

THE SCHOOL DISTRICT OF PHILADELPHIA
Office of Capital Programs
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Addendum No. 2

Subject: Henry Lawton School Classroom Modernization Renovation
SDP Contract Nos. 2022-007-G, 2022-007-P, 2022-007-E

Location: Henry W. Lawton School
4501 Benner Street
Philadelphia, Pennsylvania 19135

This Addendum, dated 17 of February, 2022, shall modify and become part of the Contract Documents for the work of this project. Any items not mentioned herein, or affected by, shall be performed strictly in accordance with the original documents.

SPECIFICATIONS:

SECTION 03 54 16

1. REPLACE Section 03 54 16 Hydraulic Cement Underlayment with the attached section. Changes made shown underlined and in red font.

SECTION 09 65 19

1. REPLACE Section 09 65 19 Resilient Tile Flooring with the attached section. Changes made shown underlined and in red font.

SECTION 27 13 00

1. REPLACE Section 27 13 00 Communications Systems with attached section.

ARCHITECTURAL DRAWINGS:

DRAWING A-120

1. MODIFY Keynote C05 as indicated on drawings.
2. REMOVE Existing projects as indicated on drawings

DRAWING A-121

1. REMOVE Existing projects as indicated on drawings

DRAWING A-130

1. MODIFY Interior Finish – Legend of Materials as indicated on drawings.
2. MODIFY Interior Finish – Room Schedule as indicated on drawings.

DRAWING A-131

1. MODIFY Detail 1 as indicated on drawings.

DRAWING A-132

1. MODIFY Detail 4 as indicated on drawings.
2. MODIFY Detail 5 as indicated on drawings.

DRAWING A-401

1. MODIFY Details 14 / 15 as indicated on drawings.

2. MODIFY Detail 17 as indicated on drawings.

ELECTRICAL DRAWINGS:

DRAWING E-100

1. MODIFY Sheet notes as indicated on drawings.
2. MODIFY Detail 1 as indicated on drawings

DRAWING E-101

1. MODIFY Sheet notes as indicated on drawings.
2. MODIFY Detail 1 as indicated on drawings

DRAWING E-102

1. MODIFY Sheet notes as indicated on drawings.
2. MODIFY Detail 1 as indicated on drawings

DRAWING E-110

1. MODIFY General notes as indicated on drawings.
2. MODIFY Detail 1 as indicated on drawings

DRAWING E-111

1. MODIFY General notes as indicated on drawings.

DRAWING E-112

1. MODIFY General notes as indicated on drawings.

DRAWING E-120

1. MODIFY General notes as indicated on drawings.
2. MODIFY Sheet notes as indicated on drawings.

DRAWING E-121

1. MODIFY General notes as indicated on drawings.
2. MODIFY Sheet notes as indicated on drawings.

DRAWING E-122

1. MODIFY General notes as indicated on drawings.
2. MODIFY Sheet notes as indicated on drawings.

DRAWING E-130

1. MODIFY General notes as indicated on drawings.
2. MODIFY Sheet notes as indicated on drawings.
3. MODFIY Detail 1 as indicated on drawings

DRAWING E-131

1. MODIFY General notes as indicated on drawings.
2. MODIFY Sheet notes as indicated on drawings.

DRAWING E-132

1. MODIFY General notes as indicated on drawings.
2. MODIFY Sheet notes as indicated on drawings.
3. MODFIY Detail 1 as indicated on drawings

DRAWING E-200

1. MODIFY Responsibility Matrix as indicated on drawings.

BIDDER'S QUESTIONS AND RESPONSES ARE AS FOLLOWS:

Question 1: Section 01 1000 states in part that the **The General Construction Contract is responsible for asbestos abatement in all areas of the project utilizing the services of a licensed and qualified asbestos abatement subcontractor. See Section 01 1135 ABATEMENT TECHNICAL SPECIFICATION for Asbestos Abatement. Each prime contractor is responsible for Lead Based Paint Stabilization required to perform its work, in accordance with Section 01 1100 ENVIRONMENTAL COORDINATION, PART 4-RENOVATION, REPAIR AND PAINTING**

The Asbestos Inspection Report (AIR) is referenced in the Project Manual but it is not being provided. Please provide the AIR report; alternatively, please confirm that General Construction Contractor is not responsible for performing any asbestos abatement work.

Answer 1: This information was provided in Addendum No 001.

Question 2: It is our understanding that the Renovation, Repair and Painting (RRP) is limited to the surfaces in the 23 classrooms indicated as “no hatch” on Drawing A-002.

Please confirm that our understanding is correct. Alternatively, provide a listing of all surfaces in all rooms throughout the building that require RRP work.

Answer 2: The hatch is a diagrammatic graphic used to show the general scope of work and should not be a determining factor in where finishes are applied. Refer to specifications, floor plans, interior elevations, RCPs, finish plans, and finish schedule and legend for full scope of work.

Question 3: Please confirm that Catharine Elementary School is the only Classroom Modernization project that requires Room Signage. The bid documents for all the other projects include a specification for signage however, Catharine ES is the only project that shows signage on the drawings.

Answer 3: There is no signage in the scope of the Henry Lawton School Classroom Modernization project.

Question 4: Please indicate on drawings and finish schedule those items that are to receive electrostatic painting specified in section 10 51 15.

Answer 4: Electrostatic painting takes place on the metal shelving in Classroom 112 and the metal panels in Classroom 109. See updates to Drawings A-130 and A-401 attached.

Question 5: Is the intent that this project to use factory made casework for Cubbies & cabinets or to use a millwork contractor? If casework, as in the past, do we need to know the preferred casework contractors.

Answer 5: The intent is for the cubbies to be custom-made. Refer to Specification 06 40 23 Interior Architectural Woodward for a list of approved woodwork fabricators.

Question 6: There are several locations that call for drywall soffits but does not indicate elevation of soffit. Please clarify

Answer 6: One new drywall soffit will be built in Classroom 107 and is indicated with Keynote C05 (which has been updated, see attached Drawing A120). This soffit should match the height of the existing soffit at +/- 7'-3" (this dimension to be verified in field.) All other drywall soffits are existing to remain and should be patched, prepped, and painted as per keynotes C07 and C08 and notes on interior elevations.

Question 7: Please confirm if new window shades are in the scope. I did not see anything regarding shades on plans or specs.

Answer 7: Window shades are NOT in the scope for this project.

Question 8: Drawings E-120, E-121 & E-122 keynote #1 calls for all receptacles to be tamper resistant AFCI. Spec section 262726 neither specifies duplex tamper resistant AFCI receptacles nor does it specify duplex tamper resistant combination GFCI/AFCI receptacles. Please clarify design intent.

Answer 8: Provide tamper resistant receptacles – AFCI not required.

Question 9: Drawings E-110, E-111, E-112, E-120, E-121, E-122, E-130, E-131, and E-132 mention a general note regarding 500/700 series wiremold for new devices. Please confirm surface mounted EMT conduit with one hole straps can be provided instead as this has been done on previous SDP project numerous times and offers better protection from damage.

Answer 9: Provide surface mounted EMT conduit in lieu of wiremold for new devices. General note updated on plans accordingly.

Question 10: Drawings E-110, E-111, E-112, E-120, E-121, E-122, E-130, E-131, and E-132 mention a general note regarding painting of surface raceways. Painting is in the GC contract per the summary of work spec section 011000. Please confirm this painting of surface raceways note applies to the GC contract.

Answer 10: GC to paint the raceway.

Question 11: Drawings E-130, E-131, and E-132 show keynote #1 which mentions testing existing cables and removing/replacing the cables if they do not pass a test. The scope for removing/replacing the cables is **not** biddable. We cannot know what cables will pass and what cables will **not** pass prior to the bid, so it would be a complete guess as to how many won't pass. Please pick a scenario below to resolve this issue:

- Scenario #1: Provide an allowance to the EC bid and EC will provide proposal (or ticket work) during construction for removing/replacing cables
- Scenario #2: Eliminate remove/replacing cables that do not pass scope. Any cables that do not pass SDP can make a decision during construction on whether to replace them or not under additional cost to the contract.

Answer 11: EC to replace all existing cables within scope of work area.

Question 12: Drawing E-130 keynote #5 and Drawing E-132 keynote #4 call for providing a new rack "as necessary". We cannot bid "as necessary" and SDP IT department should have coordinated this with the AE consultant during design phase. Please pick a scenario below to resolve this issue:

- Scenario #1: Provide an allowance to the EC bid and make a decision to provide a new rack during construction
- Scenario #2: Confirm new racks are **not** required and only patch panels need to be added in existing racks as required.
- Scenario #3: Provide details on new rack(s) and rack elevations for equipment required inside rack (e.g. wall mount or floor mount, U height, open rack or enclosed cabinet etc.) and how racks are receiving 120V power via new receptacles.

Answer 12: Provide new rack in the 1st floor MDF, wall mounted 2-post open frame rack (Tripp Lite #SRW08U22DP or approved equal). Mount new rack below the existing wall mounted IT rack in the room. New rack not required on 2nd floor, provide patch panels needed in existing racks.

Question 13: Drawing E-200 specifies Cat6A cable for new data outlets. Spec section 271300-3.2A mentions Cat6A, but spec section 271300-3.2C(2)(a) lists parts numbers for Cat6 rated cable which conflicts. Please clarify design intent.

Answer 13: Provide CAT6 cables

Question 14: Drawing E-130 keynote #4 specifies an analog speaker Bogen MB8TSQ. This keynote calls for a Cat6A cable which does not coordinate with the speaker specification. A Cat6A cable would be for a digital speaker but the specified speaker is an analog speaker that requires #16/2 twisted/shielded cable. Can SDP please clarify where to pick up the speaker circuit for this new speaker?

Answer 14: All speakers shall require one CAT6 drop per speaker, each individually home run back to the MDF or nearest IDF. All speaker cabling shall be terminated on a patch panel at the closet, terminated on a RJ45 jack at the speaker, and shall be labeled at both ends according to the labeling guidelines in the specifications.

Speaker-side installation shall be as follows: Use the blue pair of the CAT6 to terminate to the speaker wires – white to the common, blue to the watt.

1W TAP - CLASSROOMS / OFFICES / ETC.

4W TAP - COMMON AREA / HALLWAYS / ETC.

Question 15: Drawings E-130, E-131, E-132 keynote #3 call for 110V powered clocks. These keynotes also state to connect to existing 120V circuit in the room. Existing clocks to be removed are battery powered as noted on E-100, E-101, E-102 keynote 3. Please confirm we are to connect new 120V powered clock to nearby existing receptacle circuit.

Answer 15: Confirmed.

Question 16: Per drawing E-130 keynote 7 and E-120 keynote 3, please confirm the EC is **only** to provide conduit between pushbutton and automatic door operator and provide power to the door operator. Please

SECTION 03 54 16 - HYDRAULIC CEMENT UNDERLAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Polymer-modified, self-leveling, hydraulic cement underlayment for application below interior floor coverings.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Hydraulic cement underlayment.
 - 2. Primer.

1.4 INFORMATIONAL SUBMITTALS

Qualification Data: For Installer. Installer who is approved by manufacturer for application of underlayment products required for this Project.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with manufacturer's written instructions for substrate temperature, ventilation, ambient temperature and humidity, and other conditions affecting underlayment performance.

PART 2 - PRODUCTS

2.1 HYDRAULIC CEMENT UNDERLAYMENTS

- A. Hydraulic Cement Underlayment: Polymer-modified, self-leveling, hydraulic cement product that can be applied in minimum uniform thickness of 1/4 inch (6 mm) and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C150/C150M, portland cement, or hydraulic or blended hydraulic cement as defined by ASTM C219.

2. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C109/C109M.
3. Basis-of-Design Product: Subject to compliance with requirements, provide:
 - a. Ardex K15 System as manufactured by ARDEX Americas of Aliquippa, PA
 - b. Or comparable product by one of the following:
 - 1) ProSpec, H.B. Fuller Construction Products
 - 2) Dayton Superior Corporation
- B. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3 to 6 mm); or coarse sand as recommended by underlayment manufacturer.
 1. Provide aggregate when recommended in writing by underlayment manufacturer for underlayment thickness required.
- C. Water: Potable and at a temperature of not more than 70 deg F (21 deg C).
- D. Primer: Product of underlayment manufacturer recommended in writing for substrate, conditions, and application indicated.

2.2 SELF-DRYING, CEMENT-BASED FINISH UNDERLAYMENT

- A. Cement-Based Finish Underlayment: Blend of Portland cement and other hydraulic cements to provide a smooth finish and a true featheredge.
 1. For use at doorway or transitions to existing flooring.
- B. Basis of Design Product: Subject to compliance with requirements, provide:
 1. Ardex Feather Finish, as manufactured by ARDEX Americas of Aliquippa, PA
 2. Or comparable product
- C. Primer:
 1. For gypsum surfaces: basis of design is Ardex P 51 Primer
 2. For other non-porous substrates, such as epoxy coating systems and metal: basis of design is Ardex P 82 Ultra Prime
- D. Water:
 1. Should be clean, potable, and not warmer than 70-degrees Fahrenheit

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for conditions affecting performance of the Work.
- B. Proceed with application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare and clean substrate according to manufacturer's written instructions.
 - 1. Treat nonmoving substrate cracks according to manufacturer's written instructions to prevent cracks from telegraphing (reflecting) through underlayment.
 - 2. Fill substrate voids to prevent underlayment from leaking.
- B. Concrete Substrates: Mechanically remove, according to manufacturer's written instructions, laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants that might impair underlayment bond.
- C. Nonporous Substrates: For ceramic tile, quarry tile, and terrazzo substrates, remove waxes, sealants, and other contaminants that might impair underlayment bond; prepare surfaces according to manufacturer's written instructions. Sand over entire surface prior to primer.

3.3 INSTALLATION

- A. Mix and install underlayment components according to manufacturer's written instructions.
 - 1. Close areas to traffic during underlayment installation and for time period after installation recommended in writing by manufacturer.
 - 2. Coordinate installation of components to provide optimum adhesion to substrate and between coats.
 - 3. At substrate expansion, isolation, and other moving joints, allow joint of same width to continue through underlayment.
- B. Apply primer over prepared substrate at manufacturer's recommended spreading rate.
- C. Install underlayment to produce uniform, level surface.
 - 1. Install a final layer without aggregate to product surface.
 - 2. Feather edges to match adjacent floor elevations.
- D. Cure underlayment according to manufacturer's written instructions. Prevent contamination during installation and curing processes.
- E. Do not install floor coverings over underlayment until after time period recommended in writing by underlayment manufacturer.
- F. Remove and replace underlayment areas that evidence lack of bond with substrate, including areas that emit a "hollow" sound when tapped.
- G. For Self-Drying, Cement-Based Finish Underlayment Only: Where used as a transition to door threshold or existing floor finish to remain, slope product from pour stop or high point to threshold or existing finish at no greater than 1:20. Coordinate transition depth with slope and surrounding wall layout.

3.4 INSTALLATION TOLERANCES

- A. Finish and measure surface, so gap at any point between gypsum cement underlayment surface and an unlevelled, freestanding, 10-foot- (3.05-m-) long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch (6 mm).

3.5 PROTECTION

- A. Protect underlayment from concentrated and rolling loads for remainder of construction period.

END OF SECTION 03 54 16

confirm the general contractor's door vendor is to provide any low voltage cabling and any other requirements for the door.

Answer 16: Confirmed.

Question 17: Fixture types C2 and C2E on drawing E-110 are specified as 4' standalone fixtures. Please confirm the runs should be specified as 20 ft and 24 ft continuous runs where the manufacturer would provide (5) 4ft or (6) 4ft sections respectively joined together.

Answer 17: Confirmed

Question 18: Drawing E-110 shows continuous runs of fixture types C2 & C2E. Based on the current design of where the emergency section lands in the run, the normal and emergency circuit will have to travel together between each fixture section because there is an existing concrete ceiling. The emergency fixture is within the middle of the run so we cannot access the side of the fixture to enter the emergency branch circuit conduit. Is this NEC/UL compliant to have the normal and emergency circuits travel through the fixtures together? If the answer is no, can this drawing be adjusted to show the emergency circuit on the ends of the runs so the normal and emergency branch circuits can be separated?

Answer 18: Yes – drawing E-110 will be updated to show emergency fixtures at the end of the run.

Question 19: Fixture type C1 on drawing E-110 is specified as a 4' standalone fixture. There is one instance in Cubby Area 104A where there are (3) C1's shown in a row. Please confirm this run should be specified as a 12' continuous run where the manufacturer would provide (3) 4ft sections joined together.

Answer 19: Confirmed

ATTACHMENTS:

SPECIFICATIONS

Section 03 54 16	Hydraulic Cement Underlayment
Section 09 65 19	Resilient Tile Flooring
Section 27 13 00	Communications Systems

DRAWINGS

Drawing A-120	Reflected Ceiling Plans – 1 st Level
Drawing A-121	Reflected Ceiling Plans – 2 nd Level
Drawing A-130	Interior Finish Legend and Schedule
Drawing A-131	Finish Plans 1 st and 2 nd Level
Drawing A-132	VCT Patterns
Drawing A-401	Interior Elevations and Details
Drawing E-100	Electrical Demolition Plan – 1 st Level – Partial Zone 'A'
Drawing E-101	Electrical Demolition Plan – 1 st Level – Partial Zone 'B'
Drawing E-102	Electrical Demolition Plan – 2 nd Level – Partial Zone 'B'
Drawing E-110	Lighting Plan – 1 st Level – Partial Zone 'A'
Drawing E-111	Lighting Plan – 1 st Level – Partial Zone 'B'
Drawing E-112	Lighting Plan – 2 nd Level – Partial Zone 'B'
Drawing E-120	Power Plan – 1 st Level – Partial Zone 'A'
Drawing E-121	Power Plan – 1 st Level – Partial Zone 'B'
Drawing E-122	Power Plan – 2 nd Level – Partial Zone 'B'
Drawing E-130	Special Systems Plans – 1 st Level – Partial Zone 'A'
Drawing E-131	Special Systems Plans – 1 st Level – Partial Zone 'B'
Drawing E-132	Special Systems Plans – 2 nd Level – Partial Zone 'B'
Drawing E-200	Electrical Details

End of Addendum No. 2

SECTION 09 65 19 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Vinyl Composition Tile (VCT)
- B. Related Sections include the following:
 - 1. Division 3 Section "Hydraulic Cement Underlayment" for underlayment and primer to be installed prior to VCT installation.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
 - 1. Show details of special patterns.
- C. Product Schedule: For floor tile. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Floor Tile: Furnish one box for every 60 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.
 - 1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F Store floor tiles on flat surfaces.

1.9 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F in spaces to receive floor tile during the following time periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient tile flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 Vinyl Composition Tile (VCT)

- A. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Armstrong "Standard Excelon Imperial Texture VCT"
- B. Tile Standard: ASTM F 1066, Class 2, through-pattern.
- C. Wearing Surface: Smooth
- D. Thickness: 0.125 inch

- E. Size: 12 by 12 inches
- F. Color: Refer to drawings for color selections and patterns.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.
 - 1. Adhesives shall comply with the following limits for VOC content:
 - a. Vinyl Composition Tile Adhesives: 50 g/L or less.
 - b. Luxury Vinyl Tile Adhesives: Per manufacturer's recommendations.
 - 2. Adhesives shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
 - 3. Provide adhesive for porous substrates.
- C. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Receive Resilient Tile Floor Manufacturer's written approval of substrate required before installation of any tile flooring. The Carpet and Resilient Tile Contractor is responsible for obtaining the Resilient Tile Flooring Manufacturer's written approval of the floor as an acceptable substrate for the installation of manufacturer's tile product specified. If the floor is not acceptable to the manufacturer, the general contractor is responsible for preparing the floor to receive the new tile, as specified in order paragraphs of this specification, including an underlayment or leveling compound where necessary to meet all requirements for a manufacturer's approval of the substrate.

3.2 PREPARATION

- A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.

2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
 3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
 4. Moisture Testing: Proceed with installation only after substrates pass testing according to floor tile manufacturer's written recommendations, but not less stringent than the following:
 - a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
 - b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles until they are the same temperature as the space where they are to be installed.
 1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 1. Lay tiles in pattern indicated
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
 1. Lay tiles with grain running in one direction.
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

- H. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.
- B. Perform the following operations immediately after completing floor tile installation:
 - 1. Remove adhesive and other blemishes from exposed surfaces.
 - 2. Sweep and vacuum surfaces thoroughly.
 - 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Floor Polish: Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.
- E. Joint Sealant: Apply sealant to resilient terrazzo floor tile perimeter and around columns, at door frames, and at other joints and penetrations.
- F. Sealers and Finish Coats: Remove soil, visible adhesive, and surface blemishes from resilient floor tile surfaces before applying liquid cleaners, sealers, and finish products.
 - 1. Finish: Apply 3 coats of liquid floor polish to vinyl composition tile flooring.
- G. Cover floor tile until Substantial Completion.

END OF SECTION 096519

SECTION 271300 – COMMUNICATIONS SYSTEMS

PART 1 -GENERAL

1.1 FORWARD

- A. The following specification is typically intended for the extension of existing communications systems in an existing facility. They are intended to provide a set of instructions and materials needed for installation of additional data and voice ports, and additional cabling for new data and voice ports, etc. within parameters set by industry standards and by the SDP IT Department:

1.2 DESIGN

- A. Structured Cabling Systems:

1. All horizontal drops for voice and data shall be Cat.6 (minimum) copper.
2. From drop locations to IDF

1.3 APPLICABLE STANDARDS

- A. EIA/TIA-569A-1 to A-7. "Commercial Building Standard for Telecommunications Pathways and Spaces."
- B. EIA/TIA-568-B.1 & B.1-1; B.2, B-2.2, B-2.3; B.3."Commercial Building Telecommunication Standard."
- C. EIA/TIA-455-61. "FOTP-61, Measurement of Fiber or Cable Attenuation Using an OTDR."
- D. ANSI/TIA/EIA-606. "The Administration Standard for the Telecommunications Infrastructure of Commercial Building."
- E. ANSI/TIA/EIA-607-A."Commercial Building Grounding and Bonding Requirements for Telecommunications."
- F. TIA/EIA 492AAAB "Detail Specification for 50µm Core Diameter/125µm Cladding Diameter Class Multi-Mode Optical Fibers"
- G. TIA/EIA 492AAAC-A "Detail Specification for 850-nm Laser Optimized 50-µm Core Diameter/125µm Cladding Diameter Class 1a Graded Index Multi-Mode Optical Fibers"
- H. IEEE 802.3 "Carrier Sense Multiple Access with Collision Detection" and all applicable supplements a through af.
1. IEEE 802.3u-100 Base T/100-Base-TX, Fast Ethernet
 2. IEEE 802.3z-Gigabit Ethernet
 3. IEEE 802.3 ab-1000 Base T
 4. IEEE 802.3ae-10 Gigabit Ethernet
- I. Electrical Code Compliance: Comply with applicable local and code requirements of the authority having jurisdiction.

- J. NFPA-70-NEC Compliance: Comply with NEC requirements as applicable to construction, installation and color coding of both power type wires/cables and control/signal transmission media.
- K. UL Compliance: Comply with applicable requirements of UL Standards 83, "Thermoplastic-Insulated Wires and Cables," 486A, "Wire Connectors and Soldering Lugs for Use with Copper Conductors," and UL 910, "Test Method for Fire and Smoke Characteristics of Cables Used in Air-Handling Spaces." Provide products which are UL- listed and labeled.
- L. NEMA/ICEA Compliance: Comply with NEMA/ICEA Std. Pub/No's WC-5, "Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy," and WC30, "Color Coding of Wires and Cables," pertaining to control and signal transmission media.
- M. ASTM Compliance: Comply with applicable requirements of D-2219 and D-2220. Provide copper conductors with conductivity of not less than 98% at 20°C (68°F).
- N. FCC Compliance: Comply with U.S. Federal Communications Commission Class 8 standard for allowable radiation from network equipment and wiring.
- O. Internet Networking Standards: Network hardware and software shall be able to communicate with the Internet and provide for the creation of IP based networks for the district. Supplied hardware and software shall comply with the following standards and RFC's as appropriate.
 - 1. MIL-STD -1777, RFC 971 -Internet Protocol
 - 2. MIL-STD -1778, RFC 793 -Transmission Control Protocol
 - 3. MIL-STD -1780, RFC 959 -File Transfer Protocol
 - 4. MIL-STD -1781, RFC 821 -Simple Mail Transfer Protocol
 - 5. MIL-STD -1782, RFC 854 -TELNET Protocol
 - 6. RFC 950 -Internet Standard Sub-Netting Procedure
 - 7. RFC 1140 -Official Protocol Standards
 - 8. RFC 1156 -MIB Base for IP Networks
 - 9. RFC-1213 -MIB-II
 - 10. RFC-1757 -Remote Monitoring(RMON)
 - 11. 1RFC 1157 -Simple Network Management Protocol
 - 12. RFC 1720 -TCP/IP, OSI Compliant
 - 13. RFC 1918 -Address Allocation for Private Subnets
 - 14. RFC 1583 -OSPF, Version II
 - 15. RFC 1723 -RIP -II
- P. NECA (National Electrical Contractors Association) Standard of Installation.
- Q. BICSI TDM Manual, latest edition
- R. BICSI LAN Design Manual, latest edition
- S. BICSI Cabling Installation Manual, latest edition

PART 2 STRUCTURED CABLING SYSTEM (SCS) DISTRIBUTION

2.1 DEFINITIONS

- A. MAIN DISTRIBUTION FRAME (MDF): The MDF is the location, within a building or complex of buildings, where the entire telecommunications system originates. It may include: the physical location, enclosure, wire and cable management hardware, termination hardware, distribution hardware, and patching and equipment racks.
- B. INTERMEDIATE DISTRIBUTION FRAME (IDF): The IDF is the location in a building where a transition between the backbone or vertical riser system and the individual drop distribution system occurs. It may include: the physical location, enclosure, wire and cable management hardware, termination hardware, distribution hardware, and patching and equipment racks. The IDF's provide the interface location between fiber distribution cable (backbone) and station cable (horizontal distribution). All walls shall be covered with 3/4" plywood, AC or better, from 12" above the finished floor to the ceiling, painted with two coats of fire retardant paint both sides.
- C. Entrance Facility (EF): Existing. Existing MDF room is the entrance facility.
- D. BACKBONE PATHWAY: The Backbone Pathway consists of a series of conduits, surface raceways (renovations only), cable trays, conduit sleeves, and chases which connect the MDF to IDF's and MDF to the EF and the MDF to the Server Room. It generally houses the vertical or backbone system.
- E. BACKBOARD: Backboard generally refers to the plywood sheeting lining the walls of telecommunications facilities. Backboard may also refer to the entire wall-mounted assembly, including wire management, wiring blocks, and equipment racks. In this case, the term Backboard is fully interchangeable with SBB or TTB and the equipment required to fulfill the Scope of Work below.

2.2 WORK DESCRIPTION -TYPICAL

- A. CONTRACTOR to provide all infrastructure wiring and conduit (if necessary), between and including classroom faceplate or termination, and closet patch panel termination, all cut sheets for Fiber Optic cable, copper UTP cable, patch panels, station jacks, speakers, phone faceplates, and Wireless Access Point enclosures for approval by SDP Tech Services, all patch cables on both ends of each termination, all Wireless Access Point enclosures for every AP location with the exception of any spaces with a drop ceiling at 12 feet high or less (classrooms, hallways, etc), metal faceplates for all wall phones, material and installation of all speakers, as well as the TERMINATION, LABELING, and TESTING of all copper and fiber wiring.
- B. The work performed under these guidelines shall be of good quality and performed in a workmanlike manner. In this context "good quality" means the work shall meet industry technical standards and quality of appearance. The owner reserves the right to reject all or a portion of the work performed, either on technical or aesthetic grounds. "Rats Nest" wiring and poor workmanship is not acceptable.

2.3 MANUFACTURERS

- A. Cat 6 cables and telecommunications outlets shall be equal in quality and performance to that manufactured by SYSTIMAX. Note that other cabling systems meeting the listed performance and warranty requirements are also acceptable substitutions.

2.4 FUNCTIONS AND OPERATION

- A. All copper and fiber network cabling shall be labeled on both ends - at the classroom/ workstation termination end, as well as the network closet patch panel termination end. All labels shall be comprised of a sequential numbering scheme that meets TIA/EIA-606 requirements, and shall include room location numbers as described herein.
- B. All labels shall be machine printed on clear or opaque tape, stenciled onto adhesive labels, or type written onto adhesive labels, with legible block characters that are at least one-eighth inch (1/8") in height. The text shall be of a color contrasting with the label such that it may be easily read. If labeling tape is utilized, the width of the tape shall not exceed 3/8".

CLASSROOM/ WORKSTATION TERMINATIONS

- 1. All copper cable terminations on the classroom/ workstation side shall be labeled in logical order with the respective network closet number, room location number, drop type, and drop number. The numbering and abbreviation scheme shall be as follows:

CLOSET# - ROOM# - TYPE INITIAL - DROP#

- a. For example, in room 205 there may be 8 Data drops which all terminate in IDF3. Those drops shall be labeled in sequential order as such:
 - i. "IDF3-205-D1"
 - ii. "IDF3-205-D2"
 - iii. "IDF3-205-D3", etc...
 - b. If data drops are grouped together on a multi-port faceplate, and label space on each faceplate is limited, the network closet label may be shown once per group, provided that all drops in that group run to the same closet. Using the example above, if the 8 data drops in room 205 are grouped into (2) 4-port faceplates, they shall be labeled as such:
 - i. Faceplate 1 label: "IDF3"
 - 1. Data drop 1: "205-D1"
 - 2. Data drop 2: "205-D2"
 - 3. Data drop 3: "205-D3"
 - 4. Data drop 4: "205-D4"
 - ii. Faceplate 2 label: "IDF3"
 - 1. Data drop 5: "205-D5"
 - 2. Data drop 6: "205-D6", etc...
- 2. Type initials shall be designated as follows:
 - a. Data: "D"
 - b. Wireless: "W"
 - c. Speaker: "S"

- d. Alarm: "A"
 - e. Voice: Any voice cabling shall not be differentiated from any data cabling, and shall be grouped in with the "D" designation for Data.
3. Room initials for non-numbered locations shall be as follows:
- a. Auditorium: "AUD"
 - b. Cafeteria: "CAF"
 - c. Gym: "GYM"
 - d. Library: "IMC"
 - e. Hallway: "HALL"
 - f. Main Office: "MO"
 - g. Any other locations not listed here which do not have a numerical room designation shall be abbreviated logically.
4. Other classroom/workstation side labeling examples are as follows:
- a. 2 WiFi drops at the ceiling of classroom 104, which run back to the MDF: i. "MDF-104-W1" ii. "MDF-104-W2"
 - b. 8 speakers in the Cafeteria, which run back to IDF2: i. "IDF2-CAF-S1" ii. "IDF2-CAF-S2", etc...
 - c. 4 phones in the Main Office, which run back to IDF1: i. "IDF1-MO-D1" ii. "IDF1-MO-D2", etc...

NETWORK CLOSET TERMINATIONS

1. All cable terminations on the network closet side shall be terminated on patch panels and grouped together by type, as described in the Rack Installation section above.
- a. All patch panels shall be labeled by drop type in order as follows:
 - i. "OUTSIDE FIBER" (if applicable - only in MDF)
 - ii. "FIBER"
 - iii. "LEGACY TIE CABLES"
 - iv. "WIRELESS"
 - v. "DATA" (Data includes all: network data, voice, speaker, alarm, and headend controller drops.)
 - b. All copper cable terminations on those patch panels shall be labeled in logical order with the respective room location number, drop type, and drop number. The numbering and abbreviation scheme shall be as follows:

ROOM# - TYPE INITIAL - DROP#

2. For example, all non-Wireless copper cabling from classroom 201 and classroom 202, including 4 data drops each, 1 wall phone each, and 1 speaker each, shall be terminated on the DATA patch panel. Those drops shall be labeled sequentially as such:
- a. "201-D1", "201-D2", "201-D3", "201-D4", "201-D5", "201-S1", "202-D1", "202-D2", "202-D3", "202-D4", "202-D5", "202-S1"
3. Additionally, in that same example, the Wireless Access Point cabling from both

classrooms 201 and 202 shall be terminated in the WIRELESS patch panel in that same closet, and labeled sequentially as such:

- a. "201-W1", "201-W2", "202-W1", "202-W2"

FIBER TERMINATIONS

1. Optical fiber cable segments shall be labeled at each end with the respective closet or classroom/lab identifier, as well as the cable type, as follows:

ROOM# - TYPE INITIAL

- a. For example, a 24 strand, OM3, 50 μ Multimode fiber cable between the MDF and IDF1 shall be labeled as follows:

- i. In the MDF: "IDF1-MM"
- ii. In IDF1: "MDF-MM"

- b. For example, a 12 strand, OM3, 50 μ Multimode fiber cable between the MDF and a computer lab in room# 305 shall be labeled as follows:

- i. In the MDF: "Lab 305-MM"
- ii. In the computer lab: "MDF-MM"

- c. For example, a 24 strand Single mode fiber cable between the MDF and the Annex shall be labeled as follows:

- i. In the MDF: "Annex-SM"
- ii. In the Annex: "MDF-SM"

2. Additional fiber cable labeling shall include Warning Tags:

- a. At each location where the fiber cable is exposed to human intrusion, it shall be marked with warning tags. These tags shall be yellow or orange in color, and shall contain the warning: "CAUTION FIBER OPTIC CABLE." The text shall be permanent, black, block characters, and at least 3/16" high.
- b. A warning tag shall be permanently affixed to each exposed cable or bundle of cables, at intervals of not more than five (5) feet. Any section of exposed cable which is less than five (5) feet in length shall have at least one warning tag affixed to it.

Any additional labeling questions not addressed in this document shall be sent to SDP Tech Services for further clarification

- C. The intended function of the data communications cable system is to transmit data signals from a central location to several individual data outlet locations. Upon completion of the work outlined in this specification, the system shall be capable of transmitting data signals at a rate of 1000 Mbps minimum over Category 6 cable and over SM and MM fiber. Both SM and MM fiber shall also be capable of transmitting 10Gbps based upon the transmitting distance and number of links.

