

MUNICIPALITY OF ANCHORAGE PURCHASING DEPARTMENT

PHONE (907) 343-4590 P.O. Box 196650 ANCHORAGE, ALASKA 99519-6650

DATE OF INVITATION September 8, 2022	TIME AND DATE OF OPENING 3:00 PM Local Time, December 1, 2022
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ADDENDUM No. 3

TO INVITATION TO BID No. 2022C040

DATE ISSUED: November 21, 2022

TITLE: PERFORMING ARTS CENTER ELEVATOR MODERNIZATION

The following changes and/or additions are hereby made to subject Invitation to Bid:

1. **CHANGE:** the Time and Date of Opening to: 3:00 PM Local Time, December 1, 2022.
2. **REPLACE:** Sheets E002, E101, E102, E201, E202 with the attached sheets E002R, E101R, E102R, E201R, E202R.
3. **INCORPORATE:** Specification Section 28 46 00, Fire Detection and Alarm.

All other terms, conditions and specifications remain unchanged.

An electronic (.pdf) copy of the Invitation to Bid is available at Municipality of Anchorage, Purchasing Office website; (<http://www.muni.org/Departments/purchasing/Pages/bidding.aspx>) Should you choose to obtain a copy of the Invitation to Bid from the website; it is your responsibility to periodically check the website for addends.

THIS ADDENDUM MUST BE ACKNOWLEDGED IN SPACE PROVIDED ON BID PROPOSAL SHEET OR SIGNED AND RETURNED TO PURCHASING PRIOR TO TIME SET FOR BID OPENING IN ACCORDANCE WITH ANCHORAGE MUNICIPAL CODE 7.20.020C.

Municipality of Anchorage reserves the right to accept or reject bids. Prices quoted must be F.O.B. Destination. Municipality is exempt from Federal Excise Tax. Bids shall be submitted to the Purchasing Office prior to time set for opening. Any bids not received by the Purchasing Office prior to that time will not be considered and will be returned.

PLEASE ACKNOWLEDGE AND RETURN THIS ADDENDUM PRIOR TO THE DATE AND TIME SHOWN ABOVE OR YOUR BID MAY BE REJECTED.

VENDOR NAME _____

MUNICIPALITY OF ANCHORAGE

SIGNATURE _____

Chris Hunter

DATE OF BID _____

Chris Hunter
Deputy Purchasing Director

EXISTING '2BS'															
MFR/MODEL: ?				VOLTS: 120/208V,3PH,4W				ENCLOSURE: NEMA 1				225 A			
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	VOLT-AMPS			TYPE	SERVICE	AMPS	POLE	CIRC	NOTE	
						A	B	C							
a	1	1	20	TOILETS, SHOWERS						OFFICE OUTLET	20	1	2	a	
b	3	1	20	ELEVATOR PIT LTG	MISC		112			GREEN RM OUTLET	20	1	4	a	
b	5	1	20	ELEVATOR PIT SUMP PUMP	MOTR			1127		GREEN RM OUTLET	20	1	6	a	
c	7	1	20	ELEVATOR PIT RECP	RECP	180				GREEN RM OUTLET	20	1	8	a	
△	9	1	20	BOOSTER/POWER SUPPLY	MISC		500			CORRIDOR OUTLET	20	1	10	a	
a	11	1	20	DRESS ROOM 193						PIT LIFT OUTLET	20	1	12	a	
a	13	1	20	DRESS ROOM 193						PIT LIFT CONTROLS	20	1	14	a	
a	15	1	20	DRESS ROOM 194						TOOL ROOM OUTLETS	20	1	16	a	
a	17	1	20	DRESS ROOM 194						TOOL ROOM OUTLETS	20	1	18	a	
a	19	1	20	DRESS ROOM 156						TOOL ROOM OUTLETS	20	1	20	a	
a	21	1	20	DRESS ROOM 156			180		RECP	RECP - ELEV. MACHINE 173	20	1	22	c	
a	23	1	20	DRESS ROOM 157						SF-40	20	1	24	a	
a	25	1	20	DRESS ROOM 157		166			MOTR	EF-1 ELEV. EXHAUST	20	1	26	c	
a	27	1	20	DRESS ROOM 160						SPARE	20	1	28	a	
a	29	1	20	DRESS ROOM 160						SPARE	20	1	30	a	
a	31	1	20	DRESS ROOM 160						ROOM 166 OUTLETS	20	1	32	a	
a	33	1	20	DRESS ROOM 160						ROOM 166 OUTLETS	20	1	34	a	
a	35	1	20	DRESS ROOM 160						ROOM 166 OUTLETS	20	1	36	a	
a	37	1	20	AUDIO						SPARE	20	1	38	a	
a	39	2	20	(E) UNKNOWN						GREEN RM COOK TOP	20	2	40	a	
a	41	2	20	**						**	20	2	42	a	

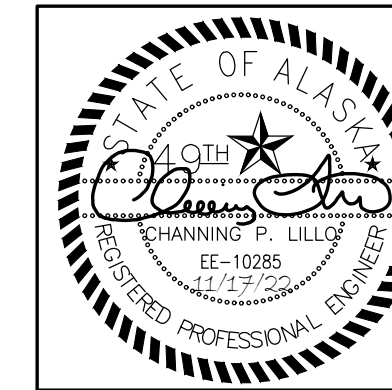
PANEL NOTES:
a EXISTING LOAD TO REMAIN
b EXISTING SPARE BREAKER TO BE CONNECTED TO NEW LOAD INDICATED.
c EXISTING BREAKER TO BE USED FOR NEW LOAD

PANEL OPTIONS:
MAIN LUGS ONLY

ELECTRICAL LOAD CALCULATION PANEL '2BS'	
<u>EXISTING LOADS REMOVED (IN KVA):</u>	
PIT LTG	60 VA
PIT RECP	180 VA
SUMP PUMP	1,127 VA
SF-39	1,127 VA
	VA
SUBTOTAL:	2,494 VA
TOTAL LOADS REMOVED:	-2,494 VA
TOTAL LOADS REMOVED (IN AMPS):	-7 A
<u>NEW LOADS ADDED (IN KVA)</u>	
ELEVATOR PIT LTG	112 VA
ELEVATOR PIT RECP	180 VA
SP-1	1,127 VA
EF-1	166 VA
△ BOOSTER/POWER SUPPLY	500 VA
	VA
SUBTOTAL:	2,085 VA
TOTAL LOADS ADDED:	2,085 VA
TOTAL LOADS ADDED (IN AMPS):	6 A
NET LOAD CHANGE:	-409 VA
NET LOAD CHANGE (IN AMPS):	-1 A
RESULT: OVERALL ALL LOAD IS REDUCED. EXISTING SERVICE AND BRANCH PANEL(S) HAVE CAPACITY FOR REMODEL.	

ELECTRICAL LOAD CALCULATION PANEL "WWB"	
<u>EXISTING LOADS REMOVED (IN VA):</u>	
2-LAMP T8 STRIP FIXTURE (5)	300 VA
SUBTOTAL:	300 VA
TOTAL LOADS REMOVED:	-300 VA
TOTAL LOADS REMOVED (IN AMPS):	-0.83 A
<u>NEW LOADS ADDED (IN VA)</u>	
TYPE B (3)	177 VA
TYPE C (1)	41 VA
TYPE D (1)	31 VA
SUBTOTAL:	249 VA
TOTAL LOADS ADDED:	249 VA
TOTAL LOADS ADDED (IN AMPS):	0.69 A
NET LOAD CHANGE:	-51 VA
NET LOAD CHANGE (IN AMPS):	-0.14 A
RESULT: NET REDUCTION IN LOAD. EXISTING SERVICE AND BRANCH PANEL(S) HAVE CAPACITY FOR REMODEL.	

ELECTRICAL LOAD CALCULATION PANEL "LFR"	
<u>EXISTING LOADS REMOVED (IN VA):</u>	
(1) 2-LAMP T8 STRIP FIXTURE	60 VA
SUBTOTAL:	60 VA
TOTAL LOADS REMOVED:	-60 VA
TOTAL LOADS REMOVED (IN AMPS):	-0.17 A
<u>NEW LOADS ADDED (IN VA)</u>	
TYPE C	41 VA
TYPE E	16 VA
SUBTOTAL:	57 VA
TOTAL LOADS ADDED:	57 VA
TOTAL LOADS ADDED (IN AMPS):	0.16 A
NET LOAD CHANGE:	-3 VA
NET LOAD CHANGE (IN AMPS):	-0.01 A
RESULT: NET REDUCTION IN LOAD. EXISTING SERVICE AND BRANCH PANEL(S) HAVE CAPACITY FOR REMODEL.	



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(907) 276-2424
Corporate No. AEC0542

MUNICIPALITY OF ANCHORAGE
**PERFORMING ARTS CENTER
ELEVATOR MODERNIZATION**
621 W 6TH AVE ANCHORAGE, ALASKA 99501

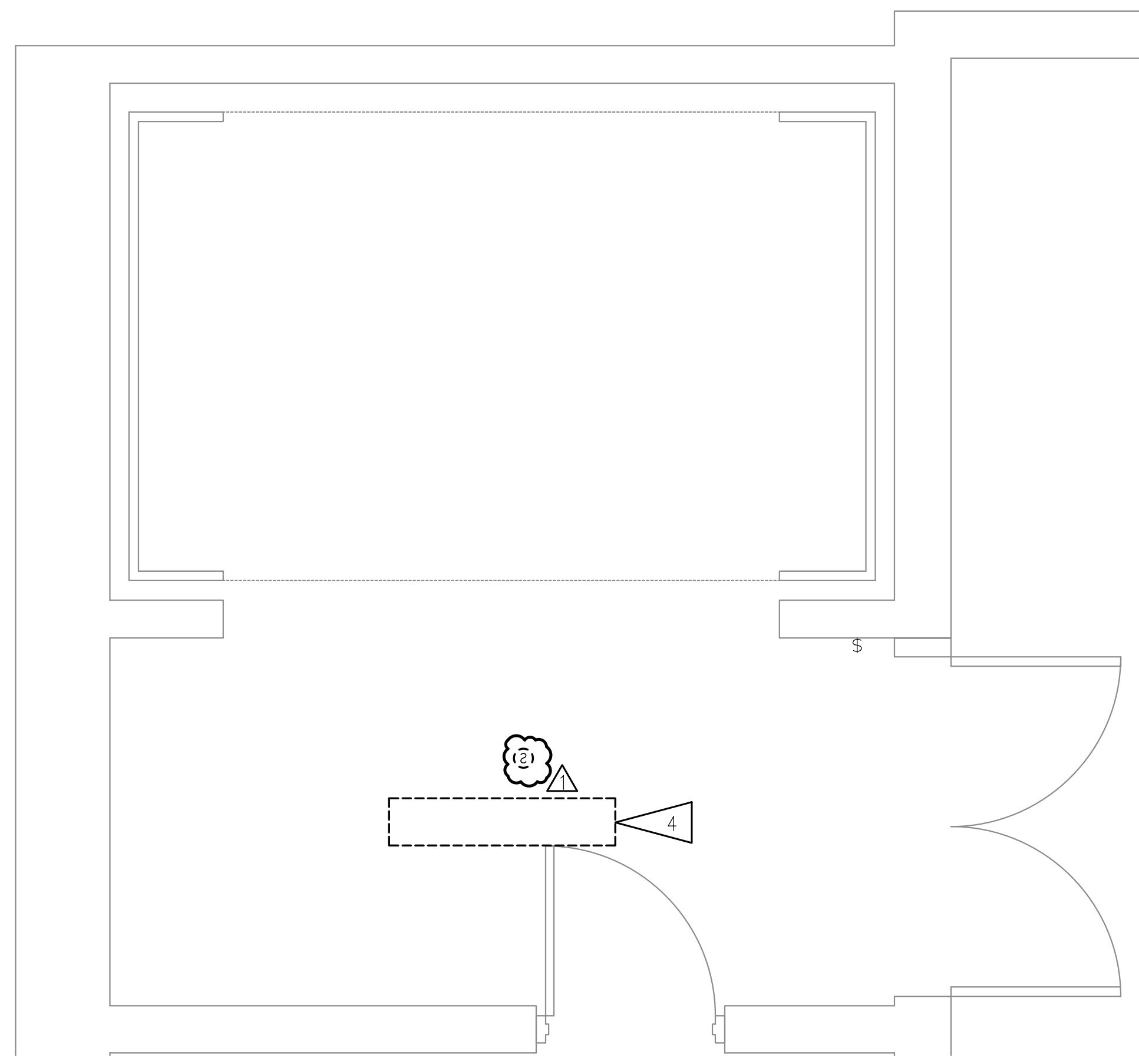
DATE: 3/9/22
DRAWN: KWS, FWS
CHECKED: KWS, CPL
PROJECT: M1264
DRAWING TITLE:
ELECTRICAL SPECIFICATIONS
REVISIONS:
△ ADDENDUM #3 11/17/2022
SHEET NO:
E002 R

