

**THE SCHOOL DISTRICT OF PHILADELPHIA
Office of Capital Programs
440 North Broad Street, 3rd Floor – Suite 371
Philadelphia, PA 19130**

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Addendum No. 001

**Subject: 2020 Classroom Modernizations
SDP Contract Numbers: B-019 C of 19/20 & B-021 C of 19/20**

**Location: Ellwood School
6701 N. 13th St, Philadelphia PA 19126**

This Addendum, dated February 28, 2020, 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.

GENERAL

CLARIFICATION – Any/all scope dictated in the Asbestos Inspection Report specification and/or the Paint and Plaster specification (where applicable) shall utilize the proposed finishes as indicated on the Color Scheme Schedule within the Classroom Modernization drawings. All color selections and locations shall be approved by the architect.

SPECIFICATIONS

SPECIFICATION 262416 – PANELBOARDS

1. ADD specification in its entirety.

SPECIFICATION 275313 – WIRELESS CLOCK SYSTEM

1. REVISE 2.2.H. to read “H. Basis of Design: Sapling Inc. SMA 2000 **3000** Series Master Clock (V8.1), Wireless Clock System. [Addendum No. 1].”

SPECIFICATION 01 1135- Asbestos Abatement Technical Specifications

1. REMOVE Attachment A- Asbestos Location Drawings- and all references within
2. REMOVE Attachment D- Lead Based Paint Stabilization Specification- All referrals shall direct to “Specification Part B- Technical Specifications and Scope of Work for Paint and Plaster Repairs.

Specification Part B- Technical Specifications and Scope of Work for Paint and Plaster Repairs

1. Remove and replace Scope of Work Detail (Lead Safe Certification Assessment Report)

COVER SHEETS

DRAWING CS.1 – COVER SHEET

1. REVISED cover to add Deed Address "1201-51 OAK LN, PHILADELPHIA, PA 19126-3225."

ARCHITECTURAL DRAWINGS

DRAWINGS D1.1 to D1.3 – DEMOLITION PLANS

1. ADD note adjacent to Storage Room 105B to read "METAL SHELVING TO BE REMOVED, STORED AND REINSTALLED IN PLACE FOR NEW WORK."
2. REVISE demolition note 1A to read "EXISTING WALLS SHALL BE SCRAPED; REMOVE ANY/ALL ABANDONED OR UNUSED BRACKETS, PROJECTORS AND MOUNTS, PROJECTOR SCREENS, TVS AND MOUNTS, BLOCKING AND ASSOCIATED ACCESSORIES IN THEIR ENTIRETY. PATCH ANY AND ALL PENETRATIONS AND CRACKING THROUGHOUT AND PREPARE WALLS, COLUMNS, REGISTERS, HEATERS, AND ASSOCIATED ACCESSORIES TO RECEIVE NEW FINISH MATCHING ADJACENT FINISHED SURFACE AS SCHEDULED."
3. REVISE demolition note 3A to read "EXISTING DOOR AND FRAME ASSEMBLY TO REMAIN. REMOVE ANY/ALL OBSOLETE EQUIPMENT, STAPLES AND ASSOCIATED ACCESSORIES AND FASTENERS IN THEIR ENTIRETY FROM DOOR AND FRAME ASSEMBLY. ANY/ALL PENETRATIONS IN EXISTING DOOR AND FRAME, INCLUDING OLD HARDWARE PENETRATIONS, SHALL BE PATCHED WITH SAME MATERIAL AS DOOR. SAND AND RETURN TO "LIKE NEW" CONDITION AND PREPARE FOR NEW FINISH AS SCHEDULED. ALL MISCELLANEOUS HARDWARE AND SECURITY GRILLES AND ASSOCIATED BRACKETING SHALL BE REMOVED IN ITS ENTIRETY (WHERE OCCURS). PREPARE DOOR AND/OR FRAME ASSEMBLIES TO RECEIVE NEW INFILL AS SCHEDULED (WHERE OCCURS). PREPARE DOOR FOR NEW HARDWARE AS SCHEDULED. CONTRACTOR SHALL VERIFY IN FIELD ALL DOOR, FRAME AND HARDWARE REQUIREMENTS. CONTRACTOR SHALL NOT REMOVE ANY COMPONENTS OF DOOR OR HARDWARE UNTIL ALL COMPONENTS OF NEW ASSEMBLY ARE PHYSICALLY ON SITE, INCLUDING CORES."
4. REVISE demolition note 5A to read "EXISTING HARD CEILING AND/OR METAL CEILINGS SHALL BE SCRAPED; REMOVE ANY/ALL ABANDONED OR UNUSED FASTENERS, BRACKETS, PROJECTORS AND MOUNTS AND ASSOCIATED ACCESSORIES IN THEIR ENTIRETY. PATCH ANY AND ALL PENETRATIONS AND CRACKING THROUGHOUT AND PREPARE CEILINGS, BEAMS, AND ASSOCIATED ACCESSORIES TO RECEIVE NEW FINISH MATCHING ADJACENT SURFACE AS SCHEDULED. WHERE CAPPING OF OLD OR ABANDONED SYSTEMS OCCURS, PROVIDE COVER PLATE AND PAINT TO MATCH EXISTING SURFACES. REFER TO ENGINEERING DRAWINGS FOR FURTHER INFORMATION WHERE OCCURS."
5. REVISE demolition note 7P to read "EXISTING UNIT VENTILATOR AND SHELVING SYSTEM AND/OR RADIATOR, RADIATOR COVER, AND ALL ASSOCIATED PIPING AND COMPONENTS TO BE REMOVED (AS APPLICABLE). SHELVING DOORS SHALL BE REMOVED IN THEIR ENTIRETY. REFINISH ASSEMBLY WITH ELECTROSTATIC PAINT AND REINSTALL AS SCHEDULED. CLEAN UNIT VENTILATOR AND/OR RADIATOR AND ALL ASSOCIATED COMPONENTS PRIOR TO REINSTALLATION OF COVER."
6. REVISE demolition note 8A to read "EXISTING WOOD TRIM THROUGHOUT ENTIRE ROOM INCLUDING, BUT NOT LIMITED TO BASE, DOOR, CROWN MOLDING, WINDOW TRIM AND INTERMITTENT WOOD MULLIONS, SHALL BE STRIPPED OF ANY NAILS, STAPLES, TAPE, AND ETC. SAND AND PATCH ANY PENETRATIONS AND PREPARE TO RECEIVE NEW FINISH AS SCHEDULED."

DRAWING A6.1 – ROOM FINISH SCHEDULE & DOOR SCHEDULE

1. REVISE Room Finish schedule as indicated:
 - a. REVISE column “COLOR SCHEME” at ROOMS 108, 211, 212 to correspond to Color Scheme “C”.
 - b. REVISE column “COLOR SCHEME” at ROOMS 208, 210 to correspond to Color Scheme “D”.
2. REVISE Color Scheme Schedule as indicated:
 - a. REVISE Color Scheme A to read as: “COLOR SCHEME A – KINDERGARTEN”.
 - b. REVISE item no. 6 to read as: “6. VINYL COMPOSITION TILE, ACCENT '2': ARMSTRONG, NO. 51947 BASIL GREEN”
 - c. ADD item no. 8 to read as: “8. VINYL BASE: JOHNSONITE, NO. 469 MYSTIFY”.
 - d. REVISE Color Scheme B to read as: “COLOR SCHEME B – FIRST GRADE AND SPECIAL EDUCATION”.
 - e. REVISED item no. 3 to read as: “3. ACCENT PAINT 'B' TEACHING WALL: SHERWIN WILLIAMS, NO. SW6765 SPA”
 - f. REVISE item no. 5 to read as: “5. VINYL COMPOSITION TILE, ACCENT '1': ARMSTRONG, NO. 51927 FIELD GRAY”
 - g. REVISE item no. 6 to read as: “6. VINYL COMPOSITION TILE, ACCENT '2': ARMSTRONG, NO. 57509 LEMON LICK”
 - h. ADD item no. 8 to read as: “8. VINYL BASE: JOHNSONITE, NO. 469 MYSTIFY”.
 - i. REVISE Color Scheme C to read as: “COLOR SCHEME C – SECOND GRADE”.
 - j. ADD Color Scheme Information for Color Scheme C.
 - k. REVISE Color Scheme D to read as: “COLOR SCHEME D – THIRD GRADE”.
 - l. ADD Color Scheme Information for Color Scheme D.
 - m. REVISE General Notes Item No. 7 to read as: “NOT USED”.

ELECTRICAL DRAWINGS

DRAWING E0.1 – ELECTRICAL GENERAL NOTES, SYMBOLS & ABBREVIATIONS

1. REVISE room controller basis-of-design to read “GREENGATE – MODEL #RC3D-PL.”

DRAWING ED1.1 - ELECTRICAL FIRST FLOOR DEMOLITION PLAN – UNIT A

1. CLARIFY general note in larger font to read “ELECTRICAL CONTRACTOR TO PROVIDE ALLOWANCE FOR REMOVAL OF 10'-0” OF SURFACE MOUNTED RACEWAY/CONDUIT AND CONDUCTORS IN EACH CLASSROOM.”

DRAWING ED1.2 - ELECTRICAL FIRST FLOOR DEMOLITION PLAN – UNIT B

1. ADD general note in larger font to read “ELECTRICAL CONTRACTOR TO PROVIDE ALLOWANCE FOR REMOVAL OF 10'-0” OF SURFACE MOUNTED RACEWAY/CONDUIT AND CONDUCTORS IN EACH CLASSROOM.”
2. REVISE MDF/IT Room layout as indicated on the drawings.

DRAWING ED1.3 - ELECTRICAL SECOND FLOOR DEMOLITION PLAN – UNIT B

1. CLARIFY general note in larger font to read “ELECTRICAL CONTRACTOR TO PROVIDE ALLOWANCE FOR REMOVAL OF 10'-0” OF SURFACE MOUNTED RACEWAY/CONDUIT AND CONDUCTORS IN EACH CLASSROOM.”

DRAWING E2.1 - ELECTRICAL FIRST FLOOR POWER AND TECHNOLOGY PLAN – UNIT A

1. ADD general sheet note #6 to read “ELECTRICAL CONTRACTOR TO RUN ALL NEW SURFACE MOUNTED CONDUITS AND RACEWAYS IN CORNERS OFF EACH

CLASSROOM TO AVOID CONFLICT WITH DISPLAY BOARDS AND OTHER CLASSROOM FURNISHINGS.”

