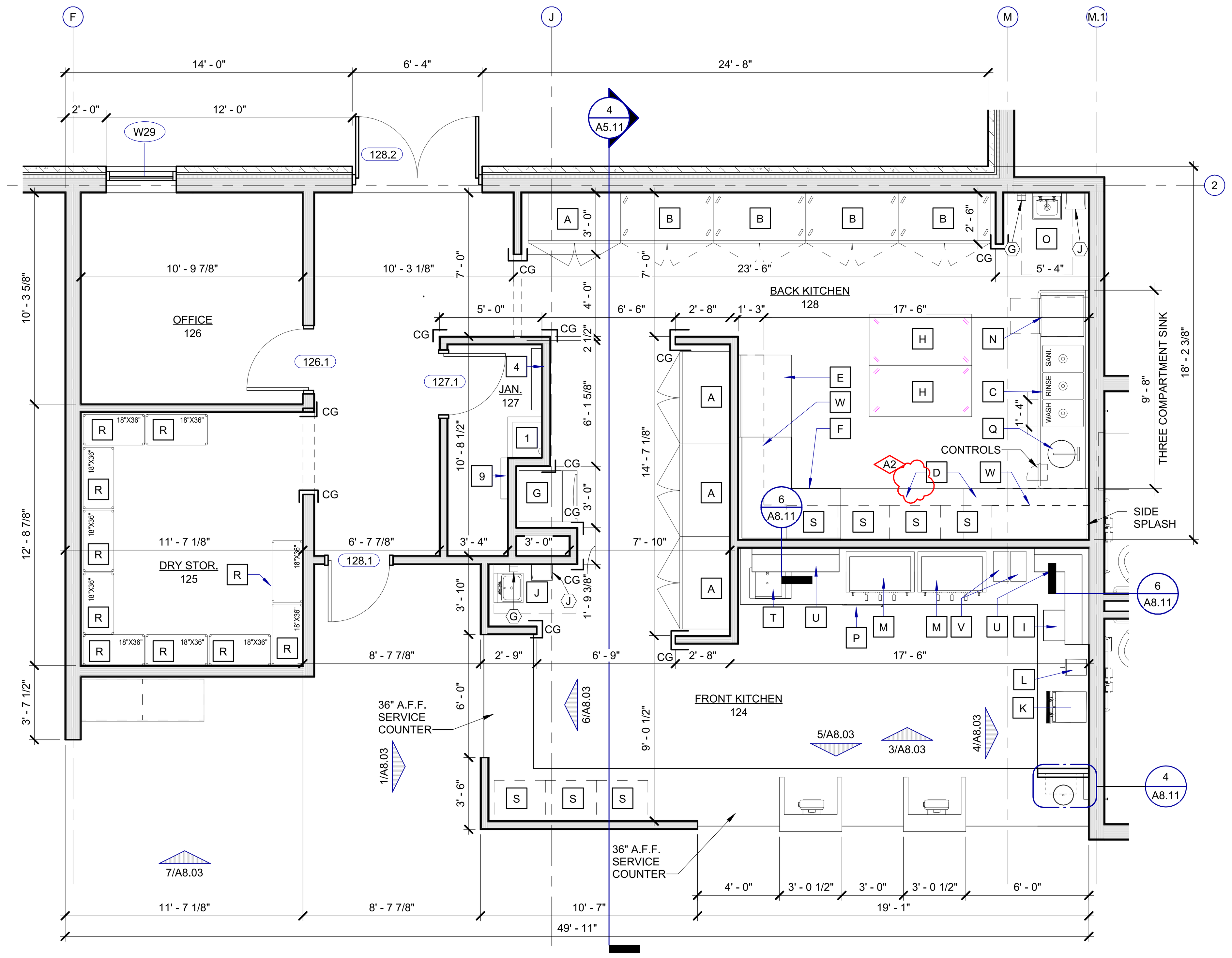
SHEET TITLE
FIRST FLOOR NOTATION PLAN

PROJECT NUMBER	SHEET NUMBER
2022022	A2.12
PROJECT DATE: JANUARY 09, 2025	
CHECKED BY: JMJ	

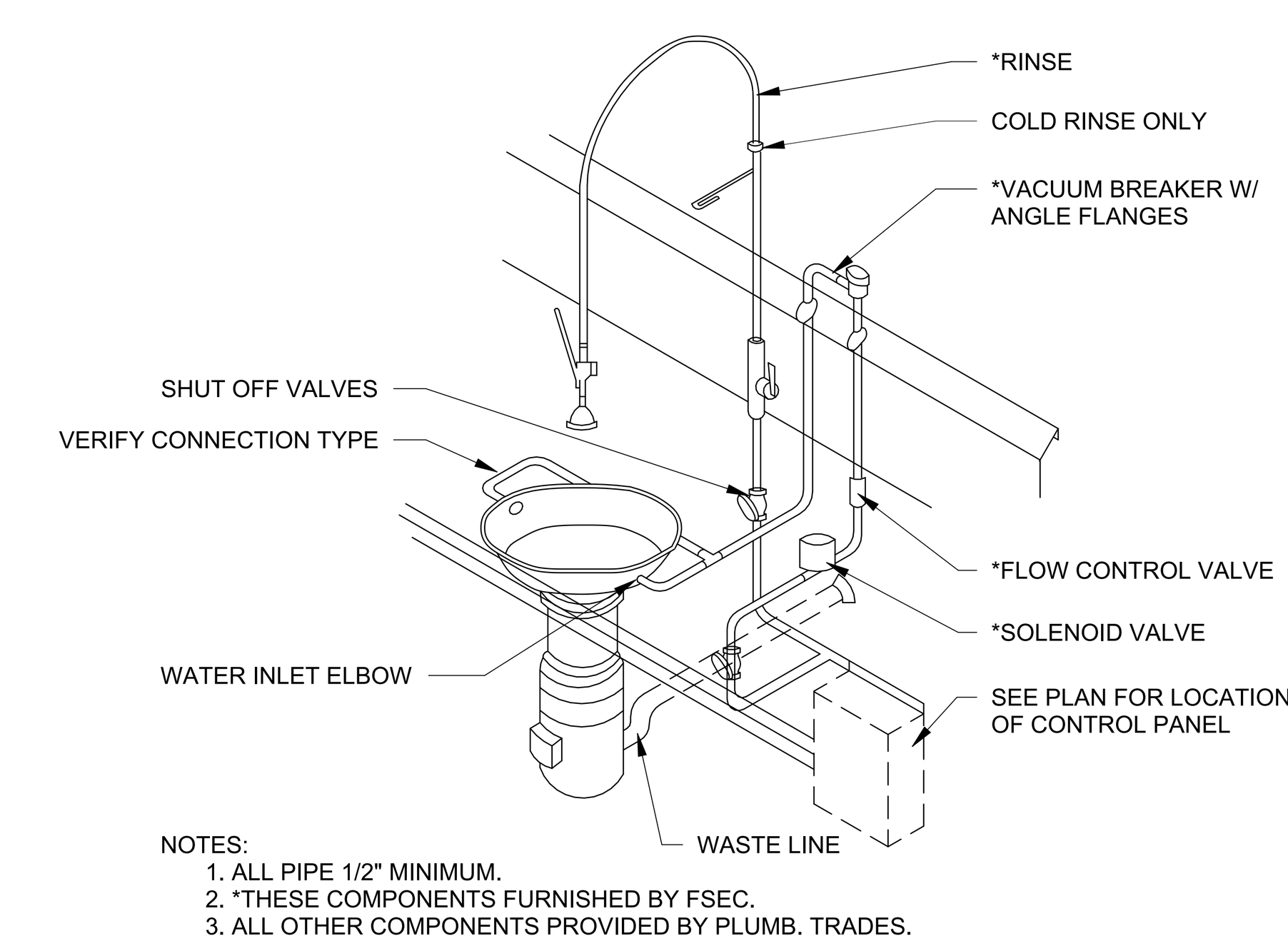
FIRST FLOOR NOTATION PLAN
NORTH SCALE: 1/8" = 1'-0"



1 / A2.21 ENLARGED FLOOR PLAN @ TOILET RM 111/112
SCALE: 1/4" = 1'-0"
NORTH



2 / A2.21 ENLARGED FLOOR PLAN @ KITCHEN 124
SCALE: 1/4" = 1'-0"
NORTH



NOTES:
1. ALL PIPE 1/2" MINIMUM.
2. *THESE COMPONENTS FURNISHED BY FSEC.
3. ALL OTHER COMPONENTS PROVIDED BY PLUMB. TRADES.

6 / A2.21 DETAIL OF DISPOSER W/ SPRAY
SCALE: 1" = 1'-0"

GENERAL PLB. / EQUIP. NOTES:

1. ENLARGED KITCHEN PLAN IS TO BE USED FOR BIDDING PURPOSES ONLY & MUST BE REDRAWN BY FOOD SERVICE EQUIPMENT CONTRACTOR USING ARCHITECTS FINAL WORKING DRAWINGS (ARCH., ELECT., MECH., & PLUMB.). FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH FULLY DIMENSIONED ROUGH-IN PLAN FOR ELECTRICAL, PLUMBING, MECHANICAL, DEPRESSION & WALL OPENINGS WITHIN 30 DAYS AFTER AWARD OF CONTRACT. PLANS ARE TO BE REDRAWN & NOT TRACED OFF OF ORIGINAL DRAWINGS.
2. FOOD SERVICE EQUIPMENT CONTRACTOR IS TO ASSIST ELECTRICAL TRADES DURING PERIOD WHILE FINAL ROUGH-IN CONNECTIONS ARE BEING MADE. FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH ALL NECESSARY WIRING DETAILS AS REQUIRED. FOOD SERVICE EQUIPMENT CONTRACTOR ALSO TO HAVE FIELD SUPERVISOR ON JOBSITE AT TIME OF FINAL CONNECTIONS
3. FOOD SERVICE EQUIPMENT CONTRACTOR SHALL CONTACT ELECTRICAL ENGINEER BEFORE DRAWING ROUGH-IN PLAN TO VERIFY EXACT VOLTAGES AVAILABLE ON JOBSITE. THIS CHECK MUST BE MADE TO INSURE PROPER VOLTAGES TO ALL EQUIPMENT.

GENERAL PLAN NOTES:

1. DIMENSIONS INDICATED ARE FROM FACE OF FINISH AND TO FACE OF MASONRY UNLESS NOTED OTHERWISE. SEE ENLARGED PLANS FOR ADDITIONAL DIMENSIONS NOT INDICATED ON OVERALL PLANS.
2. CONTRACTOR TO COORDINATE LOCATIONS OF ADDITIONAL PENETRATION THROUGH WALLS AND FLOORS NOT INDICATION ON ARCHITECTURAL DRAWINGS, RE: MECH, PLUMBING AND ELECTRICAL. REFER TO STRUCTURAL DRAWINGS FOR LINTEL OR FRAMING REQUIREMENTS.
3. REFER TO SHEET A0.01 FOR TYPICAL BARRIER-FREE AND ACCESSORIES HEIGHTS.
4. REFER TO SHEET A2.31 FIRST FLOOR FURNITURE/EQUIPMENT. CONTRACTOR TO VERIFY ALL ITEMS THAT REQUIRE BLOCKING.
5. REFER TO A3.02 FIRST FLOOR FLOORING PLAN FOR DIMENSIONED FLOOR BOX LOCATIONS.
6. PROVIDE SMOOTH MASONRY UNITS BEHIND ALL APPLIED DEVICES AND FINISHES INCLUDING KNOX BOXES, ADA, PUSH PADS, CARD READERS, AND CANOPY ELEMENTS.

. PLAN KEYNOTES

1 MOP SINK; RE: MECHANICAL
2 2" RECESSED SLAB; RE: STRUCTURAL
3 PLANT SINK; RE: MECHANICAL
4 MOP SHELF W/ HOOKS
5 CLEAR ANODIZED ALUMINUM FRAMELESS CONTINUOUS BAR GRILLE; MITER CORNER
6 POLISHED CONCRETE SAW-CUTS
7 OVERFLOW NOZZLE WITH BIRD SCREEN. RE: MECHANICAL.
8 ACCESS PANEL, 60" X 30" FLUSH MOUNTED WITH TOUCH LATCH AND LOCK; PAINT TO MATCH ADJACENT WALL SURFACE.
9 MOP/BROOM HOLDER

KITCHEN EQUIPMENT SCHEDULE

ITEM #	QTY	DESCRIPTION	MANUFACTURER	MODEL #	PLUMBING REMARKS	ELECTRICAL REMARKS	GENERAL REMARKS
A	4	REACH-IN REFRIDGERATOR	TRUE MANUFACTURERING	T-49F-FLX-HC REFRIGERATOR		PLUG IN CONNECTION	
B	4	REACH-IN FREEZER	TRUE MANUFACTURERING	T-49F-FLX-HC FREEZER		PLUG IN CONNECTION	
C	1	3 - COMPARTMENT SINK	CUSTOM	FC-3-1824	SOILED TO GT; WASH RINSE TO IW		CUSTOM SIDEBOARDS
D	2	STAINLESS STEEL WORK TABLE	ADVANCE TABCO	S/S			72" LENGTH
E	1	STAINLESS STEEL WORK TABLE	ADVANCE TABCO	S/S			48" LENGTH
F	1	STAINLESS STEEL WORK TABLE	ADVANCE TABCO	S/S			60" BOTH SIDES CORNER
G	1	ICE MAKER	MANITOWOC	IYT0450A	WATER CONNECTION	PLUG IN CONNECTION	
H	2	MOBILE WORK TABLE	ADVANCE TABCO	MS-305			
I	1	DROP-IN ICE BIN	ADVANCE TABCO	D-36-IBL	IW		
J	1	HAND SINK	ADVANCE TABCO	7-PS-20	WATER CONNECTION/ IW		
K	1	DOUBLE BREWER	BUNN	51200.0100	WATER CONNECTION	PLUG IN CONNECTION	
L	1	DUAL COFFEE BEAN GRINDER	BUNN	FPG-2 DBC SST		PLUG IN CONNECTION	
M	2	ESPRESSO MACHINE	EVERSYS	ENIGMA E'6MS	WATER CONNECTION/ IW	PLUG IN CONNECTION	ALL TRADES TO COORDINATE DRAIN LOCATIONS WITH FOOD SERVICE CONTRACTOR
N	1	UNDERCOUNTER DISHWASHER	CMA DISHMACHINES	180UC	WATER CONNECTION/ IW	PLUG IN CONNECTION	
O	1	HAND SINK WITH SPLASH GURDS	ADVANCE TABCO	7-PS-40	WATER CONNECTION/ IW		
P	1	UNDER COUNTER REFRIDGERATOR	TRUE MANUFACTURERING	TUC-27-HC		PLUG IN CONNECTION	
Q	1	GARBAGE DISPOSAL	IN-SINK-ERATOR	SS-200-15 W/ AQUA SAVER		208-230/460V, 60 Hz, 3 Ph, 2.2 AMPS	
R	10	WIRE SHELVING	METRO	SUPER ERECTA SUPER BRITE			
S	7	MICROWAVE SHELF	ADVANCE TABCO	MS-20-30-EC-X			
T	1	WATER STATION WITH ICE BIN	ADVANCE TABCO	D-24-WSIBL2	WATER CONNECTION/ IW		
U	2	CUSTOM MILLWORK SHELVING	CUSTOM	MILLWORK			RE: CASEWORK DETAILS
V	2	BEVERAGE CONTAINERS	CATER GATOR	215BEVDP5BK			
W	2	WALL SHELVING	METRO	SUPER BRITE			15" DEPTH

TOILET ACCESSORIES SCHEDULE

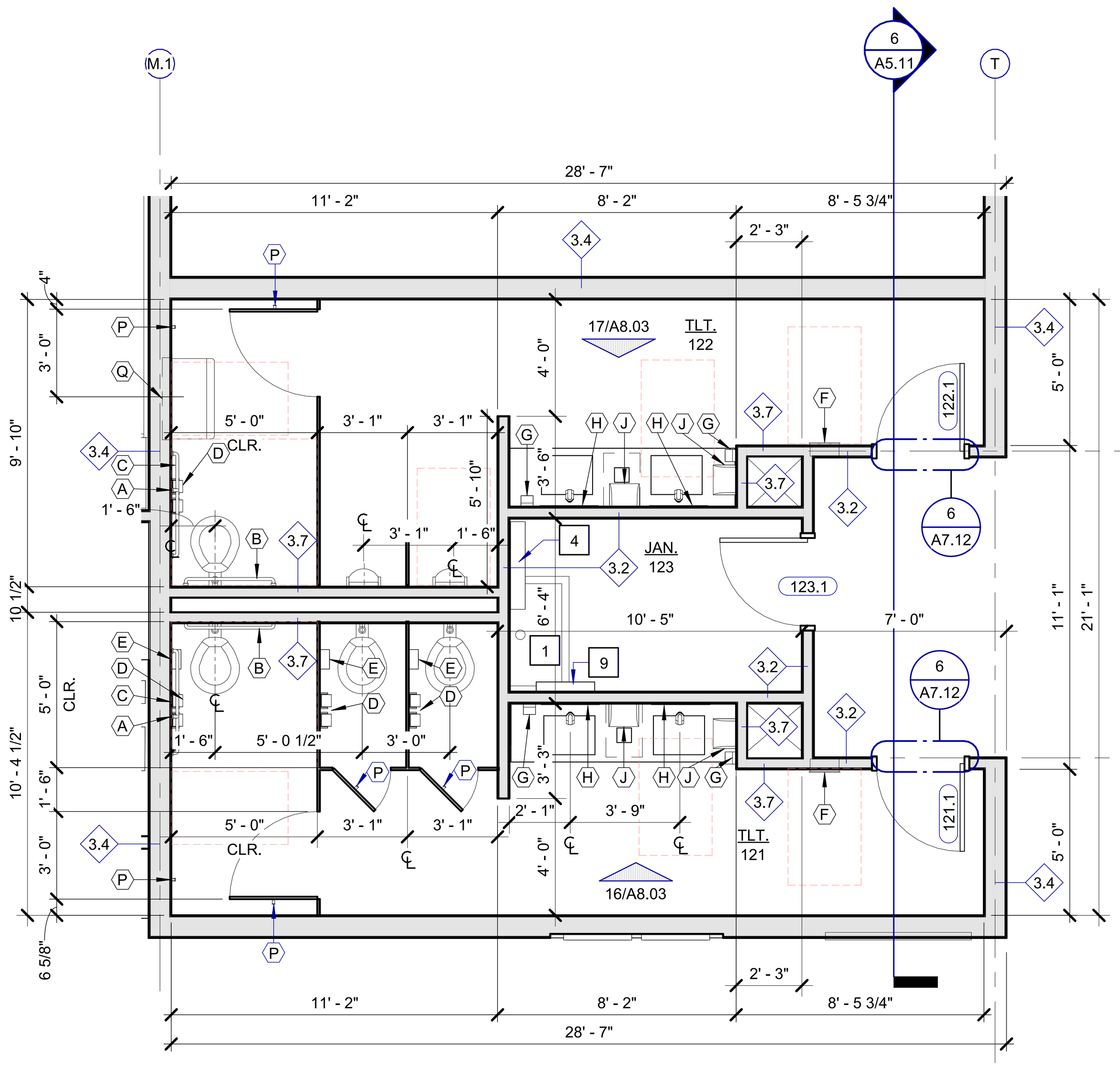
KEYNOTE	ITEM DESCRIPTION	FURNISHED BY	INSTALLED BY	COMMENTS
A	18" VERTICAL GRAB BAR	G.C.	G.C.	
B	36" GRAB BAR	G.C.	G.C.	
C	42" GRAB BAR	G.C.	G.C.	
D	TOILET PAPER DISPENSER	G.C.	G.C.	
E	SANITARY NAPKIN DISPOSAL	G.C.	G.C.	
F	WALL MOUNTED HAND DRYER	G.C.	G.C.	
G	SOAP DISPENSER	OWNER	G.C.	
H	24" X 36" MIRROR	G.C.	G.C.	RE. ELEC.
J	PAPER TOWEL DISPENSER	OWNER	G.C.	
K	SWING UP GRAB BAR	G.C.	G.C.	
P	DOUBLE COAT/ROBE HOOK	G.C.	G.C.	
Q	RECESSED BABY CHANGER	G.C.	G.C.	
R	UTILITY HOOK	G.C.	G.C.	5' - 0" A.F.F.
S	PRIVACY SCREEN	G.C.	G.C.	ADULT CHANGING ROOM, REF. SPEC.

SPECIALTIES SCHEDULE

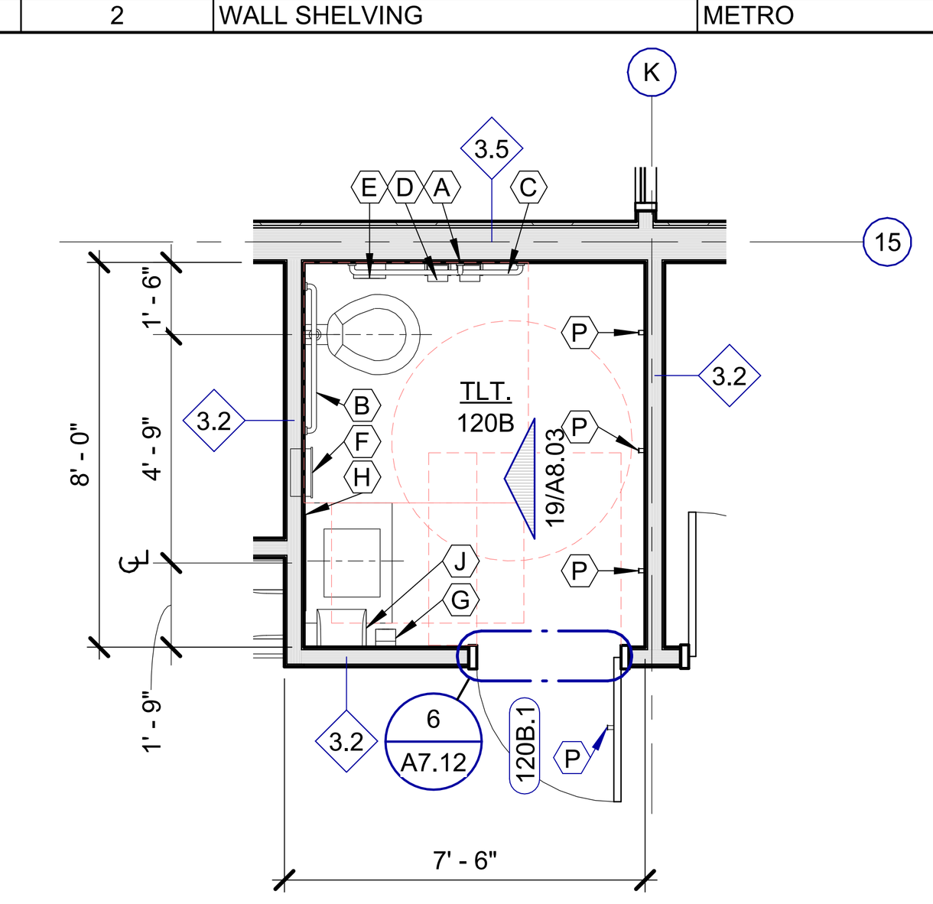
ID#	ITEM DESCRIPTION	HEIGHT	WIDTH	FURNISHED BY	INSTALLED BY	COMMENTS
SP-01	MIRROR	6' - 0"	3' - 0"	G.C.	G.C.	GARDEN RMS, GIFT SHOP, TOILET ROOMS, REF. SPEC.
SP-02	SILICONE EDGE GRAPHIC BANNER	RE: ELEVATIONS	RE: ELEVATIONS	OWNER	OWNER	REF: INTERIOR ELEVATIONS, CONTRACTOR TO PROVIDE BLOCKING
SP-03	COAT/ROBE HOOK	RE: ELEVATIONS	RE: ELEVATIONS	G.C.	G.C.	REF: INTERIOR ELEVATIONS AND SPEC.

EQUIPMENT SCHEDULE

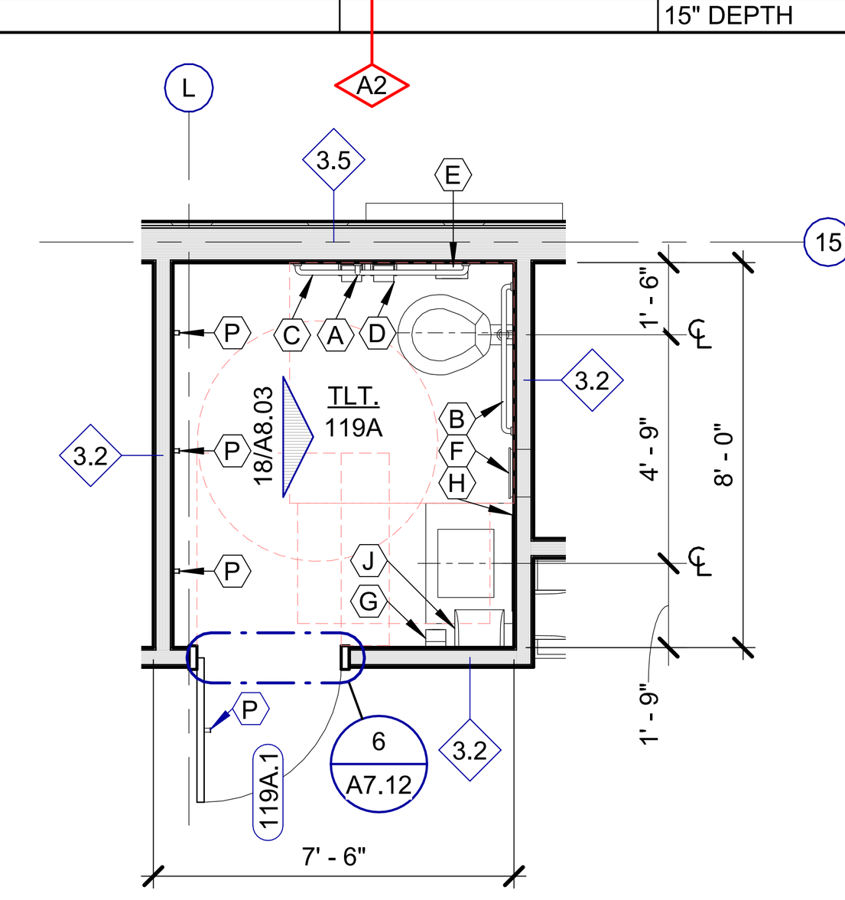
ID#	ITEM DESCRIPTION	HEIGHT	WIDTH	FURNISHED BY	INSTALLED BY	COMMENTS
EQ-02A	MONITOR	-	-	OWNER	G.C.	55" PORTRAIT
EQ-02B	MONITOR	-	-	OWNER	G.C.	55" LANDSCAPE
EQ-03	REFRIDGERATOR	N/A	3' - 0"	OWNER	G.C.	
EQ-04	ELECTRONIC VIDEO SIGNAGE	5' - 10"	8' - 0"	G.C.	G.C.	
EQ-05	ADULT CHANGING TABLE	-	-	G.C.	G.C.	POWERED



3 / A2.21 ENLARGE FLOOR PLAN @ TOILET RM 121/122
SCALE: 1/4" = 1'-0"
NORTH



4 / A2.21 ENLARGED FLOOR PLAN @ TOILET RM 120B
SCALE: 1/4" = 1'-0"
NORTH



5 / A2.21 ENLARGED FLOOR PLAN @TOILET RM 119A
SCALE: 1/4" = 1'-0"
NORTH

NO.	REVISION	DATE
A2	ADDENDUM NO.2	01/31/25
A1	ADDENDUM NO.1	01/24/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24

WTAARCH.COM
WTA ARCHITECTS
100 S Jefferson Ave, Suite 601
Saginaw, Michigan 48607
989 752 8107

PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS
WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

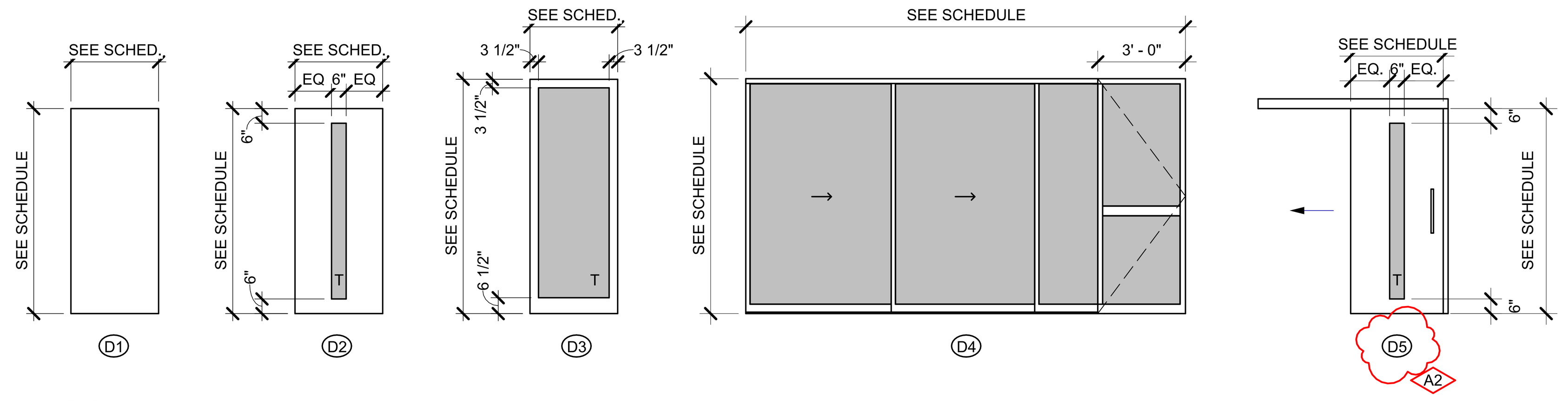
SHEET TITLE
ENLARGED PLANS

PROJECT NUMBER
2022022

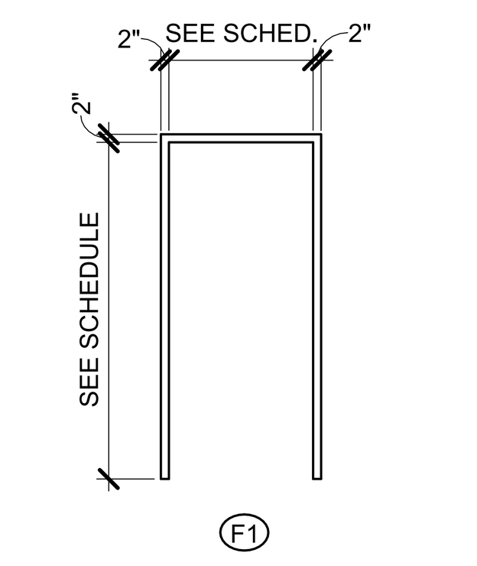
PROJECT DATE
JANUARY 09, 2025

CHECKED BY
JMJ

SHEET NUMBER
A2.21

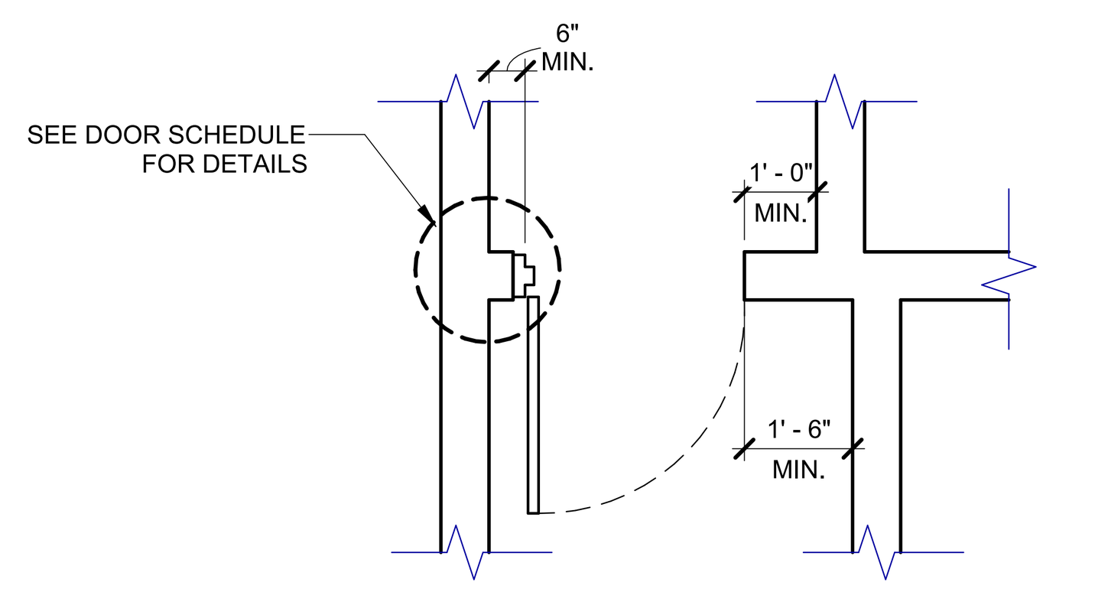


DOOR TYPES
1/4" = 1'-0"



