

ADDENDUM NO. 1

State of Maine Ray Building Renovation
28 Tyson Drive
Augusta, ME

April 13, 2022

From: Wood
Environment & Infrastructure Solutions
511 Congress Street
Portland, Maine 04101

To: Prospective Bidders

This Addendum forms a part of the Contract Documents and modifies the original bidding documents dated March 31, 2022, as noted below. Bidder shall acknowledge receipt of this Addendum in the space provided on the Contractor Bid Form, failure to do so may subject the bidder to disqualification.

I. GENERAL

A. RFI RESPONSES

1. See attached numbered RFI responses: 2, 3, 4, 5, 6, 7, 8, 9, 13. Other RFI are still pending; responses will be issued under separate cover.

B. Additional scope not indicated in the drawings or specifications: General Contractor shall be responsible for removing and disposing of existing furniture on all floors as follows:

1. Furniture is Herman Miller Modular Systems
2. Approximately 81 cubicles and some extra pieces
3. Panel heights 67", worksurfaces, task lights, metal shelves, cantilevers, pencil draws, flipper doors, shelf pins, keyboard trays
4. Shelving on the basement level, see attached example pictures

II. SPECIFICATIONS

- A. ADD specification SECTION 284621.11 - ADDRESSABLE FIRE-ALARM SYSTEMS, DATED 04-13-2022

III. DRAWINGS

A. ARCHITECTURAL

1. REPLACE drawing AE521 with the attached revision dated 04-13-2022. Soffit was removed from around the coiling door hood per RFI#

B. FIRE PROTECTION

1. ADD the following drawings dated 04-13-2022: F-001, FA100, FA101, FA102, FA103, FA104

END OF ADDENDUM NO. 1

ATTACHMENTS:

Summary of RFI responses
Photos of example furniture to be removed
Specification section 284621.11
AE521
F-001
FA100
FA101
FA102
FA103
FA104

State of Maine Ray Building Renovation

Pre-Bid Questions

Question No.	Discipline	Question	Date Received	Response
2	Architectural	<p>1. Specifications has operator and manual operation. With the location of the door, I am not sure where the operator is to be located.</p> <p>2. It appears that the slide locks are between the counter and the grill. Not sure that the slide locks will be operable as shown.</p> <p>3. With the coiling unit closed in a soffit, it is going to be difficult if not impossible to service the unit.</p>	4/6/2022	Please see attached drawings in the Addendum.
3	General	<p>Specification Section 01 10 00, pg. 6, Art. 1.11.G notes; "...Contractor personnel working on Project Site. Utilize the Background Check Application attached..."</p> <p>Questions:</p> <p>1. Regarding the Mandatory Pre Bid Conference on Tuesday, April 12, 2022 10:00 AM, do you and or BGS require a list of our attending employees and must they fill out and submit a Background Check Authorization prior to the meeting?</p> <p>a. If the form is required, what is the deadline for submission and who shall it be sent to?</p>	4/7/2022	The background check is not required for the Pre-Bid Conference Meeting. The background check is required for the successful bidder and all personnel on-site during construction including subcontractors. The Background Check Authorization form is to be completed and submitted during the submittals submission phase.
4	Mechanical	Can Johnson Controls be listed as an acceptable controls manufacturer under specification section "230923 – 9 – 2.1 - A.1?"	4/7/2022	Yes, any qualified BACnet controls contractor can bid, as long as they can interface with the State of Maine Honeywell EBI system. Spec will be clarified in addendum.
5	Food Service	A food equipment service supplier would like to verify that item 19A (Ansul fire protection) is required or is in addition to the fire suppression system provided with the ventless hood. The ventless hood comes with Ansul fire protection system.	4/11/2022	Item No. 19A – Fire Suppression System is not required. The ventless hood is provided with an Ansul R-102 system as standard.
6	General	Is the Ray Building currently occupied or vacant and what type of access will we be allowed during the Pre-Bid Conference?	4/11/2022	The Building is mostly vacant except for staff supporting the move out of building occupants. Contractors will have full access with the possible exception of the existing bio-labs on the ground floor which need key card access.
7	General	Will photos of specific building details be allowed during the Pre-Bid Conference tour?	4/11/2022	Photos are allowed
8	General	There is no specific location noted to meet. Should we gather at the main entrance?	4/11/2022	Yes, please gather at the main entrance.

Question No.	Discipline	Question	Date Received	Response
9	General	<p>Specification Sect. 01 10 00, pg. 2, Art. 1.5.A.1.b & c SCHEDULE,. Article 1.5.A.1.b states Substantial Completion of 31 August 2023 and Art. 1.5.A.1.C notes Final Completion: 31 October 31, 2023.</p> <p>a. Section 00 52 13 State of Maine Construction Contract Art. 2.2 states Substantial Completion shall be 15 December 2023 and Art. 2.3 states Contract Final Completion date of 31 December 2023.</p> <p>Can you please clarify which dates should prevail for Substantial and Final Completion?</p>	4/11/2022	The contractor is to use the dates shown in the Bid Notice to Contractors and the Summary Section 011000. Section 005213 Construction Contract is a sample of the contract that will be utilized with the successful bidder. The dates listed within the sample contract are examples only.
13	Mechanical	Sect. 230593 Para. 1.6 Quality Assurance appears to require certified balancer only. Would Yankee balancing be an acceptable balancer? Yankee has done many State of Maine buildings for many years.	4/12/2022	Yes, Yankee Balancing owned by Jake Laverdiere is an acceptable balancer.



SECTION 284621.11 - ADDRESSABLE FIRE-ALARM SYSTEMS

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. Addressable fire-alarm system.
2. Manual fire-alarm boxes.
3. System smoke detectors.
4. Duct smoke detectors.
5. Heat detectors.
6. Fire-alarm notification appliances.
7. Fire-alarm remote annunciators.
8. Fire-alarm addressable interface devices.

- B. Related Requirements:

1. Section 087100 "Door Hardware" for magnetic door holders that release in response to fire-alarm outputs.
2. Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

1.3 DEFINITIONS

- A. DACT: Digital alarm communicator transmitter.
- B. EMT: Electrical metallic tubing.
- C. ~~FACU: Fire-alarm control unit.~~ FACP: Fire alarm control panel.
- D. High-Performance Building: A building that integrates and optimizes on a life-cycle basis all major high-performance attributes, including energy conservation, environment, safety, security, durability, accessibility, cost-benefit, productivity, sustainability, functionality, and operational considerations.
- E. Mode: The terms "Active Mode," "Off Mode," and "Standby Mode" are used as defined in the 2007 Energy Independence and Security Act (EISA).
- F. NICET: National Institute for Certification in Engineering Technologies.
- G. PC: Personal computer.

- H. Voltage Class: For specified circuits and equipment, voltage classes are defined as follows:
1. Control Voltage: Listed and labeled for use in remote-control, signaling, and power-limited circuits supplied by a Class 2 or Class 3 power supply having rated output not greater than 150 V and 5 A, allowing use of alternate wiring methods complying with NFPA 70, Article 725.
 2. Low Voltage: Listed and labeled for use in circuits supplied by a Class 1 or other power supply having rated output not greater than 1000 V, requiring use of wiring methods complying with NFPA 70, Article 300, Part I.

1.4 ACTION SUBMITTALS

- A. Approved Permit Submittal: Submittals must be approved by authorities having jurisdiction prior to submitting them to Architect.
- B. Product Data: For each type of product, including furnished options and accessories.
1. Include construction details, material descriptions, dimensions, profiles, and finishes.
 2. Include rated capacities, operating characteristics, and electrical characteristics.
- C. Shop Drawings: For fire-alarm system.
1. Comply with recommendations and requirements in "Documentation" section of "Fundamentals" chapter in NFPA 72.
 2. Include plans, elevations, sections, and details, including details of attachments to other Work.
 3. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
 4. Detail assembly and support requirements.
 5. Include voltage drop calculations for notification-appliance circuits.
 6. Include battery-size calculations.
 7. Include input/output matrix.
 8. Include written statement from manufacturer that equipment and components have been tested as a system and comply with requirements in this Section and in NFPA 72.
 9. Include performance parameters and installation details for each detector.
 10. Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
 11. Provide program report showing that air-sampling detector pipe layout balances pneumatically within airflow range of air-sampling detector.
 12. Provide control wiring diagrams for fire-alarm interface to HVAC; coordinate location of duct smoke detectors and access to them.
 - a. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.
 - b. Show field wiring and equipment required for HVAC unit shutdown on alarm.
 - c. Locate detectors in accordance with manufacturer's written instructions.
 - d. Show air-sampling detector pipe routing.

13. Include voice/alarm signaling-service equipment rack or console layout, grounding schematic, amplifier power calculation, and single-line connection diagram.
 14. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams.
- D. Delegated Design Submittal: For notification appliances and smoke and heat detectors, in addition to submittals listed above, indicate compliance with performance requirements and design criteria, including analysis data signed and sealed by qualified professional engineer responsible for their preparation.
1. Drawings showing location of each notification appliance and smoke and heat detector, ratings of each, and installation details as needed to comply with listing conditions of device.
 2. Design Calculations: Calculate requirements for selecting spacing and sensitivity of detection, complying with NFPA 72. Calculate spacing and intensities for strobe signals and sound-pressure levels for audible appliances.
 3. Indicate audible appliances required to produce square wave signal per NFPA 72.

1.5 INFORMATIONAL SUBMITTALS

A. Certificates:

1. Seismic Performance Certificates: For FACUFACP, accessories, and components, from manufacturer. Include the following information:
 - a. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - b. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - c. Detailed description of equipment anchorage devices on which certification is based and their installation requirements.

B. Field quality-control reports.

C. Qualification Statements: For Installer.

D. Sample Warranty: Submittal must include line item pricing for replacement parts and labor.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
 - a. Comply with "Records" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.

- b. Provide "Fire-Alarm and Emergency Communications System Record of Completion Documents" in accordance with "Completion Documents" Article in "Documentation" section of "Fundamentals" chapter in NFPA 72.
- c. Complete wiring diagrams showing connections between devices and equipment. Each conductor must be numbered at every junction point with indication of origination and termination points.
- d. Riser diagram.
- e. Device addresses.
- f. Air-sampling system sample port locations and modeling program report showing layout meets performance criteria.
- g. Record copy of site-specific software.
- h. Provide "Inspection and Testing Form" in accordance with "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:
 - 1) Equipment tested.
 - 2) Frequency of testing of installed components.
 - 3) Frequency of inspection of installed components.
 - 4) Requirements and recommendations related to results of maintenance.
 - 5) Manufacturer's user training manuals.
- i. Manufacturer's required maintenance related to system warranty requirements.
- j. Abbreviated operating instructions for mounting at ~~FACU~~-FACP and each annunciator unit.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
 - 2. Lamps for Strobe Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
 - 3. Smoke Detectors, Fire Detectors: Quantity equal to 10 percent of amount of each type installed, but no fewer than one unit of each type.
 - 4. Detector Bases: Quantity equal to two percent of amount of each type installed, but no fewer than one unit of each type.
 - 5. Keys and Tools: One extra set for access to locked or tamperproofed components.
 - 6. Audible and Visual Notification Appliances: One of each type installed.
 - 7. Fuses: Two of each type installed in system. Provide in box or cabinet with compartments marked with fuse types and sizes.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Personnel must be trained and certified by manufacturer for installation of units required for this Project.

2. Installation must be by personnel certified by NICET as fire-alarm Level IV technician and must be monitored by a qualified fire protection engineer.
3. Obtain certification by NRTL in accordance with NFPA 72.
4. Licensed or certified by authorities having jurisdiction.

1.9 FIELD CONDITIONS

- A. Seismic Conditions: Unless otherwise indicated on Contract Documents, specified Work in this Section must withstand the seismic hazard design loads determined in accordance with ASCE/SEI 7 for installed elevation above or below grade.
 1. The term "withstand" means "unit must remain in place without separation of parts from unit when subjected to specified seismic design loads."

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail because of defects in materials or workmanship within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ADDRESSABLE FIRE-ALARM SYSTEM

- A. Description:
 1. Noncoded, UL-certified addressable system, with multiplexed signal transmission and voice-and-strobe notification for evacuation utilizing the existing Honeywell control panel.
- B. Performance Criteria:
 1. Regulatory Requirements:
 - a. Fire-Alarm Components, Devices, and Accessories: Listed and labeled by a NRTL in accordance with NFPA 70 for use with selected fire-alarm system and marked for intended location and application.
 2. General Characteristics:
 - a. Automatic sensitivity control of certain smoke detectors.
 - b. Fire-alarm signal initiation must be by one or more of the following devices:
 - 1) Manual stations.
 - 2) Heat detectors.
 - 3) Smoke detectors.

- 4) Duct smoke detectors.
 - 5) Automatic sprinkler system water flow.
 - ~~6) Preaction system.~~
 - ~~7)6) Fire-extinguishing system operation.~~
 - ~~8)7) Fire standpipe system.~~
 - ~~9) Dry system pressure flow switch.~~
- c. Fire-alarm signal must initiate the following actions:
- 1) Continuously operate alarm notification appliances, including voice evacuation notices.
 - 2) Identify alarm and specific initiating device at ~~FACU-FACP~~ and remote annunciators.
 - 3) Transmit alarm signal to remote alarm receiving station.
 - 4) Unlock electric door locks in designated egress paths.
 - 5) Activate voice/alarm communication system.
 - 6) Switch HVAC equipment controls to fire-alarm mode.
 - 7) Close smoke dampers in air ducts of designated air-conditioning duct systems.
 - ~~8) Activate preaction system.~~
 - ~~9)8) Record events in system memory.~~
 - ~~10)9) Record events by system printer.~~
- d. Supervisory signal initiation must be by one or more of the following devices and actions:
- 1) Valve supervisory switch.
 - ~~2) High or low air pressure switch of dry pipe or preaction sprinkler system.~~
 - ~~3)2) Independent fire-detection and -suppression systems.~~
 - ~~4)3) Zones or individual devices have been disabled.~~
 - ~~5)4) FACU-FACP has lost communication with network.~~
- e. System trouble signal initiation must be by one or more of the following devices and actions:
- 1) Open circuits, shorts, and grounds in designated circuits.
 - 2) Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
 - 3) Loss of communication with addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
 - 4) Loss of primary power at ~~FACU-FACP~~.
 - 5) Ground or single break in internal circuits of ~~FACU-FACP~~.
 - 6) Abnormal ac voltage at ~~FACU-FACP~~.
 - 7) Break in standby battery circuitry.
 - 8) Failure of battery charging.
 - 9) Abnormal position of switch at ~~FACU-FACP~~ or annunciator.
 - 10) Voice signal amplifier failure.
- f. System Supervisory Signal Actions:
- 1) Initiate notification appliances.

