

GEORGE WASHINGTON CARVER STATE OFFICE BUILDING
REPLACE MULTIPLE ELECTRONIC SYSTEMS
JEFFERSON CITY, MO



OWNER: STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR
OFFICE OF ADMINISTRATION

PROJECT
MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

DESIGNER: KLINGNER & ASSOCIATES, P.C.

PROJECT NUMBER: O2427-01

SITE NUMBER: 1010

ASSET NUMBER: 3101010001 - GWC

SHEET NUMBER:



RYAN M. STONECIPHER
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MISSOURI STATE CERTIFICATE OF AUTHORITY #000866

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

REPLACE MULTIPLE
ELECTRONIC SYSTEMS

GEORGE WASHINGTON
CARVER STATE OFFICE
BUILDING

1616 MISSOURI BLVD
JEFFERSON CITY, MO 65109

PROJECT # O2427-01
SITE # 1010
ASSET # 3101010001

REVISION:	
DATE:	
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DATE:	
ISSUE DATE:06/17/25	

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DESIGNED BY: RMS

SHEET TITLE:
INDEX PAGE

FIRE ALARM SYMBOLS

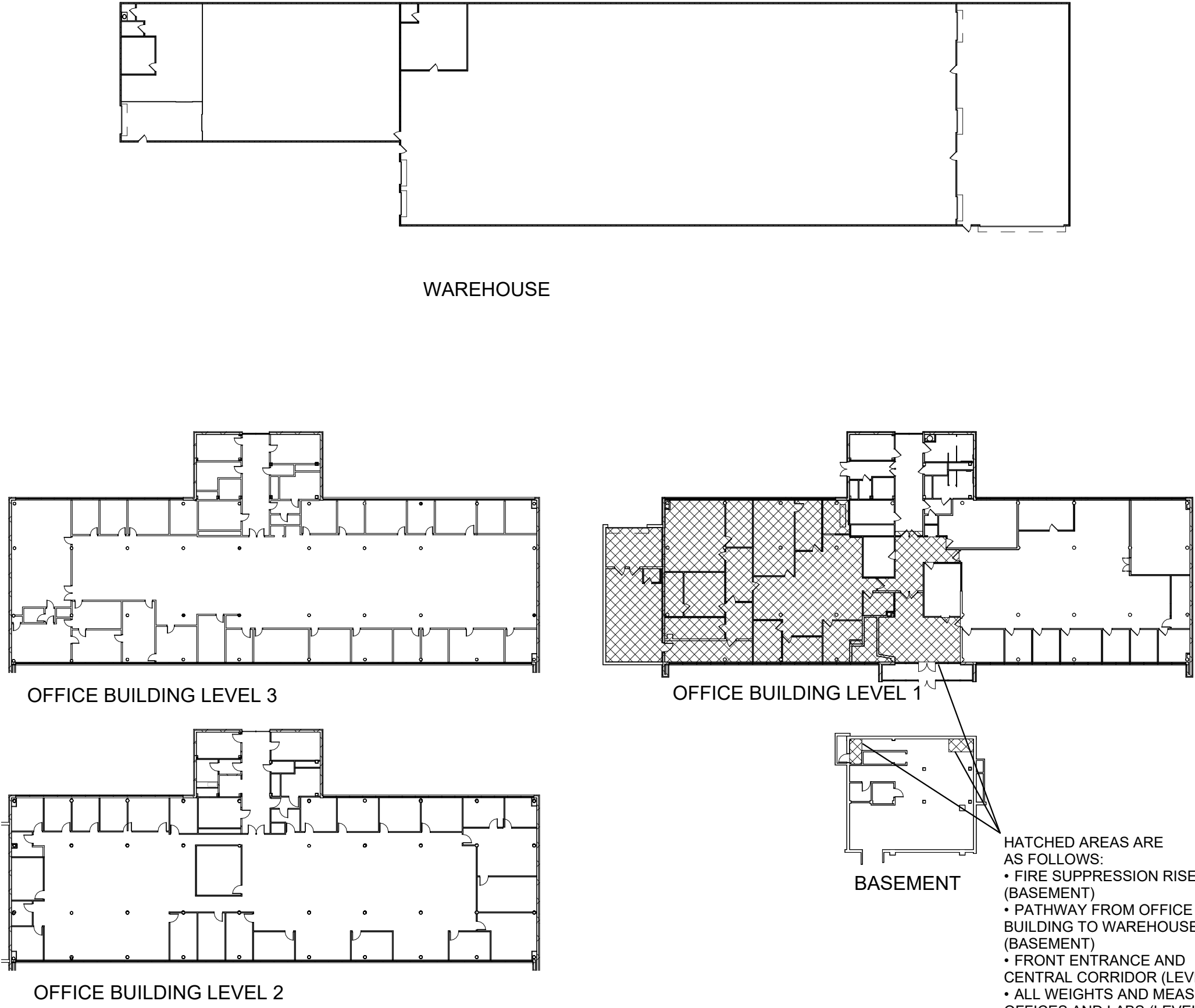
ARCM	AREA OF REFUGE EMERGENCY COMMUNICATION SYSTEM - MASTER UNIT
ARCR	AREA OF REFUGE EMERGENCY COMMUNICATION SYSTEM - REMOTE UNIT
BATT	BATTERY CABINET
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
FAA	FIRE ALARM ANNUNCIATOR
FACU	FIRE ALARM CONTROL UNIT
MFACU	MASTER FIRE ALARM CONTROL UNIT
MIC	REMOTE VOICE EVACUATION MICROPHONE
EVAC	VOICE EVACUATION CONTROL UNIT
M	MANUAL RELEASING STATION
AIM	ADDRESSABLE INPUT MONITOR MODULE
AIO #	ADDRESSABLE INPUT/OUTPUT MONITOR MODULE; # DENOTES NUMBER OF INPUTS AND OUTPUTS
AOM	ADDRESSABLE OUTPUT MONITOR MODULE
IM	ISOLATION MODULE
UV/IR, IR, UV, VR	FLAME DETECTOR; ULTRAVIOLET/INFRARED, INFRARED, ULTRAVIOLET, VISIBLE RADIATION
CO, FG	GAS DETECTOR; CARBON MONOXIDE, FUEL GAS
H R/F, F, R/C, R	HEAT DETECTOR; RATE-OF-RISE/FIXED TEMPERATURE, FIXED TEMPERATURE, RATE COMPENSATING, RATE-OF-RISE
H	HEAT DETECTOR - LINE TYPE
WF	FLOW DETECTOR/SWITCH
PS	PRESSURE DETECTOR/SWITCH
VS	VALVE SUPERVISORY SWITCH
F	PULL STATION/FIRE ALARM BOX
S AS, I, P, R, BR, BT, SB	SMOKE DETECTOR/SENSOR; AIR SAMPLING, INFRARED, PHOTOELECTRIC, RELAY BASE, BEAM RECEIVER, BEAM TRANSMITTER, SOUNDER BASE

S	SMOKE DETECTOR/SENSOR FOR DUCT
x S H y	COMBINATION SMOKE AND HEAT DETECTOR; x DENOTES SMOKE DETECTOR TYPE, y DENOTES HEAT DETECTOR TYPE
C F H	HORN; SOUND LEVEL xx C INDICATES CEILING MOUNTING (TYP.)
S	SPEAKER; SOUND POWER xx
xx cd yy dBA	HORN/STROBE; VISIBLE INTENSITY xx, SOUND LEVEL yy
xx cd yy W	SPEAKER/STROBE; VISIBLE INTENSITY xx, SOUND POWER yy
xx	STROBE, WALL MOUNTED; VISIBLE INTENSITY xx
xx	STROBE, CEILING MOUNTED; VISIBLE INTENSITY xx

DCL	DOOR CLOSER
DH	DOOR HOLDER

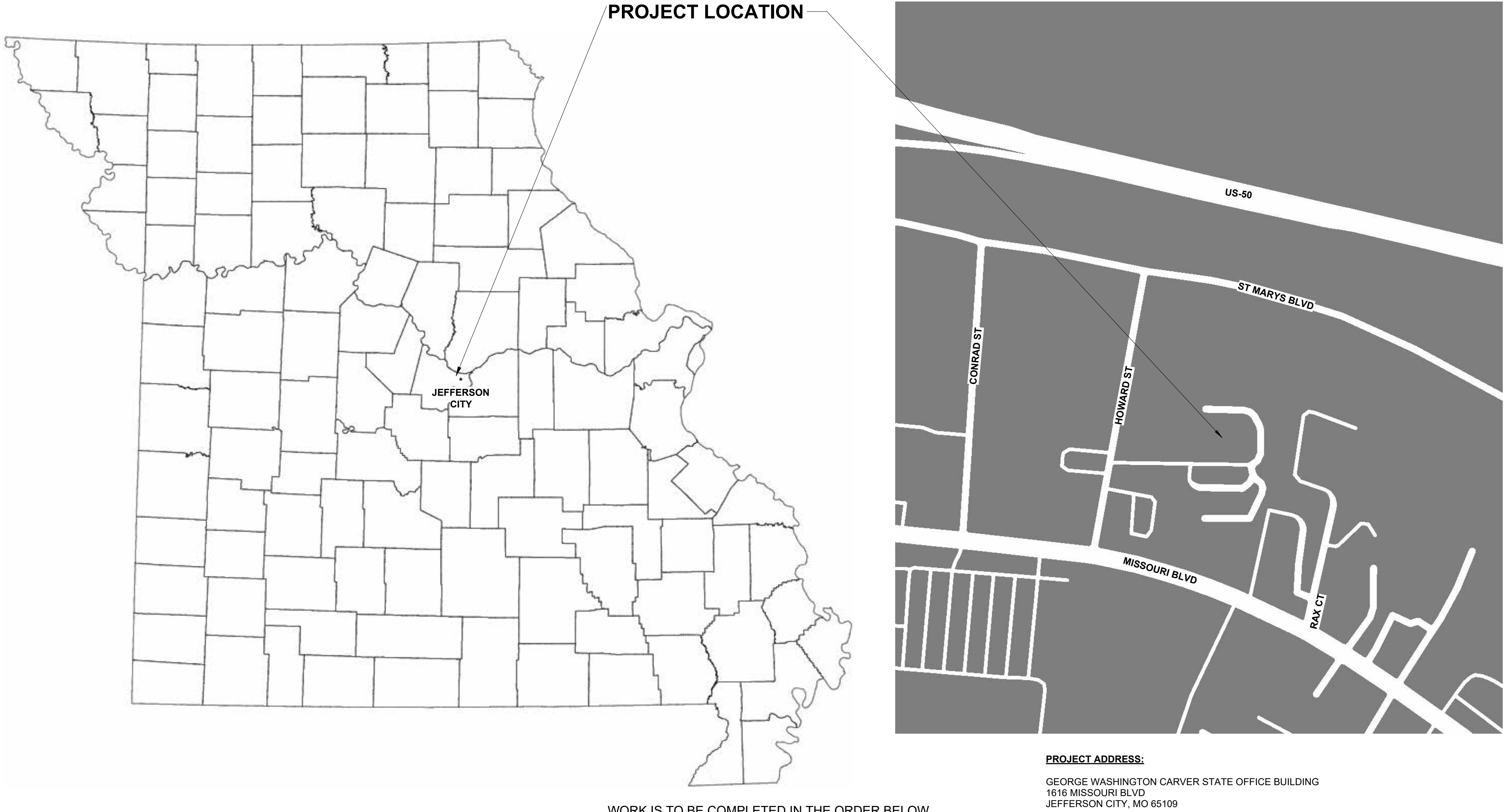
SHEET INDEX:

SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE
G001	TITLE SHEET	06/17/25
G002	INDEX PAGE	06/17/25
FA100	FIRE ALARM PLANS - BASEMENT	06/17/25
FA101	FIRE ALARM PLANS - LEVEL 1	06/17/25
FA102	FIRE ALARM PLANS - LEVEL 2	06/17/25
FA103	FIRE ALARM PLANS - LEVEL 3	06/17/25
FA111	FIRE ALARM PLANS - WAREHOUSE	06/17/25
FA500	FIRE ALARM DETAILS	06/17/25



PROPOSED WORK SEQUENCE
(NTS)

PROJECT LOCATION



WORK IS TO BE COMPLETED IN THE ORDER BELOW.

- PHASE 1**
WAREHOUSE BUILDING:
- DEMOLISH ALL FIRE ALARM COMPONENTS AND WIRING.
 - PERFORM FIRE WATCH WHILE FIRE ALARM SYSTEM IS OFFLINE.
 - INSTALL NEW AND REPLACED FIRE ALARM COMPONENTS AND WIRING AND POWER.

- OFFICE BUILDING:
- DEMOLISH ALL FIRE ALARM COMPONENTS AND DIALER. DEMOLISH INITIATING DEVICES AND NOTIFICATION APPLIANCES IN THE HATCHED AREAS OF LEVEL 1 AND BASEMENT PRIOR TO DEMOLITION OF INITIATING DEVICES AND NOTIFICATION APPLIANCES IN OTHER AREAS.
 - PERFORM FIRE WATCH WHILE FIRE ALARM SYSTEM IS OFFLINE.
 - COORDINATE WITH CEILING REPLACEMENT (UNDER SEPARATE CONTRACT) AND PERFORM WALL DEMOLITION ONCE CEILINGS ARE DEMOLISHED.

- PHASE 2**
WAREHOUSE:
- START UP NEW FIRE ALARM SYSTEM.
- OFFICE BUILDING:
- ROUGH-IN AND WIRE ALL INITIATING DEVICES, NOTIFICATION APPLIANCES, FIRE ALARM CONTROL UNIT, AND DIALER. ROUGH-IN AND WIRING IN HATCHED AREAS BEFORE STARTING ROUGHING-IN AND WIRING IN OTHER AREAS.
 - FIRE WATCH TO CONTINUE WHILE FIRE ALARM SYSTEM IS OFFLINE.

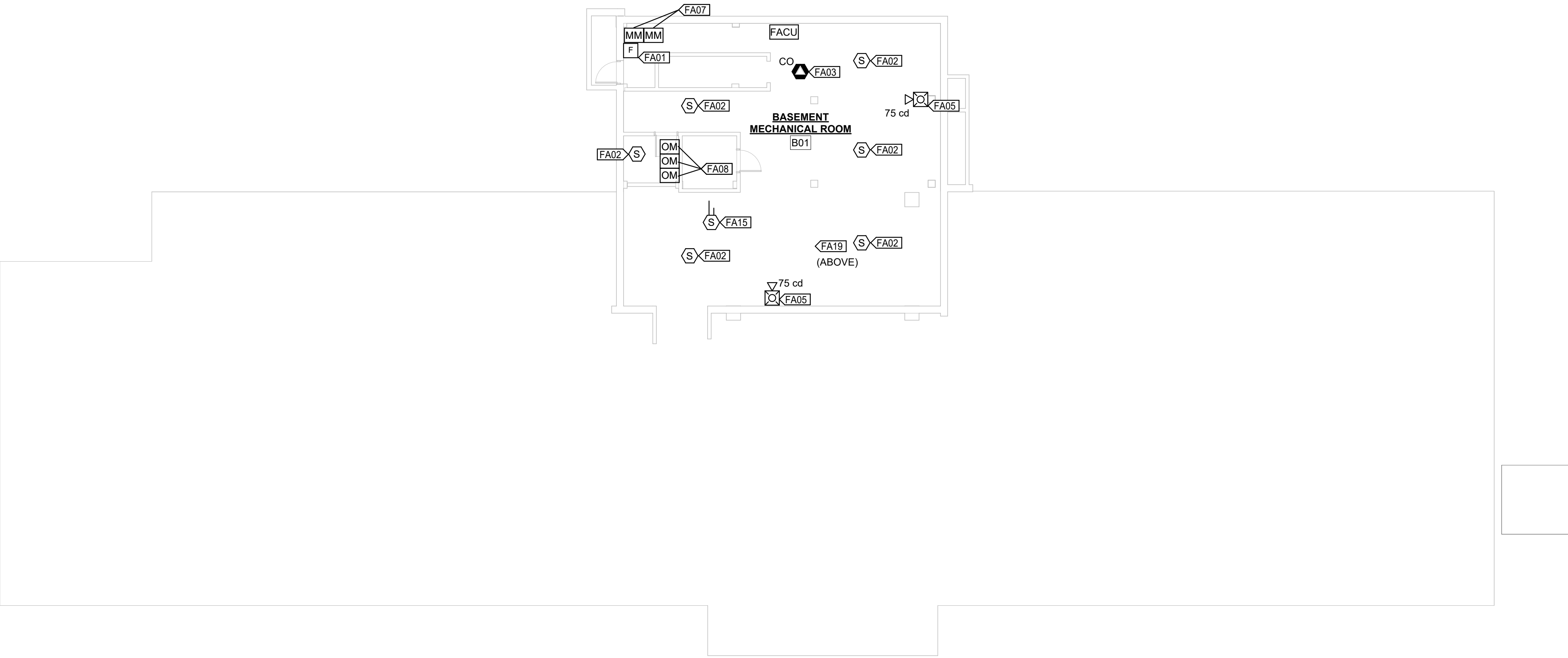
- PHASE 3**
OFFICE BUILDING:
- INSTALL FIRE ALARM CONTROL UNIT AND DIALER. INSTALL INITIATING DEVICES AND NOTIFICATION APPLIANCES IN HATCHED AREA WHEN CEILINGS (UNDER SEPARATE CONTRACT) ARE IN PLACE.

- PHASE 4**
OFFICE BUILDING:
- START UP FIRE ALARM SYSTEM.
 - INSTALL INITIATING DEVICES AND NOTIFICATION APPLIANCES IN REMAINING AREAS AND INSTALL AREA OF REFUGE COMMUNICATION SYSTEM.

- PHASE 5**
OFFICE BUILDING:
- ADD REMAINING INITIATING DEVICES AND NOTIFICATION APPLIANCES TO FIRE ALARM SYSTEM.
 - START UP AREA OF REFUGE COMMUNICATION SYSTEM.

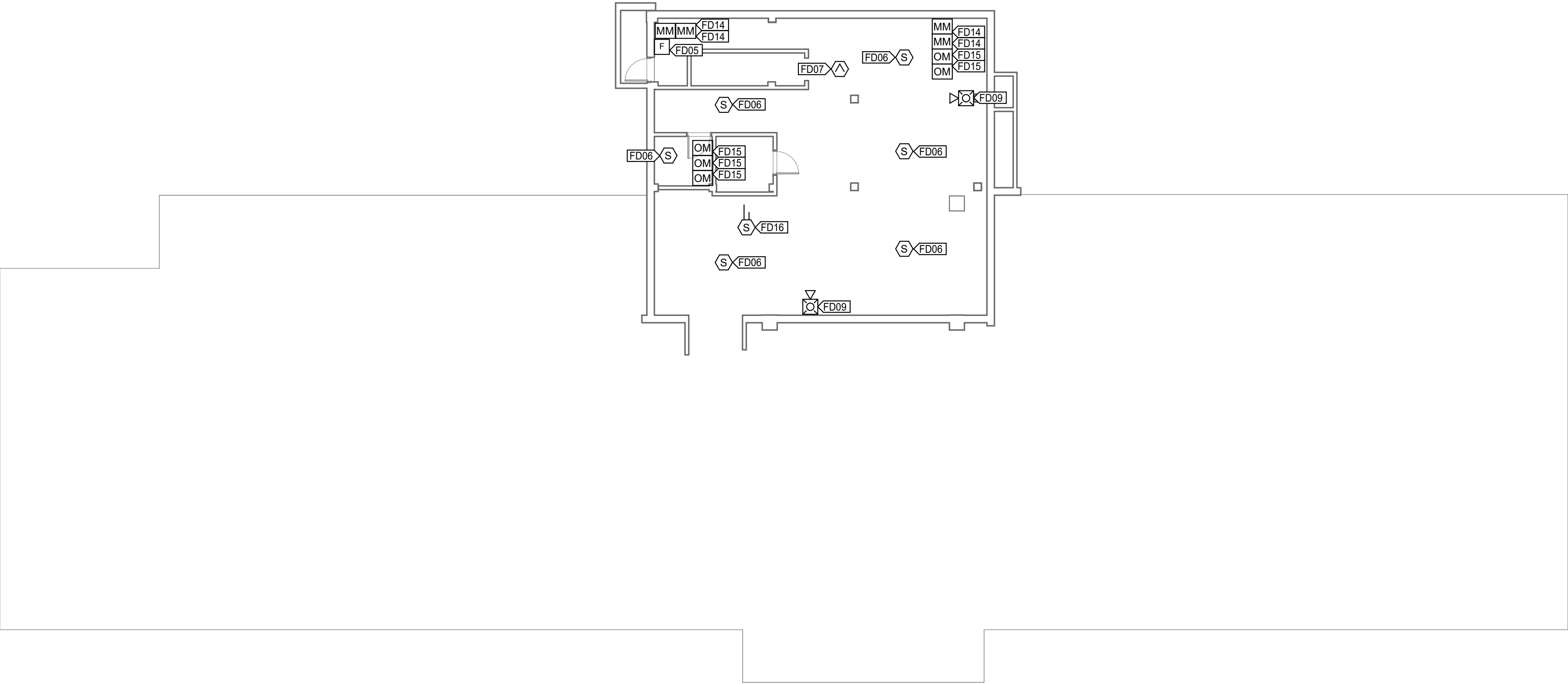
GENERAL ELECTRICAL NOTES:

1. APPLICABLE STANDARDS: NFPA-70, NFPA-101, STATE BUILDING CODES, AND THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) OF 1971 AND ALL AMENDMENTS THERETO; EQUIPMENT, DEVICES, APPARATUS, SYSTEMS, AND INSTALLATIONS SHALL BE ENTIRELY SUITABLE AND SAFE FOR EACH INTENDED APPLICATION AND BE IN FULL COMPLIANCE WITH APPLICABLE STANDARDS, REQUIREMENTS, RULES, REGULATIONS, CODES, STATUTES, ORDINANCES, ETC., OF MUNICIPAL, COUNTY, AND STATE GOVERNMENTS, OWNER'S INSURANCE COMPANY, LOCAL UTILITIES, AND LABOR REGULATIONS. NOTHING CONTAINED IN THESE PLANS AND SPECIFICATIONS SHALL BE CONSTRUED TO CONFLICT WITH THESE LAWS, CODES, AND ORDINANCES.
2. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS OF ELECTRICAL EQUIPMENT. EXACT LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR AND VERIFIED IN THE FIELD PRIOR TO ROUGH-IN.
3. INSTALLATIONS WHICH INCLUDE ELECTRICAL FIXTURES, DEVICES, CONDUIT, SWITCHES, PANELS, HANGERS, WIRE, CABLE, STANDARDS, ETC., MUST BE ENTIRELY SUITABLE FOR TEMPERATURES, HUMIDITY, DAMP AREAS, VOLTAGE, FREQUENCY, AND ALL INSTALLATION CONDITIONS ENCOUNTERED.
4. INSTALLATION MUST BE ENTIRELY SAFE IN EVERY RESPECT, AND MUST NOT CREATE ANY CONDITIONS OF ANY KIND WHICH WILL BE HARMFUL TO ANY OCCUPANT OF THE BUILDING. IF CONTRACTOR BELIEVES THAT INSTALLATION WILL NOT BE SAFE FOR ALL PEOPLE, HE/SHE SHALL SO REPORT IN WRITING TO ENGINEER BEFORE ANY EQUIPMENT IS PURCHASED OR WORK IS INSTALLED, GIVING EXACT RECOMMENDATIONS, AND REASONS FOR THEM.
5. GROUNDING: ALL GROUNDING SHALL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).
6. INSTALLATION OF ELECTRICAL DEVICES SHALL BE COORDINATED WITH OTHER TRADES AS NECESSARY TO PREVENT ANY CONFLICTS DURING CONSTRUCTION.
7. LOW VOLTAGE CONDUIT AND JUNCTION BOXES SHALL BE INSTALLED BY THE CONTRACTOR.
8. WHERE WALL MOUNTED FIRE ALARM DEVICE LOCATIONS ARE INDICATED INSTALL 1" EMT FROM OUTLET BOX (4"x4"x1-1/2" MIN.) TO TOP OF FINISHED WALL (ABOVE ACT CEILING). FOR OUTLETS LOCATED IN SURFACE MOUNTED RACEWAY, PROVIDE (2) 1" EMT FROM SURFACE RACEWAY BACK BOX TO ABOVE ACT CEILING.
9. LIGHTING: FURNISH AND INSTALL ALL LIGHTING FIXTURES COMPLETE WITH LAMPS IN ACCORDANCE WITH THE LIGHTING FIXTURE SCHEDULE SHOWN ON THE DRAWINGS. ALL UNITS SHALL BE COMPLETE WITH SUSPENSION ACCESSORIES, CANOPIES, SOCKETS, LOUVERS, FRAMES, AND ROUGH-IN BOXES, WIRED AND ASSEMBLED TO FURNISH A COMPLETE WORKABLE SYSTEM.
10. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PULLED WITH ALL BRANCH CIRCUITS. CONDUIT SHALL NOT BE USED AS A GROUND U.N.O.
11. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS, ACCESSORIES, TOOLS, EQUIPMENT, TRANSPORTATION, LABOR, SERVICES AND OPERATIONS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM.
12. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ARRANGE FOR ALL INSPECTIONS REQUIRED BY STATE OR LOCAL AUTHORITIES.
13. MATERIALS MUST BE NEW, IN FIRST CLASS CONDITION.
14. CONDUIT SHALL BE SEPARATELY HUNG AND ANCHORED, FREE TO EXPAND AND CONTRACT QUIETLY, WITHOUT IMPOSING STRAINS ON STRUCTURE, DEVICES, AND EQUIPMENT. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES.



NEW WORK KEYNOTES LEGEND	
VALUE	DESCRIPTION
FA01	PROVIDE AND INSTALL MANUAL FIRE ALARM BOX IN LOCATION OF DEMOLISHED MANUAL FIRE ALARM BOX.
FA02	PROVIDE AND INSTALL SMOKE DETECTOR IN LOCATION OF DEMOLISHED SMOKE DETECTOR.
FA03	PROVIDE AND INSTALL NEW CARBON MONOXIDE DETECTOR IN LOCATION OF DEMOLISHED FLAME DETECTOR.
FA05	PROVIDE AND INSTALL NEW NOTIFICATION APPLIANCE IN LOCATION OF DEMOLISHED NOTIFICATION APPLIANCE.
FA07	PROVIDE AND INSTALL MONITOR MODULE IN LOCATION OF DEMOLISHED MONITOR MODULE.
FA08	PROVIDE AND INSTALL NEW OUTPUT MODULE IN LOCATION OF DEMOLISHED OUTPUT MODULE.
FA15	PROVIDE AND INSTALL NEW ANALOG ADDRESSABLE DUCT SMOKE DETECTOR. COORDINATE WITH HVAC REPLACEMENT PROJECT (UNDER SEPARATE CONTRACT).
FA19	ROUTE WIRING BETWEEN FLOORS THROUGH EXISTING DATA CONDUITS IN TELECOMMUNICATIONS CLOSETS IN THIS AREA.

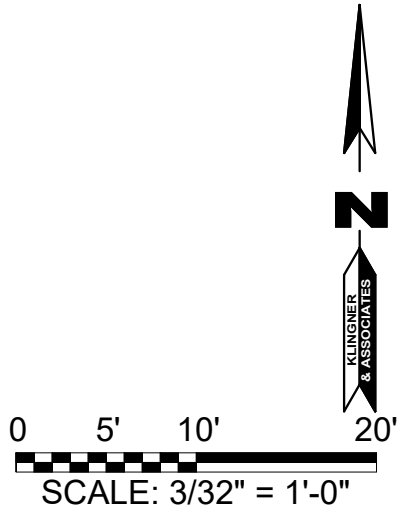
2 Basement Fire Alarm New Work Plan
3/32" = 1'-0"



- GENERAL DEMOLITION NOTES:**
- DEMOLISH ALL SIGNALING LINE CIRCUIT AND NOTIFICATION APPLIANCE CIRCUIT WIRING ASSOCIATED WITH FIRE ALARM SYSTEM BEING DEMOLISHED.
 - FIRE ALARM RACEWAYS AND BOXES MAY REMAIN FOR REUSE WITH NEW FIRE ALARM WIRING.
 - FIRE ALARM RACEWAYS AND BOXES NOT BEING REUSED SHALL BE DEMOLISHED.

DEMOLITION KEYNOTES LEGEND	
VALUE	DESCRIPTION
FD05	DEMOLISH MANUAL FIRE ALARM BOX. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD06	DEMOLISH SMOKE DETECTOR. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD07	DEMOLISH FLAME DETECTOR. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD09	DEMOLISH NOTIFICATION APPLIANCE. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD14	DEMOLISH MONITOR MODULE.
FD15	DEMOLISH OUTPUT MODULE.
FD16	DEMOLISH DUCT SMOKE DETECTOR.

1 Basement Fire Alarm Demo Plan
3/32" = 1'-0"



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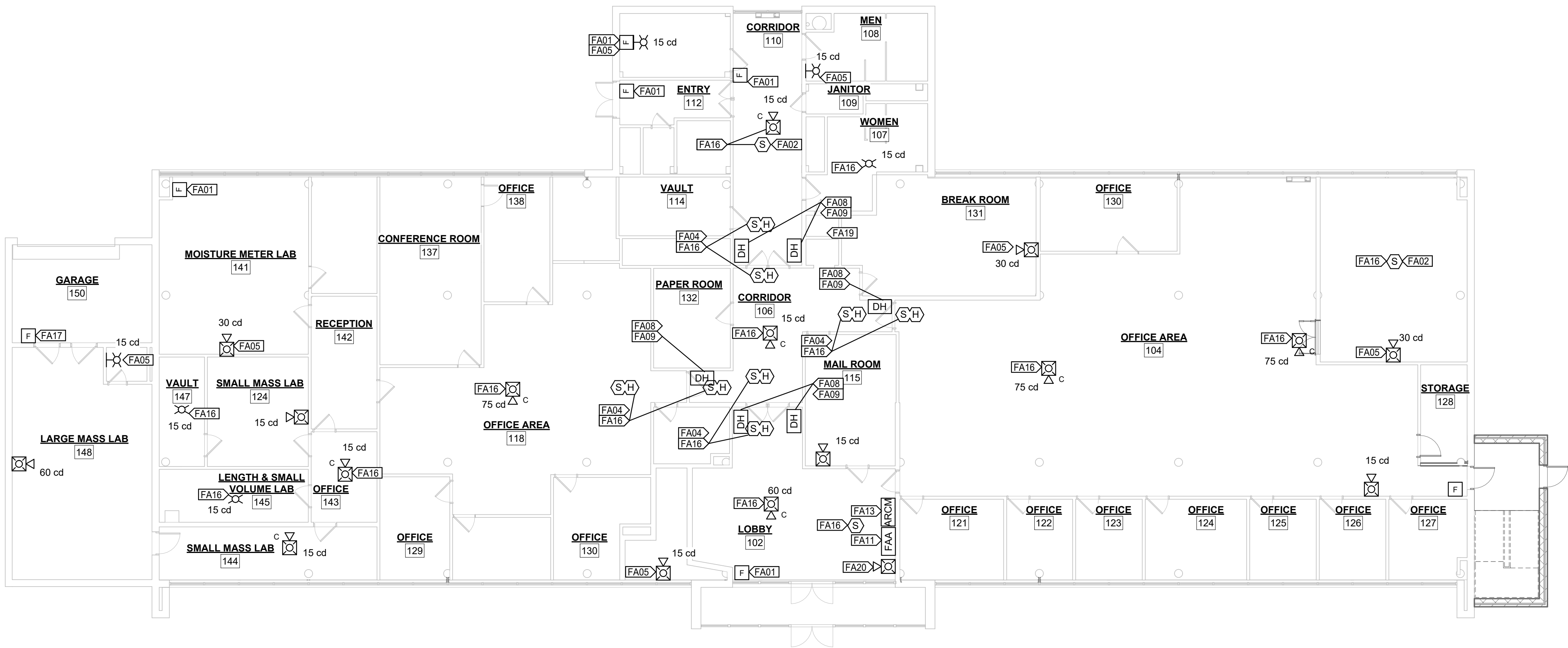
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**FIRE ALARM PLANS -
BASEMENT**