FRAME TYPES
1/4" = 1'-0"

NOTE: PROVIDE CLEARANCES SHOWN AT ALL DOORS UNLESS NOTED OTHERWISE ON FLOOR PLANS OR ENLARGED PLANS



TYPICAL DOOR CLEARANCE DETAIL
3/8" = 1'-0"

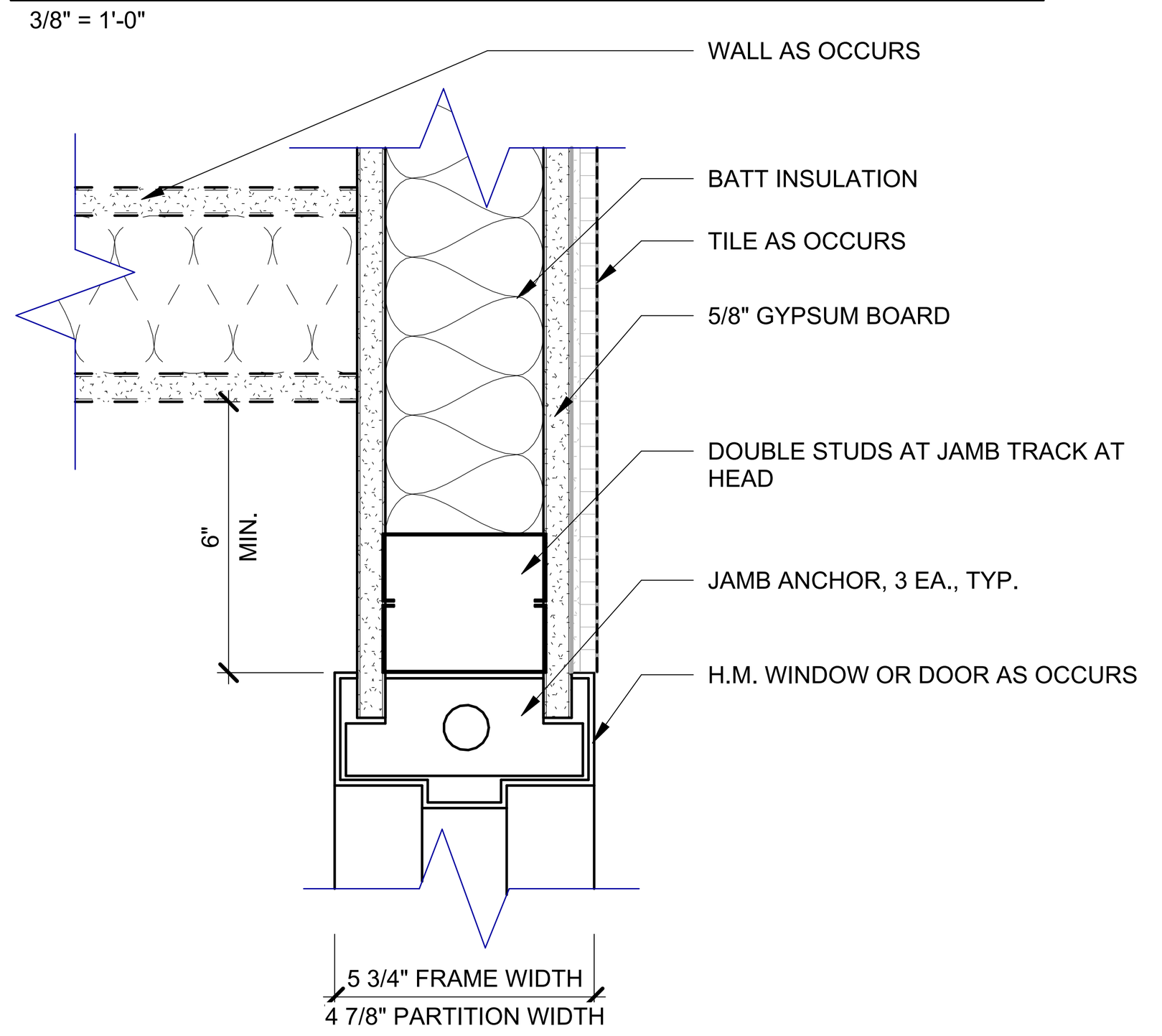
DOOR SCHEDULE

DOOR NUMBER	WIDTH	HEIGHT	THK.	DOOR PANEL TYPE	DOOR PANEL MAT.	DOOR PANEL FINISH	DOOR FRAME TYPE	DOOR FRAME MAT.	DOOR FRAME FINISH	DETAILS *=SIM. HEAD	DETAILS JAMB	DETAILS SILL	FIRE RATING LABEL	FIRE RATING MIN.	REMARKS	HW SET
100.1	(2) 3' - 0"	10' - 0"	2 1/4"	D3	ALUM		W2	ALUM		SEE FRAME	SEE FRAME				CARD READER	15
100.2	(2) 3' - 0"	10' - 0"	2 1/4"	D3	ALUM		W2	ALUM		SEE FRAME	SEE FRAME					18
101.1	(2) 3' - 0"	8' - 0"	2 1/4"	D3	ALUM		WA	ALUM		SEE FRAME	SEE FRAME					22
101.2	(2) 3' - 0"	8' - 0"	2 1/4"	D3	ALUM		WA	ALUM		SEE FRAME	SEE FRAME					20
102.1	4' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		3/A3.10	3/A3.10				KEYPAD	09
102.2	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		3/A3.10	3/A3.10					24
103.1	(2) 3' - 0"	8' - 0"	2 1/4"	D3	ALUM		WI	ALUM		SEE FRAME	SEE FRAME					21
103.2	(2) 3' - 0"	8' - 0"	2 1/4"	D3	ALUM		WI	ALUM		SEE FRAME	SEE FRAME					20
103.3	(2) 3' - 0"	8' - 0"	2 1/4"	D3	ALUM		W25	ALUM		SEE FRAME	SEE FRAME					19
103.4	8' - 0"	8' - 0"		-	-	-	-	-	-	9/A3.10	10/A3.10				OPENING	26
103A.1	(2) 3' - 0"	10' - 0"	2 1/4"	D3	ALUM		W24	ALUM		SEE FRAME	SEE FRAME					29
103A.2	(2) 3' - 0"	10' - 0"	2 1/4"	D3	ALUM		W24	ALUM		SEE FRAME	SEE FRAME					28
110	6' - 0"	8' - 0"		-	-	-	-	-	-	9/A3.10	10/A3.10				OPENING	26
111	4' - 0"	8' - 0"		-	-	-	-	-	-	10/A3.10	10/A3.10				OPENING	26
112	4' - 0"	8' - 0"		-	-	-	-	-	-	10/A3.10	10/A3.10				OPENING	26
113.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10					06
114.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10			45		11
115.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10					04
116.1	3' - 0"	8' - 0"	2 1/4"	D3	ALUM		W4	ALUM		SEE FRAME	SEE FRAME				CARD READER	16
117.1	6' - 9"	7' - 4"	1 3/4"	D5	WD		-	ALUM		14/A3.10	15/A3.10	14/A3.10			SLIDING DOOR; THUMBTURN	23
117.2	6' - 9"	7' - 4"	1 3/4"	D5	WD		-	ALUM		14/A3.10	15/A3.10	14/A3.10			SLIDING DOOR; THUMBTURN	23
117.3	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		5/A3.10	6/A3.10					17
118.1	15' - 0"	10' - 0"	1 1/2"	D4	ALUM		-	ALUM		7/A3.10	9/A3.10, 10/A3.10	8/A3.10			SLIDING MALL FRONT, PANIC HARDWARE ON GIFT SHOP SIDE OF DOOR SECTION	25
119.1	3' - 0"	7' - 0"	1 3/4"	D2	WD		F1	HM		3/A3.10	3/A3.10				KEYPAD, FROSTED FILM ON DOOR LITE	14
119.2	3' - 0"	8' - 0"	2 1/4"	D3	ALUM		W27	ALUM		SEE FRAME	SEE FRAME				FROSTED FILM ON DOOR LITE	27
119.3	20' - 0"	10' - 0"		-			-	-	-						FOLDING PANEL PARTITION	25
119A.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10					05
119B.1	4' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10			45		10
120.1	3' - 0"	7' - 0"	1 3/4"	D2	WD		F1	HM		3/A3.10	3/A3.10				KEYPAD, FROSTED FILM ON DOOR LITE	14
120.2	3' - 0"	8' - 0"	2 1/4"	D3	ALUM		W28	ALUM		SEE FRAME	SEE FRAME				FROSTED FILM ON DOOR LITE	27
120A.1	4' - 0"	7' - 0"	1 3/4"	D1	WD		F3	HM		3/A3.10	3/A3.10			45		10
120B.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10					05
121.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10					01
122.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10					01
123.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10			45		11
125.1	4' - 0"	8' - 0"													OPENING	07
126.1	3' - 0"	7' - 0"	1 3/4"	D2	HM		F1	HM		3/A3.10	3/A3.10					02
127.1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		3/A3.10	3/A3.10			45		11
128.1	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM		3/A3.10	3/A3.10					07
128.2	(2) 3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		5/A3.10	6/A3.10					12
128.3	4' - 0"	8' - 0"													OPENING	26
129.1	(2) 3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM						45		13
129A.1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		3/A3.10	3/A3.10					11
130.1	(2) 3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		3/A3.10	3/A3.10					03
130.2	3' - 0"	7' - 0"	1 3/4"	D1	WD		F1	HM	HM	3/A3.10	3/A3.10					08
131.1	(2) 3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		5/A3.10	6/A3.10				CARD READER	12
132.1	(2) 3' - 0"	9' - 10"	2 1/4"	D3	ALUM		W32	HM		SEE FRAME	SEE FRAME					29
133.1	(2) 3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		5/A3.10	6/A3.10					12

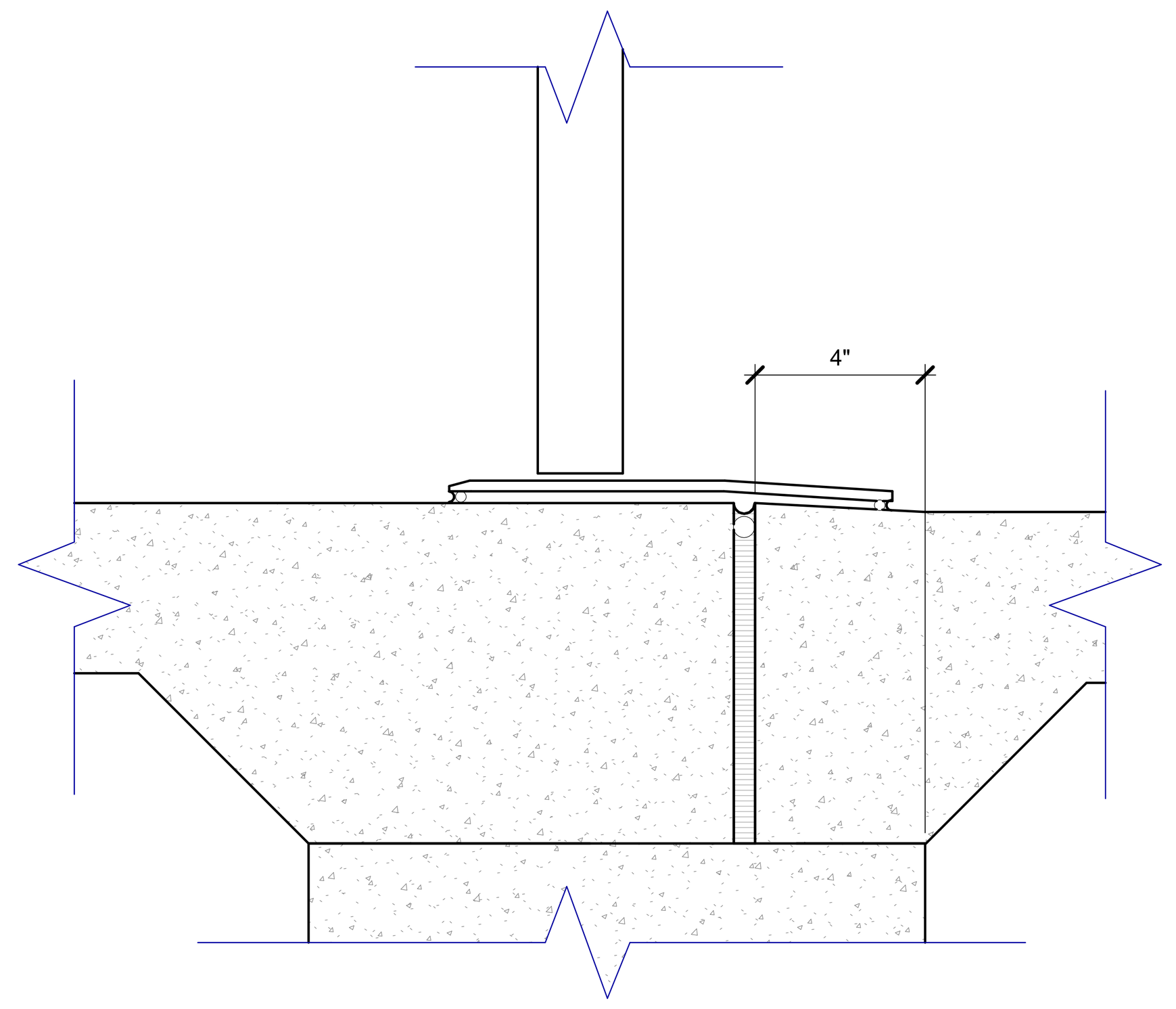
A2

DOOR AND FRAME GENERAL NOTES:

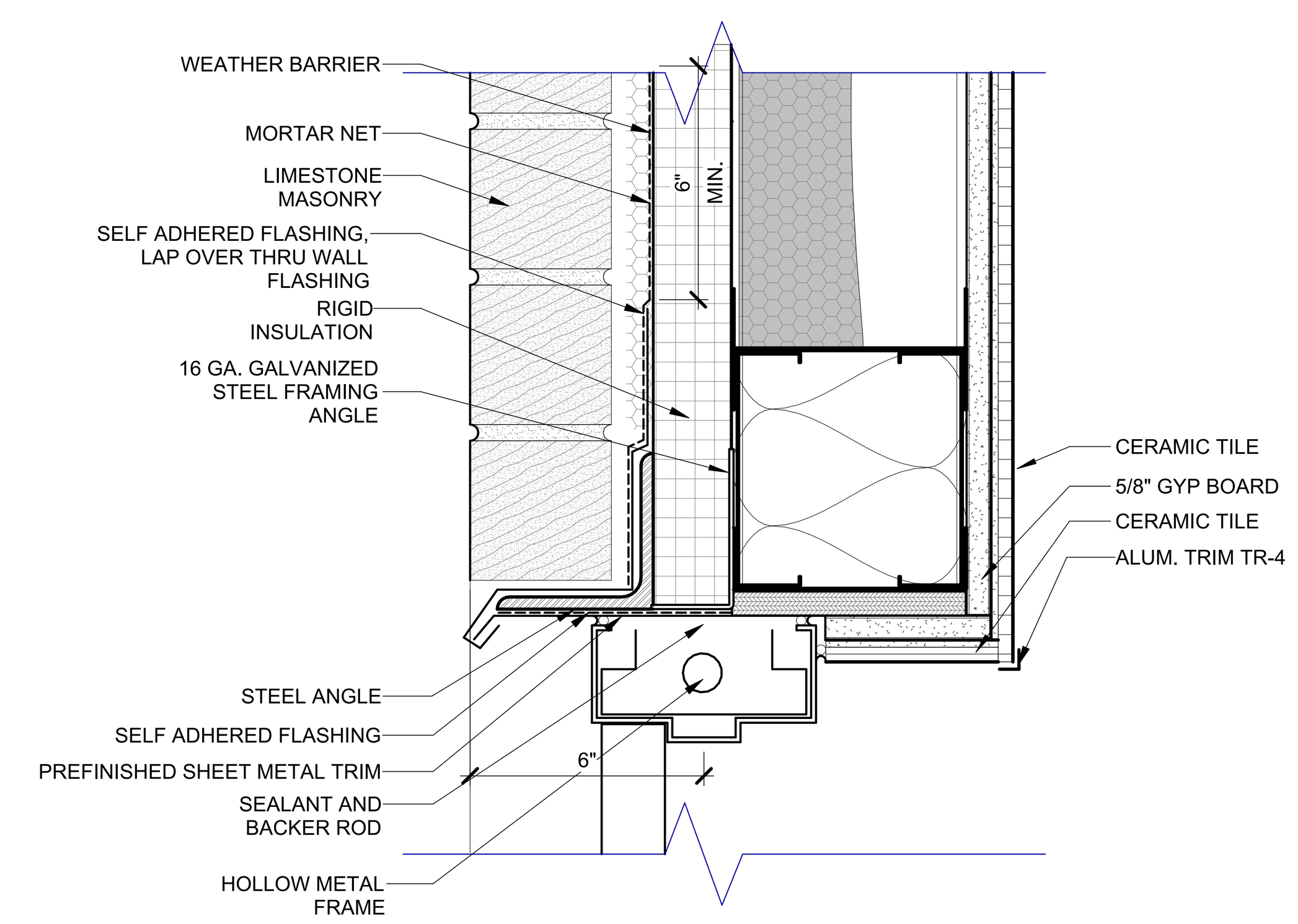
1. GENERAL CONTRACTOR SHALL COORDINATE AND FIELD VERIFY ALL HOLLOW METAL FRAME DIMENSIONS PRIOR TO FABRICATION.
2. ALL DIMENSIONS INDICATE ROUGH OPENING DIMENSIONS.
3. REFER TO SPECIFICATIONS FOR GLASS TYPE DESCRIPTIONS.
4. ALL HOLLOW METAL FRAMES SHALL HAVE A 6" NOMINAL JAMB DEPTH UON. ALL FACE WIDTHS SHALL BE 2" UON.
5. INSTALL GLAZING ON THE CORRIDOR SIDE OF FRAMES AT CORRIDOR WINDOWS. INSTALL GLAZING ON THE SIDE OF THE LARGER ROOM AT GLAZING BETWEEN ROOMS. FOR ALL OTHER FRAMES VERIFY WITH ARCHITECT.
6. PROVIDE SEALANT AT JOINTS BETWEEN ALL DOOR AND WINDOW FRAMES AND ADJACENT MATERIALS (FIRE RATED SEALANT AT RATED FRAMES).
7. AT ALL DOORS AND FRAMES COORDINATE SECURITY DEVICES SPECIFICATIONS AND ELECTRICAL DRAWINGS. PREP FRAMES FOR CONDUIT AND DEVICES AS REQUIRED.
8. PAINT ALL HOLLOW METAL DOORS & FRAMES WITH HIGH PERFORMANCE COATING (PT-8)



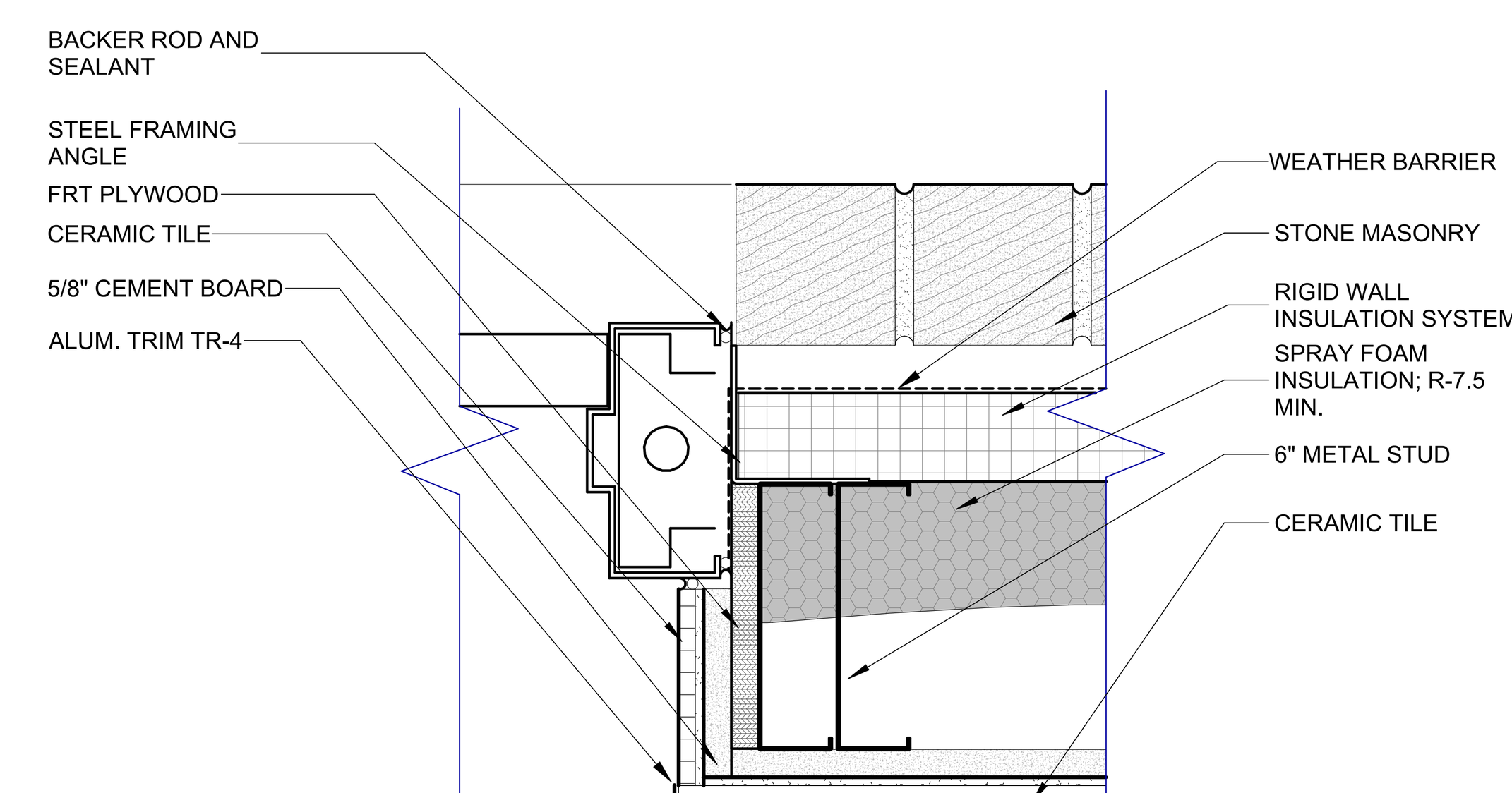
1 A3.10 H.M. DOOR JAMB/HEAD @ MTL. STUD WALL
SCALE: 3" = 1'-0"



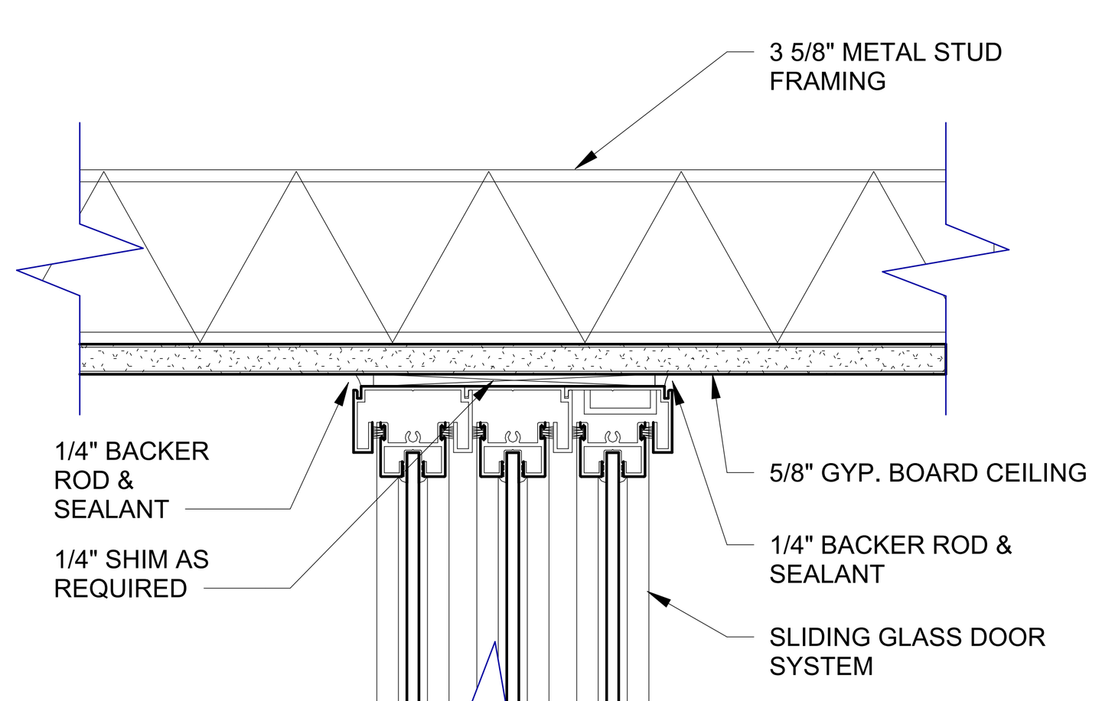
2 A3.10 EXTERIOR DOOR SILL
SCALE: 3" = 1'-0"



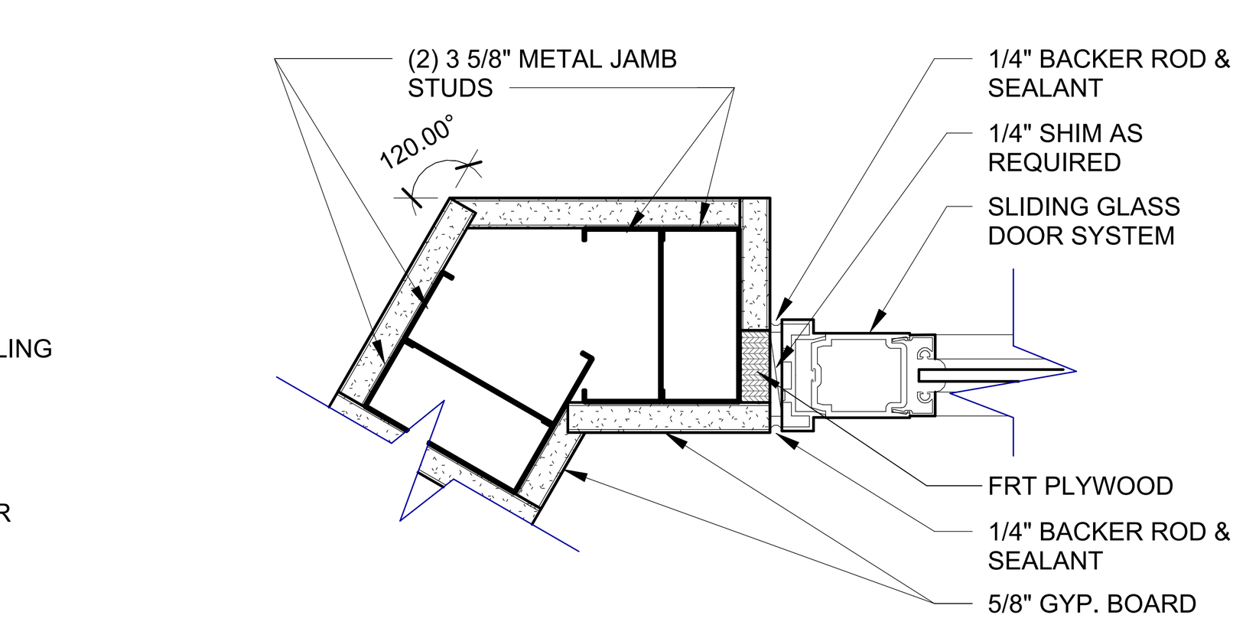
3 A3.10 HM DOOR HEAD W/ LINTEL
SCALE: 3" = 1'-0"