- 2) Identify specific device initiating event at ~~FACU~~FACP and remote annunciators.
- 3) After time delay of 200 seconds, transmit trouble or supervisory signal to remote alarm receiving station.
- 4) Transmit system status to building management system.

g. Network Communications:

- 1) Provide network communications for fire-alarm system in accordance with fire-alarm manufacturer's written instructions.
- 2) Provide network communications pathway per manufacturer's written instructions and requirements in NFPA 72 and NFPA 70.
- 3) Provide integration gateway using BACnet for connection to building automation system.

2.2 FIRE-ALARM CONTROL ~~UNIT-PANEL~~ (~~FACU~~FACP)

- A. Existing Honeywell Fire Alarm control ~~unit-panel~~ shall be reused to feed all new devices throughout the facility.

2.3 MANUAL FIRE-ALARM BOXES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Autocall; brand of Johnson Controls International plc, Building Solutions North America.
2. Bosch Security Systems, Inc.
3. Edwards; Carrier Global Corporation.
4. Federal Signal Corporation.
5. Fike Corporation.
6. Fire-Lite Alarms; Honeywell International, Inc.
7. Gamewell-FCI; Honeywell International, Inc.
8. Mircom Technologies, Ltd.
9. Notifier; Honeywell International, Inc.
10. Potter Electric Signal Company, LLC.
11. Siemens Industry, Inc., Building Technologies Division.
12. Silent Knight; Honeywell International, Inc.
13. Simplex; brand of Johnson Controls International plc, Building Solutions North America.
14. Valcom, Inc. (Keltron Corporation).
15. Wheelock, Life Safety and Mass Notification; Eaton, Electrical Sector.

- B. General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes must be finished in red with molded, raised-letter operating instructions in contrasting color; must show visible indication of operation; and must be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.

1. Double-action mechanism requiring two actions to initiate alarm, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to ~~FACU~~FACP.

2. Station Reset: Key- or wrench-operated switch.
3. Indoor Protective Shield: Factory-fabricated, clear plastic enclosure hinged at top to permit lifting for access to initiate alarm. Lifting cover actuates integral battery-powered audible horn intended to discourage false-alarm operation.
4. Weatherproof Protective Shield: Factory-fabricated, clear plastic enclosure hinged at top to permit lifting for access to initiate alarm.
5. Able to perform at up to 90 percent relative humidity at 90 deg F.

2.4 SYSTEM SMOKE DETECTORS

A. Photoelectric Smoke Detectors:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Autocall; brand of Johnson Controls International plc, Building Solutions North America.
 - b. Bosch Security Systems, Inc.
 - c. Edwards; Carrier Global Corporation.
 - d. Fire-Lite Alarms; Honeywell International, Inc.
 - e. Gamewell-FCI; Honeywell International, Inc.
 - f. Gentex Corporation.
 - g. Harrington Signal, Inc.
 - h. Mircom Technologies, Ltd.
 - i. Notifier; Honeywell International, Inc.
 - j. Potter Electric Signal Company, LLC.
 - k. Siemens Industry, Inc., Building Technologies Division.
 - l. Silent Knight; Honeywell International, Inc.
 - m. Simplex; brand of Johnson Controls International plc, Building Solutions North America.
2. Performance Criteria:
 - a. Regulatory Requirements:
 - 1) NFPA 72.
 - 2) UL 268.
 - b. General Characteristics:
 - 1) Detectors must be four-wire type.
 - 2) Base Mounting: Detector and associated electronic components must be mounted in twist-lock module that connects to fixed base. Provide terminals in fixed base for connection to building wiring.
 - 3) Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
 - 4) Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.

- 5) Detector address must be accessible from FACU-FACP and must be able to identify detector's location within system and its sensitivity setting.
- 6) Operator at FACU-FACP, having designated access level, must be able to manually access the following for each detector:
 - a) Primary status.
 - b) Device type.
 - c) Present average value.
 - d) Present sensitivity selected.
 - e) Sensor range (normal, dirty, etc.).
- 7) Detector must have functional humidity range within 10 to 90 percent relative humidity.
- 8) Color: White.
- 9) Remote Control: Unless otherwise indicated, detectors must be digital-addressable type, individually monitored at FACU-FACP for calibration, sensitivity, and alarm condition and individually adjustable for sensitivity by FACU-FACP.
- 10) Fixed-temperature sensing characteristic of combination smoke- and heat-detection units must be independent of rate-of-rise sensing and must be settable at FACU-FACP to operate at 135 or 155 deg F.

2.5 DUCT SMOKE DETECTORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Autocall; brand of Johnson Controls International plc, Building Solutions North America.
 2. Bosch Security Systems, Inc.
 3. Edwards; Carrier Global Corporation.
 4. Fire-Lite Alarms; Honeywell International, Inc.
 5. Gamewell-FCI; Honeywell International, Inc.
 6. Gentex Corporation.
 7. Harrington Signal, Inc.
 8. Mircom Technologies, Ltd.
 9. Notifier; Honeywell International, Inc.
 10. Potter Electric Signal Company, LLC.
 11. Siemens Industry, Inc., Building Technologies Division.
 12. Silent Knight; Honeywell International, Inc.
 13. Simplex; brand of Johnson Controls International plc, Building Solutions North America.
- B. Description: Photoelectric-type, duct-mounted smoke detector.
- C. Performance Criteria:
 1. Regulatory Requirements:
 - a. NFPA 72.
 2. General Characteristics:

- a. Detectors must be four-wire type.
- b. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to ~~FACU~~FACP.
- c. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
- d. Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.
- e. Detector address must be accessible from ~~FACU~~FACP and must be able to identify detector's location within system and its sensitivity setting.
- f. Operator at ~~FACU~~FACP, having designated access level, must be able to manually access the following for each detector:
 - 1) Primary status.
 - 2) Device type.
 - 3) Present average value.
 - 4) Present sensitivity selected.
 - 5) Sensor range (normal, dirty, etc.).
- g. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with supplied detector for smoke detection in HVAC system ducts.
- h. Each sensor must have multiple levels of detection sensitivity.
- i. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
- j. Relay Fan Shutdown: Fully programmable relay rated to interrupt fan motor-control circuit.

2.6 HEAT DETECTORS

A. Fixed-Temperature-Type Heat Detectors:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Autocall; brand of Johnson Controls International plc, Building Solutions North America.
 - b. Bosch Security Systems, Inc.
 - c. Edwards; Carrier Global Corporation.
 - d. Fire-Lite Alarms; Honeywell International, Inc.
 - e. Gamewell-FCI; Honeywell International, Inc.
 - f. Gentex Corporation.
 - g. Harrington Signal, Inc.
 - h. Mircom Technologies, Ltd.
 - i. Notifier; Honeywell International, Inc.
 - j. Potter Electric Signal Company, LLC.
 - k. Siemens Industry, Inc., Building Technologies Division.
 - l. Silent Knight; Honeywell International, Inc.
 - m. Simplex; brand of Johnson Controls International plc, Building Solutions North America.
 - n. Valcom, Inc. (Keltron Corporation).

2. Performance Criteria:
 - a. Regulatory Requirements:
 - 1) NFPA 72.
 - 2) UL 521.
 - b. General Characteristics:
 - 1) Actuated by temperature that exceeds fixed temperature of 190 deg F.
 - 2) Mounting: Twist-lock base interchangeable with smoke-detector bases.
 - 3) Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACUFACP.
 - 4) Detector must have functional humidity range of 10 to 90 percent.
 - 5) Color: White.

2.7 FIRE-ALARM NOTIFICATION APPLIANCES

A. Fire-Alarm Voice/Tone Notification Appliances:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Autocall; brand of Johnson Controls International plc, Building Solutions North America.
 - b. Edwards; Carrier Global Corporation.
 - c. Federal Signal Corporation.
 - d. Gentex Corporation.
 - e. Harrington Signal, Inc.
 - f. Mircom Technologies, Ltd.
 - g. Notifier; Honeywell International, Inc.
 - h. Potter Electric Signal Company, LLC.
 - i. Siemens Industry, Inc., Building Technologies Division.
 - j. Simplex; brand of Johnson Controls International plc, Building Solutions North America.
 - k. Valcom, Inc. (Keltron Corporation).
 - l. Wheelock, Life Safety and Mass Notification; Eaton, Electrical Sector.
2. Description: Notification appliances capable of outputting voice evacuation messages.
3. Performance Criteria:
 - a. Regulatory Requirements:
 - 1) NFPA 72.
 - 2) UL 1480.
 - b. General Characteristics:

- 1) Speakers for Voice Notification: Locate speakers for voice notification to provide intelligibility requirements of "Notification Appliances" and "Emergency Communications Systems" chapters in NFPA 72.
- 2) High-Range Units: Rated 2 to 15 W.
- 3) Low-Range Units: Rated 1 to 2 W.
- 4) Mounting: Semi-recessed or surface mounted and bidirectional.
- 5) Matching Transformers: Tap range matched to acoustical environment of speaker location.
- 6) Combination Devices: Factory-integrated audible and visible devices in single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.

B. Fire-Alarm Visible Notification Appliances:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Autocall; brand of Johnson Controls International plc, Building Solutions North America.
 - b. Edwards; Carrier Global Corporation.
 - c. Federal Signal Corporation.
 - d. Gentex Corporation.
 - e. Harrington Signal, Inc.
 - f. Mircom Technologies, Ltd.
 - g. Notifier; Honeywell International, Inc.
 - h. Potter Electric Signal Company, LLC.
 - i. Siemens Industry, Inc., Building Technologies Division.
 - j. Simplex; brand of Johnson Controls International plc, Building Solutions North America.
 - k. Valcom, Inc. (Keltron Corporation).
 - l. Wheelock, Life Safety and Mass Notification; Eaton, Electrical Sector.
2. Performance Criteria:
 - a. Regulatory Requirements:
 - 1) NFPA 72.
 - 2) UL 1971.
 - b. General Characteristics:
 - 1) Rated Light Output:
 - a) 15/30/75/110 cd, selectable in field.
 - 2) Clear or nominal white polycarbonate lens mounted on aluminum faceplate.
 - 3) Mounting: Wall mounted unless otherwise indicated.
 - 4) For units with guards to prevent physical damage, light output ratings must be determined with guards in place.
 - 5) Flashing must be in temporal pattern, synchronized with other units.

- 6) Strobe Leads: Factory connected to screw terminals.
- 7) Mounting Faceplate: Factory finished, red.

2.8 FIRE-ALARM ADDRESSABLE INTERFACE DEVICES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Bosch Security Systems, Inc.
 2. Notifier; Honeywell International, Inc.
- B. Performance Criteria:
 1. Regulatory Requirements:
 - a. NFPA 72.
 2. General Characteristics:
 - a. Include address-setting means on module.
 - b. Store internal identifying code for control panel use to identify module type.
 - c. Listed for controlling HVAC fan motor controllers.
 - d. Monitor Module: Microelectronic module providing system address for alarm-initiating devices for wired applications with normally open contacts.
 - e. Control Module:
 - 1) Operate notification devices.
 - 2) Operate solenoids for use in sprinkler service.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.
 1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.
- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Preinstallation Testing: Perform verification of functionality of installed components of existing system prior to starting work. Document equipment or components not functioning as designed.
- B. Protection of In-Place Conditions: Protect devices during construction unless devices are placed in service to protect facility during construction.

3.3 INSTALLATION OF EQUIPMENT

- A. Comply with NECA 305, NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
 - 1. Devices placed in service before other trades have completed cleanup must be replaced.
 - 2. Devices installed, but not yet placed, in service must be protected from construction dust, debris, dirt, moisture, and damage in accordance with manufacturer's written storage instructions.
- B. Install wall-mounted equipment, with tops of cabinets not more than 78 inch above finished floor.
 - 1. Comply with requirements for seismic-restraint devices.
- C. Manual Fire-Alarm Boxes:
 - 1. Install manual fire-alarm box in normal path of egress within 60 inch of exit doorway.
 - 2. Mount manual fire-alarm box on background of contrasting color.
 - 3. Operable part of manual fire-alarm box must be between 42 and 48 inch above floor level. Devices must be mounted at same height unless otherwise indicated.
- D. Smoke- and Heat-Detector Spacing:
 - 1. Comply with "Smoke-Sensing Fire Detectors" section in "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.
 - 2. Comply with "Heat-Sensing Fire Detectors" section in "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.
 - 3. Smooth ceiling spacing must not exceed 30 ft..
 - 4. Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas must be determined in accordance with Annex A in NFPA 72.
 - 5. HVAC: Locate detectors not closer than 36 inch from air-supply diffuser or return-air opening.
 - 6. Lighting Fixtures: Locate detectors not closer than 12 inch from lighting fixture and not directly above pendant mounted or indirect lighting.
- E. Install cover on each smoke detector that is not placed in service during construction. Cover must remain in place except during system testing. Remove cover prior to system turnover.

- F. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend full width of duct. Tubes more than 36 inch long must be supported at both ends.
 - 1. Do not install smoke detector in duct smoke-detector housing during construction. Install detector only during system testing and prior to system turnover.
- G. Remote Status and Alarm Indicators: Install in visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.
- H. Audible Alarm-Indicating Devices: Install not less than 6 inches below ceiling. Install bells and horns on flush-mounted back boxes with device-operating mechanism concealed behind grille. Install devices at same height unless otherwise indicated. Wall-mounted devices shall be mounted no higher than 96 inches AFF or lower than 80 inches AFF.
- I. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inch below ceiling. Install devices at same height unless otherwise indicated. Wall-mounted devices shall be mounted no higher than 96 inches AFF or lower than 80 inches AFF.
- J. Device Location-Indicating Lights: Locate in public space near device they monitor.

3.4 ELECTRICAL CONNECTIONS

- A. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."
- C. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.
- D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.
 - 1. Nameplate must be laminated acrylic or melamine plastic signs, as specified in Section 260553 "Identification for Electrical Systems."

3.5 CONTROL CONNECTIONS

- A. Install control and electrical power wiring to field-mounted control devices.
- B. Install nameplate for each control connection, indicating field control panel designation and I/O control designation feeding connection.

