

Addendum 03

DOCUMENT 00 91 00

DATE: May 11, 2026

PROJECT: North Union Schools Art Room Expansion Addition
401 N Franklin Street
Richwood, OH 43344

PROJECT #: 25091.00

OWNER: North Union Local Schools
Contact: Justin Ufferman
12920 OH-739
Richwood, OH 43344

ARCHITECT: Garmann Miller
38 South Lincoln Drive
P.O. Box 71
Minster, Ohio 45865

TO: Prospective Bidders

This addendum form is a part of the Contract Documents and modifies the Construction Documents dated April 16, 2026, with amendments and additions noted below.

Acknowledge receipt of this Addendum on the Bid Form. Failure to do so may disqualify the Bidder.

This addendum consists of 2 pages, 4 specification sections, and 11 re-issued drawing sheets.

CHANGES TO THE PROJECT MANUAL

1. 27 15 13 - Horizontal Communications Cabling
 - a. Added in its entirety.
2. 27 51 27 - Classroom Sound Reinforcement
 - a. Added in its entirety.
3. 28 16 01 - Security-Access Control
 - a. Added in its entirety.
4. 26 27 26 - Wiring Devices
 - a. Revise section 2.06 Cord Reels to match requirements shown in detail 7/E1.2.



CHANGES TO THE DRAWINGS

1. A1.1 - First Floor Demo Plan and Plan - Unit E
 - a. Detail 1 and keynote schedule clarified demolition scope of flooring.
2. FP1.1 - Fire Protection Plan
 - a. Add shut off valve and tamper switch.
3. E1.2 - Electrical Details
 - a. Revise detail 7 to show cord reel mounted to ceiling T-bar.
4. E2.1 - First Floor Systems Plan - Unit E
 - a. Added rough -ins for 'CAM', 'SR', and 'V1' type outlets.
 - b. Add addressable module to monitor tamper switch.
5. E5.1 - One-Line Diagram, Panel Schedule, and Luminaire Schedule
 - a. Revise panel schedule to show new GFCI type circuit breakers for cord reel circuits.
6. ED1.1 - Electrical Demolition Plans
 - a. Detail 2 First Floor Demolition Power and Systems Plan.
 - b. Unit E: Add salvaged PA horn speaker and Keynote #6.
7. T1.1 - General Notes, Abbreviations, Legends, Diagrams and Sheet Index
 - a. General Notes, Item R, Detail 10 Technology Cabling and Jack Color Coding
 - i. Changed the voice cabling color to blue.
8. T1.2 - Technology Outlet Types
 - a. Revised entire sheet.
9. T1.3 - Technology Diagrams
 - a. Revised entire sheet.
10. TC1.0 - Overall First Floor Technology Plan
 - a. Added entire sheet.
11. TCE1.1 - First Floor Technology Cabling and Equipment Plan - Unit E
 - a. Detail 1 First Floor Technology Cabling Plan.
 - i. Added exterior 'CAM' type outlets, 'SR' type outlet, 'V1' type outlet, REX devices, reinstall salvaged PA horn speaker and keynotes 1, 3, 4, and 7.
 - b. Detail 2 First Floor Technology Equipment Plan.
 - i. Added two (2) 360-degree IP cameras, and keynotes 2, 5, and 6.

ATTACHMENTS

The following attachments are included and are part of this addendum:

Specification Section: 27 15 13, 27 51 27, 28 16 01, and 26 27 26

Drawing Sheet: A1.1, FP1.1, E1.2, E2.1, E5.1, ED1.1, T1.1, T1.2, T1.3, TC1.0, and TCE1.1

END OF ADDENDUM



**SECTION 27 15 13
HORIZONTAL COMMUNICATIONS CABLING**

PART 1 GENERAL

1.01 RELATED SECTIONS

- A. The provisions of the General Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.
- B. Refer to Section 01 2300 for Alternates that may affect the Work of this Section.

1.02 SECTION INCLUDES

- A. Horizontal twisted pair copper cable
- B. Jacks, cover plates, and associated components
- C. Audio/Video cable

1.03 RELATED REQUIREMENTS

1.04 RELATED DOCUMENTS

- A. The provisions of the General Conditions, Supplementary Conditions and the sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.
- B. Refer to Division 01 for Alternates that may affect the Work of this Section.
- C. This Specification covers the following sections from the 2025 OSDM:
 - 1. 27 1513 - Communications Copper Horizontal Cabling
- D. This Specification addresses horizontal cabling required by equipment in the following sections from the 2025 OSDM:
 - 1. 27 2100 - Data Network Equipment
 - 2. 27 2133 - Data Communication Wireless Access Points
 - 3. 27 3150 - Telephone System
 - 4. 27 4119 - Video Display Equipment
 - 5. 27 4120 - Interactive Audio-Video Equipment (Classroom Interactive White Boards)
 - 6. 27 5127 - Classroom Sound Reinforcement System
 - 7. 28 1601 - Access Control
 - 8. 27 2300 - CCTV Camera System

1.05 SYSTEM DESCRIPTION

- A. The Ethernet System shall be capable of supporting 10/100/1000Mbps full-duplex transmission via 4-pr. Category 6 and Category 6a cable. The system must comply with EIA/TIA 568-B-5 standard and 568B.1, B.2, B.3 requirements for color-coding.
- B. The voice and data cabling system shall consist but not limited to the following:
 - 1. Category 5e UTP Cabling
 - 2. Category 6 UTP Cabling
 - 3. Category 6a UTP Cabling
 - 4. Patch Panels
 - 5. Modular Jacks

1.06 DESCRIPTION OF WORK

- A. Provide labor, material, equipment, and accessories necessary for operation of a complete network system. The cabling contractor shall furnish the equipment, accessories, and necessary materials as described herein and system Drawings.

- B. The Technology work for cabling shall include, but not limited to, the following:
 1. Provide all horizontal UTP, shielded cabling, and audio-visual cable.
 2. Provide copper patch panels.
 3. Provide modular jacks and cover plates for system.
 4. Provide and terminate cabling within each room and in the data racks.
- C. The modular computer/data eight-position jack shall match the color code EIA-568B as follows:
 1. Pair 1: Pin 4 - Blue; Pin 5 - White/Blue
 2. Pair 2: Pin 1 - White/Orange; Pin 2 - Orange
 3. Pair 3: Pin 3 - White/Green; Pin 6 - Green
 4. Pair 4: Pin 7 - White/Brown; Pin 8 - Brown

1.07 QUALITY ASSURANCE

- A. All cabling components and equipment shall be listed by Underwriters Laboratories, Inc. for network use, and the components shall bear the UL label. The system shall be installed in accordance with requirements set by the 2023 National Electrical Code.
- B. Installing contractor must have a minimum of 5 years experience in computer network cable installations and utilize data cable installation technicians.
- C. The contractor shall employ on his staff at least one Registered Communications Distribution Designer (RCDD) registered with the Building Industries Consulting Services International (BICSI) or be certified by the manufacturer of the cable solution for both copper and fiber systems.
- D. The contractor shall submit with his bid the name, registration number, and seal of the RCDD on the contractor's staff or provide certificates from manufacturer of the cable solution for both copper and fiber systems.
- E. The RCDD or factory trained designer shall review all design documents including these bid Specifications and provide in writing with the contractors bid, certification of this review, and shall note any and all discrepancies that the RCDD believes are of material concern to the completion of a fully operating system.
- F. The RCDD or factory trained designer shall certify the final installation in writing and provide written verification that he/she has inspected the completed installation and that the installation meets the terms and conditions of this Specification, design requirements of the BICSI 15th Edition TDMM (Telecommunications Distribution Methods Manual), and all EIA/TIA, NFPA, NEC, and all local codes and Specifications related to this work.
- G. All design documents, submittals, as-built Drawings, test results, and other documentation provided by the contractor shall bear the name, registration number, and seal of the RCDD responsible for this bid.

1.08 CERTIFICATION

- A. The cabling contractor shall provide the services of a network cabling company and provide equipment listed by Underwriters Laboratories, Inc. The cabling contractor shall issue an equipment certification stating that the equipment and connected wiring and devices which form the specified system, together with installation have a 20-year Application Assurance Product Warranty for a Gigabit (Standard) and/or 10 Gigabit Ethernet Solution, and are in compliance with the requirements established by EIA/TIA 568, B.1, B.2, B.3, 569, and BICSI Standards.
 1. Category 5e Channel & Component Warranty
 2. Category 6 Channel & Component Warranty
 3. Category 6a Channel & Component Warranty - 10 Gigabit

1.09 ADMINISTRATIVE REQUIREMENTS

- A. Refer to Division 1 Front-End documents for additional requirements.

1.10 SUBMITTALS

- A. Prior to commencement of work.
 - 1. Shop Drawings -Refer to Section 01 3000 - Administrative Requirements, for submittal procedures.
 - a. The contractor shall be responsible for furnishing engineering Drawings which indicate the interlocking of equipment and wiring external to the various patch panels. These Drawings shall be included in the submittal to the Architect/Engineer Technology Designer for approval.
 - b. Complete and comprehensive shop Drawings shall be submitted to the Architect/Engineer Technology Designer for review.
 - c. Provide a complete bill of materials with model and part numbers and reference to the Specification paragraph number.
 - d. The contractor shall submit a schematic of the proposed bonding and grounding system outlining connectivity, landing locations of conductors on busbars, and components to be provided. Catalog cut sheets are required for busbars, bonding & grounding conductors, and all connectors (6 AWG & above) used in the bonding system to the Architect/Engineer Technology Designer for review.
 - 2. Provide documentation of on-staff RCDD or verifiable manufacturer certification and conformance with all of Article 1.06 Quality Assurance.
 - 3. Provide sample of weekly inspection log to be placed on the wall of each telecommunications space. Log to include inspection date, room condition, name of inspector, and action taken.
- B. Post Construction
 - 1. Contractor to submit training syllabus to the Architect/Engineer Technology Designer for approval at least two weeks prior to commencement of training sessions.
 - 2. Provide a complete wiring diagram of the system. Typicals, and the like, will not be acceptable. Include 1/8 inch = 1'-0" scale Drawings of the system layout. These diagrams shall conform to Article 1.06 Quality Assurance.
 - 3. Include three (3) printed copies of all test data for the cabling system. Also, provide two (2) CD ROMs/digital copies containing the test data with any utility programs that may be necessary to view the data.
 - 4. Provide signed (by attendees & trainer) & dated training syllabus for each completed training session to the Architect's technology designer.
 - 5. Operation & Maintenance Manuals
 - a. Provide complete O & Ms. One hard copy and PDF format.
 - b. Both formats shall be fully indexed with tabs by Section Name/System/Device.
 - 6. The Architect/Engineer Technology Designer may require operational demonstration of any products and systems to verify Execution/Installation/Configuration requirements are met.

1.11 WARRANTY

- A. Components, parts, and assemblies supplied by the cabling contractor/manufacturer shall be guaranteed against defects in materials and workmanship for a period of 15 years, commencing upon system start-up and beneficial use, provided such defects are not caused by a misuse, abuse, neglect, unauthorized tampering, equipment modifications, or acts of God. Warranty services shall be provided by the installer of the equipment manufacturer during normal working hours. The representative shall be based in a fully staffed branch office and located within a reasonable distance from the job site. An adequate supply of repair parts shall be maintained by the branch office. The manufacturer shall not be liable for consequential damages. The manufacturer's statement of warranty shall be included in the submittals.
 - 1. Category 6 Channel & Component Warranty

2. Category 6a Channel & Component Warranty - 10 Gigabit

1.12 ADDITIONAL REQUIREMENTS

- A. Provide three copies of Record Drawings (As-builts) in addition to the requirements under section 270510. Upon completion (with no more than a month after completion) of the project, the Record Drawings shall be submitted to the Architect/Engineer Technology Designer for approval.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. The installation shall be an end to end solution utilizing the following approved manufacturers:
1. Category 6 Cabling:
 - a. ADC AMP/Tyco - TrueNet series Components
 - b. Commscope - SYSTIMAX GigaSPEED CAT6
 - c. Panduit - MiniCom, and TX6 Series Components
 - d. Leviton/Remee - Extreme series
 - e. Hubbell - NEXTSPEED CAT 6 series components or Hubbell-Hitachi
 - f. Superior Essex - Superior Essex DataGain Cat6
 - g. Pangen -(includes General Cable) - PanGen 6 Enhanced
 - h. Berk-Tek/Leviton - LANmark 6
 2. Category 6a Cabling:
 - a. ADC AMP/Tyco - TrueNet series Components
 - b. Commscope - SYSTIMAX GigaSPEED X10D
 - c. Panduit - MiniCom, and TX6A Series Components
 - d. Leviton/Remee - NetSync™ 10G
 - e. Hubbell - NEXTSPEED Ascent series components
 - f. Hubbell - Hitachi
 - g. Superior Essex - Superior Essex 10Gain
 - h. Pangen -(includes General Cable) - PanGen 6A
 - i. Berk-Tek/Leviton - LANmark 10G
 3. Note: Other combinations of approved termination and cabling manufacturers may be submitted provided all specifications, warranties, and drawing requirements are met

2.02 DATA CABLE

- A. Approved Manufacturers: Refer to Article 2.01
- B. Category 6 Cable
1. The computer/data cable shall be four twisted pair unshielded (UTP), 23 AWG, solid bare CU, FEP insulation for all 4 pairs to reduce skew (skew shall be less than 18 nsec). UL listed CMP with transmission characteristics that meet and exceed those of FCC-68/EIA/TIA, 568 and EIA/TIA TSB-155 performance(up to 37 meters) and NEMA low loss, extended frequency, jacket shall be sequentially marked at 2 foot intervals and must be plenum rated. UL listed 1459 and 1863. Pairs twisting must be maintained to meet the category 6 performance. Maximum category 6 untwisting allowed is one half (1/2) inches, cable diameter .30 inches or less.
- C. Category 6a Cable
1. The computer/data cable shall be four twisted pair unshielded (UTP), 23 AWG, solid bare CU, FEP insulation for all 4 pairs to reduce skew (skew shall be less than 18 nsec). UL listed CMP with transmission characteristics that meet and exceed those of FCC-68/EIA/TIA, 568 and EIA/TIA TSB-155 performance to 100 meters and NEMA low loss, extended frequency, jacket shall be sequentially marked at 2 foot intervals and must be

plenum rated. UL listed 1459 and 1863. Pairs twisting must be maintained to meet the category 6a performance. Maximum category 6a untwisting allowed is one half (1/2) inches, cable diameter .32 inches or less.

- D. All cable shall be plenum rated UNO.
- E. For cable runs terminating in first floor floor boxes, provide wet location certified cabling from floor box to the nearest ceiling mounted consolidation point. Transition from wet location cabling to conventional plenum cabling from the consolidation point to the serving technology room.
- F. Cable shall be component certified.
- G. Cable jacket color shall be:
 - 1. Data Network serving data outlets - Blue
 - 2. IP Telephone Network serving telephone outlets - Blue
 - 3. Wi-Fi Network serving Wi-Fi Access points - Violet
 - 4. IP Camera/Security serving IP cameras/Security/Access Control - Yellow
 - 5. Local A/V cabling (in-room) - Orange
- H. Standards:
 - 1. Category 6 - Design bandwidth - 250 MHz cable bandwidth, standard data rate 1000 Mbps
 - 2. Category 6a - Design bandwidth - 500 MHz cable bandwidth, standard data rate 10 Gbps capable.
- I. Color Code
 - 1. Pair #1 - White/Blue and Blue
 - 2. Pair #2 - White/Orange and Orange
 - 3. Pair #3 - White/Green and Green
 - 4. Pair #4 - White/Brown and Brown
- J. Testing Standard:
 - 1. Category 6 - Cable to be tested using a Level-IIIe Cable Certification Unit.
 - 2. Category 6a - Cable to be tested using a Level-IIIe Cable Certification Unit.

2.03 COPPER PATCH PANELS

- A. Provide 48 and/or 24 port 8P8C modular patch panels as required for termination of all UTP cables with front and back cable management.
- B. Standards:
 - 1. Category 6 - Patch panels must meet or exceed all transmission performance for Category 6 as outlined in EIA/TIA-568 C.2 and be component certified.
 - 2. Category 6a - Patch panels must meet or exceed all transmission performance for Category 6a as outlined in EIA/TIA-568 C.2, and be component certified.
- C. Each 8P8C jacks will be terminated with 4 pair of UTP wire and shall be wired to meet EIA/TIA 568B (color code).
- D. Approved Manufacturers: Refer to Article 2.01

2.04 DATA JACKS

- A. Provide a flush mounted, modular data jack 8P8C to fit in a two gang 3-1/2 inch deep box or floor box as shown on the Drawings and as specified herein.
- B. Data jacks shall be 8-position configurations and shall meet all the transmission performance of cabling standards required.
- C. Standards:

1. Category 6 - The data jacks must be UL listed and must meet EIA/TIA 568 B.2.1, TSB-155 to 37 meters Category 6a channel requirements and be component certified.
 2. Category 6a - The data jacks must be UL listed and must meet EIA/TIA 568 C.2, TSB-155 Category 6a channel requirements and be component certified.
- D. The data jacks to be wired to EIA/TIA 568B (color code).
- E. All terminations shall also terminate cable shields when shielded cabling is utilized.
- F. Modular data jacks shall be mounted in modular wall plates for below ceiling jacks and one/two port surface mount boxes for above ceiling jacks.
- G. Individual jack colors shall be:
1. Data Network - Data outlets - Blue
 2. IP Telephone Network Telephone outlets - Blue
 3. Wi-Fi Network outlets Wi-Fi Access points - Violet
 4. IP Camera/Security serving IP cameras/Security - Yellow
 5. Local A/V cabling (in-room) - Orange
 6. Colored flag tags matching the scheme above shall be used for Field Terminable Plugs
- H. Approved Manufacturers: Refer to Article 2.01

2.05 MODULAR WALL PLATES

- A. Provide modular cover plates with number of modular data jack/telephone jacks as shown on the Drawings and as specified in this section.
- B. Match color of Electrical cover plates.
- C. Approved Manufacturers: Refer to Article 2.01

2.06 VIDEO CABLE

- A. HDMI – Type A connector – High Speed HDMI with Ethernet and support for HDMI 2.0b
- B. For HDMI connections longer than 25 feet, an active optical HDMI cable must be used.
- C. All HDMI cabling provided by this project must support 4K video @ 60Hz 4:4:4 HDMI 2.0 HDCP 2.2 with an 18.2 Gb/s data rate.
- D. All open cable above ceiling must be plenum rated.
- E. Approved Manufacturers: Refer to Article 2.01.

2.07 AUDIO CABLE

- A. Stereo audio cables - 22 gauge, tinned copper, 4 conductor cable with 100% overall shield, black jacket.
- B. All open cable above ceiling must be plenum rated.
- C. Approved Manufacturers: Extron, Belden, CommScope, WestPenn, Superior Essex.

PART 3 EXECUTION

3.01 CABLING TYPES

- A. The facility shall incorporate a combination of shielded twisted pair (F/UTP) and unshielded twisted pair (UTP).

3.02 TWISTED PAIR CABLE (UTP & F/UTP)

- A. The computer eight-position modular jack wiring Pin/Pair assignment shall match the EIA-568B as follows:
 1. Pair 1: Pin 4, Blue; Pin 5, White/Blue
 2. Pair 2: Pin 1, White/Orange; Pin 2, Orange

3. Pair 3: Pin 3, White/Green; Pin 6, Green
 4. Pair 4: Pin 7, White/Brown; Pin 8, Brown
- B. Termination of the Category 5e 6 and Category 6a F/UTP cabling shall consist of the following:
1. The data outlet shall consist of 8P8C modular jacks. Each 8P8C jack will be terminated with 4 pairs of F/UTP wire as indicated above.
 2. Provide 24 and/or 48 port 8P8C patch panels as required by Drawings. Each 8P8C jack will be terminated with 4 pairs of UTP wire.
 3. Provide wire management in rack as indicated on the Drawings.
 4. For shielded cables bond shield drain wire at patch panel end and patch panels to the existing rack busbar.
- C. Maximum pulling force is 25 lbs or as recommended by the manufacturer.

3.03 TESTING

- A. The Contractor shall be responsible for testing each cable "end-to-end" at Architect/Engineer Technology Designer direction and verifying, in writing, that the cabling is in proper working condition. The Contractor is required to test the cable after its installation and to provide Architect/Engineer Technology Designer with written and test equipment generated documentation verifying test results. Each test results shall be labeled as it is in the field with the serving technology room number, patch panel number/letter and patch panel port number. The field test shall be for Category 5e (Standard), Category 6, or Category 6a standards/requirements.
1. Category 6 - must meet ANSI/EIA/TIA 568 B.2.1, TSB-155 to 37 meters Category 6a channel requirements and be component certified.
 2. Category 6a - must meet ANSI/TIA/EIA-568-B.2-10, TSB-155 Category 6a channel requirements and be component certified.
- B. All installation work shall be done in a neat, high quality manner and in conformity with local and federal building codes.
- C. Cables shall be placed with sufficient bending radius so as not to kink, shear, or damage outer jacket. Any cables damaged from exceeding bend radius limits shall be replaced.
- D. It is the responsibility of the Contractor to calculate all actual cable footage required.
- E. Provide cable certification summary report for all test results on 8-1/2 by 11 sheets.
- F. It is the responsibility of the contractor to verify the labeling at the faceplate while testing to ensure ALL work area outlets are labeled correctly. If it is found that more than 5% of the cables are incorrectly labeled the contractor will be required to retest ALL cabling and correct labeling.
- G. Basic Link Testing
1. Category 6 - Testing of all installed "Basic Links" shall be performed using a Level IIIe hand-held tester with latest software version and performed to the latest revision of TIA/EIA TSB-67, TIA/EIA TSB-155 to 100 meters, and ANSI/TIA/EIA-568-B.2-10. All reports shall be recorded and presented to the Owner before acceptance
 2. Category 6a - UTP - Testing of all installed "Basic Links" shall be performed using a Level IIIe hand-held tester with latest software version and performed to the latest revision of TIA/EIA TSB-67, TIA/EIA TSB-155 to 100 meters, and ANSI/TIA/EIA-568-B.10.2. All reports shall be recorded and presented to the Owner before acceptance.
- H. Testing Standards:
1. Category 6 - Testing of cabling shall be performed prior to system cut-over, 100 percent of the UTP horizontal and copper backbone pairs shall be tested for opens, shorts, polarity reversals, transposition and presence of AC voltage. UTP voice and data horizontal wiring

pairs shall be tested to TIA/EIA 568B Addendums 1, 2 and TSB-67, TSB -155 to 37 meters, and TIA/EIA-568B.2-1 from the information outlet to the TC and from the TC to the information outlet. In addition, all assigned circuits shall be tested from the information outlet/building control device to the MDF. Correct grounded and reversed pairs. Examine open and shorted pairs to determine if problem is caused by improper termination. If termination is proper, tag bad pairs at both ends and note on termination sheets.

2. Category 6a - Testing of cabling shall be performed prior to system cut-over, 100 percent of the UTP & horizontal and copper backbone pairs shall be tested for opens, shorts, polarity reversals, transposition and presence of AC voltage. UTP voice and data horizontal wiring pairs shall be tested to TIA/EIA 568B Addendums 1, 2, 5, 10 and TSB-67, and TIA/EIA-568B.2-10 from the information outlet to the TC and from the TC to the information outlet. In addition, all assigned circuits shall be tested from the information outlet/building control device to the MDF. Correct grounded and reversed pairs. Examine open and shorted pairs to determine if problem is caused by improper termination. If termination is proper, tag bad pairs at both ends and note on termination sheets.
 3. For all cables terminated with Field Terminable Plugs, a TIA-568-C.2, Clause C.5.2 compliant Patch Cord Test Adapter shall be utilized.
 4. All reports shall be recorded and presented to the Architect/Engineer Technology Designer and Owner before acceptance.
 5. If horizontal cable contains bad conductors, remove and replace cable.
 6. Submit printout for each cable tested.
 7. Submit a CD with test results and any program required to view results.
- I. Where any portion of system does not meet the Specifications, correct deviation and repeat applicable testing at no additional cost to the Owner.

3.04 FIELD QUALITY CONTROL

- A. Employ Job superintendent or project manager during the course of the installation to provide coordination of work of this Specification, of other trades, and provide technical information when requested by other trades.
 1. This person shall be responsible for quality control during installation, equipment set-up, and testing.
 2. This person shall attend both the technology kick-off meeting and subsequent progress meetings.
- B. Installation personnel shall meet approved manufacturer's training and education requirements for implementation of extended warranty program.
- C. Copies of BICSI Technician, Installer and Apprentice certifications and approved cabling systems warranty provider certificates for copper and fiber optic systems shall be available upon request, for primary and/or subcontract personnel.
- D. Provide an Inspection of all tech rooms weekly and vacuum if needed once any permanent cabling termination is made.
- E. Maintain weekly inspection log on the wall of each telecommunications space. Log to include inspection date, room condition, name of inspector, and action taken. Provide Log sample with product submittals.

3.05 CABLE PULLING AND INSTALLATION

- A. The equipment racks shall be completely installed before any cables are pulled.
- B. Cable rollers shall be used when pulling cable. Cable pulleys must be used when pulling cable around bends and corners of wire ways. Pulleys shall have a minimum diameter of 6 inches.

- C. Cable rollers used for pulling in cable shall be mounted close to wire way supports and shall be placed at the beginning of the run and spaced every 25 feet along the run.
- D. Contractor shall use basket grips wherever possible and exercise care while pulling cable as not to exceed the maximum allowable pulling strength of the cable. Break away swivels rated at no more than 300 lbs shall be utilized for all fiber pulls (or 10% below the cable's maximum installation tensile rating. Excessive fiber twisting (as determined by jacket labeling having rotated 360 degrees in less than 5 linear feet) shall be considered evidence that a swivel was not used and the entire section **must** be replaced.
- E. Cable pathways outside of the cable tray must be supported by "J" hooks or an approved support for category cabling. "O" rings will not be acceptable. The distance between cabling supports shall not exceed 48".
- F. Category cables, security/access control, and paging cables shall be separated from one another in the wire mesh cable tray at a minimum of 6" or by a physical barrier of the same manufacture as the cable tray.
- G. Contractor shall economize on the use of cable by limiting excess length on runs to 6 inches at the jack/outlet (2'6" above ceiling) and 3 feet at the distribution panels (9 feet above rack).
- H. Contractor shall take measures to avoid unsupported bundles of cables hanging over unprotected edges of cable trays etc. during all phases of construction.
- I. No cable may be pulled between the holes of the wire mesh cable tray. Cables must exit over the top of the side rail of the cable tray.
- J. Cables are not to be run through conduits or sleeves without bushings installed. Any cabling pulled through conduit or sleeves without bushings must be removed and a new cable pulled.
- K. It is not recommended to install cabling in rooms where painting is incomplete. Cabling contractor is responsible to take protective measures to assure cabling is not painted. Any cable found to have paint must be replaced.
- L. Cable installed in areas with exposed ceilings must be concealed within conduit. Technology rooms are the only exception.
- M. Cable ties and tape are NOT permitted for securing cable coils or supporting cabling in any way during installation, be it temporary or permanent, on any indoor cabling.
- N. Cable ties may only be used to secure cabling outdoors. Cable tie ends shall be cleanly cut with flush cutters.
- O. Cables shall be bound with non-printed Velcro straps. Plenum rated Velcro must be used above ceiling.

3.06 LABELING AND MARKING

- A. Contractor shall follow the 2023 National Electrical Code and the ANSI/TIA/EIA-606-B Standard for labeling.
- B. Contractor shall mark all patch panels, jacks, cables, and cover plates with appropriate permanent printed adhesive labels approved by the Architect/Engineer Technology Designer in accordance with Owner's requirements and Drawings. In addition to adhesive labels, the jacks shall be color coded as directed.
- C. Contractor shall install labels as follows:
 1. One label at each end of each cable at the end of the cable sheath, after stripping.
 2. One label on the inside of each outlet box (vacant), plus one label on the outside of each face plate in the space provided.

3. One label at the end of each cable, where it enters the connector in back of the distribution panel, plus one label on the front of the distribution panel, plus one label on the front of the distribution panel centered below each associated cable connector.
 4. All markings shall be carefully done so as to present a neat, professional appearance.
- D. Provide means to identify locations of above ceiling outlets (Wi-Fi and IP CCTV camera) from below the ceiling.
- E. Refer to T Drawings for approved outlet & patch panel labeling scheme.
1. Coordinate with CM and Owner so room numbers in labeling scheme match final room numbers.
- F. It is the responsibility of the contractor to verify the labeling at the faceplate while testing to ensure ALL work area outlets are labeled correctly. If it is found that more than 5% of the cables are incorrectly labeled the contractor will be required to retest ALL cabling and correct labeling.

3.07 CABLE SEPARATION FROM POWER WIRING

- A. Between the cabling system and any fluorescent, neon, incandescent, or high intensity discharge lamp fixtures, the minimum distance shall be 6 inches.
- B. Cable may be installed closer to lighting and convenience outlet power cable (single phase, 120V, 20A maximum), in metal cable channels for limited distances if the following guidelines are observed:
1. Coincident (parallel) runs of no more than 15 feet are permissible if a 1 inch separation between the power cable and the cabling system cable is maintained by separators or suitable retention hardware. If necessary, the separation may be less than 1 inch for a run of up to 6 inches if no contact between the cabling system cable and the power cable occur.
 2. Coincident runs of no more than 30 feet are permissible if a 2 inch separation is maintained. The separation may be less than 2 inches for a run of up to 12 inches, if no contact occurs between the cabling system cable and the power cable.

END OF SECTION

SECTION 27 51 27
CLASSROOM SOUND REINFORCEMENT

PART 1 GENERAL

1.01 RELATED SECTIONS

- A. The provisions of the General Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.
- B. Refer to Section 01 2300 for Alternates that may affect the Work of this Section.

1.02 RELATED REQUIREMENTS

1.03 GENERAL

- A. The work described in this section includes the furnishing of all materials, equipment, labor, service and the performance of all operations necessary for the installation of a sound field amplification system in each classroom designated on the Drawings.

