ADDENDUM NO. 1

April 12, 2023

Damien Center – Zonie's Closet Renovation
1446 E. Washington Street
Indianapolis, IN 46201

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated March 30, 2023, by Schmidt Associates. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1-1 through ADD 1-2, Specification Section 01 53 20 – Tree and Plant Protection, Guideline Schedule, and Site Logistics Plan, and attached Schmidt Associates Addendum No. 1, dated April 13, 2023, consisting of 2 pages, Specification Section 270528 – Pathways for Communications Systems, Specification Section 271513 - Communications Copper Horizontal Cabling, Specification Section 277710.99 - Audio/Video Systems, 321373 – Concrete Paving Joint Sealants, Addendum Drawing Sheets: AF101, I-6001, PF101, PP101, PP102, PR101, P-501, and P-910.

A. 01 12 00 – Multiple Contract Summary

A. Bid Category No. 01 – General Trades

ADD the following specification sections:
Section 01 53 20 Tree and Plant Protection

C. Bid Category No. 03 – Electrical & Technology

ADD the following specification sections:
Section 27 05 28 Pathways for Communications Systems
Section 27 13 00 Communications Backbone Cabling

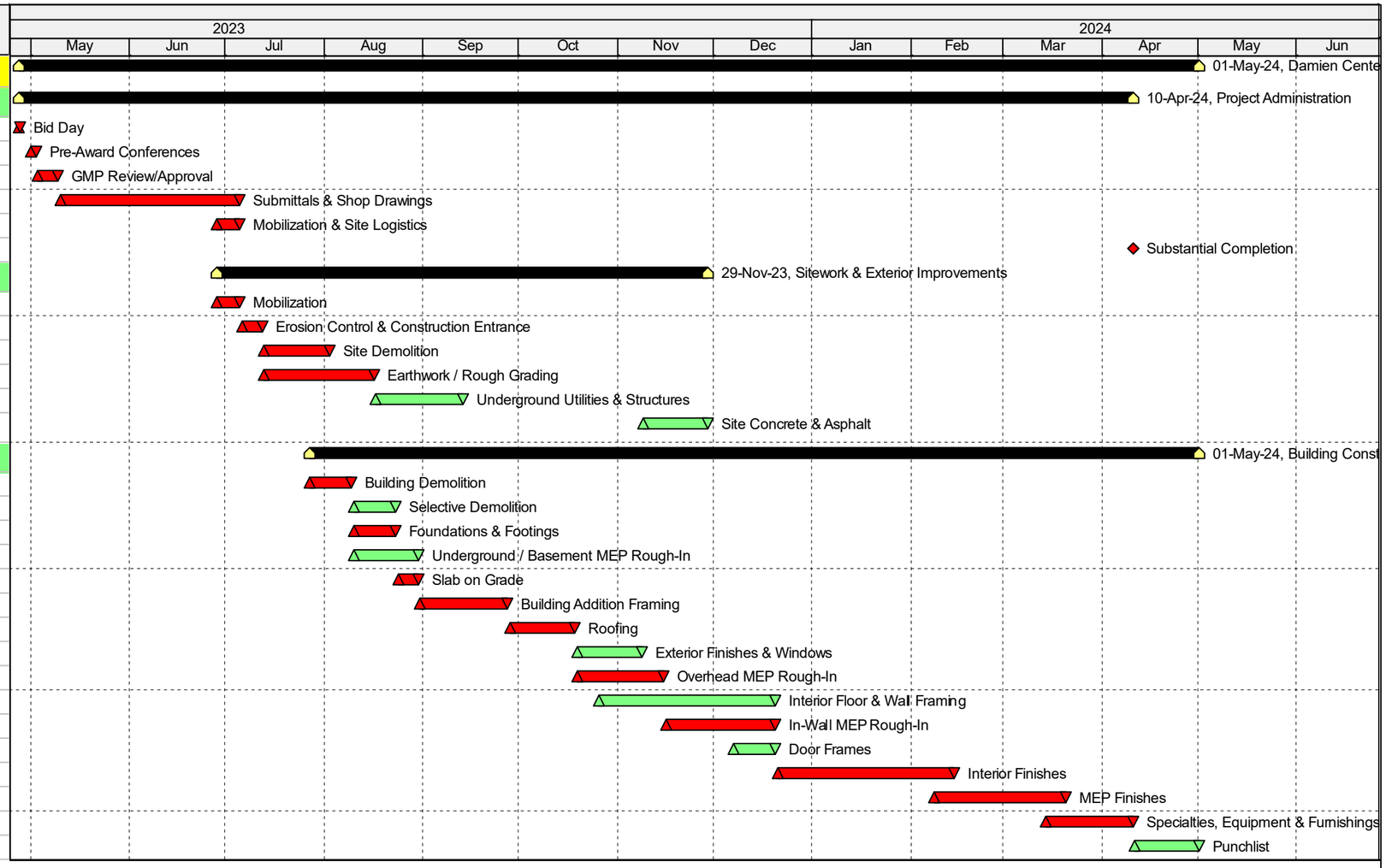
B. 01 32 00 – Schedules and Reports

1. Guideline Schedule is included as part of Addendum 01.

C. 01 53 10 – Fences

1. Site Logistics Plan is included as part of Addendum 01.

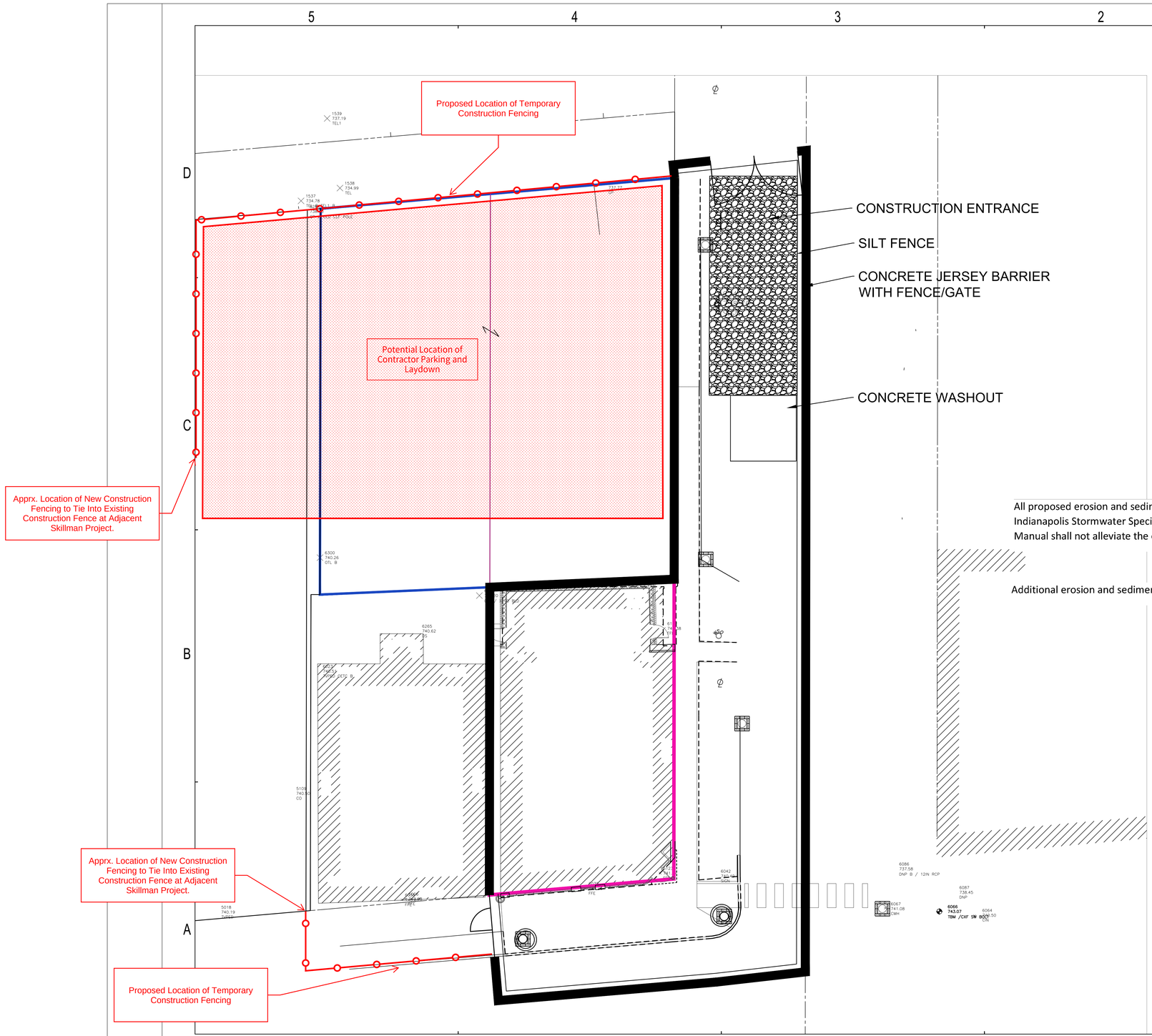
Activity Name	Original Duration	Start	Finish
Damien Center - Zonie's Closet Renovation	264	27-Apr-23	01-May-24
Project Administration	249	27-Apr-23	10-Apr-24
Bid Day	1	27-Apr-23*	27-Apr-23
Pre-Award Conferences	2	01-May-23	02-May-23
GMP Review/Approval	5	03-May-23	09-May-23
Submittals & Shop Drawings	40	10-May-23	05-Jul-23
Mobilization & Site Logistics	5	28-Jun-23	05-Jul-23
Substantial Completion	0		10-Apr-24*
Sitework & Exterior Improvements	110	28-Jun-23	29-Nov-23
Mobilization	5	28-Jun-23	05-Jul-23
Erosion Control & Construction Entrance	5	06-Jul-23	12-Jul-23
Site Demolition	15	13-Jul-23	02-Aug-23
Earthwork / Rough Grading	25	13-Jul-23	16-Aug-23
Underground Utilities & Structures	20	17-Aug-23	13-Sep-23
Site Concrete & Asphalt	15	09-Nov-23	29-Nov-23
Building Construction	200	27-Jul-23	01-May-24
Building Demolition	10	27-Jul-23	09-Aug-23
Selective Demolition	10	10-Aug-23	23-Aug-23
Foundations & Footings	10	10-Aug-23	23-Aug-23
Underground / Basement MEP Rough-In	15	10-Aug-23	30-Aug-23
Slab on Grade	5	24-Aug-23	30-Aug-23
Building Addition Framing	20	31-Aug-23	27-Sep-23
Roofing	15	28-Sep-23	18-Oct-23
Exterior Finishes & Windows	15	19-Oct-23	08-Nov-23
Overhead MEP Rough-In	20	19-Oct-23	15-Nov-23
Interior Floor & Wall Framing	40	26-Oct-23	20-Dec-23
In-Wall MEP Rough-In	25	16-Nov-23	20-Dec-23
Door Frames	10	07-Dec-23	20-Dec-23
Interior Finishes	40	21-Dec-23	14-Feb-24
MEP Finishes	30	08-Feb-24	20-Mar-24
Specialties, Equipment & Furnishings	20	14-Mar-24	10-Apr-24
Punchlist	15	11-Apr-24	01-May-24



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Damien Center - Zonie's Closet Renovation - 222730
GUIDELINE SCHEDULE
24-Apr-23

SKILLMAN



EROSION CONTROL LEGEND

- INLET PROTECTION, SEE DETAILS
- CONSTRUCTION ENTRANCE ON ASPHALT, SEE DETAILS
- CONCRETE JERSEY BARRIER WITH FENCE/GATE
- SILT FENCE
- CW — CONCRETE WASHOUT, SEE DETAILS
- SP — STOCK PILE (SEE DETAILS)

CONTACT PERSON

LIMING ZHANG
317-263-6226
LZHANG@SCHMIDT-ARCH.COM

EROSION CONTROL NOTES

1) PROTECT ALL EXISTING AND PROPOSED STORM INLETS.
2) SEED ALL DISTURBED AREA.

All proposed erosion and sediment control shall be in conformance with Chapter 600 of the City of Indianapolis Stormwater Specifications Manual, latest edition. Discrepancies between the plans and the Manual shall not alleviate the contractor from adhering to the requirements as set forth in the Manual

Additional erosion and sediment control measures may be required by the inspector

1A EROSION CONTROL PLAN
1" = 10'

SCHMIDT
ASSOCIATES
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Indianapolis, IN 46204
www.schmidt-arch.com

#	Revision	Date

1446 E Washington St.
Indianapolis, IN 46201

N

DAMIEN CENTER

DAMIEN CENTER
ONE HOME FOR HIV WELLNESS

1446 E WASHINGTON ST RENOVATION

SITE LOGISTICS PLAN

SECTION 01 53 20 - TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including amended General Conditions and other Division-1 Specification Sections, apply to work of this Section.

1.02 JOB CONDITIONS

A. Existing Conditions
   1. Inspect all trees and plants near building site.

B. Scheduling
   1. Protective fencing shall be in place before commencement of any other work.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Fencing shall be new plastic snow-type fencing, 4' high. Posts shall be heavy-duty studded steel T-posts, 1-3/8" x 1-3/8" x 7/64" thick by 4' tall.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Trees to be protected shall have fencing placed completely around the tree at the full spread of the branches.

B. Plants to remain shall have fencing placed completely around individual or groups of plants 1' beyond edge of plants.

C. Existing lawn and other areas to be left undisturbed shall have fencing placed where indicated or as required for protection.

D. Space posts 6' o.c. and drive 3' into the ground. Fasten fence to each post with five (5) fasteners.

E. Place warning signs on tree protective fencing stating "Do Not Store Materials Within Fence".

3.02 MAINTENANCE

A. Maintain fencing in good repair until completion of the Project unless directed otherwise by the Construction Manager.

B. Remove fencing when directed by the Construction Manager.

END OF SECTION 01 53 20

ADDENDUM NO. 1
APRIL 13, 2023

PREPARED BY SCHMIDT ASSOCIATES FOR:
1446 E WASHINGTON STREET RENOVATION
DAMIEN CENTER

This Addendum consists of 2 Addendum page(s) and 43 attachment pages totaling 45 pages.

Acknowledge receipt of this Addendum by inserting its number on the Bid Form. Failure to do so may subject the Bid to disqualification. This Addendum is part of the Contract Documents.

Bidder is encouraged to verify with reprographer of record all Addenda issued (do not rely exclusively on third party plan room services).

PART 1 - CHANGES TO PRIOR ADDENDA (NOT APPLICABLE)

PART 2 - CHANGES TO THE PROJECT MANUAL

Modifications described herein shall be incorporated in the Project Manual. All other Work shall remain unchanged.

2.1 GENERAL

A. **TABLE OF CONTENTS**

1. DELETE AND REPLACE “TABLE OF CONTENTS” in its entirety per the attached.

2.2 DIVISION 08 – OPENINGS

A. **Section 081113 “HOLLOW METAL DOORS AND FRAMES”**

1. ADD Subparagraph 2.1.A.5 as follows:

“5. De la Fountaine, Inc.”

B. **Section 101400 “SIGNAGE”**

1. Modify Sub Paragraph: 2.2, B., 1. As Follows:

“1. Plaque Material: Bronze”

2.3 DIVISION 27 – COMMUNICATIONS

A. **Section 277710.99 "AUDIO/VIDEO SYSTEMS"**

1. "ADD Section 277710.99 in its entirety."

B. **Section 271513 "COMMUNICATIONS COPPER HORIZONTAL CABLING"**

1. "ADD Section 271513 in its entirety."

C. **Section 270528 "PATHWAYS FOR COMMUNICATIONS SYSTEMS"**

1. "ADD Section 270528 in its entirety."

2.4 DIVISION 32 - EXTERIOR IMPROVEMENTS

A. **Section 321373 "CONCRETE PAVING JOINT SEALANTS"**

1. ADD Section 321373 per the attached."

PART 3 - CHANGES TO THE DRAWINGS

Modifications described herein shall be incorporated in the Drawings. All other Work shall remain un-changed.

3.1 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS

DRAWING NO.	INDICATE ACTION: ADD (A), DELETE (D), DELETE & REPLACE (R),
A-SERIES DRAWINGS	
AF101	DELETE AND REPLACE
I-SERIES DRAWINGS	
I-601	DELETE AND REPLACE
P-SERIES DRAWINGS	
PF101	DELETE AND REPLACE
PP101	DELETE AND REPLACE
PP102	DELETE AND REPLACE
PR101	DELETE AND REPLACE
P-501	DELETE AND REPLACE
P-910	DELETE AND REPLACE

END OF ADDENDUM 1

TABLE OF CONTENTS

DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING(HVAC)

DIVISION 26 - ELECTRICAL

SECTION 277710.99 - AUDIO/VIDEO 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.

B. Division 27 Section "Sleeves and Sleeve Seals for Communications Pathways and Cabling."

C. Division 27 Section "Communications Equipment Room Fittings."

1.2 SUMMARY

A. Work of this Section includes a complete, satisfactorily installed operating classroom audio/video system, as well as other building audio/video systems which meets requirement as herein indicated. The new system shall consist of the following:

1. Conference Room 201 Audio/Video
    a. A/V wallplate location
    b. Wall mounted display monitor
    c. A/V cabling, connectors
2. System testing
3. Owner training
4. The following components/systems are Owner provided or specified under a separate Section:
    a. The LAN
    b. Work Area Computers
    c. The structured cabling system.
5. The Contractor is responsible for integrating with the Owner provided components/systems.

B. The Contractor shall provide all miscellaneous items and accessories required to make the system operational whether or not such items are specifically mentioned in the plans and specifications. It is the Contractor’s responsibility to review the architectural, structural, mechanical, and electrical drawings, as well as the specifications, for any details that may impact the installation or provisioning of the system. Any discrepancies discovered shall be brought to the attention of the Engineer and Owner.

1.3 DEFINITIONS

A. Furnish: Supply and deliver to Project site, ready for unloading, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

B. Install: Operations at project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

C. Provide: Furnish and install, complete and ready for the intended use.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated, including dimensions and data on features, performance, electrical characteristics, and ratings.

1.5 CLOSEOUT SUBMITTALS

A. Warranty: Special warranty specified in this Section.

1.6 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. The Contractor shall be a manufacturer certified and authorized to install and maintain the specified system.

C. The Contractor shall have been in business for at least five years and shall have been an authorized representative of the manufacturer of the submitted equipment for a minimum of three (3) years.

D. Contractor's principal place of business and fully equipped service center shall be located within 75 miles of said jobsite. Upon request, the Contractor shall show satisfactory evidence of maintaining a fully equipped organization with qualified technicians capable of supplying adequate inspections and service, including replacement parts, to the equipment.

E. All equipment shall conform to appropriate U.L. Listings and be approved under Part 15, Subpart B, Section 15.107b of the FCC Rules and Regulations.

F. Demonstrate proof of after-hours service arrangements and provide the telephone number being used for such service. Contractor shall provide warranty service during normal business hours, but shall also demonstrate full capability of providing 24-hour local service for emergency calls, after hours. After hours emergency service shall be charged at the Contractor's standard published service rates.

G. The model numbers included herein shall be considered as a part of these Specifications and binding hereon. Any proposed substitution item offered shall be substantiated fully to provide equality and the decision of the Owner or the Owner's properly designated representative as to the equality will be final.

H. Named systems will be considered based upon their ability to provide the functions and features of the specified equipment and as hereinafter specified. It shall be Contractor’s responsibility to provide equipment in compliance with the Specification. Prebid submission shall consist of a diagram and console or rack elevation drawings, a section item by item comparison describing how the proposed system achieves the same specified functional requirements and detailed specification sheets for each item in the system for evaluation of the named substitute system by the Architect/Engineer. Failure of the submittal to meet or exceed the specified requirements shall be sufficient cause for the refusal to consider further submittals of this manufacturer or listed substitute manufacturers.

1.7 PROJECT CONDITIONS

A. Environmental Conditions: Capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:

1. Control Station: Rated for continuous operation in ambient temperatures of 60 to 85 deg F and a relative humidity of 20 to 80 percent, noncondensing.
2. Interior, Controlled Environment: System components, except central-station control unit, installed in temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 36 to 122 deg F dry bulb and 20 to 90 percent relative humidity, noncondensing. NEMA 250, Type 1 enclosures.
3. Interior, Uncontrolled Environment: System components installed in non- temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 0 to 122 deg F (minus 18 to plus 50 deg C) dry bulb and 20 to 90 percent relative humidity, noncondensing. NEMA 250, Type 3R enclosures.
4. Exterior Environment: System components installed in locations exposed to weather shall be rated for continuous operation in ambient temperatures of minus 30 to plus 122 deg F (minus 34 to plus 50 deg C) dry bulb and 20 to 90 percent relative humidity, condensing. Rate for continuous operation when exposed to rain as specified in NEMA 250, winds up to 85 mph and snow cover up to 24 inches thick. NEMA 250, Type 3 enclosures.
5. Hazardous Environment: System components located in areas where fire or explosion hazards may exist because of flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers shall be rated, listed, and installed according to NFPA 70.
6. Corrosive Environment: System components subjected to corrosive fumes, vapors, and wind-driven salt spray in coastal zones. NEMA 250, Type 4X enclosures.
7. Security Environment: Camera housing for use in high-risk areas where surveillance equipment may be subject to physical violence.

1.8 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of equipment related to system operation, and control-station equipment that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.1 Conference Rooms, Audio/Video

A. A/V wall input plate and connectors

1. Provide wall plate connectors as shown on T-series drawings and detailed on sheet T-501.
2. Coordinate with the cabling contractor to coordinate manufacturer.
3. Provide all cabling required to connect the wall plate to the projector.

B. Wall mounted Display Monitor

1. Provide Sharp 85" diagonal consumer monitor, approved equal.
2. (2) HDMI inputs
3. Provide Chief XTM1U Fusion tilt wall mount, or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Must include installation, configuration and testing by trained technicians of all systems provided under the specifications. Must have on-site verification of the correct operation of the system to Architect/Engineer and school personnel. Installation must include setting up hardware components within the specification. Installation must also include working with the school corporation personnel to configure the School System's network, switches, routers and firewalls in order to achieve full functionality as described within the specifications. It can be assumed that School System personnel can perform the networking configurations but the actual requirements that are unique for the system must be provided by the technicians. Troubleshooting issues and resolution of those issues in order to achieve proper system operation must be done by the technicians. Installation shall also include the initial importing of user accounts and creating default groups for initial access by various levels of users.

B. All installations shall comply with the requirements of the National Electrical Code (NEC) for neatness and appearance in addition to any required local electrical codes. The Contractor shall comply with all local safety and installation codes and practices related to earthquake standards. The Contractor shall be familiar with all National Fire Protection Association (NFPA) Fire Stopping Codes and shall comply as required. All equipment shall be securely mounted in enclosures or special mounting devices made for the purpose. All switches, jacks, and receptacles shall be clearly, logically, and permanently marked.

C. To maintain manufacturer-specified heat tolerances for the installed equipment, adequate ventilation for the equipment installed in equipment racks shall be provided by the school corporation. All equipment racks shall be properly grounded to meet NEC code requirements and to prevent electromagnetic or electrostatic interference.

D. Properly route and secure all wiring. Wires and cables used in assembling racks or cabinets shall be formed into harnesses that are tied and supported for proper strain relief. Harnessed cables shall be combed straight. Each cable that breaks out from the harness for termination shall be provided with an ample service loop and shall not violate the minimum bend radius of the cable.