- D. Work station cable, from the IDF to the work area, shall be installed in accordance with EIA/TIA-568-B.2 specified installation practices, BICSI Guidelines, manufacturer specified installation practices, SYSTIMAX or (Other Acceptable Substitutes) Certified Cabling System installation practices, and shall be capable of transmitting a signal at 1000 Mbps with acceptable attenuation and cross-talk measurements and PSACR MARGIN. The entire workstation cable system, including wiring blocks, cable, and telecommunications outlets shall be tested for Category 6 compliance.

PART 3 -PRODUCTS AND INSTALLATION

3.1 GENERAL

- A. Throughout Part 3, material quantities are not given. It is the responsibility of the Contractor to provide appropriate quantities of materials to provide a complete, functional system according to the design drawings, specifications, and work description.
- B. General installation provisions are as follows:
1. Cable: Where cable enters an MDF or IDF it shall be supported on horizontal or vertical cable runway. If terminations are on backboards, then from the runway support to the backboard via "D" Rings and cable ties. All cable shall be neatly bundled, combed, and tied. All cable runs, within the MDF or IDF, shall be horizontal or vertical, and bends shall comply with minimum specified cable bending radii. Copper UTP cable runs shall be provided with a ten-foot slack loop in the cable runway, in each IDF. Spread out the Cat. 6 cable in the runway and cable trays to avoid heavy stressing of the cable due to its own weight. Provide sufficient slack in the run to avoid any cinching of cables. NOTE CAT.6 CABLES SHALL NOT BE CINCHED TOO TIGHTLY. CABLE TIES AT PATCH PANEL LOCATIONS SHALL BE VELCRO TYPE TIE-WRAPPS ONLY. PLASTIC WIRE TIE WRAPS ARE NOT ALLOWED TO BE USED FOR ANY CAT.6 CABLING.
 2. Labeling: hand written labels are not acceptable. All labels shall be machine printed on clear or opaque tape, stenciled onto adhesive labels, or type written onto adhesive labels. The font shall be at least one-eighth inch (1/8") in height, block characters, and legible. The text shall be of a color contrasting with the label such that it may be easily read. If labeling tape is utilized, the width of the tape shall not exceed 3/8," and the font color shall contrast with the background. Patch panels shall exhibit workstation numbers, in sequential order, for all workstations served by the MDF or IDF.
 - a. Each telecommunications outlet shall be labeled with its respective work station number (machine labels only). Workstation numbers shall be comprised of a sequential numbering scheme that meets the TIA/EIA- 606 requirements, i.e. "1-1-DJ-52"(IDF #1-rack 1-data patch panel-port #52); or"1-2-VJ-48" (IDF #1-rack 2-voice patch panel-port# 48). Each workstation cable shall be labeled, using a machine based net permanent labeling medium, at each end with its respective workstation number. Each binder group shall be tied off with its respective identifying ribbon at each break-out point.
 3. T-Bar Suspended Ceilings: All data drop cable above dropped ceilings shall be installed in J-hooks, cable tray, or a combination thereof, conduit, or in cable chase. In no case shall cable be supported on ceiling tiles, T-bars, or tie-wrapped to any conduit or pipes. Cable must be supported in all areas. Bridle rings and tie-wrapped supporting means are not acceptable. Wire-rod cable trays are acceptable above dropped ceilings in-lieu of J-hooks.

Laying cable on a T-bar ceiling is not allowed by the NEC and is not acceptable for support of Cat. 6 cabling, j-hooks must be used between conduit stub-ups and the wire rod cable tray for support.

3.2 WORK STATION CABLE

A. DESCRIPTION: From each IDF, 4-pair Category 6 UTP cables shall be routed to each work station (for both data and voice outlets) served by the IDF. Where the data outlet resides in a classroom, a minimum of 6 cables plus one voice drop shall be required. Route drops in, conduit, j-hooks, and /or chases and sleeves as required.

B. COPPER UTP CABLE SPECIFICATIONS

1. HIGH SPEED LAN COMMUNICATIONS PLENUM CABLE; ENHANCED MARGIN CATEGORY 6, HORIZONTAL UNSHIELDED TWISTED PAIR (UTP).

C. SCOPE

1. This section defines the requirements for commercially available high-performance Category 6 plenum-rated LAN communications cable. The cable design described herein exceeds minimum ANSI/TIA/EIA 568-B Category 6 and ISO/IEC 11801 Class D standards in critical transmission characteristics and provides additional specifications for conductor insulation. This specification provides more ACR margin (headroom) at transmission frequencies up to 200 MHz, better electrical balance, and temperature/humidity stability for superior long-term performance. (NOTE: Minimum cable fire-rating shall be CMR; plenum rating only as required if returns are ducted; however, 100% FEP cable must be supplied).

a. The minimum Power Sum ACR, for the Worst Case Pair for a 4-Connector Channel shall be 10.9dB at 200 MHz.

2. ENGINEERING SPECIFICATIONS

a. Cable Manufacturers' Part Numbers:

- 1) SYSTIMAX # 2071E GigaMax Cable & Gigamax Cabling System- Preferred
- 2) Mohawk/CDT: AdvanceNet with Hubbell NEXTSPEED
- 3) Berk-Tek: LanMark 2000 with Ortronics Clarity
- 4) Superior Essex: NextGain with Leviton eXtreme
- 5) Commscope : Ultrapipe with Siemon Ultra-"Uniprise Solution"

b. Product: Jack Faceplates (WAO's) 4 pair, S110 connecting blocks, T568B pinning, Category 6 compliant, light Ivory or as selected by SDP:

- 1) Modular Outlet Jacks: SYSTIMAX MGS-400 Series jacks in M-Series Information Outlets, 8 wire, T568B pinning, Category 6 S110 type insulation displacement modular outlet. Provide couplers as required per application and drawings.

- 2) Faceplates: CommScope M10LW4SP 1-port Single Gang Stainless Steel Telephone Faceplate, part #760100891
- c. Accessories: Snap-in colored icons, blue for data and light gray for voice, 'phone' for voice and 'computer' for data/video, labels and clear label covers, quantities as required
- 1) Required Accessories and Quantities (Surface Mount Boxes):
 - 2) Modular Mounting Frames: SYSTIMAX. PART #M12AP-246, Two-port, with cover, base, bezel, icons, screws, Light Ivory – surface mount with screws.
 - 3) Modular Mounting Frames: SYSTIMAX, PART #M14L-246, Four-port, with cover, base, bezel, icons, screws, Light Ivory – surface mount with screws.
 - 4) Modular Mounting Frames: SYSTIMAX, PART #M16L-246, Six-port, with cover, base, bezel, icons, screws, Light Ivory – surface mount with screws.
 - 5) Modular Outlet Jacks: SYSTIMAX M-Series Information Outlets or Flexible Information Outlets for HI-LO outlets and/or A/V outlets, 8 wire, T568B pinning, Category 6 S110 insulation displacement type modular outlet. Provide couplers as per application and drawings.
 - a) SYSTIMAX MGS400 Category 6 jack
 - b) single port F-type coaxial adapter
 - c) blank inserts for unused port
 - d) Icons same as surface raceway jacks

3. INSTALLATION:

- a. Installation shall be conducted in accordance with guidelines established the manufacturer and industry standards. Surface raceway jack faceplates shall be mounted in the surface raceway hanging boxes and shall be coordinated by the installation contractor. Each jack faceplate plate shall be labeled with its respective work station number. Each modular surface mounted box shall be labeled with its respective work station number. Labels shall be made by machine and shall be compliant with TIA/EIA-606 requirements.

D. TESTING AND DOCUMENTATION

1. TESTING:

- a. Contractor shall test each pair of each twisted-pair copper cable. The Owner reserves the right to have a representative present during all or a portion of the testing process. If the Owner elects to be present during testing, test results will only be acceptable when conducted in the presence of the Owner.
- b. Tests
 - 1) Multi-mode: Signal attenuation at 850 and 1300 nm.
 - 2) Single-mode: Bi-directional signal attenuation at 1310 and 1550 nm.

E. WORKSTATION CABLE:

1. Each workstation cable shall be tested from the Jack Panel to the data outlet per TIA/EIA-568-B2.1 permanent link test requirements.
 - a. Test Equipment: Minimum Level III Compliant Tester
 - 1) Wirescope 350(Agilent Technologies) or equivalent
 - a) Test Criteria: The system shall be tested to Category 6 TIA/EIA-568-B.2-1 permanent link test parameter requirements.

F. DOCUMENTATION:

1. Contractor shall provide documentation to include test results and as-built drawings, all test results shall be computer generated. One Hard Copy shall also be provided to the District. Software for viewing the test results shall also be provided in the soft copy package.

G. WORK STATION CABLE:

1. The results of the work station cable tests shall be provided in the form of computer print-outs from the test equipment.

H. AS-BUILT DRAWINGS:

1. Contractor will be provided with clean copies of the Electrical drawings depicting data outlet locations or, if required by Addendum, shall produce drawings depicting data outlet locations as they were installed. The drawings, provided by Owner or in accordance with Addendum shall be modified to indicate actual cable routing, work station locations and workstation numbers.

3.3 INSTALLATION TESTING - COPPER

- A. The Owner/Engineer shall be notified 2 weeks prior to any testing so that the testing may be witnessed.
- B. Before requesting a final inspection, the Contractor shall perform a series of end to end installation performance tests. The Contractor shall submit for approval a proposal describing the test procedures, test result forms, and timetable for fiber optic and all copper plant wiring.
- C. Acceptance of the simple test procedures discussed below is predicated on the Contractor's use of the recommended products including but not limited to twisted pair cable, cross-connect blocks, and outlet devices specified and adherence to the inspection requirements, and practices set forth. Acceptance of the completed installation will be evaluated in the context of each of these factors.
- D. Minimum Test Parameter requirements for Enhanced Category 6 horizontal cabling.

1. Category 6:

- a. Each wire/pair shall be tested at both ends for the following utilizing Contractor generated test results forms:
 - 1) Wire Map
 - 2) Length
 - 3) Insertion Loss
 - 4) Near-end crosstalk (NEXT) loss

- 5) Power sum near-end crosstalk (PSNEXT)
 - 6) Equal-level far-end crosstalk (ELFEXT)
 - 7) Power sum equal-level far-end crosstalk (PSELFEXT)
 - 8) Return loss
 - 9) Propagation delay
 - 10) Delay Skew
 - 11) Power Sum ACR
2. When errors are found, the source of each error shall be determined, corrected, and the cable re-tested. All defective components shall be replaced and retested. Defective components not corrected shall be reported to the Owner/Engineer with explanations of the corrective actions attempted.
 3. Test records shall be maintained using the approved test results forms. The form shall record closet number, riser pair number or outlet ID, outcome of test, indication of errors found (e.g., a, b, c, d, or e) cable length, re-test results after problem resolution and signature of the technician completing the tests.
 4. Test results for each 4 pair, Category 6, UTP cable must be submitted with identification to match labels on all patch panel ports and 8 position modular jacks, and identification to match as-built associated with that cable.
 5. Owner/Engineer will observe and verify the accuracy of test results submitted.
 6. Submit in both hardcopy and electronic floppy disc format.

E. ACCEPTANCE

1. Acceptance of the Data Communications System, by Owner, shall be based on the results of testing, functionality, and the receipt of documentation. With regard to testing, all fiber segments and all workstation data cables must meet the criteria established in the Section above. With regard to functionality, Contractor must demonstrate to Owner that 1000 Mbps data signals can be successfully transmitted, bi-directionally, from the MDF to and from a minimum of 10% of individual data outlets on each floor, witness tested by the Owner. The number of outlet locations to be tested shall be determined by Owner. With regard to documentation, all required documentation shall be submitted to Owner.

F. MINIMUM WARRANTY

1. The Cabling System shall meet the performance requirements of the ANSI/TIA/EIA- 568-B.2 standard. The warranty on the material, services, and operation of the cabling system to this specification must be for a period of at least 20 years. The connecting hardware shall have a lifetime extended warranty against defects in material and workmanship.
2. The warranty must include the following statements regarding the cabling system:
 - a. "Will support and conform to TIA/EIA-568-B specifications covering ANY

CURRENT OR FUTURE APPLICATION which supports transmission over a properly constructed horizontal cabling system premises network which meets the channel and/or basic link performance as described in TIA/EIA- 568-B."

- b. "Will be free from defects in material or faulty workmanship."

PART 4 -VOICE DISTRIBUTION

4.1 GENERAL

A. PERFORMANCE REQUIREMENTS

1. The Telephone Voice Distribution System shall be provided from the outlet locations to the IDF's with Cat.6 station cabling.

4.2 PRODUCTS AND INSTALLATION

A. General: Refer to the requirements and equipment outlined in this guideline specification.

B. Miscellaneous Hardware: Provide all terminations, cross-connects, wire management, surge protectors, etc. for a complete and operational system.

1. Jacks, wall mount only, EIA/TIA 568B Pin-out, Cat. 6; provide wall mount typejacks with studded mounts for locations as required – Classrooms shall be located in the recessed wall box enclosure-see module details
2. Auxiliary Equipment: The Contractor shall install cross-connect wire (minimum Cat. 3 rated), D-rings, wire distribution spools, 110 block labeling, organizer rings, and other appurtenances for a complete, neat, and functional system.

C. RECORD DRAWINGS

1. The Contractor shall submit record drawings showing the actual system installation and the hardware/equipment locations. Clearly drafted markings on the Bid Documents attached Drawings shall be acceptable. These drawings shall indicate actual cable routing, cable numbers, outlet jack labeling, and designations of each termination at outlets and in the IDF's/MDF. Also included shall be the testreport.

PART 5 -CABLE AND WIRE MANAGEMENT

5.1 GENERAL

A. Unless indicated all data and voice cables shall be installed in conduit.

B. Cabling, voice and data shall be installed according to the general requirements, as detailed below, and as shown on the drawings or in an attached addendum.

1. No more than 50 UTP cable drops per run can be installed in Category 6 two inch "J- hooks" as called out herein (if necessary).
2. Station Cable drops from work area outlet will be installed in conduit, Category 6 "J- hooks," from outlet stub up to the cable tray.
3. Use Vertical Wire runway to support any /all risers between floors in closets or accessible locations; in no case shall any cable risers be unsupported.
4. Cables entering IDF's/MDF's shall be supported with Cable runway from entrance to

rack/cabinet location.

PART 6 -CORING/SLOTTING/SLEEVEING

6.1 SLEEVES:

- A. All wall penetrations shall be bored, and then sleeved; minimum is 1-inch metallic sleeve with plastic bushings or as required to size up. All floor penetrations shall be core drilled clean and true, and then installed with a metallic sleeve and plastic bushings on each side.
- B. The Contractor shall provide sleeves where required to protect equipment or facilities in the installation. Each sleeve shall extend through its respective floor, wall, or partition and shall be cut flush with each surface unless otherwise required.
- C. Sleeves in bearing and masonry walls, floors, and partitions shall be of standard weight steel pipe finished with smooth edges. For other masonry partitions, through suspended ceilings and for concealed vertical piping, sleeves shall be No. 22 U.S.G. galvanized iron.
- D. All sleeves shall be properly installed and securely cemented in place.
- E. Floor sleeves shall extend 3 inches above the finished floor. Space between floor sleeves and passing conduit shall be caulked with graphite packing and waterproof caulking compound as required for a waterproof installation. All floor sleeves shall be installed with plastic bushings to protect the cable, on both sides.
- F. Where conduits pass through waterproofed floors or walls, design of sleeves shall be such that waterproofing can be flashed into and around the sleeves.
- G. Sleeves through exterior walls below grade shall have the spaces between conduit and sleeve caulked watertight.
- H. Core drill one size larger than sleeve to accommodate the sleeve installation, caulk the void with watertight and fire rated sealing mastic (between bore and sleeve).

6.2 CHASES AND OPENINGS

- A. All openings or chases required for the installation of the telecommunications work in the building shall be provided by the Contractor.
- B. This Contractor shall seal all openings he has made in fire rated floors, ceilings or partitions after his work has been installed. The material used for sealing the openings shall have a fire rating equal to or greater than the rating of the floor, ceiling or partition material. All fire stop material shall be U.L. classified. Fire stop sealants, foams and compounds shall be as manufactured by 3M, STI, or Nelson. All floors minimum 2-hour rated fire stops and all corridor penetrations to classrooms or other areas.
- C. All Corridor Walls shall be considered fire rated and shall have a two-hour fire stop also- the Contractor has the option to install a UL Classified Sleeve/Firestop Combination, for wall and floor applications; use the STI "EZ-PATH" System, 1.5" for corridor penetrations to classrooms and 4" for floors for risers and 4" for entering IDF's/MDF's from the corridor.

SEAL:



Name: Kevin Ray Goodhall DATE: 10/22/1996
STATE AND LICENSE NO: RA014783X

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ISSUE FOR BID
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SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
**REFLECTED CEILING PLANS
1ST LEVEL**

DRAWING SCALE	
LOCATION NO.	####
DRAWN BY	CHECKED BY
AK / AW	KG

GC - 2022-007-G
FC - 2022-007-P
EC - 2022-007-E

DRAWING NO.
A - 120

SHEET 8 OF 43



2 REFLECTED CEILING PLAN - 1ST LEVEL - ZONE "B"
SCALE: 1/8" = 1'-0"

REFLECTED CEILING PLAN - GENERAL NOTES

A REFER TO ELEC. DWGS FOR ADDITIONAL LIGHT FIXTURE AND LIGHTING REPLACEMENT INFORMATION.

B REFER TO INTERIOR FINISH LEGEND & ROOM SCHEDULE FOR CEILING FINISHES ON A-130

REFLECTED CEILING PLAN - KEYNOTES

C01 ZONE 'A' - PROVIDE ACOUSTICAL PANEL CEILING (APC) @ CORRIDOR SIDE OF DOOR. COORDINATE W/ MECH TRANSFER GRILLE BY HC.

C02 ZONE 'A': PATCH EXIST. CONCRETE CEILING WHERE ITEMS WERE REMOVED THROUGHOUT ROOM. THIS INCLUDES: SURFACE MOUNTED LIGHT FIXTURES, TELEVISION & PROJECTOR MOUNTS, PREP SURFACES FOR NEW FINISH. THIS INCLUDES REMOVING DEBRIS & ADHESIVE FROM CONCRETE CEILING & GWB SOFFITS.

C03 ZONE 'A' - PROVIDE ACOUSTICAL PANEL CEILING SYSTEM (APC), INCLUDING SUSPENSION GRID

C04 CEILING MOUNTED CUBICLE CURTAIN & TRACK

C05 ZONE 'A' - CONSTRUCT GWB SOFFIT. NEW SOFFIT HEIGHT TO MATCH HEIGHT OF EXISTING ADJACENT SOFFIT, +/- 7'-3". PROVIDE ACCESS PANEL TO MAINTAIN ACCESS TO EXIST. PLUMB. VALVES. PRODUCT: BAUCO - SOFTLINE #30-1818-TL - GALVANIZED STEEL - FINISH: WHITE (STANDARD).

C06 ZONE 'B' - EXISTING METAL GRID (CEILING SUSPENSION SYSTEM) TO REMAIN AND TO BE CLEANED THROUGHOUT ROOM. THIS INCLUDES REMOVING DEBRIS & ADHESIVE. PREP TO RECEIVE NEW ACOUSTICAL CEILING PANELS & LIGHT FIXTURES. COORDINATE & SHAPE NEW ACOUSTICAL CEILING PANELS AROUND EXISTING MPE ITEMS TO REMAIN. THIS TO INCLUDE: SPRINKLERS, MECH LOUVERS & SPEAKERS.

C07 ZONE 'B' - GWB CEILING SOFFIT. - PATCH AND PREP EXISTING GWB SOFFIT. THIS INCLUDES: REMOVAL OF STAPLES, TACKS, STICKERS & TAPE ADHESIVE. PREP VERTICAL FACE TO RECEIVE TACKBOARD PRODUCT.

C08 ZONE 'A' - GWB CEILING SOFFIT. - PATCH AND PREP EXISTING GWB SOFFIT. THIS INCLUDES: REMOVAL OF STAPLES, TACKS, STICKERS & TAPE ADHESIVE.

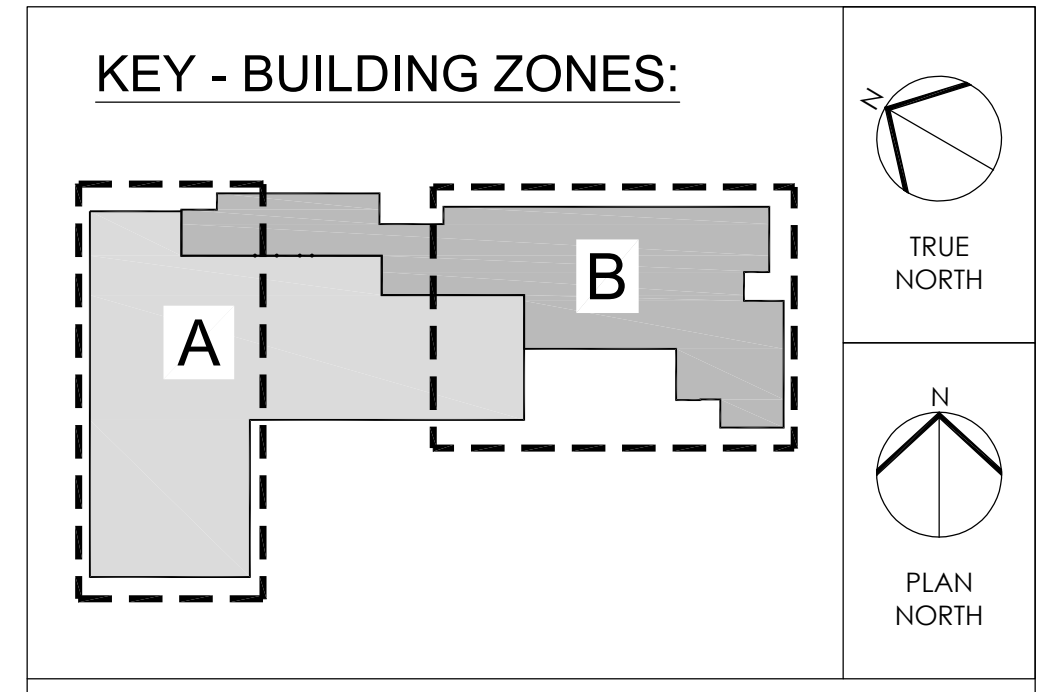
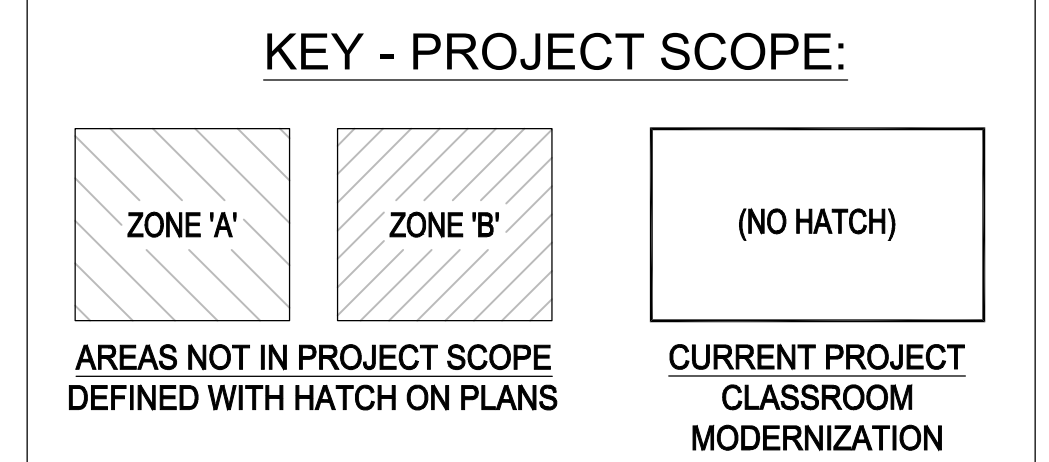
REFLECTED CEILING PLAN - GRAPHIC KEY

ACOUSTICAL PANEL CEILING

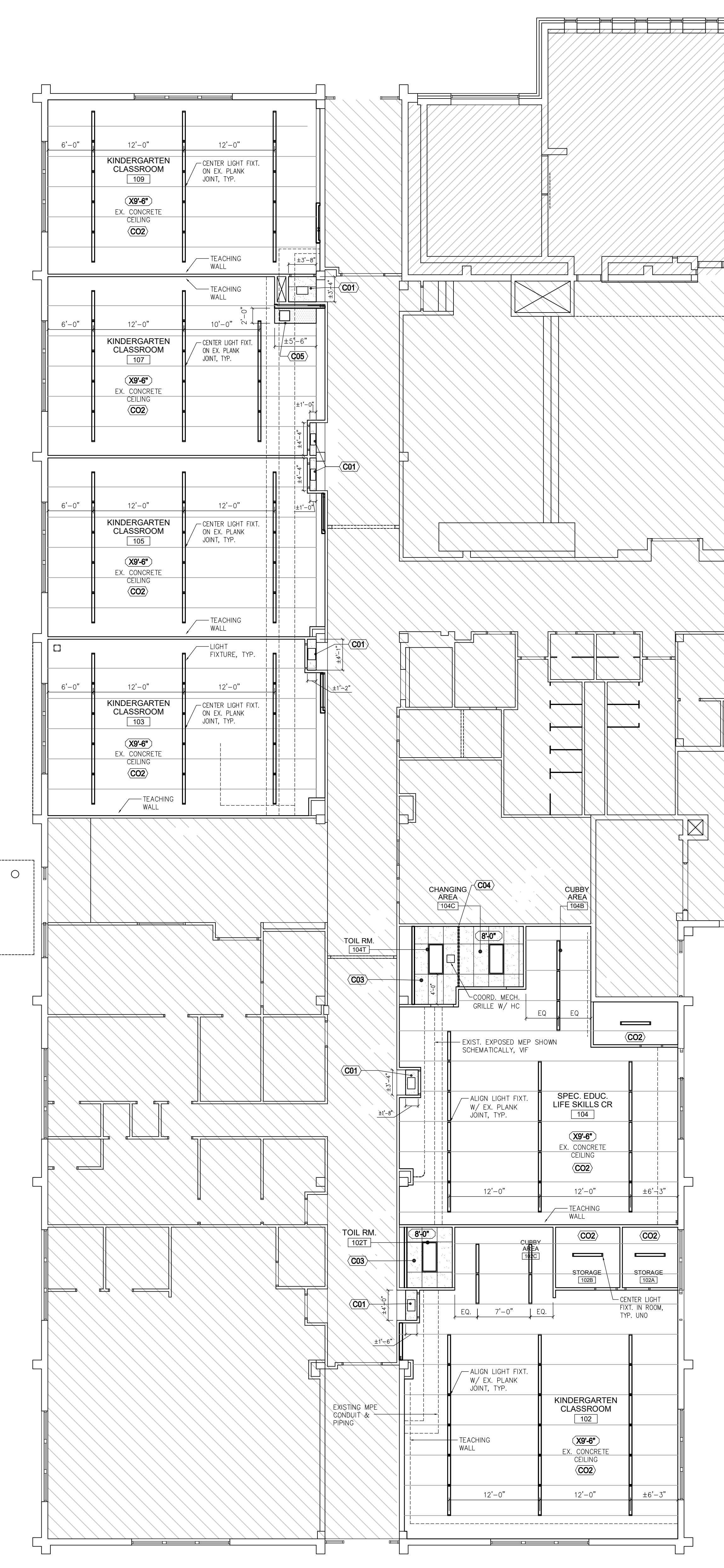
CEILING HEIGHT SYMBOL, ABOVE FINISHED FLOOR (X = EXISTING HEIGHT)

LIGHT FIXTURE

APPROX. LOCATION OF DEMO'D LIGHT FIXTURE



NOTES:
- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.



1 REFLECTED CEILING PLAN - 1ST LEVEL - ZONE "A"
SCALE: 1/8" = 1'-0"

SEAL:



Name: Kevin Ray Goodhall DATE: 10/22/1996
STATE AND LICENSE NO: RA014783X

ARCHITECT:
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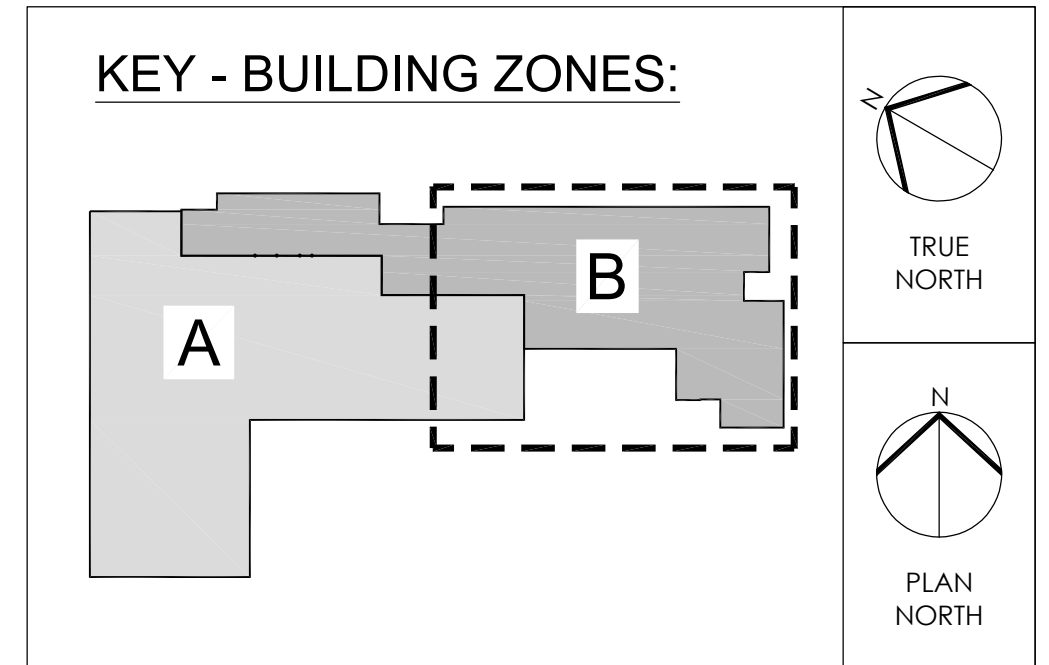
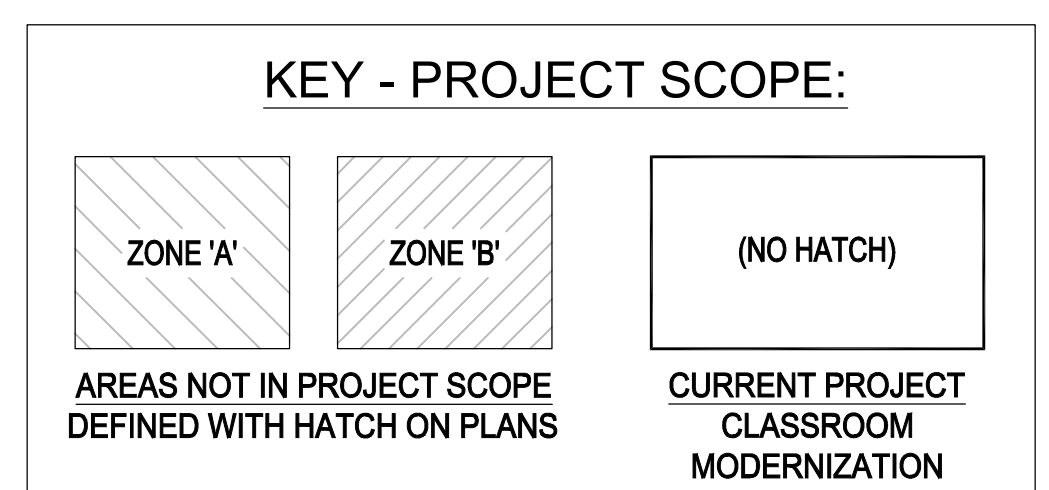
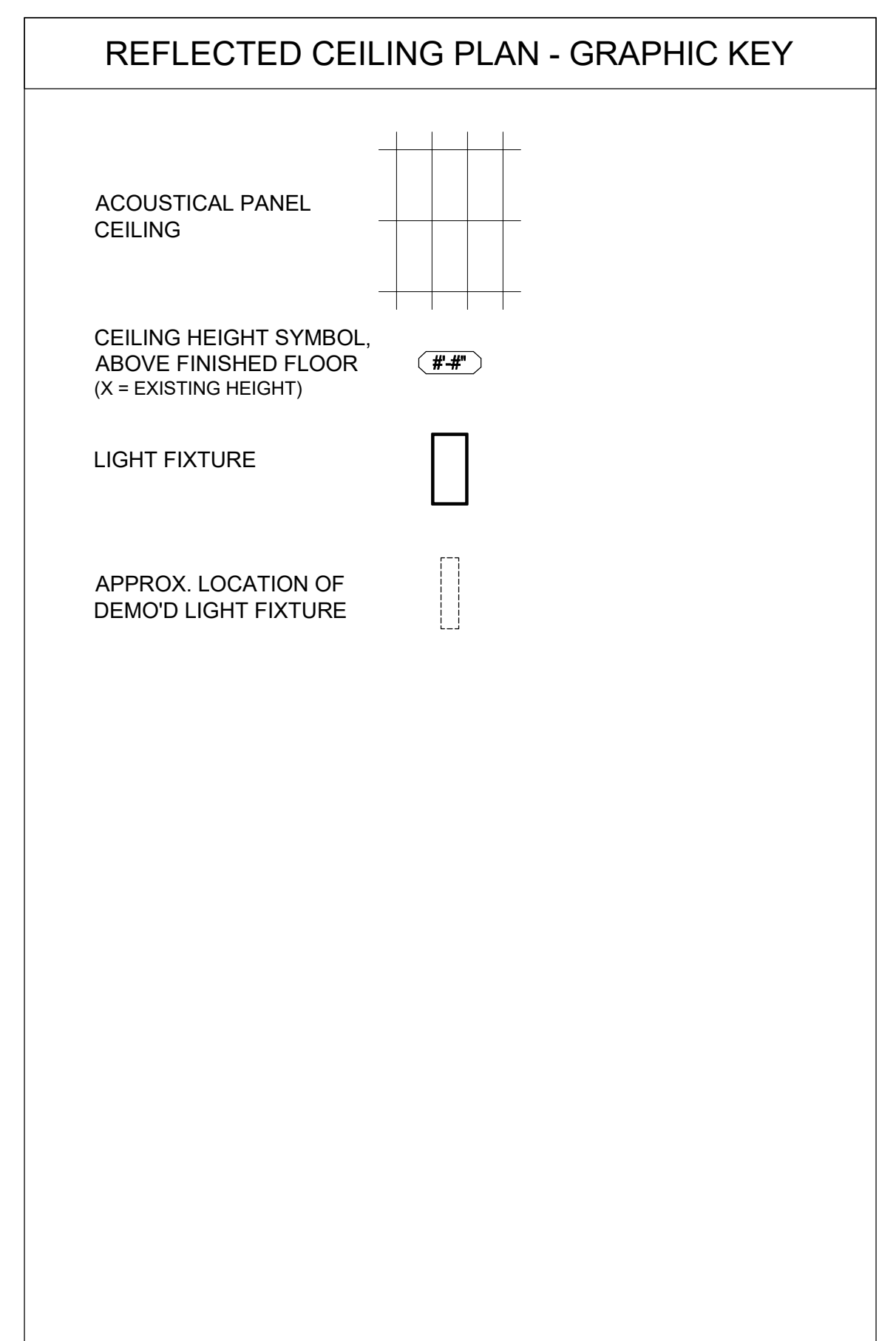
3 REFLECTED CEILING PLAN - 2ND LEVEL - ZONE "B"
A-121 SCALE: 1/8" = 1'-0"

REFLECTED CEILING PLAN - GENERAL NOTES

A	REFER TO ELEC. DWGS FOR ADDITIONAL LIGHT FIXTURE AND LIGHTING REPLACEMENT INFORMATION.
B	REFER TO INTERIOR FINISH LEGEND & ROOM SCHEDULE FOR CEILING FINISHES ON A-130

REFLECTED CEILING PLAN - KEYNOTES

C01	ZONE 'A' - PROVIDE ACOUSTICAL PANEL CEILING (APC) @ CORRIDOR SIDE OF DOOR. COORDINATE W/ MECH TRANSFER GRILLE BY HC.
C02	ZONE 'A': PATCH EXIST. CONCRETE CEILING WHERE ITEMS WERE REMOVED THROUGHOUT ROOM. THIS INCLUDES: SURFACE MOUNTED LIGHT FIXTURES, TELEVISION & PROJECTOR MOUNTS, PREP SURFACES FOR NEW FINISH. THIS INCLUDES REMOVING DEBRIS & ADHESIVE FROM CONCRETE CEILING & GWB SOFFITS.
C03	ZONE 'A' - PROVIDE ACOUSTICAL PANEL CEILING SYSTEM (APC), INCLUDING SUSPENSION GRID
C04	CEILING MOUNTED CUBICLE CURTAIN & TRACK
C05	ZONE 'A' - CONSTRUCT GWB SOFFIT. NEW SOFFIT HEIGHT TO MATCH HEIGHT OF EXISTING ADJACENT SOFFIT, +/- 7'-3". PROVIDE ACCESS PANEL TO MAINTAIN ACCESS TO EXIST. PLUMB. VALVES. PRODUCT: BAUCO - SOFTLINE #30-1818-TL - GALVANIZED STEEL - FINISH: WHITE (STANDARD).
C06	ZONE 'B' - EXISTING METAL GRID (CEILING SUSPENSION SYSTEM) TO REMAIN AND TO BE CLEANED THROUGHOUT ROOM. THIS INCLUDES REMOVING DEBRIS & ADHESIVE. PREP TO RECEIVE NEW ACOUSTICAL CEILING PANELS & LIGHT FIXTURES. COORDINATE & SHAPE NEW ACOUSTICAL CEILING PANELS AROUND EXISTING MPE ITEMS TO REMAIN. THIS TO INCLUDE: SPRINKLERS, MECH LOUVERS & SPEAKERS.
C07	ZONE 'B' - GWB CEILING SOFFIT. - PATCH AND PREP EXISTING GWB SOFFIT. THIS INCLUDES: REMOVAL OF STAPLES, TACKS, STICKERS & TAPE ADHESIVE. PREP VERTICAL FACE TO RECEIVE TACKBOARD PRODUCT.
C08	ZONE 'A' - GWB CEILING SOFFIT. - PATCH AND PREP EXISTING GWB SOFFIT. THIS INCLUDES: REMOVAL OF STAPLES, TACKS, STICKERS & TAPE ADHESIVE.