1.04 SECTION INCLUDES

- A. Classroom sound reinforcement system and components.

1.05 SUBMITTALS

- A. Pre-Construction
 - 1. Shop Drawings - Refer to Section 01 3000 - Administrative Requirements, for submittal procedures.
 - a. Provide a complete bill of materials with model and part numbers and reference to the Specification paragraph number.
 - b. Provide catalog cuts of products for review in the format required by the project front-end Specifications. All products provided must be clearly identified in submittal documents.
 - c. Complete and comprehensive Equipment Catalog Specification Sheets of each component provided.
 - d. If a product is manufacturer discontinued, provide the manufacturer recommended direct replacement cut sheet and note as "Replacement for discontinued item".
- B. Post Construction
 - 1. Provide signed (by attendees & trainer) & dated training syllabus for each completed training session to the Architect/Engineer Technology Designer.
 - 2. Complete Drawings indicating the interconnection of all equipment.
 - 3. The Architect/Engineer Technology Designer may require operational demonstration of any products and systems to verify Execution/Installation/Configuration requirements are met.
 - 4. Operation & Maintenance Manuals
 - a. Provide complete O & Ms. One hard copy and PDF format.
 - b. Both formats shall be fully indexed by Section Name/System/Device.

1.06 ADMINISTRATIVE REQUIREMENTS

- A. Refer to Division 1 Front-End documents for additional requirements.

1.07 QUALITY ASSURANCE

- A. The classroom sound reinforcement equipment shall be UL listed. Classroom speakers shall be UL listed and plenum rated.
- B. All equipment and installation practices shall comply with the latest ANSI/NFPA-70 National Electrical Code.

- C. The system shall comply with the requirements of the American with Disabilities Act.
- D. All equipment shall comply with the National Fire Protection Association.
- E. All equipment and installation practices shall comply with the BICSI 15th Edition TDMM (Telecommunications Distribution Methods Manual).
- F. All equipment shall comply with the latest ANSI TIA/EIA-568, 569, 606 and 607 standards.
- G. All equipment shall comply with the Federal Communications Commission Part 15.

1.08 SOUND FIELD AMPLIFICATION SYSTEM DESCRIPTION

- A. The sound field amplification system shall be infrared type (or RF via substitution).
- B. Each classroom system shall consist of a infrared (or RF via substitution) receiver, infrared transmitter (or RF via substitution), lapel microphone, student microphone, four flush mounted ceiling speakers, two infrared (or RF via substitution) sensors, cabling, and all components required for a complete and operational system.

1.09 WARRANTY

- A. The Sound Field Amplification System shall be warranted by the contractor for a period of three (3) years from the date of substantial completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wall mounted Classroom Systems
 - 1. TeachLogic - Maxim - Basis of Design
 - a. Wall Mount Cabinet - WC-400

2.02 INFRARED RECEIVER/AMPLIFIER SYSTEM

- A. This unit shall include a channel A volume control, channel B volume control, auxiliary volume, external sensor jacks, charge output jack, speaker output terminals and auxiliary output.
- B. Minimum of 30 watts RMS watts total output.
- C. Minimum of 50-20 kHz frequency response.
- D. Tone controls or 3-band equalizer.
- E. Two (2) microphone inputs with individual volume controls.
- F. Minimum of three (3) auxiliary line inputs with individual volume controls.
- G. Minimum of one (1) line output for optional ADA, wireless headphone system.
- H. System power supply and power switch.
- I. Provide a wall transformer, and other power supplies as necessary.
 - 1. Provide a cord to recharge two transmitters.
- J. Provide isolation transformers on audio inputs where needed to eliminate buzzing or humming in classroom speakers.

2.03 INFRARED TRANSMITTER

- A. Provide a pendant infrared transmitter. This unit shall include a on/off switch, 3-way indicator light, battery compartment, A/B channel selector, lapel clip, charge jack, mute button, and DIN connector jack. Pendant transmitters may not weigh more than 2.2 ounces including batteries.
- B. Provide rechargeable NiCad batteries to operate transmitter.
- C. NOTE: RF systems may be offered as substitutions provided there is a demonstrated way to control interference between classrooms.

2.04 CEILING SPEAKERS

- A. Provide four (4) acoustical, flush ceiling speakers for each amplifier for each system. Speaker to be 2.25 inch deep, 35 watts or higher if system power per channel is greater, with pivotal tweeter and mounting tabs.
 - 1. Portable systems are excluded from this requirement.
 - 2. Speaker symbols on Drawings are for location only, not for quantity calculation.
- B. Connect to receiver as required by manufacturer.
- C. Ceiling speakers shall be plenum rated and of same manufacturer of receiver.
- D. Ceiling speaker must have a ceiling tile bridge and a back can with each speaker.
 - 1. In high bay classrooms and in open/cloud ceiling rooms, provide pendant mounts for speakers.

2.05 COMPONENTS

- A. Provide one 360 degree, ceiling mounted, infrared (or RF via substitution) receiver for each system. Position sensors within classroom as required to achieve optimum performance of system. If coverage issues exist, provide one additional receiver.
- B. Provide one (1) pendant microphone with transmitter for each system. Provide with NiMH rechargeable batteries and charger stand.
- C. Provide one (1) infrared (or RF via substitution) handheld microphone for each system. The microphone shall be self-contained with switchable sub-carrier frequencies, uni-directional dynamic microphone element, and Ni-MH rechargeable batteries and charging stand.
- D. Provide all speaker cabling required. Provide any custom cables required beyond existing cabling installed for Sound Reinforcement. Open cable in building must be plenum rated.
 - 1. Portable systems excluded from this requirement
- E. Provide all power packs and other components necessary for a complete system.
- F. Provide ISO-PM1, or manufacture recommended, isolation transformers as required to interface with the central sound and paging system for the page mute input.
- G. Provide all cables necessary with each system for a complete installation. This includes, but is not limited to :
 - 1. PC audio output to Sound Reinforcement Amp input - one 3.5mm stereo mini-plug to one 3.5mm stereo mini-plug 8 ft
 - 2. Sound Reinforcement Amp audio output to PC audio input - 3.5mm stereo mini-plug to 3.5mm stereo mini-plug 8 ft
 - 3. External A/V device audio output to Sound Reinforcement Amp input - one 3.5mm stereo mini-plug to 3.5mm stereo mini-plug 6 ft
 - 4. Tuner/interactive device audio output to Sound Reinforcement Amp input - one duplex stereo 3.5mm to one 3.5mm stereo mini-plug 6 ft

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's installation instructions.
- B. Per speaker, provide a minimum of 16 AWG, CMP rated speaker wire. Wire gauge based on cable lengths and power ratings.
- C. Route speaker wires through associated faceplate. Space speakers in classroom to provide uniform coverage.
- D. In rooms using mounted projectors:
 - 1. Mount infrared receiver/amplifier in casework indicated on the Drawings.

2. Provide line level cabling from instructor's PC line output to auxiliary line inputs on infrared receiver/amplifier.
 3. Balance and adjust all volume levels.
 4. Properly phase all speakers.
- E. Add additional speakers and infrared sensors in large classrooms, as required, to maintain complete coverage.
 - F. Classroom Sound Reinforcement system shall be installed in all classrooms/labs for each School.
 - G. Classroom Sound Reinforcement system shall be integrated with the classroom A/V system.
 - H. If amplifier has an external signal ground connector, provide an 18 ga plenum bonding conductor from the signal ground connector to an electrical conduit above ceiling. If there are noise issue, bonding of the system chassis is required to building steel.
 - I. Provide interconnection with Central Sound system. Configure mute system when Central Sound system is activated. Coordinate install with the electrical contractor/central sound system contractor.
 - J. For ceiling zone box installed systems, install control wall plate in the designated rough-in at the Teacher Workstation adjacent to the TPC outlet.

3.02 TRAINING

- A. Provide two (2) hours training for the District's personnel on the operation and the maintenance of the system per school.
- B. Refer to Submittals section of this Specification for training syllabus requirements.
- C. Contractor shall provide two (2) video copies of all training.

3.03 QUANTITY

- A. Provide in each room indicated on Unit Drawings, and where noted in this Specification.

END OF SECTION

**SECTION 28 16 01
SECURITY/ACCESS CONTROL**

PART 1 GENERAL

1.01 SUMMARY

- A. Provide parts, labor, and installation for the extension of the existing AMAG Symmetry intrusion detection and access control systems.

1.02 RELATED DOCUMENTS

- A. Refer to "Instructions to Bidders, General Conditions, and General Requirements," which form a part of this Specification.

1.03 DESCRIPTION OF WORK

- A. Provide an alarm monitoring system as shown on the Drawings.
- B. The Intrusion Detection System shall include, but not be limited to, the following:
 - 1. System Controllers
 - 2. Door Contacts
 - 3. Keypads
 - 4. Egress Motion Detectors
 - 5. Motion Detectors (Ceiling and Wall Mounted Detectors)
 - 6. Various relay outputs (Distributed Antenna System monitoring-reporting)
 - 7. Installation, inspection, and testing
- C. The Access Control System shall include, but not be limited to, the following:
 - 1. System Controller
 - 2. Software for Access Control system (Server and clients)
 - 3. Distributed IP based Access Control Hubs/Controllers
 - 4. FOBs or Access cards (per owner preference)
 - 5. Card Readers
 - 6. Installation, inspection, and testing
- D. This must be an Integrated Security and Access Control System
- E. This system must integrate with the CCTV system division 28 2300 using ONVIF standards.

1.04 QUALITY ASSURANCE

- A. All equipment and installation practices shall comply with the latest ANSI/NFPA-70 National Electrical Code.
- B. All equipment installation practices shall comply with the 2023 National Electrical Code and local electric code.
- C. All equipment shall comply with the latest ANSI-J-STD-607-C Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications Standard.
- D. All equipment and installation practices shall comply with the BICSI 15th Edition TDMM (Telecommunications Distribution Methods Manual).
- E. All equipment shall comply with the latest ANSI TIA/EIA-568, 569, 606, 607 and 862 standards.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Refer to Division 1 Front-End documents for additional requirements.

1.06 SUBMITTALS

- A. Prior of Commencement of Work

1. Shop Drawings -Refer to Section 01 3000 - Administrative Requirements, for submittal procedures.
 - a. Provide catalog cuts of products for review in the format required by the project front-end Specifications. All products provided must be clearly identified in submittal documents.
 - b. Complete and comprehensive Equipment Catalog Specification Sheets of each component provided.
 - c. Provide a complete bill of materials with model and part numbers and reference to the Specification paragraph number.
 - d. If a product is manufacturer discontinued, provide the manufacturer recommended direct replacement cut sheet and note as "Replacement for discontinued item".
- B. Post Construction
 1. Provide signed (by attendees & trainer) & dated training syllabus for each completed training session to the Architect/Engineer Technology Designer.
 2. Complete record Drawings indicating the interconnection of all equipment.
 3. Operation & Maintenance Manuals
 - a. Provide complete O & Ms. One hard copy and PDF format.
 - b. Both formats shall be fully indexed by Section Name/System/Device.
 4. The Architect/Engineer Technology Designer may require operational demonstration of any products and systems to verify Execution/Installation/Configuration requirements are met.

1.07 WARRANTY

- A. Components, parts, and assemblies supplied by the manufacturer shall be warranted against defects in materials and workmanship for a period of three (3) years from date of completion. Warranty services shall be provided during normal working hours. The representative shall be based in a fully staffed branch office and located within a reasonable distance from the job site.
- B. All repair and replacement parts shall be new from the manufacturer during the warranty period.

1.08 MANUFACTURERS

- A. Security system manufacturers:
 1. AMAG Symmetry
- B. Owner's preferred contractor:
 1. Electronic Security Services, Inc. (ESSI) - Reynoldsburg, Ohio
 - a. Missy Sanders
 - b. Office Manager
 - c. 614-755-7650 / Phone
 - d. 614-755-7651 / Fax
 - e. missy@essicolumbus.com
- C. Access control system manufacturers:
 1. AMAG Symmetry
- D. Owner's preferred contractor:
 1. Electronic Security Services, Inc. (ESSI) - Reynoldsburg, Ohio
 - a. Missy Sanders
 - b. Office Manager
 - c. 614-755-7650 / Phone
 - d. 614-755-7651 / Fax
 - e. missy@essicolumbus.com

PART 2 PRODUCTS & OPERATION

2.01 INTRUSION DETECTION SYSTEM

- A. Security System Controller (Existing)
- B. Central Station Reporting/Digital Communicator (Existing)
- C. Motion Detectors
 - 1. Corridor/Room Motion Detectors shall be Addressable Wall Mount Motion Detector. 2 Wire Addressable AMB 300.
 - 2. Gym motion detectors to be wall mounted 2 wire addressable detectors. Mounting height to be 10' as per layout and have a wire guard protective cover. Detectors shall be AMD-300
 - 3. Egress Motion Sensors shall be DSC-T.REX Exit Motion Detectors.
- D. Door Contacts
 - 1. Door contacts that serve doors with access control shall be double pole double throw (DPDT) and shall be connected to both the security and access control systems.
 - 2. Door contacts shall be 3/4" concealed for new doors.
 - 3. Surface door contacts shall be screw mount type for existing doors.
 - 4. Overhead garage doors shall have armor cable, surface mount, wide gap type contacts.
- E. Alarm Horns
 - 1. Alarm horns shall be dual tone output, tamper proof and weather resistant Amseco Corp.
 - 2. Provide alarm bells in locations as indicated on the Drawings.

2.02 ACCESS CONTROL SYSTEM

- A. Access Control
 - 1. Provide access control door controllers and integrate into the existing system. Provide any software and/or licencing required.
 - 2. Access control modules shall accept proximity readers, magnetic stripe readers, and 26 bit Wiegand readers.
 - 3. Access control shall allow users to arm/disarm the security system while locking/unlocking the doors from outside the protected space. Users may use a valid card to disarm the system automatically while unlocking the door, to arm the system in combination with the arm pushbutton while locking the door, and to postpone autoarm in combination with the autoarm pushbutton.
 - 4. Provide appropriate length patch cables and pass-through couplers to connect to the horizontal cabling. Patch Cables and pass-through couplers provided shall be channel approved or component certified to match the existing horizontal cabling channel category with a yellow jacket color. Coordinate channel manufacturer with the electrical contractor or section 27 1513 cabling contractor. Provide plenum rated jacket when when required by the 2017 National Electrical Code.
- B. Card Readers
 - 1. Entrance readers shall be indoor/outdoor with multiple card type ability, compatible with the system. Provide at locations shown on the Drawings. Default Color shall be black.
 - a. Symmetry Sentry Wall Reader with Keypad
- C. Electric door strikes and associated power packs will be provided by others. Voltage shall be 24VDC. The electrical contractor shall connect from the power pack to the access control system.

2.03 NETWORK WIRING

- A. Wiring shall conform to manufacturer's recommendations and meet 2023 National Electrical Code and NFPA standards.

- B. Provide appropriate length patch cables and pass-through couplers to connect to the horizontal cabling. Patch Cables and pass-through couplers provided shall be channel approved or component certified to match the existing horizontal cabling channel category with a yellow jacket color. Coordinate channel manufacturer with the electrical contractor or section 27 1513 cabling contractor. Provide plenum rated jacket when when required by the 2017 National Electrical Code.

PART 3 EXECUTION

3.01 INSTALLATION

- A. A complete, satisfactory operating security system shall be installed and tested to ensure proper operation.
- B. All wiring inherent to, or used in conjunction with, the access control subsystem, the alarm monitoring subsystem and the system processor shall be in accordance with the National Electrical Code and all local electrical codes governing installation.
- C. Manufacturer's representatives shall fully instruct personnel in all phases of equipment operation and maintenance upon completion of installation.
- D. The access control system shall be managed by the Access Control Server.
- E. The horizontal communications cabling provided will be terminated with field terminable adaptors. Provide patch cables and pass-through couplers if devices do not except field terminable adaptors.
- F. Any patch cabling and or pass-through couplers needed for a complete and operational system is the responsibility of this contractor. Patch Cables and pass-through couplers provided shall be channel approved or component certified to match the existing horizontal cabling channel category with a yellow jacket color

3.02 PERFORMANCE REQUIREMENTS

- A. Security System
 - 1. In addition to Equipment Specifications this system shall perform to the following Specifications:
 - a. All exterior doors equipped with egress motion detectors to exit the building without causing a "Forced Door Alarm. These are typically provided as a part of the door hardware. Coordinate with the door hardware provider for cabling requirements.
 - b. All exterior doors shall cause a "Forced Door Alarm" if the door is opened without proper use of an access reader. Doors without readers shall provide a "Forced Door Alarm" in the event it is opened
 - c. All Input Points on the security system shall be uniquely identified to the system. The only exception to this rule will be a location where you have a double entrance door. In this location one identification point shall be considered acceptable for these two doors.
 - d. The system shall be capable of having points disabled to prevent "Forced Door Alarms" or "Door Ajar Alarms".
 - e. The computer network shall be configured to work with Security/Access Control System for remote maintenance and history reports. Provide a web-based system.
 - f. Access Control and security system shall have the software capability to be remotely programmed by security contractor.
 - 2. Due to the nature of this system being for the sole purpose of security, bidder will NOT be allowed to subcontract work. All labor will be performed with the bidders own forces. Bidder will demonstrate that they are actively in the security business and have service 24 hours a day, 365 days a year. The exception to this Specification shall allow for electrical contractor to subcontract to the security system provider. However; security system

provider shall not subcontract any portion of their bid package to Electrical Contractor to another contractor.

B. Access Control

1. In addition to Equipment Specifications this system shall perform to the following Specifications:
 - a. The system shall require the use of an authorized proximity card at entry doors equipped with access readers.
 - b. System shall be supplied with multi user client software for scheduling at no additional charge to customer, user access and other major access control. All software must include at least one Full version of each software component.
 - c. Access Control and security system shall have the software capability to be remotely programmed by security contractor.
 - d. Required Access Groups - Minimum
 - 1) Administration
 - 2) Teachers
 - 3) Custodian
 - 4) Maintenance
 - 5) Student
 - 6) Visitor - Commons
 - 7) Visitor - All access
 - 8) Additional groups as required by owner
 - e. Due to the nature of this system being for the sole purpose of security, bidder will NOT be allowed to subcontract work. All labor will be performed with the bidders own forces. Bidder will demonstrate that they are actively in the security business and have service 24 hours a day, 365 days a year. The exception to this Specification shall allow for electrical contractor to subcontract to the security system provider. However; security system provider shall not subcontract any portion of their bid package to Electrical Contractor to another contractor.

3.03 TRAINING

- A. Provide a total of four (4) hours training for owner's personnel on the operation, programming and maintenance of the system.
- B. Provide two (2) video copies of all training.

END OF SECTION

SECTION 26 27 26 WIRING DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wall switches.
- B. Receptacles.
- C. Cord Reels
- D. Wall plates.

1.02 RELATED REQUIREMENTS

- A. Section 26 05 33.16 - BOXES.
- B. Section 26 05 26 - Grounding and Bonding

1.03 REFERENCE STANDARDS

- A. FS W-C-596 - Connector, Electrical, Power, General Specification for; 2014h (Validated 2022).
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- C. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.
- D. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (Reaffirmed 2020).
- E. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2016.
- F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. UL 498 - Attachment Plugs and Receptacles; Current Edition, Including All Revisions.
- H. UL 514D - Cover Plates for Flush-Mounted Wiring Devices; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Products: Listed, classified, and labeled as suitable for the purpose intended.

1.06 EXTRA MATERIALS

- A. See Section 01 60 00 - Product Requirements for additional provisions
- B. Furnish two of each style, size, and finish wall plate.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Cooper
- B. Arrow Hart
- C. Pass & Seymour

- D. Hubbell
- E. Leviton

2.02 WIRING DEVICE APPLICATIONS

- A. Provide wiring devices suitable for intended use and with ratings adequate for load served.
- B. For single receptacles installed on an individual branch circuit, provide receptacle with ampere rating not less than that of the branch circuit.
- C. Provide weather resistant GFCI receptacles with specified weatherproof covers for receptacles installed outdoors or in damp or wet locations.
- D. Provide tamper resistant receptacles for receptacles educational facilities and as required by NEC.
- E. Provide GFCI protection for receptacles installed within 6 feet of sinks and as required by the NEC.

2.03 ALL WIRING DEVICES

- A. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- B. Finishes: Refer to Drawings.

2.04 WALL SWITCHES

- A. Switch Types: Single pole, double pole, 3-way, and 4-way.
- B. 0-10V Switches: Refer to drawings for type.

2.05 RECEPTACLES

- A. Receptacles - General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498 and where applicable FS W-C-596; types as indicated on the drawings.
 - 1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
 - 2. NEMA configurations specified are according to NEMA WD 6.
- B. Convenience Receptacles:
 - 1. Tamper Resistant Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R, listed and labeled as tamper resistant type; single or duplex as indicated on the drawings.
- C. GFCI Receptacles: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements.

2.06 CORD REELS

- A. Manufacturers
 - 1. Legrand
 - 2. Hubbell
 - 3. Reelcraft
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Cord Reels
 - 1. Classrooms: provide a Hubbell model GR12340-TR or equal for every cord reel in classroom areas as shown on Drawings.
 - a. 12/3 40 foot retractable cable.
 - b. Triple Outlet.
 - c. Mountable on ceiling.

- d. Rated for indoor use.
 - e. Black molded nylon construction with reinforced steel frame and long-life spring.
- C. Installation
- 1. For every connection to the cord reel, provide an electrical connection from the source of power to the location of each cord reel. Connection required to be in EMT conduit and run tight against or parallel to the roof/deck support structure. Install a junction box for each connection on the ceiling/support structure above the equipment/device location. Provide a 120V, 20 Amp receptacle in the junction box to properly connect each cord reel plug.
 - 2. Install products in accordance with manufacturer's instructions.
 - 3. Install cord reels plumb and level, with sections aligned with horizontal runs at the proper elevation.
 - 4. Cord Reel Support:
 - a. Use manufacturer's recommended hangers and supports, located at intervals complying with NFPA 70 and manufacturer's requirements. Provide required support and attachment components in accordance with Section 26 0529, where not furnished by cord reel manufacturer.
 - b. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
 - c. Provide electrical connection to cord reel as necessary (receptacle, junction box with coverplate, etc.).

2.07 TECHNOLOGY OUTLETS

- A. Provide rough-ins as indicated on the Drawings.

2.08 WALL PLATES

- A. Wall Plates: Comply with UL 514D.
 - 1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
 - 2. Size: Standard.
 - 3. Screws: Metal with slotted heads finished to match wall plate finish.
- B. Cover Plates: Smooth stainless steel.
- C. Weatherproof covers to be metal hinged covers that allows cord to be plugged in with cover closed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
- C. Verify that wall openings are neatly cut and will be completely covered by wall plates.
- D. Verify that final surface finishes are complete, including painting.
- E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
- F. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
- B. Coordinate locations of outlet boxes provided under Section 26 05 33.16 as required for installation of wiring devices provided under this section.
- C. Install wiring devices in accordance with manufacturer's instructions.
- D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
- E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.
- F. Modular wiring devices are seen as an acceptable alternative at the discretion of the contractor. Receptacles must meet UL498 and Federal Specification WC-596 requirements. Switches must meet UL20 and Federal Specification WC-896 requirements. Prewired terminal application pigtail connectors must be crimped and welded.
- G. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.
- H. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
- I. Provide GFCI receptacles with integral GFCI protection at each location indicated. Do not use feed-through wiring to protect downstream devices.
- J. Install securely, in a neat and workmanlike manner, as specified in NECA 1.
- K. Install wiring devices plumb and level with mounting yoke held rigidly in place.
- L. Install wall switches with OFF position down.
- M. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.
- N. Do not share neutral conductor on branch circuits utilizing wall dimmers.
- O. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.
- P. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.
- Q. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.
- R. Connect wiring device grounding terminal to outlet box with bonding jumper.
- S. Install standard plates on switch, receptacle, and blank outlets in finished areas.
- T. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.
- U. Install protective rings on active flush cover service fittings.

3.04 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate locations of outlet boxes provided under Section 26 05 37 to obtain mounting heights specified.

- B. Mounting heights refer to bottom of box.
- C. Install wall switch 44 inches above finished floor.
- D. Install convenience receptacle 16 inches above finished floor, UNO.
- E. Install convenience receptacle 4 inches above backsplash of counter, UNO.
- F. Install dimmer 44 inches above finished floor.
- G. Install telephone jack 16 inches above finished floor, UNO.
- H. Install telephone jack for side-reach wall telephone to position top of telephone at 44 inches above finished floor.
- I. Install telephone jack for forward-reach wall telephone to position top of telephone at 48 inches above finished floor.

3.05 FIELD QUALITY CONTROL

- A. See Section 01 43 00 - Quality Assurance, for additional requirements.
- B. Inspect each wiring device for damage and defects.
- C. Operate each wall switch, wall dimmer, and fan speed controller with circuit energized to verify proper operation.
- D. Verify that each receptacle device is energized.
- E. Test each receptacle to verify operation and proper polarity.
- F. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.
- G. Correct wiring deficiencies and replace damaged or defective wiring devices.

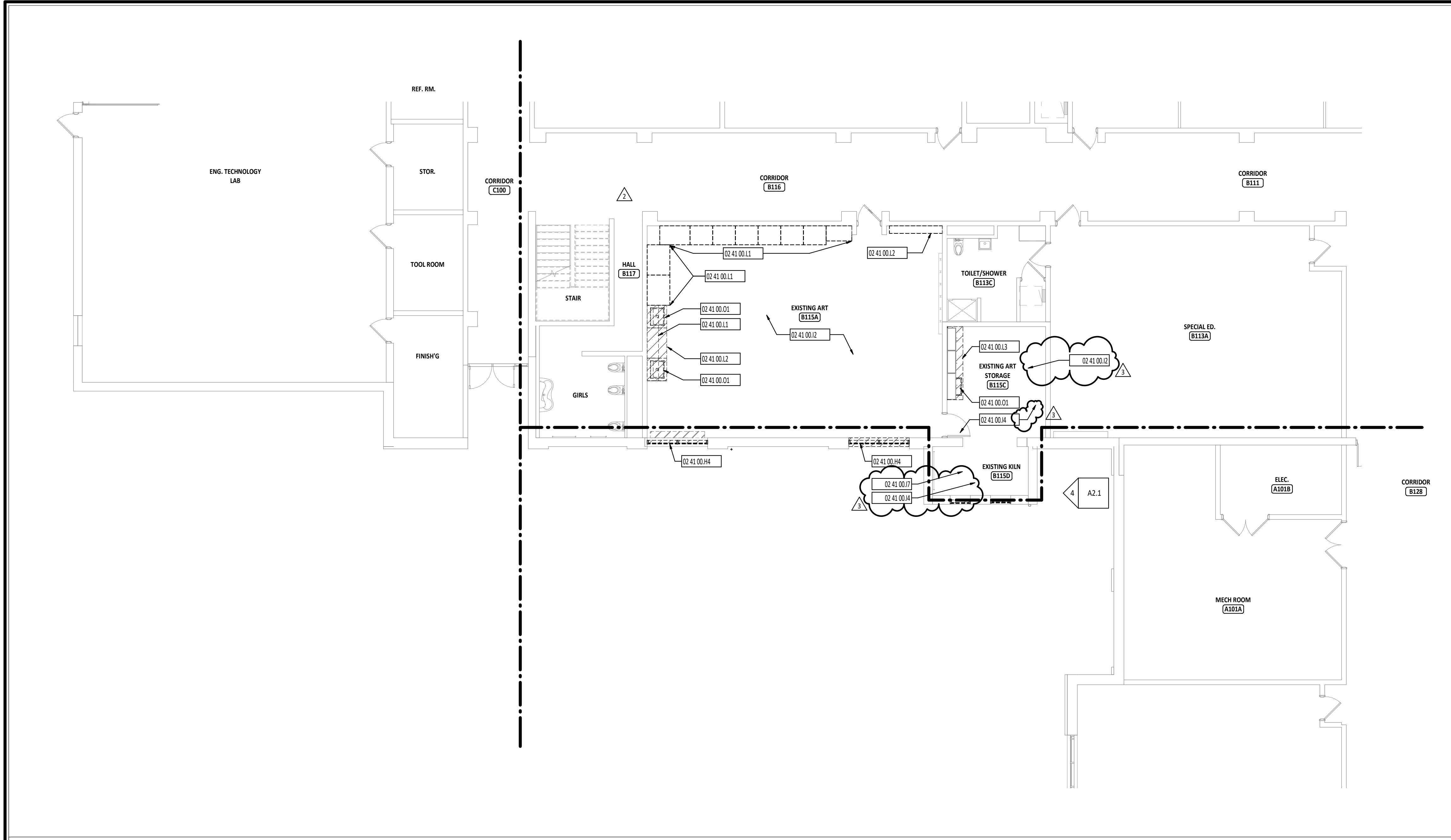
3.06 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