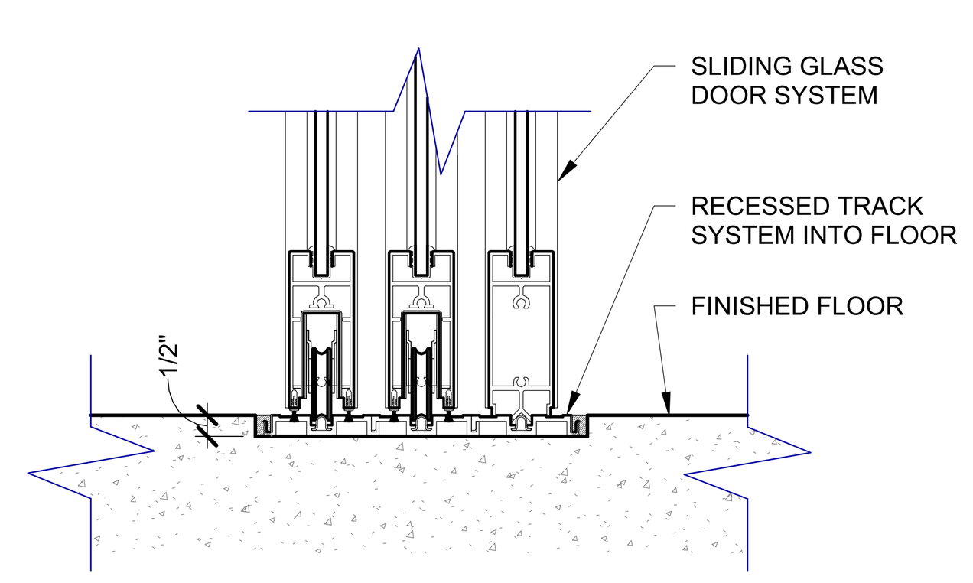
4 A3.10 HM DOOR JAMB
SCALE: 3" = 1'-0"



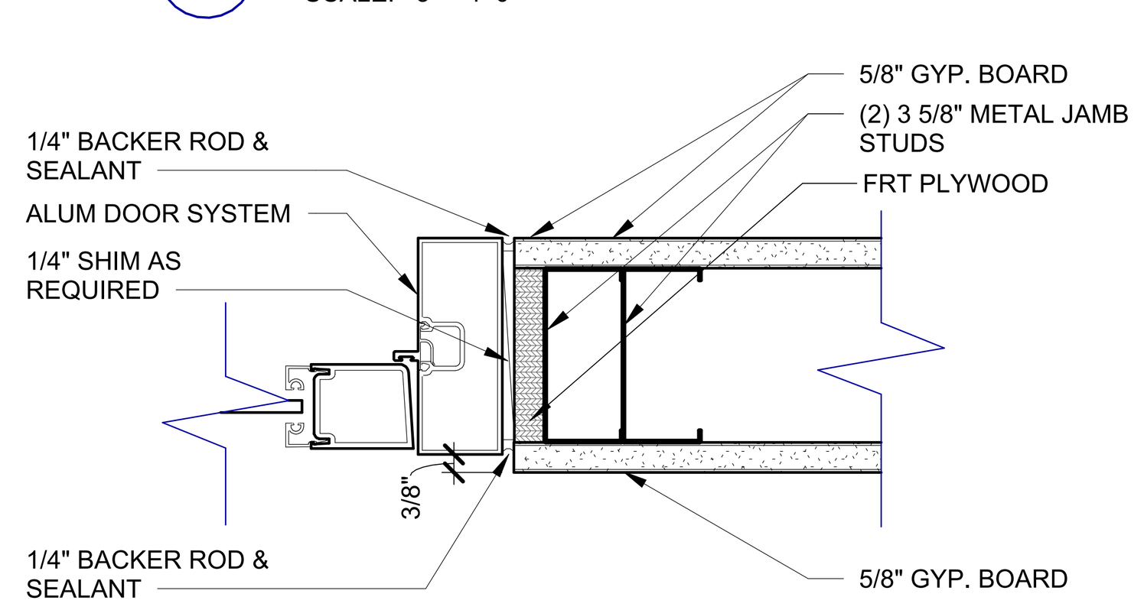
5 A3.10 SLIDING DOOR HEAD DETAIL
SCALE: 3" = 1'-0"



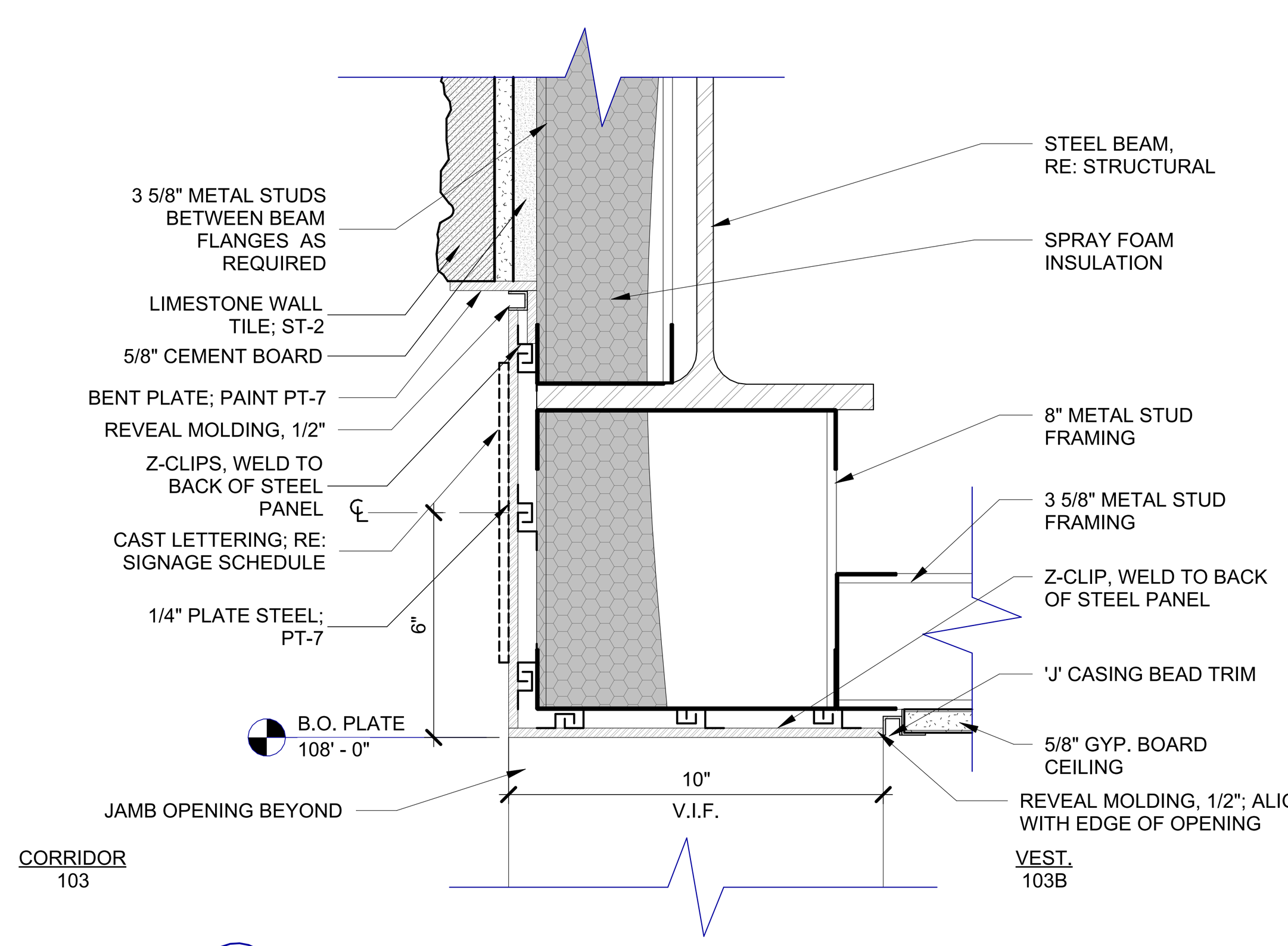
7 A3.10 SLIDING DOOR JAMB DETAIL
SCALE: 3" = 1'-0"



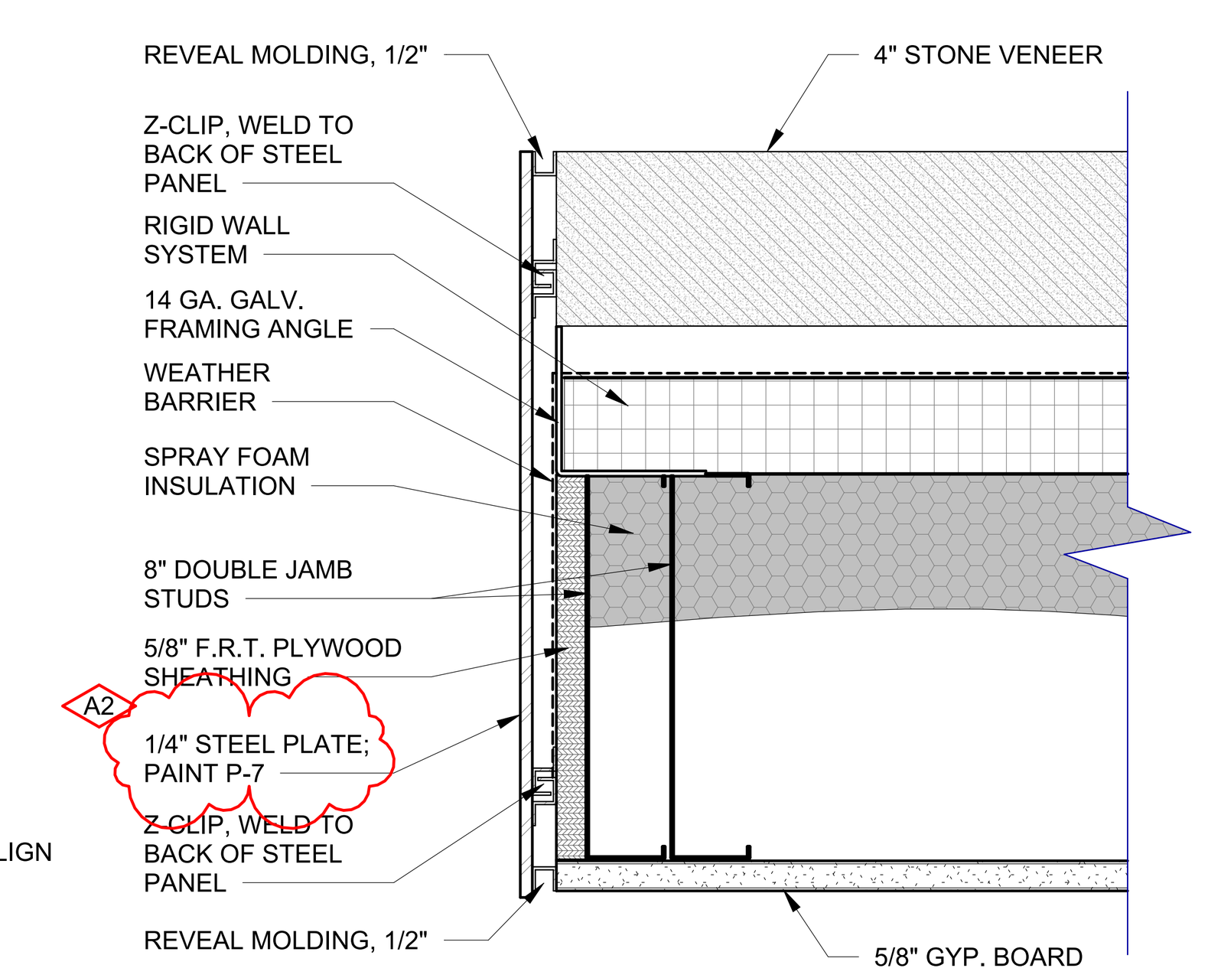
6 A3.10 SLIDING DOOR SILL DETAIL
SCALE: 3" = 1'-0"



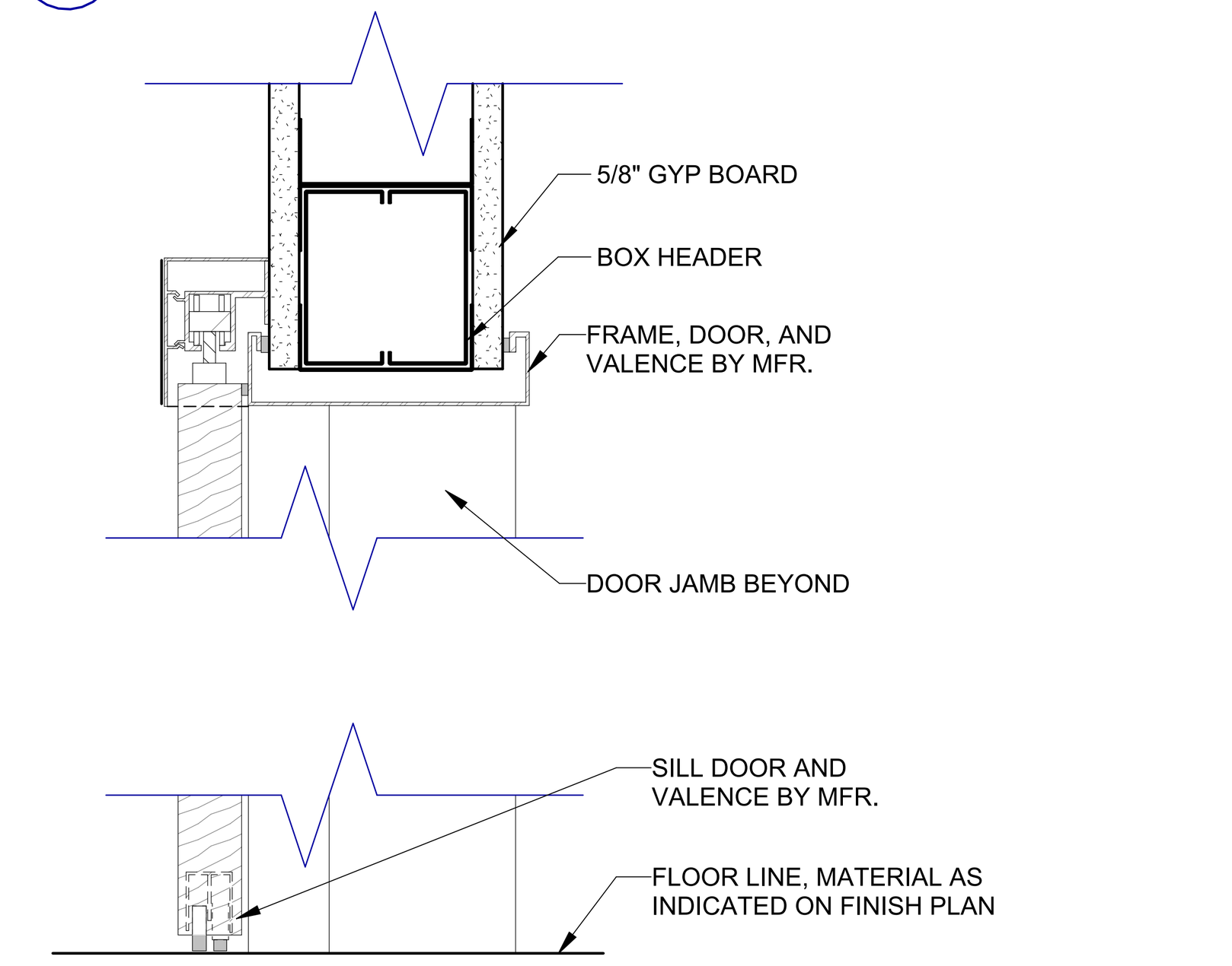
8 A3.10 DOOR JAMB DETAIL
SCALE: 3" = 1'-0"



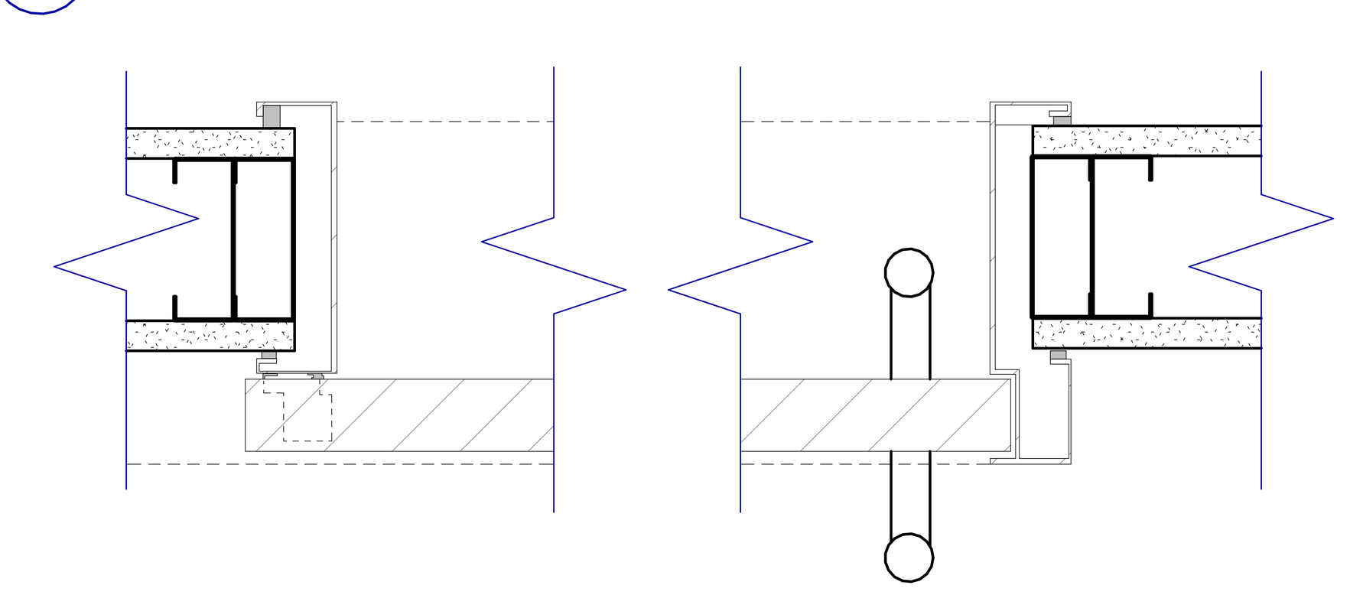
9 A3.10 OPENING HEAD DETAIL
SCALE: 3" = 1'-0"
REFERENCE: 1/ A3.01



10 A3.10 OPENING JAMB DETAIL
SCALE: 3" = 1'-0"



14 A3.10 DOOR HEAD/SILL @ HORIZONTAL SLIDER
SCALE: 3" = 1'-0"



15 A3.10 DOOR JAMB @ HORIZONTAL SLIDER
SCALE: 3" = 1'-0"

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	ISSUED FOR BID	01/09/25
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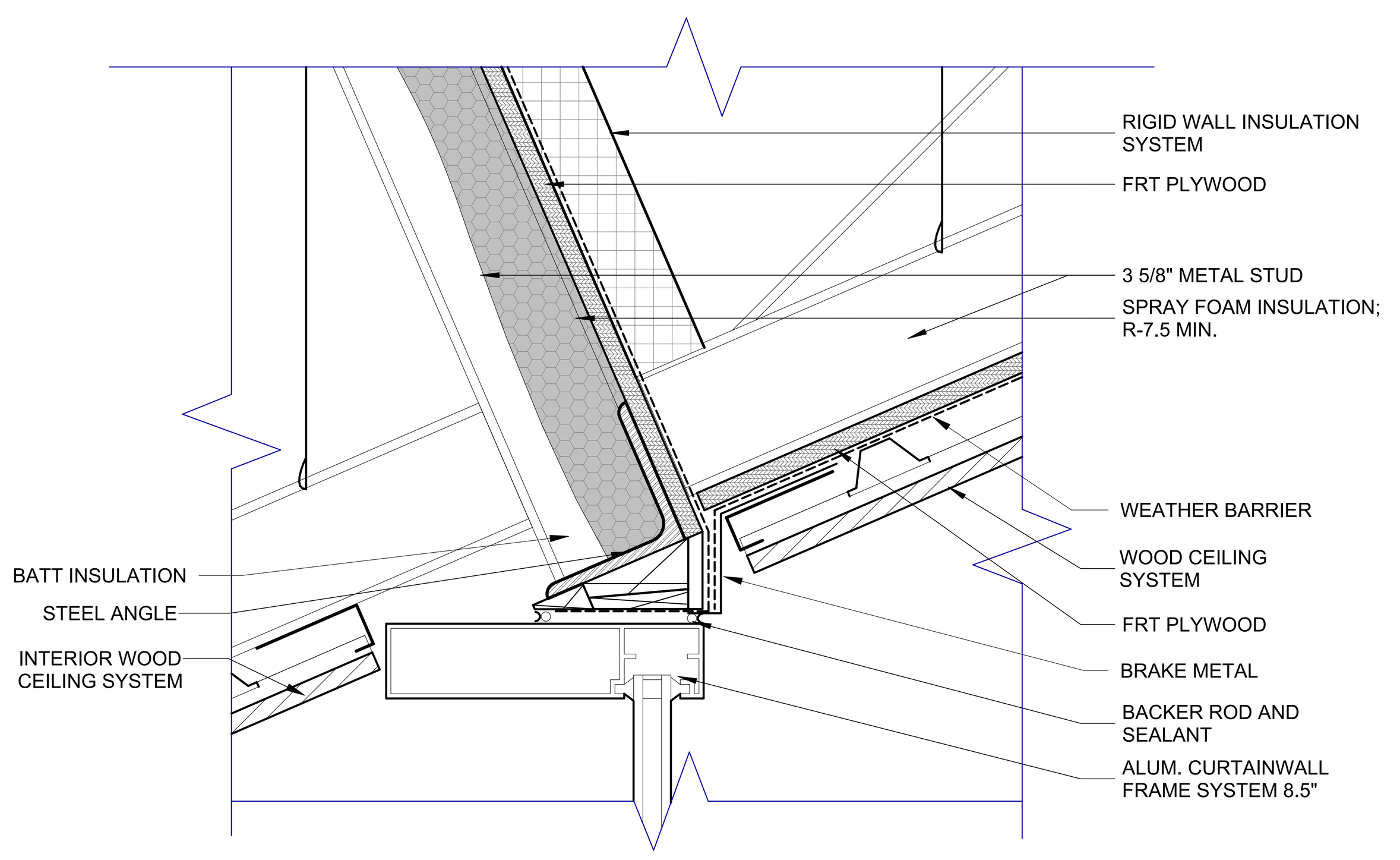
989 752 8107

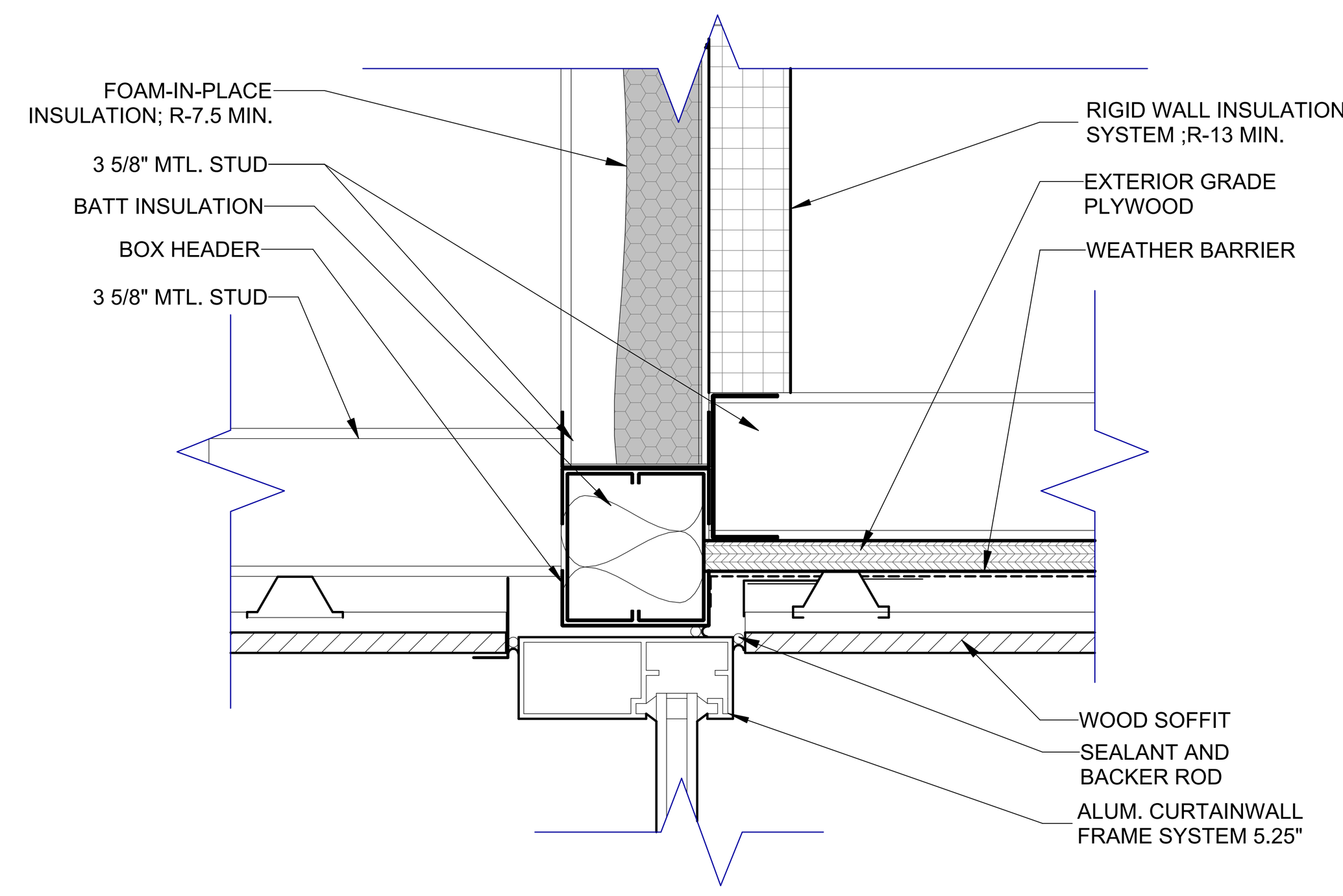
PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
DOOR SCHEDULE, DETAILS

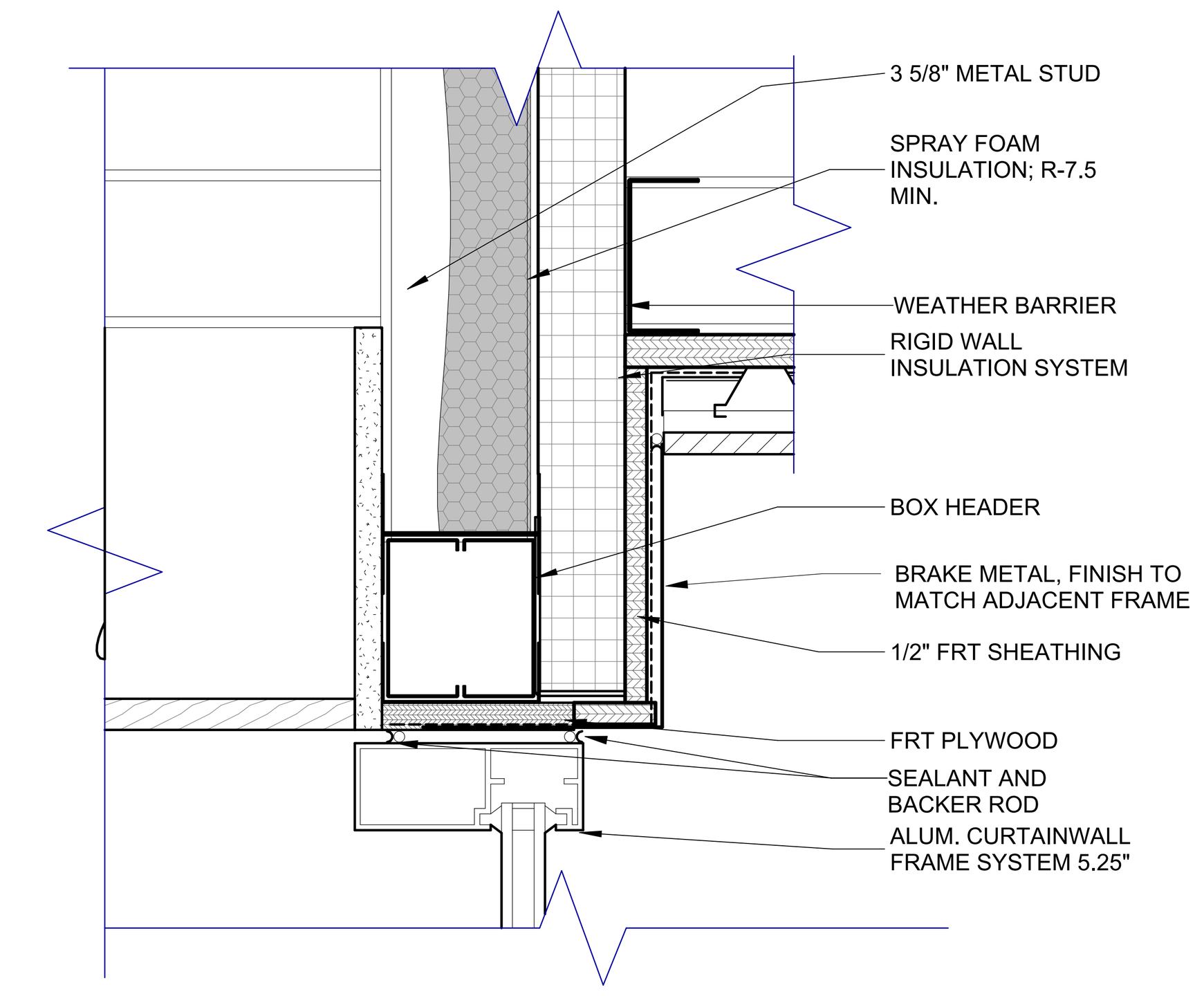
PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A3.10



