

ADDENDUM NO. 3

September 14, 2026

PORTAGE HIGH SCHOOL: 2026 RENOVATIONS PROJECT
6450 U.S. Highway 6
Portage, IN 46368

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated August 14, 2026, by Fanning Howey Associates, Inc. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 3-1 through ADD 3-2 and attached Addendum No. 3 from Fanning Howey Associates, Inc., dated September 14, 2026, and consisting of 2 pages, Specification Section 23 41 00 - Particulate Air Filtration, Specification Section 23 41 00.01 IAQP Calculations, and 5 drawings.

A. SPECIFICATION SECTION 00 00 20 - TABLE OF CONTENTS

1. ADD:

Specification Section 23 41 00 - Particulate Air Filtration
Specification Section 23 41 00.01 - IAQP Calculations

B. SPECIFICATION SECTION 01 12 00 - MULTIPLE CONTRACT SUMMARY

Under 3.03 Bid Categories

A. BID CATEGORY NO. 1 - GENERAL TRADES

1. DELETE:

Specification Section 09 84 33 - Sound-Absorbing Wall Units
Specification Section 09 84 33.13 - Abuse-Resistant Sound-Absorbing Wall Units
Specification Section 09 84 36 - Sound-Absorbing Ceiling Units

C. BID CATEGORY NO. 3 - METAL STUDS/DRYWALL/CEILINGS

1. ADD:

Specification Section 09 84 33 - Sound-Absorbing Wall Units
Specification Section 09 84 33.13 - Abuse-Resistant Sound-Absorbing Wall Units
Specification Section 09 84 36 - Sound-Absorbing Ceiling Units

J. BID CATEGORY NO. 9 - MECHANICAL

1. ADD:

Specification Section 23 41 00 - Particulate Air Filtration
Specification Section 23 41 00.01 - IAQP Calculations

C. SPECIFICATION SECTION 01 55 00 - ACCESS ROADS, PARKING AREAS AND GROUNDKEEPING

1. ADD:

The attached Site Logistics Plan.

Portage Township
Sch/Maintenance Dp



Construction Laydown
Area for Gymnasium

Portage High School
Tennis Courts



WorkOne Portage

Portage High School



Construction Laydown Area
for Cafeteria & Media Center



Construction Entrance



ADDENDUM NO. 3

Portage High School: 2026 Renovations

Portage Township School
Portage, Indiana

Project No. 226023.00

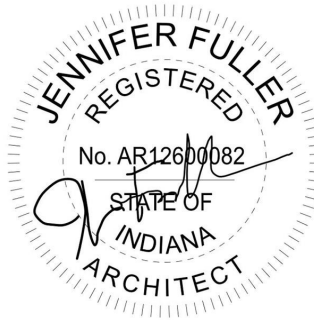
Index of Contents

Addendum No. 3, 5 items, 1 page
New Project Manual Sections 23 41 00 Particulate Air Filtration and 23 41 00.01 IAQP Calculations
Revised Drawing Sheets: ET11B, ET502, ET503, T-11B and T-502

Date: September 14, 2026

I hereby certify that this Addendum was prepared by me or under my direct supervision and that I am a duly registered Architect/Engineer under the Laws of the State of Indiana.

FANNING/HOWEY ASSOCIATES, INC.
ARCHITECTS/ENGINEERS/CONSULTANTS



Jennifer Fuller, License No. AR12600082
Expiration Date: 12/31/2026

TO: ALL BIDDERS OF RECORD

ADDENDUM NO. 3 to Drawings and Project Manual, dated August 14, 2026, for the Portage High School: 2026 Renovations for Portage Township Schools, 6240 US Highway 6, Portage, Indiana 46368; as prepared by Fanning/Howey Associates, Inc., Indianapolis, Indiana. This Addendum shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified in this Addendum.

Each bidder shall acknowledge receipt of this Addendum in his proposal or bid.

NOTE: Bidders are responsible for becoming familiar with every item of this Addendum. (This includes miscellaneous items at the very end of this Addendum.)

RE: ALL BIDDERS

ITEM NO. 1. NEW PROJECT MANUAL SECTION

- A. New Project Manual Section 23 41 00 Particulate Air Filtration is included with and hereby made a part of this Addendum.
- B. New Project Manual Section 23 41 00.01 IAQP Calculations is included with and hereby made a part of this Addendum.

ITEM NO. 2. PROJECT MANUAL, SECTION 04 20 00 – UNIT MASONRY

- A. Article 2.4, B. 3. a.: Delete this sub-sub paragraph in its entirety.

ITEM NO. 3. DRAWING SHEET A401 – ENLARGED TOILET ROOM PLANS

- A. Detail 3 – Locker Bench: Change the Solid Surface note from “SSM-3” to “SSM-1”.

ITEM NO. 4. DRAWING SHEET A-601 – DOOR AND FRAME SCHEDULE

- A. Masonry Lintel: Add the following note: “The vertical reinforcing at each side of the new openings shall have (2) 5 bars extending two courses below and above the new opening and grouted full.”

ITEM NO. 5. REVISED DRAWING SHEETS

Drawing Sheets: ET11B, ET502, ET503, T-11B and T-502 have been revised, dated 9/14/26, and is included with and hereby made a part of this Addendum. These Drawings supersede the original documents.

END OF ADDENDUM

SECTION 23 41 00 - PARTICULATE AIR FILTRATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes factory-packaged and assembled Indoor Air Filtration Systems or High Volume Purifiers, to provide gas-phase and air filtration for cleaning indoor air contaminants, including Formaldehyde, and other Volatile Organic Compounds (VOCs) in addition to common outdoor-origin contaminant such as Ozone and fine particulate matter (PM).

1.3 DEFINITIONS

- A. BMS: Building Management System
- B. HLR: HVAC Load Reduction
- C. HVP: High Volume Purifier
- D. HVAC: Heating, Ventilation, Air-Conditioning
- E. IAQ: Indoor Air Quality
- F. IAQP: Indoor Air Quality Procedure
- G. VOC: Volatile Organic Compound
- H. VRP: Ventilation Rate Procedure

1.4 ACTION SUBMITTALS

- A. Product Data: Include dimensions; operating characteristics; required clearances and access; rated flow capacity, including initial and final pressure drop at rated airflow; efficiency and test method; fire classification; furnished specialties; and accessories for each model indicated.
- B. Submit BACnet PICS documentation for controls protocol and integration with BACnet system if applicable.
- C. ASHRAE 62.1 Indoor Air Quality Procedure Compliance Report.
 - 1. Provide completed templates in accordance with Addendum g of ASHRAE Standard 62.1-2022. Submit a report documenting removal efficiencies for the specified design contaminants of concern, associated design targets, and representative mixtures of compounds. Include supporting documentation as required by Addendum n to ASHRAE Standard 62.1-2022. Submittals shall also include a table of removal efficiencies with corresponding airflow rates and testing conditions used during performance testing.
 - 2. Provide outdoor air contaminant concentration for each design compound used in the IAQP calculation and the AQS site ID where each was measured. Calculations shall utilize the most recent data from the sites closest to the project location.
- D. Shop Drawings: Include plans, elevations, sections, and details to illustrate component assemblies and attachments.
 - 1. Include setting drawings, templates, and requirements for installing anchor bolts and anchorages.

2. Report electrical requirements for power supply wiring including wiring diagrams for interlock and controls wiring, clearly indicating factory-installed and field-installed wiring requirements. Report motor electrical characteristics.

1.5 CLOSEOUT DOCUMENTS

- A. General: Closeout Submittals are to be submitted with O and M Manuals only. Do not submit with other ACTION and INFORMATIONAL Submittals:
 1. Operation and Maintenance Data: For each type of filter and rack to include in emergency, operation, and maintenance manuals.
- B. Provide a post-installation *Indoor Air Quality Procedure Verification* testing report in accordance with ASHRAE Standard 62.1-2022, Section 7.3, and Addenda i, q, r, s, and t. This requirement may be included in Commissioning Sections.
- C. Manufacturer technician or factory-trained personnel to provide Equipment Start-Up Report.

1.6 QUALITY ASSURANCE

- A. Product Options: The design indicated on the schedules and shown on the drawings is based upon the in-scope products, herein the original equipment, of the named manufacturer. Alternate equipment or systems are acceptable only if specified/scheduled performance requirements are met and approved by Engineer of Record. Refer to Division 01 Section "Product Requirements."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with ARI 850.
- D. Comply with ASHRAE 52.2-2017 for method of testing and rating air-filter units.
- E. Comply with NFPA 70 for installing electrical components.
- F. Comply with NFPA 90A and NFPA 90B.
- G. Unit safety: UL 507 or UL 1995 or CSA C22.2 No.236
- H. Filter media: ANSI/UL 900 listed Class I or Class II
- I. Control wiring: NEC codes & ETL requirements
- J. Air cleaning efficiency: ASHRAE 145.2-2016

1.7 COMPLIANCE

- A. A summary of ASHRAE 62.1-2022 Section 6.3.2 compliance requirements for the list of design compounds (DCs) and design targets and mixture of compounds in the table below (Table 6-5):

COMPOUND OR PM _{2.5}	COGNIZANT AUTHORITY	DESIGN TARGET
Acetaldehyde	Cal EPA CREL (June 2016)	140 ug/m ³
Acetone	AgBB LCI	1,200 ug/m ³
Benzene	Cal EPA CREL (June 2016)	3 ug/m ³
Dichloromethane	Cal EPA CREL (June 2016)	400 ug/m ³
Formaldehyde	Cal EPA 8-hour (2004)	33 ug/m ³
Naphthalene	Cal EPA CREL (June 2016)	9 ug/m ³
Phenol	AgBB LCI	10 ug/m ³
Tetrachloroethylene	Cal EPA CREL (June 2016)	35 ug/m ³
Toluene	Cal EPA CREL (June 2016)	300 ug/m ³
Xylene, total	AgBB LCI	500 ug/m ³
Carbon monoxide	USEPA NAAQS	9 ppm
PM _{2.5}	USEPA NAAQS (annual mean)	9 ug/m ³
Ozone	USEPA NAAQS	70 ppb
Ammonia (only for spaces with animals)	Cal EPA CREL (June 2016)	200 ug/m ³

1.8 COORDINATION

- A. If the original equipment system is supplied by a manufacturer other than the one named, herein alternate equipment, coordinate with the General Contractor and affected subcontractors to ensure the specified performance is met.
- B. The Mechanical Contractor shall be responsible for costs incurred by the General Contractor, Subcontractors, and Consulting Engineers to accommodate equipment and controls furnished by a manufacturer other than manufacturer named as basis of design.
- C. Coordinate sizes and locations of concrete bases with actual equipment provided.
- D. Coordinate sizes and locations of structural-steel support members, if any, with actual equipment provided.

1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Provide (2) complete set of filters for each filter bank.

1.10 WARRANTY

- A. Provide original equipment parts warranty for 12 months from date of shipment. Warranty shall cover manufacturer defects, and manufacturer agrees to replace components of units that fail in materials or workmanship within the specified warranty period. Warranty work shall be performed by manufacturer's factory-trained representatives or manufacturer-employed technicians.
- B. Annual Service and Service Agreements and details therein are NOT included or covered by Warranty (Standard only).
- C. Manufacturer or Manufacturer's Representative shall submit sample warranty for special warranty offerings to be purchased by and approved by the new equipment owner.

1.11 STARTUP

- A. Do not operate units for any purpose, temporary or permanent, until installation is completed in compliance with manufacturer's start-up requirements to ensure safe and correct operation and integrity of warranty.
- B. Factory-trained or factory-provided service technicians are required to start-up and commission units upon the complete installation of the equipment and supporting systems. Upon start-up

completion, technician personnel to draft a commissioning document and provide it to equipment Owner or Operator to indicate satisfactory system installation and operation.

- C. Provide all manuals, instructions, Startup Checklist, and all quality assurance documents directly to Owner and/or Operator.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Daikin Sorbent Air Purifier (GPC-100M) Module(s) – Basis of Design).
- B. AirBox, Inc. Vortex High Volume Purifier (HVP) Unit(s).
- C. enVerid Systems, Inc. HVAC Load Reduction (HLR®) Module(s).
- D. Original Equipment Manufacturer (OEM) rebranded equivalent.
- E. Approved equipment alternates (prior written approval or consent by Engineer of Record is required). Equipment Alternate must meet the below Performance criteria detailed herein.

2.2 PERFORMANCE

- A. Indoor air quality performance shall comply with ASHRAE 62.1-2022 and relevant addenda via the Indoor Air Quality Procedure (IAQP). The results of the IAQP shall yield minimum outside air intake (Vot) values equal to or less than the minimum outside air cfm's listed in the air handling unit schedule on the Drawings. Refer to the IAQP calculations in Specification 234100.01.
- B. Air Cleaning System cleaning efficiencies shall comply with ASHRAE Standard for Gas Phase Filtration: ASHRAE Standard 145.2 — 2016 (or newer). Per ASHRAE 62.1-2022 Addendum n, single pass removal efficiencies along with airflow rate and testing conditions used during testing shall be provided for all relevant contaminants of concern under the scope of the project.
- C. Air Cleaning System shall be certified as zero-byproduct emitting by 3rd Party Certified Lab. Zero-byproduct certification letter required to be submitted to Engineer of Record and equipment Owner and/or Operator.
- E. Mechanism for air cleaning shall be capture and release; air cleaning system alternates shall not alter the chemistry or composition of airborne gaseous substances.
 - 1. Alternate air-manipulative or catalytic type cleaners shall not be approved (i.e. plasma cleaners, ionizers, etc.).
- F. System shall have Ozone (O3) removal efficiency as verified by ASHRAE Standard 145.2 Lab Test by certified 3rd Party Lab. Original Equipment provider to furnish certified efficiency report to Engineer of Record and equipment Owner and/or Operator.
- G. System shall not emit Ozone and/or Reactive Oxygen Species (ROS) of any kind; processes and mechanisms that emit ozone/ROS or have the potential to emit ozone or ROS are not acceptable.
- H. Device should employ Differential Pressure sensors at each filter stage as well as Formaldehyde and TVOC sensors to provide predictive maintenance and indicate filter life/capacity at any given time.