3.6 PATHWAYS

- A. Pathways must be installed in EMT.

- B. Exposed EMT must be painted red enamel.

3.7 CONNECTIONS

- A. For fire-protection systems related to doors in fire-rated walls and partitions and to doors in smoke partitions, comply with requirements in Section 087100 "Door Hardware." Connect hardware and devices to fire-alarm system.
 - 1. Verify that hardware and devices are listed for use with installed fire-alarm system before making connections.
- B. Make addressable connections with supervised interface device to the following devices and systems. Install interface device less than 36 inch from device controlled. Make addressable confirmation connection when such feedback is available at device or system being controlled.
 - 1. Alarm-initiating connection to smoke-control system (smoke management) at firefighters' smoke-control system panel.
 - 2. Alarm-initiating connection to stairwell and elevator-shaft pressurization systems.
 - 3. Smoke dampers in air ducts of designated HVAC duct systems.
 - 4. Electronically locked doors and access gates.
 - 5. Supervisory connections at valve supervisory switches.
 - ~~6. Supervisory connections at low air pressure switch of each dry pipe sprinkler system.~~
 - 7.6. Data communication circuits for connection to building management system.

3.8 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals.
- B. Install framed instructions in location visible from FACUFACP.

3.9 GROUNDING

- A. Ground FACU-FACP and associated circuits in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."
- B. Ground shielded cables at control panel location only. Insulate shield at device location.

3.10 FIELD QUALITY CONTROL

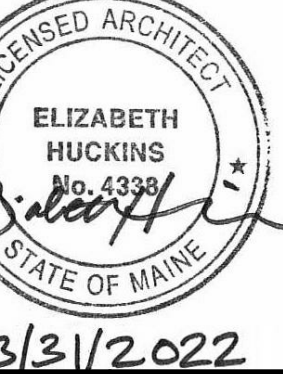
- A. Field tests must be witnessed by Architect.
- B. Administrant for Tests and Inspections:
 - 1. Engage factory-authorized service representative to administer and perform tests and inspections on components, assemblies, and equipment installations, including connections.
- C. Tests and Inspections:

1. Visual Inspection: Conduct visual inspection prior to testing.
 - a. Inspection must be based on completed record Drawings and system documentation that is required by "Completion Documents, Preparation" table in "Documentation" section of "Fundamentals" chapter in NFPA 72.
 - b. Comply with "Visual Inspection Frequencies" table in "Inspection" section of "Inspection, Testing and Maintenance" chapter in NFPA 72; retain "Initial/Reacceptance" column and list only installed components.
 2. System Testing: Comply with "Test Methods" table in "Testing" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.
- D. Reacceptance Testing: Perform reacceptance testing to verify proper operation of added or replaced devices and appliances.
- E. Fire-alarm system will be considered defective if it does not pass tests and inspections.
- F. Prepare test and inspection reports.
- G. Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.
- H. Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.
- 3.11 DEMONSTRATION
- A. Train Owner's maintenance personnel to adjust, operate, and maintain fire-alarm system. Allow Owner to record training.
- 3.12 MAINTENANCE
- A. Maintenance Service: Beginning at Substantial Completion, maintenance service must include 12 months' full maintenance by skilled employees of manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies must be manufacturer's authorized replacement parts and supplies.
1. Include visual inspections in accordance with "Visual Inspection Frequencies" table in "Testing" paragraph of "Inspection, Testing and Maintenance" chapter in NFPA 72.
 2. Perform tests in "Test Methods" table in "Testing" paragraph of "Inspection, Testing and Maintenance" chapter in NFPA 72.
 3. Perform tests per "Testing Frequencies" table in "Testing" paragraph of "Inspection, Testing and Maintenance" chapter in NFPA 72.

3.13 SOFTWARE SERVICE AGREEMENT

- A. Comply with UL 864.
- B. Technical Support: Beginning at Substantial Completion, service agreement must include software support for two years.
- C. Upgrade Service: At Substantial Completion, update software to latest version. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software must include operating system and new or revised licenses for using software.
 - 1. Upgrade Notice: At least 30 days to allow Owner to schedule access to system and to upgrade computer equipment if necessary.

END OF SECTION 284621.11



3/31/2022

ISSUE FOR BID
 MARCH 31, 2022
 RAY BUILDING RENOVATION
 28 TYSON DRIVE, AUGUSTA, MAINE

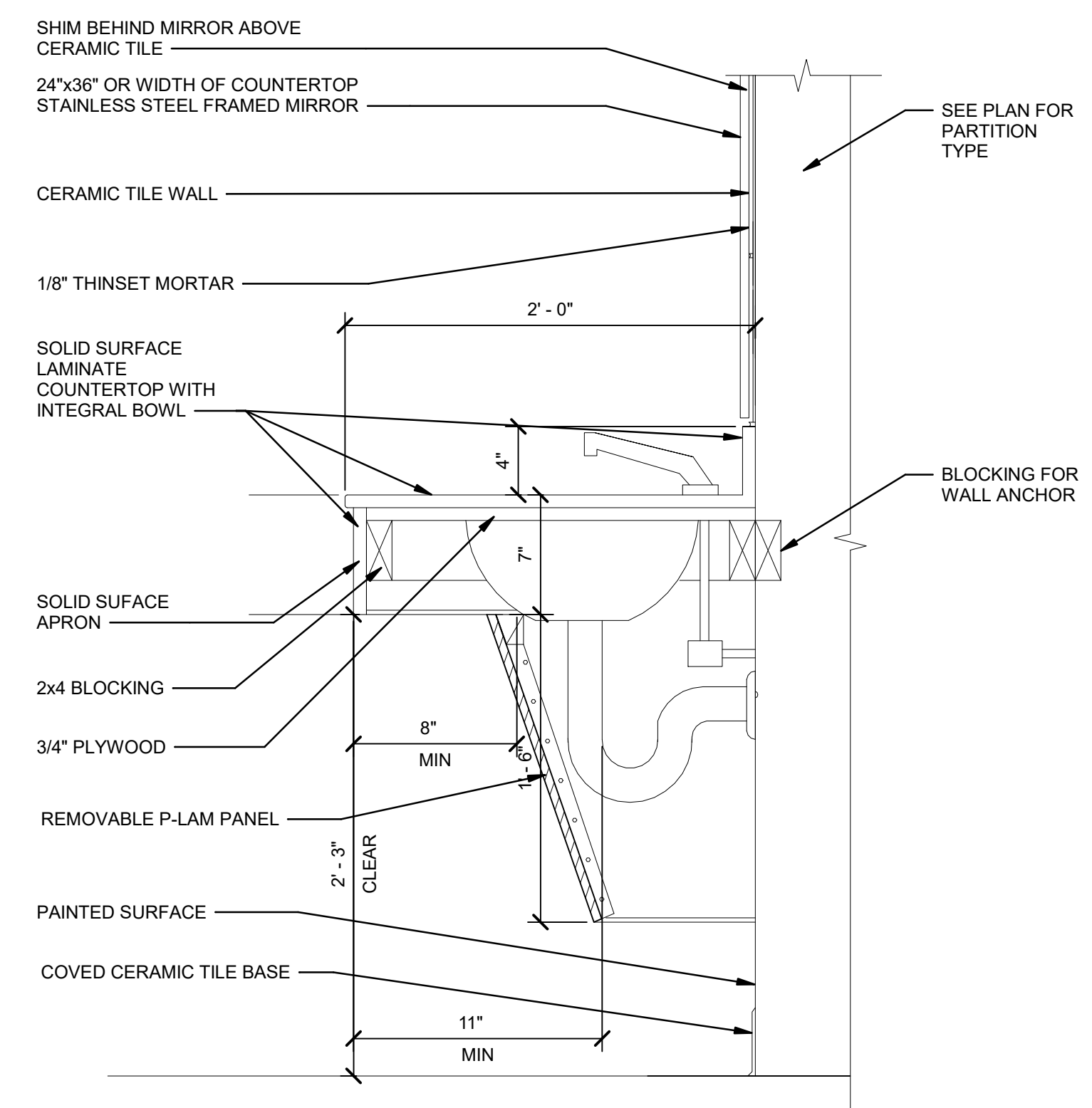
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0	03-31-2022	ISSUE FOR BID

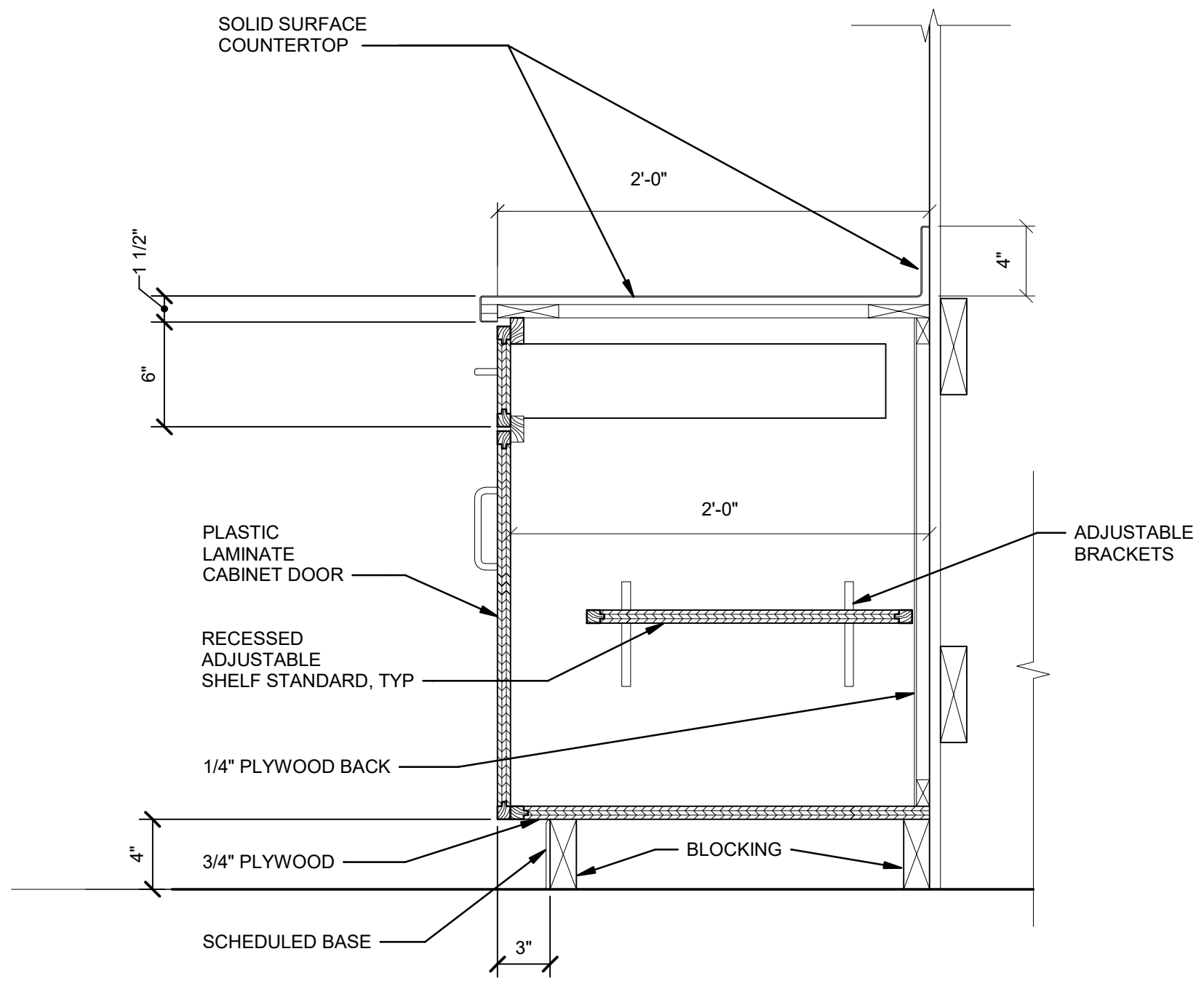
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 PROJECT MANAGER: KFM
 A/E OF RECORD: EAH
 DESIGNED BY: JRB
 DRAWN BY: SMB

