



**City of Tacoma
Tacoma Public Library**

ADDENDUM NO. 4

DATE: October 3, 2023

**REVISIONS TO:
Request for Bids Specification No. LB23-0178F
Main Library Remodel**

NOTICE TO ALL BIDDERS:

This addendum is issued to clarify, revise, add to or delete from, the original specification documents for the above project. This addendum, as integrated with the original specification documents, shall form the specification documents. The noted revisions shall take precedence over previously issued specification documents and shall become part of this contract.

REVISIONS TO THE SUBMITTAL DEADLINE:

The submittal deadline remains the same.

REVISIONS TO THE SPECIFICATIONS:

Previously accepted substitution request Telecommunication Cabling AMP approval is rescinded. Please see revised section 27 10 00 (attached) for the only allowable manufacturer for Telecommunication Cabling.

Previously accepted substitution request Mastercraft Electric Inc Signamax approval is rescinded. Please see revised section 27 10 00 (attached) for the only allowable manufacturer for Telecommunication Cabling.

Remove and replace 09 30 00 Tiling with 09 30 00 Tiling marked Addendum 4.

Add section 10 56 00 Storage Shelving marked Addendum 4.

Remove and replace 27 10 00 Telecommunications Cabling with 27 10 00 Telecommunications Cabling marked Addendum 4.

REVISIONS TO THE DRAWINGS:

1. Sheet A513 **REVISE** as shown in the clouded portions of revised sheet, attached.
 - a. Control 112 changed to Office 112 and countertops removed. Window added at E wall. Acoustic treatment at door and N window removed.
 - b. Grommets added at countertops in Makerspace 110 and Memory Lab 111.



2. Sheet A603 **REVISE** as shown in the clouded portions of revised sheet, attached.
 - a. Casework and TV mount backing added at Teen Area east wall.
3. Sheet A604 **REVISE** as shown in the clouded portions of revised sheet, attached.
 - a. 3/A604 Office 112 south interior elevation removed. Window added to east wall. Acoustic treatment at north elevation removed. Maintain acoustic window at west elevation.
 - b. 1/A604 South elevation – cubbies modified. West elevation – wall-mounted shelving added. TV mount backing added.
4. Sheet A802 **REVISE** as shown in the clouded portions of revised sheet, attached.
 - a. Add detail 13/A802 showing wall-mounted shelving.
5. Sheet A803 **REVISE** as shown in the clouded portions of revised sheet, attached.
 - a. Add detail 3/A803 showing Teen Area Media Casework
6. Sheet A900, **REVISE** as shown in the clouded portions of revised sheet, attached.
 - a. Base finish at OFFICE 105 clarified.
 - b. Ceramic Tile designations added to Flooring materials schedule.
7. Sheet A910, **REVISE** as shown in the clouded portions of revised sheet, attached.
 - a. Wood door finish revised where clouded to Paint.

QUESTIONS AND ANSWERS:

Question 1: I cannot find any specs on the panels or gates, 1-A514, A421, A321,A102 or specs pages, I would at least need to know what perforated metal infill goes in panels and gates?

Answer 1: Refer to Addendum 2 for revisions to 05 50 00 Metal Fabrications which indicates a basis of design for infill panels.

Question 2: Section 081416 includes information for primed hardboard doors, however, wood doors on the door schedule are scheduled to have a clear finish. Please clarify if wood doors should be primed hardboard or clear coated wood veneer. If clear coated wood veneer is required, please advise species and cut.

Answer 2: Door finish shall be paint so please provide paint-grade wood doors. See attached and revised sheet A910 with clarification.



Question 3: Finish Schedule calls for CT-1 base, is that intentional (it's the only place I see it.

Answer 3: Refer to revised A900 Finish Schedule for RB-1 in Office 105.

Question 4: Spec 093000 3.7B 1,2 Calls for "Flat" floortile to be 2x8 (wall tile) Dal Tile "Flat" is only available in a 12x24

Answer 4: Refer to revised spec section 09 30 00 (attached) for 12x24 floor tile dimension.

Question 5: 093000 2.3A,b.7 and.3

-Is schluter cove intended for base conditions, if so what finish? (tile cove is only available as a 6x6 or 4x4)

-Is Schluter intended at inside vertical corners? (this is highly unusual)

Answer 5: Spec section 09 30 00 2.3 a 1 b 7 indicates cove shall be applied at floor to wall joints and finish shall be selected by architect – submit full range of cove options during submittal process. See revised spec section 09 30 00 2.3 A 1 b for removal of wall corner Schluter from project.

Question 6: Spec references Wall Tile at "kitchen backsplashes" Where do I find this in the drawings?

Answer 6: Refer to revised spec section 09 30 00 (attached) for wall tile – kitchen backsplash language removed. Kitchen backsplashes are to be PLAM per contract documents.

NOTE: Acknowledge receipt of this addendum by initialing the corresponding space as indicated on the signature page. Vendors who have already submitted their bid/proposal may contact the Purchasing Division at 253-502-8468 and request return of their bid/proposal for acknowledgment and re-submittal. Or, a letter acknowledging receipt of this addendum may be submitted in an envelope marked Request for Bids Specification No. LB23-0178F Addendum No. 4. The City reserves the right to reject any and all bids, including, in certain circumstances, for failure to appropriately acknowledge this addendum.

cc: Sam Benscoter / Tacoma Public Library

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A . Tile.
- B . Installation materials.
- C . Installation methods.

1.2 RELATED REQUIREMENTS

- A . 013000 - Administrative Requirements: For additional requirements of preinstallation meeting.
- B . 013515 - LEED Certification Procedures: For additional requirements related to LEED Certification
- C . 014339 - Mockups: For additional requirements related to the mockups in this section.
- D . 016000 - Product Requirements: For substitution and additional product requirements.
- E . 017419 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.
- F . 035400 - Cast Underlayment: For leveling if substrate does not meet tiling installation requirements.
- G . 079005 - Joint Sealers: For sealants installed with tiling.
- H . 092116 - Gypsum Board Assemblies: For tile backer board installation for tile substrate.
- I . 092219 - Non-Structural Metal Framing: For installation requirements of metal framing to meet tiling requirements.

1.3 ADMINISTRATIVE REQUIREMENTS

- A . Preinstallation Meeting: Convene one week before starting work of this section in accordance with Section 013000 - Administrative Requirements.
 - 1. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.4 SUBMITTALS

- A . Qualification Data: For installer.
- B . Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C . Shop Drawings: Indicate membrane and tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details and related dimensioning as well as plumbing (drains) mechanical and electrical fixtures and lines installed.

- D . Sample: Mount tile and apply grout on two plywood panels, minimum 18 x 18 inches in size illustrating pattern, color variations, and grout joint size variations.
- E . LEED Submittals: For components of this section submit the following in compliance with Section 013515 - LEED Certification Procedures.
 - 1. LEED Submittal Coversheet.
 - 2. Low-Emitting Materials Submittals:
 - a. EQ Credit Low Emitting Materials, Option 1: General Emissions Evaluation. Documentation certifying all paints and coatings, ceilings, flooring and insulation products comply with current California Department Public Health Standard (CDPH) Method v1.1-2010 or later.
 - b. EQ Credit Low Emitting Materials, Option 1: Additional VOC content requirements for wet-applied paints, coatings products applied onsite: Certification from the manufacturer that the product meets the applicable VOC limits listed in Section 013515 - LEED Certification Procedures.
 - 3. Materials and Resources Submittals:
 - a. MR Credit BPDO - Environmental Product Declarations (EPD), Option 1: Life Cycle Assessment or EPDs in accordance with Section 013515 - LEED Certification Procedures (LEEDv4).
 - b. MR Credit BPDO - Material Ingredients, Option 1: Documentation disclosing a manufacturer inventory in accordance with Section 013515 - LEED Certification Procedures (LEEDv4).
- F . Manufacturer's Installation Instructions: Indicate special preparation of substrate, installation and attachment methods, and perimeter conditions requiring special attention.
- G . Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
- H . Maintenance Data: For user's operation and maintenance of system including:
 - 1. Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.
 - 2. Precautions about cleaning materials and methods that could be detrimental to components, finishes, and performance.

1.5 MAINTENANCE MATERIAL

- A . Extra Tile: 10 square feet of each size, color, and surface finish combination.

1.6 QUALITY ASSURANCE

- A . Installer Qualifications: Company specializing in performing the work of this section with minimum of 5 years of experience.

1.7 MOCKUP

- A . Visual and Constructability Mockup:
 - 1. Construct and participate as specified in Section 014339 - Mockups.
- B . Construct tile mockup where indicated on the drawings, incorporating all components specified for the location.
 - 1. Approved mockup may remain as part of the Work.

1.8 DELIVERY, STORAGE, AND HANDLING

- A . As required by the manufacturer for a warrantable installation of the installed products to meet the Performance and Design Criteria.
- B . As required by SMACNA Guideline Chapter 3 and Section 013515 - LEED Certification Procedures.

1.9 WARRANTY

- A . Installation Warranty: Contractor shall correct defective Work withing a 2 year period after Date of Substantial Completion.
- B . Manufacturer Warranty: Provide five year warranty for tile setting materials failing to resist penetration of water.
 - 1. Exception: Where such failures are the result of structural failures of building. Hairline cracking of concrete due to temperature change or shrinkage is not considered a structural failure.

PART 2 - PRODUCTS

2.1 DESCRIPTION

- A . Tile assemblies and accessories installed in accordance with Tile Council of North America guidelines on walls, floors, and in showers.

2.2 PERFORMANCE AND DESIGN CRITERIA

- A . Blending: For tiles with color variations, factory blend and package tile so each package has the same range of colors and quantities of each variation. If factory blending is not available, field blend prior to beginning installation.
- B . Wet Dynamic Coefficient of Friction (DCOF): Not less than 0.42 as tested in accordance with ANSI/NFSI B101.3 Wet DCOF of Common Hard-Surface Floor Materials.
- C . Provide materials that meet guidelines in Section 013515 - LEED Certification Procedures.
 - 1. Meet emissions testing and requirements of CDPH Standard Test Method v1.1-2010 or later and meet the applicable VOC content limits of the California Air Resources Board (CARB) 2007 Suggested Control Measure (SCM) for Architectural Coatings, or the

South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011, Section 013515 - LEED Certification Procedures (LEEDv4).

2. Meet emissions testing and requirements of CDPH Standard Test Method v1.1-2010 or later, in accordance with Section 013515 - LEED Certification Procedures (LEEDv4). Flooring with FloorScore certification meets the requirement.

2.3 INSTALLATION MATERIALS

A . Non-Ceramic Trim:

1. Satin natural anodized extruded aluminum, or stainless steel as scheduled, style and dimensions to suit application, for setting using tile mortar or adhesive.
 - a. Manufacturer: Schluter.
 - b. Applications: Use in the following locations:
 - 1) Open edges of wall tile.
 - 2) Open edges of floor tile.
 - 3) ~~Wall corners, outside and inside.~~
 - 4) Transition between floor finishes of different heights.
 - 5) Thresholds at door openings.
 - 6) Expansion and control joints, floor and wall.
 - 7) Floor to wall joints: Profiles ProCove base. Finish as selected by Architect from manufacturer's full range.
 - 8) Transition between floor finishes of different materials.

B . Bond Coat:

1. Latex-Portland Cement Mortar Bond Coat: ANSI A118.15H.
 - a. Specification is based on:
 - 1) ProLite Fortified Mortar by Custom Building Products.
 - 2) S28 Microtec (interior) or FB9L Pourable shearflex (interior) or X90 Outdoor (exterior) by Ardex.
 - 3) ~~by Mapei.~~
 - 4) Substitutions for products by manufacturers other than those listed above: See Section 016000 - Product Requirements.
 - b. Performance:
 - 1) Dry-Set Cement Mortar for Large and Heavy Tile.
 - 2) Non-Sag Characteristics for Wall Tile Installations.
2. Epoxy Adhesive and Mortar Bond Coat: ANSI A118.3.
 - a. Specification is based on:
 - 1) EBM-Lite Epoxy Bonding Mortar by Custom Building Products.
 - 2) WA Epoxy Adhesives by ARDEX Engineered Cements.
 - 3) Kerapoxy 410 by Mapei.
 - 4) Substitutions for products by manufacturers other than those listed above: See Section 016000 - Product Requirements.

- b. Performance:
 - 1) Water Cleanable Setting Epoxy.
 - 2) Non-Sag Characteristics for Wall Tile Installations.

C . Grout:

- 1. Grout Colors based as listed in Finish Legend on Drawings.
- 2. Standard Grout: ANSI A118.6 standard cement grout.
 - a. Specification is based on:
 - 1) Prism SureColor Grout by Custom Building Products.
 - 2) FL Rapid set sanded grout or FG-C microtec unsanded grout by Ardex
 - 3)___by Mapei
 - 4) Substitutions for products by manufacturers other than those listed above:
See Section 016000 - Product Requirements .
 - 3. Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
 - a. Specification is based on:
 - 1) Prism SureColor Grout by Custom Building Products.
 - 2) FL Rapid set sanded grout by Ardex. If an unsanded grout is desired choose Ardex FG-C microtec unsanded floor and wall grout.
 - 3)___by Mapei.
 - 4) Substitutions for products by manufacturers other than those listed above:
See Section 016000 - Product Requirements.
 - b. Performance:
 - 1) For Use in Grout Joints 1/16 inch to 1/2 inch width.
 - 2) Rated for Scratch/Abrasion Sensitive Tile/Stone Surfaces.
- 4. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
 - a. Specification is based on:
 - 1) CEG-IG Industrial Grade Commercial Epoxy Grout by Custom Building Products.
 - 2) WA Epoxy Grout by ARDEX Engineered Cements.
 - 3) Opticolor by Mapei.
 - 4) Substitutions for products by manufacturers other than those listed above:
See Section 016000 - Product Requirements.
 - b. Performance:
 - 1) For Use in Grout Joints 1/16 in to 1/2 inch in width.
 - 2) Resistant to Oleic Acids and No-Rinse Cleaning Agents Normally Associated with Commercial Kitchen Conditions.
 - 3) Rated for use in both floor and wall applications, maintaining non-sag characteristics for vertical grout joints.
 - 4) Water Cleanable 100% Solids Grouting Epoxy.
 - c. Features:

- 1) Color: As indicated in Finish Legend.

D . Grout Sealer:

1. Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
 - a. Specification is based on:
 - 1) AquaMix Sealers' Choice Gold by Custom Building Products. Substitutions for products by manufacturers other than those listed above: See Section 016000 - Product Requirements .
 - 2) Penetrating Sealer – No Sheen Formula.
 - 3) w VOC Content, below 100 g/L.

E . Waterproof Membrane:

1. Specifically designed for bonding to cementitious substrate and thinset tile over a sloped mortar bed or pre-fabricated shower pan; complying with ANSI A118.10.and ANSI A108.13.
 - a. Specification is based on:
 - 1) RedGard Waterproofing & Crack Prevention Membrane by Custom Building Products.
 - 2) 8+9 rapid waterproofing by ARDEX Engineered Cements.
 - 3) Mapelastic 400 by Mapei.
 - 4) Substitutions for products by manufacturers other than those listed above: See Section 016000 - Product Requirements.
 - b. Performance:
 - 1) Thickness: 25 mils, minimum, dry film thickness.
 - 2) Thin-Load Bearing Membrane Designed to Suppress Horizontal In-Plane Cracks in Concrete Up to 1/8 inch in width.

F . Crack Isolation Membrane:

1. Manufacturer's standard product that complies with ANSI A118.12 for high performance and is recommended by the manufacturer for the application indicated.
 - a. Specification is based on:
 - 1) RedGard Waterproofing & Crack Prevention Membrane by Custom Building Products.
 - 2) 8+9 Waterproof Membrane by Ardex.
 - 3) Mapelastic AquaDefense by Mapei.
 - 4) Substitutions for products by manufacturers other than those listed above: See Section 016000 - Product Requirements .
 - b. Performance:
 - 1) Thin-Load Bearing Membrane Designed to Suppress Horizontal In-Plane Cracks in Concrete Up to 1/8 inch in width.

G . Sound Reduction Underlayment:

1. Comply with ANSI A118.13, bonded membrane.
 - a. Specification is based on:

- 1) EasyMat 5mm Sound Reduction Mat Underlayment by Custom Building Products.
- 2) DS 70 acoustic mat 5mm by Ardex.
- 3) Substitutions for products by manufacturers other than those listed above:
See Section 016000 - Product Requirements .

b. Performance:

- 1) Mat Underlayment to Maintain Delta of 20 or Greater.
- 2) Mat Underlayment to be Compatible with Setting Mortar and Grouting Materials.

H . Joint Sealant:

1. For treatment of movement, expansion, and change of plane joints in tile work, complying with ASTM C920, and requirements of TCNA (HB) section EJ-171.
 - a. Specification is based on:
 - 1) 100% Silicone Commercial Sealant by Custom Building Products.
 - 2) SX 100% silicone sealant by ARDEX Engineered Cements.
 - 3) Mapesil by Mapei.
 - 4) Substitutions for products by manufacturers other than those listed above:
See Section 016000 - Product Requirements.
 - b. Performance:
 - 1) Sealant Material Must Maintain Shore A Hardness of 20 or Greater for conditions exposed to foot traffic.
 - 2) Sealant Material Must be Color Matched to Selected Grout Color.

I . Tile Backer Board:

1. Coated glass mat type complying with ASTM C1178/C1178M; inorganic fiberglass mat on both surfaces and integral acrylic coating vapor retarder.
 - a. Specification is based on:
 - 1) DensShield Tile Backer by Georgia-Pacific Gypsum.
 - 2) Substitutions for products by manufacturers other than those listed above:
See Section 016000 - Product Requirements .
 - b. Performance:
 - 1) Core: Type X.
 - 2) Thickness: 5/8 inch.

2.4 INSTALLATION METHODS

A . Wall Installation over Gypsum: In accordance with The Tile Council of North America Handbook TCNA (HB) Method W244.

1. Using waterproof membrane at toilet room walls containing plumbing.

B . Floor Installation over Concrete: In accordance with The Tile Council of North America Handbook Method F113.

2.5 ACCESSORIES

- A . All accessory materials required by the manufacturer for a warrantable installation of the installed products in a manner that meets the Performance and Design Criteria.
- B . All accessory materials required to comply with EQ credit: Low Emitting Materials, Option 1 in accordance with Section 013515 - LEED Certification Procedures.

PART 3 - EXECUTION

3.1 EXAMINATION

- A . Verify existing conditions meet the manufacturer's requirements before starting work.
- B . Verify Deflection of floor using note "Maximum Allowable Deflection..." under the headline Notes / Definitions in the TCA manual. This limit 1/360 with a 300 lb concentrated load shall be doubled to 1/720 for stone tiles.
- C . Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
- D . Large format tiles require very flat floors. Do not install if floors are not the equivalent of a floor flatness of Ff 50 (35 local) and FI 50 (35 local).
- E . Verify that concrete subfloor surfaces are ready for tile installation in accordance with Section 090510 - Flooring Moisture Measurement and Mitigation for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
 - 1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours, tested according to ASTM F1869.
 - 2. Alkalinity: pH range of 5 to 9, tested according to ASTM F710.
- F . Verify products have been stored, and will be installed, in accordance with project's Construction Indoor Air Quality Management Plan specified in Section 013515 - LEED Certification Procedures.

3.2 PREPARATION

- A . Prepare surfaces to receive work in accordance with manufacturer's instructions.

3.3 INSTALLATION

- A . General: Install all materials in accordance with manufacturer's instructions based on conditions present.
- B . Extend tile work into recesses and under or behind fixtures and cabinets to form a complete covering without interruptions. Terminate work neatly at obstructions, edges, and corners.
- C . Ground Tile: When partial tiles must be used on exposed edges:
 - 1. Grind the edges of cut unglazed thru-body tile to mimic the factory edge and place the cut edge in.
 - 2. If a cut edge must face out, grind with fine enough grit to match the finish texture of the tile as close as possible.
 - 3. Submit samples for approval prior to commencing work.