3.2 CLEANING AND PROTECTION

A. Protect system components from damage and deterioration during installation. Protect equipment from dust and debris during installation. After installation maintain equipment protection. Notify other trades of equipment sensitivity to dust and debris. Clean equipment upon final completion of Work.

B. Before final acceptance, clean system components.

3.3 LOUDSPEAKER SYSTEM

A. Install in accordance with Manufacturer's installation instructions. Connect system to local PC. Do not connect to projector.

B. Final adjustment: Upon completion, the system shall be clean, adjusted and left in perfect operating condition. Transmitters shall be plugged in and charging and user manual shall be left in a conspicuous place.

C. Provisions: There shall be no audible components of hum, noise, or distortion.

3.4 TESTING

A. Upon completion of the installation, the Contractor shall conduct a functional system test in the presence of the Owner and the Owner's representatives. The Contractor shall prepare and submit a written test plan that will demonstrate the system's operation, critical component operation, and software feature set functionality. Contractor shall make all necessary modifications and/or adjustments of the system. Following, the Contractor shall repeat any system test necessary to satisfy the Owner of the system's compliance with the specifications.

3.5 TRAINING

A. Training shall include separate sessions each for Media Specialists, System Administrators, and Instructors. Instructor training shall specifically include detailed integration of system features into the curriculum.

B. Provide minimum of (4) hours of training at the Owner’s site for staff and teachers, media personnel, and technology staff. The training shall include the following elements:

1. Provide training aids.

END OF SECTION

SECTION 271513 - COMMUNICATIONS COPPER HORIZONTAL CABLING

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. Category 6 twisted pair cable.
2. Twisted pair cable hardware, including plugs and jacks.
3. Cabling identification products.
4. Grounding provisions for twisted pair cable.
5. Source quality control requirements for twisted pair cable.

1.3 DEFINITIONS

A. Cross-Connect: A facility enabling the termination of cable elements and their interconnection or cross-connection.

B. EMI: Electromagnetic interference.

C. FTP: Shielded twisted pair.

D. F/FTP: Overall foil screened cable with foil screened twisted pair.

E. F/UTP: Overall foil screened cable with unscreened twisted pair.

F. IDC: Insulation displacement connector.

G. LAN: Local area network.

H. Jack: Also commonly called an "outlet," it is the fixed, female connector.

I. Plug: Also commonly called a "connector," it is the removable, male telecommunications connector.

J. RCDD: Registered Communications Distribution Designer.

K. Screen: A metallic layer, either a foil or braid, placed around a pair or group of conductors.

L. Shield: A metallic layer, either a foil or braid, placed around a pair or group of conductors.

M. S/FTP: Overall braid screened cable with foil screened twisted pair.

N. S/UTP: Overall braid screened cable with unscreened twisted pairs.

O. UTP: Unscreened (unshielded) twisted pair.

1.4 COPPER HORIZONTAL CABLING DESCRIPTION

A. Horizontal cable and its connecting hardware provide the means of transporting signals between the telecommunications outlet/connector and the horizontal cross-connect located in the communications equipment room. This cabling and its connecting hardware are called "permanent link," a term that is used in the testing protocols. Cabling system consists of horizontal cables, intermediate and main cross-connects, mechanical terminations, and patch cords or jumpers used for horizontal-to-horizontal cross-connection.

1. TIA-568-C.1 requires that a minimum of two equipment outlets be installed for each work area.
2. Horizontal cabling shall contain no more than one transition point or consolidation point between the horizontal cross-connect and the telecommunications equipment outlet.
3. Bridged taps and splices shall not be installed in the horizontal cabling.

B. A work area is approximately 100 sq. ft., and includes the components that extend from the equipment outlets to the station equipment.

C. The maximum allowable horizontal cable length is 295 feet. This maximum allowable length does not include an allowance for the length of 16 feet to the workstation equipment or in the horizontal cross-connect.

1.5 ACTION SUBMITTALS

A. Product Data,:

1. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for equipment racks and cabinets. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories. Provide as a single complete system submittal with master product list referencing each paragraph in this section specifying product.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For RCDD, installation supervisor, and field inspector.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For splices and connectors to include in maintenance manuals.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: Cabling Installer must have personnel certified by BICSI on staff.

1. Contractor responsible for this Section shall have a Registered Communications Distribution Designer (RCDD) on staff who will oversee and be responsible for this Project. RCDD shall have sufficient experience in this type project so as to be able to lend adequate technical support to field forces during installation, warranty period, and extended warranty periods or maintenance contracts.
2. Installation Supervision: Installation shall be under the direct supervision of Registered Technician, who shall be present at all times when Work of this Section is performed at Project site.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Test cables upon receipt at Project site.

1. Test each pair of twisted pair cable for open and short circuits.

1.10 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install cables and connecting materials until wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.11 COORDINATION

A. Coordinate layout and installation of telecommunications pathways and cabling with Owner's telecommunications and LAN equipment and service suppliers.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Horizontal cabling system shall comply with transmission standards in TIA-568-C.1, when tested according to test procedures of this standard.

B. Telecommunications Pathways and Spaces: Comply with TIA-569-D.

C. Grounding: Comply with TIA-607-B.

2.2 GENERAL CABLE CHARACTERISTICS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with the applicable standard and NFPA 70 for the following types:

1. Communications, Plenum Rated: Type CMP complying with UL 1685 or Type CMP in listed plenum communications raceway.
2. Communications, Plenum Rated: Type CM, Type CMG, Type CMP, Type CMR, or Type CMX in metallic conduit installed according to NFPA 70, Article 300.22, "Wiring in Ducts, Plenums, and Other Air-Handling Spaces."
3. Communications, Non-plenum: Type CMR complying with UL 1666.
4. Communications, Non-plenum: Type CMP or Type CMR in listed plenum or riser communications raceway.
5. Communications, Non-plenum: Type CMP or Type CMR in metallic conduit installed according to NFPA 70, Article 300.22, "Wiring in Ducts, Plenums, and Other Air-Handling Spaces."

2.3 CATEGORY 6 TWISTED PAIR CABLE

A. Description: Four-pair, balanced-twisted pair cable, with internal spline, certified to meet transmission characteristics of Category 6 cable at frequencies up to 250MHz.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Belden CDT Networking Division/NORDX.
2. Berk-Tek Leviton; a Nexans/Leviton alliance.
3. CommScope, Inc.
4. General Cable; General Cable Corporation.
5. Mohawk; a division of Belden Networking, Inc.
6. Panduit
7. Superior Essex Inc.
8. SYSTIMAX Solutions; a CommScope Inc. brand.

C. Standard: Comply with NEMA WC 66/ICEA S-116-732 and TIA-568-C.2 for Category 6 cables.

D. Conductors: 100-ohm, 23 AWG solid copper.

E. Shielding/Screening: Unshielded twisted pairs (UTP).

F. Cable Rating: Plenum.

G. Jacket: Blue thermoplastic.

2.4 TWISTED PAIR CABLE HARDWARE

A. Description: Hardware designed to connect, splice, and terminate twisted pair copper communications cable.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Belden CDT Networking Division/NORDX.
2. Berk-Tek Leviton; a Nexans/Leviton alliance.
3. CommScope, Inc.
4. General Cable; General Cable Corporation.
5. Genesis Cable Products; Honeywell International, Inc.
6. Hubbell Premise Wiring.
7. Leviton Manufacturing Co., Inc.
8. Mohawk; a division of Belden Networking, Inc.
9. Panduit Corp.
10. Siemon Co. (The).
11. Superior Essex Inc.
12. SYSTIMAX Solutions; a CommScope Inc. brand.

C. General Requirements for Twisted Pair Cable Hardware:

1. Comply with the performance requirements of Category 6.
2. Comply with TIA-568-C.2, IDC type, with modules designed for punch-down caps or tools.
3. Cables shall be terminated with connecting hardware of same category or higher.

D. Connecting Blocks:

1. 110-style IDC for Category 6.
2. Provide blocks for the number of cables terminated on the block, plus 25 percent spare, integral with connector bodies, including plugs and jacks where indicated.

E. Cross-Connect: Modular array of connecting blocks arranged to terminate building cables and permit interconnection between cables.

1. Number of Terminals per Field: One for each conductor in assigned cables.

F. Patch Panel: Modular panels housing numbered jack units with IDC-type connectors at each jack location for permanent termination of pair groups of installed cables.

1. Features:

a. Universal T568A and T568B wiring labels.
b. Labeling areas adjacent to conductors.
c. Replaceable connectors.
d. 24 or 48 ports.

2. Construction: 16-gauge steel and mountable on 19-inch equipment racks.
3. Number of Jacks per Field: One for each four-pair cable indicated, plus spares and blank positions adequate to suit specified expansion criteria.

G. Patch Cords: Factory-made, four-pair cables in 12-inchlengths at the patch panel and 10-foot lengths at the Workstation Outlet; terminated with an eight-position modular plug at each end.

1. Patch cords shall have bend-relief-compliant boots and color-coded icons to ensure performance. Patch cords shall have latch guards to protect against snagging.
2. Patch cords shall have color-coded boots for circuit identification.
3. Provide (2) per horizontal cable installed; lengths as described above. Excessive slack at the patch panel is not acceptable. Coordinate with Architect/Owner.

H. Plugs and Plug Assemblies:

1. Male; eight position; color-coded modular telecommunications connector designed for termination of a single four-pair, 100-ohm, unshielded or shielded twisted pair cable.
2. Standard: Comply with TIA-568-C.2.

I. Jacks and Jack Assemblies:

1. Female; eight position; modular; fixed telecommunications connector designed for termination of a single four-pair, 100-ohm, unshielded or shielded twisted pair cable.
2. Designed to snap-in to a patch panel or faceplate.
3. Standard: Comply with TIA-568-C.2.

J. Faceplate:

1. Two, Four, or Six port, vertical single gang faceplates designed to mount to single gang wall boxes. Faceplate port quantity determined by the number of cables to be installed per the drawings at each location. Any unused ports to be blanked off.
2. Eight, Ten, or Twelve port, vertical double gang faceplates designed to mount to double gang wall boxes. Faceplate port quantity determined by the number of cables to be installed per the drawings at each location. Any unused ports to be blanked off.
3. Plastic Faceplate: High-impact plastic. Coordinate color with Section 262726 "Wiring Devices."
4. Metal Faceplate: Stainless steel, complying with requirements in Section 262726 "Wiring Devices."
5. For use with snap-in jacks accommodating any combination of twisted pair, optical fiber, and coaxial work area cords.

    a. Flush mounting jacks, positioning the cord at a 45-degree angle.

K. Legend:

1. Machine printed, in the field, using adhesive-tape label.
2. Snap-in, clear-label covers and machine-printed paper inserts.

2.5 IDENTIFICATION PRODUCTS

A. Comply with TIA-606-B and UL 969 for a system of labeling materials, including label stocks, laminating adhesives, and inks used by label printers.

2.6 GROUNDING

A. Comply with requirements in Section 270526 "Grounding and Bonding for Communications Systems" for grounding conductors and connectors.

B. Comply with TIA-607-B.

2.7 SOURCE QUALITY CONTROL

A. Factory test cables on reels according to TIA-568-C.1.

B. Factory test twisted pair cables according to TIA-568-C.2.

C. Cable will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 WIRING METHODS

A. Wiring Method: Install cables in raceways and cable trays, except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces, attics, and gypsum board partitions where unenclosed wiring method may be used. Conceal raceway and cables, except in unfinished spaces.

1. Install plenum cable in environmental air spaces, including plenum ceilings.
2. Comply with requirements for raceways and boxes specified in Section 270528 "Pathways for Communications Systems."

B. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.

C. Wiring within Enclosures: Bundle, lace, and train cables within enclosures. Connect to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools. Install conductors parallel with or at right angles to sides and back of enclosure.

3.2 INSTALLATION OF PATHWAYS

A. Comply with requirements for demarcation point, cabinets, and racks specified in Section 271100 "Communications Equipment Room Fittings."

B. Comply with Section 270528 "Pathways for Communications Systems."

C. Comply with Section 270528.29 "Hangers and Supports for Communications Systems."

D. Comply with Section 270536 "Cable Trays for Communications Systems."

3.3 INSTALLATION OF TWISTED-PAIR HORIZONTAL CABLES

A. Comply with NECA 1 and NECA/BICSI 568.

B. General Requirements for Cabling:

1. Comply with TIA-568-C.0, TIA-568-C.1, and TIA-568-C.2.
2. Comply with BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems," "Cable Termination Practices" Section.
3. Install 110-style IDC termination hardware unless otherwise indicated.
4. Do not untwist twisted pair cables more than 1/2 inch from the point of termination to maintain cable geometry.
5. Terminate all conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, cross-connects, and patch panels.
6. MUTOA shall not be used as a cross-connect point.
7. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
8. Install lacing bars to restrain cables, prevent straining connections, and prevent bending cables to smaller radii than minimums recommended by manufacturer.
9. Bundle, lace, and train conductors to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems," "Cable Termination Practices" Section. Use lacing bars and distribution spools.
10. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation, and replace it with new cable.
11. Cold-Weather Installation: Bring cable to room temperature before dereeling. Heat lamps shall not be used for heating.
12. In the communications equipment room, install a 10-foot- long service loop on each end of cable.
13. Pulling Cable: Comply with BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems," "Pulling and Installing Cable" Section. Monitor cable pull tensions.

C. Open-Cable Installation:

1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
2. Suspend twisted pair cabling, not in a wireway or pathway, a minimum of 8 inches above ceilings by cable supports not more than 60 inches apart.
3. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items.

D. Group connecting hardware for cables into separate logical fields.

E. Separation from EMI Sources:

1. Comply with recommendations from BICSI's "Telecommunications Distribution Methods Manual" and TIA-569-D for separating unshielded copper communication cable from potential EMI sources, including electrical power lines and equipment.
2. Separation between open communications cables or cables in nonmetallic raceways and unshielded power conductors and electrical equipment shall be as follows:

    a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 5 inches.
    b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 12 inches.
    c. Electrical Equipment Rating More Than 5 kVA: A minimum of 24 inches.

3. Separation between communications cables in grounded metallic raceways and unshielded power lines or electrical equipment shall be as follows:

    a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 2-1/2 inches.
    b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 6 inches.
    c. Electrical Equipment Rating More Than 5 kVA: A minimum of 12 inches.

4. Separation between communications cables in grounded metallic raceways, power lines, and electrical equipment located in grounded metallic conduits or enclosures shall be as follows:

    a. Electrical Equipment Rating Less Than 2 kVA: No requirement.
    b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 3 inches.
    c. Electrical Equipment Rating More Than 5 kVA: A minimum of 6 inches.

5. Separation between Communications Cables and Electrical Motors and Transformers, 5 kVA or HP and Larger: A minimum of 48 inches.
6. Separation between Communications Cables and Fluorescent Fixtures: A minimum of 5 inches.

3.4 FIRESTOPPING

A. Comply with requirements in Section 078413 "Penetration Firestopping."

B. Comply with TIA-569-D, Annex A, "Firestopping."

C. Comply with "Firestopping Systems" Article in BISCI's "Telecommunications Distribution Methods Manual."

3.5 GROUNDING

A. Install grounding according to the "Grounding, Bonding, and Electrical Protection" chapter in BICSI's "Telecommunications Distribution Methods Manual."

B. Comply with TIA-607-B and NECA/BICSI-607.

C. Locate grounding bus bar to minimize the length of bonding conductors. Fasten to wall, allowing at least a 2-inch clearance behind the grounding bus bar. Connect grounding bus bar to suitable electrical building ground, using a minimum No. 4 AWG grounding electrode conductor.

D. Bond metallic equipment to the grounding bus bar, using not smaller than a No. 6 AWG equipment grounding conductor.

3.6 IDENTIFICATION

A. Identify system components, wiring, and cabling complying with TIA-606-B. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

1. Administration Class: Class 2.
2. Color-code cross-connect fields and apply colors to voice and data service backboards, connections, covers, and labels.

B. Paint and label colors for equipment identification shall comply with TIA-606-B for Class 2 level of administration, including optional identification requirements of this standard.

C. Cable Schedule: Install in a prominent location in each equipment room and wiring closet. List incoming and outgoing cables and their designations, origins, and destinations. Protect with rigid frame and clear plastic cover. Furnish an electronic copy of final comprehensive schedules for Project.

D. Cabling Administration Drawings: Show building floor plans with cabling administration-point labeling. Identify labeling convention and show labels for telecommunications closets, terminal hardware and positions, horizontal cables, work areas and workstation terminal positions, grounding buses and pathways, and equipment grounding conductors.

E. Cable and Wire Identification:

1. Label each cable within 4 inches of each termination and tap, where it is accessible in a cabinet or junction or outlet box, and elsewhere as indicated.
2. Each wire connected to building-mounted devices is not required to be numbered at the device if wire color is consistent with associated wire connected and numbered within panel or cabinet.
3. Label each terminal strip, and screw terminal in each cabinet, rack, or panel.

    a. Individually number wiring conductors connected to terminal strips, and identify each cable or wiring group, extended from a panel or cabinet to a building-mounted device, with the name and number of a particular device.
    b. Label each unit and field within distribution racks and frames.

4. Identification within Connector Fields in Equipment Rooms and Wiring Closets: Label each connector and each discrete unit of cable-terminating and -connecting hardware. Where similar jacks and plugs are used for both voice and data communication cabling, use a different color for jacks and plugs of each service.

F. Labels shall be preprinted or computer-printed type, with a printing area and font color that contrast with cable jacket color but still comply with TIA-606-B requirements for the following:

1. Cables use flexible vinyl or polyester that flexes as cables are bent.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Visually inspect twisted pair cabling jacket materials for NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments, and inspect cabling connections for compliance with TIA-568-C.1.
2. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
3. Test twisted pair cabling for DC loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination but not cross-connection.

a. Test instruments shall meet or exceed applicable requirements in TIA-568-C.2. Perform tests with a tester that complies with performance requirements in "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.

C. Data for each measurement shall be documented. Data for submittals shall be printed in a summary report that is formatted similarly to Table 10.1 in BICSI's "Telecommunications Distribution Methods Manual," or shall be transferred from the instrument to the computer, saved as text files, printed, and submitted.

D. Remove and replace cabling where test results indicate that they do not comply with specified requirements.

E. End-to-end cabling will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

END OF SECTION

SECTION 270528 - PATHWAYS FOR COMMUNICATIONS 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. Metal conduits and fittings.
2. Nonmetallic conduits and fittings.
3. Optical-fiber-cable pathways and fittings.
4. Metal wireways and auxiliary gutters.
5. Nonmetallic wireways and auxiliary gutters.
6. Surface pathways.
7. Boxes, enclosures, and cabinets.
8. Handholes and boxes for exterior underground cabling.

B. Related Requirements:
1. Division 27 Section "Communications Equipment Room Fittings" for voice and data cabling associated with system panels and devices.
2. Division 27 Section "Communications Horizontal Cabling" for voice and data cabling associated with system panels and devices.
3. Division 27 Section "Communications Backbone Cabling" for voice and data cabling associated with system panels and devices.

1.3 DEFINITIONS

A. ARC: Aluminum rigid conduit.

B. GRC: Galvanized rigid steel conduit.

C. IMC: Intermediate metal conduit.

D. Furnish: Supply and deliver to Project site, ready for unloading, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

E. Install: Operations at project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

F. Provide: Furnish and install, complete and ready for the intended use.

1.4 ACTION SUBMITTALS

A. Product Data with Shop Drawings:

1. Product Data: For surface pathways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

a. Provide as a single complete system submittal with master product list referencing each paragraph in this section specifying product.

B. Laboratory Test Reports for Credit IEQ 4: For solvent cements and adhesive primers, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. AFC Cable Systems, Inc.
2. Allied Tube & Conduit; a Tyco International Ltd. Co.
3. Alpha Wire Company.
4. Anamet Electrical, Inc.
5. Electri-Flex Company.
6. O-Z/Gedney; a brand of EGS Electrical Group.
7. Picoma Industries; Subsidiary of Mueller Water Products, Inc.
8. Republic Conduit.
9. Robroy Industries.
10. Southwire Company.
11. Thomas & Betts Corporation.
12. Western Tube and Conduit Corporation.
13. Wheatland Tube Company; a division of John Maneely Company.

B. General Requirements for Metal Conduits and Fittings:
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

C. GRC: Comply with ANSI C80.1 and UL 6.

D. ARC: Comply with ANSI C80.5 and UL 6A.

E. IMC: Comply with ANSI C80.6 and UL 1242.

F. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.
1. Comply with NEMA RN 1.
2. Coating Thickness: 0.040 inch, minimum.

G. EMT: Comply with ANSI C80.3 and UL 797.

H. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
   1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
   2. Fittings for EMT:
      a. Material: Steel or die cast.
      b. Type: Setscrew.
   3. Expansion Fittings: PVC or steel to match conduit type, complying with UL-467, rated for environmental conditions where installed, and including flexible external bonding jumper.
   4. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch, with overlapping sleeves protecting threaded joints.

I. Joint Compound for IMC, GRC, or ARC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

   1. AFC Cable Systems, Inc.
   2. Allied Tube & Conduit; a Tyco International Ltd. Co.
   3. Anamet Electrical, Inc.
   4. Arnco Corporation.
   5. CANTEX Inc.
   6. CertainTeed Corp.
   7. Condux International, Inc.
   8. Electri-Flex Company.
   9. Kraloy.
   10. Lamson & Sessions; Carlon Electrical Products.
   11. Niedax-Kleinhuis USA, Inc.
   12. RACO; a Hubbell company.
   13. Thomas & Betts Corporation.

B. General Requirements for Nonmetallic Conduits and Fittings:
   1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
   2. Comply with TIA-569-B.

C. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.

D. Rigid HDPE: Comply with UL 651A.

E. Continuous HDPE: Comply with UL 651B.

F. RTRC: Comply with UL 1684A and NEMA TC 14.

G. Fittings for RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.

H. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

I. Solvent cements and adhesive primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.3 OPTICAL-FIBER-CABLE PATHWAYS AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Alpha Wire Company.
2. Arnco Corporation.
3. Endot Industries Inc.
4. IPEX.
5. Lamson & Sessions; Carlon Electrical Products.

B. Description: Comply with UL 2024; flexible-type pathway, approved for plenum installation unless otherwise indicated.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

2.4 METAL WIREWAYS AND AUXILIARY GUTTERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Cooper B-Line, Inc.
2. Hoffman; a Pentair company.
3. Mono-Systems, Inc.
4. Square D; a brand of Schneider Electric.

B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1 unless otherwise indicated, and sized according to NFPA 70.
1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Wireway Covers: Hinged type unless otherwise indicated.

E. Finish: Manufacturer's standard enamel finish.

2.5 NONMETALLIC WIREWAYS AND AUXILIARY GUTTERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Allied Moulded Products, Inc.
2. Hoffman; a Pentair company.
3. Lamson & Sessions; Carlon Electrical Products.
4. Niedax-Kleinhuis USA, Inc.

B. General Requirements for Nonmetallic Wireways and Auxiliary Gutters:
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

C. Description: Fiberglass polyester, extruded and fabricated to required size and shape, without holes or knockouts. Cover shall be gasketed with oil-resistant gasket material and fastened with captive screws treated for corrosion resistance. Connections shall be flanged and have stainless-steel screws and oil-resistant gaskets.

D. Description: PVC, extruded and fabricated to required size and shape, and having snap-on cover, mechanically coupled connections, and plastic fasteners.

