This ADDENDUM forms part of the contract documents and modifies and takes precedence over the original bid documents, as noted in the attached documents. Original items of the plans and specifications not herein modified, amended, voided or suspended shall remain in effect. It is the responsibility of the Bidder to notify and/or distribute this ADDENDUM to those sub-bidders who have received prints. Acknowledge receipt of this ADDENDUM in the space provided on the Bid Form.

**SPECIFICATIONS REVISIONS / CLARIFICATIONS**

- Specification section 06 40 23 has been revised to omit the AWI certification requirement.

**DRAWING REVISIONS / CLARIFICATIONS**

**GI001:**
- Sheet Index Updated

**AE121:**
- Keynote revisions and typical window detail callout at additional locations.

**AE122:**
- Detail 4/AE122 title updated to include toilet rooms 110, 111, 112 for similar conditions. Typical windowsill detail callout added to enlarged plan.

**AE123**
- Keynote revision and added windowsill detail callouts. Clarification to Assembly Lab 138 windowsill detail callout.

**AE401:**
- Keynotes removed from detail E4/AE401

**AE402:**
- Keynote 0909 revised.
AE502:
  • Revision to detail title C2/AE502

AE511:
  • Keynote index added to sheet.

BIDDER QUESTIONS:

8. Interior elevation D1/AE402, marker 0909 states to refer to structural for support detail of the partial height walls. I cannot find this detail on the structural drawings. Can you please clarify.
   Note 0909 has been revised for clarification.

9. There is a “1204” note tag on the plan south exterior wall of room 129 on drawing AE121, but there is not a description for tag “1204” in the Key Notes. Please clarify.
   Note 1204 has been changed to note 1003 which refers to a marker board.

10. There is a “0003” note tag on the plan east wall of room 128 on drawing AE121, but there is not a description for tag “0003” in the Key Notes. Please clarify.
    Note 0003 has been removed.

11. There is a “0803” and “0801” note tag on interior elevation E4/AE401, but there is not a description for these two tags in the Key Notes. Is there any special notation about these two other than I assume glass and glazing and hollow metal frame or window stop?
    Notes 0801 and 0803 have been removed. These notes originally referred to hollow metal frames and glazing, but are not needed on interior elevations as they are called out on sheet AE601 in the door schedule and door and frame types.

12. Interior elevation E1/AE511 has a key number “2602”, but there is no Key Note on this drawing. I looked at the other pages, but did not see a “2602” on any of the other architectural drawings. I assume this is a security camera, but thought I should verify.
    Keynotes have been added to sheet AE511. Note 2602 refers to a camera.

13. Regarding toilet accessories, I am assuming interior elevation 4/AE122 is basically typical for all five dressing rooms since a few of the accessories are specifically noted anywhere else for 110, 111, and 112?
    Interior Elevation 4/AE122 serves to identify toilet accessories for all 5 toilet rooms. A note has been added for clarification.

14. Just to clarify, detail C2/AE502 is noted on drawing AE121 as typical so I assume this would also apply to the windows shown in the enlarged plan on AE122 and AE123. Would this also apply to the windows in the Student Lounge and Machine Shop on each end of the building? Also, I assume this
would apply to the two windows in room 112 but not to the two windows in room 113. Please clarify.

Detail C2/AE502 is typical for all exterior windows with furred walls except Assembly Lab 138 which is detailed as C1/AE502. Detail tags have been added on enlarged plans for clarification.

15. The cabinetry details show plywood covered with laminate for the fronts of the cabinetry. Is melamine acceptable to be used for the front of the cabinetry including doors and drawer fronts? Plastic laminate shall be used on all cabinet doors, drawers, and shelving per details. Melamine is acceptable for use on cabinet interiors as noted in details on sheet AE510.

16. Architectural millwork specs 1.7 states casework manufacturer is to be AWI certified. Can that be waived for casework?

The AWI Certificate will not be required for this project. The spec section containing the AWI requirement has been revised.