- D . Lay tile to pattern indicated.
 - 1. Do not interrupt tile pattern through openings.
 - 2. Align floor, base, wall, and trim joints where sizes permit.
 - 3. Lay out tilework and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting.
- E . Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
 - 1. Glazed Wall and Floor Tile: 1/8 inch.
- F . Sound tile after setting. Replace hollow sounding units.
- G . Keep expansion joints free of adhesive or grout. Apply sealant to joints.
- H . Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- I . Grout tile joints.
- J . Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.
- K . All miscellaneous installation materials required to comply with EQ credit: Low Emitting Materials, Option 1 in accordance with Section 013515 - LEED Certification Procedures.

3.4 ERECTION TOLERANCES

A . Lippage:

| Material | Size | Joint Width | Allowable Lippage |
|---------------------|-------------------|-----------------|-------------------|
| Glazed Wall/Mosaics | 1" x1" to 6" x 6" | 1/8" or less | 1/32" |
| Paver/Stone | All | 1/8" to 1/4" | 1/32" |
| Paver/Stone | All | 1/4" or greater | 1/16" |

- 1. The ANSI A137.1 standard defined allowed warpage according to the type of tile.
- 2. 5.3.1.2.6 Warpage: For example paver tiles, when measured as described in ASTM C 485, the warpage of each tile in the sample shall not exceed 1.0 percent along any edge nor 0.75 percent on either diagonal. From this formula the allowable warpage can be determined.
- 3. The amount of allowable tile warpage is not used in the calculation of allowable lippage. Rather, allowable lippage is the total of the inherent (i.e. actual) tile warpage and the allowable lippage from the table above. Of course, the actual warpage should not exceed the allowable warpage as calculated above.
- 4. Running Bond / Brick Joint Tile Patterns: For Running Bond/Brick Joint Patterns utilizing tiles (square or rectangular) where the side being offset is greater than 18" (nominal dimension), the running bond offset will be a maximum of 33% unless otherwise specified by the tile manufacturer. If an offset greater than 33% is specified, specifier and owner must approve mockup and lippage.
- 5. Floor/Substrate Flatness Requirements: Maximum allowable plane variation: 1/4 inch

in 10.0 feet for installation of small format tiles (all edges of tile units less than 15 inches in length). Maximum allowable plane variation: 1/8 inch in 10.0 feet for installation of large format tiles (tile units maintaining any edge 15 inches in length or greater).

3.5 CLEANING

- A . Dispose of all waste material in accordance with Section 017419 - Construction Waste Management and Disposal and project's Waste Management Plan.

3.6 PROTECTION

- A . Protect installed work as required by the manufacturer to maintain product performance, design criteria, and warranty.
- B . Apply heavy kraft paper as a minimum to prevent surface damage during construction, and remove before final inspection.

3.7 SCHEDULE

A . Wall Tiles:

- 1. Manufacturer: DalTile Color Wheel Linear.
- 2. Application: 2 x 8 ceramic tiles at walls.
- 3. Finish: Color to be selected from standards.
- 4. Location: Toilet rooms. ~~backsplash at kitchenettes.~~

B. Floor Tiles:

- 1. Manufacturer: DalTile Flat.
- 2. Application: 12x24 ceramic tiles at floors.**
- 3. Finish: Color to be selected from standards.
- 4. Location: Per Finish Schedule

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A . Shelf standards, brackets, and accessories.
- B . Shelves.

1.2 RELATED REQUIREMENTS

- A . 01 30 00 - Administrative Requirements: For additional requirements of preinstallation meeting.
- B . 01 35 15 - LEED Certification Procedures: For additional requirements related to LEED Certification
- C . 01 60 00 - Product Requirements: For substitution and additional product requirements.
- D . 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.
- E . 06 10 00 - Rough Carpentry: Wood blocking in walls for attachment of standards.
- F . 09 21 16 - Gypsum Board Assemblies: Blocking in metal stud walls for attachment of standards.

1.3 SUBMITTALS

- A . See Section 013000 - Administrative Requirements, for submittal procedures.
- B . Product Data: Manufacturer's data sheets on each product to be used.
- C . Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D . Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 - Product Requirements, for additional provisions.
 - 2. Extra Brackets: Ten of each size of standard straight bracket.

1.4 QUALITY ASSURANCE

- A . Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A . As required by SMACNA Guideline Chapter 3 and Section 013515 - LEED Certification Procedures.
- B . Store products in manufacturer's unopened packaging until ready for installation.

PART 2 - PRODUCTS

2.1 DESCRIPTION

- A. Wall-mounted 12" deep aluminum shelving with surface-mounted support standard. Include coordinating shelves, brackets, supports, and hardware. Provide where indicated in architectural drawings.
 - 1. Application: Material storage and display.
 - 2. Finish: Anodized aluminum.
 - 3. Location: Maker Space.

2.2 ACCEPTABLE MANUFACTURERS

- A. Rangine Corporation, 330 Reservoir Street, Needham, Massachusetts 02494; 800-826-6006; www.rakks.com.

2.3 STORAGE SHELVING SYSTEM

- A. Provide complete shelving system as detailed on Drawings consisting of modular components that can be field assembled using simple hand tools. System shall provide:
 - 1. Fully compatible components allowing integration into total system.
 - 2. Total shelf adjustability without slots or visible hardware.
 - 3. Capability to expand.
 - 4. Capability for disassembly, relocation, and reconfiguration.
- B. Material: Fabricate components from extruded aluminum sections complying with ASTM B221, 6063-T5 alloy and temper.
- C. Fasteners: Provide type and size as recommended by manufacturer for specific applications. Exposed to view fasteners shall have finish to match standards and other components.
- D. Factory applied finishes: Exposed aluminum surfaces shall be free of scratches and other serious blemishes and be factory finished with [clear anodized coating complying with AAMA 607.1 - MM10C22A31].
 - 5. Front edges of shelf brackets with a clear anodized finish shall be buffed.

2.4 WALL STANDARDS

- A. Type: Channel type, extruded aluminum standard to be [surface] mounted on walls and designed to hold shelf support brackets inserted into channel ends or access slots and slid to desired position; Rakks Wall Standards as manufactured by Rangine Corporation.
- A. Profiles:
 - 6. Basic channel: 0.700 inch wide by 0.535 inch deep channel with projecting lips to retain shelf brackets, and designed for either surface or recessed mounting; Model SC-

Standard as manufactured by Rangine Corporation.

2. Double channel: Surface mounted, 1.75 inches wide by 0.535 inch deep]extrusion with two channels with projecting lips to retain adjacent shelf support brackets at either continuous or staggered shelf configurations; Model No. SD-Standard as manufactured by Rangine Corporation.

2.1 SHELF SUPPORT BRACKETS

- A. Type: Fabricated from aluminum and designed to slide into support channels, be positioned at any height, and securely locked into place; Rakks Shelf Support Brackets as manufactured by Rangine Corporation. Brackets that fit into slots, require exposed fasteners or hardware, or can only be positioned at set increments are not acceptable.
- B. Rectangular bracket:
 7. Fabricated from 1/4 inch thick extruded aluminum bar with steel pin to retain and hold bracket in support channel; Rakks Style Bracket as manufactured by Rangine Corporation. Provide the following sizes:
 - a. Bracket Model No. BR-012 as manufactured by Rangine Corporation: 1-1/4inches deep by length to accommodate 12 inches wide shelf and 60 pounds load capacity.

2.6 ALUMINUM SHELVES

- B. Type: Extruded aluminum sections with textured flat top and bottom ribs that can be used by combining the following sections to form shelving ranging in width from 4 to 18 inches widths in 2 inches increments.
 8. 12 inch wide shelf: Section with one rounded edge and weighing 0.6 pound per foot; Model No. SA-04 as manufactured by Rangine Corporation.
- B. Length: Provide aluminum shelves in quantities and lengths as shown in Architectural drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A . Do not begin installation until substrates have been properly prepared.
- B . If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

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

3.3 INSTALLATION

- A. Install shelving system in accordance with approved shop drawings and manufacturer's installation instructions.
- B. Install shelving at locations and heights indicated on Drawings. Verify locations in field with Architect.
- C. Install standards and other support components rigidly to supporting substrate so that components are secure, plumb, and level. Mount standards to solid backing capable of supporting intended loads.
- D. Install with fasteners of type, size, and quantity as supplied or recommended by shelving manufacturer for type of application and substrate.
- E. Ensure screws used to anchor wall standards are set flush and do not project into channel.

3.4 PROTECTION

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

3.5 CLEANING

- A. Dispose of all waste material in accordance with Section 017419 - Construction Waste Management and Disposal and project's Waste Management Plan.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Definition

1. "Telecommunications Cabling" as used in this Section refer to a unified cable plant primarily designed for carrying signals associated with telephone, telecommunications common carrier, data, and communications within the building. At places, interfaces occur between the telecommunications cabling system and other signal cable systems, and telecommunications systems may share tray and rack spaces with other systems. However, for construction purposes the "Telecommunications Cabling" system is separate and may have different specification provisions from other systems.

B. Station Cable

1. Provide a complete cable system tested for continuity and performance to each outlet, including:
 - a. Category 6 station cables for voice/data interconnections
 - b. Multi-purpose outlet plates
 - c. RJ-45 jacks and terminations
 - d. Rack mounted RJ-45 patch panels
 - e. Wall mounted, 25 unit data rack mounted on level 2 of Main Library.

C. Identification and Labeling: Labeling is to be functional and permanent, in strict compliance with Owner/Engineer direction.

D. Detailed Documentation:

1. Provide detailed documentation of as-built conditions as is required for this section to complete shop drawings for telephone and data cabling system administration. Labeled cables connected at each outlet location must be those shown in "as-built" documentation.

E. Work Furnished By Others:

1. Telephone switching equipment, telephone instruments, computing equipment, and data switches will be furnished by others.
2. ANY connections to active equipment in a telecommunications room will be performed by Owner IT staff only.

F. Preferred Manufacturer:

- 1. Systimax**

1.2 SYSTEM DESIGN OBJECTIVES

All recommended revision, Value Engineering suggestions, or installer options during the construction phase should consider the following design objectives:

- #### A. System Description: The cabling system is designed to support a universal cabling system

for both voice and data. Most information outlets will consist of outlet boxes with uniform Category 6 jacks for voice and data. The size of outlet boxes and conduit at each location are indicated on electrical drawings.

B. Telecommunication Room Support Fixtures:

1. The second floor telecommunications room shall be provided with new wall mounted data rack. Contractor shall provide (5) 48 port patch panels and terminate all Cat. 6 cables.

1.3 REGULATORY REQUIREMENTS

A. All work shall be performed in accordance with the latest revisions of the Washington Department of labor and Industries and the following industry standards and codes:

| | |
|-----------------------|--|
| FCC Part 68 | Connection of terminal Equipment to Telephone Network. |
| Uniform Building Code | International Conference of Building Officials (ICBO; Regional Office: 12605 Bellevue-Redmond Road, Bellevue, WA 98005 |
| WAC-296-46 | Laws, Rules, and Regulations for installing Electric Wires & Equipment |
| NFPA 70 (NEC) | 1999 National Electrical Code |
| NFPA 75 | Protection of Electronic Computer and Data Processing Equipment |
| NFPA 78 | Lightning Protection Code |
| NFPA 101 | Life Safety Code |
| OSHA 29 CFR Part 1910 | Occupational Safety and Health Standards |
| FCC Part 76.611 | CFR Title 47 Radiation Leakage Standards |

B. Other References:

| | |
|----------------------|---|
| ANSI/TIA/EIA-526-14A | Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant |
| ANSI/TIA/EIA-569-A | Commercial Building Standard for Telecommunication Pathways and Spaces |
| ANSI/TIA/EIA-568-B | Commercial Building Telecommunications Cabling Standard (Includes B.1, B.2 & B.3 including addenda) |
| NSI/TIA/EIA-606-A | The Administration Standard for the Telecommunication Infrastructure of Commercial Buildings |
| ANSI/TIA/EIA-607 | Commercial Building Grounding and Bonding Requirements for Telecommunications |
| ANSI/TIA/EIA-758-A | Customer-Owned Outside Plant Telecommunications Standard |

C. Governing codes and Conflicts: If the requirements of this section of the project drawings exceed those of the governing codes and regulations, then the requirements of this section and the Drawings shall govern. However, nothing in this section or the drawings shall be construed to permit work not conforming to all governing codes and regulations.

1.4 COORDINATION

- A. Coordinate work with other contractors and trades. The layout and installation of the systems shown on the drawings and specified herein shall be coordinated such that all special requirements for the telecommunications systems shall be provided and incorporated into the project. The systems to be coordinated shall include (but are not limited to) electrical raceway, grounding, fire rated assembly, lighting, power distribution, control and labeling of cables, termination, outlets, jacks, etc. Report all conflicts of to the Contracting Agency.

1.5 INSTALLER QUALIFICATIONS AND QUALITY ASSURANCE

- A. The Low Voltage cable system installer shall at a minimum be firm normally employed in the low voltage cabling industry with reference list of at least (5) five projects with contact names to confirm the successful completion of Category 6 UTP projects within the last (12) twelve months prior to the bid opening date of this project. In addition, the Contractor must submit proof of category 6 UTP cable test equipment training and certification for the technicians that will be testing the installation. The Contractor shall discuss Category 6 testing procedures with the Owner and Engineer prior to beginning testing.
- B. The Owner reserves the right to exercise it's discretion to require the Contractor to remove from the project any such employee of the Contractor deemed by the Owner to incompetent, careless, or insubordinate.
- C. Personnel whom the Contractor intends to use as supervisors or testers, and at least (50%) half of the installation technicians at large, must have been employed by the Contractor for at least (6) six months as of the date of the bid opening. Technicians shall have been trained on the Contractor's company policies with respect to personnel safety, telecommunications industry cabling quality and neatness standards, and use of CSI-standard specifications and drawings.
- D. The selected Low voltage installer must be licensed, bonded, and insured in the State of Washington.

1.6 UNIT PRICES

- A. Unit prices must be submitted for addition or deletion of telecommunications wiring devices during the period of this contract. The pricing shall include all costs associated for addition and the credit for deletion of outlets ad locations. In addition, unit pricing shall be submitted for addition or deletion of patch panels, wire managers, cable, etc.

1.7 SUBMITTALS

- A. Per section 01330, the Contractor shall finish the following in a single consolidated submittal with an approval copy to the Owner:
 - 1. Contractors license number and proof of qualifications required in paragraph 1.5 above
 - 2. The name of the person who will act as the Contractor's official contact with the Contractor/Owner/Engineer.
 - 3. The name of every certified Category 6 cable installation technician who may be used in the conduct of the project, and evidence of certification of each.
 - 4. To qualify, under the preceding paragraph, courses attended must include hands-on access to cable and terminating tools and materials, and test equipment required to perform the installation functions required in the work of this contract.

5. Complete manufacturer's product literature for all products to be used in the installation except for the Owner furnished materials. In addition, whenever Owner/Engineer pre-approved prior to bid substitutions are recommended products are made, samples (when requested by the Owner/Engineer) and the manufacturer's supporting documentation demonstrating compatibility with related products shall be included. Product submittals must be keyed to the specification or drawing references.
6. Shop Drawings.
 - a. Proposed cable routing shall be submitted and approved prior to installation of any cables.
 - b. The contractor shall submit scaled drawings of all proposed changes in communications room installation detail (see paragraph 1.3.B.2).
7. Proposed Contractor category 6 UTP cable test result forms. Contractor shall provide test documentation and forms.
8. Examples of the cable labeling materials and proposed arrangement. Submittal must include actual samples of each type of proposed connecting fixture, with realistic labels attached.

B. Project Completion

As a condition for project acceptance, the contractor shall submit to the Owner/Engineer the following for review and approval:

1. Complete manufacturer's product literature and samples (if requested) for all approved substitutions to the recommended products made during the course of the project.
2. An Exceptions List of deviations (in materials, construction, and workmanship) from the specified in this section and shown on the Project Drawings. The Owner will review this list and declare each item as either an approved exception, or as one the Contractor must correct.
3. Field Drawings. Through out the course of the project, details concerning the exact physical layout or arrangement of the backboards as shown on the Construction Drawings and details shall be marked on the field set with dimensions) reserved for this purpose. The field drawings shall be available throughout the project for inspection and shall be submitted to the Consultant/Engineer at Project Completion with changes "as-builts" in CADD format and submitted on CD. The Field Drawings shall be clear and accurate so that the original Construction drawings can be brought up to date by the Contractor.
4. Inspection and test Reports: During the course of the Project the Contractor shall maintain the adequate inspection system and shall perform such inspections to ensure that the materials supplied, and the work performed conform to Contract requirements. The Contractor shall provide written documentation, which indicates that all cable termination testing was completed and that all irregularities were corrected prior to job completion.

1.8 PROJECT OBSERVATION AND FINAL ACCEPTANCE

- A. The Contractor shall request interim observations by the Owner/Engineer throughout the course of the project to avoiding costly corrections at the end of the project.
- B. The Contractor shall incorporate in the construction schedule a minimum 2-week period for the final review and project observation process. During this period, the Owner/Engineer will review the project completion submittals and conduct on-site observation.
- B. The Field Drawings will be checked for completion and accuracy to be compared to

engineer provided construction documented and details from the start of the project.

- C. The Owner/Engineer will generate a list of materials and workmanship that are not acceptable (in a project observation report/punchlist). Any part of the system, materials, or workmanship, not meeting the requirements of this section, and not otherwise accepted by the Owner/Engineers, shall be corrected by the Contractor at no additional cost to the Owner prior to final acceptance.
- E. A follow-up observation shall be made after the Contractor has made all corrections necessitated by earlier project observation reports. This review and observation process will be repeated as required until final acceptance is granted.
- F. If completed test results for copper are questionable in regard to failures, an independent spot test on cables with problems may be done by a different independent contractor, with the cost of such spot-checks to be retained from Contractor's payments.

1.9 CABLE LABELING AND PLACEMENT

- A. Cable terminations shall be labeled according to Owner/Engineer instructions onsite.
- B. Cables will be assigned specific termination locations. Such assignment may be made or changed by the Owner/Engineer at any time prior to the installation phase at no additional cost to the owner or contract.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All material required for a complete installation shall be furnished by the Contractor.
- B. All materials must be new, free from defects and not less than the quality herein specified. They shall be designed to ensure satisfactory operation and operation life in the environmental conditions which will prevail where they are being installed.
- C. Each type of materials bid and furnished shall be of the same make and shall be of the standard products or manufacturers regularly engaged in the production of such materials and shall be the manufacturer's latest standard design.
- D. Materials shall be as listed or shall be equivalent products of other manufacturers meeting the intent and quality level of the specifications. Any approved equivalent products will be published by addendum prior to bid.
- E. Security: Contractor shall furnish and maintain suitable lockable storage locations for on-site secure storage of materials. Any lost, stolen, damaged, or cut materials shall be replaced by the Contractor.
- F. No custom items shall be used except as specified on the Construction Drawings or as reviewed and approved by both the Owner and Engineer as required to meet unusual physical requirements of the installation site.

2.2 WIRE PLANT MATERIALS

- A. Materials shall be as listed or shall be equivalent products of other manufacturers meeting the intent and quality level of specifications. All approved equivalent products will be published by addendum prior to bid.

- B. All products shall be new and brought to the job site in original manufacturer's packaging. Electrical components shall bear the Underwriter's Laboratories label and/or the CSA equivalent. All communications cable shall bear flammability testing ratings as follows:
- CM Communications Cable
 - CMP Plenum Rated Communications Cable
 - CMR Riser-rated Communications Cable
- All voice and data station cables specified herein shall be CMP plenum as required by code.
- C. Initial Cable inspection: The Contractor shall inspect all cable prior to installation to verify that it is identified properly on the reel identification label, that it is of proper gauge, containing correct number of pairs, etc. Note any buckling of the jacket which would indicate possible problems. Damaged cable or any other components failing to meet specifications shall not be used in the installation.