E. Fittings and Accessories: Couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings shall match and mate with wireways as required for complete system.

F. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

G. Solvent cements and adhesive primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.6 SURFACE PATHWAYS

A. General Requirements for Surface Pathways:
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

B. Surface Nonmetallic Pathways: Two- or three-piece construction, complying with UL 5A, and manufactured of rigid PVC with texture and color selected by Architect from manufacturer's standard colors. Product shall comply with UL-94 V-0 requirements for self-extinguishing characteristics.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Hubbell Incorporated; Wiring Device-Kellems Division.
b. Lamson & Sessions; Carlon Electrical Products.
c. Mono-Systems, Inc.

d. Panduit Corp.
e. Wiremold / Legrand.

C. Tele-Power Poles:
1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Mono-Systems, Inc.
b. Panduit Corp.
c. Wiremold / Legrand.

2. Material: Galvanized steel with ivory baked-enamel finish or Aluminum with clear anodized finish.
3. Fittings and Accessories: Dividers, end caps, covers, cutouts, wiring harnesses, devices, mounting materials, and other fittings shall match and mate with tele-power pole as required for complete system.

2.7 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Cooper Technologies Company; Cooper Crouse-Hinds.
2. Hoffman; a Pentair company.
3. Hubbell Incorporated; Killark Division.
4. Mono-Systems, Inc.
5. Thomas & Betts Corporation.
6. Wiremold / Legrand.

B. General Requirements for Boxes, Enclosures, and Cabinets:
1. Comply with TIA-569-B.
2. Boxes, enclosures and cabinets installed in wet locations shall be listed for use in wet locations.

C. Sheet-Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy or aluminum, Type FD, with gasketed cover.

E. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

F. Metal Floor Boxes:
1. Material: Cast metal or sheet metal.
2. Type: Fully adjustable.
3. Shape: Rectangular.
4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

G. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

H. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum or galvanized, cast iron with gasketed cover.

I. Device Box Dimensions: 4 inches square by 2-1/2 inches deep.

J. Gangable boxes are allowed.

K. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1 with continuous-hinge cover with flush latch unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

L. Cabinets:

1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
2. Hinged door in front cover with flush latch and concealed hinge.
3. Key latch to match panelboards.
4. Metal barriers to separate wiring of different systems and voltage.
5. Accessory feet where required for freestanding equipment.

2.8 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND CABLING

A. General Requirements for Handholes and Boxes:
1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.
2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
3. Comply with TIA-569-B.

B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Armorcast Products Company.
b. Carson Industries LLC.
c. CDR Systems Corporation; Hubbell Power Systems.
d. NewBasis.
e. Oldcastle Precast, Inc.; Christy Concrete Products.
f. Synertech Moulded Products; a division of Oldcastle Precast, Inc.

2. Standard: Comply with SCTE 77.
3. Configuration: Designed for flush burial with closed bottom unless otherwise indicated.
4. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.

5. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
6. Cover Legend: Molded lettering, "COMMUNICATIONS.".
7. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
8. Handholes 12 Inches Wide by 24 Inches Long and Larger: Have inserts for cable racks and pulling-in irons installed before concrete is poured.

C. Fiberglass Handholes and Boxes: Molded of fiberglass-reinforced polyester resin, with frame and covers of polymer concrete.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] <**Insert manufacturer's name; product name or designation**> or comparable product by one of the following:

    a. Armorcast Products Company.
    b. Carson Industries LLC.
    c. CDR Systems Corporation; Hubbell Power Systems.
    d. NewBasis.
    e. Nordic Fiberglass, Inc.
    f. Oldcastle Precast, Inc.; Christy Concrete Products.
    g. Synertech Moulded Products; a division of Oldcastle Precast, Inc.
3. Standard: Comply with SCTE 77.
4. Color of Frame and Cover: Gray.
5. Configuration: Designed for flush burial with closed bottom unless otherwise indicated.
6. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
7. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
8. Cover Legend: Molded lettering, "COMMUNICATIONS.".
9. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
10. Handholes 12 Inches Wide by 24 Inches Long and Larger: Have inserts for cable racks and pulling-in irons installed before concrete is poured.

2.9 SOURCE QUALITY CONTROL FOR UNDERGROUND ENCLOSURES

A. Handhole and Pull-Box Prototype Test: Test prototypes of handholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.
1. Tests of materials shall be performed by an independent testing agency.
2. Strength tests of complete boxes and covers shall be by either an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
3. Testing machine pressure gages shall have current calibration certification complying with ISO 9000 and ISO 10012, and traceable to NIST standards.

PART 3 - EXECUTION

3.1 PATHWAY APPLICATION

A. Outdoors: Apply pathway products as specified below unless otherwise indicated:
1. Exposed Conduit: RNC, Type EPC-40-PVC.
2. Concealed Conduit, Aboveground: RNC, Type EPC-40-PVC.
3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried concrete encased.
4. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Indoors: Apply pathway products as specified below unless otherwise indicated:
1. Exposed, Not Subject to Physical Damage: EMT or RNC.
2. Exposed, Not Subject to Severe Physical Damage: EMT.
3. Exposed and Subject to Severe Physical Damage: GRC. Pathway locations include the following:
    a. Loading dock.
    b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
    c. Mechanical rooms.
    d. Gymnasiums
4. Concealed in Ceilings and Interior Walls and Partitions: EMT RNC, Type EPC-40-PVC or innerduct.
5. Damp or Wet Locations: GRC IMC.
6. Pathways for Optical-Fiber or Communications Cable in Spaces Used for Environmental Air: Plenum-type, optical-fiber-cable pathway Plenum-type, communications-cable pathway EMT Insert pathway type.
7. Pathways for Optical-Fiber or Communications-Cable Risers in Vertical Shafts: Riser-type, optical-fiber-cable pathway Riser-type, communications-cable pathway EMT Insert pathway type.
8. Pathways for Concealed General-Purpose Distribution of Optical-Fiber or Communications Cable: General-use, optical-fiber-cable pathway Riser-type, optical-fiber-cable pathway Plenum-type, optical-fiber-cable pathway General-use, communications-cable pathway Riser-type, communications-cable pathway Plenum-type, communications-cable pathway EMT.
9. Boxes and Enclosures: NEMA 250 Type 1, except use NEMA 250 Type 4 stainless steel nonmetallic in institutional and commercial kitchens and damp or wet locations.

C. Minimum Pathway Size: 3/4-inch trade size. Minimum size for optical-fiber cables is 1 inch.

D. Pathway Fittings: Compatible with pathways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
3. EMT: Use setscrew, steel or cast-metal fittings. Comply with NEMA FB 2.10.

E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.

F. Install surface pathways only where indicated on Drawings.

G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.2 INSTALLATION

A. Comply with NECA 1, NECA 101, and TIA-569-B for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum pathways. Comply with NFPA 70 limitations for types of pathways allowed in specific occupancies and number of floors.

B. Keep pathways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal pathway runs above water and steam piping.

C. Complete pathway installation before starting conductor installation.

D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

E. Arrange stub-ups so curved portions of bends are not visible above finished slab.

F. Install no more than the equivalent of two 90-degree bends in any pathway run. Support within 12 inches of changes in direction. Utilize long radius ells for all optical-fiber cables.

G. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.

H. Support conduit within 12 inches of enclosures to which attached.

I. Pathways Embedded in Slabs:
   1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure pathways to reinforcement at maximum 10-foot intervals.
   2. Arrange pathways to cross building expansion joints at right angles with expansion fittings.
   3. Arrange pathways to keep a minimum of 2 inches of concrete cover in all directions.
   4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
   5. Change from ENT to RNC, Type EPC-40-PVC, GRC or IMC before rising above floor.

J. Stub-ups to Above Recessed Ceilings:
   1. Use EMT, IMC, or RMC for pathways.
   2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.

K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of pathway and fittings before making up joints. Follow compound manufacturer's written instructions.

L. Coat field-cut threads on PVC-coated pathway with a corrosion-preventing conductive compound prior to assembly.

M. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install insulated bushings on conduits terminated with locknuts.

N. Install pathways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.

O. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.

P. Cut conduit perpendicular to the length. For conduits of 2-inch trade size and larger, use roll cutter or a guide to ensure cut is straight and perpendicular to the length.

Q. Install pull wires in empty pathways. Use polypropylene or monofilament plastic line with not less than 200-lbtensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground pathways designated as spare above grade alongside pathways in use.

R. Surface Pathways:
1. Install surface pathway for surface telecommunications outlet boxes only where indicated on Drawings.
2. Install surface pathway with a minimum 2-inch radius control at bend points.
3. Secure surface pathway with screws or other anchor-type devices at intervals not exceeding 48 inches and with no less than two supports per straight pathway section. Support surface pathway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.

S. Pathways for Optical-Fiber and Communications Cable: Install pathways, metal and nonmetallic, rigid and flexible, as follows:
1. 3/4-Inch Trade Size and Smaller: Install pathways in maximum lengths of 50 feet.
2. 1-Inch Trade Size and Larger: Install pathways in maximum lengths of 75 feet.
3. Install with a maximum of two 90-degree bends or equivalent for each length of pathway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.

T. Install pathway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed pathways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install pathway sealing fittings according to NFPA 70.

U. Install devices to seal pathway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all pathways at the following points:
1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
2. Where an underground service pathway enters a building or structure.
3. Where otherwise required by NFPA 70.

V. Comply with manufacturer's written instructions for solvent welding PVC conduit and fittings.

W. Expansion-Joint Fittings:
1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F, and that has straight-run length that exceeds 25 feet. Install in each run of aboveground RMC and EMT conduit that is located where environmental temperature change may exceed 100 deg F and that has straight-run length that exceeds 100 feet.
2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
    a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
    b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
    c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
    d. Attics: 135 deg F temperature change.
3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.
4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

X. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.

Y. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surface to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.

Z. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.

AA. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.

BB. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

CC. Set metal floor boxes level and flush with finished floor surface.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

A. Direct-Buried Conduit:
1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Section 312000 "Earth Moving" for pipe less than 6 inches in nominal diameter.

2. Install backfill as specified in Section 312000 "Earth Moving."
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Section 312000 "Earth Moving."
4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.
    a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.
    b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.
6. Warning Planks: Bury warning planks approximately 12 inches above direct-buried conduits, but a minimum of 6 inches below grade. Align planks along centerline of conduit.
7. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.

B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.

D. Install handholes with bottom below frost line, <**Insert depth of frost line below grade at Project site**> below grade.

E. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in enclosure.

F. Field cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR COMMUNICATIONS

PENETRATIONS

A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 270544 "Sleeves and Sleeve Seals for Communications Pathways and Cabling."

3.6 FIRESTOPPING

A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.7 PROTECTION

A. Protect coatings, finishes, and cabinets from damage or deterioration.
   1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
   2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

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. Cold-applied joint sealants.

B. Related Sections:

1. Division 07 Section "Joint Sealants" for sealing nontraffic and traffic joints in locations not specified in this Section.
2. Division 32 Section "Asphalt Paving" for constructing joints between concrete and asphalt pavement.
3. Division 32 Section "Concrete Paving" for constructing joints in concrete pavement.

1.3 ACTION SUBMITTALS

A. Product Data with Pavement-Joint-Sealant Schedule:

1. Product Data: For each joint-sealant product indicated.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.

1.5 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.

4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Crafco Inc., an ERGON company; RoadSaver Silicone SL.
b. Dow Corning Corporation; 890-SL.
c. Pecora Corporation; 300 SL.

2.3 JOINT-SEALANT BACKER MATERIALS

A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.

B. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

2.4 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

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

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install joint-sealant backings of kind indicated to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of joint-sealant backings.
2. Do not stretch, twist, puncture, or tear joint-sealant backings.
3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place joint sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

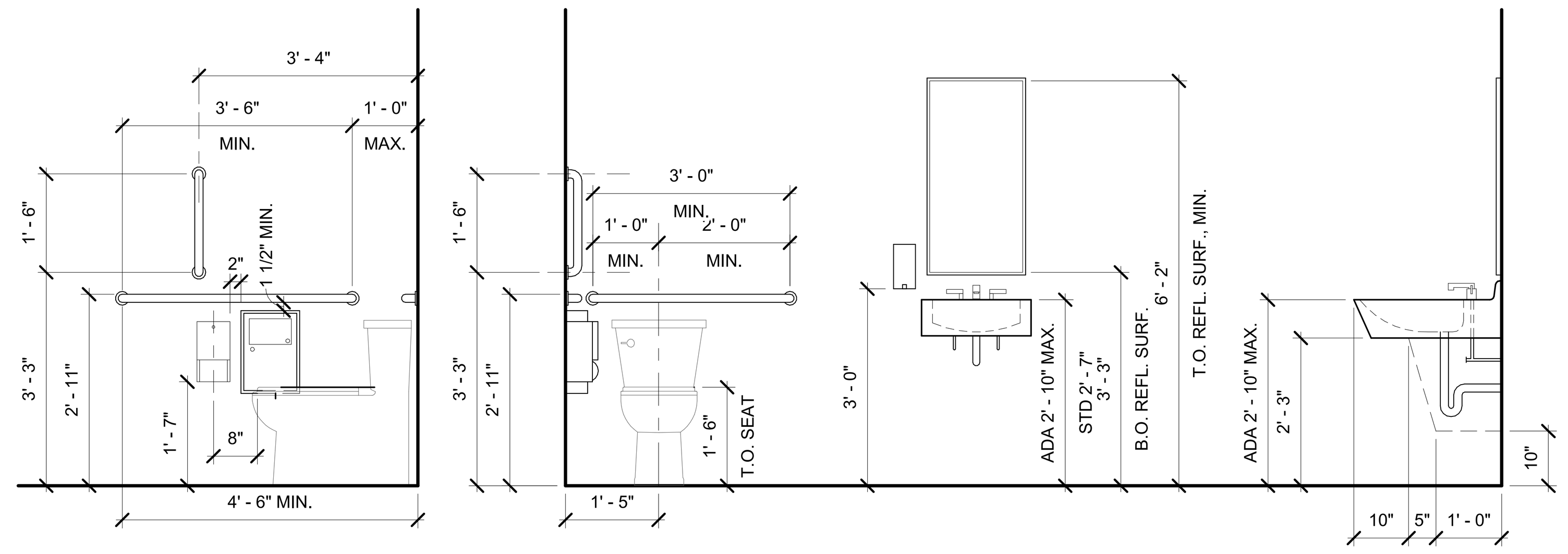
3.4 CLEANING

A. Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

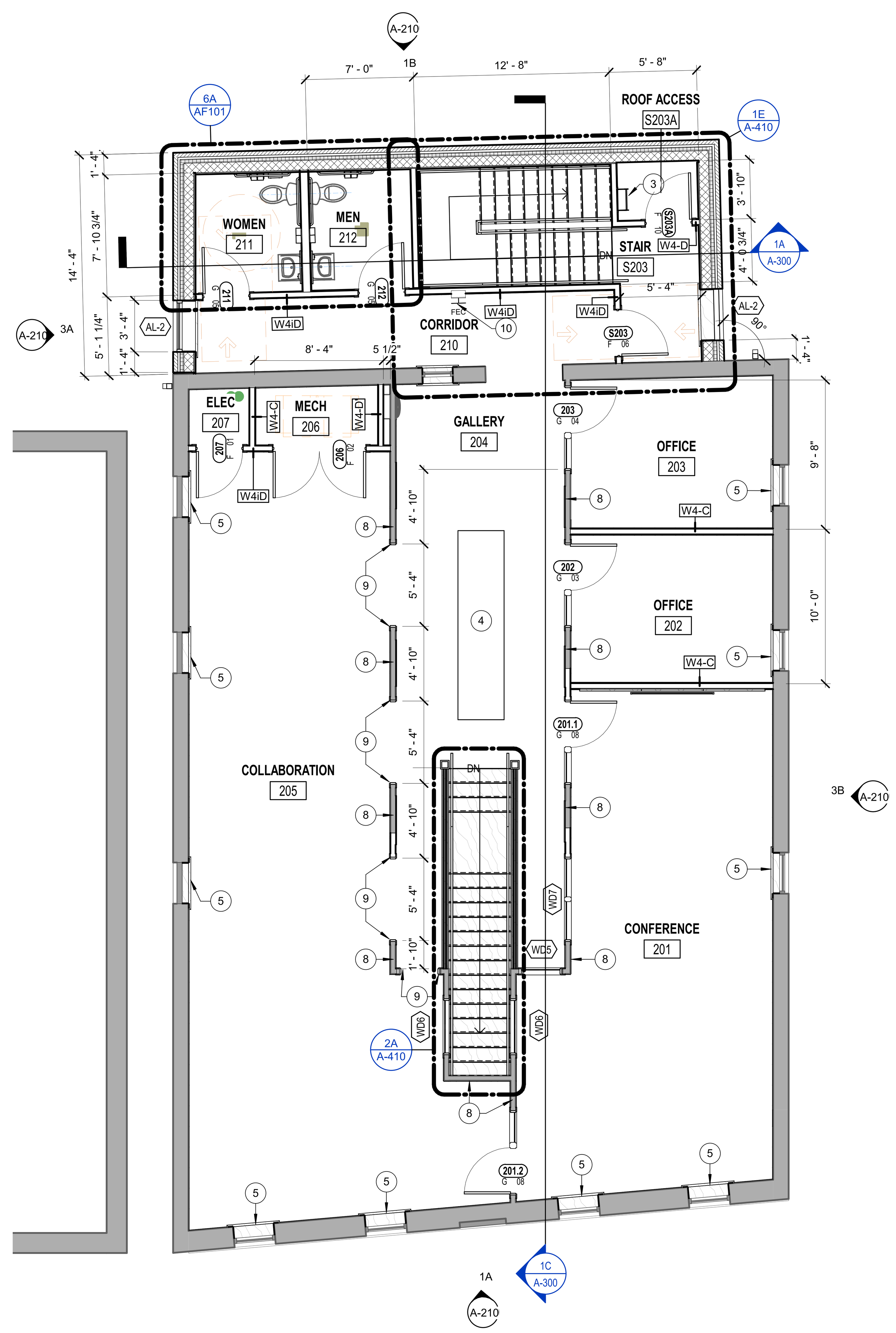
END OF SECTION



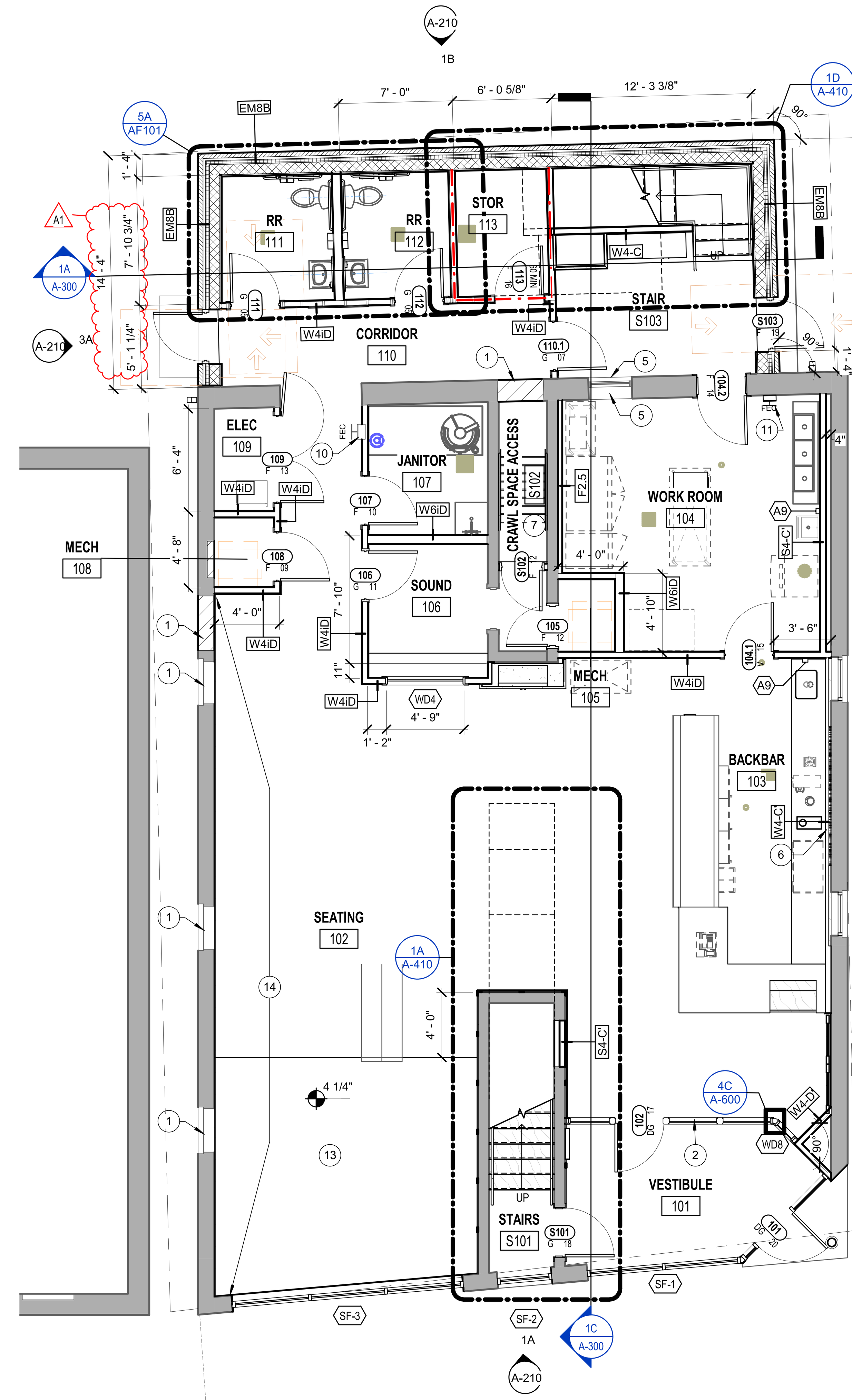
5E STANDARD RESTROOM ELEVATIONS
1/2" = 1'-0"

FLOOR PLAN NOTES

#	Note
1	INFILL OPENING WITH WALL TO MATCH SURROUNDING/ADJACENT WALL CONSTRUCTION. VERIFY EXISTING WALL CONDITIONS/CONSTRUCTION AND DIMENSIONS IN THE FIELD. ALIGN THE FACE OF THE NEW INFILL WALL WITH THE ADJACENT EXISTING WALL FACE.
2	06 40 23 - NEW RED OAK STOREFRONT SYSTEM
3	05 50 00 - METAL ROOF ACCESS LADDER
4	INFILL FLOOR TO MATCH EXISTING CONSTRUCTION.
5	06 40 23 - NEW RED OAK STOOL AND CASING AROUND EXISTING WINDOWS. PROFILE TO MATCH NEW INTERIOR WOOD WINDOWS AND TRANSOMS.
6	EXTEND FURRING WALL (W4-C') TO 5'-6" AFF ENTIRE LENGHT OF BACKBAR.
7	05 50 00 - NEW ALUMINUM SHIPS LADDER CRAWLSPACE. SEE DETAIL ON SHEET A-410.
7	06 10 00 - NEW WOOD STAIRS TO CRAWLSPACE.
8	09 29 00 - NEW 5/8" TYPE "X" GYPSUM WALL BOARD ON BOTH SIDES OF EXISTING WOOD FRAMING. - TYP ALL INTERIOR WALLS ON SECOND FLOOR.
9	06 40 23 - RED OAK CASED OPENING. PROFILE TO MATCH NEW INTERIOR WOOD WINDOWS AND TRANSOMS.
10	10 44 13 - SEMI-RECESSED FIRE EXTINGUISHER CABINET
11	10 44 13 - SURFACE MOUNTED FIRE EXTINGUISHER CABINET
13	NEW RAISED PLATFORM. OVERBUILD EXISTING FLOOR WITH 2X4 JOISTS AND 3/4" PLYWOOD SUBFLOOR. SEE I-SERIES DRAWINGS FOR REMOVABLE RAMP REQUIREMENTS.
14	04 01 20.99 - SEAL ALL EXPOSED BRICK