2.3 CONSTRUCTION AND COMPONENTS

- A. Integrated Sensors: The device shall include integrated differential pressure sensors to indicate filter maintenance needs. The device shall have integrated IAQ sensors including TVOC, PM2.5, CO2, and Formaldehyde.
 - 1. Technical Specifications:

Metric	Minimum Reading	Maximum Reading	Unit of Measure	Calibration Method	Expected Lifetime	Accuracy
Differential Pressure	-2.0	2.0	Inches Water Column	Automatic Calibration	>5 Years	±2%
TVOC	0	500	TVOC Index	Automatic Calibration	>10 Years	±5
PM2.5	0	1,000	µg/m ³	Automatic Calibration	>10 Years	±25
Temperature	-10.0	50.0	°C	Automatic Calibration	>10 Years	±0.45
Humidity	0.0	90.0	%	Automatic Calibration	>10 Years	±4.5
Carbon Dioxide CO ₂	0	40,000	Parts Per Million	Automatic Calibration	>10 Years	±50ppm / 5%
Formaldehyde HCHO	0	1,000	Parts Per Billion	Automatic Calibration	>6 Years	±20ppb / ±20%

2. Operating Specifications:

Operating Voltage	110-240 VAC
Quantity of Differential Pressure Sensors	4*
Quantity of TVOC Sensors	2
Quantity of CO ₂ / T / RH Sensors	1
Quantity of Particulate Matter Sensors	1
Quantity of Formaldehyde HCHO Sensors	2
*Number of sensors dependent on unit model. Minimum 1 per filter stage.	

3. BACnet POINTS:

Object Type	Read/Write Property	Instance	Object Name	Units
Analog Input	Read	1	Temperature	°C
Analog Input	Read	2	Humidity	%RH
Analog Input	Read	3	CO2 Level	ppm
Analog Input	Read	4	PM2.5	ug/m3 (micrograms/cubic meter)
Analog Input	Read	5	VOC-A	index (1 to 500)
Analog Input	Read	6	Nox-A	index (1 to 500)
Analog Input	Read	7	VOC-B	index (1 to 500)
Analog Input	Read	8	Nox-B	index (1 to 500)
Analog Input	Read	9	Formaldehyde-A	0-1000 ppb
Analog Input	Read	10	Formaldehyde-B	0-1000 ppb
Analog Input	Read	11	Motor Drive	Percentage
Analog Input	Read	12	Fan Speed	rpm
Analog Input	Read	13	Differential Pressure 1	inH2O
Analog Input	Read	14	Differential Pressure 2	inH2O
Analog Input	Read	15	Differential Pressure 3	inH2O
Analog Input	Read	16	Differential Pressure 4	inH2O
Character String Value	Read/Write	17	Building	
Character String Value	Read/Write	18	Location	
Analog Value	Read/Write	19	Change Fan Speed	Percentage
Binary Value	Read/Write	20	Manual Mode	N/A

- B. Fan: Integrated DC brushless motor driven fan shall control airflow through the unit. The fan motor shall contain on-board locked rotor protection to prevent damage to the unit in the event of motor failure or the fan becomes blocked or locked in position.
- C. Power Requirements: Refer to drawings for specific power requirements for each high-volume air filter.

2.4 ACCESSORIES

- A. Original Equipment manufacturer shall furnish all initial filters as separately shipped line-items (along with connectivity gateway). First-time loading of filter set shall occur AFTER construction and installation of original equipment. Initial full set of filters shall be included in first capital purchase of equipment price. Additional replacement filters shall be executed as separate transactions and shipped as needed.
- B. Spare parts are NOT included in manufacturer scope but shall be furnished by the contractor per the manufacturer's recommendations.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine all areas, surfaces, and sub-surfaces to receive Equipment Modules for compliance with requirements, installation tolerances, and other field conditions that may affect performance.
- B. Examine roughing-in for supporting mechanical and electrical systems to verify actual locations of connections before physical equipment installation.
- C. Proceed with installation only after unsatisfactory conditions have been approved and corrected.

3.2 DELIVERY, STORAGE, AND HANDLING

- A. Comply with original equipment manufacturer's instructions for storing, rigging, unloading, and transporting units. Protect units from physical damage. Leave factory-shipping plastic and crates in place until installation.
- B. Protect, pack, and secure loose-shipped items within the units. Include detailed packing list of loose-shipped items, including illustrations and instructions for application.
- C. Protect, pack and secure controls devices and other electronic equipment. Do not store electronic equipment in wet or damp areas even when they are sealed and secured.
- D. Seal all openings to protect against damage during shipping, handling and storage.
- E. Wrap units with a tight sealing membrane. Wrapping membrane shall cover entire equipment module, including electrical components, for protection against rain, snow, wind, dirt, sun fading, road salt/chemicals, rust and corrosion during shipping and storage. Cover all equipment, regardless of size or shape and keep clean and dry. Alternatively, equipment modules must be tarped for shipment and storage.
- F. Store per manufacturer's written recommendations. Store equipment modules indoors in a warm, clean, dry place where units will be protected from weather, construction traffic, dirt, dust, water and moisture. If units will be stored for more than 6 months, follow manufacturer's instructions for long-term storage.
- G. Clearly mark with unit tag number. Securely affix safety-warning labels. Refer to Specification 230553 for identification details.
- H. Modules shall ship in a sturdy box or wooden crate strapped to a pallet. Shipping and handling warning labels must be affixed on the outside of the box.
- I. Immediately report to shipping handler, manufacturer's representative, or original equipment manufacturer, if damage is observed on the exterior of the packaging, including the "shock watch" indicator to confirm unit and/or packaging was harmed during transport. Document all areas of concern using combination of photographs and handwritten comments to ensure record damage history.

3.3 INSTALLATION

- A. Install equipment per industry standards, applicable codes, and manufacturer's instructions.
- B. Do not put the equipment modules into temporary use prior to complete inspection and startup performed per this specification.
- C. Rigging and material handling of units shall be conducted according to manufacturer's explicit instructions.

- D. Install equipment modules with manufacturer's recommended clearances for access and service. Failure to abide clearance requirements will void proper equipment operation and ability for maintenance personnel to safely perform service to the unit(s). Please refer to the IOM or manufacturer's Design Guide for clearance requirements.
- E. Position each filter unit with clearance for normal service and maintenance. Anchor filter holding frames to substrate.
- F. Coordinate filter installations with duct and air-handling unit installations.
- G. Electrical wiring and connections are specified in Division 26 Sections.
- H. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."
- I. Refer to Specification 23 09 93 for sequence of operations.

3.4 IDENTIFICATION

- A. Identify and tag all equipment modules, supporting components, and necessary integrated devices according to Division 23 Section "Identification for HVAC Piping and Equipment"

3.5 CONNECTIONS

- A. Mechanical and electrical installation connections shall be specified in other Divisions or Sections.

3.6 FIELD QUALITY CONTROL

- A. Manufacturer shall identify an Indoor Air Quality (IAQ) testing contractor qualified to perform Post-Installation Verification Testing and shall provide testing instructions to the contractor. Refer to Section 230594 for IAQ Testing procedures.
- B. All tests and inspections shall be performed by manufacturer's factory-trained or factory-employed service technician. Perform field tests and inspections according to commissioning document and start-up procedures.
- C. Test all mechanical components for each unit including fan motor assemblies, door latches, mechanical switches, and field removable items and internal support structures.
- D. Inspect all equipment-based controllers, wiring, components, connections, and installation supporting equipment.
- E. Repair malfunctioning units on-site, where possible, and retest to demonstrate compliance and proper functionality.

3.7 STARTUP SERVICE

- A. Manufacturer's factory-trained or factory-employed service technician shall startup equipment modules.

3.8 CLEANING

- A. Clean equipment module(s) unit interior prior to operation. Remove all tools, debris, dust, and dirt.
- B. Please note, molecular air-cleaning devices are highly sensitive to oversized particulate matter, such as dust, dirt, and other macro-molecules. Should the equipment module be exposed to the oversized particles aforementioned, either during construction, installation, or operation, the equipment module will be rendered incapacitated due to system clogging.

3.9 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain Equipment Modules.
- B. Refer to manufacturer's published IOM furnish by the manufacturer to detailed maintenance and operating procedures.

3.10 FINAL CLEANING

- A. After completing system installation and testing, adjusting, and balancing air-handling and air-distribution systems, clean filter housings and install new filter media.

END OF SECTION 23 41 00

SECTION 23 41 00 01 – IAQP CALCULATIONS

A. AHU-L6

System Inputs

Design System Population (optional)	550	occupants	Ps	System population, maximum simultaneous # of occupants of space served by system
System Design Airflow (optional)	25000	cfm	Vps	System primary airflow from air handler. This may differ from the sum of primary airflow to zones
Cleaned Air Rate (Location A1)	2000	CFM	Vo	See SVT Product Guide tab for more information on cleaned airflow rate

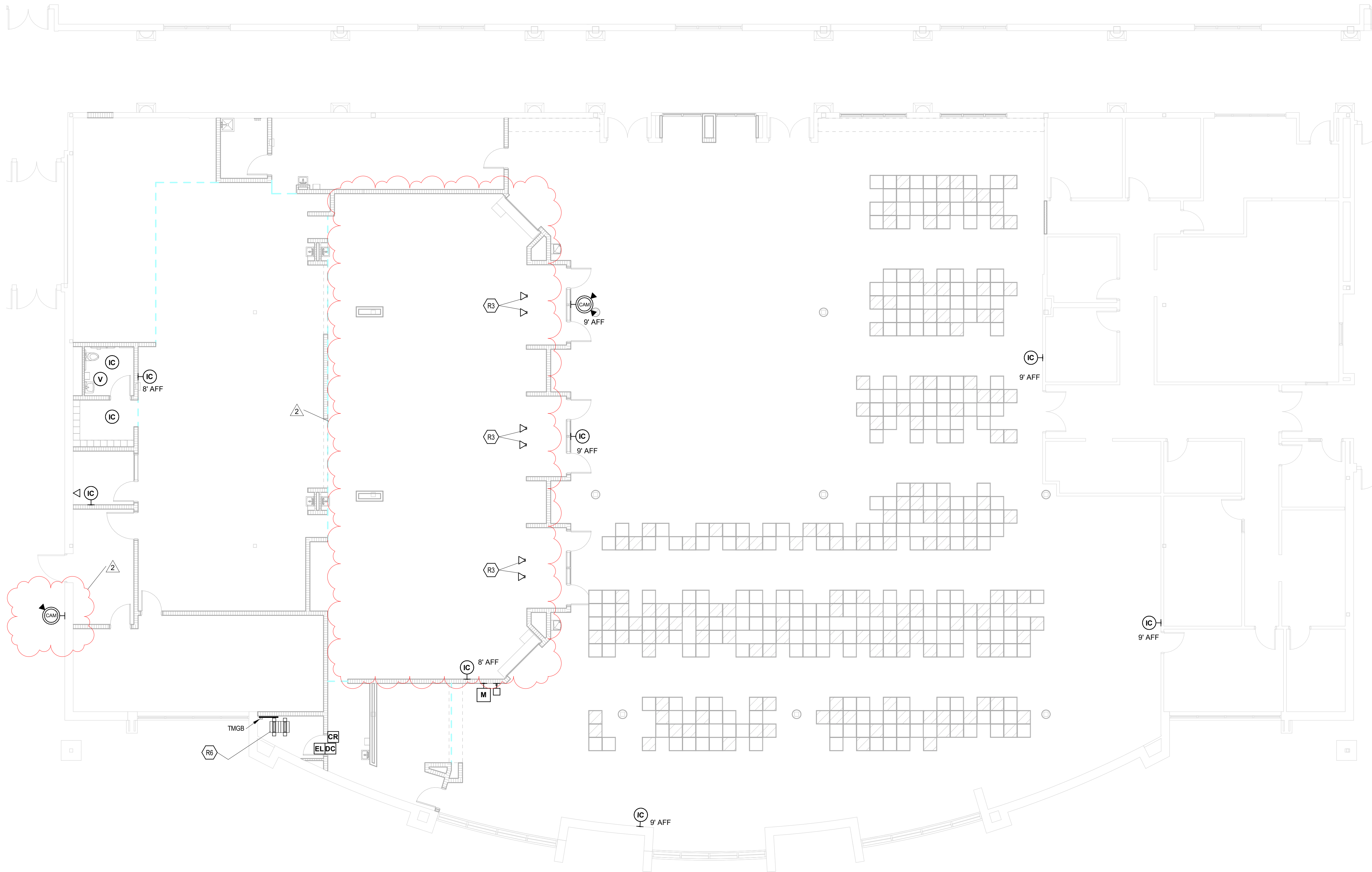
Calculation Results

Occupant Diversity	1.01	D	Occupant diversity, ratio of system peak occupancy to sum of space peak occupancies, = P_s/SP_z
	-	Voz	Zone outdoor airflow (Single Zone Systems)
	6250	Vou	Uncorrected outdoor air intake (Multiple Zone Systems)
	0	Xs	Mixing ratio at primary air handler of uncorrected outdoor air intake to system primary flow, = V_{ou}/V_{ps}
	1.000	Ev	System ventilation efficiency, based on method chosen above
Outside Air Intake	6250	Vot	Minimum outside air intake, $V_{ot} = V_{calculated} V_{ot}$ satisfies IAQP requirements.
Critical Zone	DINING 0		This zone has the highest calculated mixed exposure sum