NOTES:
- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

ISSUE FOR BID
01/14/2022

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1	2.17.2022	ADDENDUM 2
NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
REFLECTED CEILING PLANS 2ND LEVEL

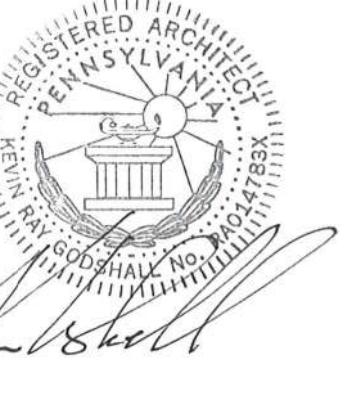
DRAWING SCALE

LOCATION NO. ####	
DRAWN BY AK / AW	CHECKED BY KG

GC - 2022-007-G
PC - 2022-007-P
EC - 2022-007-E

DRAWING NO.
A - 121
SHEET 9 OF 43

SEAL:



Name: Kevin Ray Goodhall DATE: 10/22/1996
State and License No: RA014783X

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INTERIOR FINISH - LEGEND OF MATERIALS

ABBREV. / TAGS	MATERIAL / DESCRIPTION	MANUFACTURE / STYLE / COLOR / MISC.	REMARKS	REF. SPEC
APC	ACOUSTICAL PANEL CEILING	ARMSTRONG WORLD INDUSTRIES, INC. - FINE FISSURED (SCHOOL ZONE) #1714	APC = PROVIDE ACOUSTICAL PANEL CEILING SYSTEM THROUGH OUT ROOM, THIS INCLUDES: METAL GRID, SUSPENSION & ACOUSTICAL PANELS.	09 51 13
APC-R	ACOUSTICAL PANEL CEILING - REPLACEMENT	ARMSTRONG WORLD INDUSTRIES, INC. - FINE FISSURED (SCHOOL ZONE) #1714	APC-R = REPLACEMENT OF ACOUSTICAL PANELS ONLY	09 51 13
CCT	CUBICLE CURTAIN & TRACK	(REF. SPEC. FOR TRACK & CURTAIN FABRIC PRODUCTS)		10 21 23
CT-F	CERAMIC TILE @ FLOOR & BASE	DALTILE - KEYSTONES TILE SIZE: 2 INCH X 2 INCH COLOR: #D208 SUEDE GRAY SPECKLE TILE BASE: 3 TILE HIGH (NO COVE / FLAT TOP)	AT DOOR OPENING, PROVIDE BULLNOSE EDGE TILE TRANSITION TO ADJACENT FLOOR FINISH. TRANSITION HEIGHT NOT TO EXCEED 1/4" VERTICAL HEIGHT DIFFERENCE, IF GREATER THAN 1/4" THAN GRIND EXIST. FLOOR SUBSTRATE.	09 30 13
CT-W#	CERAMIC TILE @ WALLS	DALTILE - COLORWHEEL TILE SIZE: 4 INCH X 4 INCH CT-W1 = #X714 DESERT GRAY - MATTE (FIELD) CT-W2 = #1049 OCEAN BLUE - ACCENT (@ RM. 102T) CT-W3 = #048 SPA - ACCENT (@ RM. 104T)	- INSTALL WALL TILE FROM FLOOR TO CEILING, UNLESS NOTED OTHERWISE. - PROVIDE "BULL NOSE" EDGED TILE WHERE TILE EDGES ARE EXPOSED, THIS INCLUDES AT PERIMETER OF DOOR OPENINGS.	09 30 13
MB	MARKERBOARD W/ ALUM. FRAME	CLARIDGE PRODUCTS (BASIS OF DESIGN)	REF. DRAWINGS FOR SIZE & LOCATIONS	10 11 00
P-#	PAINT	MANUF. SHERWIN WILLIAMS		09 91 23
	P-A1	SW 7014 - EIDER WHITE	ZONE 'A' - FIELD PAINT @ WALLS, UNO	
	P-A2	SW 9052 - BLITHE BLUE ("TEAL")	- ACCENT PAINT, WHERE INDICATED DRAWINGS	
	P-A3	SW 6430 - GREAT GREEN ("GREEN"), SIM.	- ACCENT PAINT @ LIFE SKILLS / AUT. SUP.	
	P-A-C	SW 9052 - EIDER WHITE	- CEILING PAINT @ EXPOSED CONCRETE	
	P-A-HM	SW 7018 - DOVE TAIL	- HOLLOW METAL FRAMES, TYP.	
	P-B1	SW 7014 - EIDER WHITE	ZONE 'B' - FIELD PAINT @ WALLS & CLNG SOFFIT, UNO	
	P-B2	SW 6689 - OVERJOY ("YELLOW")	- ACCENT PAINT FOR COLOR FAMILY #1	
	P-B3	SW 6430 - GREAT GREEN ("GREEN")	- ACCENT PAINT FOR COLOR FAMILY #2	
	P-B4	SW 6430 - GREAT GREEN ("GREEN"), SIM.	- ACCENT PAINT @ LIFE SKILLS / AUT. SUP.	
	P-B-HM	SW #: (TBD, SIMILAR TO SW 6804 DIGNITY BLUE)	- "DARK BLUE" PAINT = MATCH EXISTING HOLLOW METAL FRAME AT CLASSROOM DOOR	
	P-ES	ELECTROSTATIC PAINT	REFERENCE SPECIFICATION	10 51 15
PLAM-#	PLASTIC LAMINATE	WILSONART - STANDARD LAMINATE		06 42 19
	PLAM-G	#13091-60 NORI (MATTE FINISH)	NO SUBSTITUTIONS - COLOR SIMILAR TO EXIST. 'GREEN' CABINETS IN ZONE 'B'.	
	PLAM-B	#13099-60 ASTOR (MATTE FINISH)	NO SUBSTITUTIONS - COLOR SIMILAR TO EXIST. 'BLUE' CABINETS IN ZONE 'B'.	
RB	RESILIENT BASE	MANUF. ROPPE PRODUCT: PINNACLE - VULCANIZED TS RUBBER SIZE: 6 INCH HIGH, TYP. / 4" HIGH @ CABINETS COLOR: #175 SLATE	REF. FINISH PLANS FOR COLOR SELECTION RELATED TO ROOM'S ASSIGNED "COLOR FAMILY".	09 65 13
SS-CG	STAINLESS STEEL CORNER GUARDS	CS ACROVYN - MODEL C08 @ 90 DEGREES		
SSM-#	SOLID SURFACE MATERIAL	WILSONART - SOLID SURFACE	SSM @ COUNTERTOPS (STANDARD)	12 36 61
	SSM-A	COLOR: #9175 ML - AVALANCHE MELANGE	ZONE 'A': COUNTERTOPS	
	SSM-B	COLOR: #9228 SS - CHILLED EARTH	ZONE 'B': COUNTERTOPS	
TB	TACKBOARD W/ ALUM. FRAME	CLARIDGE PRODUCTS (BASIS OF DESIGN)	REF. DRAWINGS FOR SIZE & LOCATIONS	10 11 00
TBW	TACKBOARD W/ EDGE WRAPPED VINYL FABRIC	CLARIDGE PRODUCTS - "FABRICORK" VINYL; [TO BE SELECTED FROM MANUF. STANDARDS, SUBMIT SAMPLES]	REF. DRAWINGS FOR SIZE & LOCATIONS	10 11 00
VCT-#	VINYL COMPOSITE TILE (RESILIENT TILE)	ARMSTRONG WORLD INDUSTRIES STANDARD EXCELON IMPERIAL TEXTURE VCT	- PROVIDE HYDRAULIC CEMENT UNDERLAYMENT UNDER NEW VCT INSTALLATIONS. GRIND AND TAPER SUBFLOOR AS REQUIRED TO MAKE TOP OF NEW VCT FLOOR MEETING FLUSH WITH TOP OF EXISTING FLOOR FINISH AT DOOR OPENINGS. - REF. FINISH PLANS FOR COLOR SELECTION RELATED TO ROOM'S ASSIGNED "COLOR FAMILY".	09 65 19
WD	WOOD	WOOD SPECIES - CLEAR / MINWAX STAIN #	WHERE NOTED TO MATCH EXIST. WOOD, PROVIDE THREE (3) SAMPLE OPTIONS OF VARIOUS STAIN OPTIONS, +/- 8" SQ. EACH.	06 40 00
	WD-A	OAK - (MATCH EX. "MEDIUM" STAINED DOORS)	ZONE 'A': WOOD DOORS & CABINETS	
	WD-B	OAK - (MATCH EX. "MEDIUM" STAINED DOORS)	ZONE 'B': WOOD DOORS & CABINETS	
GENERAL NOTES:				
1	REFERENCE INTERIOR FINISH - ROOM SCHEDULE			
2	REFERENCE INTERIOR FINISH PLAN & INTERIOR ELEVATIONS			

INTERIOR FINISH - ROOM SCHEDULE

ROOM #	ROOM NAME	FLOOR		WALLS			CEILING		COLOR FAMILY CF-#	REMARKS
		FINISH	BASE	N	E	S	W	MATL.		
ZONE 'A' - FIRST FLOOR:										
-	(EX. CORRIDOR)	-	-	-	-	-	-	APC	-	1
102	CLASSROOM	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	
102A	STORAGE	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	
102B	STORAGE	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	
102C	CUBBY AREA	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	
102T	TOILET ROOM	CT-F		CT-W1 & CT-W2			APC	-	-	2
103	CLASSROOM	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	
104	CLASSROOM	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-2	
104A	STORAGE	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-2	
104B	CUBBY AREA	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-2	
104C	CHANGING AREA	CT-F		CT-W1 & CT-W3			APC	-	-	2
104T	TOILET ROOM	CT-F		CT-W1 & CT-W3			APC	-	-	2
105	CLASSROOM	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	
107	CLASSROOM	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	
109	CLASSROOM	VCT-#	RB-A	P-A# SERIES			(EX. CONC.)	P-A-C	CF-1	6 1
ZONE 'B' - FIRST FLOOR:										
108	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-	CF-4	4
110	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-	CF-4	4
111	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
112	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4, 6 1
112T	TOILET ROOM	(EX. CERAMIC TILE FLOOR & BASE TO REMAIN)		P-B# SERIES			APC-R	-		4
113	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
114	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
114T	TOILET ROOM	(EX. CERAMIC TILE FLOOR & BASE TO REMAIN)		P-B# SERIES			APC-R	-		4
115	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
117	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
119	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
121	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
ZONE 'B' - SECOND FLOOR:										
207	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
213	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
215	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
217	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
222	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
224	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
226	CLASSROOM	VCT-#	RB-B	P-B# SERIES			APC-R	-		4
REMARKS:										
ETR	EXISTING TO REMAIN									
1	ACOUSTICAL PANEL CEILING & GRID REPLACEMENT AT AREAS ADJACENT TO CLASSROOM ENTRANCE DOORS ON CORRIDOR SIDE. COORDINATE W/ TRANSER AIR DUCT W/ HC.									
2	ZONE 'A': CT-W1 = FIELD WALL TILE, TYP. / CT-W2 & CT-W3 = ACCENT WALL TILE, REF. INTERIOR ELEVATIONS FOR LAYOUT.									
3	REFERENCE DOOR SCHEDULE FOR HOLLOW METAL FRAME PAINTING									
4	ZONE 'B' GWB SOFFIT: VERTICAL FACE TO RECEIVE TACKBOARD PANEL [TBW], PAINT UNDERSIDE [P-B1]									
5	FOR VCT-# & P-#, REFERENCE FINISH PLANS FOR ASSIGNED "COLOR FAMILY"									
6	SELECT ELECTROSTATIC PAINTING OCCURS IN THIS ROOM, SEE INTERIOR ELEVATIONS FOR MORE INFORMATION									

ISSUE FOR BID
01/14/2022

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1	2.17.2022	ADDENDUM 2
NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

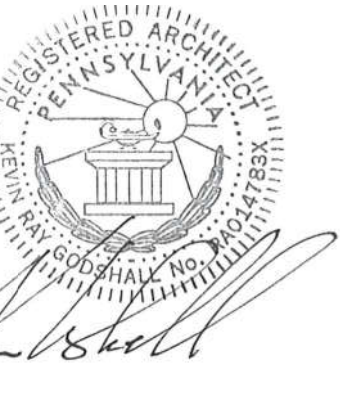
PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
INTERIOR FINISH LEGEND AND SCHEDULES

DRAWING SCALE	
LOCATION NO. ###	
DRAWN BY AK / AW	CHECKED BY KG
GC - 2022-007-G PC - 2022-007-P EC - 2022-007-E	

DRAWING NO.
A - 130
SHEET 10 OF 43

SEAL:



Owner: Kevin Ray Goodhall
STATE AND LICENSE NO: RA014793X DATE: 10/22/1994

ARCHITECT:
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ISSUE FOR BID
01/14/2022

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1	2.17.2022 ADDENDUM 2	
NO.	DATE	REVISION

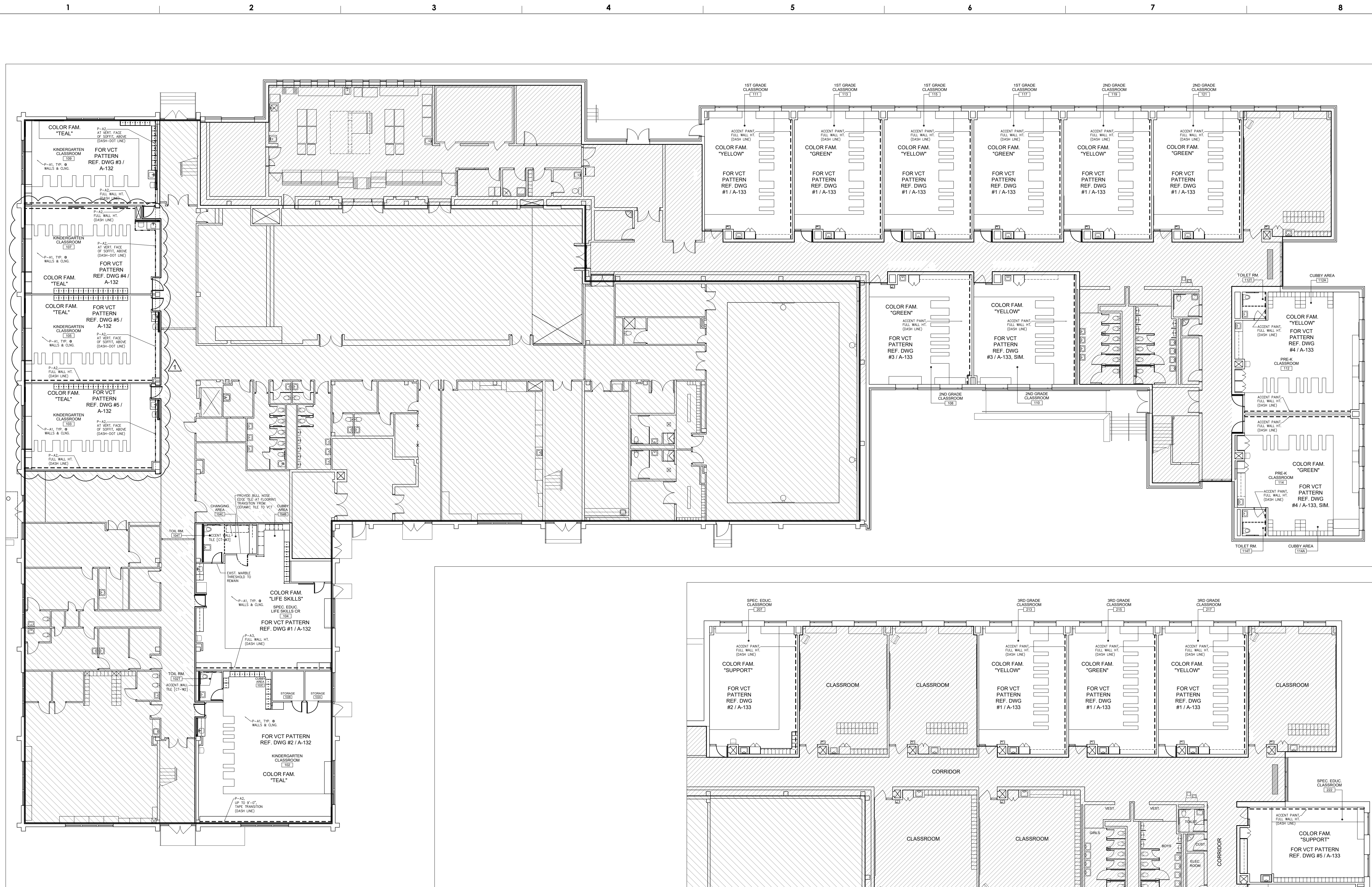
SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
**FINISH PLANS
1ST LEVEL**

DRAWING SCALE	
LOCATION NO.	###
DRAWN BY	CHECKED BY
AK / AW	KG
GC - 2022-007-G	
PC - 2022-007-P	
EC - 2022-007-E	

DRAWING NO.
A - 131
SHEET 11 OF 43



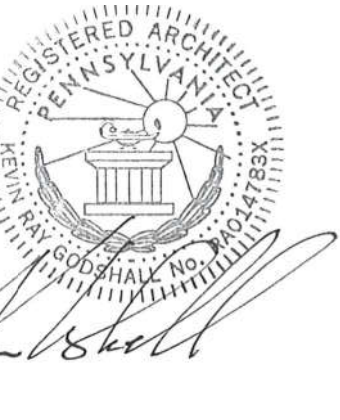
1 FINISH PLAN - 1ST LEVEL - ZONE "A" & "B"
SCALE: 3/32" = 1'-0"

KEY - PROJECT SCOPE:

ZONE 'A'	ZONE 'B'	(NO HATCH)
AREAS NOT IN PROJECT SCOPE DEFINED WITH HATCH ON PLANS		CURRENT PROJECT 2022-23 CLASSROOM MODERNIZATION

2 FINISH PLAN - 2ND LEVEL - ZONE "B"
SCALE: 3/32" = 1'-0"

SEAL:



Name: Kevin Ray Goodhall DATE: 10/22/1996
STATE AND LICENSE NO: RA014783X

ARCHITECT:
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COLOR FAMILY "TEAL"
@ ZONE 'A' KINDERGARTEN CR'S
RMS: 102, 103, 105, 107 & 109

- VCT-1 (FIELD)
#51836 SHELTER WHITE
- VCT-2
#51927 FIELD GRAY
- VCT-3
#57506 COLORADO STONE "TEAL"

ACCENT WALL PAINT = P-A2 "TEAL"
(LOCATED ON "TEACHING WALL"
REF. INTERIOR FINISH PLAN & LEGEND)

COLOR FAMILY "LIFE SKILLS"
@ LIFE SKILLS - RM #104

- VCT-1 (FIELD)
#51836 SHELTER WHITE
- VCT-4
#51885 GRANNY SMITH
- VCT-5
#51927 FIELD GRAY

ACCENT WALL PAINT = P-A3
(LOCATED ON "TEACHING WALL"
REF. INTERIOR FINISH PLAN & LEGEND)

FINISH PLAN - GENERAL NOTES

- REFERENCE INTERIOR FINISH LEGEND & ROOM SCHEDULE ON SHEET A-130 FOR LIST OF FINISH PRODUCTS, RELATED FINISH ABBREVIATIONS AND ADDITIONAL FINISH INFORMATION.
- HYDRAULIC CEMENT UNDERLAYMENT: PROVIDE UNDER NEW VCT FLOOR INSTALLATIONS. GRIND & TAPER SUBFLOOR AS REQUIRED TO MAKE TOP OF NEW VCT FLOOR MEET FLUSH WITH TOP OF EXISTING FLOOR FINISH AT DOOR OPENINGS.

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NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

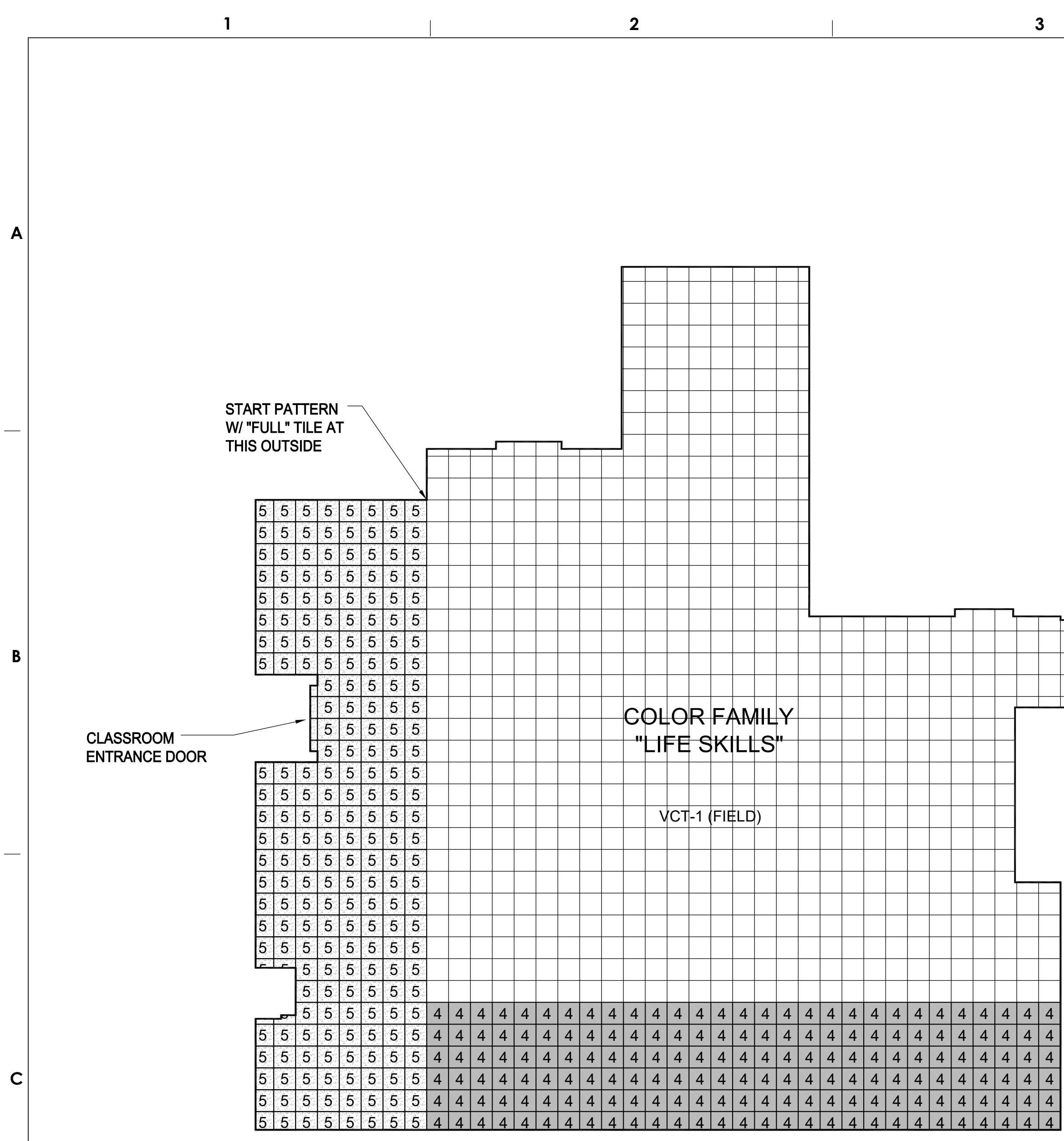
DRAWING TITLE
VCT FLOOR PATTERNS

DRAWING SCALE

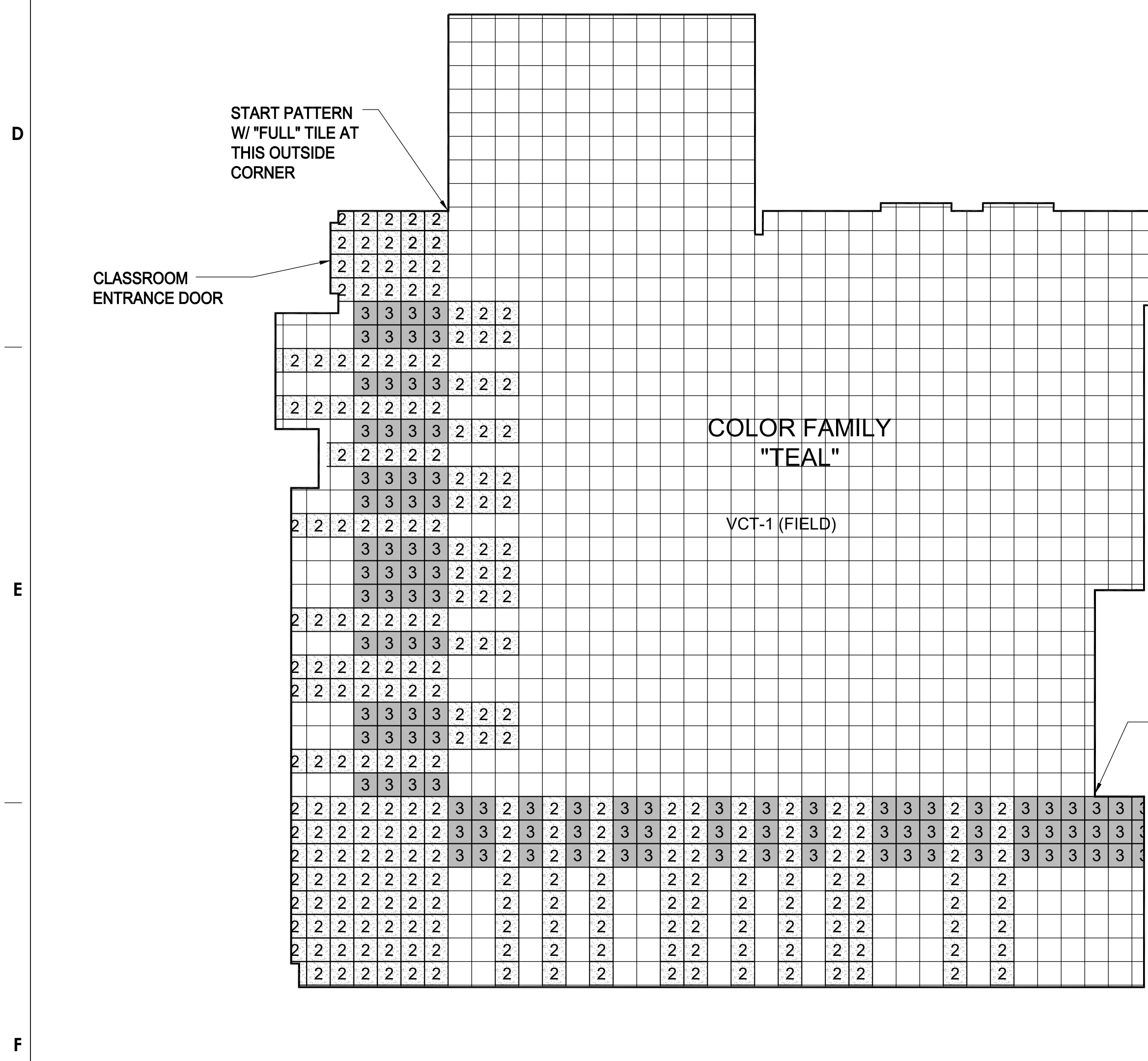
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PC - 2022-007-P
EC - 2022-007-E