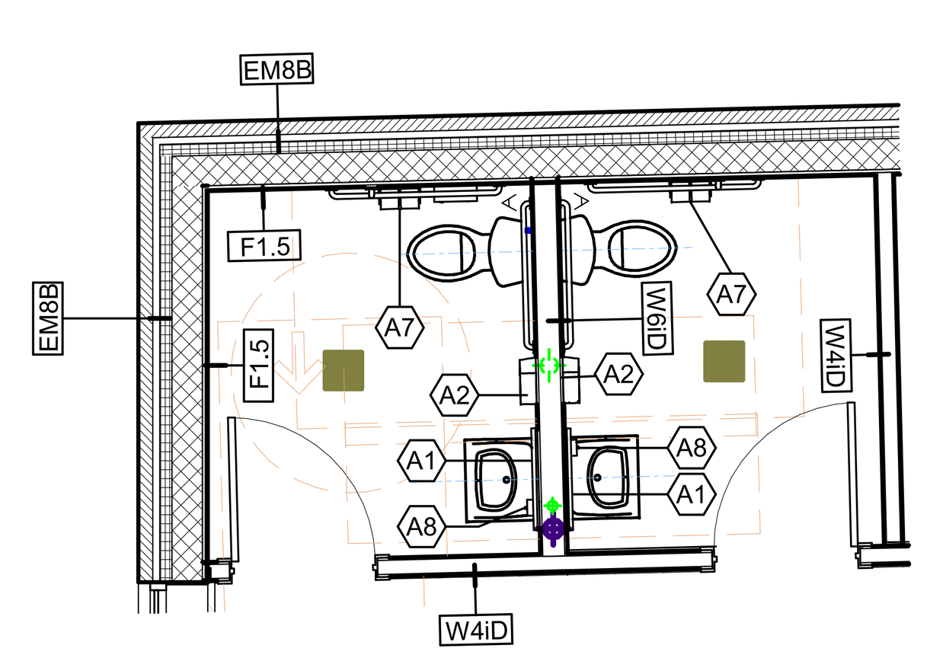
3A SECOND FLOOR PLAN
3/16" = 1'-0"



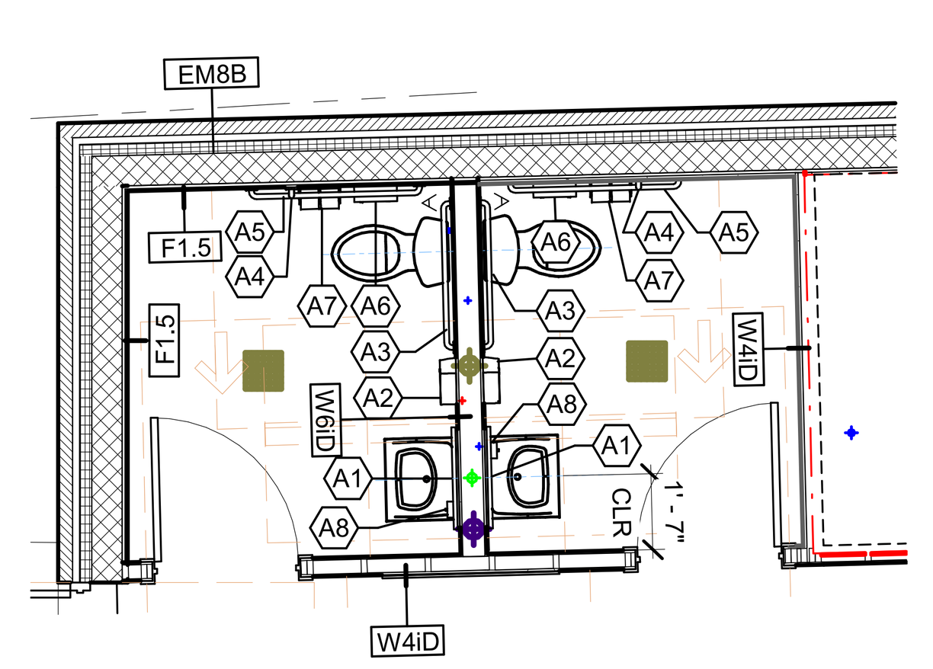
1A GROUND FLOOR PLAN
3/16" = 1'-0"

5.4.401 - RESTROOM ACCESSORY SCHEDULE

Type Mark	Keynote	Description	Mounting	Furnished By	Installed By
A1	10 28 00	27" x 36" MIRROR	40" MAX TO BTM OF REFLECTIVE SURFACE	CONTRACTOR	CONTRACTOR
A2	10 28 00	HAND DRYER - SLIM	BOTTOM @ 42" AFF	CONTRACTOR	CONTRACTOR
A3	10 28 00	GRAB BAR - 36" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
A4	10 28 00	GRAB BAR - 18" VERTICAL	BOTTOM @ 40" AFF	CONTRACTOR	CONTRACTOR
A5	10 28 00	GRAB BAR - 42" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
A6	10 28 00	SANITARY NAPKIN DISPOSAL - SURFACE	TOP @ 30" AFF	CONTRACTOR	CONTRACTOR
A7	10 28 00	TOILET TISSUE DISPENSER - DOUBLE	BOTTOM @ 1'-6 AFF	CONTRACTOR	CONTRACTOR
A8	10 28 00	SOAP DISPENSER	LAVATORY DECK	CONTRACTOR	CONTRACTOR
A9	10 28 00	SOAP DISPENSER	BOTTOM @ 4" ABOVE FIXTURE	CONTRACTOR	CONTRACTOR



6A SECOND FLOOR ENLARGED RESTROOM PLAN
1/4" = 1'-0"



5A GROUND FLOOR ENLARGED RESTROOM PLAN
1/4" = 1'-0"

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Project No. 2019-054.WSR
Project Date 03.28.2023
Produced DM

#	Revision	Date
A1	Addendum #1	04.13.2023

1446 E Washington St.
Indianapolis, IN 46201

KEY PLAN

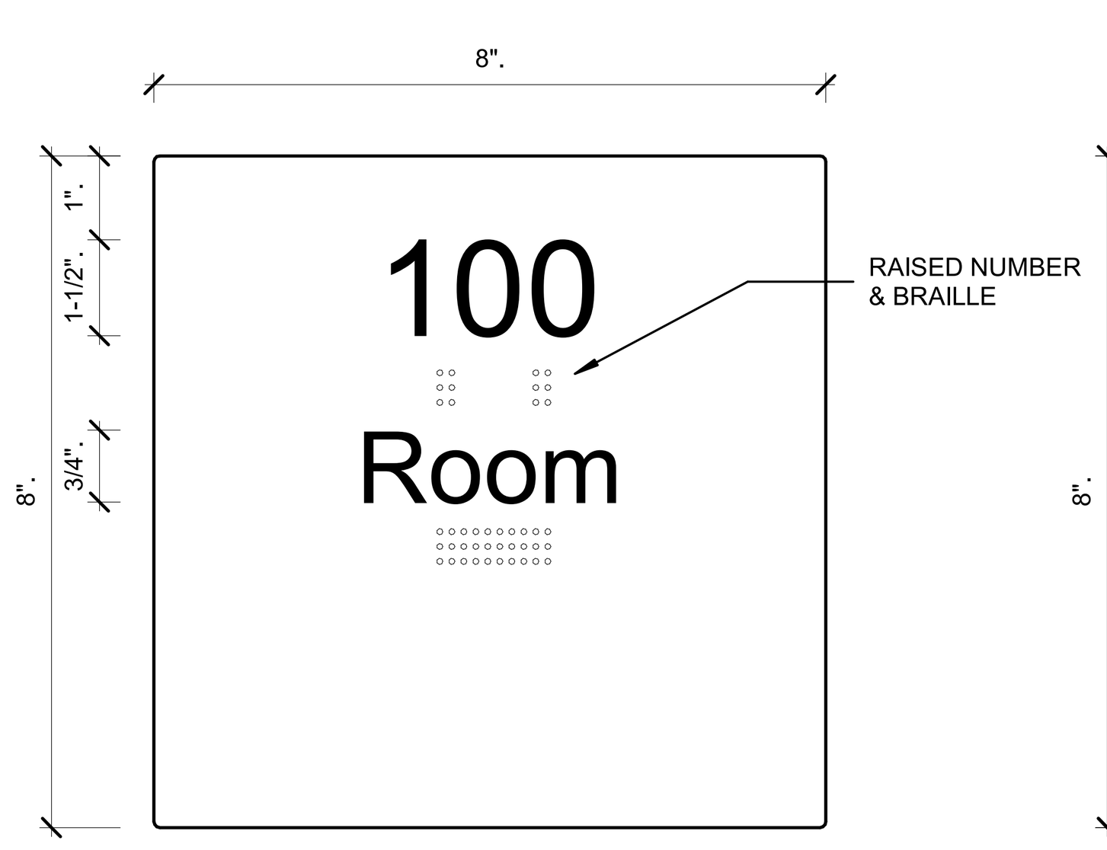
DAMIEN CENTER
DAMIEN CENTER
ONE HOME FOR HIV WELLNESS
1446 E Washington Street Renovation

FLOOR PLANS

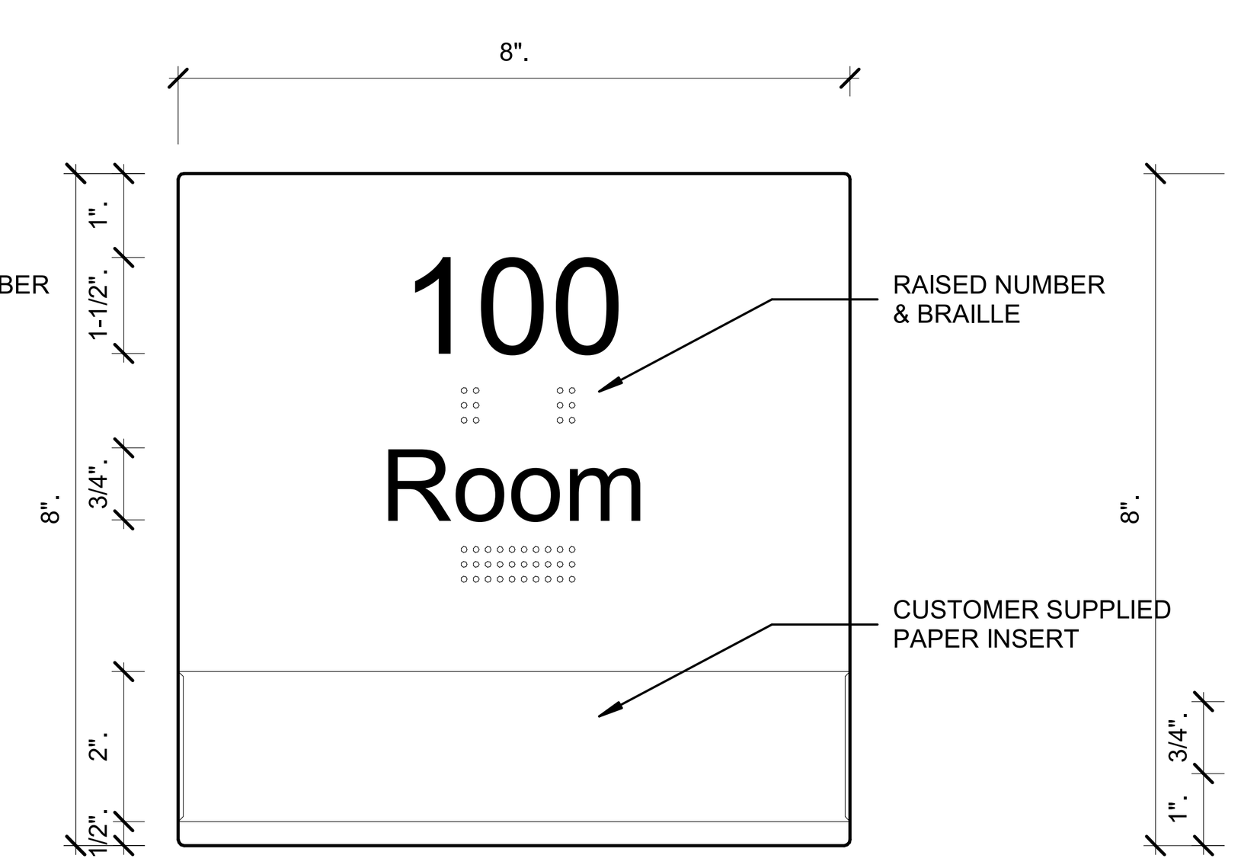
AF101

ROOM SIGNAGE SCHEDULE

ROOM NAME	ROOM NUMBER	ROOM SIGNAGE	QUANTITY
VESTIBULE	101	--	--
SEATING	102	F (occupancy 49)	1
BACKBAR	103	--	--
WORK ROOM	104	A	2
MECH	105	A	1
SOUND	106	A	1
JANITOR	107	A	1
MECH	108	A	1
ELEC	109	A	1
CORRIDOR	110	--	--
STOR	113	A	1
WOMENS RR	121	C2	1
MENS RR	122	C2	1
CONFERENCE	201	A	2
OFFICE	202	B	1
OFFICE	203	B	1
GALLERY	204	--	--
COLLABORATION	205	F	1
MECH	206	A	1
ELEC	207	A	1
CORRIDOR	210	--	--
WOMEN	211	C2	1
MEN	212	C2	1
STAIRS	S101	D	1
CRAWL SPACE ACCESS	S102	--	1
STAIR	S103	D	1
STAIR	S203	D	1
ROOF ACCESS	S203A	A	1

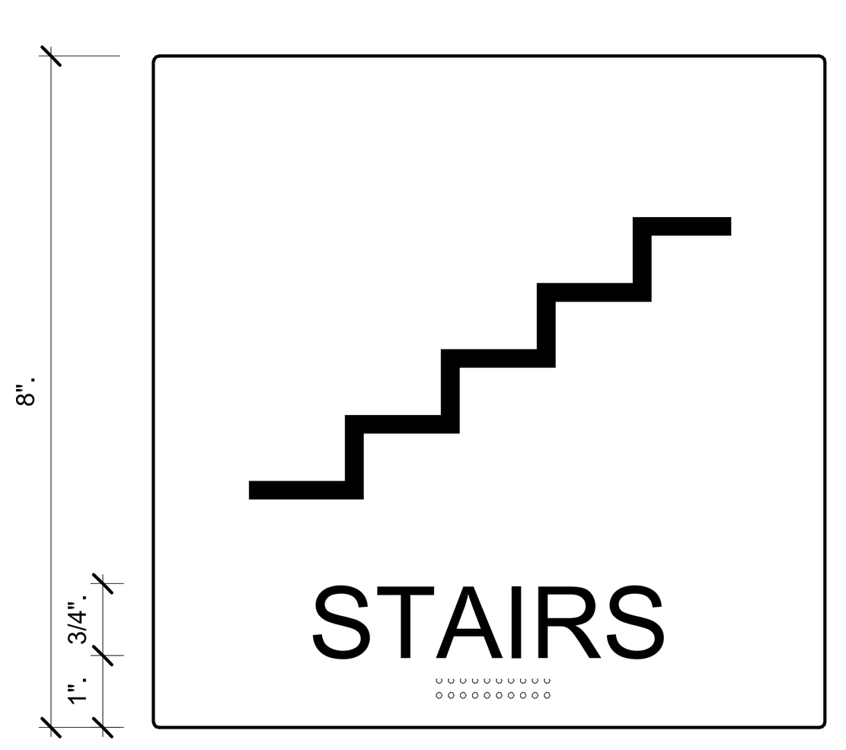


SIGN TYPE "A"



SIGN TYPE "B", WINDOW SIGN

SIGN TYPE "C2"



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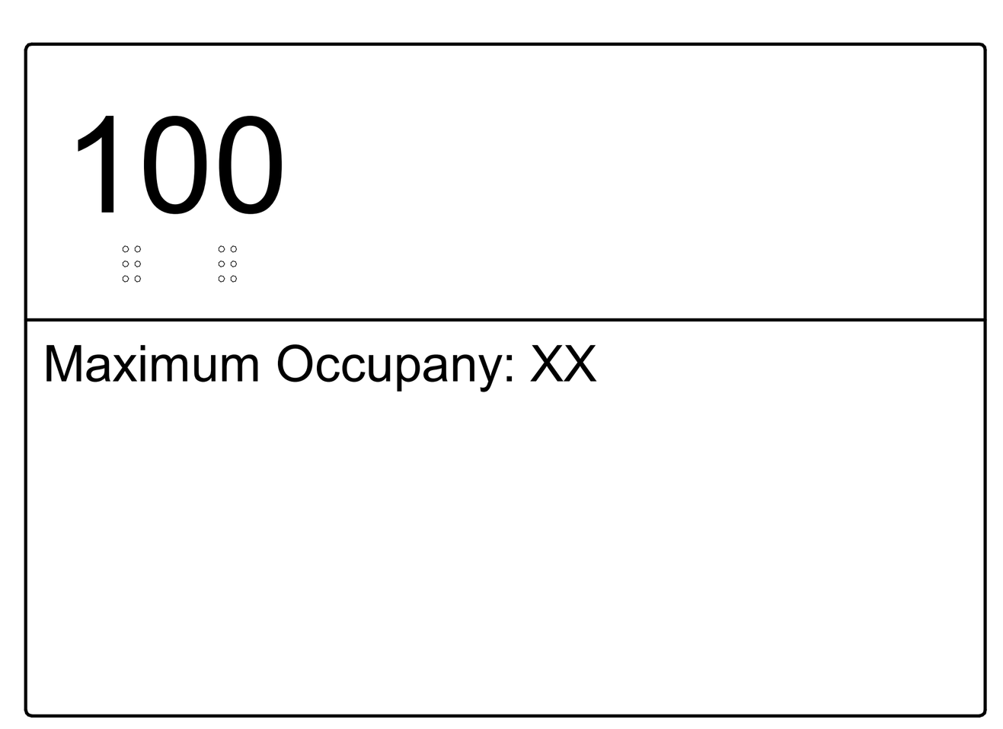

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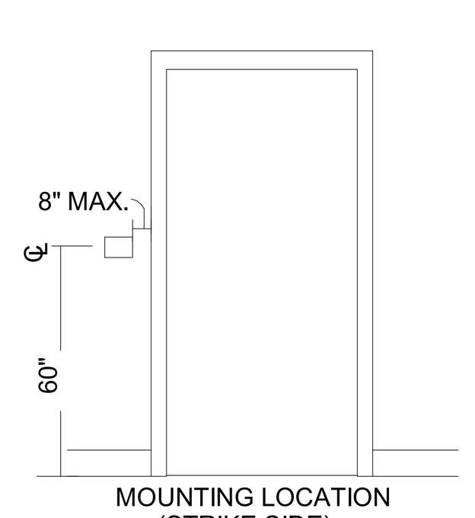
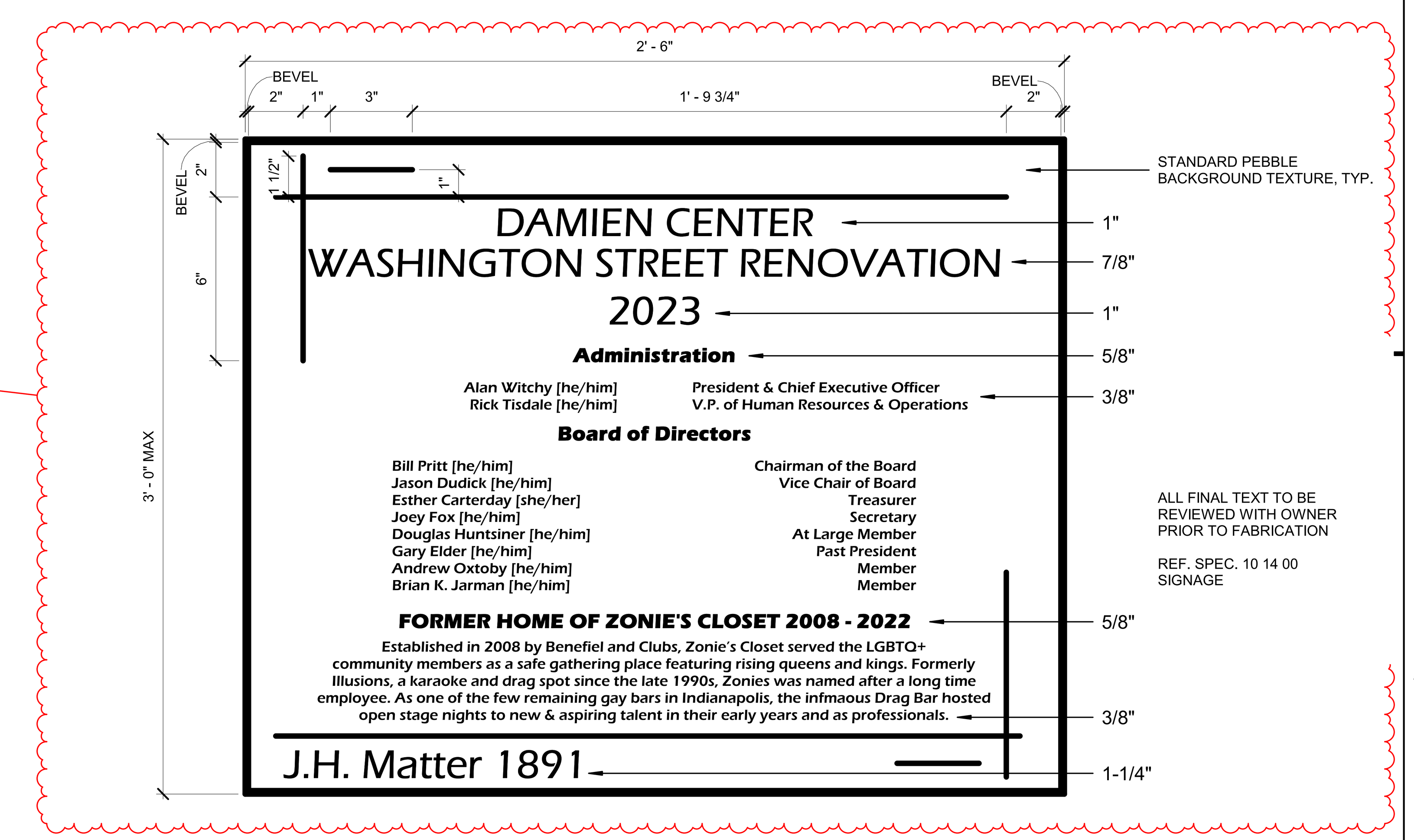


SIGNAGE DETAILS

MATERIAL: ACRYLIC PANEL SIGN
GRAPHICS: HELVETICA REGULAR
BACKGROUND COLOR: TO BE SELECTED
TEXT COLOR: TO BE SELECTED
MOUNTING: CUSHION DOUBLED SIDED TAPE



2A BUILDING PLAQUE
3" = 1'-0"

