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ADDENDUM 02

TO All Plan Holders

ISSUE DATE 11 March 2024
PROJECT # 22-05.02 A

REGARDING **Laurel/North Shoreview Preschool Project**

DISTRICT San Mateo Foster City School District

NARRATIVE PAGES	02
SPECIFICATION PAGES	42
DRAWING SHEETS	26
INFORMATIONAL PAGES	05
TOTAL PAGES	

The information contained herein is issued as an Addendum to the Bid Documents for the Project listed above.
All information included herein shall become a part of the Bid Documents for that Project.
All bidders are required to acknowledge this Addendum on their Proposal Documents.
Failure to acknowledge receipt of this Addendum shall deem the Proposal unresponsive and the proposal shall be disqualified.

The following items apply to both sites

ITEM	REFERENCE	DESCRIPTION
	Project Manual	
01	**08 87 13** (solar ctrl film)	**Delete** Delete specification section referring to solar control film. ***Project does not include solar film.***
02	**Privacy Window Film**	**Add** Provide DS Matte 2 Mil i-Design interior privacy window films.
	Drawings	
03	**Sheet A7.1**	**Delete** Delete all notes referring to 2% floor slope in toilet rooms.

The following items apply to Laurel Elementary School

ITEM	REFERENCE	DESCRIPTION
	Project Manual	
04	**08 71 00** (door hardware)	**Clarification** The specification section hereby includes door hardware product numbers.
05		**Add** Replace gutters and downspouts. Match existing profile and gauge. Re-seal metal roof seam joints in all locations.
	Drawings	
06	**Sheet A0.1, A2.1, A2.2, A2.3, A3.0, A4.0, A5.1, A7.0, A8.0, A8.1, A8.2, A8.3** **Sheet S2.1** **Sheet M2.1** **Sheet P1.0, P2.1, P5.0,** **Sheet E3.0, E4.0, E5.0,** **Sheet F2.0, F4.0, F5.0, F6.0**	**Revised scope** • Revised floor plan at entry to toilet rooms. • Replace current sheets with updated versions attached. • Revisions have been clouded and marked with delta 1.

The following items apply to North Shoreview Elementary School

ITEM	REFERENCE	DESCRIPTION
	Project Manual	
07	**Appendix C- Abatement**	**Add** Abatement report and specification is attached to addendum herein.
	Drawings	
08	**A8.0**	**Revised door hardware information**
	Acknowledgement	PLEASE ENSURE THAT THIS ADDENDUM IS ACKNOWLEDGED ON YOUR BID

END OF ADDENDUM ITEMS

ISSUED BY Mojgan Aghamir
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Section 08 71 00

Door Hardware

Part 1. General

1.01 Related Documents

A. The Drawings and general provisions of the Contract, including General and Special Conditions and Division 1, General Requirements, apply to the work specified in this section.

B. Parts 1,2,3,4,5,6, Title 24 of the California Code of Regulations (California Building Code) is to be considered an integral part of this section.

C. All California Prevailing Wage Laws apply to the work of this section.

1.02 Summary

A. This Section includes commercial door hardware for the following:

1. Swinging doors.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.

C. Related Sections:

1. Division 08 Section “Hollow Metal Doors and Frames”.
2. Division 08 Section “Flush Wood Doors”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.03 Submittals

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
3. Content: Include the following information:

    (a) Type, style, function, size, label, hand, and finish of each door hardware item.
    (b) Manufacturer of each item.
    (c) Fastenings and other pertinent information.
    (d) Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    (e) Explanation of abbreviations, symbols, and codes contained in schedule.
    (f) Mounting locations for door hardware.
    (g) Door and frame sizes and materials.
    (h) Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

D. Proof of Compliance: (California located Projects): Provide a list of product(s) containing chemicals known to cause cancer or reproductive toxicity as defined by the Office of Environmental Health Hazard Assessment (OEHHA) under Proposition 65 (CA Code of Regulations, Title 27, Section 27001). The list includes the specific chemical(s), if the chemical will be exposed to consumers, the means of warning, and an illustration of the label.

E. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

1.04 Quality Assurance

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

F. California Building Code: Provide hardware that complies with CBC Section 11B.

1. All openings as a part of an accessible route shall comply with CBC Section 11B-404.
2. The clear opening width for a door shall be 32” minimum. For a swinging door it shall be measured between the face of the door and the stop, with the door open 90 degrees. There shall be no projections into it below 34” and 4” maximum projections into it between 34” and 80” above the finish floor or ground. Door closers and stops shall be permitted to be 78” minimum above the finish floor or ground. CBC Section 11B-404.2.3.
3. Operable hardware on accessible doors shall comply with CBC Section 11B-309.4 and shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Operable parts of such hardware shall be 34” minimum and 44” maximum above finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.
4. Hardware (including panic hardware) shall not be provided with “nightlatch” function for any accessible doors or gates unless the following conditions are met:

   (a) Such hardware has a ‘dogging’ feature and is dogged during the time the facility is open.
   (b) All ‘dogging’ operation is performed only by employees as their job function (non-public use).

5. The force for pushing or pulling open a door shall be in accordance with CBC Section 11B-404.2.9.

   (a) Interior hinged doors, sliding or folding doors, and exterior hinged doors: 5 pounds (22.2 N) maximum. Required fire doors: the minimum opening force allowable by the DSA authority, not to exceed 15 pounds (66.7N). These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.
   (b) The force required for activating any operable parts, such as lever hardware, or disengaging other devices shall be 5 pounds (22.2N) maximum to comply with CBC Section 11B-309.4.
   (c) The 5 pound (22.2 N) maximum force shall be validated for the size of the door used. The Building Materials Listing of the California State Fire Marshal shall indicate that the door hardware meets the 5 pound (22.2 N) force and shall also list the largest door that can be used.

6. Door closing speed shall comply with CBC Section 11B-404.2.8. Closers shall be adjusted so that the required time to move a door from an open position of 90 degrees to a position of 12 degrees from the latch is 5 seconds minimum. Spring hinges shall be adjusted so that the required time to move a door from an open position of 70 degrees to the closed position is 1.5 seconds minimum.
7. Floor stops shall not be located in the path of travel and 4” maximum from walls.
8. Thresholds shall comply with CBC Section 11B-404.2.5.

G. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

H. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

I. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

J. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.05 Delivery, Storage, and Handling

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.06 Coordination

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware.

Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.07 Warranty

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

1.08 Maintenance Service

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

Part 2. Products

2.01 Scheduled Door Hardware

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.02 Hanging Devices

A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

   (a) Two Hinges: For doors with heights up to 60 inches.
   (b) Three Hinges: For doors with heights 61 to 90 inches.
   (c) Four Hinges: For doors with heights 91 to 120 inches.
   (d) For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

   (a) Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
   (b) Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

   (a) Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
   (b) Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

   (a) Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Manufacturers: The following or Equivalents.

   (a) Hager Companies (HA) - BB Series, 5 knuckle.
   (b) McKinney (MK) - TA/T4A Series, 5 knuckle.
   (c) dormakaba Best (ST) - F/FBB Series, 5 knuckle.

2.03 Cylinders and Keying

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Match Facility Restricted Keyway.

C. Large Format Interchangeable Cores: Provide removable cores (LFIC) as specified, core insert, removable by use of a special key, and for use with only the core manufacturer's cylinder and door hardware.

D. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. Existing System: Field verify and key cylinders to match Owner's existing system.

E. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).
4. Construction Control Keys (where required): Two (2).
5. Permanent Control Keys (where required): Two (2).

F. Construction Keying: Provide temporary keyed construction cores.

G. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.04 Mechanical Locks and Latching Devices

A. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Operational Grade 1 Certified Products Directory (CPD) listed.

1. Heavy duty cylindrical locks shall have a seven-year warranty.
2. Vertical Impact: Exceed 100 vertical impacts (20 times ANSI/BHMA A156.2 requirements).
3. Furnish with solid cast levers, standard 2 3/4” backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt.
4. Locks are to be non-handed and fully field reversible.
5. Manufacturers: The following or equivalents.

   (a) Corbin Russwin Hardware (RU) - CLX3300 Series.
   (b) Sargent Manufacturing (SA) - 10X Line.
   (c) Schlage (SC) - ND Series.

2.05 Lock and Latch Strikes

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.06 Conventional Exit Devices

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.

2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Flush End Caps: Provide flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.
7. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
    (a) Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    (b) Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
8. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
9. Rim Exit Devices: Exit device rails shall release with less than 5 pounds of pressure per the California Building Code.
10. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
11. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
12. Rail Sizing: Provide exit device rails factory sized for proper door width application.
13. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Manufacturers: The following or equivalents
    (a) Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    (b) Sargent Manufacturing (SA) - 80 Series.
    (c) Von Duprin (VD) - 35A/98 XP Series.

2.07 Door Closers

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.
2. Manufacturers: The following or equivalents

   (a) LCN Closers (LC) - 4040 Series.
   (b) Norton Rixson (NO) - 7500 Series.
   (c) Sargent Manufacturing (SA) - 351 Series.

2.08 Architectural Trim

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16” above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer’s catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:

   (a) Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers: The following or equivalents

   (a) Burns Manufacturing (BU).
   (b) Hiawatha, Inc. (HI).
   (c) Rockwood (RO).

2.09 Door Stops and Holders

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers: The following or equivalents

   (a) Burns Manufacturing (BU).
   (b) Hiawatha, Inc. (HI).
   (c) Rockwood (RO).

2.10 Architectural Seals

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

1. Manufacturers: The following or equivalents
2. Pemko (PE).
3. Reese Enterprises, Inc. (RE).
4. Zero (ZE).

2.11 Fabrication

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.12 Finishes

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

Part 3. Execution

3.01 Examination

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify Architect of any discrepancies/conflicts between door schedule, door types, drawings & scheduled hardware. Proceed only after discrepancies/conflicts are resolved in writing.

3.02 Preparation

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.03 Installation

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.04 Field Quality Control

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

3.05 Adjusting

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

3.06 Cleaning and Protection

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.07 Demonstration

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.08 Door Hardware Sets

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.
2. The supplier is responsible for handing and sizing all products.
3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.
5. Manufacturer’s Abbreviations: The following or equivalents
6. MK- McKinney
7. SA- Sargent
8. SC- Schlage
9. NO- Norton
10. RO-Rockwood
11. PE- Pemko

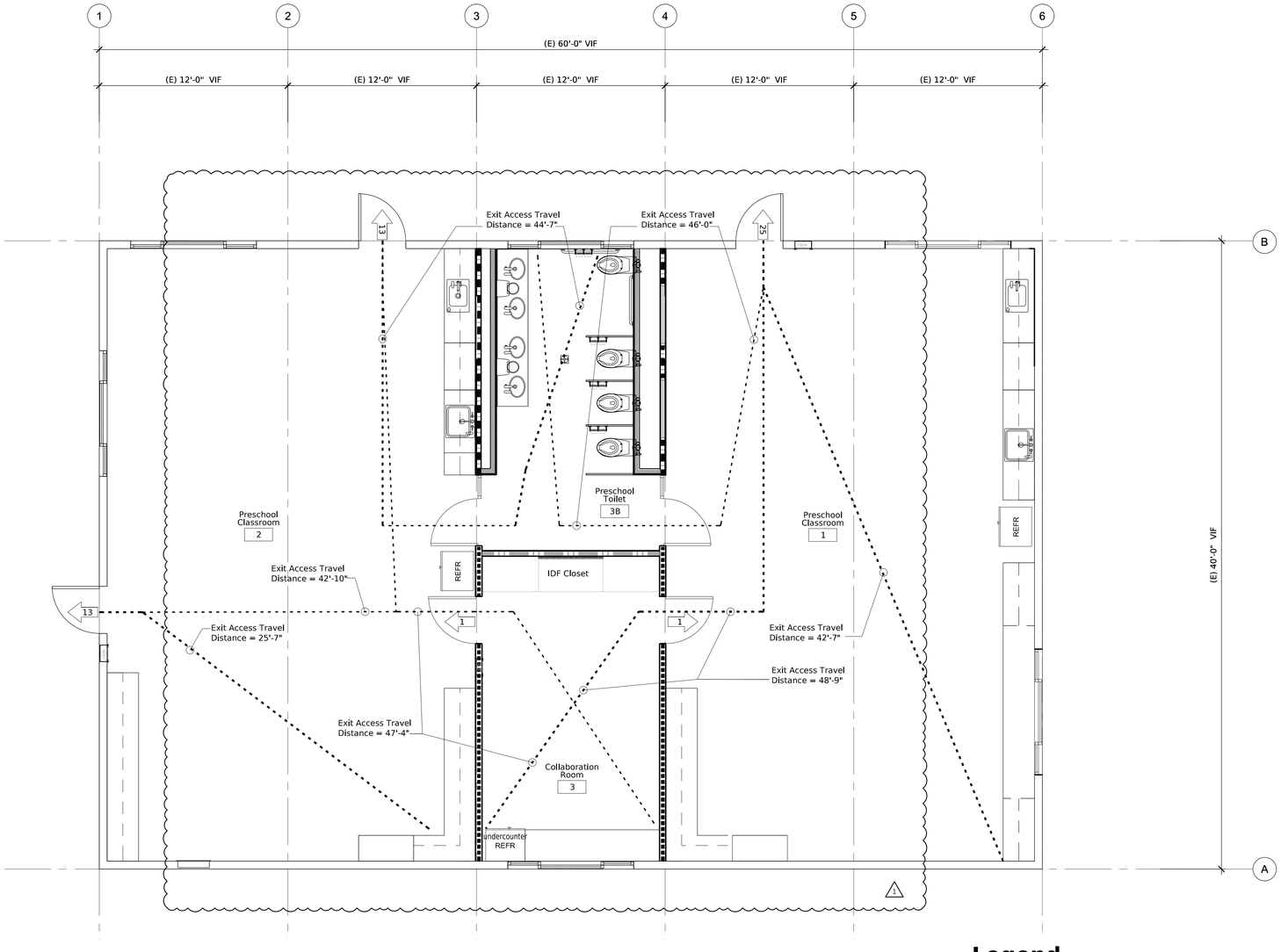
Code Analysis

(Building E)

Chapter 3 | **Table 1004.5, DSA IR A-26** | **Section 1006.2**

Room #	Room Name	Occ. Group	Function	Area (sf)	Load Factor	Occ. Load	No. of Exits Required	No. of Exits Provided	Exit Access Travel Distance (ft)
1	Preschool Classroom 1	E	Day Care Classroom	813	35 nsf	24	1	1	42'-7"
2	Preschool Classroom 2	E	Day Care Classroom	832	35 nsf	24	1	2	25'-7"
3	Collaboration Room	E	Office	171	150 nsf	2	1	1	48'-9"
3B	Preschool Toilet	E	Toilet Room	180	-	-	1	1	46'-0"

1



Legend

Room Name and Number — Room ###

Egress Occupant Load — #

Longest Exit Access Travel Distance

New non-fire rated wall or partition, see wall types legend and floor plan 1/A2.2

Existing non-fire rated wall or partition

Note: Project includes no new or existing fire rated walls

Code Analysis (CBC 2022)

Summary

No change in Use, Occupancy or Building Area

Laurel Elementary School - Building E (Classrooms)

Previous DSA Approvals: 01-101907, 01-114122, 01-115095, 01-121166

5. General Building Heights and Areas

§503 **Height and Area Limitations**

Table 503

Group	Type V-B , Unsprinklered	
E	1 Story	2400 sf

9. Fire Protection Systems

A fire protection system is not required:

§903 **Automatic Sprinkler Systems**

903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.

903.2.3 An automatic sprinkler system shall be provided for Group E occupancies as follows:
1. Throughout all group E fire areas greater than 12,000 square feet in area.
2. The group E fire area is located on a floor other than a level of exit discharge serving such occupancies. Automatic sprinkler system is not required in any area below the lowest level of discharge serving that area.
3. The group E fire area has an occupant load of 300 or more.
7. For public campuses: Kindergarten through 12th grade, see section 903.2.20.

903.2.20 An automatic fire sprinkler system is not required to be provided in the following location on kindergarten through 12th grade

10. Means of Egress

§1004 **Occupant Load**

Table 1004.5

Maximum Floor Area Allowances Per Occupant	
Function of Space	**Occupant Load Factor**
Day Care	35 net
Business Areas	150 gross

§1006 **Number of Exits and Exit Access Doorway**

Table 1006.2.1 **Spaces With one Exit or Exit Access Doorway**

Occupancy	Maximum Occupant Load of Space	Maximum Common Path of Travel
		With Sprinkler System (feet)
E	49	75

§1016 **Exit Access**

1016.2 Egress through Intervening Spaces shall comply with this section.

Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a group H Occupancy and provide a discernible path of egress travel to an exit.

§1017 **Exit Access Travel Distance**

Table 1017.2 **Limitations**

Occupancy	Without Sprinkler System (feet)	With Sprinkler System (feet)
E	200	250

§1020 **Corridors**

Table 1020.2 **Fire-Resistance Rating**

Occupancy	Occupant Load Served by Corridor	Required Fire-Resistance Rating (hours)
		Without Sprinkler System
E	>10	1-hour

Wall Types

W1 Existing Exterior Wall--Unrated

2x4 studs at 16" OC with 3/8" non-grooved APA 303 rated exterior siding over moisture barrier underlayment paper and 1/2" gypsum board with 1/2" vinyl covered tackboard at interior sides with R-11 fiberglass insulation installed full-height in stud cavity.

W2 Existing Interior Wall--Unrated (demolished)

2x4 studs at 16" OC with 1/2" gypsum board with F.R.P. panels at toilet room sides with 1/2" gypsum board with 1/2" vinyl covered tackboard at classroom sides with R-11 fiberglass insulation installed full-height in stud cavity.

W3 New Nonbearing Interior Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" moisture resistant gypsum board at toilet room side, vapor barrier on chase side, 5/8" gypsum board with 1/2" vinyl covered tackboard at classroom side with sound batt insulation installed full-height in stud cavity. Refer to details 5 and 9/A7.1

W4 New Nonbearing plumbing cavity partial wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" moisture resistant gypsum board at toilet room side, vapor barrier on chase side. Refer to details 5 and 9 / A7.1

W5 New Nonbearing Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" moisture resistant gypsum board at toilet room side with 5/8" gypsum board with 1/2" vinyl covered tackboard at other side with sound batt insulation installed full-height in stud cavity.

W6 New Nonbearing Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" gypsum board with 1/2" vinyl covered tackboard at both sides with sound batt insulation installed full-height in stud cavity.

W7 New Nonbearing Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" gypsum board at both sides with sound batt insulation installed full-height in stud cavity.

1

Floor Plan Building E

For Reference Only

1

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Toilet Rooms Rennovation

SMFCSD

REVISION	DATE
DSA Submittal	10/25/2023
DSA Approval	2/7/2024
Revision 1	3/8/2024

1

N

Key Plan

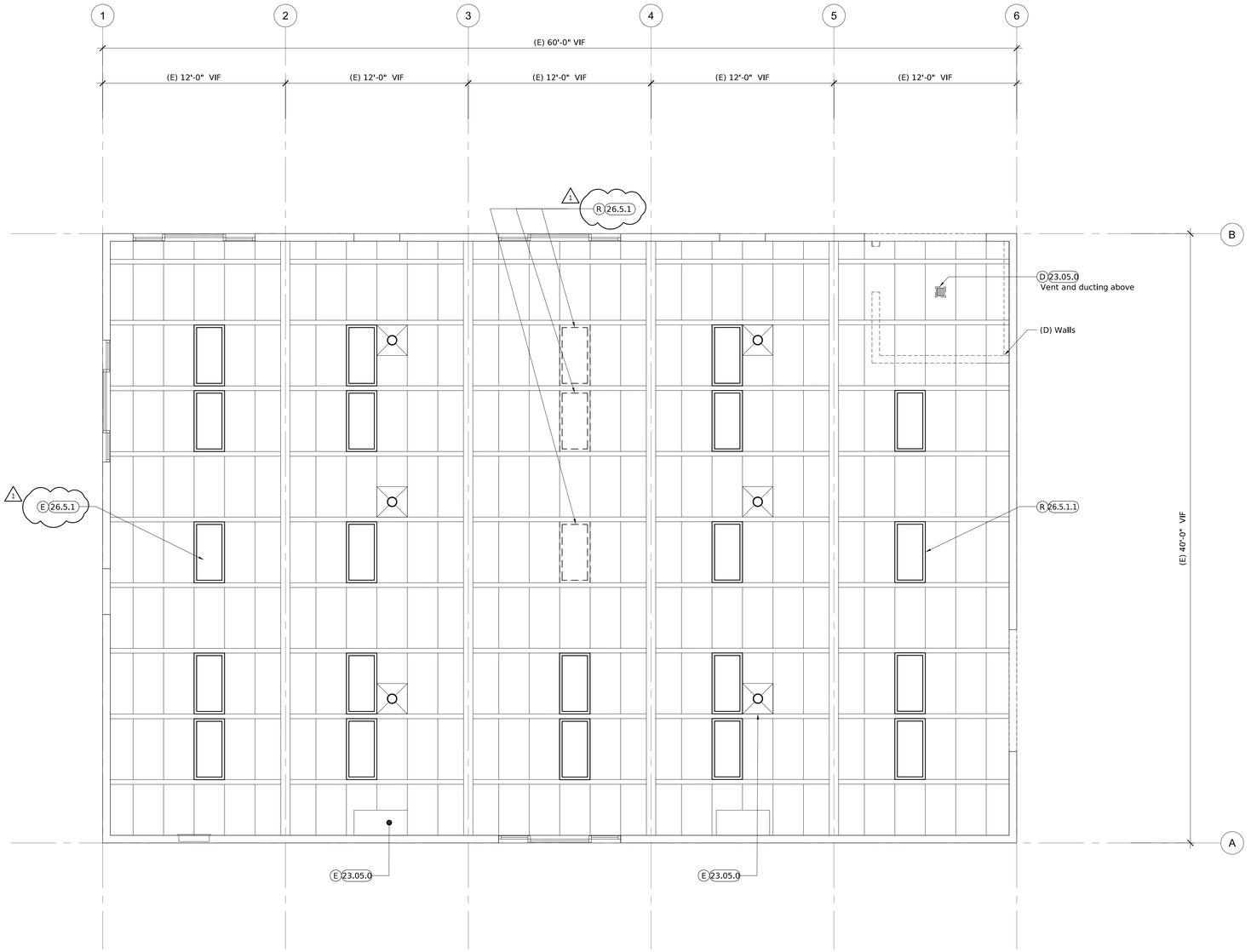
E
C C
B B
A A
D

Code Analysis

Building: E

A0.1

BA 22-005.02.10



Demolition Reflected Ceiling Plan 1

Demolition Legend

Objects to be Removed

(E) Wall to Remain

(E) Wall to be Removed

Sheet Notes

1. All dimensions given take precedence over scale. Contractor shall not scale the drawings to determine dimensions without consulting the Architect. Contractor shall review all dimensions for accuracy prior to construction.
2. All existing utilities indicated are based on the best information available to the Architect. If any utilities are discovered that are not indicated here, or differ from that indicated here, Contractor shall notify the Architect immediately.
3. Refer to Structural, Mechanical, Plumbing, and Electrical, dwgs for additional information and requirements.
4. Contractor shall verify all underground utilities in field prior to performing any excavation.
5. Contractor shall coordinate all rough electrical, opening jambs, and related trims to account for applied wall finish thickness.
6. Refer to Specifications for additional requirements.
7. Existing foundation to remain and must **not be damaged**.

Demo RCP Keynotes

(E) Existing, Protect in Place
(D) Demolish and Remove
(R) Remove and Replace

08 Openings
8.2.1 Wood Door

09 Finishes
09.2.1 Gypsum Board
09.2.3 Exterior Gypsum Plaster
09.5.1 Replace all existing ceiling tiles with new tiles. Refer specifications

23 Mechanical
Ref Mechanical Dwgs
23.05.0 HVAC Equipment, Ductwork, & Grille

26 Electrical
Refer Electrical Dwgs
26.5.1 Existing Light Fixtures
26.5.1.1 Replace existing light fixtures with new light fixtures. Refer electrical specifications

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N 2 4 8
1/4"=1'-0"

Key Plan

E
C C
B B
A A
D

Demolition RCP

Building: E

A2.1

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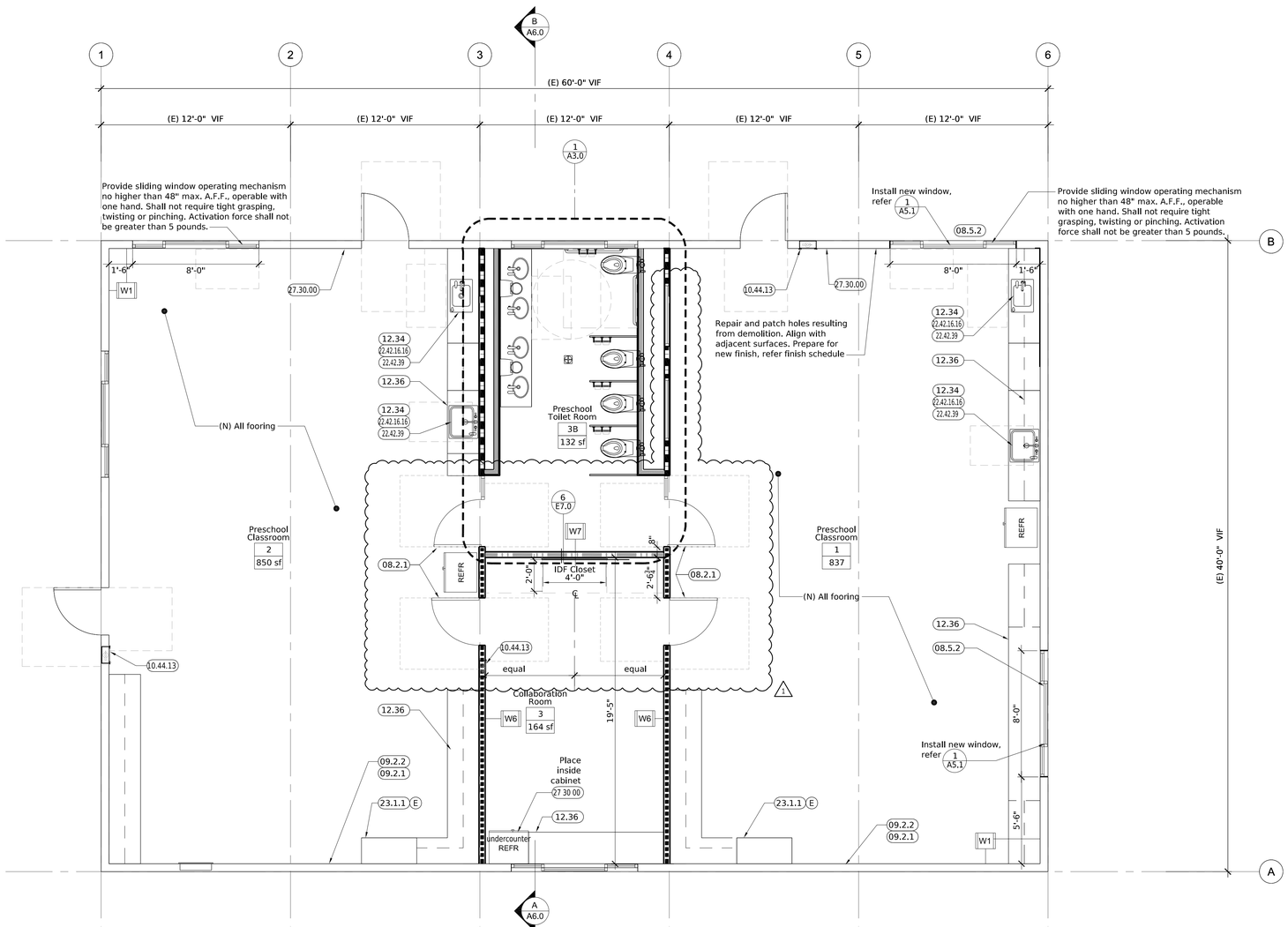

Floor Plan Building E

1

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4. Contractor shall verify all underground utilities in field prior to performing any excavation.
5. Refer to Specifications for additional requirements.
6. Per CBC 906.1 Portable fire extinguishers shall be installed in large and small day care facilities with a minimum of 2A10B:C rating.

Floor Plan Keynotes

(E) Existing, Protect in Place
(D) Demolish and Remove
(R) Remove and Replace

08 Openings
Refer Opening Schedule, A8.0
08.2.1 Door and H.M. Frame
08.5.2 Glazing and Frame
08.9.2 Soffit Vent

09 Finishes
Ref Finished Schedule, A8.3
09.2.1 Water Resistive Gypsum Board 5/8"
09.2.2 Wall finishes, Vinyl Tack board
09.65 LVT Flooring
09.9.1 Paint

10 Accessories
10.1.1 Tackboards/ Marker Board
10.14.16 Door sign
10.5.3 Clock speaker Return to District
10.8.1 Grab Bar
10.8.2 Hand Towel Dispenser
10.44.13 Portable fire extinguisher with minimum of 2A10B:C rating

12 Furnishings
Ref Casework Schedule, A8.2
12.34 Countertop with integral lavatory
12.36 Plastic Laminate Countertop

22 Plumbing Fixtures
Ref Plumbing Drawings
22.13.19.13 Floor drain
22.42.13.13 Water Closet
22.42.16.13 Lavatory
22.42.16.16 Sink
22.42.39 Faucet

23 Mechanical
Ref Mechanical Drawings
23.1.1 Mechanical Equipment HVAC

26 Electrical
Ref Electrical drawings
26.3.1 Electrical Panel

27 Communication
27 30 00 Portable assistive listening device provided per specification. Refer to A8.1 for sign type and location.

Wall Types

W1 Existing Exterior Wall--Unrated

2x4 studs at 16" OC with 3/8" non-grooved APA 303 rated exterior siding over moisture barrier underlayment paper and 1/2" gypsum board with 1/2" vinyl covered tackboard at interior sides with R-11 fiberglass insulation installed full-height in stud cavity.

W2 Existing Interior Wall--Unrated (demolished)

2x4 studs at 16" OC with 1/2" gypsum board with F.R.P. panels at toilet room sides with 1/2" gypsum board with 1/2" vinyl covered tackboard at classroom sides with R-11 fiberglass insulation installed full-height in stud cavity.

W3 New Nonbearing Interior Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" moisture resistant gypsum board at toilet room side, vapor barrier on chase side, 5/8" gypsum board with 1/2" vinyl covered tackboard at classroom side with sound batt insulation installed full-height in stud cavity. Refer to details 5 and 9/A7.1

W4 New Nonbearing plumbing cavity partial wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" moisture resistant gypsum board at toilet room side, vapor barrier on chase side. Refer to details 5 and 9 / A7.1

W5 New Nonbearing Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" moisture resistant gypsum board at toilet room side with 5/8" gypsum board with 1/2" vinyl covered tackboard at other side with sound batt insulation installed full-height in stud cavity.

W6 New Nonbearing Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" gypsum board with 1/2" vinyl covered tackboard at both sides with sound batt insulation installed full-height in stud cavity.

W7 New Nonbearing Wall--Unrated

3 5/8" X 20 ga studs @ 16" OC with 5/8" gypsum board at both sides with sound batt insulation installed full-height in stud cavity.

1

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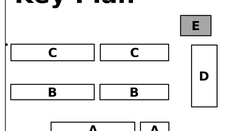
Revision 1	3/8/2024

1

N
2 4 8
1/4"=1'-0"

Key Plan

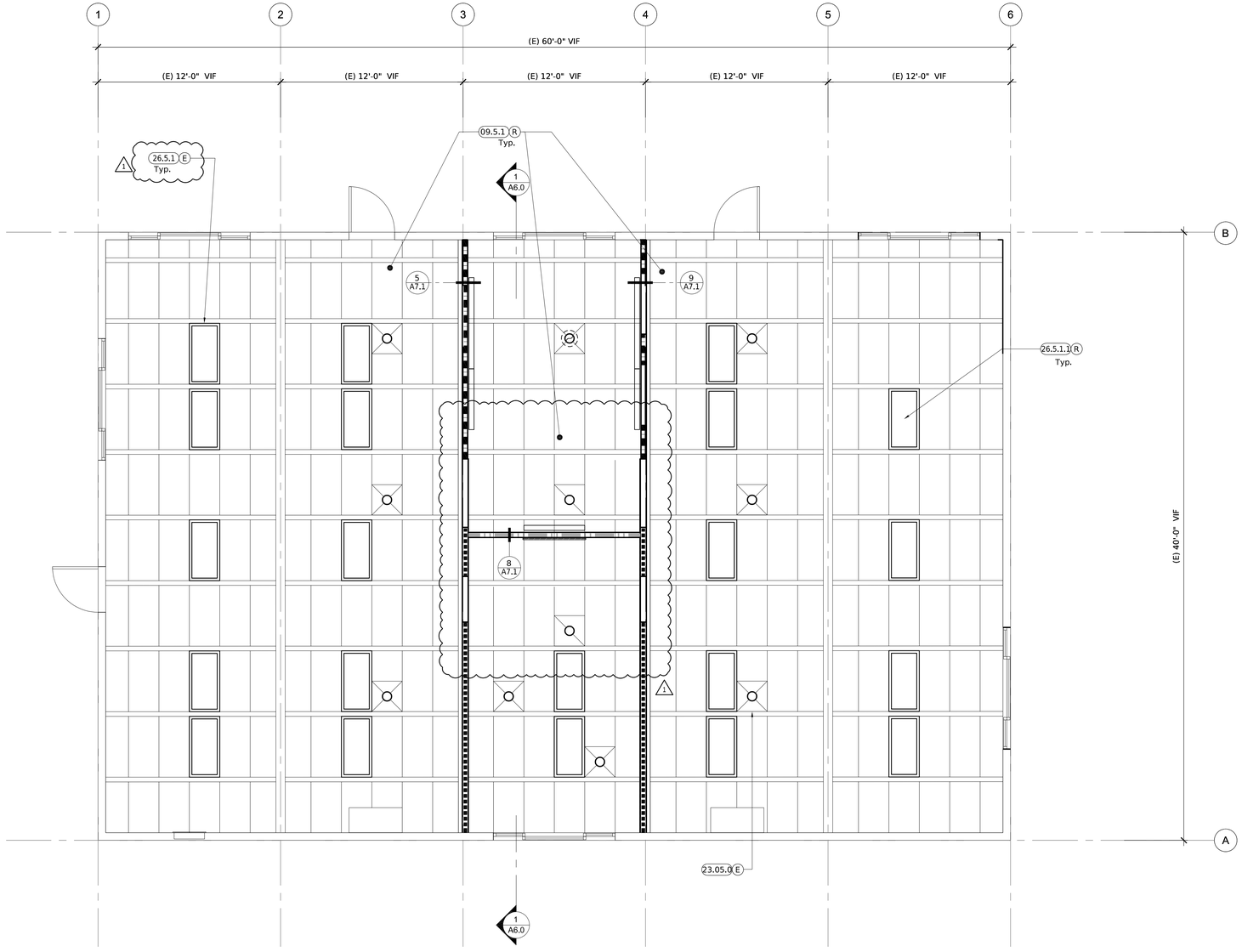


Floor Plan

Building: E

A2.2

BA 22-005.02.10



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4. Contractor is fully responsible for coordinating all finish alignments.
5. Refer to Structural, Mechanical, Electrical,and Plumbing drawings for additional information and requirements.
6. Refer to Specifications for additional requirements.
7. Existing foundation to remain and must **not be damaged.**

RCP Keynotes

(E) Existing, Protect in Place
(R) Remove and Replace

06 Wood, Plastics, Composites
06.1 Wood Framing, refer Structural

09 **Finishes**
09.2.1 Gypsum Board
09.2.3 Exterior Gypsum Plaster
09.5.1 Replace all existing ceiling tiles with new tiles. Refer specifications

23 **Mechanical**
Ref Mechanical
23.05.0 HVAC equipment, ductwork, & grille

26 **Electrical**
Ref Electrical Drawings
26.5.1 Existing light fixtures
26.5.1.1 Replace existing light fixtures with new light fixtures. Refer electrical specifications

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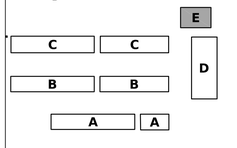