SHEET TITLE:
 CASEWORK DETAILS

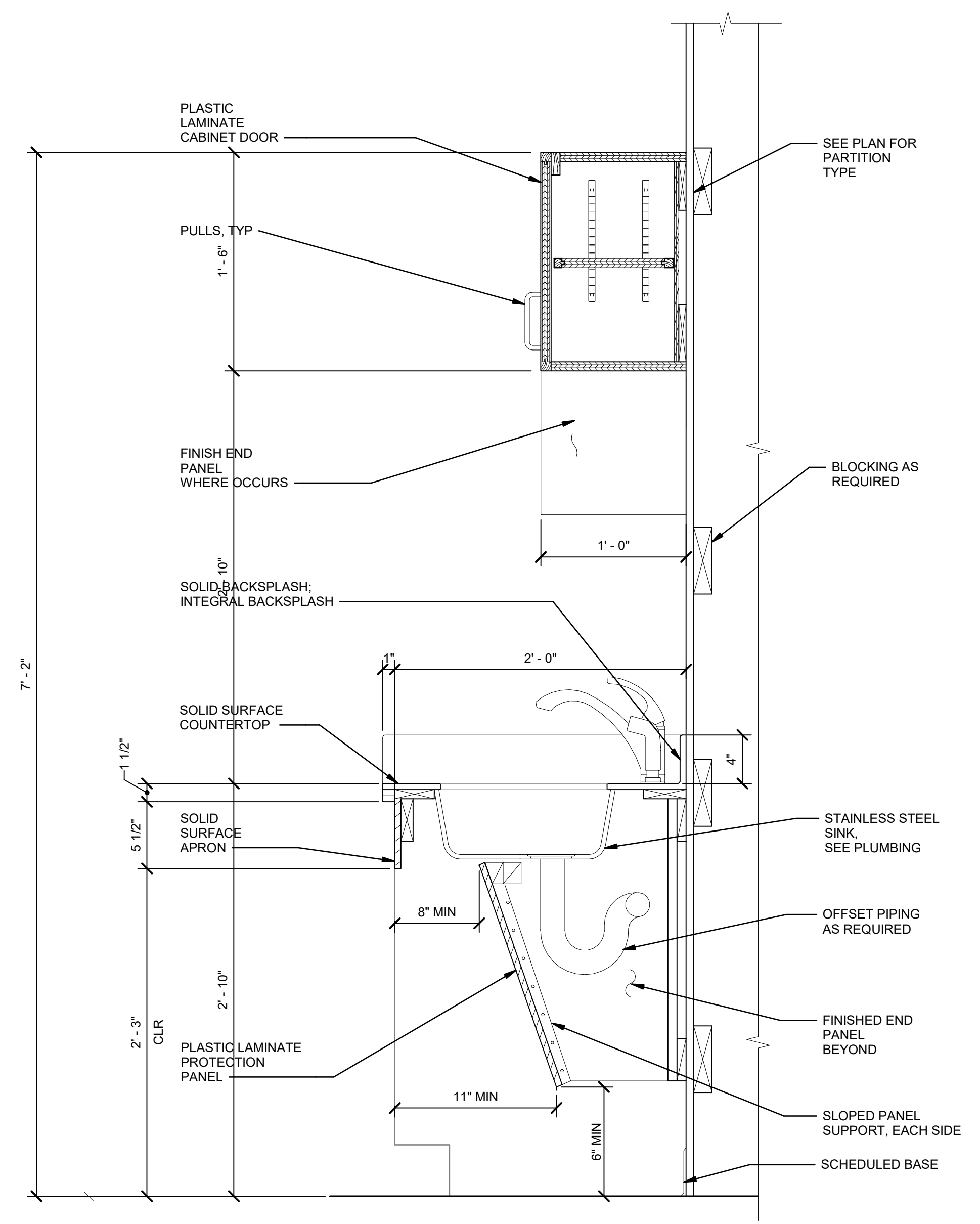
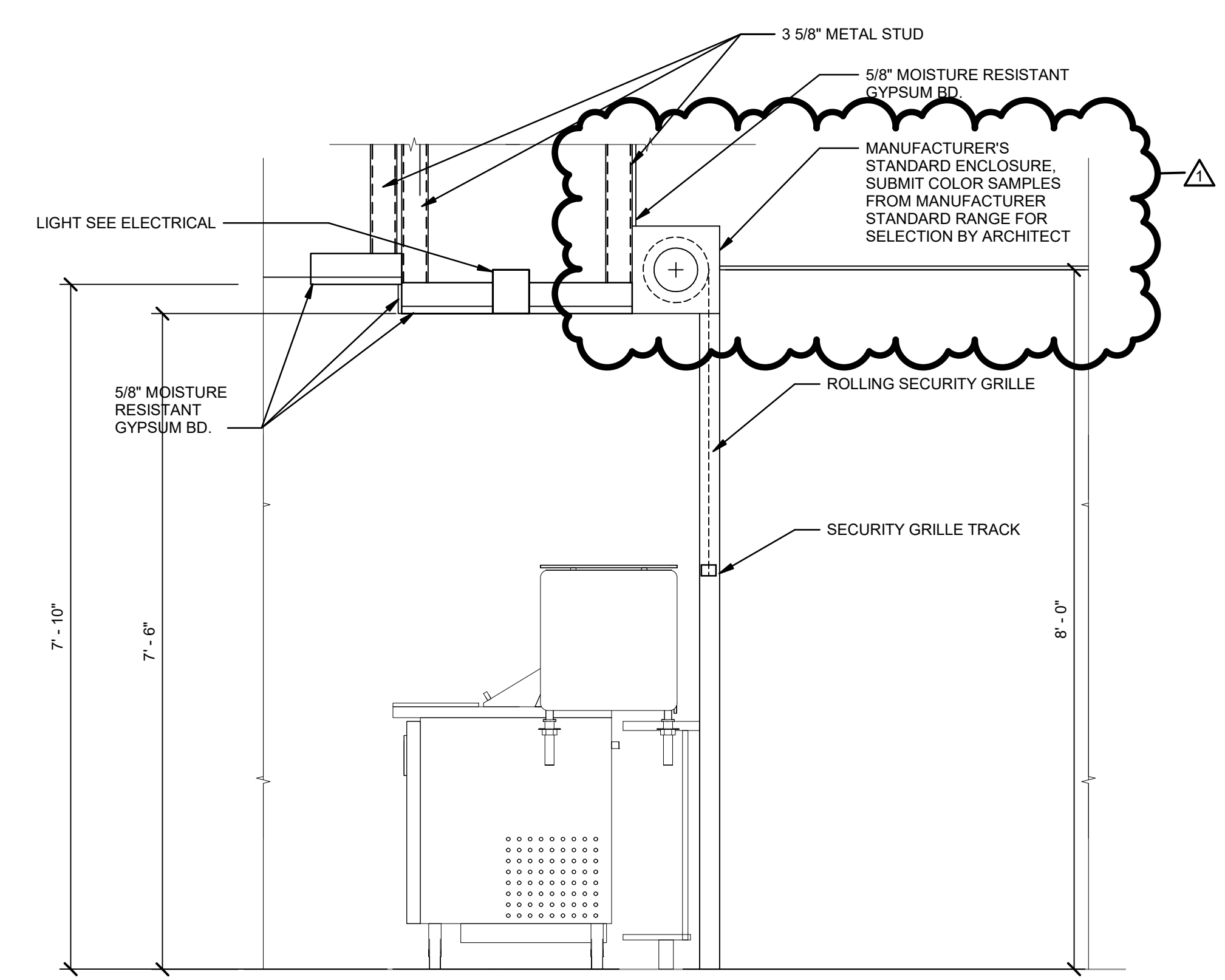
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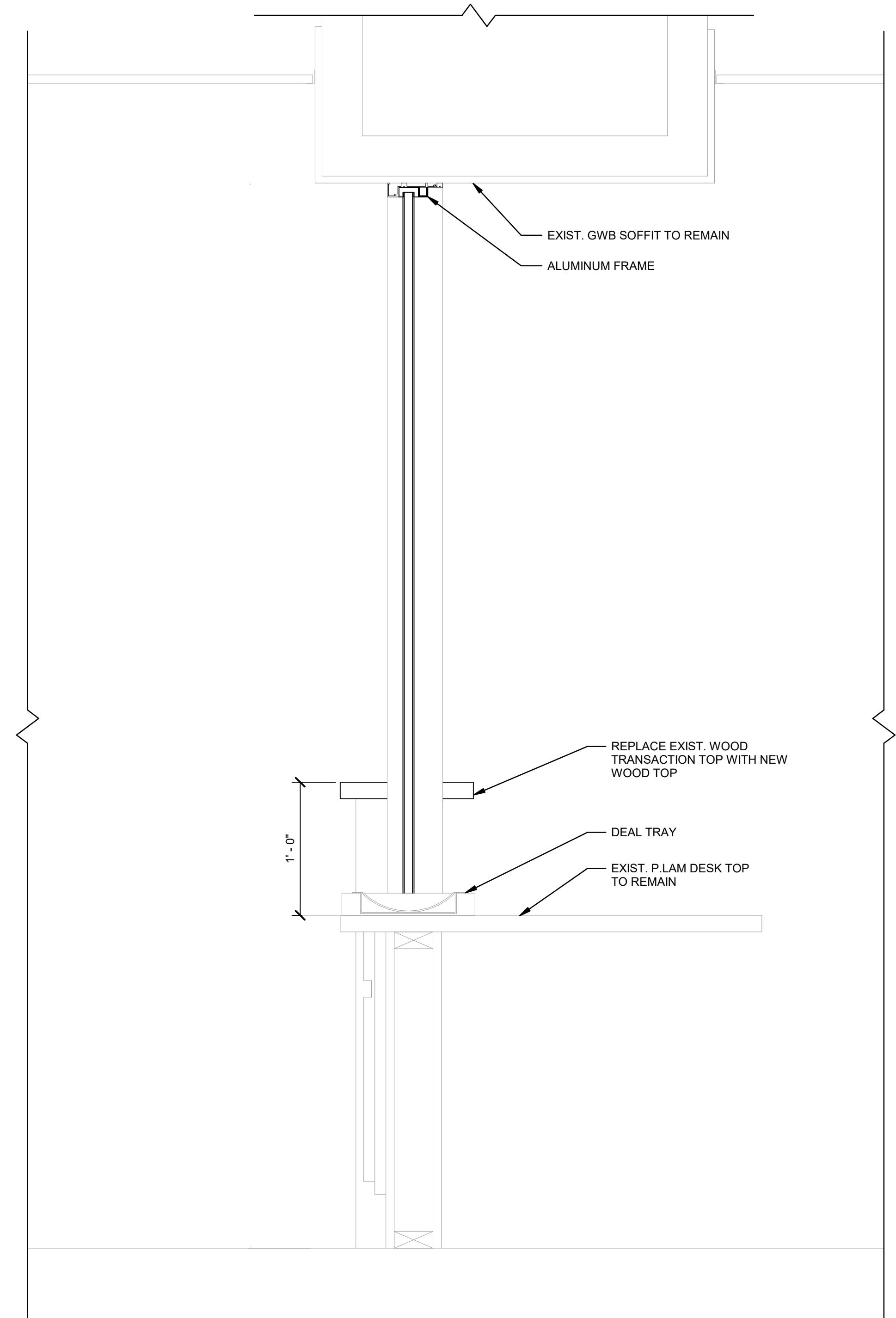
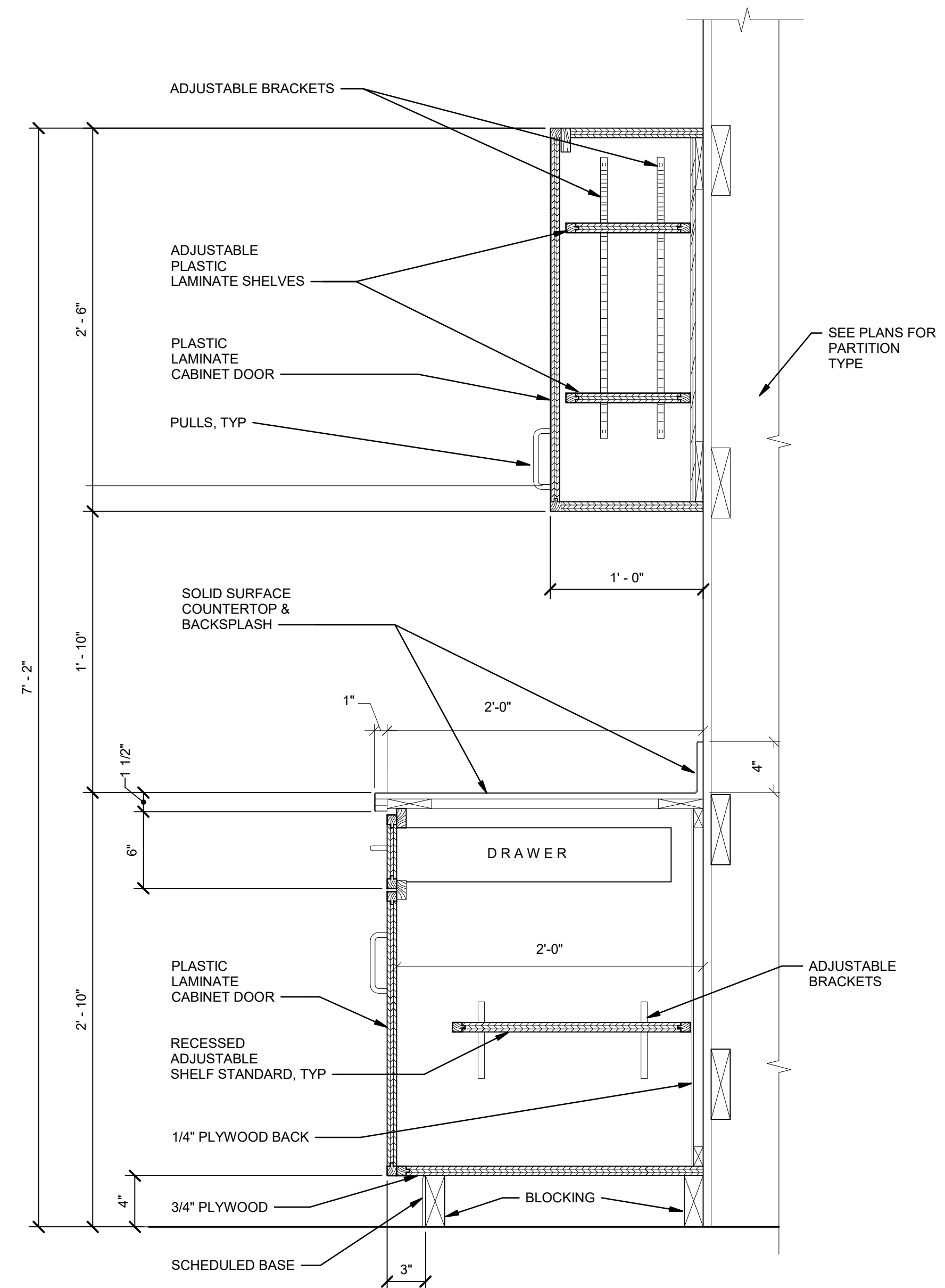
D1 CABINET - LAVATORY VANITY
 1 1/2" = 1'-0"



D4 KITCHEN - ROOM 010
 3/4" = 1'-0"



A1 CABINETS
 1 1/2" = 1'-0"



A4 RECEPTION DESK
 1 1/2" = 1'-0"

FIRE ALARM SYMBOLS

	FIRE ALARM MANUAL PULL STATION
	FIRE ALARM SPEAKER/STROBE UNIT
	FIRE ALARM AUDIBLE/VISIBLE NOTIFICATION APPLIANCE (GENERAL EVACUATION)
	CANDELA INTENSITY - 15/75 UNLESS OTHERWISE NOTED
	FIRE ALARM VISIBLE ONLY NOTIFICATION APPLIANCE WALL MOUNTED
	CANDELA INTENSITY - 15/75 UNLESS OTHERWISE NOTED
	FIRE ALARM BELL
	FIRE ALARM MASTER BOX
	HEAT DETECTOR
	F - FIXED TEMPERATURE R - RATE OF RISE R/C - RATE OF COMPENSATION R/T - DETECTOR/HEAT COMBINATION
	SMOKE DETECTOR, CEILING MOUNTED
	A - AUXILIARY CONTACT H - HEAT/SMOKE P - PHOTOELECTRIC PH - PHOTOELECTRIC/HEAT SMOKE I - IONIZATION
	SMOKE DETECTOR, WALL MOUNTED
	DUCT SMOKE DETECTOR
	A - AUXILIARY CONTACT
	INTERLOCK RELAY
	FIRE ALARM SYSTEM MAGNETIC DOOR HOLDER
	FIRE ALARM ANNUNCIATOR
	FIRE ALARM CONTROL PANEL
	SPRINKLER SYSTEM FLOW SWITCH
	KNOX BOX TAMPER SWITCH
	DUCT SMOKE DETECTOR REMOTE TEST INDICATOR
	SPRINKLER SYSTEM TAMPER SWITCH
	FLOW SWITCH