GENERAL NOTES:

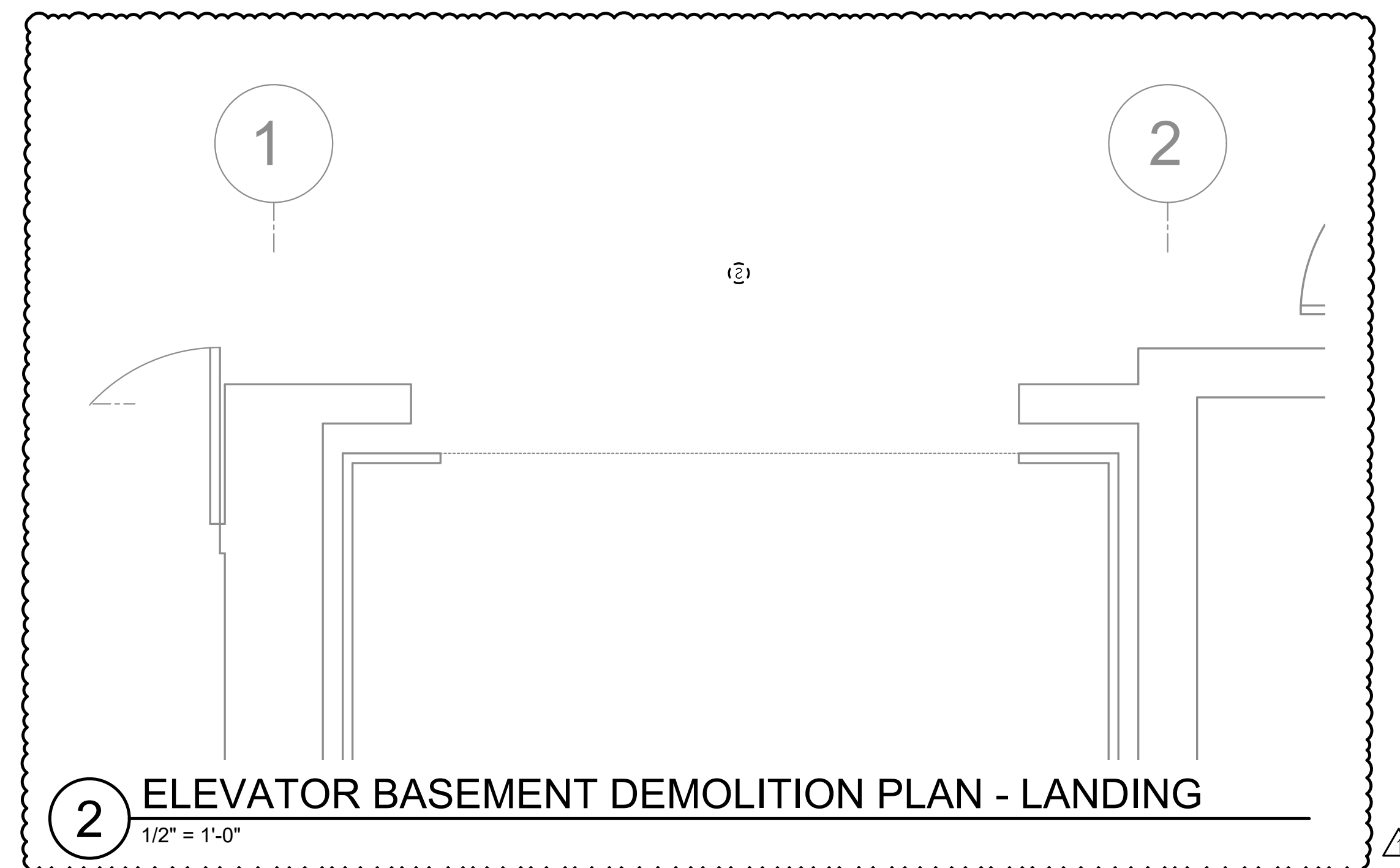
- A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM RECORD DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.
- B. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.
- C. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
- D. UNLESS OTHERWISE NOTED, SMOKE DETECTORS AND BASE SHALL BE DEMOLISHED AND REPLACED WITH A NEW DEVICE AND RELAY BASE.

SHEET NOTES

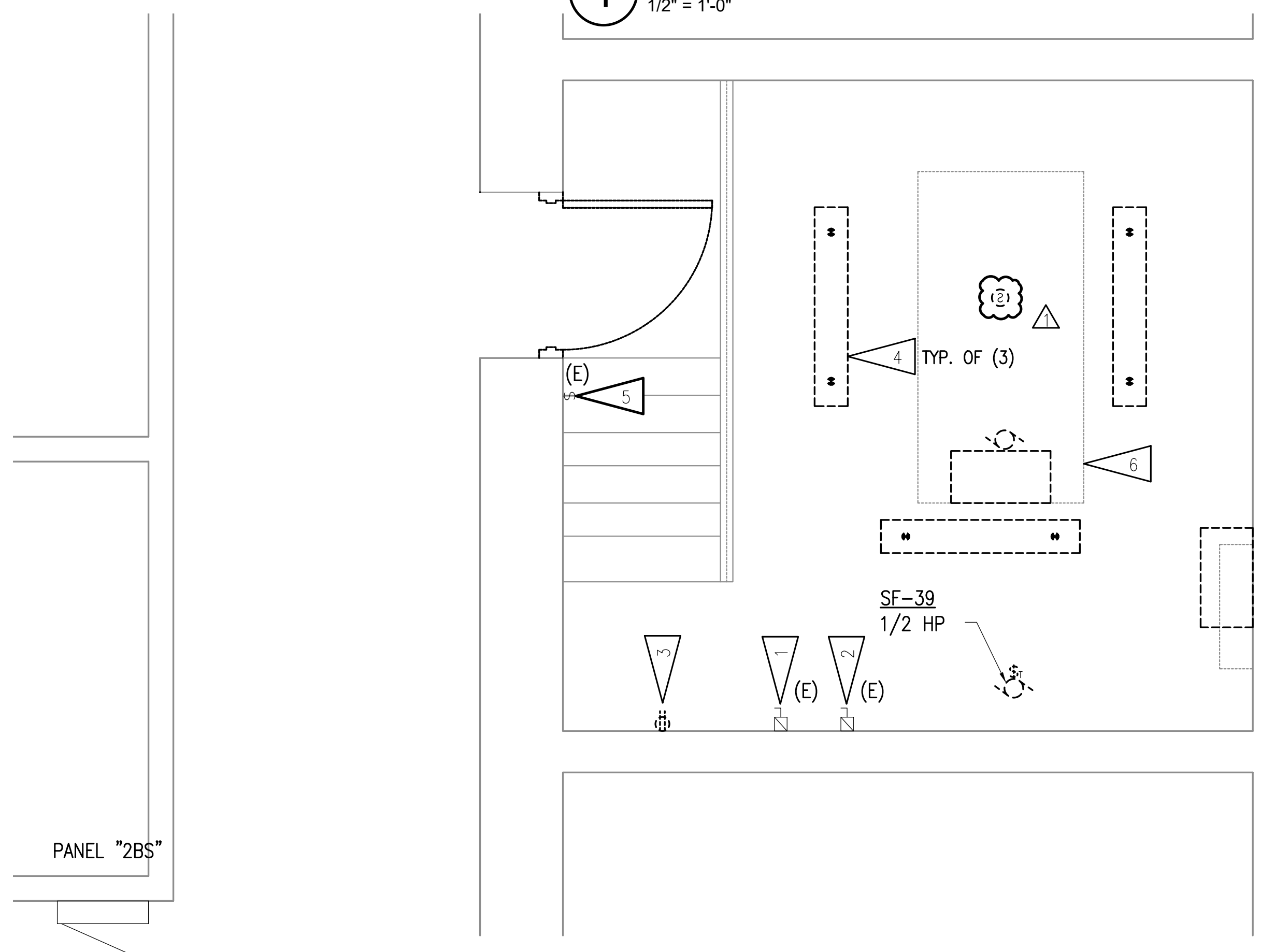
- 1. EXISTING SQUARE D 200A 3-PHASE FUSED DISCONNECT TO BE RE-USED FOR NEW ELEVATOR MOTOR CONTROLLER.
- 2. EXISTING SQUARE 'D' FUSED DISCONNECT FOR ELEVATOR CAB LIGHTS TO BE RE-USED WITH NEW ELEVATOR CAB LIGHTING CONTROLLER.
- 3. EXISTING RECEPTACLE TO BE DEMOLISHED AND REPLACED WITH NEW GFCI RECEPTACLE. SAVE JUNCTION BOX, CONDUIT AND CONDUCTORS FOR REUSE WITH NEW RECEPTACLE AT THE SAME LOCATION.
- 4. EXISTING LIGHT FIXTURE TO BE DEMOLISHED AND REPLACED WITH NEW FIXTURE. SAVE CONDUIT, JUNCTION BOXES AND CONDUCTORS FOR RE-USE WITH NEW FIXTURE AT THE SAME LOCATION.
- 5. EXISTING LIGHT SWITCH TO REMAIN AND BE RE-USED FOR CONTROL OF NEW LIGHT FIXTURES.
- 6. EXISTING ELEVATOR MOTOR AND CONTROLLER TO BE DEMOLISHED.