2.3 SUBSTITUTION OF MATERIALS

- A. Listing of materials is not intended to prevent listing of other material provided the substitute product is submitted for listing, 7 working days prior to bid, and has been reviewed and listed in accordance with the following Substitution of Materials requirements.
1. No requests for variance will be approved unless it is stated that a pre-approved product may be submitted for review and listing.
 2. After Award of Contract, only as follows:
The reason for the unavailability is beyond the Contractor's control, i.e., due to strikes, bankruptcy, discontinuance of manufacture, etc. Requests for substitutions shall be made in writing and shall be accompanied by complete description of the substitute material or equipment.
- B. In all cases, should a substituted material result in requiring system or building modifications, or additional labor on the part of the installation contractor(s), the Contractor shall be liable for all costs to provide these modifications including all costs to the Engineer for redesign time required to accommodate the required modifications. Liquidated damages provisions of the Contract may also apply.

2.4 STATION CABLING

- A. Voice/Data Station Cable: Provide Category 6 cable (as identified by TIA/EIA-568-B) for all voice/data station cables: Each cable reel shall be tested for Category 6 performance at the factory. All cable shall be plenum rated.
- Acceptable Products: AMP# 219667-X (White for Campus Network) 219567-X (Violet for CIT)
Mohawk# M56905 (White for Campus Network) M57201 (Violet for CIT)

2.5 STATION HARDWARE

- A. Jacks: Flush mount voice and data jacks shall be high quality tested Category 6 8-pin (RJ45) modular jacks with IDC style terminations. All jacks shall use the T568B pin configuration. Jacks shall exceed the TIA/EIA-568-B recommendations for Category 6 connecting hardware. Confirm campus network wall and floor box outlet colors with Owner/engineer.
- Acceptable Products: (See Below)
Wall and Floor Box Locations:
AMP # I375055-X

AMP# 1-1375055-0 (Violet for CIT)

- B. Icons and Labels: Icons shall have voice or data symbols as appropriate

Acceptable Products: AMP icons

- C. Faceplates: Faceplate color shall be determined by the Owner/Engineer.

Acceptable Products:

AMP Faceplate# 1139I18-X

AMP Module# III6409-X AMP Blank# 1116410-X

- E. Cable labels.

1. All cables shall be labeled at the TR termination and at the user terminal connection with the same identifying code.
2. TR-end labels shall be mechanically printed on strips designed for use with the prescribed terminating hardware.
3. Jack-end labels must be mechanically created, have letters that are at least 3/16 inches high, and have a high contrast with the label background.
4. Label adhesive must be shown to be permanent and not removable without use of heat or solvents, when applied to each of the types of outlet cover plates to be used in the project.

2.6 VOICE/DATA TERMINATION HARDWARE

- A. Horizontal Voice/Data Cabling Patch Panels. 48 port Category 6 patch panel.

Acceptable products: AMP Part# 1375015-1

PART 3 - EXECUTION

3.1 FIRE STOPPING

- A. Any penetration through fire rated walls, and both ends of all vertical conduit chases (including those in sleeves) will be resealed with specified fire stopping sealant. Contractor shall also seal all floor, ceiling, and wall penetrations in fire or smoke barriers and in the telecommunications rooms.

3.2 CABLE HANDLING

- A. All cable, especially Category 6, is subject to subtle damage that may degrade future performance, if abused during installation. In all cable installation, set reels and use sufficient pulleys and manpower so that cables are not pulled around blunt corners or against material that might cause chafing. For the purpose of this paragraph, any edge with a radius of less than 5 inches is considered "blunt". Any non-rotational surface that has sufficient friction to cause shavings or particles to be pulled off of cable jackets is unacceptable.

OBSERVATION OF IMPROPER CABLING HANDLING TECHNIQUES ON THE JOB MAY CAUSE THE CONSULTANT/ENGINEER AND/OR OWNER TO REQUIRE THE CONTRACTOR TO DISCARD OBSERVED CABLES, INCLUDING ANY OTHERS ALREADY INSTALLED BY THE PERSONNEL FOUND USING IMPROPER TECHNIQUES.

- B. Allowable Cable Bend Radius and Pull Tension: In general, communications cable cannot tolerate sharp bends or excessive pull tension during installation. The following tables

provide typical minimum pulling bend radii and maximum pull tensions for twisted pair in conduit.

Refer to manufacturer's recommendations for the limitations on the installed cables.

MINIMUM PULLING BEND RADIUS and MAXIMUM PULL TENSION
FOR TWISTED-PAIR CABLE in CONDUIT

| PAIRS | MINIMUM PULLING BEND RADIUS | MAXIMUM PULL TENSION |
|-------|--------------------------------|-------------------------|
| 4 | 5 inches | 25 lbs. |
| 100 | 17 inches | 500 lbs. |
| 200 | 22 inches | 1000 lbs. |
| 900 | 44 inches | 5000 lbs. |

Cable Lubricants: Lubricants specifically designed for installing communications cable may be used to reduce pulling tension as necessary when pulling cable into conduit. After installation, exposed cable and other surfaces must be cleaned free of lubricant residue.

Recommended Products:

Twisted-pair Cable: Dyna-Blue, American Polywater Optical Fiber Cable: Optic-Lube, Ideal

- D. Pull Cords: Provide pull cords in all sections of conduit. Tapes shall be marked in feet and secured at each end of the conduit.

Recommended Product: Greenlee

- E. Replace or rework cables showing evidence of improper handling including stretches, kinks, short radius bends, over tightened bindings, loosely twisted and over twisted pairs at terminals, and re-terminate cables with sheath removed over 2 inches

3.3 LABELS

- A. The Contractor will label all outlets and cables using permanent, legible typed or machine engraved labels pre-approved by the Owner. Submit proposed labels to Engineer/Consultant for approval.
- B. Terminals in the telecommunications rooms shall be labeled by the Contractor using designation strips designed for the patch panels or terminal hardware.

3.4 STATION CABLING INSTALLATION

- A. Certified Installers: The Contractor shall supervise the installation of all communications cable. All Category 6 cable shall be installed by individuals trained and certified in low voltage data cable system installation. All Category 6 cable must be handled with care during installation so as not to change performance specifications. The Contractor shall not over tighten wraps or over bend cables.
- B. Station cables shall be typically installed in under floor spaces. Any cable placed in ceiling areas shall be supported with Erico J-hooks attached appropriately to walls or support wires and spaced a maximum of four feet apart. Cables shall not come in contact with HVAC or mechanical system components or run within (8) eight inches of any electrical component. Provide straight routes, parallel with floors and corridor walls, between the outlet box locations and the telecommunications room.

- C. Coordination: All cabling and associated hardware shall be placed so as to make efficient use of available space in coordination with other uses. All cable and associated hardware shall be placed so as to not impair the use or capacity of other building systems, equipment or hardware placed by others (or existing). All cable, associated support structures and hardware shall be placed so as to not impair the Owner's efficient use of their full capacity.
- D. Installation: Pull all cables carefully, adhering to standards of care and manufacturer's recommendations for installation of cabling. Where cables emerge from raceways or drop out of cable racks, maintain a supported bundle with at least a (5) five-inch bend radius. Use special care not to pull cables around corners unless a large-radius pulley or careful manual handling is employed. Assure that when cables are left on the floor, signs or other procedures are used to assure that no one steps on the cables. (In the event an observing Owner's representative, Consultant/Engineer, or Architect observes installation practices in which cables are subject to crushing or tight-bend abuse, the Contractor may be required to remove and discard from the site all cables which may have been subjected to the observed abusive action. No additional charges will be allowed in the event of such replacement action.)

NOTE: Cabling installation shall not precede floor installation

3.5 STATION HARDWARE

- A. UTP cables shall be terminated in high-quality Category 6 RJ-45 jacks meeting EIA/TIA-568-B specifications, using wiring format T568B (TIA), which is both 100baseT and ISDN compatible.

3.6 BACKBOARD CABLING/EQUIPMENT RACK CONFIGURATION

- A. Cabling shall be routed so as to avoid interference with any other service or system, operation, or maintenance purposes such as access boxes, ventilation mixing boxes, network equipment, mounting access hatches to air filters, switches or electrical outlets, electrical panels, and lighting fixtures. Avoid crossing areas horizontally just above or below any conduit opening. Lay and dress cables to allow other cables to enter the conduit/riser without difficulty at a later time by maintaining a working distance from these openings.
- B. Cable shall be routed as close as possible and parallel to the ceiling, floor, or corners to ensure that adequate wall or backboard space is available for current and future equipment and for cable terminations. Cables shall not come in contact with electrical conduit or other equipment.
- C. Cable bundles passing from a wall to a rack or other free-standing object shall not bridge a gap of greater than (4) four inches without the use of a uni-strut or other bridging structural piece. All cables to a rack shall be cabled out to the top. On backboards, lay cables via the shortest route directly to the nearest edge of the backboard from the mounted equipment or block.
- D. Lace or bundle all similarly routed cables together and attach by means of D-rings screwed to the outside edge(s) of the backboard vertically and/or horizontally, then route via "square" corners over a path that will offer minimum obstruction to future installations of equipment, backboards, or other cables.
- E. Do not allow binding on cable. Do not use tie-wraps. Velcro-style straps are recommended for cable bundling, where required. Observe Category 6 cable bend radius standards for all cables.

3.7 COPPER CABLE INSTALLATION TESTING

- A. The Owner/Engineer shall be notified one week prior to any testing so that the initial testing may be witnessed. Contractor shall not replace or correct any cable deficiencies found through testing prior to the notified date. (The initial test results are an effective indication of the overall quality of an installation. "Rehearsal" tests by the Contractor deprive the test observer of the opportunity to detect general quality conditions that may be detected at the time of the first test performed.)
- B. Before requesting a final inspection, the Contractor shall perform a series of end-to-end installation performance tests. The Contractor shall submit for approval a proposal describing the test procedures, test result forms, and timetable for all copper plant work.
- C. Acceptance of the simple test procedures discussed below is predicated on the Contractor's use of the recommended products (including but not limited to twisted-pair cable, cross-connect blocks, and outlet devices specified in the Products paragraph), and adherence to the inspection requirements and practices set forth. Acceptance of the completed installation will be evaluated in the context of each of these factors.
- D. At a minimum, the Contractor shall test:
 - 1. All station drop cable pairs from telecommunications rooms to outlet device RJ45 jacks.
- E. Each Category 6 wire/pair shall be tested per TWEIA-568-B, including addenda, at a minimum for the following:
 - 1. Wire map
 - 2. Length
 - 3. Insertion loss
 - 4. Near-end crosstalk (NEXT) loss
 - 5. Power sum near-end crosstalk (PSNEXT) loss
 - 6. Equal-level far-end crosstalk (ELFEXT)
 - 7. Power sum equal-level far-end crosstalk (pSELFEXT)
 - 8. Return loss
 - 9. Propagation delay 10. Delay skew
- F. These test procedures shall be based on EIA/TIA-568-B utilizing a commercial Level III UTP cable tester that will test at or above the Category 6 parameters. Acceptable test equipment includes Fluke DSP-4XXX, Agilent Scope 350 or other approved tester. Testers shall have the latest software update. Testers shall be set for Category 6 cable tests. Each tester shall be certified as calibrated within (3) three months of testing.
- G. UTP Category 6 cables shall be tested from the telecommunications room to RJ45 outlets in small groups. After a small group of station cables are installed, they must be tested. Test groups shall consist of no more than (40) forty cables.
- H. The Category 6 testing will show numerous problems which go undetected with lower frequency testing including the following:
 - 1. Stretched cables.
 - 2. Kinked cables.
 - 3. Short bend radius.
 - 4. Tight bindings.

- 5. Loose twists and tight twists at terminals.
- 6. Cable sheath removed too far.
- I. When errors are found, the source of each error shall be determined, corrected, and the cable re-tested. All defective components shall be replaced and retested. Defective components not corrected shall be reported to the Owner/Engineer with explanations of the corrective actions attempted.
- J. Test records shall be maintained using the test equipment manufacturer's electronic form. The form shall record cable identification number, outcome of test, indication of errors found, cable length, re-test results after problem resolution, and signature of the technician completing the tests. Test results shall be submitted in electronic spreadsheet format (Excel or Word compatible) on disk with a printed copy. Test results for each test group shall be submitted within two days of tests for immediate review.

3.8 GROUNDING

- A. Grounding shall conform to ANSI/TIA/EIA-607, National Electrical Code and manufacturer's grounding requirements at a minimum.
- B. Ground equipment racks, housing, and raceways individually.

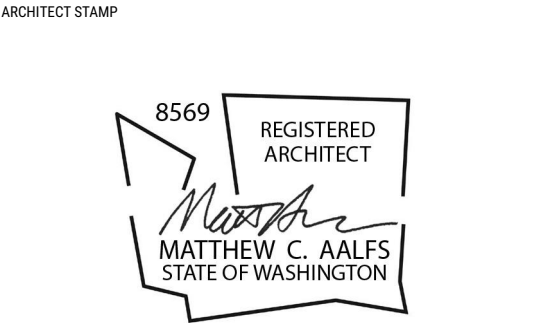
END OF SECTION

PROJECT
**Tacoma Public Library
Main Branch Renovation**

LOCATION
**1102 Tacoma Ave S
Tacoma WA 98402**

PREPARED FOR
**Tacoma Public
Library**

| REVISION | DATE | NAME |
|----------|----------|------------|
| 1 | 9/25/23 | ADDENDUM 2 |
| 2 | 10/03/23 | ADDENDUM 4 |
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**MAIN BUILDING, LEVEL 1
ENLARGED MAKERSPACE
PLANS**
08/04/2023

Bid Set

A513

ENLARGED PLANS
GRAPHIC LEGEND

TYPICAL ASSEMBLY NOTATION:

- EXISTING TO REMAIN
- NEW CONSTRUCTION

ENLARGED PLAN NOTES

- SEE SHEET G001 FOR GENERAL NOTES
- DIMS ARE TO FACE OF CONCRETE (FOC) OR FACE OF STUD (FOS) UNLESS NOTED OTHERWISE
- SEE G240 FOR CLEAR SPACE DIMENSIONS AND MOUNTING HEIGHTS OF TOILET ACCESSORIES
- SEE SHEET A701 FOR INTERIOR WALL ASSEMBLIES
- SEE SHEET A910 FOR DOOR SCHEDULE
- ALL FLOOR LEVELS DENOTE TOP OF FLOOR FINISH, U.N.O.
- VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. COORDINATE ANY DIMENSION

FLOOR PLAN FINISH LEGEND

- CPT-1

CARPET TYPE 1 (LIVING RM)
- CPT-2

CARPET TYPE 2 (TEEN AREA)
- CPT-3

CARPET TYPE 3 (CHILDRENS)
- CPT-4

CARPET TYPE 4 (FIELD)
- CPT-5

CARPET TYPE 5 (CARNEGIE STAIRS)
- CT-1

CERAMIC TILE TYPE 1 (FLOOR)
- CT-2

CERAMIC TILE TYPE 2 (WALL)
- WOM

WALK OFF MAT
- RF-1

RESILIENT FLOORING
- PT-1

PAINT, ACCENT 1
- PT-2

PAINT, ACCENT 2
- PT-3

PAINT, ACCENT 3
- PT-4

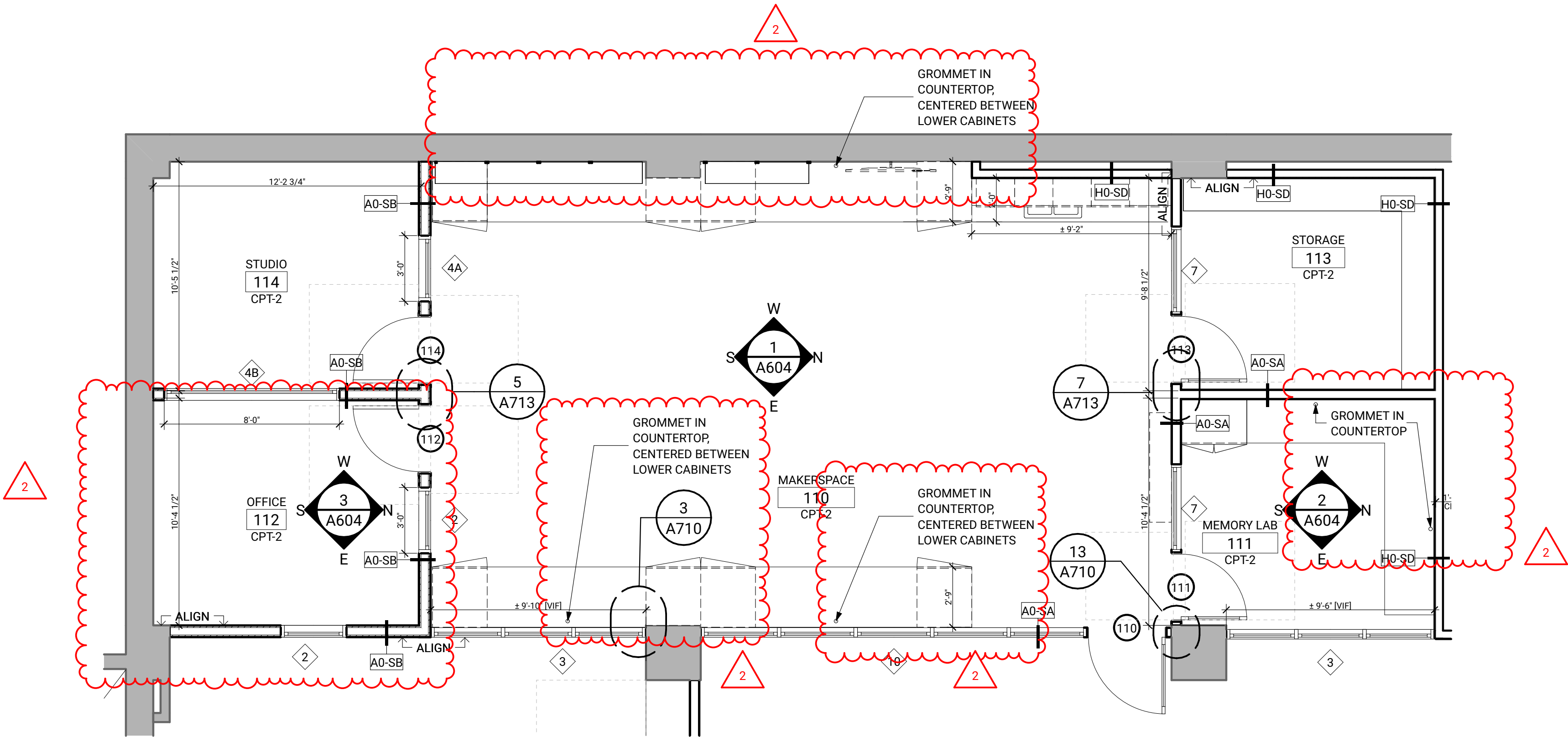
PAINT, BUILDING STANDARD
- PT-5

PAINT, COMMUNICATING STAIR
- PT-6

PAINT, RESTROOMS (EPOXY)
- PT-7

PAINT, CEILING
- PT-8

PAINT, HM DOOR FRAMES



1
A513

LEVEL 1, MAIN BUILDING - MAKERSPACE

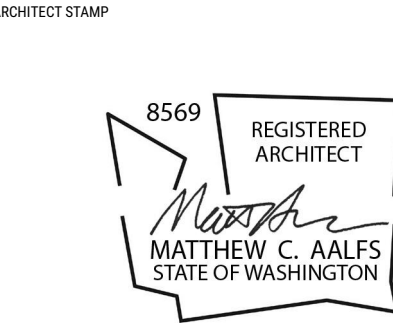
SCALE: 1/4" = 1'-0"