2. REVISE data outlet locations and scope as indicated on the drawings.

DRAWING E2.2 - ELECTRICAL FIRST FLOOR POWER AND TECHNOLOGY PLAN – UNIT B

1. ADD general sheet note #6 to read “ELECTRICAL CONTRACTOR TO RUN ALL NEW SURFACE MOUNTED CONDUITS AND RACEWAYS IN CORNERS OFF EACH CLASSROOM TO AVOID CONFLICT WITH DISPLAY BOARDS AND OTHER CLASSROOM FURNISHINGS.”
2. REVISE data outlet locations and scope as indicated on the drawings.
3. REVISE MDF/IT Room layout as indicated on the drawings.

DRAWING E2.3 -ELECTRICAL SECOND FLOOR POWER AND TECHNOLOGY PLAN–UNIT B

1. ADD general sheet note #6 to read “ELECTRICAL CONTRACTOR TO RUN ALL NEW SURFACE MOUNTED CONDUITS AND RACEWAYS IN CORNERS OFF EACH CLASSROOM TO AVOID CONFLICT WITH DISPLAY BOARDS AND OTHER CLASSROOM FURNISHINGS.”
2. REVISE data outlet locations and scope as indicated on the drawings.

DRAWING E7.1 - ELECTRICAL DETAILS

1. REVISE 3/E7.1 Typical Classroom Lighting Controller diagram as indicated on the drawings.

BIDDER QUESTIONS SUBMITTED TO DATE & RESPONSES ARE AS FOLLOWS:

1. On the website, each school has an EC and GC bid. Who will be responsible for the HVAC and Plumbing work that is included?

Answer: See specification section 01 1000 Summary of Work, section 1.1, “Note: All work shown on the Plumbing or Mechanical Drawings or indicated as plumbing or mechanical work is the responsibility of the General Construction Contractor.”

2. Specifications call for Sapling Master 2000 Clock. Sapling 3000 is normally the school district standard. Manufacturer comment "a 3000 can set up bell schedules where a 2000 cannot. Philly schools does not have intercom systems, so they have no way of ringing bells without the 3000." Should the specs be revised to install a 3000?

Answer: Specification 275313 has been revised in this addendum. Refer to specification addendum section, above.

3. The specifications do not contain a specification for the electrical panels. Can you provide?

Answer: Specification 262416 Panelboards has been added to the contract documents as part of this addendum.

4. The GC scope of work covers 19 classrooms and associated storage and toilet rooms. NOTE on page 3 of 5 says: "The General Construction Contractor is responsible for all Paint and Plaster Repairs IN ALL ROOMS OF THE BUILDING(S), in accordance with the attached Technical Specification and Scope of Work." Please confirm that "all rooms" refers to the 19 classrooms, storage and toilet rooms as defined in the scope of work.

Answer: ALL ROOMS OF THE BUILDING(S) are required to be painted in accordance with the Paint and Plaster Specification Requirements. The Lead Safe Certification document locates the specified scope for stabilization. This scope is NOT limited to the Classroom Modernization locations.

5. Drawing D1.1, Demolition Note 9A states "*existing unit ventilator and/or radiator, radiator cover and all associated piping and components to be removed (as applicable) and refinished with electrostatic paint and reinstalled as scheduled. Clean unit ventilator and/or radiator and all associated components prior to reinstallation of cover.*" Is this the responsibility of the GC?

Answer: See question #1 above regarding HVAC and Plumbing responsibility. Drawing D1.1, Demolition Note 9A is amended to read:

"Existing unit ventilator cover and/or radiator cover to be removed (as applicable) and refinished with electrostatic paint and reinstalled as scheduled. Clean unit ventilator and/or radiator and all associated components prior to reinstallation of cover."

6. The contract drawings don't show any details regarding the scope of work. The notes on the drawings lead us to believe that the intent is to Paint the Ventilator Grilles and Radiator covers. Please clarify?

Answer: See Question #6, above. Also refer to Specification 105115 Electrostatic Painting for refinishing requirements for metal surfaces.

7. Drawings don't show S.S. Corner Guard locations. Please Clarify?

Answer: Per Specification 102600, Section 2.3.A.7, we have indicated corner guards to be received at three schools; John B. Kelly Elementary per drawings, Overbrook Educational Center per drawings, and Fox Chase Elementary per drawings.

8. Confirm that Unit Price No. 1 and Unit Price No. 2 work is only applicable to Pollock Part Part B Scope of Work. Provide breakdown by room, location, surface type (wall or ceiling) and size (in SF) for the respective patching and repairs.

Answer: Unit Pricing should be included as noted in the Bid Proposal form. This applies to all schools that include a "Part B- Scope of work and technical

specifications for paint and plaster repairs.” See question 4 above, and see included revision to “Lead Safe Certification Assessment Report.”

9. The part B Scope of Work Detail lists “Lead Safe Certification for Sayre High School.” Provide the correct report and floor plans.

Answer: This document has been revised. There aren’t floor plans for part B. Please see responses to questions 4 and 9 above.

10. Please provide Appendix A- Asbestos Location Drawings

Answer: For specification 01 1135 Asbestos Abatement Technical Specification, omit all references within this section referring to Appendix A- Asbestos Location Drawings. See section 1.2, Section E for the scope of work.

ATTACHMENTS

SPECIFICATIONS

SPECIFICATION 262416 PANELBOARDS

Specification Part B- Technical Specifications and Scope of Work for Paint and Plaster Repairs

DRAWINGS

DRAWING A6.1	ROOM FINISH SCHEDULE & DOOR SCHEDULE
DRAWING ED1.2	ELECTRICAL FIRST FLOOR DEMOLITION PLAN – UNIT B
DRAWING E2.1	ELECTRICAL FIRST FLOOR POWER AND TECHNOLOGY PLAN–UNIT A
DRAWING E2.2	ELECTRICAL FIRST FLOOR POWER AND TECHNOLOGY PLAN–UNIT B
DRAWING E2.3	ELECTRICAL SECOND FLOOR POWER AND TECHNOLOGY PLAN – UNIT B
DRAWING E7.1	ELECTRICAL DETAILS

END OF ADDENDUM #001

SECTION 262416 – PANELBOARDS [Addendum No. 1]

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. Lighting and appliance branch-circuit panelboards.

1.3 DEFINITIONS

- A. ATS: Acceptance testing specification.
- B. GFCI: Ground-fault circuit interrupter.
- C. GFEP: Ground-fault equipment protection.
- D. MCCB: Molded-case circuit breaker.
- E. VPR: Voltage protection rating.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of panelboard.
 - 1. Include materials, switching and overcurrent protective devices, SPDs, accessories, and components indicated.
 - 2. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
- B. Shop Drawings: For each panelboard and related equipment.
 - 1. Include dimensioned plans, elevations, sections, and details.
 - 2. Show tabulations of installed devices with nameplates, conductor termination sizes, equipment features, and ratings.
 - 3. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
 - 4. Detail bus configuration, current, and voltage ratings.
 - 5. Short-circuit current rating of panelboards and overcurrent protective devices.
 - 6. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
 - 7. Include wiring diagrams for power, signal, and control wiring.

8. Key interlock scheme drawing and sequence of operations.
9. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards. Submit on translucent log-log graph paper; include selectable ranges for each type of overcurrent protective device. Include an Internet link for electronic access to downloadable PDF of the coordination curves.

- C. Contractor shall submit a "specifications compliance statement" for each manufactured piece of equipment. Contractor/Supplier shall add "redlined" line-by-line notations to a PDF of the Specifications Section indicating the product or actions required "complies". Contractor/Supplier shall itemize all deviations from the specified requirement on a line-by-line basis. List of exceptions to product specification shall include proposed materials, methods and cost difference where substitutions are allowed. If product does not comply with the specification the Contractor/Supplier shall state what modifications and actions are being implemented to ensure the product shall comply per the substitution section of the contract documents.

1.5 STATEMENT OF COMPLIANCE

- A. Contractor shall submit a "specifications compliance statement" for each manufactured piece of equipment. Contractor/Supplier shall add "redlined" notations to a PDF of the Specifications Section indicating the product or actions required "complies". If product does not comply the Contractor/Supplier shall state what modifications and actions are being implemented to ensure the product shall comply per the substitution section of the contract documents.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Panelboard Schedules: For installation in panelboards. Submit final versions after load balancing.

1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in other section for "Operation and Maintenance Data," include the following:
 1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
 2. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: ISO 9001 or 9002 certified.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.
- B. Handle and prepare panelboards for installation according to NECA 407.

1.10 FIELD CONDITIONS

A. Environmental Limitations:

- 1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- 2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 - a. Ambient Temperature: Not exceeding 23 deg F (minus 5 deg C) to plus 104 deg F (plus 40 deg C).
 - b. Altitude: Not exceeding 6600 feet (2000 m).

B. Service Conditions: NEMA PB 1, usual service conditions, as follows:

- 1. Ambient temperatures within limits specified.
- 2. Altitude not exceeding 6600 feet (2000 m).

C. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

- 1. Notify Construction Manager no fewer than two days in advance of proposed interruption of electric service.
- 2. Do not proceed with interruption of electric service without Construction Manager's written permission.
- 3. Comply with NFPA 70E.

1.11 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship within specified warranty period.

- 1. Panelboard Warranty Period: 18 months from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANELBOARDS COMMON REQUIREMENTS

- A. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces defined in other section for "Seismic Controls for Electrical Systems."

- B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Comply with NEMA PB 1.
- E. Comply with NFPA 70.
- F. Enclosures: Flush and Surface-mounted, dead-front cabinets.
 - 1. Rated for environmental conditions at installed location.
 - a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - b. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 5.
 - 2. Height: 84 inches (2.13 m) maximum.
 - 3. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover. Trims shall cover all live parts and shall have no exposed hardware.
 - 4. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - 5. Finishes:
 - a. Panels and Trim: Steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - b. Back Boxes: Same finish as panels and trim.
- G. Incoming Mains:
 - 1. Location: Top and Bottom.
 - 2. Main Breaker: Main lug interiors up to 400 amperes shall be field convertible to main breaker.
- H. Phase, Neutral, and Ground Buses:
 - 1. Material: Hard-drawn copper, 98 percent conductivity.
 - a. Plating shall run entire length of bus.
 - b. Bus shall be fully rated the entire length.
 - 2. Interiors shall be factory assembled into a unit. Replacing switching and protective devices shall not disturb adjacent units or require removing the main bus connectors.
 - 3. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
 - 4. Full-Sized Neutral: Equipped with full-capacity bonding strap for service entrance applications. Mount electrically isolated from enclosure. Do not mount neutral bus in gutter.
- I. Conductor Connectors: Suitable for use with conductor material and sizes.