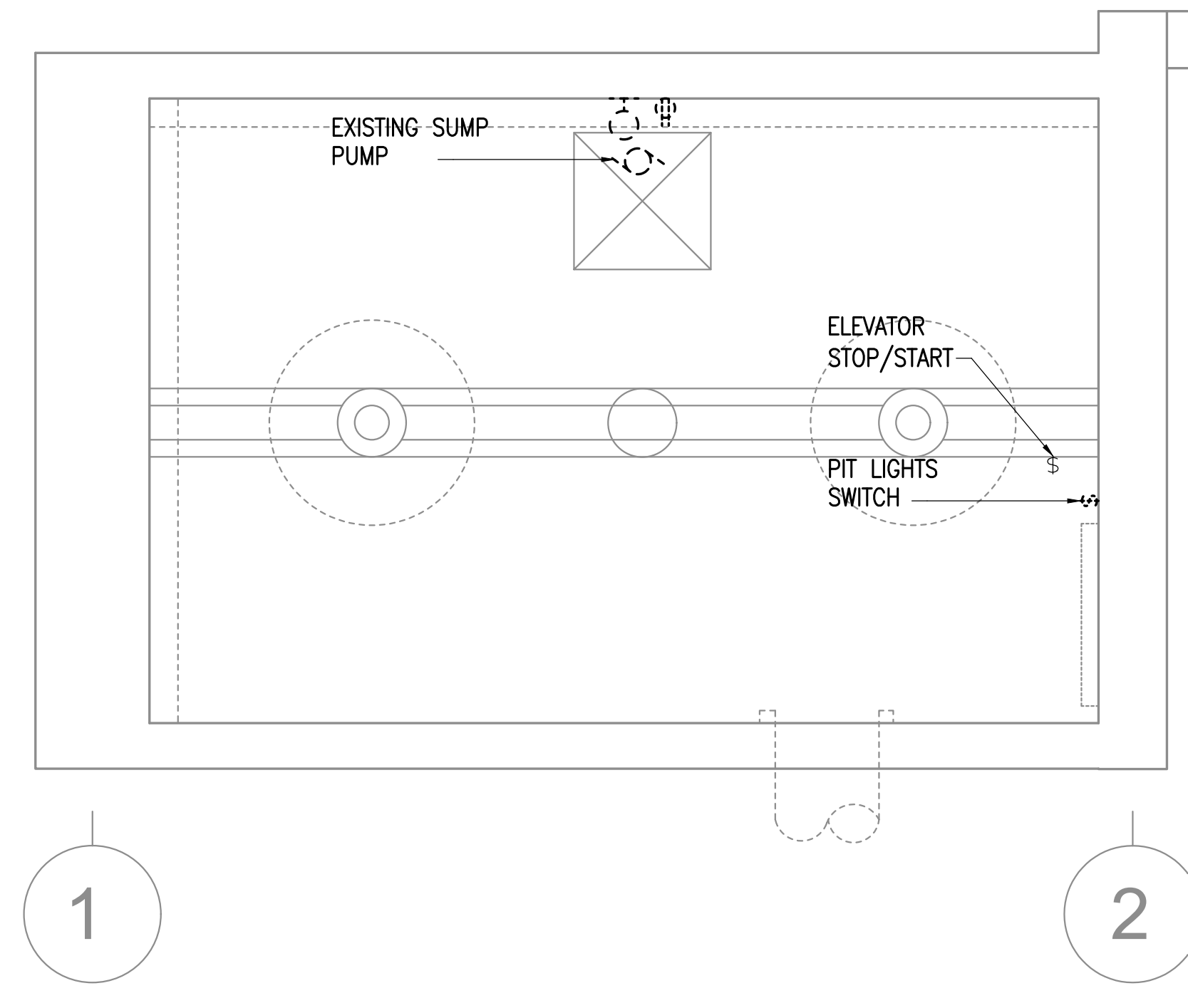
1 ELEVATOR LOW REHEARSAL DEMOLITION PLAN
1/2" = 1'-0"



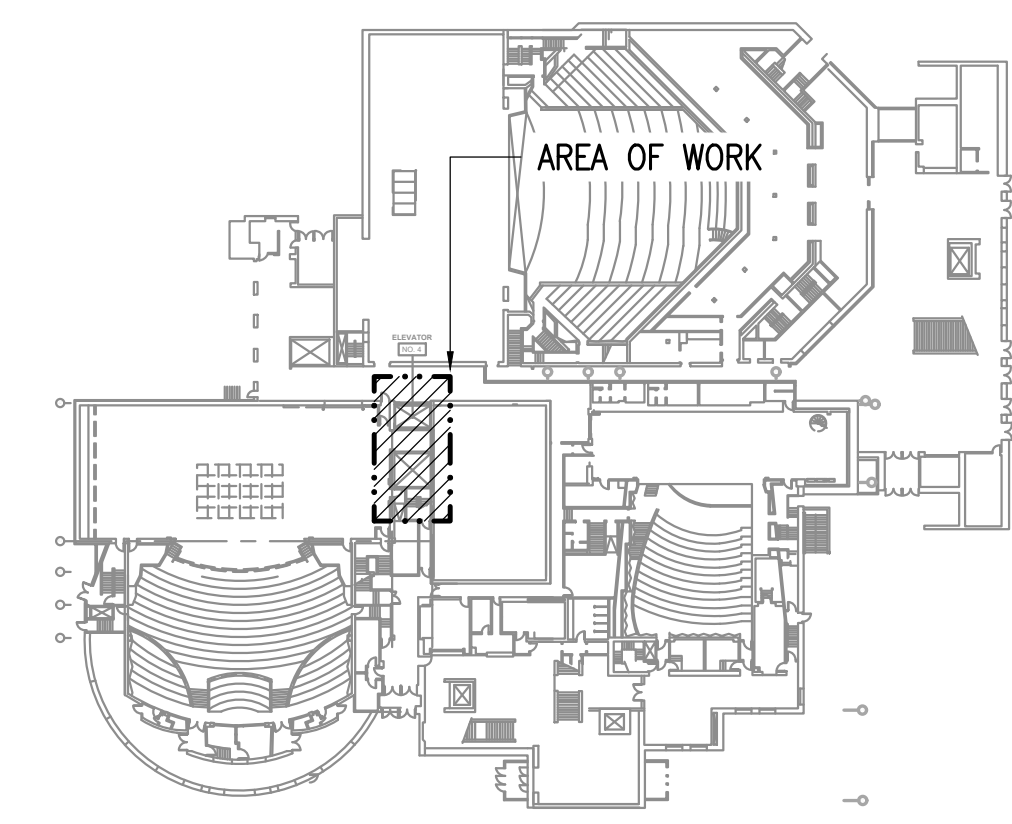
2 ELEVATOR BASEMENT DEMOLITION PLAN - LANDING
1/2" = 1'-0"



3 ELEVATOR MACHINE ROOM DEMOLITION PLAN
1/2" = 1'-0"



4 ELEVATOR PIT DEMOLITION PLAN
1/2" = 1'-0"



KEY PLAN
NOT TO SCALE



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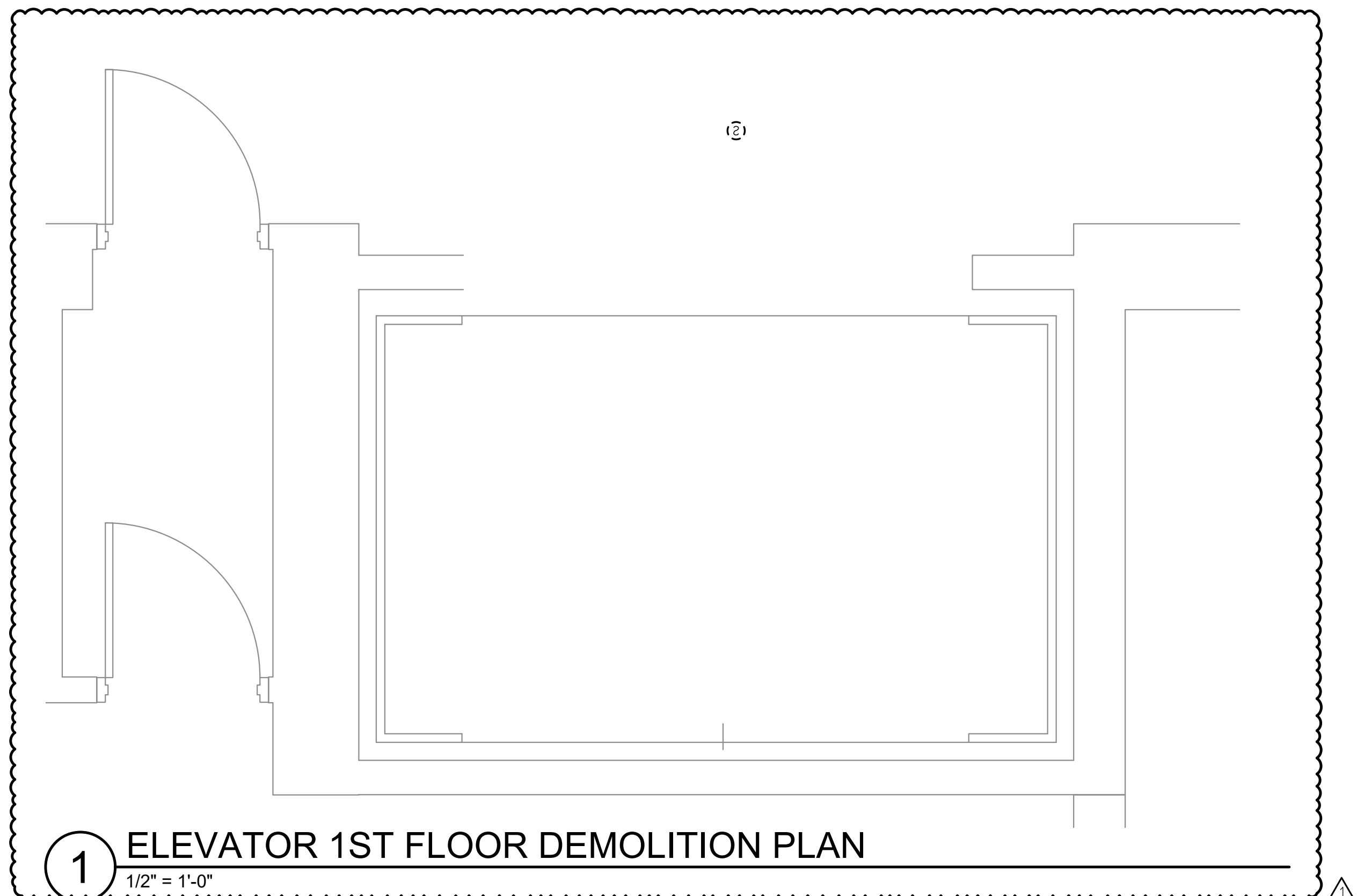
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Professional No. 19653
Corporate No. AEC0542

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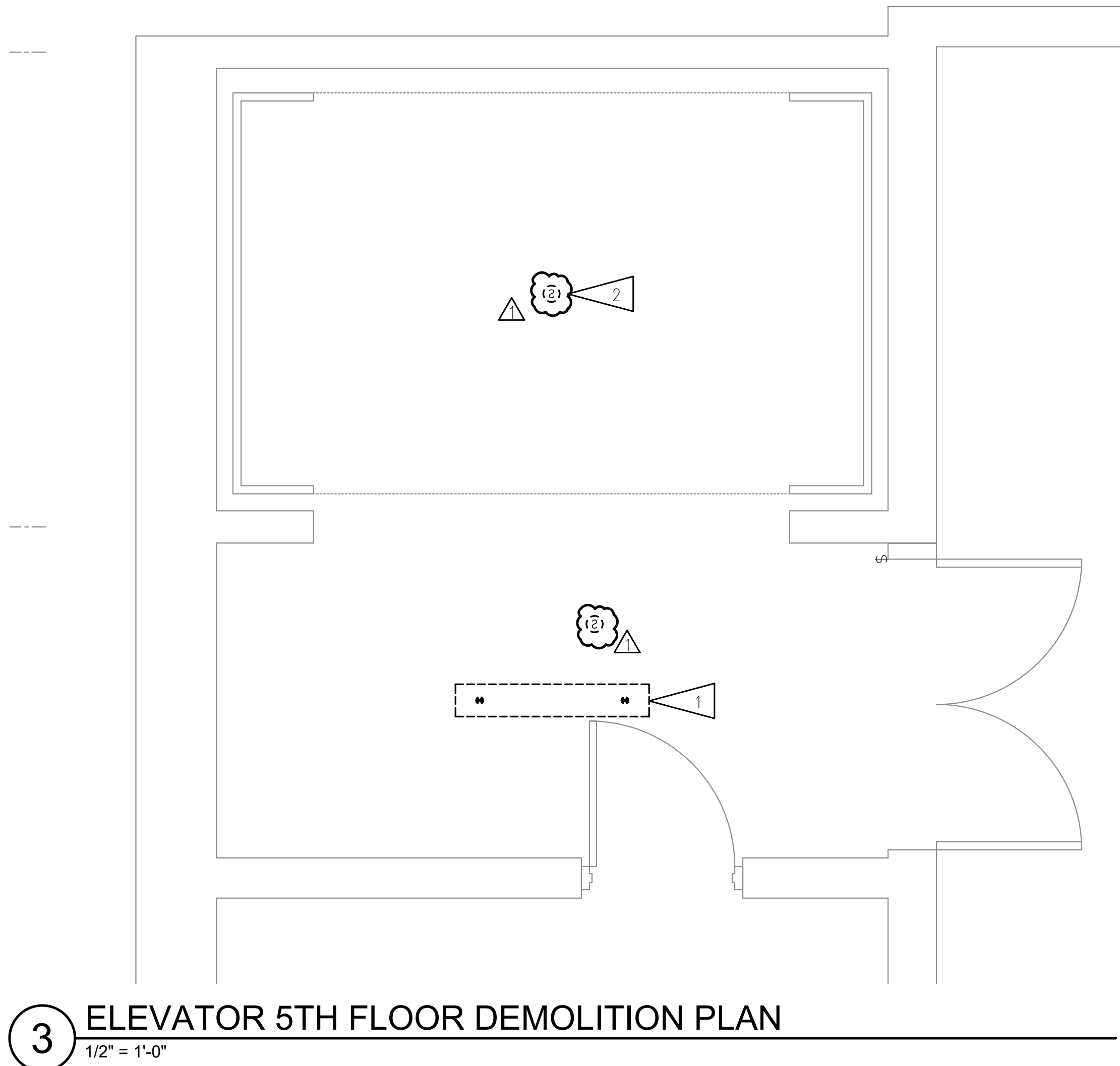
DATE: 3/9/22
DRAWN: KWS,FWS
CHECKED: KWS,CPL
PROJECT: M1264
DRAWING TITLE:
ELEVATOR
DEMOLITION PLANS
REVISIONS:
ADDENDUM #3 11/17/2022
SHEET NO:

E101R





1 ELEVATOR 1ST FLOOR DEMOLITION PLAN
1/2" = 1'-0"



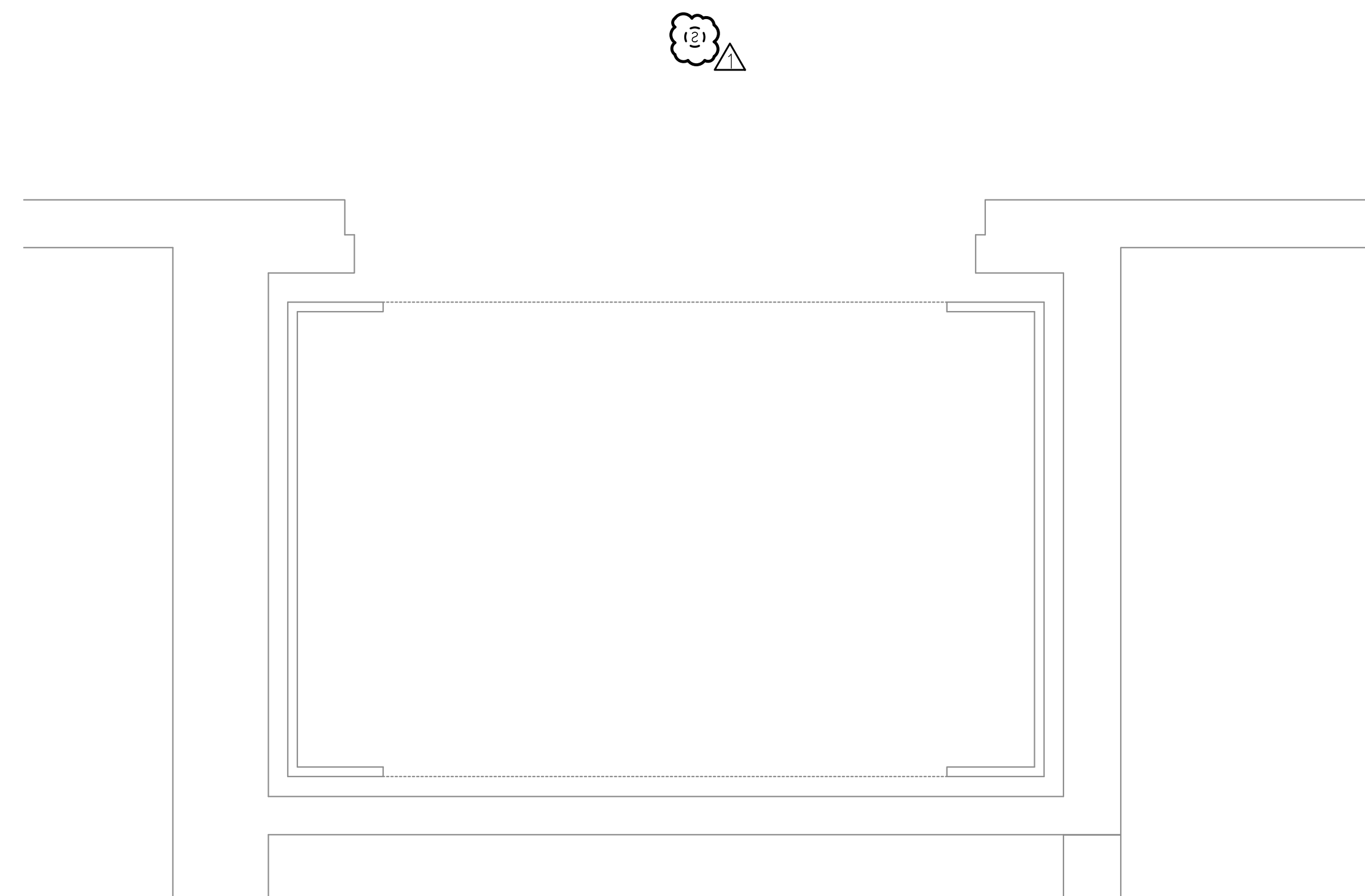
3 ELEVATOR 5TH FLOOR DEMOLITION PLAN
1/2" = 1'-0"

GENERAL NOTES:

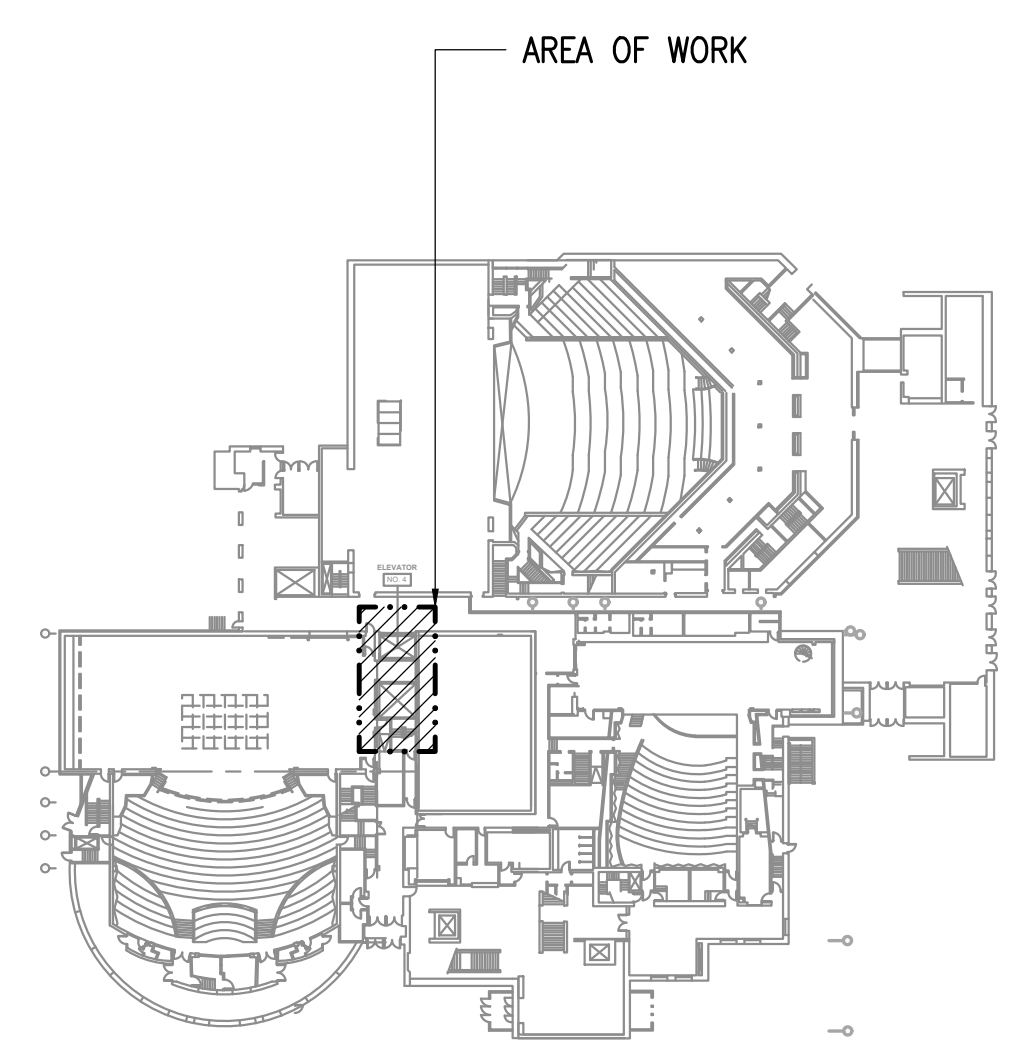
A. SEE SHEET E101 FOR GENERAL NOTES.

SHEET NOTES

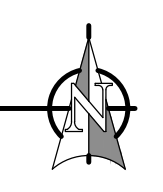
1. EXISTING LIGHT FIXTURE TO BE DEMOLISHED AND REPLACED WITH NEW FIXTURE. SAVE CONDUIT, JUNCTION BOXES AND CONDUCTORS FOR RE-USE WITH NEW FIXTURE AT THE SAME LOCATION.
2. DETECTOR AT TOP OF ELEVATOR SHAFT TO BE DEMOLISHED. DEMOLISH CABLING TO LAST REMAINING DEVICE OR JUNCTION BOX.