PIPING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
UP/DOWN	UP/DN	PIERCES FLOOR
RISE/DROP		RISE/DROP WITHIN STORY HEIGHT
		PENDENT SPRINKLER
		DRY PENDENT SPRINKLER
		UPRIGHT SPRINKLER
		SPRINKLER HEAD WITH GUARD
		SIDEWALL SPRINKLER
		STANDARD DRY SIDEWALL SPRINKLER
		BUTTERFLY VALVE
		WALL POST INDICATOR VALVE
		POST INDICATOR VALVE
	O.S.&Y.	OUTSIDE SCREW AND YOKE VALVE
	N.C. O.S.&Y.	OUTSIDE SCREW AND YOKE NORMALLY CLOSED VALVE
	TS	VALVE WITH TAMPER SWITCH
		CHECK VALVE
		DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLY
		RPZ BACKFLOW PREVENTION ASSEMBLY
		RPZ DETECTOR ASSEMBLY
		WATER METER
		LOW POINT DRAIN
		ALARM CHECK VALVE
		WET PIPE SPRINKLER RISER - AUTO ACTUATED
		DRY PIPE SPRINKLER RISER - AUTO ACTUATED
		BACKFLOW PREVENTER FLOW TEST CONNECTION (SYMBOLIC ONLY - REFER TO SHEET FP-501 FOR REQUIRED NUMBER OF HOSE CONNECTIONS)
		SIAMESE FIRE DEPARTMENT CONNECTION
		STORZ FIRE DEPARTMENT CONNECTION
		NON SPRINKLERED SPACE
		ELBOW TURN DOWN
		PIPE TURN UP/PIPE RISE
		TEE TURN UP
		TEE TURN DOWN
		FLUSHING CONNECTION
		PIPE SLOPE DIRECTION
		LINE BREAK

GENERAL SYMBOLS

	DETAIL NUMBER
	DRAWING WHERE DETAIL IS DRAWN
	SYMBOL PER ABBREVIATION LIST
	NOTES
	KEYED NOTE
	GPM
	LIMIT OF DEMOLITION
	CONNECT TO EXISTING

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BFG	BELOW FINISHED GRADE
BLDG	BUILDING
CLG	CEILING
(D)	DEMOLISHED (TO BE REMOVED)
DN	DOWN
DPW	DEPARTMENT OF PUBLIC WORKS
(E)	EXISTING TO REMAIN
EL	ELEVATION
EQP	EQUIPMENT
EXIST	EXISTING
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FAMNS	FIRE ALARM MASS NOTIFICATION SYSTEM
FBO	FURNISHED BY OTHERS
FDC	FIRE DEPARTMENT CONNECTION FLOOR
FLR	FLOOR
FM	FACTORY MUTUAL GLOBAL
FMCOP	FIRE ALARM MASS NOTIFICATION CONTROL PANEL
FS	SPRINKLER SYSTEM FLOW SWITCH
FWE	FURNISHED WITH EQUIPMENT
GPM	GALLONS PER MINUTE
HYDT	HYDRANT
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
O.S.&Y	OUTSIDE SCREW AND YOKE VALVE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
SQ. FT.	SQUARE FEET
TS	SPRINKLER SYSTEM TAMPER SWITCH
UL	UNDERWRITERS LABORATORIES
UP/DN	PIERCES FLOOR

GENERAL DEMOLITION NOTES

FIRE ALARM

- ALL FIRE ALARM DEVICES WILL BE REMOVED UNLESS OTHERWISE NOTED. DEVICE QUANTITY INCLUDE BUT ARE NOT LIMITED TO:

ABANDONED FACP LOCATED IN MAIN ELECTRICAL ROOM	- 1
DETECTORS	- 25
PULL STATIONS	- 20
STROBES	- 75

GENERAL NOTES

FIRE PROTECTION

- ALL GENERAL NOTES, SYMBOL LIST AND DETAILS SHALL BE CONSIDERED AS APPLICABLE TO ALL FIRE PROTECTION DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DOES NOT INDICATE THEIR INCORPORATION IN THE DESIGN.
- INSTALLATION OF SPRINKLER SYSTEMS SHALL COMPLY WITH PROJECT SPECIFICATIONS, NFPA 13 (2016 ED) AS ADOPTED BY THE MAINE STATE RULES OF THE STATE FIRE MARSHAL CHAPTER 4 AND ALL APPLICABLE CODES AND STANDARDS.
- WATER SUPPLY: REFER TO SPECIFICATION SECTION 21 13 13.
- INSTALLING CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES.
- DESIGN AND INSTALLATION SUBJECT TO FINAL INSPECTION AND APPROVAL BY OWNER'S REPRESENTATIVE.
- SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL PIPING LAYOUT AND CALCULATIONS FOR THE FIRE SPRINKLER SYSTEMS.
- CUTTING OF STRUCTURAL AND/OR ARCHITECTURAL MEMBERS SHALL BE DONE ONLY WITH THE WRITTEN APPROVAL OF THE ARCHITECT OR STRUCTURAL ENGINEER.
- FIRESTOP ALL PENETRATIONS OF SMOKE/FIRE WALLS, RATED WALLS, CEILING OR FLOORS, ETC.
- SPRINKLER LOCATIONS SHALL BE COORDINATED WITH ALL HVAC DIFFUSERS, LIGHTING FIXTURES, AND CEILING SYSTEMS.
- PROVIDE SPARE SPRINKLERS IN ACCORDANCE WITH NFPA 13.
- METHOD OF HANGING AND SUPPORTING EQUIPMENT, PIPES, HEADERS, AND BRANCH LINES SHALL BE IN ACCORDANCE WITH NFPA 13. HANGERS SHALL BE OF A TYPE APPROVED FOR USE WITH THE PIPE INVOLVED.
- SPRINKLER PIPING DOES NOT REQUIRE BRACING FOR SEISMIC PROTECTION.
- AUTOMATIC SPRINKLER ORIFICE SIZE SHALL BE AS SHOWN ON THE DRAWINGS.
- AUTOMATIC SPRINKLER TEMPERATURE RATINGS OF FUSIBLE ELEMENTS SHALL BE IN ACCORDANCE WITH NFPA 13 AND AS SHOWN ON THE DRAWINGS.
- ALL VALVES AND EQUIPMENT FOR FIRE SERVICE SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES, INC. AND/OR FACTORY MUTUAL. VALVES SHALL BE MARKED "UL" AND/OR "FM", WITH A MINIMUM 175 PSI WORKING PRESSURE.
- ALL VALVES ON THE FIRE PROTECTION SYSTEM SHALL BE ELECTRICALLY SUPERVISED BY THE FIRE ALARM SYSTEM AND SHALL BE THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR.
- PROVIDE A PERMANENTLY ATTACHED HYDRAULIC NAME PLATE STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY DESIGNED SYSTEM IN ACCORDANCE WITH NFPA 13.
- ONLY NEW MATERIALS SHALL BE USED IN THE INSTALLATION OF THESE SYSTEMS.
- ALL FIRE SPRINKLERS MOUNTED IN CEILING SHALL BE LOCATED A MINIMUM OF 4 INCHES AWAY FROM WALLS, CEILING HEIGHT CHANGES, OR OTHER VERTICAL INTERSECTING SURFACES.
- ALL BRACING SHALL BE ATTACHED TO THE BUILDINGS STRUCTURAL FRAME IN ACCORDANCE WITH NFPA 13.
- INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- INSTALL PRESSURE GAUGES ON THE SPRINKLER RISERS ABOVE AND BELOW THE ALARM / CHECK VALVES. PROVIDE GAUGE WITH CONNECTION NOT LESS THAN 1/2 INCH AND HAVING A SOFT METAL SEATED GLOBE VALVE.
- ROD STIFFENER REQUIRED FOR ALL -THREAD ROD HANGERS OVER 6'-0" IN LENGTH.
- INSTALL UNIONS IN PIPES 2" AND SMALLER, ADJACENT TO EACH VALVE. UNIONS ARE NOT REQUIRED ON FLANGED DEVICES OR IN PIPING INSTALLATIONS USING GROOVED MECHANICAL COUPLINGS.
- PROVIDE SPRINKLER GUARDS WHERE REQUIRED PER SPECIFICATION SECTION 21 13 13 AND WHERE SHOWN ON THE DRAWINGS.

FIRE ALARM

- ALL GENERAL NOTES, SYMBOL LIST AND DETAILS SHALL BE CONSIDERED AS APPLICABLE TO ALL FIRE ALARM DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DOES NOT INDICATE THEIR INCORPORATION IN THE DESIGN.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA-70, NATIONAL ELECTRICAL CODE (NEC) (LATEST EDITION) AND NFPA-72, NATIONAL FIRE ALARM AND SIGNALING CODE.
- ALL MOTOR SAFETY SWITCHES, DISCONNECT SWITCHES AND MOTOR STARTERS SHALL BE PROVIDED BY DIVISION 26 UNLESS NOTED AS FURNISHED WITH EQUIPMENT.
- UNLESS OTHERWISE NOTED, ALL FIRE ALARM NOTIFICATION DEVICES SHALL BE INSTALLED 80-INCHES AFF OR 6-INCHES BELOW CEILING, WHICHEVER IS LOWER, AND FIRE ALARM MANUAL PULL STATIONS 48-INCHES TO TOP OF DEVICE.
- ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF SEPARATION.
- ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.
- UNLESS OTHERWISE NOTED, WIRING SHALL BE #12 AWG CONDUCTORS AND #12 GND. HOME RUNS FED FROM 20A-1P CIRCUITS IN EXCESS OF 100 FEET SHALL BE #10 AWG.
- UNLESS OTHERWISE NOTED, FLEXIBLE CONNECTIONS TO MOTORS SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT.
- ALL WIRING SHALL BE 600V, COPPER WITH THHN/THWN INSULATION. SERVICE ENTRANCE CONDUCTORS SHALL HAVE XHHW INSULATION.



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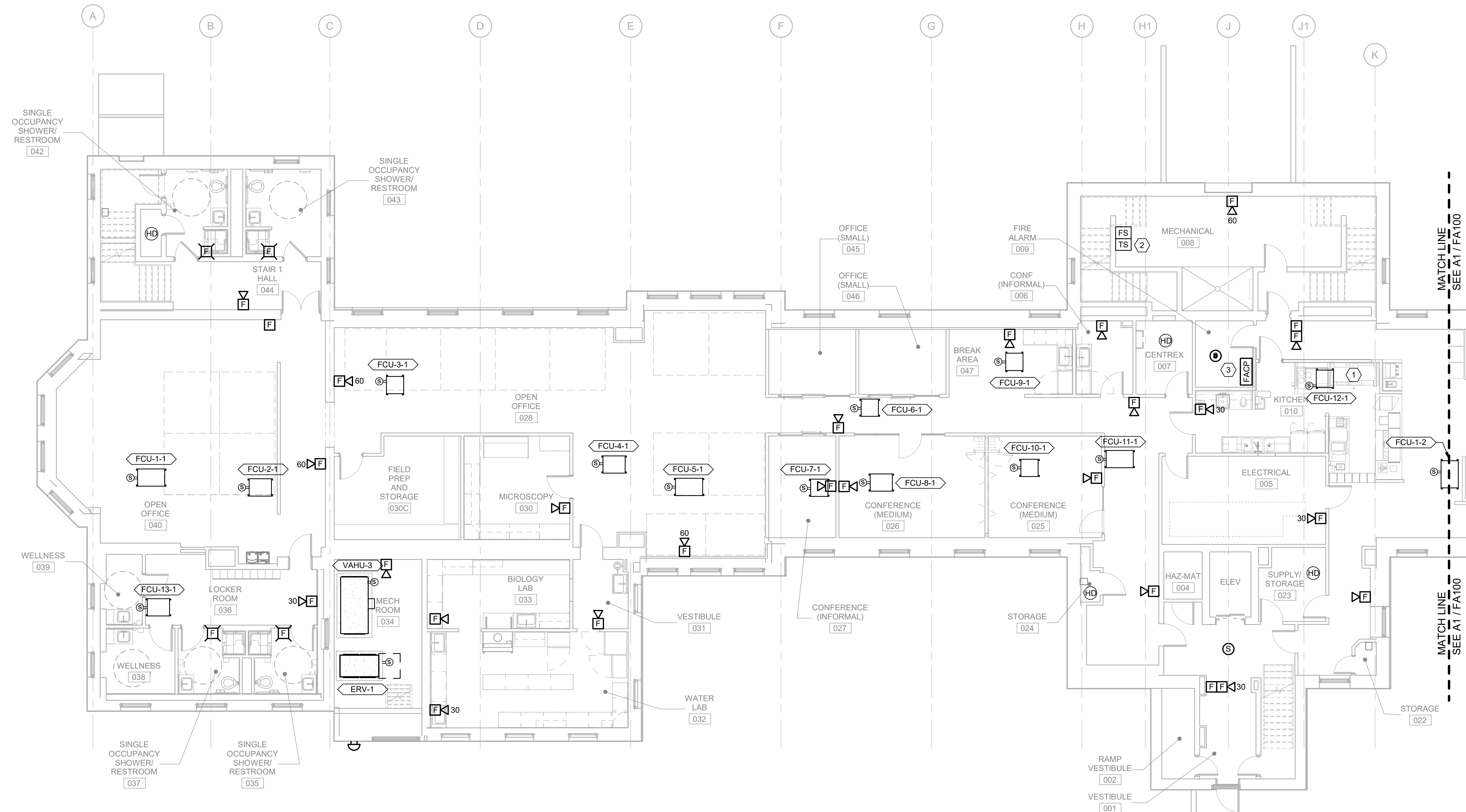
ISSUE FOR BID
MARCH 31, 2022
RAY BUILDING RENOVATION
28 TYSON DRIVE, AUGUSTA, MAINE

PROJECT NO.	3616206102
PROJECT MANAGER	KFM
DATE OF RECORD	MG
DESIGNED BY	RDJ
DRAWN BY	STR
SHEET TITLE:	LEGEND, ABBREVIATIONS & GENERAL NOTES
SHEET ID:	F-001