1. Material: Hard-drawn copper, 98 percent conductivity.
 2. Terminations shall allow use of 75 deg C rated conductors without derating.
 3. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors.
 4. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard.
 5. Ground Lugs and Bus-Configured Terminators: Mechanical type, with a lug on the bar for each pole in the panelboard.
 6. Feed-Through Lugs: Mechanical type, suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device.
 7. Subfeed (Double) Lugs: Mechanical type suitable for use with conductor material. Locate at same end of bus as incoming lugs or main device.
 8. Gutter-Tap Lugs: Mechanical type suitable for use with conductor material and with matching insulating covers. Locate at same end of bus as incoming lugs or main device.
- J. Future Devices: Panelboards or load centers shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
1. Percentage of Future Space Capacity: 20 percent.
- K. Panelboard Short-Circuit Current Rating: Match existing condition Ratings (Field coordinate).
- L. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity. However, if the short-circuit & coordination study requires higher AIC rating, then the contractor shall provide higher rated panels without any additional cost to the owners. It is highly recommended that short-circuit & coordination study be prepared prior to ordering the panels.
1. Panelboards and overcurrent protective devices rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.
 2. Panelboards and overcurrent protective devices rated above 240 V and less than 600 V shall have short-circuit ratings as shown on Drawings, but not less than 14,000 A rms symmetrical.

2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Panelboards shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."

2.3 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Eaton.
 2. East coast Panelboard Inc.
 3. Square D; by Schneider Electric.

- B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.
- C. Mains: Circuit breaker or lugs only.
- D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.
- E. Doors: Door-in-door construction with concealed hinges; secured with multipoint latch with tumbler lock; keyed alike. Outer door shall permit full access to the panel interior. Inner door shall permit access to breaker operating handles and labeling, but current carrying terminals and bus shall remain concealed.

2.4 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Eaton.
 - 2. East coast Panelboard Inc.
 - 3. Square D; by Schneider Electric.
- B. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers:
 - a. Inverse time-current element for low-level overloads.
 - b. Instantaneous magnetic trip element for short circuits.
 - c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 - 2. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
 - 3. Subfeed Circuit Breakers: Vertically mounted.
 - 4. MCCB Features and Accessories:
 - a. Standard frame sizes, trip ratings, and number of poles.
 - b. Breaker handle indicates tripped status.
 - c. UL listed for reverse connection without restrictive line or load ratings.
 - d. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
 - e. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads.
 - f. Communication Capability: Circuit-breaker-mounted communication module with functions and features compatible with power monitoring and control system specified in other section for "Electrical Power Monitoring and Control."
 - g. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 55 percent of rated voltage.
 - h. Undervoltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional time delay.
 - i. Auxiliary Contacts: One, SPDT switch with "a" and "b" contacts; "a" contacts mimic circuit-breaker contacts and "b" contacts operate in reverse of circuit-breaker contacts.
 - j. Alarm Switch: Single-pole, normally open contact that actuates only when circuit breaker trips.

- k. Multipole units enclosed in a single housing with a single handle or factory assembled to operate as a single unit.
- l. Handle Padlocking Device: Fixed attachment, for locking circuit-breaker handle in on or off position.
- m. Handle Clamp: Loose attachment, for holding circuit-breaker handle in on position.

2.5 IDENTIFICATION

- A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.
- B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.
- C. Circuit Directory: Computer-generated circuit directory mounted inside panelboard door with transparent plastic protective cover.
 - 1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

2.6 ACCESSORY COMPONENTS AND FEATURES

- A. Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.
- B. Receive, inspect, handle, and store panelboards according to NECA 407.
- C. Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.
- D. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent

surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

- B. Comply with NECA 1.
- C. Install panelboards and accessories according to NECA 407.
- D. Equipment Mounting:
 - 1. Attach panelboard to the vertical finished or structural surface behind the panelboard.
 - 2. Comply with requirements for seismic control devices specified in other section for "Seismic Controls for Electrical Systems."
- E. Comply with mounting and anchoring requirements specified in other section for "Seismic Controls for Electrical Systems."
- F. Mount top of trim **90 inches (2286 mm)** above finished floor unless otherwise indicated.
- G. Mount panelboard cabinet plumb and rigid without distortion of box.
- H. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.
- I. Mount surface-mounted panelboards to steel slotted supports **5/8 inch (16 mm)** in depth. Orient steel slotted supports vertically.
- J. Install overcurrent protective devices and controllers not already factory installed.
 - 1. Set field-adjustable, circuit-breaker trip ranges.
 - 2. Tighten bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer's written instructions.
- K. Install filler plates in unused spaces.
- L. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.

3.3 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in other section for "Identification for Electrical Systems."
- B. Create a directory to indicate installed circuit loads after balancing panelboard loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.
- C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in other section for "Identification for Electrical Systems."
- D. Device Nameplates: Label each branch circuit device in power panelboards with a nameplate complying with requirements for identification specified in other section for "Identification for Electrical Systems."

- E. Install warning signs complying with requirements in other section for "Identification for Electrical Systems" identifying source of remote circuit.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Acceptance Testing Preparation:
 - 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- D. Tests and Inspections:
 - 1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers stated in NETA ATS, Paragraph 7.6 Circuit Breakers. Perform optional tests. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 3. Perform the following infrared scan tests and inspections and prepare reports:
 - a. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
 - b. Instruments and Equipment:
 - 1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
- E. Panelboards will be considered defective if they do not pass tests and inspections.
- F. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.
- B. Set field-adjustable circuit-breaker trip ranges as specified in other section for "Coordination Studies."

- C. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes. Prior to making circuit changes to achieve load balancing, inform Architect of effect on phase color coding.
 - 1. Measure loads during period of normal facility operations.
 - 2. Perform circuit changes to achieve load balancing outside normal facility operation schedule or at times directed by the Architect. Avoid disrupting services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
 - 3. After changing circuits to achieve load balancing, recheck loads during normal facility operations. Record load readings before and after changing circuits to achieve load balancing.
 - 4. Tolerance: Maximum difference between phase loads, within a panelboard, shall not exceed 20 percent.

3.6 PROTECTION

- A. Temporary Heating: Prior to energizing panelboards, apply temporary heat to maintain temperature according to manufacturer's written instructions.

END OF SECTION 262416

Lead Safe Certification for Ellwood Elementary School

Name of Inspector: Charles Rhodes

Inspection Dates: through

Inspection Company: Batta Environmental

ULCS# 7260

ULCS#	Space #	On-Site Room Name	Teacher	Component	Material	Color	Primary Damage	Component	(mg/cm2)	Component XRF	Component (see	Substrate Material	Color	Damage (see terms)	Component	(mg/cm2)	Quantity (sf)	Need to	Moisture	ng	Comments/ Description/ Notes
7260	AT	Attic - None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	111	Auditorium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	111	Auditorium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	111	Auditorium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	111	Auditorium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	111	Auditorium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	H2	Auditorium Hallway Left		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	H2	Auditorium Hallway Left		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	H2	Auditorium Hallway Left		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	H3	Auditorium Hallway Right		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	H3	Auditorium Hallway Right		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	H3	Auditorium Hallway Right		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	001B	Boiler Room		W1							Door Frame	Metal	Blue	None		0	6SF				
7260	001B	Boiler Room		W1							Columns	Concrete	Grey	Chipping		0.2	15SF				
7260	001B	Boiler Room		W1							Door Frame	Metal	Grey	Chipping		0.3	6SF				
7260	001B	Boiler Room		W2	Concrete	Grey	Chipping		0												
7260	001B	Boiler Room		W3	Concrete	Grey	Chipping		0		Columns	Concrete	Grey	Chipping		0.1	15SF				
7260	001B	Boiler Room		W4	Concrete	Grey	Chipping		-0.1												
7260	001B	Boiler Room		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	001B	Boiler Room		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	001B	Boiler Room		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004C	Boiler Room Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004C	Boiler Room Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004C	Boiler Room Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004C	Boiler Room Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004C	Boiler Room Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	213	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	213	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	213	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	213	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	105C	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	105C	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	105C	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	105C	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	217B	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	217B	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	217B	Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	112B	Boy's Restroom in Gymnasium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	112B	Boy's Restroom in Gymnasium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	112B	Boy's Restroom in Gymnasium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004B	Building Engineer's Office		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004B	Building Engineer's Office		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004B	Building Engineer's Office		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	004B	Building Engineer's Office		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	110	Classroom 100		W1	Sheetrock	Tan	None		0		Door Frame	Metal	Brown	None		0	6SF				
7260	110	Classroom 100		W2	Sheetrock	Tan	None		-0.1								25SF				
7260	110	Classroom 100		W3	Sheetrock	Tan	None		-0.2								20SF				
7260	110	Classroom 100		W4	Sheetrock	Tan	None		0								25SF				
7260	110	Classroom 100		Ceiling	Sheetrock	White	None		0.1								25SF				
7260	110B	Classroom 100 Boy's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	110A	Classroom 100 Girl's Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	109	Classroom 102		W1	Sheetrock	Tan	Chipping		-0.1		Door Frame	Metal	Brown	Chipping		0.1	6SF				
7260	109	Classroom 102		W2	Wood	Orange	None		-0.2		Room Divider Trim	Wood	Orange	None		0.1	12SF				
7260	109	Classroom 102		W3	Sheetrock	Tan	Chipping		0.2								25SF				
7260	109	Classroom 102		W4	Sheetrock	Tan	None		0								25SF				
7260	109	Classroom 102		Ceiling	Sheetrock	White	None		0.2								25SF				
7260	109	Classroom 103		W1	Sheetrock	Tan	Chipping		0		Door Frame	Metal	Brown	Chipping		0	6SF				
7260	109	Classroom 103		W2	Sheetrock	Tan	None		0.1								25SF				
7260	109	Classroom 103		W3	Sheetrock	Tan	Chipping		-0.2								25SF				
7260	109	Classroom 103		W4	Wood	Orange	None		0		Room Divider Trim	Wood	Orange	None		0	12SF				
7260	109	Classroom 103		Ceiling	Sheetrock	White	None		0.3								25SF				
7260	104	Classroom 104		W1	Concrete	Tan	None		-0.2		Door Frame	Metal	Brown	Chipping		0.3	6SF				
7260	104	Classroom 104		W2	Concrete	Tan	None		-0.3								25SF				
7260	104	Classroom 104		W3	Concrete	Tan	None		-0.3								20SF				
7260	104	Classroom 104		W4	Concrete	Tan	None		-0.3								20SF				
7260	104	Classroom 104		Ceiling	Concrete	White	None		0								30SF				
7260	104	Classroom 104		W1	Concrete	Tan	None		-0.1		Door Frame	Metal	Brown	Chipping		-0.1	6SF				
7260	104	Room 104-2		W1							Door Frame	Metal	Brown	Chipping		0.2	6SF				
7260	100	Classroom 105		W2	Concrete	Tan	None		-0.2								25SF				
7260	100	Classroom 105		W3	Concrete	Tan	None		-0.3		Radiator	Metal	Tan	Chipping		0	10SF				
7260	100	Classroom 105		W4	Concrete	Tan	None		-0.1								25SF				
7260	100	Classroom 105		Ceiling	Concrete	White	None		-0.1								25SF				
7260	100	Classroom 105		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	105B	Classroom 105 Coat Closet		W2	Concrete	Tan	None		-0.1								20SF				
7260	105B	Classroom 105 Coat Closet		W4	Concrete	Tan	None		-0.1								25SF				
7260	105B	Classroom 105 Coat Closet		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
7260	105B	Classroom 105 Entryway		W2	Concrete	Tan	None		-0.3		Radiator	Metal	Brown	None		0	10SF				
7260	105B	Classroom 105 Entryway		W4	Concrete	Tan	None		-0.2								25SF				
7260	105C	Classroom 105 Restroom		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					