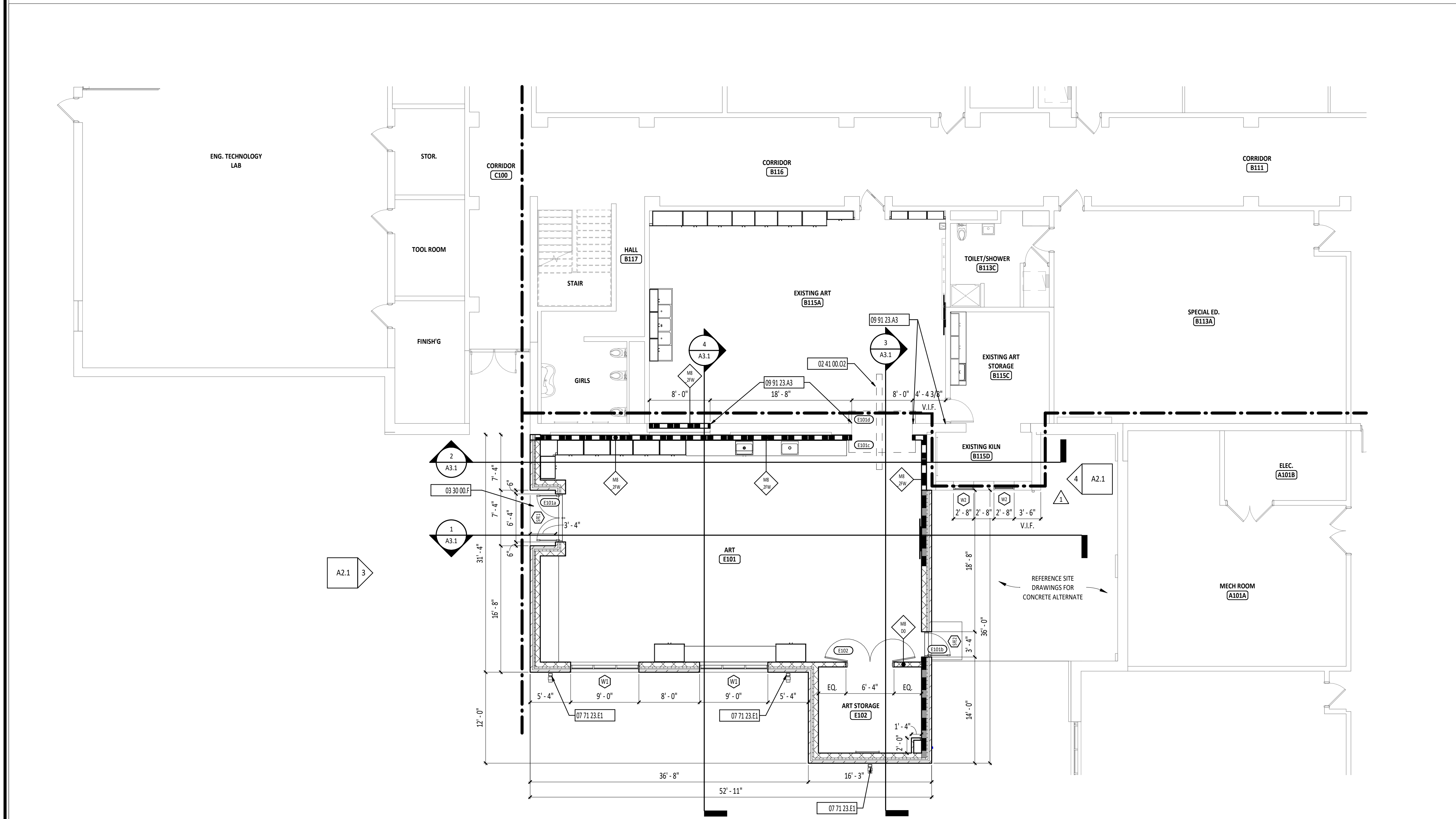
3.07 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION



1 FIRST FLOOR DEMOLITION PLAN - UNIT E
1/8" = 1'-0"

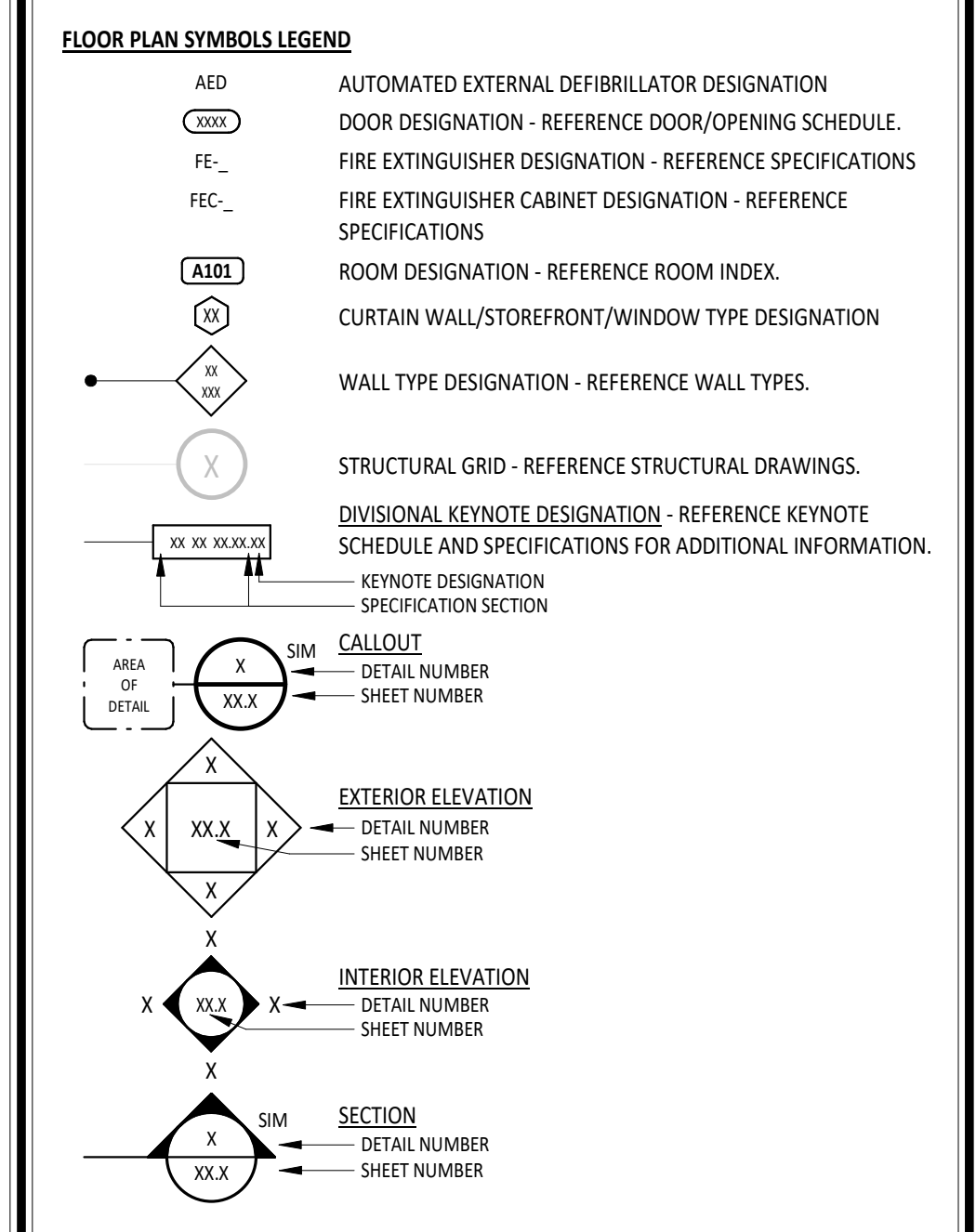


2 FIRST FLOOR PLAN - UNIT E
1/8" = 1'-0"

FIRST FLOOR PLAN ROOM INDEX - UNIT E		
ROOM NUMBER	ROOM NAME	AREA
E101	ART	1,438 SF
E102	ART STORAGE	152 SF

- DEMOLITION FLOOR PLAN GENERAL NOTES**
- A THESE NOTES APPLY TO ALL ARCHITECTURAL DRAWINGS. FOR DEMOLITION NOTES AND SYMBOLS APPLICABLE ONLY TO DRAWINGS OF DISCIPLINE OTHER THAN ARCHITECTURAL, REFER TO SPECIFIC DRAWINGS OF THAT GENERAL DEMOLITION NOTES DISCIPLINE.
 - B FIELD VERIFY CONDITIONS AND COORDINATE DEMOLITION OR REMOVAL WORK WITH CORRESPONDING NEW CONSTRUCTION WORK AND WITH ALL APPROPRIATE TRADES PRIOR TO STARTING DEMOLITION WORK. IF DISCREPANCIES ARE FOUND BETWEEN CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS, NOTIFY ARCHITECT IMMEDIATELY.
 - C OWNER SHALL REMOVE LOOSE ITEMS, I.E. EQUIPMENT, FURNITURE, ARTWORK, PLAQUES, ETC., PRIOR TO CONTRACTOR'S START OF WORK IN SPECIFIED AREAS. WHERE PARTIAL OCCUPANCY, CONTRACTOR SHALL COORDINATE SCHEDULE WITH OWNER.
 - D REMOVE ITEMS TO BE DEMOLISHED IN THEIR ENTIRETY UNLESS OTHERWISE NOTED. DESCRIPTION OF PRIMARY ITEMS TO BE REMOVED IS GENERAL IN NATURE, AND REMOVAL OF SECONDARY COMPONENTS SUCH AS BLOCKING, SUPPORTS, ANCHORS, TRIM, ADHESIVE, PIPING, WIRING, ETC., RELATED TO PRIMARY ITEMS SHALL BE INCLUDED.
 - E PROTECT EXISTING SURFACES TO REMAIN IN AREAS ADJACENT TO DEMOLITION WORK. CONTRACTOR TO REPAIR EXISTING SURFACES TO REMAIN DAMAGED DURING CONSTRUCTION AND DEMOLITION.
 - F PATCH EXISTING FLOOR, WALL AND CEILING CONSTRUCTION AT ABANDONED PENETRATION LOCATIONS WITH NEW MATERIALS AS REQUIRED TO RECEIVE NEW FINISHES AND TO MAINTAIN ORIGINAL FIRE RATING ASSEMBLY WHERE APPLICABLE.
 - G SELECTIVE DEMOLITION FOR INSTALLATION OF NEW MECHANICAL, PLUMBING, OR ELECTRICAL WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR TRADE REQUIRING THE DEMOLITION.
 - H DEMOLISHED MATERIALS ARE THE PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE AND SHALL BE PROMPTLY DISPOSED OFF SITE IN A LEGAL MANNER.
 - I REPAIR FINISHES AND SURFACES LEFT EXPOSED BY DEMOLITION OR REMOVAL OF EQUIPMENT USING NEW MATERIALS TO MATCH SURROUNDING SURFACES. REPAIR EXISTING FLOOR, BASE, WALL AND CEILING FINISHES TO CORRECT DEFECTS CAUSED OR EXPOSED BY DEMOLITION WORK OR EQUIPMENT REMOVAL. REPAIRED SURFACES SHALL BE SMOOTH AND UNDETECTABLE UNDER FINAL FINISHES. AREAS NOTED ON THE DWGS. TO BE REPAIRED OR PATCHED ARE GIVEN FOR REFERENCE AND SHALL NOT BE INTERPRETED TO LIMIT THE SCOPE OF WORK.
 - J DIMENSIONAL INFORMATION FOR NEW OPENINGS INDICATED ON DEMOLITION DWGS. ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION AND COORDINATION WITH NEW CONSTRUCTION.
 - K PRIOR TO START OF DEMOLITION, DUST AND SOUND BARRIERS SHALL BE CONSTRUCTED.
 - L PROPER EGRESS AND APPROVED BARRIERS MUST BE MAINTAINED THROUGHOUT THE DEMOLITION AREA AT ALL TIMES.
 - M REMOVE DEBRIS DAILY.

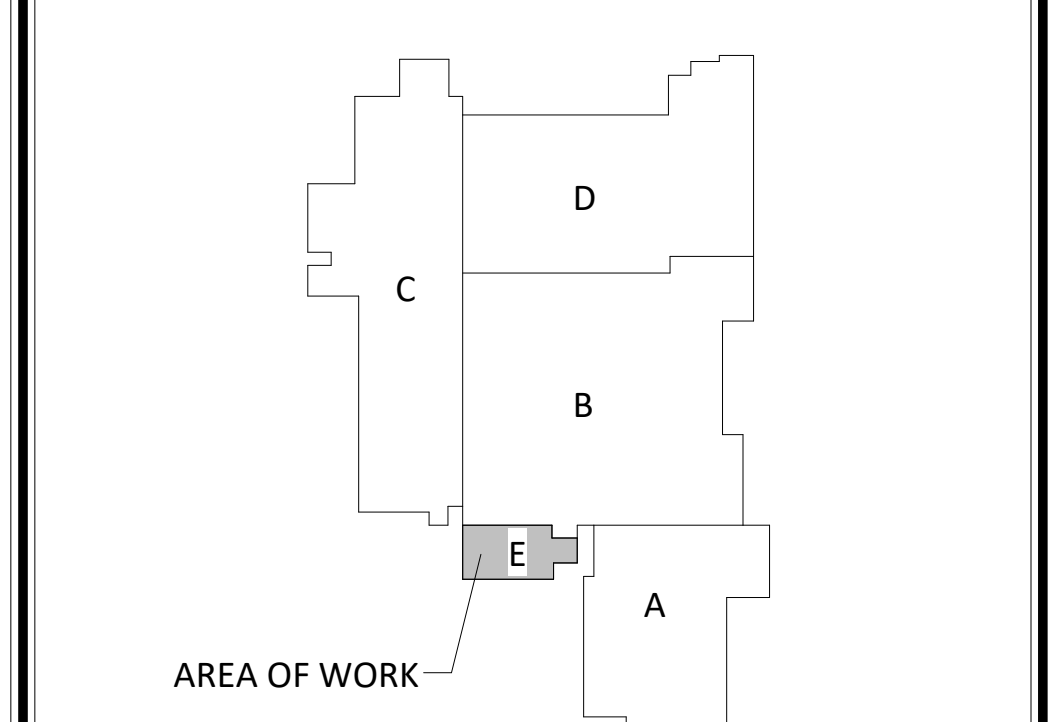
- FLOOR PLAN GENERAL NOTES**
- A ALL DIMENSIONS ARE MEASURED TO THE FACE OF MASONRY OR THE FACE OF METAL STUD UNLESS NOTED OTHERWISE.
 - B ALL CMU CORNERS, HORIZONTAL OR VERTICAL, SHALL BE BULLNOSE UNLESS NOTED OR DETAILED OTHERWISE.
 - C INSTALL TREATED WOOD BLOCKING IN WALLS AS REQUIRED TO SECURE ALL EQUIPMENT, ACCESSORIES, HANDRAILS, CASEWORK, ETC. COORDINATE THIS WORK WITH ALL APPROPRIATE CONTRACTORS, SUPPLIERS AND MANUFACTURERS RECOMMENDATIONS.
 - D REFERENCE A01.1 FOR WALL TO DECK TERMINATION DETAILS.
 - E HINGE SIDE OF DOOR JAMB AT INTERSECTING WALLS TO BE LOCATED 4" FROM ADJACENT WALL UNLESS NOTED OTHERWISE - REFERENCE FLOOR PLANS.
 - F IF WALL TYPE IS NOT IDENTIFIED, WALL IS TO RUN FULL HEIGHT TO DECK.



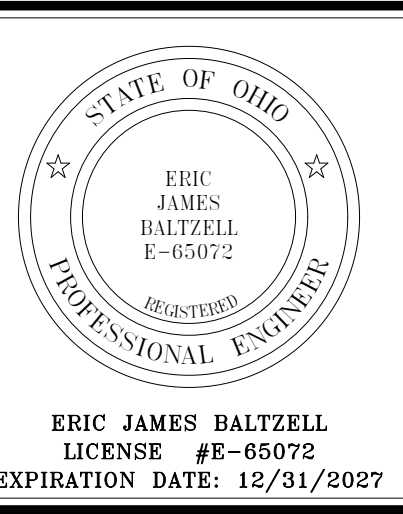
KEYNOTE DESCRIPTION

02 41 00.04	REMOVE EXISTING WINDOW PREPARE FOR NEW WORK
02 41 00.02	REMOVE EXISTING VINYL TILE FLOORING AND BASE. PREPARE EXISTING CONCRETE TO RECEIVE NEW POLISHED FINISH.
02 41 00.04	REMOVE EXISTING BASE
02 41 00.07	SAND EXISTING PAINTED CONCRETE FLOORING AND PREPARE TO RECEIVE NEW POLISHED FINISH.
02 41 00.01	REMOVE EXISTING CASEWORK
02 41 00.02	REMOVE EXISTING COUNTERTOP AND CASEWORK BELOW
02 41 00.03	REMOVE EXISTING COUNTERTOP, CASEWORK ABOVE AND BELOW TO REMAIN
02 41 00.01	REMOVE EXISTING SINK
02 41 00.02	SAW/CUT FLOOR AS REQUIRED PER PLUMBING DRAWINGS.
03 30 00.F	ANTH-HEAVE SLAB - REFERENCE STRUCTURAL DRAWINGS.
07 71 23.E1	PREFINISHED METAL SCUPPER WITH 4" X 6" PREFINISHED METAL DOWNSPOUT
09 91 23.A3	MURAL TO REMAIN IN ENTIRETY. VERIFY IN FIELD. DO NOT PAINT. PROTECT DURING DEMOLITION AND CONSTRUCTION.

MARK	DESCRIPTION	NOTES
FE EXIST.	FIRE EXTINGUISHER - EXISTING TO REMAIN	
FE-10	FIRE EXTINGUISHER - 10.0LB - CLASS A/B/C	FURNISHED AND INSTALLED BY GC.



KEY PLAN



NORTH UNION SCHOOLS ART ROOM EXPANSION ADDITION

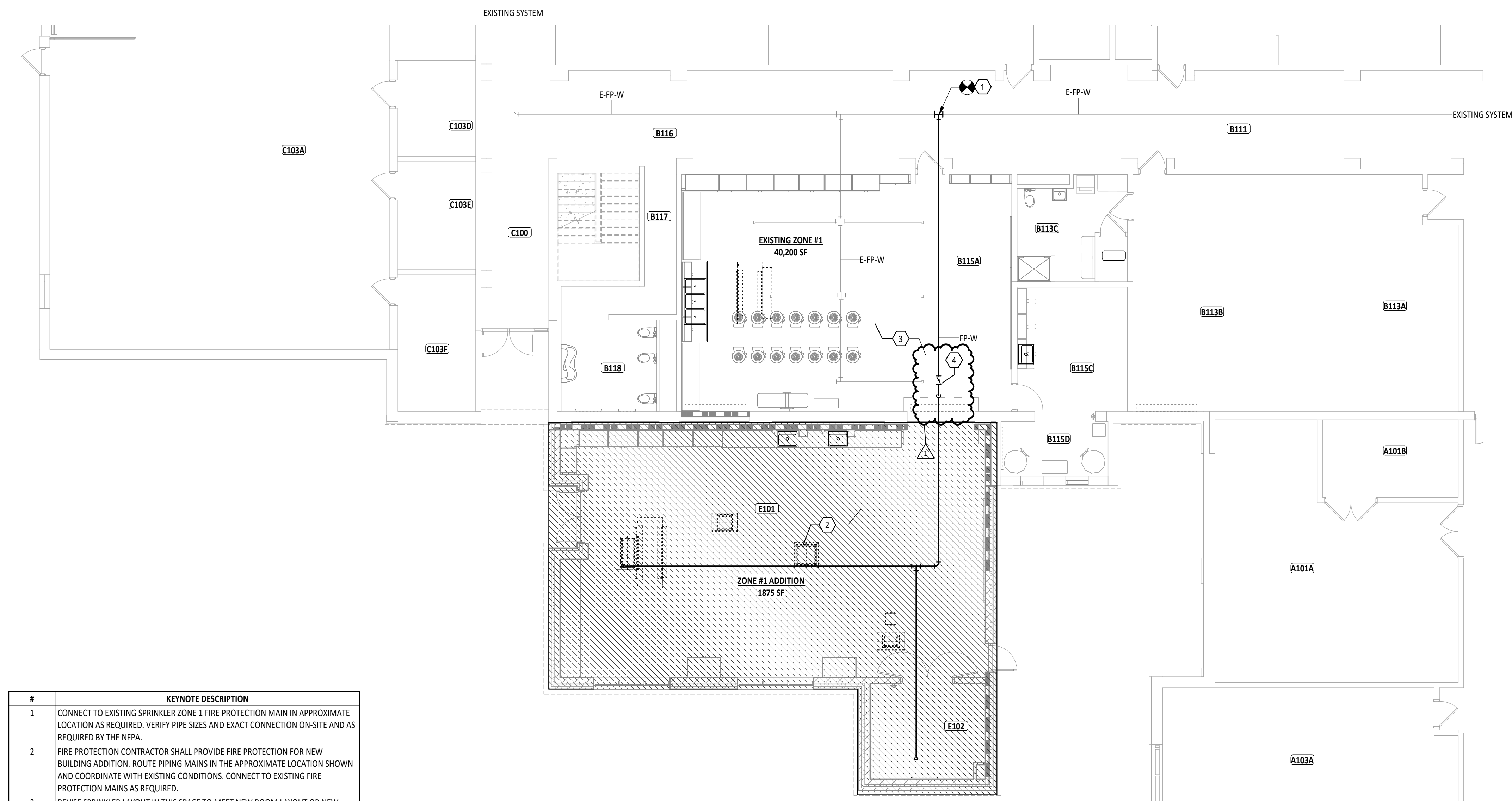
ISSUANCES/REVISIONS

CONSTRUCTION DOCUMENTS	DATE
1	04/16/2026
2	05/01/2026
3	05/07/2026
4	05/08/2026

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	LAT	BCW

SHEET TITLE:
FIRST FLOOR DEMO PLAN AND PLAN - UNIT E

SHEET NUMBER:
A1.1



#	KEYNOTE DESCRIPTION
1	CONNECT TO EXISTING SPRINKLER ZONE 1 FIRE PROTECTION MAIN IN APPROXIMATE LOCATION AS REQUIRED. VERIFY PIPE SIZES AND EXACT CONNECTION ON-SITE AND AS REQUIRED BY THE NFPA.
2	FIRE PROTECTION CONTRACTOR SHALL PROVIDE FIRE PROTECTION FOR NEW BUILDING ADDITION. ROUTE PIPING MAINS IN THE APPROXIMATE LOCATION SHOWN AND COORDINATE WITH EXISTING CONDITIONS. CONNECT TO EXISTING FIRE PROTECTION MAINS AS REQUIRED.
3	REVISE SPRINKLER LAYOUT IN THIS SPACE TO MEET NEW ROOM LAYOUT OR NEW CEILING HEIGHT. VERIFY ALL WORK IS PER NFPA 13 REQUIREMENTS. COORDINATE WORK WITH GENERAL CONTRACTOR.
4	PROVIDE SHUTOFF VALVE WITH TAMPER SWITCH ABOVE CEILING REQUIRED BY AHJ. MARK LOCATION ON CEILING WITH APPROPRIATE CEILING TAG. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. VERIFY EXACT SIZE AND LOCATION ON SITE. COORDINATE WORK WITH DIVISION 23 ELECTRICAL AND GENERAL CONTRACTOR.

1
FPL.1
1/8" = 1'-0"

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

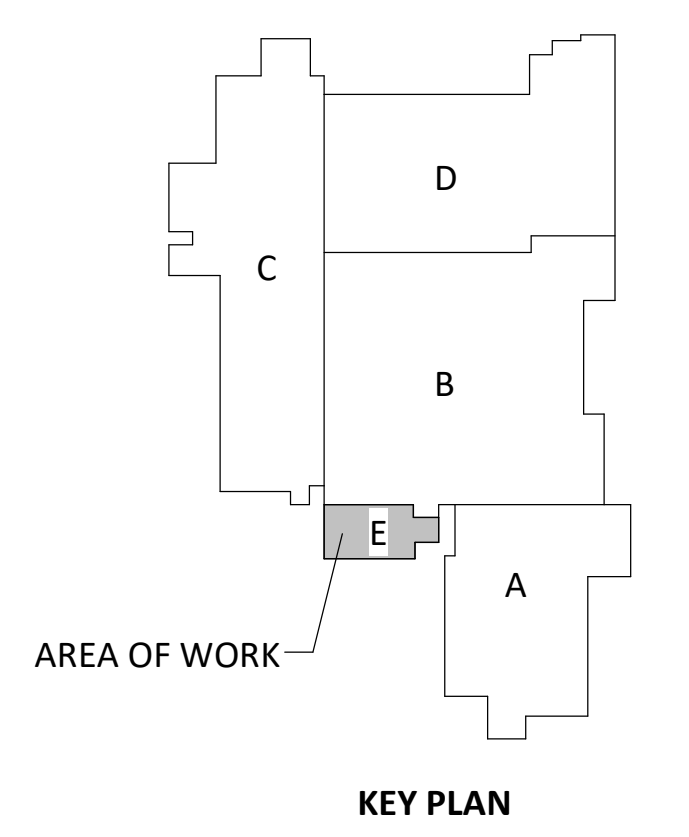
— FP-D	FIRE PROTECTION DRY
— FP-O	FIRE PROTECTION OTHER
— FP-PA	FIRE PROTECTION PRE-ACTION
— FP-W	FIRE PROTECTION WET
— FP-DOM-W	COMBINATION FIRE & DOMESTIC
○	UPRIGHT SPRINKLER HEAD
●	PENDENT SPRINKLER HEAD
○	RECESSED SPRINKLER HEAD
○	CONCEALED SPRINKLER HEAD
○	1" REPRESENTS DRY SPRINKLER HEAD
▲	SIDEWALL SPRINKLER HEAD
▲	EXTENDED COVERAGE SIDEWALL SPRINKLER HEAD
48"x18" S/A	OBSTRUCTION FROM DUCTWORK 48" AND GREATER

FIRST FLOOR PLAN ROOM INDEX

ROOM NUMBER	ROOM NAME	AREA
A100	CORR.	1,255 SF
A101A	MECH ROOM	730 SF
A101B	ELEC.	147 SF
A103A	TECHNOLOGY COMPUTER LAB	1,179 SF
B110	CORRIDOR	274 SF
B111	CORRIDOR	610 SF
B112A	LIFE SKILLS LAB & STORAGE	622 SF
B112B	STOR.	35 SF
B112C	STORAGE	45 SF
B112E	LIFE SKILLS STORAGE	658 SF
B113A	SPECIAL ED.	514 SF
B113B	SPECIAL ED.	540 SF
B113C	TOILET/SHOWER	131 SF
B114A	PROJECT LEAD THE WAY CLASSROOM	875 SF
B114B	CLOSET	67 SF
B115A	EXISTING ART	1,093 SF
B115C	EXISTING ART STORAGE	192 SF
B115D	EXISTING KILN	82 SF
B116	CORRIDOR	775 SF
B117	HALL	52 SF
B118	GIRLS	173 SF
B119	PROJECT LEAD THE WAY & INTECH CLASSROOM	816 SF
B128	CORRIDOR	1,030 SF
C100	CORRIDOR	243 SF
C101	CORRIDOR	874 SF
C103A	ENG. TECHNOLOGY LAB	2,024 SF
C103C	REF. RM.	96 SF
C103D	STOR.	105 SF
C103E	TOOL ROOM	117 SF
C103F	FINISHG	149 SF
E101	ART	1,438 SF
E102	ART STORAGE	153 SF
S-3	STAIR	132 SF

FIRE PROTECTION GENERAL NOTES

- A PROVIDE A COMPLETE WET TYPE FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE FLOOR PLAN AND CEILING TYPES INCLUDING MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES AS REQUIRED. PROVIDE ORDINARY HAZARD IN SPACE WHERE REQUIRED. THE SYSTEM SHALL BE INSTALLED ACCORDING TO DIVISION 21 SPECIFICATIONS AND RECOMMENDATIONS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FACTORY MUTUAL.
- B SPRINKLER PIPING SERVING THE CAFETERIA/COMMONS/STAGE SHALL BE ROUTED AS HIGH AS POSSIBLE. COORDINATE ROUTING OF SPRINKLER PIPING WITH BUILDING CONSTRUCTION, DUCTWORK, LIGHTING AND ALL OTHER UTILITIES. COORDINATE SPRINKLER HEAD LOCATIONS WITH ARCHITECTURAL CLOUDS. SPRINKLER PIPING SHALL NOT BE ROUTED BELOW CLOUDS. PIPING IN STAGE AREA TO BE LOCATED ABOVE STAGE RIGGING.
- C COORDINATE THE LOCATION OF SPRINKLER HEADS AND PIPING WITH BUILDING CONSTRUCTION, DUCTWORK AND MECHANICAL PIPING IN MEZZANINES. ROUTE SPRINKLER PIPING ABOVE THE BOTTOM CHORD OF THE ROOF TRUSSES IN THE MEZZANINE. DO NOT SUPPORT SPRINKLER PIPING FROM DUCTWORK OR EQUIPMENT.
- D FIRE PROTECTION SPRINKLER MAINS AND ZONES SHALL BE ROUTED AS DENOTED ON DRAWINGS. ANY ALTERNATE ROUTING MUST BE APPROVED BY THE ARCHITECT/ENGINEER. THIS CONTRACTOR SHALL DETERMINE THE ACTUAL PIPE SIZING AND ROUTING REQUIRED AND COORDINATE WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS.
- E COORDINATE LOCATION OF SPRINKLER HEADS AND PIPING WITH DUCTWORK, STAGE RIGGING, CURTAINS AND ROOF STRUCTURE ON THE STAGE.
- F THE SPRINKLER SYSTEM SHALL BE DESIGNED BASED UPON ACTUAL WATER FLOW TEST DATA OBTAINED AT OR NEAR THE JOB SITE.
- G DIVISION 21 CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR PROPER INSTALLATION OF THE FIRE PROTECTION SYSTEMS ALARM DEVICES INVOLVED WITH FIRE SPRINKLER SYSTEM.
- H ALL SPRINKLER SYSTEM PIPING SHALL BE CONCEALED ABOVE THE SUSPENDED CEILING SYSTEM, UNLESS NOTED OTHERWISE. WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO EXPOSING ANY PIPING IN ANY ROOM WHICH HAS A SUSPENDED CEILING.
- I AN INSPECTOR'S TEST CONNECTION SHALL BE PROVIDED FOR EACH FIRE SPRINKLER ZONE. THIS CONTRACTOR SHALL PROVIDE FIXED PIPING FROM THE TEST CONNECTION TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE TEST. EXTERIOR DISCHARGE OF THE TEST CONNECTION SHALL BE PERMITTED ONLY BY SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER.
- J SHOW ALL ROOM NUMBERS ON SHOP DRAWING PLANS.
- K ROUTE SPRINKLER PIPING SUCH THAT IT DOES NOT RUN ABOVE ELECTRICAL PANELS, SWITCHGEAR, OR SIMILAR EQUIPMENT. SPRINKLER MAINS SHALL NOT RUN THROUGH ELECTRICAL OR COMMUNICATION ROOMS. SPRINKLER HEADS IN THESE ROOMS SHALL BE SERVED BY A DEDICATED BRANCH LINE FOR EACH ROOM. SIDE WALL SPRINKLER HEADS SHALL BE USED WHEN THERE IS NOT A CEILING IN THE SPACE.
- L PROVIDE ALTERATIONS TO THE EXISTING FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE NEW FLOOR PLAN AND NEW CEILING TYPES. PROVIDE A COMPLETE WET TYPE SYSTEM INCLUDING NEW MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES AS REQUIRED. PROVIDE ORDINARY HAZARD IN SPACE WHERE REQUIRED. REUSE EXISTING SYSTEM EQUIPMENT WHERE APPLICABLE. THE SYSTEM SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND AS PER REQUIREMENTS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FACTORY MUTUAL.
- M THE BUILDINGS COMPLETE OPERATIONAL FIRE PROTECTION SYSTEMS SHALL REMAIN IN PLACE. THIS CONTRACTOR SHALL REPAIR ANY DAMAGE TO THIS SYSTEM CREATED BY THE REMOVAL OF ANY OTHER MECHANICAL SYSTEMS OR COMPONENTS.
- N THIS CONTRACTOR SHALL COORDINATE PHASING OF SPRINKLER WORK WITH ALL OTHER CONTRACTORS PRIOR TO STARTING WORK.
- O THIS CONTRACTOR SHALL PREPARE HYDRAULIC CALCULATIONS BASED UPON THE CONFIGURATION OF THE ACTUAL SYSTEM DESIGN AS SHOWN ON THIS CONTRACTOR'S SHOP DRAWINGS.
- P THIS CONTRACTOR SHALL PROVIDE ALL ADDITIONAL SPRINKLER HEADS AS REQUIRED TO ENSURE AN APPROVED FIRE PROTECTION SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
- Q PROVIDE AUXILIARY DRAIN VALVES AS REQUIRED BY NFPA. AUXILIARY DRAINS SHALL BE EXPOSED WITH 1" DRAIN VALVES. WHEN 5 OR MORE GALLONS ARE TRAPPED, THIS CONTRACTOR SHALL PROVIDE FIXED PIPING TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE DRAIN. WHEN LESS THAN 5 GALLONS ARE TRAPPED, A HOSE BIB SHALL BE PROVIDED AT THE DRAIN VALVE.
- R AUXILIARY DRAINS SHALL NOT BE LOCATED ABOVE PLASTER OR GYPSUM BOARD CEILING SYSTEMS. ONLY BY A SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER WILL A VARIANCE BE PROVIDED.