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Project No. 2019-054.WSR
Project Date 03.28.2023
Produced LGK

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	Addendum #1	04.13.2023

1446 E Washington St.
Indianapolis, IN 46201

KEY PLAN

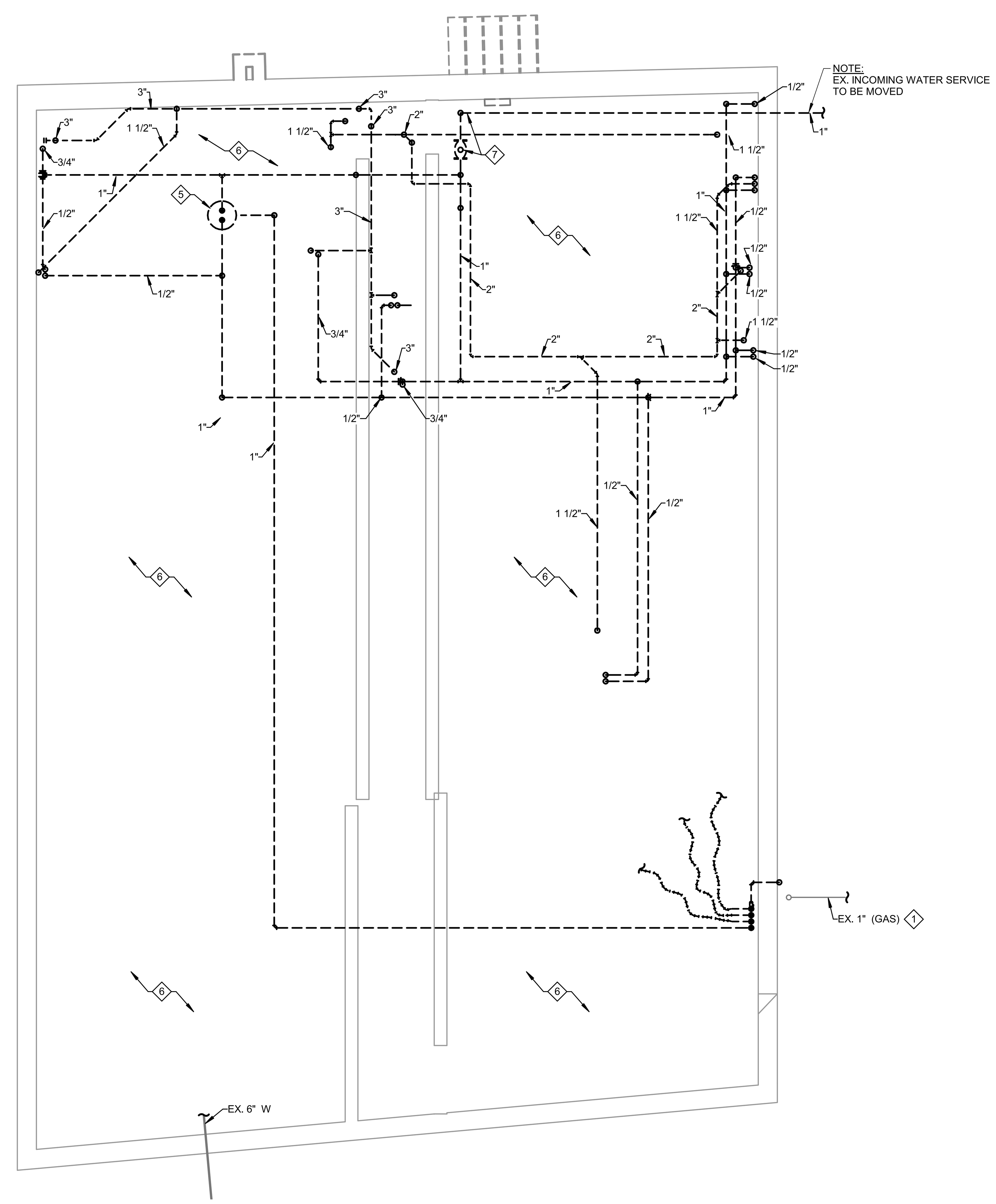
DAMIEN CENTER

DAMIEN CENTER ONE HOME FOR HIV WELLNESS

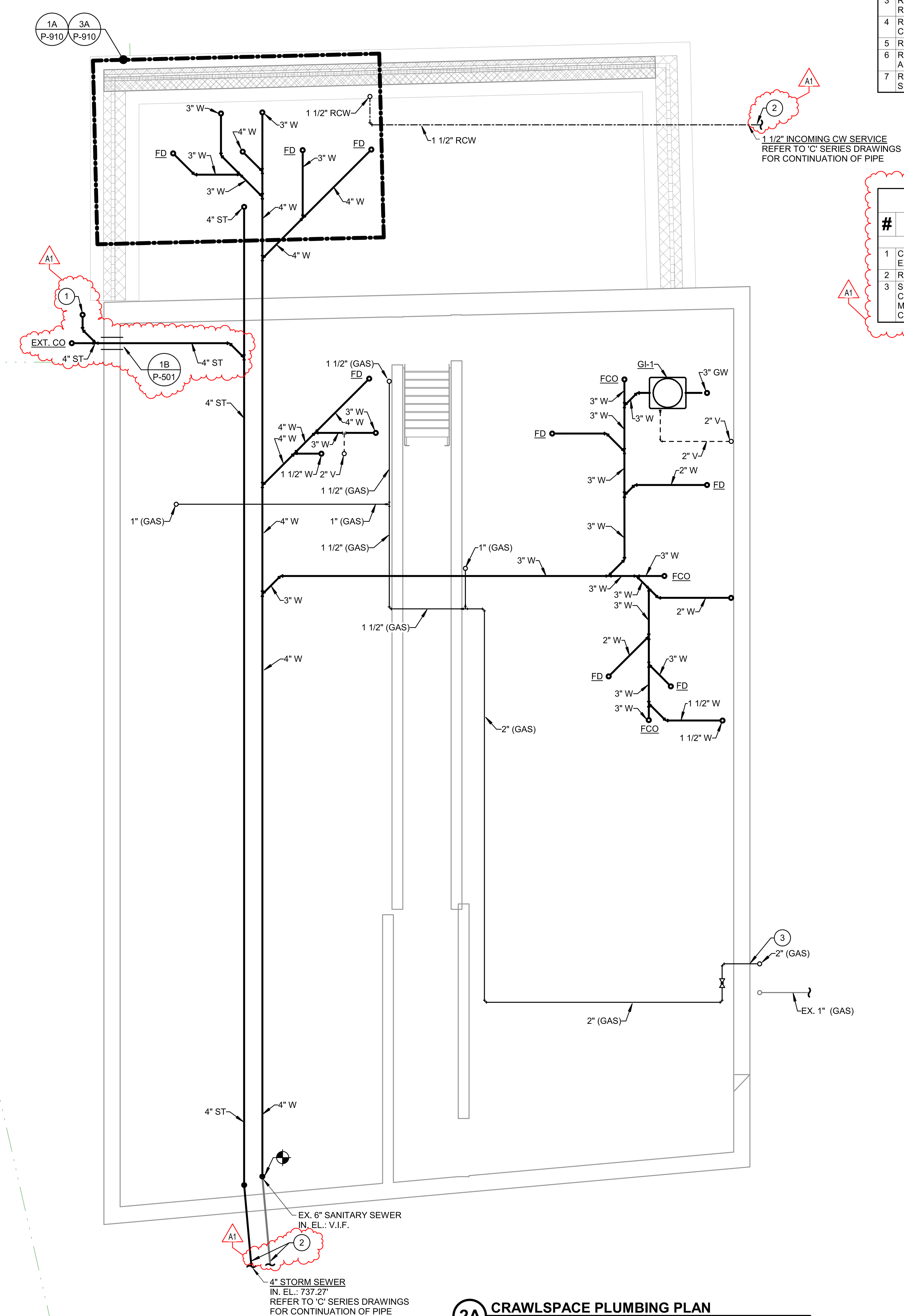
1446 E Washington Street Renovation

SIGNAGE SCHEDULE, TYPES, & PLAQUE

I-601



5A CRAWLSPACE DEMOLITION PLUMBING PLAN
1/4" = 1'-0"



2A CRAWLSPACE PLUMBING PLAN
1/4" = 1'-0"

PLUMBING GENERAL NOTES

1. PIPING LABEL "EX" EXISTING IS TO REMAIN.
2. EXISTING PIPE ROUTING, AS SHOWN ON DRAWINGS, IS BASED UPON RECORD DOCUMENTS AND FIELD SURVEYS. ACTUAL ROUTE OF CONCEALED PIPING MAY VARY. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY PIPE ROUTING PRIOR TO SAW CUTTING OF FLOOR SLABS.
3. CONTRACTOR SHALL JET AND THOROUGHLY FLUSH EXISTING SANITARY SEWERS WHERE DOCUMENTS CALL FOR NEW WASTE PIPE CONNECTIONS.
4. ALL UNDERGROUND SANITARY OR STORM PIPING SHOWN TO BE ABANDONED IN PLACE SHALL BE CAPPED AND FILLED WITH FLOWABLE FILL.
5. WHERE PLUMBING FIXTURE ROUGH-IN PIPING IS SHOWN TO BE ABANDONED IN WALLS OR BELOW FLOOR SLAB, ROUGH-INS SHALL BE REMOVED TO A POINT BEYOND THE FINISHED SURFACE AND CAPPED. PATCH SURFACE TO MATCH EXISTING FINISH.
6. IN AREAS WHERE A FULL REMODEL IS INDICATED ON THE DRAWINGS, CONTRACTOR SHALL REMOVE ALL OVERHEAD PIPING AND HANGERS COMPLETE UNLESS OTHERWISE INDICATED.
7. WHERE SANITARY OR ACID VENT THROUGH ROOF IS SHOWN TO BE ABANDONED IN PLACE, CONTRACTOR SHALL PERMANENTLY CAP PIPE ABOVE AND BELOW ROOF FOR A WATER TIGHT SEAL.
8. WALK-THRU CHASES ARE DESIGNED FOR MAINTENANCE PURPOSES. NO PIPING PERMITTED TO CROSS FROM A COMMON HEADER BELOW 8'-0" A.F.F.

DEMOLITION PLAN NOTES

#	NOTE
1	EXISTING INCOMING GAS SERVICE.
2	REMOVE EXISTING FIXTURE AND ALL ASSOCIATED PIPING.
3	REMOVE EXISTING DOMESTIC WATER AND WASTE/VENT PIPING. FIXTURE TO BE RELOCATED.
4	REMOVE EXISTING WASTE AND VENT AT FLOOR AND IN OVERHEAD SPACE COMPLETE.
5	REMOVE EXISTING WATER HEATER AND ASSOCIATED HW/CW/GAS PIPING.
6	REMOVE ALL PLUMBING-RELATED DISCARDED PIPING EQUIPMENT IN CRAWLSPACE AREA.
7	REMOVE EXISTING WATER METER AND ASSOCIATED PIPING. INCOMING WATER SERVICE TO BE MOVED IN NEW PHASE WORK.

FOUNDATION PLUMBING PLAN NOTES

#	NOTE
1	CONNECT 4" STORM WITH DOWNSPOUT BOOT TO EXISTING DOWNSPOUT. V.I.F. EXACT LOCATION. REFER TO DETAIL 1D SHEET CU501
2	REFER TO SITE UTILITY PLAN FOR CONTINUATION OF PIPING
3	SEAL EXISTING GAS PENETRATION AND REPAIR MATCHING EXTERIOR FINISH. CORE DRILL SEPARATE HOLE FOR GAS SERVICE LINE WITH LINK SEAL RECESSED A MINIMUM OF 1", SEALED WITH EXTERIOR GRADE SILICONE CAULKING AND COVERED WITH STAINLESS STEEL ESCUTCHEON PLATE SECURED IN PLACE.

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Project No. 2019-054.WSR
Project Date 03.28.2023
Produced JMH / EP

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

#	Revision	Date
A1	ADDENDUM #1	04.13.2023

1446 E Washington St.
Indianapolis, IN 46201

KEY PLAN

DAMIEN CENTER
ONE HOME FOR HIV WELLNESS

1446 E Washington Street Renovation

CRAWLSPACE DEMOLITION & NEW PLUMBING PLANS

PF101

PLUMBING GENERAL NOTES

1. PIPING LABEL "EX" EXISTING IS TO REMAIN.
2. EXISTING PIPE ROUTING, AS SHOWN ON DRAWINGS, IS BASED UPON RECORD DOCUMENTS AND FIELD SURVEYS. ACTUAL ROUTE OF CONCEALED PIPING MAY VARY. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY PIPE ROUTING PRIOR TO SAW CUTTING OF FLOOR SLABS.
3. CONTRACTOR SHALL JET AND THOROUGHLY FLUSH EXISTING SANITARY SEWERS WHERE DOCUMENTS CALL FOR NEW WASTE PIPE CONNECTIONS.
4. ALL UNDERGROUND SANITARY OR STORM PIPING SHOWN TO BE ABANDONED IN PLACE SHALL BE CAPPED AND FILLED WITH FLOWABLE FILL.
5. WHERE PLUMBING FIXTURE ROUGH-IN PIPING IS SHOWN TO BE ABANDONED IN WALLS OR BELOW FLOOR SLAB, ROUGH-INS SHALL BE REMOVED TO A POINT BEYOND THE FINISHED SURFACE AND CAPPED. PATCH SURFACE TO MATCH EXISTING FINISH.
6. IN AREAS WHERE A FULL REMODEL IS INDICATED ON THE DRAWINGS, CONTRACTOR SHALL REMOVE ALL OVERHEAD PIPING AND HANGERS COMPLETE UNLESS OTHERWISE INDICATED.
7. WHERE SANITARY OR ACID VENT THROUGH ROOF IS SHOWN TO BE ABANDONED IN PLACE, CONTRACTOR SHALL PERMANENTLY CAP PIPE ABOVE AND BELOW ROOF FOR A WATER TIGHT SEAL.
8. WALK-THRU CHASES ARE DESIGNED FOR MAINTENANCE PURPOSES. NO PIPING PERMITTED TO CROSS FROM A COMMON HEADER BELOW 8'-0" A.F.F.

DEMOLITION PLAN NOTES

#	NOTE
1	EXISTING INCOMING GAS SERVICE.
2	REMOVE EXISTING FIXTURE AND ALL ASSOCIATED PIPING.
3	REMOVE EXISTING DOMESTIC WATER AND WASTE/VENT PIPING. FIXTURE TO BE RELOCATED.
4	REMOVE EXISTING WASTE AND VENT AT FLOOR AND IN OVERHEAD SPACE COMPLETE.
5	REMOVE EXISTING WATER HEATER AND ASSOCIATED HW/CW/GAS PIPING.
6	REMOVE ALL PLUMBING-RELATED DISCARDED PIPING EQUIPMENT IN CRAWLSPACE AREA.
7	REMOVE EXISTING WATER METER AND ASSOCIATED PIPING. INCOMING WATER SERVICE TO BE MOVED IN NEW PHASE WORK.

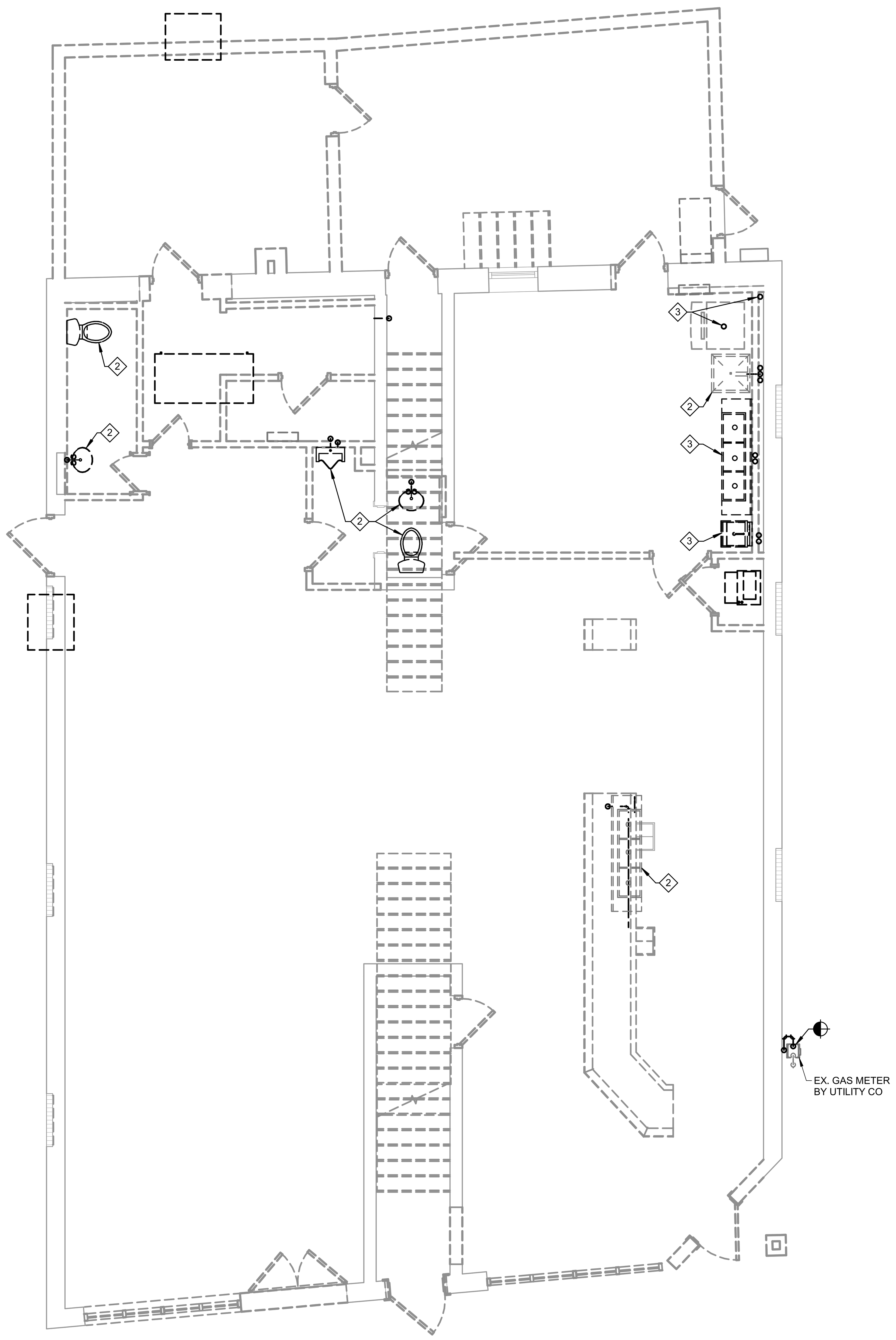
PLUMBING PLAN NOTES

A1

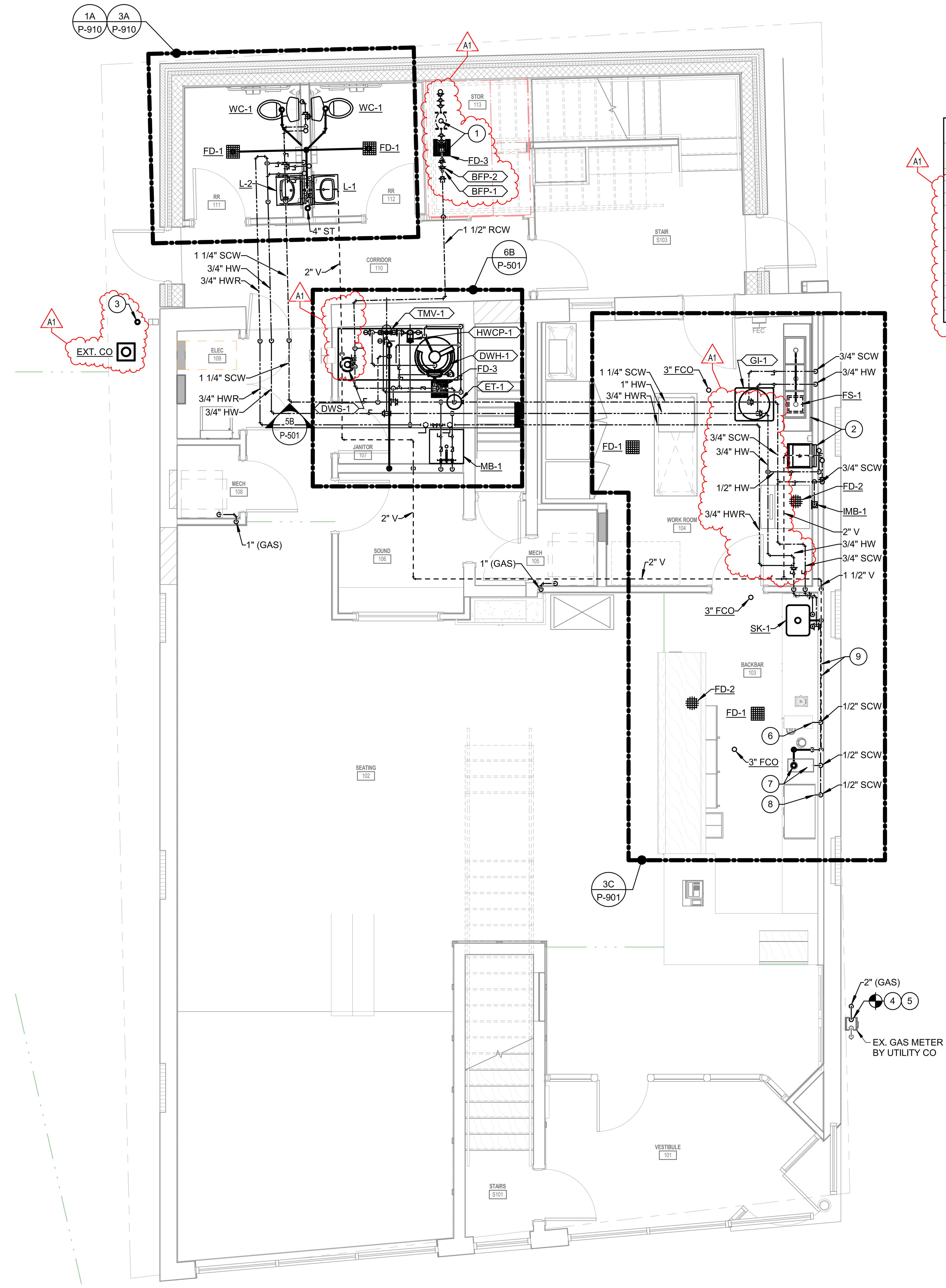
#	NOTE
1	1 1/2" WATER SERVICE WITH DUAL 3/4" METER ASSEMBLY AND DUAL 1" BFP'S
2	RELOCATED EXISTING FIXTURE.
3	CONNECT 4" STORM WITH DOWNSPOUT BOOT TO EXISTING DOWNSPOUT. V.I.F. EXACT LOCATION. REFER TO DETAIL 1D SHEET CU501
4	PROPOSED CONNECTED LOAD IS 520,000 BTUH AT 6" WATER COLUMN DELIVERY PRESSURE
5	COORDINATE WITH CITIZEN'S ENERGY GROUP TO UPSIZE GAS METER IF REQUIRED FOR NEW CONNECTED GAS LOAD.
6	1/2" SCW TO ICE TEA BREWER
7	1/2" SCW & 1 1/2" W TO ESPRESSO RINSE SINK
8	1/2" SCW TO ESPRESSO COFFEE MACHINE
9	ROUTE WATER LINES WITHIN FURRING WALL