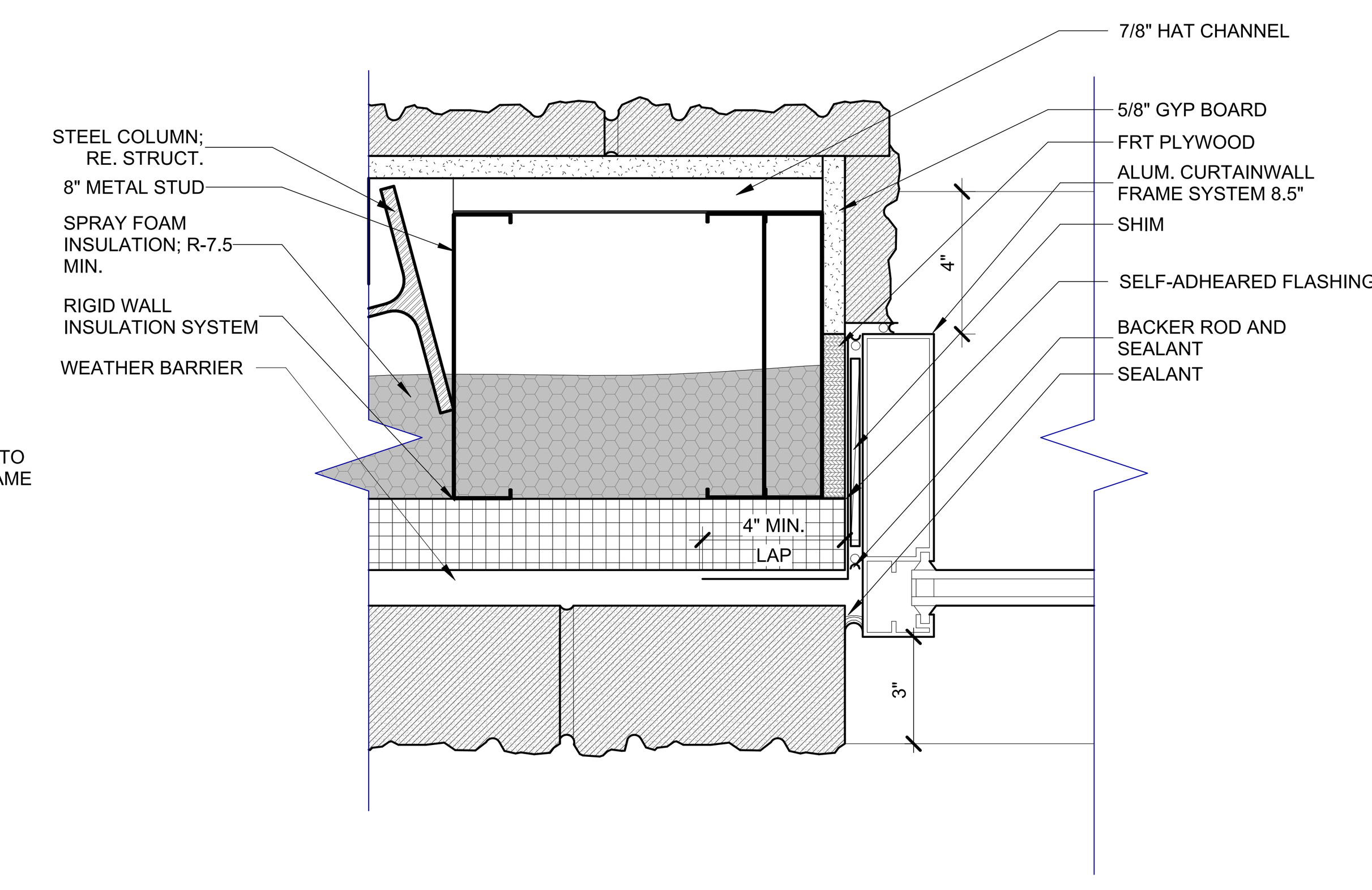
1 A3.22 HEAD DETAIL @ HIGH SLOPED WOOD SOFFIT
SCALE: 3" = 1'-0"
REFERENCE: 2/ A3.11



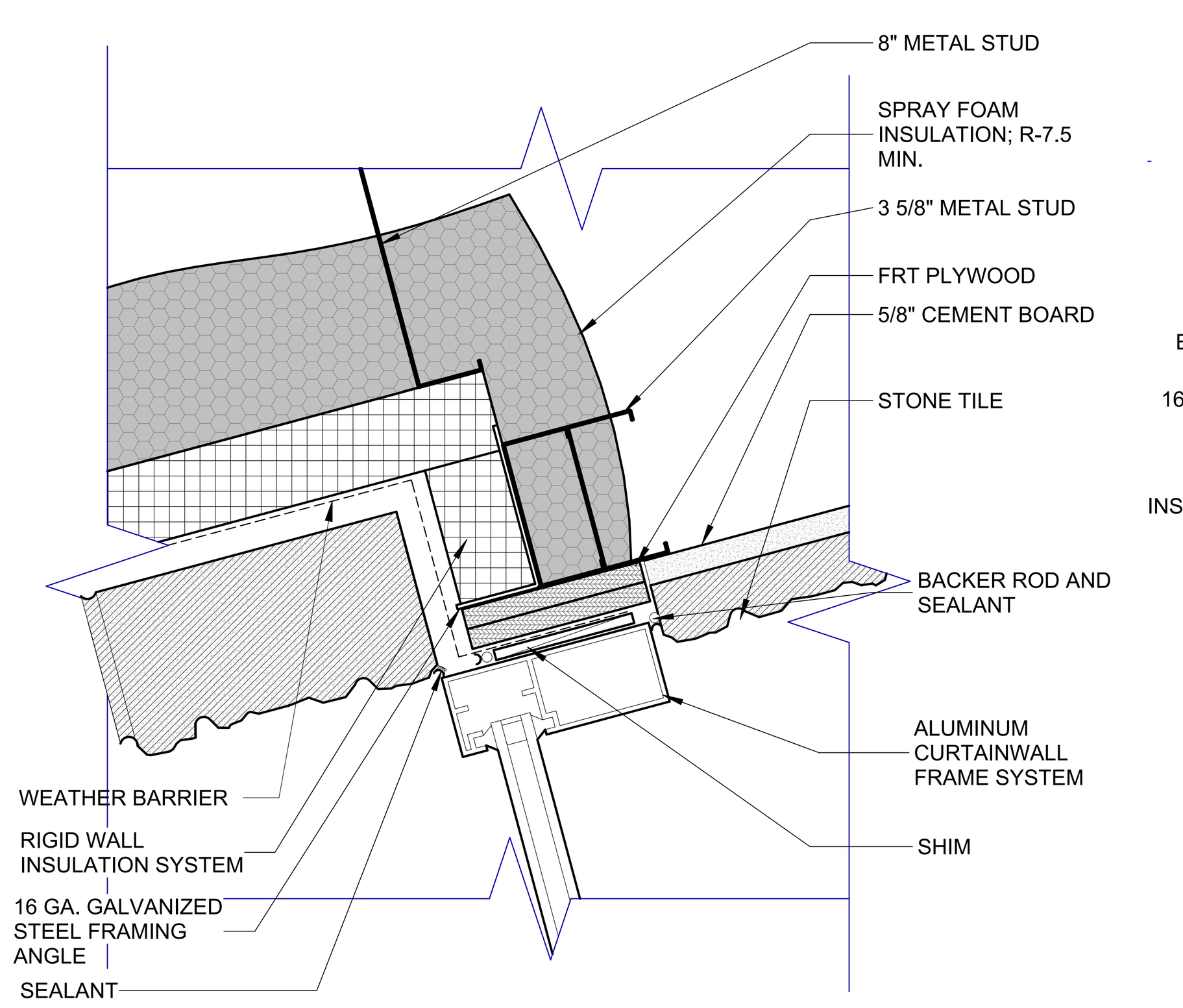
2 A3.22 HEAD DETAIL @ CANOPY
SCALE: 3" = 1'-0"
REFERENCE: 2/ A3.12



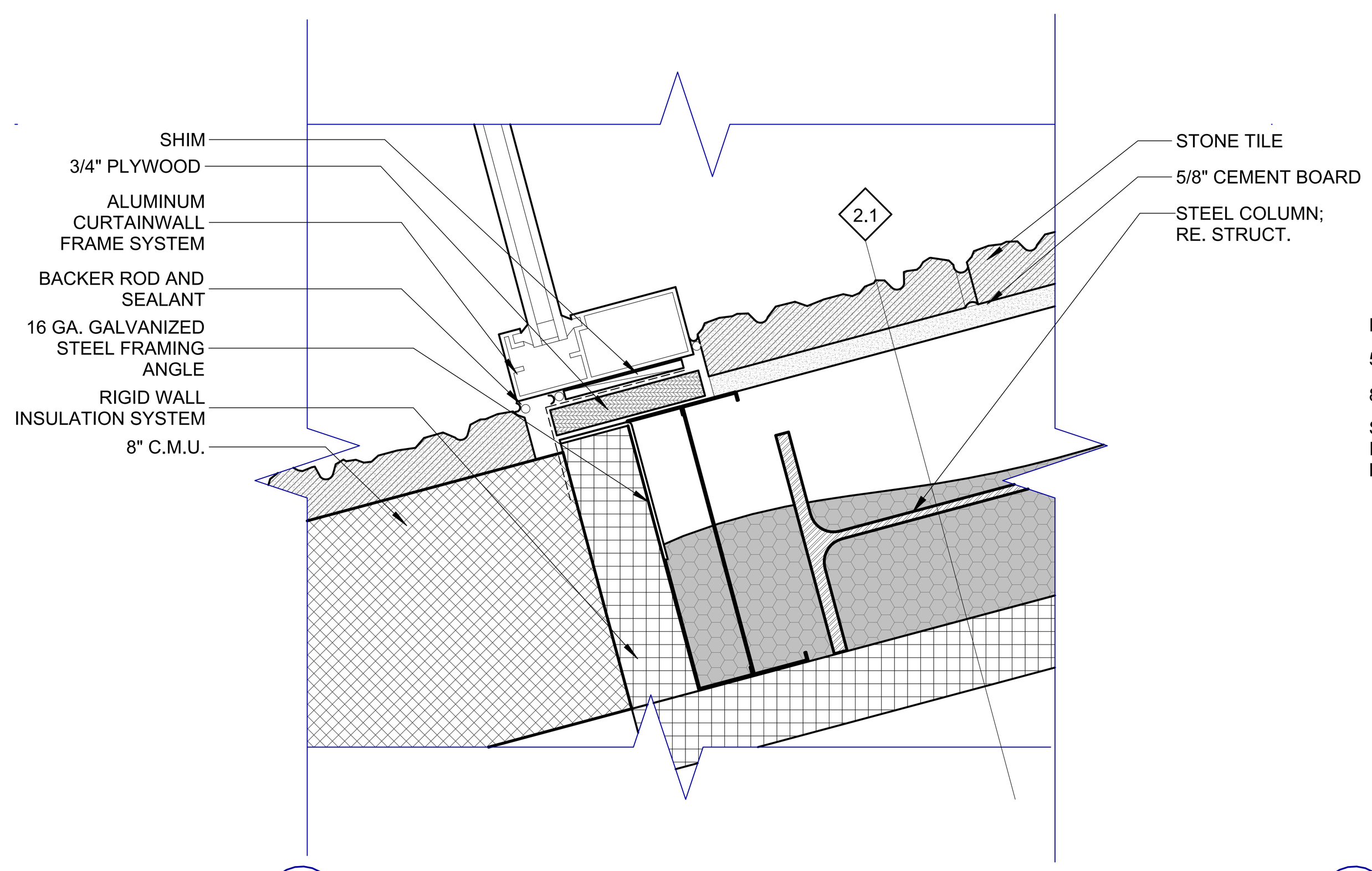
3 A3.22 HEAD DETAIL @ CAFE
SCALE: 3" = 1'-0"
REFERENCE: 17/ A3.12



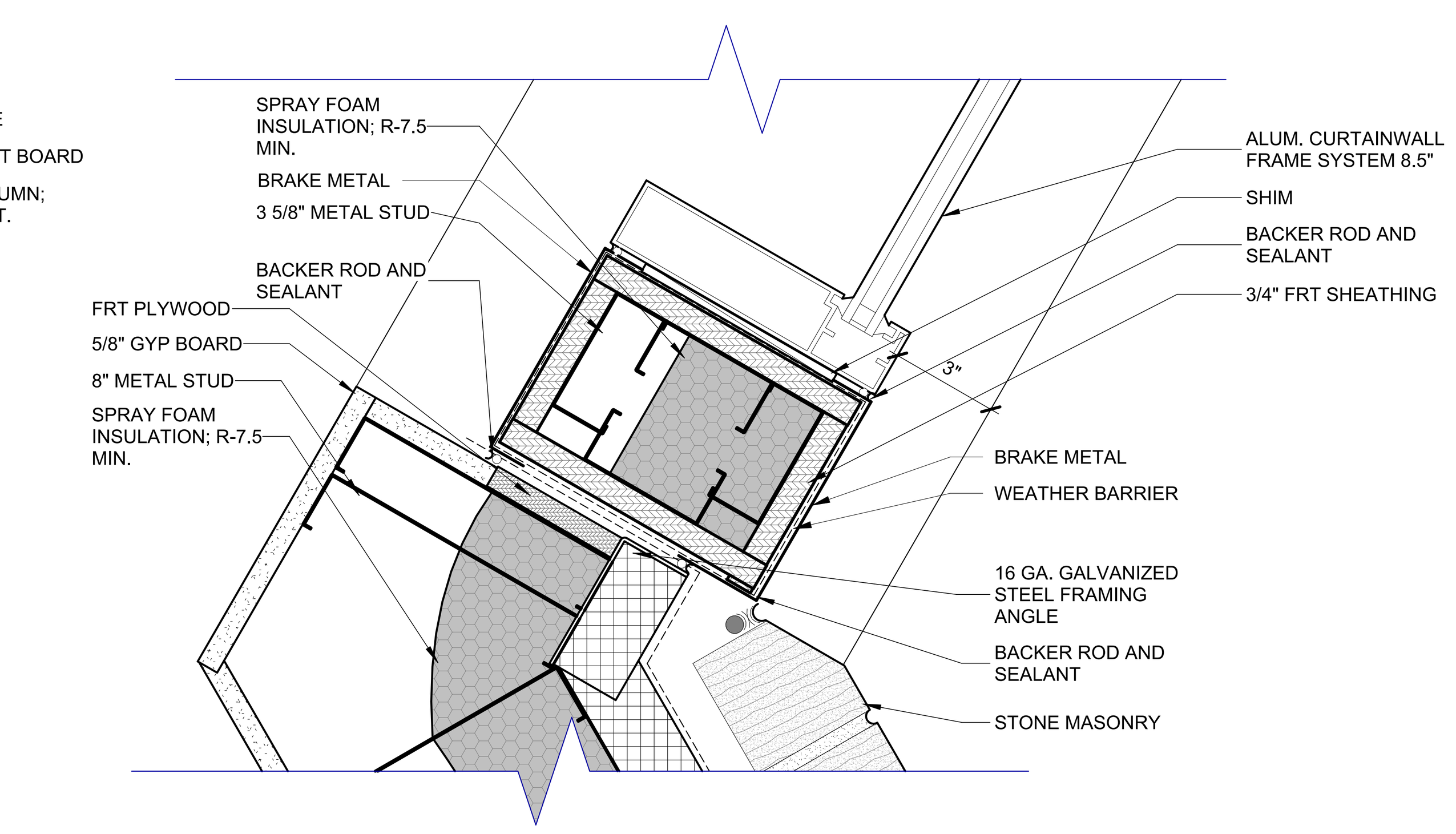
4 A3.22 JAMB @ W9
SCALE: 3" = 1'-0"
REFERENCE: 3/ A2.41



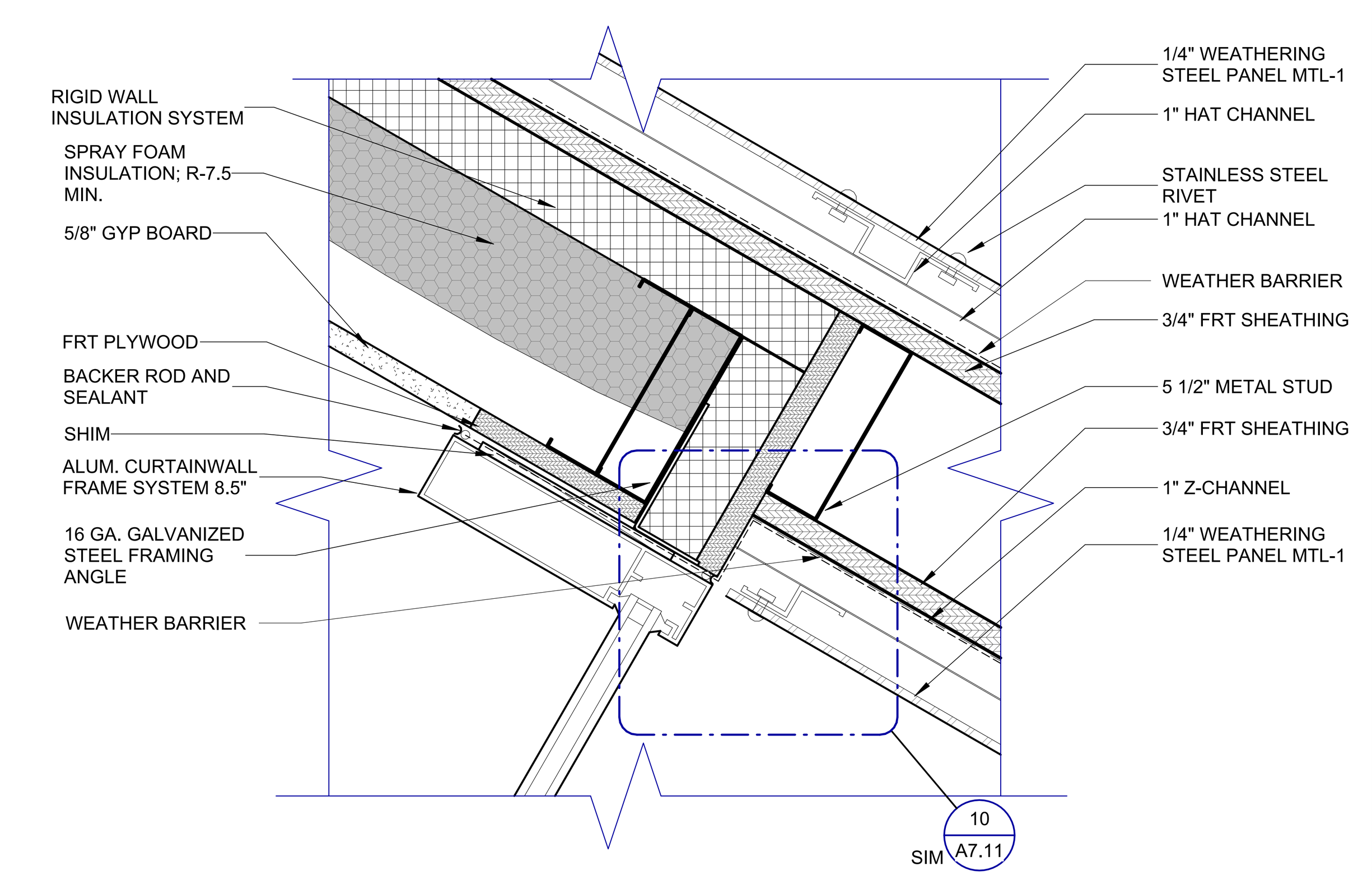
5 A3.22 TYP. N. JAMB @ CORR. 104 WINDOW
SCALE: 3" = 1'-0"
REFERENCE: 2/ A2.41



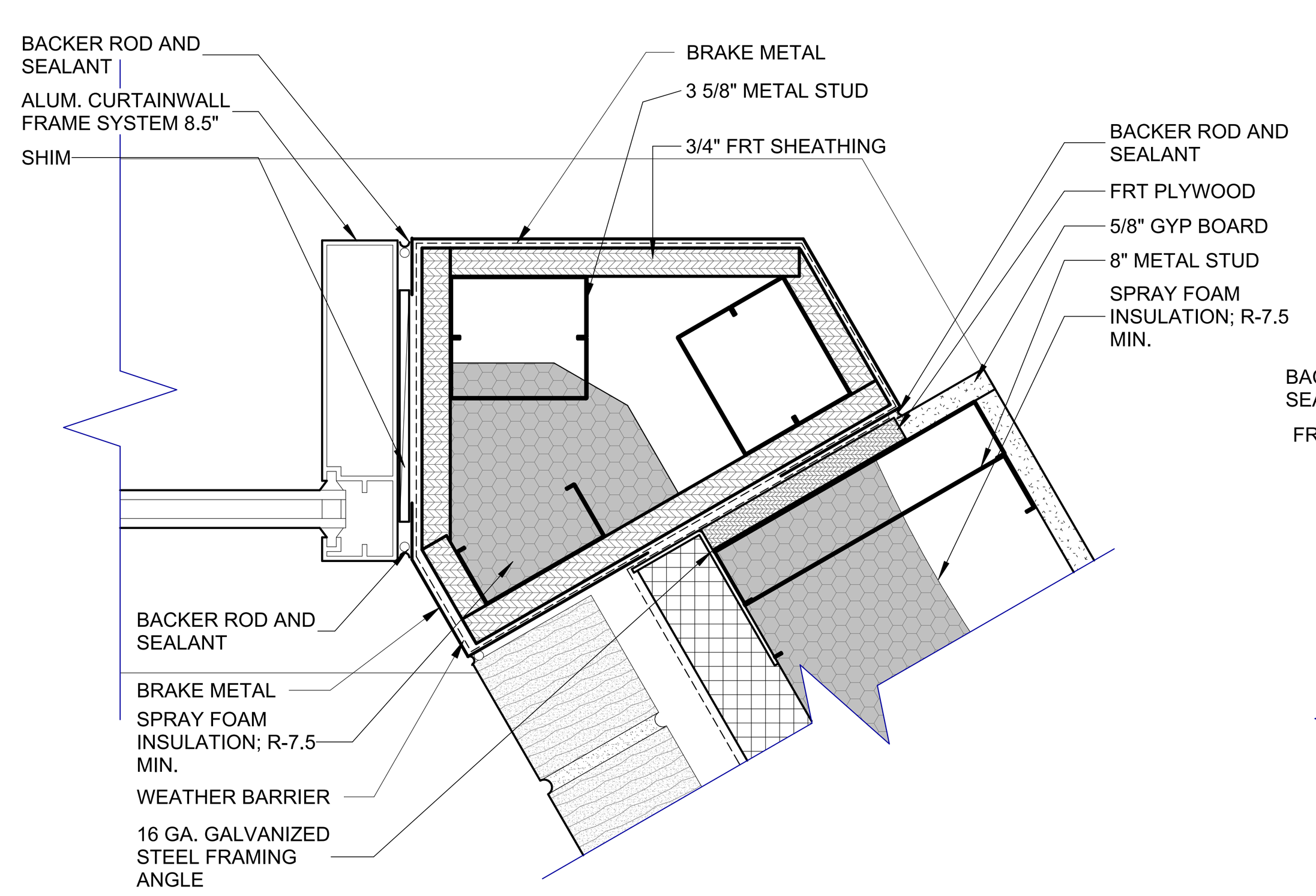
6 A3.22 TYP. S. JAMB @ CORR. 104 WINDOW
SCALE: 3" = 1'-0"
REFERENCE: 1/ A2.41



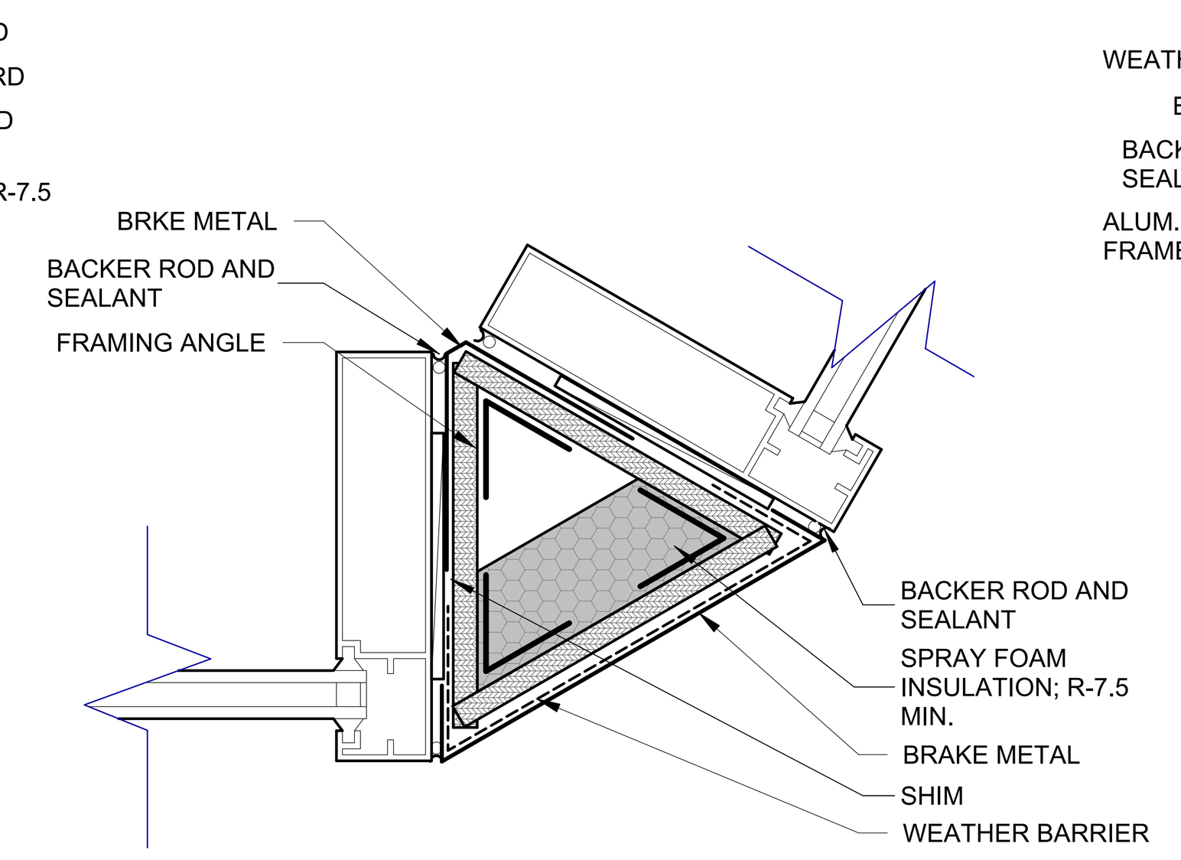
7 A3.22 TYP JAMB S. @ GIFT SHOP BOTTOM FRAME
SCALE: 3" = 1'-0"
REFERENCE: 8/ A2.41



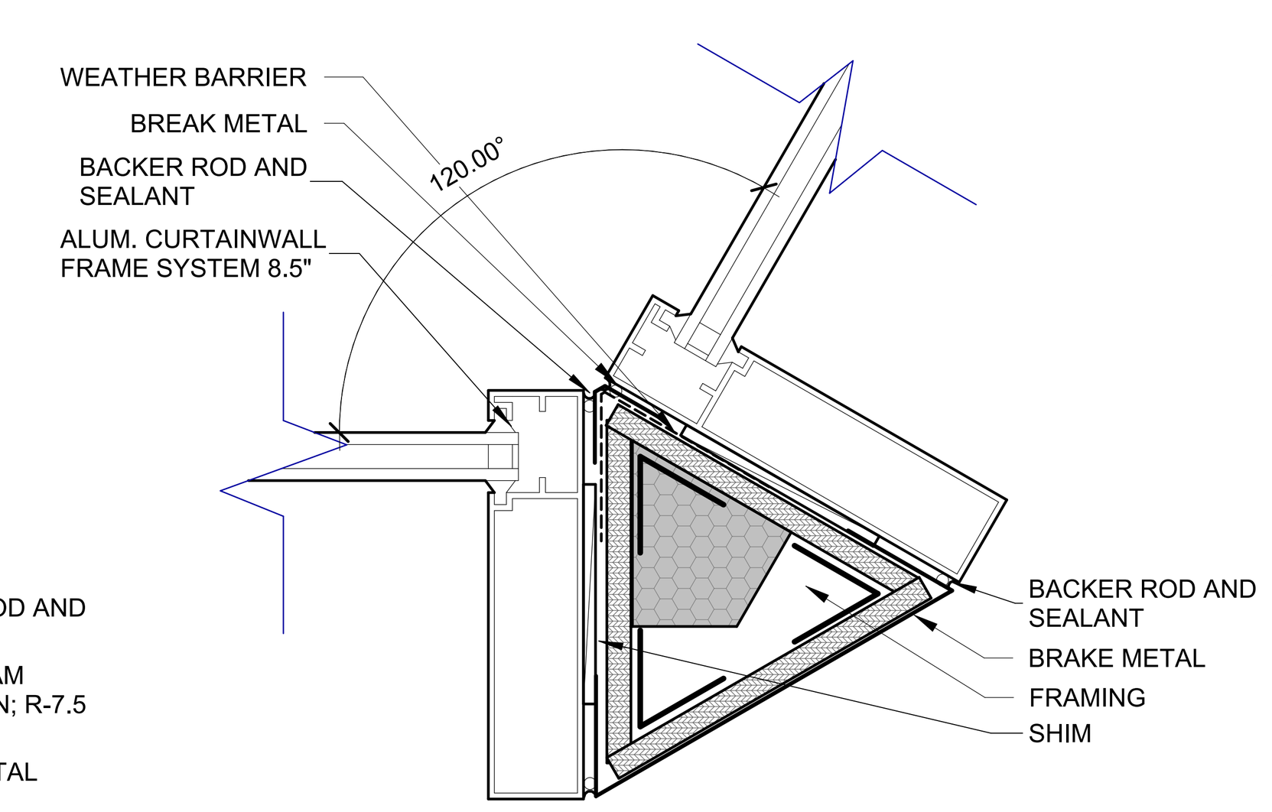
8 A3.22 TYP. JAMB N. @ GIFT SHOP FRAME
SCALE: 3" = 1'-0"
REFERENCE: 6/ A2.41