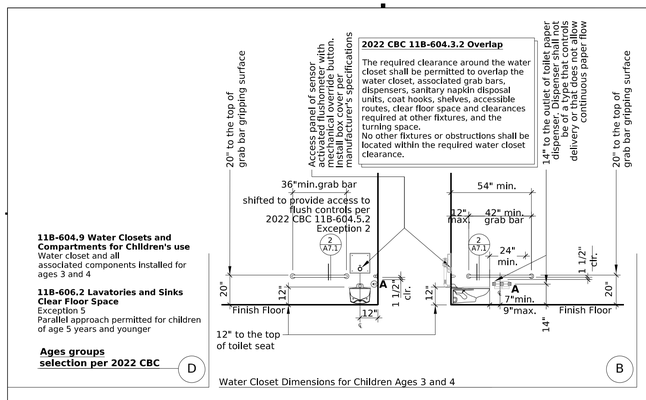
Reflected Ceiling Plan

Building: E

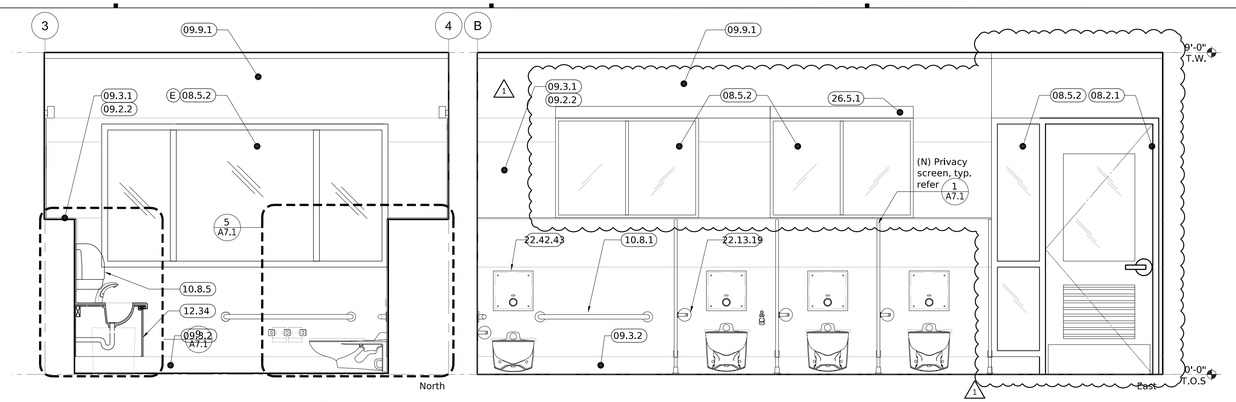
A2.3

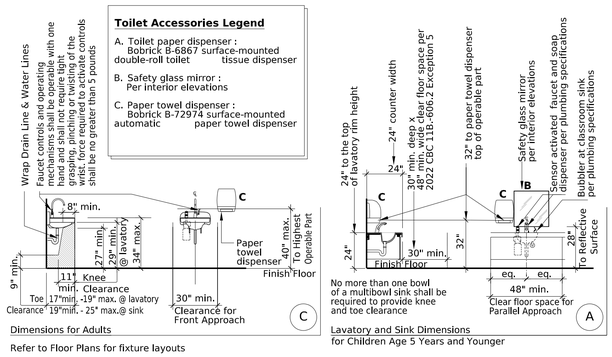
BA 22-005.02.10

Reflected Ceiling Plan 1



Water Closet Dimensions for Children Ages 3 and 4

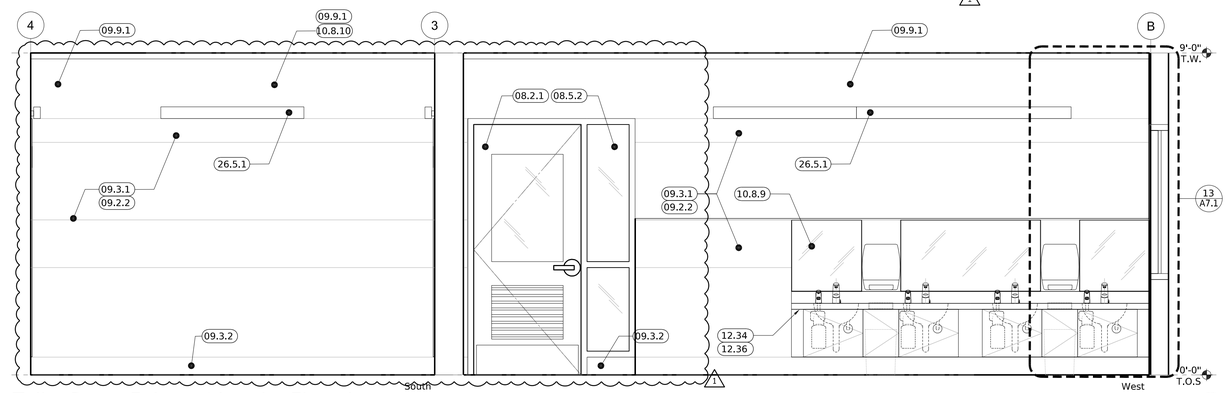




Refer to Floor Plans for fixture layouts

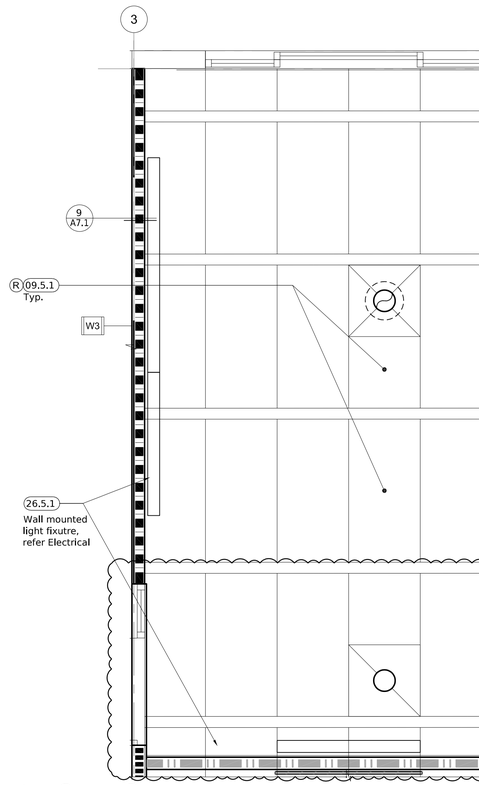
Fixture Height Schedule

15



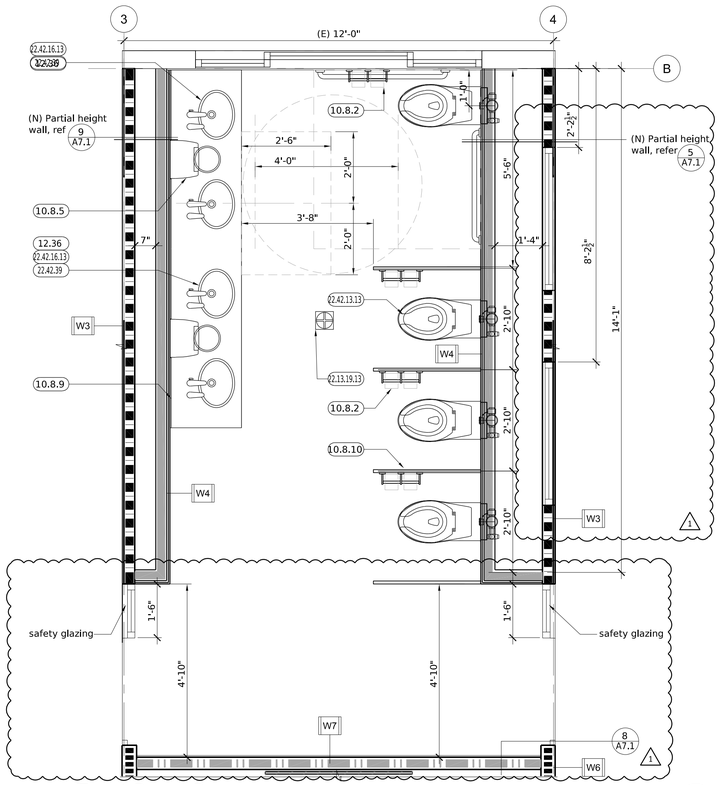
Toilet Room Enlarged Interior Elevations

3



Reflected Ceiling Plan

9



Preschool Toilet Room Plan

1

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4. Contractor shall verify all underground utilities in field prior to performing any excavation.
5. Refer to Specifications for additional requirements.

Toilet Room Keynotes

Preschool (pre-K) Toilet Room
Age group 3 and 4 for water closet components per CBC 11B.604.9
Age group 5 years and younger per 11B-606.2 Exception 5
Reference Details 15A, 15C/A3.0 @ 5, 9/A7.1

(E) Existing, Protect in Place
(R) Remove and Replace

08 Openings
Refer Opening Schedule A8.0
08.2.1 Door and H.M. Frame
08.5.2 Glazing and Frame

09 Finishes
Ref Finish Schedule A8.3
09.2.2 Water Resistive Gyp. Bd. 5/8"
09.3.1 Resinous panel wall finish - install per manufacturer's specs
09.3.2 Resinous Flooring Integral Cove Base
09.5.1 Replace all existing ceilling tiles with new tiles. Refer specifications
09.9.1 Paint

10 Specialties
10.8.0 Door sign, refer to detail 4/A8.1
10.8.1 Grab Bar, refer 9B /A3.0
10.8.2 Toilet Paper Dispenser - Compact Horizontal refer 9B /A3.0
10.8.5 Paper Towel Dispenser refer 9C /A3.0
10.8.9 Mirror
10.8.10 Toilet Privacy screen, see 1/A7.1

12 Furnishings
Ref Casework Schedule A8.2
12.34 Plastic Laminate Casework
12.36 Countertop with integral lavatory

22 Plumbing Fixtures
Ref Mechanical, Plumbing Drawings
22.13.19.13 Floor drain
22.42.13.13 Toilet (Wall Mounted). ref 5/A7.1
22.42.16.13 Lavatory, ref 15A/A3.0 & 9/A7.1
22.42.39 Faucet and soap dispenser per plumbing specifications
22.42.43 Electronic flush install per plumbing specifications and per detail 5/A7.1

26 Electrical
Ref Electrical Drawings
26.5.1 Light Fixture

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NI 1/2 1 2
1/2"=1'-0"

Key Plan

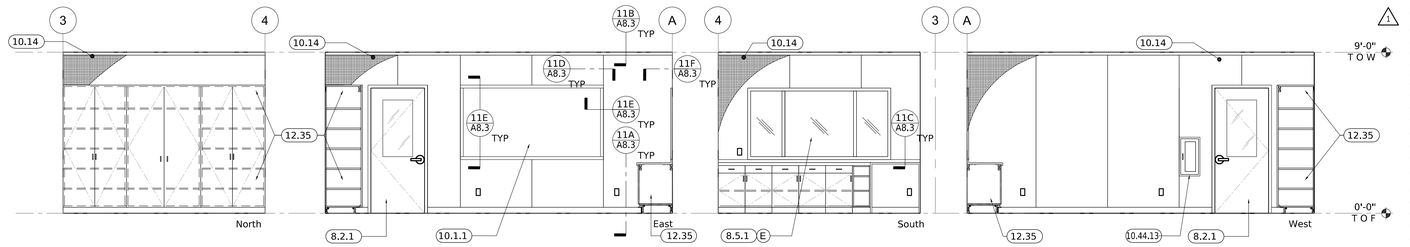
E
C C
D
B B
A A

Enlarged Preschool Toilet Room Plans and Elevations

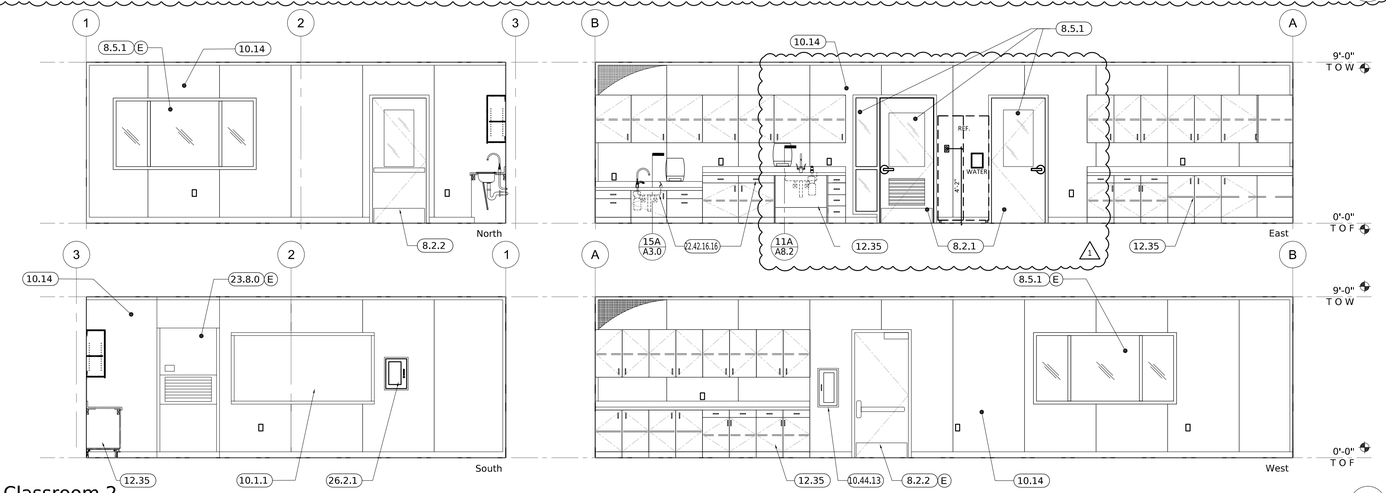
Building: E

A3.0

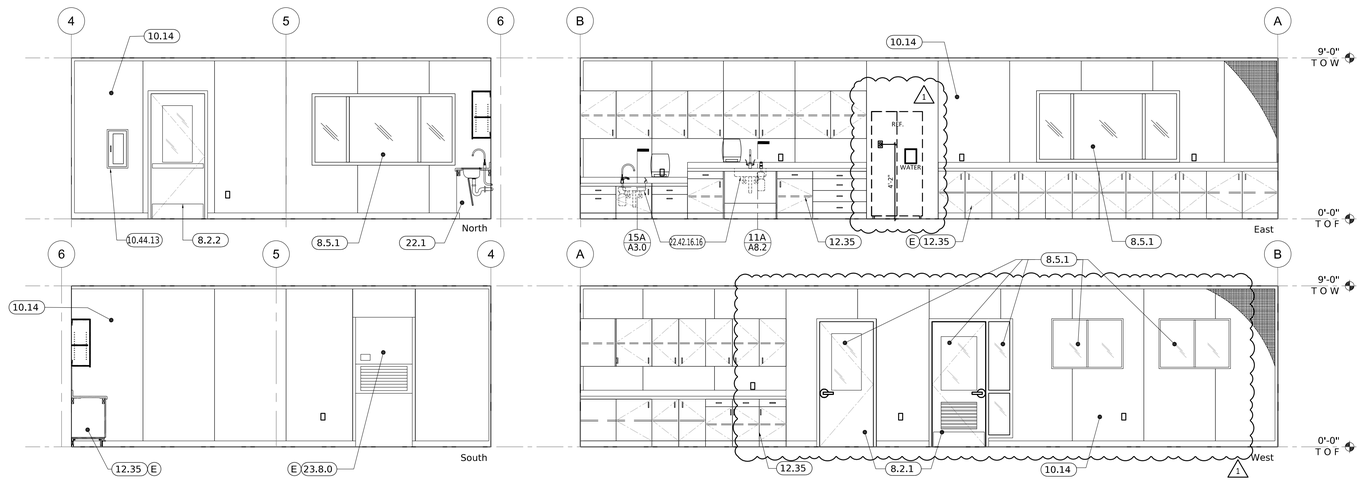
BA 22-005.02.10



Teacher Collaboration Room 3 — 3



Preschool Classroom 2 — 2



Preschool Classroom 1 — 1

Sheet Notes

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2. All existing utilities indicated are based on the best information available to the Architect. If any utilities are discovered that are not indicated here, or differ from that indicated here, Contractor shall notify the Architect immediately.
4. Contractor shall verify all underground utilities in field prior to performing any excavation.
5. Refer to Specifications for additional requirements.

Keynotes

E Existing, Protect in Place
D Demolish and Remove
R Remove and Replace

06 Wood, Plastics, Composites
06.61 Solid Surface Fabrication

08 Openings
Ref Opening Schedule, A8.0
8.2.1 Wood Door
8.2.2 Hollow Metal Door
8.5.1 Glazing

09 Finishes
09.65 LVT Flooring

10 Specialties
10.1.1 Markerboard
10.14 Fabric Covered Tack Panels
10.21 Toilet Partitions
10.44.13 Portable fire extinguisher with minimum of 2A10B:C rating
10.8.A Toilet Paper Dispenseer
10.8.B Safety Glass Mirror
10.8.C Paper Towel Dispenser
10.8.D Automatic Paper Towel Dispenser
10.8.C Grab Bar

12 Furnishings
Ref Casework Schedule, A8.2
12.35 Plastic Laminate Casework

22 Pumbing
Ref Plumbing Drawing
22.42.16.16 Sink

23 Mechanical
Ref Mechanical Drawing
23.8.0 HVAC Unit

26 Electrical
Ref Electrical Drawings
26.2.1 Electrical Panel

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REVISION	DATE
DSA Submittal	10/25/2023
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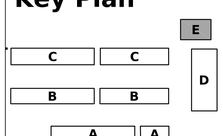
Revision 1	3/8/2024

1/4"=1'-0"

Key Plan

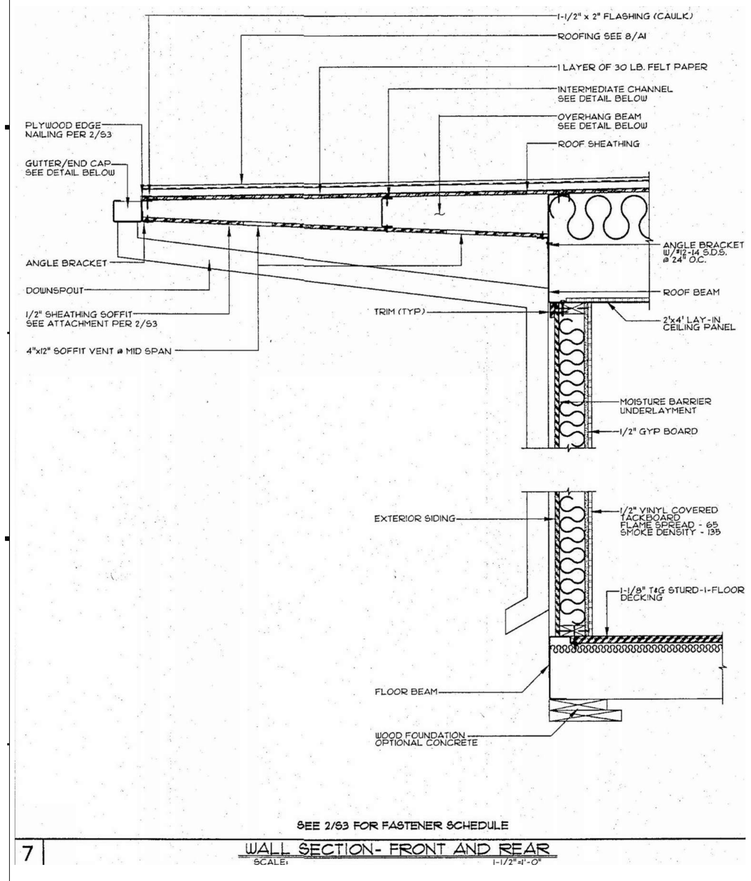


Interior Elevations

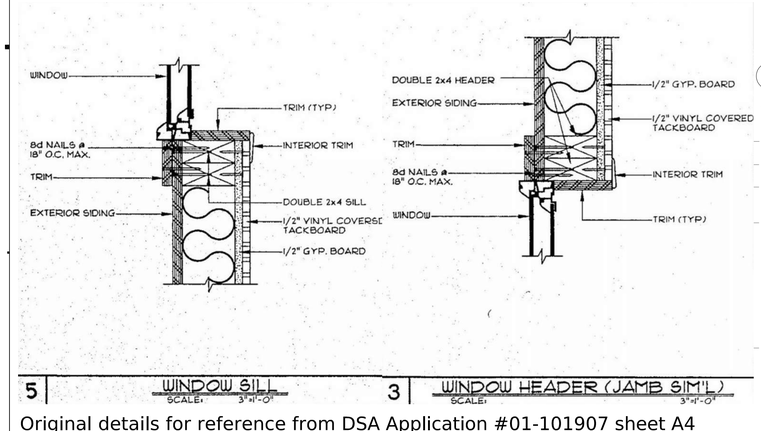
Building: E

A4.0

BA 22-005.02.10



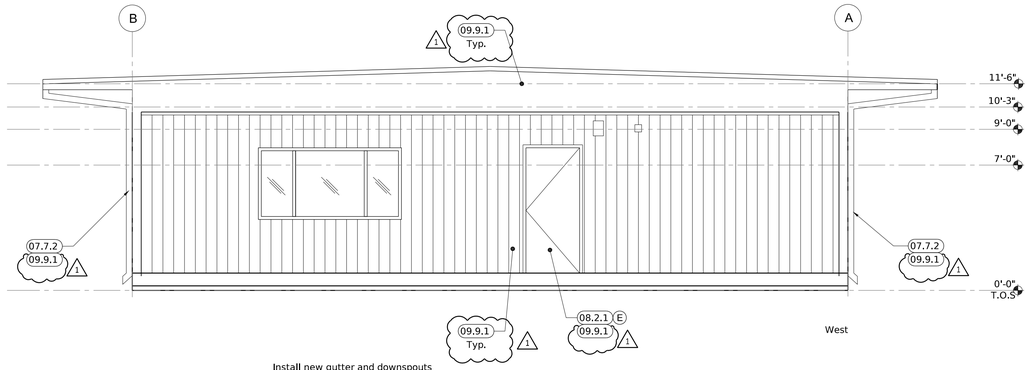
7 WALL SECTION- FRONT AND REAR
SCALE: 1-1/2"=1'-0"

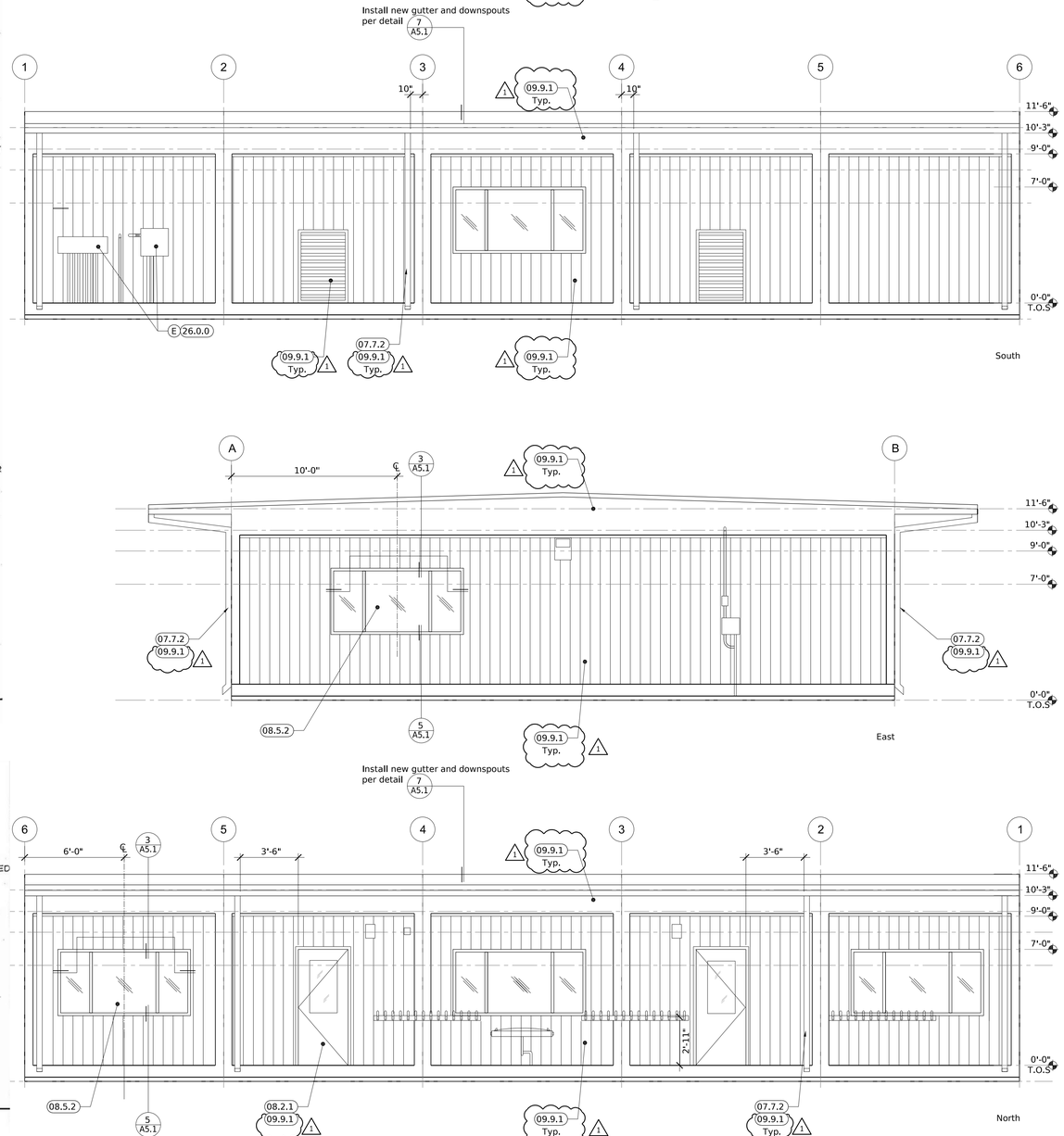


5 WINDOW SILL
SCALE: 3"=1'-0"

3 WINDOW HEADER (JAMB SIM'L)
SCALE: 3"=1'-0"

Original details for reference from DSA Application #01-101907 sheet A4





Exterior Elevations

1/4"=1'-0" 1

Sheet Notes

1. Contractor shall not scale the drawings to determine dimensions without consulting the Architect, Contractor shall review all dimensions for accuracy prior to construction.
2. Dimensions given as "CLR" are to face of finish. All other dimensions are to face of stud/structure unless otherwise noted.
3. All existing utilities indicated are based on the best information available to the Architect. If any utilities are discovered that are not indicated here, or differ from that indicated here, Contractor shall notify the Architect immediately.
4. Contractor is fully responsible for coordinating all finish alignments.
5. Refer plans for all rough framing dimensions, opening sizes, etc. Refer details for all local dimensions.
6. Refer to Specifications for additional requirements, description of each item and methods for installation.
7. Contractor shall coordinate all rough electrical, opening jambs, and related trims to account for applied wall finish thickness.
8. Contractor shall include in bid all required cutting and patching of existing wall surfaces in order to accommodate any electrical installation, including, but not limited to, switches, receptacles, and conduits.

Exterior Elev. Keynotes

(E)	Existing, Protect in Place
(D)	Demolish and Remove
07	**Thermal and Moisture Protection**
07.7.2	Downspout & Gutters
08	**Openings**
	Ref Openings Schedule, A8.0
08.2.1	Door and H.M. Frame
08.5.2	Glazing and Frame
08.7.1	Hold open w/ blocking
09	**Finishes**
	Ref Finish Schedule, A8.2
09.9.1	Paint
10	**Accessories**
10.2.0	GSM louver
10.4.26	Signage & Graphics
10.7.3	Paint, clean & restore (E) alum. frames
23	**Mechanical**
	Ref Mechanical Drawings
23.7.0	Heating, Ventilating, & Air conditioning equipment
26	**Electrical**
	Ref Electrical Drawings
26.0.0	Electrical Panels

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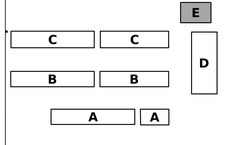
Key Plan



Exterior Elevations

Building: E

A5.1

BA 22-005.02.10

Sheet Notes

1 All dimensions given take precedence over scale. Contractor shall not scale drawing to determine dimensions w/o consulting the Architect. Contractor shall review all dimensions for accuracy prior to construction. All written dimensions supercede scaled dimensions.

2 All surfaces shall receive new or renovated finish under this contract, UON. Surfaces not specifically noted herein shall receive finishes of like surfaces in adjacent locations and shall be verified with the Architect prior to installation.

3 Dimensions given as "CLR" are face-to-finish. All other dimensions are to face of stud/structure UON.

5 Ref plans for all rough framing dimensions, opening sizes, etc. Refer to details for all local dimensions.

6 Mounting heights shown are intended to comply with all applicable codes. Mounting heights are measured from finished assemblies. Contractor fully responsible to achieve these mounting heights.

7 Provide blocking for all cabinets, fixtures, equipment, and accessories as required.

8 Contractor to coordinate framing for all light fixtures, recesses. and opening alignments, and contact Architect if discrepancies are discovered.

9 All interior trims and casings shall match existing where applicable unless otherwise noted or scheduled. Contractor is responsible to take accurate measurements of existing trims and replicate.

10 INT gypsum board finish shall be smooth at all locations UON. Gypsum board occurring beneath applied finished shall meet requirements of finish manufacturer.

11 Contractor shall coordinate all rough electrical, opening jambs, and related trims to account for applied wall finish thickness.

12 Contractor shall include in bid all required cutting and patching of existing wall surfaces in order to accommodate any electrical installation, including, but not limited to, switches, receptacles, and conduits.

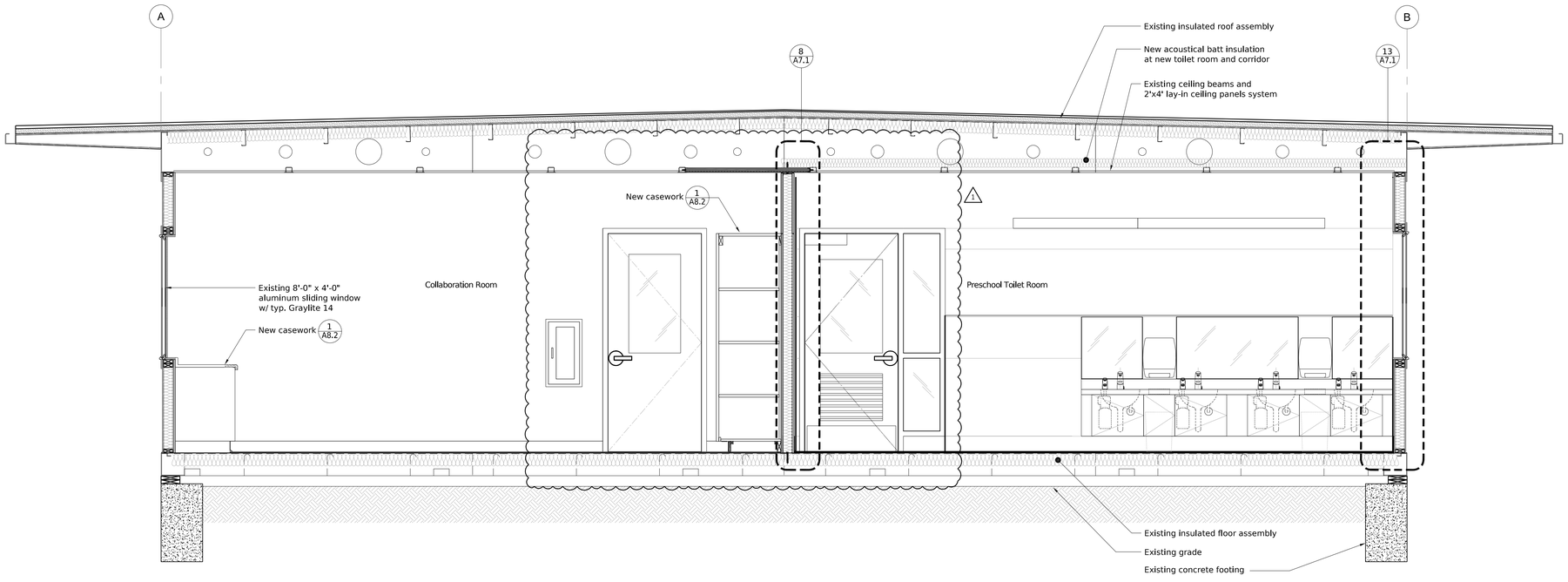
13 Ref to Finish Schedule for heights of ceilings and wainscot, and additional requirements.

14 Ref to Casework Schedule for dimensions and mounting details for all casework, countertops, and integral sinks.

15 Ref to Specifications for description of each item and methods for installation and additional requirements.

16 Contractor fully responsible for coordinating all the finish alignments.

17 Ref to electrical drawings for location of light fixtures, switches, etc. Contractor shall coordinate framing to accommodate recessed fixtures and other items with critical locations.



Building Cross Section

1

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N
1 2 4
1/2"=1'-0"

Key Plan

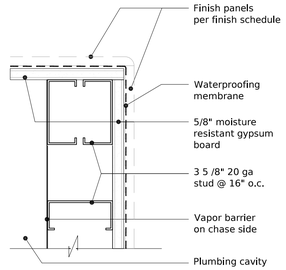
E
C C
D
B B
A A

Building Sections

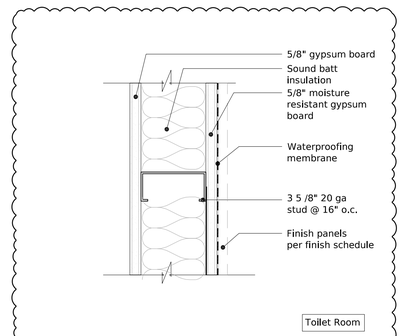
Building: E

A6.0

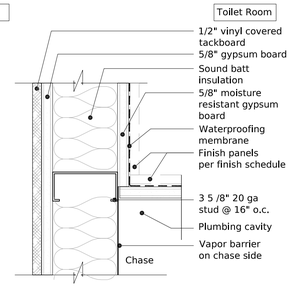
BA 22-005.02.10



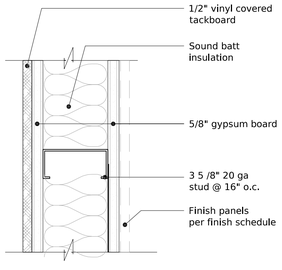
New Interior Plumbing Cavity Wall — 4
Wall Type W4 — 3"=1'-0"



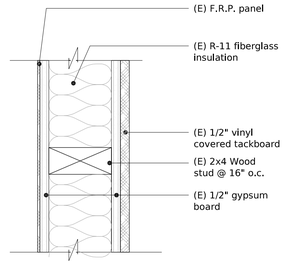
New Interior Wall — 7
Wall Type W5 — 3"=1'-0"



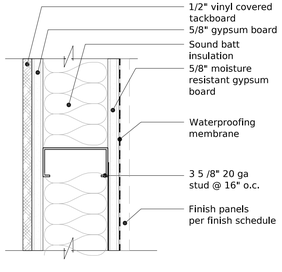
New Interior Wall — 3
Wall Type W3 — 3"=1'-0"



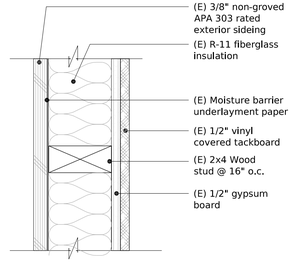
New Interior Wall — 6
Wall Type W6 — 3"=1'-0"



Existing Interior Wall — 2
Wall Type W2 — 3"=1'-0"



New Interior Wall — 5
Wall Type W5 — 3"=1'-0"



Existing Exterior Wall — 1
Wall Type W1 — 3"=1'-0"

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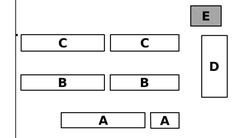
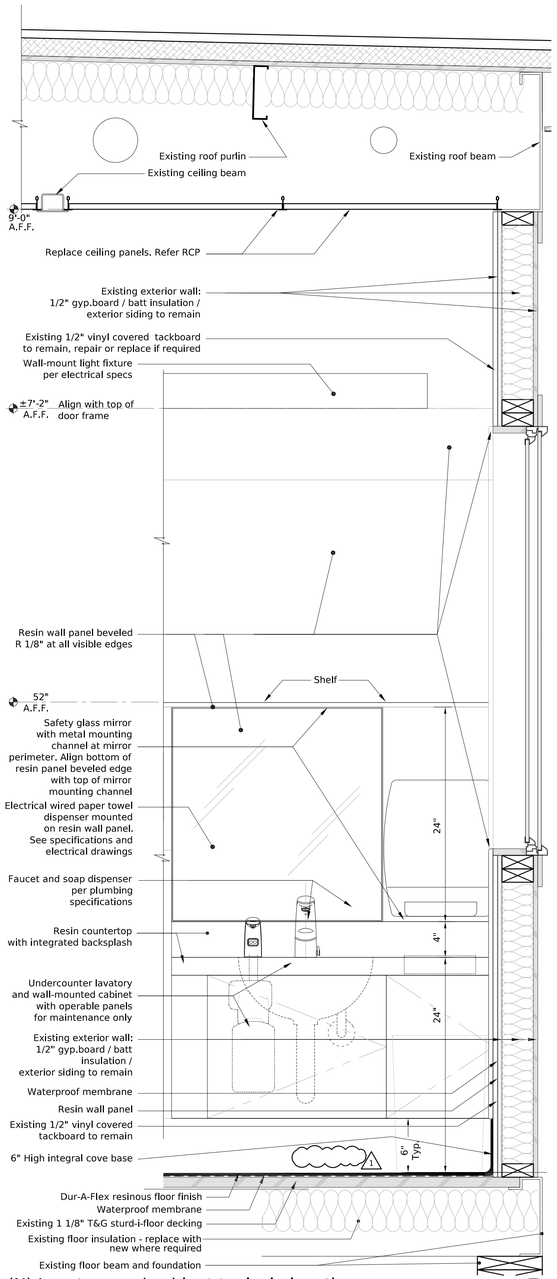