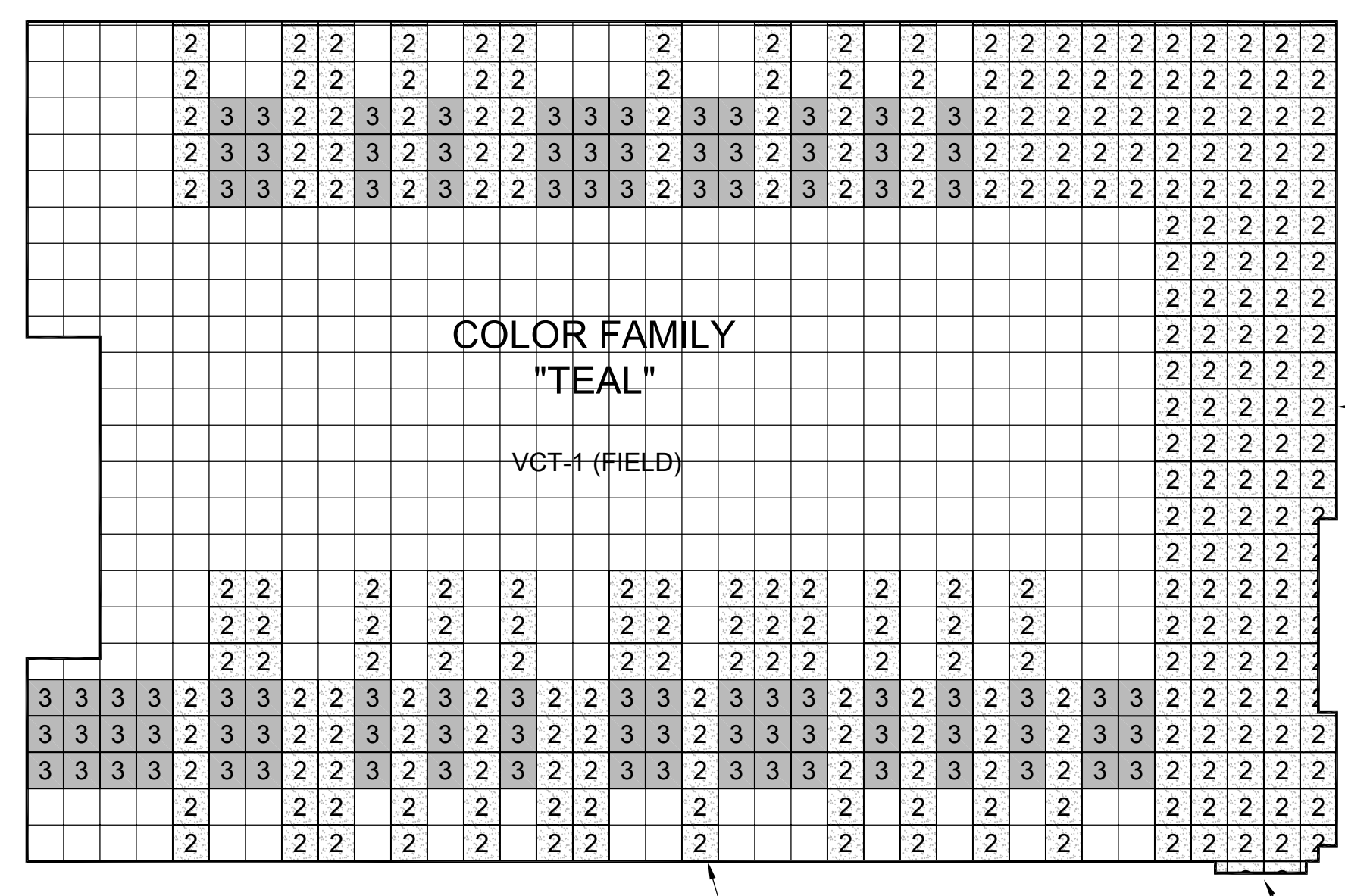
DRAWING NO.
A - 132
SHEET 12 OF 43



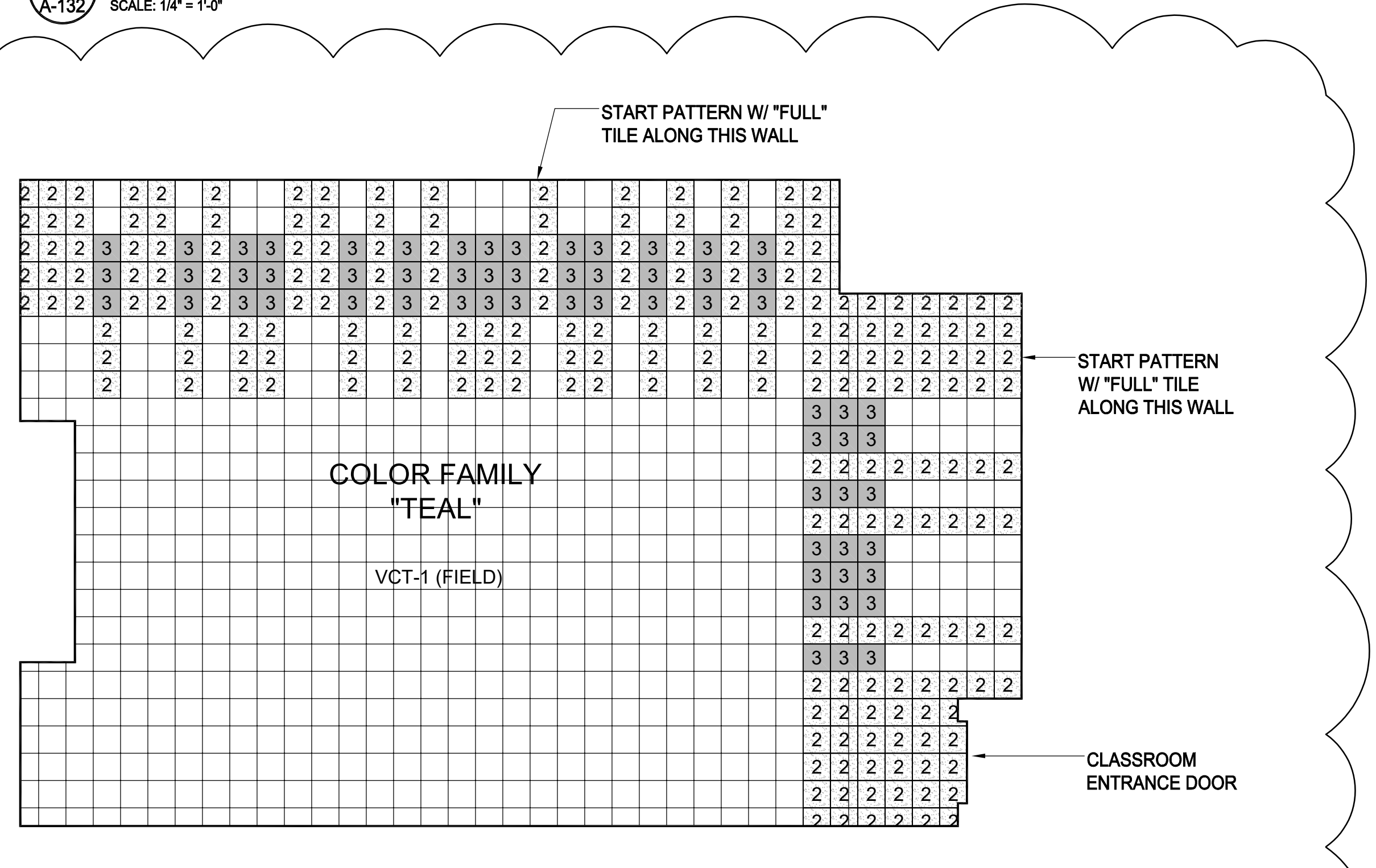
1 VCT FLOOR PATTERN @ BUILDING ZONE 'A' - ROOM #104
A-132 SCALE: 1/4" = 1'-0"



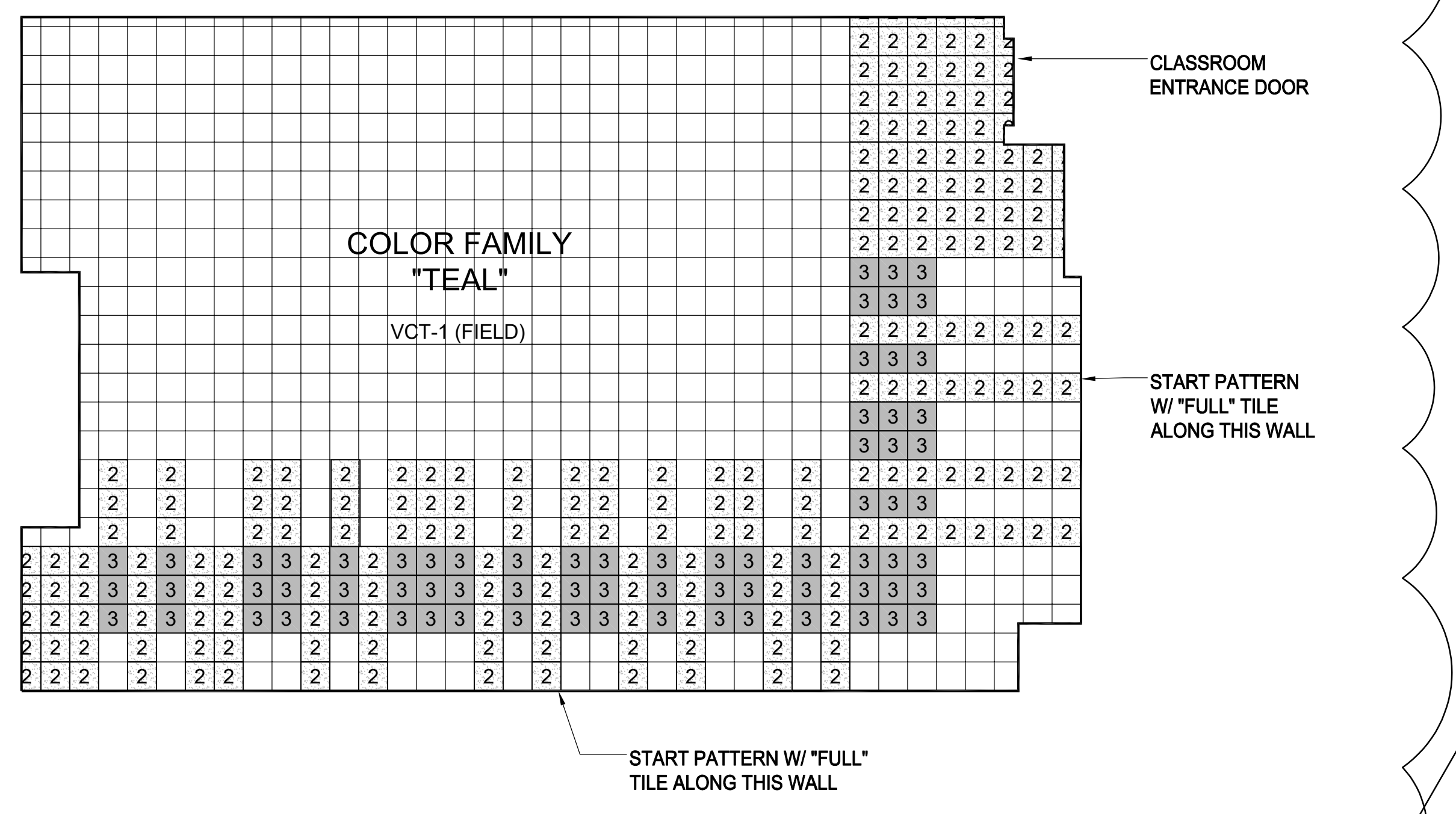
2 VCT FLOOR PATTERN @ BUILDING ZONE 'A' - ROOM #102
A-132 SCALE: 1/4" = 1'-0"



3 VCT FLOOR PATTERN @ BUILDING ZONE 'A' - ROOM #103
A-132 SCALE: 1/4" = 1'-0"



4 VCT FLOOR PATTERN @ BUILDING ZONE 'A' - ROOM #107
A-132 SCALE: 1/4" = 1'-0"



5 VCT FLOOR PATTERN @ BUILDING ZONE 'A' - ROOM #103 & 105
A-132 SCALE: 1/4" = 1'-0"

1

SEAL:



Name: Kevin Ray Godshall DATE: 10/22/1996
STATE AND LICENSE NO: RA014783X

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ISSUE FOR BID
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NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

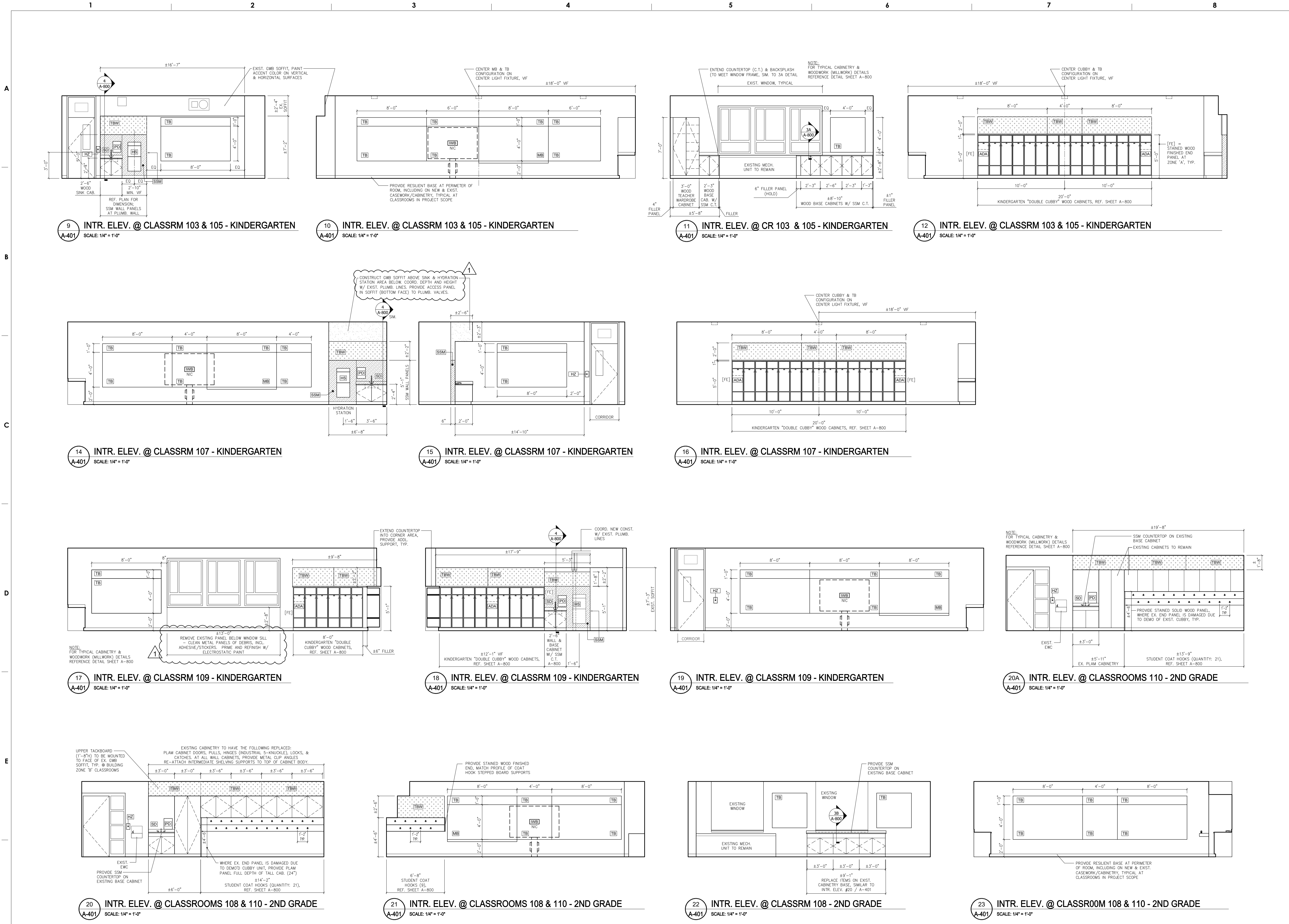
PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
INTERIOR ELEVATIONS & DETAILS

DRAWING SCALE

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GC - 2022-007-G	
PC - 2022-007-P	
EC - 2022-007-E	

DRAWING NO.
A - 401
SHEET 15 OF 43



9 INTR. ELEV. @ CLASSRM 103 & 105 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

10 INTR. ELEV. @ CLASSRM 103 & 105 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

11 INTR. ELEV. @ CR 103 & 105 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

12 INTR. ELEV. @ CLASSRM 103 & 105 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

14 INTR. ELEV. @ CLASSRM 107 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

15 INTR. ELEV. @ CLASSRM 107 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

16 INTR. ELEV. @ CLASSRM 107 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

17 INTR. ELEV. @ CLASSRM 109 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

18 INTR. ELEV. @ CLASSRM 109 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

19 INTR. ELEV. @ CLASSRM 109 - KINDERGARTEN
A-401 SCALE: 1/4" = 1'-0"

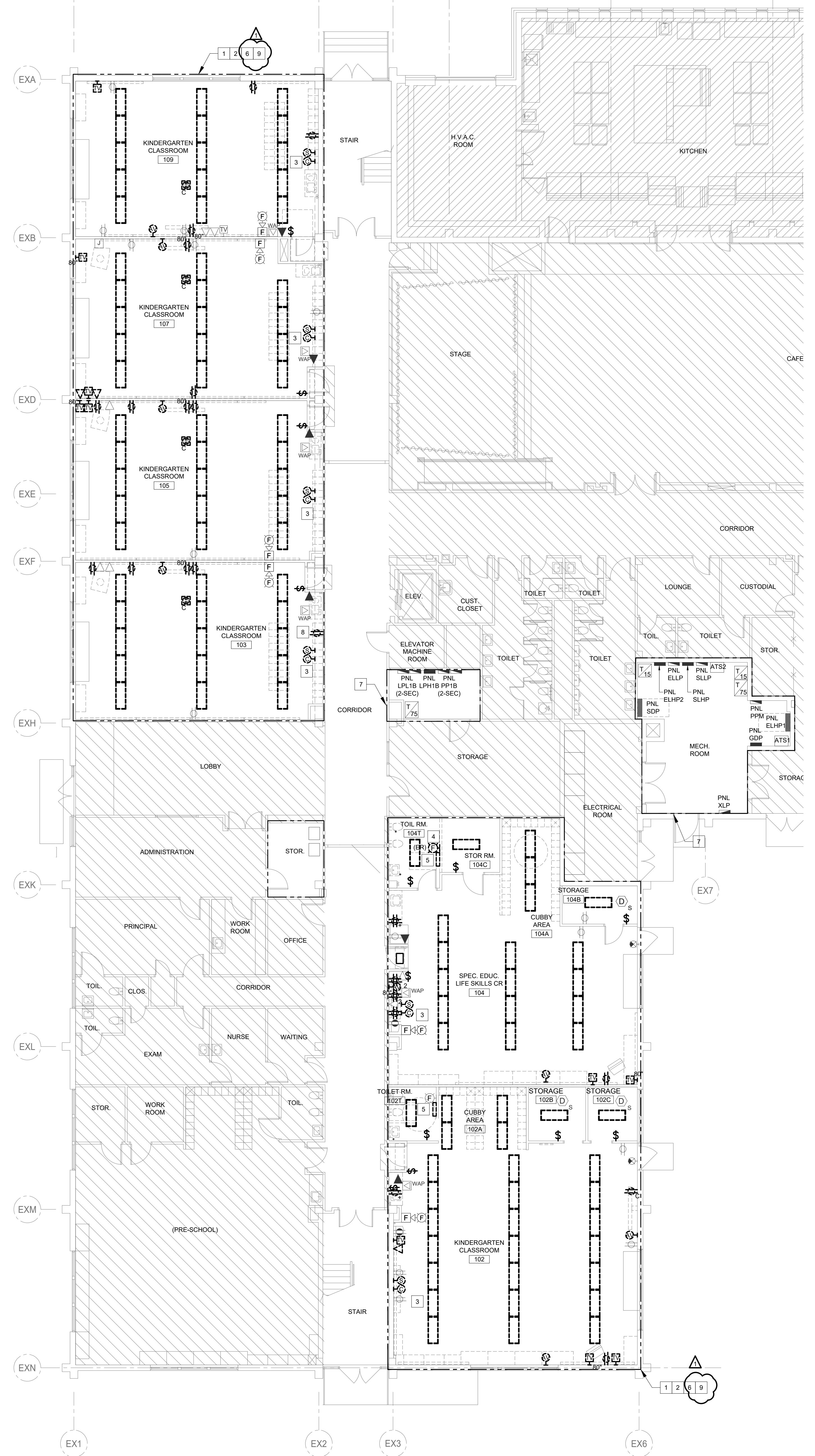
20A INTR. ELEV. @ CLASSROOMS 110 - 2ND GRADE
A-401 SCALE: 1/4" = 1'-0"

20 INTR. ELEV. @ CLASSROOMS 108 & 110 - 2ND GRADE
A-401 SCALE: 1/4" = 1'-0"

21 INTR. ELEV. @ CLASSROOMS 108 & 110 - 2ND GRADE
A-401 SCALE: 1/4" = 1'-0"

22 INTR. ELEV. @ CLASSRM 108 - 2ND GRADE
A-401 SCALE: 1/4" = 1'-0"

23 INTR. ELEV. @ CLASSROOM 108 & 110 - 2ND GRADE
A-401 SCALE: 1/4" = 1'-0"

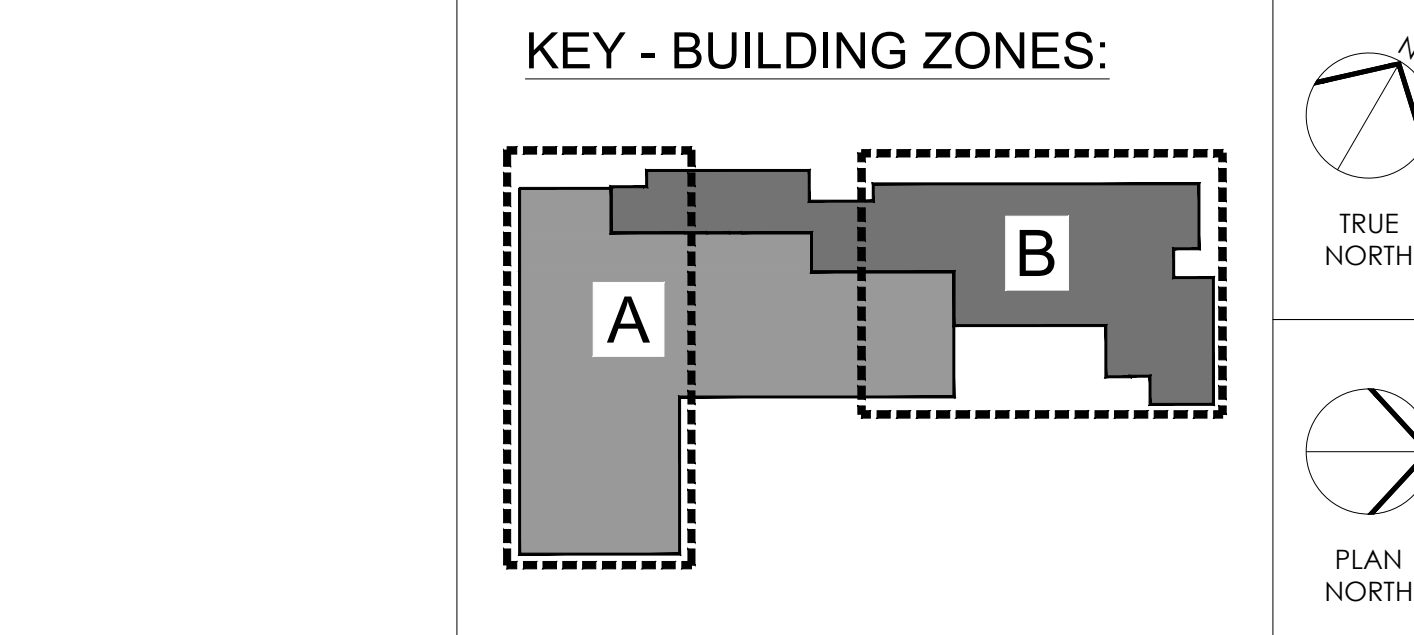
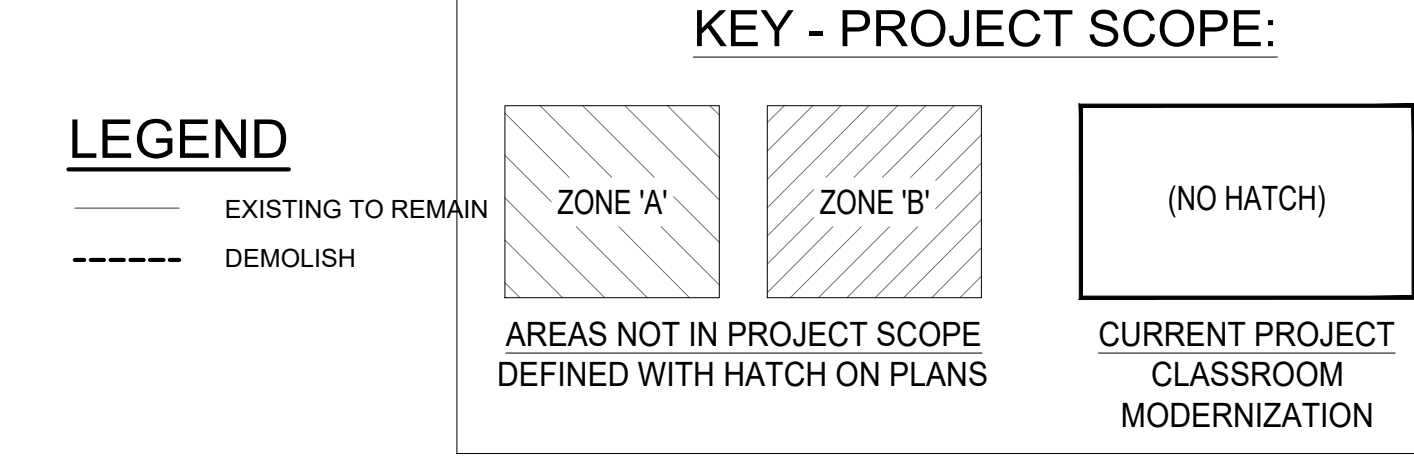


GENERAL DEMOLITION NOTES

- ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AS WELL AS ALL APPLICABLE STATE & LOCAL CODES & ORDINANCES.
- FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
- ALL EQUIPMENT SHOWN ON THE DEMOLITION PLANS IS EXISTING UNLESS NOTED OTHERWISE.
- ALL DEMOLITION WORK SHALL BE PERFORMED WITH "DUE CARE AND DILIGENCE" SO AS TO PREVENT THE ARBITRARY DESTRUCTION OR INTERRUPTION OF CONCEALED UTILITIES WHICH ARE INTENDED TO REMAIN IN USE AND THE ROUTING OF WHICH COULD NOT BE PREDETERMINED UNTIL DEMOLITION WAS STARTED. ALL SUCH DISCOVERIES OF UTILITIES DURING THE DEMOLITION PROCESS WHICH ARE IN A LOCATION DIFFERENT FROM THAT INDICATED, CHANGE DIRECTION FROM FLOOR TO FLOOR, ETC. OR ARE UNIDENTIFIED SHALL BE REPORTED TO THE ARCHITECT AND TO THE ENGINEER BEFORE REMOVAL.
- THE DEMOLITION WORK AT ALL TIMES SHALL BE SUBJECT TO THE DIRECTION AND APPROVAL OF OWNER/LANDLORD AND BE CARRIED OUT IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE NORMAL OPERATION OF THE BUILDING.
- THE DEMOLITION DRAWINGS GENERALLY INDICATE THE REMOVAL OF ITEMS WHICH ARE IN VIEW OR BELIEVED TO BE CONCEALED (SUCH AS EXISTING COLUMNS CONCEALED WITHIN WALLS, ETC.). THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT AND THE ENGINEER, IN WRITING, OF THE FOLLOWING CONDITIONS, BEFORE SUCH CONDITIONS ARE DISTURBED AND BEFORE SIGNIFICANT DELAY OR COST IS INCURRED BY THE CONTRACTOR:
 - CONCEALED OR UNKNOWN CONDITIONS ENCOUNTERED WHICH DIFFER MATERIALLY FROM THOSE INDICATED OR REASONABLY IMPLIED BY THE CONTRACT DOCUMENTS.
 - CONCEALED PHYSICAL CONDITIONS IN THE EXISTING STRUCTURE OF AN UNUSUAL NATURE.
- EXISTING TO BE DEMOLISHED:
 - THE GENERAL CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DESIGNATED AND/OR SHOWN TO BE DEMOLISHED AND CLEAR TO RECEIVE NEW WORK AS HEREIN INDICATED.
 - ELECTRICAL CONTRACTOR SHALL REMOVE ALL DEVICES AND ITEMS PERTAINING TO ELECTRICAL FROM ALL EXISTING PARTITIONS, CEILINGS, ETC. BEING REMOVED.
 - ALL EXISTING WIRING AND CONDUIT SHALL BE REUSED, WHERE FEASIBLE. CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO SOURCE. COORDINATE DEMOLITION WITH CONCURRENT GENERAL.
 - DEMOLITION UNLESS NOTED TO BE ABANDONED, ALL ELECTRICAL WHICH PASS THROUGH OR ARE AFFECTED BY THE DEMOLITION SHALL BE MAINTAINED IN A COMPLETE AND FULLY OPERATIONAL CONDITION OR, WHERE NOTED, BE APPROPRIATELY CAPPED OFF. PROVIDE TEMPORARY SYSTEMS AS REQUIRED TO MAINTAIN FULL OPERATION OUTSIDE THE AREA OF DEMOLITION.
- EXISTING ELECTRICAL CIRCUITS, WHETHER WITHIN OR OUTSIDE THE LIMITS OF THE CONTRACT, SHALL BE REPAIRED WHERE ANY DAMAGE HAS OCCURRED DUE TO CONSTRUCTION.
- EQUIPMENT AND MATERIALS DESIRED BY OWNER/LANDLORD SHALL BE STORED AT THE SITE BY THE CONTRACTOR AT A LOCATION DIRECTED BY OWNER/LANDLORD. EQUIPMENT AND MATERIALS NOT DESIRED BY OWNER/LANDLORD SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR IMMEDIATELY. OWNER/LANDLORD SHALL PROVIDE LIST OF EQUIPMENT AND MATERIALS TO BE RETAINED.
- CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL CIRCUITS AND DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE RESPONSIBLE PARTY OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK.
- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED LICENSES AND PERMITS.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND TEMPORARY PROTECTION. DO NOT ALTER STRUCTURAL MEMBERS SHOWN TO REMAIN UNLESS SPECIFICALLY DIRECTED TO DO SO BY STRUCTURAL ENGINEER.
- CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE DISTURBANCES TO OWNER/LANDLORD PERSONNEL DURING WORK OPERATIONS. AFTER EACH DAY'S WORK ACTIVITIES THE CONTRACTOR SHALL CLEAR THE SITE OF DEBRIS AND OTHER WORK MATERIALS.
- MAINTAIN ACCESS TO EXISTING EXITS AT ALL TIMES. FIRE ALARM AND SMOKE DETECTION SYSTEM TO REMAIN OPERATIONAL AT ALL TIMES.
- CONTRACTOR IS TO COORDINATE SHUTDOWN OF CIRCUITS WITH RESPONSIBLE PARTY. CONTRACTOR IS TO MAINTAIN OPERABILITY OF ALL CIRCUITS FOLLOWING PERFORMANCE OF ALL WORK.
- ALL LIGHTING FIXTURES, RECEPTACLES AND OTHER DEVICES INDICATED TO BE DEMOLISHED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. DEMOLISH ALL ASSOCIATED CONDUIT AND WIRING BACK TO NEAREST JUNCTION BOX, UNLESS NOTED OTHERWISE. PATCH AND PAINT EXISTING SURFACE.
- CONTRACTOR SHALL VERIFY LOCATION AND CONFIGURATION OF ALL EXISTING CONDITIONS IN FIELD. CONFIRM ALL EXISTING CONDITIONS PRIOR TO STARTING WORK.
- COORDINATE ALL WORK WITH OWNER/LANDLORD AND OTHER TRADES.

SHEET NOTES

- DEMOLISH ALL EXISTING LIGHT FIXTURES AND CONTROL DEVICES WITHIN THIS AREA, UNLESS NOTED OTHERWISE. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- DEMOLISH ELECTRICAL EQUIPMENT / DEVICES AS SHOWN WITHIN THIS AREA, UNLESS NOTED OTHERWISE. DISCONNECT AND REMOVE ALL EXISTING WIRING, CONDUIT AND SURFACE RACEWAY BACK TO SOURCE. TURN BREAKER TO OFF POSITION AND MARK AS "SPARE".
- DEMOLISH EXISTING BATTERY POWERED WIRELESS WALL CLOCK.
- EXISTING FIRE ALARM DEVICE TO BE RELOCATED. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- EXISTING WALL HEATER TO BE DEMOLISHED. DISCONNECT AND REMOVE ALL ASSOCIATED BOXES, WIRING, AND CONDUIT BACK TO SOURCE. TURN BREAKER TO "OFF" POSITION AND MARK AS SPARE.
- ALL EXISTING RECEPTACLES WITHIN THIS AREA TO BE REPLACED-IN-PLACE WITH NEW TAMPER RESISTANT RECEPTACLES. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- EXISTING EQUIPMENT WITHIN THIS AREA TO REMAIN. MODIFY CIRCUITING AS REQUIRED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
- EXISTING RECEPTACLE TO BE REPLACED-IN-PLACE WITH GFI RECEPTACLE. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- EXISTING CABLES FOR ALL VOICE / DATA DEVICES WITHIN THIS AREA TO BE REPLACED. REMOVE EXISTING CABLE BACK TO SOURCE.