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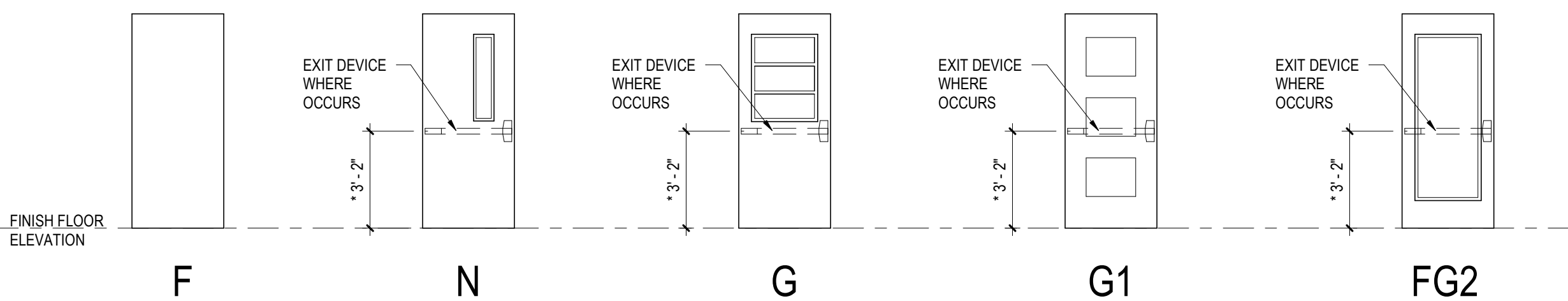
ROOM FINISH SCHEDULE									
NUMBER	NAME	COLOR SCHEME	FLOOR	BASE	WALLS			CEILING FINISH	REMARKS
					WALL FINISH	WAINSCOT FINISH	HEIGHT		
FIRST FLOOR									
100	KINDERGARTEN CLASSROOM	A	VCT	VB	PNT			ACT/PNT	R53, R77
100A	TOILET	G	PT	CT	CT			PNT	
100B	TOILET	G	PT	CT	CT			PNT	
100C	STORAGE	A	VCT	VB	PNT			ACT	
100D	STORAGE	A	VCT	VB	PNT			ACT	
102	PRE-K CLASSROOM	A	VCT	VB/EPX4	PNT			ACT/PNT	R53, R77
103	PRE-K CLASSROOM	A	VCT	VB/EPX4	PNT			ACT/PNT	R53, R77
104	KINDERGARTEN CLASSROOM	A	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
105	KINDERGARTEN CLASSROOM	A	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
105A	TOILET	G	PT	CT	EPX4			PNT	
105B	STORAGE	A	VCT	VB/EPX4	PNT			PNT	
105C	VESTBULE	A	VCT	VB/EPX4	PNT			PNT	
107	1ST GRADE CLASSROOM	B	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
108	2ND GRADE CLASSROOM	C	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
109	1ST GRADE CLASSROOM	B	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
110	SPECIAL EDUCATION (AS K-2)	B	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
111	SPECIAL EDUCATION (ILS K-2)	B	VCT	VB/EPX4	PNT			PNT	R53
SECOND FLOOR									
208	3RD GRADE CLASSROOM	D	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
210	3RD GRADE CLASSROOM	D	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
211	2ND GRADE CLASSROOM	C	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54
212	2ND GRADE CLASSROOM	C	VCT	VB/EPX4	PNT/EPX4			PNT	R52, R53, R54

DOOR SCHEDULE													
OPENING NUMBER	DOOR					FRAME			GLAZING/ INFILL TYPE	HARDWARE SET	REMARKS		
	DOOR TYPE	EXISTING / NEW	DOOR MATERIAL	DOOR SCHEDULED FINISH	DIMENSIONS								
					WIDTH		HEIGHT						
					LEAF 1	LEAF 2			FRAME TYPE	FRAME MATERIAL	FRAME SCHEDULED FINISH		
FIRST FLOOR													
100	N	ETR	WD	STN	3'-0"	3'-0"	7'-2"	ETR	HM	PNT	ETR	ELM-05	B, F, G
100A	F	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
100B	F	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
100C	F	ETR	WD	STN	2'-0"		7'-2"	ETR	HM	PNT	--	ELM-04	B, F, G
100D	F	ETR	WD	STN	2'-0"	2'-0"	7'-2"	ETR	HM	PNT	--	ELM-04	B, F, G
100E	FG2	ETR	ALUM	CLN	2'-4"	2'-4"	7'-0"	ETR	ALUM	CLN	ETR	ETR	A, F
100F	N	ETR	STL	PNT	3'-0"		7'-2"	ETR	STL	PNT	ETR	ETR	A, F, H
102	G	ETR	WD	STN	3'-0"		8'-4"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
103	G	ETR	WD	STN	3'-0"		8'-4"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
104	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
104A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
105	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
105A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-03	B, F, G
105B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
105C	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
105D	F	ETR	WD	STN	2'-10"	2'-10"	7'-0"	ETR	HM	PNT	--	ELM-04	B, F, G
105E	G1	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-07	B, F, G, I
105F	N	ETR	STL	PNT	3'-0"		7'-2"	ETR	STL	PNT	ETR	ETR	A, F, H
105G	N	ETR	STL	PNT	3'-0"		7'-2"	ETR	STL	PNT	ETR	ETR	A, F, H
107	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
107A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
107B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
108	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
108A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
108B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
109	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
109A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
109B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
110	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
110A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
110B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
111	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
111A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
SECOND FLOOR													
208	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
208A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
208B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
210	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	ETR	ELM-01	B, F, G
210A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
210B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
211	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	ETR	ELM-01	B, F, G
211A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
211B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
212	G	ETR	WD	STN	3'-0"		7'-0"	ETR	HM	PNT	TG	ELM-01	B, F, G, I
212A	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G
212B	F	ETR	WD	STN	2'-8"		7'-0"	ETR	HM	PNT	--	ELM-02	B, F, G

DOOR & BUILT-IN CABINET SCHEDULE NOTES:			*NOTE: NOT ALL NOTES MAY NECESSARILY APPLY
SCHEDULE REMARKS:	GENERAL NOTES:	ABBREVIATIONS:	
A. EXISTING DOOR, FRAME AND HARDWARE TO REMAIN. B. PROVIDE NEW HARDWARE TO EXISTING DOOR AND FRAME. C. PROVIDE NEW DOOR AND HARDWARE TO EXISTING FRAME. D. PROVIDE NEW DOOR TO EXISTING FRAME. REINSTALL EXISTING HARDWARE INTO NEW DOOR. E. PROVIDE NEW DOOR, FRAME AND HARDWARE. F. CLEAN AND PATCH ALL SURFACES OF EXISTING DOOR, FRAME AND/OR HARDWARE TO LIKE NEW CONDITION. G. REFINISH DOOR AND/OR FRAME AS SCHEDULED ON BOTH SIDES OF ASSEMBLY. H. REFINISH DOOR AND/OR FRAME AS SCHEDULED ON INTERIOR FACE (OR CLASSROOM SIDE) OF ASSEMBLY ONLY. I. REMOVE EXISTING GLAZING AND REPLACE WITH NEW MATERIAL AS SCHEDULED. WHERE TACKBOARD IS SCHEDULED, PROVIDE MDF BACKER AND TACKBOARD INFILL, TYPICAL: 1/2" QUARTERROUND WOOD TRIM, CONTINUOUS, AROUND PERIMETER OF ALL TACKBOARD INFILLS. J. REFINISH DOOR AND/OR FRAME AS SCHEDULED ON EXTERIOR FACE (OR ALCOVE SIDE) OF ASSEMBLY ONLY. K. EXISTING MOSAIC AND/OR ART TO REMAIN. CONTRACTOR TO PROTECT DURING CONSTRUCTION. L. REFER TO H4 SERIES DRAWINGS FOR ADDITIONAL INFORMATION. M. REPLACE BROKEN TRANSOM GLAZING WITH NEW TEMPERED GLAZING AS REQUIRED.	1. REFER TO GENERAL PROJECT ALTERATION NOTES ON SHEET CS-2 FOR ADDITIONAL INFORMATION. 2. FINAL CORING AND KEYING SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE. 3. WHERE INDICATED, PROVIDE 3/4" MDF INFILL PANEL IN EXISTING FRAME. RELOCATE AND RESCHEDULE FRAME STOPS AS REQUIRED TO ACCOMMODATE NEW MATERIAL. PAINT MDF PANEL TO MATCH FRAME COLOR AS INDICATED ON FINISH SCHEDULE. 4. CONTRACTOR SHALL NOT REMOVE ANY COMPONENTS OF DOOR OR HARDWARE UNTIL ALL COMPONENTS OF NEW ASSEMBLY ARE PHYSICALLY ON SITE, INCLUDING CORERS. 5. WHERE FINISH IS SCHEDULED, REFER TO FINISH SCHEDULE FOR COLOR SELECTION. 6. DOORS SHALL BE SHAVED DOWN AS REQUIRED TO ACCEPT NEW HARDWARE AND/OR ALLOW FOR USE UNOBSTRUCTED.	ETR EXISTING TO REMAIN ALUM ALUMINUM STL STEEL WM WOOD HD HOLLOW METAL IG INSULATED GLASS TG TEMPERED GLASS RG RATED GLASS PER UL MDF MEDIUM DENSITY FIBERBOARD TB TACKBOARD WS WIRE SCREEN (MATCH EXIST) PNT PAINT STN STAIN CLN CLEAN ONLY	

DOOR TYPES

* - RECOMMENDED MOUNTING HEIGHT FROM FINISHED FLOOR TO CENTER LINE OF FIRE EXIT DEVICE
** - COORDINATE WITH DOOR MANUFACTURE REQUIREMENTS



COLOR SCHEME SCHEDULE

COLOR SCHEME A – KINDERGARTEN CLASSROOMS-ORANGE & GREEN

1. WALL PAINT: SHERWIN WILLIAMS, NO. SW7044 AMAZING GRAY
 2. ACCENT PAINT 'A' STORAGE: SHERWIN WILLIAMS, NO. SW9171 FELTED WOOL
 3. ACCENT PAINT 'B' TEACHING WALL: SHERWIN WILLIAMS, NO. SW6890 OSAGE ORANGE
 4. VINYL COMPOSITION TILE, FIELD: ARMSTRONG, NO. 51803 PEARL WHITE
 5. VINYL COMPOSITION TILE, ACCENT '1': ARMSTRONG, NO. 51866 LITTLE GREEN APPLE
 6. VINYL COMPOSITION TILE, ACCENT '2': ARMSTRONG, NO. 51947 BASIL GREEN
 7. VERTICAL CASEWORK WOOD FINISH: **COLOR TO BE SELECTED BY OWNER.**
 8. VINYL BASE: JOHNSONITE, NO. 469 MYSTIFY
- SEE ENLARGED FLOOR PLANS FOR FLOOR PATTERNS AND ACCENT WALL COLOR LOCATIONS.