Wall Types and Interior Details

Building: E

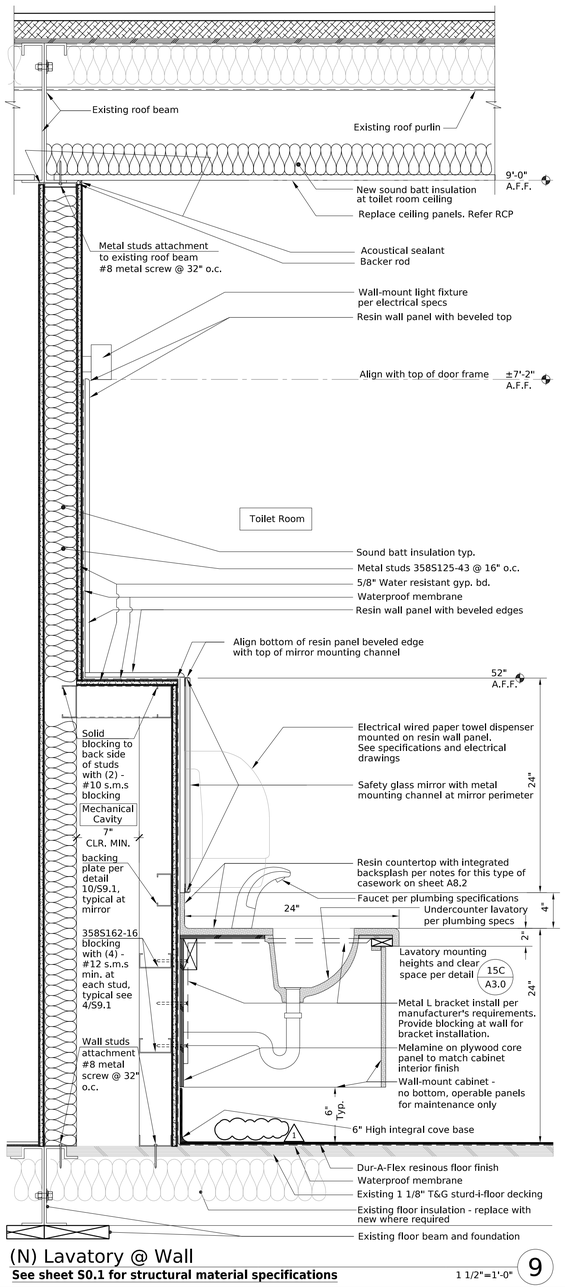
A7.0

BA 22-005.02.10



(N) Lavatory and cabinet typical elevation

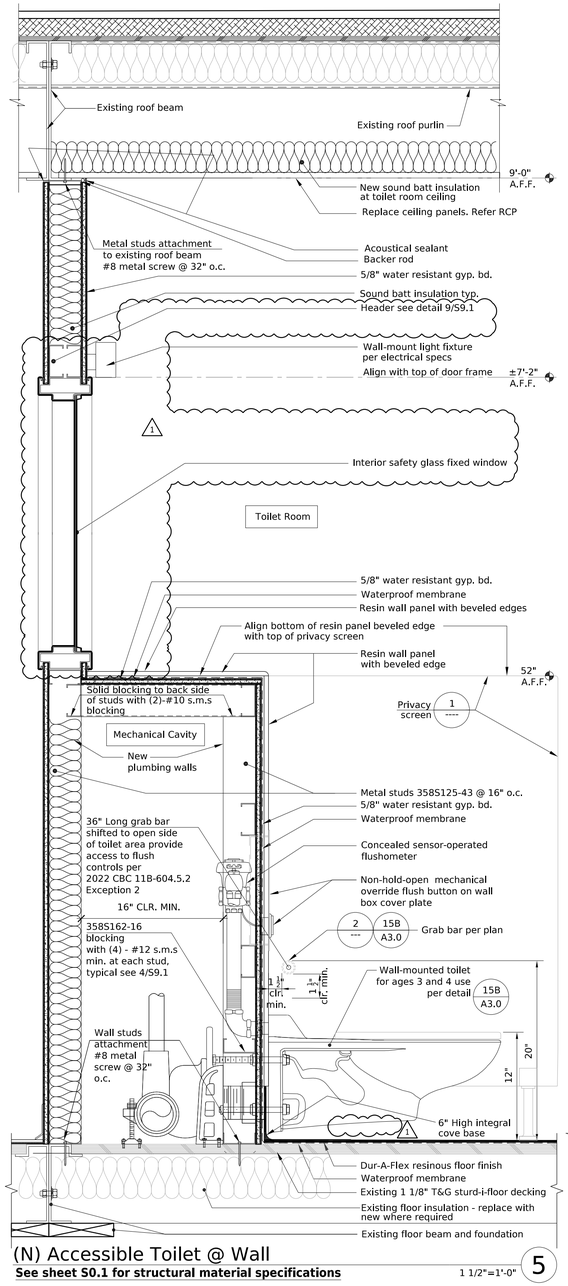
1 1/2"=1'-0" 13



(N) Lavatory @ Wall

See sheet S0.1 for structural material specifications

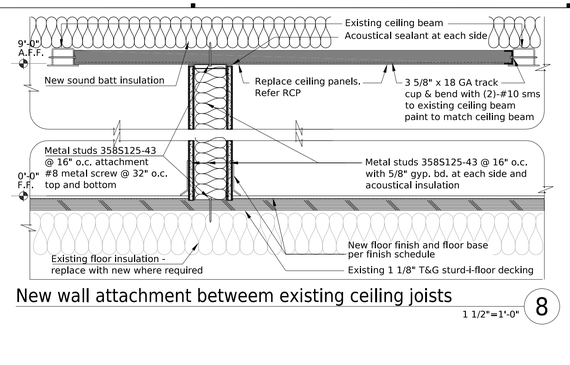
1 1/2"=1'-0" 9



(N) Accessible Toilet @ Wall

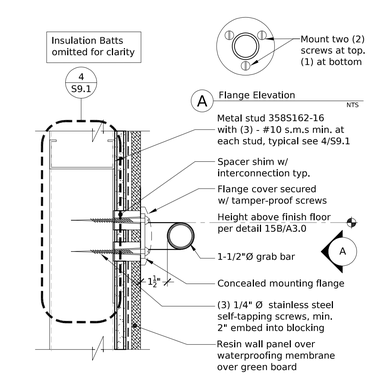
See sheet S0.1 for structural material specifications

1 1/2"=1'-0" 5



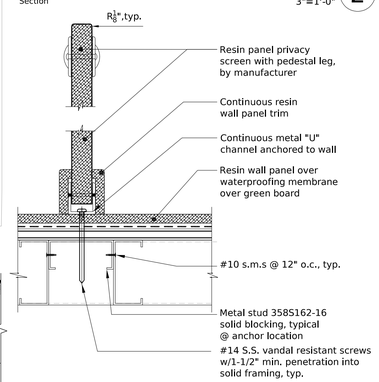
New wall attachment betweem existing ceiling joists

1 1/2"=1'-0" 8



Grab Bar Anchoring

Section 3"=1'-0" 2



Typical Partition Anchoring Plan

3"=1'-0" 1

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Key Plan

E
C C
D
B B
A A

Toilet Room Details

Building: E

A7.1

BA 22-005.02.10

Opening Schedule

Location		Size			Frame			Glazing				Door				Hardware																		Details			Notes
Mark	Room #	Width (V.I.F.)	Height (V.I.F.)	Fire Rating (minutes)	Material	Fire Rating (minutes)	Tempered	Impact Safety Rated	Transoms	Door / Frame Type	Fire Rating (minutes)	Material		Vision Panel	ANSI Lever Function	Panic Hardware	Fire-Rated Hardware	Closer	Kickplate	Holder	Wall Stops	Door Stops	Floor Stops	Door Bottom	Removable Mullion	Sound Proof Gasket	Coordinator	Smoke Seal	Weatherstripping	Card Reader	Sill / Threshold	Jamb	Head	
Doors																																			
01	2	36	84	NR	HM	NR	■			E		WD	■	F75		NR	■	■	■	■	■		■		■						9A/A8.3	9/A8.0	9/A8.0	Louver & Glazing
02	2	36	84	NR	HM	NR	■			C		WD	■	F82		NR	■	■	■	■	■		■		■						9A/A8.3	9/A8.0	9/A8.0	
03	1	36	84	NR	HM	NR	■			E		WD	■	F75		NR	■	■	■	■	■		■		■						9A/A8.3	9/A8.0	9/A8.0	Louver & Glazing
04	1	36	84	NR	HM	NR				C		WD	■	F82		NR	■	■	■	■	■		■		■						9A/A8.3	9/A8.0	9/A8.0	
05	1	36	84	NR	(E)HM	NR	■			B		HM	■	F85	■	NR	■	■	■	■	■		■		■			■			9A/A8.3	9/A8.0	9/A8.0	(E) Frame, (N) Door
06	2	36	84	NR	(E)HM	NR	■			B		HM	■	F85	■	NR	■	■	■	■	■		■		■			■			9A/A8.3	9/A8.0	9/A8.0	(E) Frame, (N) Door
07	2	36	84	NR	(E)HM	NR				A		(E)HM	(E)	(E)	(E)	NR	(E)	(E)	(E)	(E)	(E)		(E)		(E)			(E)			(E)	(E)	(E)	(E) Not in Scope
Windows																																			
A	1	96	48	NR	Alum	NR	■																								5/A5.1	3/A5.1	3/A5.1	
B	1	96	48	NR	Alum	NR	■																								5/A5.1	3/A5.1	3/A5.1	
C	3B	96	48	NR	(E)Alum	NR	■																								(E)	(E)	(E)	(E) Not in Scope
D	2	96	48	NR	(E)Alum	NR	■																								(E)	(E)	(E)	(E) Not in Scope
E	2	96	48	NR	(E)Alum	NR	■																								(E)	(E)	(E)	(E) Not in Scope
F	2	96	48	NR	(E)Alum	NR	■																								(E)	(E)	(E)	(E) Not in Scope
G	3B	16	80	NR	HM	NR	■																								10/A8.0	10/A8.0	10/A8.0	
H	3B	16	80	NR	HM	NR	■																								10/A8.0	10/A8.0	10/A8.0	

Opening Notes

1. Comply w/ applicable codes & requirements of governmental authorities having jurisdiction, including but not limited to: 2022 CBC Sections 1010 (for doors); 1010.1.9.1 (for hardware); 2403 (for glazing). In event of conflict or apparent conflict, immediately notify Architect in writing.

2. Coordinate with related work, which includes, but is not limited to:
   A. Division 08 - Openings
   B. Specification Section 10050 - Signage.
   C. Division 28: Fire/Life-Safety Systems & Security Access Systems

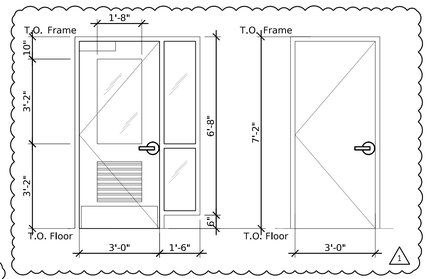
3. Summary:
   A. Frames: (E) HM or (N) HM, as scheduled. (N) HM frames shall match profile of (E) HM frames to remain, and shall have same relationship to adjacent finishes, visually, as the (E) HM frames to remain.
      i. (E) frame to remain in non-fire-rated opening; repair as required; modify, as required for (N) doors & (N) hardware.
      ii. Contractor shall have option of replacing (E) frame to remain with (N) frame, at no additional expense.
      iii. Excepting (E) HM frames to remain, factory-fabricate backing, cut-outs, jibs, & fittings for hardware specified.
      iv. All new and existing frames shall be painted. REF painting specs.

   B. Doors: (E) HM or (N) WD, as scheduled.
      i. All new and existing HM doors shall be painted. REF painting specs.
      ii. All new WD doors shall be birch veneer with clear finish.

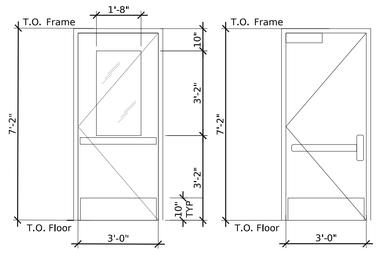
   C. Glazing: Impact Safety Rated, per CPSC 16 CFR 1201, Category 1.

4. Door Hardware: See specifications section 08 71 00: Door Hardware
   A. General: Confirm that (E) hardware to remain complied w/ code-mandated minimum requirements. In event of conflict or apparent conflict, immediately notify Architect in writing.
   B. Provide (N) hardware as listed below. No substitutions will be accepted for products specified below as "School District Standard."
   C. Key System: All cylinders are Schlage Full Interchangeable Cores (FSIC)
   D. Thresholds installation: Set thresholds in a full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements in Division 7 "Thermal and Moisture Protection". Use ¼" fasteners, red-head flat-head sleeve anchors (SS/FHSL).

Hinges:	Ives, REF spec
Exit Devices:	Von Duprin, school district standard, REF spec
Closers:	LCN, or approved equal, REF spec
Kick Plates:	Ives 8400 10" X 2" LDW 8-CS, or approved equal, REF spec
Wall Stops:	Ives, or approved equal, REF spec
Floor Stops:	Ives, or approved equal, REF spec
Overhead Stops:	Glynn-Johnson, or approved equal, REF spec
Door Bottoms:	Zero 364AA, or Pemko, National Guard, REF spec
Gasketing:	Zero 188SBK PSA, REF spec
Locks, Latches, & Cylinders:	Schlage Vandl Classroom, Office Locks and Passage Latches, school district standard, REF spec
Permanent Core:	Schlage 23-030, school district standard, REF spec
Door Sweeps:	Zero 39A, REF spec
Jamb Seals:	Zero 328AA-S, or Pemko, National Guard, REF spec
Head Seals:	Zero 429AA, or Pemko, National Guard, REF spec
Flush Bolts:	Ives FB358, or approved equal, REF spec
Dust Proof Strikes:	Ives, or approved equal, REF spec
Coordinators:	Ives, or approved equal, REF spec
Thresholds:	Zero, or Pemko, National Guard, REF spec



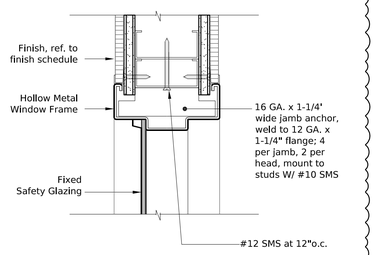
E Toilet Room Door | D Closet Door | C Interior Door



B New Exterior Door | A Existing Interior Door

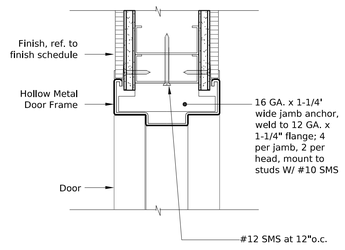
Door Types

1/4" = 1'-0" 2



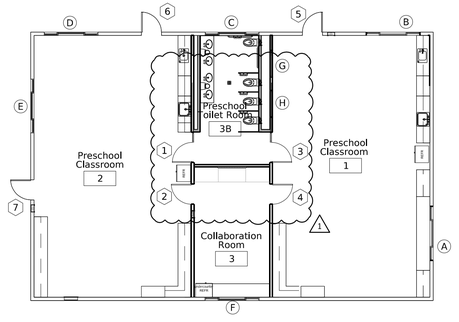
Interior Window Head and Jamb

Section 3"=1'-0" 10



Interior Door, Head and Jamb

Section 3"=1'-0" 9



Floor Plan

For Reference Only 3/32" = 1'0" 1

Legend

Door Key	1
Window Key	A
Room Name and Number	Room -

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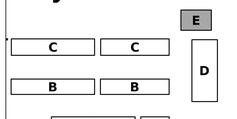
Toilet Rooms Rennovation

SMFCSD

REVISION	DATE
DSA Submittal	10/25/2023
DSA Approval	2/7/2024
Revision 1	3/8/2024

N

Key Plan



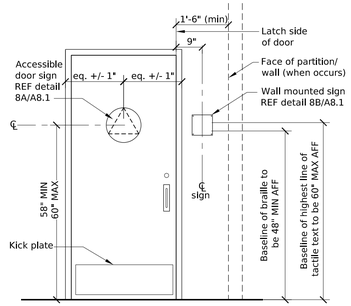
Opening Schedule

Building: E

A8.0

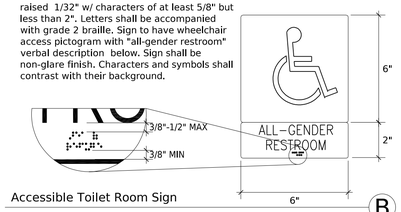
BA 22-005.02.10

Assisted Listening Device Sign 16
3"=1'-0"



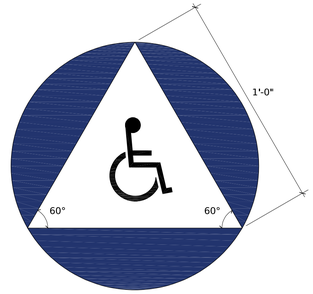
Tactile Sign Location 12
1/2" = 1'-0"

ADA accessibility sign:
Shall be a minimum of 6" x 6". Letters to be raised 1/32" w/ characters of at least 5/8" but less than 2". Letters shall be accompanied with grade 2 braille. Sign to have wheelchair access pictogram with "all-gender restroom" verbal description below. Sign shall be non-glare finish. Characters and symbols shall contrast with their background.



Accessible Toilet Room Sign B

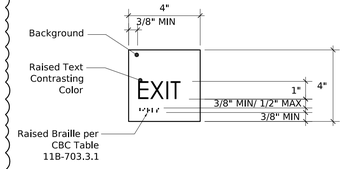
State Accessible Gender-Neutral Restroom Sign
Symbol shall be 1/4" thick and distinctly different from the door color and contrast per CBC 11b-703.7.2.6.3.
Center the symbol on the door at 58" MIN, 60" MAX above finish floor within 1" of the vertical centerline of the door.



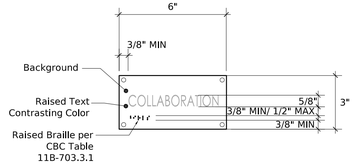
Accessible Toilet Room Door Sign A

When signs are applied on glazing:
No screw holes. Provide permanent adhesive backing to cover entire backside of sign.

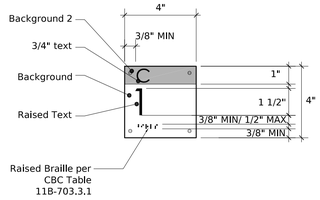
Accessible Toilet Room Signs 4
3"=1'-0"



C Exit Sign



B Room Name - Interior



A Room Number - Exterior

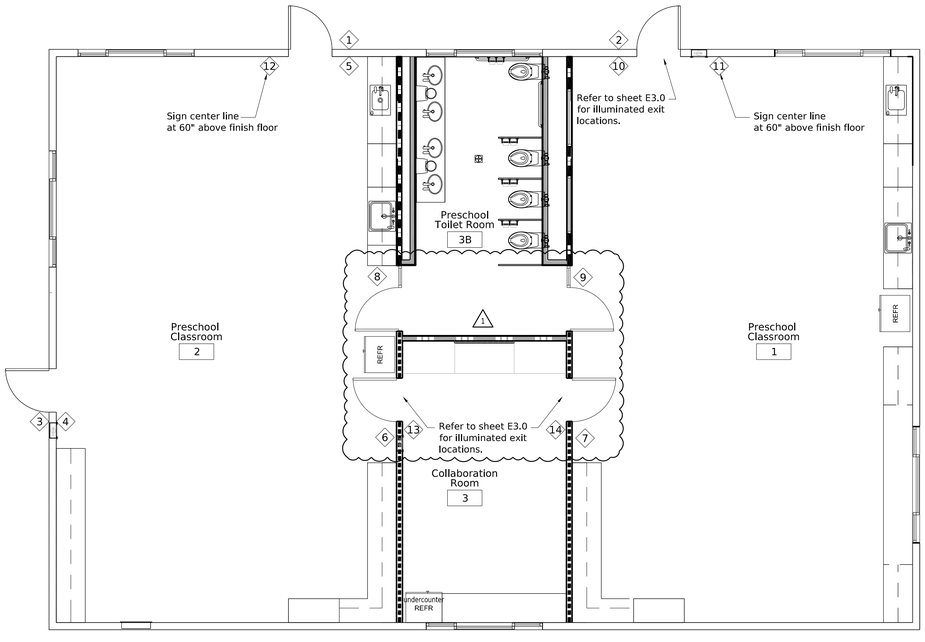
Signage Types 3
3"=1'-0"

Signage Sheet Notes

1. Comply with CBC Sections 11B-703 and 1011.4.
2. GC Note: Prior to ordering signs, provide shop drawings for Architect review.
3. Tactile Text: Century Gothic (sans-serif), upper case, sized as shown, w/ uppercase "0" width to uppercase "I" height ratio of b/t 60% & 110% and w/ stroke width-to-height ratio of uppercase "I" = 15% (max), raised 1/32 inch (min). Text shown in Sign Type det(s) is for illustration purposes and is intended as a guide. See Signage Schedule for text.
4. Pictograms: raised 1/32 inch (min), UON.
5. Contracted California Grade 2 Braille: Provide braille on signs w/ text. Dots shall be 1/10 inch OC in each cell, w/ 2/10 inch space b/t cells, measured from 2nd column of dots in 1st cell to 1st column of dots in 2nd cell. Dots shall be raised 1/40 inch (min), domed or rounded. Refer to CBC 2016 Table 11B-703.3.1 and Figure 11B-703.3.1 Braille Measurement.
6. Wall-mounted signs at doors: Install at locations, as shown, per detail 13 & in accordance w/ 2013 CBC 11B-703.4.2. Vertical centerline of sign to be 9" from rabbet side of door side jamb. Refer to detail 13 for location of signs AFF. Coordinate w/ Architect to determine alternative location in event of conflict.
7. Signs mounted on glass: Affix w/ mastic. Locate signs to ensure their backs will be covered by another sign on opposite side of same piece of glass. Signs so installed (back-to-back on opposite sides of same piece of glass) shall be same size and shape, and shall line up w/ each other to within 1/32 of an inch (max).
8. Color(s): Non-glare; by Architect. 70% (min) contrast b/t Backgrounds & Letters. Colors to be determined by Architect. Assume max (4) Dunn Edwards colors.

Signage Schedule

Key	Type	Area
01	3A	Preschool Classroom 2
02	3A	Preschool Classroom 1
03	3A	Preschool Classroom 2
04	3C	Preschool Classroom 2
05	3C	Preschool Classroom 2
06	3B	Preschool Classroom 2 (1)
07	3B	Preschool Classroom 1
08	12	Preschool Classroom 2
09	12	Preschool Classroom 1
10	3C	Preschool Classroom 1
11	16	Preschool Classroom 1
12	16	Preschool Classroom 2
13	3C	Collaboration Room
14	3C	Collaboration Room (1)



Signage Key Floor Plan 1
For Reference Only
NTS

Legend

Sign Key #

Room Name and Number Room #

Note: Project includes no new or existing fire rated walls

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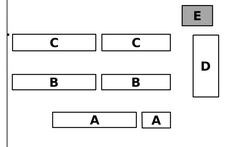
Revision 1 (1)	3/8/2024

Key Plan



Signage Schedule & Details

Building: E

A8.1

BA 22-005.02.10

Casework Schedule

			Wall Cabinet						Base Cabinet						Countertop		Tall Cabinet ⚠1				Notes
#.	Room	Mark	WI CDS Number	Width	Height	Depth	Shelves	Lock(s)	WI CDS Number	Width	Height	Depth	Shelves	Lock(s)	ADA	Backsplash Height	P-Lam (HPL)	Resin Panel	WI CDS Number	Width	Height	Lock(s)	
1	Preschool Classrm. 1	A	302	48	32	12	1	■	254	36	32	24		■		4	■						Four drawers
1	Preschool Classrm. 1	B	302	48					211	24			1	■									One drawer
1	Preschool Classrm. 1	C	301	24					155	36				■									Sink: Removable slanted panel
1	Preschool Classrm. 1	D							211	24			1	■									One drawer
1	Preschool Classrm. 1	E							230		22												Two drawers: one large, one small.
1	Preschool Classrm. 1	F							152		22												Sink: Side Approach.
1	Preschool Classrm. 1	G							230		22												Two drawers: one large, one small.
1	Preschool Classrm. 1	H	309	24	32	12	1	■	176		32		1										
1	Preschool Classrm. 1	I	301	24					101														
1	Preschool Classrm. 1	J	302	36					102	36													
1	Preschool Classrm. 1	K	302	36					222	36													One drawer each side
3	Collaboration Room	L																	412	42	86	■	⚠1
1	Preschool Classrm. 1	M	309	24					176	24						4	■						Blind Corner (wall and base)
1	Preschool Classrm. 1	N	301	24					101	24													
1	Preschool Classrm. 1	O	302	36					102	36													
1	Preschool Classrm. 1	P	302	36					222	36													One drawer each side
3	Collaboration Room	Q																	412	42	86	■	⚠1
2	Preschool Classrm. 2	R	302	18	32	12	1	■	254	36			1	■		4	■						Four drawers
2	Preschool Classrm. 2	S	302	48					211	24			1	■									One drawer
2	Preschool Classrm. 2	T	301	24					155	36				■									Sink: Removable slanted panel
2	Preschool Classrm. 2	U							211	24			1	■									One drawer
2	Preschool Classrm. 2	V							230		22												Two drawers: one large, one small
2	Preschool Classrm. 2	W							152		22												Sink: Side Approach
2	Preschool Classrm. 2	X							230		22												Two drawers: one large, one small
2	Preschool Classrm. 2	Y	302	36	32	12	1	■	102	36	32		1										
2	Preschool Classrm. 2	Z							102														
2	Preschool Classrm. 2	AA							222														One drawer each side
2	Preschool Classrm. 2	BB																					One drawer each side
3	Collaboration Room	CC																					One drawer each side
3	Collaboration Room	DD																					One drawer each side
3	Collaboration Room	EE							211	18													One drawer
3	Collaboration Room	FF							100	12			2										
3	Collaboration Room	GG																	412	48	86	■	IDF closet per detail 6/E7.0 ⚠1
3B	Preschool Toilet Rm.	HH							**	20	16	24		■		4		■					**Custom. Floating 6" AFF. REF A3.0, A7.1
3B	Preschool Toilet Rm.	II								12													**Custom. Floating 6" AFF. REF A3.0, A7.1
3B	Preschool Toilet Rm.	JJ								20													**Custom. Floating 6" AFF. REF A3.0, A7.1
3B	Preschool Toilet Rm.	KK								20													**Custom. Floating 6" AFF. REF A3.0, A7.1
3B	Preschool Toilet Rm.	LL								12													**Custom. Floating 6" AFF. REF A3.0, A7.1
3B	Preschool Toilet Rm.	MM								20													**Custom. Floating 6" AFF. REF A3.0, A7.1
REF A4.0 Interior Elevations for layout																							

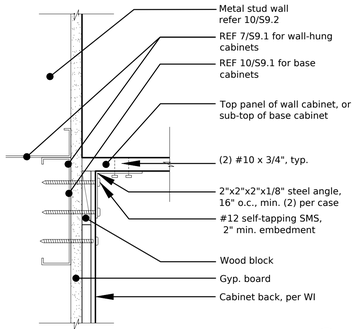
Casework Notes

1. Contractor is responsible for coordinating all dimensions & alignments of casework with N & E walls, openings, fixtures, equipment, & finishes.
2. Casework manufacturer shall provide complete shop drawings for all casework for approval by the Architect prior to fabrication and installation. Contractor shall review shop drawings for conformance to the drawings and specifications, and to coordinate with field conditions.
3. Case dimensions specified on the casework schedule are nominal. Contractor shall verify actual casework dimensions and coordinate layout in the field. Actual dimensions shall be indicated on shop DWGs.
4. Contractor to verify and include any filler pieces needed at end cabinet units, filler material to match cabinet.
5. Mounting heights shown are intended to comply with all applicable codes. Mounting heights are measured from finished assemblies. Contractor fully responsible to achieve these mounting heights.
6. Cases, countertops, and integral sinks indicated in the schedule as "ADA" shall comply with accessibility requirements of CBC Chapter 11B, and the Americans with Disability Act Accessibility Guidelines.
7. Contractor to provide backing/blocking for all casework.
8. All casework and countertops shall be WI **PREMIUM** grade, style 'A' (frameless), with flush overlay doors and drawer faces.
9. All **exposed surfaces** of casework shall be covered in high-pressure laminate (HPL), minimum .028" thickness. Exposed surfaces shall be as defined by WI for Premium grade casework, and shall include:

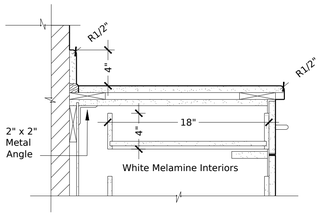
   All visible portions of bottoms, tops, and ends

   All visible surfaces in open cabinets or behind glass

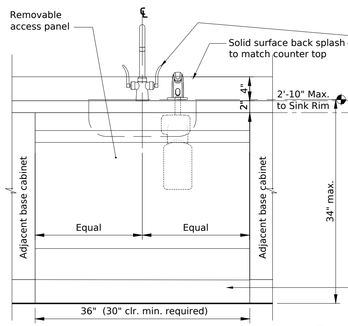
   Interior faces of hinged doors
10. All exposed edges of casework, including all front edges of cases, shall be **edge-banded** with 3mm PVC edge banding, color-matched to HPL surface, and radiused on all edges or corners.
11. All **semi-exposed** surfaces shall be covered in low-pressure laminate (polyester or melamine) or .020" thickness HPL cabinet liner. Vinyl is acceptable at cabinet backs and drawer bottoms only.
12. Plastic laminate **countertops** shall be .048" HPL with premium grade self-edge, square butt splash joints, and square top on splash.
13. Base cabinets shall have **full sub-tops**.
14. Casework **substrate** shall be 3/4" (19mm) M-3 particle board, MDF, or veneer-core plywood.
15. **Shelves** shall be 1" thick M-3 particle board, MDF, or veneer-core plywood.
16. Cases shall be **32mm** line-bored for adjustable shelves and accessories.
17. **Drawers** shall be constructed of 9-ply baltic birch plywood.
18. Drawer **slides** shall be Accuride full-extension 100lb dynamic weight capacity, zinc coated. Slides on file drawers shall be 150lb capacity.
19. Intermediate **front rails** shall be provided at all drawers
20. Door **hinges** shall be 5-knuckle 70mm steel, satin chrome finish.
21. All holes cut in cabinet back panels for Plumbing or Electrical shall be trimmed with metal escutcheon plates.
22. Contractor to verify backsplash heights, coordinate with details.
23. REF Specifications for additional information
24. REF Interior Elevations for locations, door swings, and additional coordination items.



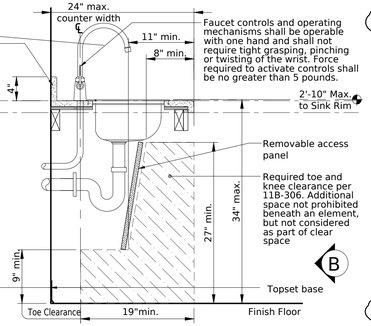
Cabinet Wall Attachment
3" = 1'-0" D



Countertop Detail
Radiused Backsplash and Front Edge
NTS 12

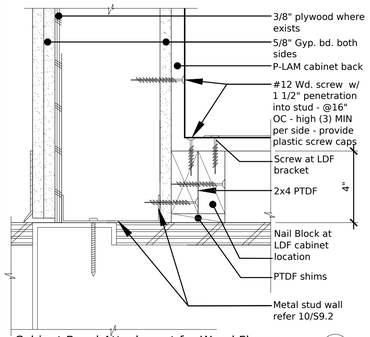


Elevation @ Sink
B

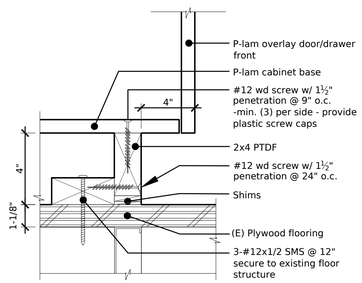


Section @ Sink
A

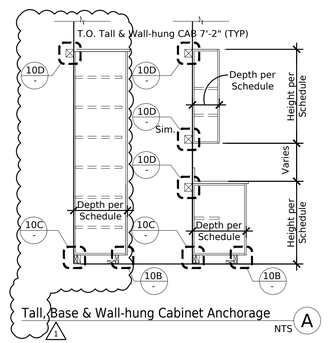
Adult Accessible Sink
1"=1'-0" 11



Cabinet Basel Attachment for Wood Floors
Back C

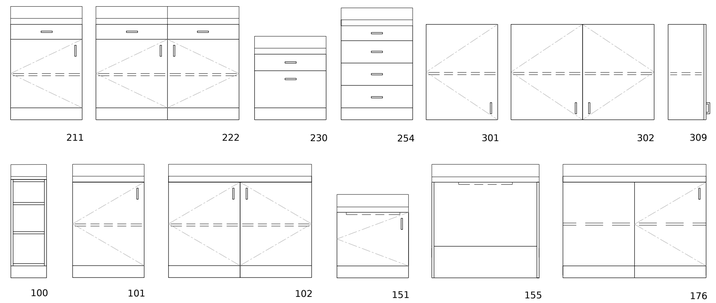


Cabinet Base Attachment for Wood Floors
Front B

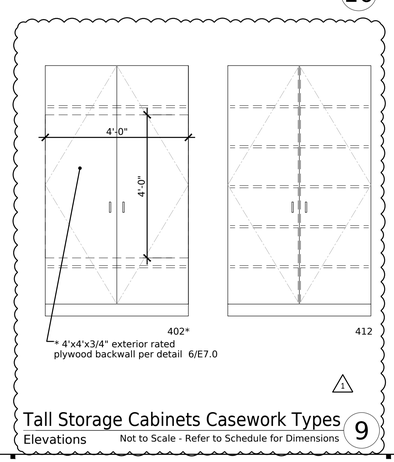


Tall, Base & Wall-hung Cabinet Anchorage
NTS A

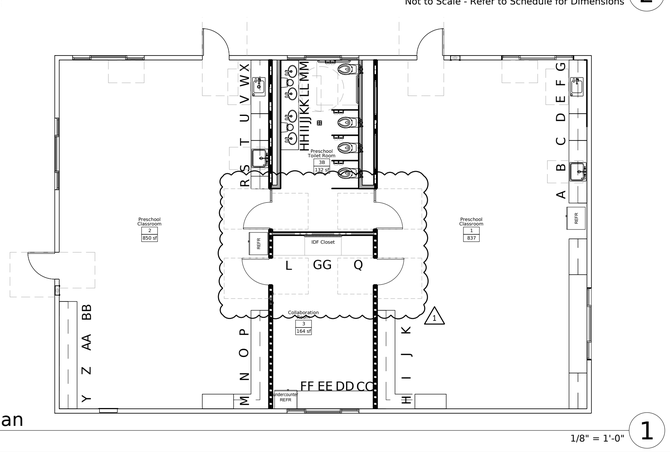
Cabinet Details
Anchorage and Mounting
10



Casework Types
Elevations
Not to Scale - Refer to Schedule for Dimensions 2



Tall Storage Cabinets Casework Types
Elevations
Not to Scale - Refer to Schedule for Dimensions 9



Floor Plan
1/8" = 1'-0" 1

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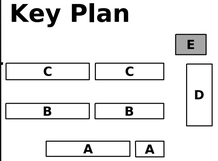


Casework Schedule

Building: E

A8.2

BA 22-005.02.10

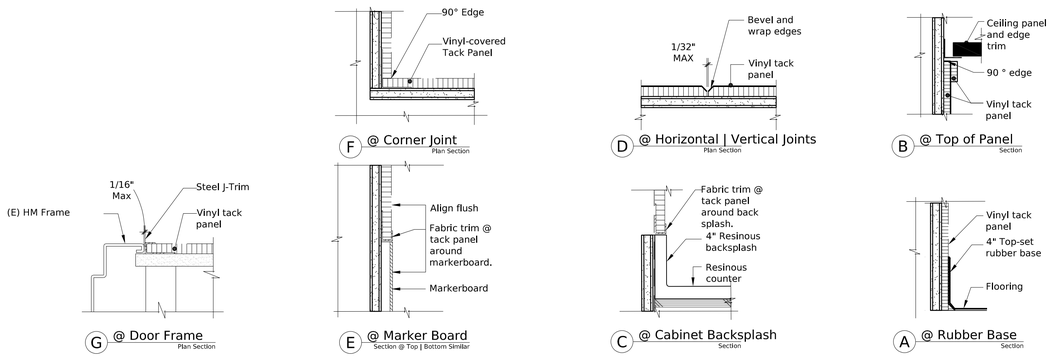
Interior Finish Schedule

	Room Num. / Name	Floor		North				East				South				West				Ceiling		
				Base	Wall			Base	Wall			Base	Wall			Base	Wall					
		Resinous Flooring	Resilient Floor (LVT)	6" high integral cove base	4" high rubber base	Tack Panel	Resinous Panel	Gyp Board- Smooth Finish| Paint	(E) Gypsum Board - (N) paint	6" high integral cove base	4" high rubber base	Tack Panel	Resinous Panel	Gyp Board- Smooth Finish| Paint	(E) Gypsum Board - (N) paint	6" high integral cove base	4" high rubber base	Tack Panel	Resinous Panel	Gyp Board- Smooth Finish| Paint	(E) Gypsum Board - (N) paint	6" high integral cove base	4" high rubber base	Tack Panel	Resinous Panel	Gypsum Board- Smooth Finish	(E) Gypsum Board - repaint	Height	(E) SAT	New Panels	Notes
1	Preschool Classroom		■		■	■				■		■	■				■		■	■				■	9'-0"	■	Walk-off mat Refer plan
2	Preschool Classroom		■		■	■				■		■	■				■		■	■				■	9'-0"	■	Walk-off mat Refer plan
3	Collab Room		■		■	■			■			■	■			■	■		■	■					9'-0"	■	
4	Preschool TR	■		■			■	■			■			■	■			■			■	■	■		9'-0"		

1

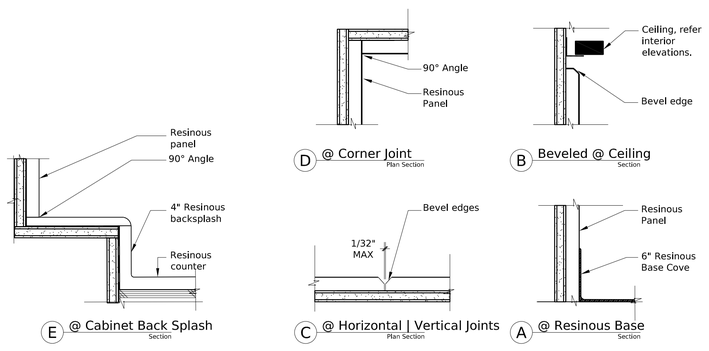
Sheet Notes

1. All (N) & (E) surfaces w/in the scope of work shall receive new or renovated finish under this contract, UON. Surfaces not specifically noted herein shall receive finishes of like surfaces in adjacent locations and shall be verified with the Architect prior to installation
2. All existing Concrete surfaces including columns and girders are to receive new paint
3. Dimensions given as "CLR" are to face finish. Otherwise, all dimensions are to face of stud/structure unless otherwise noted.
4. Repeating items or assemblies may not be noted or dimensioned at all occurrences where repetition is obvious or other wise noted,
5. Surfaces indicated as existing and not receiving any new finish shall be patched and cleaned prior to construction, and protected from damage during construction.
7. All INT finishes shall comply with CBC Table 803.5 for flame spread and smoke developed.
8. Ref Specifications for description of each item & methods for installation
9. Ref to Demolition Plan for all items to remain, items to be salvaged and/or relocated.
11. Refer to Interior Elevations for precise locations of scheduled items.
12. Ref Specifications for additional information.