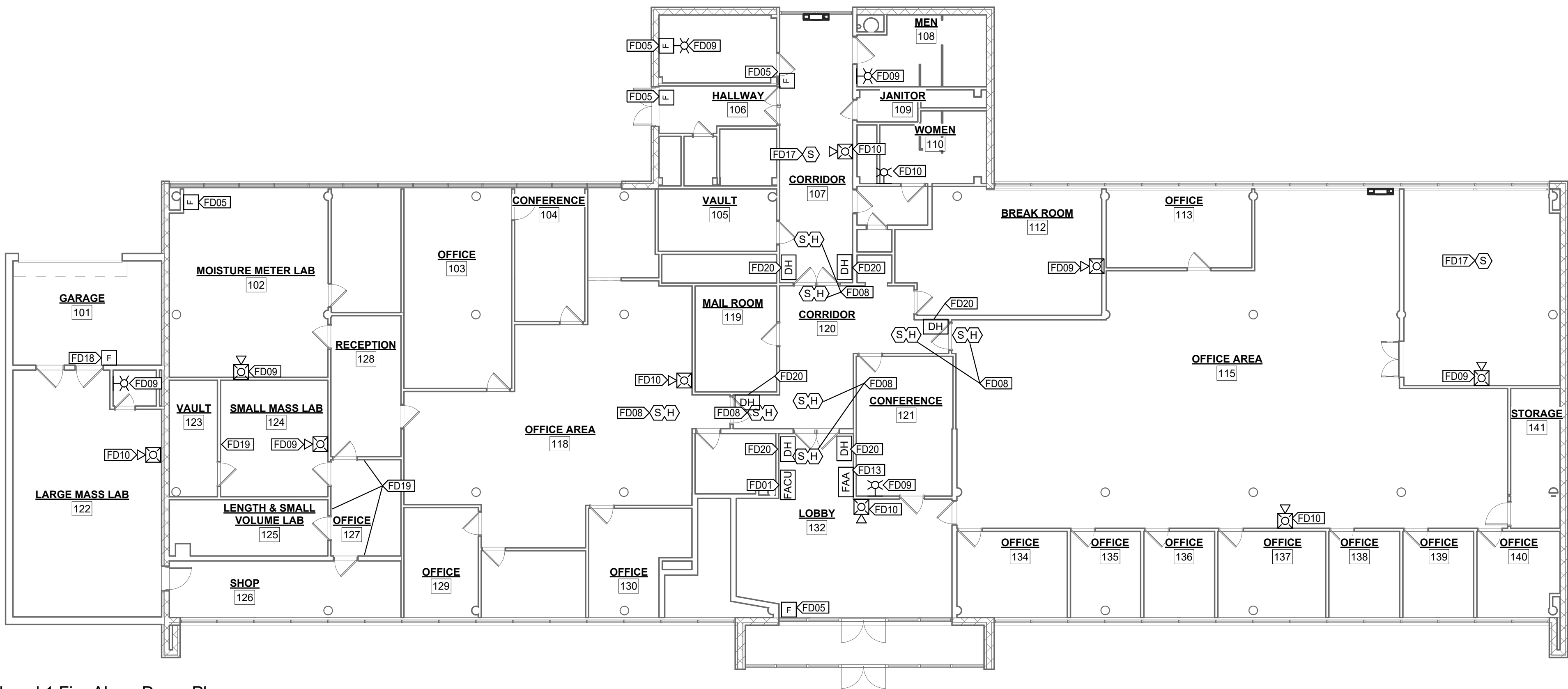
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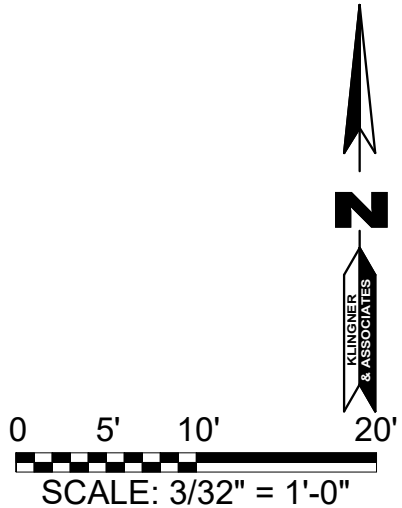
SHEET 3 OF 8
JUNE 17, 2025



2 Level 1 Fire Alarm New Work Plan
3/32" = 1'-0"



1 Level 1 Fire Alarm Demo Plan
3/32" = 1'-0"



NEW WORK KEYNOTES LEGEND	
VALUE	DESCRIPTION
FA01	PROVIDE AND INSTALL MANUAL FIRE ALARM BOX IN LOCATION OF DEMOLISHED MANUAL FIRE ALARM BOX.
FA02	PROVIDE AND INSTALL SMOKE DETECTOR IN LOCATION OF DEMOLISHED SMOKE DETECTOR.
FA04	PROVIDE AND INSTALL COMBINATION SMOKE/HEAT DETECTOR FOR SMOKE DOOR CONTROL.
FA05	PROVIDE AND INSTALL NEW NOTIFICATION APPLIANCE IN LOCATION OF DEMOLISHED NOTIFICATION APPLIANCE.
FA08	PROVIDE AND INSTALL NEW OUTPUT MODULE IN LOCATION OF DEMOLISHED OUTPUT MODULE.
FA09	CONNECT NEW FIRE ALARM SYSTEM TO EXISTING DOOR HOLDER.
FA11	PROVIDE AND INSTALL NEW FIRE ALARM ANNUNCIATOR.
FA13	PROVIDE AND INSTALL NEW AREA OF REFUGE CONTROL PANEL ADJACENT TO FIRE ALARM ANNUNCIATOR.
FA16	PROVIDE 4 FT OF EXTRA WIRING, COILED ABOVE CEILING, FOR FUTURE RELOCATION OF CEILING MOUNTED FIRE ALARM DEVICES DUE TO CEILING CHANGES IN SEPARATE PROJECT BY OTHERS.
FA17	PROVIDE AND INSTALL NEW SURFACE-MOUNTED MANUAL FIRE ALARM BOX. ROUTE NEW CONDUIT AND CONDUCTORS UP WALL AND EXTEND TO EXISTING JUNCTION BOX SERVING DEMOLISHED, INACCESSIBLE MANUAL FIRE ALARM BOX.
FA19	ROUTE WIRING BETWEEN FLOORS THROUGH EXISTING DATA CONDUITS IN TELECOMMUNICATIONS CLOSETS IN THIS AREA.
FA20	PROVIDE AND INSTALL NEW STROBE FOR NOTIFICATION OF ALARM, TROUBLE, OR SUPERVISORY SIGNAL FROM WAREHOUSE. THIS DEVICE SHALL BE WHITE INSTEAD OF RED, SHALL NOT BEAR THE LABEL "FIRE", AND SHALL HAVE A PLACARD MOUNTED AT 54" AFF READING: "WAREHOUSE FIRE ALARM SYSTEM". ROUTE WIRING FOR NOTIFICATION APPLIANCE CIRCUIT DOWN INTO BASEMENT, THROUGH EXISTING CONDUIT TO WAREHOUSE, AND CONNECT TO NOTIFICATION APPLIANCE CIRCUIT IN WAREHOUSE.

GENERAL DEMOLITION NOTES:	
1. DEMOLISH ALL SIGNALING LINE CIRCUIT AND NOTIFICATION APPLIANCE CIRCUIT WIRING ASSOCIATED WITH FIRE ALARM SYSTEM BEING DEMOLISHED.	
2. FIRE ALARM RACEWAYS AND BOXES MAY REMAIN FOR REUSE WITH NEW FIRE ALARM WIRING.	
3. FIRE ALARM RACEWAYS AND BOXES NOT BEING REUSED SHALL BE DEMOLISHED.	

DEMOLITION KEYNOTES LEGEND	
VALUE	DESCRIPTION
FD01	DEMOLISH EXISTING FIRE ALARM CONTROL PANEL. REFER TO PHASING PLAN ON SHEET G002.
FD05	DEMOLISH MANUAL FIRE ALARM BOX. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD08	DEMOLISH COMBINATION SMOKE/HEAT DETECTOR.
FD09	DEMOLISH NOTIFICATION APPLIANCE. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD10	DEMOLISH NOTIFICATION APPLIANCE. PROVIDE AND INSTALL BLANK PLATE TO COVER BOX.
FD13	DEMOLISH FIRE ALARM ANNUNCIATOR PANEL.
FD17	DEMOLISH SMOKE DETECTOR.
FD18	DEMOLISH MANUAL FIRE ALARM BOX. PROVIDE AND INSTALL BLANK PLATE TO COVER BOX.
FD19	CREATE NEW OPENING IN WALL FOR WIRING. REFER TO FIRESTOP DETAILS ON SHEET FA500.
FD20	DEMOLISH DOOR HOLDER OUTPUT MODULE. DOOR HOLDER, BOX AND RACEWAY SHALL REMAIN FOR REUSE.