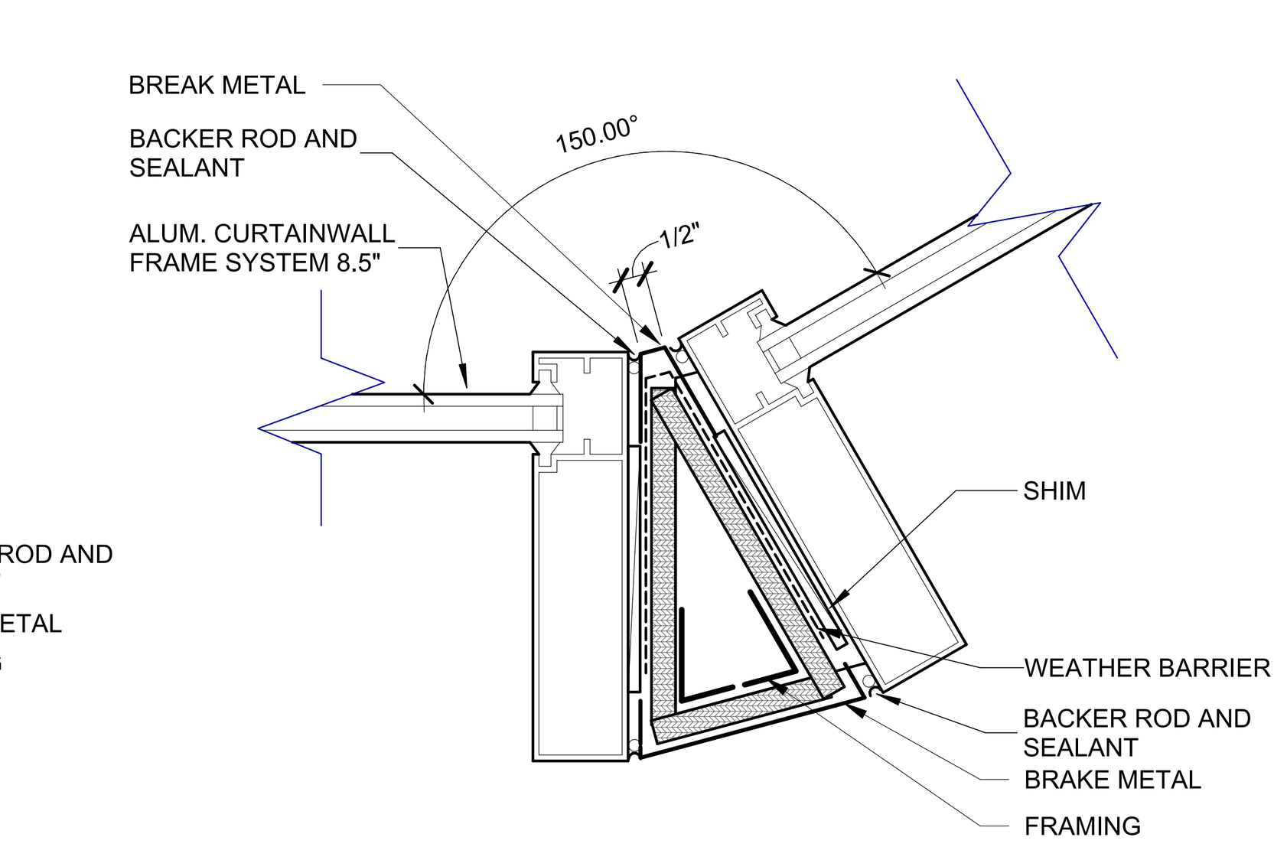
9 A3.22 JAMB @ W19 LOW FRAME
SCALE: 3" = 1'-0"
REFERENCE: 12/ A3.11



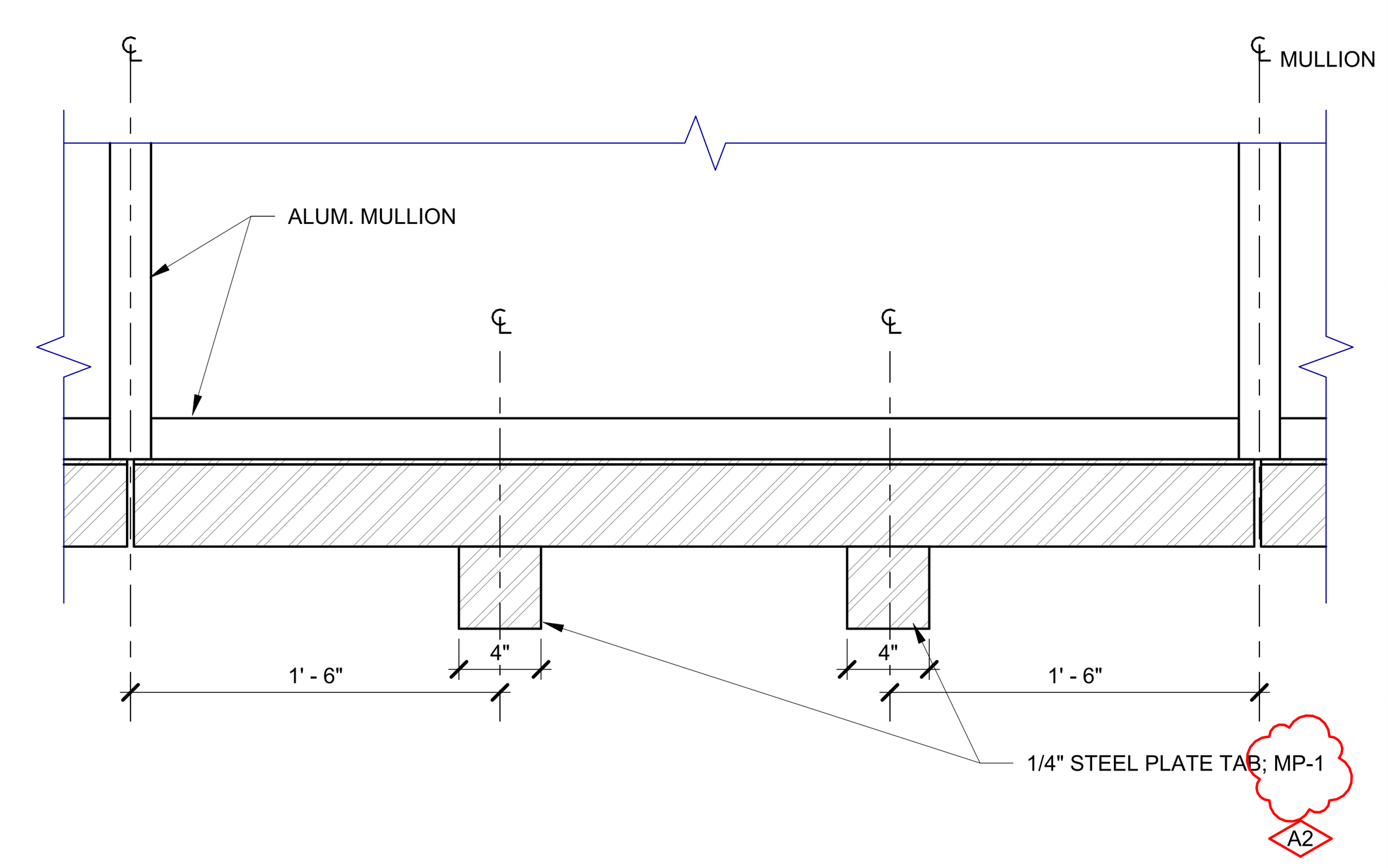
10 A3.22 TYP. JAMB @ 120 DEGREE EXTERIOR
SCALE: 3" = 1'-0"



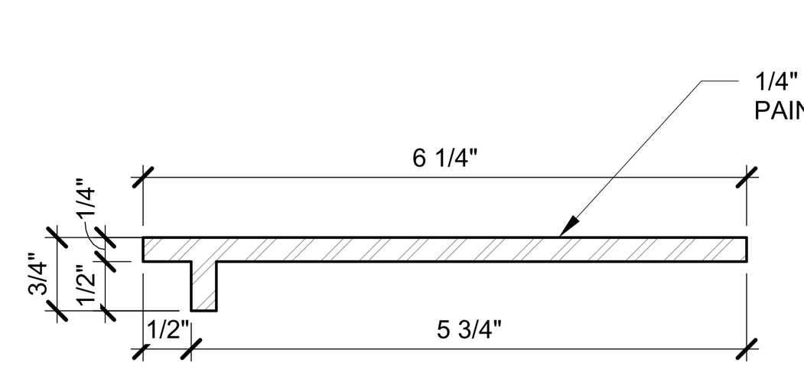
11 A3.22 TYP. JAMB @ 120 DEGREE INTERIOR
SCALE: 3" = 1'-0"
REFERENCE: 1/ A3.11



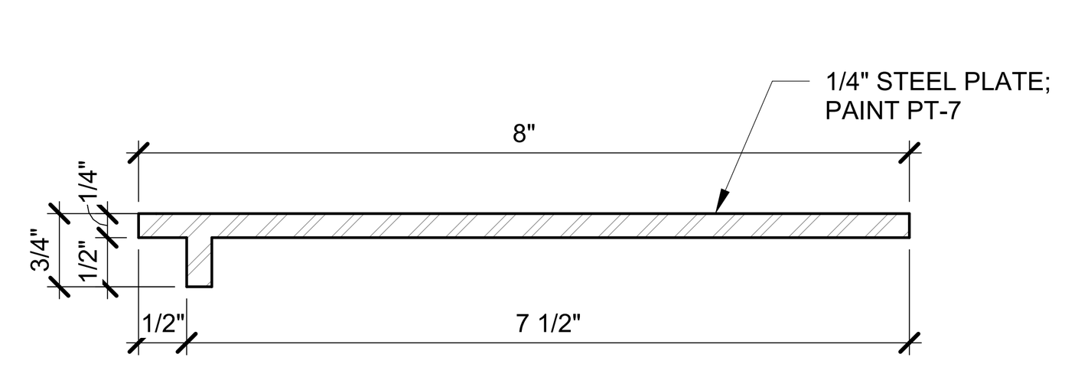
12 A3.22 TYP. JAMB @ 150 DEGREE
SCALE: 3" = 1'-0"
REFERENCE: 7/ A3.12



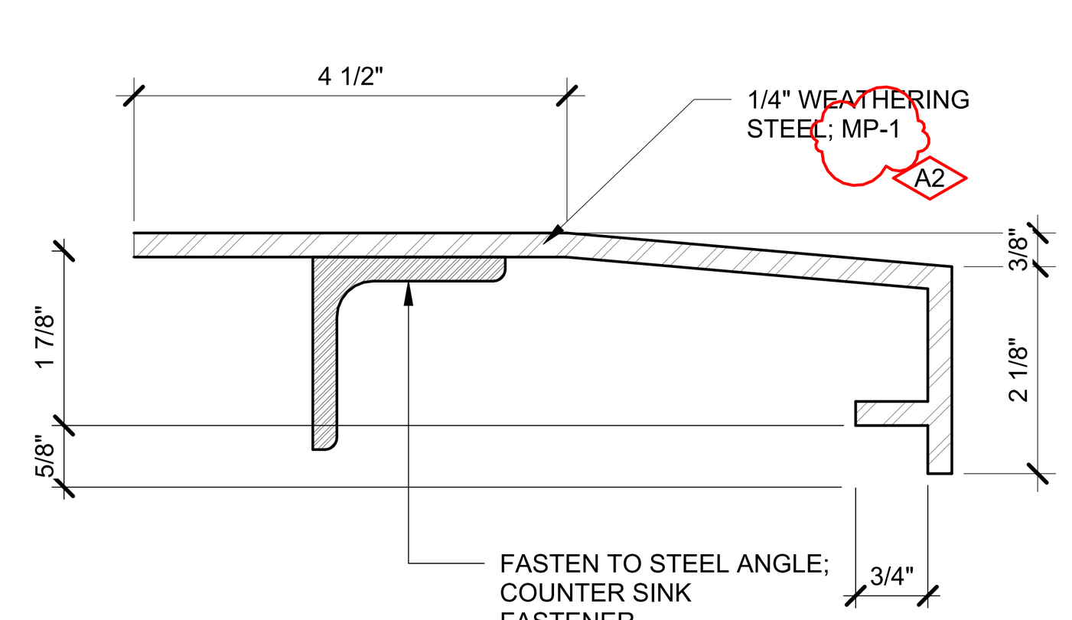
13 A3.22 METAL SILL JOINT ELEVATON
SCALE: 1 1/2" = 1'-0"



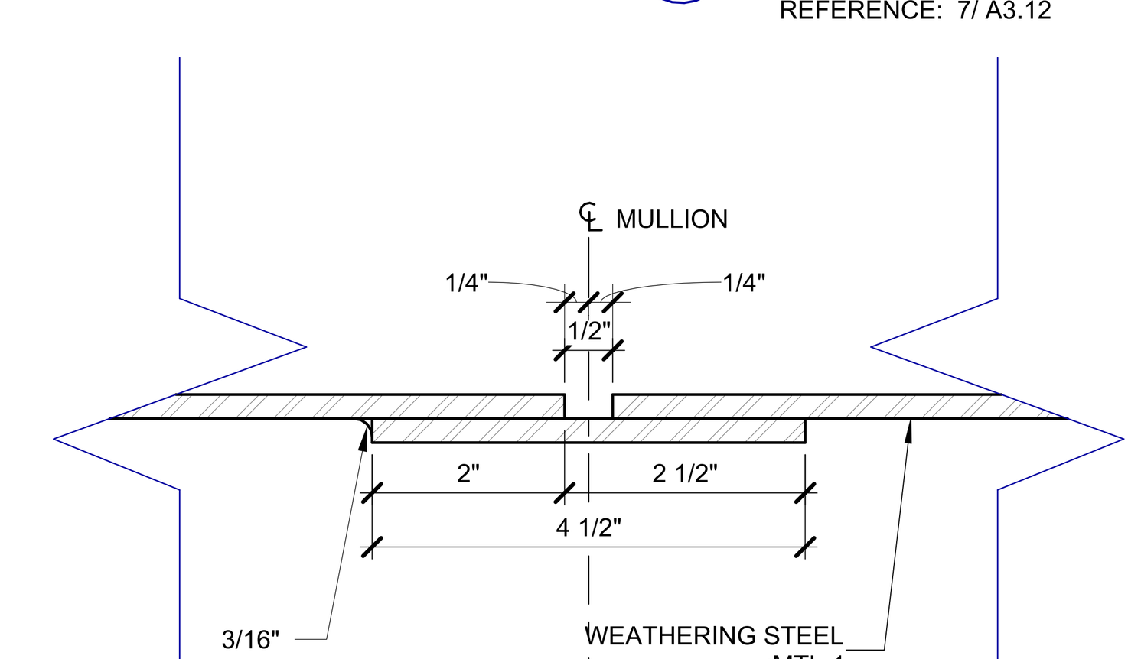
14 A3.22 INTERIOR METAL SILL PLATE A
SCALE: 6" = 1'-0"



15 A3.22 INTERIOR METAL SILL B
SCALE: 6" = 1'-0"



16 A3.22 EXTERIOR METAL SILL PLATE C
SCALE: 6" = 1'-0"



18 A3.22 METAL SILL JOINT DETAIL
SCALE: 6" = 1'-0"

NO.	REVISION	DATE
A2	ADDENDUM NO.2	01/31/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24

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PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

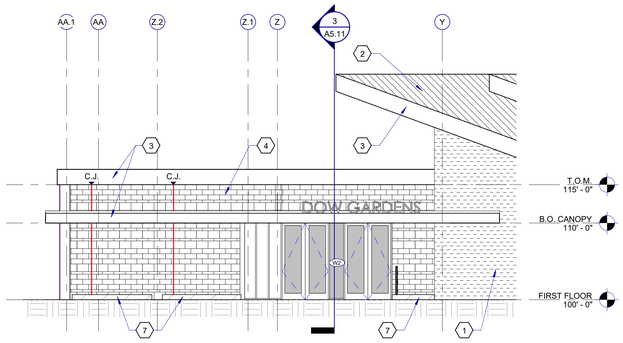
SHEET TITLE
FRAME DETAILS

PROJECT NUMBER
2022022

PROJECT DATE
JANUARY 09, 2025

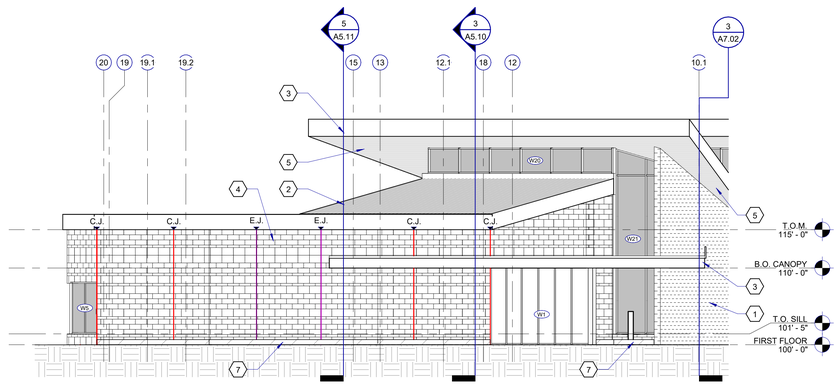
CHECKED BY
JMJ

SHEET NUMBER
A3.22



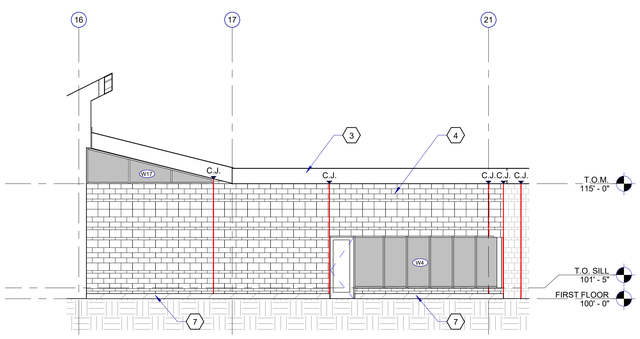
1 A5.03 MAIN ENTRANCE AND LOBBY - NORTH

SCALE: 1/8" = 1'-0"
REFERENCE: 3/ A5.01



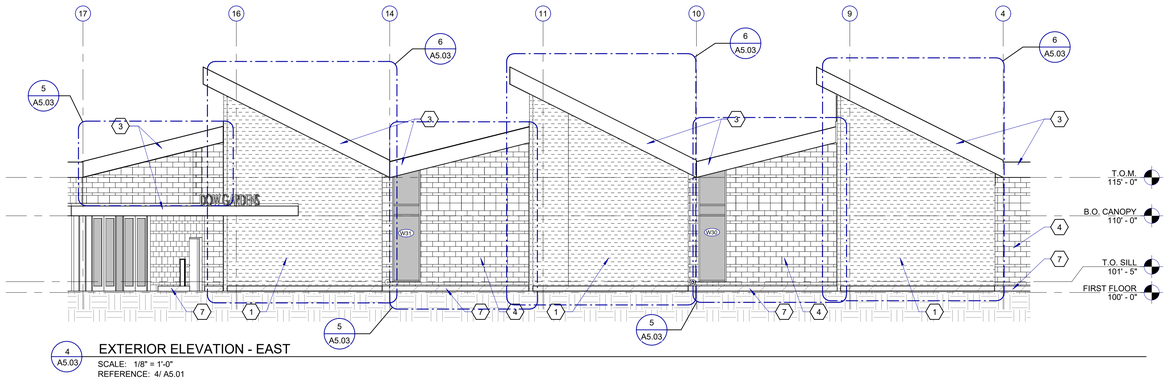
2 A5.03 MAIN ENTRANCE AND LOBBY - EAST

SCALE: 1/8" = 1'-0"
REFERENCE: 2/ A5.02



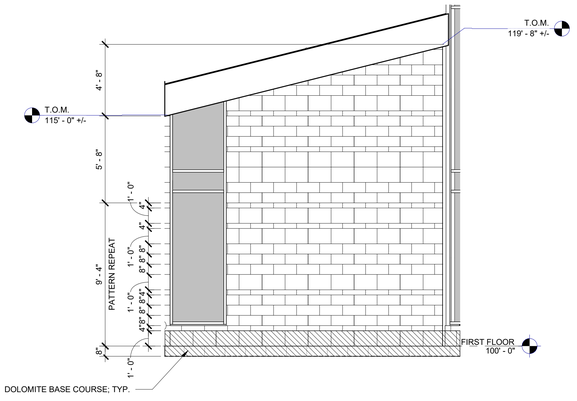
3 A5.03 LOBBY AND EXHIBIT - WEST

SCALE: 1/8" = 1'-0"
REFERENCE: 1/ A2.12



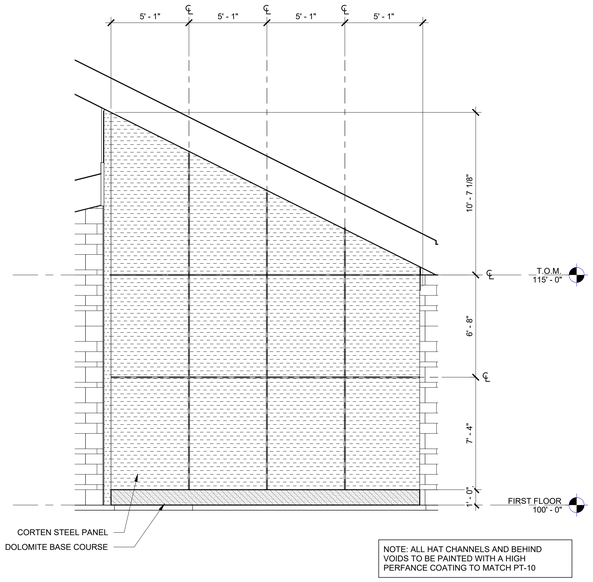
4 A5.03 EXTERIOR ELEVATION - EAST

SCALE: 1/8" = 1'-0"
REFERENCE: 4/ A5.01



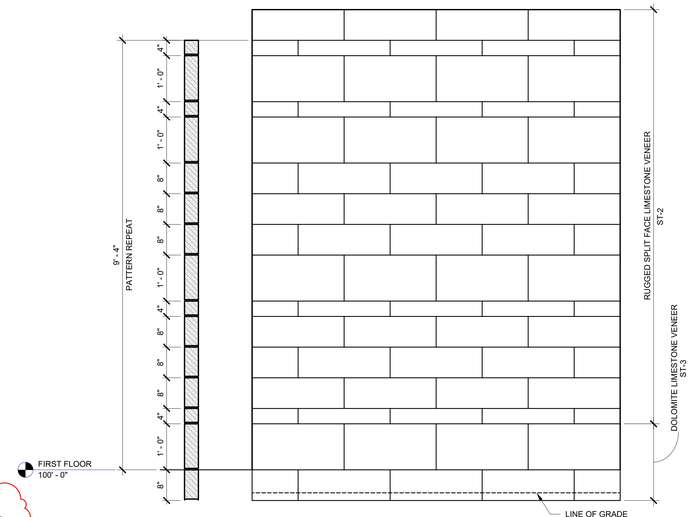
5 A5.03 TYPICAL MASONRY COURSING ELEVATION

SCALE: 1/4" = 1'-0"
REFERENCE: 4/ A5.03



6 A5.03 TYPICAL CORTEN PANEL LAYOUT

SCALE: 1/4" = 1'-0"
REFERENCE: 4/ A5.03



7 A5.03 TYP. EXTERIOR STONE VENEER PATTERN

SCALE: 3/4" = 1'-0"

A2

GENERAL ELEVATION NOTES:

1. PROVIDE SMOOTH MASONRY UNITS BEHIND ALL APPLIED DEVICES AND FINISHES INCLUDING KNOX BOXES, ADA, PUSH PADS, CARD READERS, AND CANOPY ELEMENTS.

MATERIAL KEYNOTES

1 CORTEN METAL PANEL
2 COPPER STANDING SEAM METAL ROOF
3 COPPER FACIA
4 LIMESTONE MASONRY, COURSING PATTERN TO MATCH WFT-5 REFER TO SHEET A3.00
5 LINEAR WOOD CEILING; LC-1
6 2" RIGID POLYISO CONTINUOUS INSULATION W ALUMINUM FACER MIN. R-13
7 SMOOTH DOLOMITE BASE COURSE ST-3
8 FOOTING & FOUNDATION (SEE STRUCTURAL)
9 CONCRETE SLAB w/ W.W.F. ON VAPOR BARRIER (SEE STRUCTURAL)
10 COMPACTED GRANULAR FILL
11 PERIMETER INSULATION (MIN. R-15)
12 GLASS AND GLAZING SYSTEM (SEE SPEC.)
13 STEEL COLUMN (SEE STRUCTURAL)
14 STEEL BEAM OR MISC. FRAMING (SEE STRUCTURAL)
15 CEILING SYSTEM (SEE RCP)
16 MECHANICAL DUCTWORK (SEE MECHANICAL)
17 STEEL TUBE, PAINTED WITH HIGH PERFORMANCE COATING. RE: SPEC.
18 ROOF SYSTEM
19 LIGHT FIXTURE; RE: ELECTRICAL
20 OVERFLOW NOZZLE W/ BIRD SCREEN. MIN. 12" A.F.F.
21 LIMESTONE CAP; MATCH ST-1

NO.	REVISION	DATE
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	ISSUED FOR BID	01/09/25
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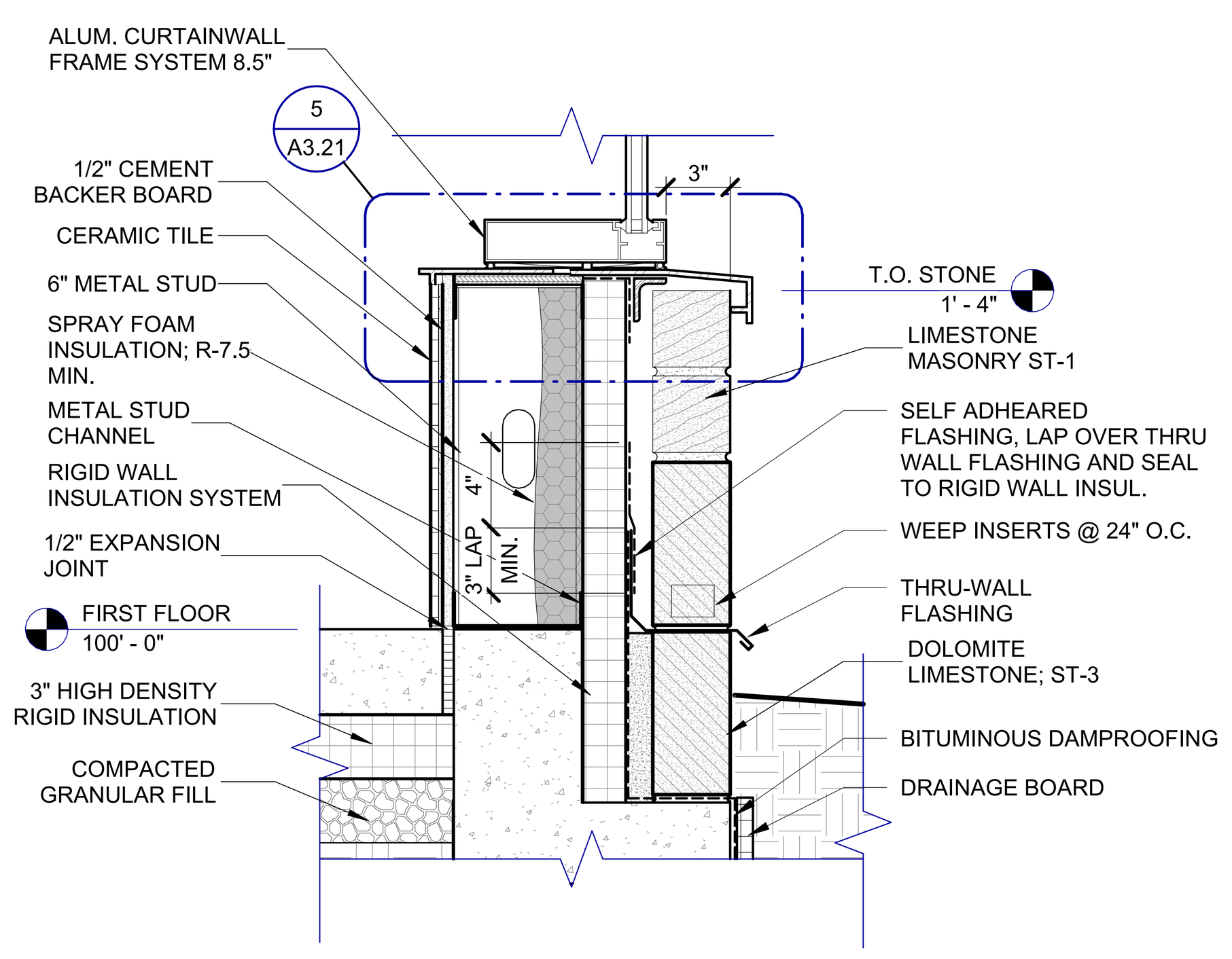
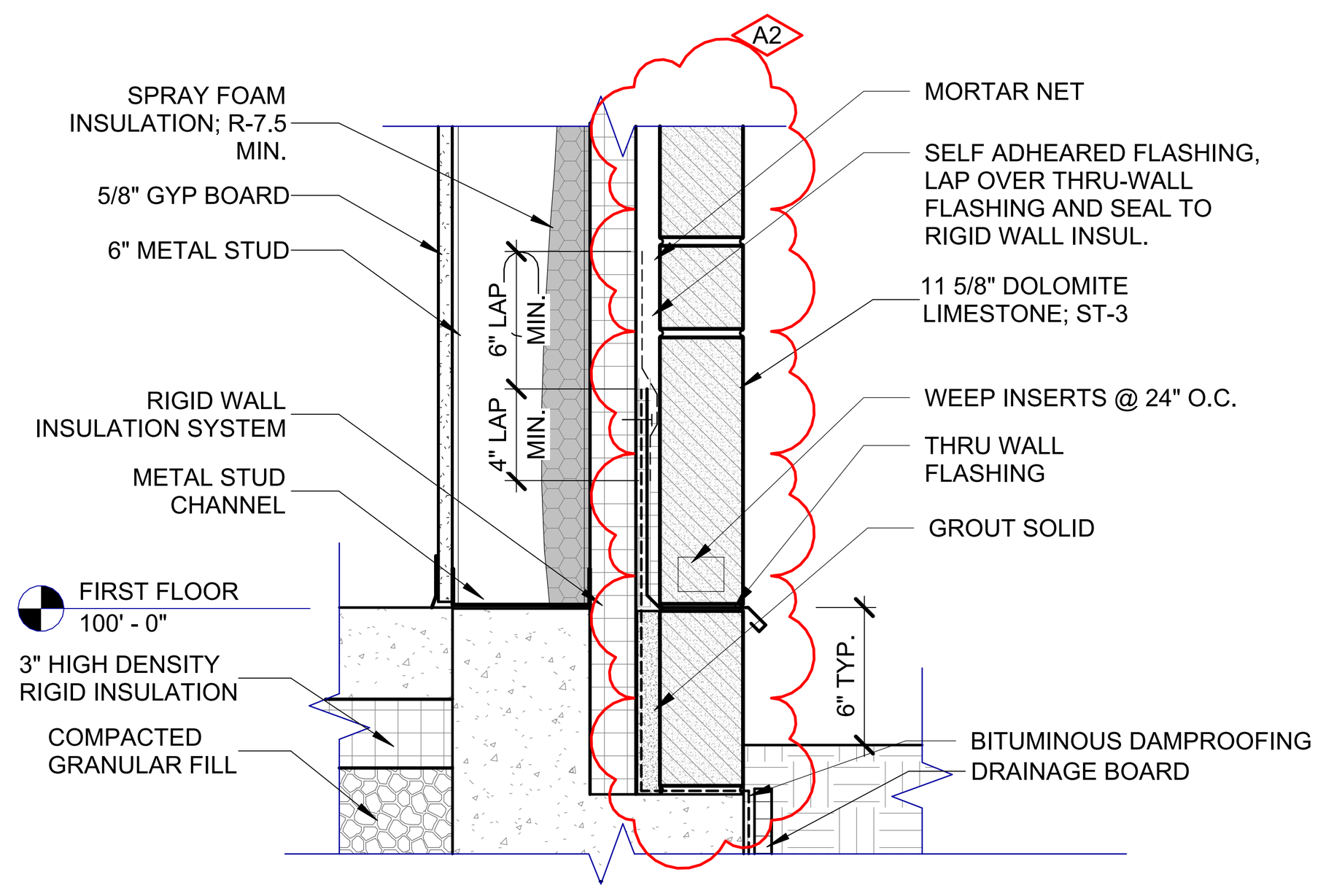
PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS
WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
EXTERIOR ELEVATIONS