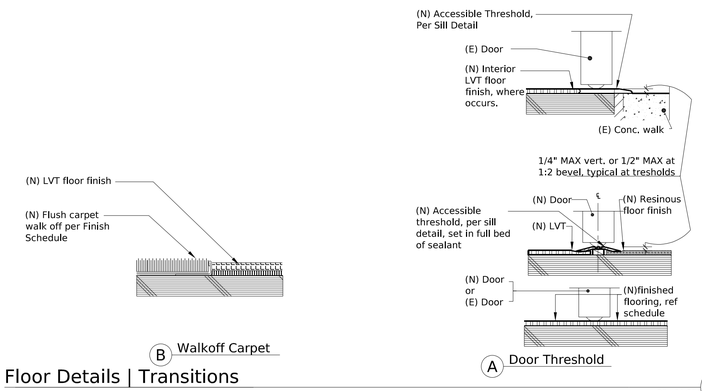
Tack Panel Typ Detail

3"=1'-0" 11



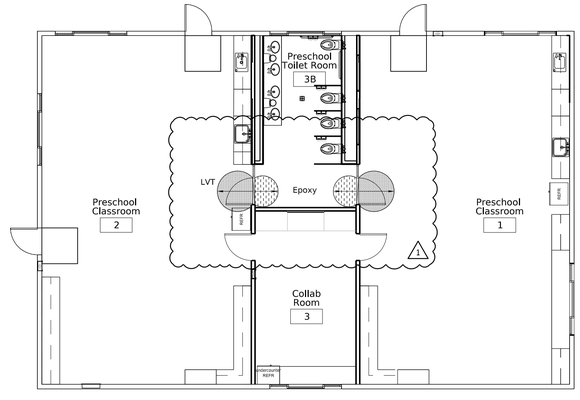
Resinous Panel Typ Detail

3"=1'-0" 10



Floor Details | Transitions

3"=1'-0" 9



Floor Plan

For Reference Only

1/8" = 1'-0" 1

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REVISION	DATE
DSA Submittal	10/25/2023
DSA Approval	2/7/2024
Revision 1	3/8/2024

1

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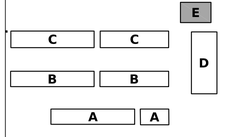
Key Plan



Finish Schedule

Building: E

A8.3

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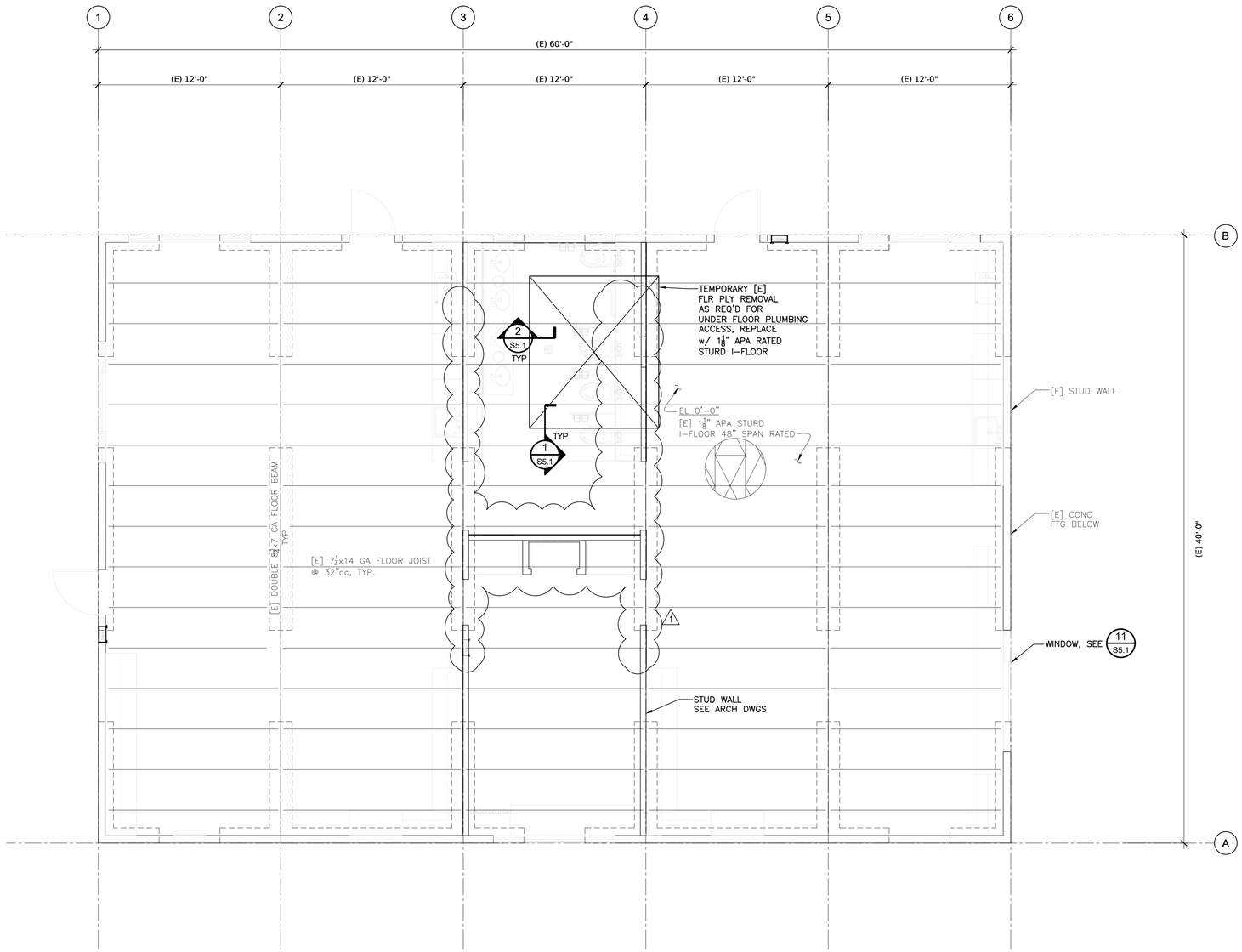

FLOOR PLAN

1/4"=1'-0"

23116-S21

NOTES:

1. SEE SHEET S0.1 FOR GENERAL NOTES.
2. FOR OPENING IN FLOOR, SEE 3 / S5.1
3. [E] FLOOR LL=50 PSF MAX PER ENVIROPLEX, INC. DRAWINGS, 8/31/99 [01-101907]
4. FOR ROOF CURB, SEE 7 / S5.1
5. FOR OPENINGS THRU [E] ROOF GIRDER, SEE 12 / S5.1

R & P JOB No. 23116
PRINCIPAL-IN-CHARGE RH
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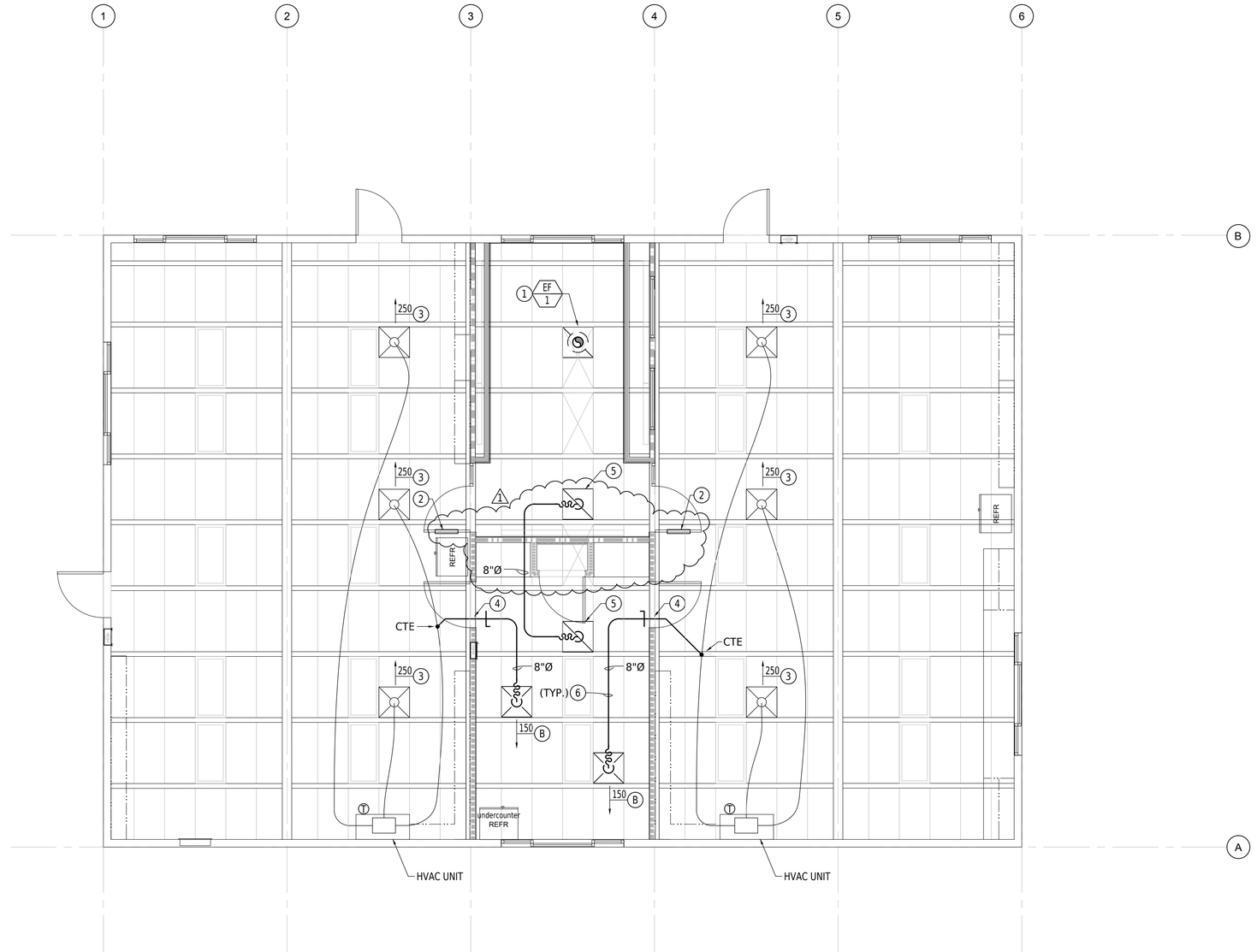
DSA SUBMITTAL	10/24/2023
DSA BACKCHECK	12/22/2023
1 REVISION 1	3/1/2024

Floor Plan

Building: -

S2.1

BA 22-005.02.10



MECHANICAL FLOOR PLAN

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

1

SHEET NOTES:

1. INSTALL EXHAUST FAN ON ROOF ABOVE IN LOCATION SHOWN, SEE DETAIL 1/M4.0; EXTEND 8"Ø EXHAUST DUCT UP FROM EXHAUST GRILLE TO FAN ABOVE
2. 18"x12" LOUVER IN TOILET ROOM DOOR, SEE ARCH DWGS FOR LOUVER SPECIFICATIONS; LOUVER PROVIDED BY OTHERS
3. BALANCE (E) SUPPLY GRILLE TO (N) CFM SHOWN
4. DUCT THRU (E) ROOF BEAM, COORDINATE EXACT LOCATION WITH S-DWGS; SEE 3/M4.0
5. PROVIDE GRILLE TAG 'A'; SEE DETAIL 5/M4.0
6. SUPPORT DUCTWORK FROM (E) STRUCTURE ABOVE, SEE DETAIL 2/M4.0

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Building Key

E
C C
B B
D
A A

MECHANICAL FLOOR PLAN

Building: E

M2.1

BA 22-005.02.10

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	S OR W	V	CW	HW	SPECIFICATIONS
WC-1	WALL HUNG WATER CLOSET	4"	2"	1"	-	SLOAN MODEL ST-2469 1.28 GPF, ELONGATED BOWL, REAR SPUD INLET, SIPHON JET VITREOUS CHINA WATER CLOSET; BEMIS MODEL 1955SSCT OPEN FRONT SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGE; SLOAN "ROYAL" MODEL 152 ESS-1.28-TMO-SWB-2-10-3/4-LDIM-HW 1.28 GPF, ROUGH BRASS FINISH, SINGLE FLUSH, TRUE MECHANICAL OVERRIDE, HARDWIRED, SENSOR OPERATED, WITH WALL BOX & SS ACCESS PANEL CONCEALED SENSOR FLUSH VALVE; SLOAN MODEL EL-154 24 VAC TRANSFORMER; J. R. SMITH MODEL 0211Y OR 0230 ADJUSTABLE FIXTURE CARRIER
WC-2	WALL HUNG WATER CLOSET (ADA)	4"	2"	1"	-	SLOAN MODEL ST-2469 1.28 GPF, ELONGATED BOWL, REAR SPUD INLET, SIPHON JET VITREOUS CHINA WATER CLOSET; BEMIS MODEL 1955SSCT OPEN FRONT SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGE; SLOAN "ROYAL" MODEL 152 ESS-1.28-TMO-SWB-2-10-3/4-LDIM-HW 1.28 GPF, ROUGH BRASS FINISH, SINGLE FLUSH, TRUE MECHANICAL OVERRIDE, HARDWIRED, SENSOR OPERATED, WITH WALL BOX & SS ACCESS PANEL CONCEALED SENSOR FLUSH VALVE; SLOAN MODEL EL-154 24 VAC TRANSFORMER; J. R. SMITH MODEL 0211Y OR 0230 ADJUSTABLE CARRIER; MOUNT RIM AT ADA REQUIRED HEIGHT, SEE ARCHITECTURAL DRAWINGS
L-1	WALL HUNG LAVATORY (ADA)	1-1/2"	1-1/2"	1/2"	-	SEE ARCH DWGS FOR 2 STATION WALL MOUNTED CORIAN COUNTER TOP SINK SPEC; (2) CORIAN MODEL 820P UNDERMOUNT LAVATORY WITH ACRYLIC-POLYESTER BOWL & CAMEO WHITE FINISH; (2) SLOAN "OPTIMA" MODEL EAF-100-PLG-LT-CP-0.5GPM-MLM-IR-IQ-FCT POLISH CHROME FINISH, 0.5 GPM, MULTI-LAMINAR SPRAY, INFARED SENSOR, PLUG-IN ADAPTER WITH SPLITTER CABLE, SINGLE HOLE DECK MOUNTED FAUCET; (2) SLOAN MODEL ESD-1500-CP SOAP DISPENSER; McGUIRE (2) MODEL 155A GRID STRAINER, (2) MODEL 8902CNC 17 GA P-TRAP & (2) MODEL LF2165LK ANGLE STOPS; MOUNT AT ADA REQUIRED HEIGHT, SEE ARCH DWGS
SK-1	CLASSROOM SINK (ADA)	2"	1-1/2"	1/2"	1/2"	ELKAY MODEL LRAD2219 19-1/2"x22"x5-1/2" DEEP 18 GA. TYPE 304 SINGLE COMPARTMENT SS SINK WITH HOLE DRILLING CONFIGURATION #3, MODEL LK18B SS GRID STRAINER & MODEL LK126 FAUCET HOLE COVER; CHICAGO FAUCETS MODEL 50-317XKABCP LEAD FREE GOOSENECK FAUCET WITH DUAL WRIST BLADE HANDLES & 0.5 GPM FLOW RATE; McGUIRE MODEL 8912CNC 17 GA. P-TRAP AND MODEL LFDST02 LEAD FREE ANGLE STOPS; SLOAN MODEL ESD-1500-CP DECK MOUNTED, SENSOR ACTIVATED, ELECTRONIC, CHROME PLATED SOAP DISPENSER WITH MODEL ESD-324 AC PLUG IN POWER ADAPTER
SK-2	CLASSROOM SINK (ADA)	2"	1-1/2"	1/2"	-	ELKAY MODEL DRKAD251755 17"x25"x5-1/2" DEEP 18 GA. TYPE 304 SINGLE COMPARTMENT SS SINK WITH HOLE DRILLING CONFIGURATION #4, MODEL LK18B SS GRID STRAINER & MODEL LK126 SS FAUCET HOLE COVER; CHICAGO FAUCETS MODEL 748-665FHABCP LEAD FREE FLEX HEAD BUBBLER; CHICAGO FAUCETS MODEL 350-317XKABCP LEAD FREE GOOSENECK FAUCET WITH SINGLE WRIST BLADE HANDLE & 0.5 GPM FLOW RATE; McGUIRE MODEL 8912CNC 17 GA. P-TRAP AND MODEL LFDST02 LEAD FREE ANGLE STOP; SLOAN MODEL ESD-1500-CP DECK MOUNTED, SENSOR ACTIVATED, ELECTRONIC, CHROME PLATED SOAP DISPENSER WITH MODEL ESD-324 AC PLUG IN POWER ADAPTER
HB-1	INTERIOR HOSE BIBB	-	-	3/4"	-	J.R. SMITH MODEL 5518 ALL BRONZE BOX TYPE, NARROW WALL, CONCEALED HOSE BIBB WITH CHROME PLATED FACE, HOSE CONNECTION WITH INTEGRAL ASSE 1011 VACUUM BREAKER, 360 SWIVEL INLET CONNECTION, "T" HANDLE KEY AND STAINLESS STEEL BOX
FD-1	FLOOR DRAIN	2"	1-1/2"	1/2"	-	J. R. SMITH R. SMITH MODEL 2005Y-CP-P050 CAST IRON FLOOR DRAIN BODY WITH ANCHOR FLANGE, SEEPAGE OPENINGS, REVERSIBLE CLAMPING COLLAR, ADJUSTABLE 5" DIAMETER CHROME PLATED STRAINER TOP, TRAP PRIMER CONNECTION AND NO-HUB BOTTOM OUTLET
TP-1	TRAP PRIMER	-	-	1/2"	-	J. R. SMITH MODEL 2694 PRESSURE DROP ACTIVATED BRASS TRAP PRIMER VALVE WITH FILTER SCREEN, INTEGRAL AIR GAP, VACUUM RELIEF AND 1/2" THREADED CONNECTION; SEE DETAIL 2/P4.0
AGF-1	AIR GAP FITTING	1-1/2"	1-1/2"	1/2"	-	J. R. SMITH MODEL 3824 POLISHED CHROME PLATED CAST BRONZE FITTING WITH FUNNEL INLET AND P-TRAP
1 IMB-1	ICE MAKER OUTLET BOX	-	-	1/2"	-	GUY GRAY MODEL MIB1AB WHITE POWDER - COATED ICE MAKER OUTLET BOX WITH 20 GAUGE COLD ROLLED STEEL BOX AND FACEPLATE AND LEAD-FREE BRASS QUARTER TURN VALVE

ELECTRIC WATER HEATER SCHEDULE

TAG	SERVICE	LOCATION	MFR	MODEL	INPUT (WATTS)	TANK VOLUME	VOLTS	PH.	AMPS	APPROX. OPERATING WT.	REMARKS
EWH-1	DOMESTIC HOT WATER	CLASSROOM	CHRONOMITE	CMT-2.5	1440	2.5 GALLONS	120	1	12	41 LBS.	DIMENSIONS: 14.5" H x 11.75" W x 10.375" D; HANGING BRACKET PROVIDED BY MFR; SEE DETAIL 5/P4.0
EWH-2	DOMESTIC HOT WATER	CLASSROOM	CHRONOMITE	CMT-2.5	1440	2.5 GALLONS	120	1	12	41 LBS.	DIMENSIONS: 14.5" H x 11.75" W x 10.375" D; HANGING BRACKET PROVIDED BY MFR; SEE DETAIL 5/P4.0

WATER HAMMER ARRESTER SCHEDULE

TAG	SERVICE	CONN. SIZE	SPECIFICATION
WHA-1	DOMESTIC WATER	3/4"	J.R. SMITH "HYDROTROL" MODEL 5005 ALL SS WATER HAMMER ARRESTER WITH NO O-RINGS, PRE-CHARGED AND PERMANENTLY SEALED AT THE FACTORY
WHA-2	DOMESTIC WATER	1"	J.R. SMITH "HYDROTROL" MODEL 5010 ALL SS WATER HAMMER ARRESTER WITH NO O-RINGS, PRE-CHARGED AND PERMANENTLY SEALED AT THE FACTORY

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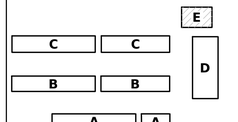

Plumbing Schedules

Building: E

P1.0

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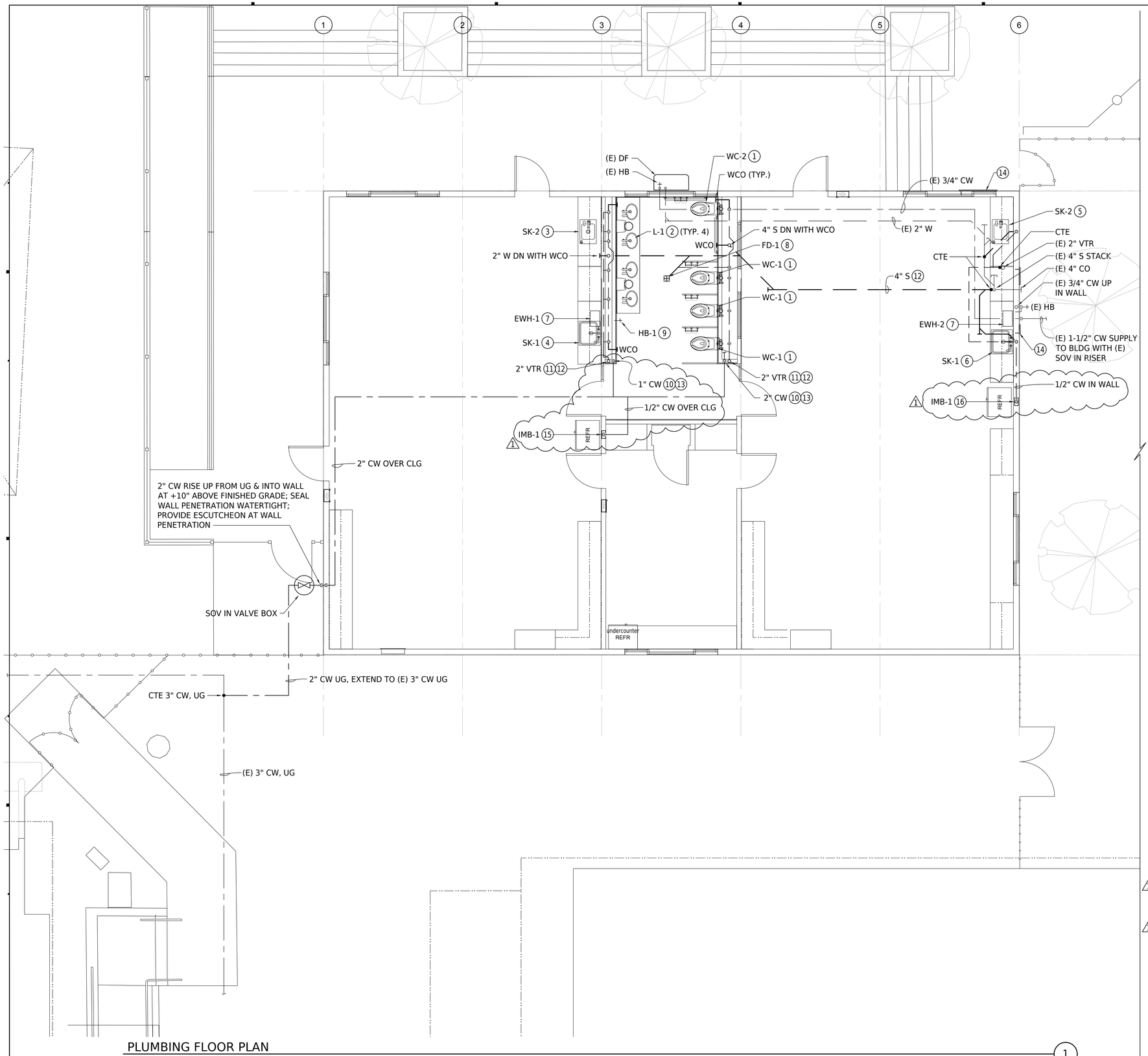

PLUMBING FLOOR PLAN

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

1

SHEET NOTES:

1. INSTALL WATER CLOSET IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; 4" S OFFSET IN PLBG CHASE & CONN TO 4" S STACK; 2" V RISE UP IN PLBG CHASE, OFFSET IN PLBG CHASE, RISE UP IN WALL & EXTEND TO 2" VTR; CW OVER CLG, DN IN WALL TO PLBG CHASE, OFFSET IN PLBG CHASE & EXTEND TO FIXTURE

2. INSTALL MULTI-STATION LAVATORY IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; 1-1/2" W OFFSET IN PLBG CHASE & CONN TO 2" W STACK; 1-1/2" V RISE UP IN PLBG CHASE, OFFSET IN PLBG CHASE, RISE UP IN WALL & EXTEND TO 2" VTR; CW OVER CLG, DN IN WALL TO PLBG CHASE, OFFSET IN PLBG CHASE & EXTEND TO FIXTURE; INSTALL ELECTRONIC, DECK MOUNTED SOAP DISPENSER NEXT TO FAUCET; PROVIDE SPLITTER CABLE IF REQUIRED; INSTALLATION SHALL BE PER MFR'S INSTRUCTIONS

3. INSTALL SINK IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; 2" W OFFSET IN PLBG CHASE & CONN TO 2" W STACK; 1-1/2" V RISE UP IN PLBG CHASE, OFFSET IN PLBG CHASE, RISE UP IN WALL & EXTEND TO 2" VTR; CW OVER CLG, DN IN WALL TO PLBG CHASE, OFFSET IN PLBG CHASE & EXTEND TO FIXTURE; INSTALL ELECTRONIC, DECK MOUNTED SOAP DISPENSER NEXT TO FAUCET; PROVIDE SPLITTER CABLE IF REQUIRED; INSTALLATION SHALL BE PER MFR'S INSTRUCTIONS

4. INSTALL SINK IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; 2" W OFFSET IN PLBG CHASE & CONN TO 2" W STACK; 1-1/2" V RISE UP IN PLBG CHASE, OFFSET IN PLBG CHASE, RISE UP IN WALL & EXTEND TO 2" VTR; CW OVER CLG, DN IN WALL TO PLBG CHASE, OFFSET IN PLBG CHASE & EXTEND TO FIXTURE; EXTEND HW FROM EWH IN CABINET UP TO FAUCET AT SINK; INSTALL ELECTRONIC, DECK MOUNTED SOAP DISPENSER NEXT TO FAUCET; PROVIDE SPLITTER CABLE IF REQUIRED; INSTALLATION SHALL BE PER MFR'S INSTRUCTIONS

5. INSTALL SINK IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; 2" W DN IN WALL TO CRAWLSPACE, OFFSET IN CRAWLSPACE & CTE 2" W; 1-1/2" V RISE UP IN WALL TO OVER CLG, OFFSET OVER CLG & EXTEND TO (E) 2" VTR; CTE CW PIPING IN WALL, OFFSET IN WALL & EXTEND TO FIXTURE; INSTALL ELECTRONIC, DECK MOUNTED SOAP DISPENSER NEXT TO FAUCET; PROVIDE SPLITTER CABLE IF REQUIRED; INSTALLATION SHALL BE PER MFR'S INSTRUCTIONS

6. INSTALL SINK IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; 2" W DN IN WALL TO CRAWLSPACE, OFFSET IN CRAWLSPACE & CONN TO 4" S; 1-1/2" V RISE UP IN WALL TO OVER CLG, OFFSET OVER CLG & EXTEND TO (E) 2" VTR; CTE CW PIPING IN WALL, OFFSET IN WALL & EXTEND TO FIXTURE; EXTEND HW FROM EWH IN CABINET UP TO FAUCET AT SINK; INSTALL ELECTRONIC, DECK MOUNTED SOAP DISPENSER NEXT TO FAUCET; PROVIDE SPLITTER CABLE IF REQUIRED; INSTALLATION SHALL BE PER MFR'S INSTRUCTIONS

7. INSTALL MINI-TANK ELECTRIC WATER HEATER IN CABINET BELOW SINK; CONN TO CW PIPING IN PLBG CHASE OR WALL & EXTEND TO EWH; EXTEND HW FROM EWH UP TO FAUCET AT SINK; T&P SHALL DISCHARGE FULL SIZE TO AN APPROVED LOCATION PER 2022 CPC SECTION 608.5; INSTALLATION SHALL BE PER MFR'S INSTRUCTIONS

8. INSTALL FLOOR DRAIN WITH TRAP PRIMER IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; 2" W IN CRAWLSPACE, OFFSET IN CRAWLSPACE & CONN TO 3" W; 1-1/2" V IN CRAWLSPACE, OFFSET IN CRAWLSPACE, RISE UP IN PLBG CHASE & CONN TO 2" V; CONN TO CW PIPING IN PLBG CHASE & EXTEND TO TRAP PRIMER; EXTEND CW FROM TRAP PRIMER IN PLBG CHASE DN TO CRAWLSPACE, OFFSET IN CRAWLSPACE & CONN TO TRAP AT FLOOR DRAIN

9. INSTALL HOSE BIBB IN LOCATION SHOWN; PROVIDE (N) ROUGH IN FOR FIXTURE; CW OVER CLG, DN IN WALL TO PLBG CHASE, OFFSET IN PLBG CHASE & EXTEND TO FIXTURE; INSTALL HB AT +18" AFF

10. CW DN IN WALL & EXTEND TO PLBG CHASE, SIZE AS INDICATED; PROVIDE SOV BEHIND LOCKABLE AP; AP SHALL FACE TOWARDS TOILET ROOM

11. VENT THRU ROOF, SIZE AS INDICATED; VENT TERMINATION SHALL BE PER 2022 CPC SECTION 906 WITH VENT TERMINATION NOT LESS THAN 6" VERTICALLY ABOVE THE ROOF NOR LESS THAN 12" FROM VERTICAL SURFACE; SEE ARCH DWGS FOR ROOF PENETRATION, ROOF FLASHING & WATER PROOFING DETAILS

12. SEE DIAGRAM 2/5.0 FOR DWV PIPE SIZES

13. SEE DIAGRAM 1/5.0 FOR WATER PIPE SIZES

14. ACCESS TO CRAWLSPACE

1 15. INSTALL ICE MAKER BOX IN LOCATION SHOWN; SEE ARCH INTERIOR ELEVATIONS FOR ROUGH-IN HEIGHT; CW PIPING OVER CLG, DN IN WALL & EXTEND TO OUTLET BOX

1 16. INSTALL ICE MAKER BOX IN LOCATION SHOWN; SEE ARCH INTERIOR ELEVATIONS FOR ROUGH-IN HEIGHT; CTE CW PIPING IN WALL, OFFSET IN WALL & EXTEND TO OUTLET BOX

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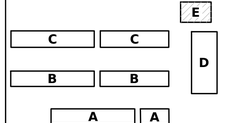

PLUMBING FLOOR PLAN

Building: E

P2.1

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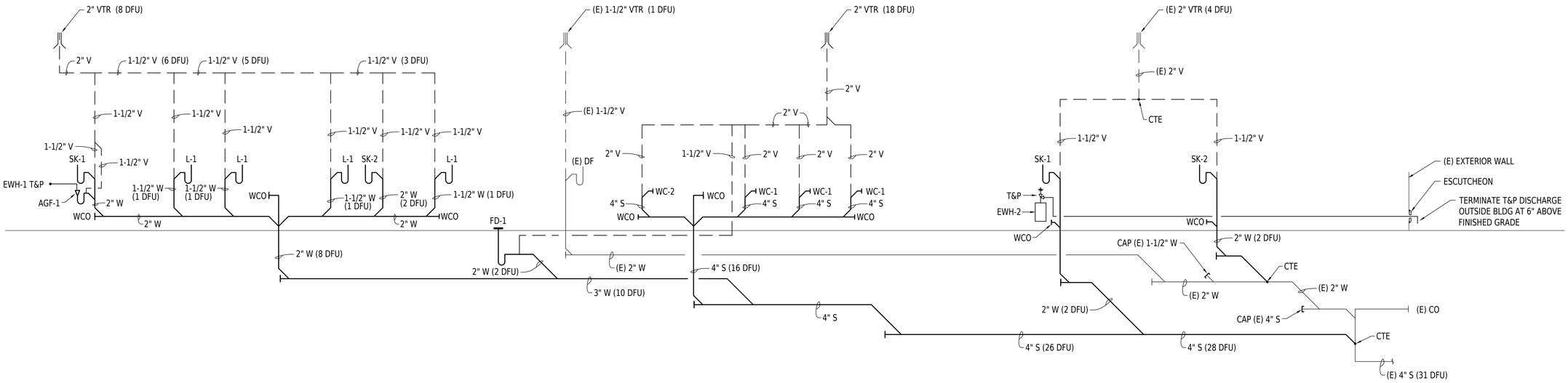
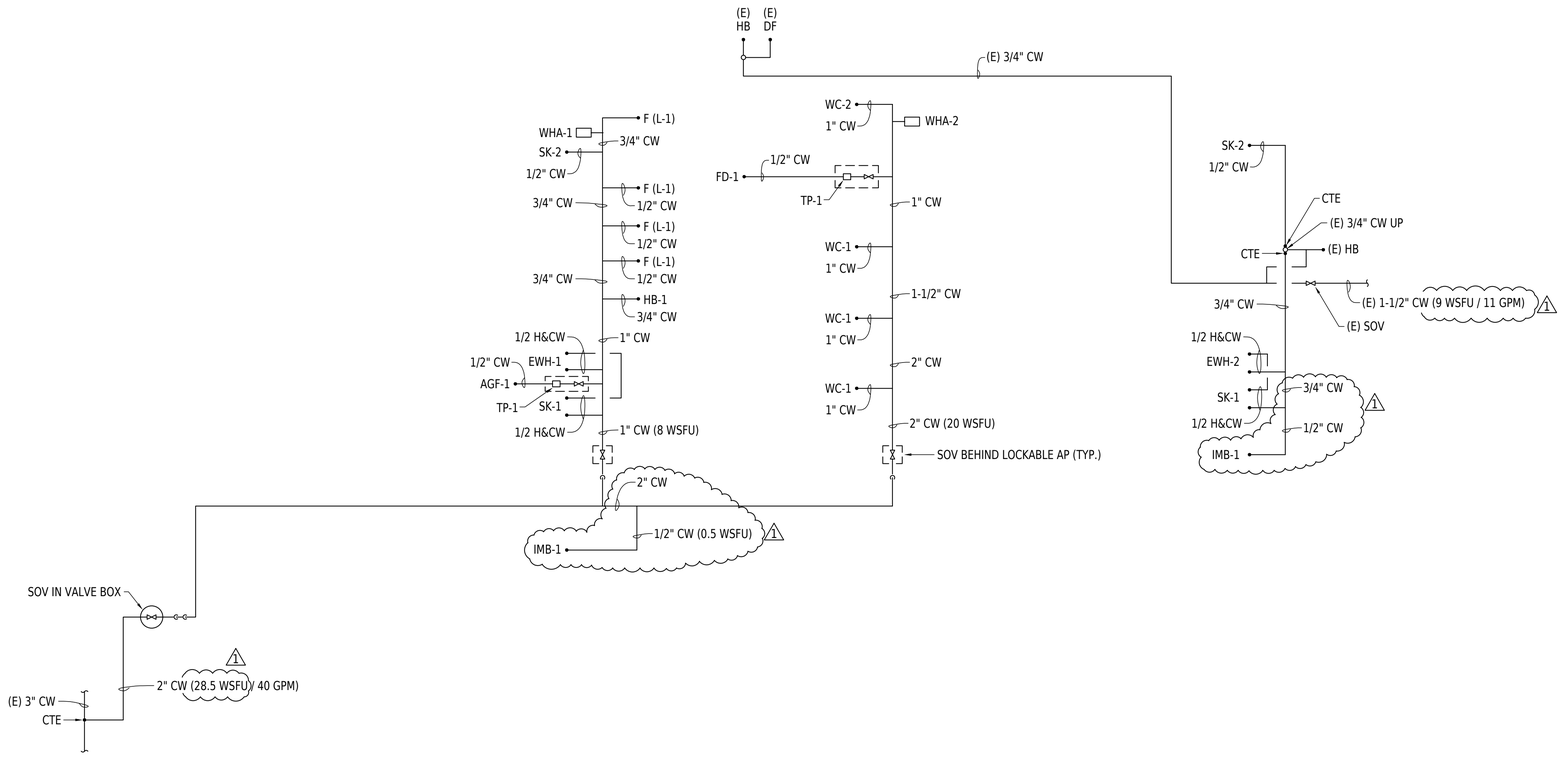


DWV DIAGRAM NOTES

- PIPE SIZING BASED ON 2022 CPC, CHAPTER 7, TABLES 702.1 & 703.2
- SEE PLUMBING FIXTURE SCHEDULES FOR BRANCH PIPE SIZES TO INDIVIDUAL FIXTURES

DIAGRAM – DWV PIPING

N.T.S. 2



WATER DIAGRAM NOTES:

- PIPE SIZING BASED ON 2022 CPC CHAPTER 6, SECTION 610.5 AND APPENDIX A, TABLE A103.1, CHART A103.1 (2) & CHART A105.1 (1) WITH MAX. VELOCITY OF 6 FT/SEC & MAX FRICTION LOSS OF 3 PSI/100 FT
- SEE PLUMBING FIXTURE SCHEDULE FOR BRANCH PIPE SIZES TO INDIVIDUAL FIXTURES
- SEE DETAIL 5/P4.0 FOR VALVES & PIPING ACCESSORIES AT EWH-1 & EWH-2
- INSTALL VALVES IN ACCESSIBLE LOCATION; PROVIDE LOCKABLE ACCESS PANEL FOR VALVES LOCATED OVER HARD CLGS OR IN WALL; ACCESS PANEL SHALL BE ELMDOR DW SERIES WITH CYLINDER LOCK & STAINLESS STEEL FINISH
- F = SENSOR OPERATED FAUCET

DIAGRAM – WATER PIPING

N.T.S. 1

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Building Key

E
C C D
B B
A A

Plumbing Diagrams

Building: E

P5.0

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LIGHTING SEQUENCE OF OPERATIONS:

A. CLASSROOMS, COLLABORATION ROOM: VACANCY SENSOR, MANUAL-ON, AUTO-OFF WHEN UNOCCUPIED, 15-20 MINUTE TIME DELAY.

B. BATHROOMS, VESTIBULE: OCCUPANCY SENSOR CONTROL. AUTO-ON 100%, AUTO-OFF WHEN UNOCCUPIED, 15-20 MINUTE TIME DELAY.

GENERAL NOTES

A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL DRAWINGS, MECHANICAL DRAWINGS AND PLUMBING DRAWINGS.

B. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS, UNLESS OTHERWISE NOTED.

C. SEE ARCHITECTURAL DOCUMENTS FOR EXACT PLACEMENT OF ALL LIGHT FIXTURES, EXPOSED CONTROL DEVICES AND LIGHT SWITCHES. VERIFY CEILING TYPE WITH ARCHITECTURAL DOCUMENTS AND COORDINATE TRIMS. PROVIDE ALL REQUIRED FIXTURE MOUNTING HARDWARE. COORDINATE FIXTURE TYPES WITH MOUNTING SURFACE PRIOR TO ORDERING.