PLUMBING FIXTURE ROUGH-IN LEGEND

MARK	FIXTURE CONNECTION			
	CW	HW	W	V
DF-1	1/2"		0"	0"
FD-1			3"	
FD-2			2"	
FD-3			4"	
FS-1			3"	
L-1	1/2"	1/2"	1 1/2"	1 1/2"
L-2	1/2"	1/2"	1 1/2"	1 1/2"
IMB-1	1/2"			
OFD-1			4"	
RD-1			4"	
MB-1	3/4"	3/4"	3"	1 1/2"
SK-1	1/2"	1/2"	1 1/2"	1 1/2"
WC-1	1/2"		3"	1 1/2"



5A GROUND LEVEL DEMOLITION PLUMBING PLAN
1/4" = 1'-0"



2A GROUND LEVEL PLUMBING PLAN
1/4" = 1'-0"

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2019-054.WSR
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1446 E Washington St.
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KEY PLAN

DAMIEN CENTER

DAMIEN CENTER
ONE HOME FOR HIV WELLNESS

1446 E Washington Street Renovation

GROUND FLOOR DEMOLITION & NEW PLUMBING PLANS

PP101

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FD-3			4"	
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IMB-1	1/2"			
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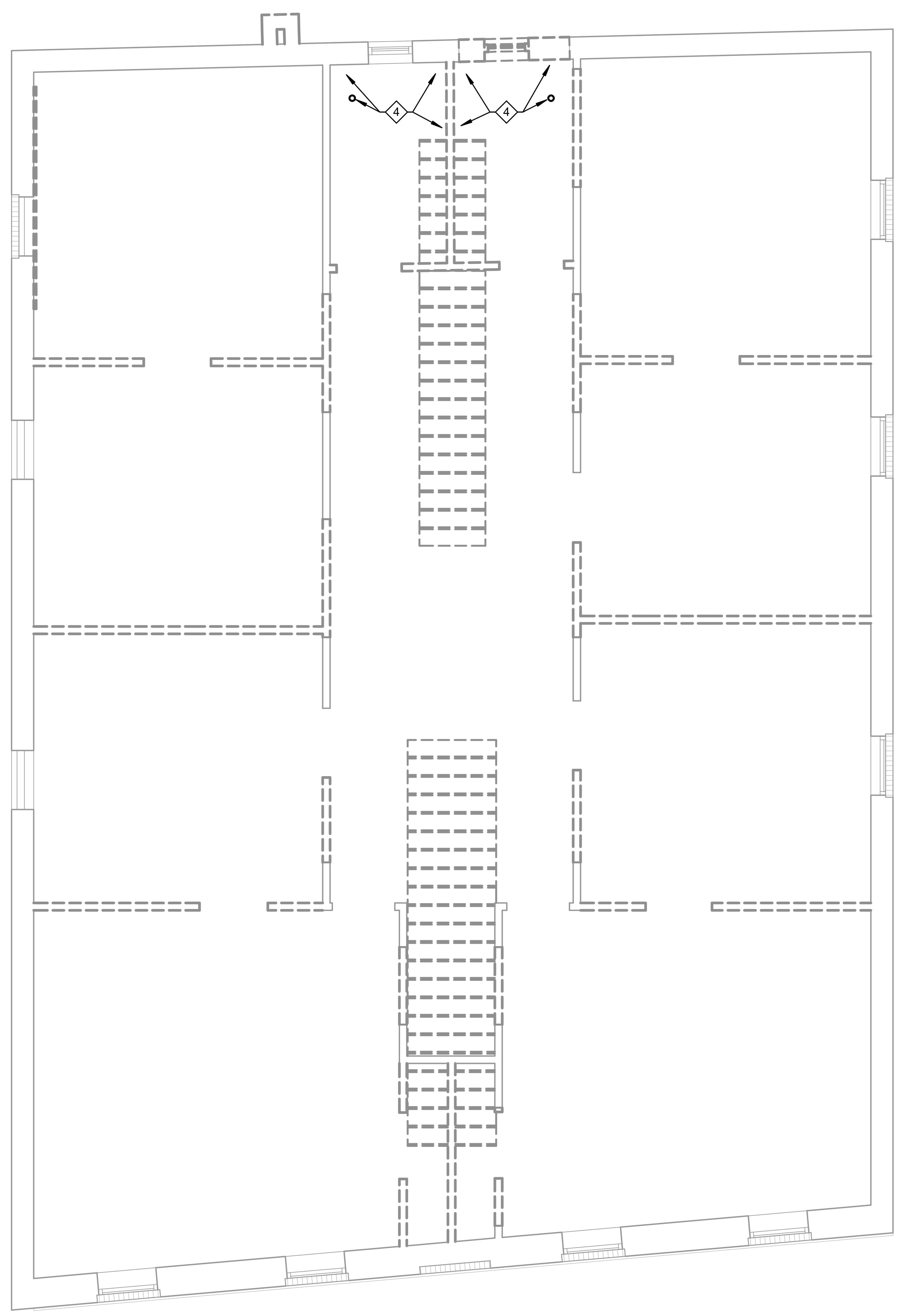
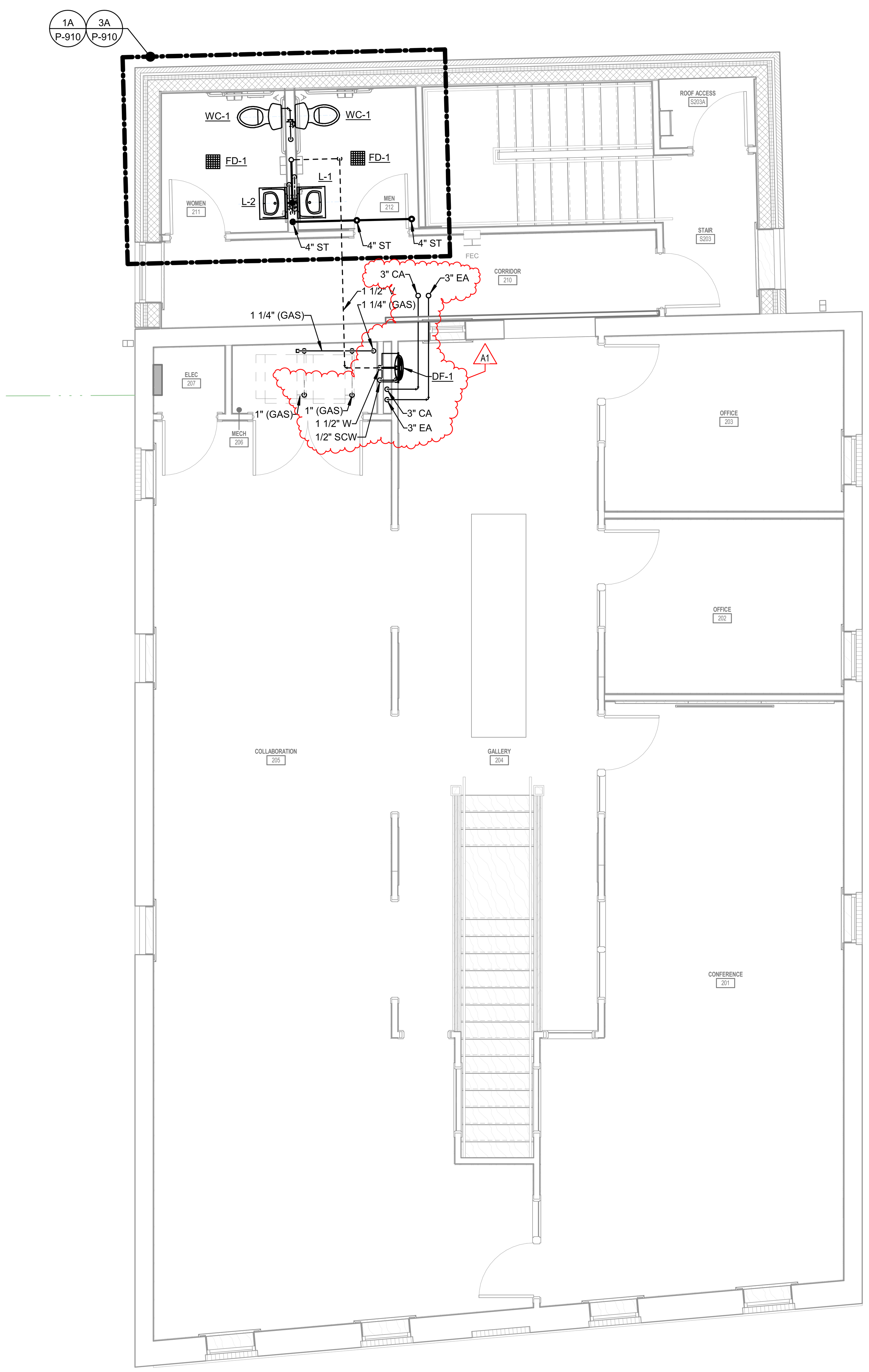


4A SECOND FLOOR DEMOLITION PLUMBING PLAN
1/4" = 1'-0"



1A SECOND FLOOR PLUMBING PLAN
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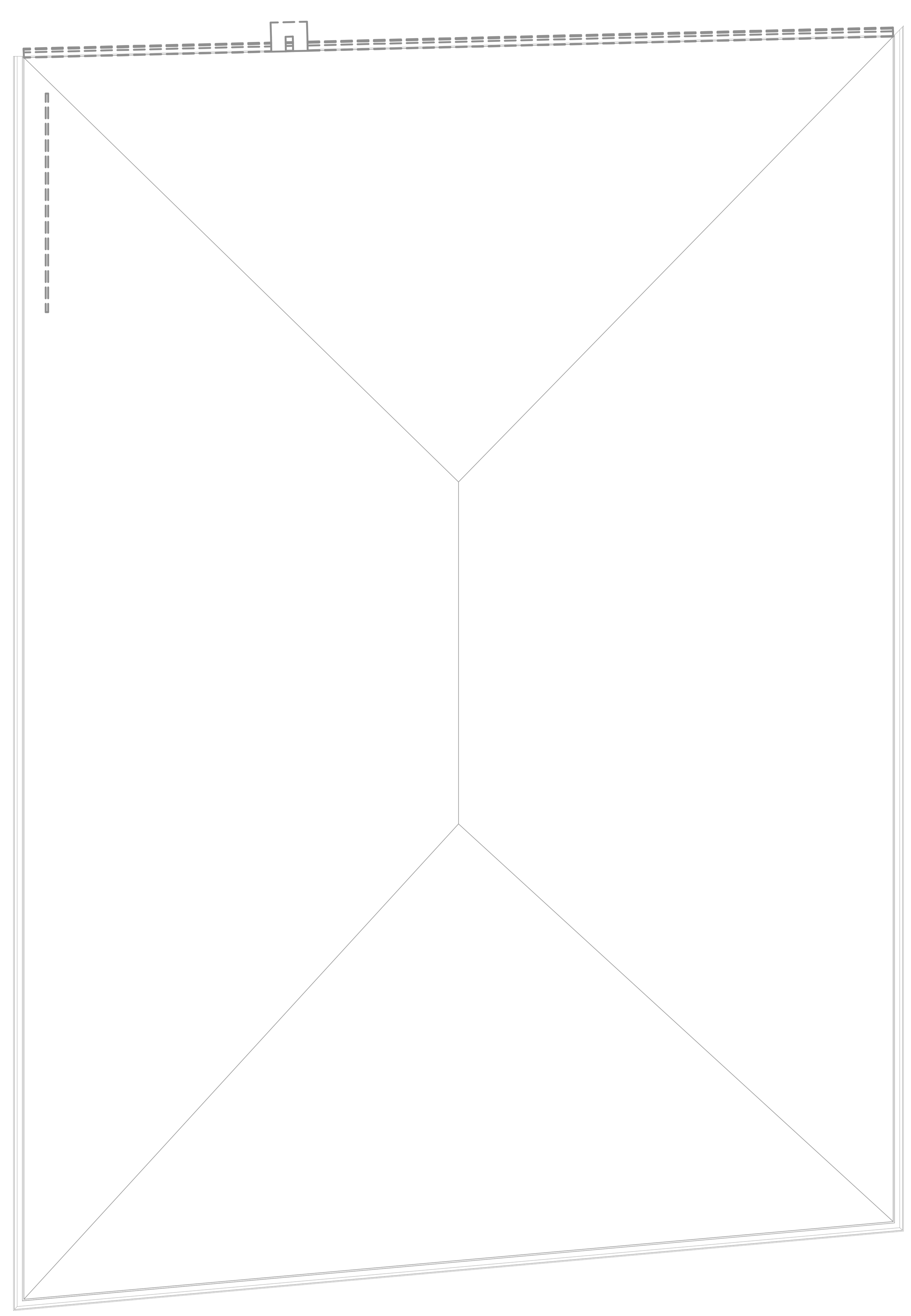
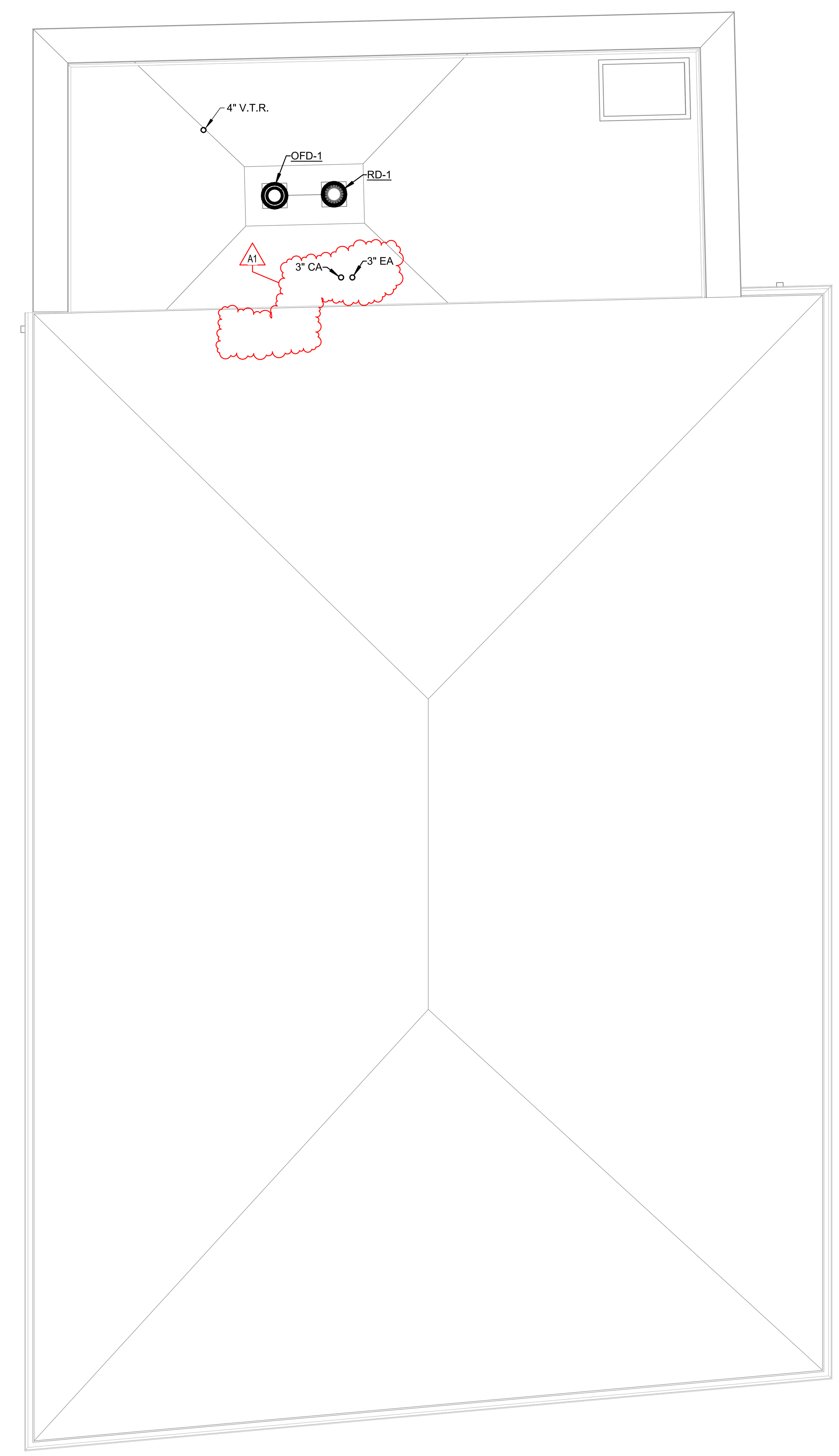
SECOND FLOOR DEMOLITION & NEW PLUMBING PLANS

PP102



4A ROOF DEMOLITION PLUMBING PLAN
1/4" = 1'-0"



1A ROOF PLUMBING PLAN
1/4" = 1'-0"

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ROOF DEMOLITION & NEW PLUMBING PLANS

PR101

DOMESTIC WATER PIPING SPECIALTIES SCHEDULE (221119)									
IDENTITY DATA				FIXTURE CONNECTION				MOUNTING	
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	HW	W	V	(FLOOR TO OUTLET)	NOTES
IMB-1	GUY GRAY	#SSIB2AB	ICEMAKER OUTLET BOX	1/2"				24" A.F.F.	

SANITARY WASTE PIPING SPECIALTIES (221319)						
FIXTURE					W	
MARK	MANUFACTURER	MODEL	DESCRIPTION	ACCESSORIES	CONNECTION	NOTES
FD-1	J.R. SMITH	#2006YB-U-PB	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE SQUARE STRAINER HEAD, POLISHED BRONZE STRAINER	TRAPGUARD BY PROSET, NO SUBSTITUTIONS	3"	
FD-2	J.R. SMITH	#2005Y-F-37-U-PB	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE ROUND STRAINER HEAD, POLISHED BRONZE STRAINER. FLUSH WITH FLOOR, FUNNEL WITH ANTI-SPLASH RIM AND GRATE	TRAPGUARD BY PROSET, NO SUBSTITUTIONS	2"	
FD-3	J.R. SMITH	#3200Y-14	SANI-CEPTOR® ACID RESISTANT COATED FLOOR & INDIRECT WASTE DRAINS		4"	
FS-1	J.R. SMITH	#9693Y-14	14 GAGE STAINLESS STEEL FLOOR, AREA & INDIRECT WASTE DRAINS WITH 12" (304) SQUARE TOP		3"	

COMMERCIAL AND RESIDENTIAL WATER CLOSETS SCHEDULE (224100, 224213.13)											
FIXTURE				TRIM		FIXTURE CONNECTION				ADA	
MARK	MANUFACTURER	MODEL	DESCRIPTION	OPERATION	GPF	CW	W	V	MOUNTING	COMPLIANT	NOTES
WC-1	AMERICAN STANDARD	# 2989.101	CONCEALED TRAPWAY CADET® 3 FloWise® RIGHT HEIGHT™ ELONGATED TOILET RIGHT HEIGHT™ ELONGATED TOILET	MANUAL	1.28	1/2"	3"	1 1/2"	17"	Yes	

COMMERCIAL AND RESIDENTIAL LAVATORIES (224100, 224216.13)														
FIXTURE				TRIM				FIXTURE CONNECTION				MOUNTING	ADA	
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	GPM	CW	HW	W	V	(FLOOR TO RIM)	COMPLIANT	NOTES
L-1	KOHLER	SOHO ® #K-2084-L-0	20" X 18" WALL-MOUNT/CONCEALED ARM CARRIER BATHROOM SINK LEFT-HAND SOAP DISPENSER HOLE	DELTA FAUCETS	#538T-RB-DST	SENSOR (HARDWIRED)	0.5	1/2"	1/2"	1 1/2"	1 1/2"	34"	Yes	
L-2	KOHLER	SOHO ® #K-2084-R-0	20" X 18" WALL-MOUNT/CONCEALED ARM CARRIER BATHROOM SINK RIGHT-HAND SOAP DISPENSER HOLE	DELTA FAUCETS	#538T-RB-DST	SENSOR (HARDWIRED)	0.5	1/2"	1/2"	1 1/2"	1 1/2"	34"	Yes	

COMMERCIAL AND RESIDENTIAL SINKS (224100, 224216.16)																
FIXTURE				TRIM				ACCESSORIES		FIXTURE CONNECTION				MOUNTING	ADA	
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	GPM	STRAINER	GARBAGE DISPOSER	CW	HW	W	V	(FLOOR TO RIM)	COMPLIANT	NOTES
MB-1	ZURN	#Z1996-24	MOLDED STONE, FLOOR MOUNTED (RECESSED) MOP BASIN	CHICAGO FAUCETS	#540-LD897SWXFABCP	MANUAL	2.2	GRID	N/A	3/4"	3/4"	3"	1 1/2"	FLOOR MOUNTED		
SK-1	ELKAY	#DXUH2115	SINGLE BOWL, UNDERMOUNT	CHICAGO FAUCETS	#786-HR8AE3V317XKAB	MANUAL	2.2	GRID	N/A	1/2"	1/2"	1 1/2"	1 1/2"	UNDER MOUNTED	No	

DOMESTIC WATER SOFTENERS (223100)								
SOFTENER				CONTINUOUS (EACH)		PEAK (EACH)		
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE	PRESSURE DROP	FLOW RATE	PRESSURE DROP	NOTES
DWS-1	WATTS	ONE FLOW #OF948-16-C	DOMESTIC WATER SOFTENER - NO BRINE TANK REQUIRED	16 GPM	14.00 psi	16 GPM	14.00 psi	REPLACEMENT CARTRIDGE: #OF948RM - CARTRIDGE SHOULD BE REPLACED EVERY 3 YEARS

A1

A1

TANK SCHEDULE					
IDENTITY DATA					
MARK	MANUFACTURER	MODEL	DESCRIPTION	CAPACITY	NOTES
ET-1	AMTROL	ST-5C-DD	EXPANSION TANK	2 GALLON TANK VOLUME; 0.45 GALLON MAX. ACCEPT. VOLUME	

CIRCULATION AND SUMP PUMPS									
IDENTITY DATA				PLUMBING		ELECTRICAL			
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE (GPM)	PUMP HEAD (TDH)	VOLTAGE	PHASE	RPM	HP
HWCP-1	BELL AND GOSSETT	#ECOCIRC 20-19 (60B0B1002)	120° DOMESTIC HOT WATER CIRCULATION PUMP, STAINLESS STEEL	3	11	115	1	VARIABLE	1/12

A1

FUEL-FIRED, DOMESTIC WATER HEATERS								
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	CAPACITY	GPH RECOVERY	GAS INPUT (BTUH)	NOTES
DWH-1	A.O. SMITH	BTH-120	COMMERCIAL GAS WATER HEATER	JANITOR - 107	60.0 GAL	138.0 gal	120000.0	