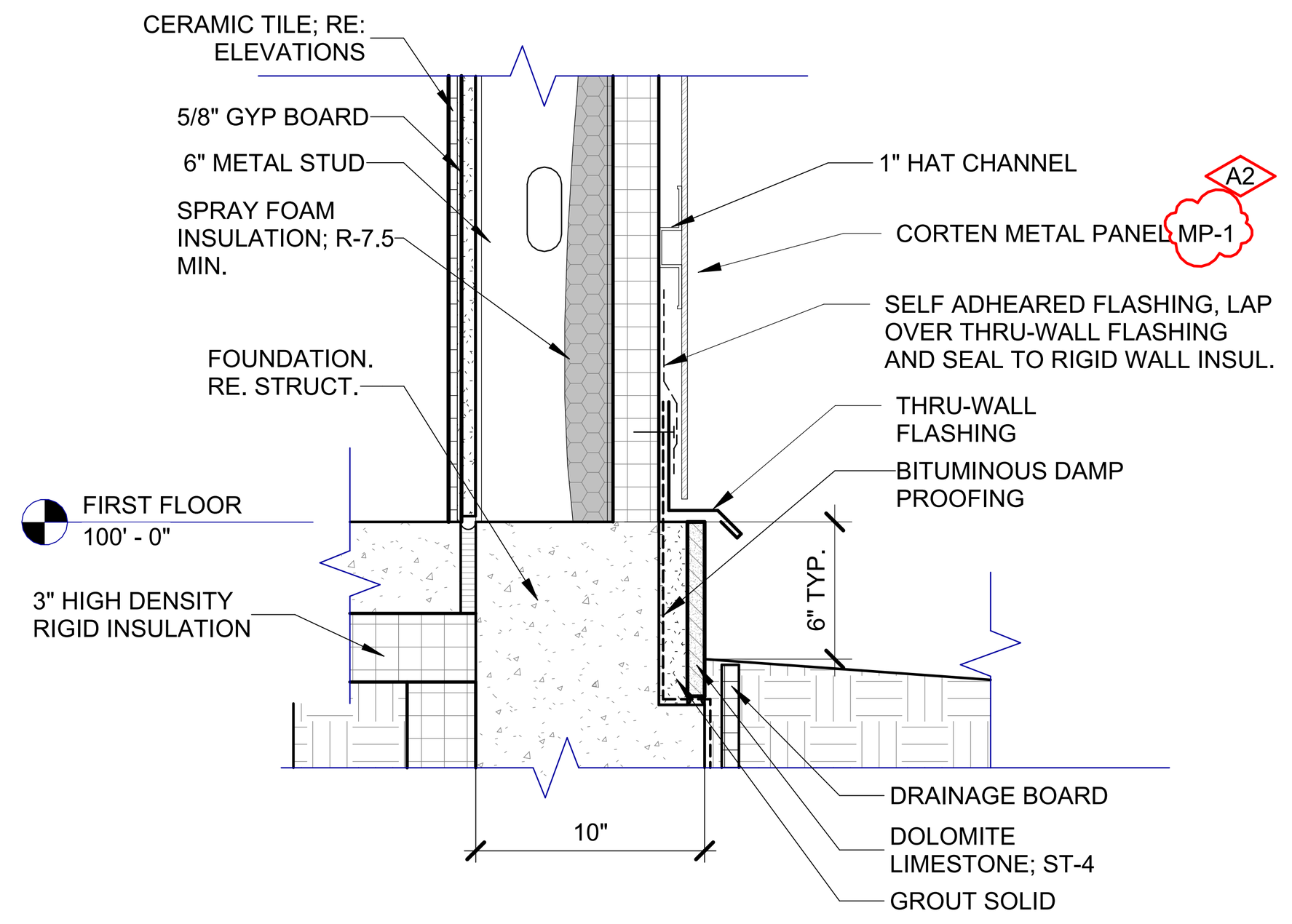
PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A5.03



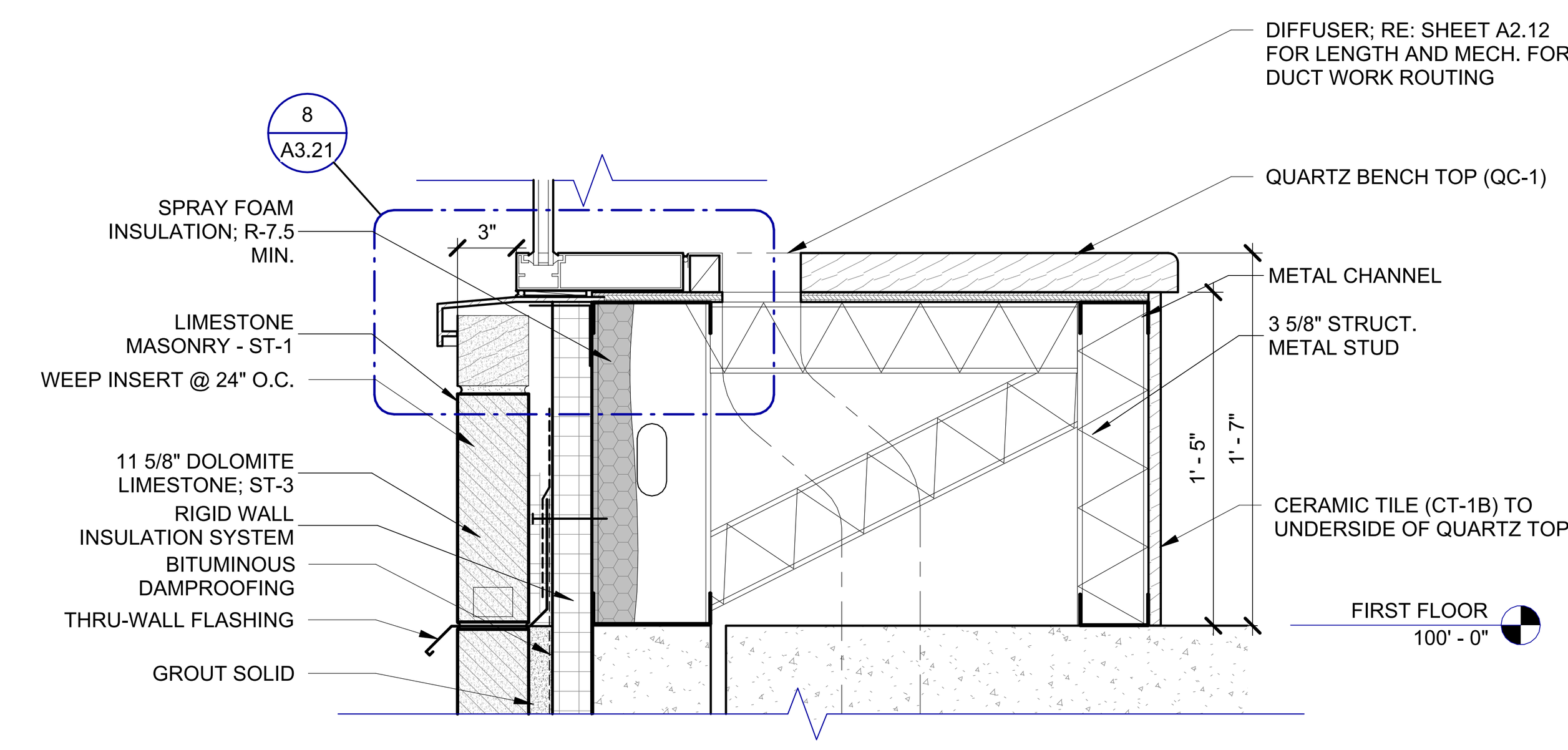
1 A7.10 WALL BASE W/ METAL SILL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.01



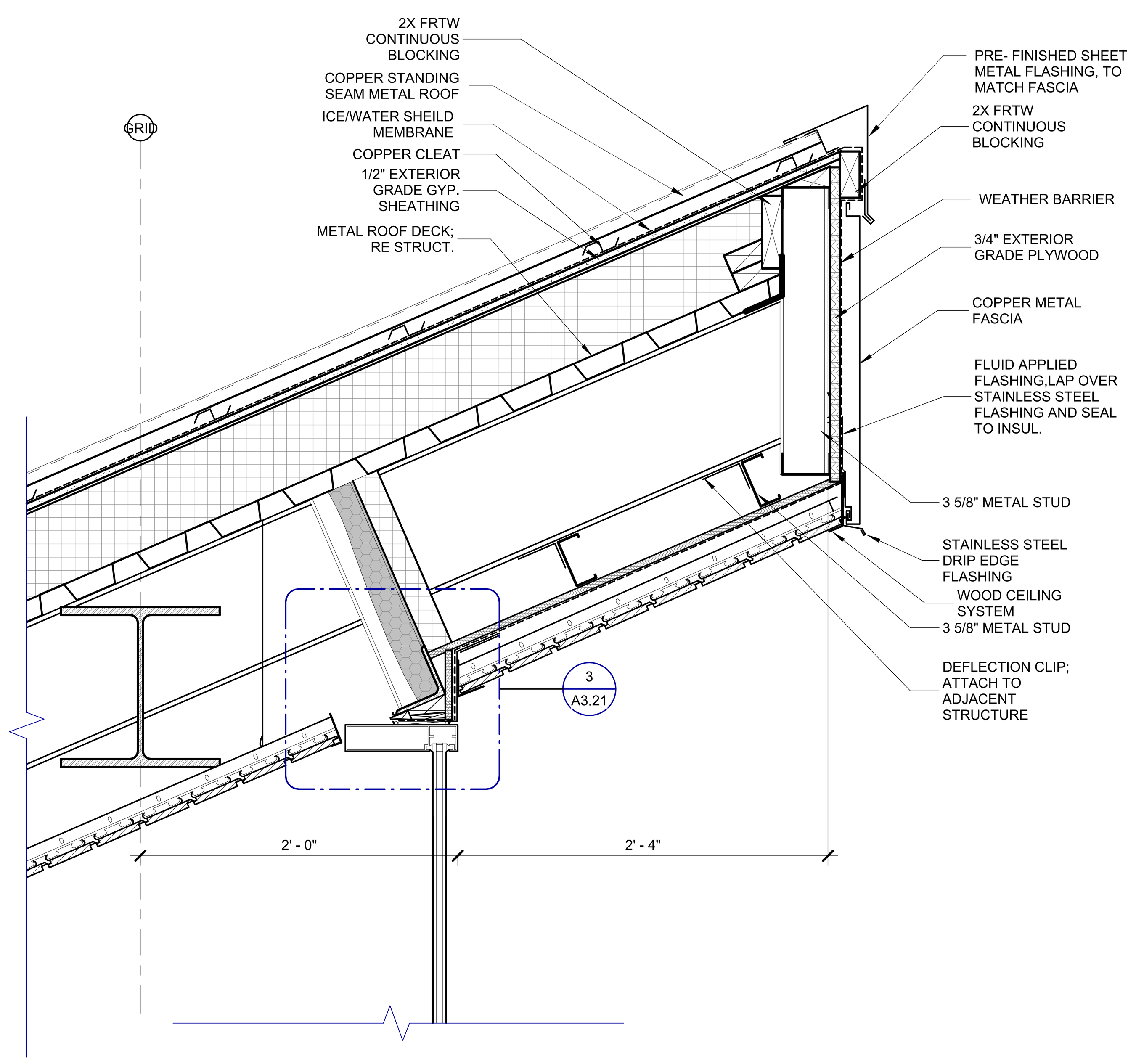
2 A7.10 TYP. WALL BASE @ MASONRY
SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A5.11



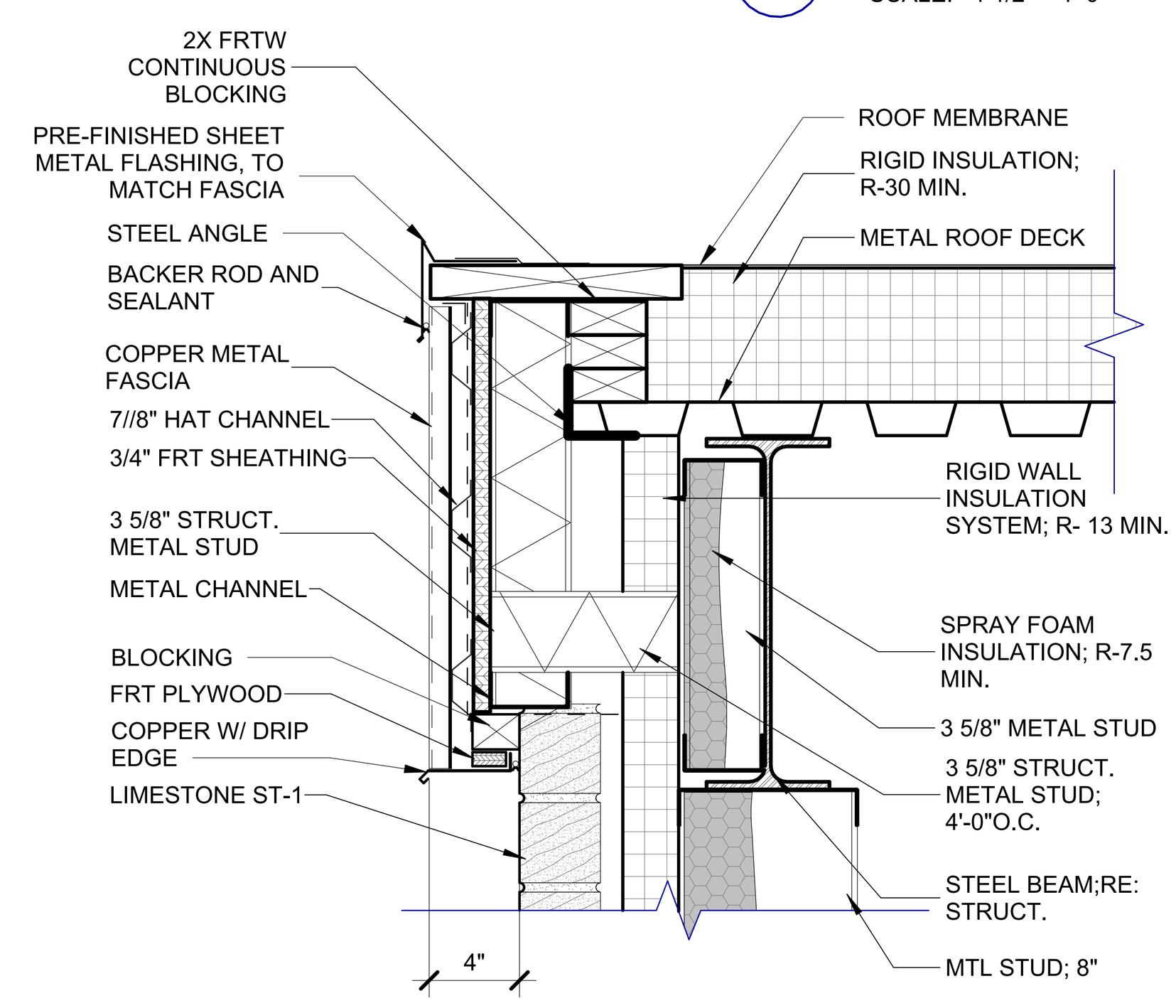
3 A7.10 TYP. WALL BASE @ MTL PANEL
SCALE: 1 1/2" = 1'-0"



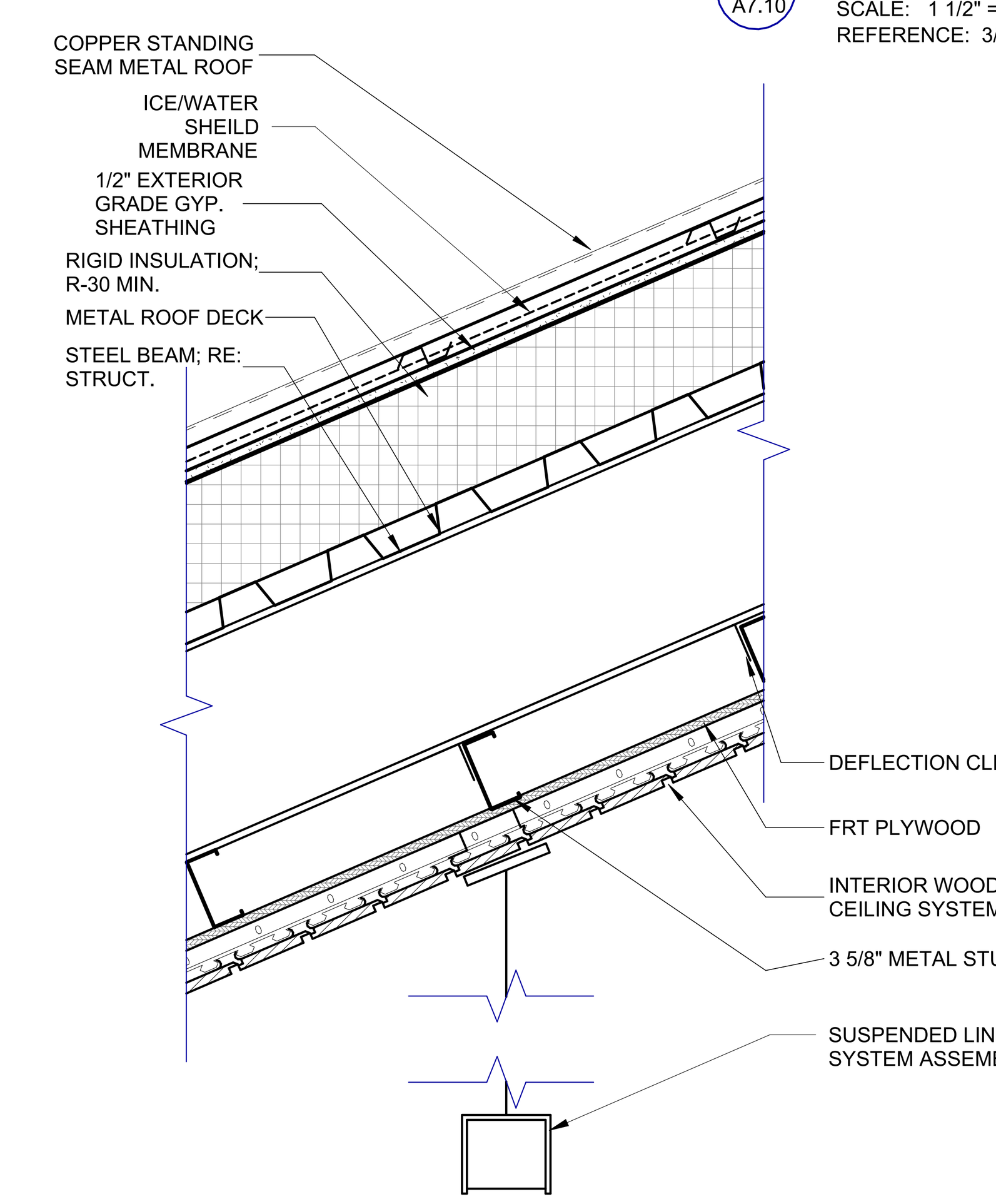
4 A7.10 WALL BASE W/ INTERIOR BENCH
SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A7.02



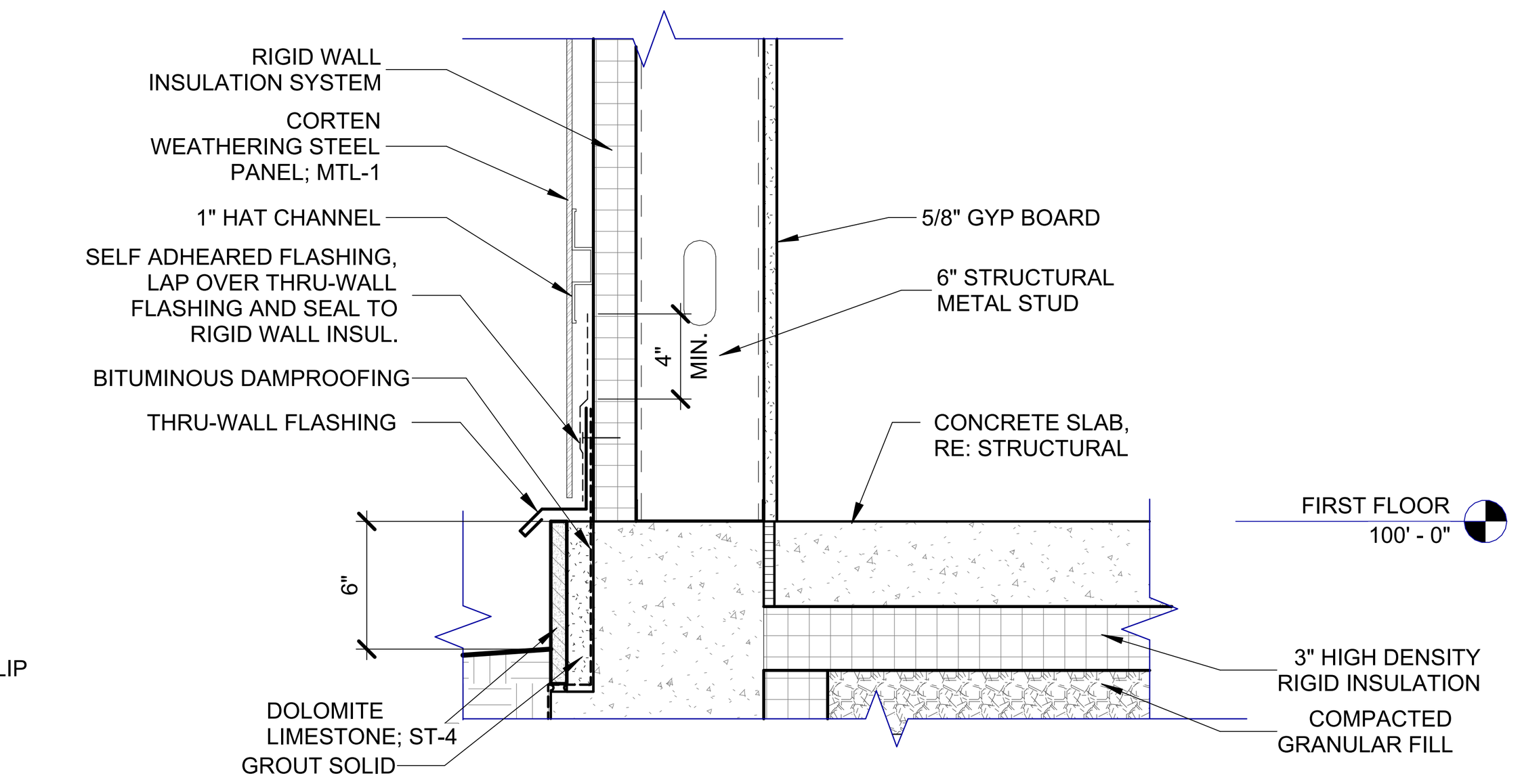
5 A7.10 CLERESTORY WINDOW HEAD AND HIGH ROOF
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



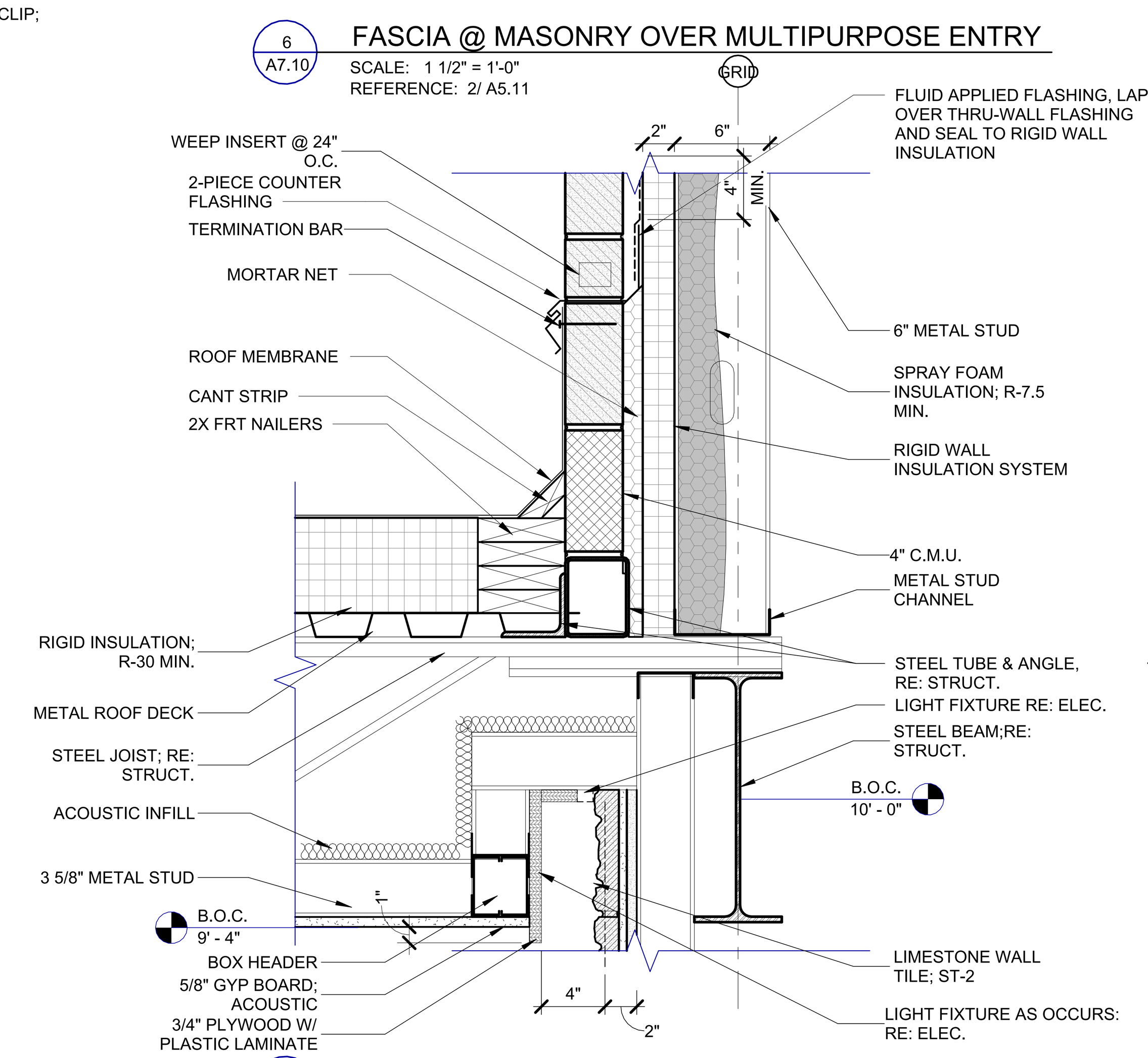
6 A7.10 FASCIA @ MASONRY OVER MULTIPURPOSE ENTRY
SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A5.11



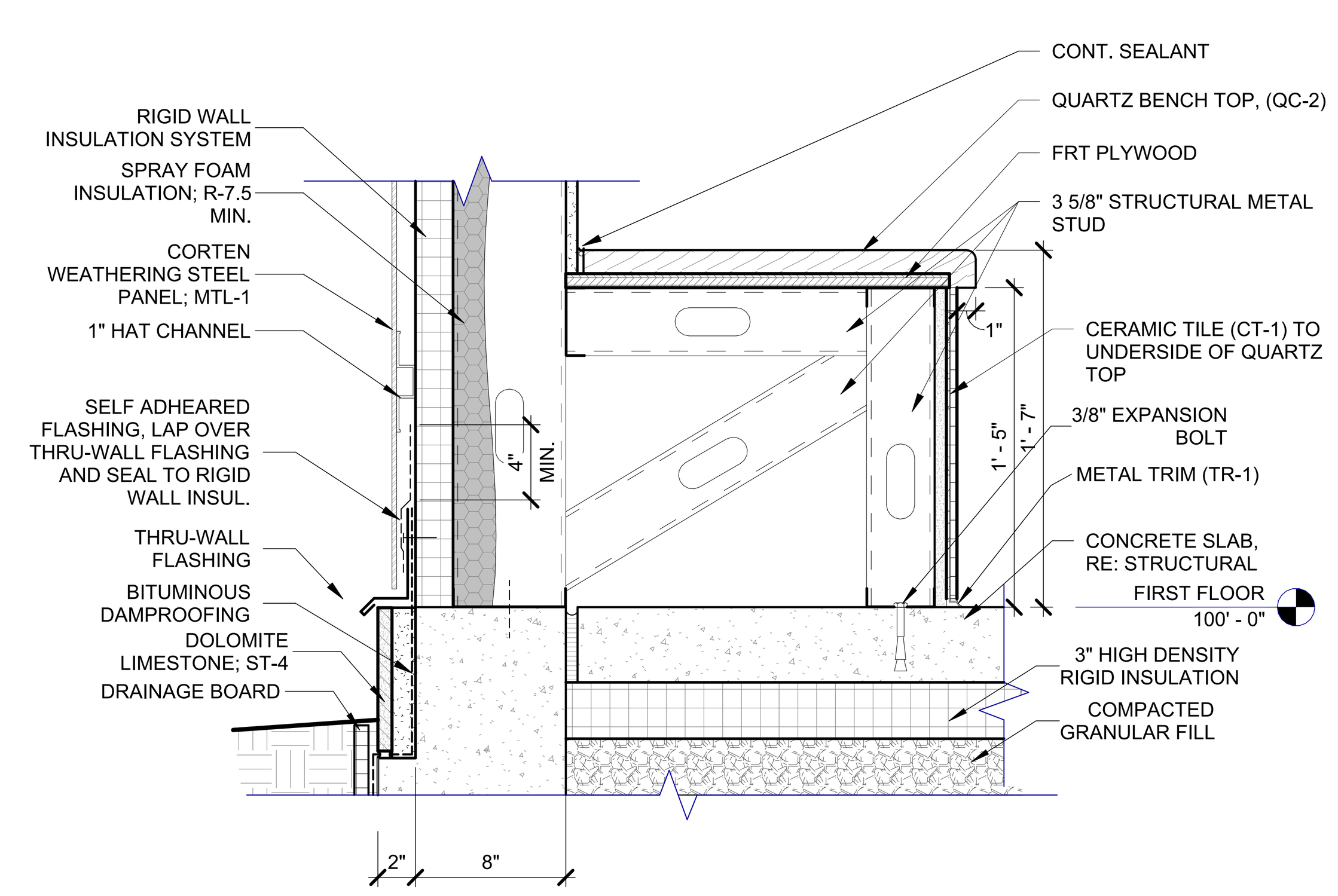
7 A7.10 HIGH ROOF SUSPENDED LINEAR LIGHT
SCALE: 1 1/2" = 1'-0"