**NORTH UNION SCHOOLS ART ROOM EXPANSION
ADDITION**

ISSUANCES/REVISIONS	
CONSTRUCTION DOCUMENTS	04/18/2006
1 ADDENDUM 03	05/11/2006

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	DIL	LGW

FIRE PROTECTION PLAN

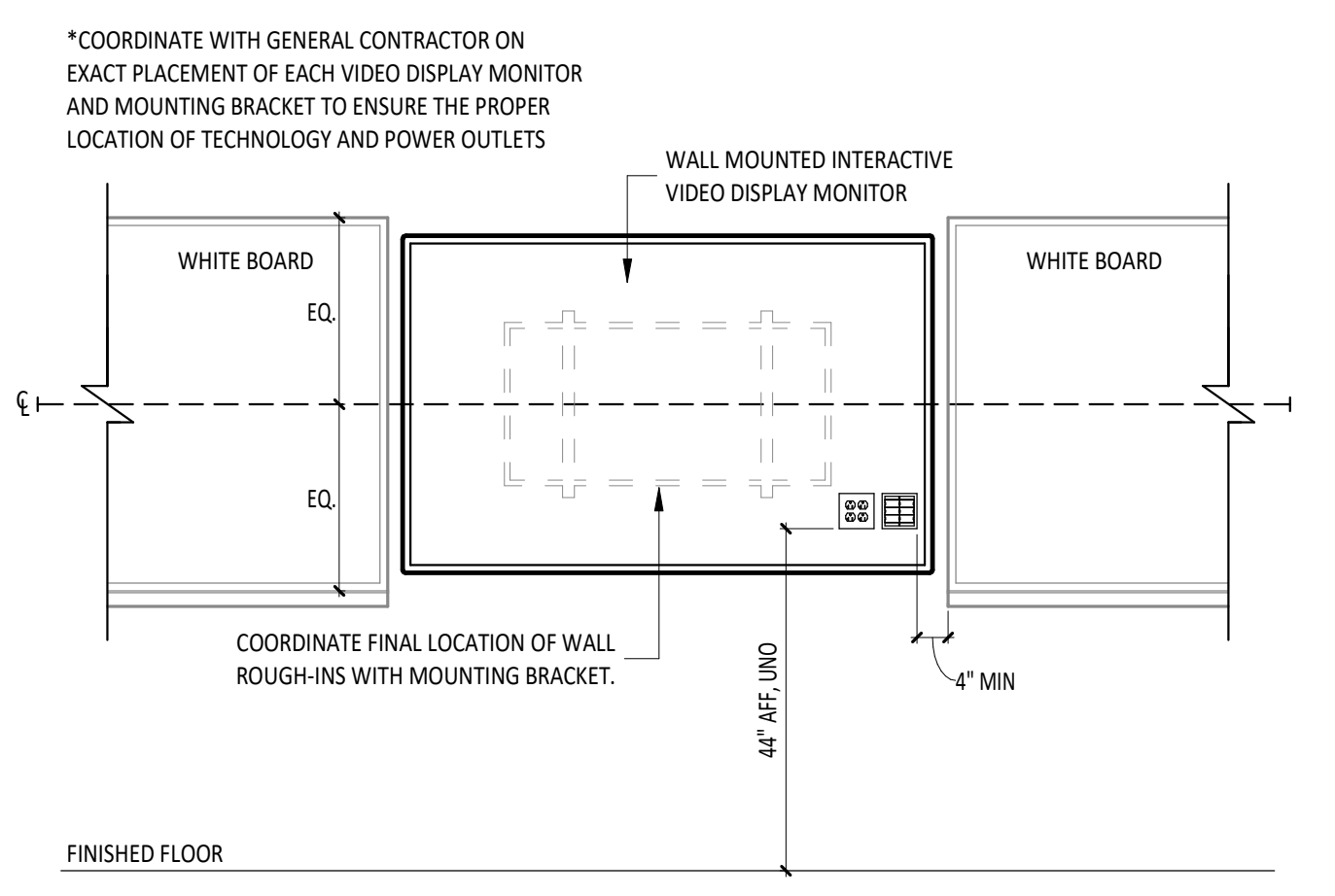
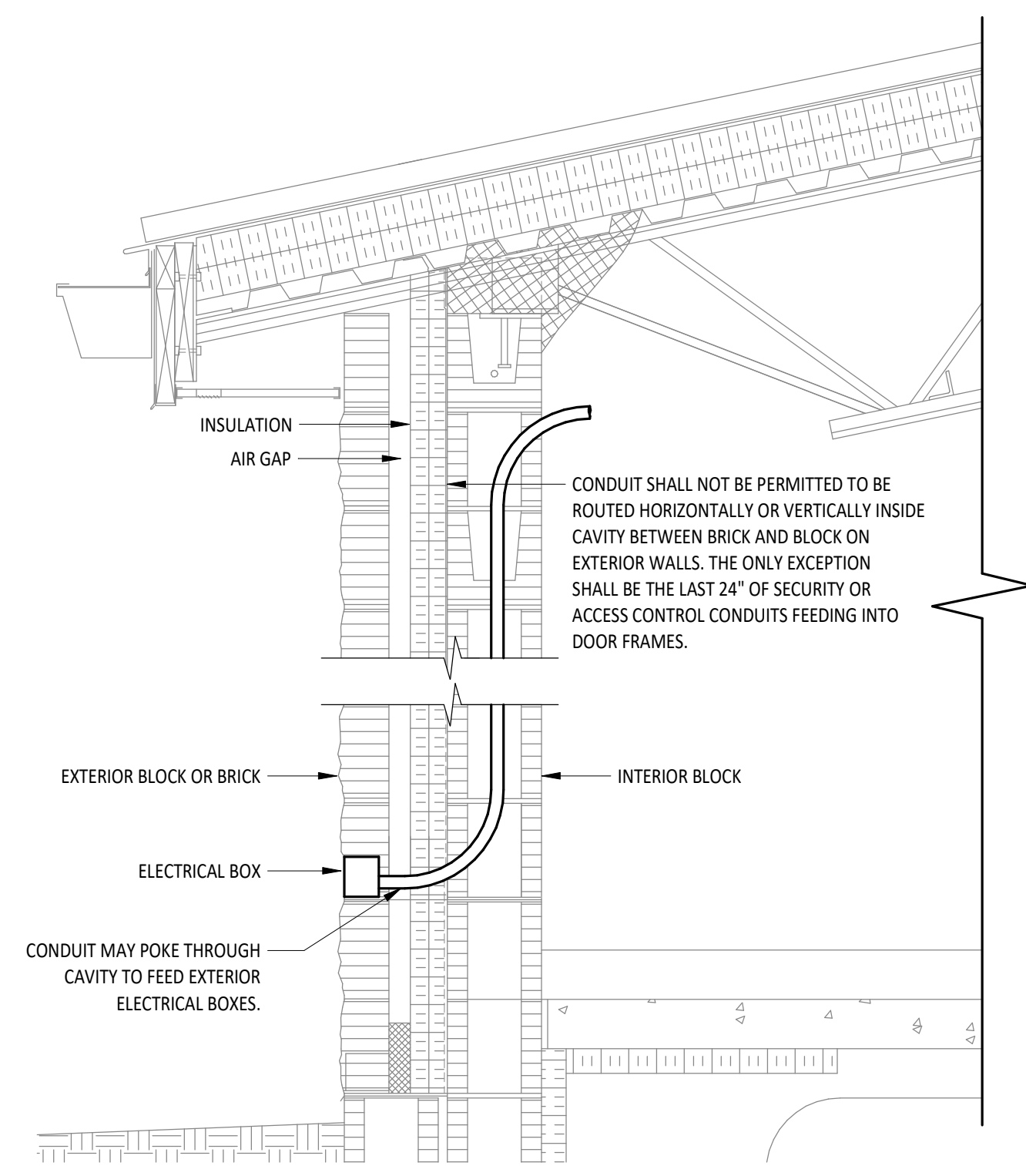
FP1.1

ISSUANCES/REVISIONS		
CONSTRUCTION DOCUMENTS	04/18/2024	
1 ADDENDUM 03	05/11/2024	

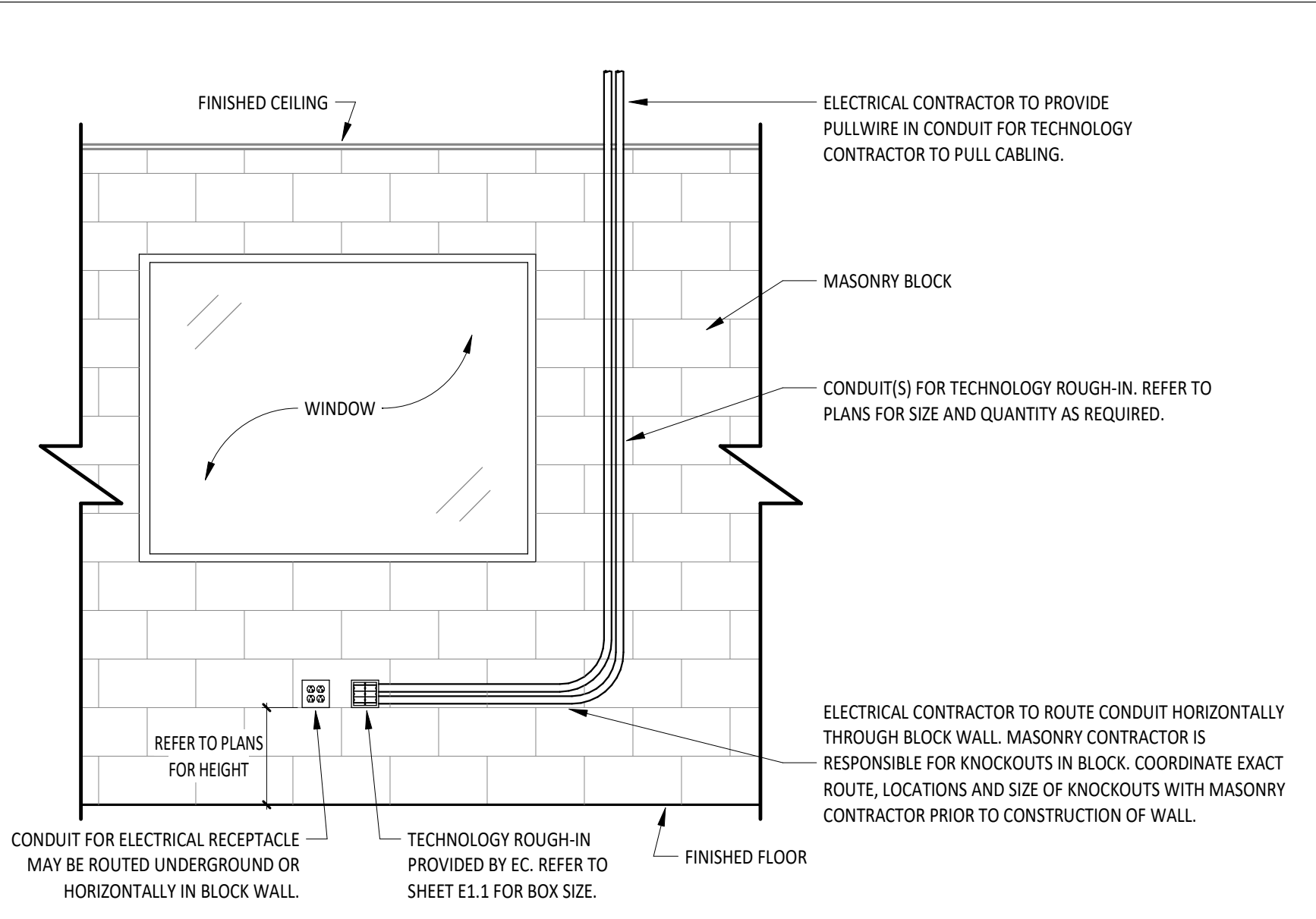
PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	CDH	AEH

SHEET TITLE:
**ELECTRICAL
DETAILS**

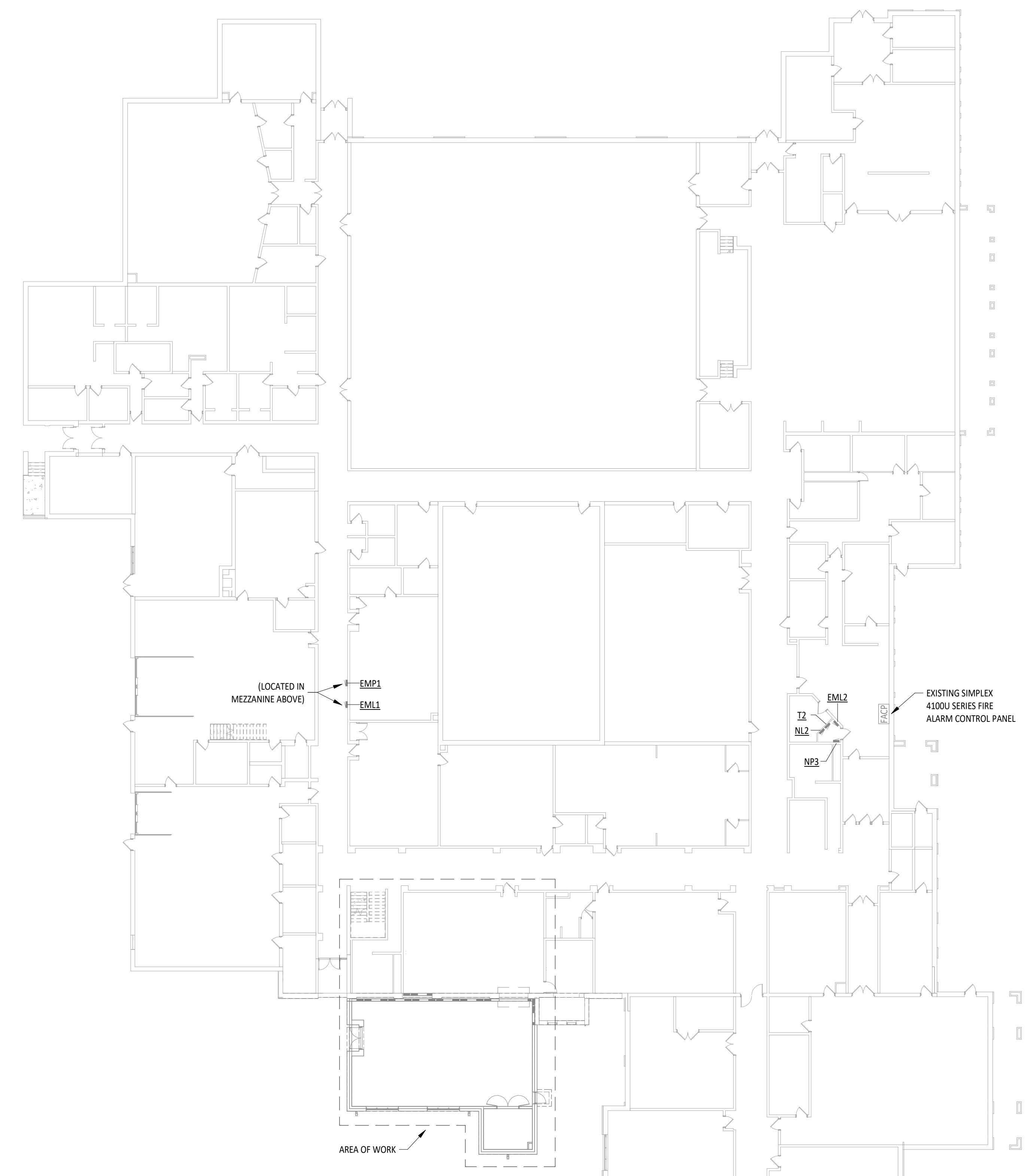
SHEET NUMBER:
E1.2



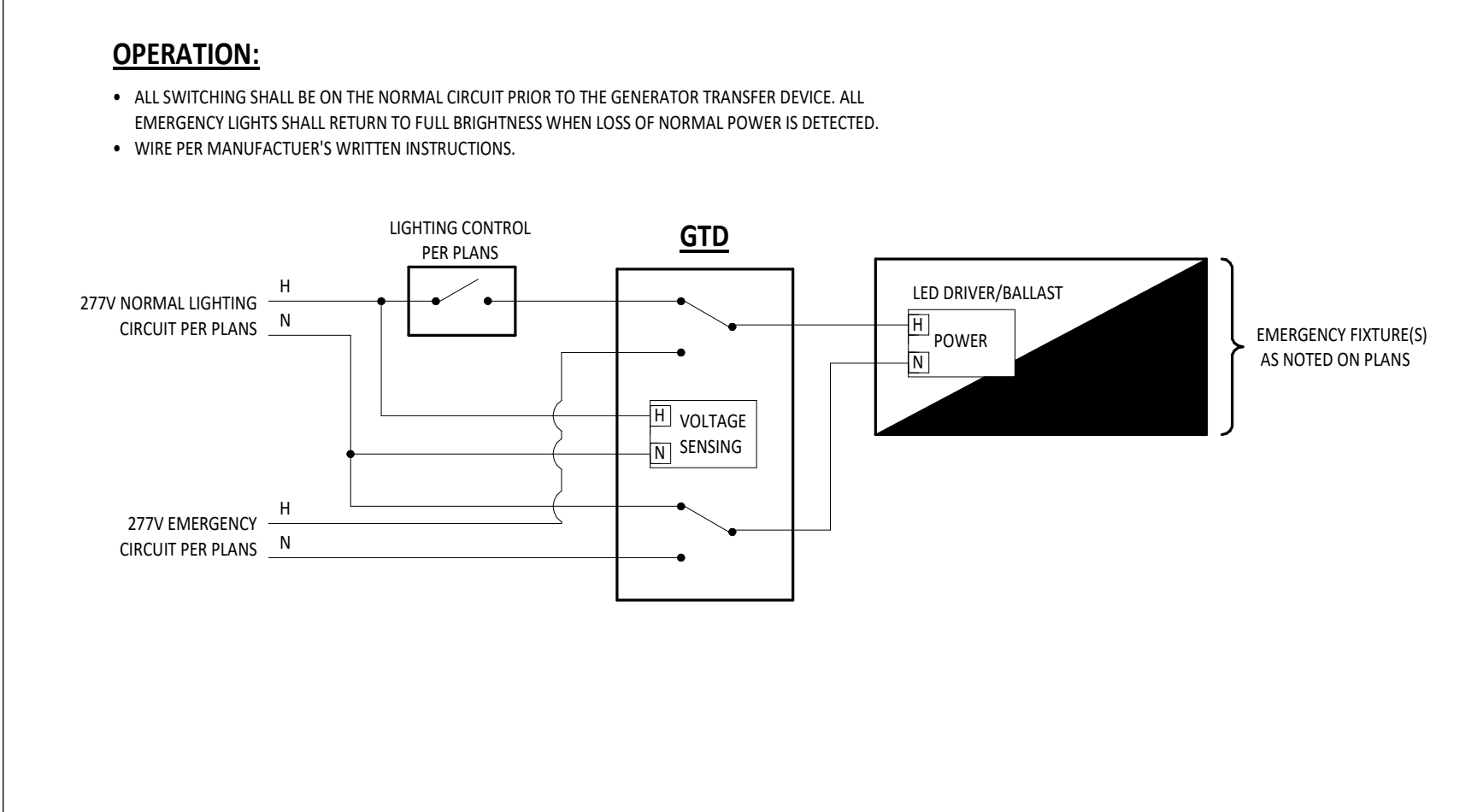
2 TYPICAL INTERACTIVE VIDEO MONITOR ROUGH-IN NTS