D. PENDANT FIXTURES SHALL BE FREE TO SWING A MINIMUM OF 45 DEGREES FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT CONTACTING OBSTRUCTIONS, OTHERWISE PROVIDE SEISMIC RESTRAINT.

E. PROVIDE SINGLE PLATE WALL COVER FOR MULTIPLE SWITCHES. SEE DRAWINGS FOR NUMBER OF SWITCHES IN SPECIFIC LOCATIONS.

F. MOUNT WALL MOUNTED MOTION DETECTOR AT 8'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.

G. PROVIDE U.L. LIST FIRE STOP ENCLOSURE FOR ALL RECESSED ENCLOSURES FOR ALL RECESSED FOR ALL RECESSED FIXTURES IN FIRE RATED CEILINGS.

H. CIRCUIT ALL LIGHT FIXTURES ON THIS SHEET TO NEW PANEL BOARD "B", UNLESS OTHERWISE NOTED. EXISTING CIRCUITING SHOWN, IF SHOWN, IS BASED ON 1999 RECORD DRAWINGS. FIELD VERIFY ACTUAL CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

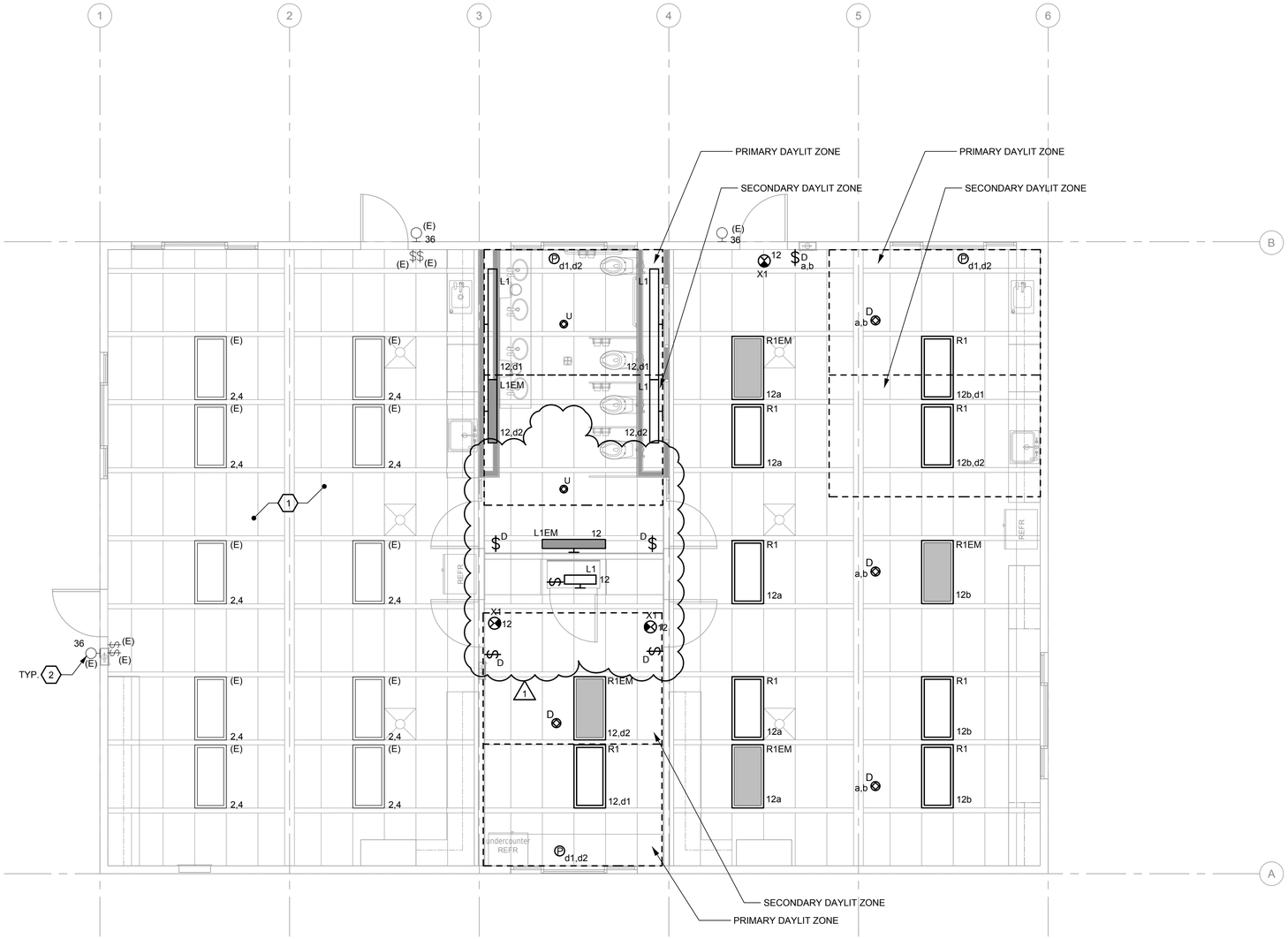
I. SEE DRAWING E7.0 FOR LIGHT FIXTURE MOUNTING DETAILS.

J. EXIT SIGNS SHALL BE UNSWITCHED. CONNECT TO NEAREST EXIT LIGHTING CIRCUIT.

K. BOTTOM OF LOW LEVEL / FLOOR LEVEL EXIT SIGNS SHALL BE NO LOWER THAN 6 INCHES AND NO HIGHER THAN 8 INCHES ABOVE THE FINISH FLOOR (AFF), LOCATED ADJACENT TO DOOR, AND NO LESS THAN 4" FROM DOOR FRAME AS REQUIRED BY CBC SECTION 1013.7.

(#) SHEET NOTES

1. EXISTING CIRCUITS, LIGHT FIXTURES, LIGHTING CONTROLS, AND EXIT SIGNS TO REMAIN.
2. EXISTING CIRCUIT AND EXTERIOR LIGHT FIXTURE WITH PHOTO CELL TO REMAIN AS IS. PRESERVE AND PROTECT THROUGHOUT NEW CONSTRUCTION.



1 REFLECTED CEILING PLAN - LIGHTING

1/4" = 1'-0"

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N
4 8 16
1/4"=1'-0"

Key Plan

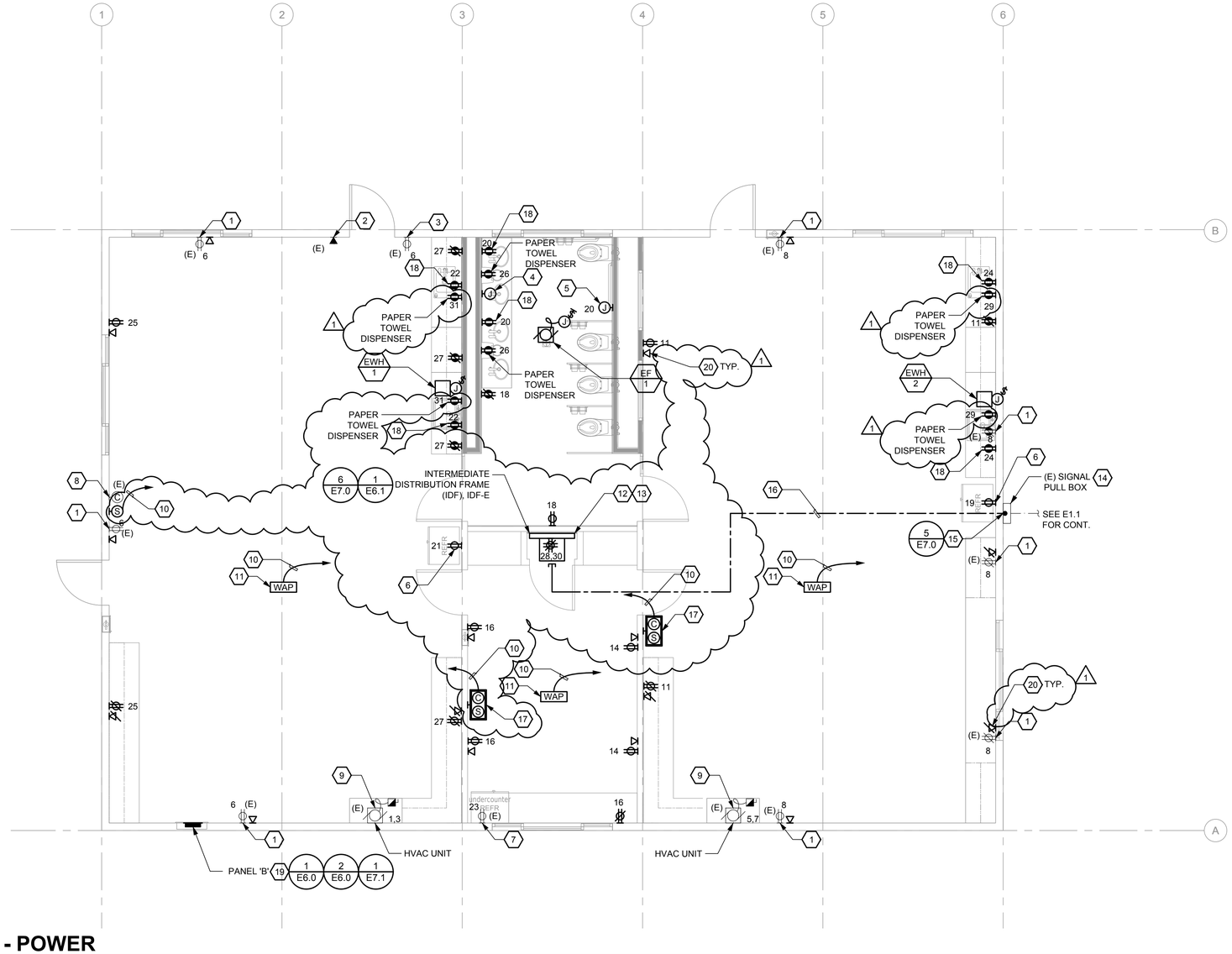
E
C C
B B
D
A A

Lighting Reflected Ceiling Plan

Building: E

E3.0

BA 22-005.02.10



1 FLOOR PLAN - POWER

1/4" = 1'-0"

GENERAL NOTES

A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL DRAWINGS, MECHANICAL DRAWINGS AND PLUMBING DRAWINGS.

B. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS, UNLESS OTHERWISE NOTED.

C. CONTRACTOR SHALL NOTE, UNLESS OTHERWISE NOTED, CONDUITS ROUTED BETWEEN EQUIPMENT IS NOT SHOWN. ONLY SOME OF THE CONDUITS ROUTED HAVE BEEN SHOWN. THIS WAS DONE FOR CLARITY ONLY. CONTRACTOR SHALL REFER TO SINGLE LINE DIAGRAMS AND/OR EQUIPMENT SCHEDULES FOR EXACT QUANTITIES AND SIZES OF CONDUITS THAT WILL BE REQUIRED TO BE ROUTED BETWEEN THE EQUIPMENT SHOWN IN ROOM OR ROOF, U.O.N.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. REFER TO EQUIPMENT SCHEDULE(S) FOR CIRCUITING AND MORE INFORMATION RELATED TO THE EQUIPMENT SHOWN ON THIS SHEET.

E. FOR ALL MECHANICAL AND PLUMBING EQUIPMENT SHOWN ON THIS SHEET CONTRACTOR SHALL PROVIDE A FUSED DISCONNECT SWITCH OR DISCONNECTING MEANS AS REQUIRED BY THE CEC AND THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE. REFER TO EQUIPMENT SCHEDULE(S) FOR ADDITIONAL INFORMATION.

F. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MOUNTING HARDWARE AND PARTS AND PIECES NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

G. FOR ALL CONDUITS CONTRACTOR SHALL PROVIDE UNISTRUT CONDUIT SUPPORTS AS REQUIRED.

H. FOR ALL EQUIPMENT INSTALLED ON THIS SHEET CONTRACTOR SHALL PROVIDE ALL RECEPTACLES, CORDS, AND CONNECTIONS PER MANUFACTURER'S SPECIFICATION AND INSTALLATION MANUAL. VERIFY LOCATION WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO FINAL ROUGH-IN CONTRACTOR SHALL PROVIDE AND INSTALL ALL PARTS AND PIECES NECESSARY TO MAKE THE EQUIPMENT FULLY FUNCTIONAL AND TO PROVIDE FULLY FUNCTIONAL ELECTRICAL SYSTEMS.

I. ALL RECEPTACLES OR DEVICES ON THIS SHEET SHALL BE CIRCUITED TO NEW PNL "B", U.O.N. ALL EXISTING DEVICES SHALL BE RECIRCUITED TO THE NEW PANEL SCHEDULE.

J. ALL NEW CAT-6 OR CAT-6A DATA CABLE(S) INDICATED TO BE INSTALLED AND ROUTED TO ACCESSIBLE CEILING ON THIS SHEET SHALL BE ROUTED TO CLOSEST IDF OR MDF IN THE BUILDING ONCE THE CABLE(S) ARE ABOVE THE ACCESSIBLE CEILING.

SHEET NOTES

1. EXISTING RECEPTACLE TO REMAIN IN PLACE AS IS.
2. EXISTING TELEPHONE OUTLET TO REMAIN IN PLACE AS IS.
3. RELOCATE EXISTING RECEPTACLE TO THE LOCATION SHOWN TO MAKE SPACE FOR NEW SINK AND CABINET.
4. PROVIDE 120V POWER TO SINKS.
5. PROVIDE 120V POWER TO TOILET TRANSFORMER. ONE TRASFORMER POWERS ALL FOUR TOILETS.
6. PROVIDE 120V POWER TO REFRIGERATOR.
7. EXISTING RECEPTACLE TO PROVIDE 120V POWER TO UNDERCOUNTER REFRIGERATOR.
8. EXISTING CLOCK TO REMAIN IN PLACE AS IS.
9. EXISTING HVAC UNIT TO REMAIN IN PLACE AS IS.
10. ROUTE (1) 1" CONDUIT WITH (2) CAT-6A DATA CABLE(S) ABOVE THE ACCESSIBLE CEILING TO THE CLOSEST IDF OR MDF IN THE BUILDING. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING WITH ARCHITECT AND SCHOOL DISTRICT AS REQUIRED.
11. PROVIDE & INSTALL WIRELESS ACCESS PORT (WAP) AT THE LOCATION SHOWN. INSTALL WAP PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE AND PER SCHOOL DISTRICT'S STANDARDS. CONTRACTOR SHALL INSTALL, TEST, AND COMMISSION THE WAP SO THAT IT PROVIDES A FULLY FUNCTIONAL WIRELESS NETWORK WITH COMPLETE TRANSPARENCY, AND CONTROL FROM THE SCHOOL DISTRICT'S IT DEPARTMENT OFFICE.
12. PROVIDE GROUNDING BUSBAR EQUIVALENT TO CHATTSWORTH PRODUCTS 10622-010 FOR COMMUNICATIONS AND DATA EQUIPMENT. GROUND WITH ONE (1) #6 AWG CABLE. GROUND BUSBAR TO NEAREST ELECTRICAL PANELBOARD WITH ONE (1) #6 AWG CABLE.
13. PROVIDE ONE (1) 4'x4'x3/4" FIRE RATED PLYWOOD BACKBOARD PRIMED AND PAINTED WITH FIRE RETARDANT PAINT FOR MOUNTING OF THE IDF AND COMMUNICATIONS DEVICE MOUNTING.
14. EXISTING 16" X 12" X 6" NEMA 3R SIGNAL PULL BOX INSTALLED ON THE EXTERIOR WALL OF BUILDING.
15. ROUTE (1) 2" C. SIGNAL AND (1) 2" C. SPARE CONDUIT FROM THE EXISTING SIGNAL PULL BOX ON THE EXTERIOR WALL TO LOCATION ABOVE THE ACCESSIBLE CEILING AND STUB CONDUITS INTO THE BUILDING.
16. ROUTE (1) 2" C. SIGNAL AND (1) 2" C. SPARE CONDUIT ABOVE THE ACCESSIBLE CEILING TO THE IDF IN THE BUILDING. COORDINATE EXACT CONDUIT ROUTING WITH THE ARCHITECT AS REQUIRED.
17. CONTRACTOR SHALL INSTALL A NEW CLOCK AND PA SYSTEM SPEAKER AT THE LOCATION INDICATED. INSTALL THE CLOCK AND PA SYSTEM SPEAKER PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDE AND PER SCHOOL DISTRICT STANDARDS. CONTRACTOR SHALL COORDINATE EXACT INSTALLATION REQUIREMENTS FOR THE CLOCK AND PA SYSTEM SPEAKER WITH ARCHITECT AND SCHOOL DISTRICT PRIOR TO FINAL ROUGH-IN.
18. PROVIDE 120V POWER TO SOAP DISPENSER.
19. INSTALL A NEW PANEL AT THE LOCATION OF THE EXISTING PANEL. REFER TO SINGLE LINE DIAGRAMS FOR MORE INFORMATION.
20. PROVIDE (2) CAT 6A DATA JACKS AND CABLING AT LOCATION SHOWN, U.O.N.

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N 4 8 16
1/4" = 1'-0"

Key Plan

E
C C
D
B B
A A

Power Floor Plan

Building: E

E4.0

BA 22-005.02.10

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MODEL	VOLTAGE	WATTAGE	LED DRIVER	COLOR TEMP	CRI	LUMENS	MOUNTING	WEIGHT	MOUNTING DETAIL #	NOTES
L1	DIRECT/INDIRECT LED LINEAR WALL MOUNT	ALIGHT #ACL2ST-[SEE PLANS FOR LENGTHS]-ILS+DLS-40-80+CRI-U-ASY+WG-R-1-D-	120	9.8W/LF	0-10V, MIN 10% DIMMING	3500K	MIN 80	INDIRECT: 587 LM / FT DIRECT: 425 LM / FT	WALL MOUNT	4 LBS/FT	2/E7.0	FINAL FINISHES SELECTED BY ARCHITECT. MOUNT +8" BELOW CEILING. SEE PLANS FOR LENGTHS AND QUANTITIES.
L1EM	DIRECT/INDIRECT LED LINEAR WALL MOUNT, WITH INTEGRAL BATTERY PACK	ALIGHT #ACL2ST-4FT-ILS+DLS-40-80+CRI-U-ASY+WG-R-1-D-E1-Q	120	9.8W/LF	0-10V, MIN 10% DIMMING	3500K	MIN 80	INDIRECT: 587 LM / FT DIRECT: 425 LM / FT	WALL MOUNT	26 LBS	2/E7.0	FINAL FINISHES SELECTED BY ARCHITECT. MOUNT +8" BELOW CEILING. SEE PLANS FOR QUANTITIES.
R1	2X4 RECESSED LENSED LED LUMINAIRE	MARK #WHSPR-2X4-80CRI-35K-3000LM-MIN10-120-SWC-ZT	120	25.4W	0-10V, MIN 10% DIMMING	3500K	MIN 80	3085 LM	RECESSED AT GRID CEILING	39.18 LBS	1/E7.0	FINAL FINISHES SELECTED BY ARCHITECT.
R1EM	2X4 RECESSED LENSED LED LUMINAIRE, WITH INTEGRAL BATTERY PACK	MARK #WHSPR-2X4-80CRI-35K-3000LM-MIN10-120-SWC-E10WLCP-ZT	120	25.4W	0-10V, MIN 10% DIMMING	3500K	MIN 80	3085 LM	RECESSED AT GRID CEILING	41.34 LBS	1/E7.0	PROVIDE 90MIN INTEGRAL SELF DIAGNOSTIC BATTERY PACK. FINAL FINISHES SELECTED BY ARCHITECT.
X1	EXIT SIGN, DAMP LISTED, THERMOPLASTIC, GREEN LETTER, UNIVERSAL MOUNT, WITH INTEGRAL BATTERY PACK	LITHONIA #EXRG EL M6	120	1W	N/A	N/A	N/A	N/A	UNIVERSAL MOUNT	2 LBS	N/A	PROVIDE 90MIN INTEGRAL BATTERY PACK AND SELF DIAGNOSTIC TEST BUTTON. SEE PLANS FOR NUMBER OF FACES AND DIRECTIONAL ARROWS. FINAL FINISHES SELECTED BY ARCHITECT.
XL1	INDOOR LOW LEVEL EXIT SIGN, VANDAL RESISTANT, GREEN LETTER, WITH INTEGRAL BATTERY PACK	LITHONIA LIGHTING #LV-S-W-x-G-120/277-EL N-UM-SD	120	1.7W	N/A	N/A	N/A	N/A	WALL MOUNT	2 LBS	N/A	PROVIDE 90MIN INTEGRAL BATTERY PACK AND SELF DIAGNOSTIC TEST BUTTON. SEE PLANS FOR NUMBER OF FACES AND DIRECTIONAL ARROWS. FINAL FINISHES SELECTED BY ARCHITECT.

PANELBOARD "B"

VOLTAGE: 120/208V
PHASE: 3
WIRE: 4

150A, 3P :MAIN C/B
150A :BUSSING
FLUSH :MOUNTING
22,000 : AIC RATING

BKR TYPE	LOAD	A	B	C	BKR	ckt	abc	ckt	BKR	A	B	C	LOAD	BKR TYPE
MC	(E)HVAC UNIT	3.4			50A-2P	1		2	20A-1P	0.8			(E)LIGHTING - A	MC
			3.4			3		4	20A-1P		0.8		(E)LIGHTING - B	MC
MC	(E)HVAC UNIT			3.4	50A-2P	5		6	20A-1P			0.7	(E)OUTLETS - RM 2	MC
		3.4				7		8	20A-1P	0.9			(E)OUTLETS RM 1	MC
MC	(E)HOT WATER HEATER	1.5			20A-1P	9		10	20A-1P		0.5		(E)FA PANEL	MC
MC	OUTLETS - RM1		0.5		20A-1P	11		12	20A-1P			0.6	LTG - TOILET, CORR, RMS 1 AND 3	MC
MC	EWH-1	1.4			20A-1P	13		14	20A-1P	0.7			OUTLETS - RM 3	MC
MC	EWH-2		1.4		20A-1P	15		16	20A-1P		0.5		OUTLETS - RM 3	MC
MC	EF-1			0.5	20A-1P	17		18	20A-1P			0.5	OUTLETS - TOILET, CORR	MC
MC	REFRIGERATOR RM 1	0.5			20A-1P	19		20	20A-1P	0.5			SOAP/SINKS/TOILETS - TOILET RM	MC
MC	REFRIGERATOR RM 2		0.5		20A-1P	21		22	20A-1P		0.4		SOAP DISPENSERS RM 2	MC
MC	REFRIGERATOR RM 3			0.5	20A-1P	23		24	20A-1P			0.4	SOAP DISPENSERS RM 1	MC
MC	OUTLETS - RM 2	0.4			20A-1P	25		26	20A-1P	0.1			PAPER TOWEL DISP TOILET RM	MC
MC	OUTLETS - RM 2		0.7		20A-1P	27		28	20A-1P		0.5		IDF	MC
MC	PAPER TOWEL DISPENSERS RM 1			0.1	20A-1P	29		30	20A-1P			0.5	IDF	MC
MC	PAPER TOWEL DISPENSERS RM 2	0.1			20A-1P	31		32	20A-1P	0.0			SPARE	MC
MC	SPARE		0.0		20A-1P	33		34	20A-1P		0.0		SPARE	MC
MC	SPARE			0.0	20A-1P	35		36	20A-1P			0.3	(E)OUTDOOR LIGHTING	MC
MC	SPARE	0.0			20A-1P	37		38	20A-1P	0.0			SPARE	MC
MC	SPARE		0.0		20A-1P	39		40	1P		0.0		SPACE	
	SPACE			0.0	1P	41		42	1P			0.0	SPACE	
		9.2	7.6	5.0						3.0	2.8	3.1		

KVA PHASE A: 12.2
KVA PHASE B: 10.4
KVA PHASE C: 8.1
TOTAL CKTS 1-42 KVA: 30.7

NOTES:

1.00 :**DEMAND FACTOR**
30.7 :**DEMAND KVA**
85.4 :**TOTAL LOAD AMPERES**

BREAKER TYPE
MC = MOLDED CASE BREAKER SS = SOLID STATE BREAKER RC = REMOTE CONTROLLED BREAKER MB = METERED BREAKER

MECHANICAL EQUIPMENT POWER CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION	EMS	VFD	KVA	HP	AMPS / FLA	MCA	MOCP BY EC	VOLTAGE/ PHASE, QTY WIRES	CONNECTION TO FA PANEL	CONTROL WIRING AS REQUIRED	PLUG AND CORD (AT EQUIP)	FUSED DISCONNECT SWITCH (AT EQUIP)	LOCKOUT TOGGLE SWITCH (AT EQUIP)	PANEL AND CIRCUIT	CONDUIT (IN)	WIRING (CU)	REMARKS
EF-1	EXHAUST FAN	TOILET ROOM				1/30			20	120/1, 2W		O			E	B - 17	3/4	(2) #12 + (1) #12	START/STOP FAN WITH ROOM LIGHTS. WEATHERPROOF TOGGLE SWITCH.

EQUIPMENT SCHEDULE ABBREVIATIONS:

AC	AUXILIARY CONTACTS, 1 NC, 1 NO	CNTR	CONTRACTOR	HOA	3 - POSITION SELECTOR SWITCH (HAND/OFF/AUTO)	NC	NORMALLY CLOSED	SP	SUPERVISORY ALARM PANEL
AC2	AUXILIARY CONTACTS, 2 NC, 2 NO	CR	CONTROL RELAY			NO	NORMALLY OPEN	SSA	3-POSITION SELECTOR
B	FURNISHED BY OWNER & INSTALLED BY ELECTRICAL CONTRACTOR	CPT	CONTROL POWER TRANSFORMER	M	FURNISHED BY MECHANICAL & INSTALLED BY ELECTRICAL CONTRACTOR	O	FURNISHED & INSTALLED BY OTHER DIVISIONS		SWITCH (STARTS/STOP/AUTO)
CMCP	COMBINATION MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR	E	FURNISHED & INSTALLED BY ELECTRICAL CONTRACTOR	MCA	MINIMUM CIRCUIT AMPS	OL	OVERLOAD RELAY		SPRING RELEASE TYPE TO AUTO POSITION ELECTRONIC
CMFS	COMBINATION MOTOR STARTER WITH FUSED SWITCH	EMS	ENERGY MANAGEMENT SYSTEM	MOCP	MAXIMUM OVER CURRENT PROTECTION	PL	LED PILOT LIGHT RED ON, GREEN OFF		
		EPO	EMERGENCY POWER OFF BUTTON	MAN	MANUAL STARTER (<10HP)	PS	START/STOP PUSH BUTTON		SOFT STARTER
		FA	FIRE ALARM	MS	MAGNETIC STARTER	SD	SMOKE DETECTOR	SS	ELECTRONIC SOFT STARTER
						SM	ON/OFF TOGGLE DISCONNECT @ MOTOR	TS	TIME SWITCH
								VFD	VARIABLE FREQUENCY DRIVE
								WP	WEATHER PROOF

NOTES:
1. EQUIPMENT SCHEDULE ABBREVIATIONS DO NOT APPLY TO EQUIPMENT DESIGNATION COLUMN.
2. VERIFY CB/FUSE AND WIRING REQUIREMENTS WITH SUBMITTALS PRIOR TO WIRING UNITS.

PLUMBING EQUIPMENT POWER CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION	EMS	VFD	KVA	HP	AMPS / FLA	MCA	MOCP BY EC	VOLTAGE/ PHASE, QTY WIRES	CONNECTION TO FA PANEL	CONTROL WIRING AS REQUIRED	PLUG AND CORD (AT EQUIP)	FUSED DISCONNECT SWITCH (AT EQUIP)	LOCKOUT TOGGLE SWITCH (AT EQUIP)	PANEL AND CIRCUIT	CONDUIT (IN)	WIRING (CU)	REMARKS
EWH-1	DOMESTIC HOT WATER	CLASSROOM			1.4				20	120/1, 2W		O			E	B - 13	3/4	(2) #12 + (1) #12	
EWH-2	DOMESTIC HOT WATER	CLASSROOM			1.4				20	120/1, 2W		O			E	B - 15	3/4	(2) #12 + (1) #12	

EQUIPMENT SCHEDULE ABBREVIATIONS:

AC	AUXILIARY CONTACTS, 1 NC, 1 NO	CNTR	CONTRACTOR	HOA	3 - POSITION SELECTOR SWITCH (HAND/OFF/AUTO)	NC	NORMALLY CLOSED	SP	SUPERVISORY ALARM PANEL
AC2	AUXILIARY CONTACTS, 2 NC, 2 NO	CR	CONTROL RELAY			NO	NORMALLY OPEN	SSA	3-POSITION SELECTOR
B	FURNISHED BY OWNER & INSTALLED BY ELECTRICAL CONTRACTOR	CPT	CONTROL POWER TRANSFORMER	M	FURNISHED BY MECHANICAL & INSTALLED BY ELECTRICAL CONTRACTOR	O	FURNISHED & INSTALLED BY OTHER DIVISIONS		SWITCH (STARTS/STOP/AUTO)
CMCP	COMBINATION MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR	E	FURNISHED & INSTALLED BY ELECTRICAL CONTRACTOR	MCA	MINIMUM CIRCUIT AMPS	OL	OVERLOAD RELAY		SPRING RELEASE TYPE TO AUTO POSITION ELECTRONIC
CMFS	COMBINATION MOTOR STARTER WITH FUSED SWITCH	EMS	ENERGY MANAGEMENT SYSTEM	MOCP	MAXIMUM OVER CURRENT PROTECTION	PL	LED PILOT LIGHT RED ON, GREEN OFF		
		EPO	EMERGENCY POWER OFF BUTTON	MAN	MANUAL STARTER (<10HP)	PS	START/STOP PUSH BUTTON		SOFT STARTER
		FA	FIRE ALARM	MS	MAGNETIC STARTER	SD	SMOKE DETECTOR	SS	ELECTRONIC SOFT STARTER
						SM	ON/OFF TOGGLE DISCONNECT @ MOTOR	TS	TIME SWITCH
								VFD	VARIABLE FREQUENCY DRIVE
								WP	WEATHER PROOF

NOTES:
1. EQUIPMENT SCHEDULE ABBREVIATIONS DO NOT APPLY TO EQUIPMENT DESIGNATION COLUMN.
2. VERIFY CB/FUSE AND WIRING REQUIREMENTS WITH SUBMITTALS PRIOR TO WIRING UNITS.

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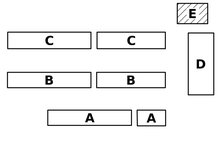
Key Plan



Schedules

Building:
E

E5.0

BA 22-005.02.10

SHEET NOTES

1. FIRE ALARM EQUIPMENT SHALL REMAIN IN PLACE AS IS. PRESERVE AND PROTECT FIRE ALARM DEVICE THROUGHOUT THE DURATION OF THE PROJECT INCLUDING DURING THE DEMOLITION AND CONSTRUCTION PHASES OF THE PROJECT, U.O.N.
2. REMOVE EXISTING FIRE ALARM STROBE AND ALL EXISTING CONDUIT AND WIRING BACK TO THE LAST ACTIVE DEVICE PER THE GENERAL DEMOLITION NOTES ON THIS SHEET, U.O.N. RELOCATE EXISTING FIRE ALARM STROBE. REFER TO SHEET F4.0 FOR ADDITIONAL INFORMATION AND NEW LOCATION OF FIRE ALARM STROBE.
3. REMOVE EXISTING FIRE ALARM HORN / STROBE AND ALL EXISTING CONDUIT AND WIRING BACK TO THE LAST ACTIVE DEVICE PER THE GENERAL DEMOLITION NOTES ON THIS SHEET, U.O.N. RELOCATE EXISTING FIRE ALARM HORN / STROBE. REFER TO SHEET F4.0 FOR ADDITIONAL INFORMATION AND NEW LOCATION OF FIRE ALARM HORN STROBE.
4. PRESERVE AND PROTECT INDICATED FIRE ALARM CONDUIT AND WIRING THROUGHOUT THE ENTIRE PROJECT INCLUDING DURING THE DEMOLITON AND CONSTRUCTION PHASES OF THE PROJECT, U.O.N.
5. FIRE ALARM DEVICE TO REMAIN IN CURRENT LOCATION. PRESERVE AND PROTECT FIRE ALARM DEVICE THROUGHOUT THE DURATION OF THE PROJECT INCLUDING DURING THE DEMOLITION AND CONSTRUCTION PHASES OF THE PROJECT, U.O.N. REFER TO SHEET F4.0 FOR ADDITIONAL INFORMATION.
6. REMOVE EXISTING FIRE ALARM END OF LINE RESISTOR AND ALL EXISTING CONDUIT AND WIRING BACK TO THE LAST ACTIVE DEVICE PER THE GENERAL DEMOLITION NOTES ON THIS SHEET, U.O.N. RELOCATE EXISTING FIRE ALARM END OF LINE RESISTOR. REFER TO SHEET F4.0 FOR ADDITIONAL INFORMATION AND NEW LOCATION OF FIRE ALARM END OF LINE RESISTOR.
7. REMOVE EXISTING FIRE ALARM SMOKE DETECTOR AND ALL EXISTING CONDUIT AND WIRING BACK TO THE LAST ACTIVE DEVICE PER THE GENERAL DEMOLITION NOTES ON THIS SHEET U.O.N. RELOCATE EXISTING FIRE ALARM SMOKE DETECTOR. REFER TO SHEET F4.0 FOR ADDITIONAL INFORMATION AND NEW LOCATION OF FIRE ALARM SMOKE DETECTOR.

GENERAL NOTES

A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL EQUIPMENT WITH ARCHITECTURAL DRAWINGS.

GENERAL DEMOLITION NOTES

A. THE CONTRACTOR SHALL FIELD VERIFY THE EXTENT OF FIRE ALARM DEMOLITION WORK AND QUANTITIES OF WIRING, DEVICES, CONDUIT AND J-BOXES TO BE REMOVED AS DICTATED BY THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

B. EXISTING WIRING AND CONDUIT SHOWN ARE TAKEN FROM OLD PLANS ARE ASSUMED TO BE CORRECT. THE CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS AND MAKE THE APPROPRIATE ADJUSTMENTS TO MEET THE INTENT OF THE CONTRACT DOCUMENTS.

C. IN AREAS INDICATED TO BE RENOVATED, REMOVE THAT PORTION OF THE EXISTING FIRE ALARM INSTALLATION INCLUDING, BUT NOT LIMITED TO FIRE ALARM DEVICES, EQUIPMENT CONNECTIONS, WIRING, CONDUITS AND APPURTENANCES. ALL UNUSED WIRING SHALL BE REMOVED TO LAST ACTIVE DEVICE, PANEL OR HEADEND EQUIPMENT. RACEWAY ASSOCIATED WITH THE FIRE ALARM SYSTEM BEING DEMOLISHED WHICH ARE CONCEALED MAY BE ABANDONED IN PLACE. HOWEVER, ALL EXISTING WIRING SHALL BE REMOVED, NO EXCEPTIONS.

D. WHEN THE WORK NECESSITATES RELOCATION OF EXISTING CONDUIT, WIRING, OR FIRE ALARM EQUIPMENT, THE CONTRACTOR SHALL PERFORM ALL WORK AND MAKE ALL NECESSARY CHANGES TO EXISTING WORK AS REQUIRED TO LEAVE THE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION TO THE SATISFACTION OF THE OWNER.

E. WHERE THE FIRE ALARM SYSTEM PASS THROUGH THE RENOVATED AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL BE SUITABLY RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. WHERE DURATION OF PROPOSED OUTAGES CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTION AS REQUIRED TO MAINTAIN SERVICE WITH THE MINIMUM DISRUPTION POSSIBLE.

F. THE CONTRACTOR SHALL ENSURE ALL REMAINING ACTIVE CIRCUITS, DEVICES, EQUIPMENT CONNECTIONS, LOW VOLTAGE SYSTEMS, ETC. HAVE NOT BEEN DISCONNECTED OR MADE INOPERABLE DURING DEMOLITION. THE CONTRACTOR SHALL RESTORE ALL INTERRUPTED OR DISCONNECTED CIRCUITS OR LOW VOLTAGE SYSTEMS TO FULLY OPERATIONAL CONDITION IN COMPLIANCE WITH ALL APPLICABLE CODES AND TO THE FULL SATISFACTION OF THE OWNER.

G. WHERE REMOVAL WORK IS PERFORMED, THE CONTRACTOR SHALL REPAIR ALL BUILDING SURFACES DAMAGED BY SUCH WORK. PROVIDE FINISHES TO MATCH EXISTING ADJACENT SURFACES.