Mixtures Check

Outside Air Intake Override	6250	CFM	Vou	Increase Vou if doesn't pass mixtures check
Mixed Exposure Sum	0.47		Em	Upper Respiratory Tract Irritation
Mixed Exposure Sum	0.88		Em	Eye Irritation
Mixed Exposure Sum	0.03		Em	Central Nervous System
Mixed Exposure Sum	0.55		Em	Carbon Dioxide
Pass Mixtures Check?	Yes		Em < 1	Yes/No

Required Zone Information								Optional Zone Information		Results	
Zone Name	Room Number	Space Type	Use Default Occupancy?	Zone Floor Area	Zone Population	Zone Air Distribution Effectiveness	Primary Zone Airflow	Zone Discharge Airflow	Zone Secondary Recirculation Fraction	Zone Recirculation Cleaned Air	Uncorrected IAQP Outdoor Airflow
				Az [ft ²]	Pz [people]	Es	Vpz [CFM]	Vdz [CFM]	Er	RVr,f [CFM]	Vou [CFM]
IAQP											
Totals:				26,145	543		25,000			2,000	6,250
1	DINING	CAFETERIA/FAST-FO	Yes	8990.00	480	0.8	11,450			807	2,522
2	SERVING	Corridors	Yes	2438.00	13	0.8	2,100			148	462
3	WAREWASHING		Yes	392.00	-	0.8	600			42	132
4	CUSTODIAN		Yes	74.00	-	0.8	-			-	-
5	KITCHEN	KITCHEN (COOKING)	Yes	1286.00	8	0.8	2,000			141	440
6	COOLER/FREEZER		Yes	769.00	-	0.8	-			-	-
7	LOCKERS		Yes	70.00	-	0.8	60			4	13
8	TOILET		Yes	51.00	-	0.8	50			4	11
9	RECEIVING	SHIPPING/RECEIVING	Yes	156.00	-	0.8	150			11	33
10	OFFICE	OFFICE SPACE	Yes	83.00	-	0.8	70			5	15
11	DRY STORAGE		Yes	465.00	-	0.8	225			16	50
12	GRAB & GO	Corridors	Yes	294.00	1	0.8	275			19	61
13	LOBBY	CORRIDORS	Yes	676.00	-	0.8	1,000			70	220
14	LOBBY	CORRIDORS	Yes	540.00	-	0.8	1,000			70	220
15	CORRIDOR	CORRIDORS	Yes	1906.50	-	0.8	1,285			91	283
16	CORRIDOR	CORRIDORS	Yes	1906.50	-	0.8	1,125			79	248
17	STUDENT WAITING	OFFICE SPACE	Yes	264.00	3	0.8	450			32	99
18	HALL	CORRIDORS	Yes	99.00	-	0.8	40			3	9
19	HALL	CORRIDORS	Yes	115.00	-	0.8	45			3	10
20	HALL	CORRIDORS	Yes	279.00	-	0.8	85			6	19
21	HALL	CORRIDORS	Yes	143.00	-	0.8	50			4	11
22	ASST. PRINCIPAL	OFFICE SPACE	Yes	134.00	1	0.8	350			25	77
23	ASST. PRINCIPAL	OFFICE SPACE	Yes	134.00	1	0.8	200			14	44
24	LOBBY	CORRIDORS	Yes	399.00	-	0.8	350			25	77
25	LOBBY	CORRIDORS	Yes	399.00	-	0.8	350			25	77
26	ADMIN ASST.	OFFICE SPACE	Yes	101.00	1	0.8	200			14	44
27	DEAN STUDENTS	OFFICE SPACE	Yes	117.00	1	0.8	200			14	44
28	ADMIN ASST.	OFFICE SPACE	Yes	665.00	4	0.8	900			63	198
29	BREAK ROOM	OFFICE SPACE	Yes	131.00	2	0.8	150			11	33
30	OFFICE SUPPLIES	OFFICE SPACE	Yes	90.00	1	0.8	50			4	11
31	MEETING ROOM	OFFICE SPACE	Yes	226.00	6	0.8	200			14	44
32	ASSOC. PRINCIPAL	OFFICE SPACE	Yes	221.00	1	0.8	600			42	132
33	FILE STORAGE	OFFICE SPACE	Yes	109.00	-	0.8	50			4	11
34	WORK ROOM	OFFICE SPACE	Yes	167.00	-	0.8	125			9	28
35	MTG. ROOM	OFFICE SPACE	Yes	93.00	2	0.8	100			7	22
36	HALL	CORRIDORS	Yes	166.00	-	0.8	100			7	22
37	HALL	CORRIDORS	Yes	117.00	-	0.8	50			4	11
38	CONFERENCE	OFFICE SPACE	Yes	611.00	12	0.8	1,250			88	275
39	PRINCIPAL	OFFICE SPACE	Yes	236.00	1	0.8	700			49	154
40	ADMIN ASST.	OFFICE SPACE	Yes	165.00	1	0.8	105			7	23
41	WORK ROOM	OFFICE SPACE	Yes	104.00	-	0.8	105			7	23
42	CRISIS ROOM	OFFICE SPACE	Yes	197.00	4	0.8	185			13	41
43	MEN		Yes	340.00	-	0.8	-			-	-
44	WOMAN		Yes	326.00	-	0.8	-			-	-
45			Yes		-					-	-



1 FIRST FLOOR TECHNOLOGY ROUGH-IN PLAN - CAFETERIA
SCALE: 1/8" = 1'-0"

ROOM LEGEND			
ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
FIRST FLOOR - EAST			
B101		CAFETERIA	8748 SF
B102		SERVING	2419 SF
B103		WAREWASHING	371 SF
B104		CUSTODIAN	83 SF
B105		KITCHEN	1873 SF
B106		COOLER / FREEZER	351 SF
B107		LOCKERS	66 SF
B108		TOILET	54 SF
B109		RECEIVING	156 SF
B110		OFFICE	73 SF
B111		DRY STORAGE	519 SF
B112		TECH CLOSET	52 SF
B113		GRAB & GO	279 SF

TECHNOLOGY ROUGH-IN GENERAL NOTES

A. DEVICES SHALL BE INSTALLED AT LOCATIONS SHOWN ON DRAWINGS. LOCATIONS OF DEVICES SHALL BE COORDINATED WITH OTHER ELECTRICAL DEVICES/ CASEWORK/ ARCHITECTURAL FEATURES AND OTHER TRADES PRIOR TO ROUGH-IN. IF RELOCATION OF DEVICES IS REQUIRED DUE TO LACK OF COORDINATION BETWEEN ELECTRICAL DRAWINGS AND OTHER TRADES, ANY ASSOCIATED COSTS SHALL BE RESPONSIBILITY OF ELECTRICAL CONTRACTOR.

ROUGH-IN PLAN NOTES
(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

SHEET KEYNOTES	
R3	PROVIDE 1" UNDERFLOOR CONDUIT WITH PULL STRING FROM POS FLOOR BOX TO KITCHEN OFFICE. COORDINATE EXACT FLOOR BOX LOCATION WITH FOOD SERVICE EQUIPMENT DRAWINGS PRIOR TO ROUGH-IN.
R6	PROVIDE FIBER CONNECTION BACK TO EXISTING MDF LOCATED NEAR MAIN OFFICE, BETWEEN DOORS B AND C. COORDINATE FINAL ROUTING IN FIELD.

PORTAGE TS/HS CAFETERIA RENOVATION

1234 Street Address
City, State 00000

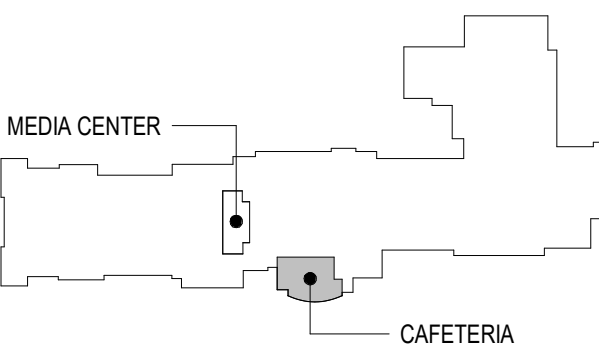
PORTAGE TOWNSHIP SCHOOLS



ARCHITECT

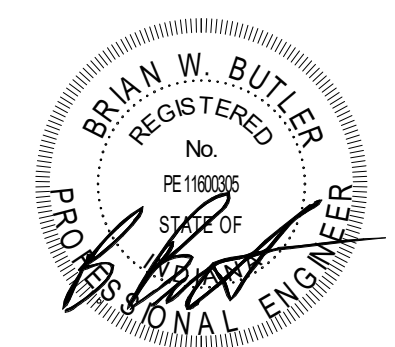
FANNING HOWEY

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KEY PLAN

CONSTRUCTION DOCUMENTS



DRAWN BY: JJR
PROJECT NUMBER: 220203.00
PROJECT ISSUE DATE: 8/14/2025

REV. NO.	DESCRIPTION	DATE
2	Addendum #3	09/14/2025

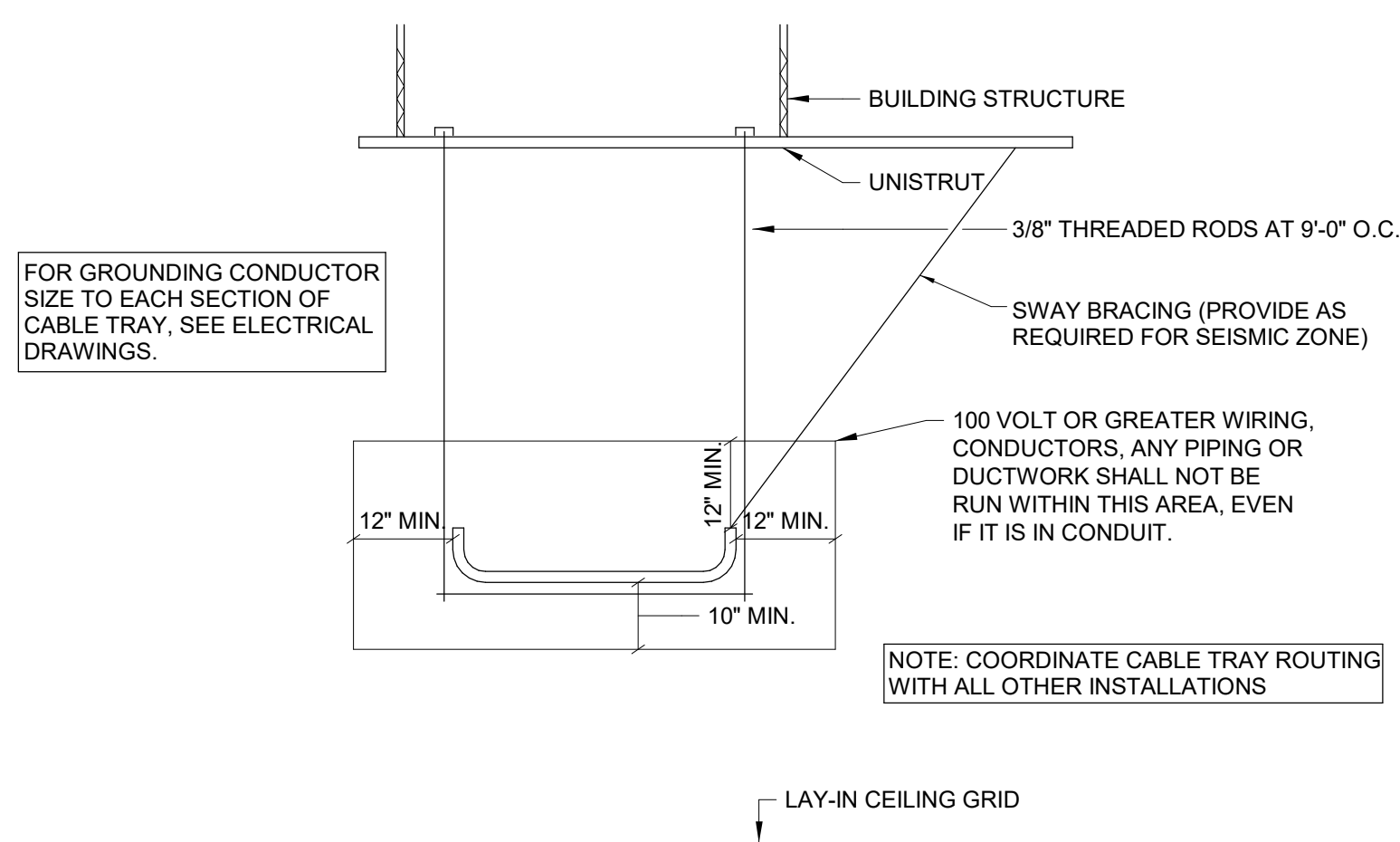
VERIFICATION NOTE
CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