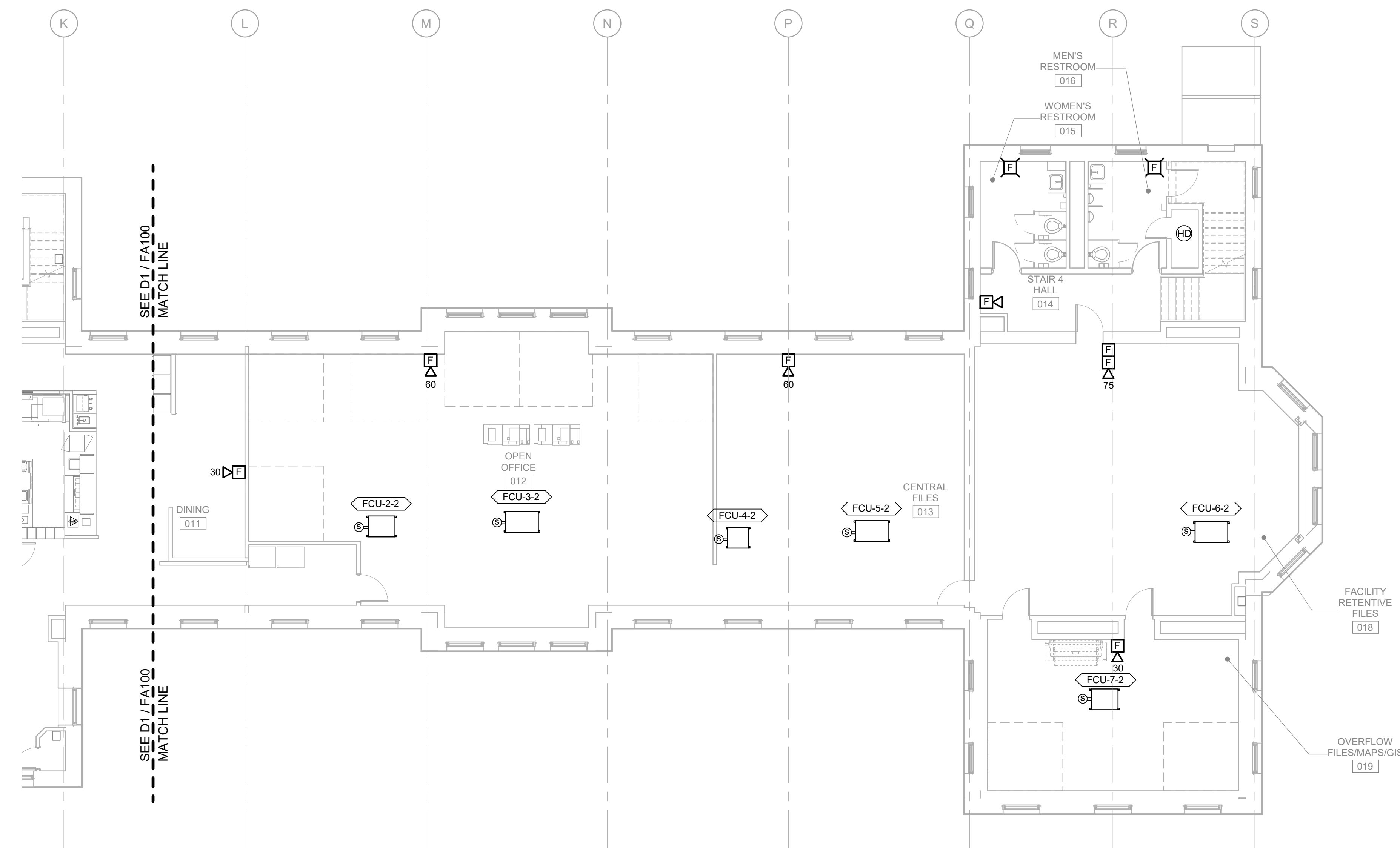
REV	REVISION	DATE
1	ADDENDUM NO. 1	04-13-2022
0	ISSUE FOR BID	03-31-2022

FIRE ALARM SEQUENCE OF OPERATION MATRIX

	ANNUNCIATE ON LOCAL PANELS			BUILDING CONTROLS			TRANSMIT SIGNAL TO CENTRAL STATION ALARM SERVICE			ACTIVATE NOTIFICATION ON APPLIANCES
	ALARM SIGNAL AT FIRE ALARM CONTROL PANEL AND ANNUNCIATOR PANELS	SUPERVISOR Y SIGNAL AT FIRE ALARM CONTROL PANEL AND ANNUNCIATOR PANELS	TROUBLE SIGNAL AT FIRE ALARM CONTROL PANEL AND ANNUNCIATOR PANELS	ELEVATOR RECALL	SHUTDOWN CORRESPONDING HVAC EQUIPMENT	RELEASE DOORS	ALARM	SUPERVISOR Y	TROUBLE	
SYSTEM INPUTS	X						X	X		X
SPOT-TYPE SMOKE DETECTOR	X						X	X		X
ELEVATOR LOBBY...	X			X			X	X		X
ELEVATOR MACHINE ROOM HEAT DETECTOR	X			X			X	X		X
MANUAL PULL STATION	X						X	X		X
HEAT DETECTOR	X						X	X		X
WATER FLOW SWITCH	X						X	X		X
DUCT SMOKE DETECTORS	X				X		X	X		X
TAMPER SWITCH		X						X		
LOW BATTERY ALARM			X						X	
CIRCUIT FAULT			X						X	
AC POWER FAILURE			X						X	



D1 GROUND LEVEL FIRE ALARM PLAN - NORTH
 1/8" = 1'-0" PLAN NORTH



A1 GROUND LEVEL FIRE ALARM PLAN - SOUTH
 1/8" = 1'-0" PLAN NORTH

NOTE

- SEE SHEET F-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- FOLLOW MECHANICAL IBC CODE FOR PLACEMENT OF DUCT SMOKE DETECTORS.

KEYED NOTES

- PROVIDE FIRE ALARM CONNECTION FOR KITCHEN HOOD ANSUL SYSTEM.
- IN ADDITION TO SPRINKLER RISER CONTROL VALVE TAMPER SWITCH, PROVIDE TAMPER SWITCHES ON THE TUNNEL BACKFLOW PREVENTER'S TWO OS&Y VALVES (SEE SHEET FP401) AND ON THE PIV (SEE SHEET C-201).
- FACP EXISTING TO REMAIN. PROVIDE ADDITIONAL RELAYS/COMPONENTS AS REQUIRED TO SUPPORT NEW SYSTEM DEVICES.

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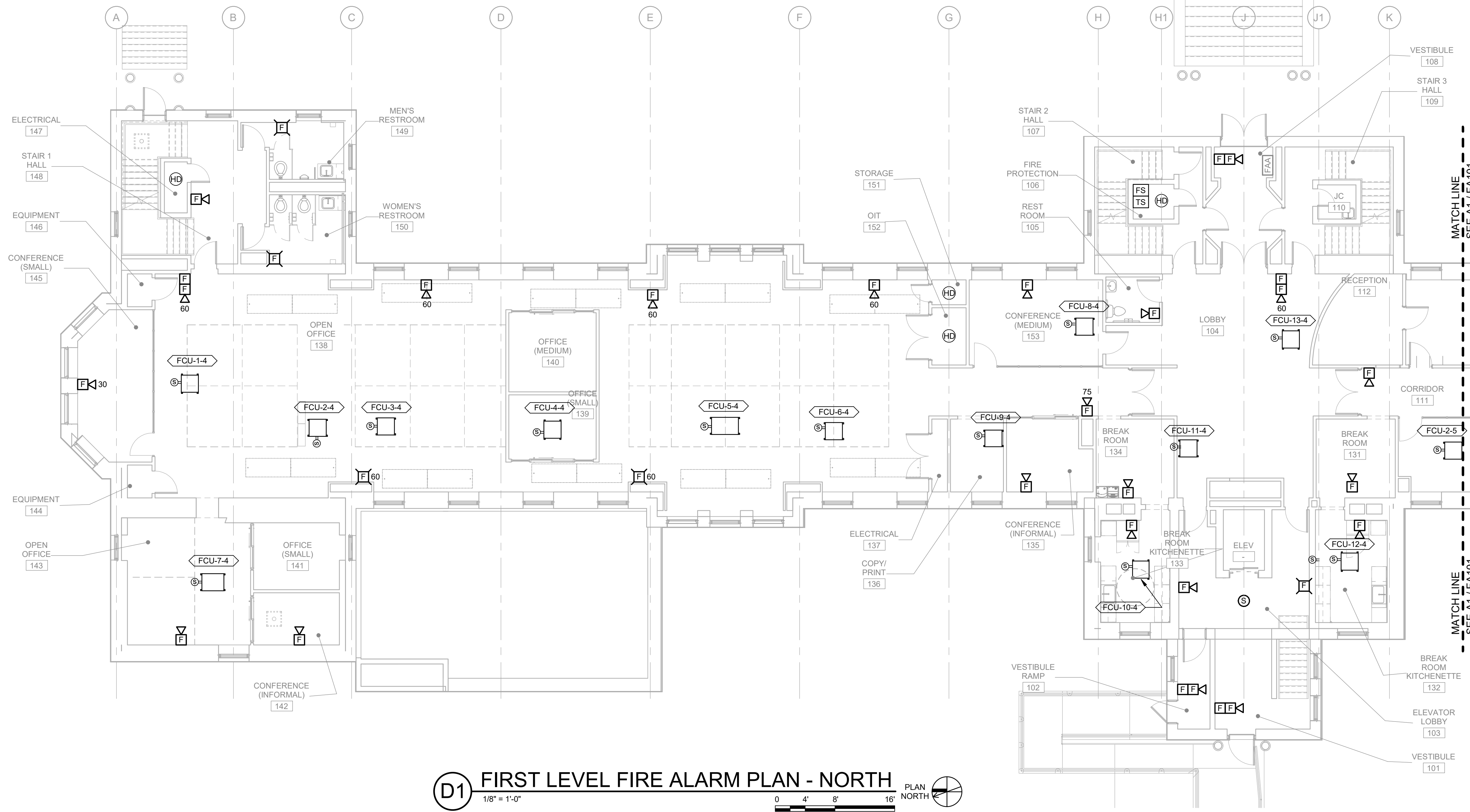
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 28 TYSON DRIVE, AUGUSTA, MAINE

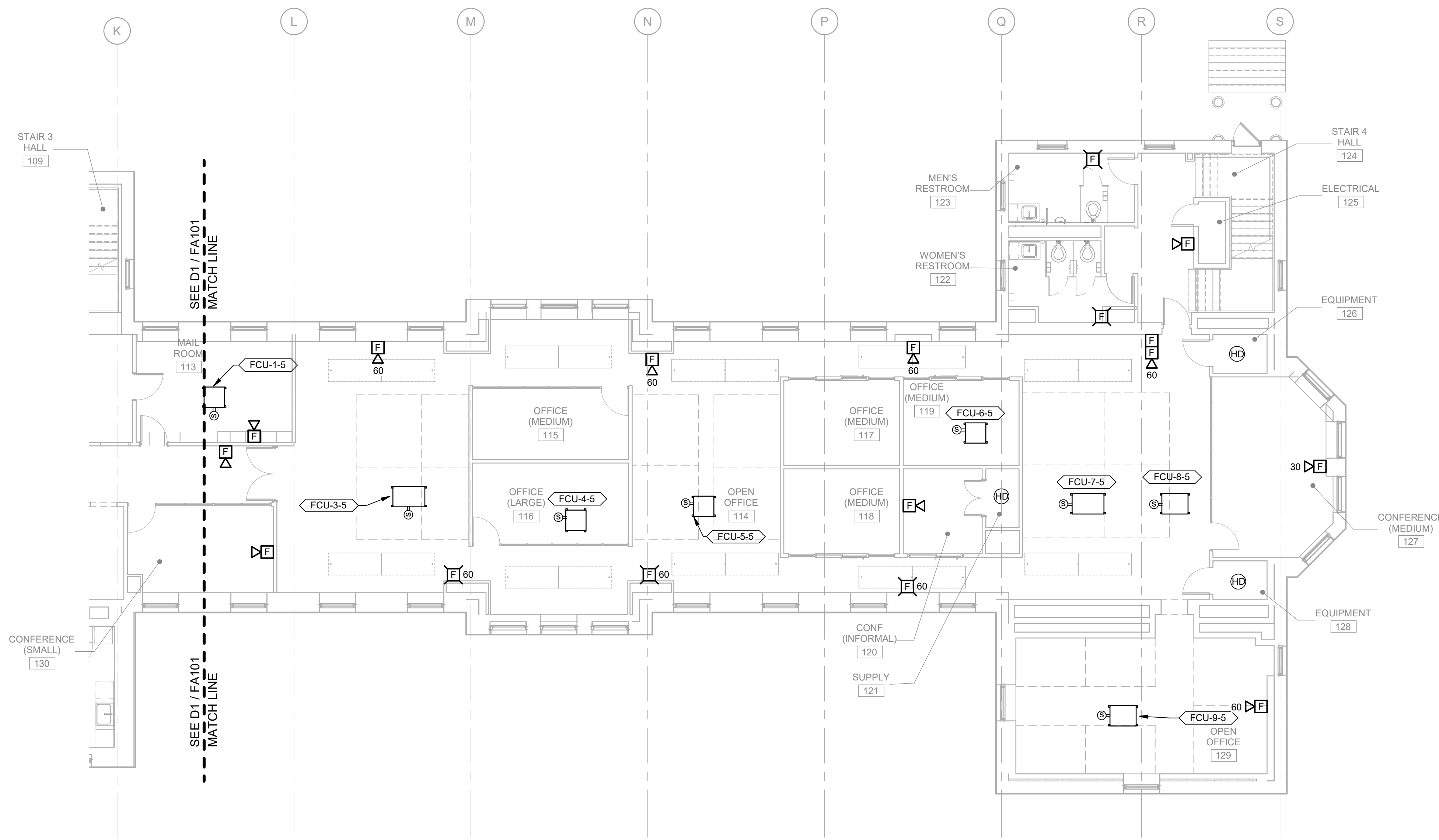
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0	ISSUE FOR BID	03-31-2022	

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 A/E OF RECORD: MG
 DESIGNED BY: TS
 DRAWN BY: NR
 SHEET TITLE:
 GROUND LEVEL FIRE ALARM PLAN

SHEET ID:
FA100



D1 FIRST LEVEL FIRE ALARM PLAN - NORTH
 1/8" = 1'-0" PLAN NORTH



A1 FIRST LEVEL FIRE ALARM PLAN - SOUTH
 1/8" = 1'-0" PLAN NORTH

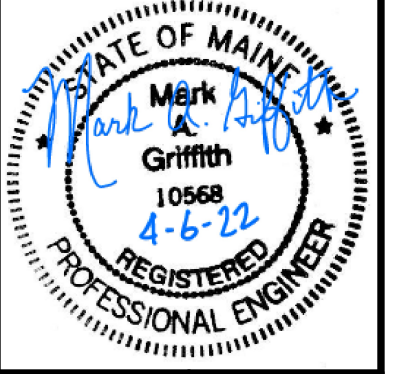
NOTE

- SEE SHEET F-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- FOLLOW MECHANICAL IBC CODE FOR PLACEMENT OF DUCT SMOKE DETECTORS.