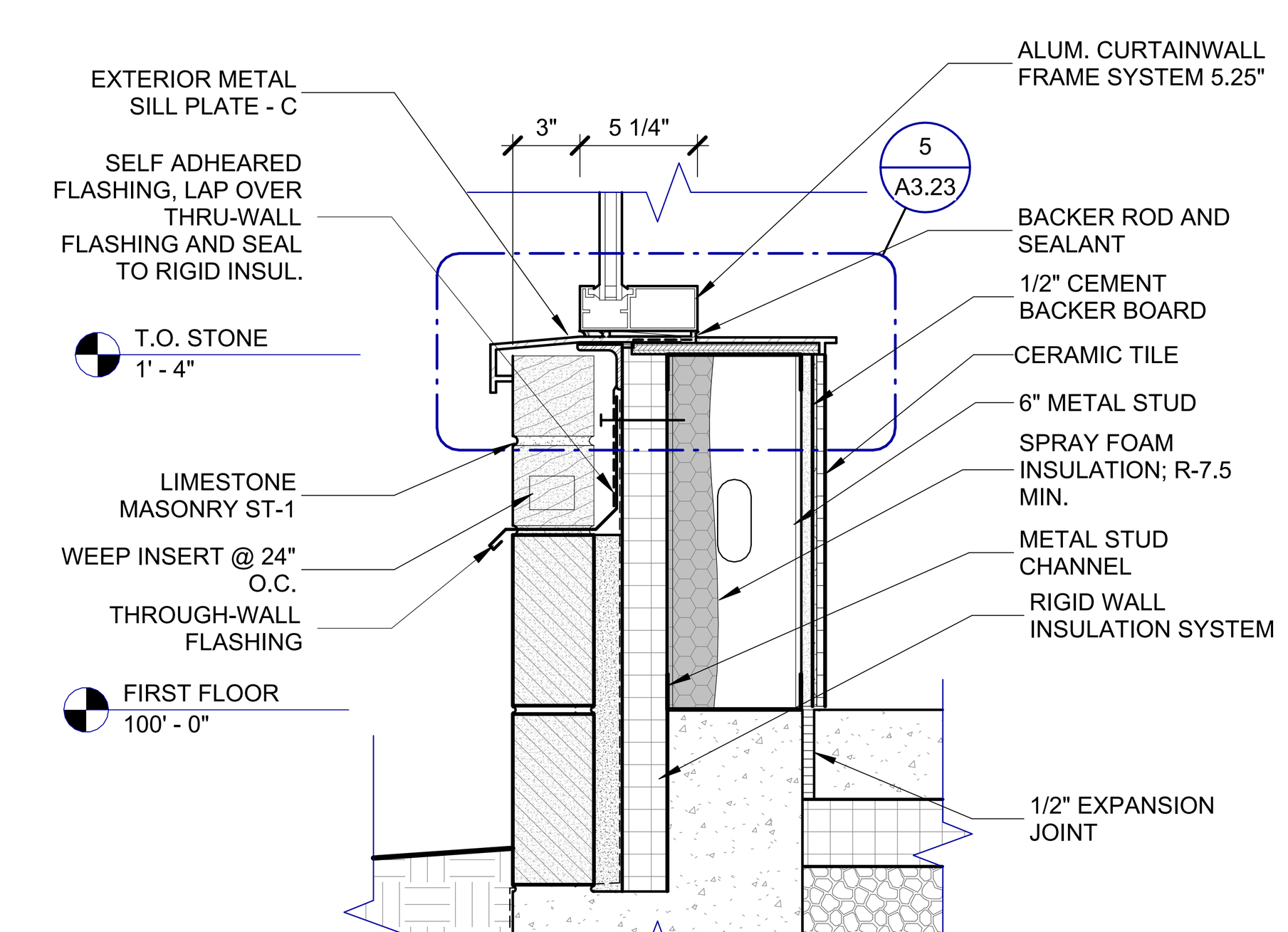
12 A7.10 WALL BASE @ MTL PANEL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.03



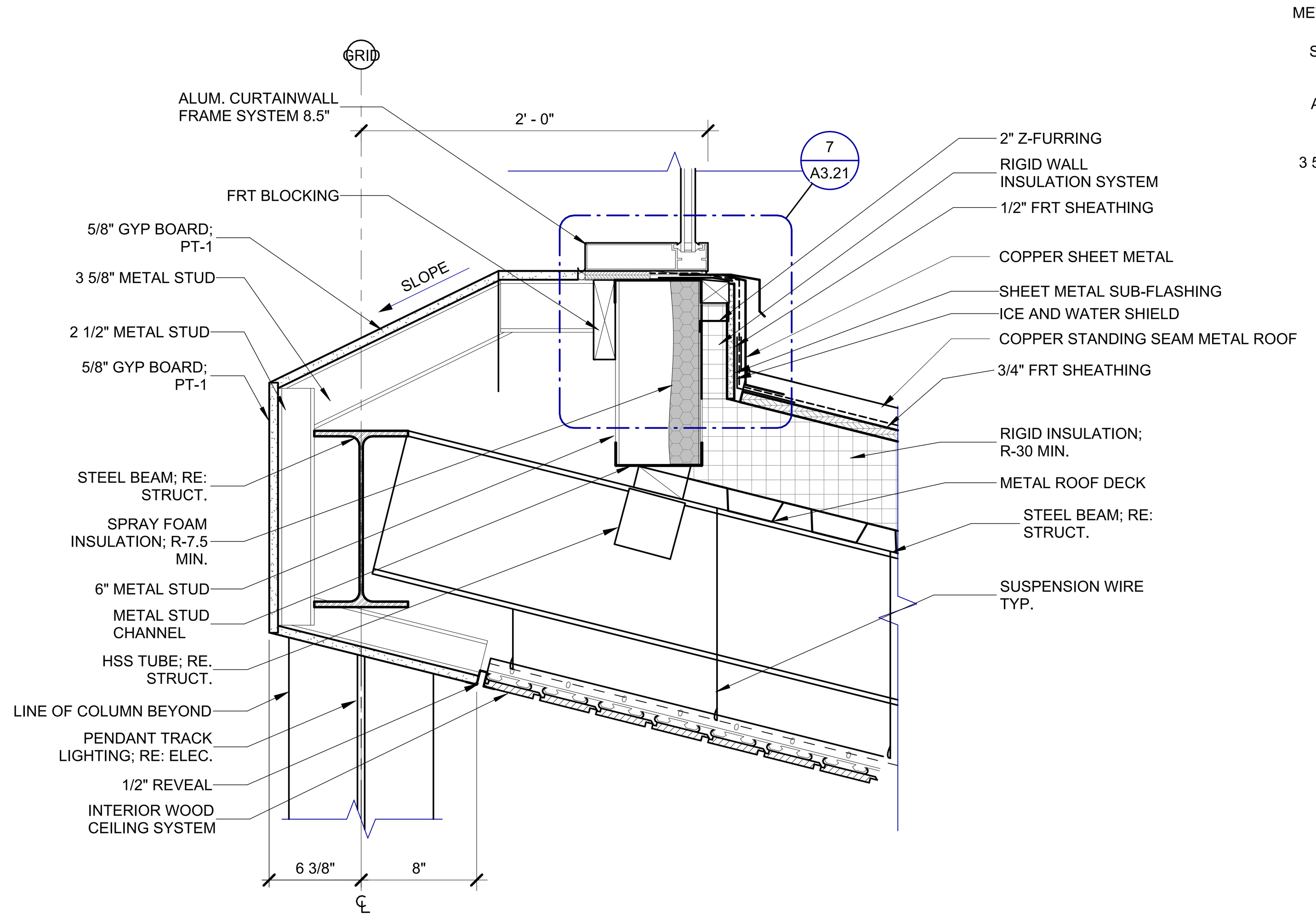
8 A7.10 CORRIDOR 103 @ MULTIPURPOSE ROOF DETAIL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.04



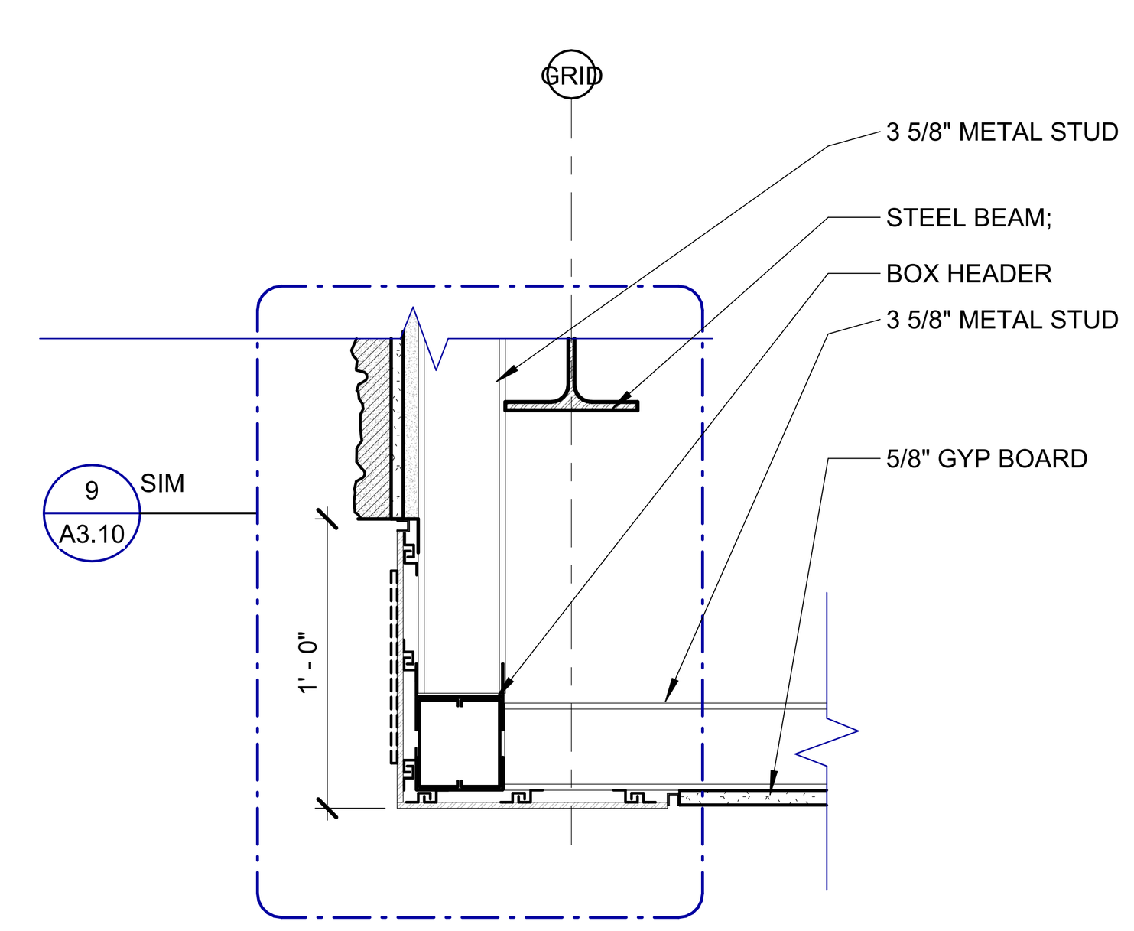
11 A7.10 WALL BASE @ MTL PANEL W/ INTERIOR BENCH
SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.02



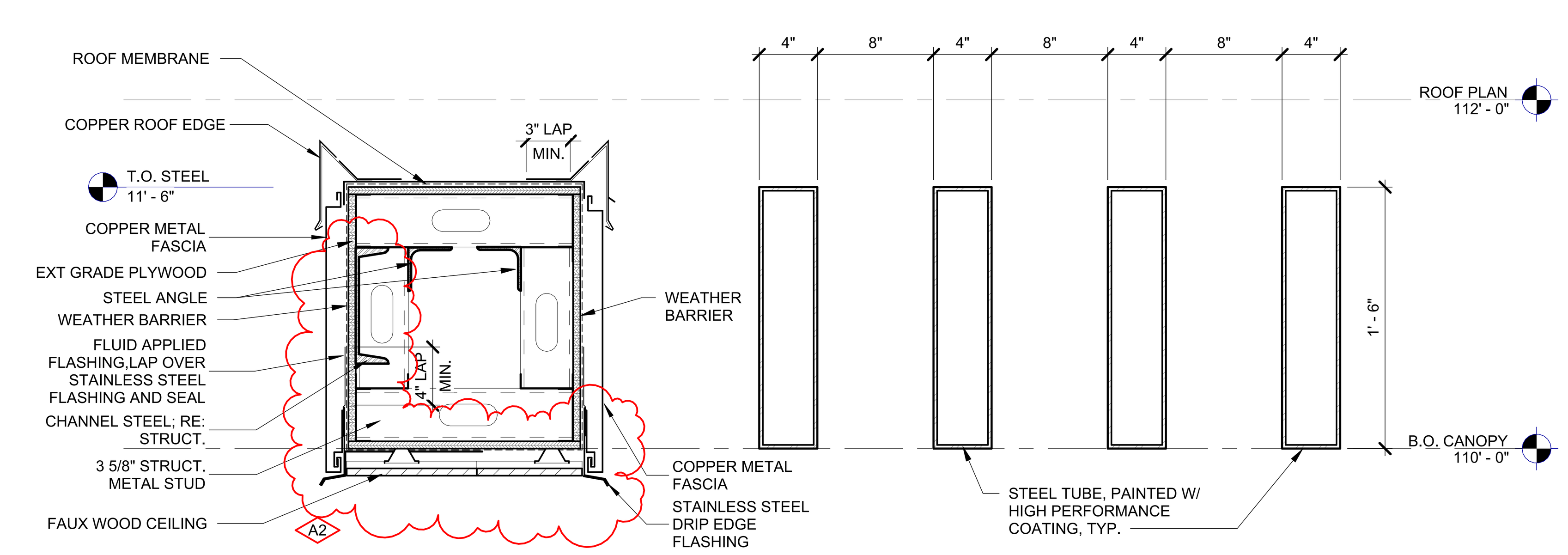
13 A7.10 WALL BASE W/ METAL SILL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.01



9 A7.10 CLERESTORY WINDOW SILL AND HIGH ROOF
SCALE: 1 1/2" = 1'-0"
REFERENCE: 4/ A7.04



10 A7.10 CORRIDOR TO MULTI PURPOSE SPACE
SCALE: 1 1/2" = 1'-0"
REFERENCE: 2/ A7.04



14 A7.10 SECTION @ STEEL SUNSHADE DETAIL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.01

NO.	REVISION	DATE
A2	ADDENDUM NO.2	01/31/25
A1	ADDENDUM NO.1	01/24/25
	ISSUED FOR BID	01/09/25
B1	BULLETIN NO.1	12/26/24

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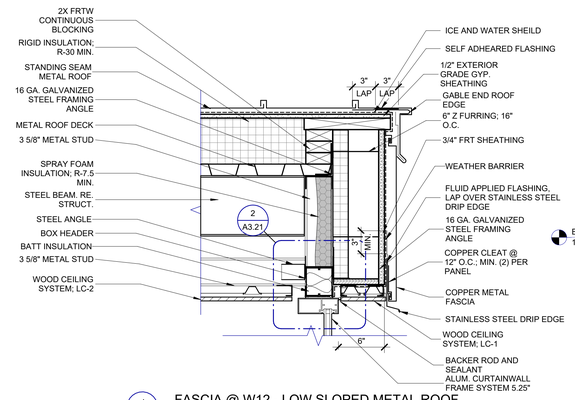
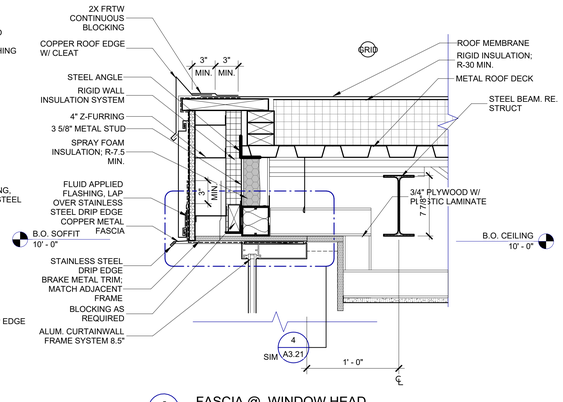
PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS
WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
SECTION DETAILS

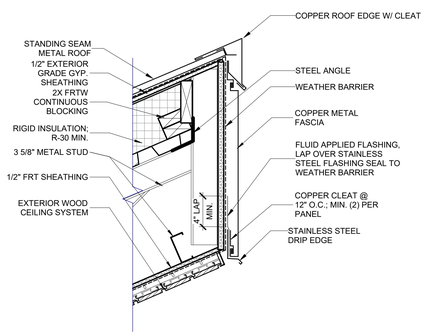
PROJECT NUMBER 2022022
SHEET NUMBER A7.10
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ



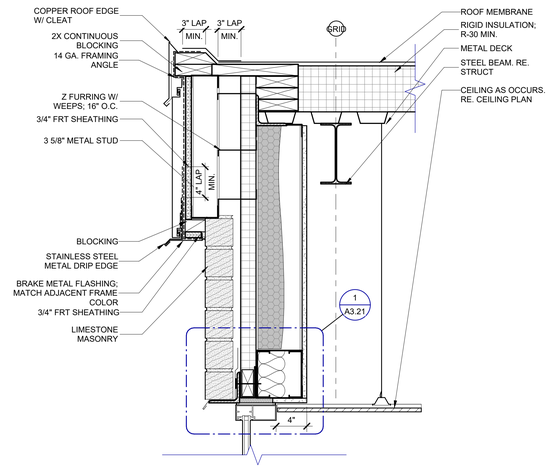
1 A7.11 FASCIA @ W12 - LOW SLOPED METAL ROOF
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.05



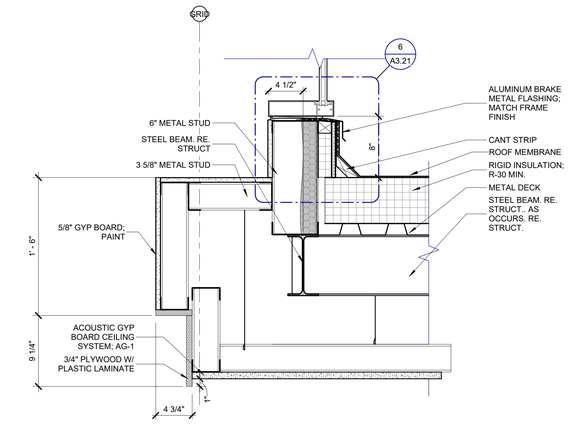
2 A7.11 FASCIA @ WINDOW HEAD
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



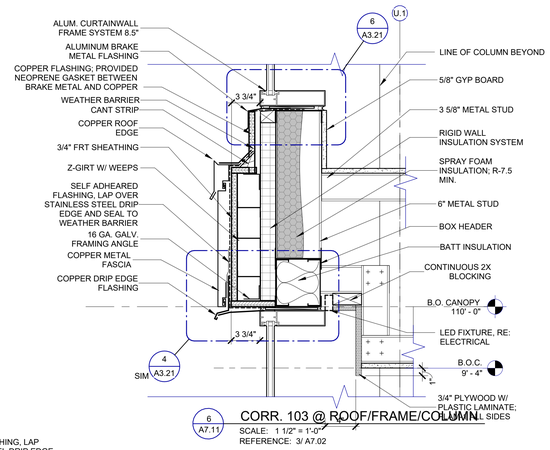
3 A7.11 HIGH ROOF FASCIA DETAIL
SCALE: 1 1/2" = 1'-0"



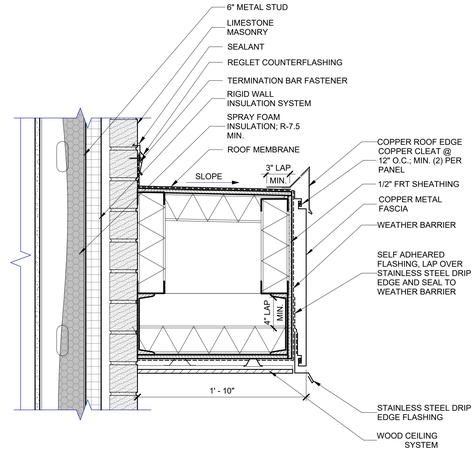
4 A7.11 FASCIA @ MASONRY
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



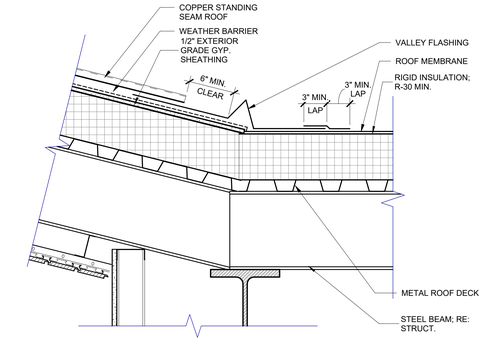
5 A7.11 CORR. 103 ROOF TO WINDOW SILL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A7.05



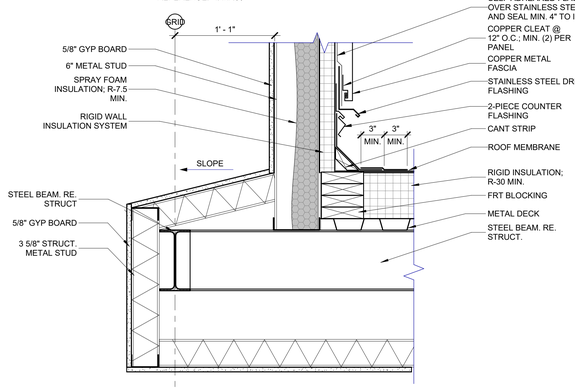
6 A7.11 CORR. 103 @ ROOF/FRAME/COLUMN
SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A7.02



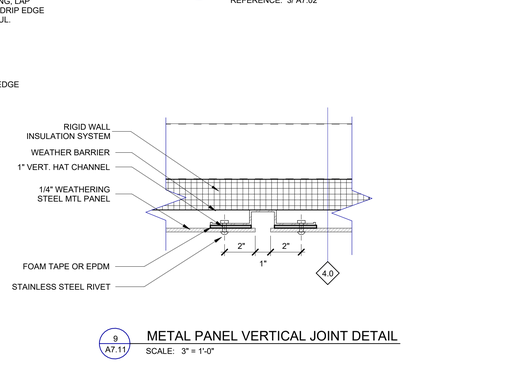
7 A7.11 ROOF LAP OVER STONE
SCALE: 1 1/2" = 1'-0"



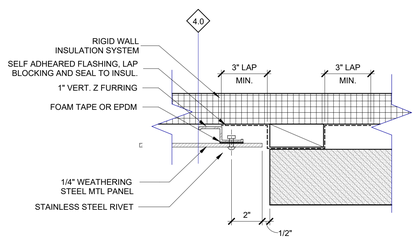
16 A7.11 VALLEY TRANSITION DETAIL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A7.04



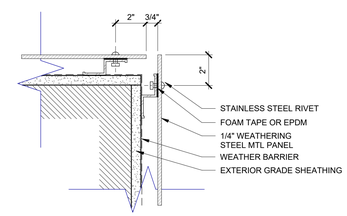
8 A7.11 COOR. 103 ROOF TO METAL PANEL
SCALE: 1 1/2" = 1'-0"



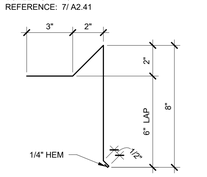
9 A7.11 METAL PANEL VERTICAL JOINT DETAIL
SCALE: 3" = 1'-0"



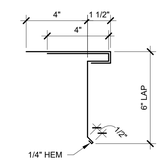
10 A7.11 METAL PANEL BUTT JOINT DETAIL
SCALE: 3" = 1'-0"
REFERENCE: 5/ A2.41



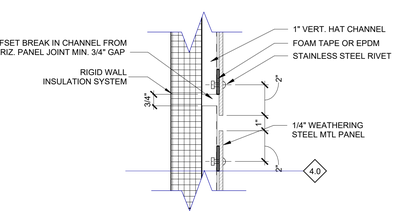
11 A7.11 TYP. METAL PANEL OUTSIDE CORNER DETAIL
SCALE: 3" = 1'-0"
REFERENCE: 7/ A2.41



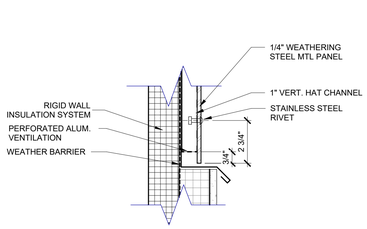
17 A7.11 COPPER ROOF EDGE PROFILE
SCALE: 3" = 1'-0"



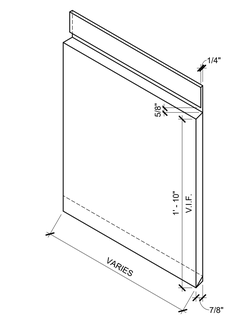
19 A7.11 COPPER GABLE END EDGE PROFILE
SCALE: 3" = 1'-0"



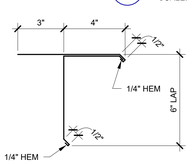
13 A7.11 METAL PANEL HORIZONTAL DETAIL
SCALE: 3" = 1'-0"



14 A7.11 METAL PANEL VERTICAL @ BASE DETAIL
SCALE: 3" = 1'-0"



15 A7.11 COPPER FASCIA PROFILE
SCALE: 1 1/2" = 1'-0"



18 A7.11 COPPER SCUPPER ROOF EDGE PROFILE
SCALE: 3" = 1'-0"

NO.	REVISION	DATE
A2	ADDENDUM NO.2	01/31/25
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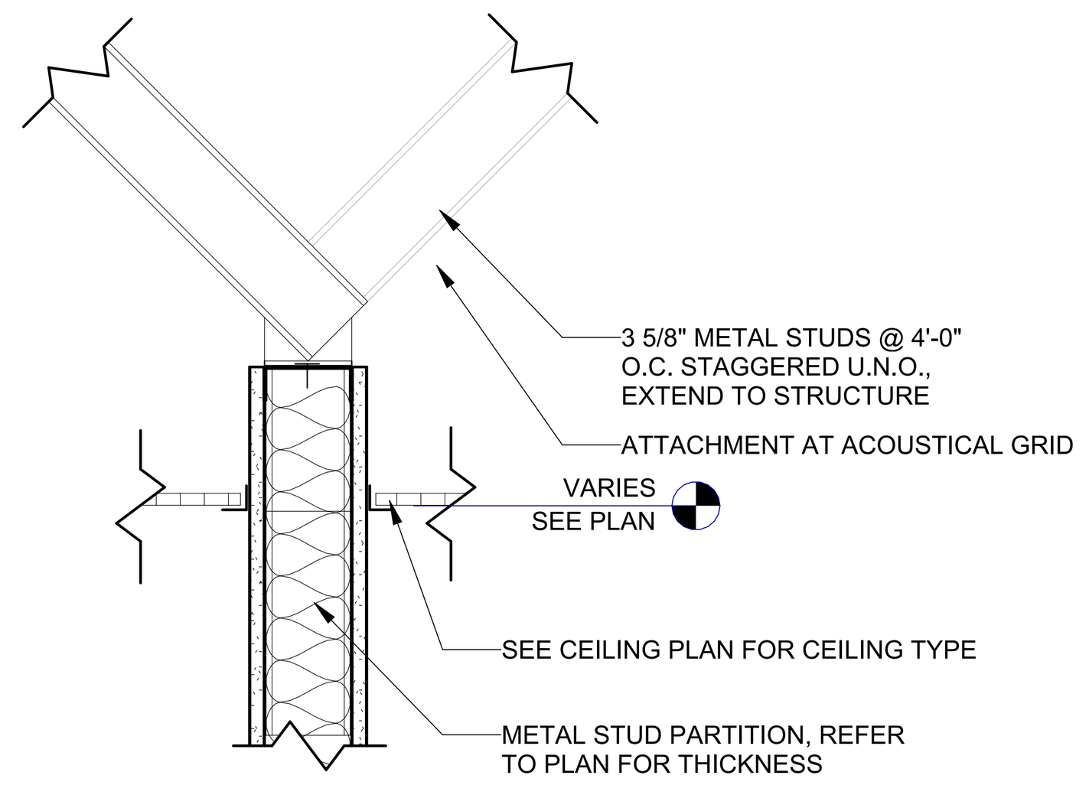
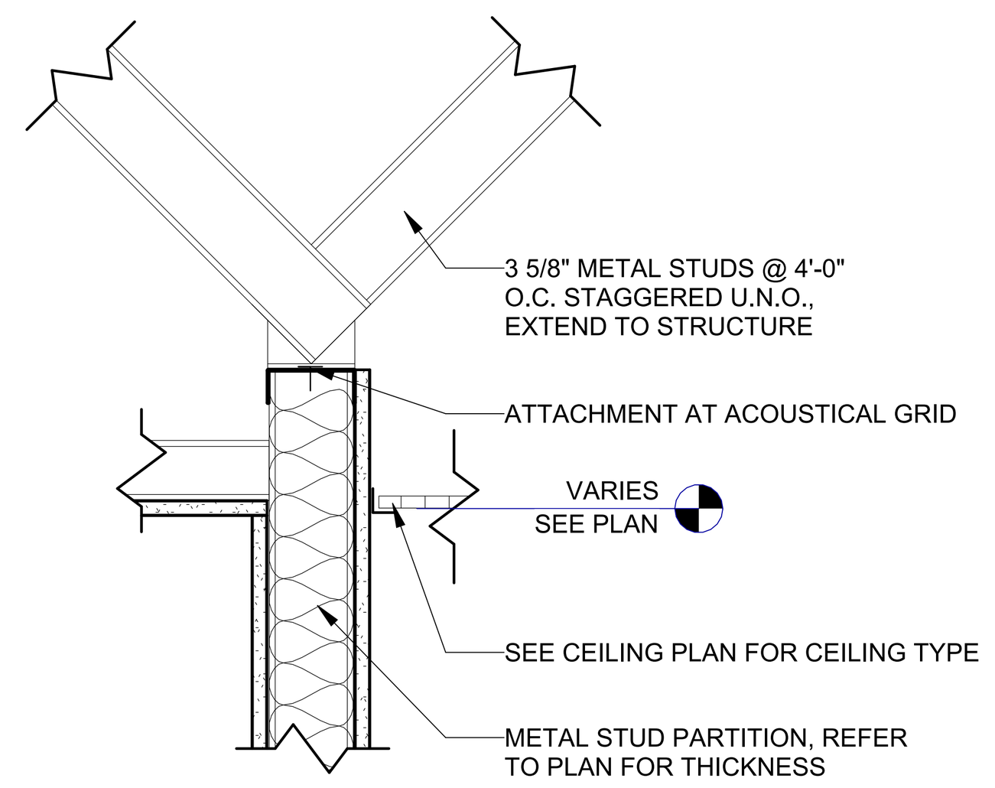
PROJECT TITLE
NEW CONSTRUCTION:
DOW GARDENS WELCOME CENTER
BID PACK NO.3
MIDLAND, MICHIGAN