PROJECT
**Tacoma Public Library
Main Branch Renovation**

LOCATION
**1102 Tacoma Ave S
Tacoma WA 98402**

PREPARED FOR
**Tacoma Public
Library**

| REVISION | DATE | NAME |
|----------|----------|------------|
| 1 | 10/03/23 | ADDENDUM 4 |
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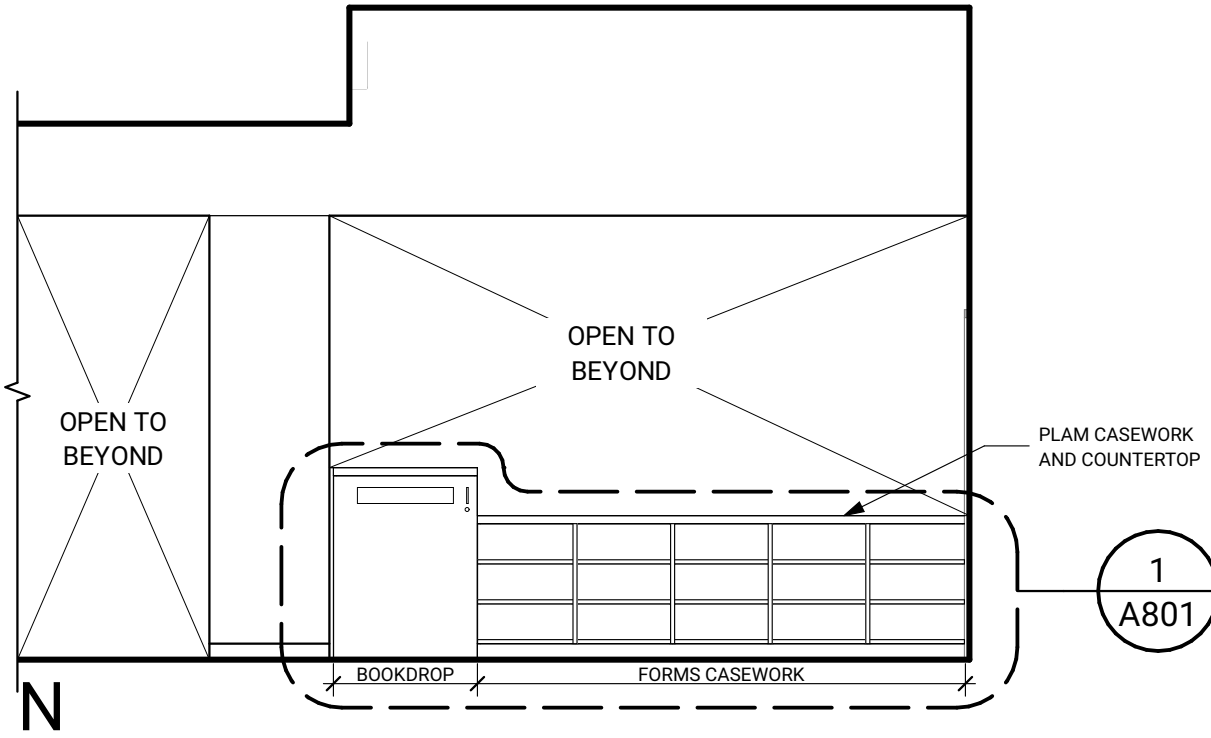
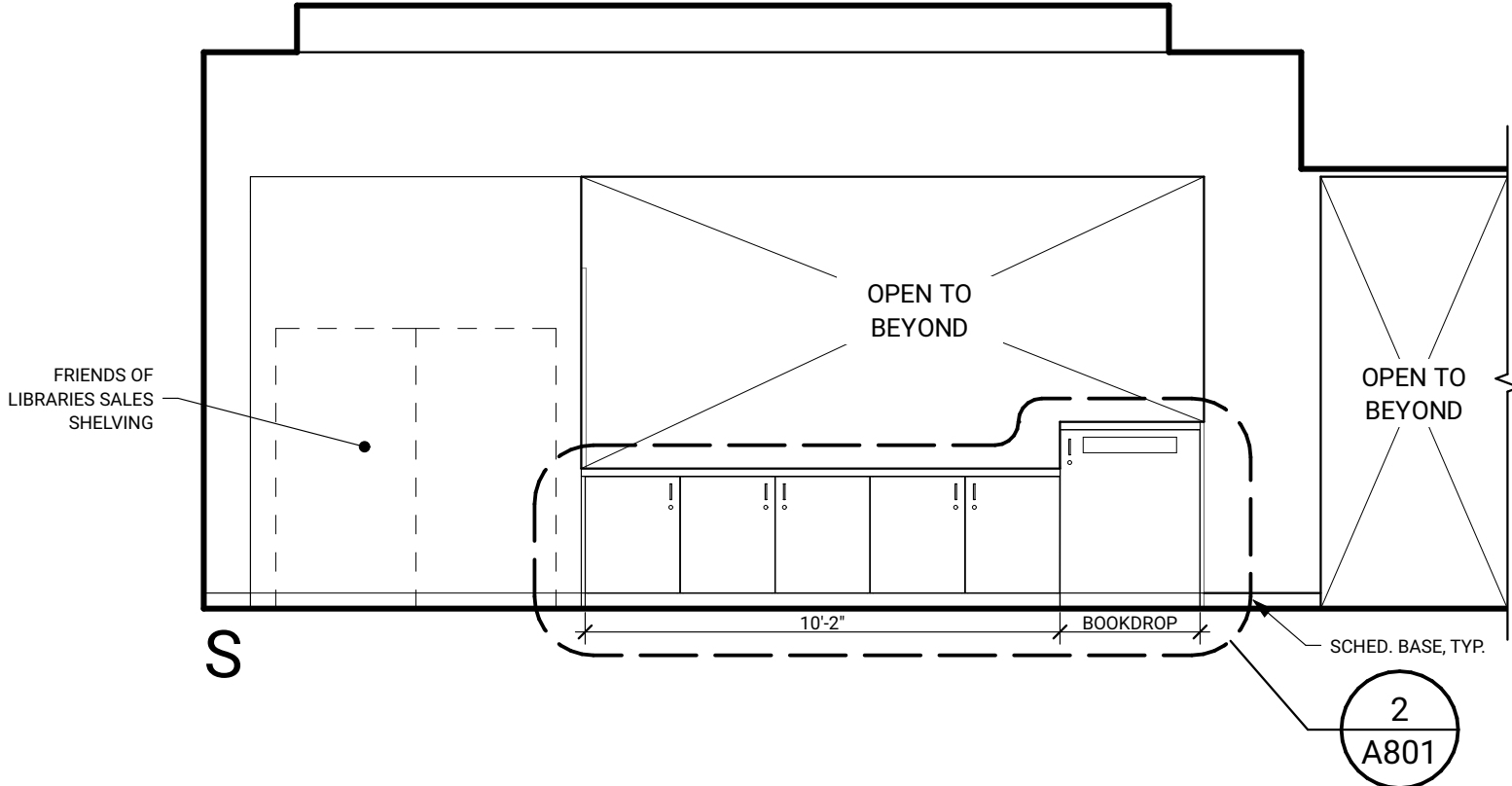
**MAIN BUILDING, INTERIOR
ELEVATIONS**

08/04/2023

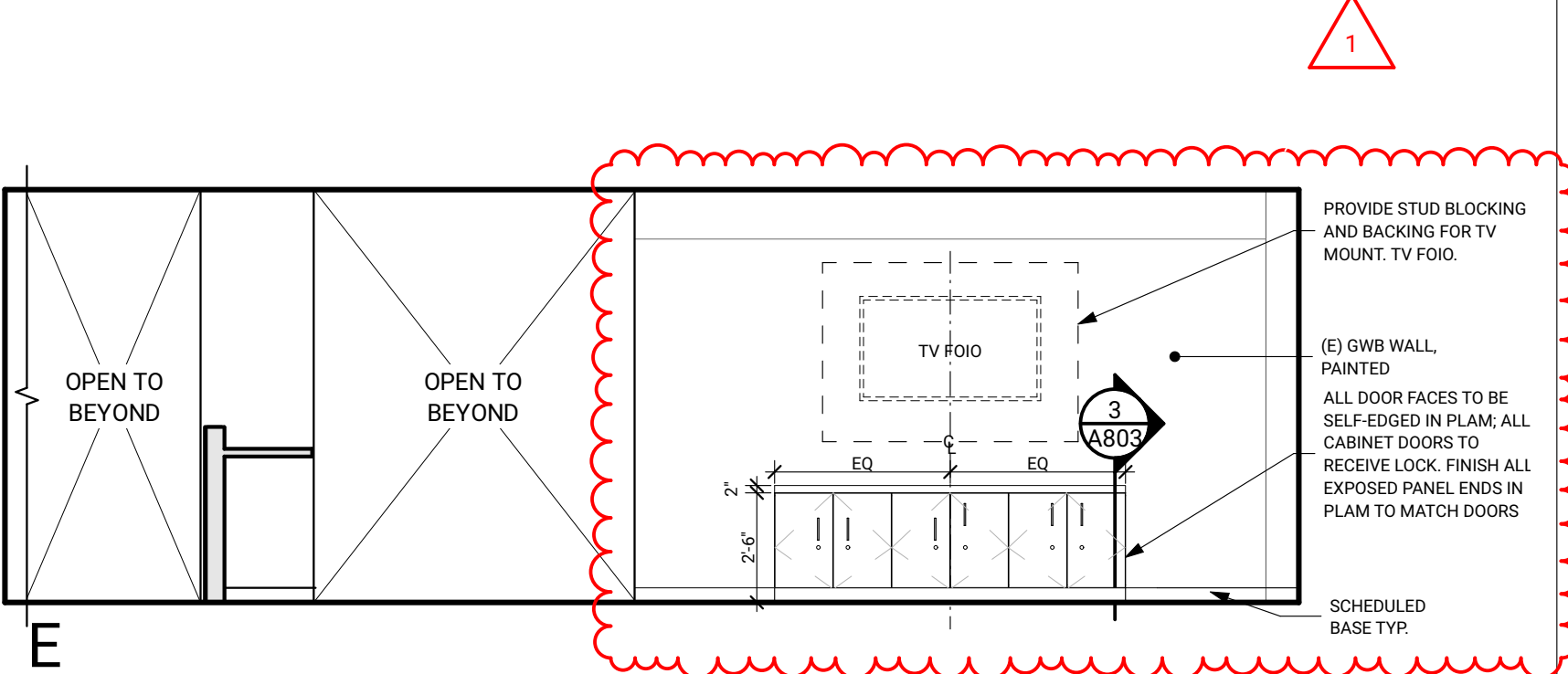
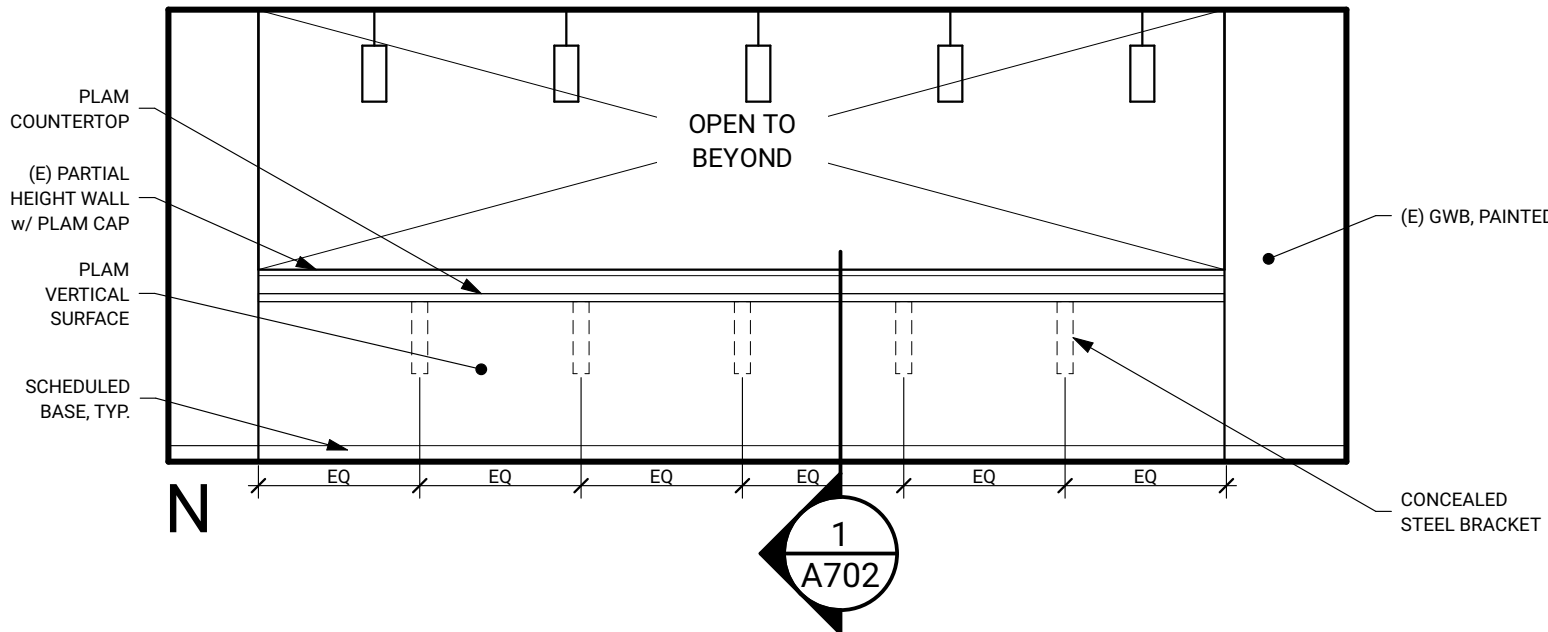
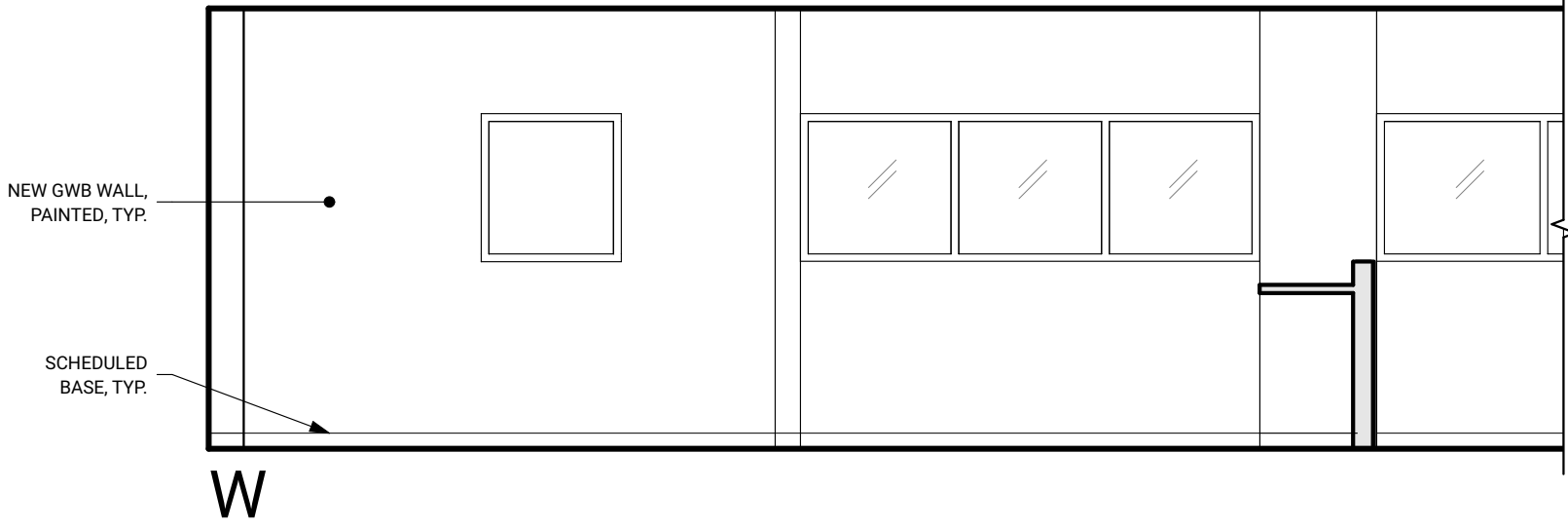
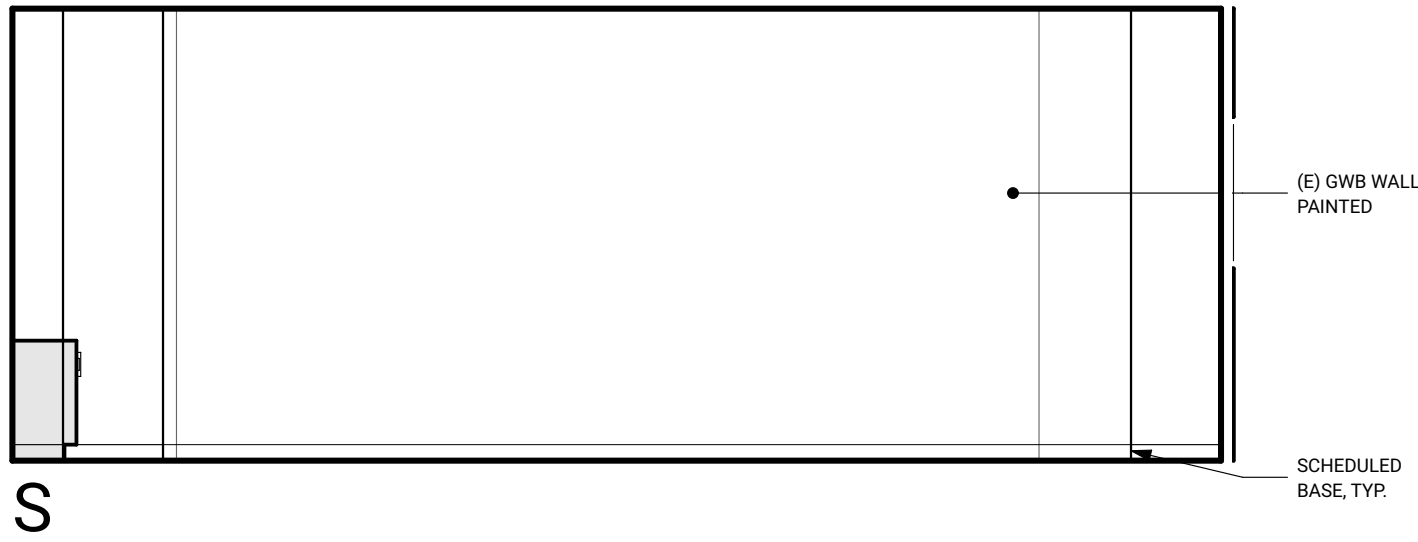
Bid Set