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

SEAL:

Name: Kevin Roy Goodfoll DATE: 10/22/1996
STATE AND LICENSE NO: RA014783X

ARCHITECT:
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NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

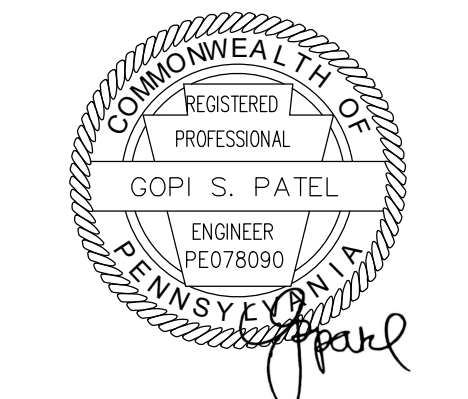
DRAWING TITLE
ELECTRICAL DEMOLITION PLAN - 1ST LEVEL - PARTIAL ZONE 'A'

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GC - 2022-007-G	PC - 2022-007-P
EC - 2022-007-E	

DRAWING NO.
E - 100
SHEET 30 OF 43

1 ELECTRICAL DEMOLITION PLAN - 1ST LEVEL - PARTIAL ZONE 'A'
SCALE: 1/8" = 1'-0"

SEAL:



Name: Kevin Ray Goodhart DATE: 10/22/1996
STATE AND LICENSE NO: RA014763X

ARCHITECT:
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1	02/17/2022	ADDENDUM #2
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SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
ELECTRICAL DEMOLITION PLAN - 1ST LEVEL - PARTIAL ZONE 'B'

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DRAWING NO.
E - 101
SHEET 31 OF 43

GENERAL NOTES

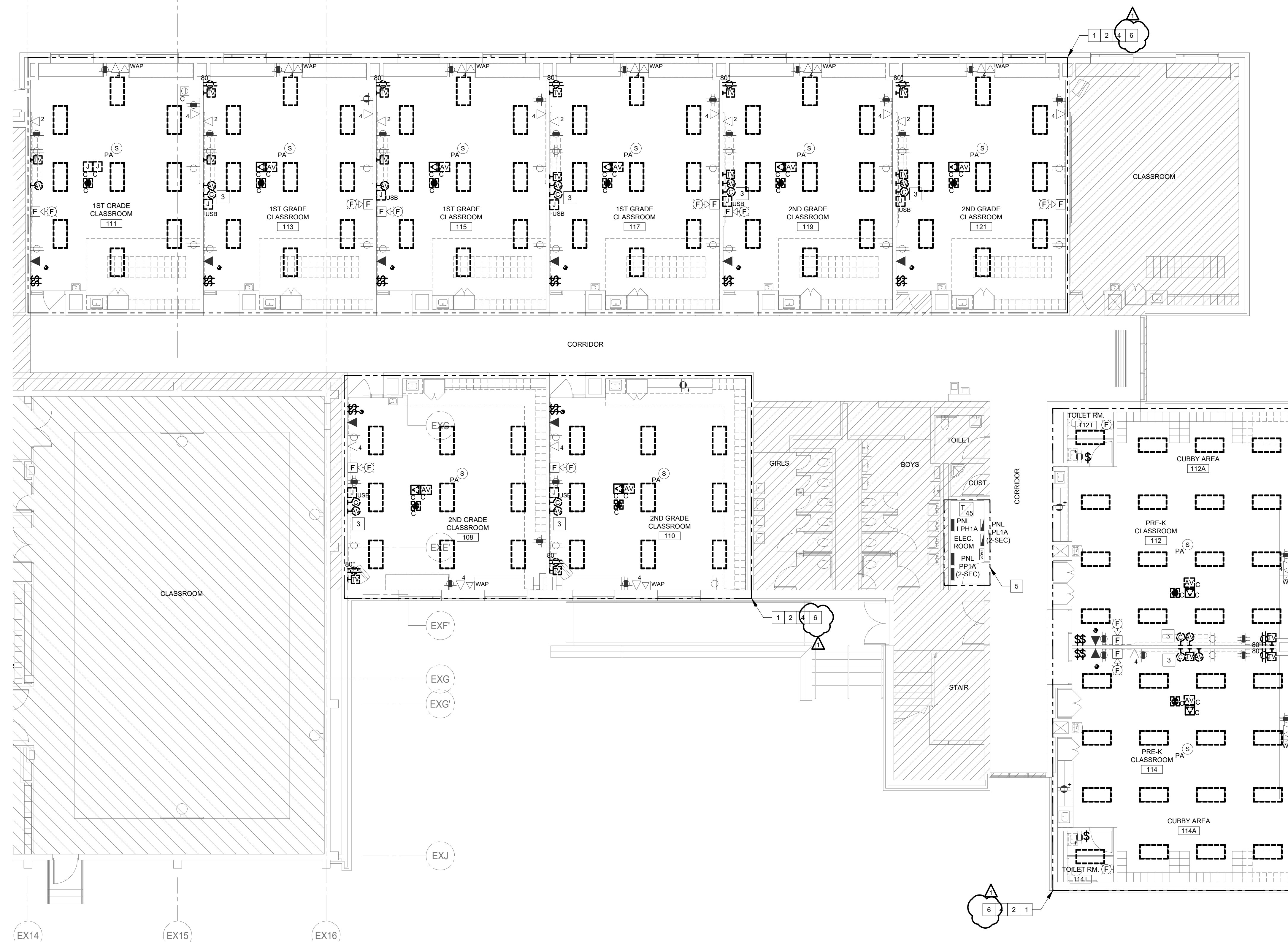
1. REFER TO DRAWING E-100 FOR GENERAL DEMOLITION NOTES.

SHEET NOTES

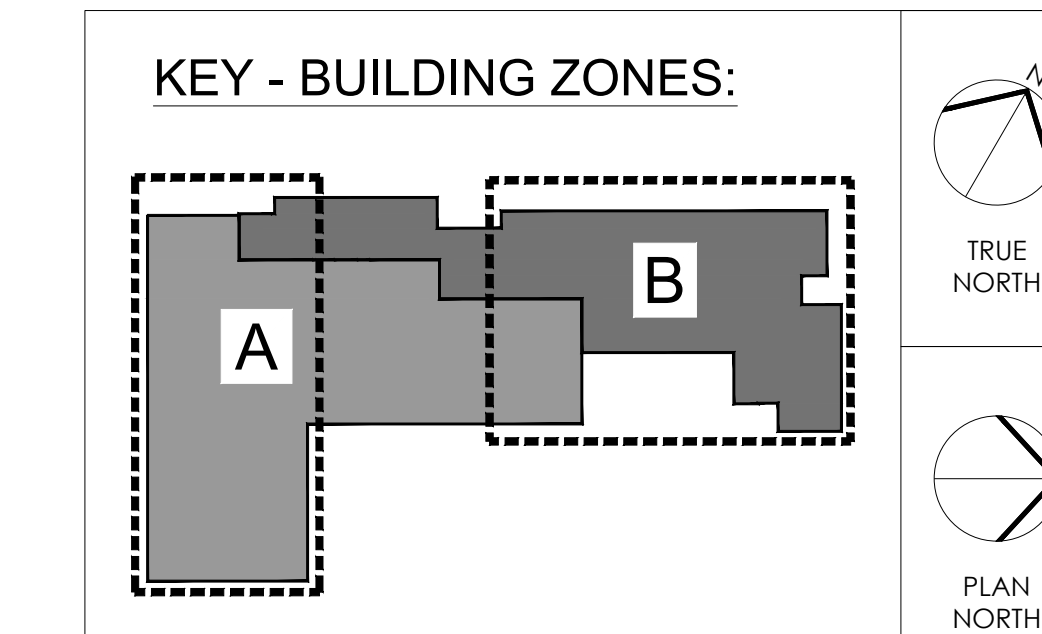
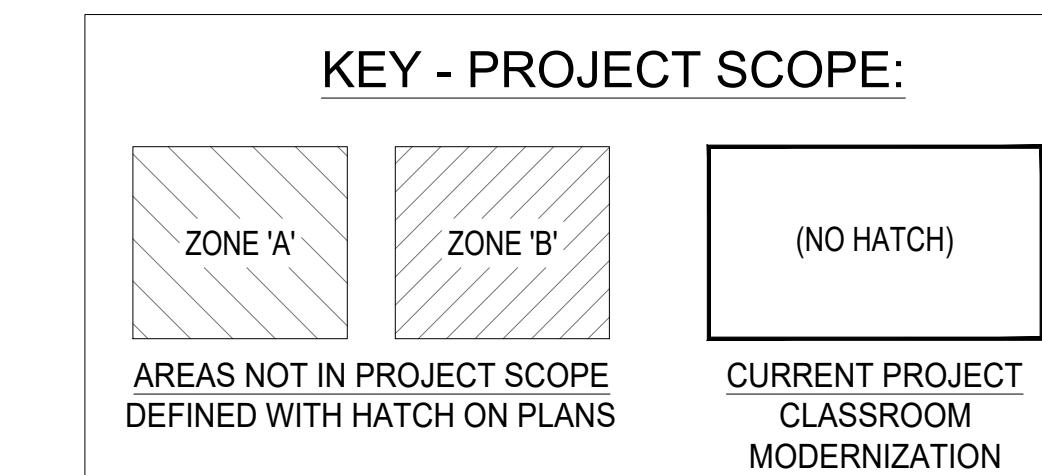
- DEMOLISH ALL EXISTING LIGHT FIXTURES AND CONTROL DEVICES WITHIN THIS AREA, UNLESS NOTED OTHERWISE. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- DEMOLISH ELECTRICAL EQUIPMENT / DEVICES AS SHOWN WITHIN THIS AREA, UNLESS NOTED OTHERWISE. DISCONNECT AND REMOVE EXISTING WIRING AND CONDUIT BACK TO SOURCE. TURN BREAKER TO OFF POSITION AND MARK AS "SPARE".
- DEMOLISH BATTERY POWERED WIRELESS WALL CLOCK.
- ALL EXISTING RECEPTACLES WITHIN THIS AREA TO BE REPLACED IN-PLACE WITH NEW TAMPER RESISTANT RECEPTACLES. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- EXISTING EQUIPMENT WITHIN THIS AREA TO REMAIN. MODIFY CIRCUITING AS REQUIRED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
- EXISTING CABLES FOR ALL VOICE / DATA DEVICES WITHIN THIS AREA TO BE REPLACED. REMOVE EXISTING CABLE BACK TO SOURCE.

LEGEND

- EXISTING TO REMAIN
- DEMOLISH



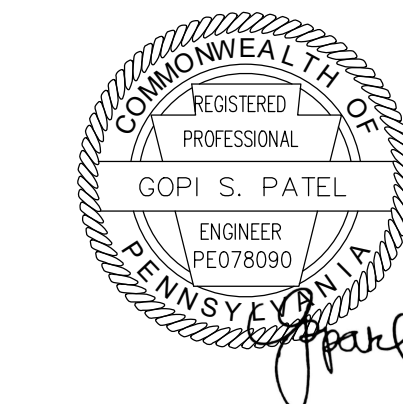
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E-101 ELECTRICAL DEMOLITION PLAN - 1ST LEVEL - PARTIAL ZONE 'B'
SCALE: 1/8" = 1'-0"



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

SEAL:



Name: Kevin Ray Goodhall DATE: 10/22/1996
STATE AND LICENSE NO: RAD14763X

ARCHITECT:
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Attn: ALLISON KLINGLER, RA

MECHANICAL / PLUMBING / ELECTRICAL ENGINEER:
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920 GERMANTOWN PIKE, SUITE 20
PLYMOUTH MEETING, PA 19462
Phone: 484.539.9459
Email: GOPI.PATEL@PSQUAREDENG.COM
Attn: GOPI PATEL

GENERAL NOTES

1. REFER TO DRAWING E-100 FOR GENERAL DEMOLITION NOTES.

SHEET NOTES

- 1 DEMOLISH ALL EXISTING LIGHT FIXTURES AND CONTROL DEVICES WITHIN THIS AREA, UNLESS NOTED OTHERWISE. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- 2 DEMOLISH ELECTRICAL EQUIPMENT / DEVICES AS SHOWN WITHIN THIS AREA, UNLESS NOTED OTHERWISE. DISCONNECT AND REMOVE EXISTING WIRING AND CONDUIT BACK TO SOURCE. TURN BREAKER TO OFF POSITION AND MARK AS "SPARE".
- 3 DEMOLISH EXISTING BATTERY POWERED WIRELESS WALL CLOCK.
- 4 ALL EXISTING RECEPTACLES WITHIN THIS AREA TO BE REPLACED-IN-PLACE WITH NEW TAMPER RESISTANT RECEPTACLES. DISCONNECT AND LEAVE EXISTING WIRING IN SAFE CONDITION FOR FUTURE REUSE.
- 5 EXISTING EQUIPMENT WITHIN THIS AREA TO REMAIN. MODIFY CIRCUITING AS REQUIRED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
- 6 EXISTING CABLES FOR ALL VOICE / DATA DEVICES WITHIN THIS AREA TO BE REPLACED. REMOVE EXISTING CABLE BACK TO SOURCE.

LEGEND

- EXISTING TO REMAIN
- - - - - DEMOLISH



1 ELECTRICAL DEMOLITION PLAN - 2ND LEVEL - PARTIAL ZONE 'B'
E-102 SCALE: 1/8" = 1'-0"

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NO.	DATE	REVISION

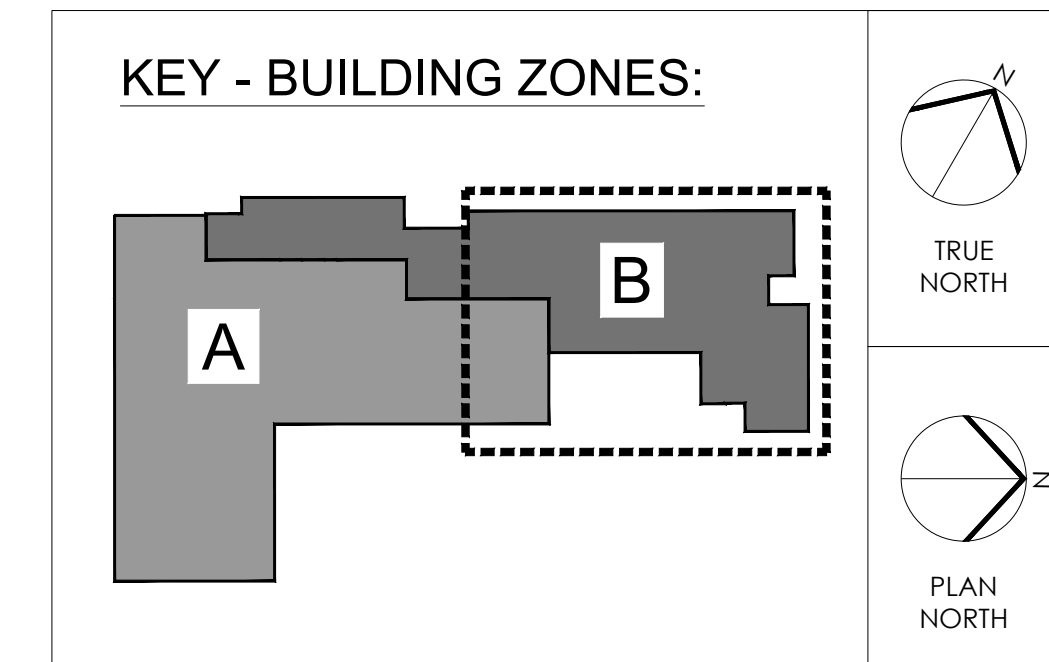
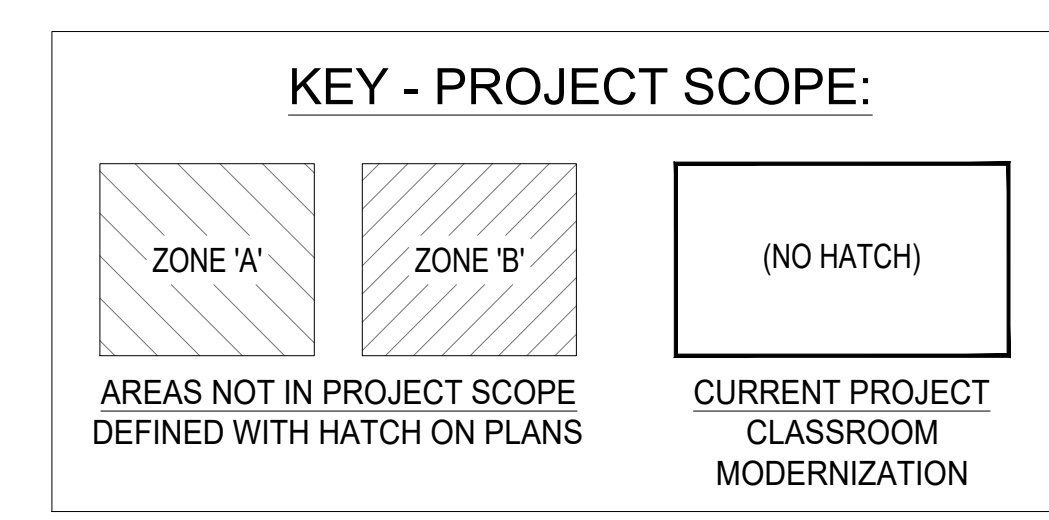
SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
ELECTRICAL DEMOLITION PLAN - 2ND LEVEL - PARTIAL ZONE 'B'

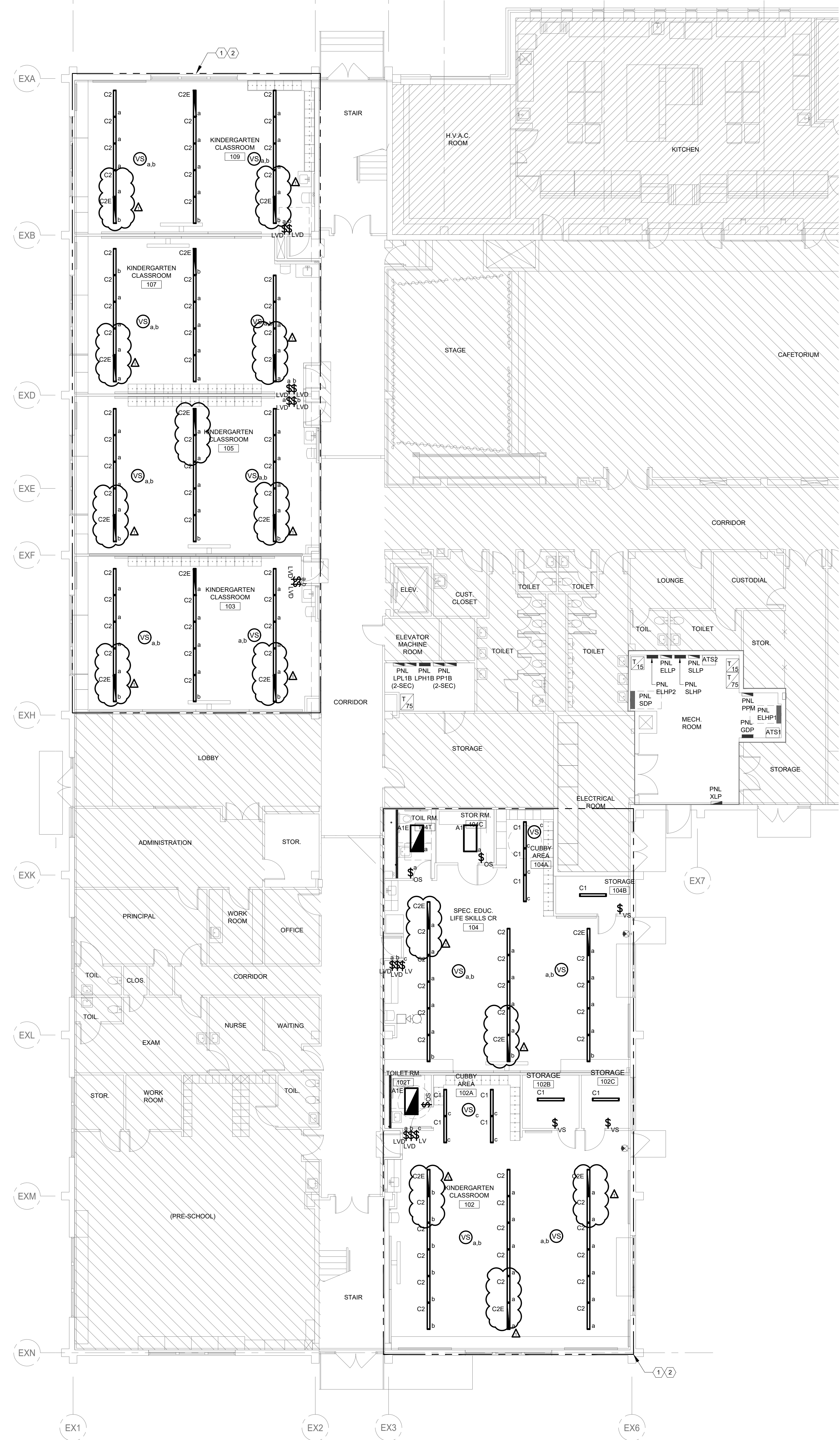
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NIP	GSP
GC - 2022-007-G PC - 2022-007-P EC - 2022-007-E	

DRAWING NO.
E - 102
SHEET 32 OF 43



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.



1 LIGHTING PLAN - 1ST LEVEL - PARTIAL ZONE 'A'
 E-110 SCALE: 1/8" = 1'-0"

GENERAL NOTES

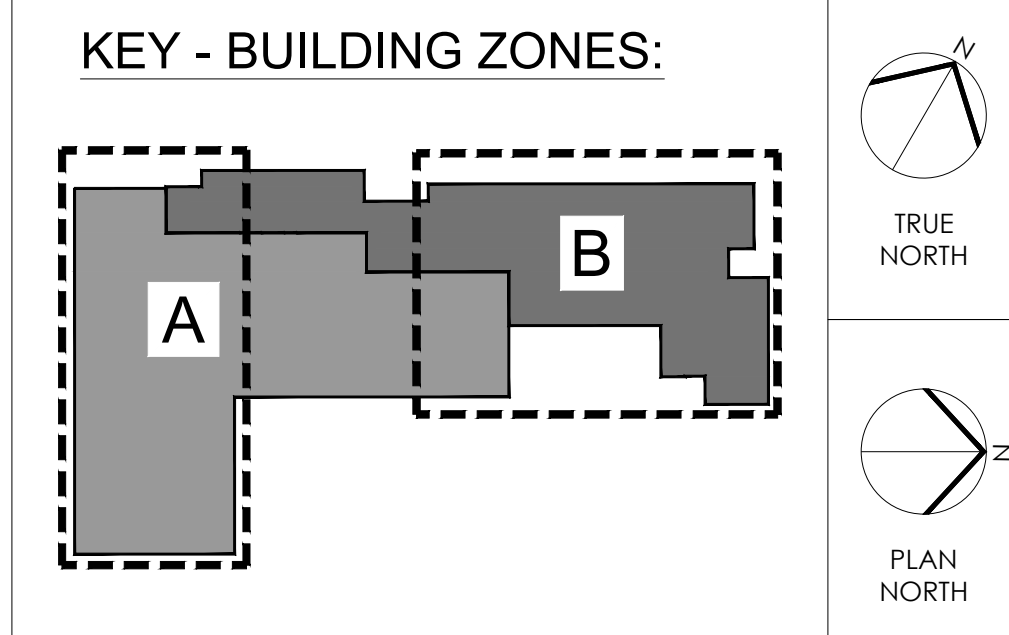
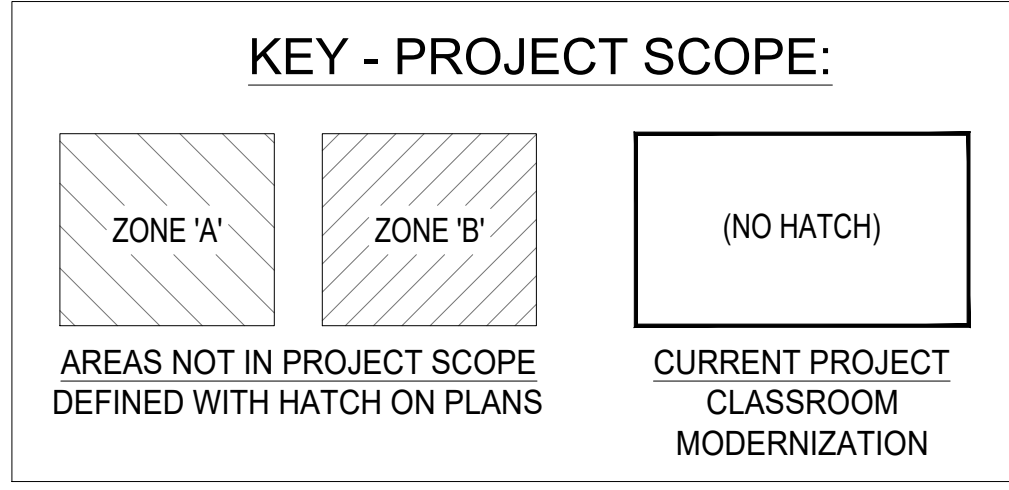
1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. PROVIDE WATTSTOPPER ELCU-200 OR EQUAL EMERGENCY LIGHTING CONTROL UNIT FOR EMERGENCY LIGHTING CONTROL. REFER TO DETAIL 4E250 FOR ADDITIONAL INFORMATION.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

1. EXTEND AND CONNECT EXISTING CIRCUITING LEFT IN SAFE CONDITION TO NEW NORMAL LIGHT FIXTURES. PROVIDE NEW AS REQUIRED.
2. CONNECT EMERGENCY LIGHTING FIXTURES TO A NEW 20A/1P CIRCUIT BREAKER WITHIN PANEL ELHP-1 USING 2#10, #105 - 3/4".

LEGEND

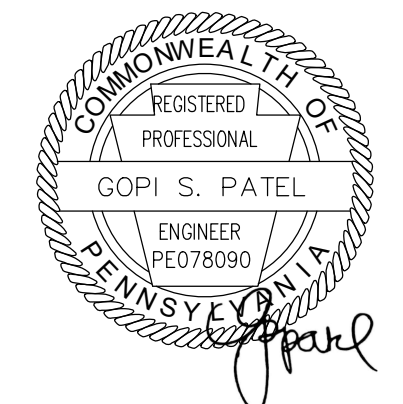
- A1 2x4' RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER
SIGNIFY DAY-BRITE #2EVG38L840-4-R-UNV-DIM
- A1E SAME AS A1 - EXCEPT ON EMERGENCY CIRCUIT.
- A2 2x4' RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER
SIGNIFY DAY-BRITE #2EVG48L840-4-R-UNV-DIM
- A2E SAME AS A2 - EXCEPT ON EMERGENCY CIRCUIT.
- B1 2x2' RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER
SIGNIFY DAY-BRITE #2EVG30L840-2-R-UNV-DIM
- B1E SAME AS B1 - EXCEPT ON EMERGENCY CIRCUIT.
- C1 4' SURFACE LINEAR LED LIGHT FIXTURE WITH DIMMING
DRIVER. SIGNIFY DAY-BRITE #FSW440L840-UNV-DIM
- C2 4' SURFACE LINEAR LED LIGHT FIXTURE WITH DIMMING
DRIVER. SIGNIFY DAY-BRITE #FSW455L840-UNV-DIM
- C2E SAME AS C2 - EXCEPT ON EMERGENCY CIRCUIT.



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

SEAL:



Name: Kevin Ray Goodhart DATE: 10/22/1996
 STATE AND LICENSE NO: RAD14763X

ARCHITECT:
 GODSHALL KANE O'ROURKE ARCHITECTS, LLC
 (GKO ARCHITECTS)
 300 BROOKSIDE AVENUE - BLDG. 18 - SUITE 1500
 AMBLER, PA. 19002
 Phone: 215.646.2003
 Email: ALLISON@GKOARCHITECTS.COM
 Attn: ALLISON KLINGLER, RA

MECHANICAL / PLUMBING / ELECTRICAL ENGINEER:
 PSQUARED CONSULTING ENGINEERS
 920 GERMANTOWN PIKE, SUITE 20
 PLYMOUTH MEETING, PA. 19462
 Phone: 484.539.9459
 Email: GOPI.PATEL@PSQUAREDENG.COM
 Attn: GOPI PATEL

ISSUE FOR BID
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1	01/17/2022	ADDENDUM #2
NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
 4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE

LIGHTING PLAN - 1ST LEVEL - PARTIAL ZONE 'A'

DRAWING SCALE

LOCATION NO.
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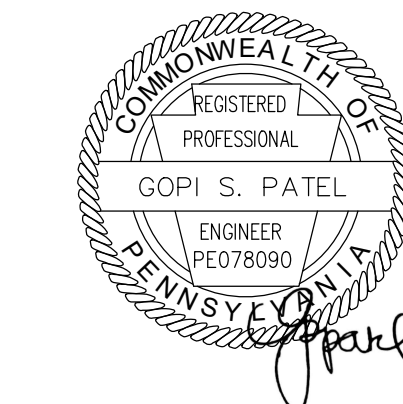
DRAWN BY: NIP CHECKED BY: GSP

GC - 2022-007-G
 PC - 2022-007-P
 EC - 2022-007-E

DRAWING NO.
E - 110

SHEET 33 OF 43

SEAL:



Name: Kevin Roy Goodhart DATE: 10/22/1996
STATE AND LICENSE NO: RAD14763X

ARCHITECT:
GODSHALL KANE O'ROURKE ARCHITECTS, LLC
(GKO ARCHITECTS)
300 BROOKSIDE AVENUE - BLDG. 18 - SUITE 150
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PLYMOUTH MEETING, PA 19462
Phone: 484.539.9459
Email: GOPI.PATEL@PSQUAREDENG.COM
Attn: GOPI PATEL

GENERAL NOTES

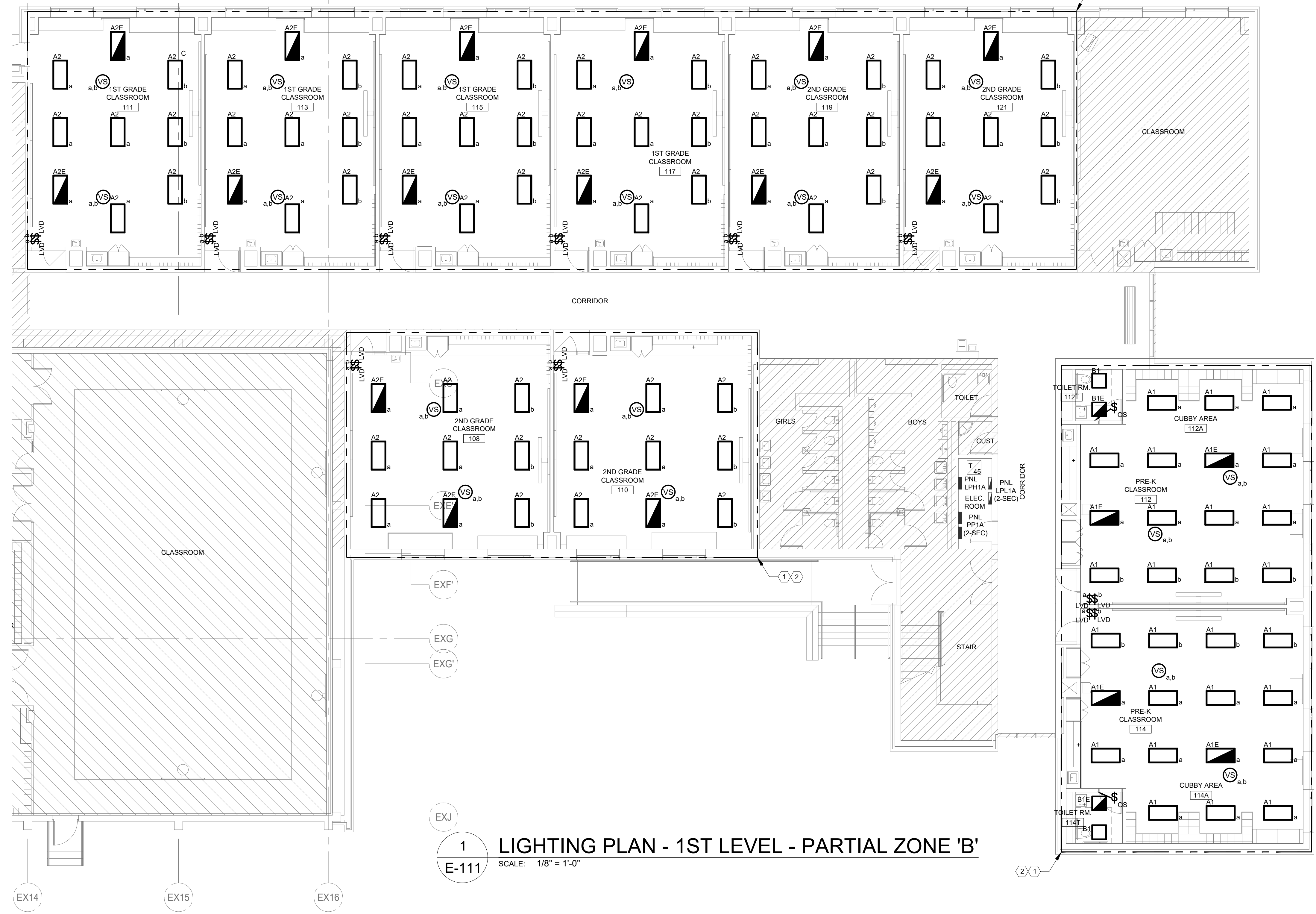
1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. PROVIDE WATSTOPPER ELCU-200 OR EQUAL EMERGENCY LIGHTING CONTROL UNIT FOR EMERGENCY LIGHTING CONTROL. REFER TO DETAIL 4/E200 FOR ADDITIONAL INFORMATION.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

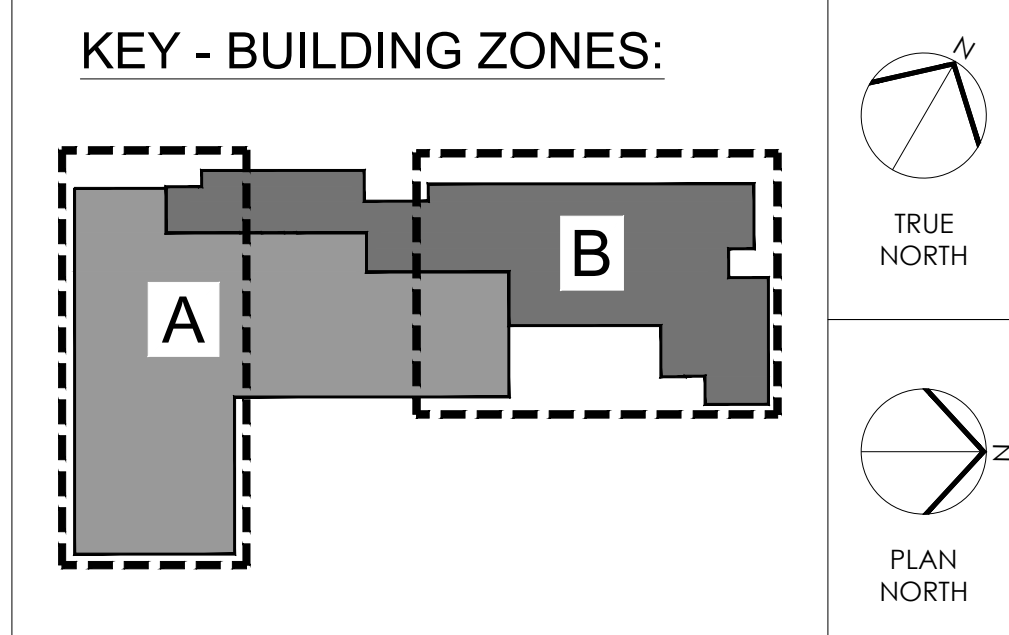
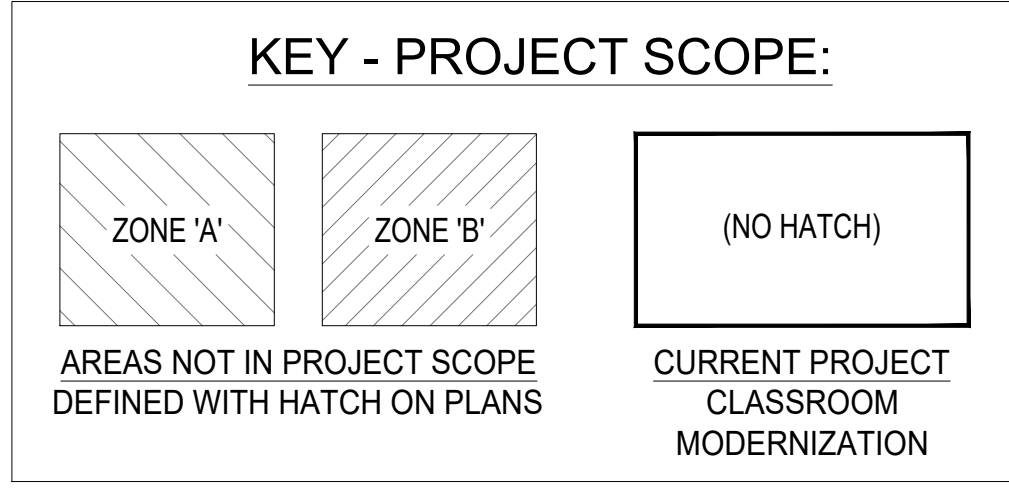
1. EXTEND AND CONNECT EXISTING CIRCUITING LEFT IN SAFE CONDITION TO NEW NORMAL LIGHT FIXTURES. PROVIDE NEW AS REQUIRED.
2. CONNECT EMERGENCY LIGHTING FIXTURES TO A NEW 20A/1P CIRCUIT BREAKER WITHIN PANEL ELP-1 USING #10, #10G - 3/4".