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ISSUE FOR BID
MARCH 31, 2022
RAY BUILDING RENOVATION
 28 TYSON DRIVE, AUGUSTA, MAINE

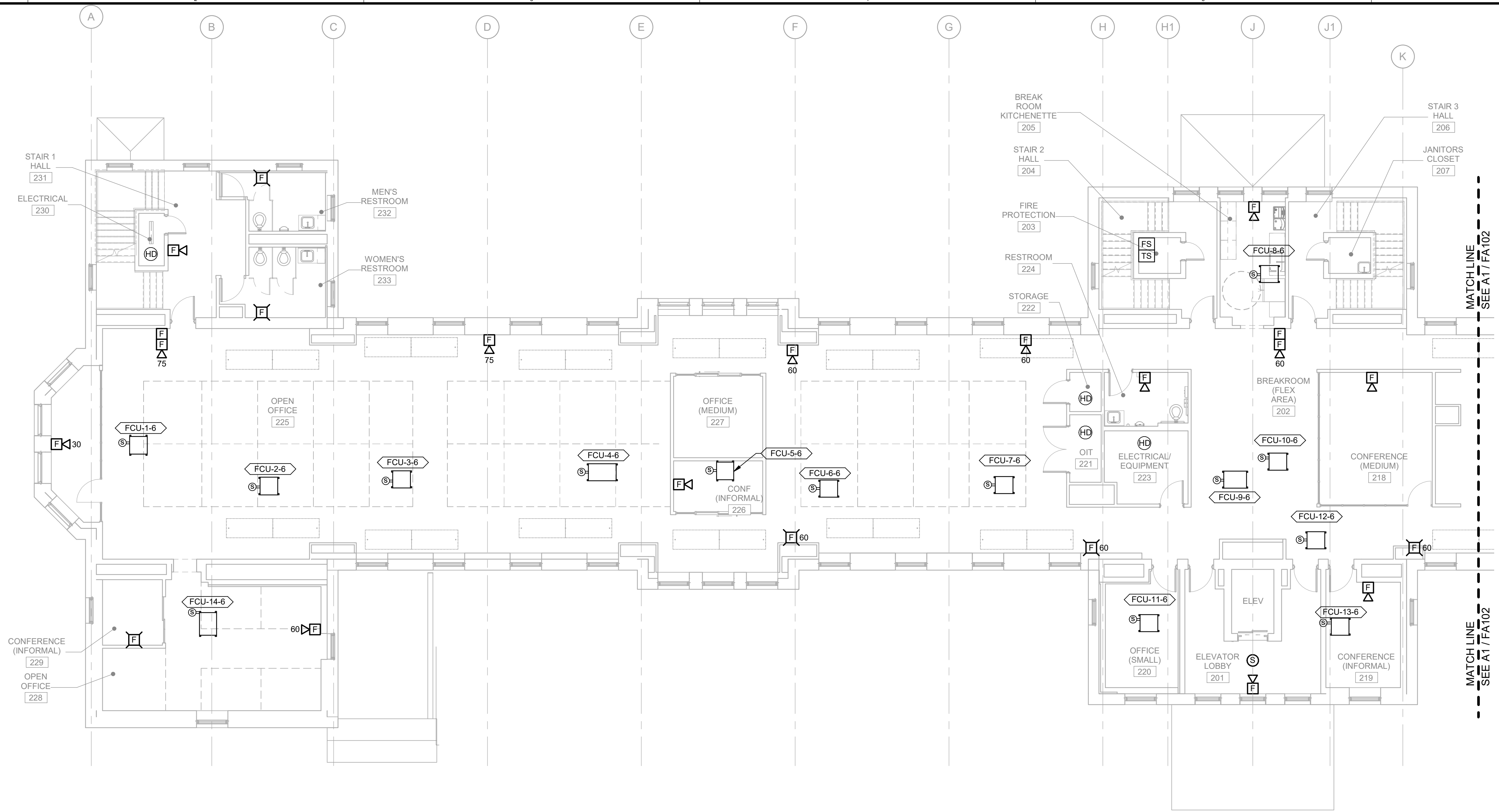
REV	ADDENDUM NO. 1	DATE	REVISION ISSUE DESCRIPTION
1	ADDENDUM NO. 1	04-13-2022	
0	ISSUE FOR BID	03-31-2022	

PROJECT NO: 3616206102
 PROJECT MANAGER: KFM
 A/E OF RECORD: MG
 DESIGNED BY: TS
 DRAWN BY: NR

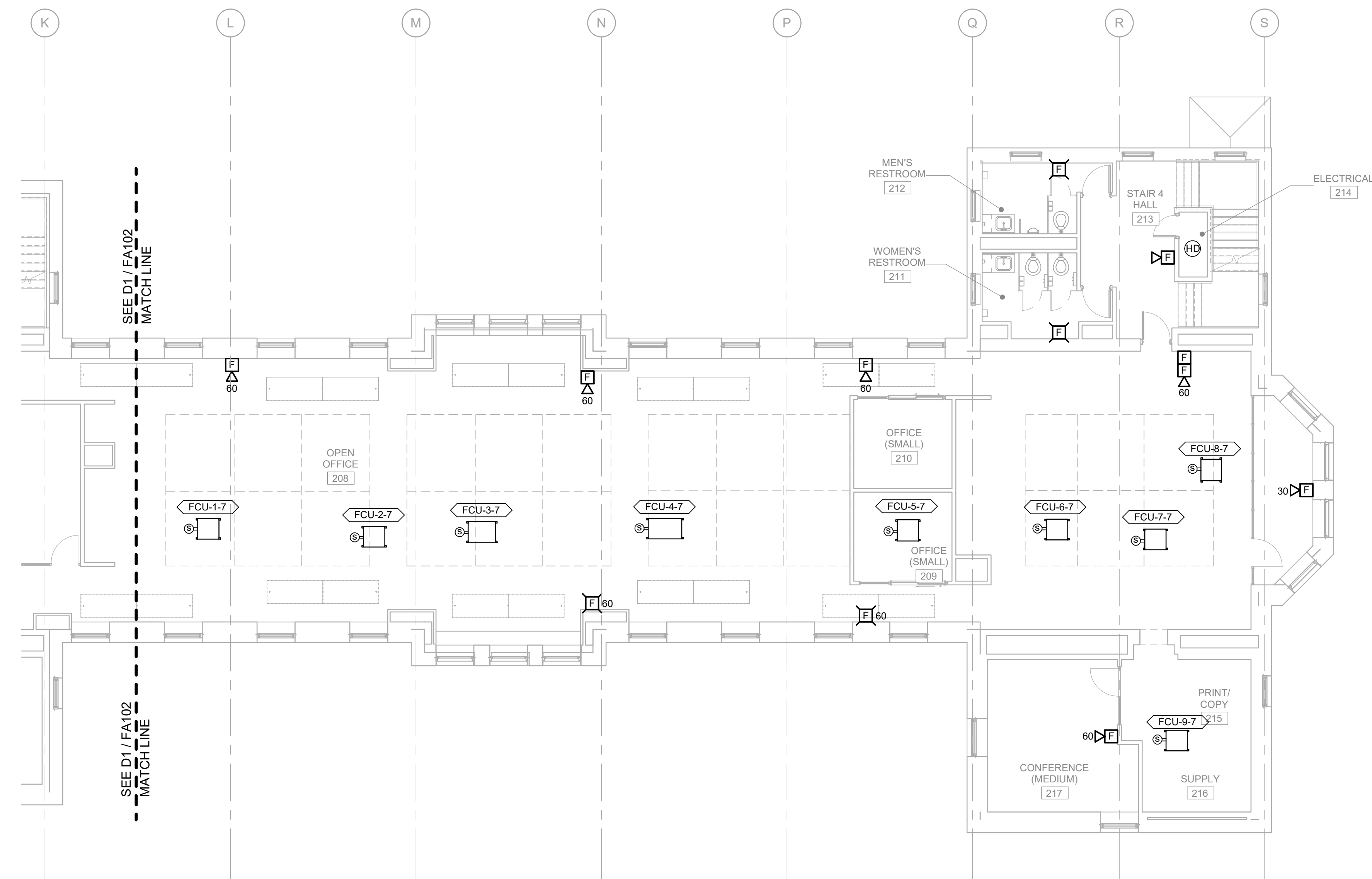
SHEET TITLE:
FIRST LEVEL FIRE ALARM PLAN

SHEET ID:
FA101

RAY BUILDING RENOVATION - RAY BUILDING RENOVATION (18) 0101 - 0101 - 0101



D1 SECOND LEVEL FIRE ALARM PLAN - NORTH
 1/8" = 1'-0" PLAN NORTH



A1 SECOND LEVEL FIRE ALARM PLAN - SOUTH
 1/8" = 1'-0" PLAN NORTH

NOTE
 1. SEE SHEET F-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 2. FOLLOW MECHANICAL IBC CODE FOR PLACEMENT OF DUCT SMOKE DETECTORS.

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Professional Engineer Seal for Mark K. Griffith, No. 10568, dated 4-6-22.

Professional Engineer Seal for Mark K. Griffith, No. 10568, dated 4-6-22.

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MARCH 31, 2022
RAY BUILDING RENOVATION
 28 TYSON DRIVE, AUGUSTA, MAINE

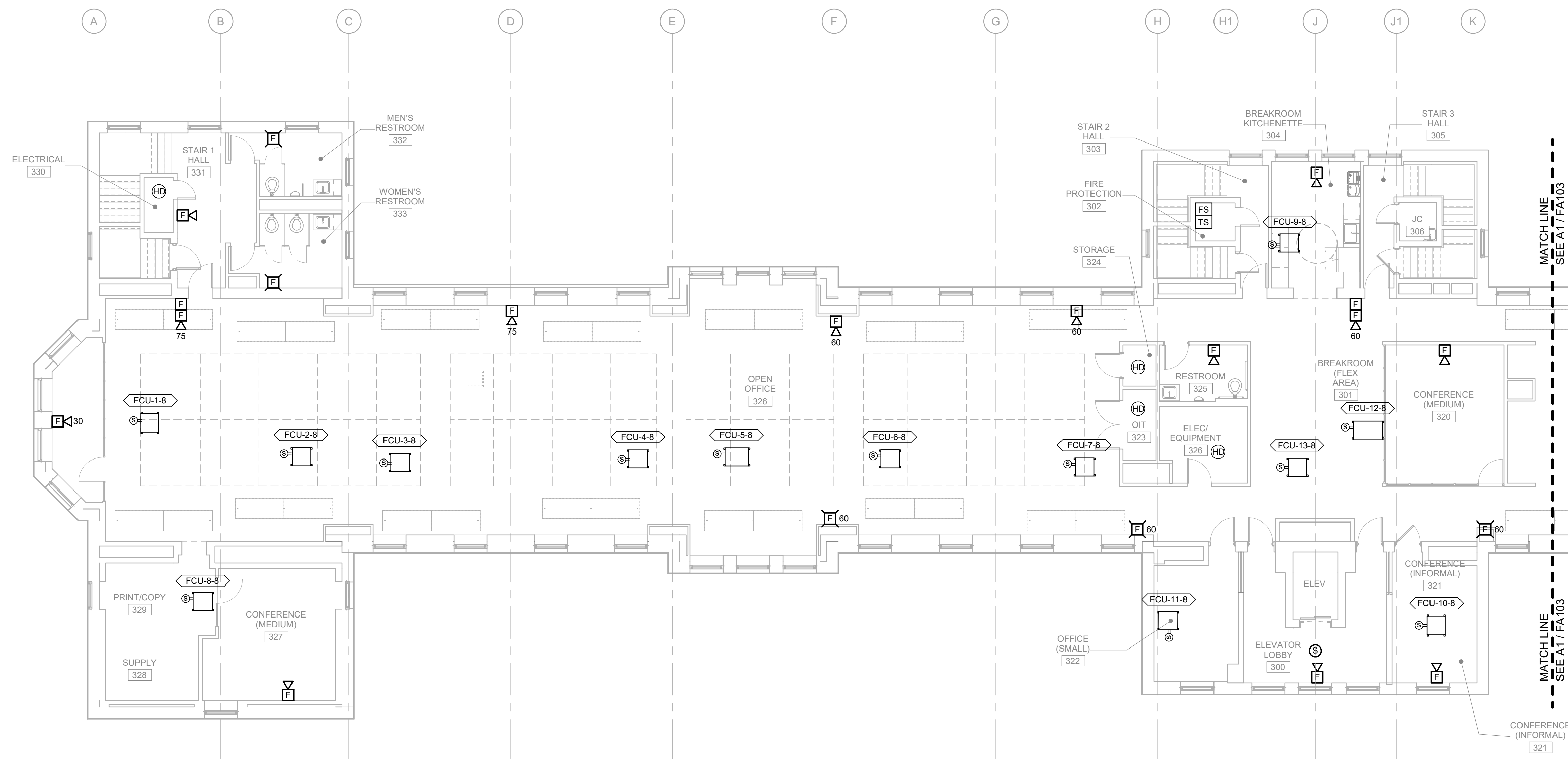
REV	DATE	DESCRIPTION
1	04-13-2022	ADDENDUM NO. 1
0	03-31-2022	ISSUE FOR BID