COLOR SCHEME B – FIRST GRADE & SPECIAL EDUCATION CLASSROOMS-BLUE & RED

1. WALL PAINT: SHERWIN WILLIAMS, NO. SW7044 AMAZING GRAY
 2. ACCENT PAINT 'A' STORAGE: SHERWIN WILLIAMS, NO. SW9171 FELTED WOOL
 3. ACCENT PAINT 'B' TEACHING WALL: SHERWIN WILLIAMS, NO. SW6765 SPA
 4. VINYL COMPOSITION TILE, FIELD: ARMSTRONG, NO. 51803 PEARL WHITE
 5. VINYL COMPOSITION TILE, ACCENT '1': ARMSTRONG, NO. 51927 FIELD GRAY
 6. VINYL COMPOSITION TILE, ACCENT '2': ARMSTRONG, NO. 57509 LEMON LICK
 7. VERTICAL CASEWORK WOOD FINISH: **COLOR TO BE SELECTED BY OWNER.**
 8. VINYL BASE: JOHNSONITE, NO. 469 MYSTIFY
- SEE ENLARGED FLOOR PLANS FOR FLOOR PATTERNS AND ACCENT WALL COLOR LOCATIONS.

COLOR SCHEME C – SECOND GRADE CLASSROOMS-BLUE & ORANGE

1. WALL PAINT: SHERWIN WILLIAMS, NO. SW6233 SAMOVAR SILVER
 2. ACCENT PAINT 'A' STORAGE: SHERWIN WILLIAMS, NO. SW9143 CADET
 3. ACCENT PAINT 'B' TEACHING WALL: SHERWIN WILLIAMS, NO. SW6767 AQUARIUM
 4. VINYL COMPOSITION TILE, FIELD: ARMSTRONG, NO. 51860 SOFT COOL GRAY
 5. VINYL COMPOSITION TILE, ACCENT '1': ARMSTRONG, NO. 57517 BODACIOUS BLUE
 6. VINYL COMPOSITION TILE, ACCENT '2': ARMSTRONG, NO. 59230 VICTORIA BLUE
 7. VERTICAL CASEWORK WOOD FINISH: **COLOR TO BE SELECTED BY OWNER.**
 8. VINYL BASE: JOHNSONITE, NO. 262 DRIZZLE
- SEE ENLARGED FLOOR PLANS FOR FLOOR PATTERNS AND ACCENT WALL COLOR LOCATIONS.

COLOR SCHEME D – THIRD GRADE CLASSROOMS-BLUE & YELLOW

1. WALL PAINT: SHERWIN WILLIAMS, NO. SW6233 SAMOVAR SILVER
 2. ACCENT PAINT 'A' STORAGE: SHERWIN WILLIAMS, NO. SW9143 CADET
 3. ACCENT PAINT 'B' TEACHING WALL: SHERWIN WILLIAMS, NO. SW6903 CHEERFUL
 4. VINYL COMPOSITION TILE, FIELD: ARMSTRONG, NO. 51860 SOFT COOL GRAY
 5. VINYL COMPOSITION TILE, ACCENT '1': ARMSTRONG, NO. 57517 BODACIOUS BLUE
 6. VINYL COMPOSITION TILE, ACCENT '2': ARMSTRONG, NO. 59230 VICTORIA BLUE
 7. VERTICAL CASEWORK WOOD FINISH: **COLOR TO BE SELECTED BY OWNER.**
 8. VINYL BASE: JOHNSONITE, NO. 262 DRIZZLE
- SEE ENLARGED FLOOR PLANS FOR FLOOR PATTERNS AND ACCENT WALL COLOR LOCATIONS.

COLOR SCHEME E NOT USED

COLOR SCHEME F NOT USED

COLOR SCHEME G BATHROOMS

1. WALL PAINT: SHERWIN WILLIAMS, NO. SW7029 AGREEABLE GRAY
 2. PORCELAIN FLOOR TILE: DALTILE, EVER PORCELAIN, COLOR: EV03 ARCTIC UNPOLISHED
 3. PORCELAIN WALL TILE, FIELD: DALTILE, SEMI-GLOSS GLAZED TILE, 0182 SUEDE GRAY
 4. PORCELAIN WALL TILE, ACCENT '1': DALTILE, SEMI-GLOSS GLAZED TILE, Q151 TOTALLY TANGERINE
 5. PORCELAIN WALL TILE, ACCENT '2': DALTILE, SEMI-GLOSS GLAZED TILE, Q087 ORANGE BURST
 6. GROUT COLOR FOR WALLS: MAPEI, COLOR: 00 WHITE
 7. GROUT COLOR FOR FLOORS: MAPEI, COLOR: 27 SILVER
- SEE ENLARGED PLANS FOR ACCENT WAINSCOT COLOR LOCATIONS.

GENERAL NOTES:

- THE FOLLOWING MATERIALS ARE TO BE APPLIED AT ALL LOCATIONS WHERE SPECIFIED UNLESS OTHERWISE NOTED.
1. TACK BOARDS: CLARIDGE FABRICORK, KL498 WINTHROPE
 2. ROLLER WINDOW SHADES: MERMET, GREENSCREEN REVIVE, 5% OPEN, COLOR: 0.22 STONE
 3. SOLID SURFACE COUNTERTOP & SIDE/BACK SPLASH: CORIAN, COLOR: DEEP CAVIAR
 4. CEILING PAINT: SHERWIN WILLIAMS, NO. SW7006 EXTRA WHITE
 5. PREVIOUSLY PAINTED WOOD COMPONENTS: DOORS, TRIM, BASE, CHAIR RAIL, CROWN MOULDING, VISUAL DISPLAY TRIM, WINDOW SILLS.: SHERWIN WILLIAMS, NO. SW7068 GRIZZLE GRAY
 6. PREVIOUSLY STAINED WOOD COMPONENTS: WOOD DOORS, WOOD TRIM, WOOD BASE, VISUAL DISPLAY BOARD TRIM, ETC.; **COLOR TO MATCH EXISTING AND FIELD VERIFIED BY ARCHITECT/OWNER.**
 7. NOT USED.
 8. PREVIOUSLY PAINTED METAL TIERED COAT HOOKS & PREVIOUSLY PAINTED STUDENT CUBBIES SHALL BE PAINTED TO MATCH ADJACENT WALL COLOR.

NOTES:

- A. IF ROOM IS NOT INDICATED TO RECEIVE A FLOOR PATTERN, FIELD COLOR VCT SHALL BE USED.
- B. VCT ORIENTATION SHALL BE MATCHED TO EXISTING ADJACENT ROOM.
- C. ARCHITECT REQUIRES AN ON-SITE MOCK-UP FOR EACH PAINT COLOR. PROVIDE A MINIMUM 8'x10' AREA.
- D. A DOOR FRAME, CONTRACTOR MUST RECEIVE ARCHITECT'S APPROVAL BEFORE ORDERING.
- D. VERTICAL AND HORIZONTAL PLANES OF SOFFIT AND BULKHEAD SHALL BE PAINTED TO MATCH THE ADJACENT WALL COLOR, UNLESS OTHERWISE NOTED.
- E. COORDINATE ROOM FINISH SCHEDULE AND COLOR SCHEME SCHEDULE WITH DEMO/ALTERATION NOTES.
- F. ALL EXPOSED MECHANICAL, PLUMBING, ELECTRICAL & HVAC COMPONENTS SHALL BE PAINTED THE ADJACENT WALL COLOR, ITEMS INCLUDING BUT NOT LIMITED TO: PIPING, CONDUIT, VENTS, LOUVERS, GRILLES, RADIATORS, RADIATOR COVERS, ELECTRICAL PANELS, METAL ACCESS PANELS SHALL BE PAINTED ADJACENT WALL COLOR.

ROOM FINISH SCHEDULE LEGEND

FLOOR FINISH

- PT PORCELAIN TILE
VCT VINYL COMPOSITION TILE

FLOOR REMARKS

R1-R25: NOT USED

BASE FINISH

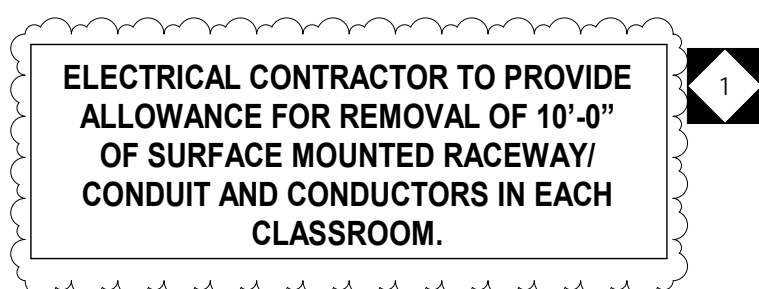
- CT CERAMIC TILE
EPX EPOXY PAINT
VB VINYL