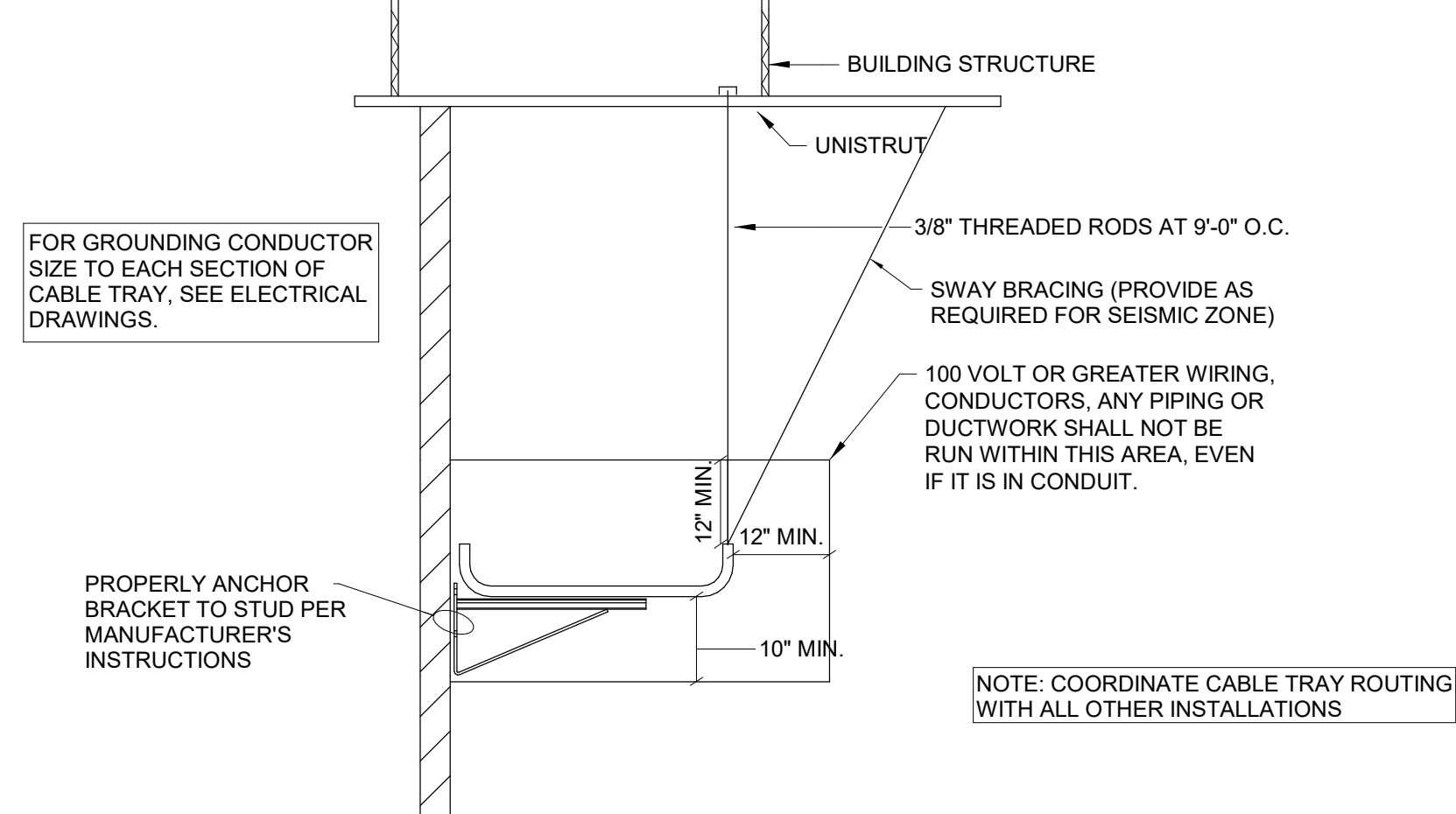
FIRST FLOOR TECHNOLOGY ROUGH-IN PLAN - UNIT B

ET11B

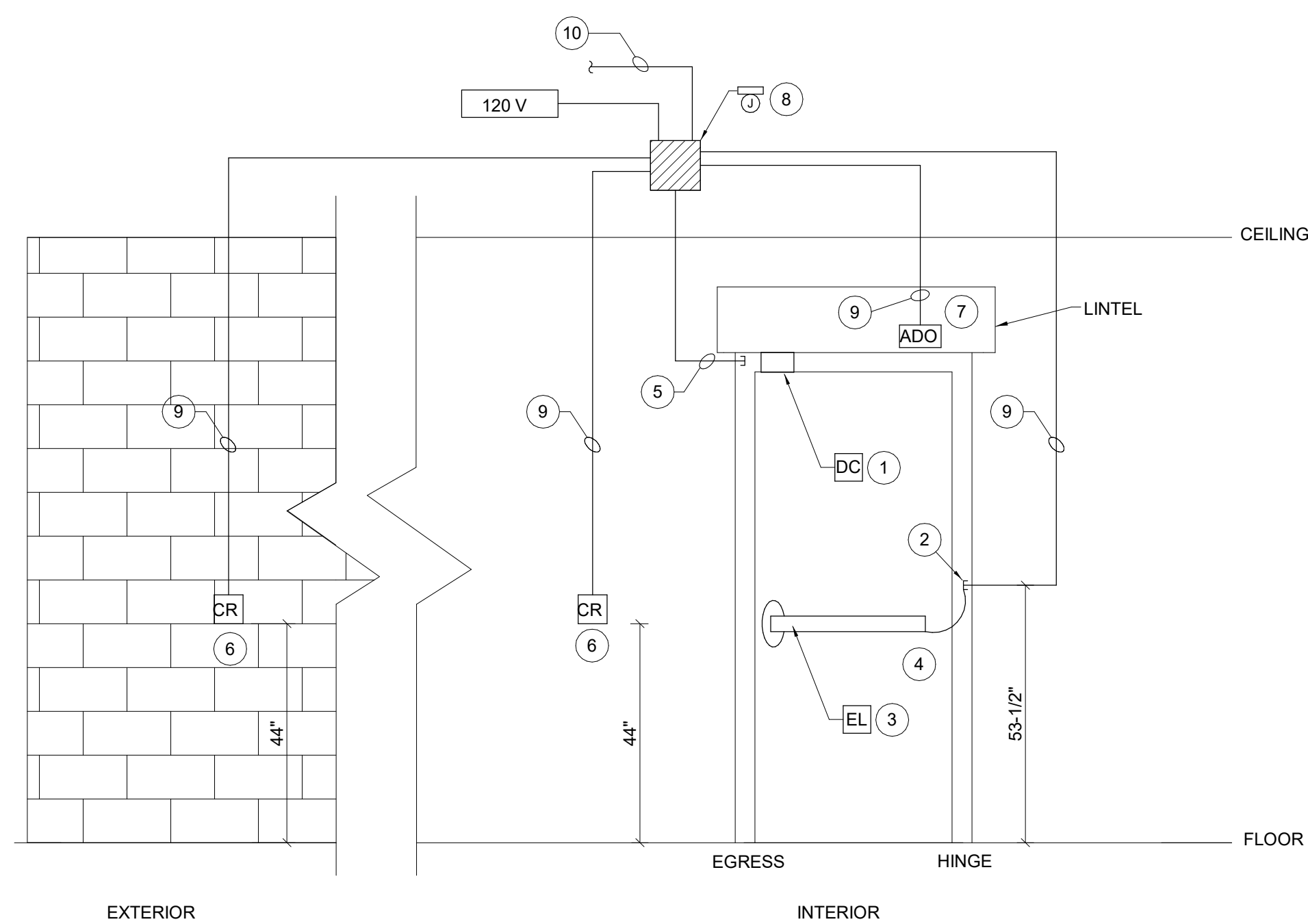
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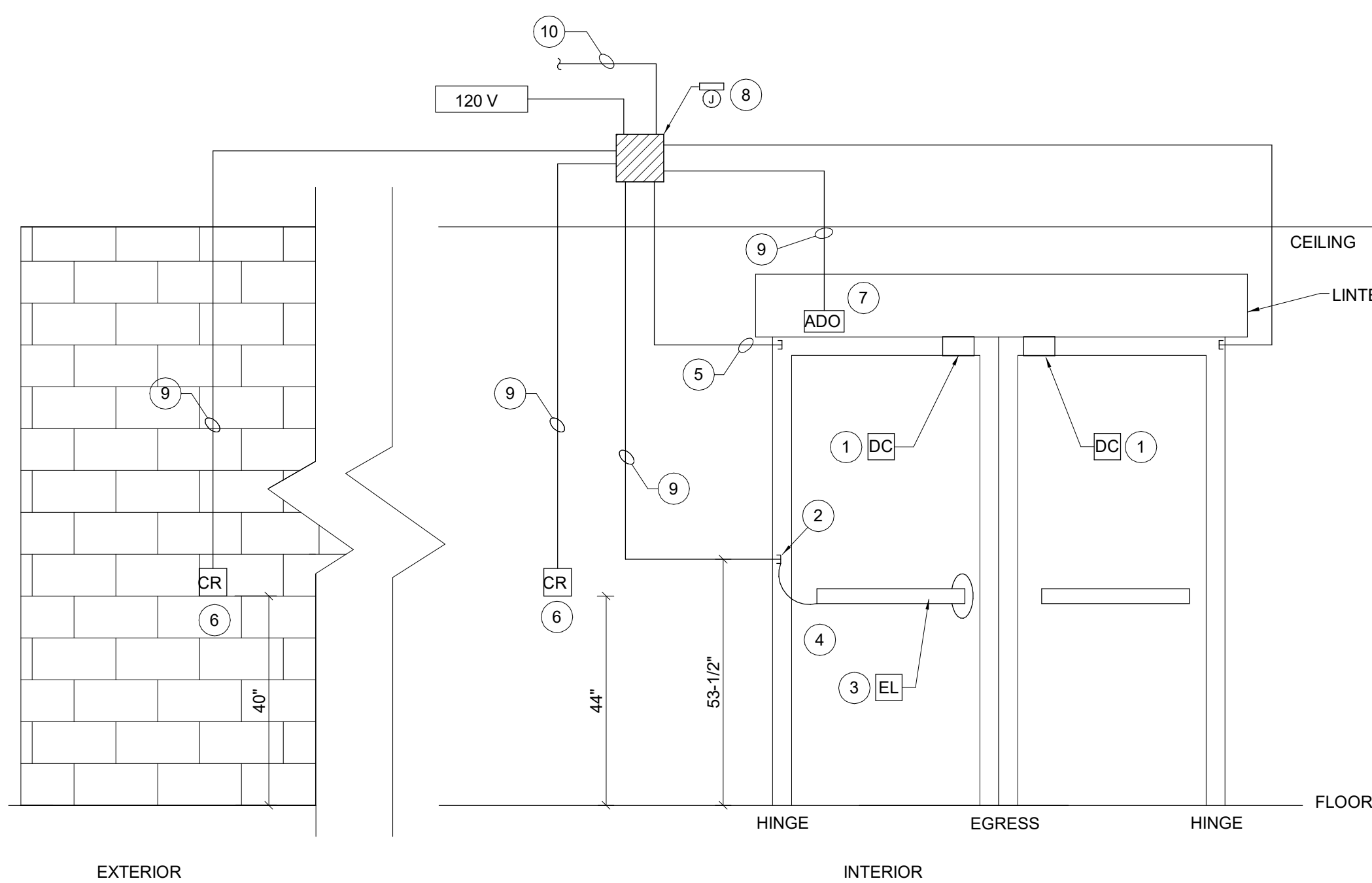
1
N.T.S.
CABLE TRAY ELEVATION DETAIL SUSPENDED