A603

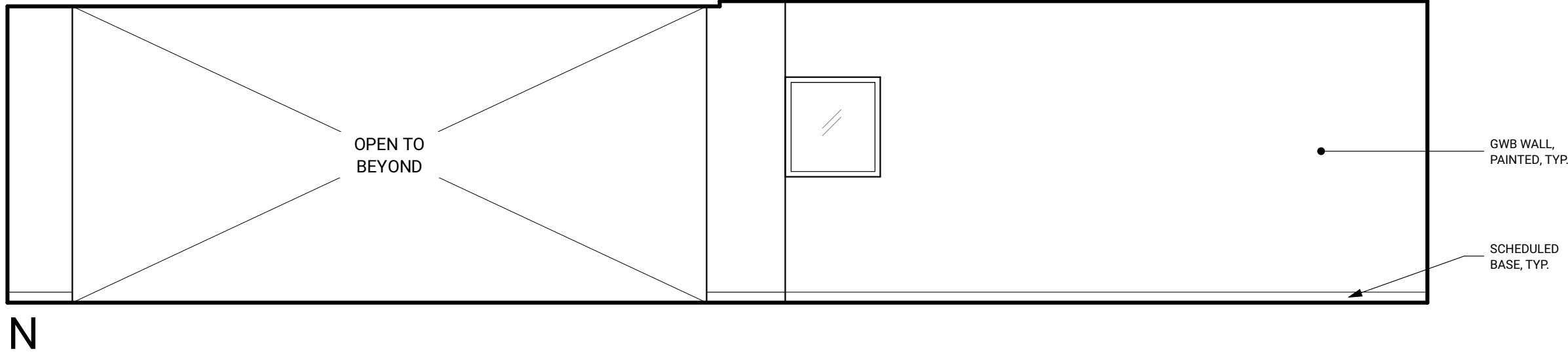
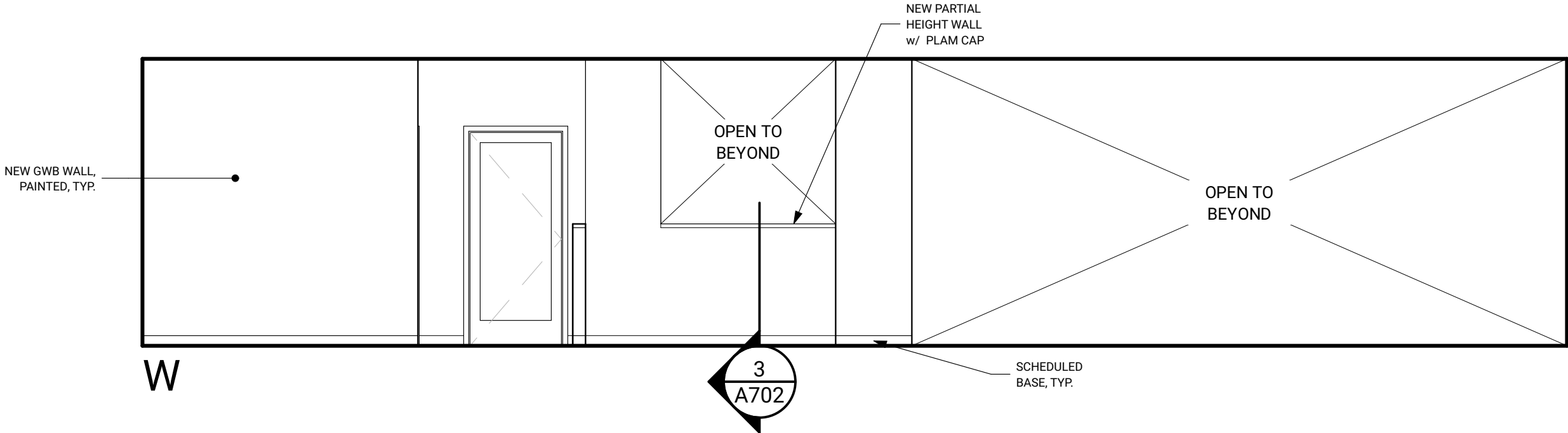
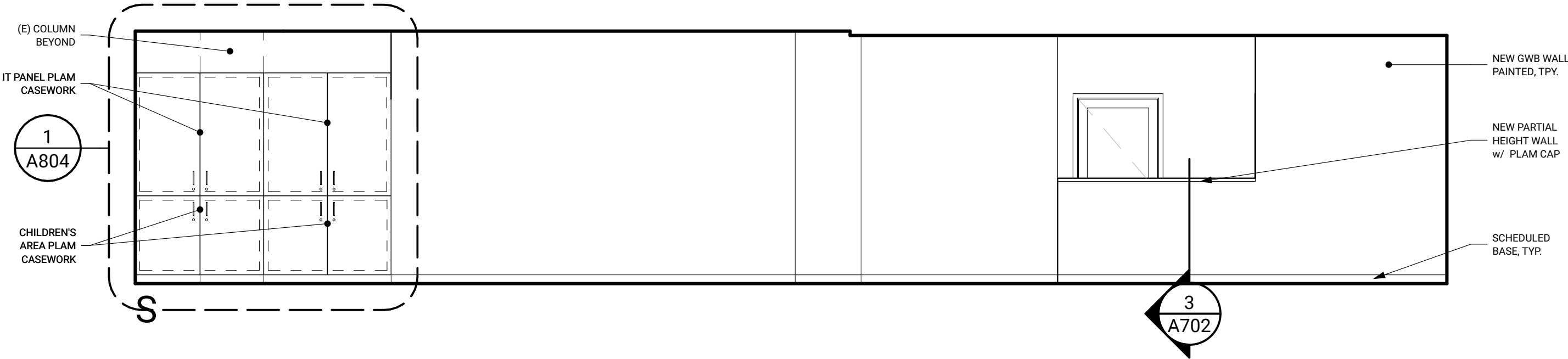
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3 ENTRY CASEWORK INTERIOR ELEVATIONS
A603 SCALE: 1/4" = 1'-0"



2 TEEN AREA INTERIOR ELEVATIONS
A603 SCALE: 1/4" = 1'-0"

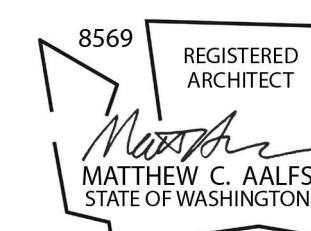


1 CHILDREN'S AREA INTERIOR ELEVATIONS
A603 SCALE: 1/4" = 1'-0"



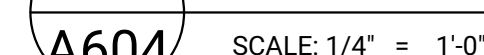
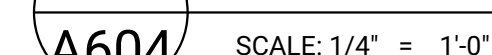
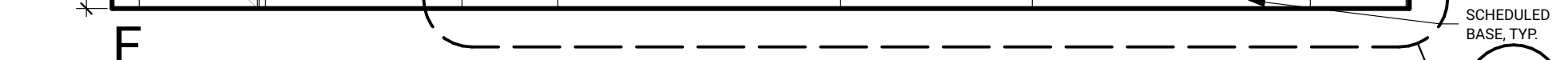
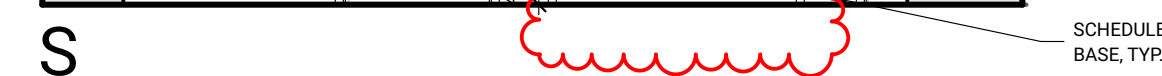
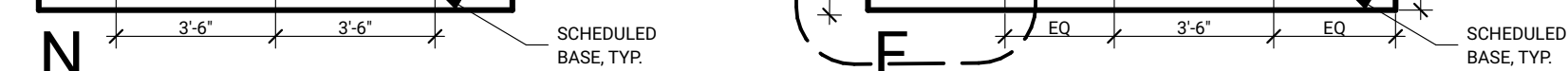
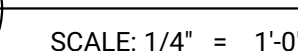
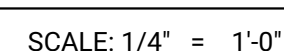
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PREPARED FOR
**Tacoma Public
Library**

ARCHITECT STAMPA

A604

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PROJECT
**Tacoma Public Library
Main Branch Renovation**

LOCATION
**1102 Tacoma Ave S
Tacoma WA 98402**

PREPARED FOR
**Tacoma Public
Library**

| REVISION | DATE | NAME |
|----------|----------|------------|
| 1 | 10/03/23 | ADDENDUM 4 |
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ARCHITECT STAMP



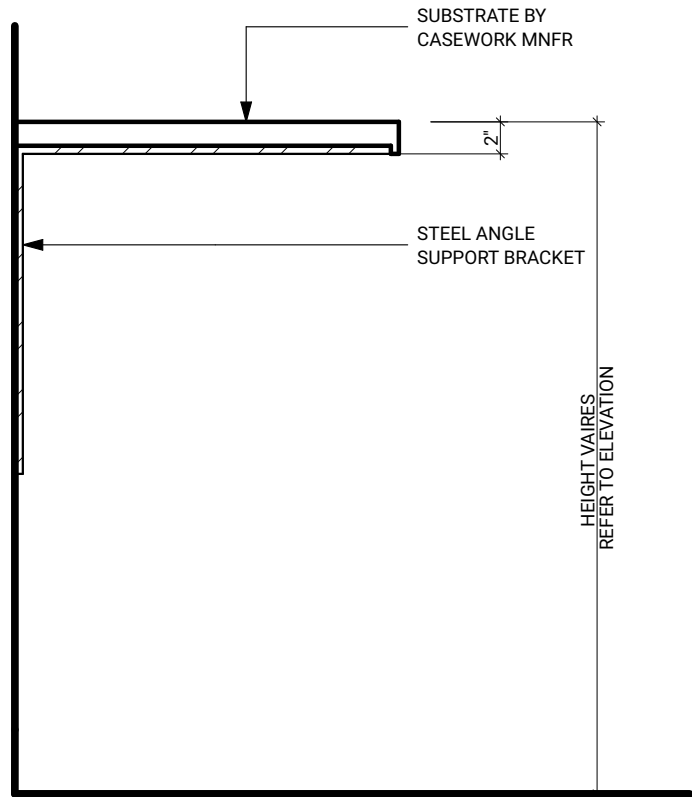
CASEWORK DETAILS

08/04/2023

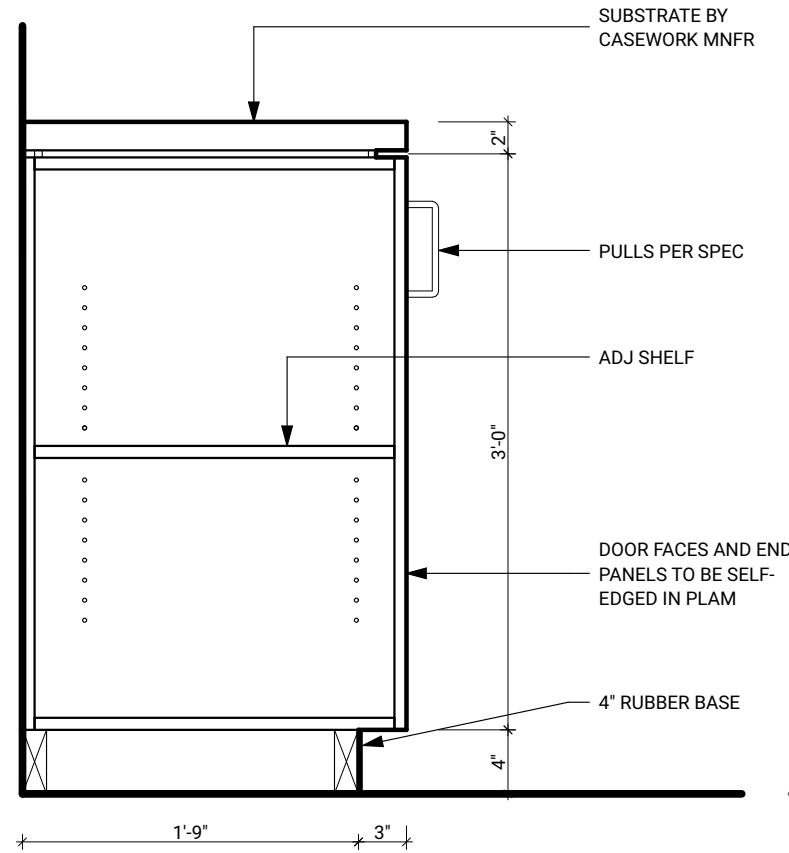
Bid Set

A802

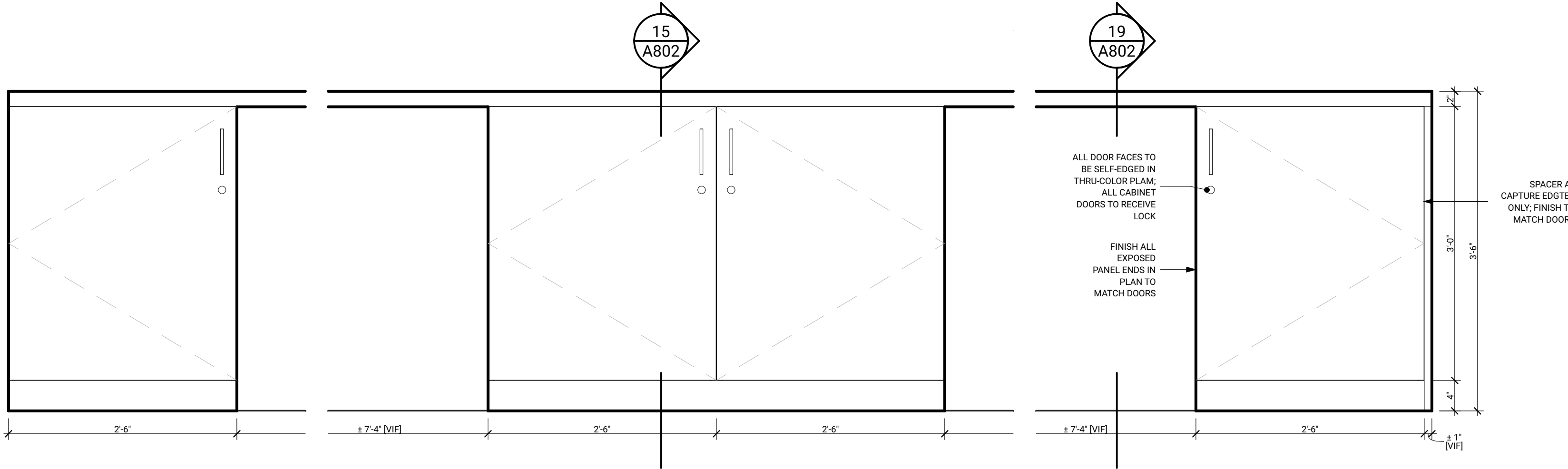
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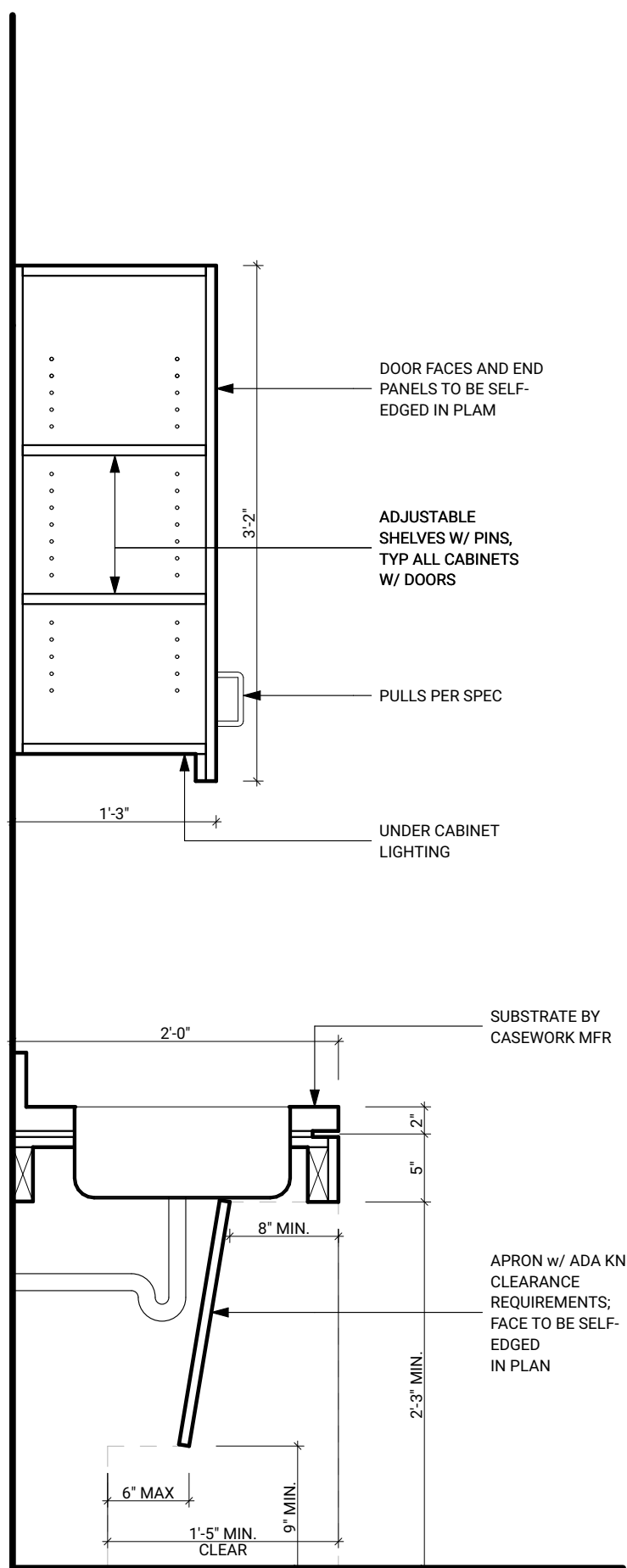
19 WORK STATIONS
A802 SCALE: 1" = 1'-0"



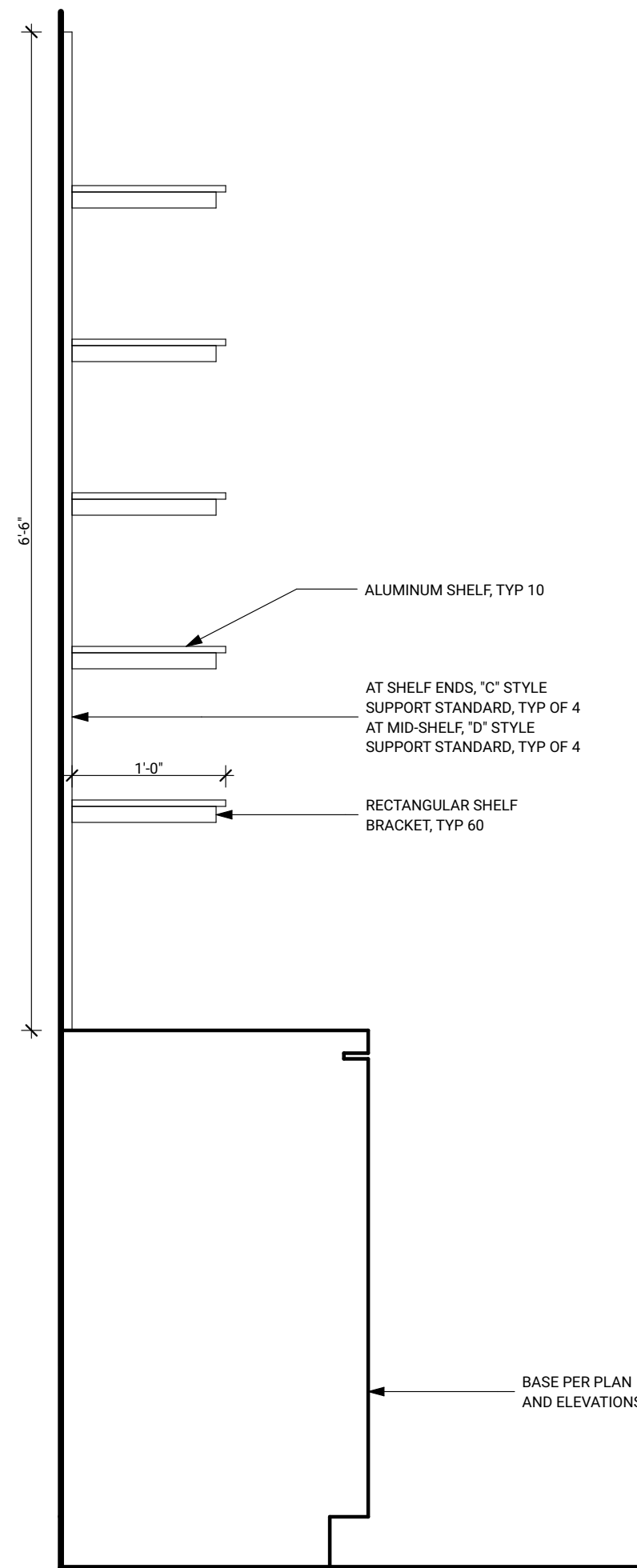
15 MAKERSPACE BASE CABINETS
A802 SCALE: 1" = 1'-0"