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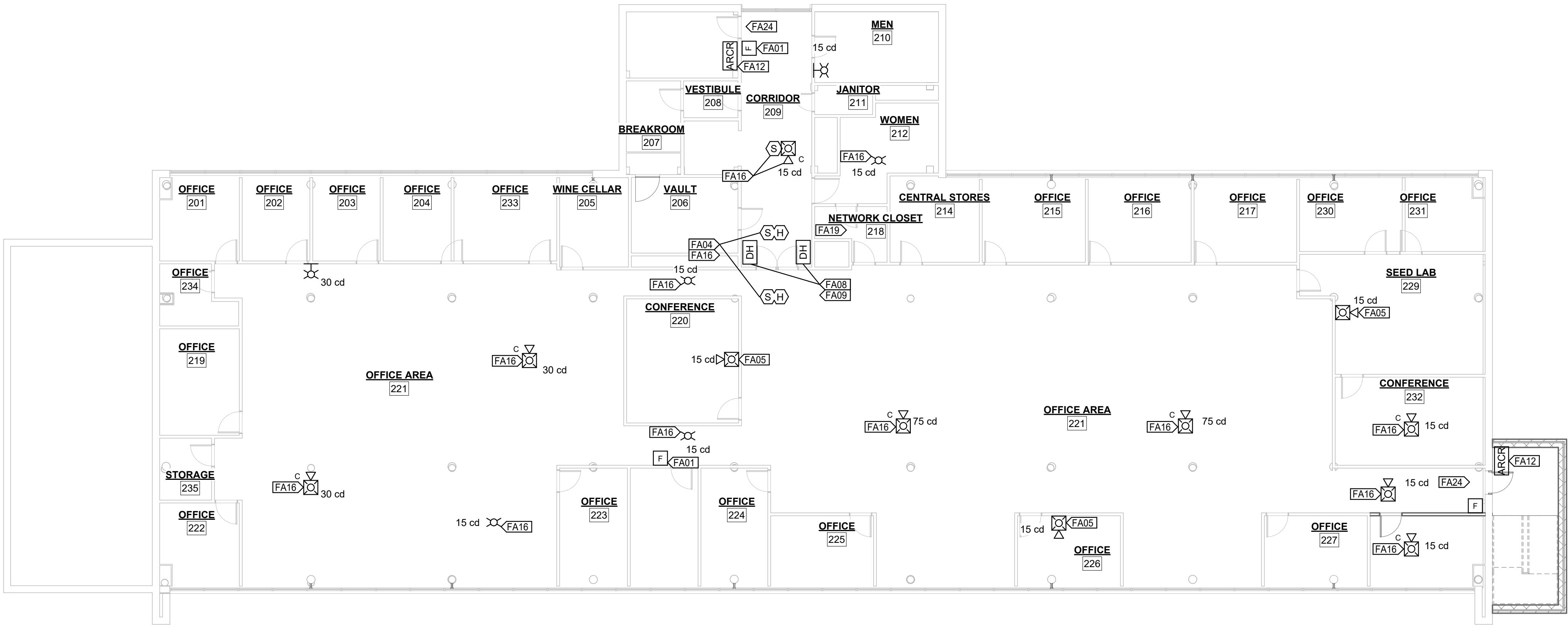
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DESIGNED BY: RMS

SHEET TITLE:
**FIRE ALARM PLANS -
LEVEL 1**

SHEET NUMBER:

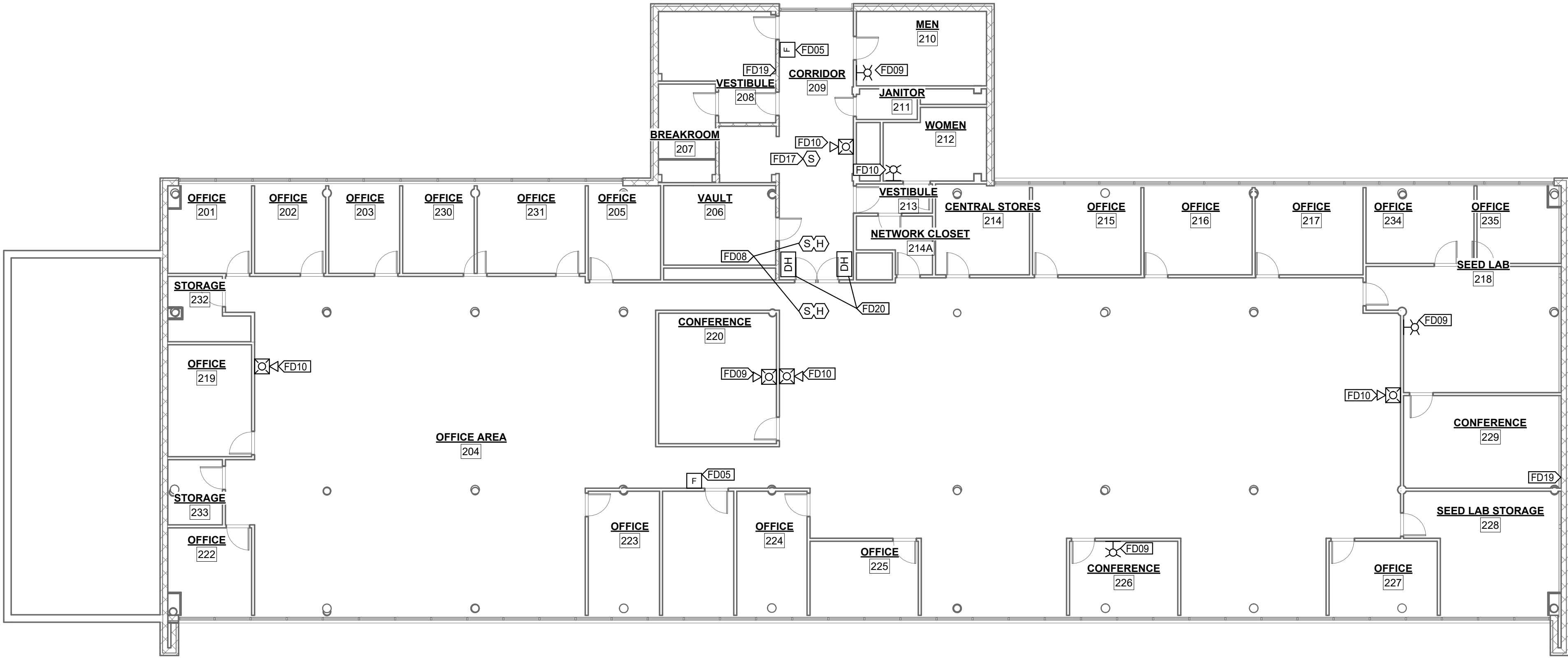
FA101

SHEET 4 OF 8
JUNE 17, 2025



NEW WORK KEYNOTES LEGEND	
VALUE	DESCRIPTION
FA01	PROVIDE AND INSTALL MANUAL FIRE ALARM BOX IN LOCATION OF DEMOLISHED MANUAL FIRE ALARM BOX.
FA04	PROVIDE AND INSTALL COMBINATION SMOKE/HEAT DETECTOR FOR SMOKE DOOR CONTROL.
FA05	PROVIDE AND INSTALL NEW NOTIFICATION APPLIANCE IN LOCATION OF DEMOLISHED NOTIFICATION APPLIANCE.
FA08	PROVIDE AND INSTALL NEW OUTPUT MODULE IN LOCATION OF DEMOLISHED OUTPUT MODULE.
FA09	CONNECT NEW FIRE ALARM SYSTEM TO EXISTING DOOR HOLDER.
FA12	PROVIDE AND INSTALL NEW AREA OF REFUGE COMMUNICATION REMOTE UNIT IN STAIRWELL.
FA16	PROVIDE 4 FT OF EXTRA WIRING, COILED ABOVE CEILING, FOR FUTURE RELOCATION OF CEILING MOUNTED FIRE ALARM DEVICES DUE TO CEILING CHANGES IN SEPARATE PROJECT BY OTHERS.
FA19	ROUTE WIRING BETWEEN FLOORS THROUGH EXISTING DATA CONDUITS IN TELECOMMUNICATIONS CLOSETS IN THIS AREA.
FA24	PROVIDE AND INSTALL NEW AREA OF REFUGE SIGN (2 SIDED, LIGHTED, WITH BATTERY BACKUP) ADJACENT TO EXIT SIGN. POWER THROUGH SAME CIRCUIT AS EXIT SIGN.

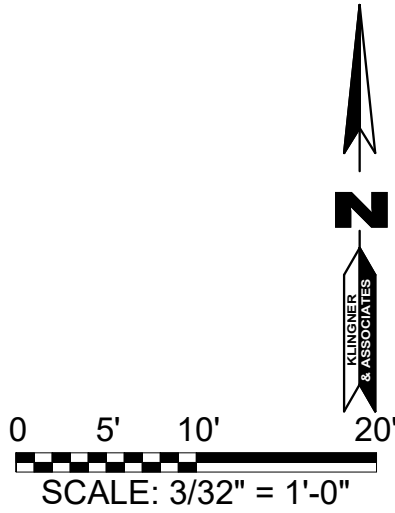
2 Level 2 Fire Alarm New Work Plan
3/32" = 1'-0"



GENERAL DEMOLITION NOTES:	
1. DEMOLISH ALL SIGNALING LINE CIRCUIT AND NOTIFICATION APPLIANCE CIRCUIT WIRING ASSOCIATED WITH FIRE ALARM SYSTEM BEING DEMOLISHED.	
2. FIRE ALARM RACEWAYS AND BOXES MAY REMAIN FOR REUSE WITH NEW FIRE ALARM WIRING.	
3. FIRE ALARM RACEWAYS AND BOXES NOT BEING REUSED SHALL BE DEMOLISHED.	

DEMOLITION KEYNOTES LEGEND	
VALUE	DESCRIPTION
FD05	DEMOLISH MANUAL FIRE ALARM BOX. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD08	DEMOLISH COMBINATION SMOKE/HEAT DETECTOR.
FD09	DEMOLISH NOTIFICATION APPLIANCE. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD10	DEMOLISH NOTIFICATION APPLIANCE. PROVIDE AND INSTALL BLANK PLATE TO COVER BOX.
FD17	DEMOLISH SMOKE DETECTOR.
FD19	CREATE NEW OPENING IN WALL FOR WIRING. REFER TO FIRESTOP DETAILS ON SHEET FA500.
FD20	DEMOLISH DOOR HOLDER OUTPUT MODULE. DOOR HOLDER, BOX AND RACEWAY SHALL REMAIN FOR REUSE.