BASE REMARKS

R26-R50: NOT USED

WALL FINISH

- CT CERAMIC TILE
EPX EPOXY PAINT
PNT PA



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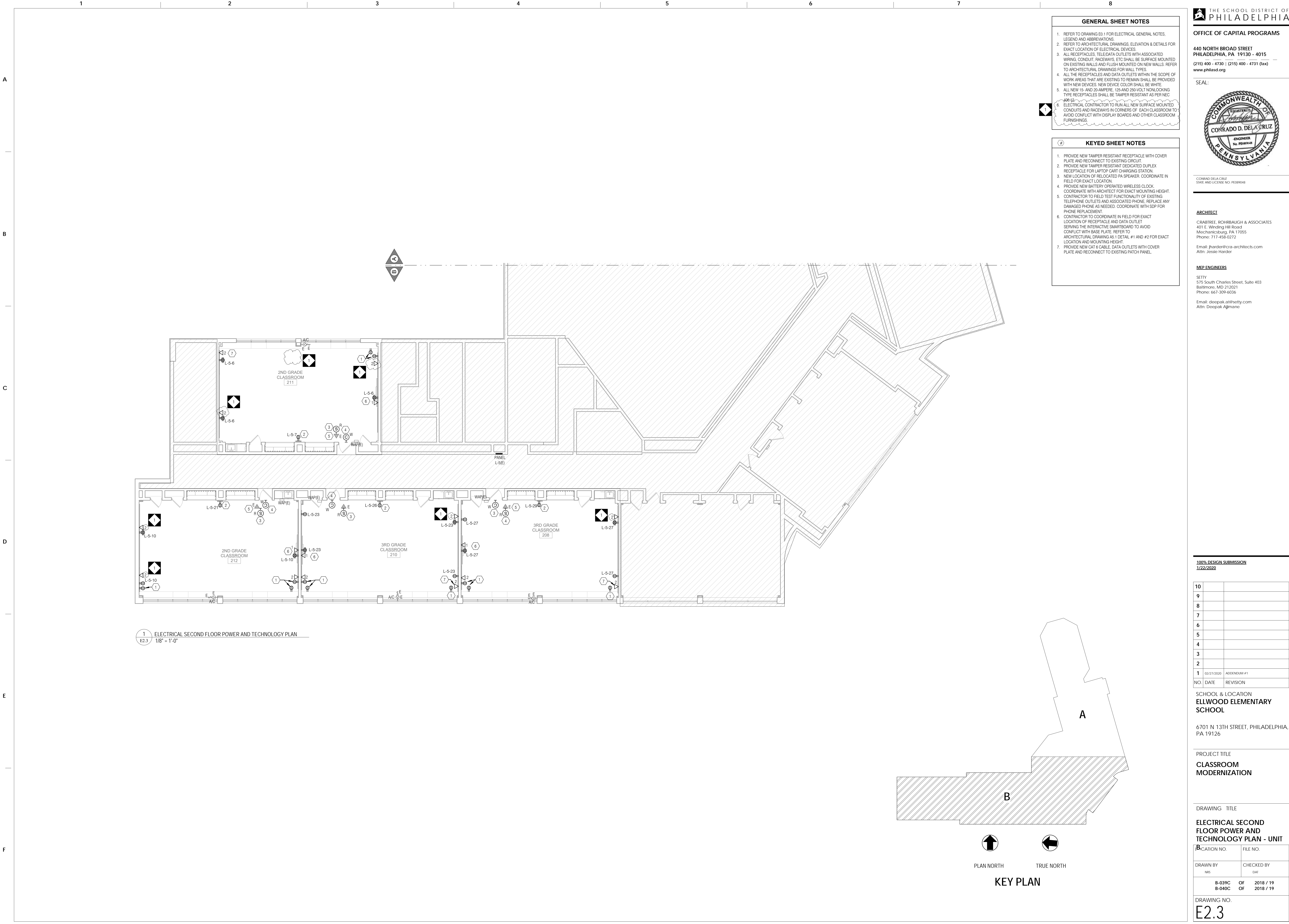


12. PROVIDE NEW TAMPER RESISTANT RECEPTACLE WITH COVER PLATE AND RECONNECT TO EXISTING CIRCUIT.
13. PROVIDE NEW TAMPER RESISTANT RECEPTACLE WITH DUPLEX RECEPTACLE FOR LAMP/CAT CHARGING STATION.
14. NEW LOCATION OF RELOCATED PA SPEAKER. COORDINATE IN FIELD FOR EXACT LOCATION.
15. PROVIDE NEW BATTERY OPERATED WIRELESS CLOCK.
16. COORDINATE WITH ARCHITECT FOR EXACT MOUNTING HEIGHT.
17. CONTRACTOR TO FIELD TEST FUNCTIONALITY OF EXISTING TELEPHONE OUTLETS.
18. PROVIDE NEW WIRELESS PHONE CHARGING STATION. IF ANY DAMAGED PHONE AS NEEDED. COORDINATE WITH SDC FOR PHONE REPLACEMENT.
19. CONTRACTOR TO COORDINATE IN FIELD FOR EXACT LOCATION OF RECEPTACLE AND DATA OUTLET.
20. SERVING THE INTERACTIVE SMARTBOARD TO AVOID CONFLICT WITH BASE PLATE OF RECEPTACLE, INTERCEPT ARCHITECTURAL DRAWING #A5.1 DETAIL #1 AND #2 FOR EXACT LOCATION AND MOUNTING HEIGHT.
21. NEW PANELED BOARD "L" CONTRACTOR TO UTILIZE, INTERCEPT AND EXTEND ALL ACTIVE FEEDER AND BRANCH CIRCUIT WIRING/CONDUIT OF SAME SIZE VIA NEW JUNCTION BOX OR PULL BOX AND CONNECT IT TO THE NEW PANELED BOARD.
22. NEW PANELED BOARD "R" CONTRACTOR TO UTILIZE, INTERCEPT AND EXTEND ALL ACTIVE FEEDER AND BRANCH CIRCUIT WIRING/CONDUIT OF SAME SIZE VIA NEW JUNCTION BOX OR PULL BOX AND CONNECT IT TO THE NEW PANELED BOARD.
23. PROVIDE NEW DATA OUTLETS WITH COVER PLATES AND RECONNECT TO EXISTING CAT CABLE.
24. RELOCATED EXISTING TELEPHONE CHARGING STATION IN EXISTING LOCATION TO ACCOMMODATE NEW CONSTRUCTION.
25. NEW LOCATION OF RELOCATED TELEPHONE. COORDINATE IN FIELD FOR EXACT LOCATION TO AVOID DISPLAY BOARD CONFLICT.
26. NEW PANELED BOARD "A" CONTRACTOR TO UTILIZE, INTERCEPT AND EXTEND ALL ACTIVE FEEDER AND BRANCH CIRCUIT WIRING/CONDUIT OF SAME SIZE VIA NEW JUNCTION BOX OR PULL BOX AND CONNECT IT TO THE NEW PANELED BOARD.
27. NEW SPECIALLY RECEPTICAL AND CONTROL SWITCH FOR NEW WIRELESS MOUNTED AND WIRELESS PHONE CHARGING STATION TO COORDINATE WITH ARCHITECT FOR EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO INSTALLATION. COORDINATE WITH ARCHITECT AND CONTRACTOR VENDOR FOR EXACT CONNECTION REQUIREMENTS.

1
E2.2

E2.2

KEY PLAN



- GENERAL SHEET NOTES**
- REFER TO DRAWING E0.1 FOR ELECTRICAL GENERAL NOTES, LEGEND AND ABBREVIATIONS.
 - REFER TO ARCHITECTURAL DRAWINGS, ELEVATION & DETAILS FOR EXACT LOCATION OF ELECTRICAL DEVICES.
 - ALL RECEPTACLES, TELE/ DATA OUTLETS WITH ASSOCIATED WIRING, CONDUIT, RACEWAYS, ETC SHALL BE SURFACE MOUNTED ON EXISTING WALLS AND FLUSH MOUNTED ON NEW WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL TYPES.
 - ALL THE RECEPTACLES AND DATA OUTLETS WITHIN THE SCOPE OF WORK AREAS THAT ARE EXISTING TO REMAIN SHALL BE PROVIDED WITH NEW DEVICES. NEW DEVICE COLOR SHALL BE WHITE.
 - ALL NEW 15- AND 20- AMPERE, 125- AND 250- VOLT NONLOCKING TYPE RECEPTACLES SHALL BE TAMPER RESISTANT AS PER NEC 400.12.
 - ELECTRICAL CONTRACTOR TO RUN ALL NEW SURFACE MOUNTED CONDUITS AND RACEWAYS IN CORNERS OF EACH CLASSROOM TO AVOID CONFLICT WITH DISPLAY BOARDS AND OTHER CLASSROOM FURNISHINGS.

- KEYED SHEET NOTES**
- PROVIDE NEW TAMPER RESISTANT RECEPTACLE WITH COVER PLATE AND RECONNECT TO EXISTING CIRCUIT.
 - PROVIDE NEW TAMPER RESISTANT DEDICATED DUPLEX RECEPTACLE FOR LAPTOP CART CHARGING STATION.
 - NEW LOCATION OF RELOCATED PA SPEAKER. COORDINATE IN FIELD FOR EXACT LOCATION.
 - PROVIDE NEW BATTERY OPERATED WIRELESS CLOCK. COORDINATE WITH ARCHITECT FOR EXACT MOUNTING HEIGHT.
 - CONTRACTOR TO FIELD TEST FUNCTIONALITY OF EXISTING TELEPHONE OUTLETS AND ASSOCIATED PHONE. REPLACE ANY DAMAGED PHONE AS NEEDED. COORDINATE WITH SDP FOR PHONE REPLACEMENT.
 - CONTRACTOR TO COORDINATE IN FIELD FOR EXACT LOCATION OF RECEPTACLE AND DATA OUTLET SERVING THE INTERACTIVE SMARTBOARD TO AVOID CONFLICT WITH BASE PLATE. REFER TO ARCHITECTURAL DRAWING AS-1 DETAIL #1 AND #2 FOR EXACT LOCATION AND MOUNTING HEIGHT.
 - PROVIDE NEW CAT 6 CABLE. DATA OUTLETS WITH COVER PLATE AND RECONNECT TO EXISTING PATCH PANEL.