17. The fan coil unit detail on M-501 shows a 2-way control valve for the hot water coil and a 3-way control valve for the chilled water coil. The fan coil unit controls schematic on M-801 shows a 3-way valve on the hot water and a 2-way valve on the chilled water. Which is correct? And is this typical of all (31) fan coil units or do the 3-way valves only need to be included for those fan coils at the end of the loop? Please clarify and advise.

The design intent is to have 2 way control valves on both the chilled water and hot water valves, with the exception of those FCU’s noted to have 3 way control valves on MP101, and the MAU.

18. Specification section 23 31 13, subsection 3.8 "Duct Cleaning" calls for all the newly install ductwork to be cleaned before test and balance is performed. It states “for cleaning of existing ductwork, see section 23 01 30.52 "Existing HVAC Air Distribution System Cleaning." That section is not a part of these specifications. Will any of the existing ductwork on the first floor or other floors need to be cleaned before test and balance occurs? Please advise.

The existing make up air ductwork that is existing to remain shall be cleaned prior to test and balance. The newly installed ductwork, if protected during construction will not be required to be cleaned.

19. Does the existing system contain glycol? If so, will the addition of glycol into the system be required? Please Advise.

To our knowledge the existing system does not contain glycol. This should be confirmed by ETSU.

20. There are (2) new louvers shown on drawing MH100 but there is no size or schedule for the these. Can more information or a schedule be provided for these? Please advise.

See AE111 & AE601 for louver sizes.
SECTION 06 40 23 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Interior architectural woodwork at display case
   2. Interior standing and running trim (wood sills at windows and wood base)
   3. Plastic laminate clad cabinets and countertops
   4. Wood furring, blocking, shims, and hanging strips for installing interior architectural woodwork items that are not concealed within other construction.

B. Related Requirements:
   1. Section 06 10 53 "Miscellaneous Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing interior architectural woodwork that are concealed within other construction before interior architectural woodwork installation.
   2. Section 12 36 61.19 “Quartz Agglomerate Countertops”
   3. Section 018114 High Performance Building Requirements (HPBr) for VOC limits.

1.3 DEFINITIONS

A. Interior architectural woodwork includes wood furring, blocking, shims and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.4 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections, to ensure that interior architectural woodwork can be supported and installed as indicated.

1.5 ACTION SUBMITTALS

A. Product Data: For the following:
   1. Anchors.
2. Adhesives.

B. Shop Drawings:
   1. Include the following:
      a. Dimensioned plans, elevations, and sections.
      b. Attachment details.
   2. Show large-scale details.
   3. Show locations and sizes of furring, blocking, and hanging strips, including blocking and reinforcement concealed by construction and specified in other Sections.
   4. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, electrical devices and other items installed in architectural woodwork.
   5. Apply AWI Quality Certification Program label to Shop Drawings.

C. Samples: For each exposed product and for each shop-applied color and finish specified.
   1. Size:
      a. Lumber Products: Not less than 12 inches long, for each species and cut, finished on one side and one edge.
   2. Shop applied transparent finishes
   3. Plastic laminates

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For architectural woodwork manufacturer and Installer.

B. Product Certificates: For the following:
   1. Composite wood and agrifiber products.
   2. Adhesives.

C. Field quality-control reports.

1.7 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
   1. Manufacturer's Certification: Licensed participant in AWI's Quality Certification Program.

B. Fabricator’s Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this project and whose products have a record of successful in-service performance.
C. **Source Limitations:** Engage a qualified wood-working firm to assume individual responsibility for production of interior architectural woodwork with sequenced matched wood veneers.

### 1.8 DELIVERY, STORAGE, AND HANDLING

A. Comply with the Architectural Woodwork Standards, Section 2.

B. Do not deliver interior architectural woodwork until painting and similar finish operations that might damage woodwork have been completed in installation areas.

C. Store woodwork in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1. Handle and store fire-retardant-treated wood to comply with chemical treatment manufacturer's written instructions.