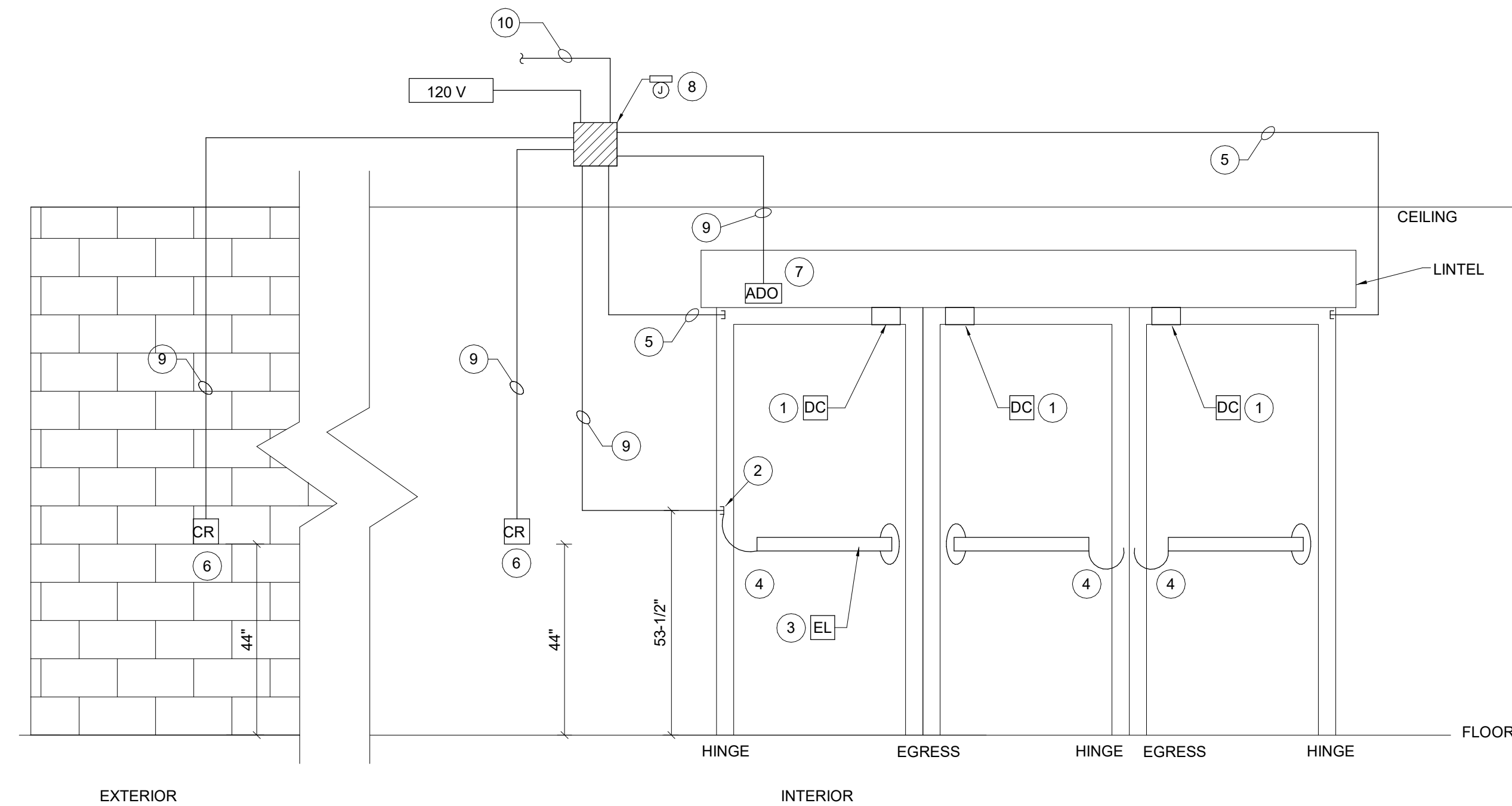
2
N.T.S.
CABLE TRAY ELEVATION DETAIL WALL BRACKET



SINGLE DOOR ENTRY



DOUBLE DOOR ENTRY



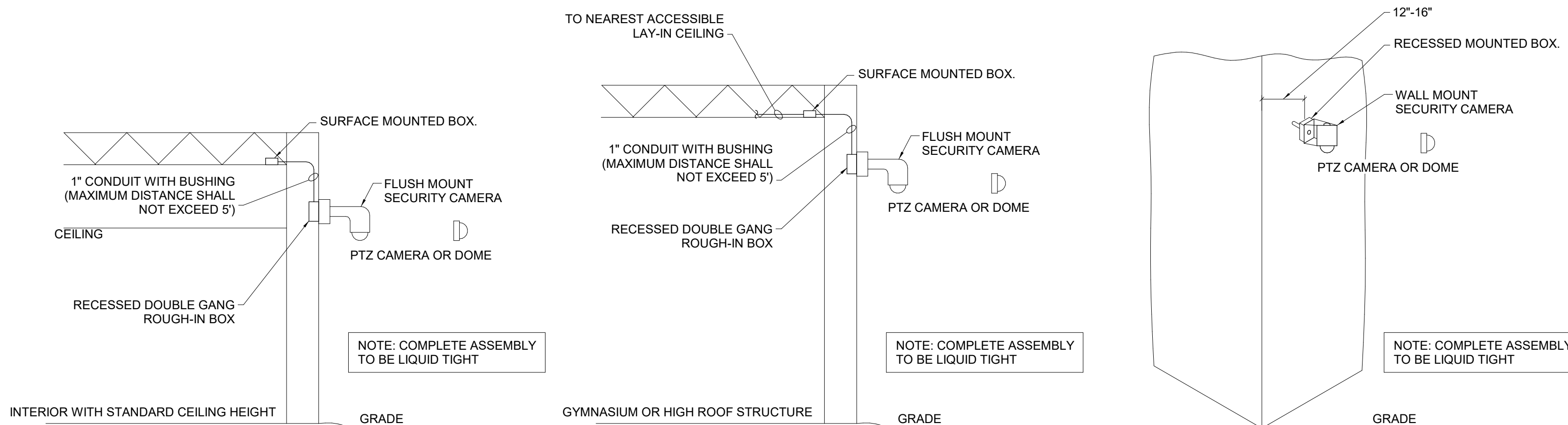
MULTIPLE DOOR ENTRY

DOOR SECURITY ROUGH-IN LEGEND

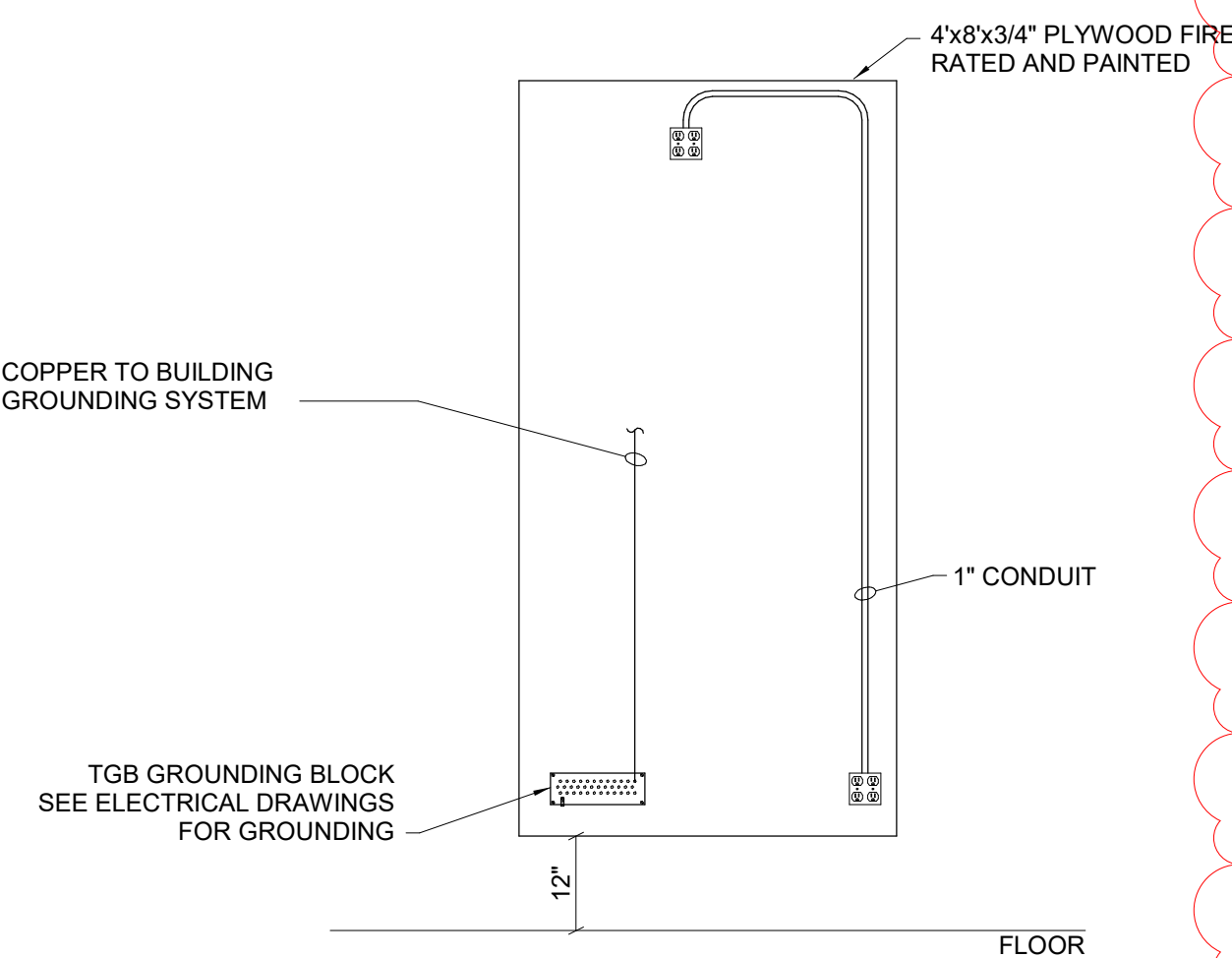
- ① ROUGH-IN FOR RECESSED MOUNTED DOOR CONTACT.
- ② ROUGH-IN FOR THROUGH WIRE HINGE OR ELECTRONIC POWER TRANSFER. THROUGH WIRE HINGE OR ELECTRONIC POWER TRANSFER BY HARDWARE CONTRACTOR. (VERIFY EXACT ROUGH-IN LOCATION WITH DOOR HARDWARE CONTRACTOR.)
- ③ ELECTRIC LATCH OR RETRACTABLE PANIC EXIT DEVICE. BY HARDWARE CONTRACTOR.
- ④ ARMORED CABLE LOOP. EXISTING DOOR AND FRAME CONDITION ONLY.
- ⑤ 1/2" FLEX CONDUIT IN DOOR FRAME TO SECURITY JUNCTION BOX ABOVE CEILING.
- ⑥ 2 GANG JUNCTION BOX. 3 1/2" DEEP, FOR CARD READER.
- ⑨ 1" CONDUIT TO JUNCTION BOX ABOVE CEILING.
- ⑩ 1" CONDUIT TO CABLE TRAY.
- ⑦ ROUGH-IN FOR AUTOMATIC DOOR OPERATOR (ADO).
- ⑧ HINGED SECURITY JUNCTION BOX (24"X24"X6"), MOUNTED ABOVE CEILING TO HOUSE ACCESS CONTROL DOOR CONTROLLER.

NOTE: TYPICAL DOOR ROUGH-IN DETAILS. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND CONFIGURATIONS

4
N.T.S.
DOOR SECURITY HARDWARE ROUGH-IN DETAILS



5
N.T.S.
VIDEO SURVEILLANCE CAMERA ROUGH-IN DETAIL



7
N.T.S.
TR TELEPHONE TERMINATION BOARD

PORTAGE TS/HS CAFETERIA RENOVATION

1234 Street Address
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PORTAGE TOWNSHIP SCHOOLS



PORTAGE TOWNSHIP SCHOOLS

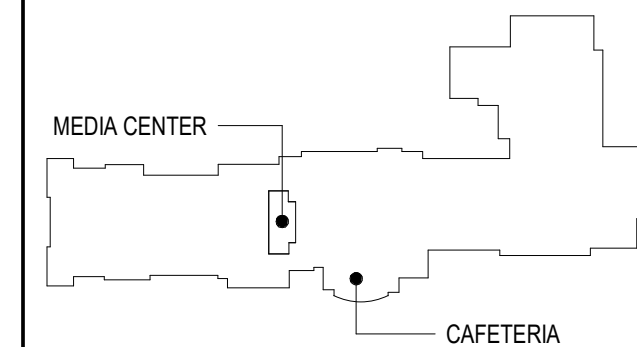
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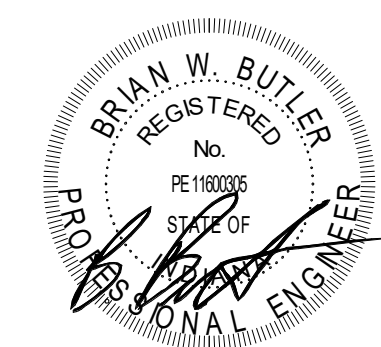
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350 E. New York St.