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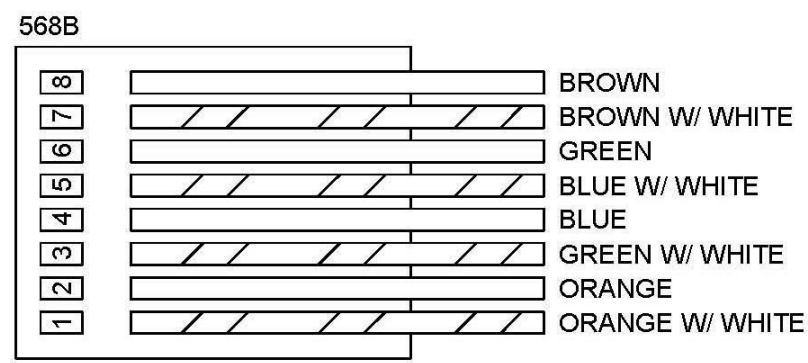
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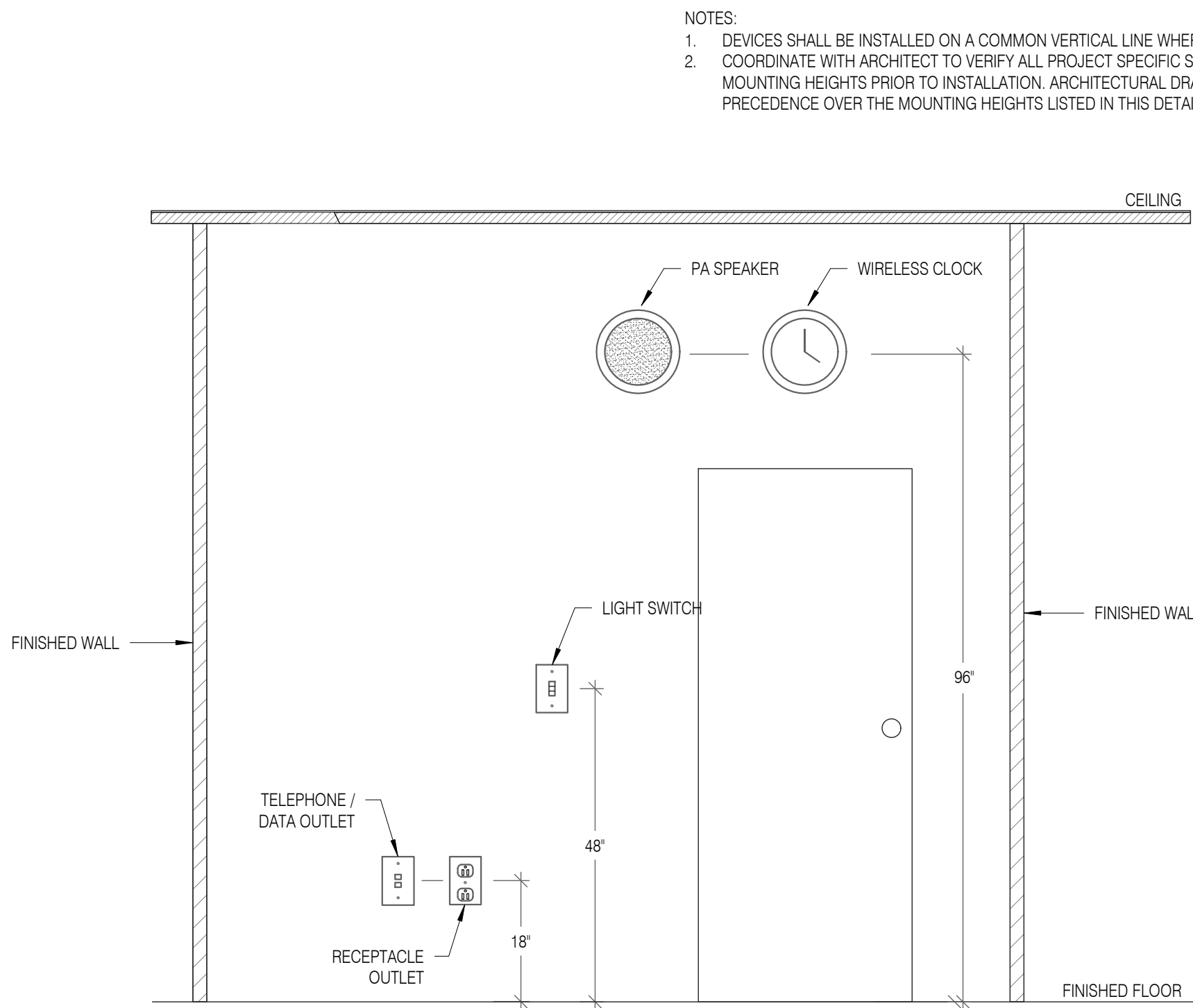
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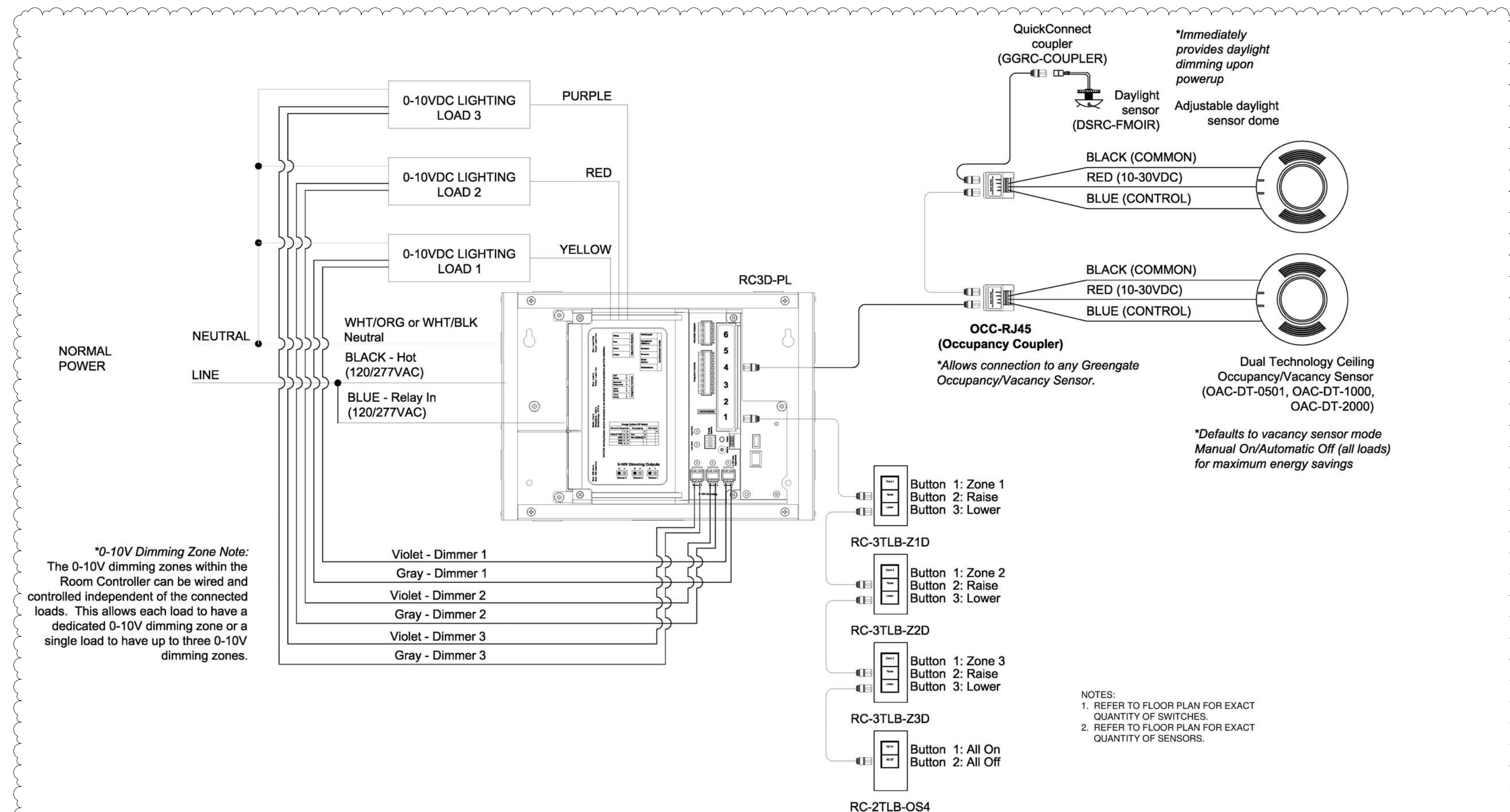
NOTE

1. ALL RJ45 TERMINATION POINTS SHALL BE CONFIGURED TO THE EIA/TIA 568B STANDARD UNLESS SPECIFICALLY DIRECTED OTHERWISE BY SDP AUTHORIZED REPRESENTATIVE.

5 RJ45 TERMINATION DETAIL
E7.1 NTS



2 TYPICAL DEVICE MOUNTING HEIGHTS DETAIL
E7.1 NTS



3 TYPICAL CLASSROOM LIGHTING CONTROLLER
E7.1 NTS

MANUAL MODE OPERATION:

1. SWITCH IS REQUIRED TO TURN LOAD ON.
2. LOAD TURNS OFF WHEN SENSOR TIMES OUT.
3. SWITCHES CAN BE USED TO TURN LOAD OFF.

AUTOMATIC MODE OPERATION:

1. WHEN SENSOR ACTIVATES, LOAD TURNS ON.
2. SWITCHES CAN BE USED TO TURN LOADS ON OR OFF. IF SWITCHES ARE USED TO TURN LOADS OFF, SENSOR MUST TIME OUT FIRST. BEFORE LOADS CAN TURN BACK ON AUTOMATICALLY.

RECOMMENDED WIRE:

16-3 AWG STRANDED WIRE SHIELDED OR NON-SHIELDED

SENSOR TYPES INCLUDE:

OAC-DT-1000, OAC-DT-2000, OAC-U-1000, OAC-U-1500, OAC-U-2000, OAC-P-0500, OAC-P-1000

POWER PACK TYPE INCLUDES:

SP20-R04

SWITCH TYPE INCLUDES:

GMDS

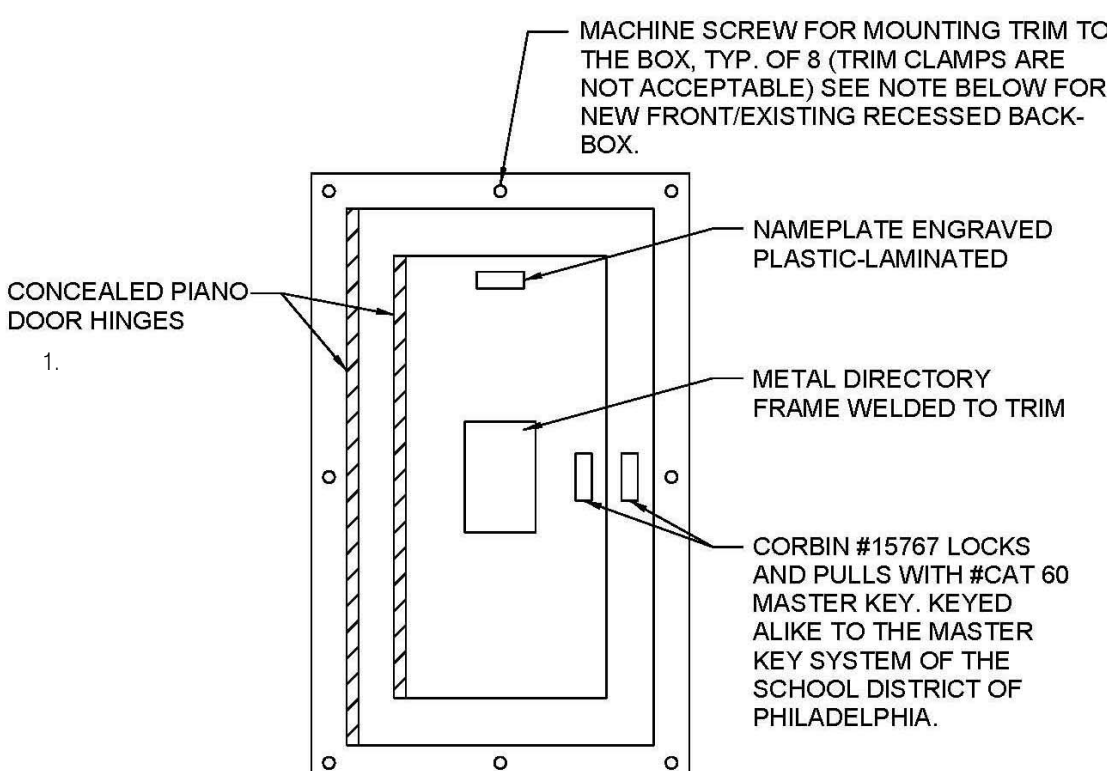
CONNECT SENSORS CONTROL LEAD TO EITHER BLUE OR BLUE/WHITE POWER PACK CONTROL LEAD, BASED ON CONTROL INTENT.