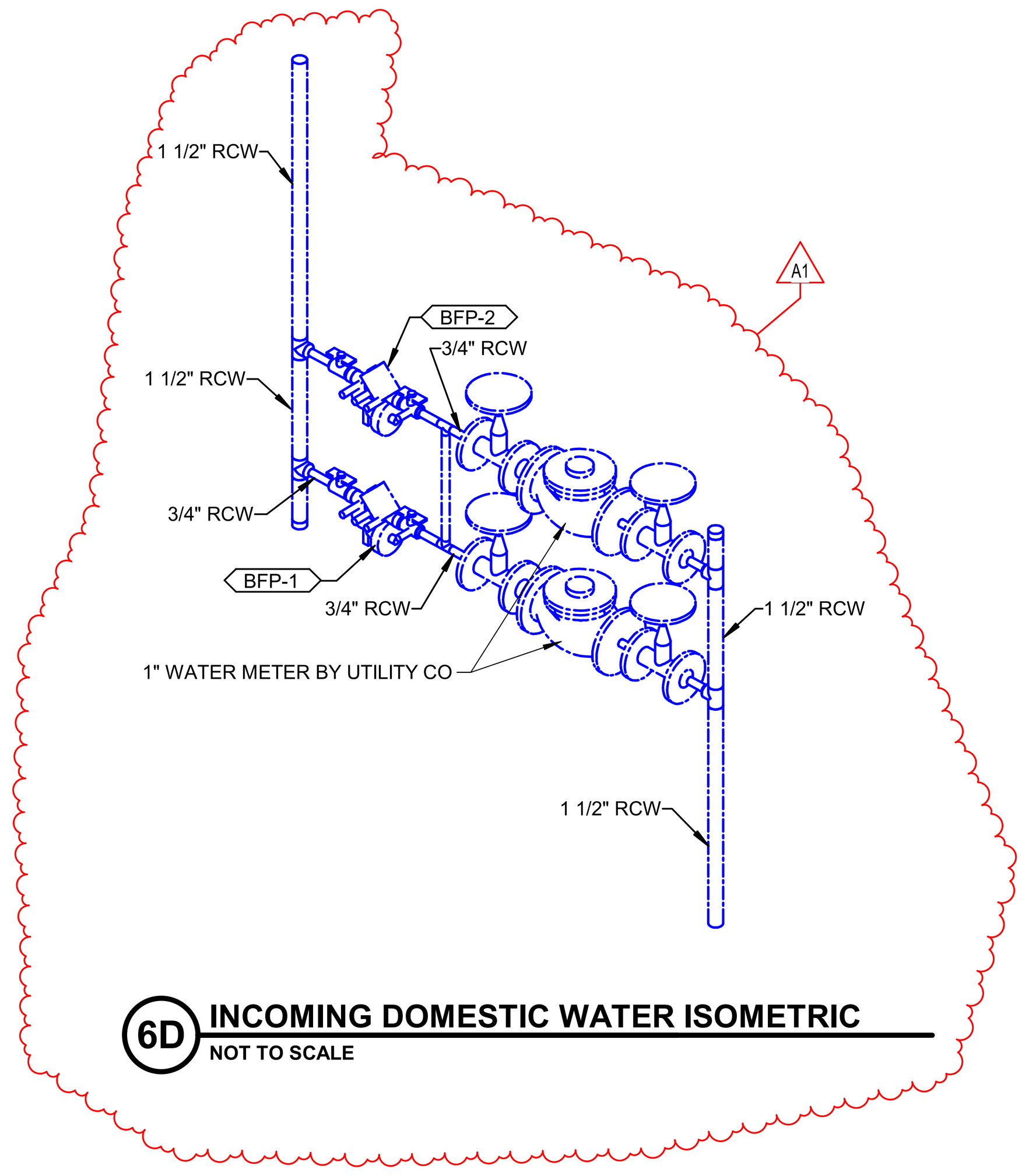
A1

PRESSURE WATER COOLER SCHEDULE (224716)									
FIXTURE				FIXTURE CONNECTION			MOUNTING	ADA	
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	W	V	~~(FLOOR TO BUBBLER)~~	COMPLIANT	NOTES
DF-1	ELKAY	LZWSM8K	EZH2O IN-WALL BOTTLE FILLING STATION WITH MOUNTING FRAME FILTERED REFRIGERATED STAINLESS	1/2"	0"	0"	34" TO BOTTLE FILLER SHELF	Yes	

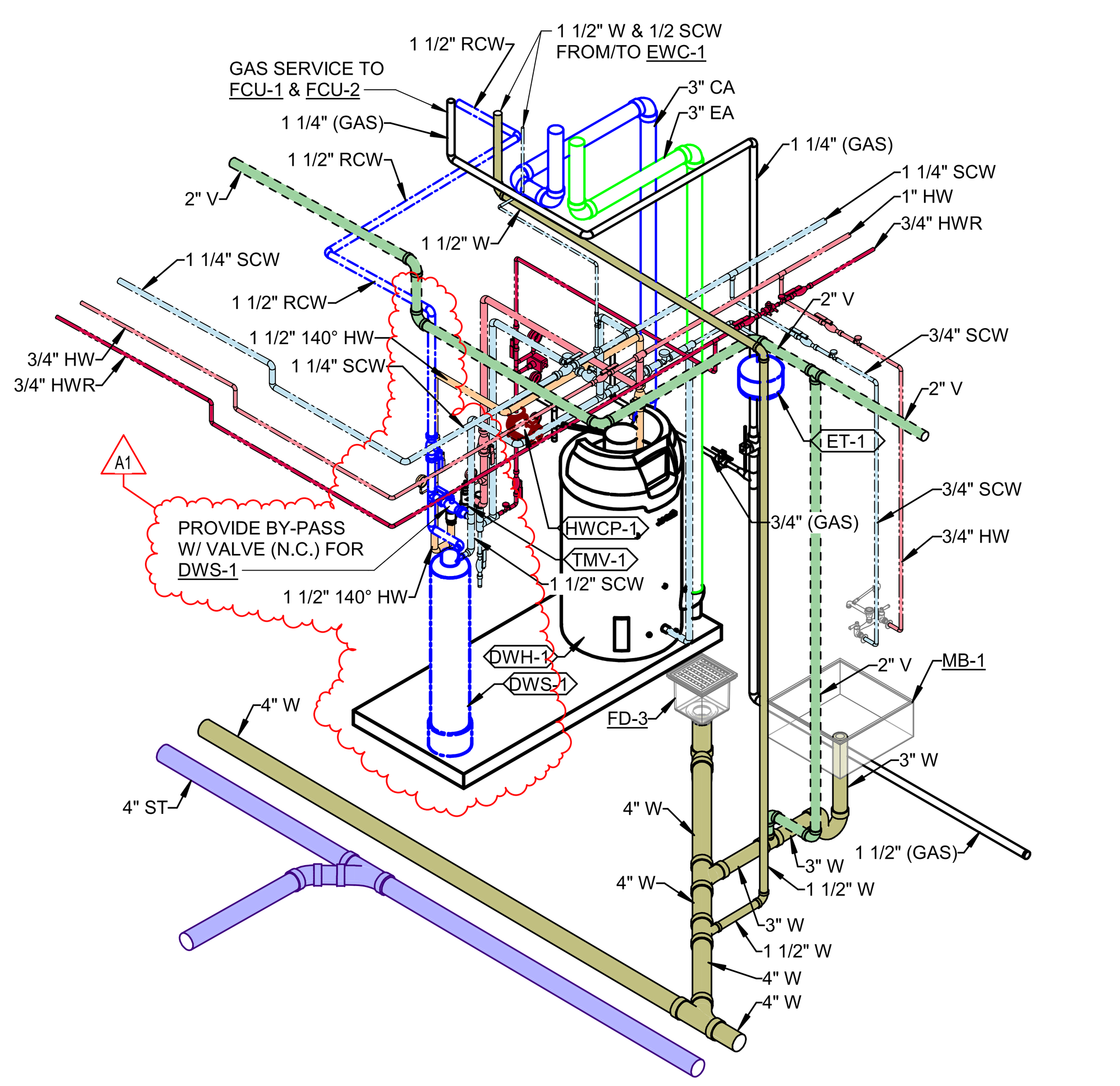
GREASE INTERCEPTOR SCHEDULE									
IDENTITY DATA						CAPACITY			
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	FLOW RATE (GPM)	GREASE (GAL)	LIQUID (GAL)	SOLIDS (GAL)	NOTES
GI-1	SCHIER	#GB1	GREASE INTERCEPTOR, 4" FPT INLET/OUTLET, WITH 2" AND 3" PLAIN END FITTING ADAPTERS AND PEDESTRIAN RATED COVER	WORKROOM - 104	25	70 lbs @ 20 GPM, 64.9 lbs @ 25 GPM	10 gal.	1.3 gal.	

A1

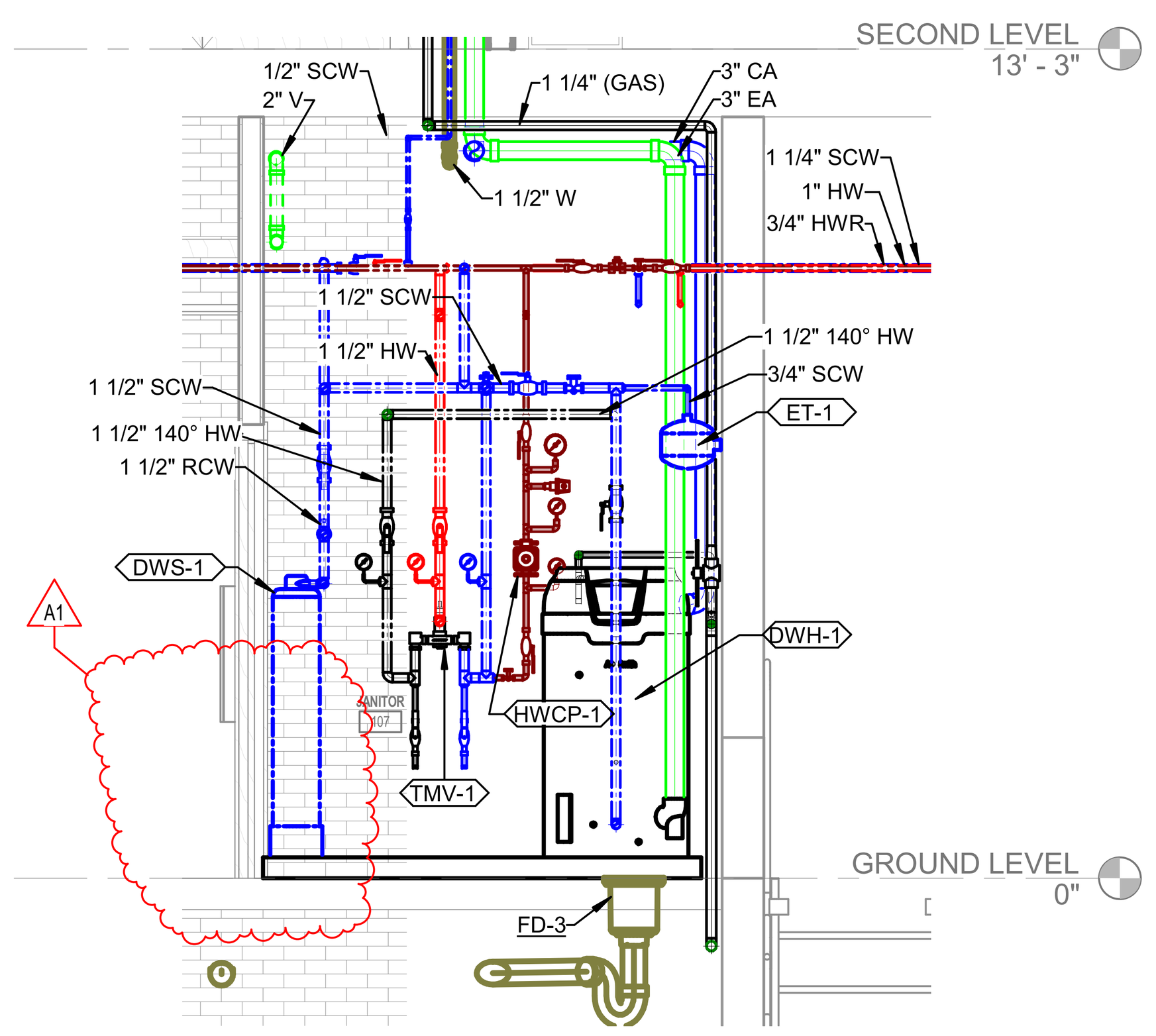
MIXING, METERING, AND PRESSURE REDUCING VALVES (221119)					
IDENTITY DATA					
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE	PRESSURE DROP
BFP-1	ZURN WILKINS	#975XLS2 - 1"	REDUCED PRESSURE BACKFLOW PREVENTER	20	13.70 psi
BFP-2	ZURN WILKINS	#975XLS2 - 1"	REDUCED PRESSURE BACKFLOW PREVENTER	20	13.70 psi
TMV-1	SYMMONS	7-400	TEMPERATURE-ACTUATED, WATER MIXING VALVE	18	5.00 psi



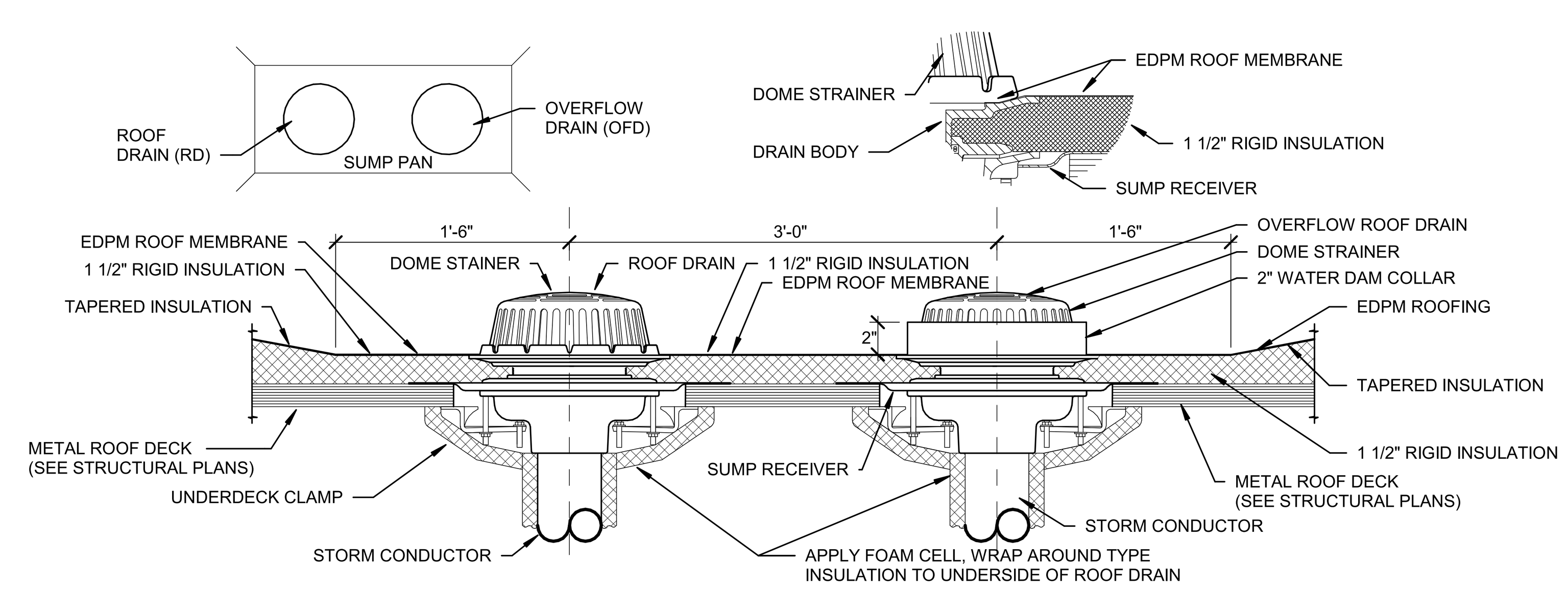
6D INCOMING DOMESTIC WATER ISOMETRIC
NOT TO SCALE



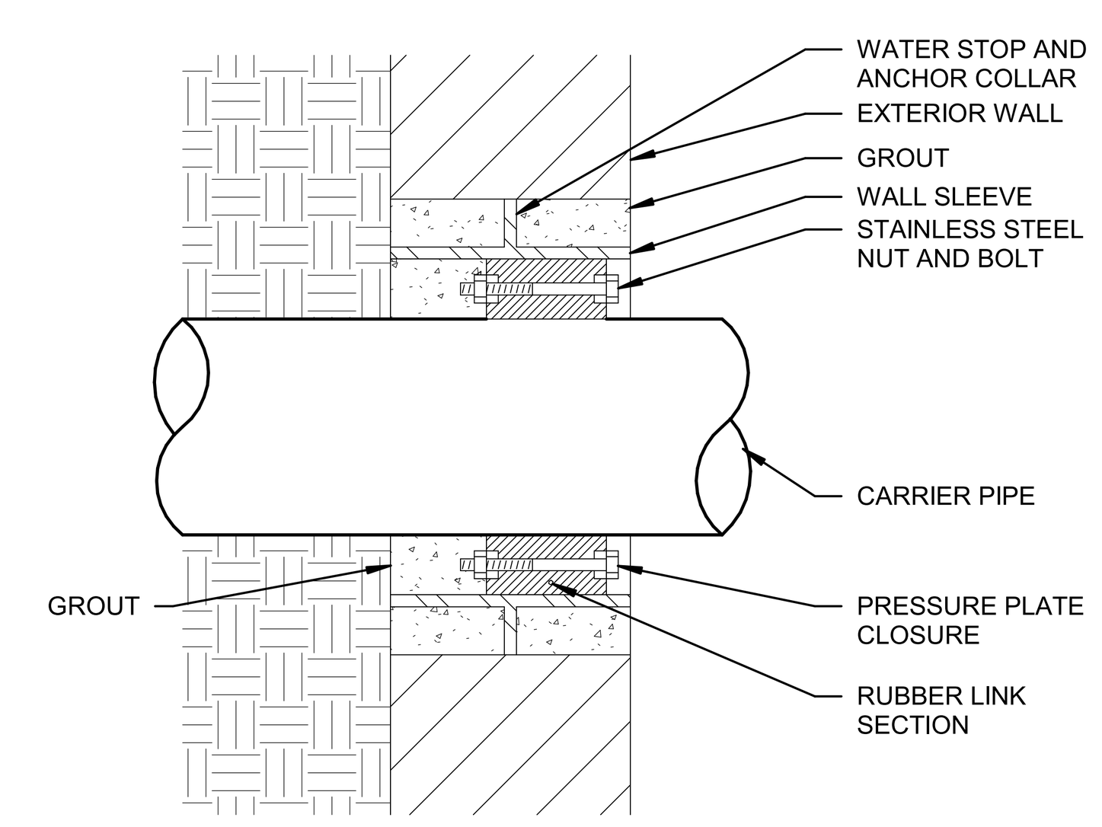
6B JANITOR (RM 107) PLUMBING COMBINED SYSTEMS ISOMETRIC
NOT TO SCALE



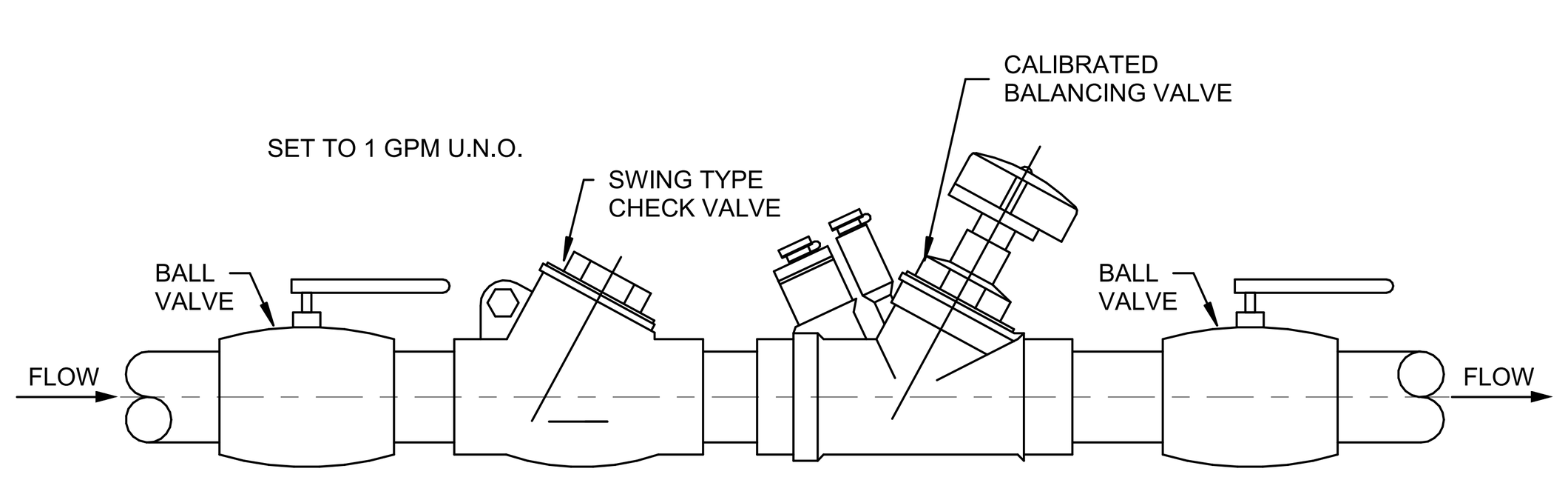
5B JANITOR (RM 107) PLUMBING SYSTEMS SECTION
NOT TO SCALE



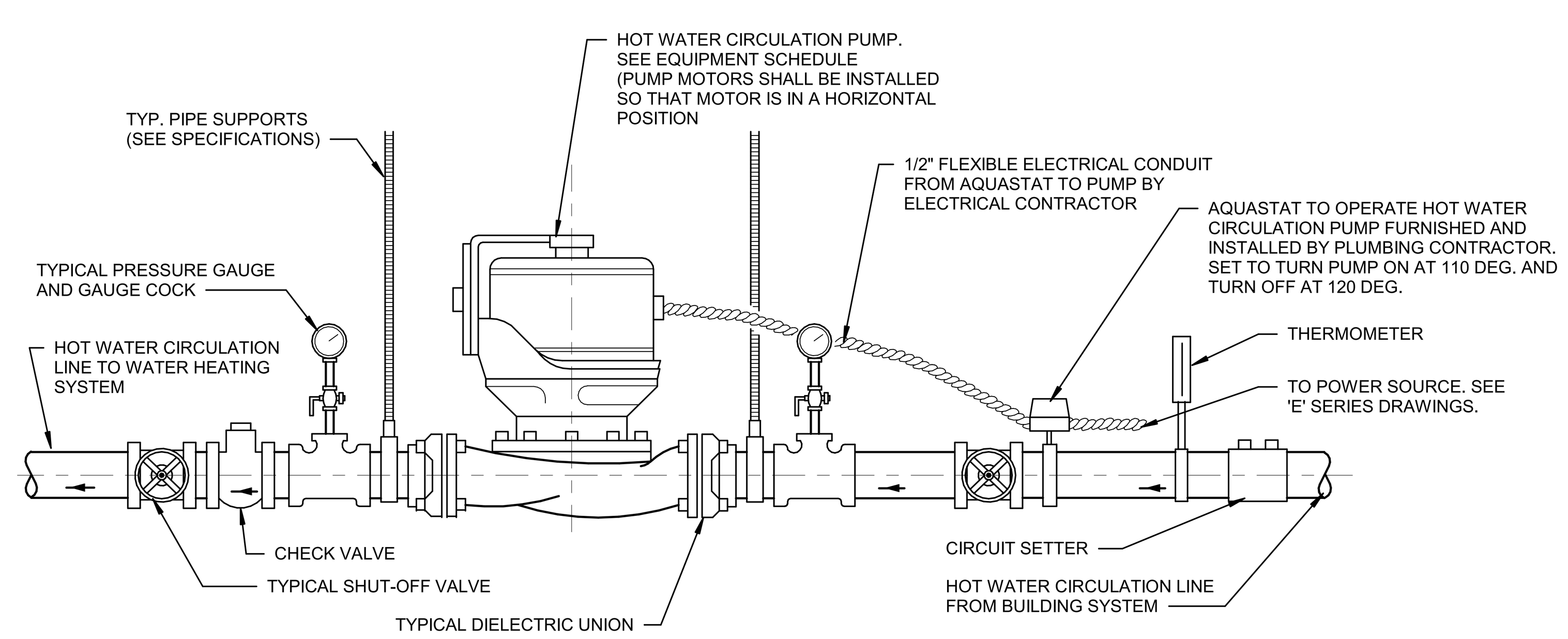
3B ROOF DRAIN / OVERFLOW DRAIN DETAIL
NOT TO SCALE