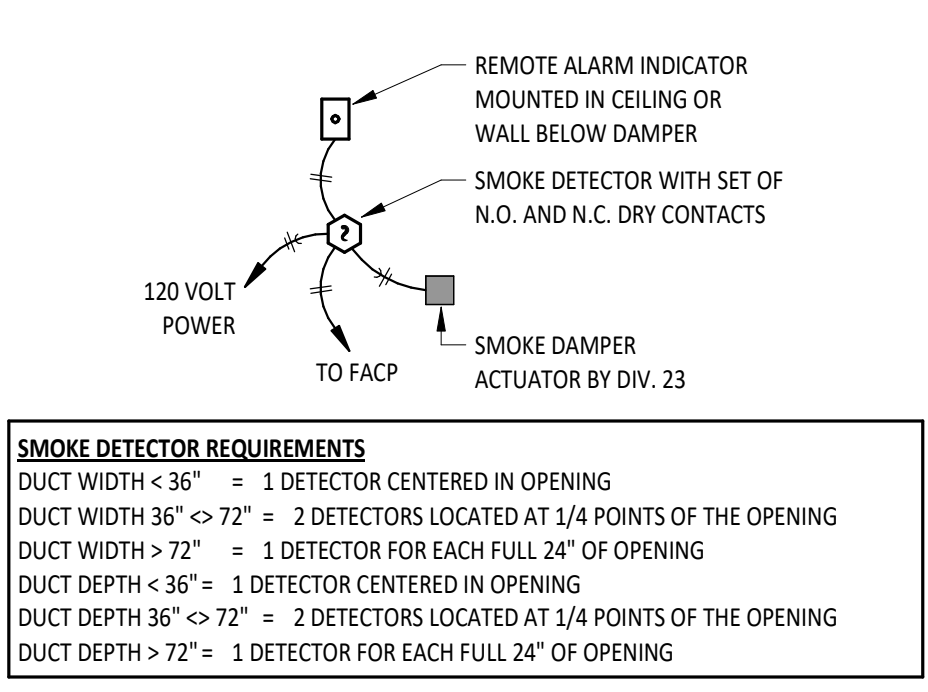
3 TECHNOLOGY ROUGH-IN UNDER WINDOW NTS



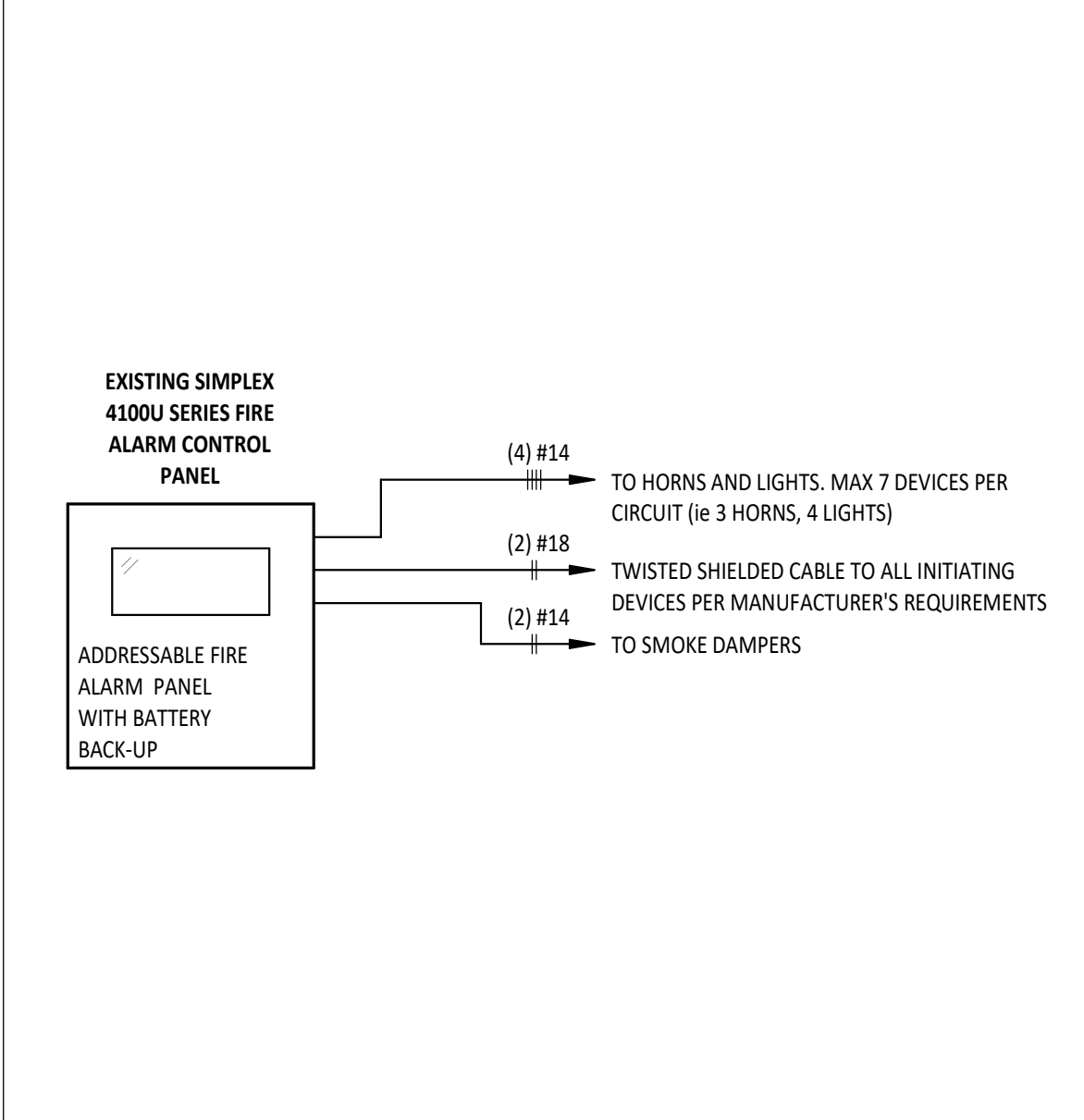
1 TYPICAL EXTERIOR WALL CAVITY NTS



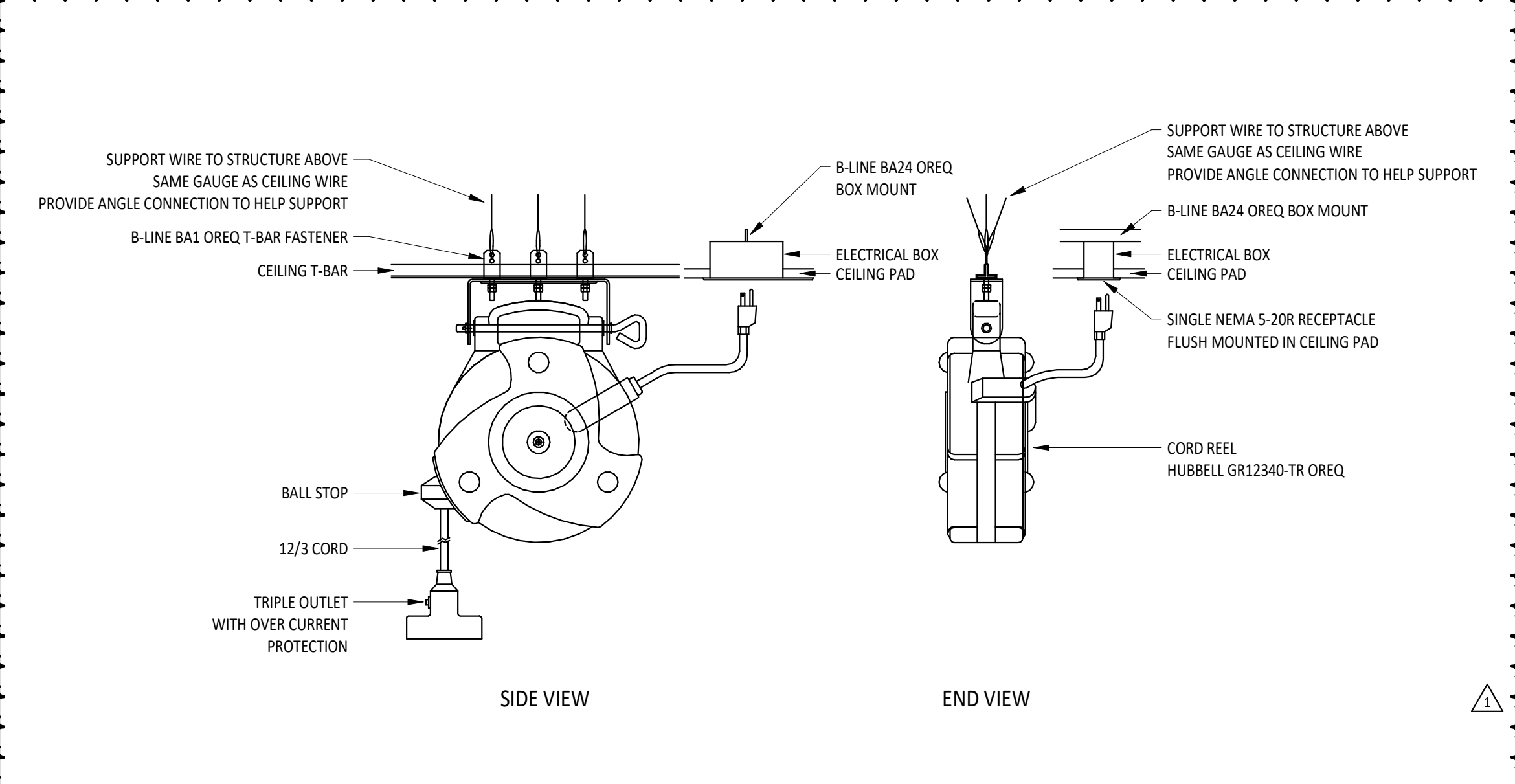
4 LIGHTING CONTROL SCHEMATIC - GENERATOR TRANSFER DEVICE NTS



5 SMOKE DAMPER WIRING DIAGRAM NTS

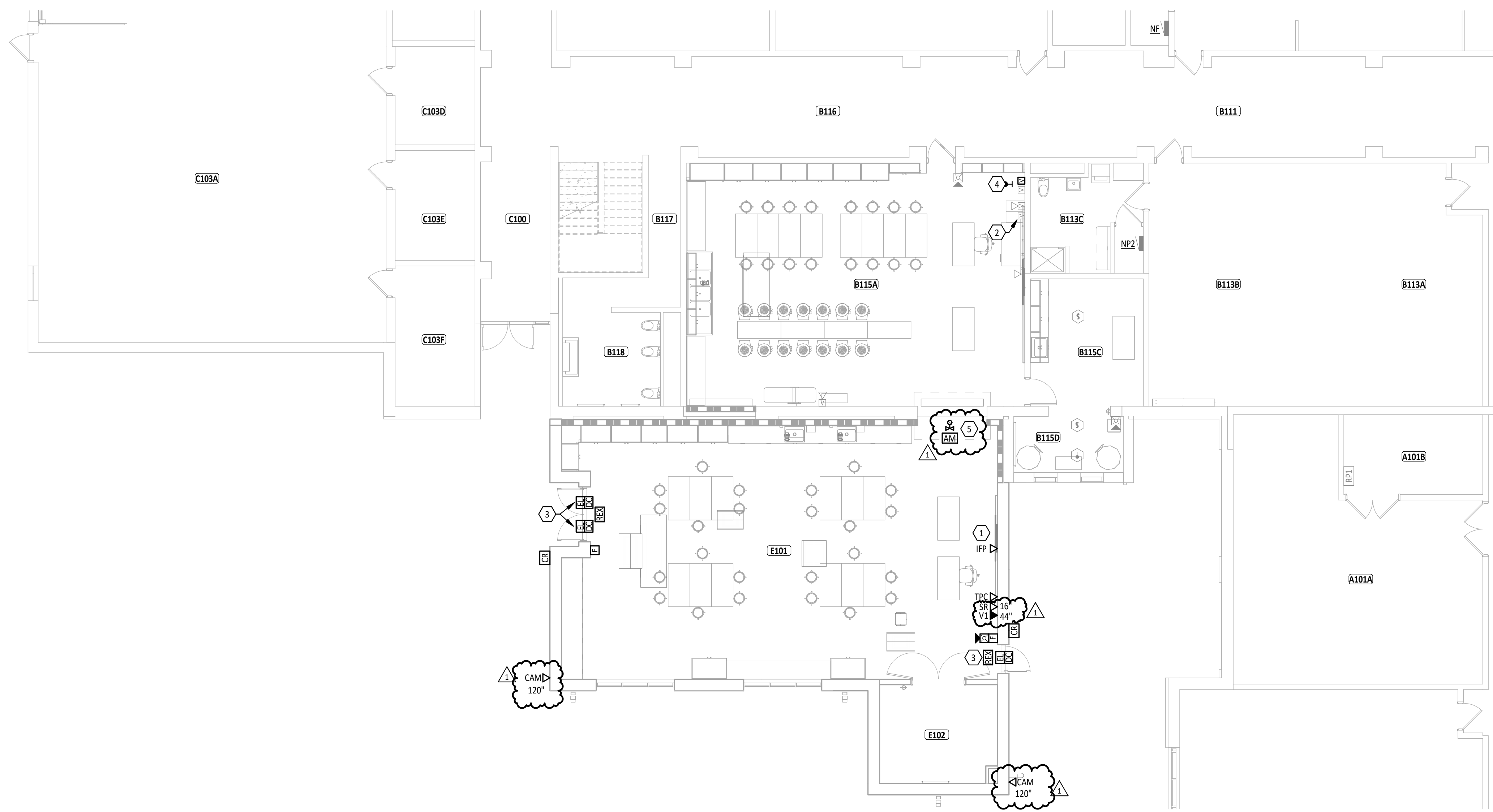


6 FIRE ALARM RISER DIAGRAM NTS



7 CORD REEL DETAIL NTS

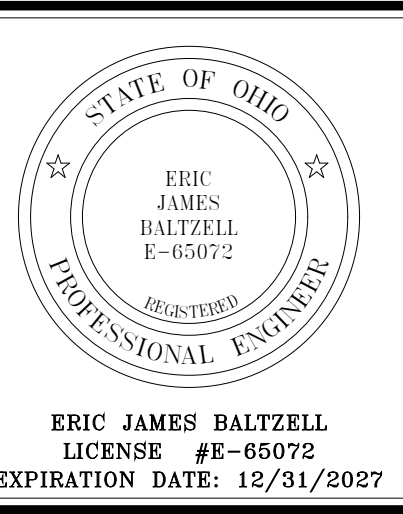
8 OVERALL ELECTRICAL PLAN 1\"/>



FIRST FLOOR PLAN ROOM INDEX		
ROOM NUMBER	ROOM NAME	AREA
A100	CORR.	1,255 SF
A101A	MECH ROOM	730 SF
A101B	ELEC	147 SF
A103A	TECHNOLOGY COMPUTER LAB	1,179 SF
B110	CORRIDOR	274 SF
B111	CORRIDOR	610 SF
B112A	LIFE SKILLS LAB & STORAGE	622 SF
B112B	STOR.	35 SF
B112C	STORAGE	45 SF
B112E	LIFE SKILLS STORAGE	658 SF
B113A	SPECIAL ED.	514 SF
B113B	SPECIAL ED.	540 SF
B113C	TOILET/SHOWER	131 SF
B114A	PROJECT LEAD THE WAY CLASSROOM	875 SF
B114B	CLOSET	67 SF
B115A	EXISTING ART	1,093 SF
B115C	EXISTING ART STORAGE	192 SF
B115D	EXISTING KILN	82 SF
B116	CORRIDOR	775 SF
B117	HALL	52 SF
B118	GIRLS	173 SF
B119	PROJECT LEAD THE WAY & INTECH CLASSROOM	816 SF
B120	CORRIDOR	1,030 SF
C100	CORRIDOR	243 SF
C101	CORRIDOR	874 SF
C103A	ENG. TECHNOLOGY LAB	2,024 SF
C103C	REF. RM.	96 SF
C103D	STOR.	105 SF
C103E	TOOL ROOM	117 SF
C103F	FINISHG	149 SF
E101	ART	1,438 SF
E102	ART STORAGE	151 SF
S-3	STAIR	132 SF

- SYSTEMS GENERAL NOTES**
- WHERE DEVICES ARE SHOWN UNDER CABINETS, CASEWORK, FURNITURE AND THE LIKE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT SO THAT DEVICES SHALL BE LOCATED WITHIN KNEE SPACE OR OPEN AREA.
 - ALL LOW VOLTAGE CABLING FOR THE SCOPE OF WORK BY DIVISION 26, 27, AND 28 IN EXPOSED CEILING SPACES SHALL BE ROUTED INSIDE CONDUIT. COORDINATE WITH INSTALLER OF EACH SYSTEM PRIOR TO ROUGH-IN. PAINT CONDUIT TO MATCH SURROUNDING AREA.
 - CONDUIT IN EXPOSED CEILING SPACES SHALL BE CONCEALED INSIDE WALLS. EXPOSED CONDUIT SHALL ONLY BE ALLOWED IN JOIST SPACE NEAR ROOF.
 - ALL CONDUIT ENDS FOR CABLING NOT CONNECTED TO A BOX OR FITTING SHALL BE PROVIDED WITH NYLON BUSHINGS TO PROTECT CABLING FROM DAMAGE.
 - ALL MOUNTING HEIGHTS REFER TO BOTTOM OF BOX, UNO.

#	KEYNOTE DESCRIPTION
1	TECHNOLOGY ROUGH-IN FOR INTERACTIVE MONITOR. REFERENCE DETAIL 2/E1.2.
2	MODIFY EXISTING VERTICAL SURFACE RACEWAY LOCATION AS REQUIRED TO ACCOMMODATE NEW TACK BOARD.
3	DOOR PROVIDED WITH ELECTRIC STRIKE AND POWER PACK BY DOOR HARDWARE SUPPLIER. DIVISION 26 TO PROVIDE POWER TO POWER PACK ABOVE CEILING. BACK BOXES, RACEWAYS, BUSINGS AND PULL STRINGS FOR CABLING FROM ABOVE CEILING/POWER PACK TO ELECTRIC STRIKE IN DOOR FRAME. CABLING BY SECURITY/ACCESS CONTROL CONTRACTOR. COORDINATE WORK WITH DOOR HARDWARE INSTALLER AND SECURITY/ACCESS CONTROL CONTRACTOR. REFERENCE SHEET E4.1 FOR 120-VOLT POWER REQUIREMENTS.
4	PROVIDE 700 SERIES RACEWAY FROM BOX HEIGHT TO ABOVE ACCESSIBLE CEILING. SPACES SHALL BE PAINTED TO MATCH SURROUNDING AREA.
5	TAMPER SWITCHES PROVIDED BY SPRINKLER CONTRACTOR. PROVIDE FIRE ALARM CONNECTIONS AS REQUIRED TO MONITOR SWITCH. REFERENCE SHEET FP-1. COORDINATE WITH DIVISION 21 PRIOR TO INSTALLATION.



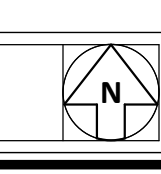
**NORTH UNION SCHOOLS ART ROOM EXPANSION
ADDITION**

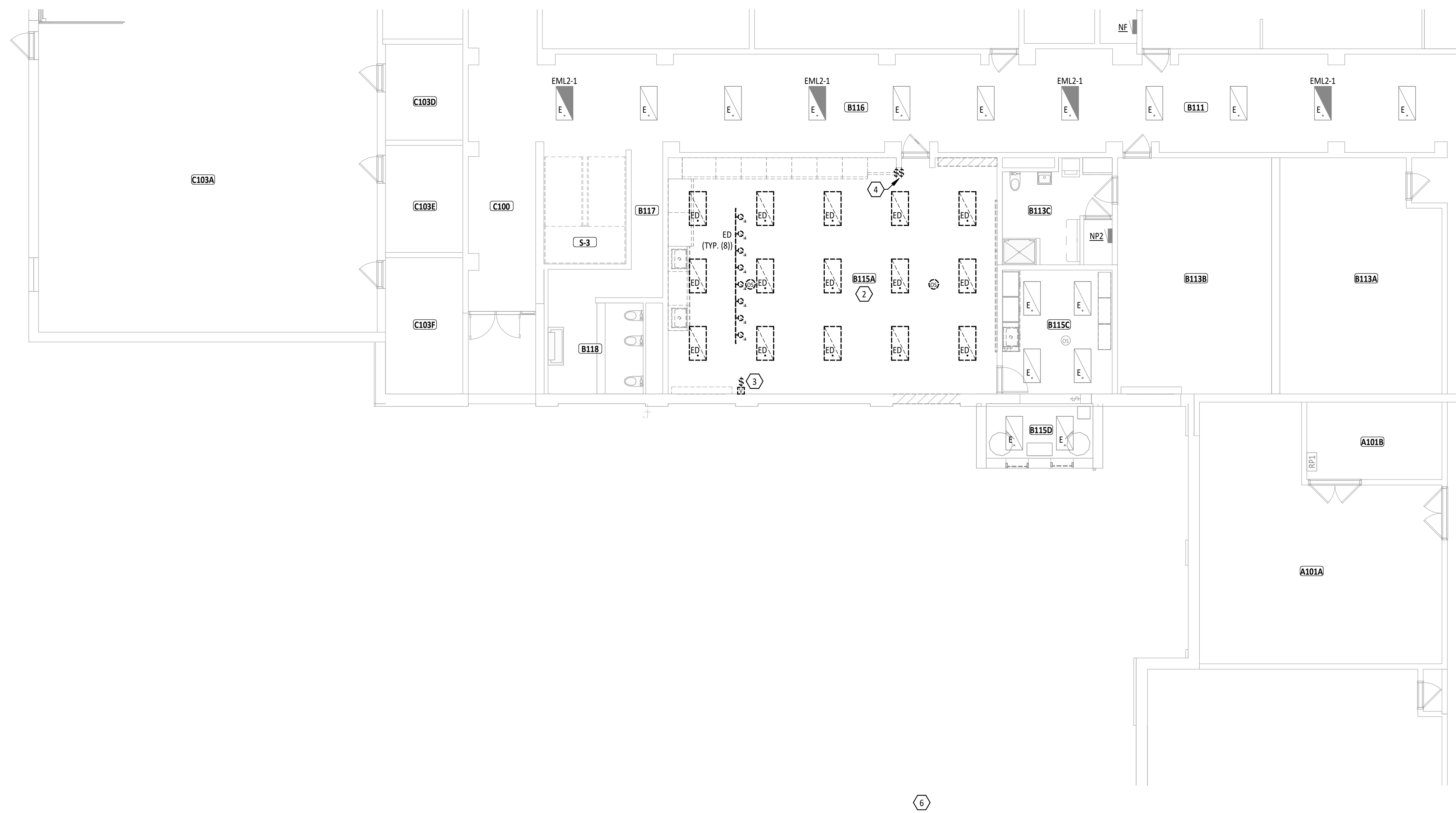
ISSUANCES/REVISIONS	
CONSTRUCTION DOCUMENTS	04/18/2025
1 ADDENDUM 03	05/11/2025

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	CDH	AEM

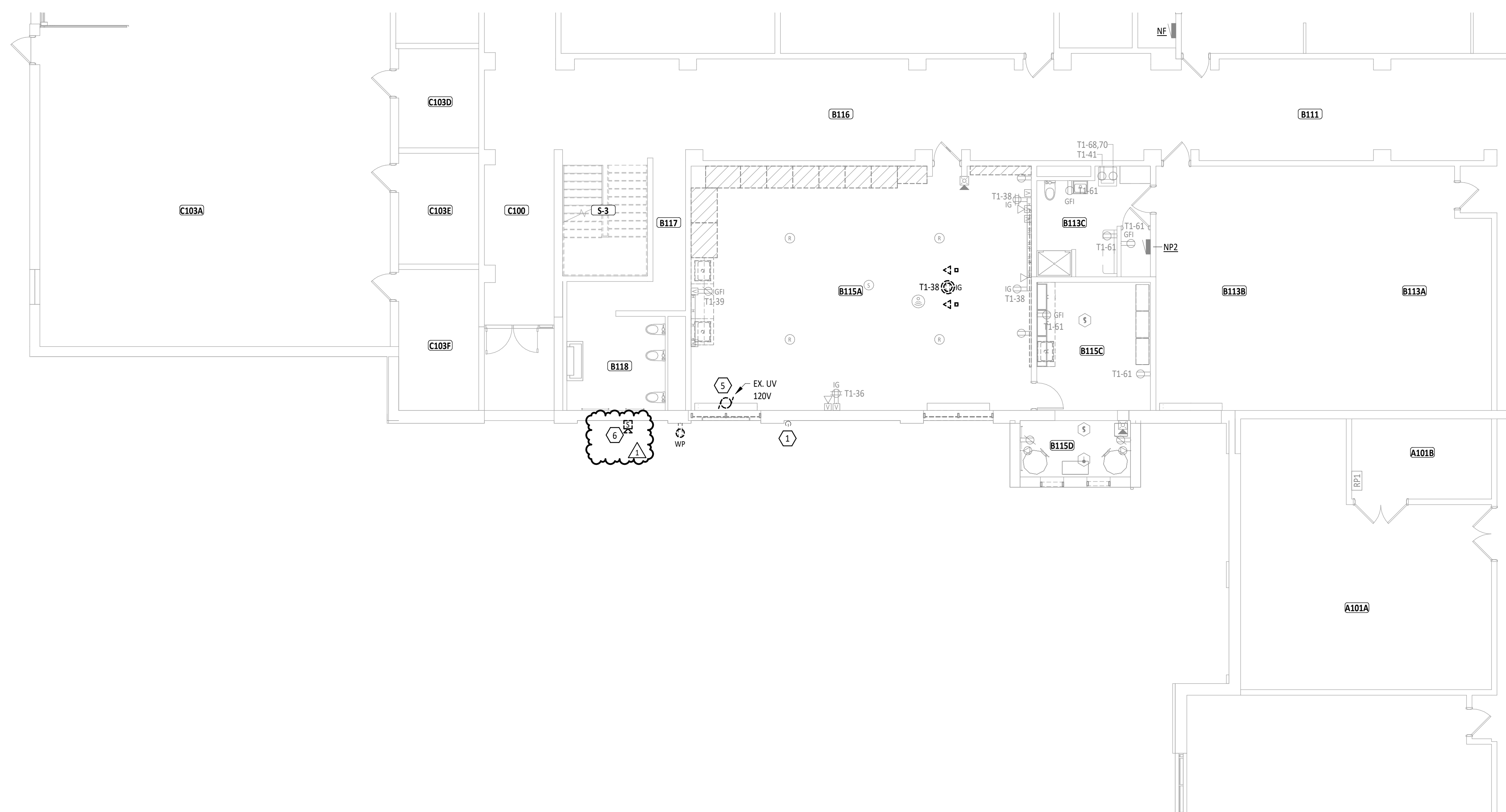
**FIRST FLOOR
SYSTEMS PLAN -
UNIT E**

**SHEET NUMBER:
E2.1**





1 FIRST FLOOR DEMOLITION LIGHTING PLAN - UNIT E
1/8" = 1'-0"



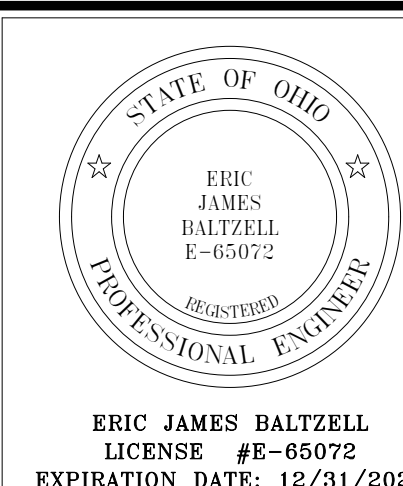
2 FIRST FLOOR DEMOLITION POWER AND SYSTEMS PLAN - UNIT E
1/8" = 1'-0"

EXISTING FIRST FLOOR PLAN ROOM INDEX		
ROOM NUMBER	ROOM NAME	AREA
A100	CORR.	1,255 SF
A101A	MECH ROOM	730 SF
A101B	ELEC.	147 SF
A103A	TECHNOLOGY COMPUTER LAB	1,179 SF
B110	CORRIDOR	274 SF
B111	CORRIDOR	610 SF
B112A	LIFE SKILLS LAB & STORAGE	622 SF
B112B	STOR.	35 SF
B112C	STORAGE	45 SF
B112E	LIFE SKILLS STORAGE	658 SF
B113A	SPECIAL ED.	514 SF
B113B	SPECIAL ED.	540 SF
B113C	TOILET/SHOWER	131 SF
B114A	PROJECT LEAD THE WAY CLASSROOM	875 SF
B114B	CLOSET	67 SF
B115A	EXISTING ART	1,093 SF
B115C	EXISTING ART STORAGE	192 SF
B115D	EXISTING KILN	82 SF
B116	CORRIDOR	775 SF
B117	HALL	52 SF
B118	GIRLS	173 SF
B119	PROJECT LEAD THE WAY & INTECH CLASSROOM	816 SF
B128	CORRIDOR	1,030 SF
C100	CORRIDOR	243 SF
C101	CORRIDOR	874 SF
C103A	ENG. TECHNOLOGY LAB	2,024 SF
C103C	REF. RM.	96 SF
C103D	STOR.	105 SF
C103E	TOOL ROOM	117 SF
C103F	FINISH'G	149 SF
S-3	STAIR	132 SF

ELECTRICAL DEMOLITION GENERAL NOTES

- A FIELD VERIFY ALL DIMENSIONS & CONDITIONS PRIOR TO START OF CONSTRUCTION. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCY OR SITUATION DISCOVERED THAT DOES NOT CONFORM TO CONSTRUCTION DOCUMENTS.
- B ALL WORK PERFORMED IS SUBJECT TO APPROVAL BY THE ARCHITECT AND OWNER. WORK FOUND TO BE UNSATISFACTORY SHALL BE REMOVED AND PROPERLY REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- C ALL ITEMS AND MATERIAL NOTED AS "REMOVE" SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR OFF SITE. COORDINATE REMOVAL OF ITEMS WITH OWNER. OWNER HAS THE OPTION TO CLAIM ANY REMOVED ITEMS.
- D TEMPORARILY SUPPORT ALL EQUIPMENT, CONDUIT, ETC. AS REQUIRED UNTIL FINAL SUPPORTS ARE IN PLACE.
- E CLOSELY COORDINATE ALL WORK WITH THE OWNER AND WITH ALL OTHER CONTRACTORS HIRED BY THE OWNER. CLARIFY IN ADVANCE ANY QUESTIONS AS TO SCOPE OF WORK AND AREAS OF RESPONSIBILITY.
- F CONDUITS, BOXES, AND CIRCUIT BREAKERS MAY BE REUSED WHERE POSSIBLE, IF NOT, MODIFY AS NEEDED FOR NEW WORK.
- G DIV. 26 SHALL REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION PLANS FOR ELECTRICAL DISCONNECTION OR REMOVAL OF ANY ELECTRICAL EQUIPMENT.
- H DIV. 26 SHALL PULL ALL WIRE AND CAP CONDUIT TO ALL CIRCUITS DISCONNECTED AND NOT REUSED.
- I ALL ABANDONED WIRING ABOVE CEILING SHALL BE REMOVED PER THE REQUIREMENTS OF THE NEC.
- J EXISTING BRANCH CIRCUITS NOTED ARE OBTAINED FROM EXISTING DRAWINGS AND VISUAL OBSERVATION WHERE POSSIBLE. FIELD VERIFY BRANCH CIRCUITS AND ANY CIRCUITRY NOT NOTED AS NECESSARY.

#	KEYNOTE DESCRIPTION
1	EXISTING EXTERIOR CONDUIT TO BE REMOVED/REWORKED TO ALLOW FOR ADDITION. FIELD VERIFY CONDUIT USE AND RELOCATE AS REQUIRED.
2	REMOVE EXISTING LIGHT FIXTURES IN THIS ROOM. EXISTING BRANCH CIRCUIT TO BE SALVAGED FOR REUSE AS PART OF NEW WORK. EXISTING FLUORESCENT BULBS TO BE TURNED OVER TO OWNER.
3	REMOVE EXISTING LIGHT SWITCHES AND ASSOCIATED SURFACE RACEWAY.
4	REMOVE EXISTING LIGHT SWITCHES. EXISTING CONDUIT AND BOX MAY BE REUSED IF APPLICABLE AND CODE COMPLIANT.
5	REMOVE ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT.
6	REMOVE EXTERIOR PAGING HORN AND SALVAGE FOR FUTURE INSTALLATION. COORDINATE WITH DIVISION 27.



ERIC JAMES BALTZELL
LICENSE # E-65072
EXPIRATION DATE: 12/31/2027



**NORTH UNION SCHOOLS ART ROOM EXPANSION
ADDITION**

ISSUANCES/REVISIONS	
CONSTRUCTION DOCUMENTS	04/16/2025
1 ADDENDUM 03	05/11/2025

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	CDH	AEM

SHEET TITLE:
**ELECTRICAL
DEMOLITION
PLANS**

SHEET NUMBER:
ED1.1

TECHNOLOGY CABLING SYMBOLS

Table with columns: SYMBOL, DESCRIPTION, MOUNTING LOC., HT. Includes symbols for Data Outlet, Voice/Data Outlet, Voice Outlet, Local Input, Stage Presenter, Large Venue Projector, Teacher Personal Computer, Sound Reinforcement, Video Monitor, Camera, Wireless Access Point, and Ladder Type Cable Tray.

AUDIO DEVICE SYMBOLS

Table with columns: SYMBOL, DESCRIPTION, MOUNTING LOC., HT. Includes symbols for Public Address Sound System, Student Dining Sound System, Gymnasium Sound System, Portable Sound System, Music/Vocal Room Sound System, Hanging Microphone, Microphone Outlet, Auxiliary/Microphone Outlet, Public Address System Ceiling Speaker, Classroom Sound Reinforcement System Speaker, Public Address System Flush Mount Wall Speaker, Public Address Horn Type Speaker, Sound System Speaker, Public Address Call-in Switch, Public Address System Volume Control, and Administrative Control Console.

TECHNOLOGY EQUIPMENT SYMBOLS

Table with columns: SYMBOL, DESCRIPTION, MOUNTING LOC., HT. Includes symbols for Multi-Sensor CCTV Camera, CCTV Camera, Wireless Analog Clock, Wireless Analog Clock - Single Face, Wireless Digital Clock, Wireless Digital Clock - Double Sided, Wireless Digital Clock - Wall Mount, Wireless Digital Clock & PA Speaker Combo, Wireless Access Point, Wireless Access Point - Wall Mounted, Large Venue Video Projector, and LCD/LED displays.

SECURITY/ACCESS CONTROL SYMBOLS

Table with columns: SYMBOL, DESCRIPTION, MOUNTING LOC., HT. Includes symbols for Access Control System Control Panel, Security System Control Panel, Electronic Lock, Door Contact, Request to Exit Device, Access Control Card Reader, Security System Keypad, Hard Ceiling Mount Motion Detector, Ceiling Mount Motion Detector, Security System Alarm Bell, Audio Only Intercom Station, Audio & Video Intercom Station, Desk Mount Master Intercom Station, and Electronic Door Release or Lock Down Push Button.

NOTE: ABBREVIATIONS USED ON THE CONTRACT DOCUMENTS, INCLUDE BUT ARE NOT LIMITED TO THOSE LISTED BELOW.

Table of abbreviations including A (Above Counter), AFF (Above Finished Floor), AFG (Above Finished Grade), AV (Audio/Visual), CAM (Camera), CAT (Category), CCTV (Closed-Circuit Television), D (Data), DC (Direct Current), DSD (Digital Signage Display), E (Existing), EC (Electrical Contractor), ER (Equipment Room), G (Gigabit Ethernet), GBE (Gigabit Ethernet), GPON (Gigabit Passive Optical Network), I (Interactive Flat Panel Display), ISG/N (Isolated Reinforced Ground), IW (Interactive White Board), L (Local Input), LVP (Large Venue Projector), M (Multimode Fiber Optic Cable), O (Optical Line Terminal), ONT (Optical Network Terminal), OREQ (Or Equal), OS (Optical Splitter), P (Public Address), PDU (Power Distribution Unit), PoE (Power Over Ethernet), POL (Passive Optical LAN), PON (Passive Optical Network), Q (Empty Box with Blank Cover), R (Rack Units), S (Sound Amplification), SM (Single Mode Fiber Optic Cable), SP (Stage Presenter), SR (Sound Reinforcement), SS (Security System), T (Telecommunications Bonding Backbone), TBB (Telecommunications Enclosure), TME (Telecommunications Main Grounding Backbone), TPC (Teachers Personal Computer), TR (Telecommunications Room), TYP (Typical), U (Unless Noted Otherwise), V (Voice), VID (Video), VOD (Video on Demand), VoIP (Voice Over Internet Protocol), VP (Video Projector), W (Wireless Access Point), WAP (Weatherproof), WP (Weatherproof), X (10Gig-PON-10 10 Gigabit Synchronous - Passive Optical Network).