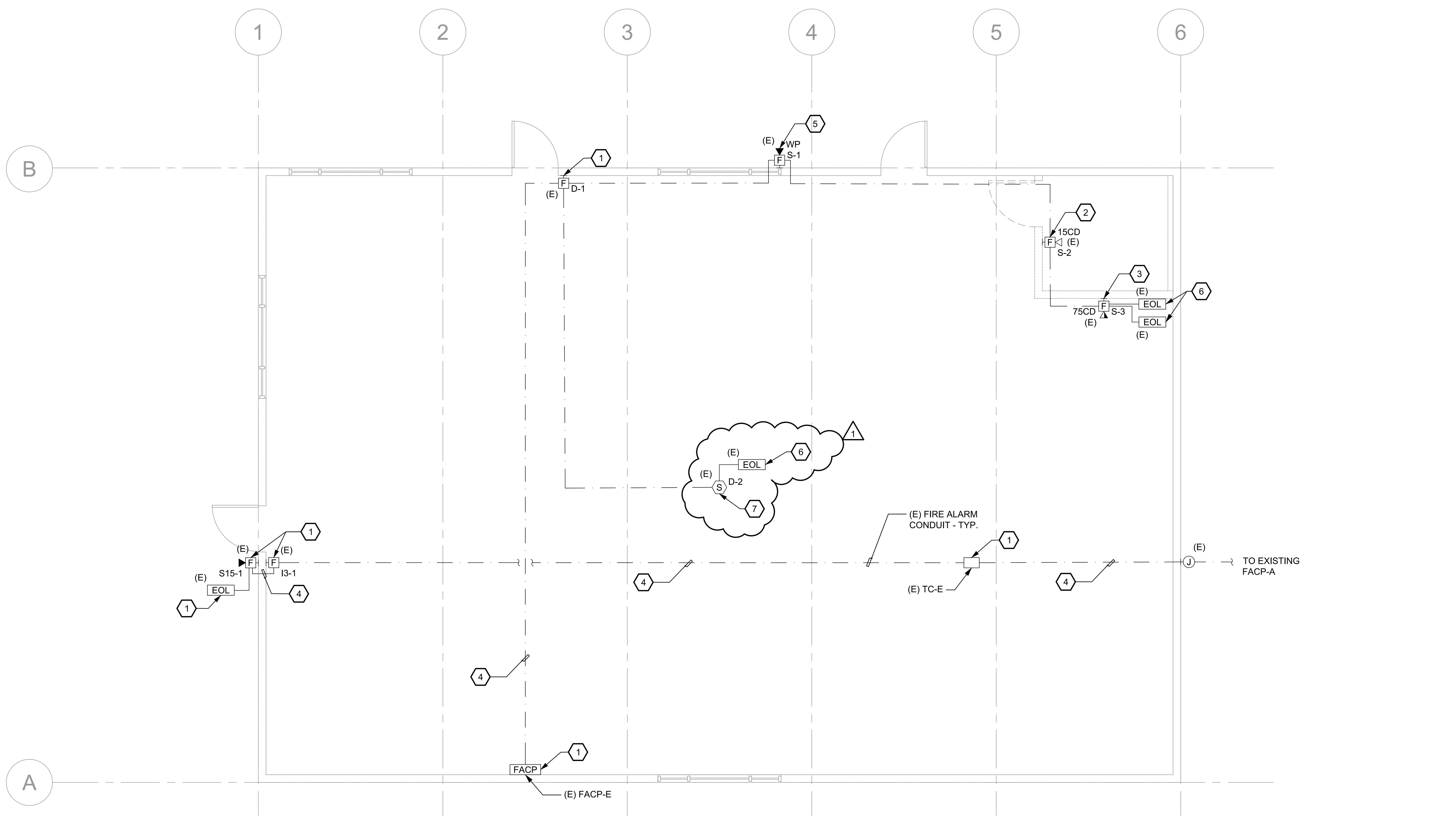
H. WHILE PERFORMING CONNECTIONS AND/OR ALTERATIONS TO EXISTING FIRE ALARM WORK, TAKE EXTREME CARE TO PROTECT ALL EXISTING EQUIPMENT FROM DIRT, DEBRIS, AND DAMAGE. ALL DAMAGE TO SUCH EQUIPMENT SHALL BE REPAIRED AND/OR EQUIPMENT REPLACED AT THE CONTRACTOR'S EXPENSE.

I. EXISTING CONDUIT AND J-BOXES MAY BE USED FOR NEW WORK PROVIDED THEY MEET ALL CURRENT REQUIREMENTS OF THE NFPA 72 AND/OR CFC, VOLUME, SPECIFICATIONS, AND COINCIDE PRECISELY WITH LOCATIONS FOR NEW WORK.

J. FLUSH OUTLET BOXES IN EXISTING WALLS TO REMAIN MAY BE ABANDONED IN PLACE. REMOVE DEVICE AND ALL ASSOCIATED WIRING AND PROVIDE AND INSTALL A NEW BLANK FACEPLATE, UON.

K. ALL EXISTING FIRE ALARM MATERIALS NOT REUSED AND NOT SALVAGED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A PROPER MANNER OFF OF THE PROJECT SITE. CARE SHOULD BE TAKEN TO DISPOSE OF HAZARDOUS MATERIALS PER REQUIRED GUIDELINES.

L. ANY FIRE ALARM WORK, WHICH WILL INTERFERE WITH THE NORMAL USE OF THE BUILDING IN ANY MANNER, SHALL BE DONE AT SUCH TIME OR TIMES AS SHALL BE MUTUALLY AGREED UPON BETWEEN THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE.



1 **FIRE ALARM FLOOR PLAN - DEMO**
1/4" = 1'-0"

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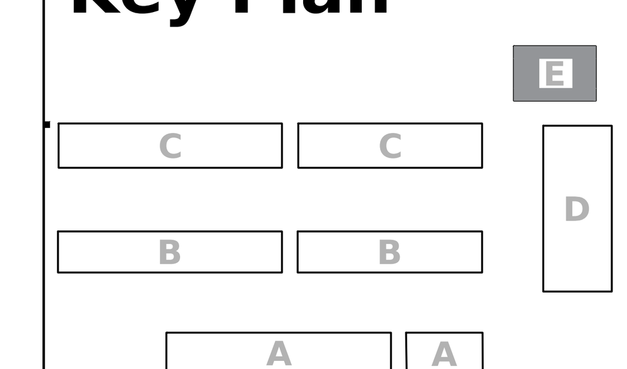
REGISTERED PROFESSIONAL ENGINEER DAVID K. KANDA E 14003 EXP. 6-30-24 ELECTRICAL STATE OF CALIFORNIA

N 0 4 8 16
1/4"=1'-0"

Key Plan



Fire Alarm
Demo Floor Plan

Building:
E

F2.0

BA 22-005.02.10

GENERAL NOTES

A. CONNECT REMOTE NOTIFICATION POWER SUPPLIES TO FIRE ALARM CONTROL PANEL WITH TWO (2) #12 AWG, UNLESS OTHERWISE NOTED.

B. ALL DETECTION CIRCUITS SHALL USE TWO (2) #14 AWG, UNLESS OTHERWISE NOTED.

C. SEE VOLTAGE DROP CALCULATIONS FOR NOTIFICATION CIRCUIT CABLE QUANTITY AND SIZE.

D. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.

E. FOR RACEWAY IN NON-ACCESSIBLE LOCATIONS, USE EXPOSED WIREMOLD V700 SERIES SURFACED MOUNTED RACEWAYS.

F. ALL INTERIOR FIRE ALARM CONDUIT SHALL BE 3/4", UNLESS OTHERWISE NOTED.

G. SEE DETAILS FOR MOUNTING REQUIREMENTS OF FIRE ALARM DEVICES.

H. MAINTAIN ALL SPACING AND PENETRATION REQUIREMENTS THROUGH FIRE RATED OR AREA SEPARATION WALLS. VERIFY EXACT LOCATIONS OF THESE WALLS WITH ARCHITECTURAL DRAWINGS.

I. CONNECT ALL DUCT SMOKE DETECTORS, MAGNETIC DOOR HOLDERS, ROLLING SMOKE DOORS AND FIRE SMOKE DAMPERS TO FACP. PROVIDE POWER SUPPLY AND 120V/24V TRANSFORMERS AS REQUIRED. SEE WIRING DIAGRAM.

J. PROVIDE ACCESS PANELS WHERE REQUIRED TO ALLOW ACCESS TO ABOVE CEILING HEAT DETECTORS FOR MAINTENANCE.

K. HEAT DETECTORS MOUNTED BELOW CEILING SHALL BE 135°F COMBINATION FIXED TEMPERATURE RATE OF RISE, UNLESS OTHERWISE NOTED. HEAT DETECTORS MOUNTED ABOVE CEILING SHALL BE HIGH FIXED TEMPURATURE, UNLESS OTHERWISE NOTED.

L. CONNECT ALL WATER FLOW SWITCHES AND, TAMPER SWITCHES.VIA ADDRESSABLE MODULE.

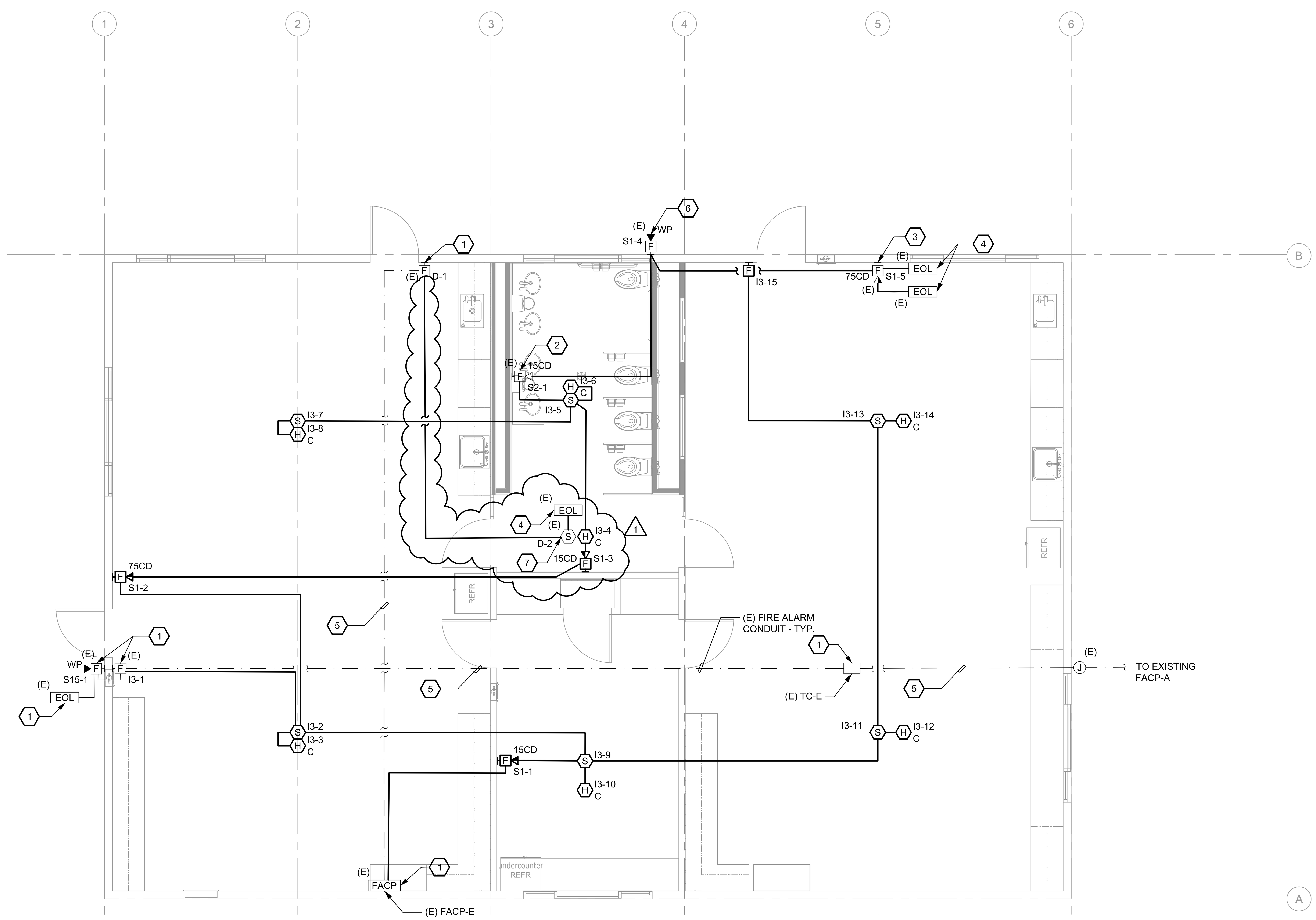
M. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL FIRE RESISTANCE-RATED WALLS AND CEILINGS.

N. REFER TO FIRE ALARM RISER DIAGRAM FOR TYPE OF CIRCUIT AND QUANTITY OF FIRE ALARM CONDUCTORS IN EACH CONDUIT.

O. ALL SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36 INCHES OF A SUPPLY REGISTER AS REQUIRED BY NFPA 72 29.11.3.4 (7).

SHEET NOTES

1. EXISTING FIRE ALARM DEVICE TO REMAIN AS IS. EXISTING CONDUITS TO REMAIN CONNECTED TO EXISTING DEVICE.
2. NEW LOCATION OF RELOCATED FIRE ALARM STROBE. REFER TO F2.0 FOR ADDITIONAL INFORMATION.
3. NEW LOCATION OF RELOCATED FIRE ALARM HORN / STROBE. REFER TO F2.0 FOR ADDITIONAL INFORMATION.
4. NEW LOCATION OF RELOCATED FIRE ALARM END OF LINE RESISTOR. REFER TO F2.0 FOR ADDITIONAL INFORMATION.
5. PRESERVE AND PROTECT INDICATED FIRE ALARM CONDUIT AND WIRING THROUGHOUT THE ENTIRE PROJECT INCLUDING DURING THE DEMOLITON AND CONSTRUCTION PHASES OF THE PROJECT, U.O.N.
6. EXISTING FIRE ALARM DEVICE TO REMAIN IN CURRENT LOCATION. CONNECT NEW CONDUITS AS REQUIRED FOR NEW WORK. REFER TO F2.0 FOR ADDITIONAL INFORMATION. 1
7. NEW LOCATION OF RELOCATED SMOKE DETECTOR. REFER TO F2.0 FOR ADDITIONAL INFORMATION.



1 FIRE ALARM FLOOR PLAN

1/4" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER E 14003 EXP. 6-30-24 ELECTRICAL STATE OF CALIFORNIA

N 4 8 16
1/4"=1'-0"

Key Plan

E
C C D
B B
A A

Fire Alarm Floor Plan

Building: E

F4.0

BA 22-005.02.10

FAS VOLTAGE DROP (VD) CALCULATION "S1"

DEVICE NUMBER	S1-1	S1-2	S1-3	(E)S1-4	(E)S1-5									
WIRE GAUGE	12	12	12	12	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	21	57	40	43	21	0	0	0	0	0	0	0	0	0
AMPS AT DEVICE	0.082	0.148	0.082	0.053	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AMPS DEVELOPED	0.470	0.388	0.240	0.158	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
VOLTAGE DROP	0.035	0.079	0.034	0.024	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TOTAL CIRCUIT VOLTAGE DROP: 0.179
CIRCUIT VOLTAGE: 24.000

VOLTAGE AT FINAL DEVICE: 23.821

% VOLTAGE DROP: **0.746%**

MAXIMUM ALLOWED % VOLTAGE DROP: 10%

WIRE SIZE	OHMS/ 1000 FT	CIRC. MILS.
12	1.77	6530
14	2.82	4110
16	4.48	2580
18	7.14	1620
20	11.34	1020
22	18.08	640
24	28.64	404

FORMULA:
VOLTAGE DROP = AMPS X FT X OHMS/FT

FAS VOLTAGE DROP (VD) CALCULATION "S2"

DEVICE NUMBER	(E)S2-1	(E)S1-5												
WIRE GAUGE	12	12	12	12	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	140	43	0	0	0	0	0	0	0	0	0	0	0	0
AMPS AT DEVICE	0.082	0.148	0.082	0.060	0.000	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AMPS DEVELOPED	0.477	0.395	0.247	0.165	0.105	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
VOLTAGE DROP	0.236	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TOTAL CIRCUIT VOLTAGE DROP: 0.297
CIRCUIT VOLTAGE: 24.000

VOLTAGE AT FINAL DEVICE: 23.703

% VOLTAGE DROP: **1.236%**

MAXIMUM ALLOWED % VOLTAGE DROP: 10%

WIRE SIZE	OHMS/ 1000 FT	CIRC. MILS.
12	1.77	6530
14	2.82	4110
16	4.48	2580
18	7.14	1620
20	11.34	1020
22	18.08	640
24	28.64	404

FORMULA:
VOLTAGE DROP = AMPS X FT X OHMS/FT

FAS BATTERY CALCULATION "(E) FACP-A"

QTY	MODEL NUMBER	DEVICE TYPE	SUPERVISORY CURRENT (PER DEVICE)	SUPERVISORY CURRENT (TOTAL)	ALARM CURRENT (PER DEVICE)	ALARM CURRENT (TOTAL)
1	(E)NOTIFIER AFP-200	(E)FACP	0.20000	0.20000	0.25000	0.25000
1	(E)NOTIFICATION APPLIANCES	(E)NOTIFICATION APPLIANCES	0.00000	0.00000	1.59700	1.59700
6	NOTIFIER FSP-951-IV	SMOKE DETECTOR	0.00020	0.00120	0.00450	0.02700
7	NOTIFIER FST-951H-IV	HEAT DETECTOR	0.00020	0.00140	0.00450	0.03150
			0.00000	0.00000	0.00000	0.00000
			0.00000	0.00000	0.00000	0.00000
			0.00000	0.00000	0.00000	0.00000
			SYSTEM SUPERVISORY CURRENT	0.20260	**SYSTEM ALARM CURRENT**	1.90550

MAXIMUM SUPERVISORY CURRENT: 0.20260
STANDBY PERIOD (60 HOURS): 24.00000
REQUIRED SUPERVISORY RESERVE: 4.86240

MAXIMUM ALARM CURRENT: 1.90550
ALARM PERIOD (5 MINUTES): 0.08300
REQUIRED ALARM RESERVE: 0.15816

TOTAL RESERVE AMP HOURS: 5.02056
20% SPARE CAPACITY: 1.00411
TOTAL REQUIRED AMP HOURS: **6.02467**

SELECTED BATTERY AMP HOURS: **7.0**

NOTES: LOADS FROM EXISTING DEVICES / EQUIPMENT TAKEN FROM DSA APPL. #: 01-066127

FAS BATTERY CALCULATION "(E) FACP-E"

QTY	MODEL NUMBER	DEVICE TYPE	SUPERVISORY CURRENT (PER DEVICE)	SUPERVISORY CURRENT (TOTAL)	ALARM CURRENT (PER DEVICE)	ALARM CURRENT (TOTAL)
1	(E)NOTIFIER SFP-400	(E)FACP	0.08800	0.08800	0.25000	0.25000
1	(E)NOTIFIER AH-24WP-R	(E)HORN	0.00000	0.00000	0.05300	0.05300
1	(E)NOTIFIER RSS-2415W-FR	(E)STROBE	0.00000	0.00000	0.06000	0.06000
1	(E)NOTIFIER AS-241575W-FR	(E)HORN STROBE	0.00000	0.00000	0.10500	0.10500
1	(E)NOTIFIER 2451	(E)SMOKE DETECTOR	0.00000	0.00000	0.00000	0.00000
1	(E)NOTIFIER NBG-10	(E)PULL STATION	0.00000	0.00000	0.00000	0.00000
1	(E)NOTIFIER DSM-12/24-R	(E)SYNCH MODULE	0.00000	0.00000	0.03800	0.03800
2	WHEELOCK HS	HORN STROBE - 15CD	0.00000	0.00000	0.08200	0.16400
1	WHEELOCK HS	HORN STROBE - 75CD	0.00000	0.00000	0.14800	0.14800
			0.00000	0.00000	0.00000	0.00000
			0.00000	0.00000	0.00000	0.00000
			0.00000	0.00000	0.00000	0.00000
			0.00000	0.00000	0.00000	0.00000
			0.00000	0.00000	0.00000	0.00000
			SYSTEM SUPERVISORY CURRENT	0.08800	**SYSTEM ALARM CURRENT**	0.81800

MAXIMUM SUPERVISORY CURRENT: 0.08800
STANDBY PERIOD (60 HOURS): 24.00000
REQUIRED SUPERVISORY RESERVE: 2.11200

MAXIMUM ALARM CURRENT: 0.81800
ALARM PERIOD (5 MINUTES): 0.08300
REQUIRED ALARM RESERVE: 0.06789

TOTAL RESERVE AMP HOURS: 2.17989
20% SPARE CAPACITY: 0.43598
TOTAL REQUIRED AMP HOURS: **2.61587**

SELECTED BATTERY AMP HOURS: **8.0**

NOTES: LOADS FROM EXISTING DEVICES / EQUIPMENT TAKEN FROM DSA APPL. #: 01-101907

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REGISTERED PROFESSIONAL ENGINEER
TED K. KAMATA
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EXP. 6-30-24
ELECTRICAL
STATE OF CALIFORNIA

Key Plan

E
C C
B B
A A
D

Schedules

Building:
E

F5.0

BA 22-005.02.10

NOTE: ALL FIRE ALARM DEVICES ARE NEW UNLESS OTHERWISE INDICATED.

CABLE & WIRE LEGEND

TYPE	DESCRIPTION	MODEL NO.	FUNCTION	INSTALLATION
A	2#14 AWG TWISTED NON-SHIELDED FPLR	WEST PENN 994	SLC/INDOOR	CONDUIT
Au	2#12 AWG TWISTED NON-SHIELDED FPL	WEST PENN AQ227	SLC/OUTDOOR	CONDUIT
B	2#14 AWG TWISTED NON-SHIELDED FPLR	WEST PENN 994	NAC/INDOOR	CONDUIT
B2	2#12 AWG TWISTED NON-SHIELDED FPLR	WEST PENN 998	NAC/INDOOR	CONDUIT
SP	2#12 AWG TWISTED SHIELDED FPLR	WEST PENN 999	NAC/INDOOR	CONDUIT
Bu	2#12 AWG TWISTED NON-SHIELDED FPL	WEST PENN AQ227	NAC/OUTDOOR	CONDUIT
Cu	2#12 AWG TWISTED NON-SHIELDED FPL	WEST PENN AQ227	NAC/OUTDOOR	CONDUIT
P	2#12 AWG CU & 1#12 AWG CU GND	FPLR/THHN	POWER	CONDUIT

NOTE:
1. SEE FIRE ALARM PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES

1. REFER TO E5.0 IN THE DSA APPROVED FIRE ALARM DRAWINGS FOR LAUREL ELEMENTARY SCHOOL MODERNIZATION (DSA APPL#: 01-066127) FOR CONTINUATION AND ADDITIONAL INFORMATION.
2. RELOCATED FIRE ALARM STROBE. THE DESIGNATION / CIRCUIT NUMBER OF THE NOTIFICATION DEVICE HAS BEEN UPDATED TO THE DESIGNATION INDICATED. CONTRACTOR SHALL UPDATE EQUIPMENT LABELS AT TEH SITE AS REQUIRED TO REFLECT NEW EQUIPMENT DESIGNATION. REFER TO F2.0 AND F4.0 FOR ADDITIONAL INFORMATION.
3. RELOCATED FIRE ALARM HORN / STROBE. THE DESIGNATION / CIRCUIT NUMBER OF THE NOTIFICATION DEVICE HAS BEEN UPDATED TO THE DESIGNATION INDICATED. CONTRACTOR SHALL UPDATE EQUIPMENT LABELS AT THE SITE AS REQUIRED TO REFLECT NEW EQUIPMENT DESIGNATION. REFER TO F2.0 AND F4.0 FOR ADDITIONAL INFORMATION.
4. EXISTING WEATHERPROOF HORN. THE DESIGNATION / CIRCUIT NUMBER OF THE NOTIFICATION DEVICE HAS BEEN UPDATED TO THE DESIGNATION INDICATED. CONTRACTOR SHALL UPDATE EQUIPOMENT LABELS AT THE SITE AS REQUIRED TO REFLECT NEW EQUIPMENT DESIGNATION. REFER TO F2.0 AND F4.0 FOR ADDITIONAL INFORMATION.
5. RELOCATED END OF LINE RESISTOR. REFER TO F2.0 AND F4.0 FOR ADDITIONAL INFORMATION.
6. RELOCATED FIRE ALARM SMOKE DETECTOR. REFER TO F2.0 AND F4.0 FOR ADDITIONAL INFORMATION.

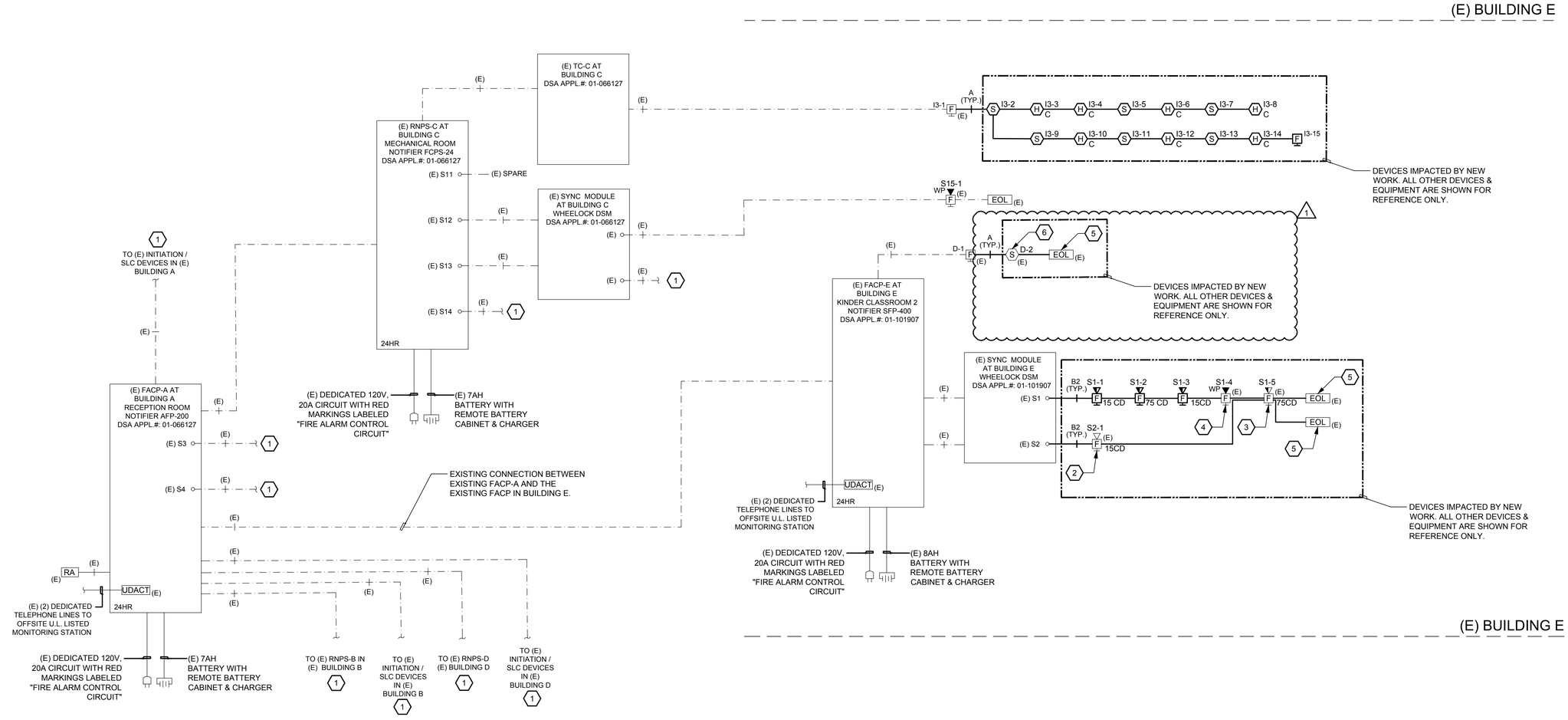
GENERAL NOTES

A. ALL DETECTION CIRCUITS SHALL USE TWO (2) #14 AWG, UNLESS OTHERWISE NOTED.

B. SEE VOLTAGE DROP CALCULATIONS FOR NOTIFICATION CIRCUIT CABLE QUANTITY AND SIZE.

C. THE PROJECT INSPECTOR SHALL VERIFY CANDELA SETTINGS, AFTER INSTALLATION, OF ALL MULTI-CANDELA VISUAL NOTIFICATION DEVICES DUE TO FIELD ADJUSTABILITY.

D. THE CONTRACTOR SHALL HAND WRITE THE DATE OF INSTALLATION ON ALL FIRE ALARM BATTERIES IN A LOCATION VISIBLE TO SERVICE PERSONNEL.



1 FIRE ALARM RISER DIAGRAM

SCALE: NTS

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ELECTRICAL
STATE OF CALIFORNIA

Key Plan

E
C C
B B
A A
D

Riser Diagram

Building: E

F6.0

BA 22-005.02.10

Opening Schedule

Location		Size		Frame		Glazing			Door			Hardware														Details			Notes
Mark	Room #	Width (V.I.F.)	Height (V.I.F.)	Fire Rating (minutes)	Material	Fire Rating (minutes)	Tempered	Impact Safety Rated	Transoms	Door / Frame Type	Fire Rating (minutes)	Material	Vision Panel	ANSI Lever Function	Panic Hardware	Fire-Rated Hardware	Closer	Kickplate	Holder	Wall Stops	Door Stops	Floor Stops	Door Bottom	Removable Mullion	Sound Proof Gasket	Coordinator	Manual Flush Bolt	Smoke Seal	Weatherstripping	Card Reader	Sill / Threshold	Jamb	Head	
Doors																																	
01	3A	36	84	NR	WD	NR				F		WD		■		NR	■	■	■	■	■		■	■						9A/A8.3	12/A8.0	12/A8.0	
02	3B	36								F																							
03	5	60								G																							
04	5	36						■		D			■																				
05	5									D																							
06	1A									E																							
07	3									D																							
08	2									D																							
09	4				(E)WD					C		(E)WD					(E)	(E)	(E)	(E)	(E)		(E)		(E)					(E)	(E)	(E)	(E) Door -Not In Scope
10	4																																
11	3																																
12	2																																
13	1																																
14	4							■	■	A			(E)	(E)	(E)														(E)					
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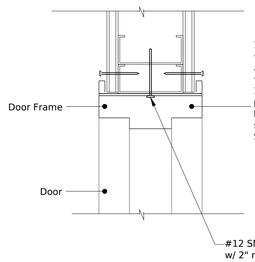


Interior Door, Head and Jamb
Section
3"=1'-0"
12

Opening Notes

1. Comply w/ applicable codes & requirements of governmental authorities having jurisdiction, including but not limited to: 2022 CBC Sections 1010 (for doors); 1010.1.9.1 (for hardware); 2403 (for glazing). In event of conflict or apparent conflict, immediately notify Architect in writing.

2. Coordinate with related work, which includes, but is not limited to:
   A. Division 08: Openings
   B. Specification Section 10050: Signage.
   C. Division 28: Fire/Life-Safety Systems & Security Access Systems

3. Summary:
   A. Frames: (E) WD or (N) WD, as scheduled. (N) WD frames shall match profile of (E) WD frames to remain, and shall have same relationship to adjacent finishes, visually, as (E) WD frames to remain do.
      i. (E) frame to remain in non-fire-rated opening: repair as required; modify, as required for (N) doors & (N) hardware.
      ii. Contractor shall have option of replacing (E) frame to remain with (N) frame at no additional expense.
      iv. Excepting (E) WD frames to remain, factory-fabricate backing, cut-outs, jigs, & fittings for hardware specified.
      v. All new and existing frames shall be painted. REF painting specs.

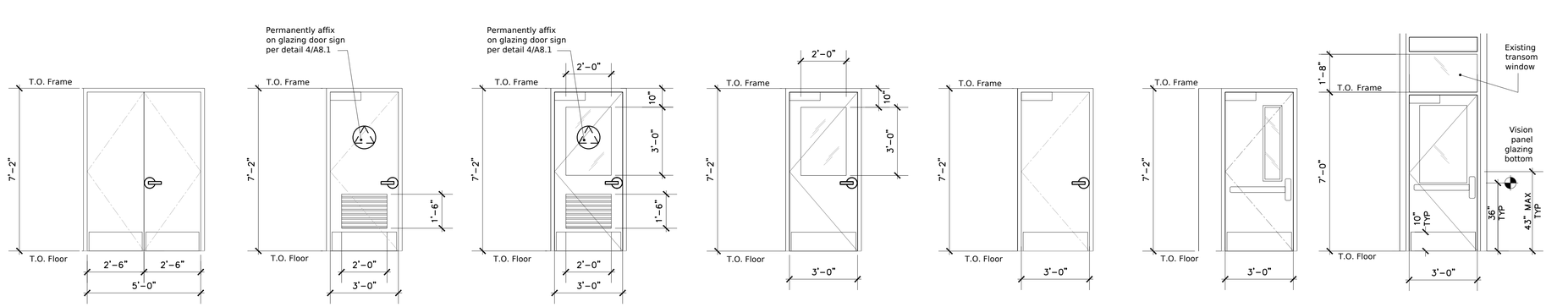
   B. Doors: (E) WD or (N) WD, as scheduled.
      i. All new and existing doors shall be painted. REF painting specs.
      ii. All new WD doors shall be clear birch veneer.

   C. Glazing: Impact Safety Rated, per CPSC 16 CFR 1201, Category 1.

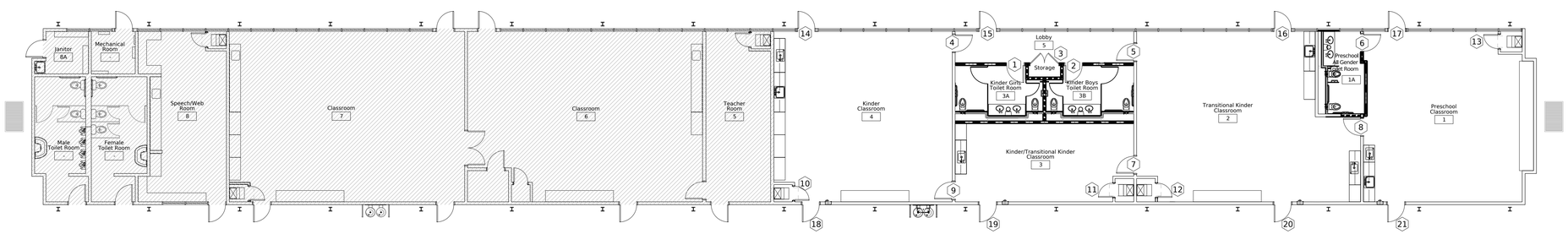
4. Door Hardware: See specifications section 08 71 00: Door Hardware
   A. General: Confirm that (E) hardware to remain compiled w/ code-mandated minimum requirements. In event of conflict or apparent conflict, immediately notify Architect in writing.
   B. Provide (N) hardware as listed below. No substitutions will be accepted for products specified below as "School District Standard."
   C. Key System: All cylinders are Schlage Full Interchangeable Cores (FSIC)
   D. Thresholds installation: Set thresholds in a full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements in Division 7 "Thermal and Moisture Protection". Use ¼" fasteners, red-head flat-head sleeve anchors (SS/FHSL).

Hinges:	Ives, REF spec
Exit Devices:	Von Duprin, school district standard, REF spec
Closers:	LCN, or approved equal, REF spec
Kick Plates:	Ives 8400 10" X 2" LDW B-CS, or approved equal, REF spec
Wall Stops:	Ives, or approved equal, REF spec
Floor Stops:	Ives, or approved equal, REF spec
Overhead Stops:	Glynn-Johnson, or approved equal, REF spec
Door Bottoms:	Zero 364AA, or Pemko, National Guard, REF spec
Gasketing:	Zero 188SBK PSA, REF spec
Locks, Latches, & Cylinders:	Schlage Vandl Classroom, Office Locks and Passage Latches, school district standard, REF spec
Permanent Core:	Schlage 23-030, school district standard, REF spec
Door Sweeps:	Zero 39A, REF spec
Jamb Seals:	Zero 328AA-S, or Pemko, National Guard, REF spec
Head Seals:	Zero 429AA, or Pemko, National Guard, REF spec
Flush Bolts:	Ives FB358, or approved equal, REF spec
Dust Proof Strikes:	Ives, or approved equal, REF spec
Coordinators:	Ives, or approved equal, REF spec
Thresholds:	Zero, or Pemko, National Guard, REF spec

1



Door Types
3/8" = 1'-0"
2



Floor Plan
3/32" = 1'0"
1

Room Description	ANSI	Base Model
exterior		
Classroom	E0171	Schlage B763
Lobby	E0171	Schlage B763
interior		
Classroom	F82	Schlage ND91
Lobby	F82	Schlage ND91
Toilet Room	F76	Schlage ND91

Legend

Door Key 1

Room Name and Number Room -

BARTOS ARCHITECTURE
300 8th Avenue
Suite 202 San Mateo
California 94401
www.bartosarchitecture.com

LICENSED ARCHITECT
MARK EDWARD BARTOS
C-24138
REN. 03-31-25
STATE OF CALIFORNIA

SAN MATEO-FOSTER CITY SCHOOL DISTRICT
LIVE·LEAD·LEARN

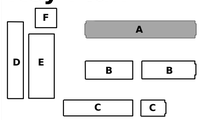
San Mateo-Foster City School District
1170 Chess Dr.
Foster City, CA 94404

North Shoreview Montessori Elementary School
1301 Cypress Ave
San Mateo, CA 94401

Toilet Rooms Renovation
SMFCSD

DSA Approval		2/7/2024
Revision 1	1	3/8/2024

Key Plan



Opening Schedule

Building: A

A8.0

BA 22-005.02.16

Asbestos Sampling Plan

Legend

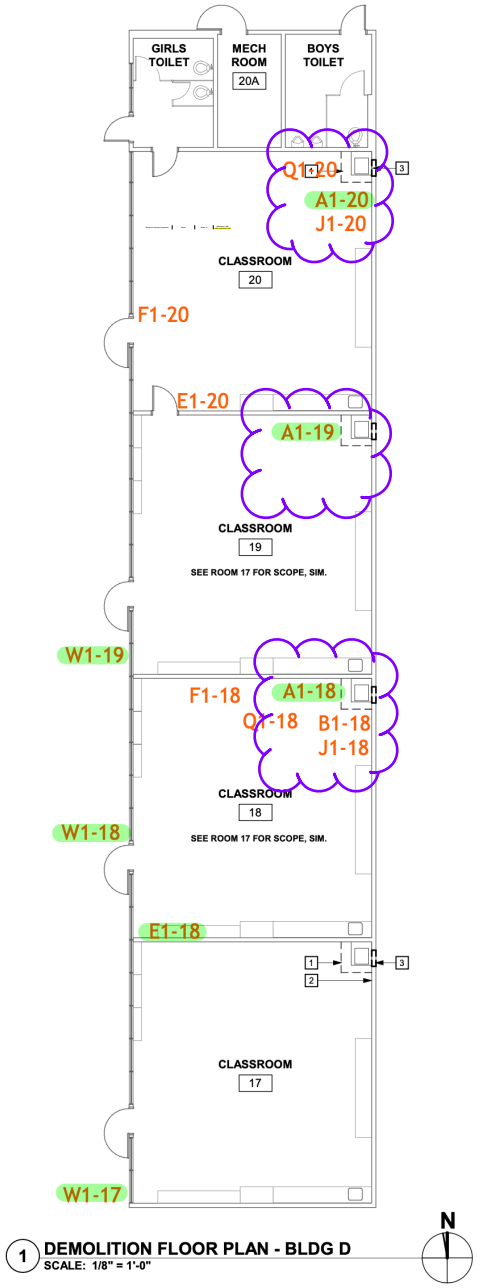
1. Sample IDs were created using the homogenous material letter/number pattern with the room number. For ease on this map, the room numbers were not added above.

Example: A2-101 on lab data/coc is shown on map as A2 with a line to room 101.