LEGEND

- A1 2x4' RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER
SIGNIFY DAY-BRITE #2EVG38L840-4-R-UNV-DIM
- A1E SAME AS A1 - EXCEPT ON EMERGENCY CIRCUIT.
- A2 2x4' RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER
SIGNIFY DAY-BRITE #2EVG30L840-4-R-UNV-DIM
- A2E SAME AS A2 - EXCEPT ON EMERGENCY CIRCUIT.
- B1 2x2' RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER
SIGNIFY DAY-BRITE #2EVG30L840-4-R-UNV-DIM
- B1E SAME AS B1 - EXCEPT ON EMERGENCY CIRCUIT.



1 LIGHTING PLAN - 1ST LEVEL - PARTIAL ZONE 'B'
E-111 SCALE: 1/8" = 1'-0"



NOTES:
- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

ISSUE FOR BID 01/14/2022

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1	01/17/2022	ADDENDUM #2
NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

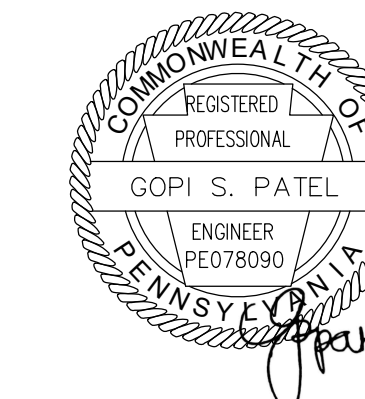
DRAWING TITLE
LIGHTING PLAN - 1ST LEVEL - PARTIAL ZONE 'B'

DRAWING SCALE

LOCATION NO.	####
DRAWN BY	NIP
CHECKED BY	GSP
GC - 2022-007-G	
PC - 2022-007-P	
EC - 2022-007-E	

DRAWING NO.
E - 111
SHEET 34 OF 43

SEAL:



Name: Kevin Roy Goodhart DATE: 10/22/1996
STATE AND LICENSE NO: RAD14763X

ARCHITECT:
GODSHALL KANE O'ROURKE ARCHITECTS, LLC
(GKO ARCHITECTS)
300 BROOKSIDE AVENUE - BLDG. 18 - SUITE 150
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Attn: ALLISON KLINGLER, RA

MECHANICAL / PLUMBING / ELECTRICAL ENGINEER:
PSQUARED CONSULTING ENGINEERS
920 GERMANTOWN PIKE, SUITE 20
PLYMOUTH MEETING, PA 19462
Phone: 484.539.9459
Email: GOPI.PATEL@PSQUAREDENG.COM
Attn: GOPI PATEL

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. PROVIDE WATTSTOPPER ELCU-200 OR EQUAL EMERGENCY LIGHTING CONTROL UNIT FOR EMERGENCY LIGHTING CONTROL. REFER TO DETAIL A-E200 FOR ADDITIONAL INFORMATION.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

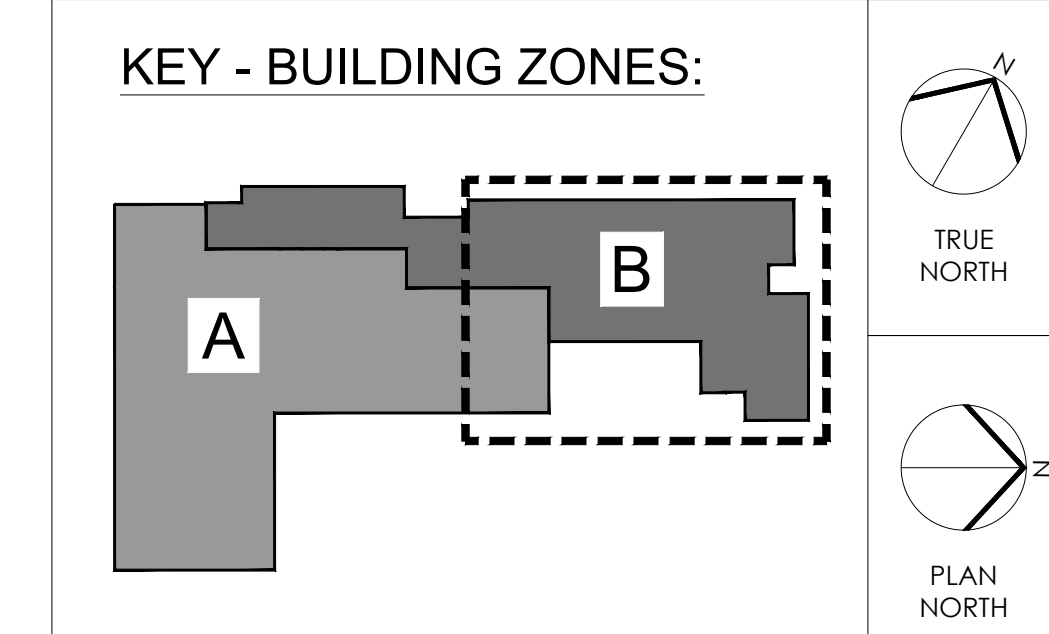
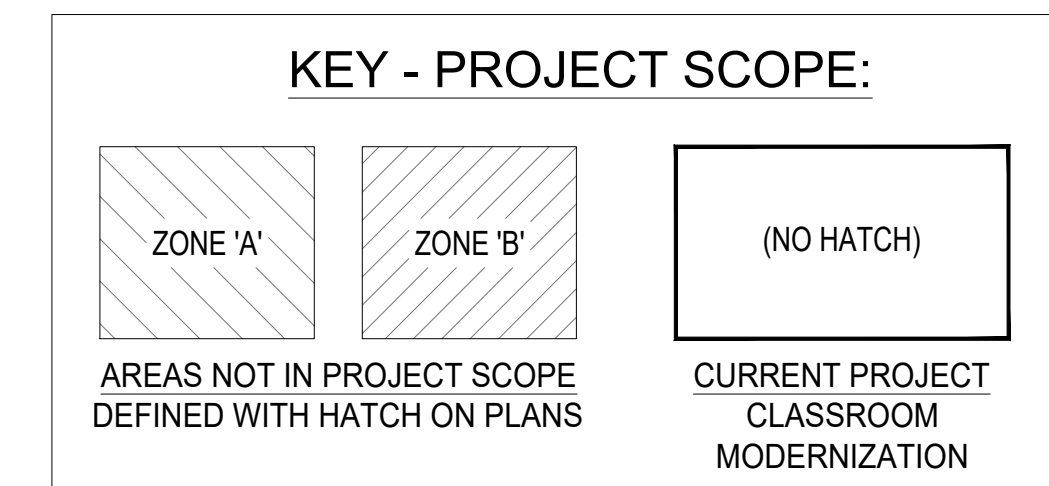
1. EXTEND AND CONNECT EXISTING CIRCUITING LEFT IN SAFE CONDITION TO NEW NORMAL LIGHT FIXTURES. PROVIDE NEW AS REQUIRED.
2. CONNECT EMERGENCY LIGHTING FIXTURES TO A NEW 20A/1P CIRCUIT BREAKER WITHIN PANEL ELHP-1 USING 2#10, #10G - 3/4".

LEGEND

- A1 2x4" RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER SIGNIFY DAY-BRITE #2EVG38L840-4-R-UNV-DIM
- A1E SAME AS A1 - EXCEPT ON EMERGENCY CIRCUIT.
- A2 2x4" RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER SIGNIFY DAY-BRITE #2EVG48L840-4-R-UNV-DIM
- A2E SAME AS A2 - EXCEPT ON EMERGENCY CIRCUIT.
- B1 2x2" RECESSED LED LIGHT FIXTURE WITH DIMMING DRIVER SIGNIFY DAY-BRITE #2EVG30L840-2-R-UNV-DIM
- B1E SAME AS B1 - EXCEPT ON EMERGENCY CIRCUIT.



1 LIGHTING PLAN - 2ND LEVEL - PARTIAL ZONE 'B'
E-112 SCALE: 1/8" = 1'-0"



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

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NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

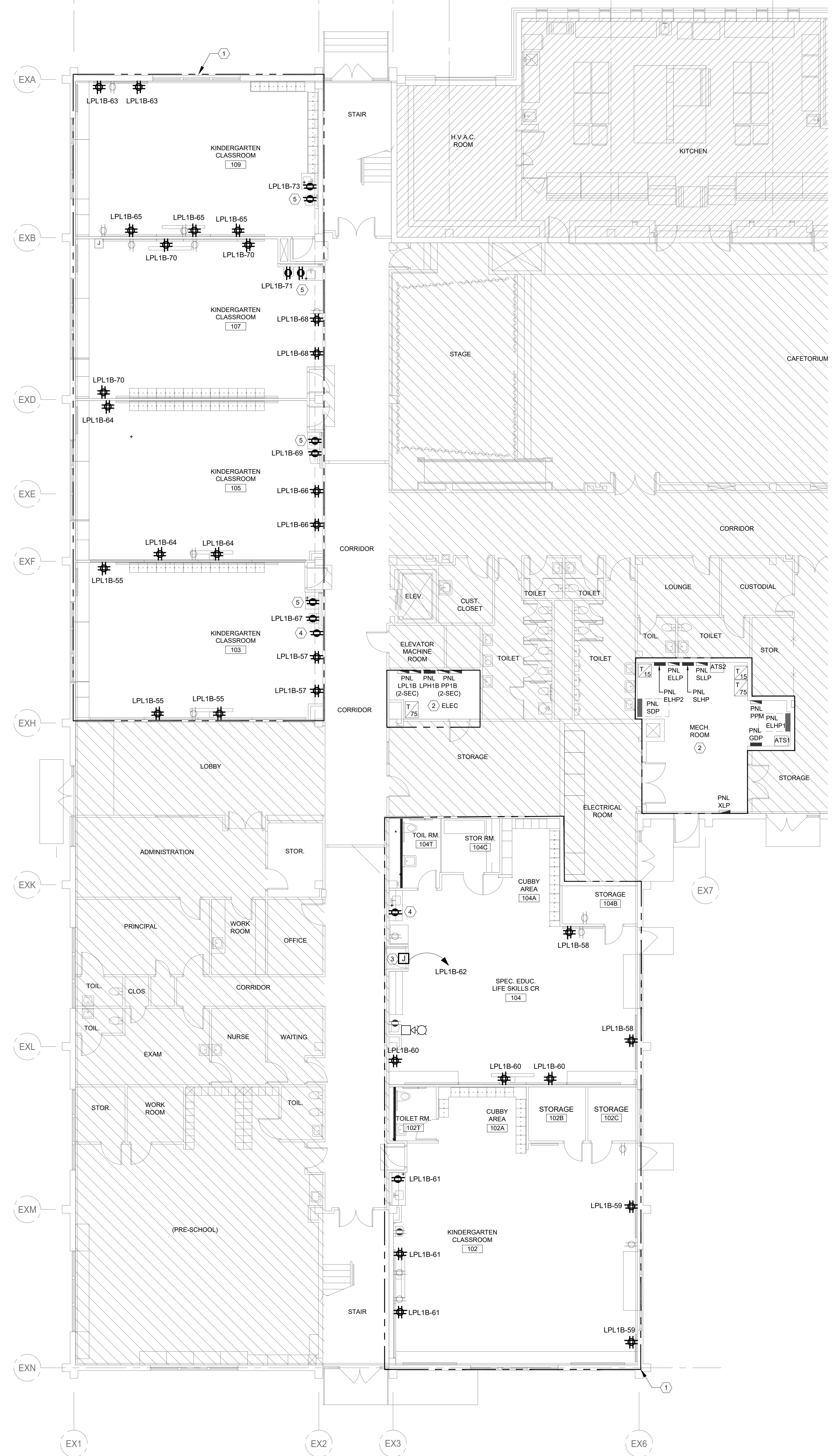
PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
LIGHTING PLAN - 2ND LEVEL - PARTIAL ZONE 'B'

DRAWING SCALE

LOCATION NO.	###
DRAWN BY	NIP
CHECKED BY	GSP
GC - 2022-007-G	
PC - 2022-007-P	
EC - 2022-007-E	

DRAWING NO.
E - 112
SHEET 35 OF 43



GENERAL NOTES

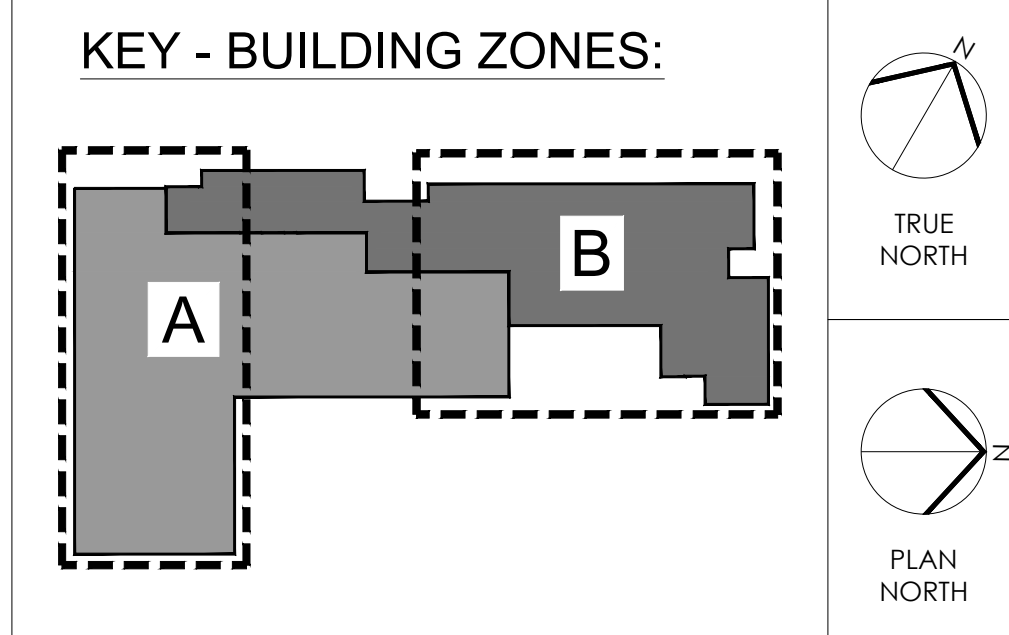
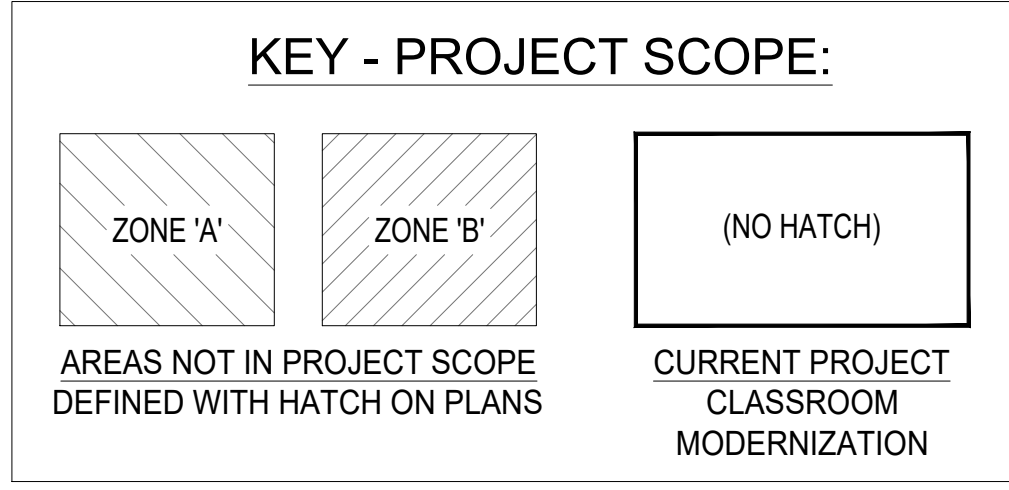
1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. ALL NEW RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT IN ACCORDANCE WITH NEC ARTICLE 408.12.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

1. REPLACE ALL EXISTING RECEPTACLES WITHIN THIS AREA WITH NEW TAMPER RESISTANT RECEPTACLE IN ACCORDANCE WITH NEC ARTICLE 408.12. EXTEND AND CONNECT EXISTING CIRCUITING LEFT IN SAFE CONDITION DURING DEMOLITION PHASE. PROVIDE NEW AS REQUIRED. NEW FACEPLATES SHALL BE STAINLESS STEEL.
2. EXISTING ELECTRICAL EQUIPMENT WITHIN THIS AREA TO REMAIN. MODIFY EXISTING CIRCUITING AS REQUIRED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
3. PROVIDE POWER FOR AUTOMATIC DOOR OPERATOR. COORDINATE EXACT REQUIREMENTS WITH DOOR PROVIDER PRIOR TO INSTALLATION.
4. NEW RECEPTACLE. EXTEND AND CONNECT EXISTING CIRCUITING LEFT IN SAFE CONDITION DURING DEMOLITION PHASE. PROVIDE NEW AS REQUIRED.
5. NEW TAMPER RESISTANT (FCI) RECEPTACLE. EXTEND AND CONNECT EXISTING RECEPTACLE CIRCUITING TO THE ROOM. PROVIDE NEW AS REQUIRED.

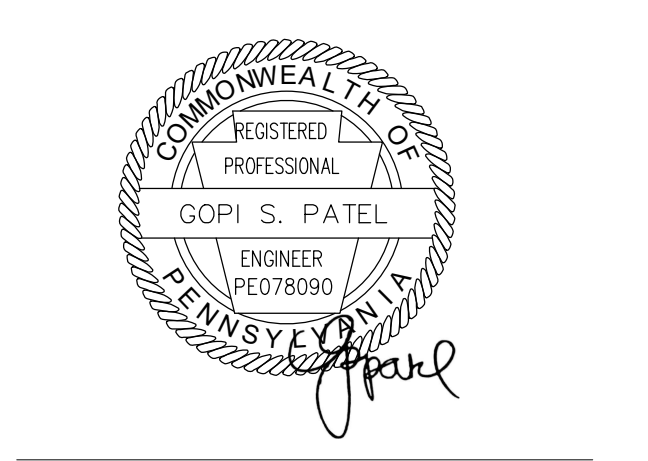
LEGEND

- EXISTING TO REMAIN
- NEW



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.



ARCHITECT:
GODSHALL KANE O'ROURKE ARCHITECTS, LLC
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300 BROOKSIDE AVENUE - BLDG. 18 - SUITE 150
AMBLER, PA. 19002
Phone: 215.646.2003
Email: ALLISON@GKOARCHITECTS.COM
Attn: ALLISON KLINGLER, RA

MECHANICAL / PLUMBING / ELECTRICAL ENGINEER:
PSQUARED CONSULTING ENGINEERS
920 GERMAINTOWN PIKE, SUITE 20
PLYMOUTH MEETING, PA 19462
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Attn: GOPI PATEL

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SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

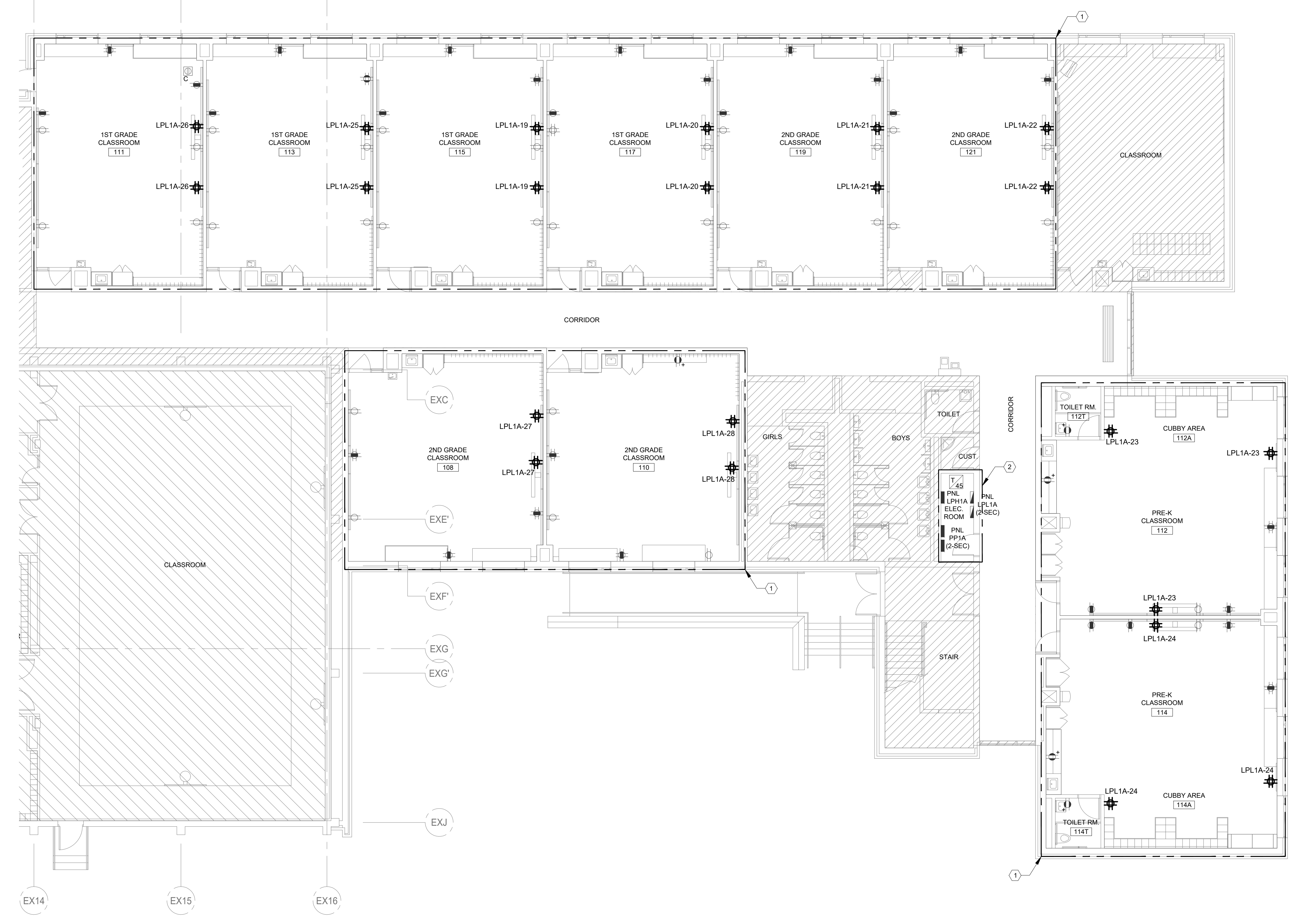
PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
POWER PLAN - 1ST LEVEL - PARTIAL ZONES 'A'

DRAWING SCALE	
LOCATION NO.	####
DRAWN BY	CHECKED BY
NIP	GSP
GC - 2022-007-G PC - 2022-007-P EC - 2022-007-E	

DRAWING NO.
E - 120
SHEET 36 OF 43

1 POWER PLAN - 1ST LEVEL - PARTIAL ZONE 'A'
E-120 SCALE: 1/8" = 1'-0"



1 POWER PLAN - 1ST LEVEL - PARTIAL ZONE 'B'
E-121 SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. ALL NEW RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT IN ACCORDANCE WITH NEC ARTICLE 406.12.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

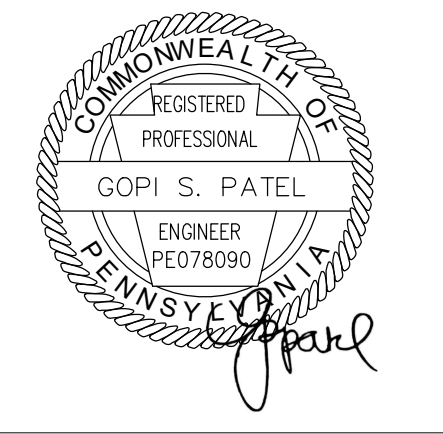
SHEET NOTES

1. REPLACE ALL EXISTING RECEPTACLES WITHIN THIS AREA WITH NEW TAMPER RESISTANT RECEPTACLE IN ACCORDANCE WITH NEC ARTICLE 406.12. EXTEND AND CONNECT EXISTING CIRCUITING LEFT IN SAFE CONDITION DURING DEMOLITION PHASE. PROVIDE NEW AS REQUIRED. NEW FACEPLATES SHALL BE STAINLESS STEEL.
2. EXISTING ELECTRICAL EQUIPMENT WITHIN THIS AREA TO REMAIN. MODIFY EXISTING CIRCUITING AS REQUIRED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

LEGEND

- EXISTING TO REMAIN
- - - NEW

SEAL:



Name: Kevin Ray Goodhall DATE: 10/22/1996
 STATE AND LICENSE NO: RAD14763X

ARCHITECT:
 GODSHALL KANE O'ROURKE ARCHITECTS, LLC
 (GKO ARCHITECTS)
 300 BROOKSIDE AVENUE - BLDG. 18 - SUITE 150
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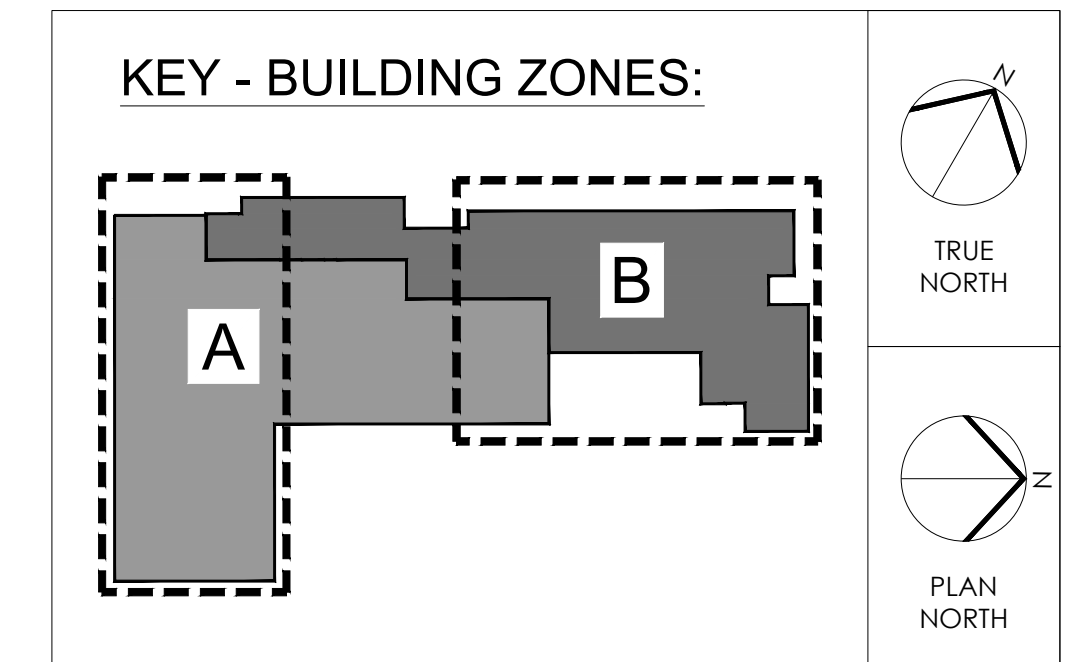
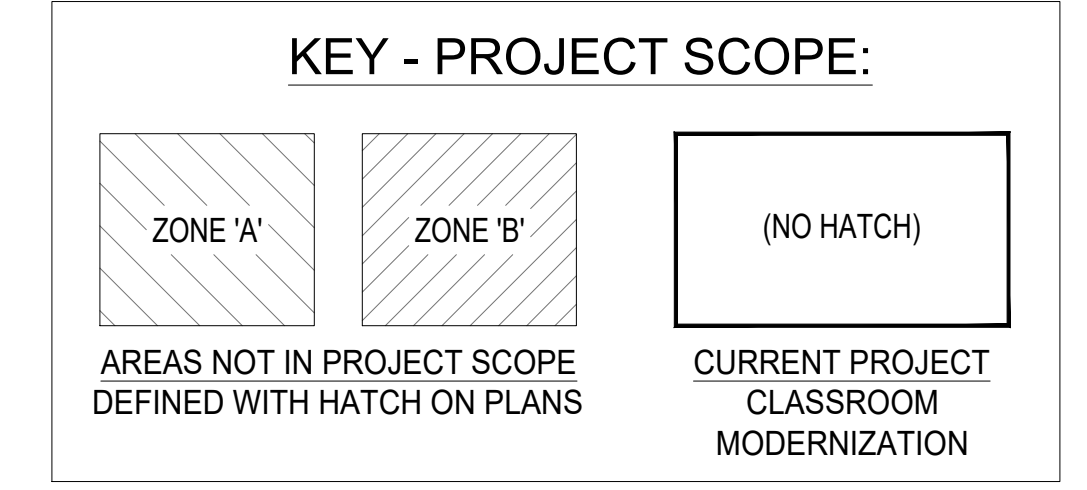
SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
 4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
POWER PLAN - 1ST LEVEL - PARTIAL ZONE 'B'

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NIP	GSP
GC - 2022-007-G	
PC - 2022-007-P	
EC - 2022-007-E	

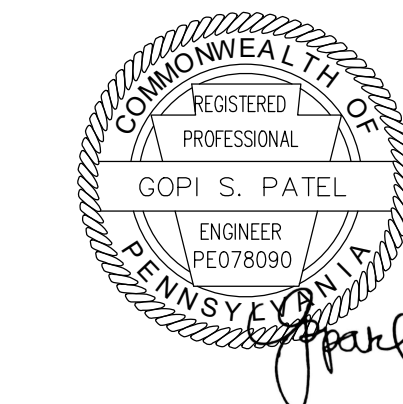
DRAWING NO.
E - 121
 SHEET 37 OF 43



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

SEAL:



Name: Kevin Ray Goodhall DATE: 10/22/1996
STATE AND LICENSE NO: RADI 4763X

ARCHITECT:
GODSHALL KANE O'ROURKE ARCHITECTS, LLC
(GKO ARCHITECTS)
300 BROOKSIDE AVENUE - BLDG. 18 - SUITE 150
AMBLER, PA. 19002
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920 GERMANTOWN PIKE, SUITE 20
PLYMOUTH MEETING, PA 19462
Phone: 484.539.9459
Email: GOPI.PATEL@PSQUAREDENG.COM
Attn: GOPI PATEL

GENERAL NOTES

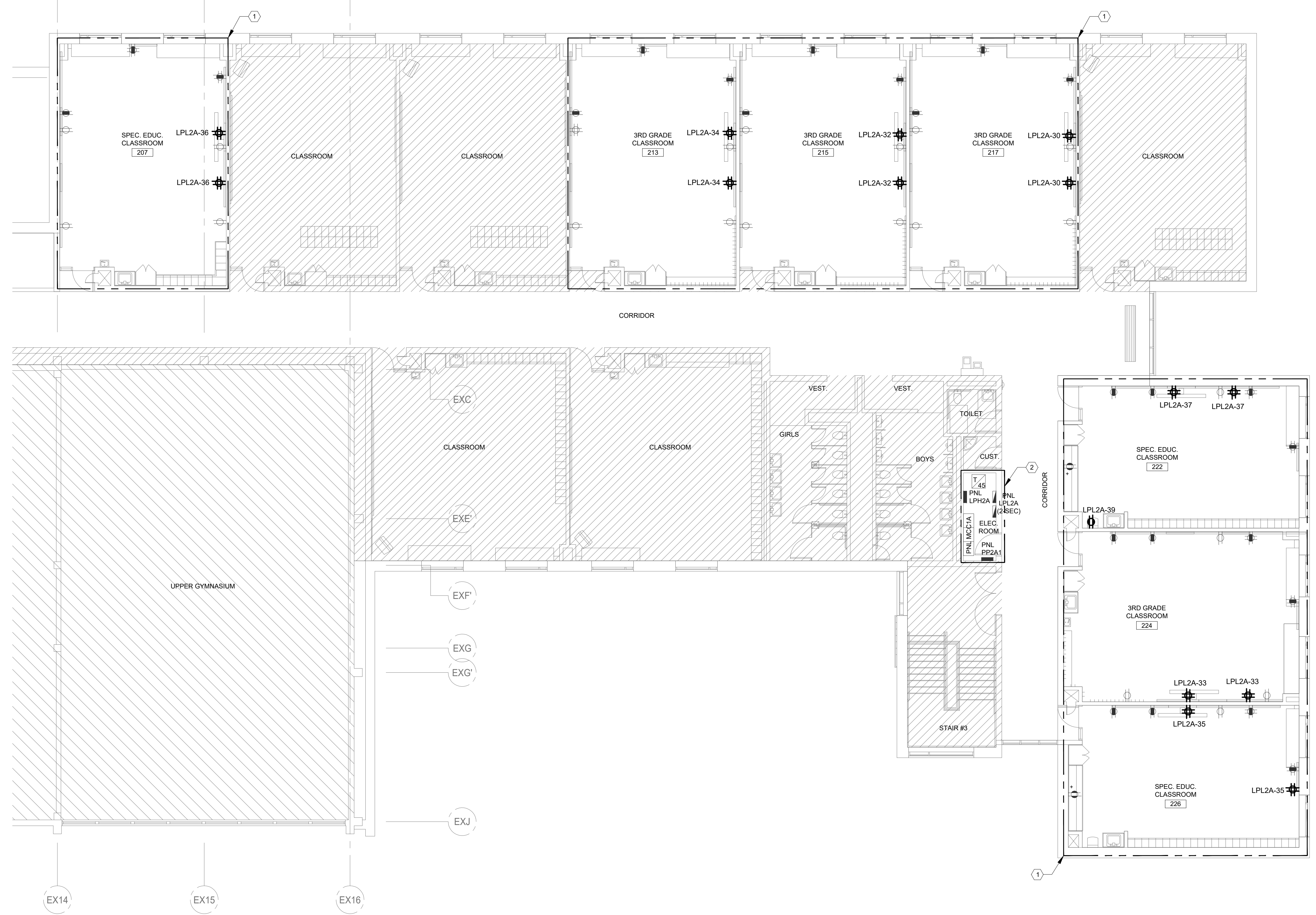
1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. ALL NEW RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT IN ACCORDANCE WITH NEC ARTICLE 406.12.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