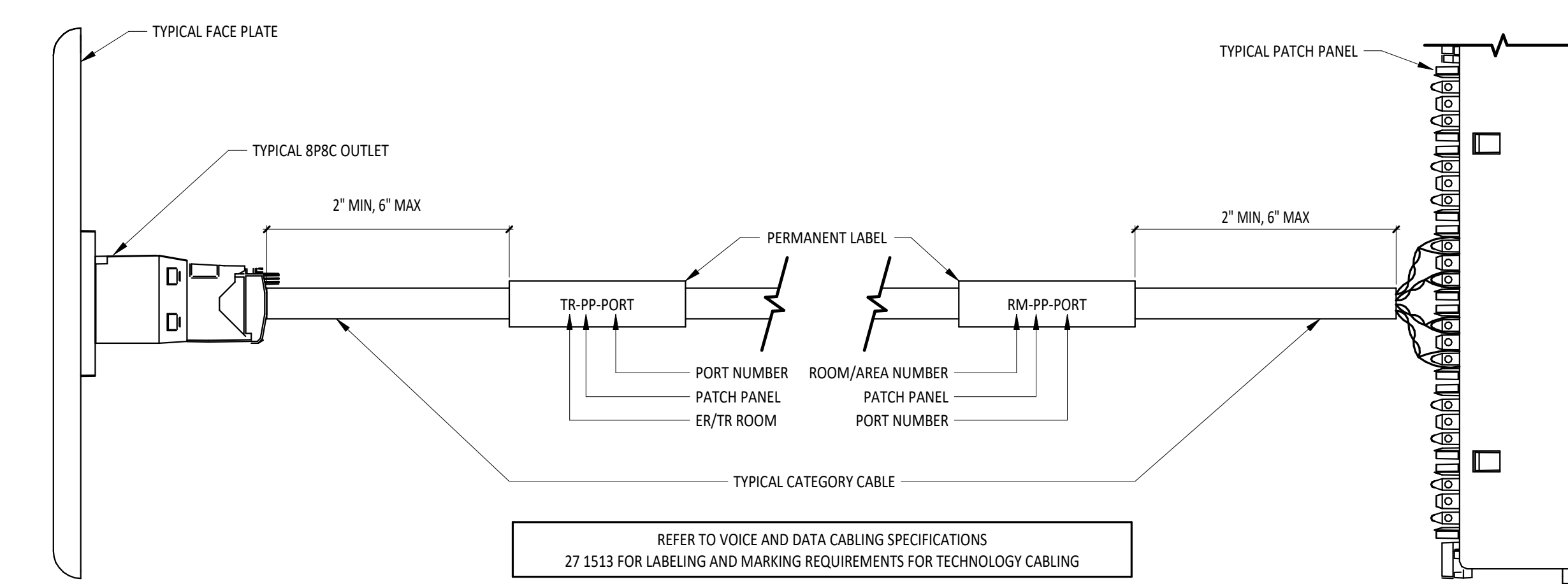
TECHNOLOGY SHEET INDEX

Table with columns: SHEET NUMBER, SHEET NAME. Lists sheets T1.1 through TCE1.1.

TECHNOLOGY CABLING/EQUIPMENT GENERAL NOTES

- A RACK LAYOUTS SHALL NOT BE CHANGED WITHOUT APPROVAL FROM THE ARCHITECT AND THE CONSTRUCTION MANAGER.
B ALL EQUIPMENT, OWNER OR CONTRACTOR PROVIDED, SHALL BE MOUNTED IN THE RACKS WITH THE PROPER MOUNTING HARDWARE AND WITH THE PROPER PATCH CABLE LENGTH AND COLOR.
C ALL EMPTY OR UNUSED RACK SPACE MUST BE FILLED WITH BLANK PANELS FOR PROPER HOT/COLD AIR VENTILATION.
D TECHNOLOGY CABLING CONTRACTORS ARE RESPONSIBLE FOR PROVIDING, BUT IS NOT LIMITED TO, THE FOLLOWING FOR THEIR RESPECTIVE SPECIFICATION SECTIONS: TWO POST RACKS, FOUR POST RACKS, WALL/FLOOR MOUNT CABINETS, VERTICAL CABLE MANAGERS, HORIZONTAL CABLE MANAGERS, PATCH PANELS, FIBER ENCLOSURES AND COUPLER PANELS, BLANK PANELS, SHELVES FOR ANY OWNER EQUIPMENT OR EQUIPMENT NOT RACK MOUNTABLE, AND PAGING SYSTEM.
E TECHNOLOGY EQUIPMENT CONTRACTORS ARE RESPONSIBLE FOR PROVIDING, BUT IS NOT LIMITED TO, THE FOLLOWING FOR THEIR RESPECTIVE SPECIFICATION SECTIONS: NETWORK SWITCHES, CORE SWITCHES, FILE SERVER, NTP SERVER, VOD SERVER (DIGITAL MEDIA MANAGEMENT SYSTEM), ENCODER CHASSIS (DIGITAL MEDIA MANAGEMENT SYSTEM), IP KVM, IP TELEPHONE GATEWAY, UPS UNITS, COORDINATING A-SITE EQUIPMENT INSTALLATION AND/OR PROGRAMMING, PATCH CABLES, AND PATCH CABLES FOR OWNER EQUIPMENT.
F REFER TO SPECIFICATIONS FOR DETAILS AND MORE INFORMATION INCLUDING MISCELLANEOUS MATERIALS REQUIRED TO BE PROVIDED.
G ALL EQUIPMENT, OWNER OR CONTRACTOR PROVIDED, SHALL BE MOUNTED IN THE RACKS WITH THE PROPER MOUNTING HARDWARE AND WITH THE PROPER PATCH CABLE LENGTH AND COLOR.
H TECHNOLOGY DRAWINGS COVER ALL OF DIVISION 27 AND 28 SPECIFICATIONS EXCLUDING FIRE ALARM. IT IS HIGHLY RECOMMENDED THAT THE CONTRACTOR REVIEWS DIVISION 27 AND 28 SPECIFICATIONS AND ATTENDS THE PRE BID MEETING PRIOR TO SUBMITTING BIDS.
I ALL CABLING IN EXPOSED AREAS MUST BE ENCLOSED IN A CONDUIT. PAINT CONDUIT TO MATCH SURROUNDING AREA.
J THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TECHNOLOGY SYSTEMS ROUGH-IN REQUIREMENTS, COORDINATE WITH THE SYSTEMS SUPPLIER FOR ANY VENDOR SPECIFIC REQUIREMENTS.
K CONTRACTORS SHALL PROVIDE APPROPRIATE FACEPLATES, JACKS, CONNECTORS, AND CABLING FOR EACH TECHNOLOGY ROUGH-IN INDICATED.
L CONTRACTORS SHALL PROVIDE ALL TERMINATIONS FOR CABLING INDICATED.
M CONTRACTORS SHALL LABEL ALL CABLING AS REQUIRED BY THE LATEST MEND AND ANSI/TIA/EIA-606 STANDARDS.
N CABLE TIES ARE FOR OUTDOOR USE ONLY AND SHALL BE TRIMMED TO AVOID SHARP EDGES WITH FLUSH CUTTERS.
O PROVIDE BLACK NON-PRINTED VELCRO STRAPS FOR INDOOR USE. USE PLENUM WHERE REQUIRED.
P PROVIDE COVER PLATES ON ALL EMPTY TECHNOLOGY ROUGH-INS.
Q CONTRACTORS SHALL COORDINATE INSTALLATION AND GROUNDING OF TELEPHONE, CCTV, AND VIDEO CAMERAS/SERVICE ENCLOSURES.
R PROVIDE 2" CONDUIT PER EACH CATEGORY OF CABLES.
S TYPICAL TECHNOLOGY ROUGH-INS, IN NEW WALLS, ARE 2-GANG OUTLET BOXES, 3-1/2" DEEP WITH A MIN OF 1-1/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING. TECHNOLOGY ROUGH-INS ON EXISTING WALLS WILL BE SURFACE MOUNTED DUAL CHANNEL RACEWAY.
T ANY PENETRATION THROUGH FIRE WALLS MUST USE 2" CONDUIT AND PROPER FIRE STOPPING PER THE LATEST CODES AND STANDARDS.
U CEILING SPACE IS USED AS A PLENUM. ALL CABLE AND INSULATION MATERIALS SHALL BE PLENUM RATED.

1 TECHNOLOGY CABLING SYMBOLS LEGEND

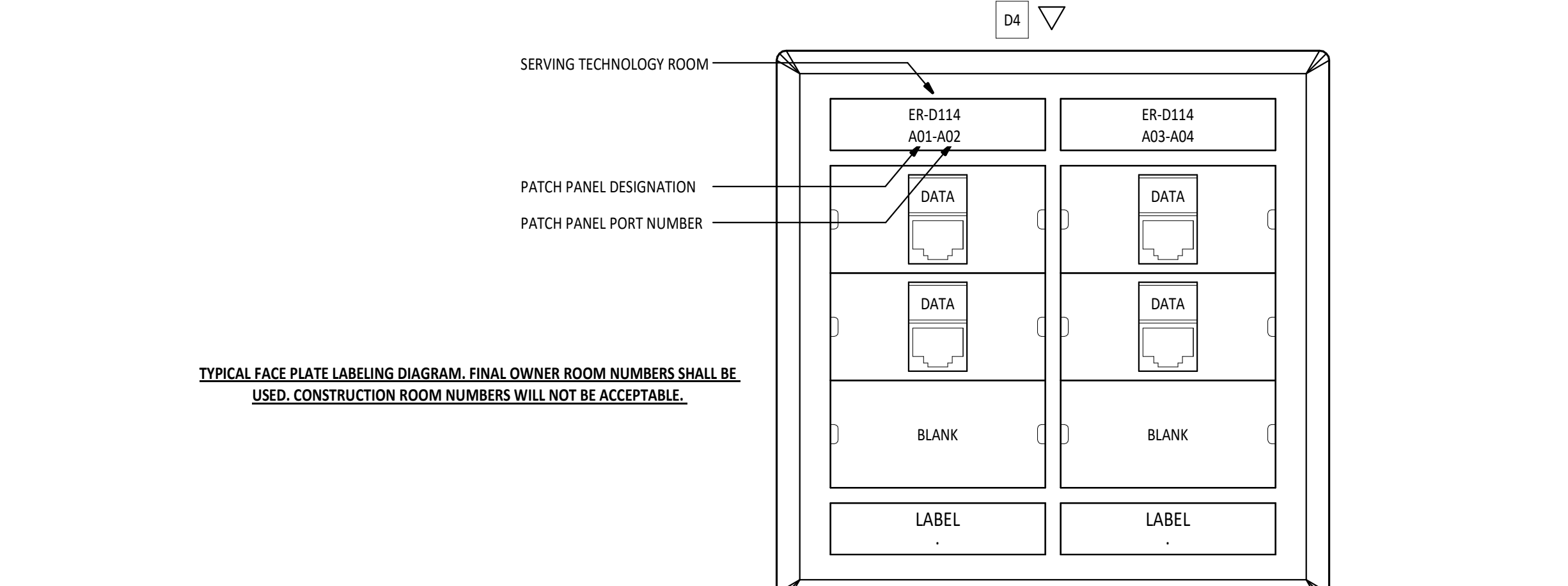


REFER TO VOICE AND DATA CABLING SPECIFICATIONS 27 1513 FOR LABELING AND MARKING REQUIREMENTS FOR TECHNOLOGY CABLING

2 AUDIO DEVICE SYMBOLS LEGEND

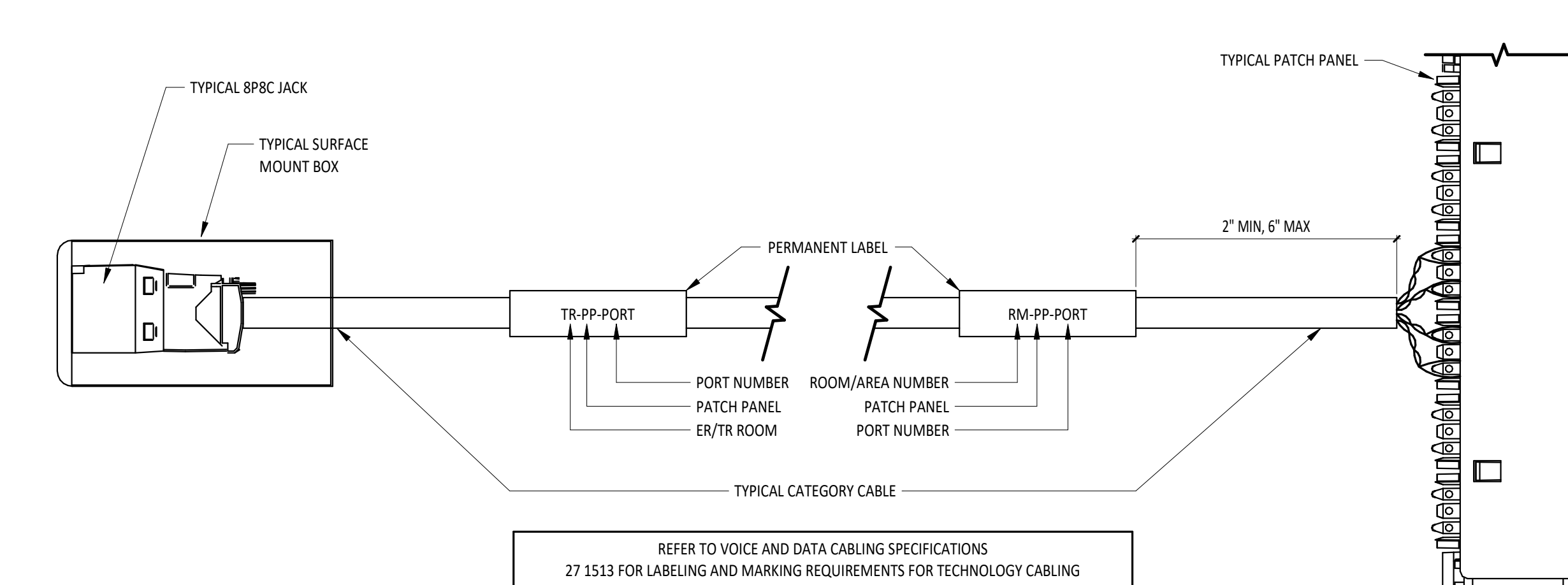
3 TECHNOLOGY EQUIPMENT SYMBOLS LEGEND

4 SECURITY/ACCESS CONTROL SYMBOL LEGEND



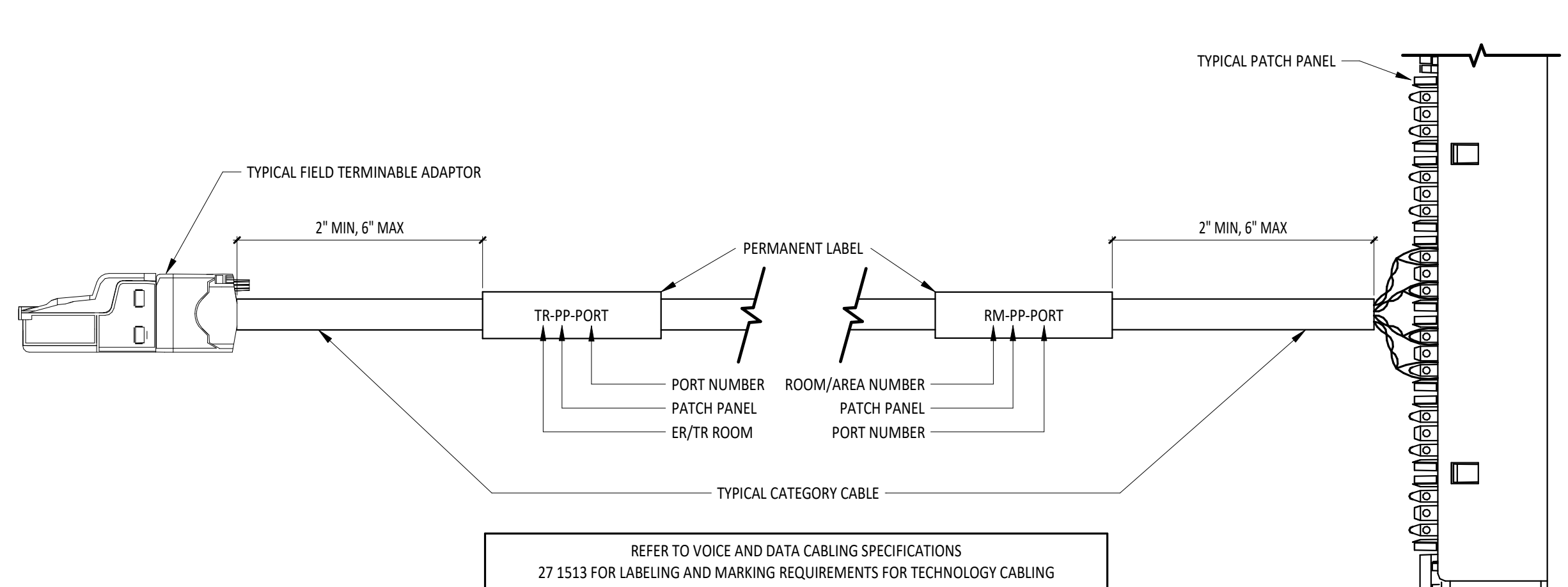
TYPICAL FACE PLATE LABELING DIAGRAM. FINAL OWNER ROOM NUMBERS SHALL BE USED. CONSTRUCTION ROOM NUMBERS WILL NOT BE ACCEPTABLE.

5 CABLE LABELING SCHEMATIC - FACEPLATE TO PATCH PANEL



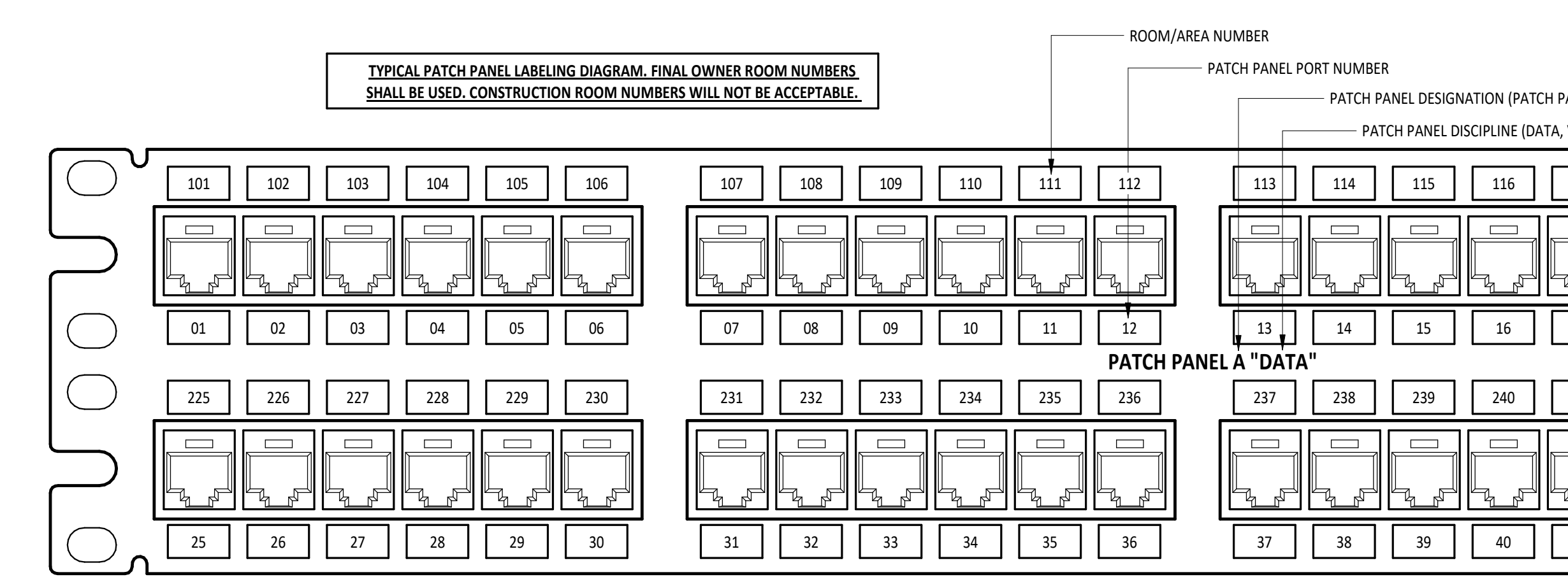
REFER TO VOICE AND DATA CABLING SPECIFICATIONS 27 1513 FOR LABELING AND MARKING REQUIREMENTS FOR TECHNOLOGY CABLING

6 TYPICAL FACEPLATE LABELING SCHEMATIC



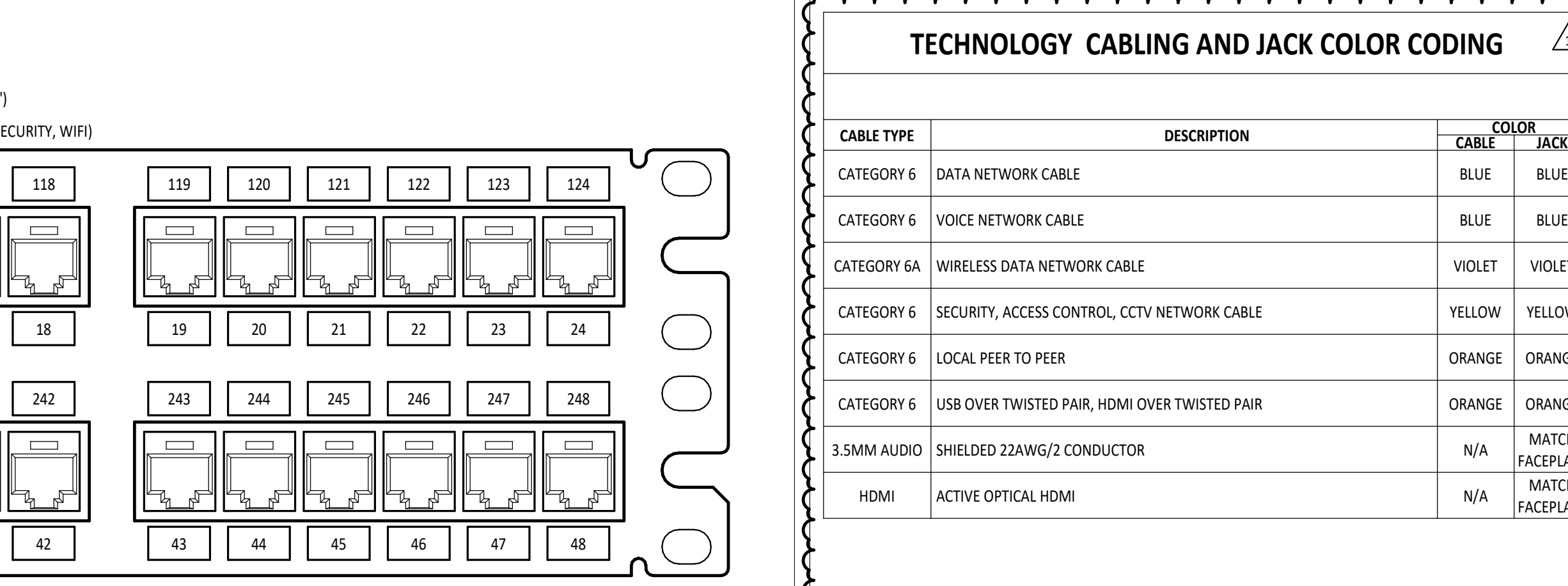
REFER TO VOICE AND DATA CABLING SPECIFICATIONS 27 1513 FOR LABELING AND MARKING REQUIREMENTS FOR TECHNOLOGY CABLING

7 CABLE LABELING SCHEMATIC - SURFACE MOUNT BOX TO PATCH PANEL



REFER TO VOICE AND DATA CABLING SPECIFICATIONS 27 1513 FOR LABELING AND MARKING REQUIREMENTS FOR TECHNOLOGY CABLING

8 CABLE LABELING SCHEMATIC - FIELD TERMINAL ADAPTER TO PATCH PANEL

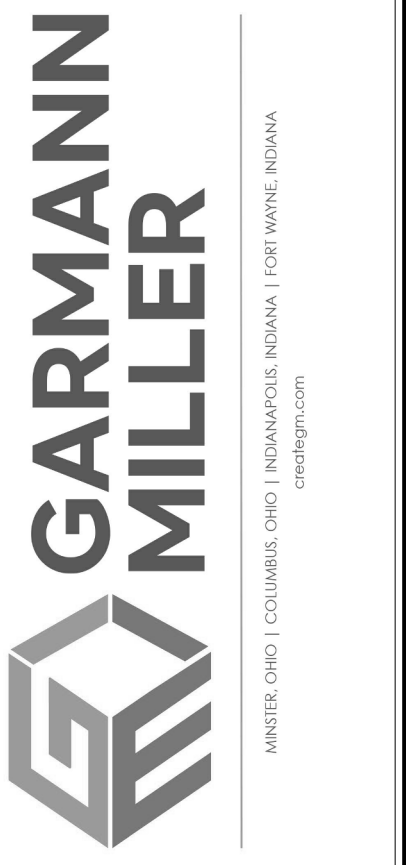
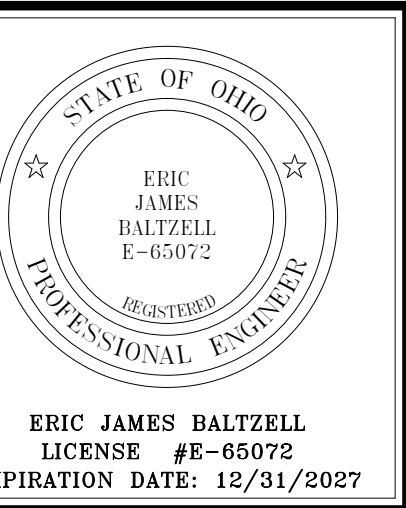


REFER TO VOICE AND DATA CABLING SPECIFICATIONS 27 1513 FOR LABELING AND MARKING REQUIREMENTS FOR TECHNOLOGY CABLING

TECHNOLOGY CABLING AND JACK COLOR CODING

Table with columns: CATEGORY, DESCRIPTION, COLOR, JACK. Lists color coding for Data Network Cable, Voice Network Cable, Wireless Data Network Cable, Security/Access Control/CCTV Network Cable, Local Peer to Peer, USB Over Twisted Pair, HDMI Over Twisted Pair, Shielded 22AWG/2 Conductor, and Active Optical HDMI.

10 TECHNOLOGY CABLING AND JACK COLOR CODING

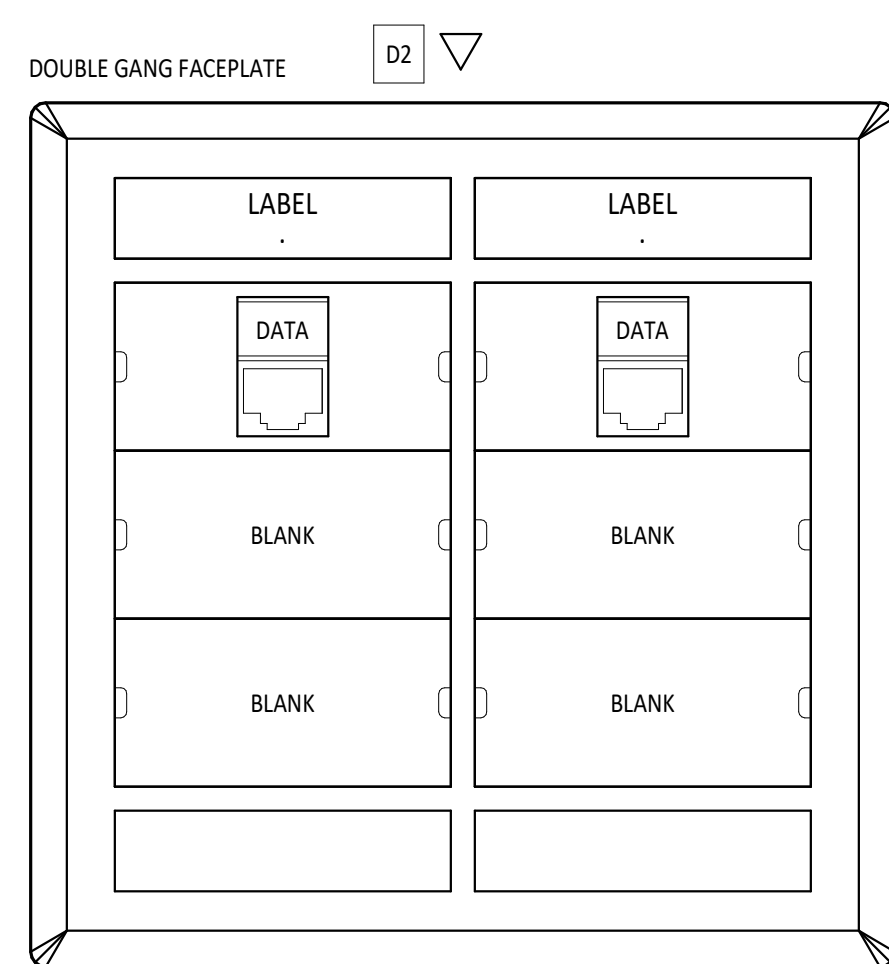


NORTH UNION SCHOOLS ART ROOM EXPANSION ADDITION

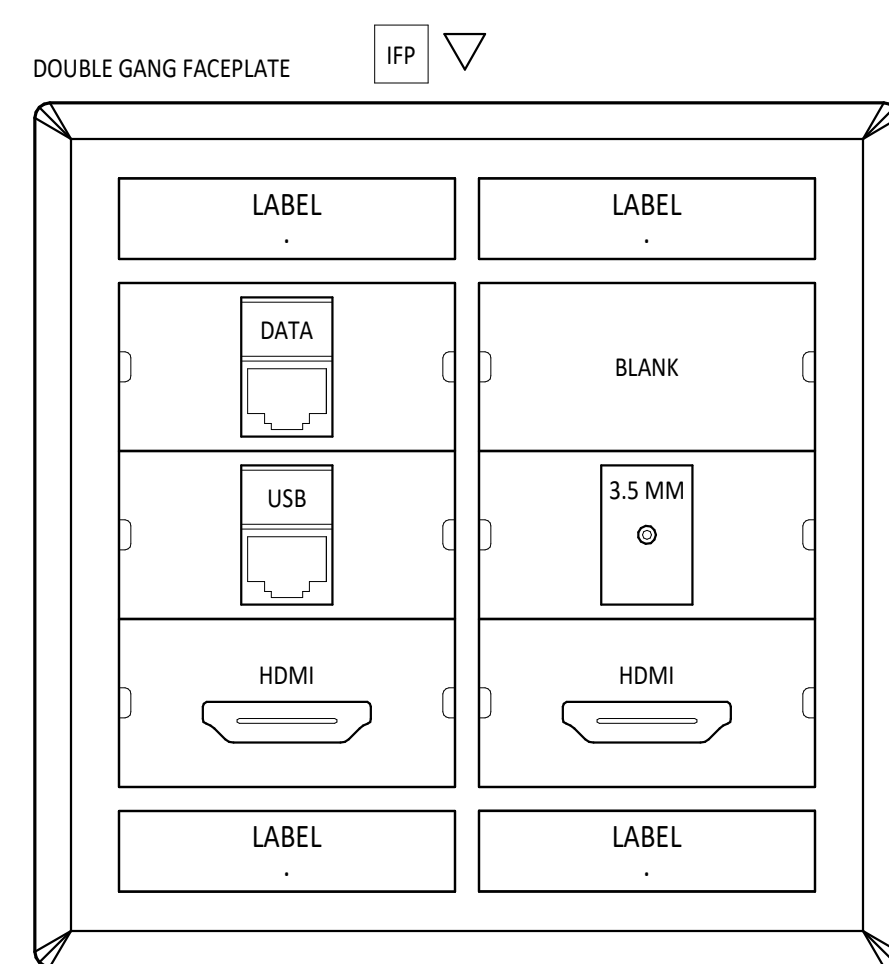
Table with columns: ISSUANCE/REVISIONS, CONSTRUCTION DOCUMENTS, APPENDUM 03, DATE: 04/16/2025, DATE: 05/11/2025.