2 ELEVATOR 3RD FLOOR DEMOLITION PLAN
1/2" = 1'-0"



KEY PLAN
NOT TO SCALE

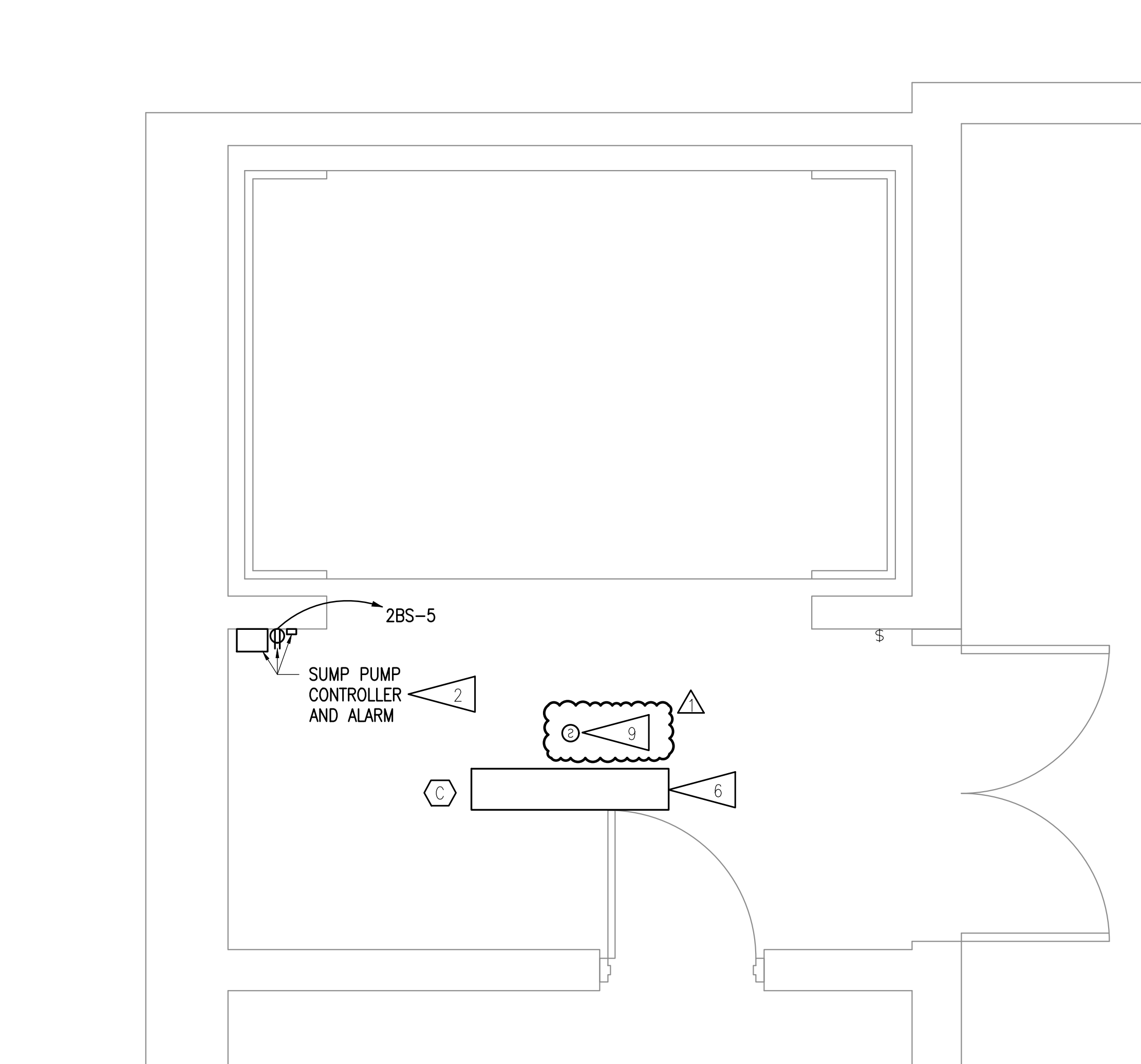


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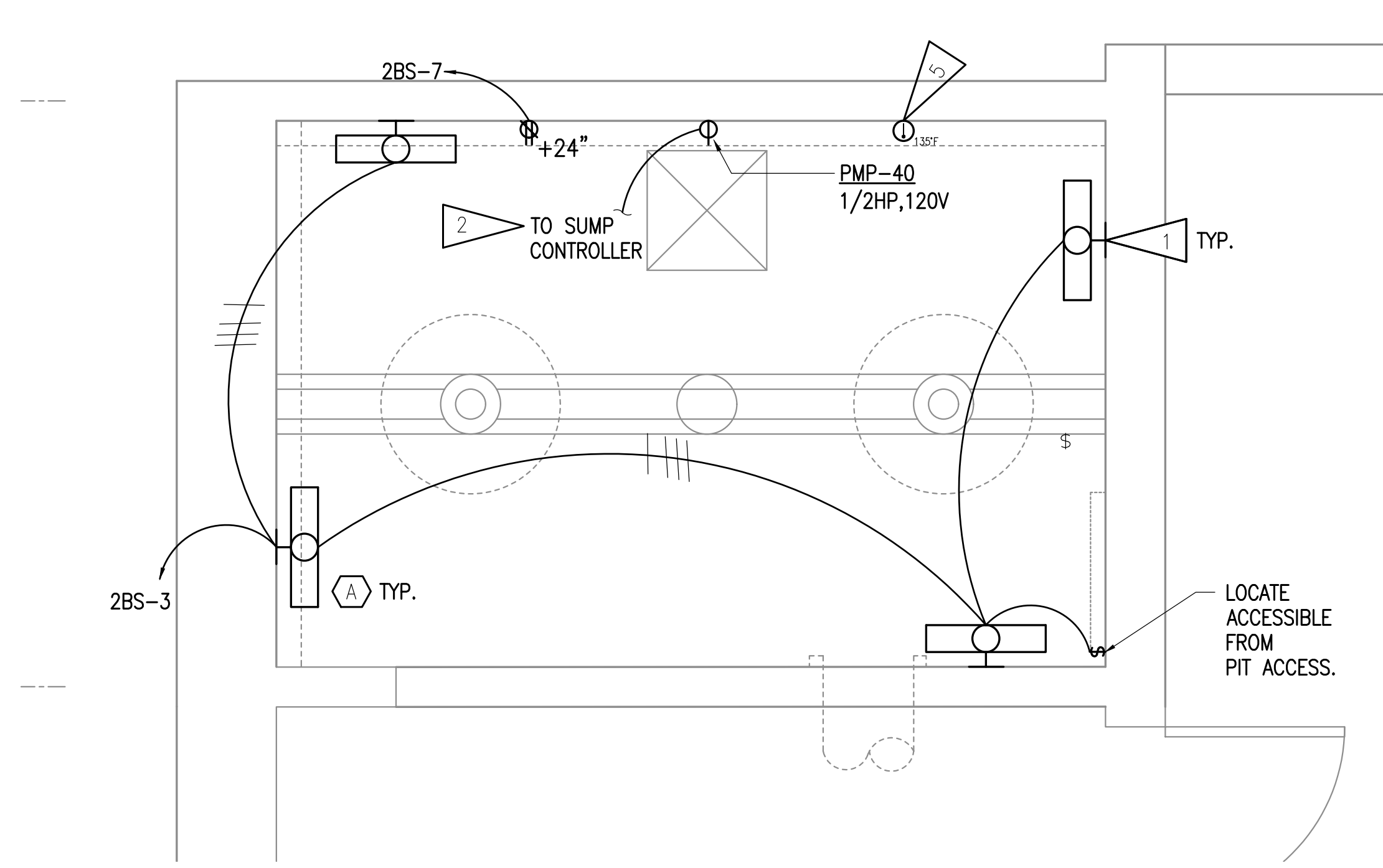
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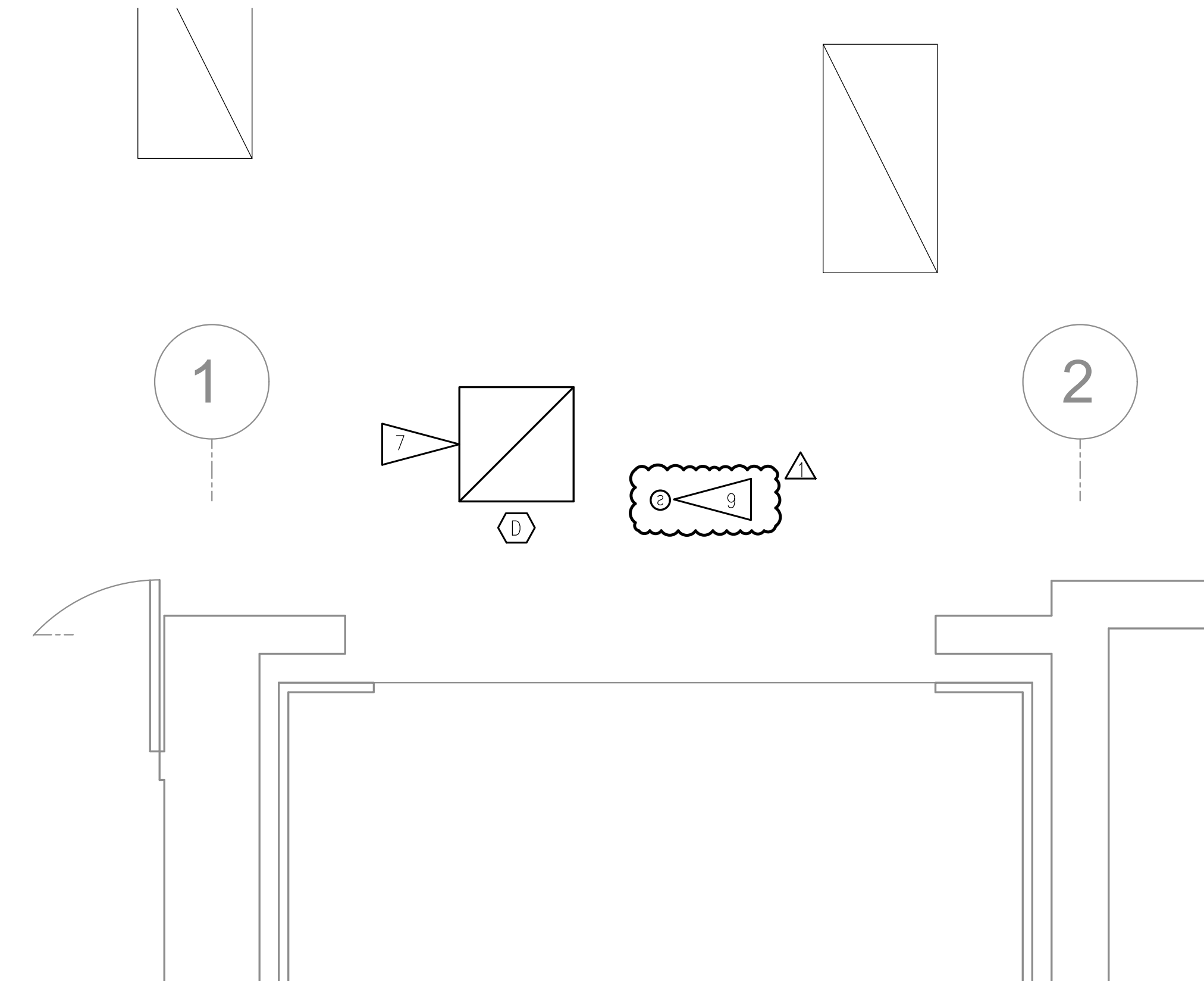
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DRAWN:	KWS,FWS
CHECKED:	KWS,CPL
PROJECT:	M1264
DRAWING TITLE:	ELEVATOR DEMOLITION PLANS
REVISIONS:	ADDENDUM #3 11/17/2022
SHEET NO.:	E102R



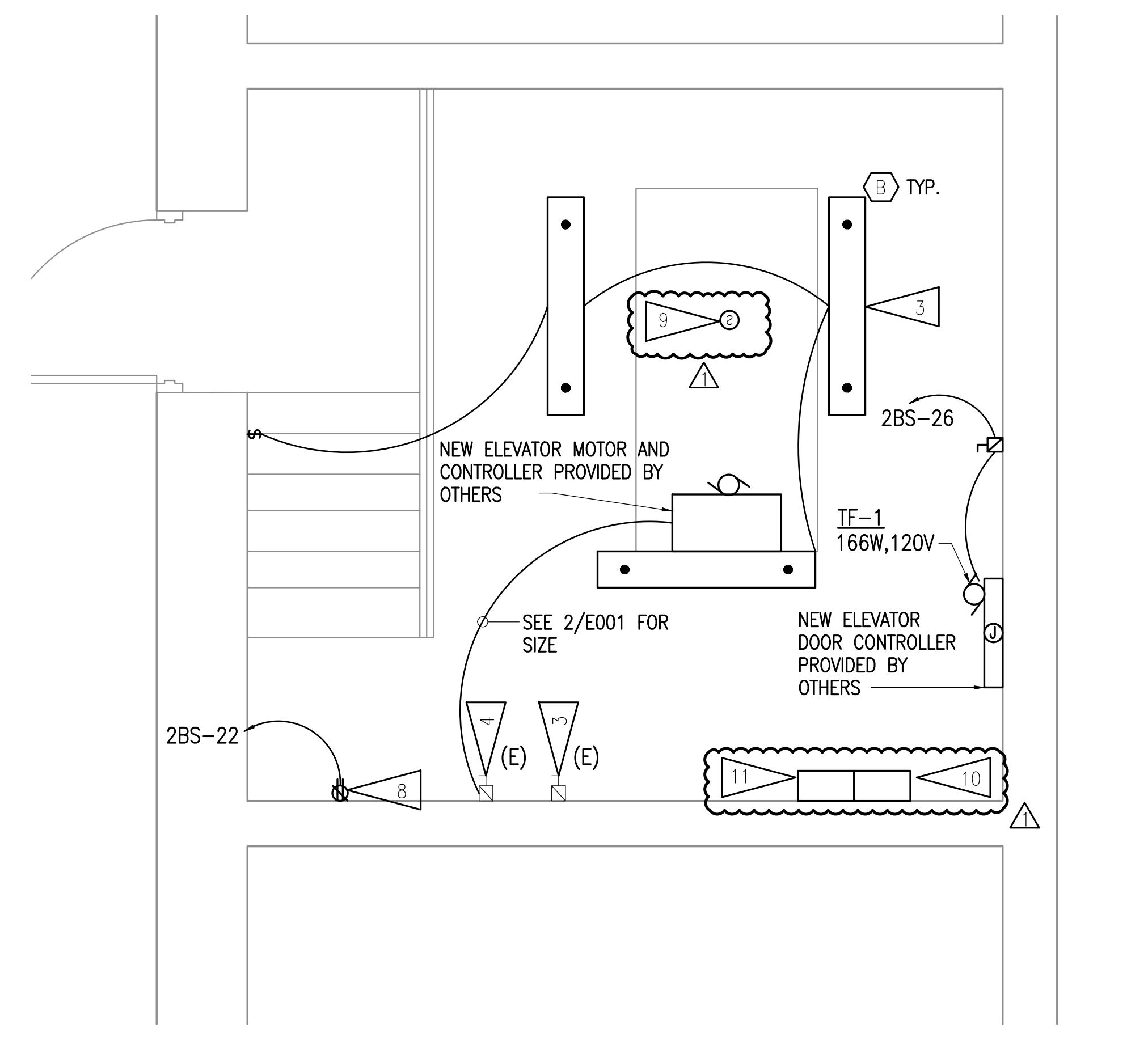
1 ELEVATOR LOW REHEARSAL REMODEL PLAN
1/2" = 1'-0"