1 Level 2 Fire Alarm Demo Plan
3/32" = 1'-0"



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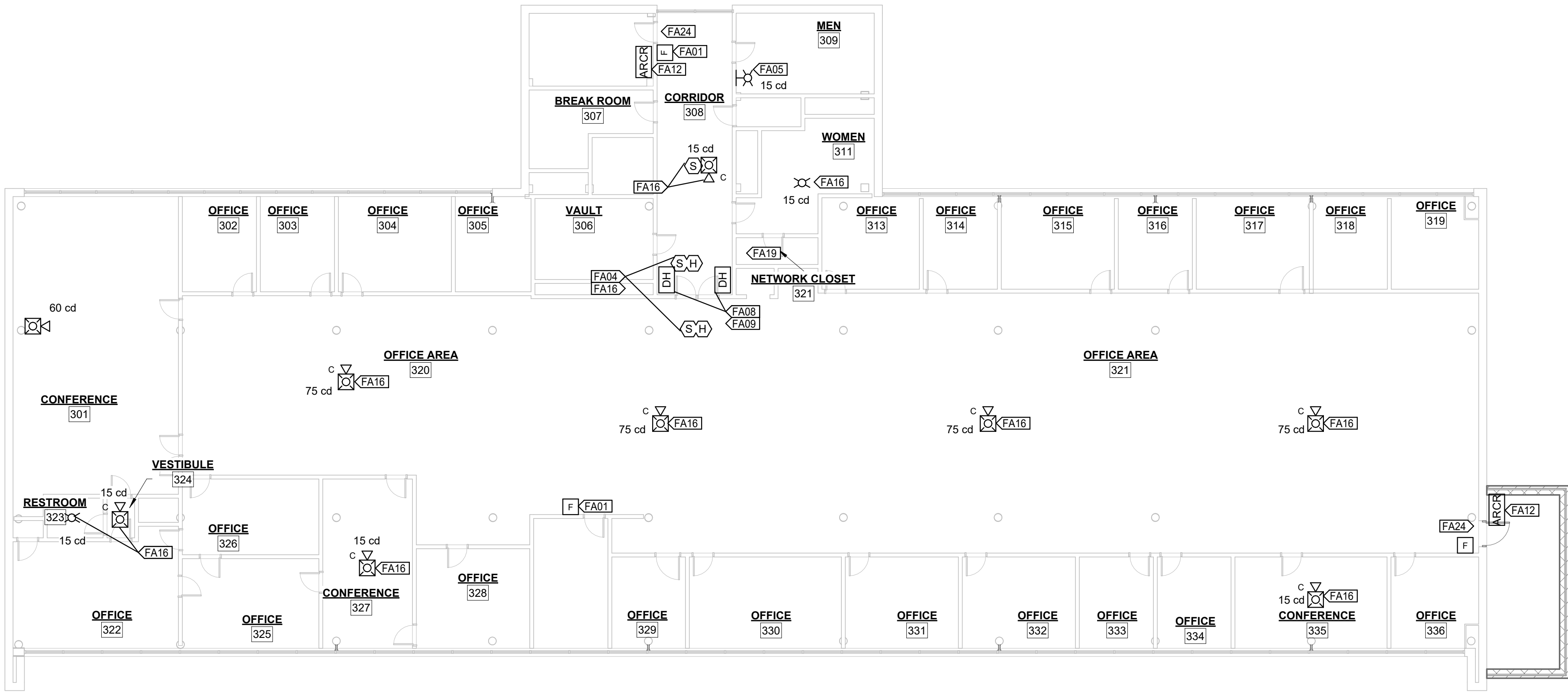
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**FIRE ALARM PLANS -
LEVEL 2**

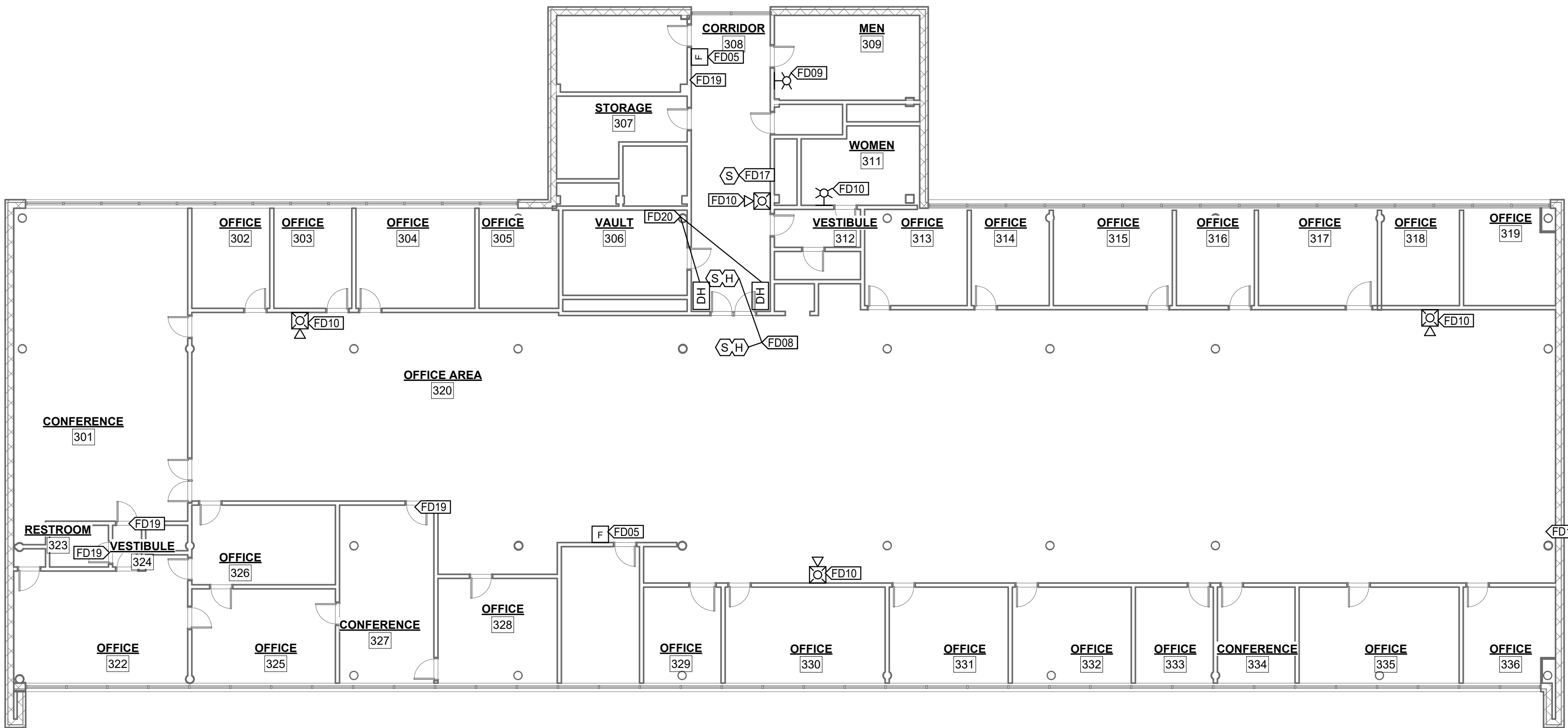
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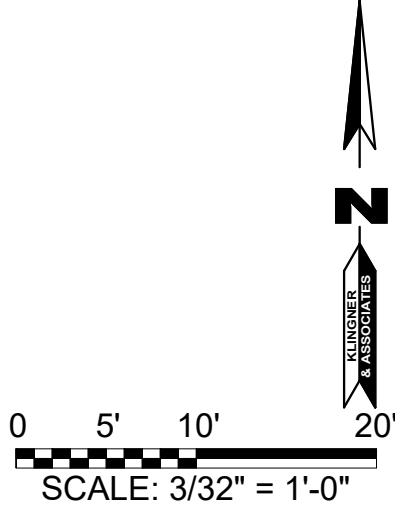
SHEET 5 OF 8
JUNE 17, 2025



2 Level 3 Fire Alarm New Work Plan
3/32" = 1'-0"



1 Level 3 Fire Alarm Demo Plan
3/32" = 1'-0"



NEW WORK KEYNOTES LEGEND	
VALUE	DESCRIPTION
FA01	PROVIDE AND INSTALL MANUAL FIRE ALARM BOX IN LOCATION OF DEMOLISHED MANUAL FIRE ALARM BOX.
FA04	PROVIDE AND INSTALL COMBINATION SMOKE/HEAT DETECTOR FOR SMOKE DOOR CONTROL.
FA05	PROVIDE AND INSTALL NEW NOTIFICATION APPLIANCE IN LOCATION OF DEMOLISHED NOTIFICATION APPLIANCE.
FA08	PROVIDE AND INSTALL NEW OUTPUT MODULE IN LOCATION OF DEMOLISHED OUTPUT MODULE.
FA09	CONNECT NEW FIRE ALARM SYSTEM TO EXISTING DOOR HOLDER.
FA12	PROVIDE AND INSTALL NEW AREA OF REFUGE COMMUNICATION REMOTE UNIT IN STAIRWELL.
FA16	PROVIDE 4 FT OF EXTRA WIRING, COILED ABOVE CEILING, FOR FUTURE RELOCATION OF CEILING MOUNTED FIRE ALARM DEVICES DUE TO CEILING CHANGES IN SEPARATE PROJECT BY OTHERS.
FA19	ROUTE WIRING BETWEEN FLOORS THROUGH EXISTING DATA CONDUITS IN TELECOMMUNICATIONS CLOSETS IN THIS AREA.
FA24	PROVIDE AND INSTALL NEW AREA OF REFUGE SIGN (2 SIDED, LIGHTED, WITH BATTERY BACKUP) ADJACENT TO EXIT SIGN. POWER THROUGH SAME CIRCUIT AS EXIT SIGN.

- GENERAL DEMOLITION NOTES:**
1. DEMOLISH ALL SIGNALING LINE CIRCUIT AND NOTIFICATION APPLIANCE CIRCUIT WIRING ASSOCIATED WITH FIRE ALARM SYSTEM BEING DEMOLISHED.
 2. FIRE ALARM RACEWAYS AND BOXES MAY REMAIN FOR REUSE WITH NEW FIRE ALARM WIRING.
 3. FIRE ALARM RACEWAYS AND BOXES NOT BEING REUSED SHALL BE DEMOLISHED.

DEMOLITION KEYNOTES LEGEND	
VALUE	DESCRIPTION
FD05	DEMOLISH MANUAL FIRE ALARM BOX. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD08	DEMOLISH COMBINATION SMOKE/HEAT DETECTOR.
FD09	DEMOLISH NOTIFICATION APPLIANCE. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD10	DEMOLISH NOTIFICATION APPLIANCE. PROVIDE AND INSTALL BLANK PLATE TO COVER BOX.
FD17	DEMOLISH SMOKE DETECTOR.
FD19	CREATE NEW OPENING IN WALL FOR WIRING. REFER TO FIRESTOP DETAILS ON SHEET FA500.
FD20	DEMOLISH DOOR HOLDER OUTPUT MODULE. DOOR HOLDER, BOX AND RACEWAY SHALL REMAIN FOR REUSE.

STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR



RYAN M. STONECIPHER
MO # PE-2013000634

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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

REPLACE MULTIPLE
ELECTRONIC SYSTEMS

GEORGE WASHINGTON
CARVER STATE OFFICE
BUILDING

1616 MISSOURI BLVD
JEFFERSON CITY, MO 65109

PROJECT # O2427-01
SITE # 1010
ASSET # 3101010001

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 06/17/25

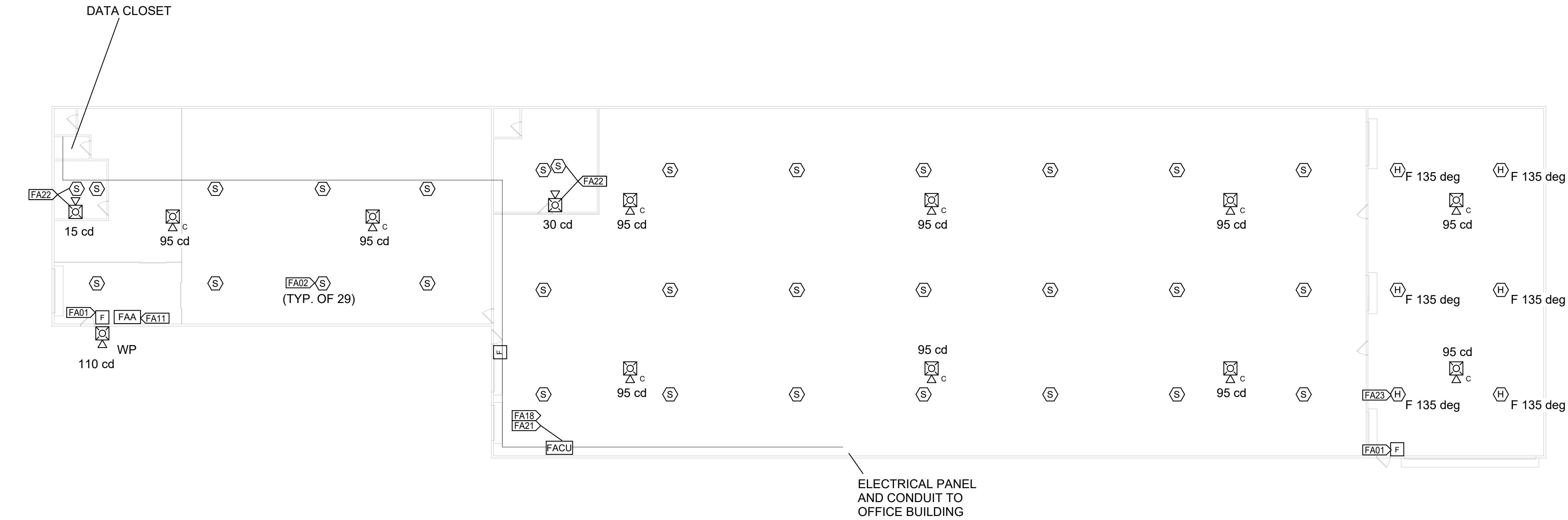
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DRAWING BY: RMS
CHECKED BY: MHB
DESIGNED BY: RMS

SHEET TITLE:
**FIRE ALARM PLANS -
LEVEL 3**

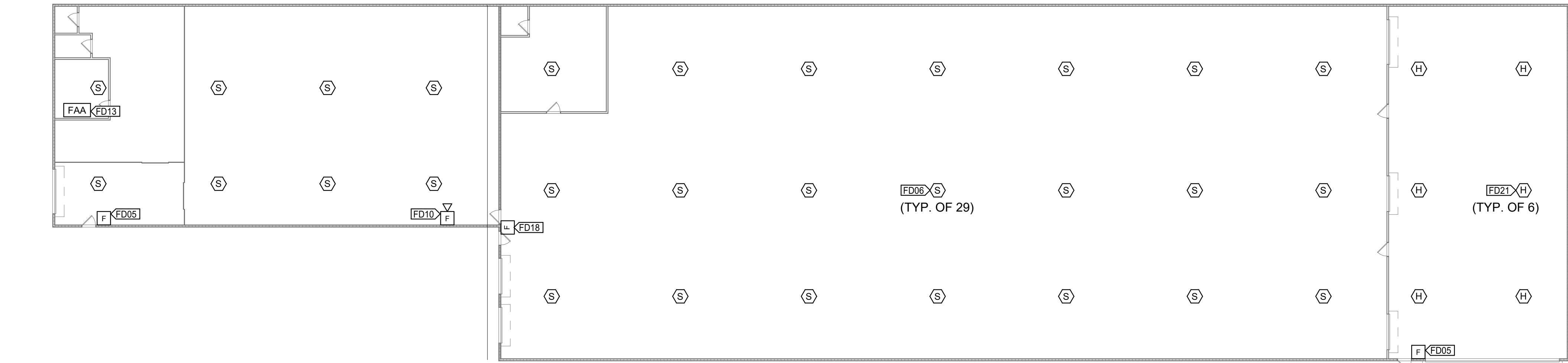
SHEET NUMBER:

FA103

SHEET 6 OF 8
JUNE 17, 2025



2 Level 1 Fire Alarm New Work Plan - Warehouse
1/16" = 1'-0"



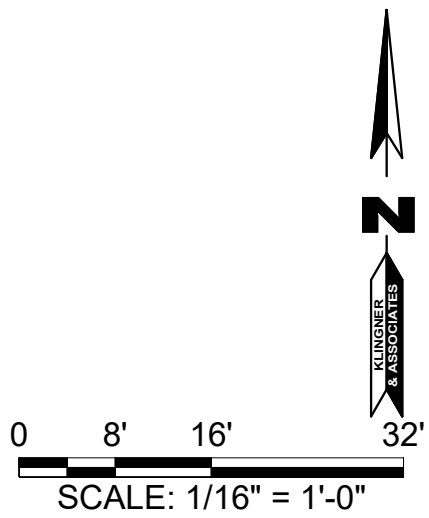
1 Level 1 Fire Alarm Demo Plan - Warehouse
1/16" = 1'-0"

NEW WORK KEYNOTES LEGEND	
VALUE	DESCRIPTION
FA01	PROVIDE AND INSTALL MANUAL FIRE ALARM BOX IN LOCATION OF DEMOLISHED MANUAL FIRE ALARM BOX.
FA02	PROVIDE AND INSTALL SMOKE DETECTOR IN LOCATION OF DEMOLISHED SMOKE DETECTOR.
FA11	PROVIDE AND INSTALL NEW FIRE ALARM ANNUNCIATOR.
FA18	NEW DIALER PROVIDED BY CAPITOL POLICE, INSTALLED BY CONTRACTOR. PROVIDE AND INSTALL PLENUM RATED CATSE CABLE IN 1/2" CONDUIT TO DATA CLOSET. PROVIDE AND INSTALL (3) OUTPUT MODULES TO TRANSMIT ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO CAPITOL POLICE CENTRAL STATION MONITORING.
FA21	NEW FIRE ALARM CONTROL PANEL. POWER THROUGH NEW 20-1 BREAKER IN EXISTING 120 V BRANCH CIRCUIT PANEL APPROXIMATELY 65' EAST OF FIRE ALARM PANEL. ROUTE NEW WIRING FOR SIGNALING LINE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS UP WALL TO STRUCTURE ABOVE IN CONDUIT.
FA22	PROVIDE AND INSTALL NEW SMOKE DETECTOR AND HORN/STROBE IN OFFICE. ROUTE WIRING UP TO ROOF STRUCTURE ABOVE IN CONDUIT.
FA23	PROVIDE AND INSTALL NEW HEAT DETECTOR IN LOCATION OF DEMOLISHED HEAD DETECTOR.

GENERAL NEW WORK NOTES:
1. NEW NOTIFICATION APPLIANCES IN OPEN WAREHOUSE AREAS AND NEW RACEWAYS FOR ALL SIGNALING LINE CIRCUIT AND NOTIFICATION APPLIANCE CIRCUIT WIRING SHALL BE SURFACE MOUNTED TO THE BOTTOM OF THE EXISTING STRUCTURAL ROOF MEMBERS.

GENERAL DEMOLITION NOTES:
1. DEMOLISH ALL SIGNALING LINE CIRCUIT AND NOTIFICATION APPLIANCE CIRCUIT WIRING ASSOCIATED WITH FIRE ALARM SYSTEM BEING DEMOLISHED.
2. FIRE ALARM RACEWAYS AND BOXES MAY REMAIN FOR REUSE WITH NEW FIRE ALARM WIRING.
3. FIRE ALARM RACEWAYS AND BOXES NOT BEING REUSED SHALL BE DEMOLISHED.

DEMOLITION KEYNOTES LEGEND	
VALUE	DESCRIPTION
FD05	DEMOLISH MANUAL FIRE ALARM BOX. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD06	DEMOLISH SMOKE DETECTOR. BOX AND RACEWAY SHALL REMAIN FOR REUSE.
FD10	DEMOLISH NOTIFICATION APPLIANCE. PROVIDE AND INSTALL BLANK PLATE TO COVER BOX.
FD13	DEMOLISH FIRE ALARM ANNUNCIATOR PANEL.
FD18	DEMOLISH MANUAL FIRE ALARM BOX. PROVIDE AND INSTALL BLANK PLATE TO COVER BOX.
FD21	DEMOLISH HEAT DETECTOR. BOX AND RACEWAY SHALL REMAIN FOR REUSE.



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MIKE KEHOE,
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REPLACE MULTIPLE
ELECTRONIC SYSTEMS

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PROJECT # O2427-01
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DRAWING BY: RMS
CHECKED BY: -GCS-
DESIGNED BY: RMS

SHEET TITLE:
**FIRE ALARM PLANS -
WAREHOUSE**

SHEET NUMBER:
FA111
SHEET 7 OF 8
JUNE 17, 2025

	Control Unit Annunciation											Notification	Required Fire Safety Control
System Inputs	A	B	E	F	G	L	M	N	P	U	V		
MANUAL FIRE ALARM BOXES	•	•			•	•	•	•	•	•	•		
AREA SMOKE DETECTORS	•	•			•	•	•	•	•	•	•		
HEAT DETECTORS	•	•			•	•	•	•	•	•	•		
FIRE ALARM AC POWER FAILURE			•	•								•	•
FIRE ALARM SYSTEM LOW BATTERY			•	•								•	•
OPEN CIRCUIT			•	•								•	•
GROUND FAULT			•	•								•	•
NOTIFICATION APPLIANCE CIRCUIT SHORT			•	•								•	•