2. Green highlight indicates asbestos detected or >1% asbestos detected or assumed present.

Project	HVAC and Power Upgrade Project North Shoreview Elementary School
ZF Project #	EN210601

Asbestos Sampling Plan



Legend

1. Sample IDs were created using the homogenous material letter/number pattern with the room number. For ease on this map, the room numbers were not added above.

Example: A2-101 on lab data/coc is shown on map as A2 with a line to room 101.

2. Green highlight indicates asbestos detected or >1% asbestos detected or assumed present.

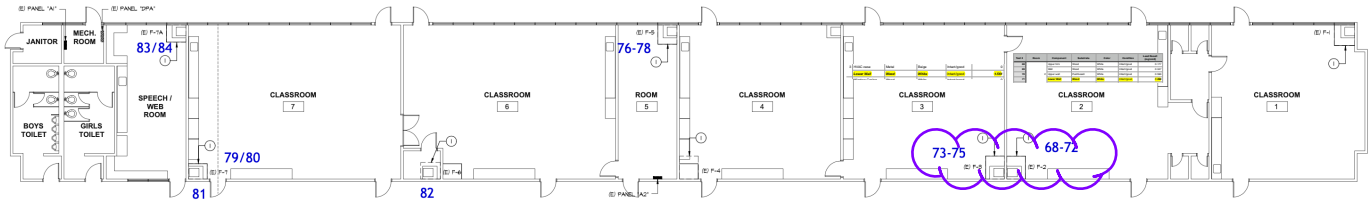
Project	HVAC and Power Upgrade Project North Shoreview Elementary School
ZF Project #	EN210601

Suspect Asbestos Containing Materials Sample Table

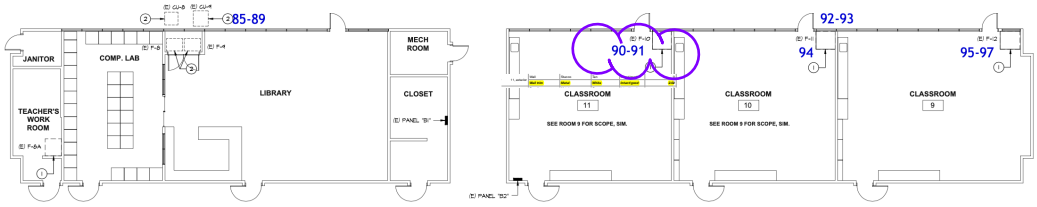
Sample ID		Material	Description	Sample Location	Results (% asbestos detected)
A1	LIB	Sheetrock with joint compound	White	Library	ND
A1	***19***	***Sheetrock with joint compound***	***White***	***Room 19***	***Sheetrock = ND Joint compound = 2%***
A1	***20***	***Sheetrock with joint compound***	***White with caulk***	***Room 20***	***Sheetrock = ND Joint compound = 2% Caulk = ND***
A1	***18***	***Sheetrock with joint compound***	***White***	***Room 18***	***Sheetrock = ND Joint compound = 2%***
A2	SP	Sheetrock with temp wall	White with brown temp wall material	Speech room	ND
B1	12	Plaster	Rough with white paint	Room 12	ND
B1	15	Plaster	Rough with white paint	Room 15	ND
B1	13	Plaster	Rough with white paint	Room 13	ND
E1	SP	Floor tile 12" x 12" blue/white pattern	Yellow mastic	Speech room	ND
E1	1	Floor tile 12" x 12" blue/white pattern	Yellow mastic	Room 1	ND
E1	11	Floor tile 12" x 12" blue/white pattern	Yellow mastic	Room 11	ND
E1	15	Floor tile 12" x 12" blue/white pattern	Yellow mastic	Room 15	ND
E1	13	Floor tile 12" x 12" blue/white pattern	Yellow mastic	Room 13	ND
E1	***18***	***Floor tile 12" x 12" blue/white pattern***	***Yellow mastic and leveling compound and residual mastic***	***Room 18***	***Blue tile = ND Yellow mastic = ND Level compound = ND Black mastic = 3%***
E1	20	Floor tile 12" x 12" blue/white pattern	Yellow mastic	Room 20	ND
F1	20	Covebase 4" green	White mastic	Room 20	ND
F1	13	Covebase 4" green	White mastic	Room 13	ND
F1	18	Covebase 4" green	White mastic	Room 18	ND
F1	15	Covebase 4" green	White mastic	Room 15	ND
F1	11	Covebase 4" green	White mastic	Room 11	ND
F1	1	Covebase 4" green	White mastic	Room 1	ND
F1	SP	Covebase 4" green	White mastic	Speech room	ND
F2	12	Covebase 4" gray		Room 12	ND
H1	12	Resilient sheet flooring	Tan with mastic	Room 12	ND
J1	1	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Room 1	ND
J1	SP	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Speech room	ND
J1	12	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Room 12	ND
J1	13	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Room 13	ND
J1	15	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Room 15	ND
J1	18	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Room 18	ND

Sample ID		Material	Description	Sample Location	Results (% asbestos detected)
J1	20	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Room 20	ND
J1	19	Acoustic ceiling tile 12" x 12"	Pinhole pattern	Room 19	ND
N1	SP	Sealant	White/gray	Speech room	ND
N1	11	Sealant	White/gray	Room 11	ND
N3	5	Sealant	Tan with white paint	Room 5	ND
N3	8	Sealant	Tan with white paint	Room 8	ND
N3	10	Sealant	Tan with white paint	Room 10	ND
N3	LIB	Sealant	Tan with white paint	Library	ND
N3	12	Sealant	Tan with white paint	Room 12	ND
N3	14	Sealant	Tan with white paint	Room 14	ND
Q1	11	Carpet mastic	Yellow	Room 11	ND
Q1	13	Carpet mastic	Yellow	Room 13	ND
Q1	15	Carpet mastic	Yellow	Room 15	ND
Q1	18	Carpet mastic	Yellow	Room 18	ND
Q1	20	Carpet mastic	Yellow	Room 20	ND
***W1**	***2***	***Stucco***	***Gray with tan paint***	***Room 2***	***< 1%***
***W1**	***5***	***Stucco***	***Gray with tan paint***	***Room 5***	***< 1%***
***W1**	***9***	***Stucco***	***Gray with tan paint***	***Room 9***	***< 1%***
***W1**	***10***	***Stucco***	***Gray with tan paint***	***Room 10***	***< 1%***
***W1**	***17***	***Stucco***	***Gray with tan paint***	***Room 17***	***< 1%***
***W1**	***19***	***Stucco***	***Gray with tan paint***	***Room 19***	***< 1%***
***W1**	***18***	***Stucco***	***Gray with tan paint***	***Room 18***	***< 1%***
NOTE:		1. ND = No asbestos detected by laboratory analysis. "None Detected". 2. * = Material is assumed >1% unless proven otherwise by laboratory analysis. At the time of this report point count was not conducted.			

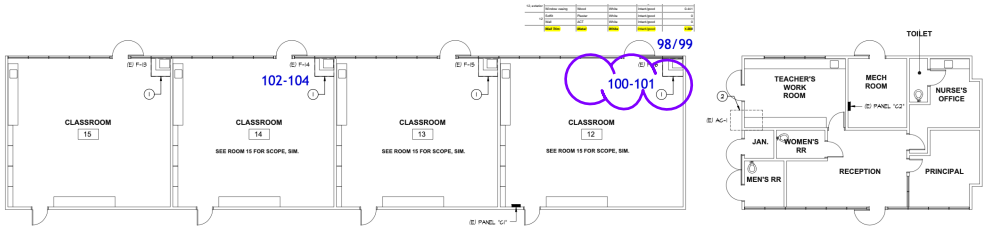
Lead Sampling Plan



1 E2.1 **ELECTRICAL DEMO FLOOR PLAN - BLDG A**
SCALE: 1/8" = 1'-0"



2 E2.1 **ELECTRICAL DEMO FLOOR PLAN - BLDG B**
SCALE: 1/8" = 1'-0"



3 E2.1 **ELECTRICAL DEMO FLOOR PLAN - BLDG C**
SCALE: 1/8" = 1'-0"

Legend

1. Refer to XRF Lead Paint Testing and Sampling Table for results.
2. Lead-based painted (LBP) components were limited to interior lower walls and exterior window and wall trim.

Project	HVAC and Power Upgrade Project North Shoreview Elementary School
ZF Project #	EN210601

Specification

This Hazardous Material Abatement & Related Construction Specification 02 80 00 was prepared for San Mateo Foster City School District in support of the HVAC and Power Upgrade Project for the following schools:

School Name	Address
Abbott Middle School	600 36th Avenue, San Mateo, CA 94403
Borel Middle School	425 Barenson Avenue, San Mateo, CA 94403
College Park	715 Indian Avenue, San Mateo, CA 94402
Laurel Elementary	316 36th Avenue, San Mateo, CA 94403
Meadow Heights	2619 Dolores Street, San Mateo, CA 94403
North Shoreview	1301 Cypress Avenue, San Mateo, CA 94401
George Hall	130 San Miguel Way, San Mateo, CA 94403

Prepared for:

San Mateo Foster City School District
1170 Chess Drive
Foster City, CA 94404

Prepared by:

ZNAP FLY
419 Mason Street
Vacaville, CA 95688

SECTION 02 80 00

HAZARDOUS MATERIAL ABATEMENT & RELATED CONSTRUCTION

PART 1. GENERAL

1.1 SCOPE

A. The work of this section includes removal, clean up and disposal of the below listed hazardous materials prior to the general building and structure renovation and/or demolition work of the project. These work scope items are generally described as follows for the buildings and structures indicated. Contractor is to review all demolition/construction project plans and field verify location and extent of hazardous materials-related work.

1. **Asbestos-Containing Materials – Remove all:**

a. Abbott Middle School

1. Plaster, < 1% asbestos (assumed to be >1% unless proven otherwise by point count analysis), Category II ACM, approximately 5 square feet may be impacted at each work location
2. Mastic associated with tack board/white board/chalk board, assumed asbestos, Category I ACM, approximately 6 square feet at each work location
3. Mastic associated with acoustic wall tiles, assumed asbestos, Category I ACM, approximately 5 square feet may be impacted at each work location

b. Borel Middle School

1. Window putty at window HVAC unit, 2% asbestos, Category II ACM, approximately 2 square feet limited to Room 34
2. Mastic Associate with tack board/white board/chalkboard, assumed asbestos, Category I ACM, approximately 6 square feet at each work location
3. Mastic associated with acoustic wall tiles, assumed asbestos, Category I ACM, approximately 5 square feet may be impacted at each work location
4. Roof mastic, assumed asbestos, Category I ACM, approximately 1 square feet may be impacted at each work location

c. College Park Elementary School

1. Texture coat associated with sheetrock above acoustical ceiling panel, < 1 - 2% asbestos (assumed to be >1% unless proven otherwise by point count analysis), Regulated Asbestos Containing Material (RACM), approximately 5 square feet may be impacted at each work location, however may not be impacted with the given scope of work
2. Mastic associated with tack board/white board/chalk board, assumed asbestos, Category I ACM, approximately 6 square feet at each work location
3. Roof shingle & roof mastics, assumed asbestos, located throughout the roof system, non-friable Category I ACM, approximately 5 square feet may be impacted at each work location

d. George Hall Elementary School

1. Stucco, < 1% asbestos (assumed to be >1% unless proven otherwise by point count analysis), Category II ACM, approximately 2 square feet may be impacted at each work location, however this material may not be impacted by scheduled work
2. Floor tile beneath existing tile and/or carpet, 2% asbestos, Category I ACM, approximately 5 square feet may be impacted at each work location
3. Mastic associated with tack board/white board/chalk board, assumed asbestos, Category I ACM, approximately 6 square feet at each work location
4. Mastic associated with acoustic wall tiles, assumed asbestos, Category I ACM, approximately 5 square feet may be impacted at each work location, however this material may not be impacted by scheduled work

e. Laurel Elementary School

1. Mastic associated with tack board/white board/chalk board, assumed asbestos, Category I ACM, approximately 6 square feet at each work location
2. Mastic associated with acoustic wall tiles, assumed asbestos, Category I ACM, approximately 5 square feet may be impacted at each work location
3. Roof field shingle mastic (below the top layer), 6% asbestos, located throughout the roof system, non-friable Category I ACM, found at one sample location and assumed throughout homogenous roofing system of Buildings A, B, C, D, approximately 41,150 square feet

f. Meadow Heights Elementary School

1. Floor tile, tan tile beneath existing flooring, 5% asbestos, with residual mastic (insufficient material to analyze) Category I non-friable ACM, approximately 5 square feet to be impacted at each work area location
2. Mastic associated with tack board/white board/chalk board, assumed asbestos, Category I ACM, approximately 6 square feet at each work area location
3. Roof shingles, assumed asbestos, Category I ACM, approximately 1 square feet may be impacted at each work area location
4. Roof mastics, assumed asbestos, Category I ACM, approximately 1 square feet may be impacted at each work area location

g. North Shoreview Montessori School

1. Joint compound associated with sheetrock wall system, joint compound = 2% asbestos, sheetrock = no asbestos detected, Regulated Asbestos Containing Material (RACM) - friable asbestos containing material, approximately 15 square feet may be impacted at each work location, refer to project drawings
2. Residual floor tile mastic, found in one of seven samples collected at Room 18, 3% asbestos approximately 8 square feet at each work location may be impacted, refer to project drawings
3. Stucco, <1% asbestos assumed >1% asbestos without point count analysis, Category II non-friable asbestos containing material, quantity impacted is dependent on the scope of work, refer to project drawings
4. Mastic associated with tack board/white board/chalk board, assumed asbestos, Category I ACM, approximately 6 square feet at each work location, may not be impacted.
5. Mastic associated with acoustic ceiling tiles, assumed asbestos, Category I ACM, approximately 5 square feet may be impacted at each work location, although material may not be impacted by scope of work
6. Roof field, shingle with associated mastic (assumed asbestos, this material may be sampled during construction if impacted to prove no asbestos by laboratory analysis, non-friable Category I ACM, quantity impacted is dependent on the scope of work, refer to project drawings

2. **Lead-Based Paint (LBP).** Remove loose and peeling LBP where occurs on lead-based components including:
   - **a. Abbott Middle School**
     1. Exterior plexiglas windows/window covers (wall panels)
     2. Exterior metal window frames
     3. Exterior wood window trims
     4. Window panels (windows/window covers)
   - **b. Borel Middle School**
     1. Exterior wood window frames
   - **c. George Hall Elementary School**
     1. Interior wood window sills
     2. Interior wood wall trim
     3. Exterior metal collars
     4. Exterior metal equipment
   - **d. Laurel Elementary School**
     1. Exterior wood window sills
     2. Exterior wood window casings
     3. Exterior metal roof collars
     4. Exterior metal roof HVAC/mechanical equipment
   - **e. Meadow Heights Elementary School**
     1. Interior wood window sills
     2. Exterior wood wall trim
   - **f. North Shoreview Montessori School**
     1. Interior wood lower walls
     2. Exterior metal window trims
     3. Exterior metal wall trims

3. Presumed Polychlorinated Biphenyl (PCB) lighting ballasts. Remove presumed PCB items, verify PCB content by labeling or manufacturing information and dispose of as PCB items unless proven non-PCB and/or labeled 'PCB FREE'. Recycle non-PCB components to extent possible.
4. Universal Waste including lighting tubes and exterior non-incandescent lighting. Remove and properly recycle.
5. Chlorofluorocarbons (CFCs) coolant gases in air conditioning units must be properly extracted and recycled prior to unit removal and disposal by a qualified hazardous materials disposal contractor using EPA certified Refrigerant Re-claimer for the removal and recycling of the CFC gases.

B. The Contractor's work scope includes all removal, waste testing, and disposal or recycling costs associated with removed materials and removal operations for this project.

C. Subsurface concrete piping shall be presumed to be asbestos cement (Transite®).

D. The Contractor shall make any necessary arrangements for temporary water and power necessary to conduct the work of this project. Power and water are available on site but will require Contractor to make any necessary temporary connections. Coordinate schedule and phasing with architectural.

E. Contractor shall review the demolition/construction project plans, reports, related documents identified herein, and shall visit the site during the scheduled bid walk and field verify the location and extent of hazardous materials removal work prior to submitting bid.

F. The Contractor's work scope includes all removal, waste testing, and disposal and/or recycling of removed and demolished materials. The Contractor is responsible for all costs associated with removed hazardous materials and removal/demolition operations during abatement, disposal, and testing for waste stream during renovation and demolition work.

1. Removed friable asbestos, including but not limited to texture coat and doing compound associated with sheetrock/wallboard and mechanically removed floor tile and flooring mastic, is to be disposed of as hazardous asbestos waste. Non-friable asbestos materials removed in a non-friable state shall be disposed of as a non-hazardous asbestos waste at an asbestos permitted landfill.
2. Lead debris resulting from removal of loose LBP prior to demolition shall be disposed of as lead hazardous waste.
3. PCB ballasts are to be disposed of as hazardous PCB wastes at a Class I landfill or permitted PCB incineration facility.
4. All remaining hazardous materials wastes, including lighting tubes & lamps, batteries, refrigerants/coolants, and other universal wastes are to be recycled by a permitted facility or disposed of as hazardous wastes as it pertains to this project.

G. The Contractor's work scope also includes removal of loose LBP and all required lead-related protective measures for Cal/OSHA, CDPH, and Cal/EPA compliance associated with renovation/demolition of the buildings and associated structures or other components on this site.

H. The Contractors shall be responsible for all agency permits, notices, and fees required to conduct the abatement and demolition and shall be responsible for all costs of removal, demolition, waste characterization and profiling, and disposal associated with abatement and demolition.

1.2. RELATED DOCUMENTS / WORK IN OTHER SECTIONS

A. HVAC and Power Upgrade Project, Hazardous Materials Survey Reports, prepared for each school by Znap Fly.

B. Project Drawings.

C. All other sections of the specifications.

1.3. REFERENCES

A. General: Codes, regulations, and references to hazardous materials abatement work include, but are not limited to the most current versions of the following:
   1. California Code of Regulations (CCR):
      a. Title 8, Article 2.5 Registration Asbestos-Related Work
      b. Title 8, Section 1529 Construction Safety Orders, Asbestos Regulations
      c. Title 8, Section 1531 Construction Safety Orders, Respiratory Protection
      d. Title 8, Section 1532.1 Construction Safety Orders, Lead in Construction
      e. Title 17, Div. 1, Ch. 8 Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards
      f. Title 22, Div. 4.5 Environmental Health Standards for Management of Hazardous Waste
      g. Title 22, Div. 4.5, Ch 23 Universal Waste Rule
   2. Bay Area Air Quality Management District (BAAQMD):
      a. Regulation 11 Hazardous pollutants Rule 2 Asbestos Demolition, Renovation and Manufacturing
   3. Other Local Regulations
      a. California Health and Safety Code 25249-25249.13
      b. California Health and Safety Code 25915-25919.7

1.4. DEFINITIONS

A. Definitions specific to Work of this Section.
   1. Abatement – Procedures to control airborne contaminate and other releases from hazardous material-containing building materials. Includes removal, repair, encapsulation, and enclosure.
   2. Airlock – A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.

3. Air Monitoring – The processing of measuring the air contaminants such as asbestos or lead for measured volume of air collected over the specific period of time being monitored.
4. Air Sampling Professional – The professional contracted or employed to supervise air monitoring and analysis schemes. This individual is also responsible for recognition of technical deficiencies in Worker protection equipment and procedures during both planning and on-site phases of an abatement project.
5. Amended Water – A water to which a surfactant has been added.
6. Asbestos – The term asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.
7. Asbestos Containing Construction Material (ACCM) – Any construction material with asbestos content of 0.1 percent or greater by weight.
8. Asbestos Containing Material (ACM) – Any material which contains over one percent asbestos as determined by current EPA bulk sample analysis method.
9. Asbestos Fibers – This expression refers to asbestos fibers longer than five micrometers with an aspect ratio of 3:1 or larger under phase contrast microscopy (PCM) analytical procedures.
10. Authorized Visitor – Any Owner Representative, Consultant or Agent and any representative of a regulatory of other agency having jurisdiction over the project.
11. Certified Supervisor – An individual who is capable of identifying asbestos or lead hazards in the workplace and who has sufficient experience and authority to take prompt corrective measures to eliminate them. In addition, the Certified Supervisor is responsible for conducting and approving all required inspections as specified. Also known as the "Competent Person."
12. Class I Asbestos Removal – Class I Asbestos work means activities involving the removal of thermal system insulation (TSI) and surfacing ACM.
13. Class II Asbestos Work – Class II Asbestos Work means activities associated with removal of any asbestos containing material that is not a Class I surfacing material or thermal system insulation.
14. Clean Room – An uncontaminated area or room that is a part of the Worker decontamination enclosure with provisions for storage of Workers' street clothes and protective equipment.
15. Critical Barrier – A unit of temporary construction of air-tight and impermeable barrier which provides the only separation between a contained asbestos Work Area and an adjacent, potentially occupied area.
16. Decontamination Enclosure System – A series of connected rooms, with air-tight doorways between any two adjacent rooms, for the

decontamination of Workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock.

17. Differential Pressure Equipment – A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated area from adjacent uncontaminated areas. Also referred to as HEPA Exhaust Units or Negative Pressure Units (NPUs).
18. Encapsulant (sealant) – A liquid material which can be applied to asbestos-containing material or surface and which controls the possible release of asbestos fiber from the material or surface by creating a membrane over the surface (bridging encapsulant), or by penetrating into the material and binding its components together (penetrating encapsulant), or by locking down invisible fibers (lockdown encapsulant).
19. Fluorescent Light Ballast (FLB) – A device that electrically controls fluorescent light fixtures. Most existing FLBs include a capacitor containing 0.1 kilograms or less of dielectric fluid that may contain PCBs. Ballasts manufactured prior to 1979 may contain PCB capacitors. More recently, electronic ballasts have come into use that do not have dielectric fluids or PCBs. Ballasts with PCB capacitors also contain asphalt potting compounds which are likely to contain PCBs.
20. Hazardous Materials – Hazardous materials include, but are not limited to: asbestos containing materials, lead and lead-based paint, mercury, PCB, coolant gases, universal wastes, solvents, fuels and other chemical products or wastes.
21. HEPA Filter – A high-efficiency particulate absolute (HEPA) filter capable of trapping and retaining 99.97 percent of particles greater than 0.3 micrometers in mass median aerodynamic equivalent diameter.
22. HEPA Vacuum Equipment – Vacuuming equipment with a HEPA (UL 586 labeled) filter system.
23. Lead-Based Paint (LBP) – Lead-Containing Paint (LCP) that is at least 5,000 ppm, 0.5% lead by weight, or 1.0 milligrams of lead per square centimeter of surface area (as measured by XRF lead analyzer). Note: any untested paints or coatings must be presumed to be LBP.
24. Lead Hazardous Waste – Lead-based paint waste or other debris that has been classified as hazardous due to the characteristic of toxicity, as determined by testing in accordance with the California Code of Regulations, Title 22, Division 4, Chapter 30, Article 11. A hazardous waste is any substance(s) listed in Article 11 Section 66699 at concentrations greater than its listed Soluble Threshold Limit Concentration (STLC) or Total Threshold Limit Concentration (TTLC). The STLC for lead is 5.0 parts per million (ppm) and the TTLC for lead is 1,000 ppm lead. If either of these values are exceeded, the lead related waste will need to be further characterized by the Toxicity Characteristic

Leaching Procedure (TCLP) in accordance with 40 CFR 261 and possibly other tests prior to disposal as a hazardous waste. Waste testing for proper disposal is the responsibility of the Contractor.

25. Negative Pressure Enclosure (NPE) – An enclosed or contained area of any configuration constructed of polyethylene sheeting with a minimum of four (4) air changes per hour and a negative pressure of -0.022 inches of water as compared to surrounding areas outside the enclosure. NPE must be maintained until post abatement sampling.
26. Non-Friable Asbestos Material – Material that contains asbestos in which the fibers have been locked in by a bonding agent, coating binder, or other material so that the asbestos is well bound and will not release fibers in excess of the asbestos control limit during any appropriate use, handling, demolition, storage, transportation, processing, or disposal.
27. Non-hazardous Asbestos Waste – Wastes which are non-friable and/or are below one percent asbestos by weight as determined by objective testing. These wastes require OSHA Asbestos Hazard warning labels and disposal at landfills that accept such asbestos wastes.
28. Observation Service – Environmental Consultant hired to conduct compliance observation and air monitoring services on behalf of the Owner. Sometimes referred to as the Owner's Observation Service.
29. Owner – The San Mateo Foster City School District and any of its designated representatives for this project.
30. Owner's Representative – Representative(s) the District (Owner) has assigned to manage, oversee, and inspect this project. This may include an architectural and/or construction management consultant hired by the Owner to oversee the project.
31. Polychlorinated Biphenyl (PCB) – PCB's are any chemical substances consisting of the biphenyl molecule chlorinated to varying degrees or any combination of such molecules. PCBs have had a wide variety of uses in the past including dielectric fluids in capacitors. PCBs are clear to yellow oily substances which are toxic to the liver and reproductive system. PCBs are also suspect human carcinogens.
32. PCB Ballast – An FLB that is known or suspected to contain PCBs. All FLBs must be considered PCB ballasts unless they are:
    a. Labeled or marked "No PCB" by the manufacturer.
    b. Manufactured in 1979 or later as indicated and verified on a date stamp or code, located on the ballast.
    c. Labeled as "Electronic Ballasts" by the manufacturer.
    d. General Electric HDF Ballasts manufactured from 1977 to 1978 and which have a "W" added to their catalogue number on the label of the ballast.
33. Removal – Procedures necessary to remove hazardous materials such as, but not limited to, asbestos or lead from designated areas and to

dispose of these materials at an acceptable properly permitted waste disposal site.

34. Surfactant – A chemical wetting agent added to water to improve penetration.
35. Universal Waste – Certain common designated hazardous wastes that are required to be handled and disposed of or recycled in accordance with special rules. Includes fluorescent light tubes, HID lamps, sodium vapor lamps, mercury switches, mercury thermostats, NiCad, Silver, & Mercury & other batteries (often used in building alarms and emergency systems), and other items.
36. Visually Clean – Free of visible dust, paint chips, dirt, debris, or films removable by vacuuming or wet cleaning methods specified. For outside soil or ground cover areas, visually clean shall mean free of construction or paint debris, chips or dust distinguishable from the initial soil or ground conditions.
37. Waste Generator Label – Waste Generator label shall include the Generator's Name, ID Number, Address, and Waste Manifest Number.
38. Wet Cleaning – The process of eliminating asbestos or lead contamination from building surfaces and objects by using cloths, mops, or other cleaning tools that have been dampened with water or water/ detergent solution, and by afterwards disposing of these cleaning tools and materials as contaminated waste.
39. Work Area – Designated rooms, spaces, or areas of the project in which hazardous material removal actions are to be undertaken or which may become contaminated as a result of such removal actions during the process and prior to final clean-up and decontamination. A contained Work Area is a Work Area that has been sealed and equipped with a Decontamination Enclosure System. Also referred to as a "Regulated Area."
40. Worker Decontamination Enclosure System (Worker Decon) – That portion of a Decontamination Enclosure System designed for controlled passage of workers, and other personnel and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room.

1.5. SUBMITTALS

A. General:

1. Requirements are as set forth in the General Conditions documents (001 000 to 019 9999) that are prepared by aedis architects for items required to be submitted under this section.
2. Submittals that are incomplete, disorganized, unreadable, or not project specific will be rejected.

B. Pre-Start Submittal-Part A; Submit and obtain approval prior to starting on-site set-up for asbestos removal work. Submit the following:

1. Licensing and Registration for Contractor or Subcontractor responsible for removal of hazardous materials. Submit copies of current and valid:
   a. The Contractor's license and Contractor's asbestos certificate issued by the California State Contractor's Licensing Board (CSLB);
   b. Registration for Asbestos-Related Work from the Division of Occupational Safety and Health in accordance with CCR, Title 8, Article 2.5 of the California Administrative Code and C-22 Asbestos Abatement Contractor in accordance with CCR, Title 16, Div 8, Article 3.
2. Notifications, Communications, and Postings.
   a. Submit copies of notifications to appropriate government agencies where required, including the following:

      Division of Occupational Safety and Health
      1065 East Hillsdale Blvd., Suite 110
      Foster City, California 94404
      (650) 573– 3812
      Email: DOSHFC@dir.ca.gov
      Notifications shall be in accordance with the Title 8 CCR Section 341.9 for asbestos and Section 1532.1 for lead.

      Bay Area Air Quality Management District (BAAQMD)
      Attn: Asbestos Section
      375 Beale Street, Suite 600
      San Francisco, California 94105
      (415) 749-4900
      Notifications shall be in accordance with the Regulation 11 Rule 2 for Asbestos.
   b. Copies of Government agency correspondence shall be included in the submittals.
3. Respiratory Protection Plan: Submit a written standard operating procedure governing selection, fit-testing, and use of respirators for asbestos and lead removal.
4. Detailed Work Plan: Submit a detailed work plan proposed for use in complying with the requirements of these specifications. The detailed work plan shall include, at a minimum, the following information:
   a. Procedures: Job-specific procedures proposed for completing the scope of work outlined herein including: means of Work Area containment including barriers and other protective measures for

removal at each location; means for provision of decontamination units; removal methods to be employed;

b. Detailed schedule with calendar dates showing all phases of work. Where scheduled start dates have not been confirmed, provide the number of consecutive work days to complete each phase of work.

5. Plan for personnel air monitoring required by law by the Contractor for Worker protection. The Plan shall include, but not be limited to the following:
   a. Personnel Air Monitoring conducted in strict accordance with 8 CCR 1529. Include calibration data for the secondary standard to be used for air sampling pump calibration on-site. This data must be within six (6) months of the projected completion of this project.
   b. Name, address and accreditation and/or certification of laboratory selected by the contractor to analyze personal air samples for workers.
6. Hazardous Waste Transporter. Submit name, address and EPA# for each transporter to be used.
7. Waste Disposal Sites: Submit name location, class, and EPA# for each waste disposal site to be used for asbestos, lead, PCB, and other hazardous wastes for this project.
8. Method of disposal (i.e., landfill or incineration) for PCB ballasts and PCB contaminated materials shall be indicated. List transporter and disposal site(s) and their respective EPA ID number(s).
9. Method of on-site storage and shipping for packaging to keep lighting tubes and lamps intact from removal until their delivery to a recycling facility.
10. Product Data: Manufacturers product data for all items required for complete and proper execution of the work, this includes product data for all items listed under Part 2 - Products. Product data shall include manufacturing product data, specifications, samples and application instructions, material safety data sheet (MSDS), and other pertinent information as necessary.

C. Pre-Start Submittal-Part B; Submit and obtain approval prior to any asbestos and/or lead removal work. Submit the following:
   1. Personnel Qualifications: Personnel documents required per this section shall be organized by individual employee and include the following information:
      a. Personnel Training (asbestos)
         1. Competent Person/Supervisor: Submit a copy of current AHERA asbestos training certificates for the Contractor's

Competent Person and Quality Control Person documenting successful completion of a training course in asbestos abatement project supervision offered by a Cal/OSHA accredited educational institution. Designate by name, the person who will act as the Certified Supervisor/Competent Person and Qualified Person for the project.

2. Workers: Submit a copy of the current asbestos training certificates for the Contractor's asbestos abatement workers documenting successful completion of a training course in asbestos abatement for workers offered by an EPA accredited education institution.
3. For lead abatement or removal work, supervisors and workers shall have appropriate training and CDPH certification documentation. For lead related demolition work, comply with CAL/OSHA training and certification requirements as applicable and submit documentation.

b. Medical Examination: Submit proof that personnel who will be performing asbestos-related work, lead related work, or otherwise wearing respirators shall have had medical examinations within the last 12 months in conformance with Title 8 CCR; Section 1529 asbestos, and furnish the results of each exam in the form of the physician's written opinion or approval with regard to worker fitness to wear a respirator and perform asbestos and lead work as applicable.

c. Respirator fit tests: Submit proof that personnel who will be entering asbestos Work Areas have had a qualitative respiratory fit test performed within 12 months from the scheduled completion date of the project.

2. HEPA Filtration Certifications:

a. Provide third party test certificates for al Differential Pressure Equipment and HEPA Vacuums to be used on this project. Such certificates shall document that each item of equipment has been tested on-site prior to start-up and that the results have demonstrated that each HEPA equipment assembly meets the efficiency requirement for HEPA filtration as an installed system or unit of equipment.

b. All HEPA filtration testing must be conducted by challenging the installed filter system with 0.3 micrometer diameter particles using a dioctyl-phthalate (DOP) particle generator and appropriate aerosol measurement test equipment designed for this purpose. Alternate test methods may be accepted if certified to be equivalent. Test certificate stickers shall be placed on each machine tested and a copy of the testing certification shall be

submitted. The test result, date and time of testing, testing firm, and signature of qualified test technician shall be included on each certification along with equipment identification information.

D. Daily & Other Progress Submittals: Submit the following within 24 hours following the completion of each Work Shift. The Contractor shall submit the following information to the Observation Service.

1. A complete asbestos worker/employee roster for each work shift prior to the commencement of each shift.
2. Work Area entry/exit logs completed for each Work Area and each Work Shift.
3. Worker exposure ("OSHA") sample results for asbestos including eight (8) hour Time Weighted Average (TWA) sampling and 30-minute excursion limit sampling. Sample results must indicate the person sampled, description of work activity, start and stop times, liters per minute, total volume and laboratory result expressed as an eight-hour TWA or excursion limit sample.
4. Waste Manifests:
    a. Each time hazardous waste (asbestos, lead, PCB, etc) is picked up from the site the Contractor is responsible for preparing an accurate hazardous waste manifest, presenting the manifest to the Owner's Representative for review and signature, and submitting the generator and DTSC copies to the Owner's Representative.
    b. Each time a non-hazardous asbestos waste is shipped, the Contractor shall submit the non-hazardous shipping manifests to the Owner's Representative for review and signature and provide the Owner's Representative a signed copy.
    c. All asbestos and other hazardous material waste manifests are to be reviewed and signed by an Owner Representative.
    d. All materials shipped for recycling (lighting tubes, mercury, etc.) shall be accompanied by a manifest prepared by the Contractor, review and signed by the Owner's Representative. A copy of the signed manifest shall be provided to the Owner Representative.
    e. Land Disposal Restrictions: Submit a copy of the completed Notice and Certification with each Hazardous Waste Manifest for wastes intended for land disposal pursuant to Section 67740 of 22 CCR) signed by the co-generator to the Owner's Representative.
5. Land Disposal Restrictions: Submit a copy of the completed Notice and Certification with each Hazardous Waste Manifest for wastes intended for land disposal pursuant to Section 67740 of 22 CCR) signed by the co-

generator to the San Mateo Foster City School District's Construction Supervisor.

6. Special Reports: (Submit to the Owner's Observation Service within 24 hours of occurrence.)
   a. The Contractor shall complete a report of unusual events when an event of unusual significance occurs at the site including loss of negative pressure, power failures, breeches in containment, etc. This report shall include the date and time of the event, activities leading up to the event, a detailed account of the event, persons involved, corrective action taken, and action taken to prevent a reoccurrence.
   b. The Contractor shall submit a detailed accident report in the event of an accident or injury at the site. This report shall include the date and time of the injured, persons involved, cause of injury, detailed description of loss or injury, response actions taken and action taken to prevent a reoccurrence.

E. Close-Out Submittals:
   1. Within 10 days of completion of all hazardous material removal work, submit to the Owner's Observation Service:
      a. One copy of all outstanding daily submittals;
      b. One copy of each hazardous waste manifest and one copy of each non-hazardous asbestos waste manifest;
      c. One copy of Work Area entry/exit logs completed for each Work Area and each Work Shift.

1.6. CERTIFICATIONS

A. Inspection Certifications (Asbestos)
   1. Pre-Abatement Visual Inspection Forms and Final Visual Inspection and Post Abatement Certification Forms will be provided at the pre-construction start up meeting by the Observation Service.
   2. Pre-Abatement Visual Inspection: Upon inspection and approval of each Work Area by the Contractor's Certified Supervisor, a Pre-Visual Inspection Form shall be signed and submitted to the Observation Service for review and approval. The approved inspection form shall be considered notice to proceed with abatement operations within the Work Area.
   3. Final Visual Inspection and Post Abatement Certification: Upon completion of asbestos abatement and before encapsulation in each Work Area, the Contractor's Certified Supervisor shall thoroughly inspect the Work Area for completeness of work. The Contractor's Competent Person shall sign and submit a completed Final Visual Inspection and

Post Abatement Certification Form for review and approval by the Observation Service. The approved inspection form shall be considered notice to proceed with encapsulation.

1.7. POSTINGS

A. Before the commencement of any asbestos related work at the site, Cal/OSHA warning signs in and around the Work Area to comply with Cal/OSHA regulations.

B. Copies of the Contractor's SCLB license, Cal/OSHA registration certificate, temporary job-site notifications, pre-start LBP notifications to Cal/OSHA, local agency notifications, emergency exit diagram, emergency phone numbers, Cal/OSHA poster on worker's rights, and worker's compensation poster shall be posted proximate to the entrance to each Work Area.

C. The Contractor shall have at least one copy of the Contract Documents including project plans and specifications, and a current copy of 8 CCR 1529 & 1532.1.

PART 2. PRODUCTS

2.1. GENERAL

A. Submit manufacturer's product data for all items to be used including the items listed below.

B. All materials to be used on the project shall be new in original packages, containers, or bundles bearing the name of the manufacturer and the brand name. Used materials will not be permitted.

2.2. PROTECTIVE COVERING (PLASTIC SHEETING)

A. For standard containment and critical barrier usage: Fire Retardant Polyethylene sheets six (6) mil and four (4) mil in sizes to minimize frequency of joints, approved and listed by the State Fire Marshall per Section 13121 and/or 13144.1 of the California Health and Safety Code.

2.3. TAPE, ADHESIVE, SEALANTS

A. Duct tape two inches or wider, or equivalent, capable of sealing joints of adjacent sheets of plastic sheets and for attachment of plastic sheets to finished

or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions.

B. Spray adhesives for sealing polyethylene to polyethylene shall contain no methylene chloride compounds.

2.4. PROTECTIVE PACKAGING

A. Appropriately labeled six (6) mil sealable polyethylene bags as a minimum.

B. Appropriately labeled, impermeable drum containers with sealable lids.

C. Bilingual labels (English and Spanish) on waste packages, contaminated material packages and other containers shall be in accordance with applicable Cal/EPA and Cal/OSHA standards.