PROJECT NO: 3616206102
 PROJECT MANAGER: KFM
 A/E OF RECORD: MG
 DESIGNED BY: TS
 DRAWN BY: NR

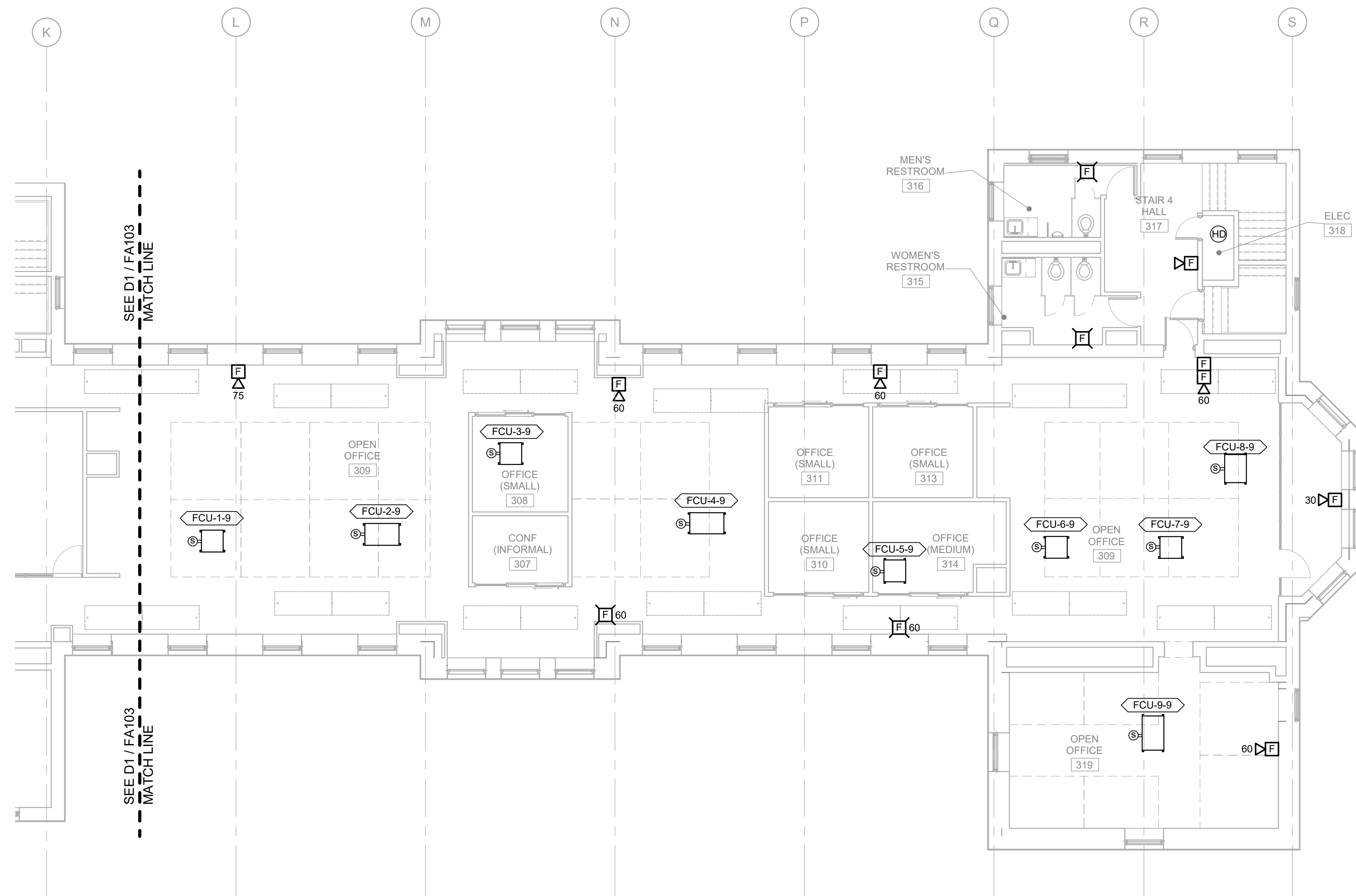
SECOND LEVEL FIRE ALARM PLAN

SHEET ID: **FA102**

RAY BUILDING RENOVATION - 2022 - 03 - 31 - 2022 - 10:00 AM



D1 THIRD LEVEL FIRE ALARM PLAN - NORTH
 1/8" = 1'-0" PLAN NORTH



A1 THIRD LEVEL FIRE ALARM PLAN - SOUTH
 1/8" = 1'-0" PLAN NORTH

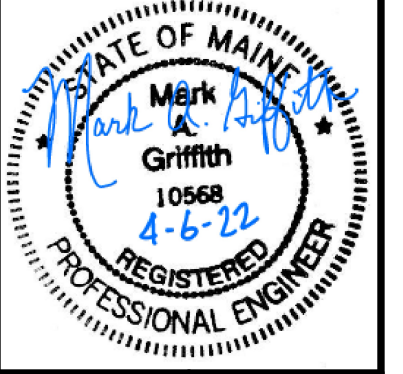
NOTE

- SEE SHEET F-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- FOLLOW MECHANICAL IBC CODE FOR PLACEMENT OF DUCT SMOKE DETECTORS.

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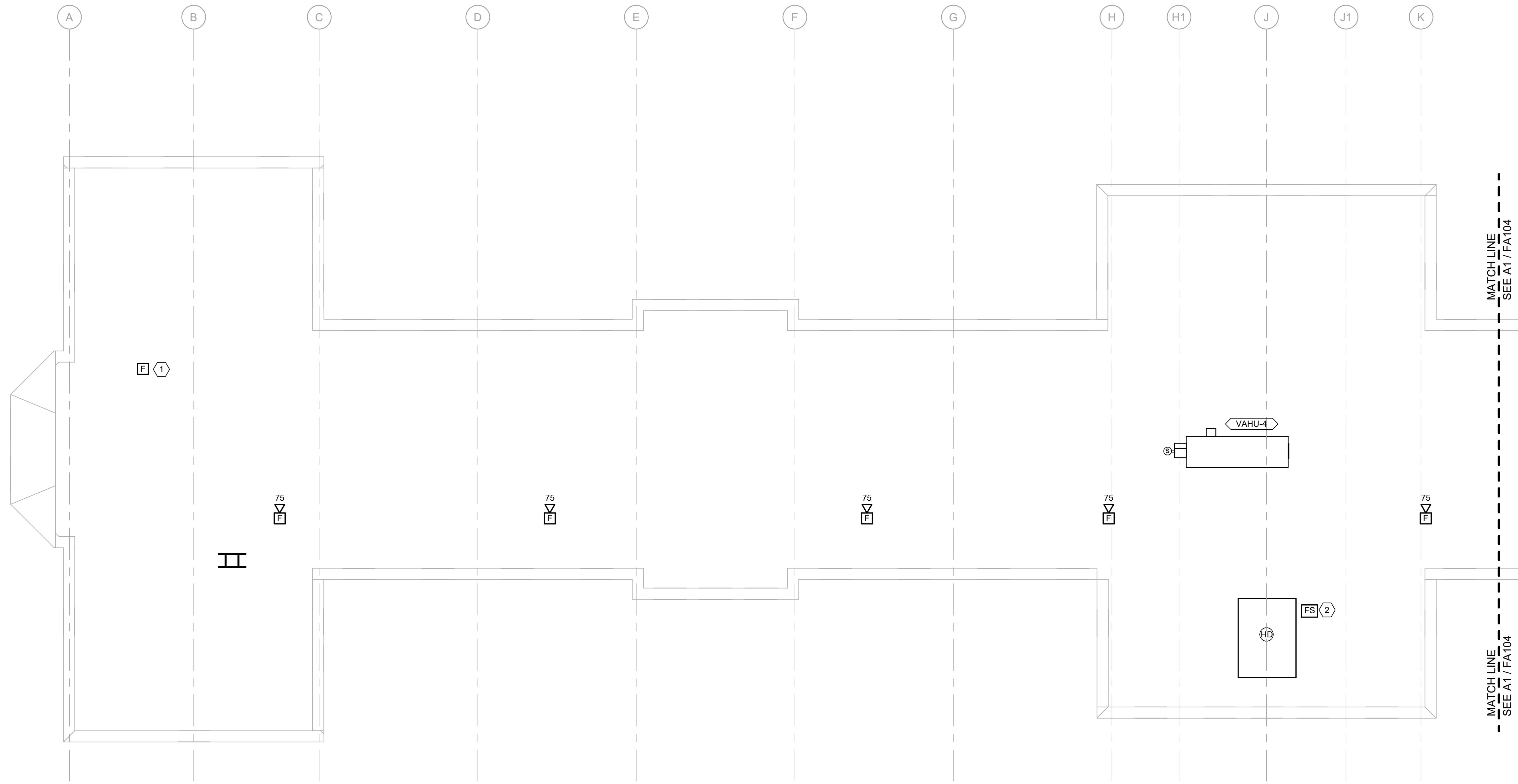


ISSUE FOR BID
 MARCH 31, 2022
 RAY BUILDING RENOVATION
 28 TYSON DRIVE AUGUSTA, MAINE

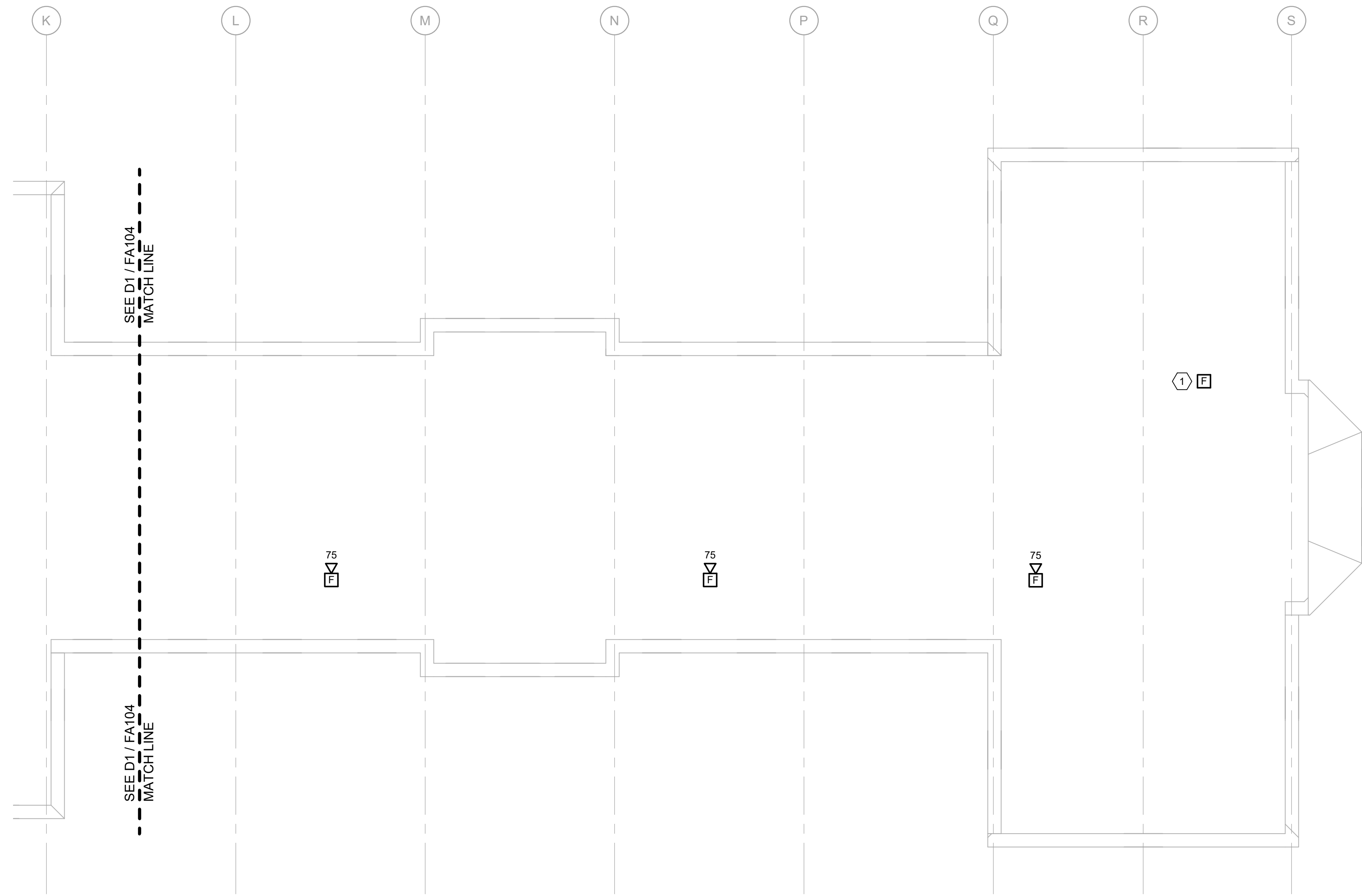
REV	REVISION	DATE
1	ADDENDUM NO. 1	04-13-2022
0	ISSUE FOR BID	03-31-2022

PROJECT NO: 3616206102
 PROJECT MANAGER: KFM
 A/E OF RECORD: MG
 DESIGNED BY: TS
 DRAWN BY: NR
 SHEET TITLE:
 THIRD LEVEL FIRE ALARM PLAN PLAN

SHEET ID:
FA103



D1 ATTIC LEVEL FIRE ALARM PLAN - NORTH
 1/8" = 1'-0" PLAN NORTH



A1 ATTIC LEVEL FIRE ALARM PLAN - SOUTH
 1/8" = 1'-0" PLAN NORTH

NOTE

- SEE SHEET F-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- FOLLOW MECHANICAL IBC CODE FOR PLACEMENT OF DUCT SMOKE DETECTORS.

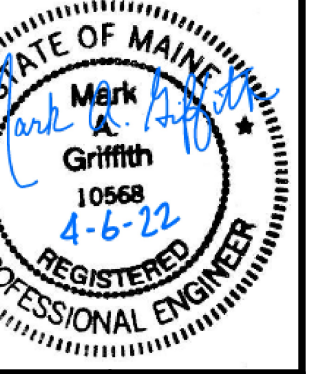
KEYED NOTES

- DEVICE LOCATED ABOVE STAIR ACCESS
- PROVIDE FLOW SWITCH TESTER IN SPRINKLER PIPE TO ELEVATOR MACHINE ROOM.

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1	ADDENDUM NO. 1	04-13-2022
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PROJECT NO: 3616206102
 PROJECT MANAGER: KFM
 A/E OF RECORD: MG
 DESIGNED BY: TS
 DRAWN BY: NR

ATTIC LEVEL FIRE ALARM PLAN

SHEET ID:
FA104