1. REPLACE ALL EXISTING RECEPTACLES WITHIN THIS AREA WITH NEW TAMPER RESISTANT RECEPTACLE IN ACCORDANCE WITH NEC ARTICLE 406.12. EXTEND AND CONNECT EXISTING CIRCUITING LEFT IN SAFE CONDITION DURING DEMOLITION PHASE. PROVIDE NEW AS REQUIRED. NEW FACEPLATES SHALL BE STAINLESS STEEL.
2. EXISTING ELECTRICAL EQUIPMENT WITHIN THIS AREA TO REMAIN. MODIFY EXISTING CIRCUITING AS REQUIRED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

LEGEND

- EXISTING TO REMAIN
- NEW



1 POWER PLAN - 2ND LEVEL - PARTIAL ZONE 'B'
E-122 SCALE: 1/8" = 1'-0"

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01/14/2022

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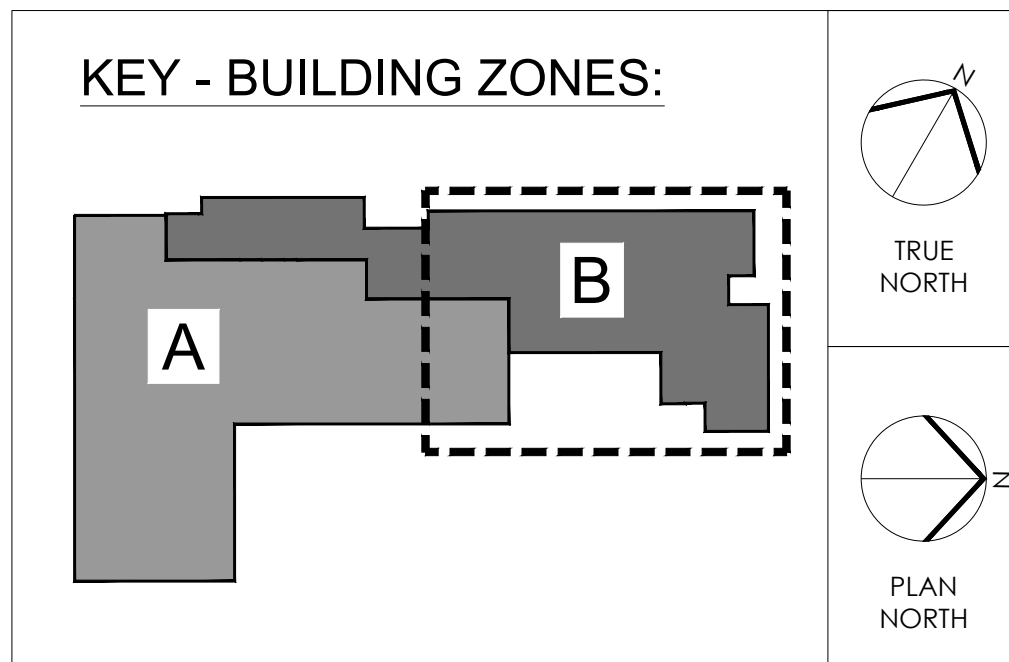
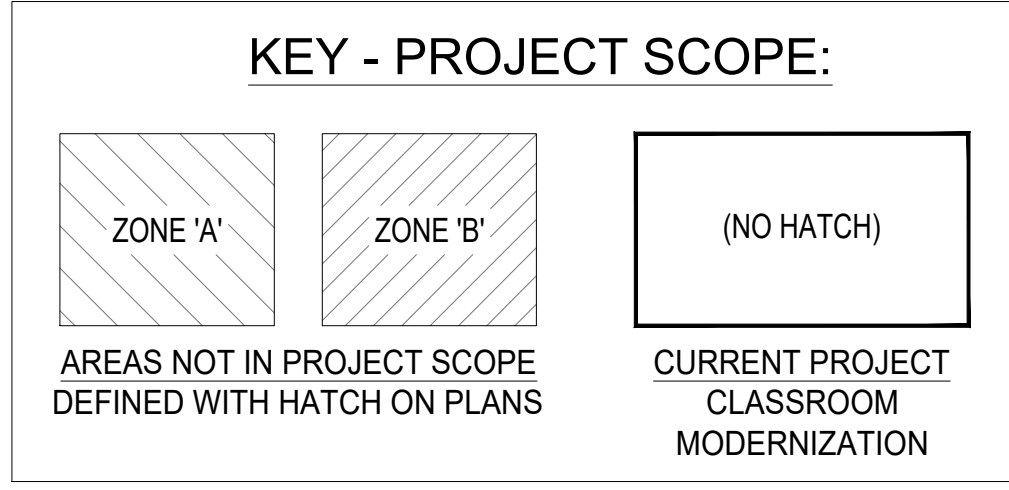
SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
POWER PLAN - 2ND LEVEL - PARTIAL ZONE 'B'

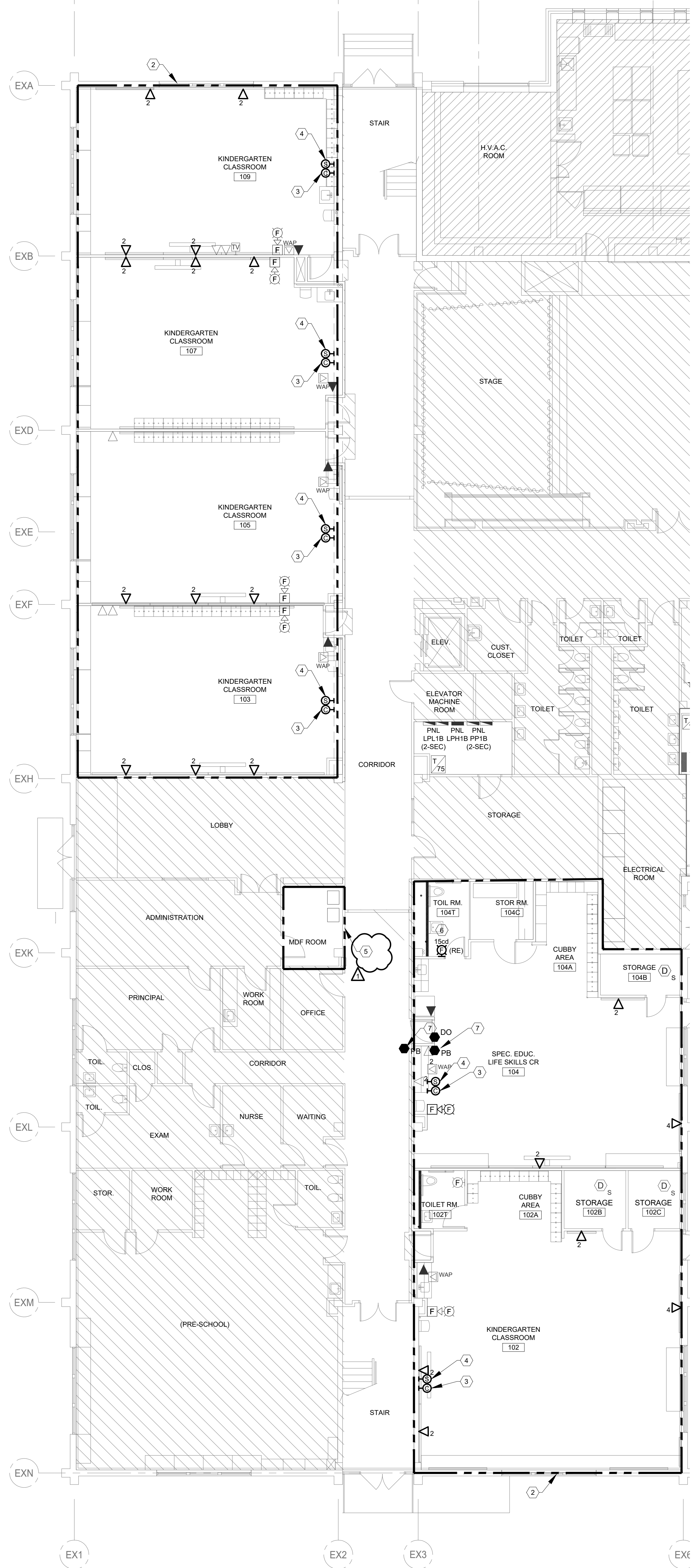
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LOCATION NO.	###
DRAWN BY	CHECKED BY
NIP	GSP
GC - 2022-007-G PC - 2022-007-P EC - 2022-007-E	

DRAWING NO.
E - 122
SHEET 38 OF 43



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.



1 SPECIAL SYSTEMS PLAN - 1ST LEVEL - PARTIAL ZONE 'A'
 SCALE: 1/8" = 1'-0"
 E-130

GENERAL NOTES

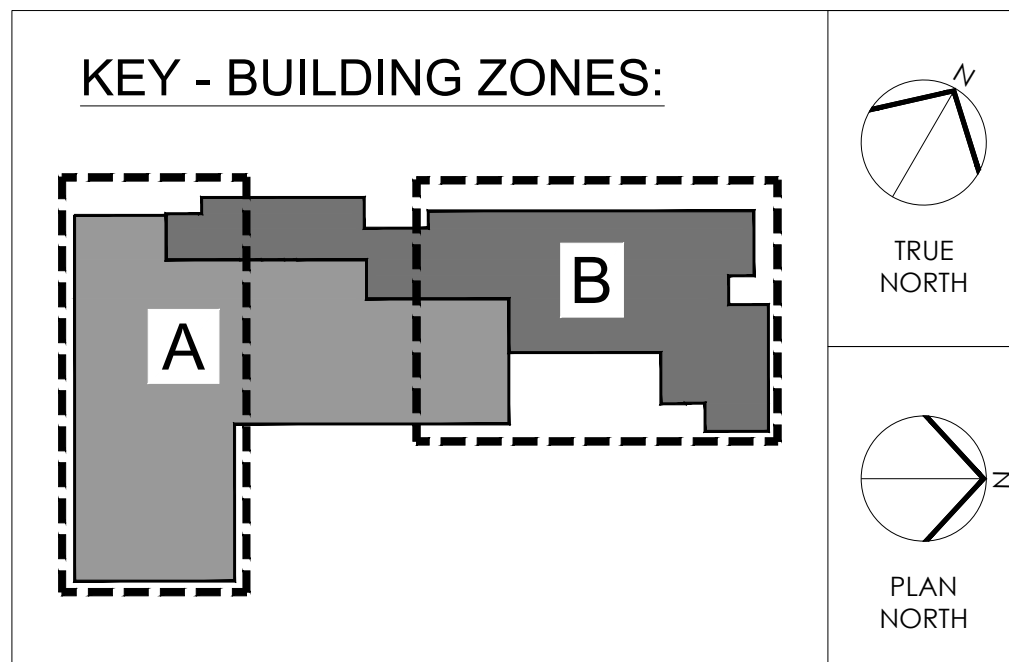
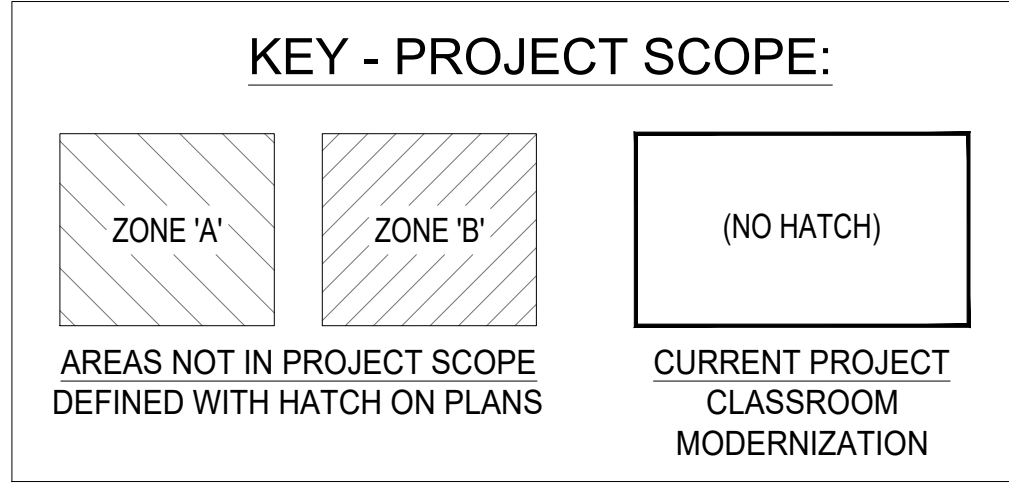
1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LATEST VERSION OF SCHOOL DISTRICT OF PHILADELPHIA TECHNOLOGY DESIGN STANDARDS.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT ENT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

1. NOT USED.
2. REPLACE ALL EXISTING CABLES FOR VOICE AND DATA DEVICES WITHIN THIS AREA WITH NEW CAT6 CABLES TERMINATED TO EXISTING PATCH PANEL WITHIN MDF/IDF ROOM. REUSE EXISTING BACKBOX AND RACEWAY WHERE FEASIBLE. PROVIDE NEW FACEPLATE.
3. PROVIDE NEW 110V-POWERED PRIMEX 14155E WIRELESS ROUND CLOCK. CONNECT TO EXISTING WIRELESS CLOCK SYSTEM. CONNECT TO EXISTING 120V CIRCUIT IN THE ROOM.
4. PROVIDE NEW BOGEN MBT50VR SURFACE MOUNTED SPEAKER. PROVIDE NEW CAT6 CABLE CONNECTION CLOSEST PA SYSTEM PATCH PANEL.
 1. ATTACH THE BLUE PAIR OF THE CAT 6A CABLE TO TERMINATE TO THE SPEAKER WIRES. CONNECT BLUE WIRE TO THE APPROPRIATE TRANSFORMER TAP WIRES.
 - 1W TAP - CLASSROOMS / OFFICES / ETC.
 - 4W TAP - COMMON AREA / HALLWAYS / ETC.
 - CONNECT WHITE WIRE TO COMMON.
 2. INDIVIDUALLY CLIP EACH TIP OF EXPOSED WIRE ON THE UNUSED CAT 6A WIRING AND SPEAKER POWER TAPS AND PLACE THEM NEATLY AROUND THE SPEAKER HOUSING. THIS WILL ENSURE THAT UNUSED TAP LEADS WILL NOT CAUSE SHORTING PROBLEMS.
5. EXISTING MDF ROOM TO REMAIN. PROVIDE NEW PATCH PANELS FOR TERMINATION OF NEW CABLING INDICATED ON PLANS. ALL PATCH PANELS SHALL BE PROVIDED INTO A NEW WALL MOUNTED RACK (TRIPP LITE #SRW08U22DP OR APPROVED EQUAL). PANELS SHALL BE STEEL AND SHALL ALLOW FOR MOUNTING OF ALL CAT-6 (EXISTING CABLES) AND/OR CAT-6, 6A (NEW CABLES) JACKS. PANELS SHALL BE BLANK PANELS IN 24 AND 48 PORT CONFIGURATIONS THAT ACCEPTS ALL MODULAR JACKS. PANELS SHALL HAVE REAR CABLE SUPPORT BAR FOR STRAIN RELIEF WHICH SHALL CLIP TO THE REAR OF THE PATCH PANEL OR TO THE REAR OF THE RACK RAIL. PORTS SHALL BE MARKED ON TOP OF THE OPENING BY FACTORY. LABEL ALL PANELS, CABLES WITH THE OWNER (SDP) APPROVED LABELS.
6. EXISTING FIRE ALARM DEVICE RELOCATED. EXTEND AND RECONNECT EXISTING WIRING LEFT IN SAFE CONDITION DURING DEMOLITION PHASE.
7. AUTOMATIC DOOR PUSHBUTTON. PROVIDE CONDUIT BETWEEN PUSHBUTTON AND AUTOMATIC DOOR OPERATOR AS PER DOOR MANUFACTURER'S INSTRUCTIONS. REFER TO ARCHITECTURAL DRAWING A-110 FOR ADDITIONAL INFORMATION.

LEGEND

- EXISTING TO REMAIN
- NEW



- NOTES:**
- ZONE 'A' = 1973 ORIGINAL BUILDING
 - ZONE 'B' = 2006 BUILDING ADDITION
 - "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

SEAL:



Name: Kevin Ray Goodhart DATE: 10/22/1996
 STATE AND LICENSE NO: RA014763X

ARCHITECT:
 GODSHALL KANE O'ROURKE ARCHITECTS, LLC
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ISSUE FOR BID
 01/14/2022

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1	01/17/2022	ADDENDUM #2
NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
 4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
SPECIAL SYSTEMS PLANS - 1ST LEVEL - PARTIAL ZONE 'A'

DRAWING SCALE

LOCATION NO.	###
DRAWN BY	NIP
CHECKED BY	GSP
GC - 2022-007-G	
PC - 2022-007-P	
EC - 2022-007-E	

DRAWING NO.
E - 130
 SHEET 39 OF 43

SEAL:



Name: Kevin Ray Goodhart DATE: 10/22/1996
STATE AND LICENSE NO: RA014763X

ARCHITECT:
GODSHALL KANE O'ROURKE ARCHITECTS, LLC
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Attn: GOPI PATEL

GENERAL NOTES

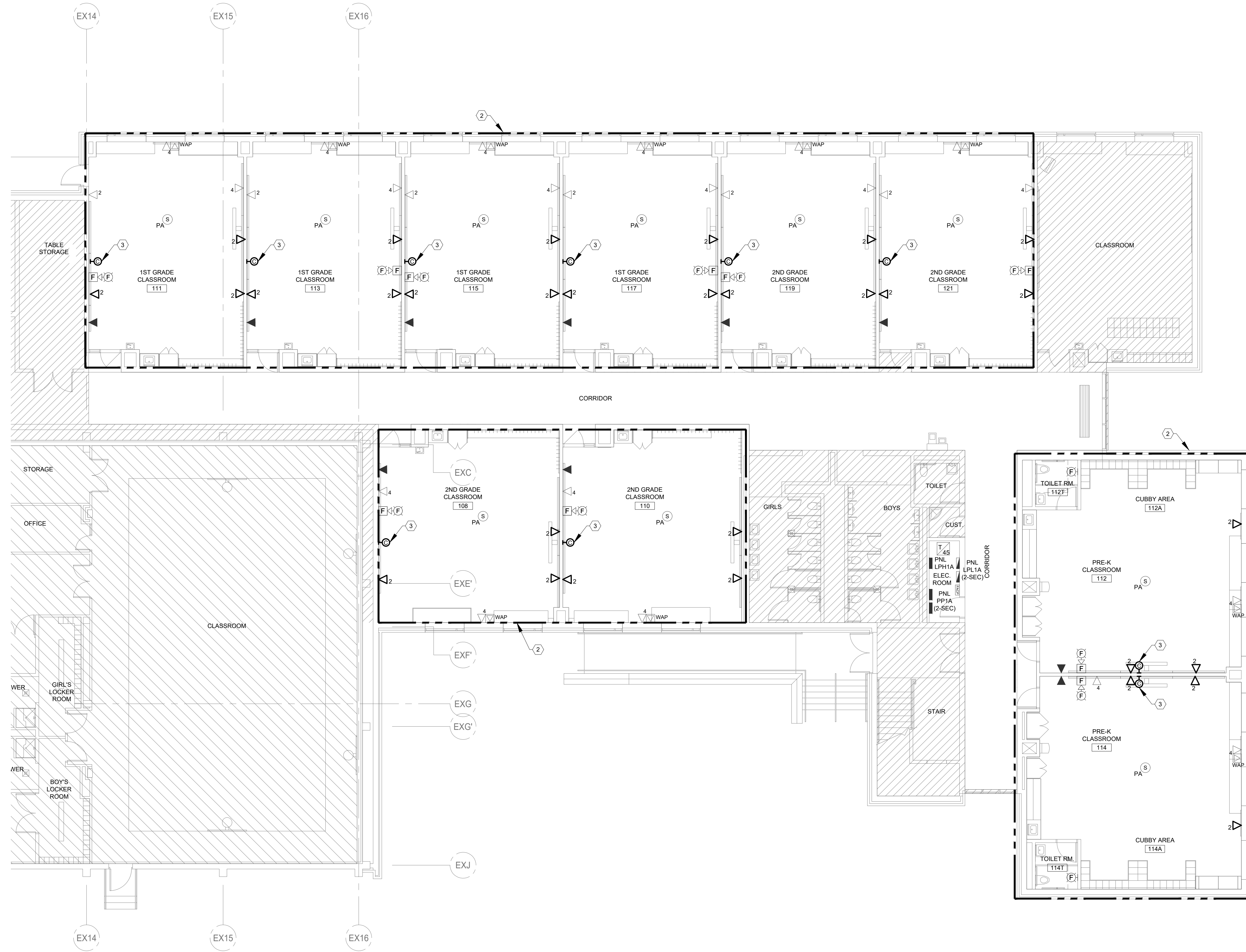
1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LATEST VERSION OF SCHOOL DISTRICT OF PHILADELPHIA TECHNOLOGY DESIGN STANDARDS.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMIT WITH BOXES AND FITTINGS AS REQUIRED. GO TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

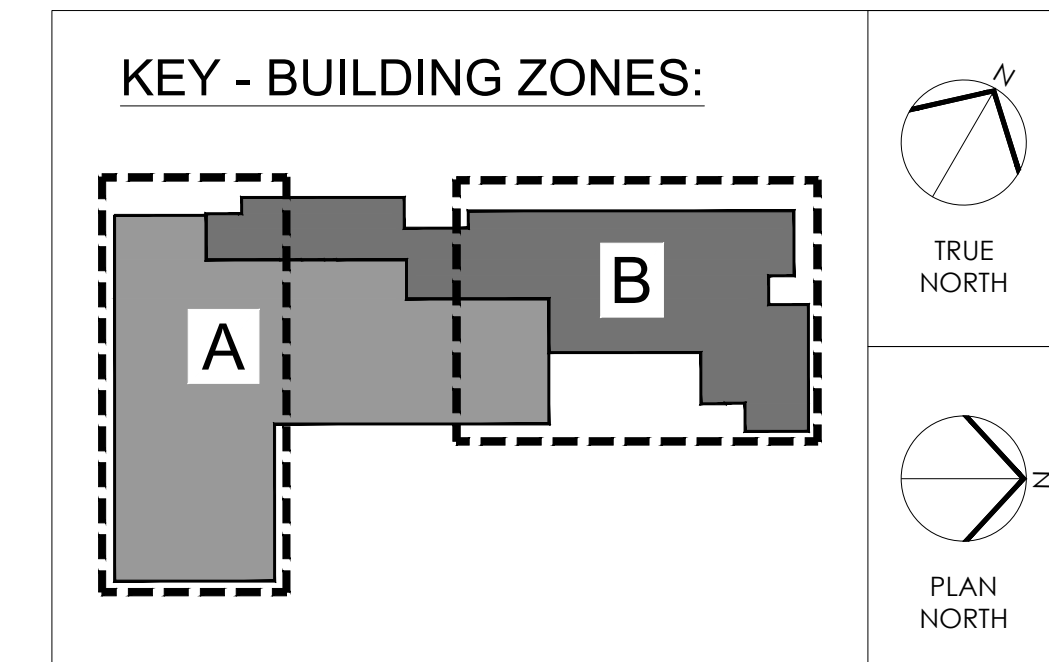
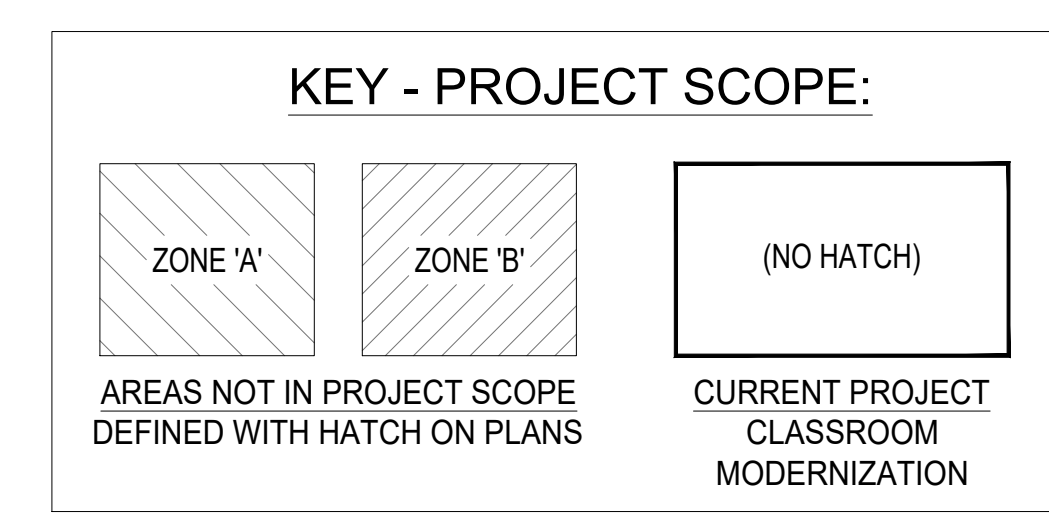
1. NOT USED.
2. REPLACE ALL EXISTING CABLES FOR VOICE AND DATA DEVICES WITHIN THIS AREA WITH NEW CAT6 CABLES TERMINATED TO EXISTING PATCH PANEL WITHIN MDF/IDF ROOM. REUSE EXISTING BACKBOX AND RACEWAY WHERE FEASIBLE. PROVIDE NEW FACEPLATE.
3. PROVIDE NEW 110V-POWERED PRIMEX 14155E WIRELESS ROUND CLOCK. CONNECT TO EXISTING WIRELESS CLOCK SYSTEM. CONNECT TO EXISTING 120V CIRCUIT IN THE ROOM.

LEGEND

- EXISTING TO REMAIN
- NEW



1 SPECIAL SYSTEMS PLAN - 1ST LEVEL - PARTIAL ZONE 'B'
E-131 SCALE: 1/8" = 1'-0"



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

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SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
SPECIAL SYSTEMS PLAN - 1ST LEVEL - PARTIAL ZONE 'B'

DRAWING SCALE

LOCATION NO.	####
DRAWN BY	CHECKED BY
NIP	GSP
GC - 2022-007-G	
PC - 2022-007-P	
EC - 2022-007-E	

DRAWING NO.
E - 131
SHEET 40 OF 43

SEAL:



Name: Kevin Roy Goodhart DATE: 10/22/1996
STATE AND LICENSE NO: RAD14763X

ARCHITECT:
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Attn: GOPI PATEL

GENERAL NOTES

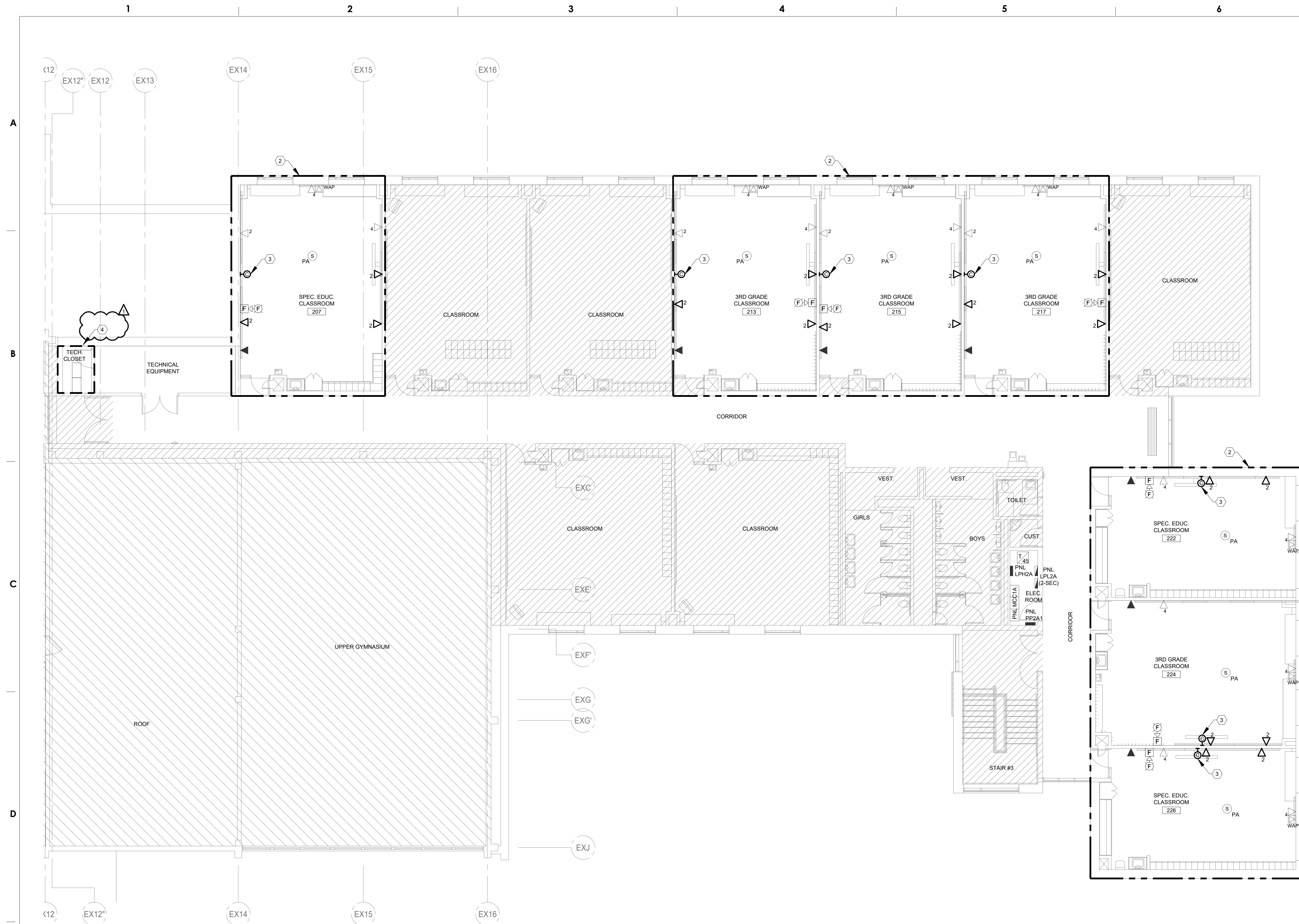
1. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE 2017 AS WELL AS ALL APPLICABLE STATE AND LOCAL CODES & ORDINANCES.
2. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES, REFER TO ELECTRICAL LEAD SHEET.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LATEST VERSION OF SCHOOL DISTRICT OF PHILADELPHIA TECHNOLOGY DESIGN STANDARDS.
4. ALL NEW DEVICES MOUNTED TO CMU BLOCK WALL SHALL BE SURFACE MOUNTED. PROVIDE SURFACE MOUNT EMT WITH BOXES AND FITTINGS AS REQUIRED. GC TO PAINT RACEWAY TO MATCH WALL SURFACE. FINAL APPROVAL ON PAINT COLOR BY ARCHITECT.