### 1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install interior architectural woodwork until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of the construction period.

B. Field Measurements: Where interior architectural woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings.

1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being concealed by construction, and indicate measurements on Shop Drawings.

C. Established Dimensions: Where interior architectural woodwork is indicated to fit to other construction, establish dimensions for areas where woodwork is to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

### 1.10 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that architectural woodwork can be supported and installed as indicated.

B. Coordinate all casework with plumbing, mechanical and electrical work associated with the space. Show components that will be attached to the casework, including but not limited to sinks, faucets, plumbing and piping chase, electrical, etc. Field verify conditions and fabricated to the greatest extent in the shop.
PART 2 - PRODUCTS

2.1 ARCHITECTURAL WOODWORK, GENERAL

A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.

1. Provide certificates from AWI certification program indicating that woodwork and installation complies with requirements of grades specified.

B. Available Fabricators: Subject to compliance with requirements, fabricators offering interior architectural woodwork that may be incorporated into the work.

2.2 MATERIALS

A. General: Provide materials that comply with requirements of quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.

B. Wood Species and Cut for Transparent Finish: Ash, plain sawn or sliced.

C. Wood Species for painted trim or base: Poplar

D. Wood Products: Comply with the following:

1. Medium Density Fiberboard: ANSI A 208.2, Grade MD, made with binder containing no urea formaldehyde.
2. Particleboard: Particleboard complying with requirements in ANSI A208., Grade M-2, except for density.

E. Thermoset Decorative Panels: Particleboard or medium density fiberboard finished with thermally-fused, melamine impregnated decorative paper complying with LMA SAT-1.

F. High Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.

1. Manufacturer: Subject to compliance with requirements, provide high pressure decorative laminates by one of the following:

   a. Abet Laminati, Inc.
   b. Arborite, Division of ITW Canada, Inc.
   c. Formica Corporation
   d. Lamin-Art, Inc.
   e. Nevamar Company, LLC; Decorative Products Div.
   f. Panolam Industries International Incorporated
   g. Westinghouse Electric Corporation, Specialty Products Division
   h. Wilsonart International; Div. of Premark International, Inc.
G. Tempered float glass for cabinet doors: ASTM C 1048, Kind FT, Condition A Type I, Class 1 (clear) Quality Q3, with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated.
   1. Tint Color: Clear

2.3 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 08 Section “Door Hardware”

B. Frameless Concealed Hinges (European Type): BHMA A 156.9, B01602, 100 degrees of opening.

C. Wire Pulls: Back mounted, solid metal, 4-inches long, 5/16-inch in diameter.

D. Shelf Rests: BHMA A156.9, B04013; metal

E. Drawer Slides: BHMA A156.9, B05091
   1. Heavy Duty (Grade 1HD 100 and Grade 1HD-200) Side mounted, full extension type; zinc-plated steel ball bearing slides.
   2. Box Drawer Slides: Grade 1; for drawers not more than 6-inches high and 24-inches wide.
   3. Keyboard Slides: Grade 1; for computer keyboard shelves.

F. Door Locks: BHMA A156.11, E07121

G. Drawer Locks: BHMA A156.11, E0741.

H. Grommets for cable passage through Countertops: 2-inch, OD, black molded plastic grommets and matching plastic caps with slot for wire passage.

I. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
   1. Satin Stainless Steel: BHMA 630.

J. For concealed hardware, provide manufacturer’s standard finish that complies with product class requirements in BHMA A156.9.