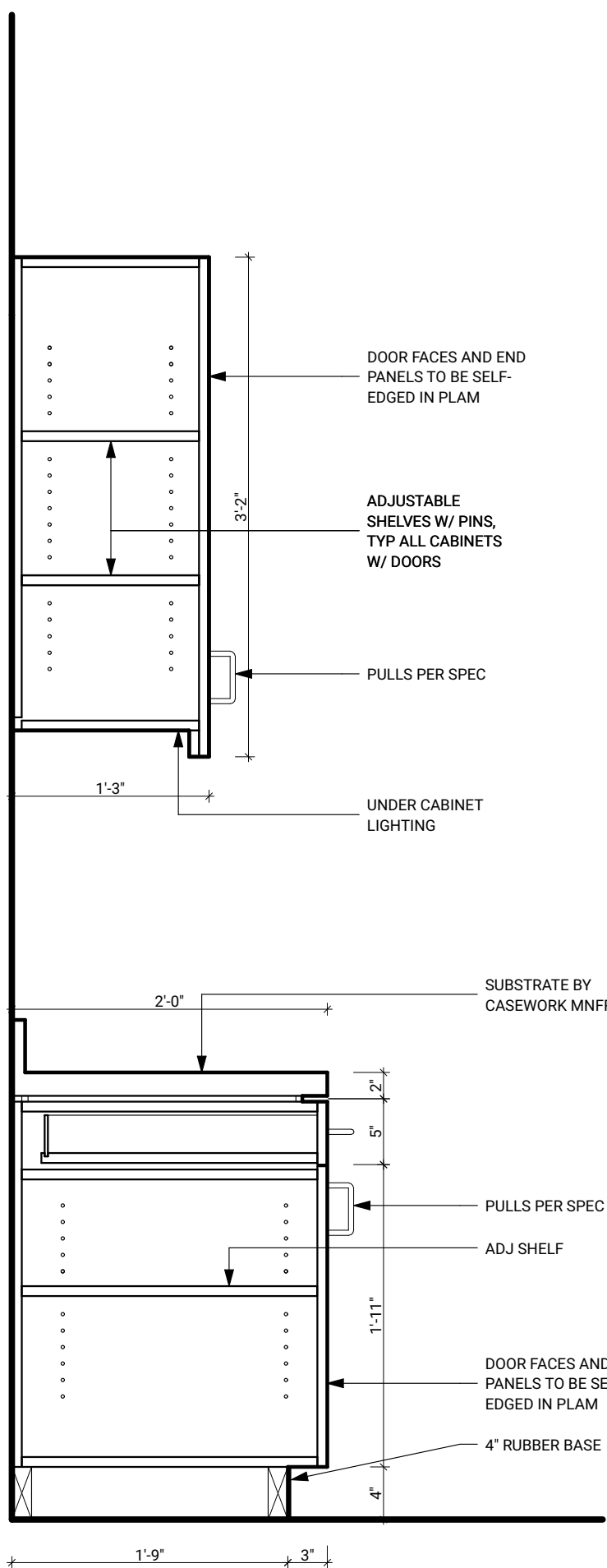
11 MAKERSPACE BASE CABINETS AND WORK STATIONS
A802 SCALE: 1" = 1'-0"



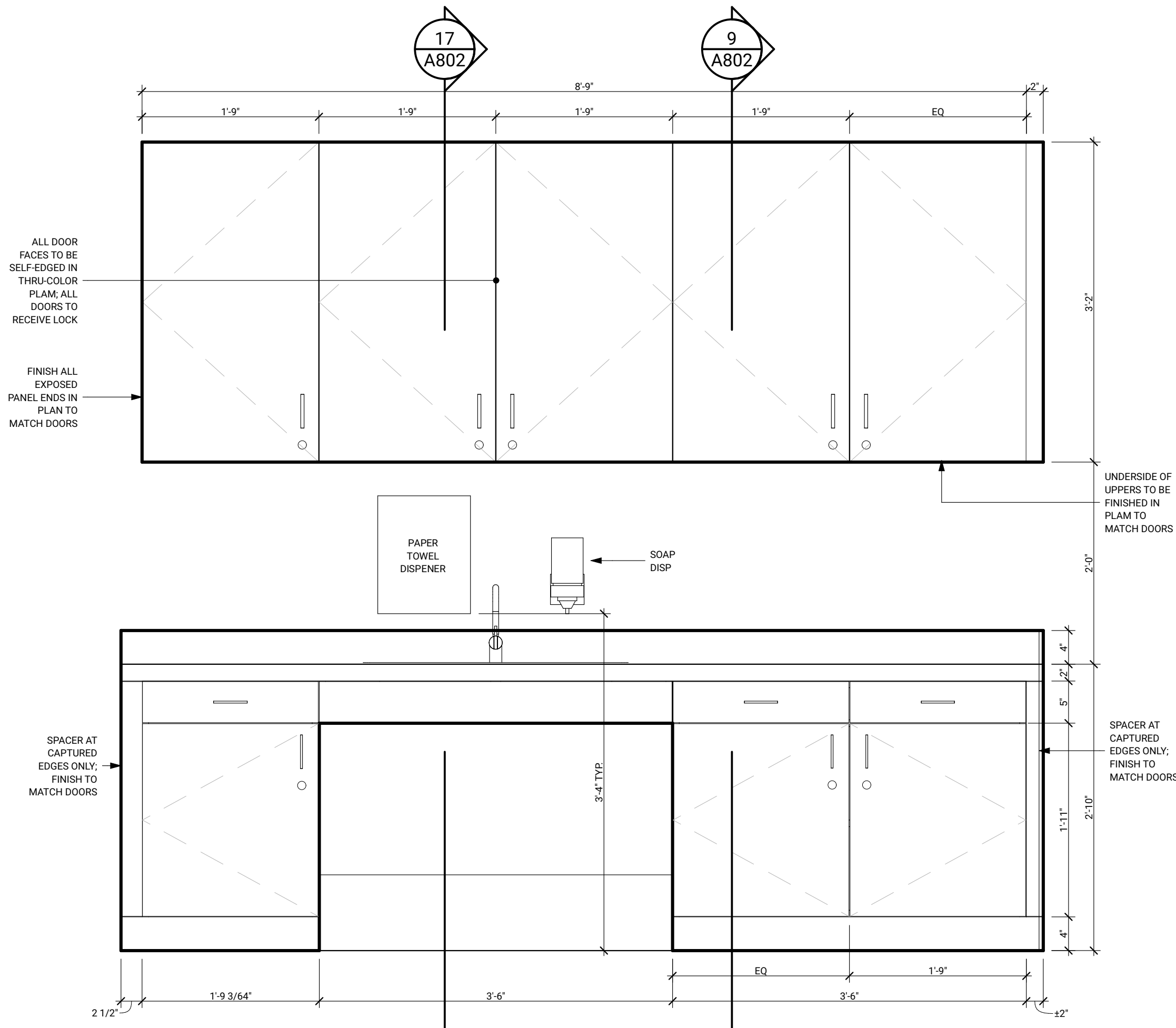
17 BASE AND UPPER CABINETS w/ SINK
A802 SCALE: 1" = 1'-0"



**13 WALL-MOUNTED SHELVING
WEST WALL MAKER SPACE**
A802 SCALE: 1" = 1'-0"

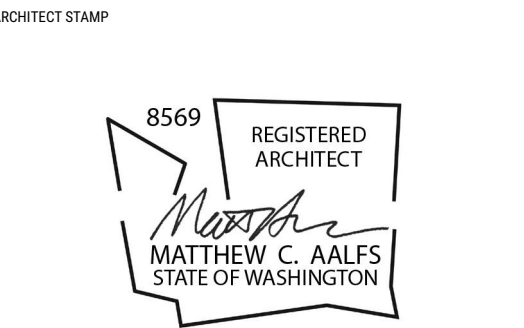


9 BASE AND UPPER CABINETS
A802 SCALE: 1" = 1'-0"

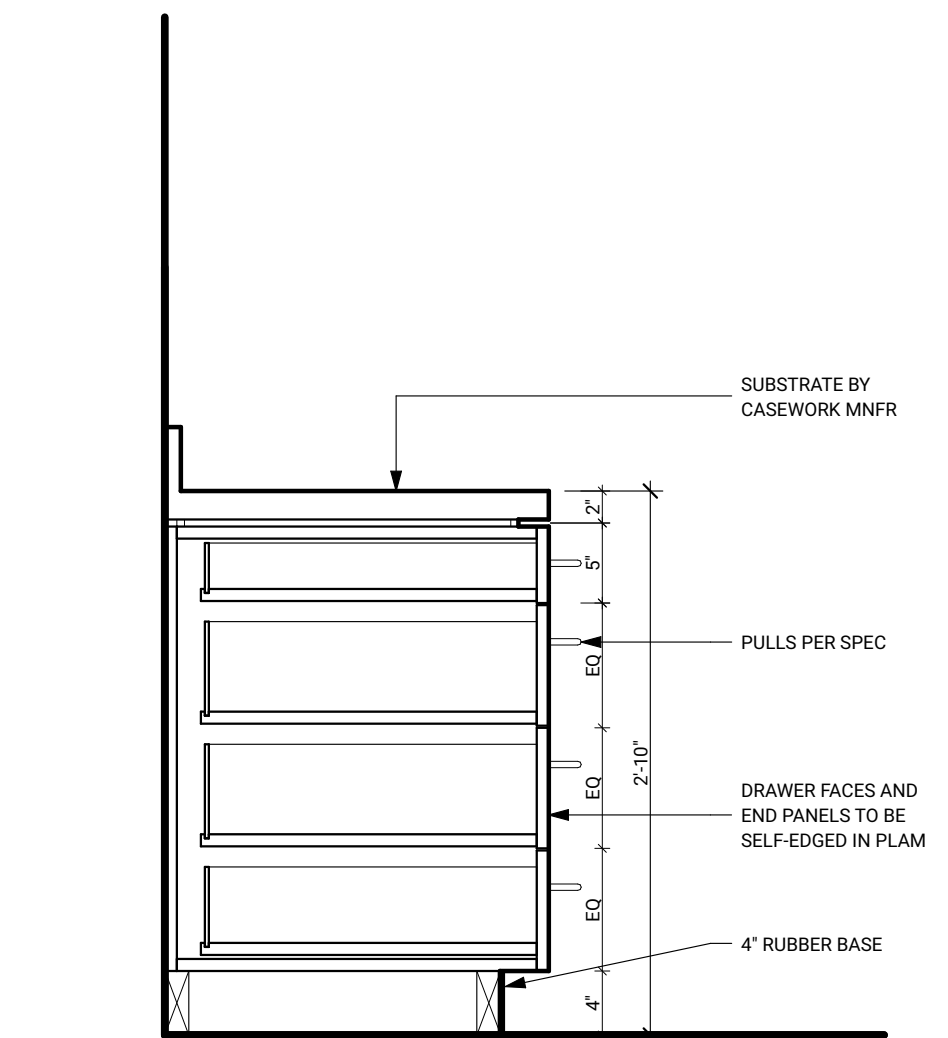


1 MAKERSPACE HANDWASH STATION
A802 SCALE: 1" = 1'-0"

| REVISION | DATE | NAME |
|----------|----------|------------|
| 1 | 10/03/23 | ADDENDUM 4 |
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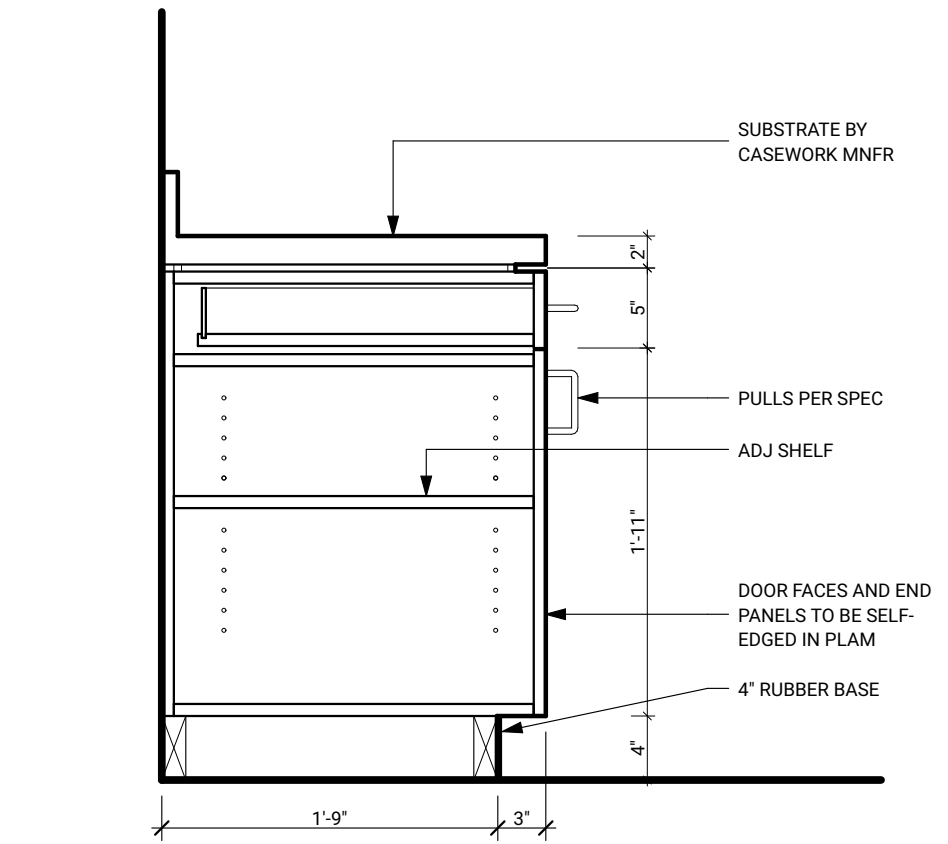
CASEWORK DETAILS



19
A803

BASE CABINET w/ DRAWERS

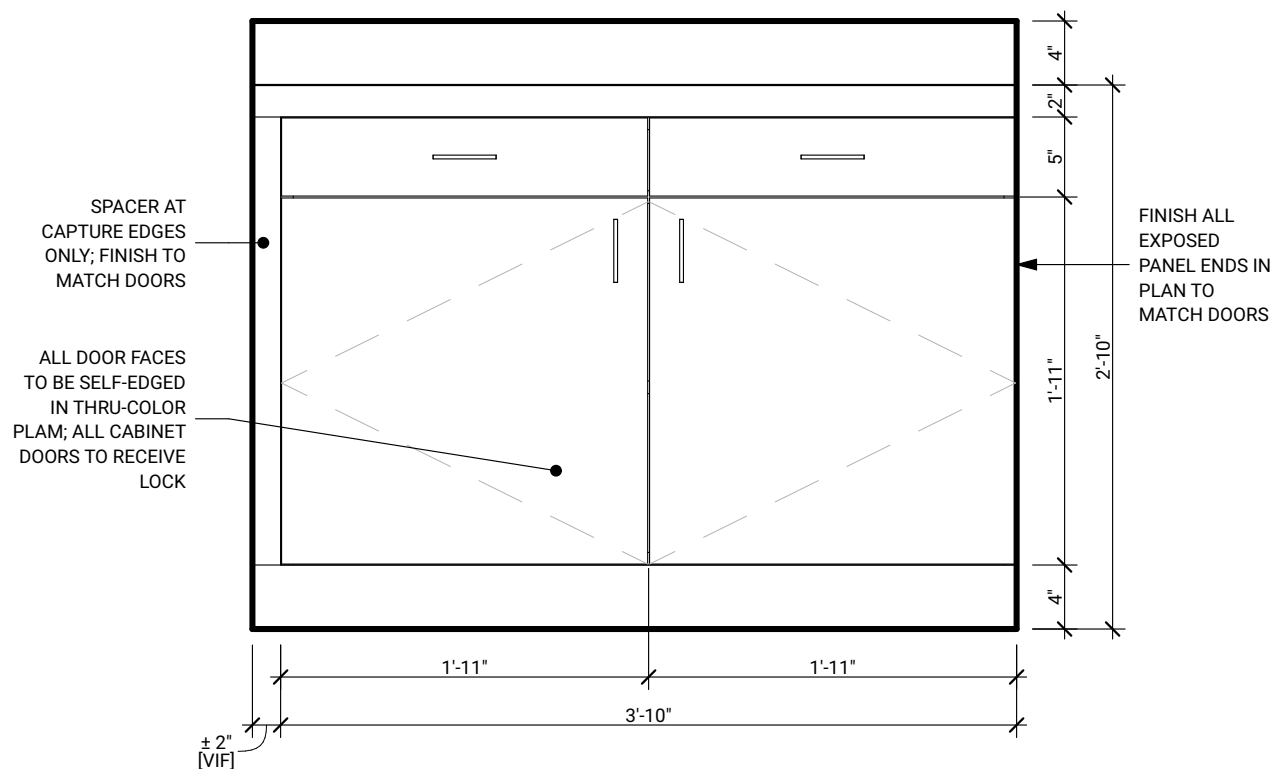
SCALE: 1" = 1'-0"



11
A803

LOWER CABINET SECTION

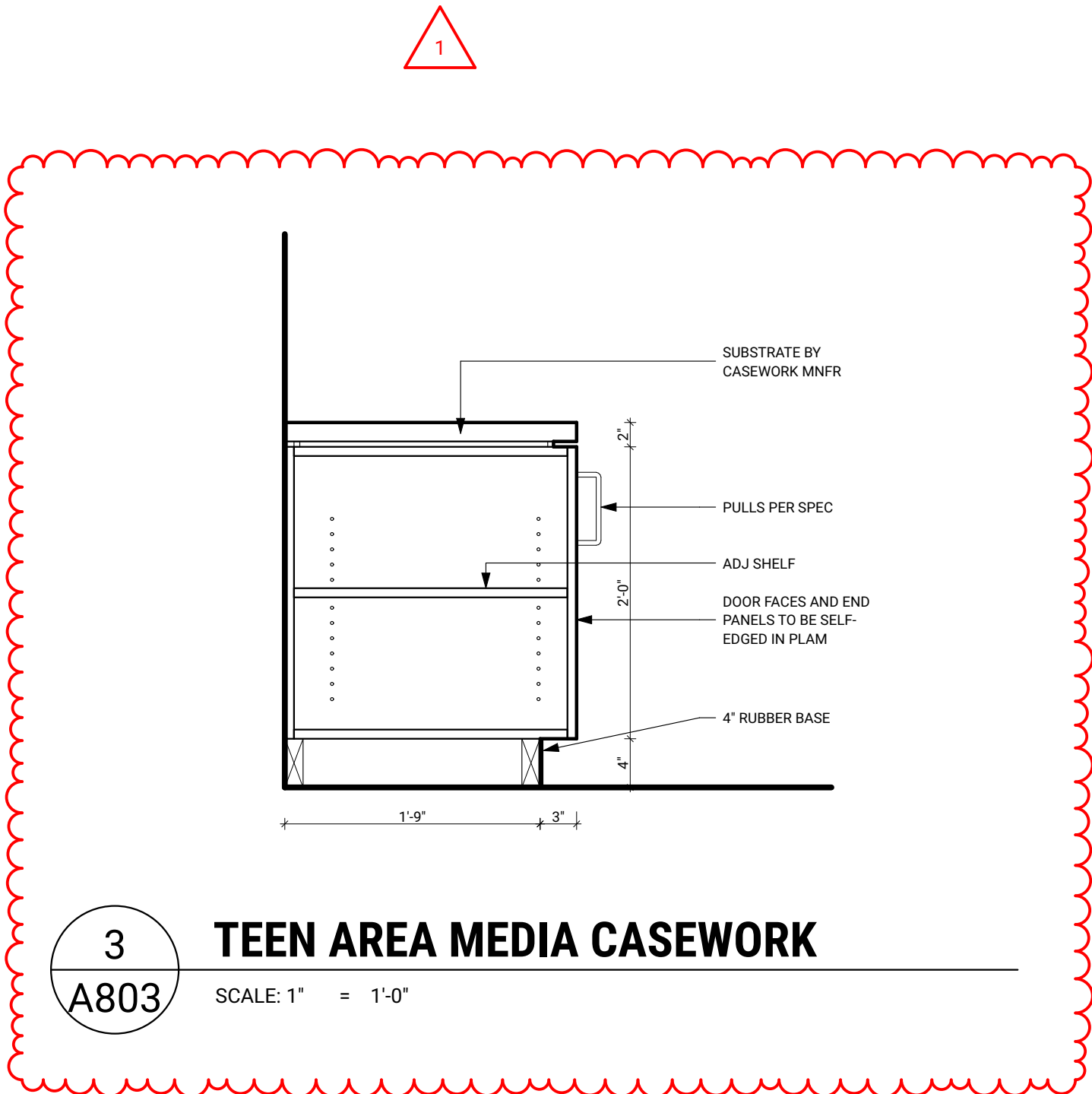
SCALE: 1" = 1'-0"