Table with columns: PROJECT NUMBER, DRAWN BY, CHECKED BY. Values: 25091.00, JMR, GAW.

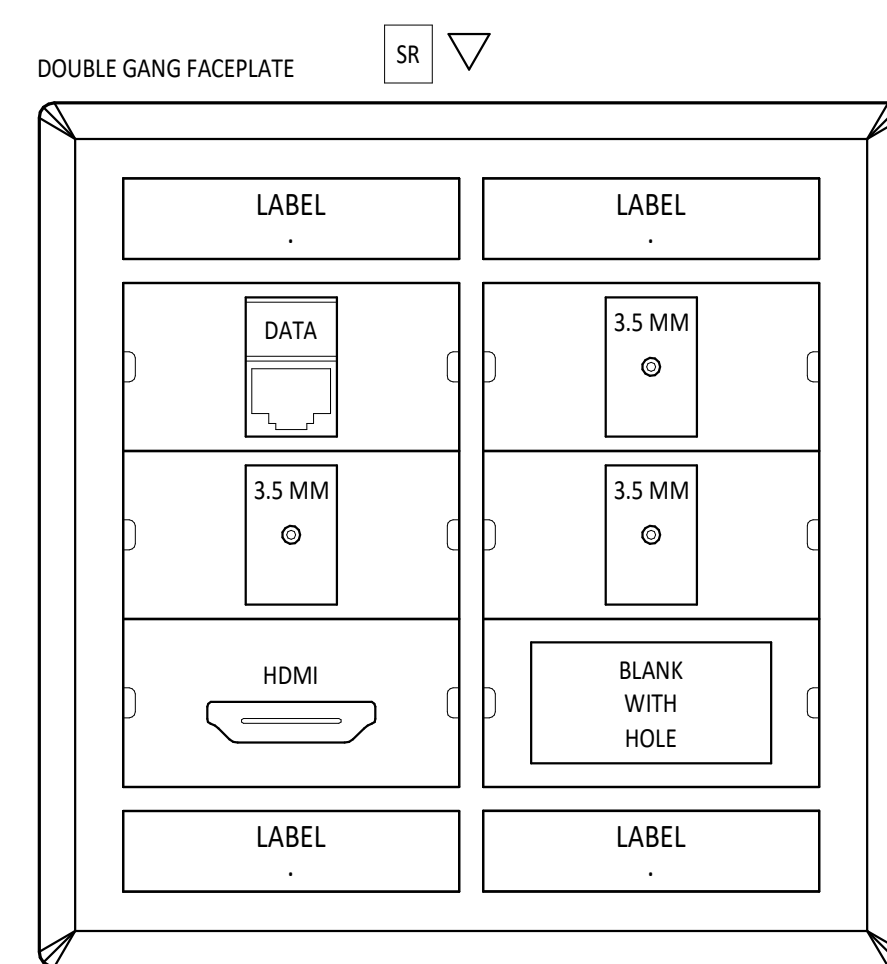
GENERAL NOTES, ABBREVIATIONS, LEGENDS, DIAGRAMS AND SHEET INDEX



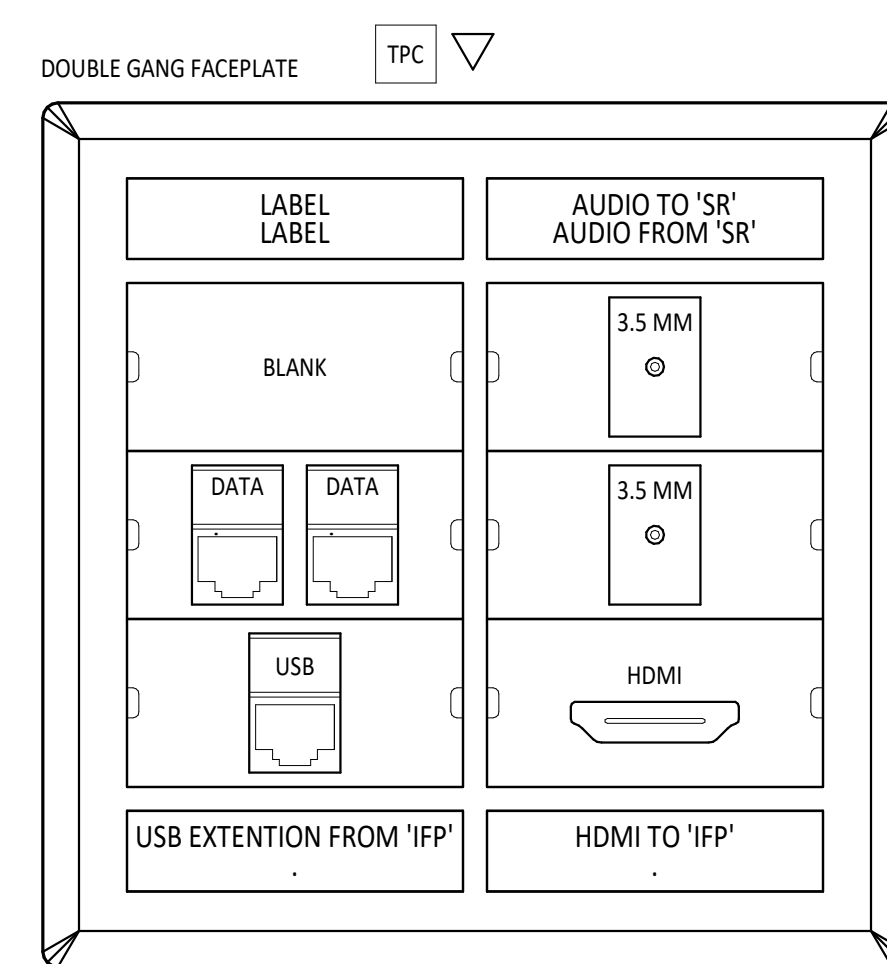
TYPICAL TYPE (D2) OUTLET - LABEL AS SHOWN IN DETAILS & ABOVE
 • (2) CAT 6 BLUE CABLES TO TR AS INDICATED ON PLANS



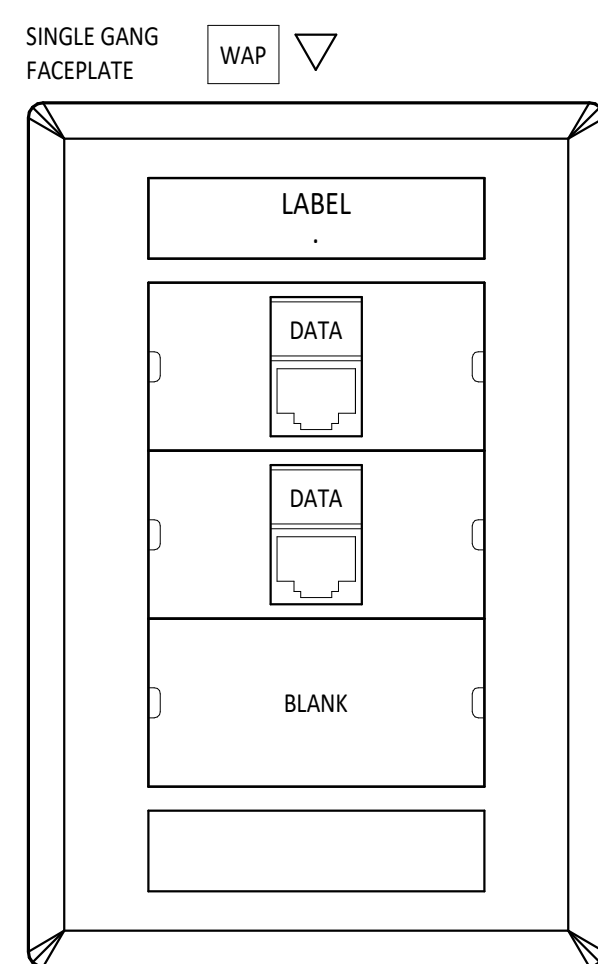
TYPICAL TYPE (SR) OUTLET - LABEL AS SHOWN IN DETAILS & ABOVE
 • (1) CAT 6 BLUE CABLE TO TR AS INDICATED ON PLANS
 • (1) 3.5MM AUDIO FROM TYPICAL "TPC" TYPE OUTLET
 • (1) HDMI TO TYPICAL "IFP" TYPE OUTLET
 • (1) HDMI TO TYPICAL "SR" TYPE OUTLET



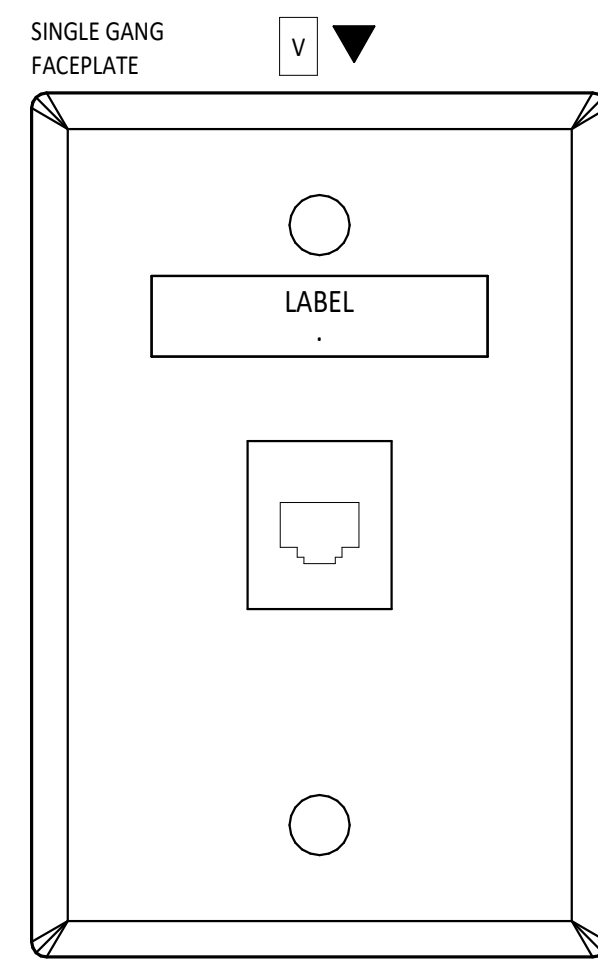
TYPICAL TYPE (TPC) OUTLET - LABEL AS SHOWN IN DETAILS & ABOVE
 • (1) CAT 6 BLUE CABLE TO TR AS INDICATED ON PLANS
 • (1) 3.5MM AUDIO FROM TYPICAL "IFP" TYPE OUTLET
 • (2) 3.5MM AUDIO FROM TYPICAL "SR" TYPE OUTLET
 • (1) HDMI TO TYPICAL "IFP" TYPE OUTLET



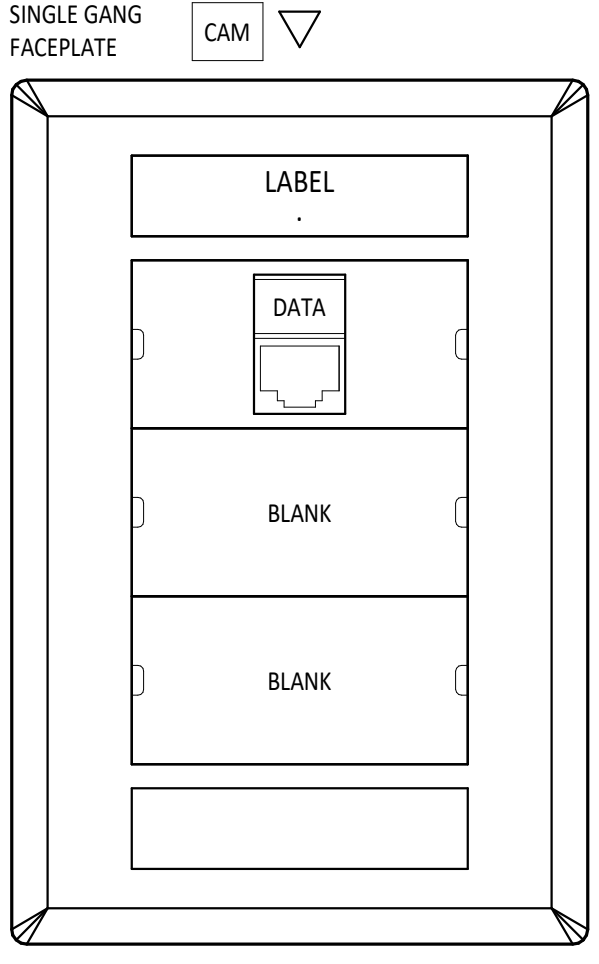
TYPICAL TYPE (WAP) OUTLET - LABEL AS SHOWN IN DETAILS & ABOVE
 • (2) CAT 6 BLUE CABLES TO TR AS INDICATED ON PLANS
 • (1) CAT 6 WHITE CABLE TO TR AS INDICATED ON PLANS
 • (1) HDMI TO TYPICAL "IFP" TYPE OUTLET
 • (1) 3.5 MM AUDIO FROM TYPICAL "SR" TYPE OUTLET
 • (1) CAT 6 ORANGE TO TYPICAL "IFP" TYPE OUTLET



TYPICAL TYPE (V1) OUTLET - LABEL AS SHOWN IN DETAILS & ABOVE
 • (1) CAT 6 BLUE CABLE TO TR AS INDICATED ON PLANS



TYPICAL TYPE (CAM) OUTLET - LABEL AS SHOWN IN DETAILS & ABOVE
 • (1) CAT 6 BLUE CABLE TO TR AS INDICATED ON PLANS



TYPICAL TYPE (D2) OUTLET - LABEL AS SHOWN IN DETAILS & ABOVE
 • (2) CAT 6 BLUE CABLES TO TR AS INDICATED ON PLANS

1
 T1.2
 DATA OUTLET (D2)
 NTS

2
 T1.2
 INTERACTIVE FLAT PANEL (IFP)
 NTS

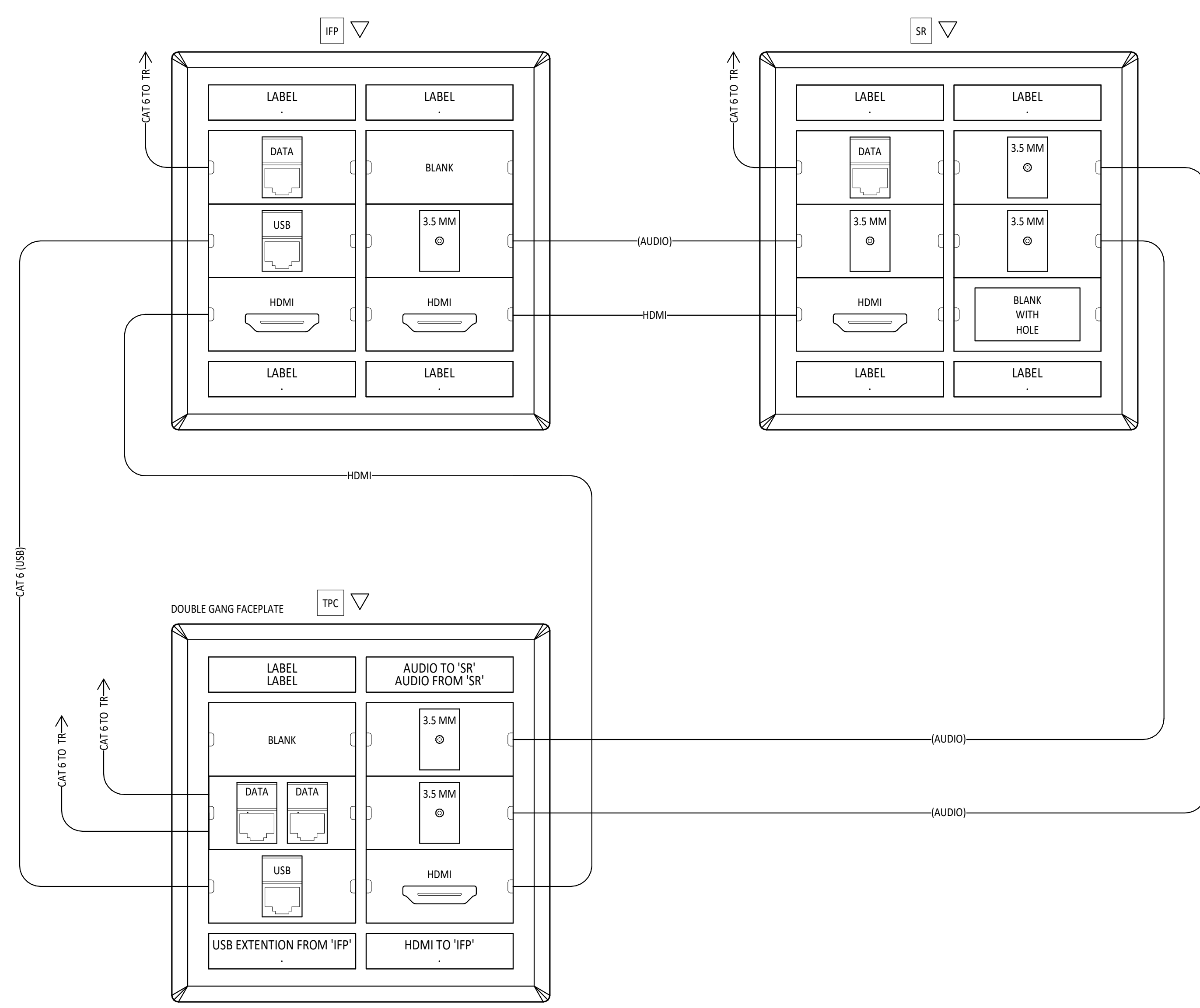
3
 T1.2
 SOUND REINFORCEMENT OUTLET (SR)
 NTS

4
 T1.2
 TEACHER PC OUTLET (TPC)
 NTS

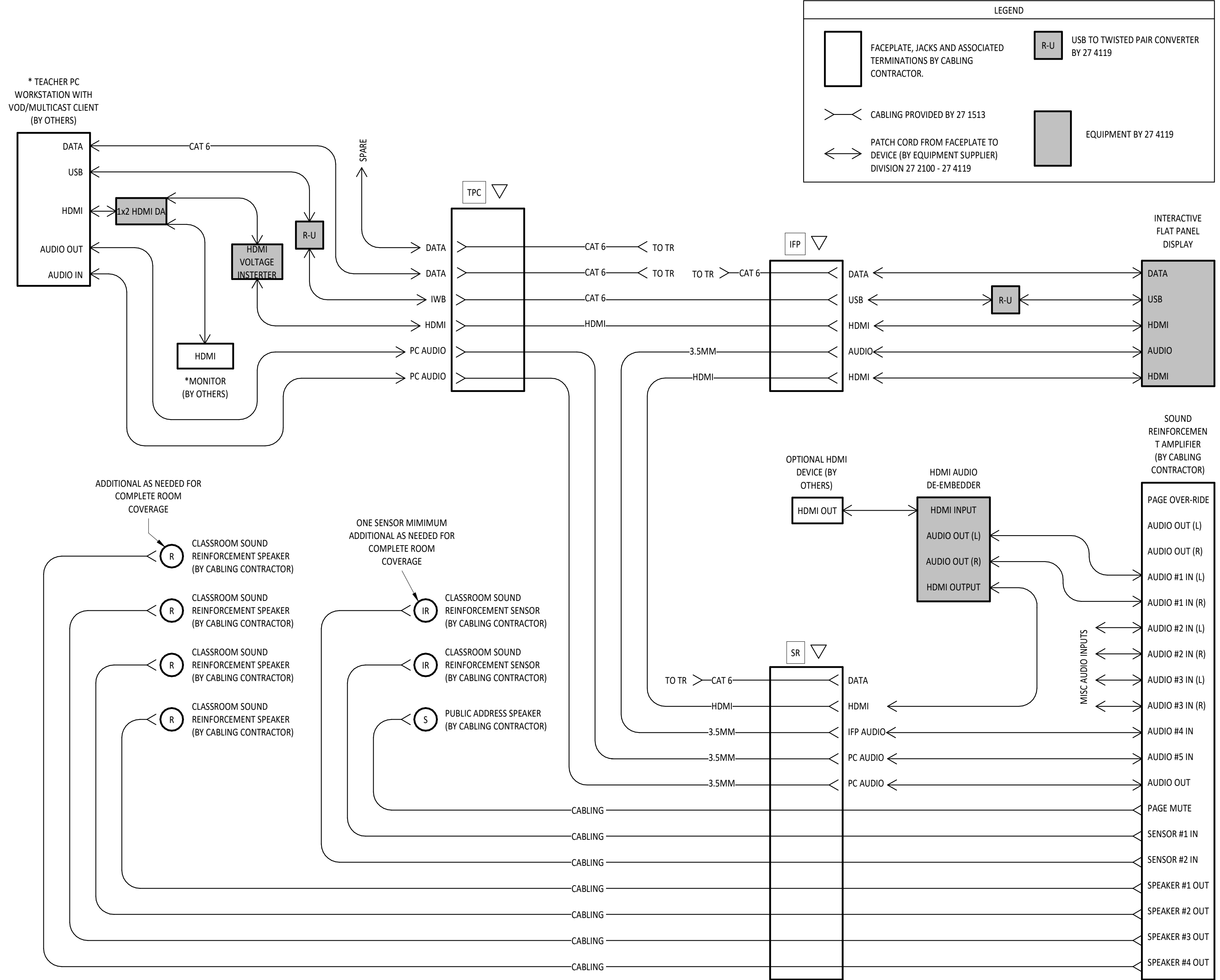
5
 T1.2
 WIRELESS ACCESS POINT OUTLET (WIFI)
 NTS

6
 T1.2
 WALL PHONE OUTLET (V1)
 NTS

7
 T1.2
 CAMERA OUTLET (CAM)
 NTS



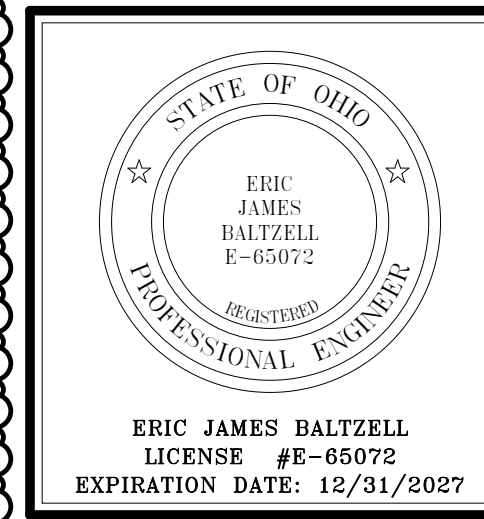
8
 T1.2
 TYPICAL CLASSROOM CONNECTIVITY DETAIL



9
 T1.2
 TYPICAL CLASSROOM A/V SYSTEM SCHEMATIC

LEGEND

- FACEPLATE, JACKS AND ASSOCIATED TERMINATIONS BY CABLING CONTRACTOR
- CABLING PROVIDED BY 27 1513
- PATCH CORD FROM FACEPLATE TO DEVICE (BY EQUIPMENT SUPPLIER) DIVISION 27 2300 - 27 4119
- R-U: USB TO TWISTED PAIR CONVERTER BY 27 4119
- Equipment by 27 4119



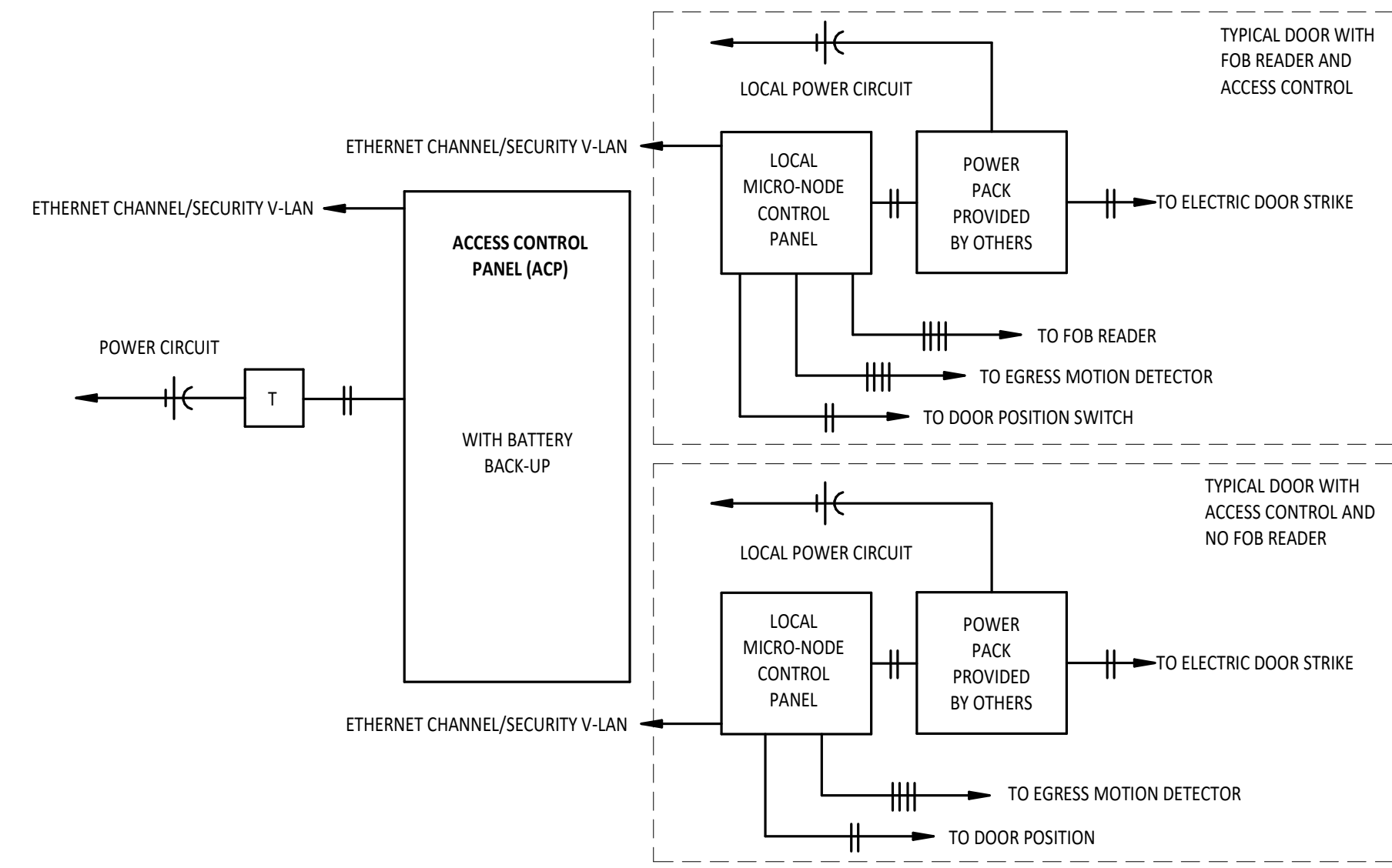
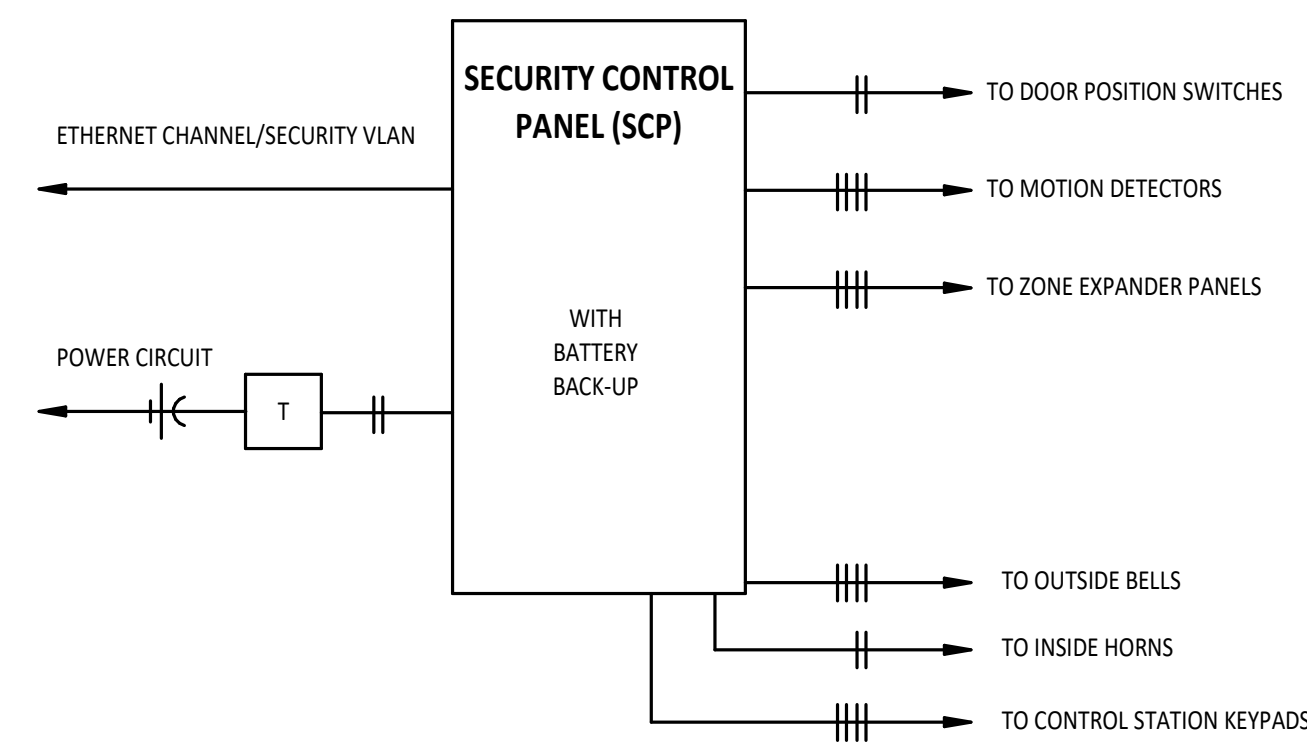
NORTH UNION SCHOOLS ART ROOM EXPANSION ADDITION