2.5 WARNING LABELS AND SIGNS

A. All warning signs and labels must meet all applicable regulatory requirements for wording, size of lettering, and use of language, pictographs, and graphics to effectively convey the warning. Additional requirements apply for hazardous waste containers and shipments for transportation to disposal sites.

B. Lead Caution Signs must include phrase "**WARNING, LEAD WORK AREA, POISON, NO SMOKING OR EATING**" in minimum two-inch high letters. These shall be posted at each approach to each lead paint stabilization/surface preparation and manual demolition Work Area.

C. Cal/OSHA Lead Warning Posters: "**DANGER, LEAD WORK AREA, MAY DAMAGE FERTILITY OR THE UNBORN CHILD, CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM, DO NOT EAT, DRINK OR SMOKE IN THIS AREA**" shall be posted at the entrance to each LBP stabilization/surface preparation and manual demolition Work Area.

D. Asbestos Warning signs for Regulated Areas must contain the following wording:

DANGER
ASBESTOS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
WEAR RESPIRATORY PROTECTION AND
PROTECTIVE CLOTHING IN THIS AREA
AUTHORIZED PERSONNEL ONLY

E. Labels for packaging and containers containing ACM waste must contain the following wording:

DANGER
CONTAINS ASBESTOS FIBERS MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

2.6. SURFACTANT

A. Surfactant, or wetting agent, for amending water will be 50 percent polyethylene ether and 50 percent polyethylene ester, or equivalent, at a concentration of one ounce per five gallons of water.

2.7. VENTILATION EQUIPMENT

A. Provide differential pressure equipment in areas as shown on Contractor's work plans. High-efficiency particulate absolute (HEPA) filtration systems shall be equipped with filtration equipment in compliance with ANSI Z9.2, local exhaust ventilation. No air movement system or air filtering equipment shall discharge unfiltered air outside the work area. Differential pressure within the work area shall be maintained at negative 0.022 inches of water during abatement.

B. Provide air filtration equipment with HEPA filtration system to cleanse air of particulate matter during abatement. Replace HEPA filters when filters become clogged with particulate matter. Provide enough air filtration devices within the work area to maintain fiber levels within the protection factors of workers' respirators.

2.8. PERSONAL PROTECTIVE EQUIPMENT

A. Personal Protective Equipment shall comply with the requirements of 29 CFR 1910, Subpart 1 and 8CCR 1514, 1515, 1516, and 1517.

B. Work clothes shall consist of impervious disposable, full-body coveralls, head covers, boots, rubber gloves, and work boots (or sneakers). Sleeves at wrists and cuffs at ankles shall be secure.

C. Eye protection and hard hats shall be available and worn when required by applicable safety regulations and shall conform to ANSI 87.1 and 89.1.

D. Provide Authorized Visitors with suitable protection clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

2.9. RESPIRATORS

A. Provide all workers, foremen, superintendents, authorized visitors, and inspectors' personally-issued and marked, clean and sanitized respiratory equipment approved by NIOSH. When respirators with disposable filters are employed, provide sufficient filters for replacement as recommended by manufacturers or this specification. Selection of respirators shall be made according to the guidance of 8 CCR 1529 and 1532.1.

B. The minimum respiratory protection required for this project is a half mask respirator as long as the airborne levels do not exceed one tenth of the applicable PEL established by regulation.

PART 3. EXECUTION

3.1. PROJECT PROCEDURES

A. Prior to the start of on-site work, the Contractor shall hold an on-site start-up safety meeting for all of contractor and facility employees that addresses at least the following issues specific for the project.
   1. Safety and health hazards;
   2. Procedures and work practices;
   3. Respiratory protection and instruction; and
   4. Special conditions and/or work requirements.

B. Worker Protection Procedures
   1. Provide Authorized Visitors with suitable protective clothing, respirators, headgear, eye protection, and footwear whenever they are required to enter the Work Area. All provided equipment shall be new or in good working condition and clean, sanitized, and inspected by a competent person since last use.
   2. Each Worker and Authorized Visitor shall, upon entering the job site: remove street clothes in the clean-change rooms and put on a respirator and clean protective clothing before entering the Work Area.
   3. Workers shall, each time they leave the Work Area, remove gross contamination from protective clothing before leaving the Work Area, proceed to the Equipment Room or decontamination area and remove protective clothing except respirators; still wearing the respirator, proceed to the showers or wash area, clean the outside of the respirator

with soap and water while showering; remove the respirator, and thoroughly shampoo and wash themselves.

4. Following washing and/or showering and drying off, each Worker shall proceed directly to the clean change room/area and dress in clean clothes at the end of each day's work, or before eating, smoking, or drinking. Before re-entering the Work Area from the clean change room, each Worker and Authorized Visitor shall put on a clean respirator and shall dress in clean protective clothing.
5. Contaminated work footwear shall be stored in the Decontamination Area when not in use in the Work Area. Upon completion of abatement, dispose of footwear as contaminated waste.
6. Workers removing waste containers from the Equipment Decontamination Enclosure shall enter the Holding Area from outside wearing a respirator and dressed in clean disposable coveralls. No Worker shall use this system as a means to leave or enter the Wash Room or the Work Area.
7. Workers shall not eat, drink, smoke, or chew gum or tobacco while in the Work Area.
8. Workers and Authorized Visitors with beards shall not enter the Work Area unless equipped with respirators approved for use with beards.

3.2. COORDINATION REQUIREMENTS

A. Coordinate with the Observation Service and Owner's Representative the locations of the Worker Decontamination Unit, waste load out, staging areas, and emergency egress exits.

B. Coordinate timing of waste bag-out and waste shipping activities with the Owner's Representative and Observation Service. All asbestos and hazardous waste manifests shall be signed by the owner or designated owners's representative. The Contractor shall be aware that these activities may need to take place during times when it is most convenient to the facility.

C. Coordinate and provide to the Observation Service the required number of GFCI protected energized 110 Volt AC power outlets needed inside and outside each Work Area. These outlets shall be solely dedicated for the use of the Owner's Observation Service.

3.3. PREPARATION

A. General Preparation Requirements for All Interior Work Areas. Not each area will require abatement of all materials. Each school differs. Refer to project plans/ drawings.

1. Prior to Work Area set up and preparation, remove all movable objects that will not disturb existing ACM or asbestos contaminated materials in the process.
2. Provide temporary power and lighting and ensure safe installation of temporary power sources and equipment per applicable electrical code requirements and provide ground-fault interrupter circuits as power source for electrical equipment.
3. Clean and decontaminate all accessible areas above ceiling prior to hazardous material remediation, demolition, and other construction activities.
4. Install a Decontamination Enclosure System or equivalent prefabricated portable decontamination unit(s) as approved. This system will be the primary entrance and exit to the Work Area.
5. Seal off all other accesses to the Work Area with hard barriers and polyethylene sheeting sealed with tape.
6. Install Differential Pressure Equipment for all Class I and Class II Asbestos Removal Operations in accordance with the requirements herein. Establish a negative pressure of -0.022 inches water or greater inside the Work Area containment with respect to the outside and non-involved building areas.
7. Install an adequate number of HEPA Units to obtain the required negative pressure continuously and achieve at least four (4) complete air changes per hour inside the containment.
8. Conduct any required non-ACM selective demolition including demolition to reveal concealed ACM prior to starting ACM removal work to ensure such areas are prepared with additional critical barriers to ensure negative pressure can be maintained at a negative (-) 0.022 inches or better during asbestos removal.
9. Pre-clean fixed objects and surfaces within the proposed Work Areas, using HEPA filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclose with protective barriers. Protective barriers will consist of plastic sheeting and plywood as appropriate.
10. Seal all remaining openings, including but limited to ducts, grills, diffusers, and any other penetrations of the Work Areas, with two (2) layers of six (6) mil polyethylene sheeting sealed with tape.
11. Seal all joints of conduit, junction boxes, and ductwork with duct tape and plastic sheeting. Cover and protect during abatement.

12. Install Viewing Ports of size, quantity, and location to meet local AQMD/ APCD requirements. Where no requirements are specified, install an adequate number of windows to view the entire removal Work Areas as feasible.
13. Establish and maintain emergency and fire exits from each Work Area.

B. Decontamination Enclosure System (General)
1. Construct or establish Decontamination Enclosure System or area contiguous to the work area for proper decontamination of worker as they exit a Regulated Area or containment system.
2. Provide separate designated areas or chambers for: removal of contaminated clothing prior to exiting the contaminated area; for washing or showering (as appropriate); and for donning clean protective clothing and equipment prior to re-entry. The decontamination system shall comply with applicable regulation taking into account the Cal/ OSHA asbestos removal work class as well as site conditions.
3. In the event that the Decontamination Enclosure System is not contiguous with the Work Area, there must be at least an established area for removing and properly disposing of contaminated clothing and equipment, minimum amenities for washing hands, respirator and face, to allow exiting the work areas prior to going to a remote decontamination enclosure on site. Under these conditions, double suit procedures are required.

C. Mini Containments
1. The use of mini-containments shall be permitted only if entire removal can be completely contained by the enclosure or as needed to isolate the HVAC, Plumbing, Electrical or other system as part of localized preparatory activities.
2. Mini-containments shall shall be constructed with rigid framing and shall have a minimum of one layer of 6 mil polyethylene sheeting sealed with tape.
3. The mini-containment enclosure shall have a decontamination enclosure system in accordance with the requirements herein or as approved by the Observation Service.
4. The The mini-containment enclosure shall be placed under negative pressure for the duration of work in the containment until final air clearance is obtained.

D. Maintenance of Enclosure Systems
1. Ensure that all barriers intact and are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.

2. Visually inspect enclosures at the beginning of each work period and periodically throughout each shift. Inspection shall include, but not be limited to, the protective critical barriers and the worker Decon unit barriers, warning signage, and Work Area barriers or barricades.
3. Use smoke test methods to evaluate effectiveness of barriers prior to implementing asbestos removal and when directed by the Observation Service.
4. Ensure all negative pressure containment enclosures for regulated asbestos-containing material removal meet all BAAQMD requirements at all times from start up through completion and post abatement sampling.

E. Asbestos, lead, and hazardous material removal work shall not commence until:
1. Submittals as required herein have been reviewed and approved in writing by the Observation Service;
2. Arrangements have been made for secure temporary storage of asbestos wastes and other hazardous wastes on-site and for disposal of such wastes at an acceptable permitted disposal sites;
3. Work Areas and Decontamination Enclosure Systems (or equivalent) have been installed and approved and all parts of the building or facility required to remain in use are effectively segregated and isolated;
4. Tools, equipment, and secure material waste receptors are on hand;
5. Arrangements have been made for buildings' and Work Area security during removal operations including periods when no work is in progress such as off hours, weekends, and holidays; and
6. Differential pressure systems, as required for interior asbestos removal, are installed, operating, and recording properly.

3.4. CLASS I & II ASBESTOS REMOVAL OPERATIONS

A. General Requirements. Not each area will require abatement of all materials. Each school differs. Refer to project plans/drawings.
1. Class I Asbestos Work is defined as removal of ACM that is a surfacing material or thermal system insulation. Class II Asbestos Work is defined as the removal of ACM that is not a surfacing material or thermal system insulation.
2. The Class I Asbestos Work of this project includes but is not limited to removal of: non-friable ACM and PACM if made friable by removal process.
3. The Class II Asbestos Work means activities involving removal of ACM which is not thermal system insulation or surfacing materials. For this project materials include, but is not limited to removal of the following

materials: wallboard, floor tile, roofing and siding shingles, and construction mastics.

B. Class I & II Asbestos Work Preparation Requirements

1. All interior work shall be conducted within negative pressure containments with contiguous decontamination units for worker enter & exit.
2. Negative pressure shall be maintained at -0.025 inches of differential pressure (water column) or higher compared to the exterior pressure.
3. All negative pressure exhaust units shall be HEPA filtered and exhausted to the building exterior. All HEPA exhaust units shall be DOP (or equivalent) tested on-site and certified to meet HEPA efficiency standards.
4. Interior walls and other non-movable objects shall be covered with at least one layer of four (4) mil plastic sheeting. Wall covering may be reduced to 4' splash guards in Work Areas where glove bags or "cut, wrap, and remove" methods are the sole method used for pipe and fitting insulation removal.
5. Floor areas shall be covered with two (2) layers of six (6) mil plastic sheeting unless glove bags and/or cut, wrap and remove methods for pipe insulation are used. Where glove bags and cut & wrap methods are used, six (6) mil plastic drop sheets extending at least 5 feet on each side of pipe at minimum are required.

C. General Removal Procedures

1. Spray asbestos materials with amended water, using only spray equipment capable of dispensing a fine mist application. Apply amended water sufficiently to wet material surfaces without causing excess dripping or pooling. Spray materials and Work Area repeatedly during work process to control airborne fiber levels.
2. Place asbestos waste in clear asbestos-labeled plastic bags or lined drums. Plastic bags must be sealed using the "goose neck" technique by twisting the neck of the bag, bending it over and taping it with multiple wraps of tape. Clean external surfaces of containers thoroughly prior to setting down on a clean plastic drop cloth.
3. Move waste containers to washroom or wash area, wet clean each container thoroughly, and move to holding area pending removal to uncontaminated areas.
4. After completion of removal work, equipment surfaces from which asbestos has been removed shall be wet cleaned and/or wet sponged by an equivalent method to remove all visible material and residue. During this work, the surfaces being cleaned shall be kept damp. Do not allow water to pond at any time.

5. Clean all surfaces of the Work Area including remaining sheeting by use of damp cleaning and/or HEPA filtered vacuum.
6. Proceed with final decontamination of the Work Area.

D. Glove bag Technique
1. Removal of Class I and II asbestos-containing materials from piping may be accomplished using approved glove bag techniques in specified areas. In all cases, removal shall be conducted in secondary negative pressure containment or mini-containment.
2. After installation of glove bag, smoke test the glove bag to verify that it is air tight.
3. Thoroughly wet material to be removed with amended water before and during the removal process.
4. Thoroughly wash the inside of the bag, the piping surfaces and the tools upon completion.
5. Encapsulate all surfaces inside the glove bag including the piping and ends of exposed coating material.
6. Evacuate bag with an approved HEPA vacuum; tie off waste area; remove tools from bag; remove bag from pipe, folding inward the sides of the bag; then twist and tape the open end, the wand opening, and the vacuum opening.
7. Place glove bag directly into another six (6) mil sealable labeled plastic waste bag or other appropriate waste container. Seal the outer bag using the "goose neck" technique by twisting the neck of the bag, bending it over and taping it with multiple wraps of tape. Seal container with duct tape.

E. Modified Cut, Wrap, and Remove Technique
1. Removal of pipe insulation may be accomplished using approved Modified Cut, Wrap, and Removal Techniques where piping is to be demolished or abandoned in place unless otherwise noted.
2. Verify the piping being removed scheduled for removal or abandonment in place prior to proceeding.
3. Verify pipe lines have be isolated and drained prior to cutting pipe(s).
4. Use glove bag technique to remove insulation at location of pipe to be cut. Wrap pipe including all insulation being removed with two layers of six (6) mil polyethylene sheeting secured with duct tape.
5. Cut the pipe and remove wrapped pipe with ACM insulation for disposal.

F. Floor Tile Removal
1. Remove wall base, cabinets, and any other components and materials as necessary to expose and access all resilient floor tiles for removal.

2. Thoroughly wet floor tiles with amended water but do not let water pool or pond.
3. Remove tile by prying with scrapers or spud bars taking care to minimize breakage.
4. Place removed tiles in appropriately labeled impervious bags or containers and seal.
5. Do not subject floor tiles to any sanding, grinding, cutting, abrading activities likely to create friable ACM.

G. Flooring Mastics Removal
1. Remove all overlaying non-asbestos carpet and other materials concealing the flooring mastics.
2. Remove all asbestos and/or asbestos mastic contaminated floor tiles prior to initiating mastic removal in the Work Area.
3. Remove all flooring mastics using a suitable mastic solvent along with manual scraping and/or mechanical removal methods as necessary for complete removal.
4. Where removal solvents are used, clean up slurry as the mastic is removed and place in properly labeled containers for disposal as a hazardous waste.
5. As an alternative to solvent removal, use bead blast systems for removal is acceptable if permitted by the AQMD and any required variance or waiver is obtained in advance by the Contractor. Likewise, removal by high pressure water systems is allowable if water is fully contained and removal is complete. All floor mastic removal operations must be conducted as a Class I removal operations unless removal is limited to manual scraping methods.
6. Regardless of removal method used, all three dimensional mastic residues must be removed and extent of removal must sufficient to allow for recycling of concrete foundations and decks.

H. Mastic behind chalkboard/ACT
1. Removal of non-friable shall be conducted using wet methods using hand
scrapers and cutting tools to remove the ACM mastic from the non-ACM substrate materials.
2. Bag debris as it is removed, HEPA vacuum and wet wipe substrate to remain.
3. Dispose of non-friable ACM as non-hazardous asbestos waste and transport to waste disposal site with a non-hazardous asbestos manifest signed by the Owner or Owner's representative.

I. Texture coat, wallboard (sheetrock) and joint tape compound

1. Mist the gypsum board/joint tape compound/texture continuously with amended.
   water during removal.
2. Remove gypsum board in larger sections or pieces where possible. Use pry bars, utility knives, claw hammers and other appropriate tools to loosen and remove wallboard from framing. Remove all wallboard fasteners.
3. Place removed gypsum board/joint tape compound/texture in impervious containers with asbestos warning labels as it is removed. Wall insulation shall be placed in same bags as asbestos contaminated.
4. Complete Work Area clean-up including: all remaining nails; framing; electrical junction boxes, outlets, wiring, and conduit; plumbing fixtures, piping, and hanger, and all other surfaces in the work area.

J. Window Glazing/putty
   1. Establish a regulated area with barrier tape, asbestos warning signs, and decontamination area surrounding the non-friable sealants and caulking to be removed.
   2. Removal of non-friable shall be conducted using wet methods using hand scrapers and cutting tools to remove the ACM mastic/sealant from the non-ACM substrate materials.
   3. Bag debris as it is removed, HEPA vacuum and wet wipe substrate to remain.
   4. Dispose of non-friable ACM as non-hazardous asbestos waste and transport to waste disposal site with a non-hazardous asbestos manifest signed by the Owner or Owner's representative.

K. Exterior Stucco wall
   1. Establish a regulated area with barrier tape, asbestos warning signs, and decontamination area surrounding the non-friable stucco to be removed.
   2. Removal of non-friable shall be conducted using wet methods using manual demolition.
   3. Bag debris as it is removed, HEPA vacuum and wet wipe substrate to remain.
   4. Dispose of non-friable ACM as non-hazardous asbestos waste and transport to waste disposal site with a non-hazardous asbestos manifest signed by the Owner or Owner's representative.

L. Roofing Materials (shingles and mastic)
   1. Establish a regulated area with barrier tape, asbestos warning signs, and decontamination area surrounding the non-friable roofing mastic or penetration mastic to be removed.

2. Removal of non-friable roofing shall be conducted using wet methods and appropriate cutting tools. Remove roofing in small sections and place in waste bags or containers.
3. If a chute is used to remove ACM roofing waste from the roof, it must be totally enclosed and air tight to and including the bin it is connected to.
4. Removal of roofing flashing and sealants shall be conducted using hand scrapers and cutting tools to remove the ACM mastic/sealant from the non-ACM substrate materials.
5. Bag debris as it is removed, HEPA vacuum and wet wipe substrate to remain.
6. Dispose of non-friable ACM as non-hazardous asbestos waste and transport to waste disposal site with a non-hazardous asbestos manifest signed by the State or State's representative.

M. Cutting, Tapping, Demolition of Asbestos Cement (AC) Piping
1. Carefully machine excavate to exposed AC pipe as necessary. Once exposed, hand excavate areas where cuts, breaks or taps are to be made to prevent pipe breakage.
2. Establish a regulated Work Area surrounding the location of pipe cutting and/or modification. At minimum, use barrier tape and signage.
3. Place plastic sheeting under the area to be cut or altered to catch any resulting chips or dust debris.
4. The methods and procedures used to cut or modify pipe shall not cause the pipe to shatter, crumble, be pulverized or release airborne asbestos dust.
5. Keep the AC pipe wet at all times during cutting or tapping work.
6. Use only industry recommended practices for cutting, splicing and tapping AC pipe. At minimum:
    a. Cutting is to be by special carbide tipped blade cutters that are frame adjustable to the circumference of the pipe and that have self –tracking rollers or "snap cutters" that operate with cutting wheels on a chain wrapper around the pipe barrel.
    b. Machining, if necessary, shall be conducted wet using manual field lathe or manual rasp.
    c. Tapping, whether under pressure or on non-pressured lines, shall be conducted wet and include provisions for internal pipe cleaning by flushing, purging or other means to prevent asbestos dust and chips from entering the drinking water system.
    d. Do not blow out with compressed air or dry sweep. Do not vacuum dust and debris without a HEPA filtered vacuum.
    e. All cutting, machining, tapping procedures must be conducted wet and all resulting AC pipe dust and debris must be cleaned up and disposed of as asbestos contaminated waste.

f. Piping sections to be demolished shall be carefully cut into manageable sections, wrapped and sealed and plastic sheeting, and carefully placed in a lined asbestos waste disposal bin.

g. All intact AC pipe waste and debris shall be disposed of as non-hazardous asbestos waste under a non-hazardous asbestos manifest at a permitted asbestos landfill.

3.5. FINAL ASBESTOS DECONTAMINATION AND TESTING

A. Previous Work: During completion of the interior asbestos removal and visible debris clean up work specified, the first cleaning of all exposed equipment and building surfaces should be completed. Likewise for exterior Work Areas, all visible debris and removed materials must be bagged up for disposal.

B. Clean all surfaces within the Work Area by wet wiping and HEPA vacuuming.

C. Clean any remaining materials and debris exposed by the plastic barrier removal. Final independent layer of polyethylene sheeting and all isolation barriers, vents, grilles, diffusers, etc., shall remain in place.

D. At the completion of this cleaning phase, the Work Area shall be free of all unnecessary equipment/materials and waste containers.

E. The Contractor's Competent Person/Supervisor shall perform a complete visual inspection of the Work Area under adequate lighting to ensure that the Work Area is free of visible asbestos material, debris, and dust.

F. The Contractor's Competent Person/Supervisor shall ensure that additional cleaning is completed if the area is not acceptably clean. The Contractor shall submit a completed and signed Final Visual Certification Form along with a request for a final visual inspection by the Observation Service once the Competent Person/Supervisor concludes that the area is acceptable for final visual inspection.

G. After final visual inspection of the Work Area shall be conducted by the Observation Service. The standard for visual acceptance shall be no visible dust, debris or three dimensional suspect ACM residues within the Work Area. After written notification to proceed from the Observation Service, encapsulate all surfaces within the Work Area.

H. For interior work areas, the Observation Service will conduct post abatement air testing to evaluate the final acceptability of the Work Area for release to unprotected personnel and the environment. Each interior containment will be evaluated by collection and analysis of a minimum of three and up to five (5)

phase contract microscopy (PCM) air samples collected by the Observation Services and analyzed in accordance with NIOSH Method 7400 or equivalent. The standard for acceptance shall be that each sample result for the containment shall be less than 0.010 fibers per cubic centimeter of air (f/cc). The Contractor shall allow for up to 24 hours for collection of post abatement air samples to allow Work Area and encapsulants drying and up to another 24 hours for air test results.

I. The Contractor shall re-clean and re-encapsulate all surfaces within any Work Area Containment that fails post abatement air testing at no additional cost to the Owner. Likewise, the Contractor is responsible for all costs associated with failed visual inspections including additional cleaning and inspection. All costs associated with failed inspections shall be borne by the Contractor.

J. After written notification from the Observation Service in the form of a fully completed Final Visual Inspection/Post Abatement Certification Form accepting decontamination of the Work Area as acceptable, proceed with removal of critical barriers.

K. For exterior non-friable ACM removals such as sealants, mastics, Transite® pipe and/or similar materials, following abatement inspection will consist of a visual inspection by the Observation Service. If all ACM materials have been removed and the Work Area is free of visible ACM material, dust and debris, the removal will be considered complete.

3.6. LOOSE LEAD-BASED PAINT SURFACE PREPARATION

A. Prepare the exterior Work Area with plastic flooring and another plastic drop sheet, place lead caution tape demarkation around removal area.

B. Wet the surfaces with loose LBP by misting lightly with water.

C. Wet scrape loose LBP until remaining paint is intact.

D. Clean up removed LBP chips, debris and dust using HEPA vacuuming and wet wiping. Containerize all lead waste including vacuum bags for disposal as hazardous lead waste. Label and place container into secure storage pending waste characterization testing and disposal.

E. Clean up plastic sheeting and place in separate lead related waste bags or drums along with protective clothing and related potentially contaminated materials.

F. Conduct final clean up and all necessary waste profiling, evaluation, and testing of lead-related waste as specified herein.

3.7. LEAD WASTE CLEAN UP AND WASTE EVALUATION

A. Clean up paint chips and debris using wet cleaning methods and HEPA vacuuming. All surfaces shall be free of all visible paint chips, dust and debris. Place all paint chips in a labeled waste bag or container.

B. Place all contaminated cleaning materials, disposal personal protective equipment (PPE) and contaminated plastic in separate waste bags. The Contractor shall assume all lead-related waste is RCRA hazardous waste and shall conduct required waste testing as necessary for disposal at a permitted waste disposal site.

C. All waste streams and waste categories listed below shall be considered lead hazardous waste until proven otherwise through testing. All testing of demolition waste wastes is the responsibility of the Contractor. The Contractor shall be responsible for segregating suspect lead hazardous waste based on potential for exhibiting hazardous waste characteristics. Lead-related wastes are to be segregated into the below listed categories at a minimum.
   1. Category I: LBP paint chips, vacuum bags, used cleaning materials. These materials are typically hazardous wastes.
   2. Category II: Plastic sheeting and tape, disposable clothing, and equipment. These materials should be non-hazardous if properly cleaned and decontaminated. However, these items are to be considered hazardous subject to testing.

D. Based on the testing protocols, any waste greater than or equal to five (5) ppm lead using STLC or TCLP tests or any waste greater than or equal to 1,000 ppm lead using the TTLC test shall be considered a California hazardous waste.

E. When the TTLC test result is less than 50 ppm lead, no further testing is required for that waste category sampled unless the waste stream or waste generating process changes.

3.8. LEAD- RELATED DEMOLITION

A. General: All painted or coated surfaces are known or presumed to contain lead subject to worker protection and environmental regulations. Refer to related documents identified herein for additional information including components with LBP requiring agency notification.

B. Conduct selective as well as general building and structural demolition in a manner that does not result in site contamination above background levels.
   1. Remove any loose, peeling, or flaking paint before demolition in accordance with this section.
   2. Clean up any demolition-related lead wastes including any resulting paint chips and debris.
   3. Do not let any wetting agents or water enter soil or storm drain.

C. The Contractor shall evaluate each demolition debris waste stream and ensure proper disposal of all generated wastes. All waste profiling and testing required by the disposal site is the responsibility of the Contractor.

3.9. FLUORESCENT LIGHTING & BALLASTS

A. Remove fluorescent lighting tubes from fixtures in and on buildings to be renovation/demolished, in accordance with project documents.
   1. Carefully place all tubes in storage or shipping containers so the risk of breakage is minimized.
   2. Place containerized light tubes in a safe and secure storage area pending shipping to the recycler or reuse.

B. Remove presumed PCB ballasts from all fluorescent lighting fixtures presumed PCB transformers in buildings to be renovation/demolished.
   1. Any ballast not marked "PCB Free" or "No PCB" shall be lab packed with adsorbent in a waste drum for disposal as hazardous PCB ballast waste.
   2. Ballasts that are clearly marked "PCB Free" shall be set aside for verification inspection by the Observation Service. All ballasts verified to be PCB free may be disposed of as ordinary construction waste or recycled.
   3. Ensure PCB ballast drum is properly labeled for PCB wastes and shipping.
   4. Any electrical transformer that cannot be determined to be PCB free by labeling, date of manufacture, or manufacturer's information shall be disposed of as a PCB item.

3.10. UNIVERSAL WASTES AND OTHER HAZARDOUS WASTES

A. Refrigerators, air conditioners, and other equipment with refrigerant or coolant gases shall be assumed to contain chlorofluorocarbon (CFC) gases and shall have those gases removed by appropriately certified mechanics or technicians and recycled according to state and federal regulation.

B. Carefully segregate waste by type and lab pack for disposal in impervious labeled waste containers.

C. Dispose of or recycle each type of waste in accordance with applicable regulation at permitted facilities. Maintain all shipping and disposal record and provide copies to Owner's Representative and the Observation Service.

3.11. PACKAGING & LABELING

A. All asbestos wastes shall be adequately wetted prior to packaging.

B. Place asbestos waste in six (6) mil labeled asbestos waste bags or approved equivalent containers.

C. Goose neck and seal each bag and place in a second clean-labeled bag, drum or impervious container.

D. Decontaminate waste bags and containers prior to removing from regulated or contained area.

E. Label all asbestos waste bags or containers with OSHA warning label: "DANGER CONTAINS ASBESTOS FIBERS MAY CAUSE CANCER. CAUSES DAMAGE TO LUNGS. DO NOT BREATHE DUST. AVOID CREATING DUST" and other information as required by regulation.

F. All other hazardous lead, PCB, and universal wastes shall be properly labeled and containerized in leak tight containers.

3.12. WASTE DISPOSAL

A. Waste Transportation: Submit the method of transport of hazardous asbestos wastes including name, address, EPA ID number, and telephone number of transporter.

B. Waste Disposal Site(s): Submit for approval the name, class, address, EPA ID number, and telephone number of waste disposal site(s) to be utilized for:
   1. Disposal of non-hazardous non-friable asbestos wastes;
   2. Disposal of hazardous lead, PCB, and Mercury wastes; and
   3. Disposal of any other universal wastes.

C. Waste Manifest: Submit for approval at the Pre-construction meeting a filled out Waste Manifest form. For Waste Manifest purposes, the Generator is the facility of the subject work.

1. Obtain necessary information including generator EPA number for this purpose from the Owner or Owner's Representative prior to start up of any abatement or demolition.
2. After removal and packaging waste for shipment, provide a copy of the Waste Manifest to the Observation Service for each required shipment.
3. Use the uniform hazardous waste manifest for hazardous wastes including lead, PCBs, universal wastes and other hazardous wastes. Include a properly completed Land Disposal Restriction Notice and Certification form with each manifest submitted for signature by the generator (Owner).
4. Use a non-hazardous wastes manifest for disposal of non-friable asbestos wastes.

D. Each hazardous waste manifest and each non-hazardous asbestos waste manifest shall be prepared for the Owner or Owner's Representative's review and approval prior to shipment.

E. The sealed hazardous waste containers shall be delivered to the Contractor's pre-designated, approved hazardous waste treatment and waste disposal site for burial in accordance with applicable state and federal regulations. Likewise, non-hazardous asbestos waste shall be delivered under manifest to a permitted asbestos waste disposal site.

F. Notify the Owner's facility representative 48 hours in advance of the time when hazardous waste materials of all types and non-hazardous asbestos wastes are to be removed and transported from the site to allow for manifest review and approval.

G. The Contractor shall be responsible for safe handling and transportation of all hazardous waste generated by this Contract to the designated Hazardous Waste Site and shall hold the Owner and the Owner's agents and consultants harmless for claims, damages, losses, and expenses against the Owner, including attorney's fees arising out of our resulting from asbestos and hazardous materials spills on the site or en route to the disposal site.

3.13. AIR MONITORING

A. Area Air Monitoring
1. Throughout the asbestos removal process, area air monitoring may be conducted by the Observation Service to ensure work is done in conformance with the fiber concentration limits of these specifications. Likewise, lead removal work areas may be visually inspected and/or monitored during removal.

2. If results of area air monitoring outside the Work Area are in excess of 0.010 f/cc for asbestos or 50 micrograms per cubic meter of airborne lead per cubic meter of air for lead, the Contractor shall make changes in work procedures to assure compliance with minimum standards. At a minimum, the Contractor shall stop all work and implement additional remedial controls and conduct decontamination as necessary in response to exceeding these limits.
3. Unsatisfactory asbestos results are fiber counts in excess of 0.010 fibers/ cc by PCM Method NIOSH 7400 determined as a TWA outside the Work Area by general air monitoring. All results greater than 0.010 fibers/cc shall be subject to further laboratory analysis by the TEM method at the Contractor's sole expense.

B. The Contractor shall submit a written report to the Owner's Observation Service of the Contractor's personnel exposure monitoring within 48 hours of sample collection. The Contractor shall take all necessary control and protective measures to ensure airborne contaminate levels based on personnel air monitoring results do not exceed the levels recommended for the type of respiratory gear in use.

C. Interior Asbestos Post Abatement Air Sampling. The Owner's Observation Service, upon receipt of the post abatement certification from the Contractor, will take a minimum of one (1,200-2,800) liter air sample(s) "post abatement tests" upon completion of each Work Area. For the purpose of this work, adequate decontamination shall be defined as an air sample showing less than 70 structures/cc by TEM AHERA.

D. Lead Post Abatement Inspections. All LBP Work Areas will be cleared by visual inspection by the San Mateo Foster City School District Observation Service.

3.14. CLOSE-OUT

A. All submittal and punch list items must be complete and provided to the Observation Service. These include daily work-force rosters, work area sign-in/ out sheets, and waste test data and waste manifests.

END OF SECTION

CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT

PROJECT NAME: _____
PROJECT ADDRESS: _____
CONTRACTOR'S NAME: _____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PERSON.

Your employer's contract with the Owner for the above project requires that: You will be supplied with the proper respirator and be trained in its use. You will be trained in safe work practices and in the use of the equipment found on the job. You will receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: I have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. I have a copy of the written respiratory protection manual issued by my employer. I have been equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: I have completed an asbestos-training course of not less than 3 days. I have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course included the following:

1) Physical characteristics of asbestos; 2) Health hazards associated with asbestos; 3:) Respiratory protection; 4) Use of personal protective equipment; 5) Pressure Differential Systems; 6) Work practices including hands-on or on-the-job training; 7) Personal decontamination procedures; and 8) Air monitoring, personal, and area.

MEDICAL EXAMINATION: I have had a medical examination within the past 12 months which was paid for by my employer. This examination included: health history, pulmonary function tests, and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer, the Contractor.

Printed Name: _____
Signature: _____ Date: _____
Social Security No.: _____
Witness: _____

EMPLOYEE DAILY ROSTER

DATE: _____PROJECT NO. _____

PROJECT TITLE: _____

CONTRACTOR: _____

COMPETENT PERSON: _____

IMPORTANT NOTE: ALL PERSONS ENTERING AND EXITING THE WORK AREA MUST SIGN IN AND OUT EVERY TIME.

PERSON'S NAME (PRINT)	SOCIAL SECURITY #	START TIME	STOP TIME

WORK AREA ENTRY / EXIT LOG

DATE:_____PROJECT NO._____

PROJECT TITLE: _____

BUILDING NAME: _____

LOCATION OF WORK AREA: _____

DESCRIPTION OF WORK: _____

IMPORTANT NOTE: ALL PERSONS ENTERING AND EXITING THE WORK AREA MUST SIGN IN AND OUT EVERY TIME.

PERSON'S NAME (PRINT)	SIGNATURE	SOCIAL SECURITY #	TIME IN/OUT	TIME IN/OUT

DAILY MANOMETER REPORT

PROJECT TITLE: _____

CONTRACTOR: _____

COMPETENT PERSON: _____

LOCATION OF WORK AREA: _____

START TIME: START DATE: STOP TIME: STOP DATE:

_____
_____
_____
_____
_____
_____
_____
_____

(CONTRACTOR TO ATTACH A COPY OF THE NEGATIVE PRESSURE RECORDING HERETO AND COMPLETE THIS FORM FOR EACH WORK AREA ON A DAILY BASIS).

I hereby declare the above data is true and correct.

COMPETENT PERSON'S SIGNATURE: _____ DATE: _____

PRE-ABATEMENT VISUAL INSPECTION FORM

CLIENT NAME: _____

PROJECT NAME: _____
BUILDING NAME _____
LOCATION OF WORK AREA: _____
OWNER REF. NUMBER:_____ PROJECT NO: _____

VISUAL INSPECTION

CONTRACTOR hereby certifies that he has visually inspected the Work Area and has found it to be prepared in accordance with the project specifications. This inspection included the verification that Primary Barriers have been installed and are sealed, specified number of layers of polyethylene sheeting has been installed properly, Decontamination Enclosure System(s) is fully functional, HEPA units are operational, negative air pressure is >0.02 inches of water, manometer unit recording properly, HVAC and electrical systems have been locked and tagged out, there is adequate power and lighting, and all electric sources are supplied from GFIs outside the Work Area.

Name:_____ Inspection Date: _____
Signature:_____ Certification No._____

OWNER'S CONSULTANT hereby certifies that he has conducted a pre-abatement visual inspection of the referenced Work Area and verifies that the Contractor has prepared the Work Area in accordance with the Specifications and is ready to start abatement operations.

Name:_____ Inspection Date: _____

Signature:_____ Certification No. _____

FINAL VISUAL INSPECTION/CLEARANCE CERTIFICATION FORM

CLIENT NAME: _____
PROJECT NAME: _____
BUILDING NAME: _____
LOCATION OF WORK AREA: _____
OWNER REF. NUMBER:_____ PROJECT NO: _____

VISUAL INSPECTION

CONTRACTOR hereby certifies that he has visually inspected the Work Area and has found no dust, debris or residue. This inspection included all surfaces including pipes, beams, ledges, walls, ceiling, floor, Decontamination Unit, sheet plastic, etc.

Name: _____ Inspection Date: _____Signature: _____
Certification No._____

OWNER'S CONSULTANT hereby certifies that he has performed the final visual inspection of the referenced Work Area and verifies that this inspection has been thorough and to the best of his knowledge and belief, the Contractor's Certification above is a true and honest one.

Name:_____ Inspection Date: _____
Signature:_____ Certification No._____

CLEARANCE AIR SAMPLING

Pre-Abatement/Background fiber levels: _____

OWNER'S CONSULTANT hereby certifies that the results of air samples collected and analyzed in this work area meet the clearance criteria indicated below:

PCM samples at or below _____ fibers/cc.
TEM samples at or below _____ structures/mm^2.

Circle One: Aggressive Non-Aggressive

Other criteria:
Name:_____ Inspection Date: _____
Signature:_____ Certification No.: _____
Reviewer:_____ CAC Cert. No.: _____