7
A803

LIBRARY STAFF BREAKROOM CASEWORK

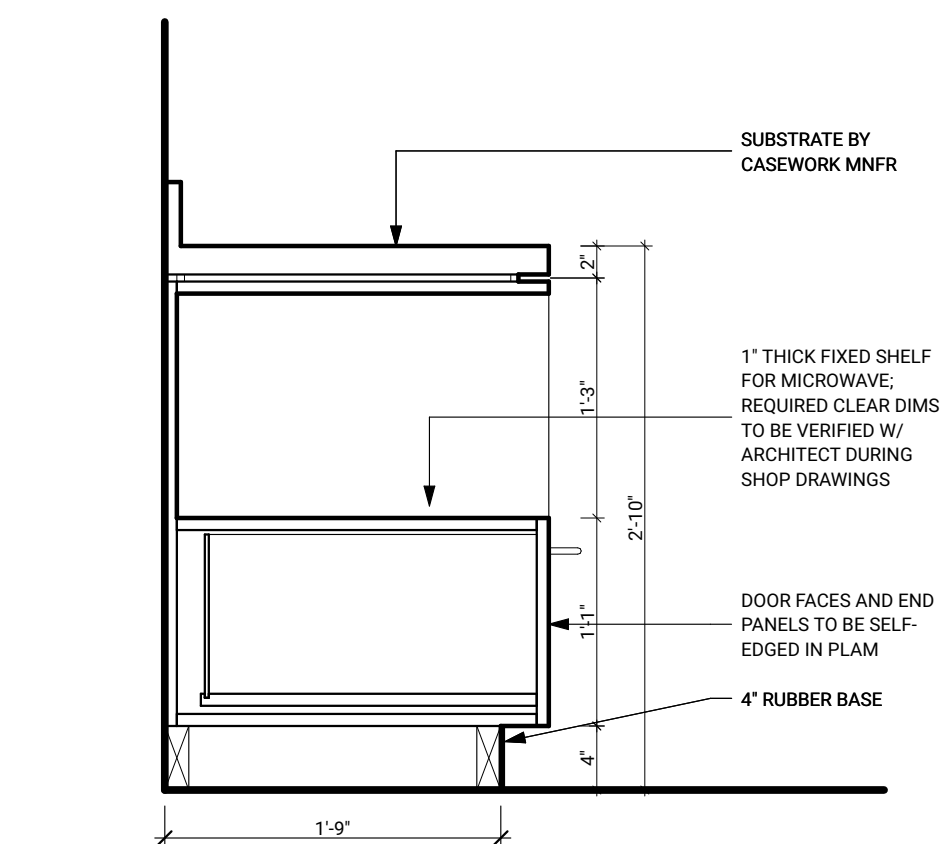
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3
A803

TEEN AREA MEDIA CASEWORK

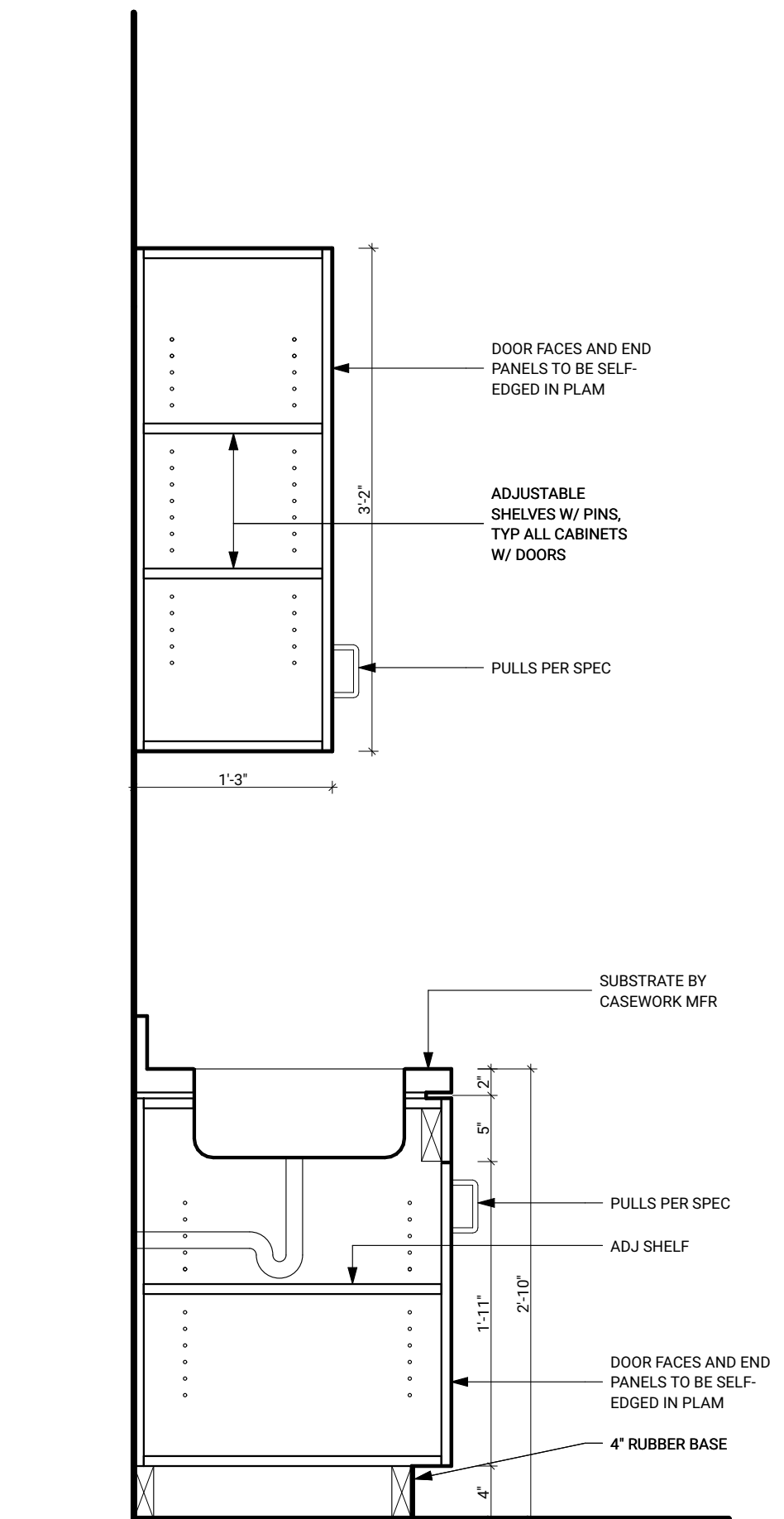
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17
A803

MICROWAVE BASE CABINET

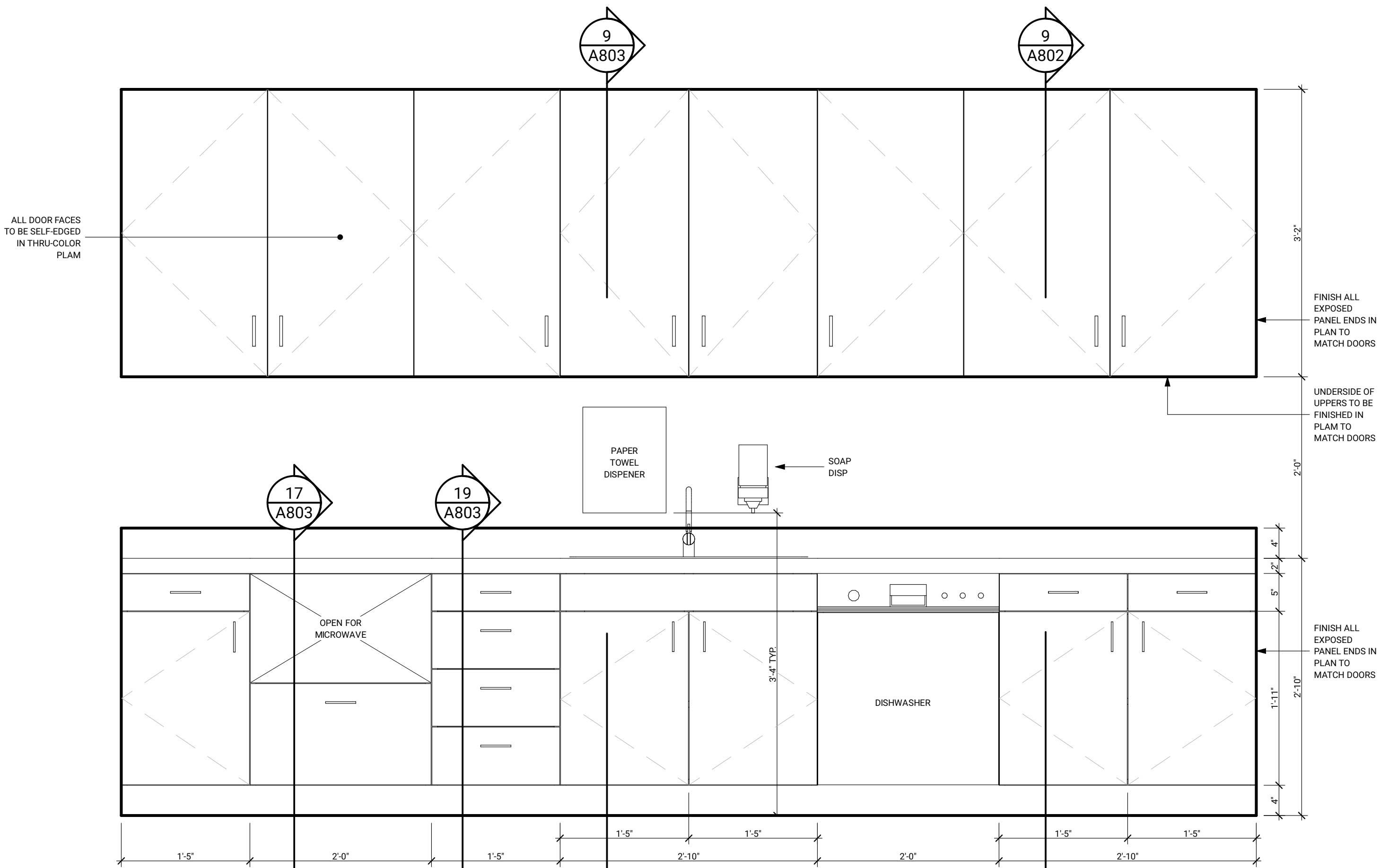
SCALE: 1" = 1'-0"



9
A803

BASE CABINET w/ SINK

SCALE: 1" = 1'-0"



1
A803

CASEWORK @ KITCHENETTES [TYP OF 2]

SCALE: 1" = 1'-0"

architecture
design
preservation

159 western avenue west, suite 486
seattle, washington 98119
office 206 775-8668

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PROJECT
**Tacoma Public Library
Main Branch Renovation**

LOCATION
**1102 Tacoma Ave S
Tacoma WA 98402**

PREPARED FOR
**Tacoma Public
Library**

REVISION DATE NAME

1 9/25/23 ADDENDUM 2
2 10/03/23 ADDENDUM 4

ARCHITECT STAMP



FINISH SCHEDULE

08/04/2023

Bid Set

A900

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| Surfaces | Mark | Type | MFR | Collection | Name/ Color | Code | Notes | Location(s) |
|----------|------|------------------------|-----------|------------|-------------------|----------|----------------------------|--|
| PLAM-1 | | Plastic Laminate | Wilsonart | Traceless | Sesame Velvet Elm | 15603-31 | Traceless Finish | Main, Level 1: • Teen Area • Maker Space |
| PLAM-2 | | Plastic Laminate | Wilsonart | Traceless | Acom Velvet Elm | 15602-31 | Traceless Finish | Main, Level 1: • Tacoma's Living Room • Service Desks Main, Level 2 • Common Kitchen • Library Staff Break Area |
| PLAM-3 | | Plastic Laminate | Wilsonart | Premium | Vapor Strands | 4939K-18 | Linearity Finish w/ Aeon | Main, Level 1 • Tacoma's Living Room • Service Desks |
| PLAM-4 | | Plastic Laminate | Wilsonart | Stanard | Misted Zephyr | 4843-60 | Matte Finish | Main, Level 1: • Teen Area • Maker Space |
| PLAM-5 | | Plastic Laminate | Wilsonart | Standard | Sheer Mesh | 4876-38 | Fine Velvet Texture Finish | Main, Level 2 • Common Kitchen • Library Staff Break Area |
| SSM-1 | | Solid Surface Material | | | | | | |

| Flooring | Mark | Type | MFR | Collection | Name/ Color | Code | Notes | Location(s) |
|----------|------|--------------------|-------------------------|--------------------|---------------------------|--------------|---|--|
| CPT-1 | | Carpet Tile | Milliken | ----- | Custom, Cyan | 01388206_001 | | Main, Level 1: • Tacoma's Living Room |
| CPT-2 | | Carpet Tile | Milliken | ----- | Custom, Gold | 01388208_001 | | Main, Level 1 • Teen Area • Makerspace |
| CPT-3 | | Carpet Tile | Milliken | ----- | Custom, Berry | 01383763_001 | | Main, Level 1 • Children's Area |
| CPT-4 | | Carpet Tile | Milliken | Illume | Custom, Lines | 1382562 | | Main, Level 1: • Field Main, Level 2 Carnegie, Level 1 |
| CPT-5 | | Broadloom Carpet | Philadelphia Commercial | Engrain | 00715 Foundational | 54922 | | Carnegie, Stairs |
| WOM | | Walk-off Mat | Milliken | Obex | Loop/ Stack/ Gray | SKL153-133 | | Main, Level 1: Vestibule Main, Level 2: Tenant Space [205] (Partial) Carnegie, Level 1: base of Stairs |
| RF-1 | | Resilient Flooring | Mohawk Group | Medella | Fleck C2061, Chateau Gray | 84620 | Healthy Environments Collection Homogenous Resilient Sheet 2mm Thickness Glue down | Main, Level 1 • Equipment Storage [113] Main Level 2 • Tenant Space [202] • Clean/ Utility [219] • Room [225] • Common Kitchen [209] (Partial) Library Staff Break Room [230] (Partial) |
| CT-1 | | Ceramic Tile | Daltile | Flat | TBD | | | Floors at Restrooms, Locker Room |
| CT-2 | | Ceramic Tile | Daltile | Color Wheel Linear | TBD | | | Walls at Restrooms |

| Ceilings | Mark | Type | MFR | Collection | Name/ Color | Code | Notes | Location(s) |
|----------|------|-----------------------|----------|------------|-------------|------|---------------------------------|-------------------------------------|
| AF-1 | | Acoustic Felt Cloud | Acoufelt | ----- | Denim | DE09 | 1" Thickness | Main, Level 1: Tacoma's Living Room |
| AF-2 | | Acoustic Felt Cloud | Acoufelt | ----- | Platinum | PL04 | 1" Thickness | Main, Level 1: Tacoma's Living Room |
| AF-3 | | Acoustic Felt Cloud | Acoufelt | ----- | Grey | GR02 | 1" Thickness | Main, Level 1: Tacoma's Living Room |
| AF-4 | | Acoustic Felt Baffles | Acoufelt | ----- | Popcom | PO26 | 1" Thickness, 12" Height | Main, Level 1: Makerspace |
| AF-5 | | Acoustic Felt Baffles | Acoufelt | ----- | Ivory | IV11 | 1" Thickness, 12" Height | Main, Level 1: Makerspace |
| AF-6 | | Acoustic Felt Baffles | Acoufelt | ----- | Almond | AL55 | 1" Thickness, 12" Height | Main, Level 1: Makerspace |
| AF-7 | | Acoustic Felt Cloud | Acoufelt | ----- | Peacock | PE20 | 1" Thickness | Main, Level 1: Children's Area |
| AF-8 | | Acoustic Felt Cloud | Acoufelt | ----- | Sea Salt | SE57 | 1" Thickness | Main, Level 1: Children's Area |
| AF-9 | | Acoustic Felt Cloud | Acoufelt | ----- | Azure | AZ05 | 1" Thickness 4" Thick Border | Main, Level 1: Children's Area |

| Paint | Mark | Type | MFR | Collection | Name/ Color | Code | Notes | Location(s) |
|-------|------|-------------------------------|----------------|------------|-------------|------|-----------|--|
| PT-1 | | Wall Paint, Accent | Benjamin Moore | ----- | | | Matte | Main, Level 1 • Tacoma's Living Room • Study Rooms |
| PT-2 | | Wall Paint, Accent | Benjamin Moore | ----- | | | Matte | Main, Level 1 • Teen Area (Outside Makerspace) |
| PT-3 | | Wall Paint, Accent | Benjamin Moore | ----- | | | Matte | Main, Level 1 • Children's Area |
| PT-4 | | Wall Paint, Building Standard | Benjamin Moore | ----- | | | Matte | Main, Level 1 Main, Level 2 Carnegie, Level 1 |
| PT-5 | | Paint, AES Stair | Benjamin Moore | ----- | | | Egg Shell | Main, Communication Stair |
| PT-6 | | Wall Paint, Epoxy | Benjamin Moore | ----- | | | Egg Shell | All New Restrooms |
| PT-7 | | Ceiling Paint | Benjamin Moore | ----- | | | Matte | All GWB Ceilings |
| PT-8 | | Paint, Door Frames | Benjamin Moore | ----- | | | Egg Shell | All Hollow Metal Door Frames |

| Floor Base | Mark | Type | MFR | Collection | Name/ Color | Code | Notes | Location(s) |
|------------|------|---------------|--------------|------------|---------------------------|-------|---|--|
| RB-1 | | Rubber Base | | | | | | |
| INT | | Integral Cove | Mohawk Group | Medella | Fleck C2061, Chateau Gray | 84620 | Healthy Environments Collection Homogenous Resilient Sheet 2mm Thickness Glue down | Main Level 2 • Tenant Space [202] • Clean/ Utility [219] • Room [225] |