KEY PLAN

CONSTRUCTION DOCUMENTS



DRAWN BY: JJR

PROJECT NUMBER: 2202023.00

PROJECT ISSUE DATE: 8/14/2025

REV. NO.	DESCRIPTION	DATE
2	Addendum #3	09/14/2025

TECHNOLOGY ROUGH-IN DETAILS

ET502

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PORTAGE TS/HS
CAFETERIA
RENOVATION

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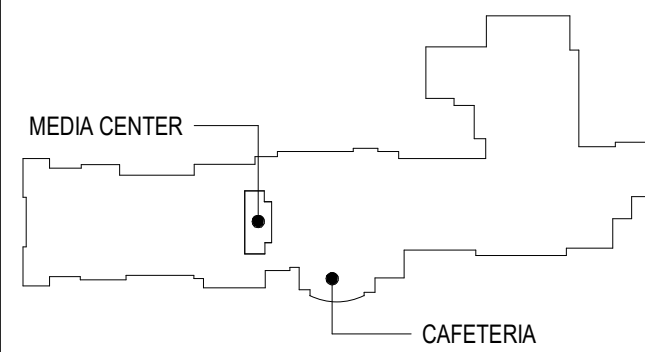
PORTAGE TOWNSHIP
SCHOOLS



ARCHITECT

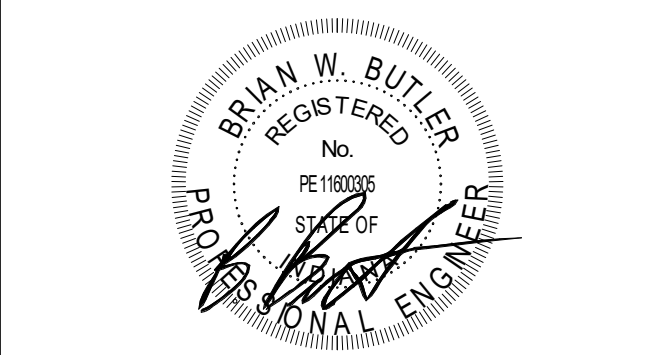
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KEY PLAN

CONSTRUCTION DOCUMENTS

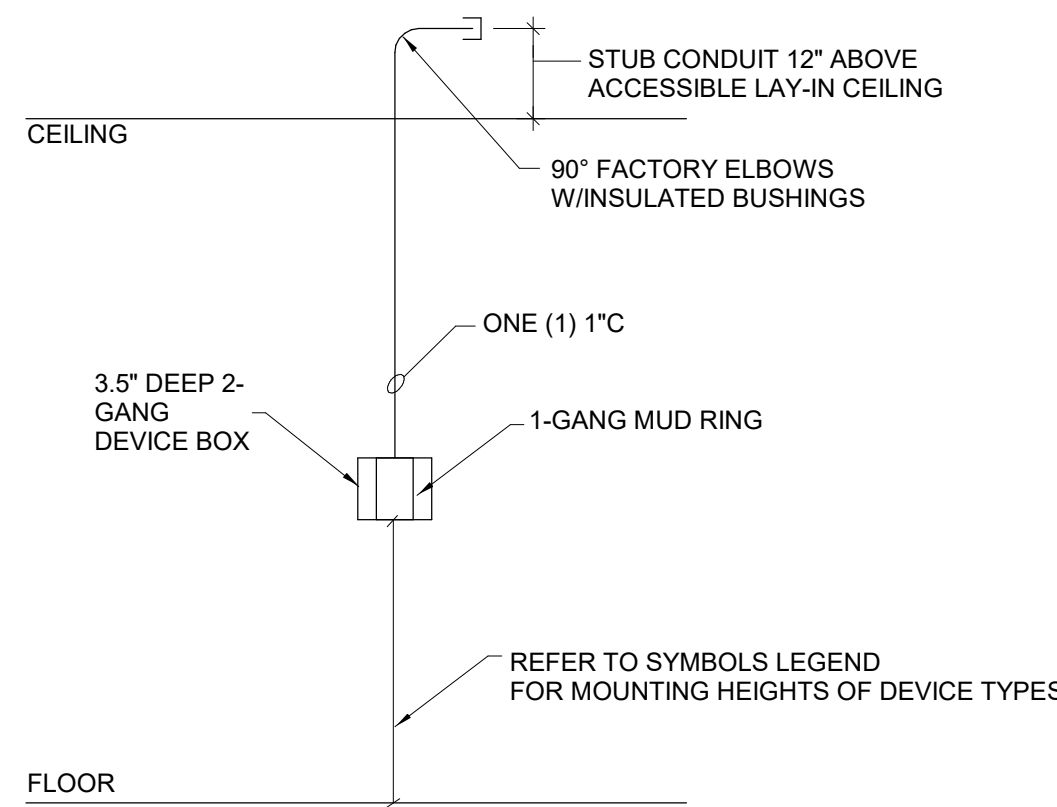


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PROJECT NUMBER: 220223.00
PROJECT ISSUE DATE: 8/14/2025

REV. NO.	DESCRIPTION	DATE
2	Addendum #3	09/14/2025

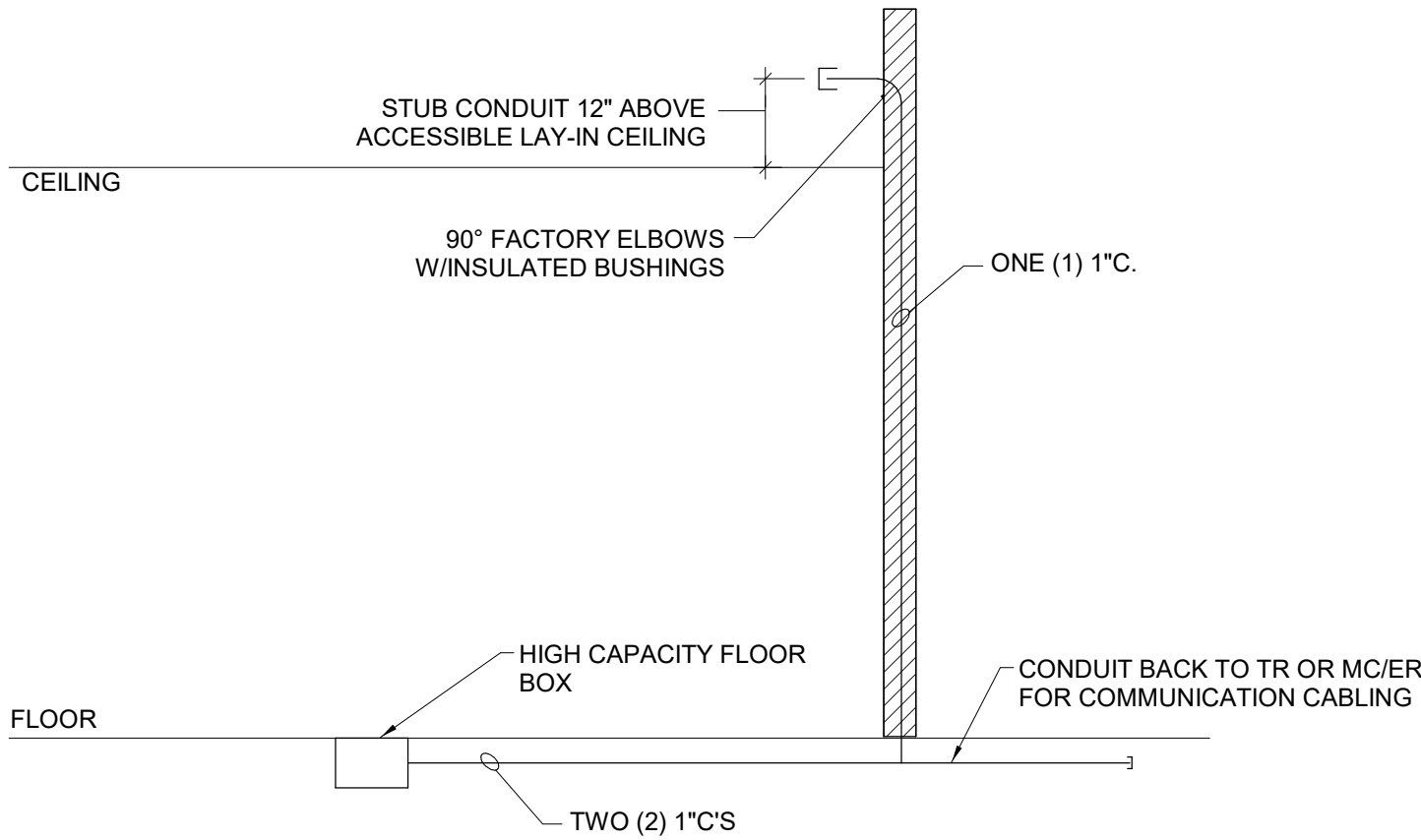
TECHNOLOGY ROUGH-IN DETAILS

ET503



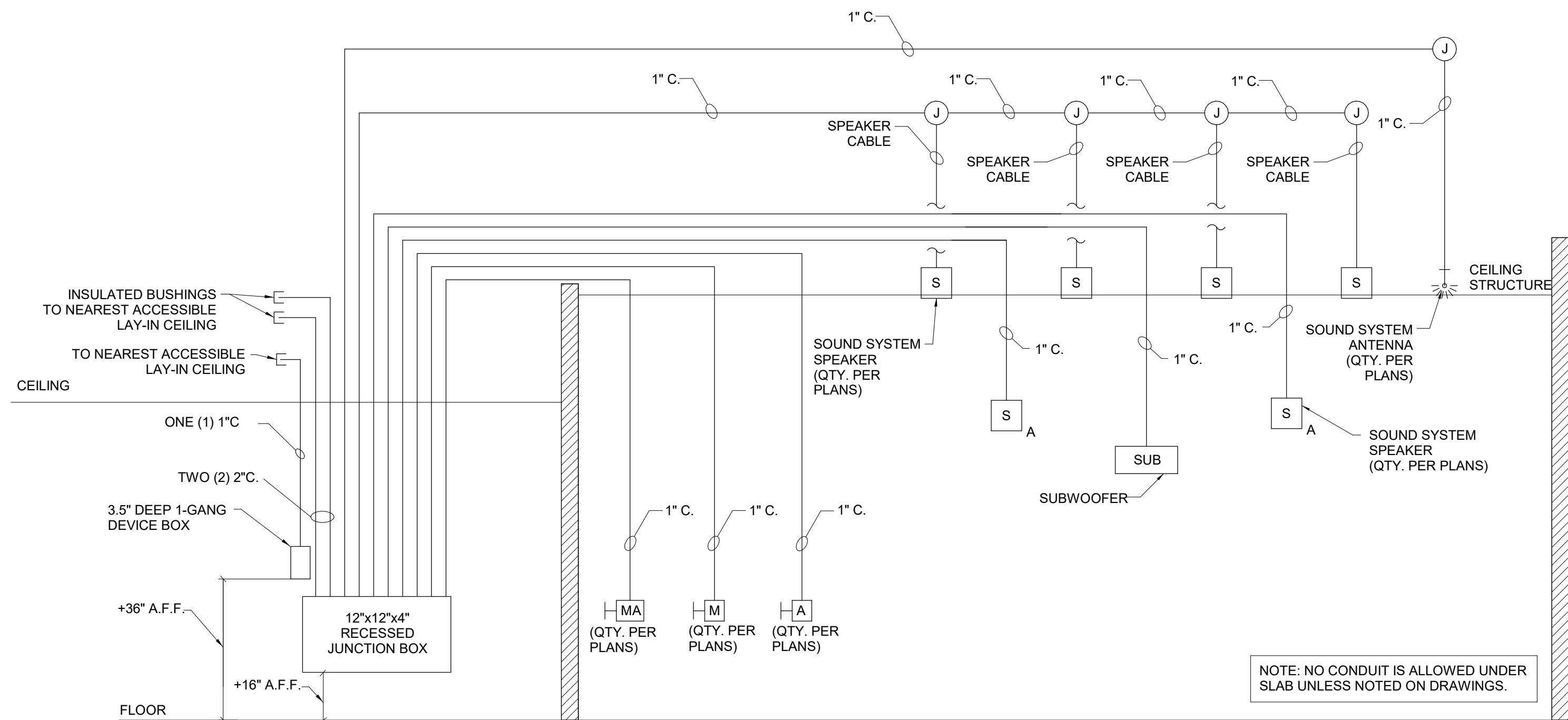
- GENERAL NOTES:
1. PROVIDE BLANK COVERPLATES FOR ALL UNUSED BOXES.
 2. PROVIDE PULL STRINGS IN CONDUIT RUNS GREATER THAN 10' IN LENGTH.

TECHNOLOGY ROUGH-IN
REQUIREMENTS 1-GANG WALL
BOX - ACCESSIBLE LAY-IN
CEILINGS



- GENERAL NOTES:
1. PROVIDE BLANK COVERPLATES FOR ALL UNUSED BOXES.
 2. RECEPTACLES ARE SHOWN FOR COORDINATION ONLY. REFER TO ELECTRICAL DRAWINGS FOR QUANTITY, CIRCUITING, MOUNTING, AND ADDITIONAL REQUIREMENTS.
 3. PROVIDE PULL STRINGS IN CONDUIT RUNS GREATER THAN 10' IN LENGTH.