K. Display Case Hardware
   a. Glass Door Hinges: Basis of Design: Hafele Claronda Item #361.47.207 or approved equal
   b. Finish: Chrome-plated polished
   c. Keyed Glass Door Locks: Basis of Design: Hafele Item #233.21.201 or approved equal
   d. Shelf Supports: Basis of Design: Hafele Item #282.25.733 or approved equal
   e. Material: Zinc die-cast with transparent rubber pad
   f. Finish: Nickel-plated
L. Recessed Display Case Lighting
   a. Basis of Design: Hafele Loox5 System with associated Driver, distributor, and switch or approved equal
   b. Recessed housing: Basis of Design: Hafele Item #833.95.722 or approved equal
      1) For use with LED strip lights up to 5mm wide
      2) Color: Silver
      3) End caps
   c. LED strip light: Basis of Design: Hafele LED 2060 Item #833.74.321 or approved equal
      1) Voltage: 12V
      2) Color Temperature: 3000K
      3) Wattage: 4.8 W/m
      4) Luminous Efficacy: 460lm/m

2.4 INTERIOR STANDING AND RUNNING TRIM FOR TRANSPARENT FINISH

A. Architectural Woodwork Standards Grade: Custom

B. Hardwood Lumber:
   1. Wood Species: Select Ash Hardwood
      a. Finish: Clear
      b. Location: Display Case Construction at Lobby
   2. Wood Species: Paint grade poplar
      a. Finish: Paint
      b. Location: Window Sills and recessed base as scheduled

C. Hardwood Plywood
   1. Veneer Wood Species: Ash
   2. Grade: A-1
   3. Thickness: ⅛”, 7-ply
   4. Finish: Clear

D. For trim items wider than available lumber, use veneered construction. Do not glue for width.

E. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finish work.

2.5 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Nailers: Softwood lumber, kiln-dried to less than 15 percent moisture content.

B. Provide self-drilling screws for metal-framing supports, as recommended by metal-framing manufacturer.

C. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage.
1. Provide metal expansion sleeves or expansion bolts for post-installed anchors.
2. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

D. Installation Adhesive: Product recommended by fabricator for each substrate for secure anchorage.

2.6 FABRICATION

A. Interior Woodwork Grade: Unless otherwise indicated, provide grade interior woodwork complying with referenced quality standard/

B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.

C. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.

D. Fabricate interior architectural woodwork to dimensions, profiles, and details indicated.

1. Ease edges to radius indicated for the following:
   a. Edges of Solid-Wood (Lumber) Members: 1/16 inch unless otherwise indicated.

E. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site.

1. Disassemble components only as necessary for shipment and installation.
2. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.
3. Notify Architect seven days in advance of the dates and times interior architectural woodwork fabrication will be complete.
4. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled.
   a. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting.
   b. Verify that parts fit as intended, and check measurements of assemblies against field measurements indicated on approved Shop Drawings before disassembling for shipment.

F. Shop cut openings to maximum extent possible to receive hardware, appliances, plumbing fixtures, electrical work and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges or cutouts to remove splinters and burrs.
1. Seal edges of openings in countertops with a coat of varnish.

G. Install glass to comply with applicable requirements in Division 08 Section “Glazing” and in GANA’s “Glazing Manual.” For glass in wood frames, secure glass with removable stops.
2.7 PLASTIC LAMINATE CLAD CABINETS

A. Grade: Custom

B. Laminate Cladding for Exposed Surfaces: High pressure decorative laminate complying with the following requirements:
   1. Horizontal Surfaces Other Than Tops: Grade HGS
   2. Postformed Surfaces: Grade HGP
   3. Vertical Surfaces: Grade HGS
   4. Edges: Grade HGS

C. Materials for Semi-exposed Surfaces:
   1. Surfaces other than drawer bodies: High pressure decorative laminate, Grade VGS
   2. Drawer sides and backs: Thermoset decorative panels
   3. Drawer bottoms: Thermoset decorative panels

D. Concealed backs of panels with exposed plastic laminate surfaces: High pressure decorative laminate, Grade BKL.

E. Colors, patterns and finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
   1. Basis of Design: Formica 9318-BH Aluminum Brush Finish

F. Provide dust panels of ¼-inch plywood or tempered hardboard above compartments and drawers, unless located directly under tops.