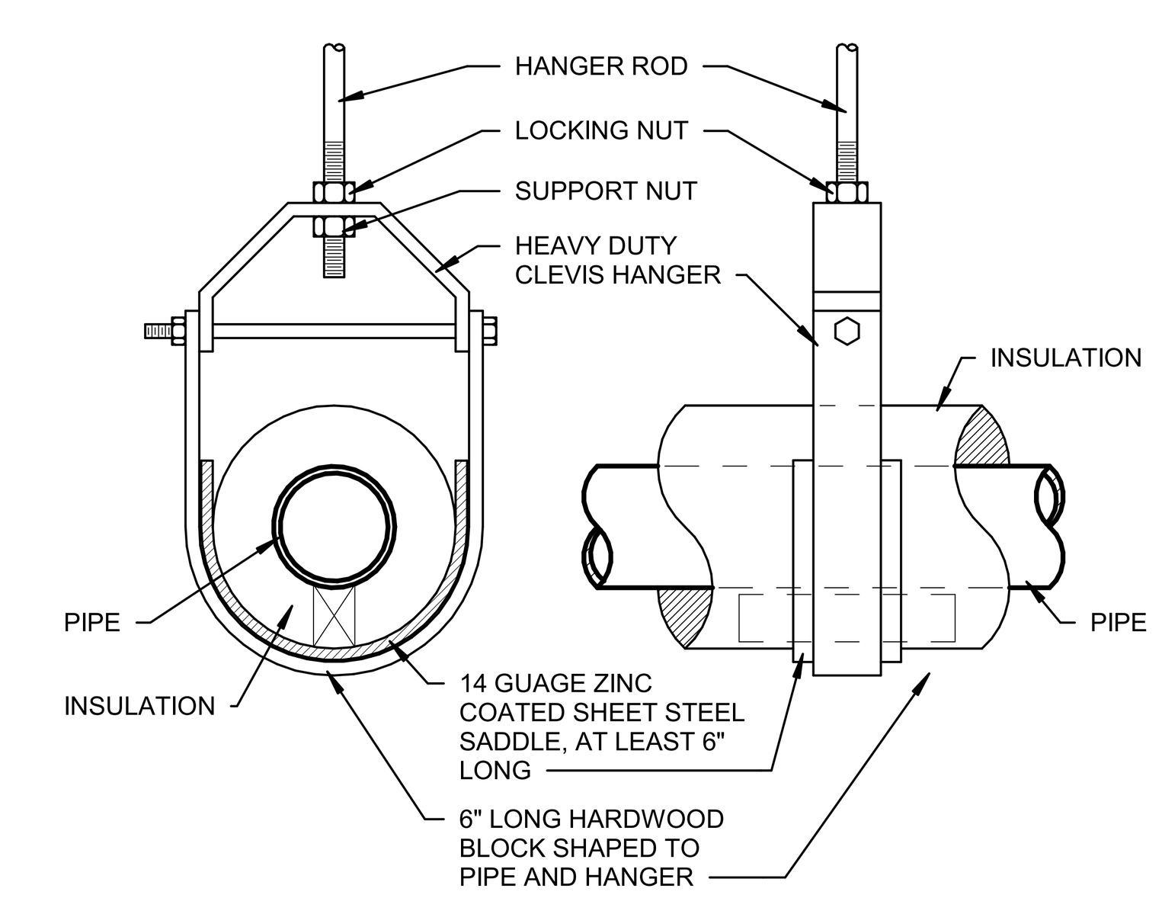
1B PIPE SLEEVE THRU EXTERIOR WALL OR FOUNDATION WALL (BELOW GRADE) DETAIL
NOT TO SCALE



5A HOT WATER BALANCING VALVE STATION DETAIL
NOT TO SCALE



3A HOT WATER RECIRCULATION PUMP
NOT TO SCALE



1A PIPE HANGER (6" & SMALLER) DETAIL
NOT TO SCALE

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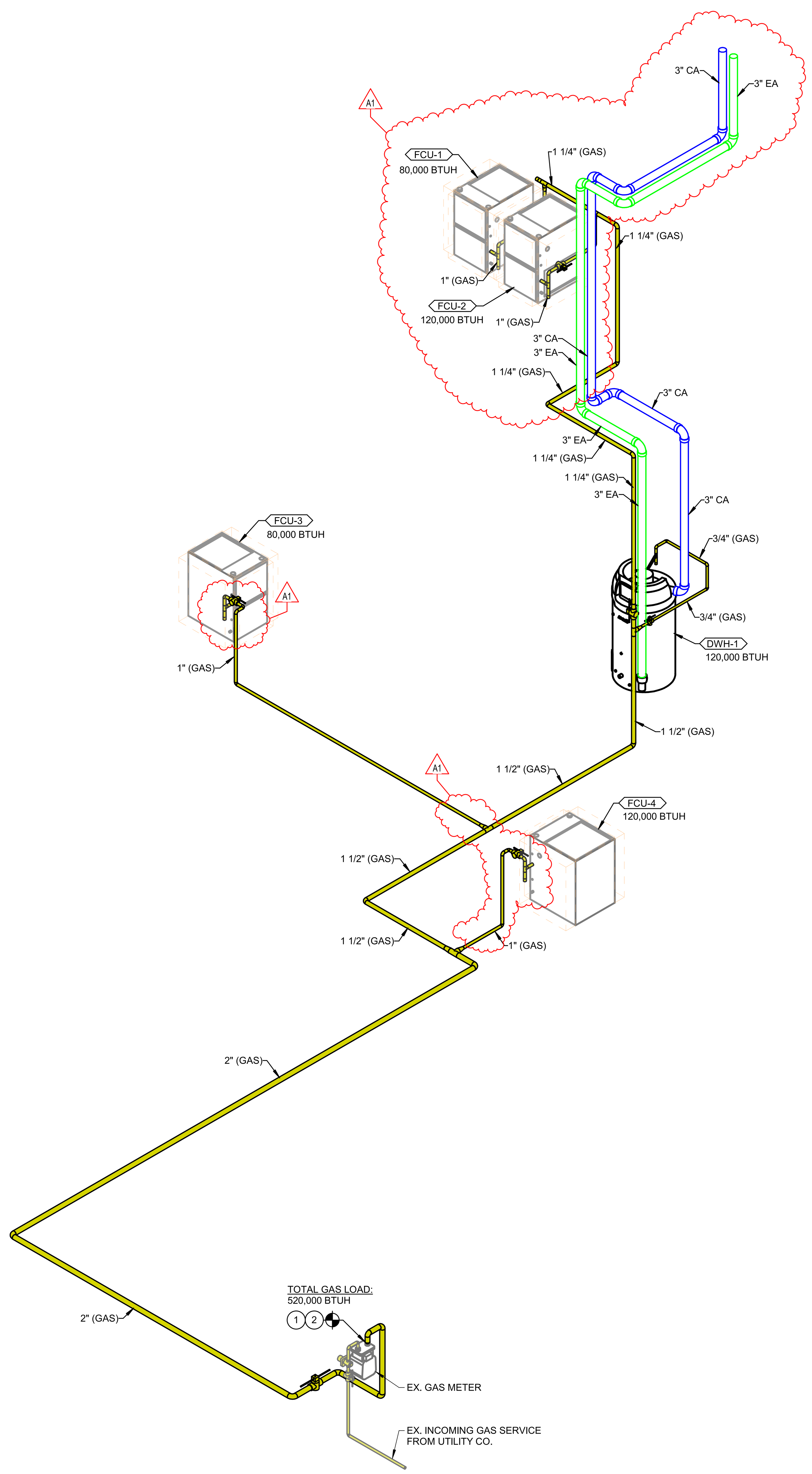
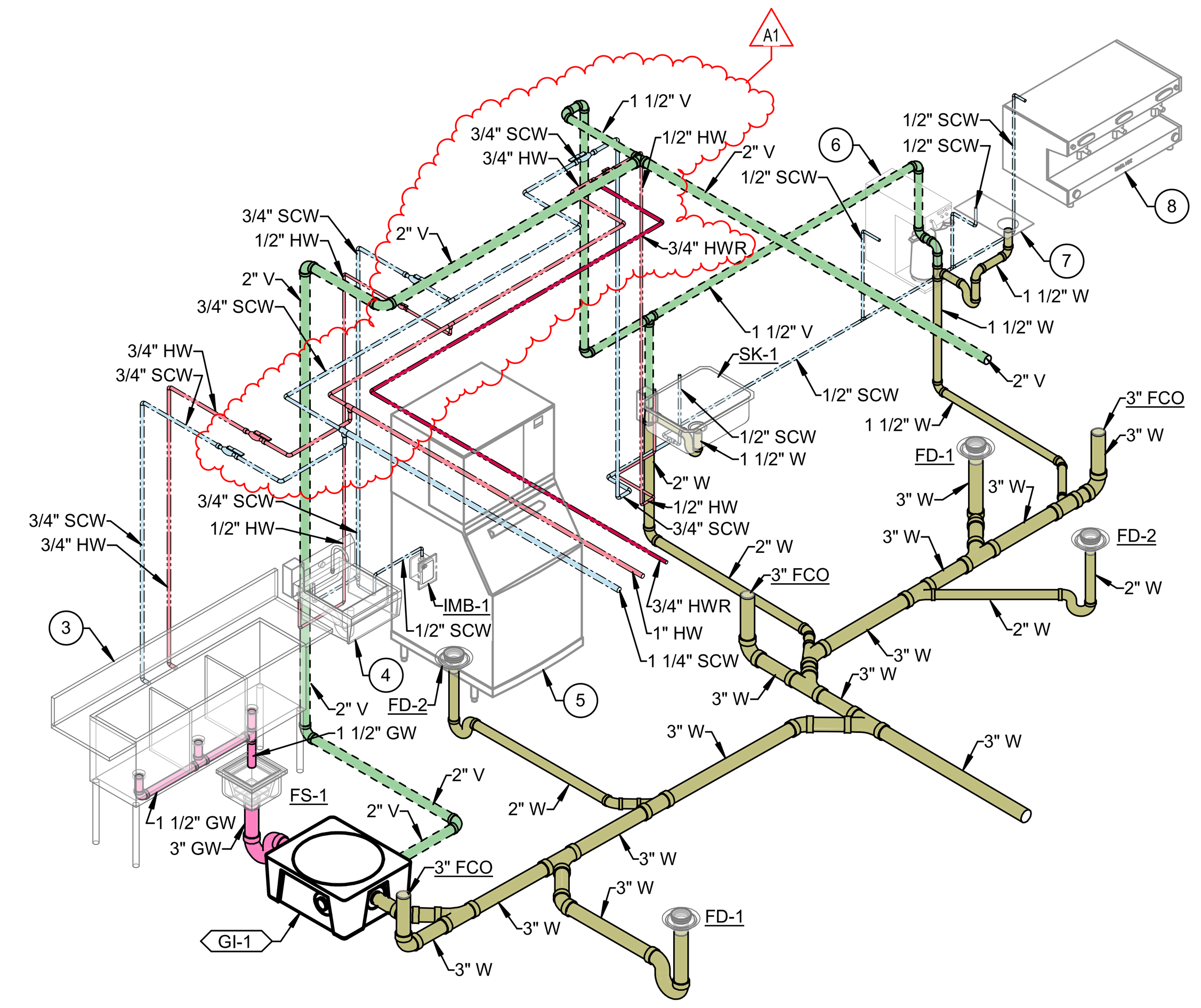
1446 E Washington Street Renovation

PLUMBING DETAILS AND SCHEDULES

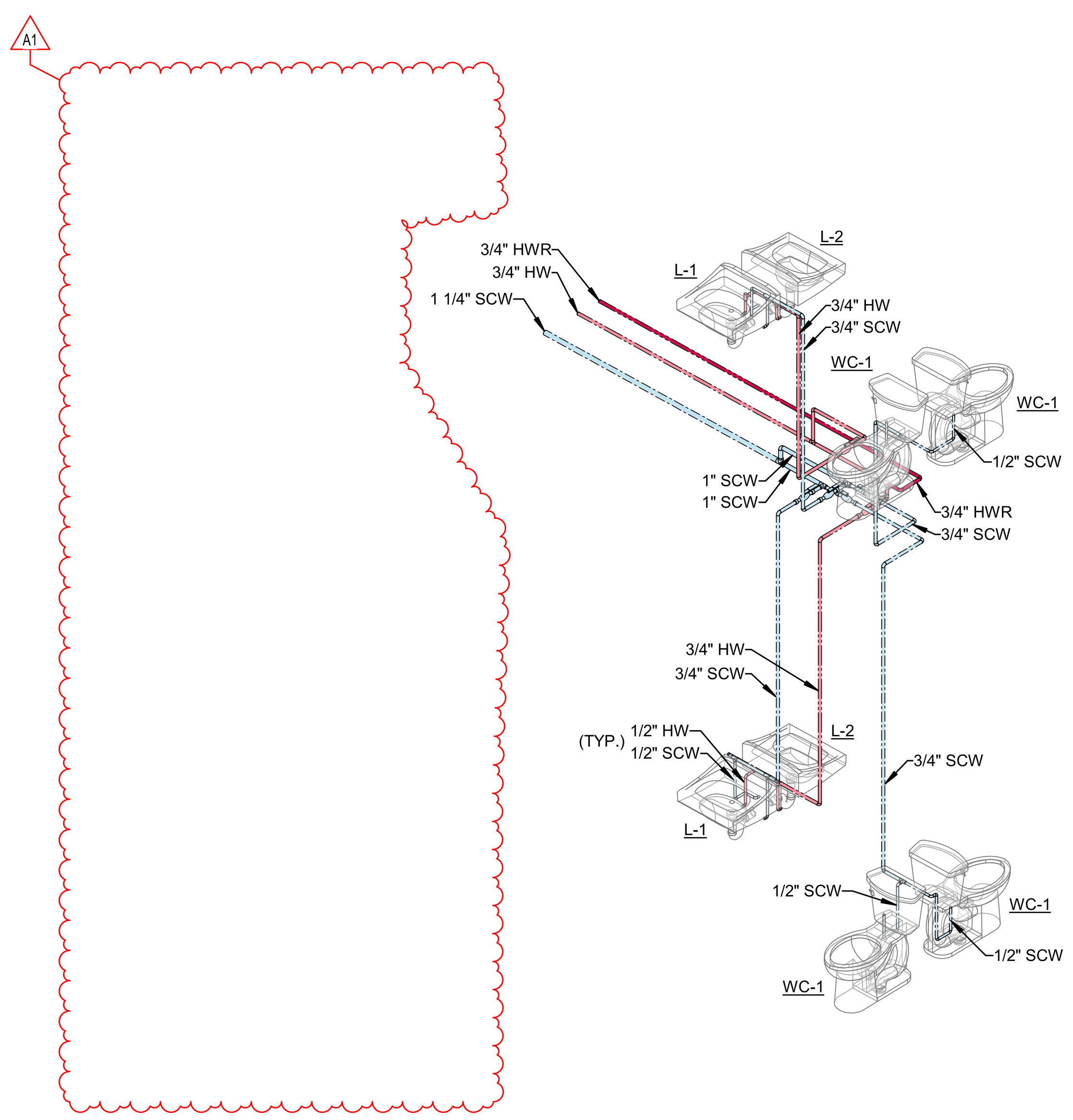
P-501



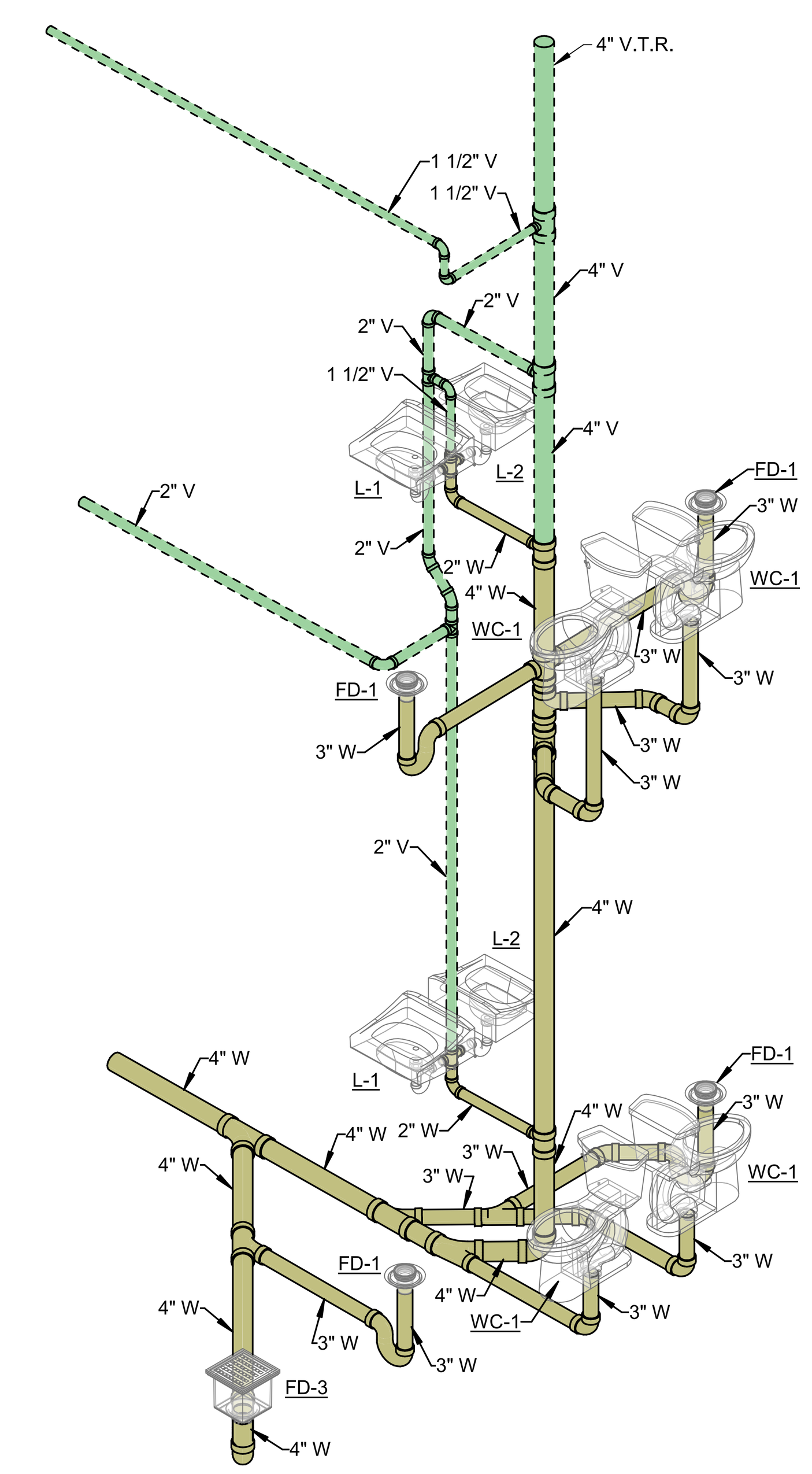
5A GAS PIPING ISOMETRIC
NOT TO SCALE



3C WORK ROOM (104) & BACKBAR (103) COMBINED PLUMBING SYSTEMS ISOMETRIC
NOT TO SCALE



3A RR (RM 111/112) & RR (RM 211/212) DOMESTIC WATER ISOMETRIC
NOT TO SCALE



1A RR (RM 11/112) & RR (RM 211/212) WASTE & VENT ISOMETRIC
NOT TO SCALE

PLUMBING GENERAL NOTES

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3. CONTRACTOR SHALL JET AND THOROUGHLY FLUSH EXISTING SANITARY SEWERS WHERE DOCUMENTS CALL FOR NEW WASTE PIPE CONNECTIONS.
4. ALL UNDERGROUND SANITARY OR STORM PIPING SHOWN TO BE ABANDONED IN PLACE SHALL BE CAPPED AND FILLED WITH FLOWABLE FILL.
5. WHERE PLUMBING FIXTURE ROUGH-IN PIPING IS SHOWN TO BE ABANDONED IN WALLS OR BELOW FLOOR SLAB, ROUGH-INS SHALL BE REMOVED TO A POINT BEYOND THE FINISHED SURFACE AND CAPPED. PATCH SURFACE TO MATCH EXISTING FINISH.
6. IN AREAS WHERE A FULL REMODEL IS INDICATED ON THE DRAWINGS, CONTRACTOR SHALL REMOVE ALL OVERHEAD PIPING AND HANGERS COMPLETE UNLESS OTHERWISE INDICATED.
7. WHERE SANITARY OR ACID VENT THROUGH ROOF IS SHOWN TO BE ABANDONED IN PLACE, CONTRACTOR SHALL PERMANENTLY CAP PIPE ABOVE AND BELOW ROOF FOR A WATER TIGHT SEAL.
8. WALK-THRU CHASES ARE DESIGNED FOR MAINTENANCE PURPOSES. NO PIPING PERMITTED TO CROSS FROM A COMMON HEADER BELOW 8'-0" A.F.F.

PLUMBING ISOMETRIC PLAN NOTES

#	NOTE
1	GAS METER ASSEMBLY BY UTILITY COMPANY WITH NEW CONNECTED LOAD OF 450,000 BTUH @ 6" WATER COLUMN DELIVERY PRESSURE.
2	COORDINATE WITH CITIZEN'S ENERGY GROUP TO UPSIZE GAS METER IF REQUIRED FOR NEW CONNECTED GAS LOAD.
3	RELOCATED EXISTING 3-COMPARTMENT SINK
4	RELOCATED EXISTING HANDWASH SINK
5	RELOCATED EXISTING ICE MACHINE
6	ICE TEA BREWER
7	ESPRESSO RINSE SINK
8	ESPRESSO COFFEE MACHINE

PLUMBING FIXTURE ROUGH-IN LEGEND

MARK	FIXTURE CONNECTION CW	HW	W	V
DF-1	1/2"		0"	0"
FD-1			3"	
FD-2			2"	
FD-3			4"	
FS-1			3"	
L-1	1/2"	1/2"	1 1/2"	1 1/2"
L-2	1/2"	1/2"	1 1/2"	1 1/2"
IMB-1	1/2"			
OFD-1			4"	
RD-1			4"	
MB-1	3/4"	3/4"	3"	1 1/2"
SK-1	1/2"	1/2"	1 1/2"	1 1/2"
WC-1	1/2"		3"	1 1/2"

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#	Revision	Date
A1	ADDENDUM #1	04.13.2023

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KEY PLAN

DAMIEN CENTER

DAMIEN CENTER
ONE HOME FOR HIV WELLNESS

1446 E Washington Street Renovation

PLUMBING ISOMETRICS

P-910