WAREHOUSE

	Control Unit Annunciation																Notification		Required Fire Safety Control			
	<div>MANUAL FIRE ALARM BOXES - BASEMENT MANUAL FIRE ALARM BOXES - LEVEL 1 MANUAL FIRE ALARM BOXES - LEVEL 2 MANUAL FIRE ALARM BOXES - LEVEL 3 AREA SMOKE DETECTORS - BASEMENT AREA SMOKE DETECTOR - LEVEL 1 ELEVATOR LOBBY DUCT SMOKE DETECTORS - BASEMENT DOOR RELEASE SMOKE/HEAT DETECTORS - LEVEL 1 DOOR RELEASE SMOKE/HEAT DETECTORS - LEVEL 2 DOOR RELEASE SMOKE/HEAT DETECTORS - LEVEL 3 FIRE SUPPRESSION WATER FLOW SWITCH FIRE SUPPRESSION CONTROL VALVE TAMPER SWITCH FIRE ALARM AC POWER FAILURE FIRE ALARM SYSTEM LOW BATTERY OPEN CIRCUIT GROUND FAULT NOTIFICATION APPLIANCE CIRCUIT SHORT</div>																					
System Inputs	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
MANUAL FIRE ALARM BOXES - BASEMENT							*					*	*	*	*	*	*	*	*	*	*	*
MANUAL FIRE ALARM BOXES - LEVEL 1		*	*					*				*	*	*	*	*	*	*	*	*	*	*
MANUAL FIRE ALARM BOXES - LEVEL 2		*	*					*				*	*	*	*	*	*	*	*	*	*	*
MANUAL FIRE ALARM BOXES - LEVEL 3		*	*					*		*	*	*	*	*	*	*	*	*	*	*	*	*
AREA SMOKE DETECTORS - BASEMENT							*					*	*	*	*	*	*	*	*	*	*	*
AREA SMOKE DETECTOR - LEVEL 1 ELEVATOR LOBBY		*	*				*					*	*	*	*	*	*	*	*	*	*	*
DUCT SMOKE DETECTORS - BASEMENT		*	*				*					*	*	*	*	*	*	*	*	*	*	*
DOOR RELEASE SMOKE/HEAT DETECTORS - LEVEL 1							*					*	*	*	*	*	*	*	*	*	*	*
DOOR RELEASE SMOKE/HEAT DETECTORS - LEVEL 2							*					*	*	*	*	*	*	*	*	*	*	*
DOOR RELEASE SMOKE/HEAT DETECTORS - LEVEL 3							*					*	*	*	*	*	*	*	*	*	*	*
FIRE SUPPRESSION WATER FLOW SWITCH		*	*				*					*	*	*	*	*	*	*	*	*	*	*
FIRE SUPPRESSION CONTROL VALVE TAMPER SWITCH							*					*	*	*	*	*	*	*	*	*	*	*
FIRE ALARM AC POWER FAILURE												*	*									
FIRE ALARM SYSTEM LOW BATTERY												*	*									
OPEN CIRCUIT												*	*									
GROUND FAULT												*	*									
NOTIFICATION APPLIANCE CIRCUIT SHORT												*	*									

FIRESTOP SYSTEMS: PROVIDE BASIS OF DESIGN BY STI OR APPROVED EQUAL BY 3M OR HILTI

OFFICE BUILDING

1 FIRE ALARM INPUT/OUTPUT MATRICES

Classified by Underwriters Laboratories, Inc. to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115		System No. W-L-3377	
ANSI/UL1479 (ASTM E814)		CAN/ULC S115	
F Ratings - 1, 2, 3 and 4 Hr (See Items 1 and 3)		F Ratings - 1, 2, 3 and 4 Hr (See Items 1 and 3)	
T Rating - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)		FT Rating - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)	
L Rating At Ambient - Less than 1 to 7 CFM/Device Module (See Item 2)		FH Ratings - 1, 2, 3 and 4 Hr (See Items 1 and 3)	
L Rating At 400 F - Less than 1 to 7 CFM/Device Module (See Item 2)		FTF Rating - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)	
		L Rating At Ambient - Less than 1 to 7 CFM/Device Module (See Item 2)	
		L Rating at 400 F - Less than 1 to 3 CFM/Device Module (See Item 2)	

Classified by Underwriters Laboratories, Inc. to ANSI/UL 1479 (ASTM E814) and CAN/ULC S115		System No. C-AJ-3154	
ANSI/UL1479 (ASTM E814)		CAN/ULC S115	
F Ratings - 2, 3 and 4 Hr (See Item 5)		F Ratings - 2, 3 and 4 Hr (See Item 5)	
T Ratings - 0, 1/2 and 2-3/4 Hr (See Item 5)		FT Ratings - 0, 1/2 and 2-3/4 Hr (See Item 5)	
L Rating at Ambient - Less Than 1 CFM/sq ft (See Items 3 and 5)		FH Ratings - 2, 3 and 4 Hr (See Item 5)	
L Rating at 400°F - Less Than 1 CFM/sq ft (See Items 3 and 5)		FTF Ratings - 0, 1/2 and 2-3/4 Hr (See Item 5)	
		L Rating at Ambient - Less Than 5.1 L/S/m² (See Items 3 and 5)	
		L Rating at 204°C - Less Than 5.1 L/S/m² (See Items 3 and 5)	

- Floor or Wall Assembly** - Min 2-1/2 in. (64 mm) or 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete blocks*. Floor may also be constructed of any UL Classified hollow-core Precast Concrete Units*. Max diam of opening is 10 in. (254 mm). See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
- Sleeve** - (Optional) - Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe sleeve, nom 6 in. (152 mm) diam (or smaller) No. 28 gsa (0.022 in. or 0.56 mm thick) sheet steel sleeve with square anchor flange spot welded to sleeve at approx mid-height or nom 6 in. (152 mm) diam (or smaller) Schedule 40 polyvinyl chloride (PVC) pipe sleeve cast or grouted into floor or wall flush with floor or wall surfaces. Steel pipe sleeve may be installed to project a max of 6 in. (152 mm) beyond the floor or wall surfaces. Steel sleeve to be supported on top side of floor and both sides of wall when not cast or grouted into floor. The annular space between sleeve and periphery of opening shall be min 0 in. (0 mm, point contact) to max 3-3/8 in. (86 mm).
- Cables** - Aggregate cross-sectional area of cables in sleeve to be max 45 percent of the cross-sectional area of the sleeve. See Item 5 for specific cable fill requirements. Tight bundle of cables to be installed in the steel sleeve. The annular space within the firestop system shall be a min of 0 in. (point contact) to a max of 2 in. (51 mm). In 4 hr fire rated assemblies, the annular space within the firestop system shall be a min of 1/4 in. (6 mm) to a max of 1 in. (25 mm). When L Ratings for penetrants are required, min separation between cables and periphery of opening or the sleeve is 1/8 in. (3 mm). Cables to be rigidly supported on both sides of the floor or wall assembly. Any combination of the following types and sizes of cables may be used:
 - Max 400 pair No. 24 AWG (or smaller) copper conductor cable with polyvinyl chloride (PVC) or plenum-rated jacketing and insulation.

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PAGE 1 OF 2

B. Max 3/C No. 2/0 AWG (or smaller) aluminum or copper conductor service entrance cable with PVC insulation and jacket.

C. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TECK 90 cable.

D. Max 3/C No. 8 AWG (or smaller) nonmetallic sheathed (Romex) cable with copper conductors, PVC insulation and jacket.

E. Max 1/C 1000 kcmil (or smaller) copper conductor power cable with XLPE or PVC insulation and XLPE or PVC jacket.

F. Max RG50/U (or smaller) coaxial cable with fluorinated ethylene or plenum-rated insulation and jacketing.

G. Max 62.5/48 fiber optic cable with PVC or plenum-rated insulation and jacketing.

H. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with PVC or plenum-rated insulation and jacket.

3A. **Through Penetrating Product®** -- (Not Shown) -- Max 4/C No. 2/0 AWG (or smaller) steel or aluminum Armored Cable or Metal Clad Cable with copper or aluminum conductors. Diam of cable bundle (Item 3) including armored cable not to exceed 4 in. (102 mm). Through penetrating product to be rigidly supported on both sides of a floor or wall assembly.

4. **Packing Material** -- Min 2, 3 or 4 in. (.51, .76 or 102 mm) thickness of min 4 pcf (64 kg/m³) density mineral-wool batt insulation tightly packed into opening as a permanent form for 2, 3 or 4 hr fire rated assemblies, respectively. Packing material to be recessed from top edge of sleeve or from top surface of concrete in cast concrete floor assemblies to accommodate the required thickness of fill material. Packing material to be recessed from both edges of sleeve or from both surfaces of wall in walls and in floor constructed with hollow-core precast concrete units to accommodate the required thickness of fill material. When the annular space between the sleeve and the periphery of the opening exceeds 2 in. (51 mm), mineral-wool batt insulation tightly packed to a 3 in. depth and recessed from the top surface of the floor or both surfaces of the wall in order to accommodate the required thickness of sealant (Item 5, not shown). Otherwise, packing material is optional in annular space between the sleeve and the periphery of the opening.

5. **Fill, Void or Cavity Material®** -- **Sealant or Putty** -- Min 1/2 in. (13 mm) thickness of sealant applied within the annulus between steel sleeve and periphery of the opening, flush with the top surface of the floor or both surfaces of the wall. Min 1/2 in. (13 mm) diam bead of sealant shall be applied at point contact locations between sleeve and concrete interface on top surface of floor or both surfaces of the wall. Min 1/2 in. (13 mm) thickness of fill material applied within the annulus for 2 and 3 hr F Ratings. Min 3/4 in. (19 mm) thickness of fill material applied with the annulus for 4 hr F Rating. In floors, fill material to be installed flush with top edge of sleeve or top surface of floor. In walls and in floor constructed of hollow-core precast concrete units, fill material to be installed flush with both ends of sleeve or both surfaces of assembly. F, T, FT, FH, and FTH Ratings of firestop system are dependent upon the through opening size, thickness of concrete, sleeve type and percent cable fill, as shown in the following table:

Max Opening Diam	Min Concrete Thickness	Optional Sleeve Type	Cable Type	Percent Cable Fill	F Rating	T, FT, FH, FTH Rating
6 in. (152mm)	2-1/2 in. (64mm)	PVC	A to H, 3A	37	2 hr	0 hr
6 in. (152mm)	2-1/2 in. (64mm)	PVC	H	45	2 hr	0 hr
6 in. (152mm)	2-1/2 in. (64mm)	Steel	A to H, 3A	37	2 hr	0 hr
6 in. (152mm)	2-1/2 in. (64mm)	Steel	H	45	2 hr	0 hr
6 in. (152mm)	4-1/2 in. (114mm)	Steel	A to H, 3A	34	3 hr	1/2 hr
6 in. (152mm)	4-1/2 in. (114mm)	Steel	H	45	3 hr	1/2 hr
2 in. (51mm)	4-1/2 in. (114mm)	Steel	H	40	3 hr	2-3/4 hr
2 in. (51mm)	4-1/2 in. (114mm)	Steel	H	40	4 hr	2-3/4 hr

SPECIFIED TECHNOLOGIES INC. - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant. When min floor or wall thickness is 4-1/2 in. (114 mm), SpecSeal Putty may be used.

L Ratings apply only when SpecSeal Series SSS or SpecSeal LCI Sealants are used.

*Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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