ISSUANCES/REVISIONS	
CONSTRUCTION DOCUMENTS	04/16/2023
1 ADDENDUM 03	05/11/2023

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	JMR	GAW

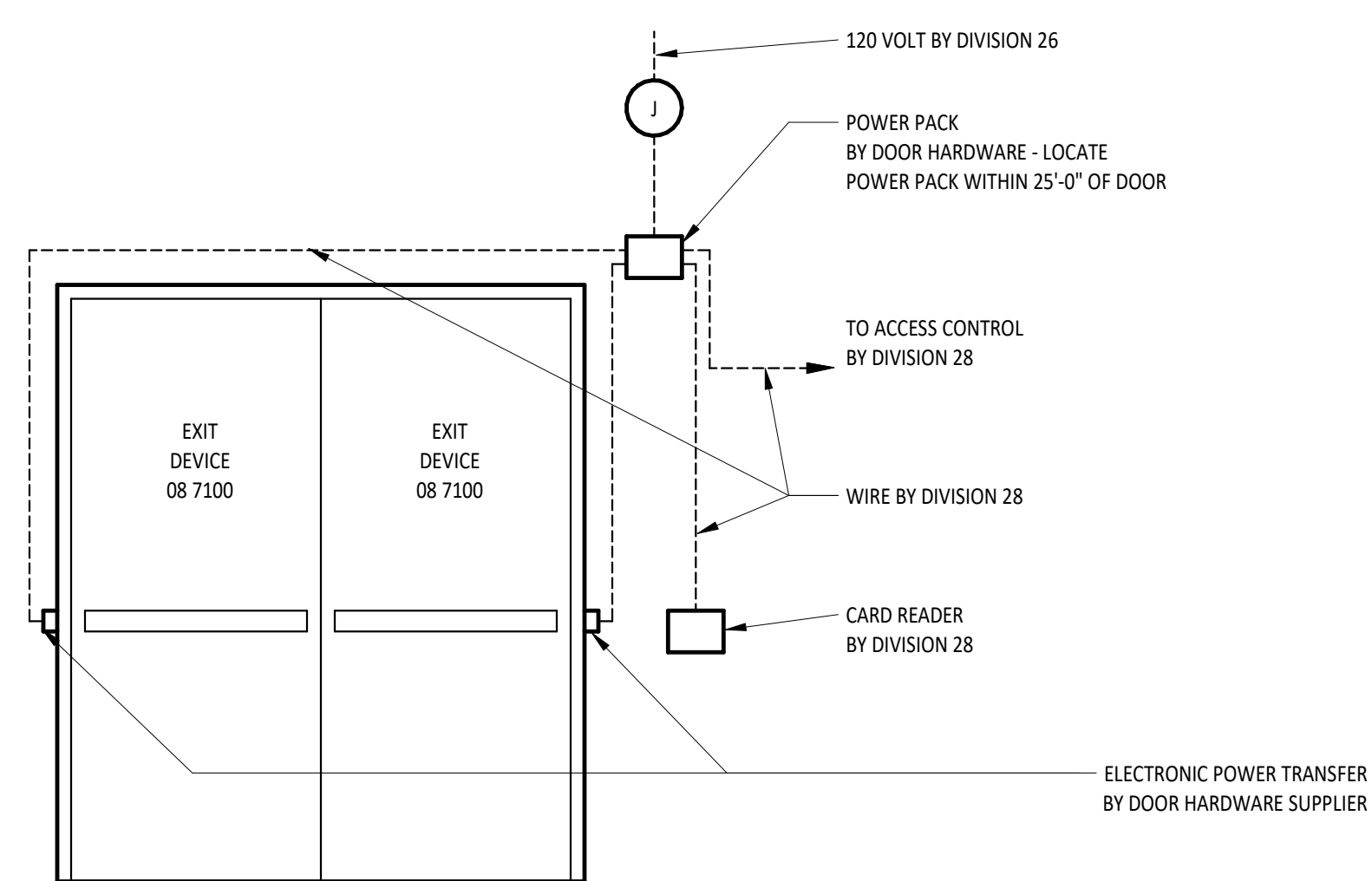
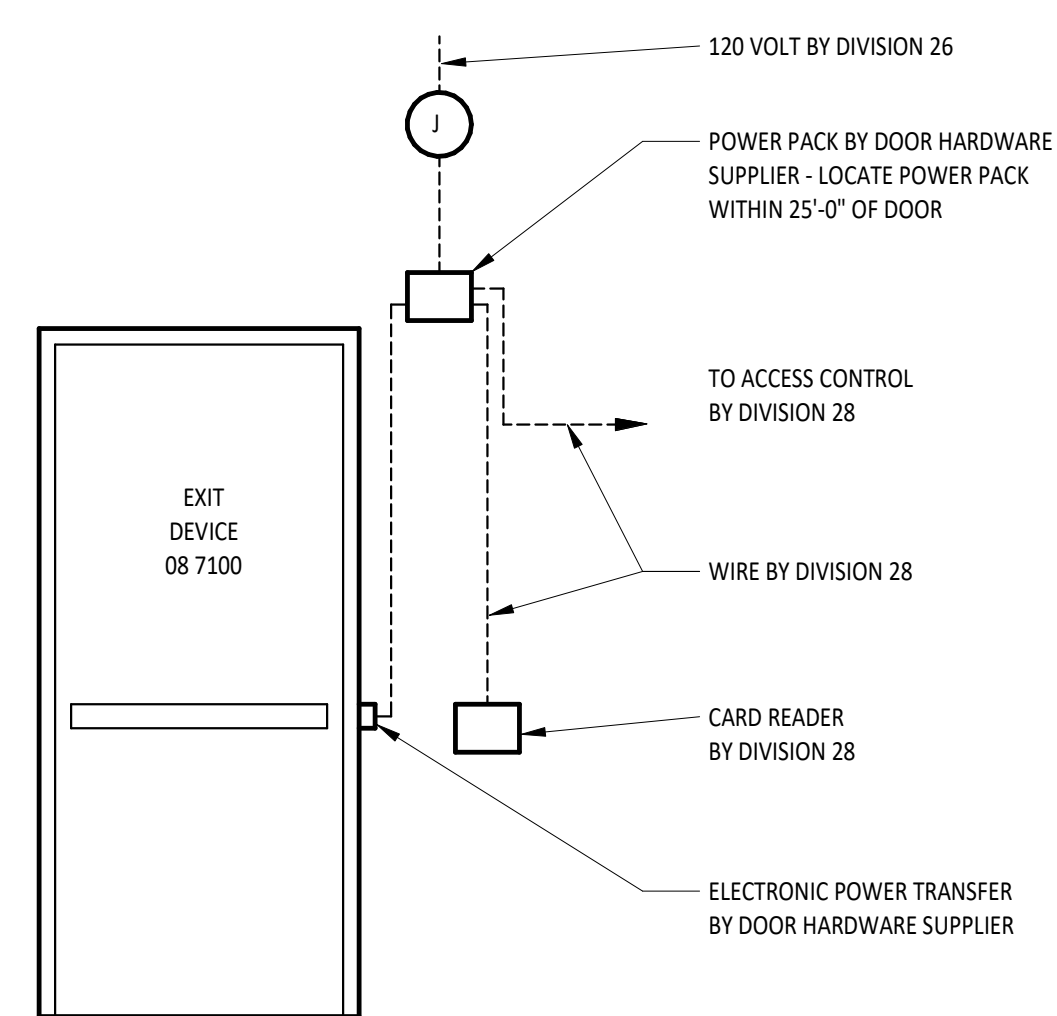
SHEET TITLE:
TECHNOLOGY OUTLET TYPES

SHEET NUMBER:
T1.2



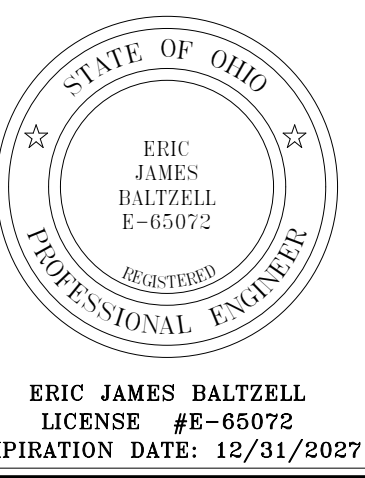
1
T1.3
RISER DIAGRAM - TYPICAL SECURITY SYSTEM
NTS

2
T1.3
RISER DIAGRAM - TYPICAL ACCESS CONTROL SYSTEM
NTS



7
T1.3
ACCESS CONTROL SYSTEM SCHEMATIC WIRE DIAGRAM - SINGLE DOOR
NTS

5
T1.3
ACCESS CONTROL SYSTEM SCHEMATIC WIRE DIAGRAM - DUAL DOOR
NTS



NORTH UNION SCHOOLS ART ROOM EXPANSION
ADDITION

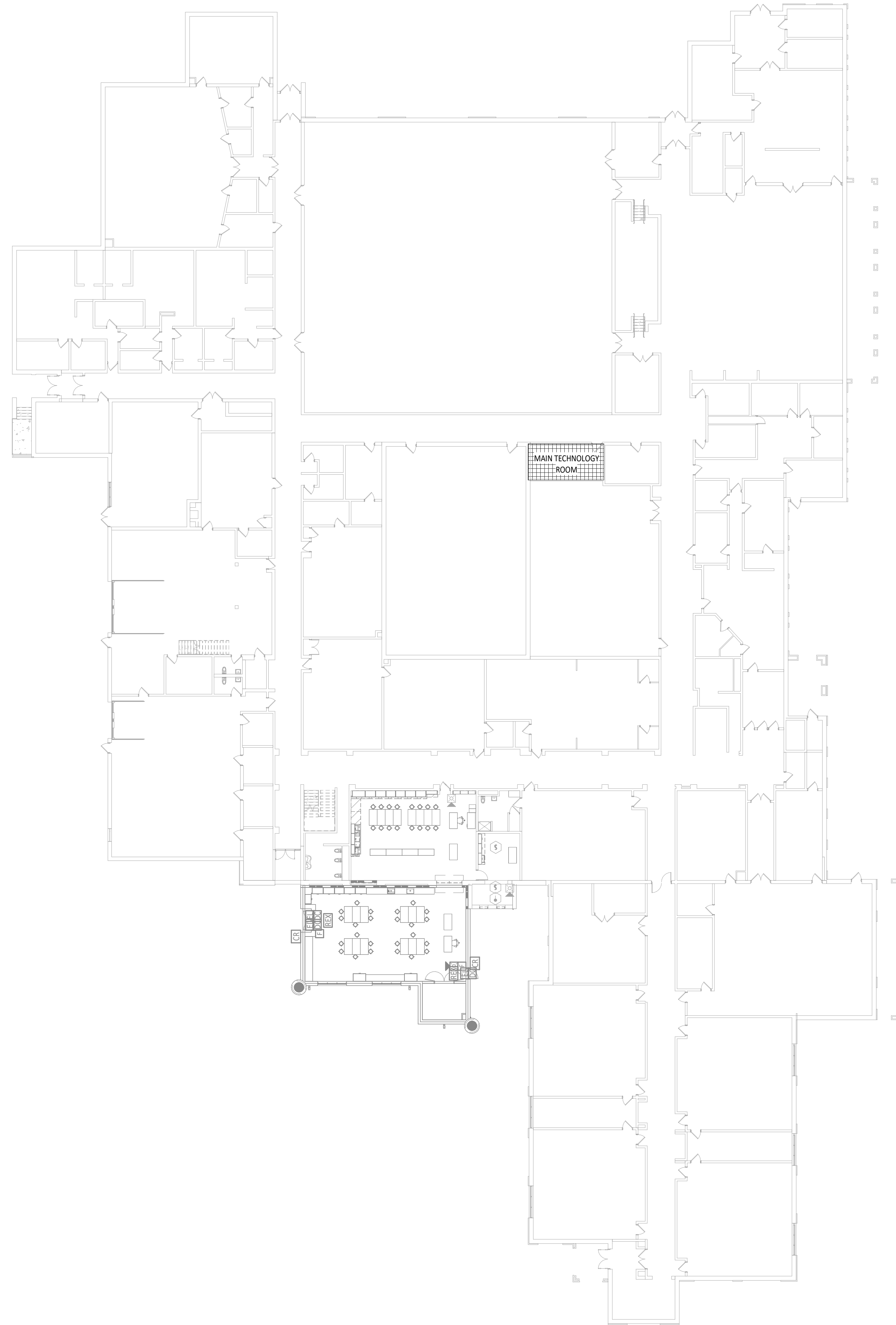
600 N. HANCOCK ST. BUCHLOODE, OH 43134

ISSUANCES/REVISIONS	
CONSTRUCTION DOCUMENTS	04/16/2024
1 ADDENDUM 03	05/11/2024

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	JMR	GAW

SHEET TITLE:
**TECHNOLOGY
DIAGRAMS**

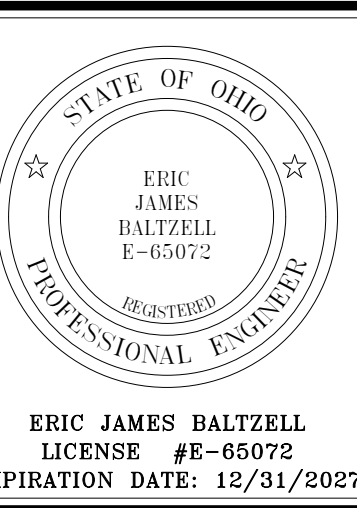
SHEET NUMBER:
T1.3



FIRST FLOOR PLAN ROOM INDEX - UNIT B

ROOM NUMBER	ROOM NAME	AREA
B100	VEST.	226 SF
B101	ELEV.	55 SF
B102	MACHINE	46 SF
B103	JAN	67 SF
B104A	MEDIA CENTER COMPUTER LAB	407 SF
B104B	STOR.	55 SF
B105	COFR.	200 SF
B106	WORK ROOM/STOR	590 SF
B107	HALL	428 SF
B108	HALL	52 SF
B109	BOYS	176 SF
B110	CORRIDOR	274 SF
B111	CORRIDOR	610 SF
B112A	LIFE SKILLS LAB & STORAGE	622 SF
B112B	STOR	35 SF
B112C	STORAGE	45 SF
B112D	STORAGE	45 SF
B112E	LIFE SKILLS STORAGE	658 SF
B113A	SPECIAL ED.	514 SF
B113B	SPECIAL ED.	540 SF
B113C	TOILET/SHOWER	131 SF
B114A	PROJECT LEAD THE WAY CLASSROOM	875 SF
B114B	CLOSET	67 SF
B115A	EXISTING ART	1,093 SF
B115C	EXISTING ART STORAGE	192 SF
B115D	EXISTING KILN	82 SF
B116	CORRIDOR	775 SF
B117	HALL	52 SF
B118	GIRLS	173 SF
B119	PROJECT LEAD THE WAY & INTECH CLASSROOM	816 SF
B120	AG CLASSROOM	815 SF
B121	STOR	105 SF
B122	WOMEN	77 SF
B123	MEN	86 SF
B124A	A.D. OFFICE	192 SF
B124B	STOR.	71 SF
B125	CORRIDOR	951 SF
B126	TECH CLOS.	239 SF
B127	I.S.S.	203 SF
B128	CORRIDOR	1,030 SF
B129	DISTANT LEARNING CENTER	2,139 SF
B130A	RECEP.	108 SF
B130B	STC.	565 SF
B130C	CLINIC	116 SF
B131	HALL	97 SF
B132	WORK RM	157 SF
B133	PRIN. OFFICE/CONF.	272 SF
B134	RECORDS	95 SF
B135	HALL	180 SF
B136	CAREER CENTER	221 SF
B137	WOMEN	171 SF
B138	MEN	149 SF
B139	GUID. CONF.	146 SF
B140	GUID. OFFICE	134 SF
B141	E.M.I.S. OFF	118 SF
B142	ASST. P. OFFICE	207 SF
B207	SMALL GROUP	155 SF
B208	SMALL GROUP	152 SF
B210	CLASSROOM	752 SF
B212A	CLASSROOM	700 SF
B214	CLASSROOM	720 SF
B215	CORRIDOR	203 SF
B217	HALL	66 SF
B218	GIRLS	154 SF
B219	SP. ED. CLASSROOM	522 SF
B220	ITIN. OFFICE	141 SF

#	KEYNOTE DESCRIPTION



NORTH UNION SCHOOLS ART ROOM EXPANSION
ADDITION

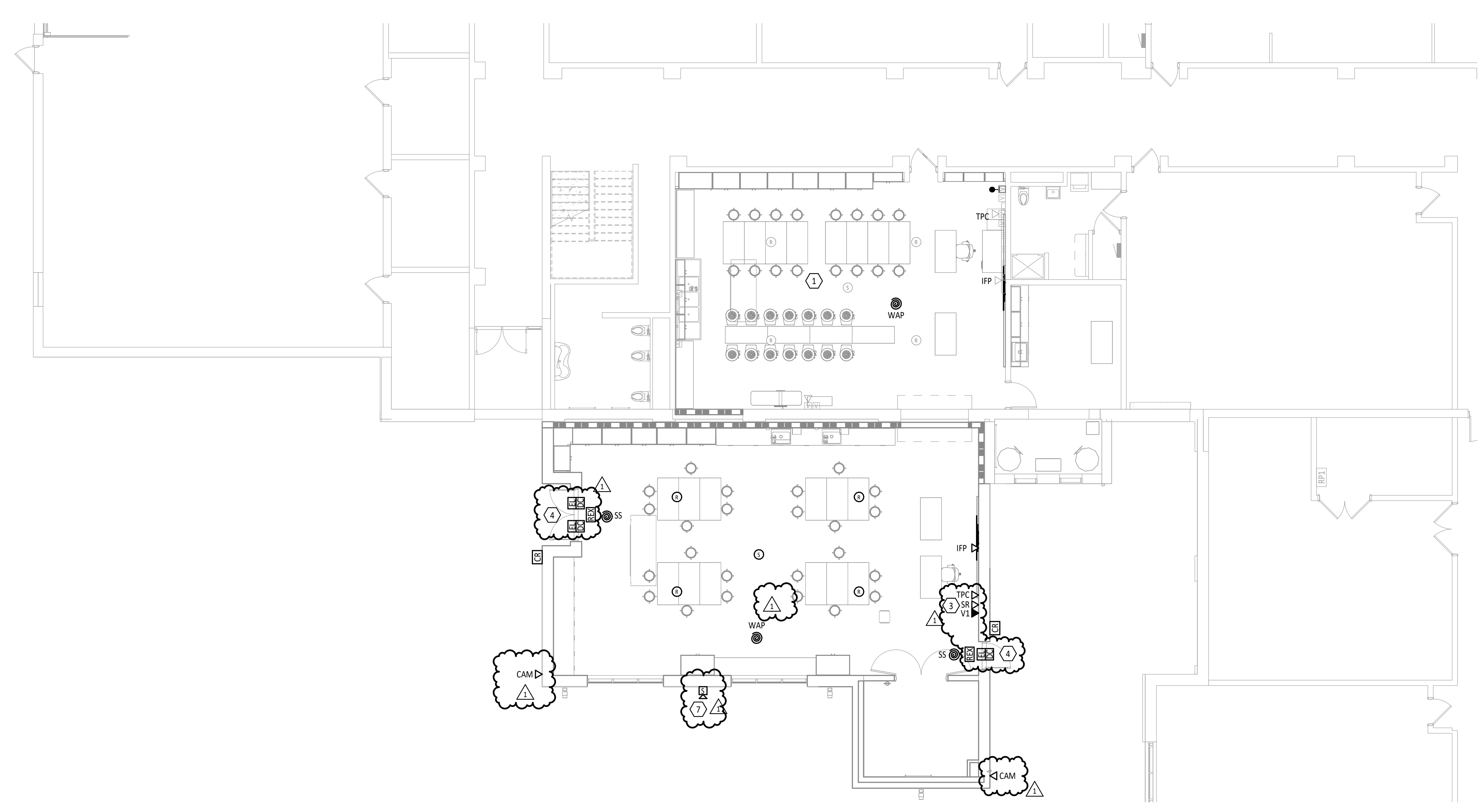
ISSUANCES/REVISIONS	
1	ADDENDUM 03 05/11/2025

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	GAW	CDT

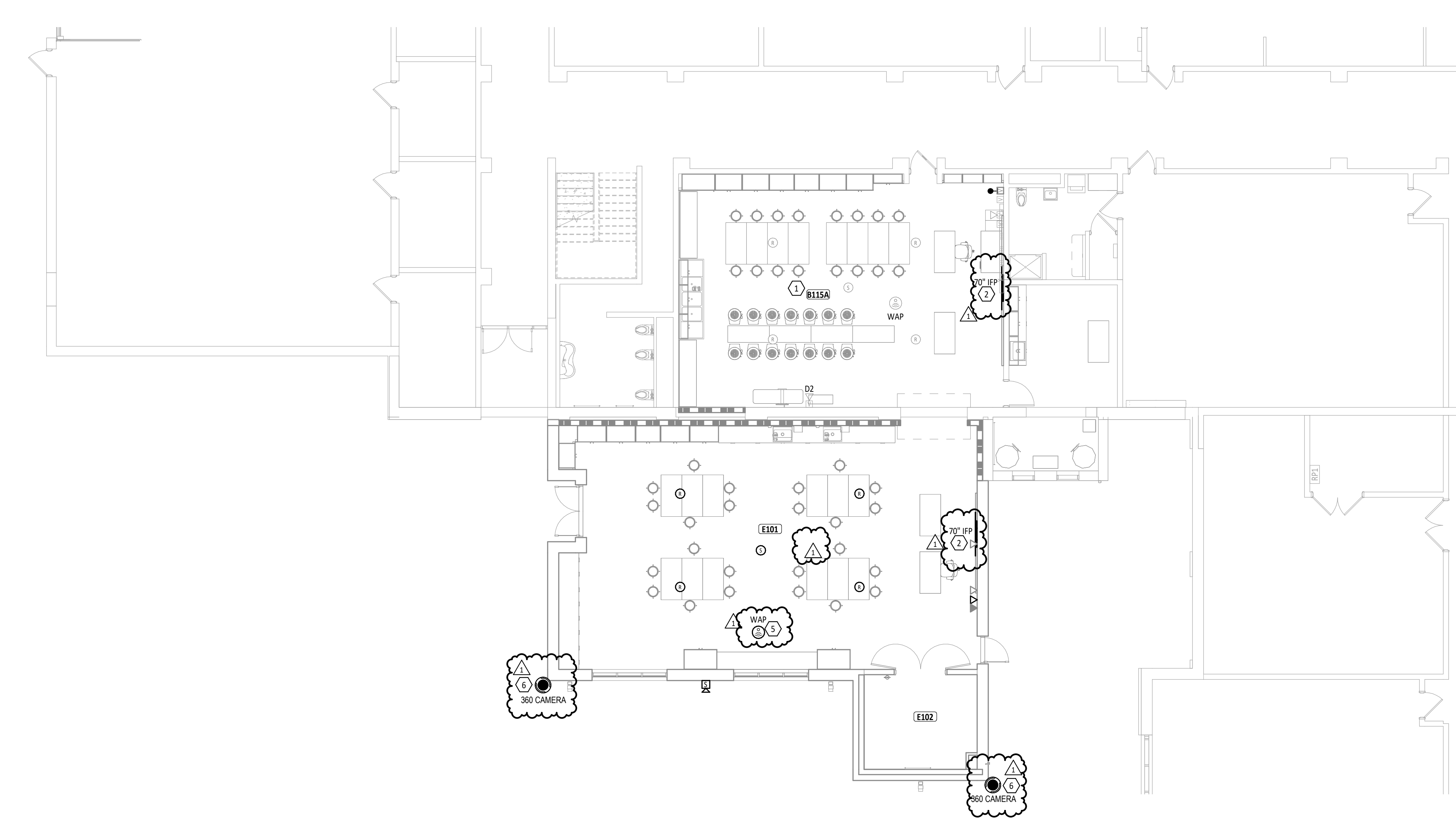
OVERALL FIRST FLOOR TECHNOLOGY PLAN

SHEET NUMBER:
TC1.0





1 FIRST FLOOR TECHNOLOGY CABLING PLAN - UNIT A
1/8" = 1'-0"

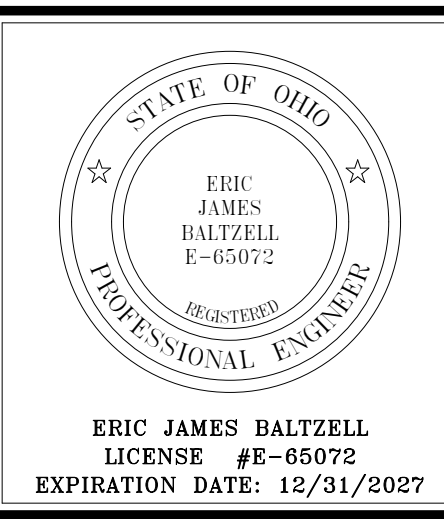


2 FIRST FLOOR TECHNOLOGY EQUIPMENT PLAN - UNIT A
1/8" = 1'-0"

FIRST FLOOR PLAN ROOM INDEX - UNIT A		
ROOM NUMBER	ROOM NAME	AREA
A100	CORR.	1,255 SF
A101A	MECH ROOM	730 SF
A101B	ELEC	147 SF
A102A	MEDIA CENTER	2,092 SF
A102B	CONF.	245 SF
A102C	OFFICE	1,119 SF
A103A	TECHNOLOGY COMPUTER LAB	1,179 SF
A103B	PREP	295 SF
A104A	PHYSICAL SCIENCE	1,218 SF
A104B	PREP	295 SF
A105	CHEMISTRY	1,163 SF
A106	BIOLOGY	1,233 SF
A201	JAN/STOR	116 SF
A203A	HALL	74 SF
A203B	TLT	41 SF
A203C	TLT	42 SF
A203D	ELEC	66 SF
A203E	TEACHER WKRM	335 SF
A203F	TECH	85 SF
A205	TECH	894 SF
A209	CORRIDOR	587 SF

REVISIONS

NO.	DESCRIPTION
1	ALL EXISTING CEILING MOUNTED DEVICES AND EQUIPMENT TO BE TEMPORARILY SUPPORTED AND REINSTALLED IN THE NEW CEILING. SPEAKERS, WIRELESS ACCESS POINTS AND AV EQUIPMENT SHALL BE SALVAGED FOR RE-USE. EQUIPMENT SHALL BE PLACED BACK TO ORIGINAL LOCATION WITH ALL PROPER TERMINATIONS, LABELING AND TESTING TO ENSURE FUNCTIONALITY OF SYSTEMS.
2	INTERACTIVE FLAT PANEL DISPLAY PROVIDED BY OWNER.
3	PROVIDE A CLASSROOM SOUND REINFORCEMENT SYSTEM WITH WALL MOUNT CABINET. TEACHLOGIC MAXIM WITH WALL MOUNT CABINET.
4	DOOR PROVIDED WITH ELECTRIC STRIKE BY DOOR HARDWARE SUPPLIER. DOOR HARDWARE SUPPLIER TO PROVIDE POWER PACK WITH DRY CONTACT FOR ELECTRIC STRIKE. PROVIDE WIRING FROM ELECTRIC STRIKE POWER PACK TO ACCESS CONTROL SYSTEM. COORDINATE WORK WITH HARDWARE SUPPLIER PRIOR TO ROUGH-IN. CONNECT DOOR TO ACCESS CONTROL SYSTEM TO PROVIDE INDIVIDUAL TIMED CONTROL OF THE ELECTRIC STRIKE. DIVISION 26 TO PROVIDE ALL PATHWAYS AND POWER REQUIRED FOR PROPER OPERATION. WIRELESS ACCESS POINT PROVIDED BY OWNER.
5	PROVIDE ALL PATHWAYS AND POWER REQUIRED FOR PROPER OPERATION.
6	PROVIDE A CORNER MOUNTED, MULTI-SENSOR 360 DEGREE IP CAMERA. DIGITAL WATCHDOG DW-C-IPX20WATX
7	REINSTALL SALVAGED PAGING SYSTEM HORN. EXTEND EXISTING PAGING SYSTEM CIRCUIT FROM ORIGINAL LOCATION AS NECESSARY.



**NORTH UNION SCHOOLS ART ROOM EXPANSION
ADDITION**

ISSUANCES/REVISIONS	
CONSTRUCTION DOCUMENTS	04/16/2025
1 ADDENDUM 03	05/11/2025

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
25091.00	JMR	GAW

**FIRST FLOOR
TECHNOLOGY
CABLING AND
EQUIPMENT PLAN
- UNIT E**

TCE1.1