3 ELEVATOR PIT REMODEL PLAN
1/2" = 1'-0"



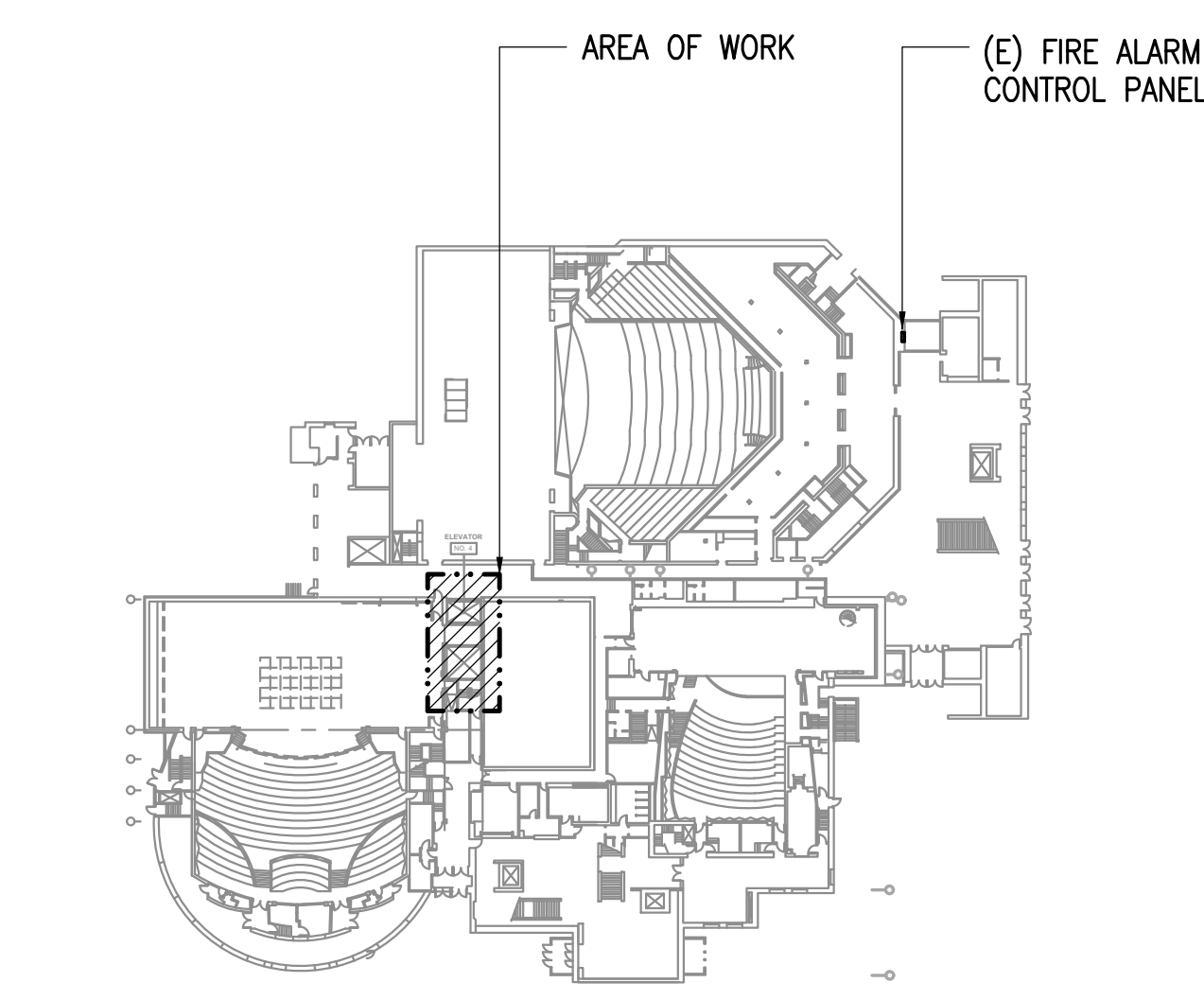
2 ELEVATOR BASEMENT REMODEL PLAN - LANDING
1/2" = 1'-0"



4 ELEVATOR BASEMENT REMODEL PLAN - MACHINE ROOM
1/2" = 1'-0"

SHEET NOTES

1. FIELD LOCATE FIXTURES TO AVOID CONFLICTS WITH ELEVATOR. FIXTURES MAY BE MOUNTED VERTICALLY.
2. SEE 1/E003 FOR SUMP CONTROLLER AND SUMP PUMP INSTALLATION DETAIL.
3. EXISTING DISCONNECT FOR ELEVATOR CAB LIGHTING AND VENTILATION TO BE RE-USED. PROVIDE NECESSARY CONNECTIONS TO ELEVATOR CONTROLLER AS PER MANUFACTURERS' INSTRUCTIONS. CONTRACTOR SHALL REPLACE EXISTING RK 1 CLASS 30A FUSE WITH 15A FUSE RATED FOR AND LISTED FOR USE IN EXISTING DISCONNECT.
4. EXISTING DISCONNECT FOR ELEVATOR MOTOR TO BE RE-USED. PROVIDE NECESSARY CONNECTIONS TO ELEVATOR CONTROLLER AS PER MANUFACTURERS' INSTRUCTIONS. CONTRACTOR SHALL VERIFY EXISTING CLASS RF5 125A FUSES AND REPLACE WITH 100A FUSES RATED FOR AND LISTED FOR USE IN EXISTING DISCONNECT.
5. PROVIDE HEAT DETECTOR AND RELAY BASE. PROVIDE NEMA 1 ENCLOSURE AND INSTALL TEST STATION IN ACCESSIBLE LOCATION OUTSIDE ELEVATOR PIT. CONNECT DETECTOR TO LOCAL ZONE AND PROVIDE 24V CIRCUIT FOR RELAY BASE. 24V CIRCUIT SHALL BE PROVIDED BY NEW BOOSTER/POWER SUPPLY IN MACHINE ROOM.
6. CONTRACTOR SHALL INSTALL NEW FIXTURE IN PLACE OF DEMOLISHED FIXTURE AND CONNECT TO EXISTING PANEL "WWB" LOCAL LIGHTING CIRCUIT AND CONTROLS.
7. CONTRACTOR SHALL INSTALL NEW FIXTURE AS SHOWN AND CONNECT TO EXISTING PANEL "WWB" LOCAL LIGHTING CIRCUIT AND CONTROLS.
8. PROVIDE NEW GFCI RECEPTACLE AS SHOWN.
9. PROVIDE NEW SMOKE DETECTOR AND RELAY FOR ELEVATOR RECALL FUNCTION. CONNECT DETECTOR TO LOCAL ZONE AND PROVIDE 24V CIRCUIT FOR RELAY BASE. 24V CIRCUIT SHALL BE PROVIDED BY NEW BOOSTER/POWER SUPPLY IN MACHINE ROOM.
10. PROVIDE CONNECTION FOR PHASE I AND PHASE II ELEVATOR RECALL AND RED HAT FUNCTION. PROVIDE RELAYS AND PROGRAMMING TO NEW DETECTORS AND BASES.
11. PROVIDE NEW BOOSTER/POWER SUPPLY FOR 24V CIRCUITS. PROVIDE DEDICATED CIRCUIT FROM PANEL 2BS, USE EXISTING SPARE 20A/1P BREAKER IN PANEL. MARK CIRCUIT BREAKER RED AND PROVIDE HANDLE LOCK. FIELD VERIFY MOUNTING LOCATION PRIOR TO ROUGH-IN.