2.8 PLASTIC LAMINATE CLAD COUNTERTOPS

A. Grade: Custom

B. High Pressure Decorate Laminate Grade: HGS

C. Colors, patterns, and finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
   1. As selected by Architect from manufacturer’s full range in the following categories:
      a. Solid colors, with core color same as surface, matte finish
      b. Patterns, matte finish

D. Edge Treatment: Same as laminate cladding on horizontal surfaces

E. Core Material: Plywood

F. Core Material at sinks: Plywood made with exterior glue.
G. Backer sheet: Provide plastic laminate backer sheet, Grade BKL on underside of countertop substrates.

2.9 SHOP FINISHING

A. Grade: Provide finishes of same grade as items to be finished.

B. General: Finish architectural woodwork at fabrication shop as specified in this section. Defer only final touchup, cleaning, and polishing until after installation.

C. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.

D. Transparent Finish:
   1. AWI Finish System: Catalyzed polyurethane
   2. Staining: Matched approved sample for color
   3. Filled finish for open-grain woods: After staining apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.
   4. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523/

PART 3 - EXECUTION

3.1 PREPARATION

A. Before installation, condition interior architectural woodwork to humidity conditions in installation areas for not less than 72 hours prior to beginning of installation.

B. Before installing interior architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and back-priming of concealed surfaces.

3.2 INSTALLATION

A. Grade: Install interior architectural woodwork to comply with same grade as item to be installed.

B. Assemble interior architectural woodwork and complete fabrication at Project site to the extent that it was not completed during shop fabrication.

C. Install interior architectural woodwork level, plumb, true in line, and without distortion.
   1. Shim as required with concealed shims.
   2. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
D. Scribe and cut interior architectural woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Scribe and cut woodwork level, plumb, true and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8-inch in 96-inches.

F. Anchor woodwork to anchors or blocking built-in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails, or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.

G. Preservative-Treated Wood: Where cut or drilled in field, treat cut ends and drilled holes according to AWPA M4.

H. Fire-Retardant-Treated Wood: Install fire-retardant-treated wood to comply with chemical treatment manufacturer's written instructions, including those for adhesives used to install woodwork.

I. Standing and Running Trim: Install with minimum number of joints possible, using full length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 60-inches long, except where shorter pieces are necessary. Scarf running joints and stagger in adjacent and related members.

1. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base if finished.
2. Install wall railings on indicated metal brackets securely fastened to wall framing.
3. Install standing and running trim with no more variation from a straight line than 1/8-inch in 96-inch horizontal variation from a true plane.

J. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.

1. Install cabinets with no more than 1/8-inch in 96-inches sag, bow, or other variations from a straight line.
2. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16-inches on center with No. 10 wafer-head screws sized for 1-inch penetrations into wood framing, blocking or hanging strips.

K. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.

1. Install countertops with no more than 1/8-inch in 96-inch sag, bow or other variation from a straight line.
2. Secure backsplashes to walls with adhesive.
3. Caulk space between backsplash and wall with sealant specified in Division 07 “Joint Sealants.”
4. Touch up finishing work specified in this section after installation of woodwork. Fill nail holes with matching filler where exposed.
5. Refer to Division 09 Sections for final finishing of installed architectural woodwork not indicated to be shop finished.

3.3 FIELD QUALITY CONTROL

A. Inspections: Provide inspection of installed Work through AWT's Quality Certification Program certifying that woodwork, including installation, complies with requirements of the Architectural Woodwork Standards for the specified grade.

1. Inspection entity shall prepare and submit report of inspection.

3.4 REPAIR

A. Repair damaged and defective interior architectural woodwork, where possible, to eliminate functional and visual defects and to result in interior architectural woodwork being in compliance with requirements of Architectural Woodwork Standards for the specified grade.

B. Where not possible to repair, replace defective woodwork.

3.5 CLEANING

A. Clean lubricate and adjust hardware.

B. Clean interior architectural woodwork on exposed and semi-exposed surfaces.

END OF SECTION 06 40 23