SHEET NOTES

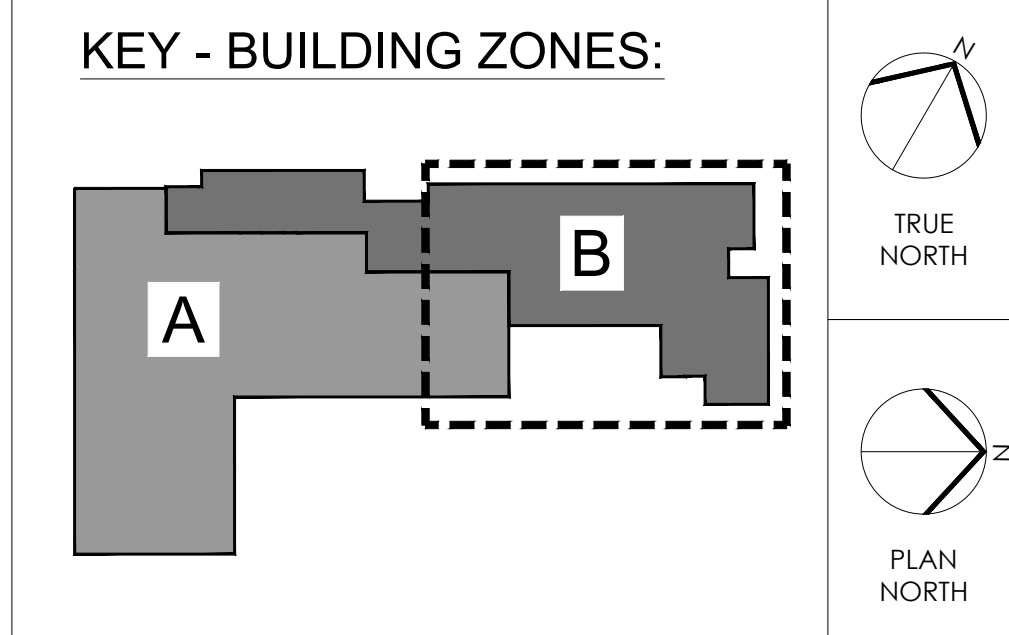
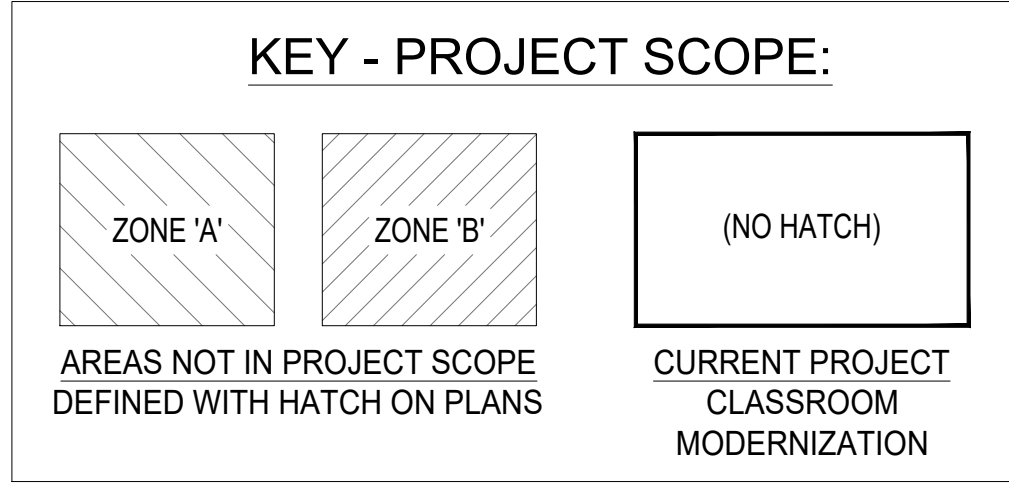
1. NOT USED.
2. REPLACE ALL EXISTING CABLES FOR VOICE AND DATA DEVICES WITHIN THIS AREA WITH NEW CAT6 CABLES TERMINATED TO EXISTING PATCH PANEL WITHIN MDF/IDF ROOM. REUSE EXISTING BACKBOX AND RACEWAY WHERE FEASIBLE. PROVIDE NEW FACEPLATE.
3. PROVIDE NEW 110V-POWERED PRIMEX 14155E WIRELESS ROUND CLOCK. CONNECT TO EXISTING WIRELESS CLOCK SYSTEM. CONNECT TO EXISTING 120V CIRCUIT IN THE ROOM.
4. EXISTING IDF ROOM TO REMAIN. PROVIDE NEW PATCH PANELS FOR TERMINATION OF NEW CABLING INDICATED ON PLANS. ALL PATCH PANELS SHALL BE PROVIDED INTO EXISTING RACKS. PANELS SHALL BE STEEL AND SHALL ALLOW FOR MOUNTING OF ALL CAT-5, 5E (EXISTING CABLES) AND/OR CAT-6, 6A (NEW CABLES) JACKS. PANELS SHALL BE BLANK PANELS IN 24 AND 48 PORT CONFIGURATIONS THAT ACCEPTS ALL MODULAR JACKS. PANELS SHALL HAVE REAR CABLE SUPPORT BAR FOR STRAIN RELIEF WHICH SHALL CLIP TO THE REAR OF THE PATCH PANEL OR TO THE REAR OF THE RACK RAIL. PORTS SHALL BE MARKED ON TOP OF THE OPENING BY FACTORY. LABEL ALL PANELS, CABLES WITH THE OWNER (SDP) APPROVED LABELS.

LEGEND

- EXISTING TO REMAIN
- NEW



1 SPECIAL SYSTEMS PLAN - 2ND LEVEL - PARTIAL ZONE 'B'
E-132 SCALE: 1/8" = 1'-0"



NOTES:

- ZONE 'A' = 1973 ORIGINAL BUILDING
- ZONE 'B' = 2006 BUILDING ADDITION
- "DASHED LINE" DEFINES PLAN AREAS SHOWN ON SHEET.

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NO.	DATE	REVISION

SCHOOL & LOCATION
HENRY W. LAWTON SCHOOL
4501 BENNER STREET, PHILADELPHIA, PA 19135

PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE

SPECIAL SYSTEMS PLAN - 2ND LEVEL - PARTIAL ZONE 'B'

DRAWING SCALE

LOCATION NO.
###

DRAWN BY: NIP
CHECKED BY: GSP

GC - 2022-007-G
PC - 2022-007-P
EC - 2022-007-E

DRAWING NO.
E - 132

SHEET 41 OF 43

SEAL:

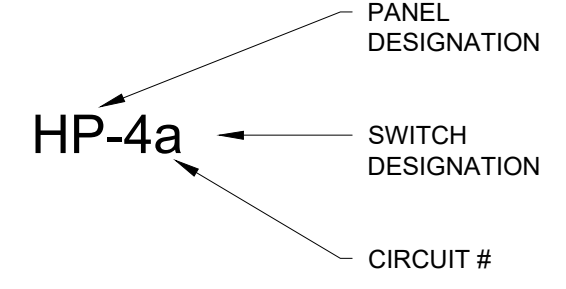


Name: Kevin Roy Goodhart
STATE AND LICENSE NO: RADI 4783X
DATE: 10/22/1996

ARCHITECT:
GODSHALL KANE O'ROURKE ARCHITECTS, LLC
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Atrn: ALLISON KLINGLER, RA

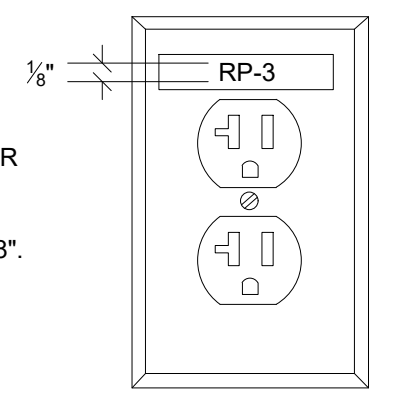
MECHANICAL / PLUMBING / ELECTRICAL ENGINEER:
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920 GERMAN TOWN PIKE, SUITE 20
PLYMOUTH MEETING, PA 19462
Phone: 484.539.9459
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Atrn: GOPI PATEL

1. WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CIRCUIT NUMBERS AND PANEL DESIGNATIONS
2. PROVIDE WIRING AND CONDUIT BETWEEN ALL OUTLETS/FIXTURES INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS
3. ALL SWITCH CONTROLS SHALL BE PROVIDED WITH WIRING AND CONDUIT AS REQUIRED. ALTHOUGH ALL BRANCH CIRCUIT WIRING AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
4. BRANCH CIRCUIT WIRING IS INDICATED ON THE DRAWINGS IN ACCORDANCE FOR BOTH LIGHTING AND POWER.
5. BRANCH CIRCUIT WIRING IS INDICATED ON THE DRAWINGS IN ACCORDANCE FOR BOTH LIGHTING AND POWER.
6. LIGHT SWITCH CONTROLS LIGHTS IN THE SAME ROOM UON.

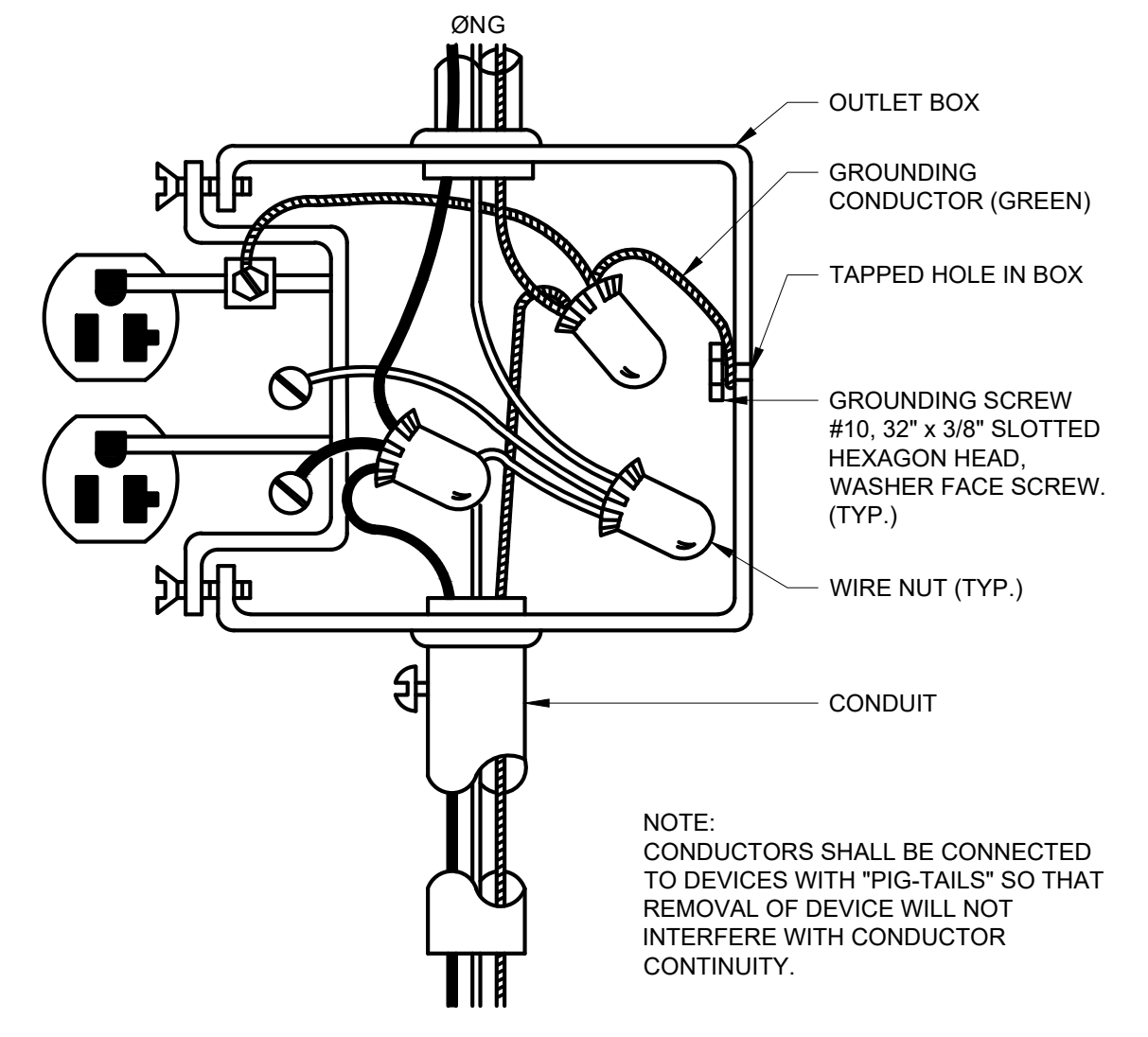


1 BRANCH CIRCUIT WIRING NOTES
E-200 SCALE: NOT TO SCALE

PROVIDE A LABEL FOR EACH RECEPTACLE TO INDICATE PANEL AND CIRCUIT BREAKER NUMBER SUPPLYING THE DEVICE. PROVIDE PRESSURE SENSITIVE LABEL WITH BLACK LETTERING ON CLEAR BACKGROUND. LETTERING HEIGHT IS 1/8".

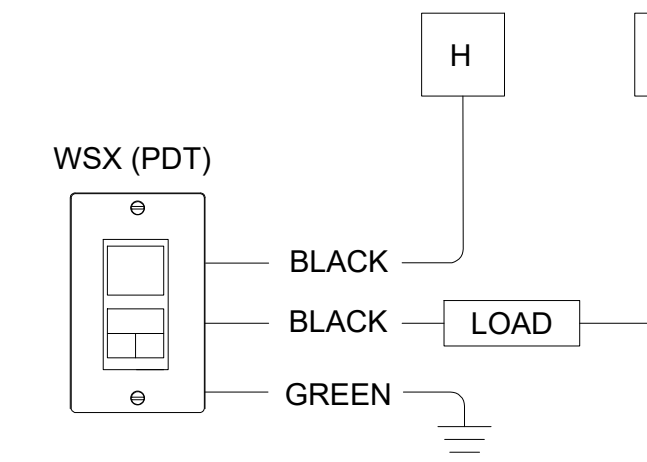


2 RECEPTACLE LABELING DETAIL
E-200 SCALE: NOT TO SCALE

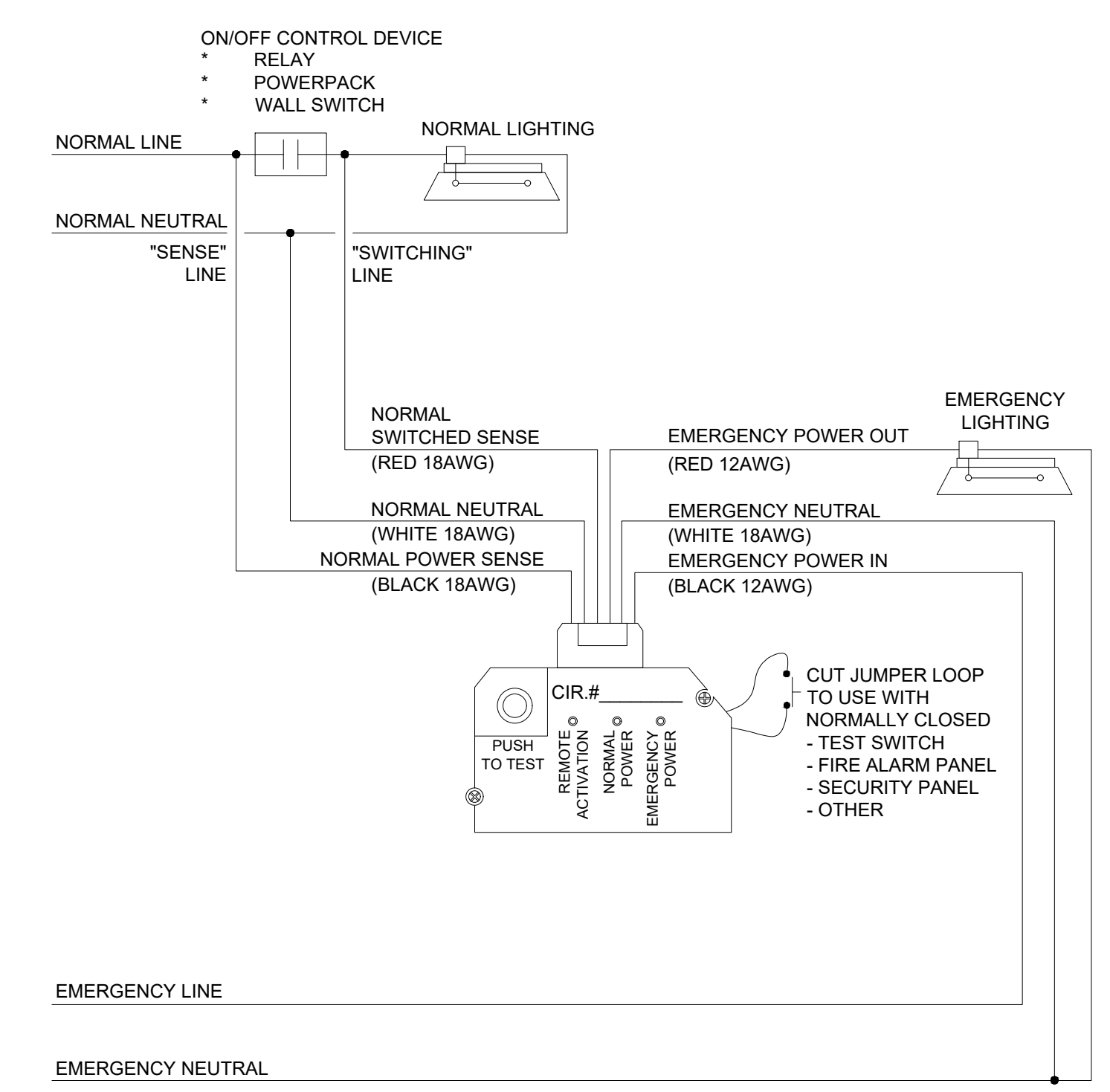


NOTE: CONDUCTORS SHALL BE CONNECTED TO DEVICES WITH "PIG-TAILS" SO THAT REMOVAL OF DEVICE WILL NOT INTERFERE WITH CONDUCTOR CONTINUITY.

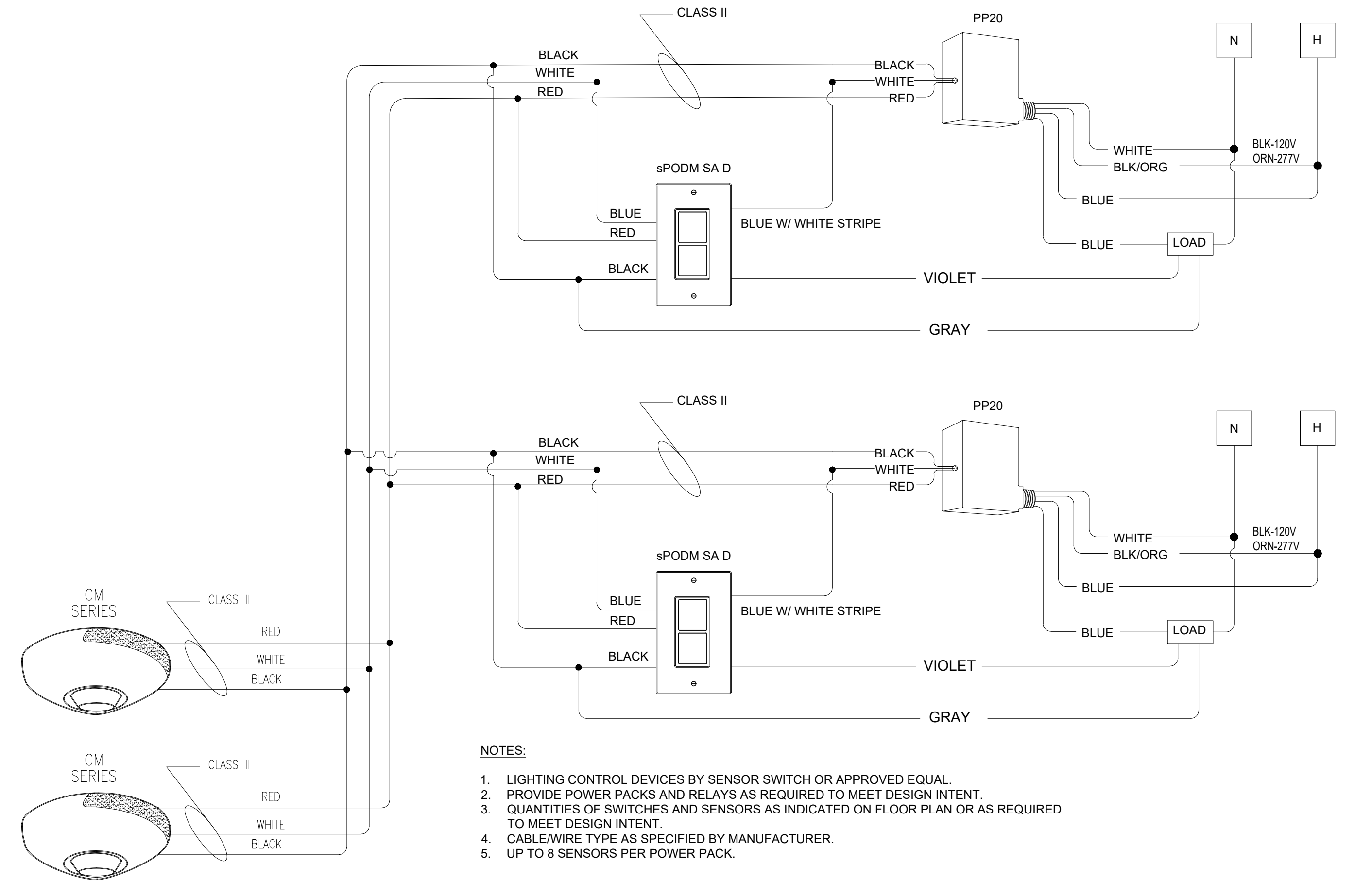
3 TYPICAL RECEPTACLE WIRING
E-200 SCALE: NOT TO SCALE



6 WALL BOX OCCUPANCY/VACANCY SENSOR WIRING DIAGRAM
E-200 SCALE: NOT FOR SCALE

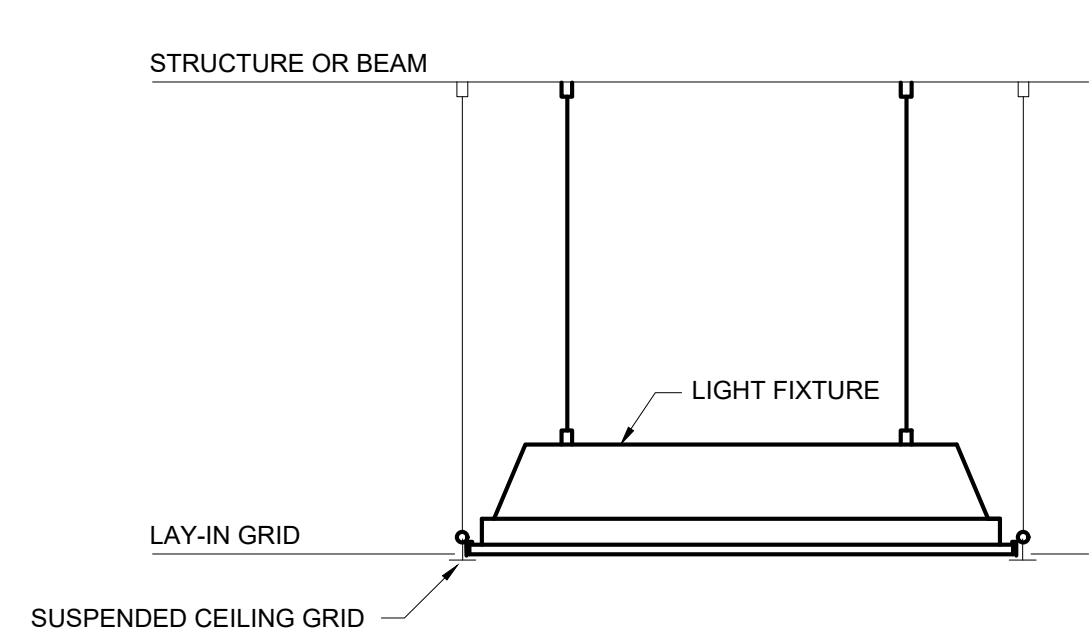


4 EMERGENCY LIGHTING CONTROL WIRING DIAGRAM
E-200 SCALE: N.T.S.



- NOTES:
1. LIGHTING CONTROL DEVICES BY SENSOR SWITCH OR APPROVED EQUAL.
 2. PROVIDE POWER PACKS AND RELAYS AS REQUIRED TO MEET DESIGN INTENT.
 3. QUANTITIES OF SWITCHES AND SENSORS AS INDICATED ON FLOOR PLAN OR AS REQUIRED TO MEET DESIGN INTENT.
 4. CABLEWIRE TYPE AS SPECIFIED BY MANUFACTURER.
 5. UP TO 8 SENSORS PER POWER PACK.

5 LOW VOLTAGE DIMMING SWITCH W/ MOTION SENSOR WIRING DIAGRAM
E-200



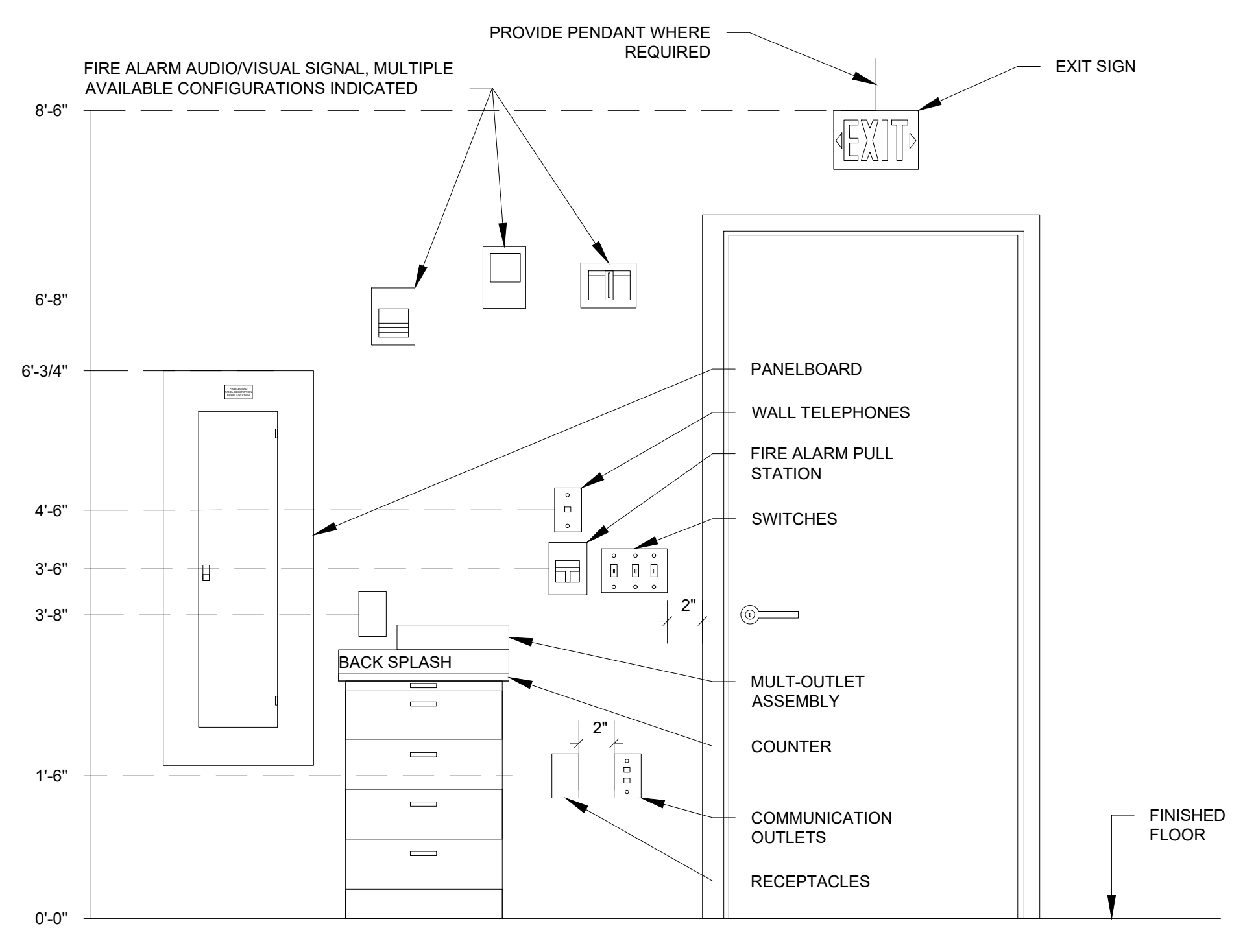
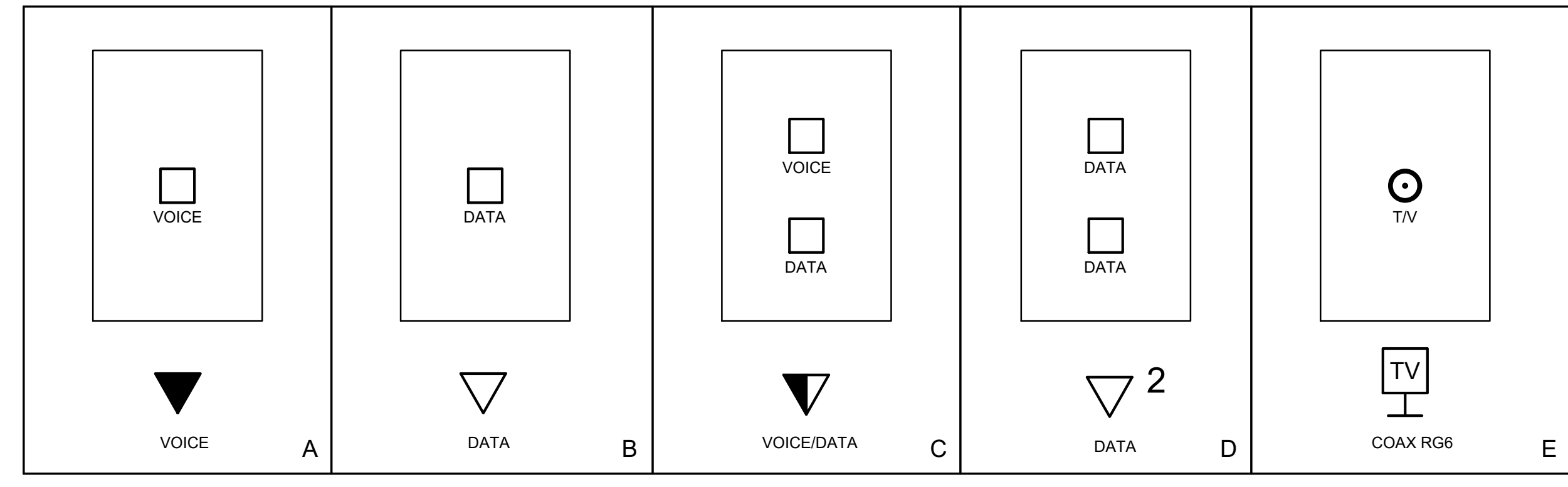
7 LAY-IN GRID FIXTURE MOUNTING DETAIL
E-200 NOT FOR SCALE

VOLTAGE	PHASE	AMPS	MAX. LENGTH WHEN USING			
			#12	#10	#8	#6
120	1	4	250'	410'	620'	-
120	1	8	125'	200'	310'	-
120	1	12	80'	135'	205'	320'
120	1	16	60'	100'	155'	240'
208	1	4	420'	700'	-	-
208	1	8	210'	350'	530'	-
208	1	12	140'	235'	350'	550'
208	1	16	105'	175'	270'	410'
277	1	6	380'	620'	-	-
277	1	8	280'	470'	-	-
277	1	10	225'	380'	560'	-
277	1	12	190'	310'	480'	-

8 VOLTAGE DROP TABLE
E-200 SCALE: NOT TO SCALE

TELECOMM/ACCESS CONTROL/AUDIO-VISUAL/SURVEILLANCE/ELECTRICAL RESPONSIBILITY MATRIX													
SYMBOLS	DESCRIPTION	CONDUIT			BACKBOX			FACEPLATE		WIRING		COMMENTS	
		SIZE	FURNISHED & INSTALLED	FROM	TO	SIZE	FURNISHED & INSTALLED	MOUNTING HEIGHT	DETAIL	FURNISHED & INSTALLED	TYPE		FURNISHED & INSTALLED
TELECOM													
▼	TWO JACK COMBINATION VOICE/DATA OUTLET	3/4"	ELECTRICAL CONTRACTOR	BACK BOX	ABOVE ACCESSIBLE CEILING	4"x4"x2-1/2" MIN DOUBLE GANG BACKBOX W/ SINGLE GANG MUD RING ADAPTER	ELECTRICAL CONTRACTOR	SEE DWG. E0.00	SEE DETAIL #1/C	ELECTRICAL CONTRACTOR	(2)CAT-6	ELECTRICAL CONTRACTOR	MATCH EXISTING CABLE COLOR; STAINLESS STEEL FACEPLATE
▼	SINGLE JACK VOICE OUTLET	3/4"	ELECTRICAL CONTRACTOR	BACK BOX	ABOVE ACCESSIBLE CEILING	4"x4"x2-1/2" MIN DOUBLE GANG BACKBOX W/ SINGLE GANG MUD RING ADAPTER	ELECTRICAL CONTRACTOR	SEE DWG. E0.00	SEE DETAIL #1/A	ELECTRICAL CONTRACTOR	CAT-6	ELECTRICAL CONTRACTOR	MATCH EXISTING CABLE COLOR; COMMSCOPE M10LWASP 1-PORT SINGLE GANG STAINLESS STEEL TELEPHONE FACEPLATE
▽	SINGLE JACK SINGLE GANG DATA OUTLET	3/4"	ELECTRICAL CONTRACTOR	BACK BOX	ABOVE ACCESSIBLE CEILING	4"x4"x2-1/2" MIN DOUBLE GANG BACKBOX W/ SINGLE GANG MUD RING ADAPTER	ELECTRICAL CONTRACTOR	SEE DWG. E0.00	SEE DETAIL #1/B	ELECTRICAL CONTRACTOR	CAT-6	ELECTRICAL CONTRACTOR	MATCH EXISTING CABLE COLOR; STAINLESS STEEL FACEPLATE
▽ ²	TWO JACK SINGLE GANG DATA OUTLET	3/4"	ELECTRICAL CONTRACTOR	BACK BOX	ABOVE ACCESSIBLE CEILING	4"x4"x2-1/2" MIN DOUBLE GANG BACKBOX W/ SINGLE GANG MUD RING ADAPTER	ELECTRICAL CONTRACTOR	SEE DWG. E0.00	SEE DETAIL #1/D	ELECTRICAL CONTRACTOR	(2)CAT-6	ELECTRICAL CONTRACTOR	MATCH EXISTING CABLE COLOR; STAINLESS STEEL FACEPLATE
WAP	WIRELESS ACCESS POINT	3/4"	ELECTRICAL CONTRACTOR	TOP BOX	ABOVE ACCESSIBLE CEILING	SEE DETAIL 1/E-510	ELECTRICAL CONTRACTOR	SEE DWG. E0.00	N/A	N/A	(2)CAT-6	ELECTRICAL CONTRACTOR	MATCH EXISTING CABLE COLOR; STAINLESS STEEL FACEPLATE
TV	SINGLE GANG CABLE	3/4"	ELECTRICAL CONTRACTOR	BACK BOX	ABOVE ACCESSIBLE CEILING	4"x4"x2-1/2" MIN DOUBLE GANG BACKBOX W/ DOUBLE GANG MUD RING ADAPTER	ELECTRICAL CONTRACTOR	SEE DWG. E0.00	SEE DETAIL #1/E	ELECTRICAL CONTRACTOR	RG-6	ELECTRICAL CONTRACTOR	MATCH EXISTING CABLE COLOR; STAINLESS STEEL FACEPLATE

NOTE: ALL WORK SHALL BE DONE IN ACCORDANCE WITH LATEST VERSION OF SCHOOL DISTRICT OF PHILADELPHIA TECHNOLOGY DESIGN STANDARDS



9 EQUIPMENT MOUNTING ELEVATION
E-200 SCALE: NOT TO SCALE

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PROJECT TITLE
CLASSROOM MODERNIZATION

DRAWING TITLE
ELECTRICAL DETAILS

DRAWING SCALE	
LOCATION NO.	####
DRAWN BY	CHECKED BY
NIP	GSP

GC - 2022-007-G
PC - 2022-007-P
EC - 2022-007-E

DRAWING NO.
E - 200
SHEET 42 OF 43