BLACK (DC RETURN), BLUE (OCCUPANCY AUTO ON), BLUE/WHITE (OCCUPANCY MANUAL ON), YELLOW (HOLD ON), ORANGE (HOLD OFF), YELLOW/ORANGE (LOCAL SWITCH INPUT), GREEN (COMMON) HVAC, BROWN/WHITE (NORMALLY OPEN) HVAC, BROWN (NORMALLY CLOSED) HVAC.

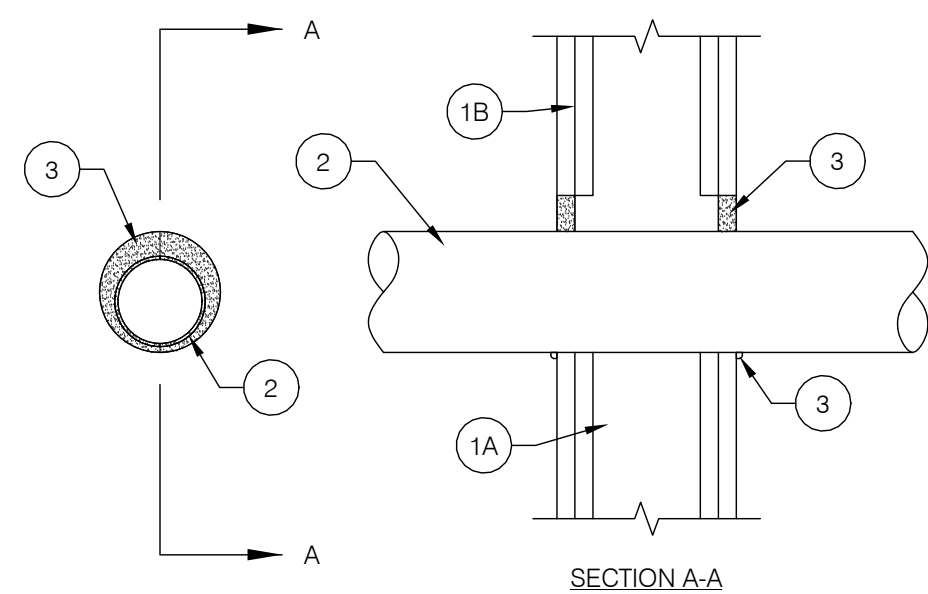
NOTES

1. SP20-R04 POWER PACK SHOWN 100/277VAC 50AMP RATING.

6 WIRING DIAGRAM - LOW VOLTAGE CEILING SENSOR VACANCY CONTROL - MANUAL ON/AUTO OFF WITH LOW VOLTAGE OVERRIDE TO OFF SWITCH
E7.1 1/8" = 1'-0"



4 PANELBOARD FRONT STANDARD
E7.1 NTS



GYPSUM WALLBOARD

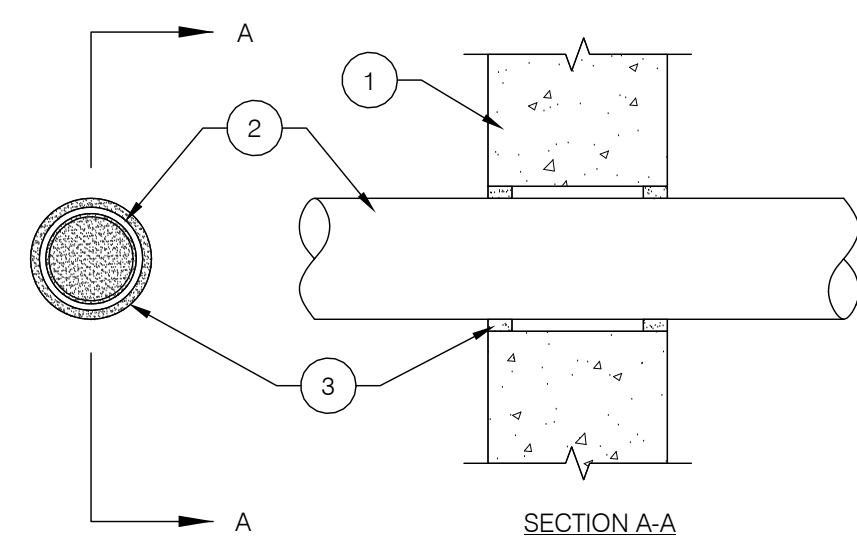
F RATINGS - 1 AND 2 HR
T RATING - 0 HR

L RATING AT AMBIENT - LESS THAN 1 CFM/SQ FT

L RATING AT 400 F - LESS THAN 1 CFM/SQ FT

1. WALL ASSEMBLY - THE FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
- 1.1. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE AND SPACED MAX 24 IN. OC.
- 1.2. GYPSUM BOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS AS REQUIRED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX DIAM OF OPENING IN WOOD STUD WALLS IS 8 IN. MAX DIAM OF OPENING IN STEEL STUD WALLS IS 14 IN. THE HOURLY F RATING OF THE FIRE STOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.
2. THROUGH PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED WITHIN THE FIRE STOP SYSTEM. THE SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE A MIN 0 IN. (POINT CONTACT) TO A MAX 2 IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
- 2.1. STEEL PIPE - NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 5 (OR HEAVIER STEEL PIPE).
- 2.2. IRON PIPE - NOM 12 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
- 2.3. CONDUIT - NOM 4 IN. DIAM (OR SMALLER) ELECTRICAL METALLIC TUBING, NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT OR NOM 1 IN. DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT.
- 2.4. COPPER TUBING - NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
- 2.5. COPPER PIPE - NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
3. FILL, VOID OR CAVITY MATERIAL* - CAULK - MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 3/8 IN. DIAM BEAD OF FILL MATERIAL APPLIED AT POINT CONTACT LOCATION AT THE PENETRANT/GYPSUM BOARD INTERFACE ON BOTH SIDES OF WALL.

PENETRATIONS THROUGH STRUCTURE SHALL MAINTAIN FIRE RESISTANCE AND COMPLY WITH SECTION 713.4 OF THE IBC 2018. ALL ANNULAR SPACES BETWEEN RATED STRUCTURE/ENCLOSURE SHALL BE FILLED WITH APPROVED MATERIAL COMPLYING WITH REQUIREMENTS OF UL 1479.



REINFORCED CONCRETE

F RATING - 2 HR
T RATING - 0 HR

1. WALL ASSEMBLY - MIN 6 IN. (152 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 25 IN. (635 MM). SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR THE NAMES OF MANUFACTURERS.
2. THROUGH PENETRANT - ONE METALLIC PIPE, TUBING OR CONDUIT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPES, TUBING OR CONDUITS AND PERIPHERY OF OPENING IS DEPENDENT UPON THE TYPE AND MAX DIAM OF THE THROUGH PENETRANT AS TABULATED BELOW. PIPE, TUBING OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, TUBING OR CONDUITS MAY BE USED:
- 2.1. STEEL PIPE - NOM 24 IN. (610 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
- 2.2. IRON PIPE - NOM 24 IN. (610 MM) DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
- 2.3. COPPER TUBING - NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
- 2.4. COPPER PIPE - NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
- 2.5. CONDUIT - NOM 4 IN. (102 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING, NOM 6 IN. (152 MM) DIAM GALV STEEL CONDUIT OR NOM 1 IN. DIAM FLEXIBLE STEEL CONDUIT.

TYPE OF THROUGH PENETRANT	MAX DIAM OF THROUGH PENETRANT, IN. (MM)	MIN & MAX ANNULAR SPACE, IN. (MM)
STEEL OR IRON PIPE	4 (102)	0, 1-1/2 (38)
STEEL TUBING OR CONDUIT	4 (102)	0, 1-1/2 (38)
STEEL CONDUIT	6 (152)	1/8 (3), 1/2 (13)
STEEL OR IRON PIPE	24 (610)	1/8 (3), 1/2 (13)
COPPER TUBING OR PIPE	6 (152)	1/8 (3), 1/2 (13)

3. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MIN 5/8 IN. (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN THROUGH PENETRANT AND CONCRETE, A MIN 3/8 IN. (10 MM) DIAM BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE/THROUGH PENETRANT INTERFACE ON BOTH SURFACES OF WALL.

PENETRATIONS THROUGH STRUCTURE SHALL MAINTAIN FIRE RESISTANCE AND COMPLY WITH SECTION 713.4 OF THE IBC 2018. ALL ANNULAR SPACES BETWEEN RATED STRUCTURE/ENCLOSURE SHALL BE FILLED WITH APPROVED MATERIAL COMPLYING WITH REQUIREMENTS OF UL 1479.

1 THROUGH-PENETRATION FIRE STOP DETAIL
E7.1 NTS

SEAL:



CONRAD DELACRUZ
STATE AND LICENSE NO. PE090848

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100% DESIGN SUBMISSION
1/22/2020

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1	02/27/2020	ADDENDUM #1
NO.	DATE	REVISION

SCHOOL & LOCATION
ELLWOOD ELEMENTARY
SCHOOL

6701 N 13TH STREET, PHILADELPHIA,
PA 19126

PROJECT TITLE

CLASSROOM
MODERNIZATION

DRAWING TITLE

ELECTRICAL DETAILS

LOCATION NO.	FILE NO.
DRAWN BY NBS	CHECKED BY DAI

B-039C	OF	2018 / 19
B-040C	OF	2018 / 19

DRAWING NO.

E7.1