KEY PLAN
NOT TO SCALE

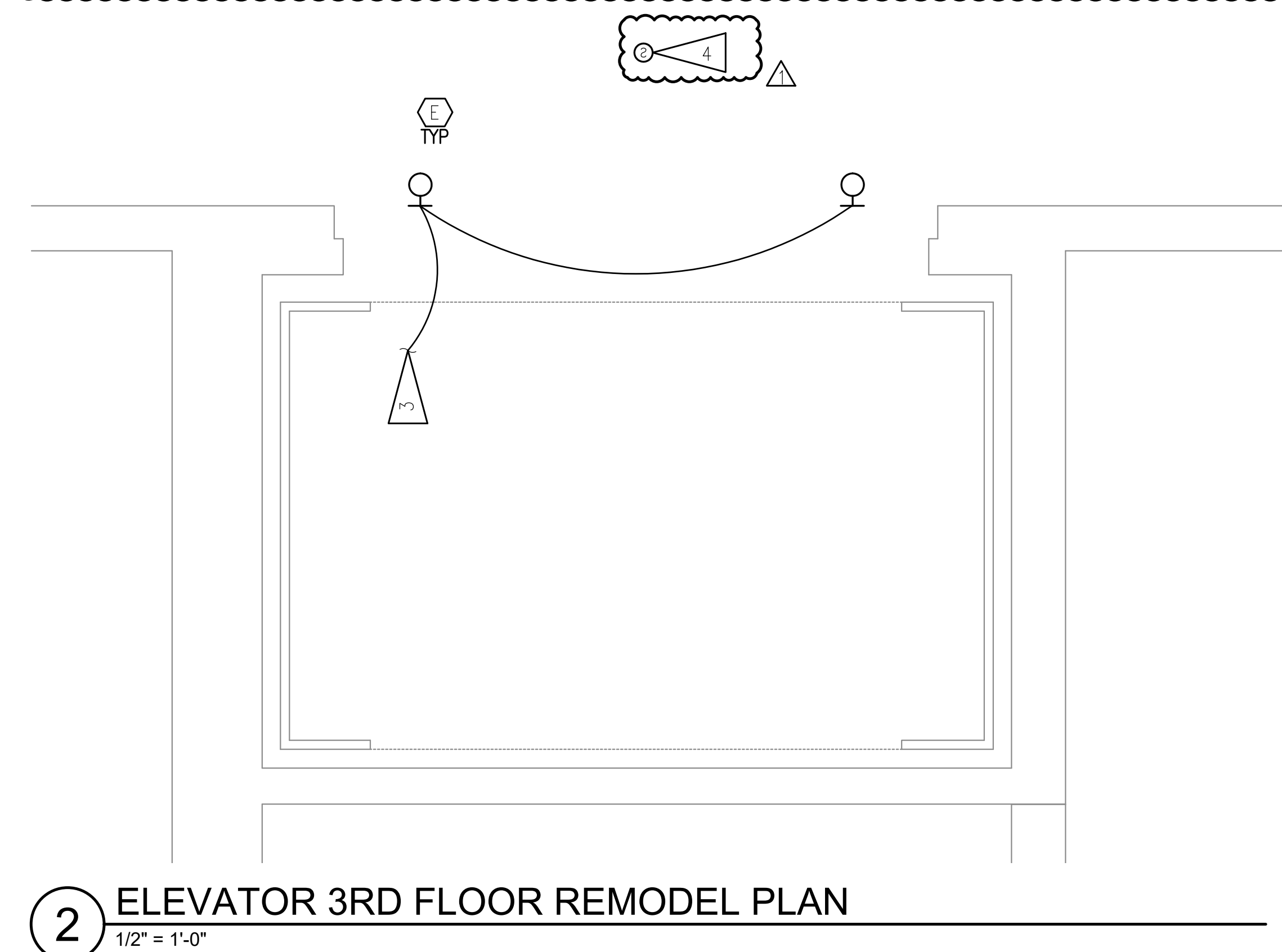
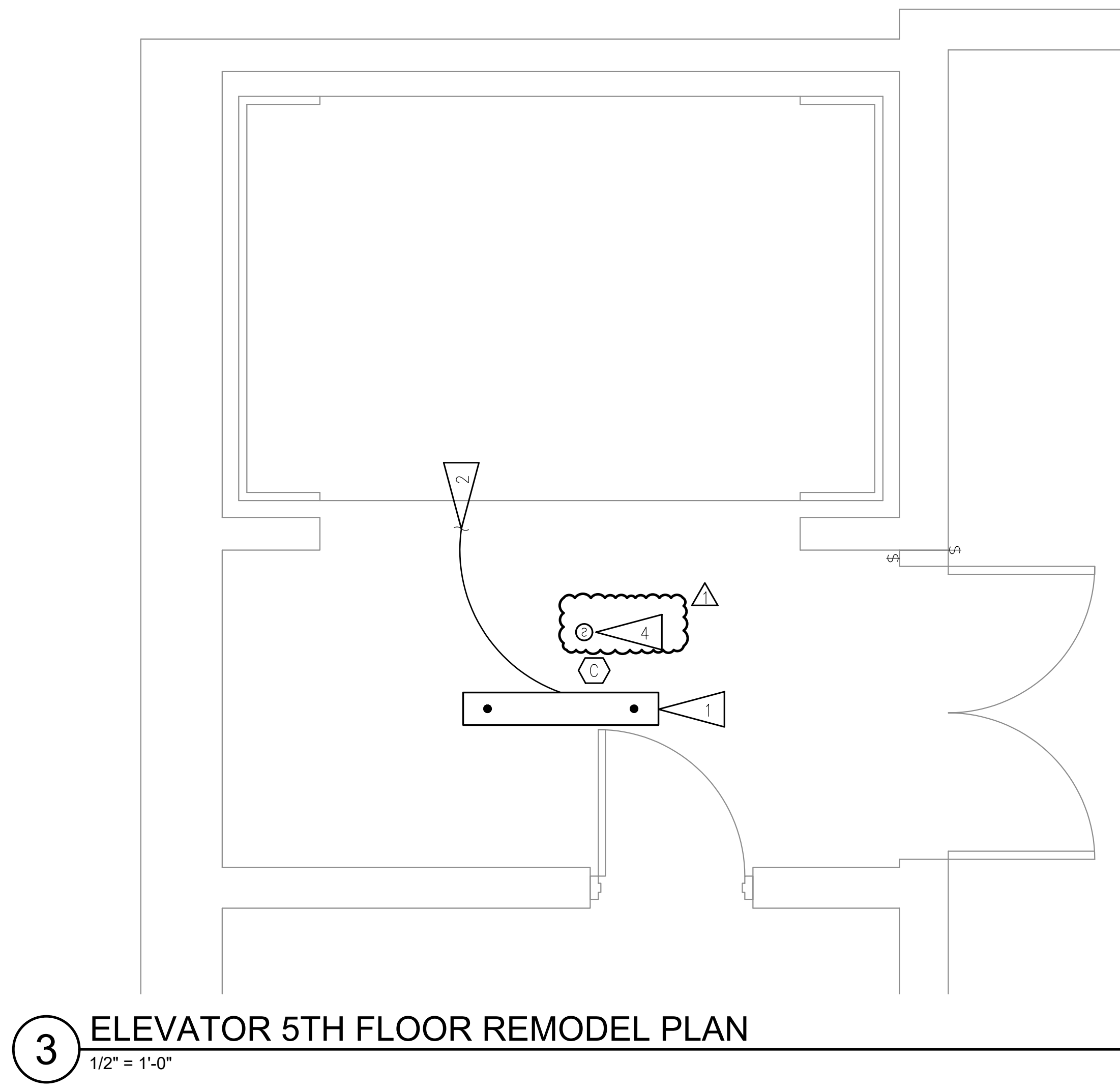
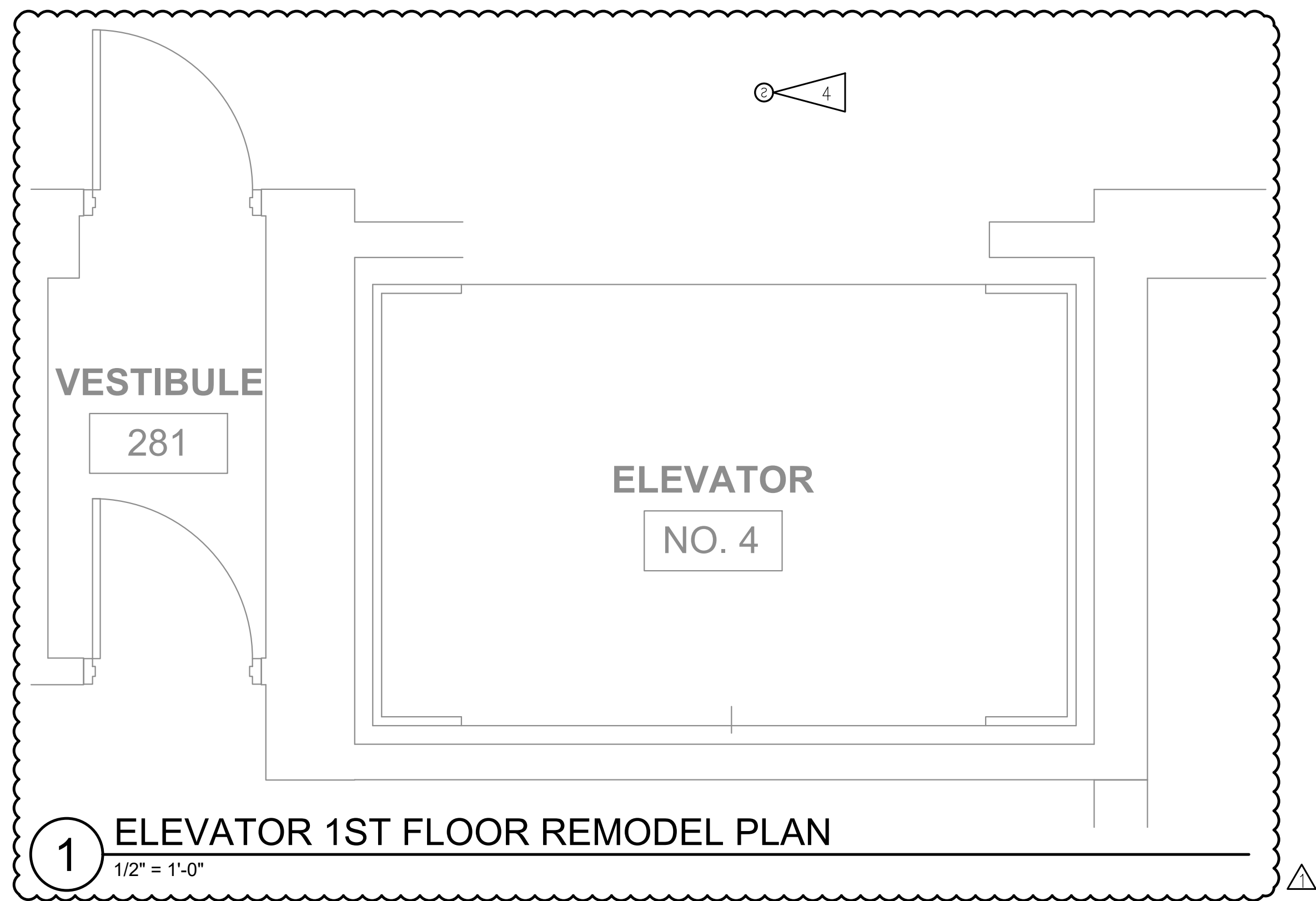


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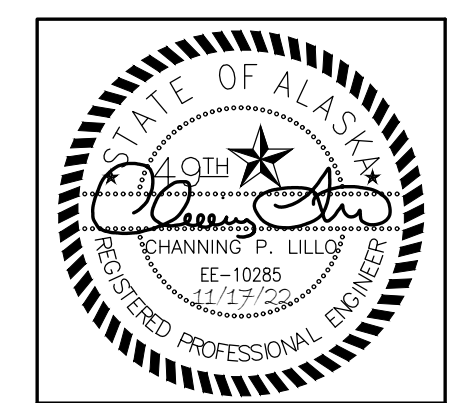
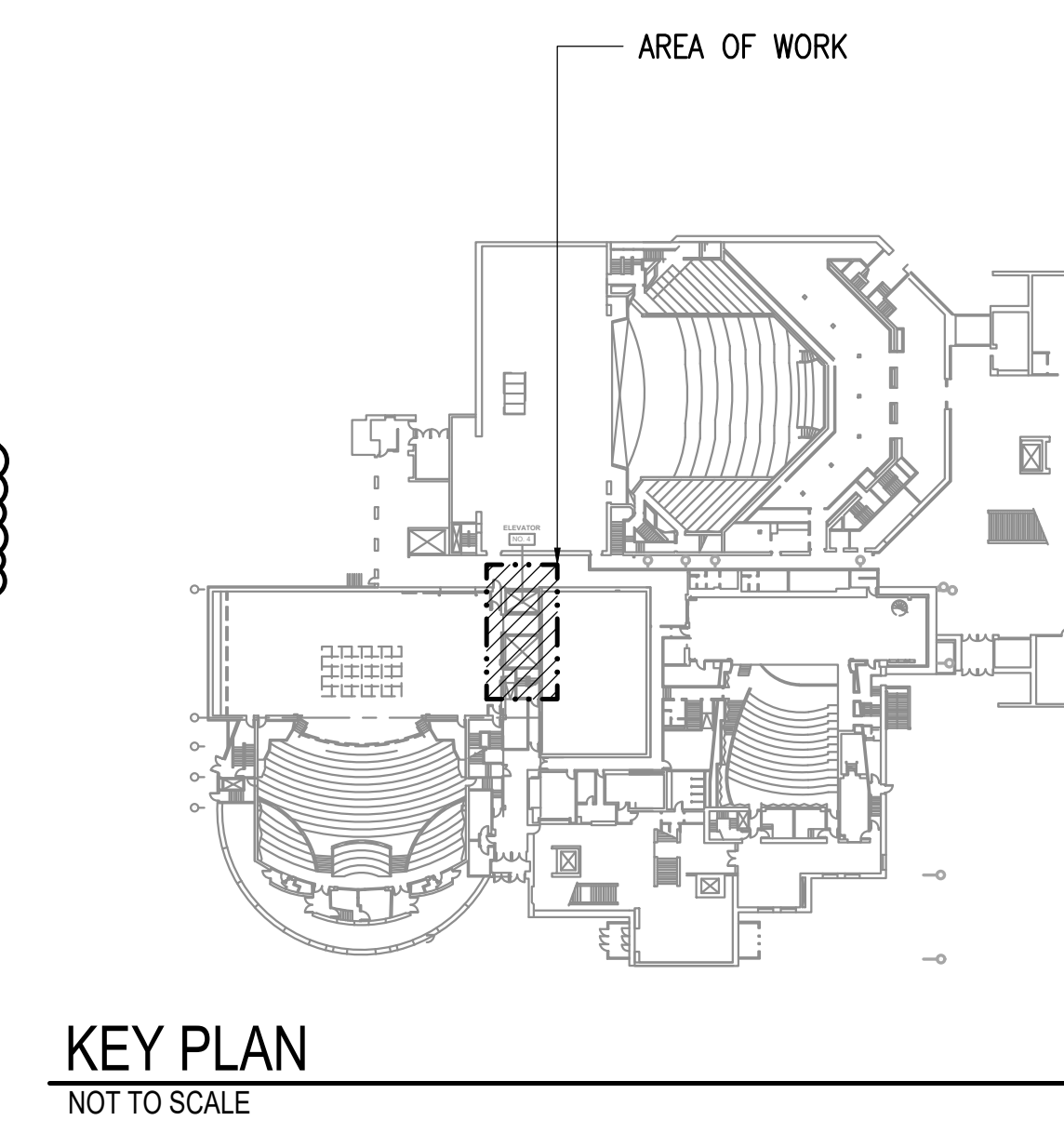
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PROJECT:	M1264
DRAWING TITLE:	ELEVATOR REMODEL PLANS
REVISIONS:	ADDENDUM #3 11/17/2022
SHEET NO.:	E201R