TECHNOLOGY ROUGH-IN
REQUIREMENTS FLOOR BOX -
ACCESSIBLE LAY-IN CEILINGS



CAFETORIUM/GYM SOUND
SYSTEM CONDUIT ROUGH-IN
DETAILS

2

ROOM LEGEND			
ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
FIRST FLOOR - EAST			
B101		CAFETERIA	9740 SF
B102		SERVING	2419 SF
B103		WAREWASHING	371 SF
B104		CUSTODIAN	63 SF
B105		KITCHEN	1673 SF
B106		COOLER / FREEZER	501 SF
B107		LOCKERS	66 SF
B108		TOILET	86 SF
B109		RECEIVING	156 SF
B110		OFFICE	73 SF
B111		DRY STORAGE	519 SF
B112		TECH CLOSET	52 SF
B113		GRAB & GO	279 SF

TECHNOLOGY PLAN GENERAL NOTES:

A. DEVICES SHALL BE INSTALLED AT LOCATIONS SHOWN ON DRAWINGS. LOCATIONS OF DEVICES SHALL BE COORDINATED WITH OTHER ELECTRICAL DEVICES/ CASEWORK/ ARCHITECTURAL FEATURES AND OTHER TRADES PRIOR TO ROUGH-IN. IF RELOCATION OF DEVICES IS REQUIRED DUE TO LACK OF COORDINATION BETWEEN ELECTRICAL DRAWINGS AND OTHER TRADES, ANY ASSOCIATED COSTS SHALL BE RESPONSIBILITY OF ELECTRICAL CONTRACTOR

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PORTAGE TS/HS CAFETERIA RENOVATION

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PORTAGE TOWNSHIP SCHOOLS



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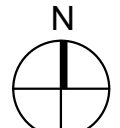
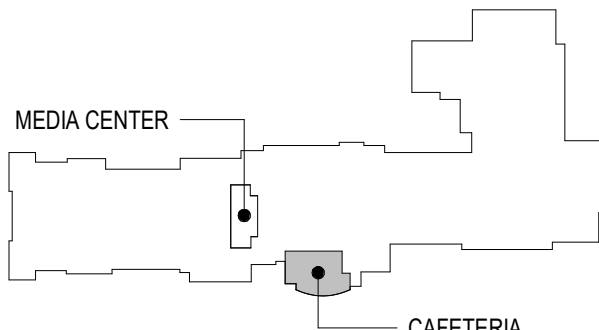


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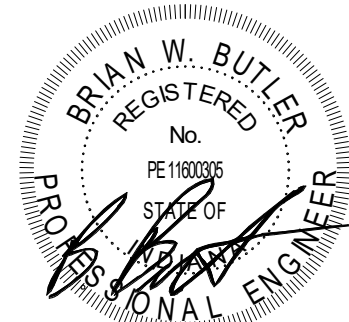
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KEY PLAN

CONSTRUCTION DOCUMENTS



DRAWN BY: JJR

PROJECT NUMBER: 226023.00

PROJECT ISSUE DATE: 8.14.2020

[illegible]

**FIRST FLOOR TECHNOLOGY PLAN -
UNIT B**

T-11B

TECHNOLOGY PLAN NOTES

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

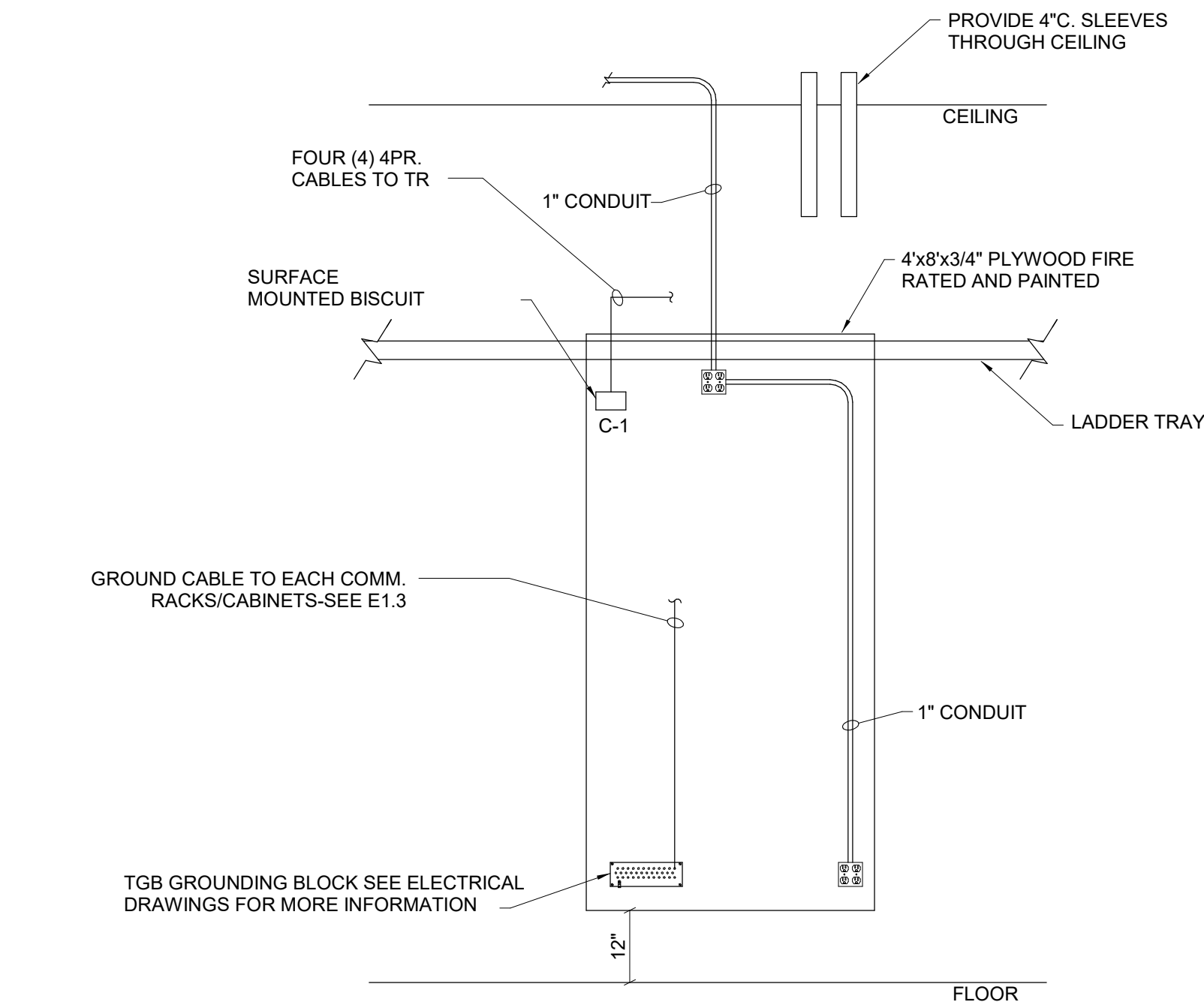
NOTE

T3 ALGO 8410 IP DISPLAY SPEAKER
T9 ALGO 8198 IP CEILING SPEAKER WITH ALGO 8138 IP COLOR
VISUAL ALERTER (TYPICAL).
T11 PROVIDE FIBER CONNECTION BACK TO EXISTING MDF
LOCATED NEAR MAIN OFFICE, BETWEEN DOORS B AND C
COORDINATE FINAL ROUTING WITH ELEC.

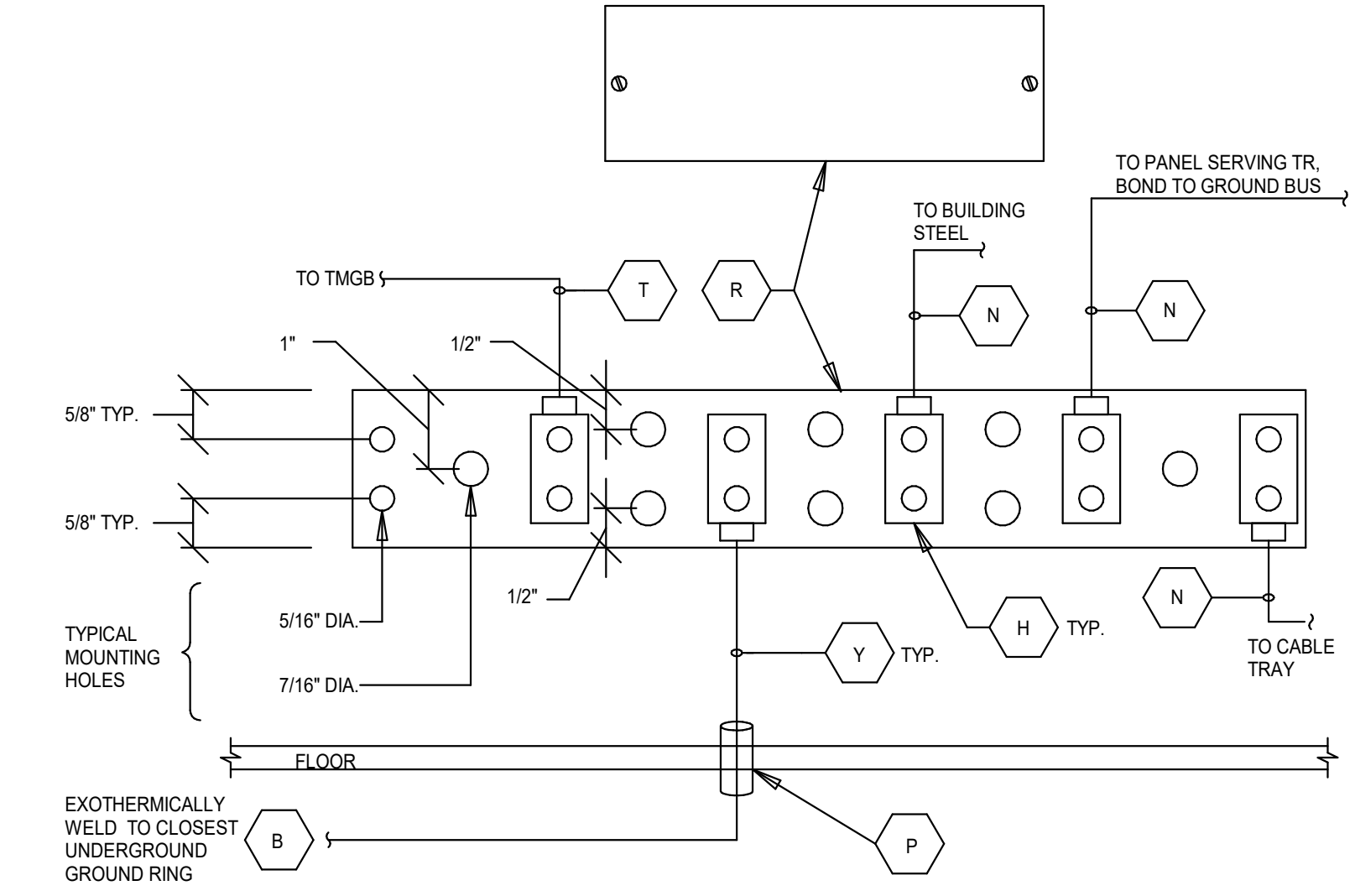
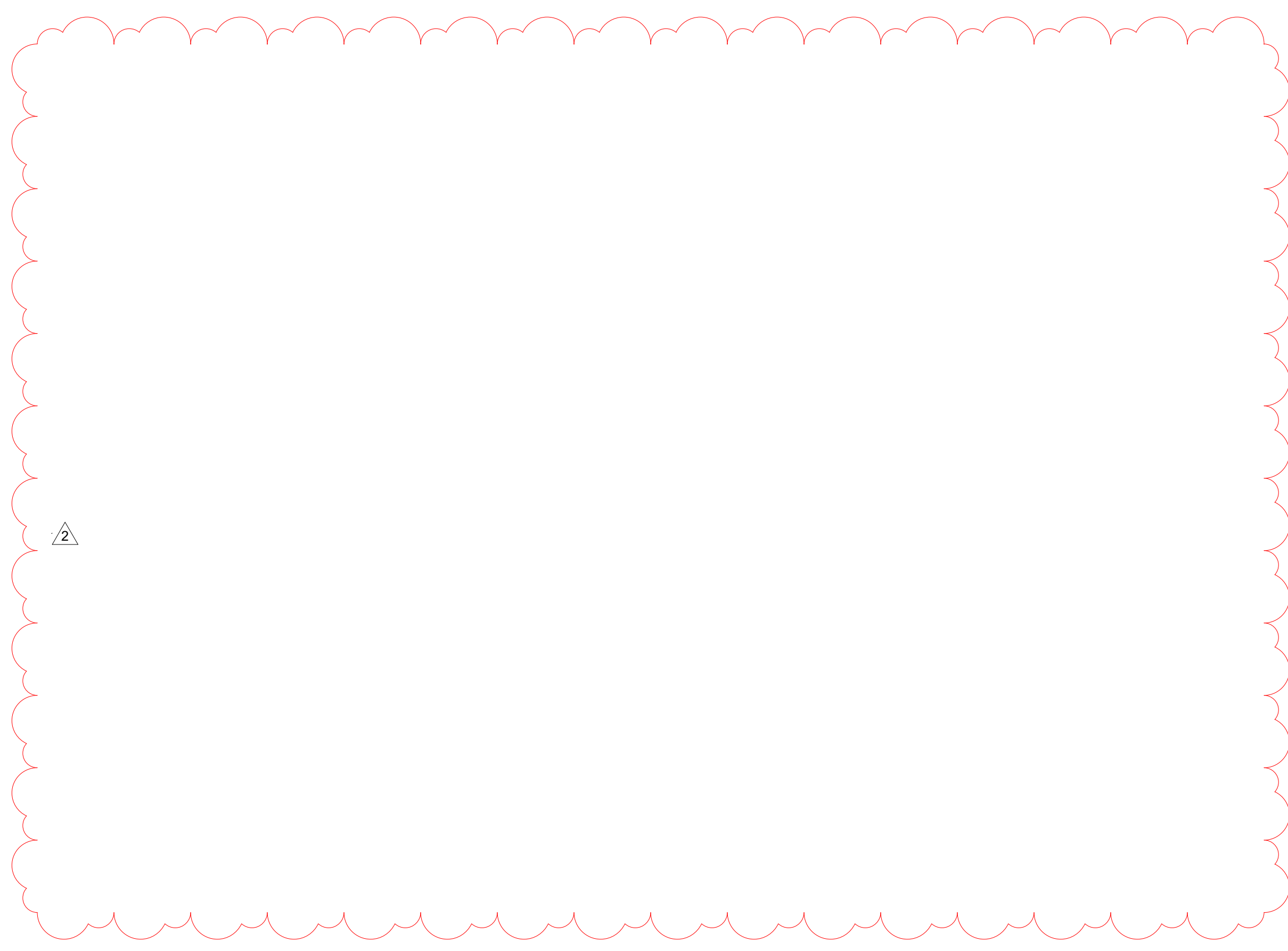
1 FIRST FLOOR TECHNOLOGY UNIT PLAN - CAFETERIA
SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