| FINISH SCHEDULE | | | | | | | | | | | |
|-------------------------|-------------------------|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|---------------------|---|
| STORY | ROOM NUMBER | ROOM NAME | FLOOR | BASE | WALL FINISH | | | | CEILING | | COMMENTS |
| | | | | | north | east | south | west | material | finish | |
| MAIN BUILDING, LEVEL 1 | | | | | | | | | | | |
| <div><div>2</div></div> | 100 | COLLECTION | CPT-1, CPT-4 | RB-1 | PT-4 | PT-1, PT-3 | PT-4 | PT-4, PT-2 | (E) ACT | (E) TO REMAIN | |
| | 100A | VESTIBULE | WOM | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) TO REMAIN | PT-7 | |
| | 101 | POINT OF SVC. | CPT-4 | RB-1 | N/A | N/A | N/A | N/A | (E) GWB | PT-7 | |
| | 102 | STUDY | CPT-1 | RB-1 | PT-1 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 103 | STUDY | CPT-1 | RB-1 | PT-1 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 104 | STAFF WORKROOM | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | INSTALL ACROVYN WAINSCOT ON ALL 4 WALLS; HEIGHT PER INTERIOR ELEVATION |
| | 105 | OFFICE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 106 | OFFICE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 107 | ADA RR | CT-1 | CT-2 | PT-6 | CT-2 | CT-2 | PT-6 | GWB | PT-7 | |
| | 108 | ADA RR | CT-1 | CT-2 | PT-6 | PT-6 | CT-2 | CT-2 | GWB | PT-7 | |
| | 109 | ADA RR | CT-1 | CT-2 | PT-6 | PT-6, CT-2 | CT-2 | CT-2 | GWB | PT-7 | |
| | 110 | MAKER SPACE | CPT-2 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | ACOUSTIC FELT | AFB-1, AFB-2, AFB-3 | |
| | 111 | MEMORY LAB | CPT-2 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 112 | CONTROL | CPT-2 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 113 | EQUIP. STOR | RF-1 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 114 | STUDIO | CPT-2 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 115 | PAGING STATION | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | INSTALL ACROVYN WAINSCOT; SEE INTERIOR ELEVATIONS FOR EXTENT |
| 116 | ADA RR | CT-1 | CT-2 | PT-6 | PT-6, CT-2 | CT-2 | PT-6 | GWB | PT-7 | | |
| 117 | ADA RR | CT-1 | CT-2 | PT-6 | PT-6 | CT-2 | CT-2 | GWB | PT-7 | | |
| CARNEGIE, LEVEL 1 | | | | | | | | | | | |
| | C100 | STAIRS | CPT-5 | N/A | PT-4 | PT-4 | PT-4 | PT-4 | (E) TO REMAIN | (E) TO REMAIN | |
| | C101 | HANDFORTH GALLERY | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | C102 | MALE RR | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | |
| | C103 | FEMALE RR | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | (E) TO REMAIN | |
| | C105 | OFFICE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) GWB | PT-7 | |
| | C106 | BOARD ROOM | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) TO REMAIN | (E) TO REMAIN | |
| | C109 | COMMUNITY ROOM | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) TO REMAIN | (E) TO REMAIN | |
| C116 | STORAGE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | | |
| MAIN BUILDING, LEVEL 2 | | | | | | | | | | | |
| | 200 | CIRCULATION | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 201 | TENANT SPACE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 202 | TENANT SPACE | RF-1 | INT | PT-4 | PT-4 | PT-4 | PT-4 | OPEN TO STRUCTURE | PT-7 | |
| | 203 | TENANT SPACE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 204 | ELEC. | RF-1 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 205 | TENANT SPACE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 206 | TENANT SPACE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 207 | TENANT SPACE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 208 | TENANT SPACE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 209 | COMMON KITCHEN | CPT-4, RF-1 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 210 | RESTROOM CORE | CT-1 | CT-2 | PT-6 | PT-6 | PT-6 | PT-6 | (E) ACT | (E) TO REMAIN | |
| | 211 | ADA RR | CT-1 | CT-2 | PT-6 | PT-6 | CT-2 | CT-2 | GWB | PT-7 | |
| | 212 | RR | CT-1 | CT-2 | PT-6 | CT-2 | CT-2 | PT-6 | GWB | PT-7 | |
| | 213 | ADA RR | CT-1 | CT-2 | CT-2 | PT-6 | PT-6 | CT-2 | GWB | PT-7 | |
| | 214 | RR | CT-1 | CT-2 | CT-2 | CT-2 | PT-6 | PT-6 | GWB | PT-7 | |
| | 215 | ADA RR | CT-1 | CT-2 | PT-6 | PT-6 | CT-2 | CT-2 | GWB | PT-7 | |
| | 216 | ADA RR | CT-1 | CT-2 | PT-6 | CT-2 | CT-2 | PT-6 | GWB | PT-7 | |
| | 217 | STORAGE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 218 | STORAGE | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 219 | CLEAN/ UTILITY | RF-1 | INT | PT-6 | PT-6 | PT-6 | PT-6 | (E) ACT | (E) TO REMAIN | INSTALL FRP WAINSCOT TO 5'-0" ABOVE FINISH FLOOR ON ALL WALLS; SEE INTERIOR ELEVATION |
| | 221 | MIXING CHAMBER | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT, (E) GWB | (E) TO REMAIN, PT-7 | |
| | 222 | MEETING | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 223 | MEETING | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 224 | MEETING | CPT-4 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| | 225 | ROOM | RF-1 | INT | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | |
| 230 | LIBRARY STAFF BREAKROOM | CPT-4, RF-1 | RB-1 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | | |
| 230A | LOCKER | CT-1 | CT-2 | PT-4 | PT-4 | PT-4 | PT-4 | (E) ACT | (E) TO REMAIN | | |
| 231 | ADA RR | CT-1 | CT-2 | CT-2 | CT-2 | PT-6 | PT-6 | GWB | PT-7 | | |
| CARNEGIE, LEVEL 2 | | | | | | | | | | | |
| | C200 | STAIRS | CPT-5 | NA | PT-4 | PT-4 | PT-4 | PT-4 | (E) TO REMAIN | (E) TO REMAIN | |

| | | |
|---------------------------|----------|------------------|
| VIEW FROM OPENING SIDE | | |
| | ID | 1 |
| | TYPE | FIXED - EXTERIOR |
| | QUANTITY | 1 |
| | U-VALUE | 0.38 |
| SHGC | 0.38 | |

3

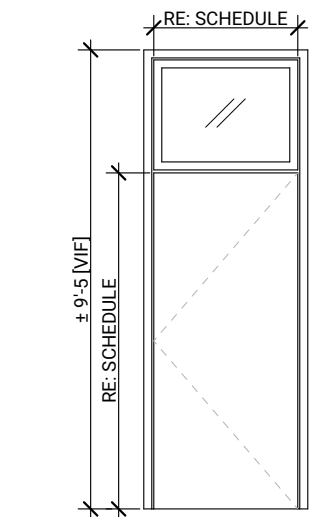
A910

EXTERIOR WINDOW SCHEDULE

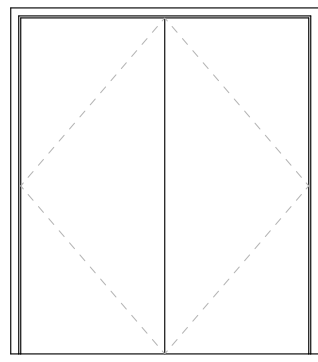
SCALE: 1" = 1'-0"

VIEW FROM
OPENING SIDE

TYPE
COMMENTS
QUANTITY



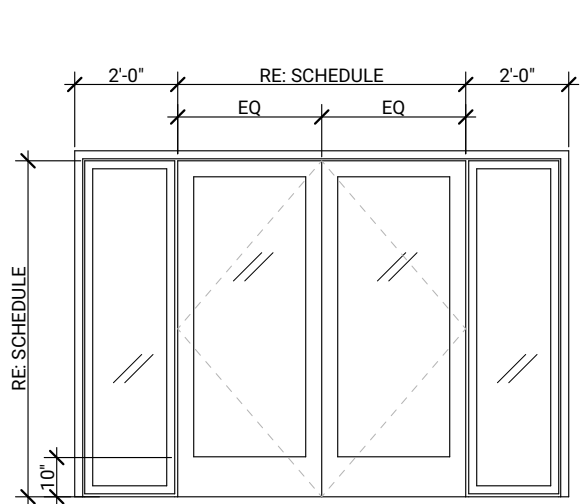
K
FLUSH PANEL DOOR W/ TRANSOM
1



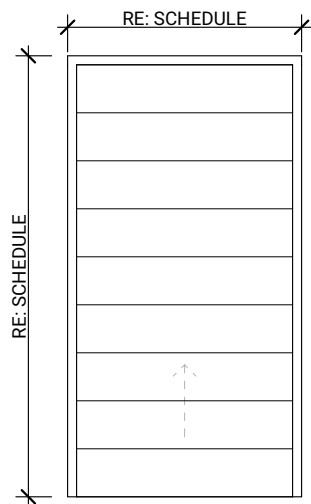
L
FLUSH PANEL DOUBLE DOOR
7

VIEW FROM
OPENING SIDE

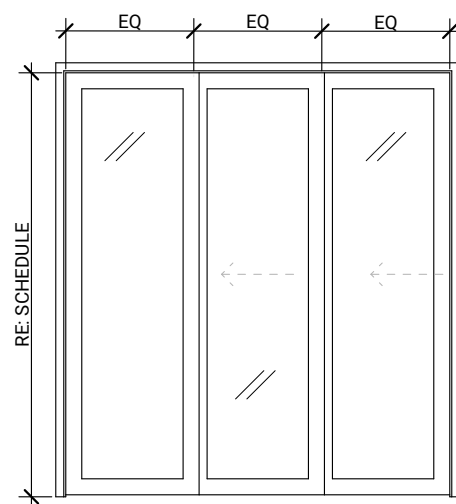
TYPE
COMMENTS
QUANTITY



F
FULL HEIGHT GLASS LITE W/ SIDELITES
2



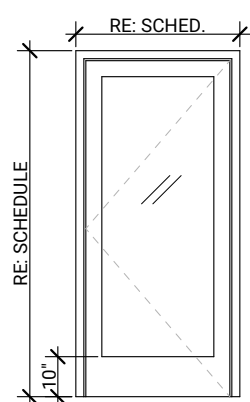
G
OVERHEAD ROLLING DOOR
2



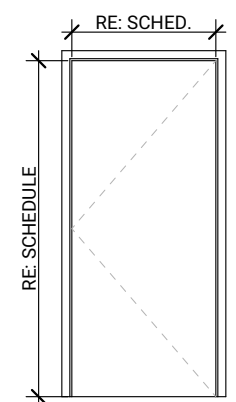
H
3-PANEL INTERIOR ALUM. SLIDING DOORS
2

VIEW FROM
OPENING SIDE

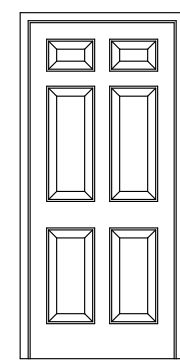
TYPE
COMMENTS
QUANTITY



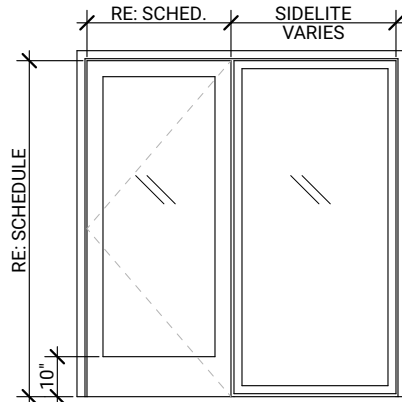
A
FULL HEIGHT GLASS LITE
31



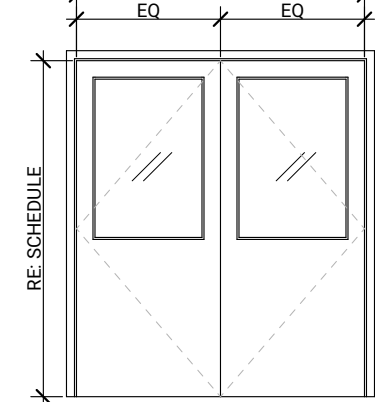
B
FLUSH PANEL
6



C
6-PANEL SALVAGED DOOR
1



D
FULL HEIGHT GLASS LITE W/ SIDELITE
7



E
DOUBLE PANEL W/ HALF GLASS LIT
1

DOOR HARDWARE GROUPS

A EXIT DOORS

EGRESS HARDWARE: Von Duprin Model 9800/9900 Series w/ fluid hydraulic damper
HINGES: Pemko continuous gear hinges
CLOSER: LCN 5034 H x ST or sim, overhead concealed type

B INTERIOR DOORS

HARDWARE: Lever-type with classroom lock
HINGES: five knuckle heavy weight full mortise, McKinney T4A3786 or sim
CLOSER: LCN 5010 series or sim concealed

C DOORS REQUIRING ACCESS CONTROL

HARDWARE: card access & electric strike

D INTERIOR DOOR

HARDWARE: keyed lock

E INTERIOR DOOR

HARDWARE (retrofit): flush bolts & mortise locks

F INTERIOR DOOR

HARDWARE: Lever-type with classroom lock
HINGES: five knuckle heavy weight full mortise, McKinney T4A3786 or sim
LOCK: occupancy indicator

G INTERIOR DOOR

HARDWARE

H INTERIOR DOOR

HARDWARE: Lever-type with classroom lock
HINGES: five knuckle heavy weight full mortise, McKinney T4A3786 or sim
LOCK: non-smart punch code w/ deadbolt, occupancy indicator and closer

DOOR HARDWARE GENERAL NOTES

FOR ALL DOORS

See specification for basis of design manufacturers and grades for all door hardware. Each door to have the following hardware at a minimum:

- Commercial Duty Door Closer
- Commercial Duty Exit Devices (conventional or electromechanical per plans)
Single doors may use rim devices; all double doors must use concealed vertical rods.
- Cylinder locks with library-specific keying
- Commercial Duty knuckle hinges
- Mechanical locks or electromechanical locks and strikes per plans
- Power Transfer Devices as required for keycard access
- Wall or floor mounted stops depending on location.
- Acoustic seal strips where doors are located in STC rated walls
- Lever handle: Corbin Russwin Museo Series "Georgia 102" or similar.

Specific elements required at specific doors are itemized in door hardware groups; manufacturers listed on this sheet are basis of design; contractor may propose an equal product by manufacturers listed in spec

DOOR SCHEDULE GENERAL NOTES

- THE FORCE REQUIRED TO OPEN DOORS SHALL NOT EXCEED 8.5 POUNDS AT EXTERIOR DOORS AND 5 POUNDS AT INTERIOR DOORS.
- LOCKSETS AND DOOR HANDLES SHALL HAVE LEVER OR PUSH BAR DEVICES TO PERMIT OPERATION WITHOUT GRASPING, PER WAC 1106.3.1
- VERIFY ALL ROUGH OPENINGS
- NEW DOORS TO MATCH EXISTING IN HEIGHT. CONTRACTOR TO VERIFY.

| | MARK | TYPE | PAIR | W | H | T | MATL | FIN | FRAME | | FIRE RATING | HW SET | EXTERIOR | U-VALUE: DOOR | U-VALUE: SIDELITE, TRANSOM | SHGC | REMARKS | |
|-------------------------|------------------------|------|------|--------|--------|--------|--------------|----------|-------|----------|-------------|--------|----------|---------------|----------------------------|------|--|-------------------------|
| | | | | | | | | | MATL | FIN | | | | | | | | |
| MAIN BUILDING, BASEMENT | | | | | | | | | | | | | | | | | | |
| | B01 | | | 3'-0" | 7'-0" | 1 3/4" | - | | | | | C | | | | | (E) DOOR TO RECEIVE NEW CARD ACCESS HARDWARE | |
| MAIN BUILDING, LEVEL 1 | | | | | | | | | | | | | | | | | | |
| | 100 | H | | 10'-7" | 8'-10" | 1 3/4" | ALUM / GLASS | CLR ANOD | ALUM | CLR ANOD | | D | | | | | 3-PANEL SLIDING | |
| | 101A | | | 6'-0" | 7'-0" | 1 3/4" | - | | | | | E | | | | | | |
| | 102 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B | | | | | | |
| | 103 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B | | | | | | |
| | 104 | D | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, C | | | | | 2'-0"W SIDELITE | |
| | 105 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, C | | | | | OPAQUE WHITE INTERLAYER | |
| | 106 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, C | | | | | OPAQUE WHITE INTERLAYER | |
| | 107 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | F | | | | | OPAQUE WHITE INTERLAYER | |
| | 108 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | F | | | | | OPAQUE WHITE INTERLAYER | |
| | 109 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | F | | | | | | |
| | 110 | A | | 3'-6" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, C | | | | | | |
| | 111 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B | | | | | | |
| | 112 | B | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | F | | | | | | |
| | 113 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, C | | | | | | |
| | 114 | B | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | F | | | | | | |
| | 115 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, C | | | | | | |
| | 116 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, C | | | | | OPAQUE WHITE INTERLAYER | |
| | 117 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, C | | | | | OPAQUE WHITE INTERLAYER | |
| 120 | F | YES | | 6'-0" | 7'-0" | 1 3/4" | ALUM / GLASS | CLR ANOD | ALUM | CLR ANOD | | A | | | | | PANIC HARDWARE | |
| CARNEGIE, LEVEL 1 | | | | | | | | | | | | | | | | | | |
| | C106 | | | 3'-0" | 7'-0" | 1 3/4" | - | | | | | B | | | | | | |
| | C106A | C | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | STAIN | WOOD | STAIN | | B | | | | | RE-USE PANEL SALVAGED DURING DEMOLITION | |
| | C116B | L | YES | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | | |
| | C116C | L | YES | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | | |
| MAIN BUILDING, LEVEL 2 | | | | | | | | | | | | | | | | | | |
| | 200 | H | | 8'-0" | 8'-10" | 1 3/4" | ALUM / GLASS | CLR ANOD | ALUM | CLR ANOD | | D | | | | | 3-PANEL SLIDING | |
| | 201 | D | | 3'-6" | 7'-0" | 1 3/4" | ALUM / GLASS | CLR ANOD | ALUM | CLR ANOD | | A, D | YES | 0.4 | 0.38 | 0.61 | SWING DOOR w/ SIDELITE, INSULATED GLAZING | |
| | 201A | D | | 3'-6" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, D | | | | | 1'-9"W SIDELITE | |
| | 202 | B | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | | |
| | 202A | K | | 3'-0" | 7'-0" | 1 3/4" | HM | PAINT | ALUM | CLR ANOD | | B | YES | 0.37 | 0.38 | 0.4 | SWING DOOR w/ TRANSOM, INSULATED GLAZING | |
| | 202B | G | | 4'-6" | 9'-0" | 1 3/4" | HM | PAINT | HM | PAINT | | G | YES | 0.31 | | | INSULATED OVERHEAD SECTIONAL DOOR | |
| | 202C | G | | 4'-6" | 7'-0" | 1 3/4" | HM | PAINT | HM | PAINT | | G | | | | | INTERIOR OVERHEAD SECTIONAL DOOR | |
| | 203 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, D | | | | | | |
| | 204 | B | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, D | | | | | | |
| | 205 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, D | | | | | | |
| | 206 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, D | | | | | | |
| | 207 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, D | | | | | | |
| | 208 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, D | | | | | | |
| | 209 | D | | 3'-6" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B, C | | | | | 2'-0"W SIDELITE | |
| | 211 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | H | | | | | OPAQUE WHITE INTERLAYER | |
| | 212 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | H | | | | | OPAQUE WHITE INTERLAYER | |
| | 213 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | H | | | | | OPAQUE WHITE INTERLAYER | |
| | 214 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | H | | | | | OPAQUE WHITE INTERLAYER | |
| | 215 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | H | | | | | OPAQUE WHITE INTERLAYER | |
| | 216 | A | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | H | | | | | OPAQUE WHITE INTERLAYER | |
| | 217A | L | YES | | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | |
| | 217B | L | YES | | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | |
| | 218A | L | YES | | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | |
| | 218B | L | YES | | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | |
| | 218C | L | YES | | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | |
| | 219A | B | | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | |
| | 219B | B | | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B, D | | | | | |
| | 220 | F | YES | | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | A | | | | | OPAQUE WHITE INTERLAYER |
| | 222 | D | | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B | | | | | 3'-6"W SIDELITE |
| | 223 | D | | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B | | | | | 3'-6"W SIDELITE |
| | 224 | D | | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | ALUM | CLR ANOD | | B | | | | | 3'-6"W SIDELITE |
| | 225 | D | | | 6'-0" | 7'-0" | 1 3/4" | - | | | | | A | | | | | |
| | MAIN BUILDING, LEVEL 3 | | | | | | | | | | | | | | | | | |
| | 230 | E | YES | | 6'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | B | | | | | |
| | 231 | A | | | 3'-0" | 7'-0" | 1 3/4" | SC WOOD | PAINT | HM | PAINT | | F | | | | OPAQUE WHITE INTERLAYER | |
| CARNEGIE, ROOF | | | | | | | | | | | | | | | | | | |
| | 301 | | | | 3'-0" | 7'-0" | 1 3/4" | - | | | | C | | | | | (E) DOOR TO RECEIVE NEW CARD ACCESS HARDWARE | |

2

A910

DOOR TYPES

SCALE: 1" = 1'-0"

1

A910

DOOR SCHEDULE

SCALE: 1" = 1'-0"

architecture
design
preservation

159 western avenue west, suite 486
seattle, washington 98119
office 206 775-8668

www.buildingwork.design

PROJECT

**Tacoma Public Library
Main Branch Renovation**

LOCATION

**1102 Tacoma Ave S
Tacoma WA 98402**

PREPARED FOR