SHEET TITLE
SECTION DETAILS

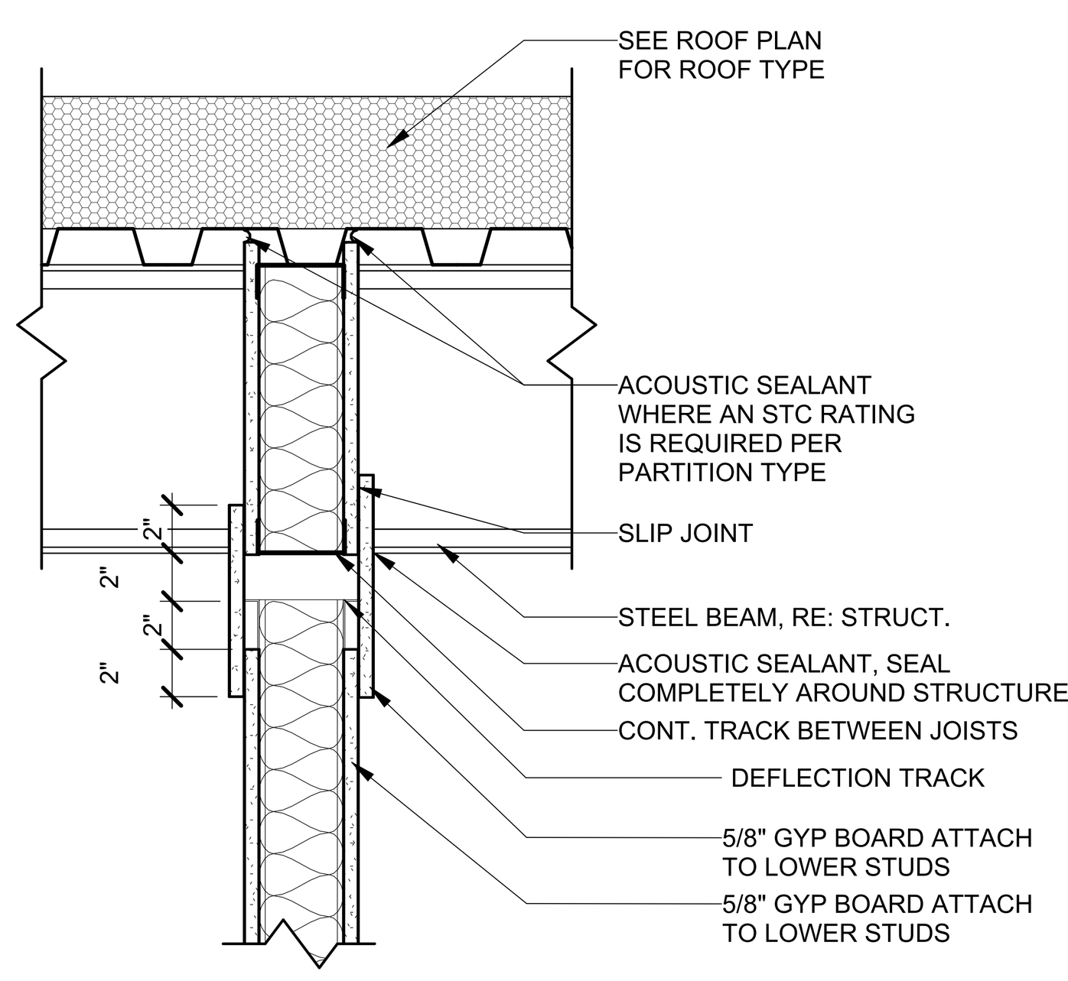
PROJECT NUMBER 2022022
PROJECT DATE JANUARY 09, 2025
CHECKED BY JMJ
SHEET NUMBER A7.11



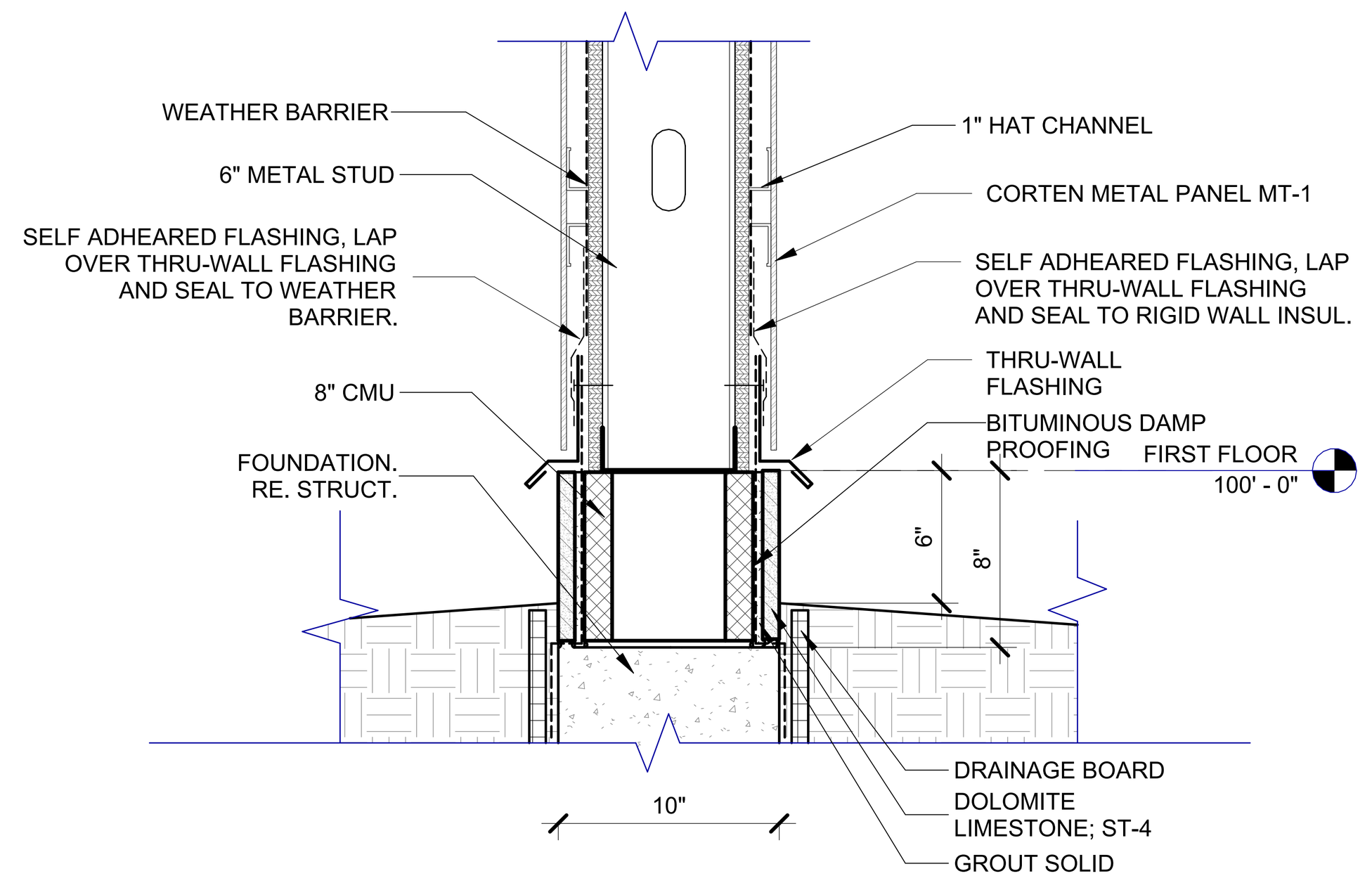
1 A7.12 TYP T.O.W. @ S.A.G. CEILING
SCALE: 1 1/2" = 1'-0"



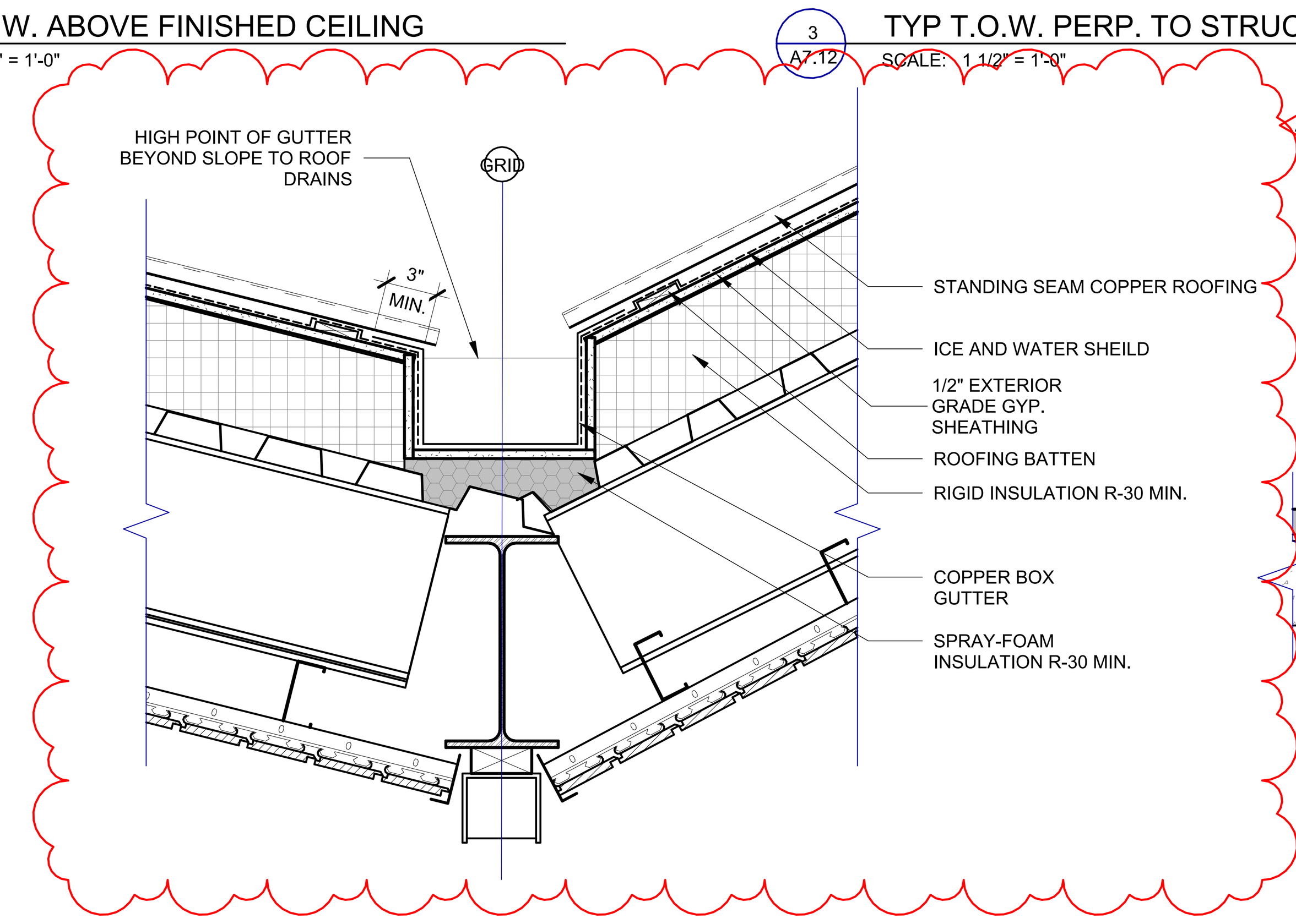
2 A7.12 TYP T.O.W. ABOVE FINISHED CEILING
SCALE: 1 1/2" = 1'-0"



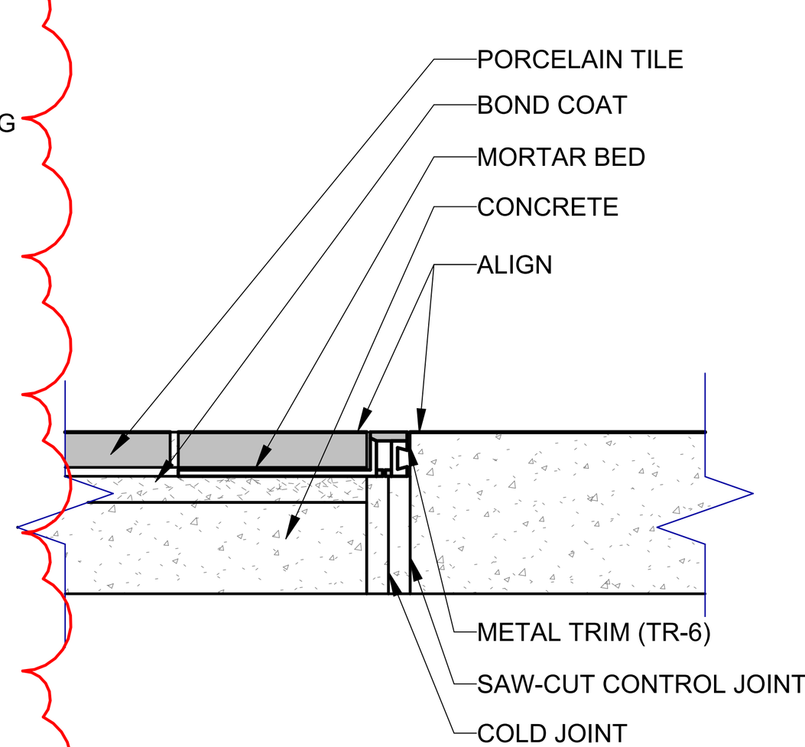
3 A7.12 TYP T.O.W. PERP. TO STRUCTURE
SCALE: 1 1/2" = 1'-0"



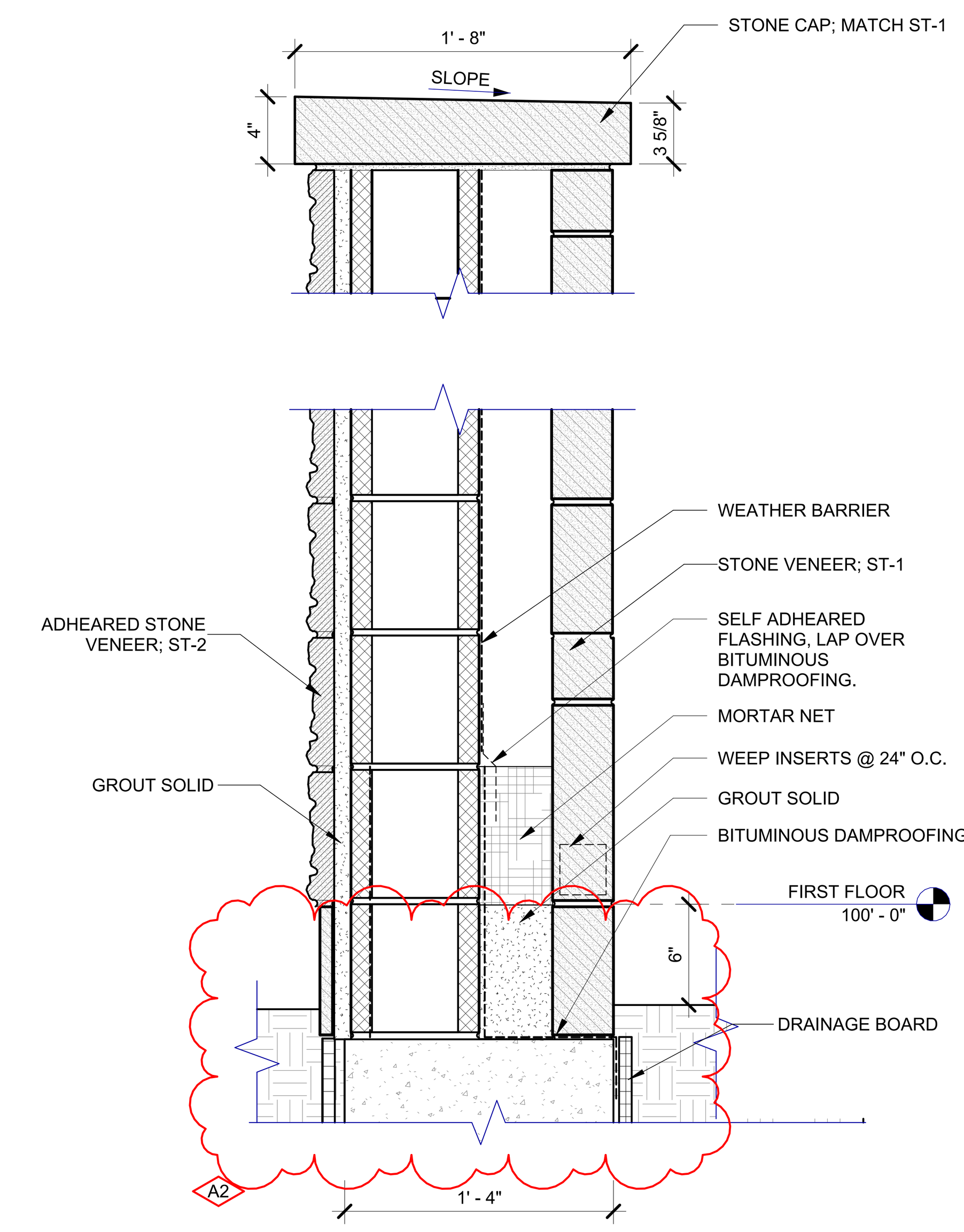
4 A7.12 TYP. WALL BASE @ MTL PANEL WING WALL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A2.12



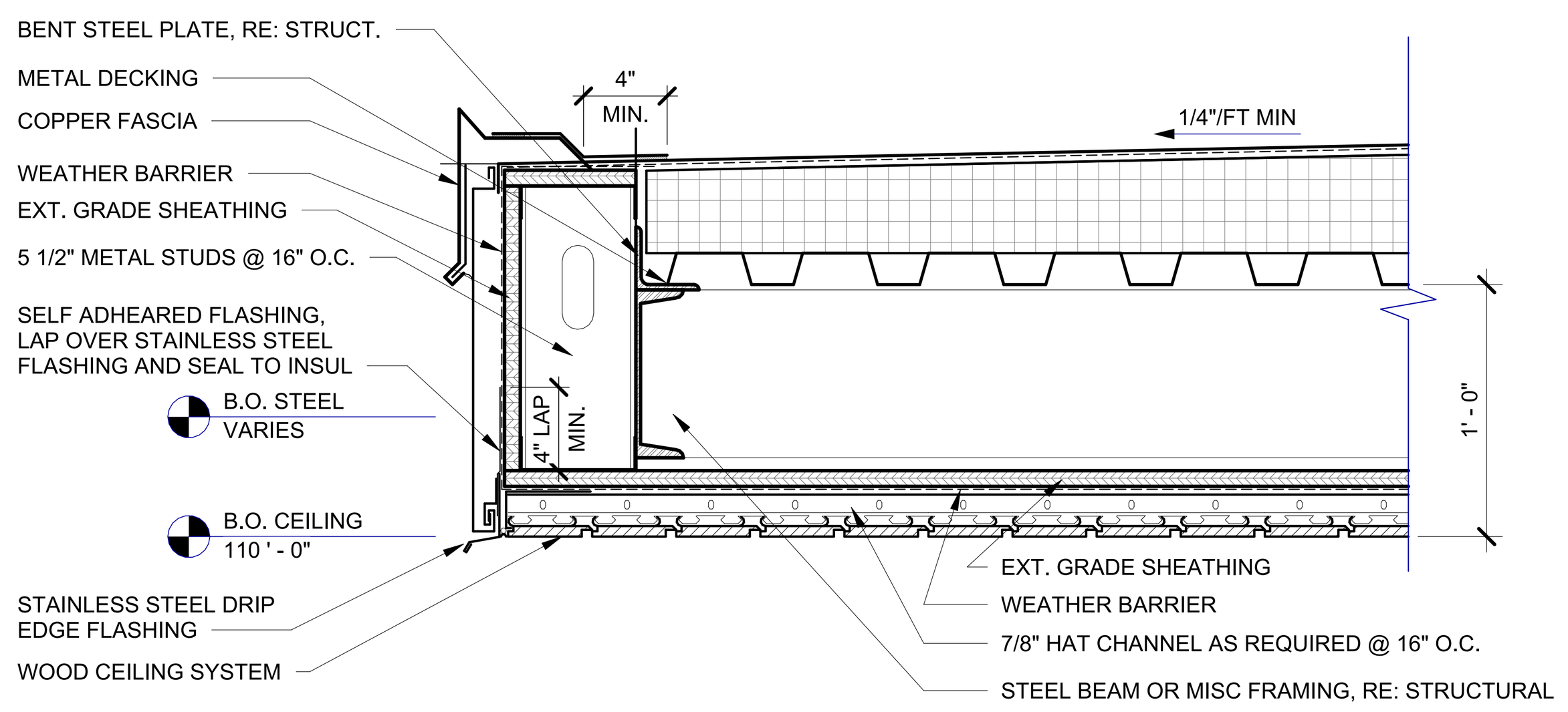
5 A7.12 HIGH ROOF VALLEY DETAIL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



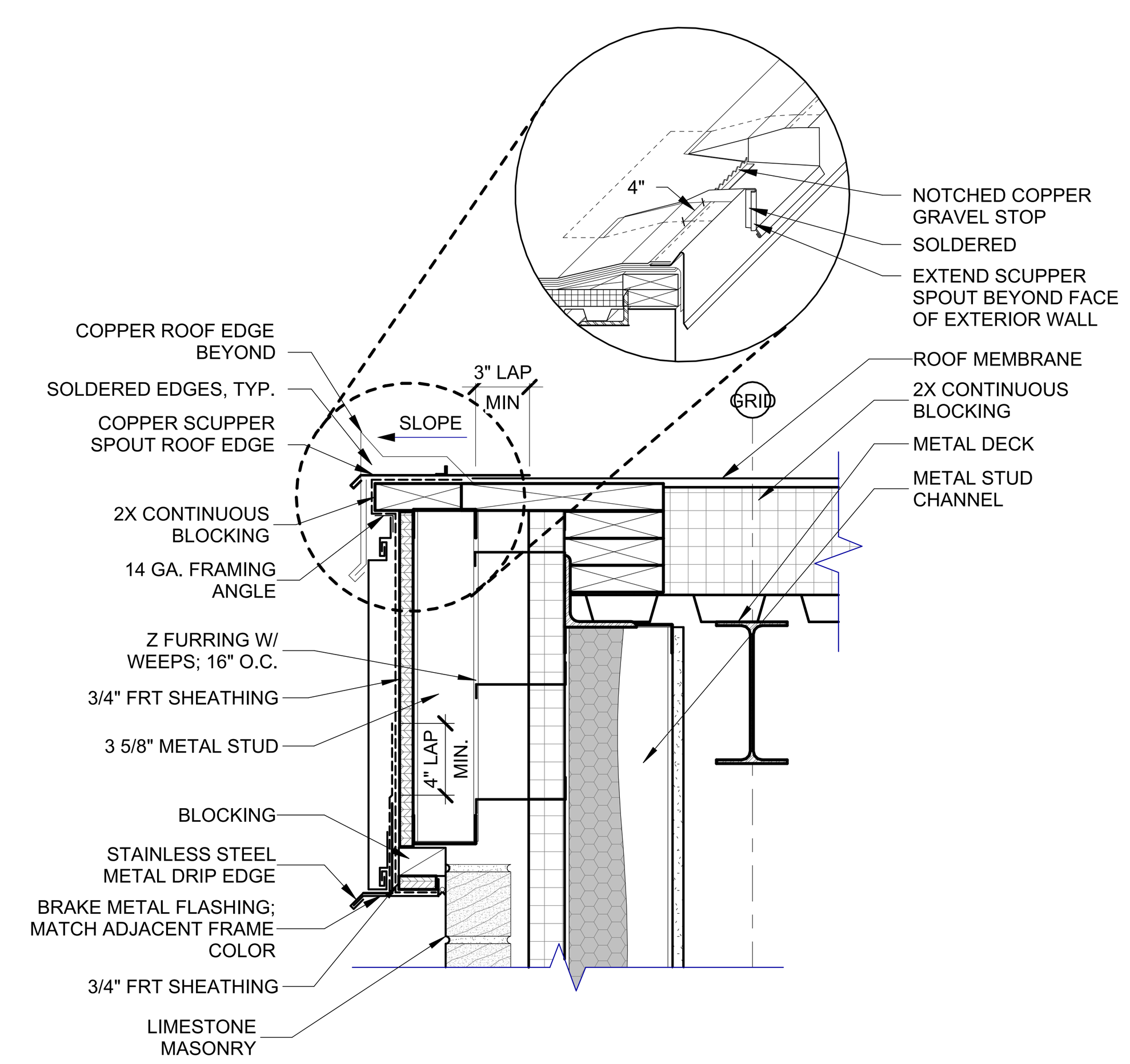
6 A7.12 CONSTRUCTION JOINT
SCALE: 12" = 1'-0"
REFERENCE: 1/ A2.21



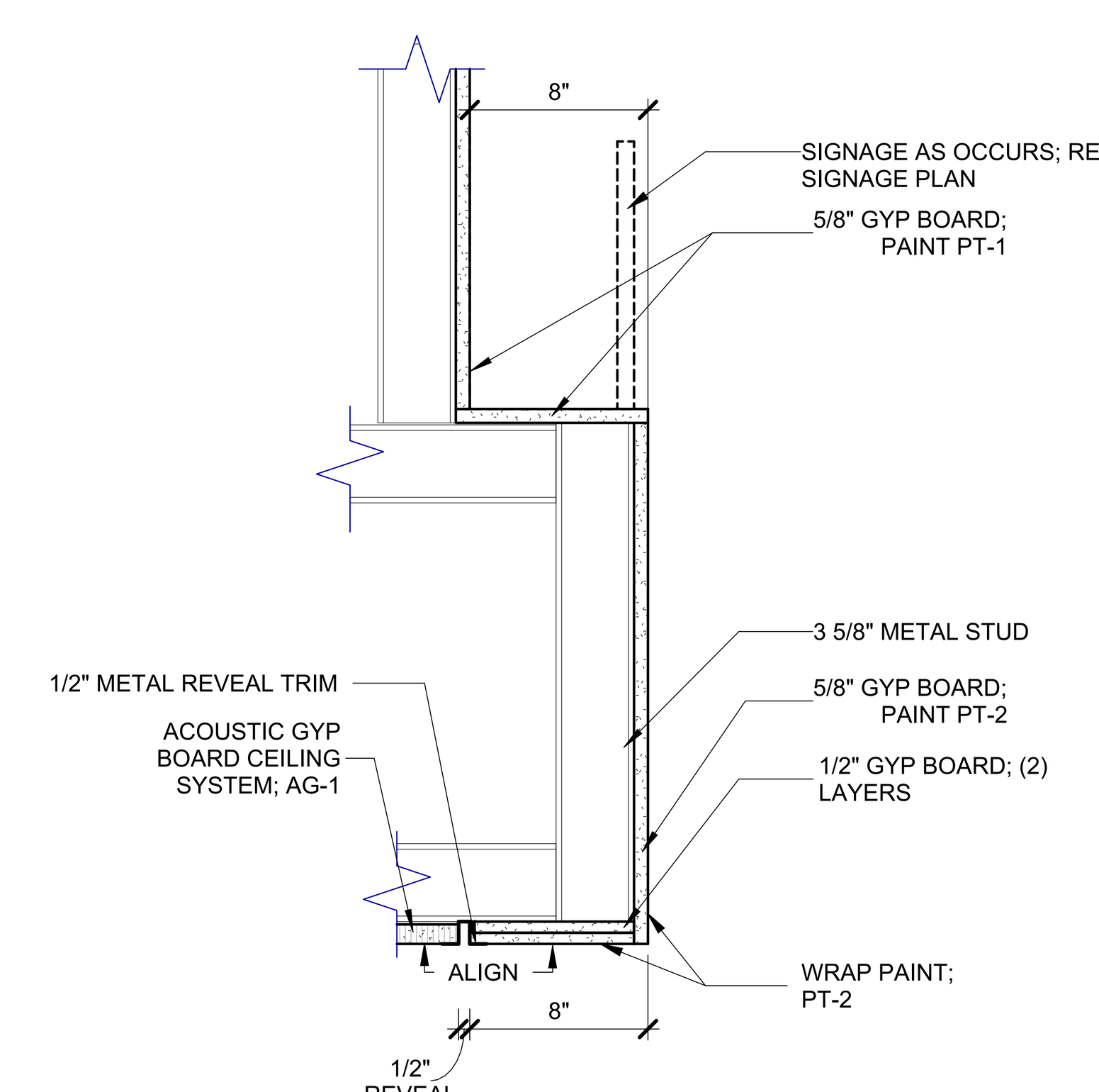
7 A7.12 TYP. WALL BASE @ MASONRY WING WALL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A2.12



8 A7.12 CANOPY EDGE DETAIL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 3/ A5.10



9 A7.12 TYP. SCUPPER FASCIA DETAIL
SCALE: 1 1/2" = 1'-0"
REFERENCE: 1/ A6.01



10 A7.12 BULKHEAD DETAIL
SCALE: 1 1/2" = 1'-0"

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SHEET TITLE
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PROJECT NUMBER
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A7.12