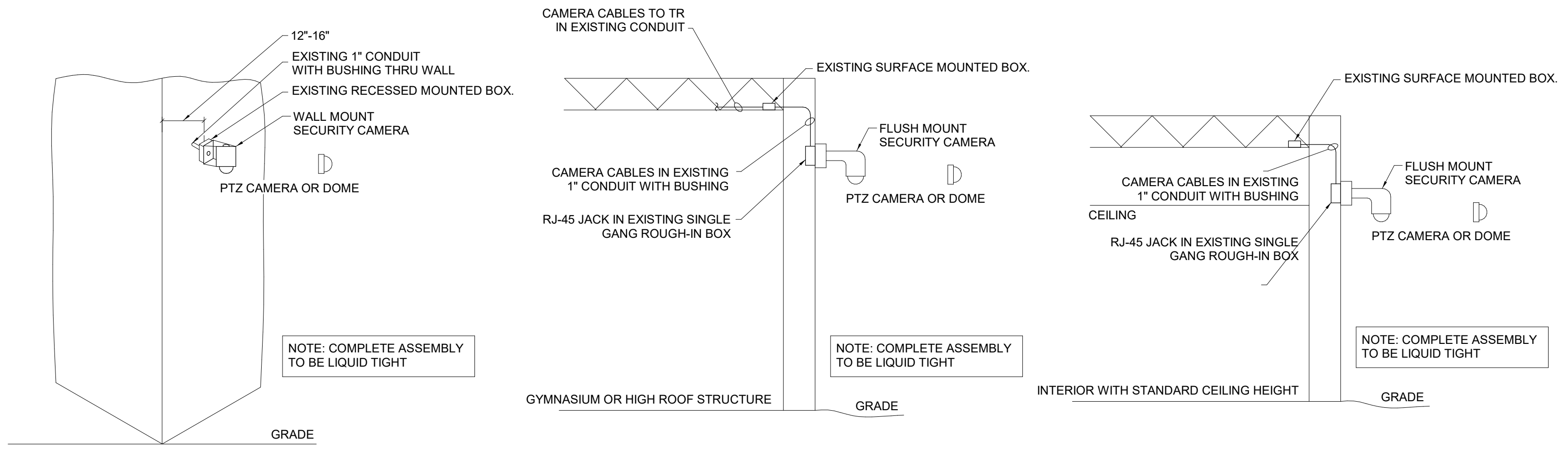
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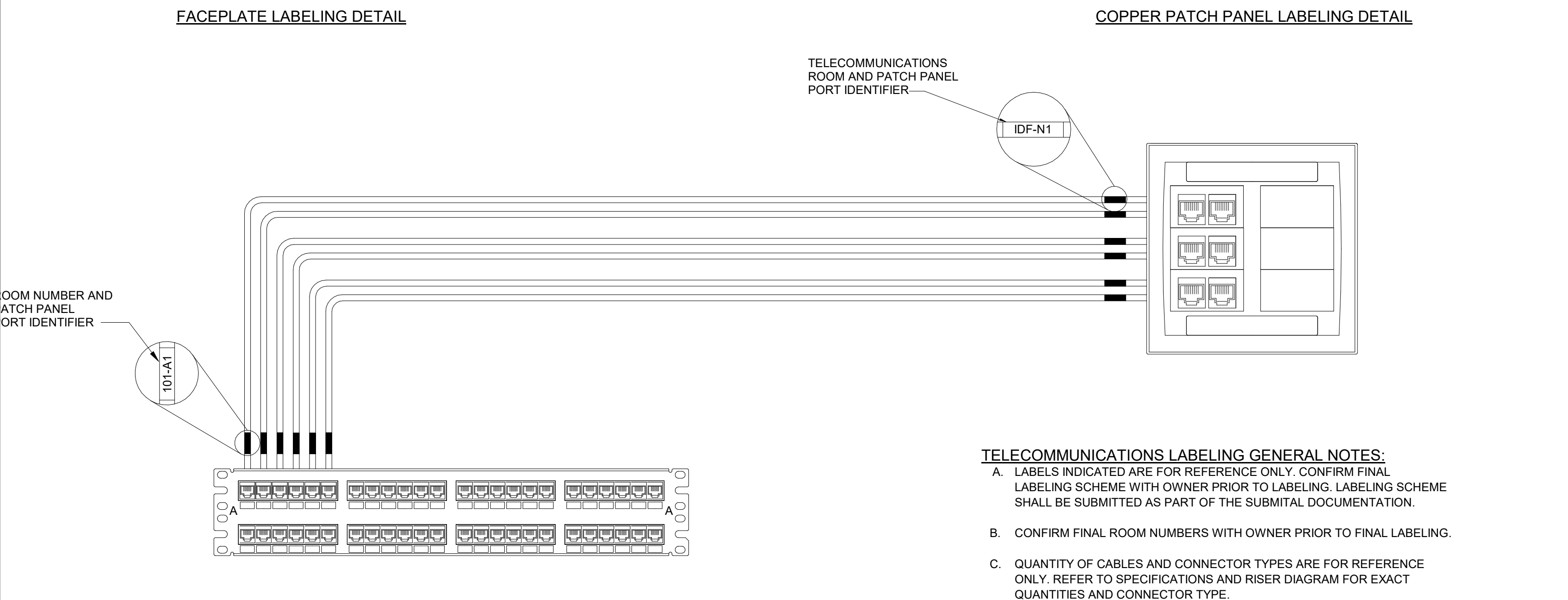
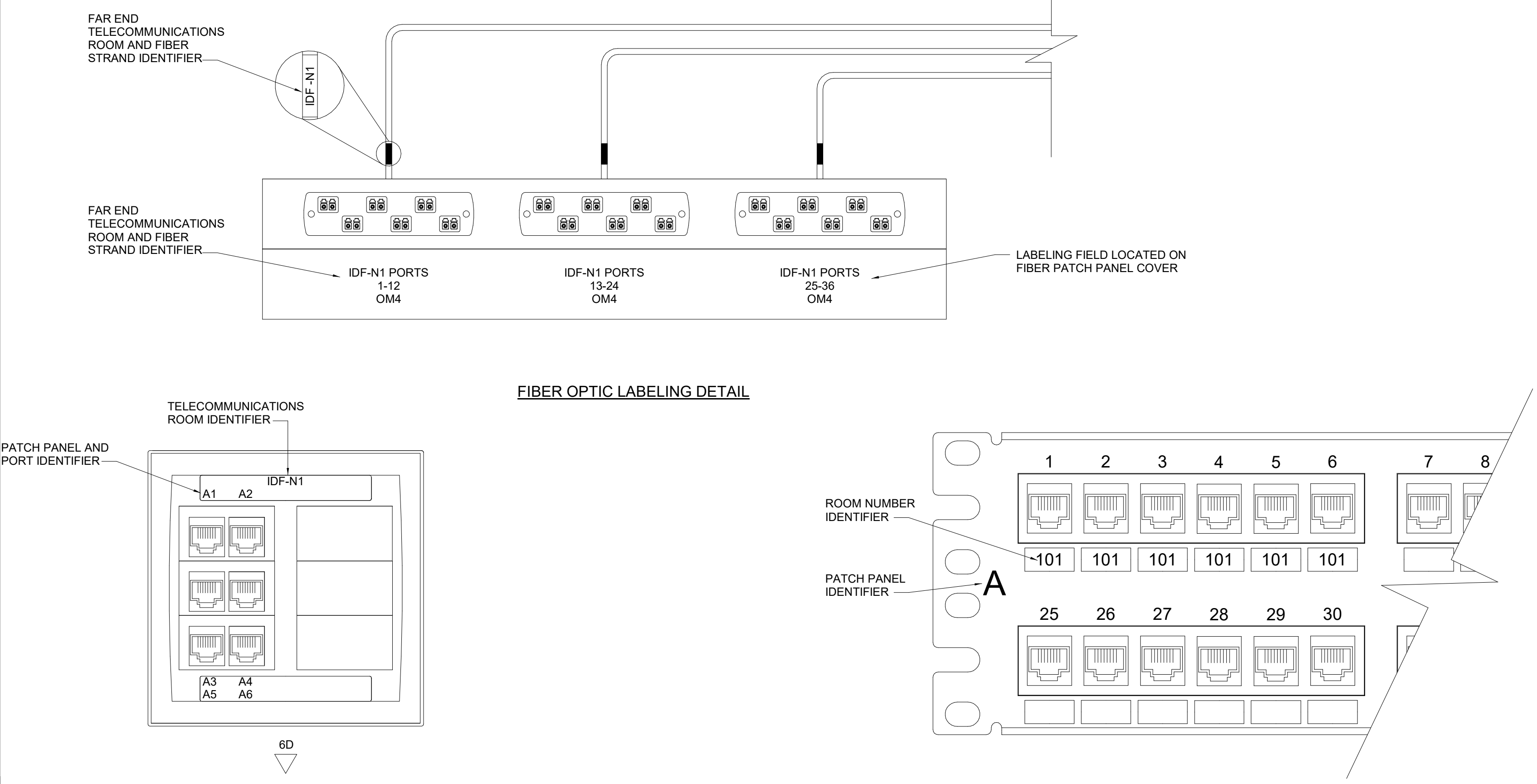
1 TR TELEPHONE TERMINATION BOARD



5 TYPICAL TR TELECOMMUNICATIONS GROUNDING BUSBAR (TGB) DETAIL1



3 VIDEO SURVEILLANCE SYSTEM WIRING DETAIL



4 LABELING DETAILS1

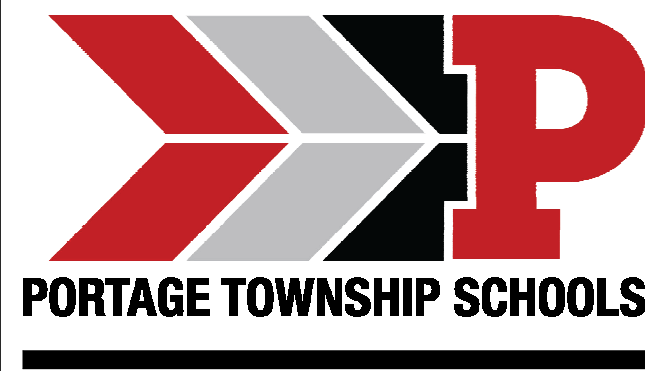
HORIZONTAL DATA CABLE LABELING DETAIL

TELECOMMUNICATIONS LABELING GENERAL NOTES:
A. LABELS INDICATED ARE FOR REFERENCE ONLY. CONFIRM FINAL LABELING SCHEME WITH OWNER PRIOR TO LABELING. LABELING SCHEME SHALL BE SUBMITTED AS PART OF THE SUBMITAL DOCUMENTATION.
B. CONFIRM FINAL ROOM NUMBERS WITH OWNER PRIOR TO FINAL LABELING.
C. QUANTITY OF CABLES AND CONNECTOR TYPES ARE FOR REFERENCE ONLY. REFER TO SPECIFICATIONS AND RISER DIAGRAM FOR EXACT QUANTITIES AND CONNECTOR TYPE.

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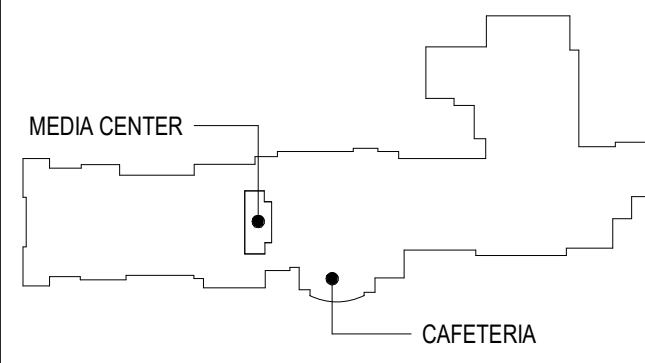
PORTAGE TOWNSHIP SCHOOLS



ARCHITECT

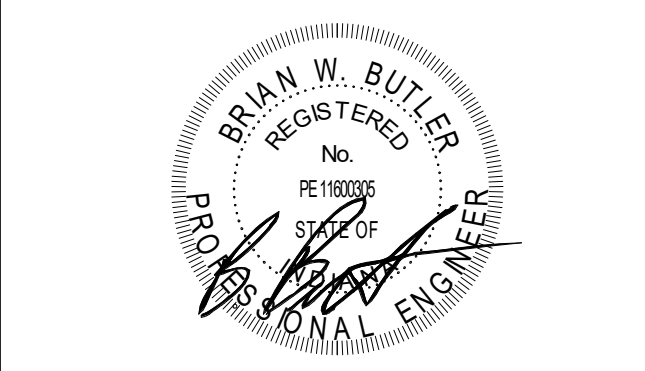
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CONSTRUCTION DOCUMENTS



DRAWN BY: JJR
PROJECT NUMBER: 220023.00
PROJECT ISSUE DATE: 8/14/2025

REV. NO.	DESCRIPTION	DATE
2	Addendum #3	09/14/2025

TECHNOLOGY DETAILS

T-502