SHEET NOTES

1. CONTRACTOR SHALL INSTALL NEW FIXTURE IN PLACE OF DEMOLISHED FIXTURE AND CONNECT TO EXISTING LOCAL LIGHTING CIRCUIT AND CONTROLS, RE-USING EXISTING CONDUIT AND CONDUCTORS WHILE EXTENDING OR REPLACING AS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM.
2. PROVIDE CONDUCTOR AND CONDUIT DOWN TO 3RD FLOOR (MEZZANINE) FOR NEW LIGHT FIXTURES.
3. CONTRACTOR SHALL INSTALL NEW FIXTURES AS SHOWN AND CONNECT TO EXISTING LOCAL LIGHTING CIRCUIT ON PANEL "LFR". PATCH/REPAIR DRY WALL AND MATCH PAINT AS REQUIRED FOR CONCEALED CONDUIT AND BOXES.
4. PROVIDE NEW SMOKE DETECTOR AND RELAY FOR ELEVATOR RECALL FUNCTION. CONNECT DETECTOR TO LOCAL ZONE AND PROVIDE 24V CIRCUIT FOR RELAY BASE. 24V CIRCUIT SHALL BE PROVIDED BY NEW BOOSTER/POWER SUPPLY IN MACHINE ROOM.



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Professional License No. AECC542

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REVISIONS:	ADDENDUM #3 11/17/2022
SHEET NO:	E202 R

SECTION 28 46 00 - FIRE DETECTION AND ALARM – ISSUED PER ADDENDUM #3**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Contractor designed and installed modification to the existing conventional fire alarm and smoke detection system. This is a performance type specification describing the minimum acceptable modifications to the existing fire alarm system. The Contractor shall design and install the fire alarm and smoke detection system in accordance with the requirements of NFPA 72 and ICC/ANSI A117.1. The fire alarm devices on the drawings are shown in suggested locations. The final locations of all devices shall be solely determined by the Contractor and shall be in accordance with NFPA 72 and ICC/ANSI A117.1.

1.2 RELATED SECTIONS

- A. Division 14 – Elevators.
- B. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables.
- C. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
- D. Section 26 05 53 – Identification for Electrical Systems.

1.3 REFERENCES

- A. NFPA 72 - National Fire Alarm Code.
- B. NFPA 101 - Life Safety Code.
- C. International Mechanical Code (IMC).
- D. Americans with Disabilities Act (ADA) and ADA Guidelines for Buildings and Facilities (ICC/ANSI A117.1).
- E. ANSI S3.41 - Audible Emergency Evacuation Signals.
- F. ANSI/ASME A17.1 - Safety Code for Elevators and Escalators.

1.4 REGULATORY REQUIREMENTS

- A. System: UL and FM listed.

- B. Conform to the requirements of UL 864.
- C. Conform to requirements of NFPA 101.
- D. Conform to requirements of ICC/ANSI A117.1.
- E. Install system in accordance with NFPA 72.
- F. Comply with requirements of ANSI A17.1.

1.5 SYSTEM DESCRIPTION

- A. Fire Alarm System: Contractor designed and installed automatic fire alarm system with individual initiating devices. The Contractor shall design and install the fire alarm and smoke detection system in accordance with the requirements of these specifications, NFPA 72, NFPA 101, ANSI A17.1, and ICC/ANSI A117.1. The fire alarm devices on the drawings are shown in suggested locations. The Contractor shall modify these device locations as necessary to accommodate actual architectural, structural, or mechanical conditions, at no cost to the Owner.
- B. Due to the age of the existing fire alarm control panel and its inability to be updated, the functions described below shall be performed using listed relays connected to elevator equipment.
- C. Alarm Sequence of Operation: Actuation of automatic initiating device activates new relays, which includes the following operations:
 - 1. Transmit signals to building elevator control panel to initiate return to main floor or alternate floor in accordance with Rule 211.3b of ANSI/ASME A17.1, and turn on firefighter red hat notification.

1.6 QUALIFICATIONS

- A. The installation of the system shall conform to the State of Alaska requirements and be supervised by a representative with a current State Fire Alarm License.
- B. Manufacturer: Company specializing in addressable smoke detection and fire alarm systems with five years documented experience.
- C. System Supplier: Factory trained to provide the submitted fire alarm system.
- D. Installer: Installation of the system shall be 100% field checked by a factory trained and authorized NICET Level III technician certified in the Fire Alarm System Program. The actual supervising technician must be approved prior to start of work.

1.7 SUBMITTALS

- A. Submit product data and shop drawings under the provisions of Division 01.
- B. Submit shop drawings prepared and signed by a NICET Level III technician certified in fire alarm systems under the provisions of Division 01. Shop drawings shall have the following requirements:
 - 1. The Shop Drawings shall be reproduced electronically from a Master Copy supplied in digital format. Electronic copy of the Contract Drawings will be available at no charge to use as base plan for generation of electronic submittal. Shop Drawings shall be printed at Contract Drawing size and scale of floor plans on Shop Drawings shall match Contract Drawings.
 - 2. All text on the drawings shall be legible without magnification when the shop drawings are reduced to 11" x 17".
 - 3. Provide minimum 1/8" scale floor plans with all new fire alarm control and auxiliary panels, field devices, raceway and conductor routing, quantities and connection requirements for every component.
 - 4. Provide point-to-point system wiring diagrams showing interconnection of all devices.
 - 5. Provide a riser diagram showing all new devices on each initiating and auxiliary circuit connected to the fire alarm control panel and new relays.
- C. Submit shop drawings and product data to the local Fire Marshal for review and approval. All shop drawings and product data shall be reviewed and approved by the authority having jurisdiction prior to procurement and installation of materials or devices for the system.

1.8 PROJECT RECORD DRAWINGS

- A. Submit documents under the provisions of Division 01.
- B. Accurately indicate actual locations of initiating devices, fire alarm control panel, booster/power supply, relays, etc.
- C. Provide Point to Point as-built wiring diagrams of the entire Life Safety System as installed. This shall include all connected devices with actual addresses and locations of all T-taps.

1.9 OPERATION AND MAINTENANCE DATA

- A. Submit operating instructions and maintenance and repair procedures under the provisions of Division 01.
- B. Include manufacturer representative's letter stating the system is operational.
- C. Include an 11" x 17" set of the fire alarm system project record drawings.

- D. Include a completed copy of the NFPA 72 Inspection and Testing Form.

1.10 DEMONSTRATION AND TRAINING

- A. The Manufacturer's Representative shall be responsible for an on-site demonstration of the operation of the system.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site, store and protect, under provisions of Division 01.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Honeywell
- B. No substitutions shall be allowed unless the fire alarm integrator determines the components are listed for and compatible with the system on-site.

2.2 FIRE ALARM AND SMOKE DETECTION CONTROL PANEL

- A. Control Panel: Existing Honeywell.

2.3 INITIATING DEVICES

- A. Ceiling Mounted Smoke Detector: Conventional, NFPA 72, photoelectric type suitable for mounting on 4-inch outlet box. Suitable for operation on existing control panel power supply and initiating circuit. Provide relay bases for connection to new relays for elevator functions.
- B. Heat Detector: Conventional heat detector on relay base with EOL resistor located remote to meet NFPA 72-2019 requirements. Heat detectors in the elevator pit shall have both a lower temperature rating and a higher sensitivity as compared to the sprinkler head in the area.

2.4 CONTROL RELAYS

- A. A control relay/transponder shall be installed where elevator controls are to be automatically controlled by the fire alarm system during a fire emergency. Relays shall be listed for use on the fire alarm system and connected to relay bases provided with the new detectors.

2.5 AUXILIARY DEVICES**A. NAC Booster Power Supplies:**

1. Power supply quantity, rating and battery size shall be determined by the Contractor. Provide one or more dedicated circuits for all new power supplies. Each circuit shall have a handle lock on the breaker.
2. Smoke Detection: Provide a smoke detector to protect each NAC booster power supply in accordance with NFPA 72 requirements. Note that the proposed location of the booster power supply is in the elevator machine room, which is protected with smoke detection for recall purposes. If a different location is used for the booster power supply, the Contractor shall provide smoke detection at that location at no additional cost to the Owner.

2.6 FIRE ALARM WIRE AND CABLE

- A. Fire Alarm System Power Branch Circuits: Building wire as specified in Section 26 05 19.
- B. Initiating and Signaling Line Circuits: Twisted, shielded or unshielded fire alarm cable as recommended by the fire alarm system manufacturer. Minimum size #16 AWG.
- C. Relay power supply circuits: Per manufacturer recommendations.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Install the fire alarm system in accordance with the manufacturer's instructions.
- B. Install all smoke detectors a minimum of three feet from any air supply, return, or exhaust diffuser and a minimum of one foot from any light fixture.
- C. Install all fire alarm system wiring in a dedicated fire alarm MC cable or conduit system separate from any other system wiring. Provide minimum 8 inch wire tails at each device box.
- D. Make conduit and wiring connections to elevator controllers and other items as shown on the drawings or required by NFPA 72.
- E. In the elevator pit, install heat detectors within two feet of each sprinkler head. The temperature rating of the heat detector shall be lower than that of the associated sprinkler head.
- F. The Contractor is responsible to field coordinate the final location of all initiating devices to comply with the requirements of NFPA 72. Any initiating devices that are not installed in accordance with NFPA 72 shall be relocated to comply with the requirements of NFPA 72 at no cost to the Owner.

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- G. Detectors shall not be installed until after the construction cleanup of all trades is complete and final. Protective dust covers shall be installed on all detectors prior to final clean-up. Detectors that have been installed without dust covers prior to final clean-up shall be replaced at no cost to the Owner.

3.2 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Division 01.
- B. Test in accordance with NFPA 72 and local fire department requirements. Provide a completed NFPA 72 Inspection and Testing Form for inclusion in the Operation and Maintenance manual at the completion of testing and commissioning the fire alarm system.
- C. Provide all equipment, devices and manpower as necessary to test each and every device in the fire alarm system as required under NFPA 72 for the scope of work both for function and supervision. Demonstrate that all devices connected to the system function properly.
- D. The facility will not be accepted as substantially complete until the fire alarm system has been tested and demonstrated to the Owner's authorized representative as 100 percent complete and fully functional, a completed NFPA 72 Inspection and Testing form is submitted.

3.3 MANUFACTURER'S FIELD SERVICES

- A. Provide manufacturer's field services under provisions of Division 01.
- B. Include services of a certified technician to supervise installation, adjustments, final connections, programming and system testing.

3.4 FIRE ALARM SYSTEM IDENTIFICATION

- A. Wire and Cable: Provide fire alarm unit conductors with color coded insulation, or use color coded tape at each conductor termination and in each junction box as follows:
1. Power Branch Circuit Conductors: Black, red, white.
 2. Initiating Device Circuit: Black, red.
 3. Detector Power Supply: Violet, brown.
- B. Identify all circuit conductors at all terminal and junction boxes per NEC 760.30. Use the circuit designations, as indicated on the shop drawings.
- C. The circuit disconnecting means for the remote power booster supply shall have a painted red handle and handle lock. The circuit(s) shall be labeled "Fire Alarm Circuit". The circuit assignment and panel location shall be permanently identified on all fire alarm control equipment.

END OF SECTION 28 46 00