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SCOPE OF WORK

THIS PROJECT IS BEING SUBMITTED AS A TENANT IMPROVEMENT TO THE FACILITIES EXISTING FIRE ALARM SYSTEM. INSTALL DEVICES AS SHOWN IN EQUIPMENT LEGEND AND FLOORPLANS OF THIS DRAWING PACKAGE. SPLICE, CONTINUE, INSTALL & EXTEND WIRE AS NEEDED TO ENSURE PROPER OPERATING CONDITIONS.

IT IS ASSUMED THAT THE FACILITIES EXISTING CONDITIONS (I.E. FIELD DEVICES, REMOTE EQUIPMENT, SEQUENCE OF OPERATIONS, INTERFACE MODULES, ETC.) ARE ALL IN GOOD WORKING CONDITION. ANY EXISTING EQUIPMENT, DEVICES, ETC. THAT MAY BE FOUND TO BE FAULTY SHALL NOT BE REQUIRED TO BE CORRECTED OR REPLACED UNDER THIS CONTRACT.

UPON COMPLETION A COMPLETE PRETEST SHALL BE PERFORMED TO VERIFY FUNCTIONALITY. IF THE FUNCTIONALITY IS COMPLETE THEN THE PROPER DOCUMENTATION SHALL BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION PRIOR TO SCHEDULING A FINAL INSPECTION.

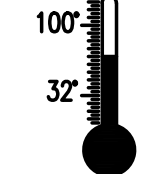
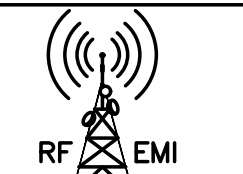
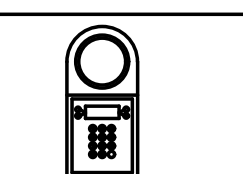
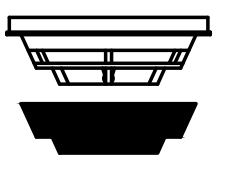
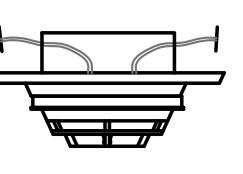
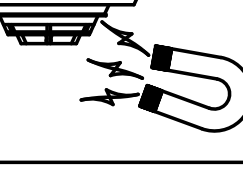
THIS PROJECT INCLUDES THE FOLLOWING:

- MONITORING OF WATER FLOW & TAMPER SWITCHES IN FIRE PUMP ROOM
- MANUAL PULL STATIONS
- AUDIBLE/VISUAL NOTIFICATION
- SMOKE DETECTION FOR HVAC CONTROL
- HVAC SYSTEM SHUTDOWN ON REQUIRED UNITS
- HVLS FAN SHUTDOWN
- ADDITION OF SURGE SUPPRESSOR TO EXISTING SURGE PANEL
- ELEVATOR CONTROL & SHUNT TRIP
- CO DETECTOR w/ SOUNDER BASE
- SMOKE DETECTORS
- HEAT DETECTORS

SHEET INDEX

DWG#	SHEET DESCRIPTION
FA0.01	SYSTEM INFORMATION, NOTES
FA0.02	SYSTEM INFORMATION, NOTES, LEGENDS & SEQUENCE OF OPERATION
FA1.10	LEVEL 01 FIRE ALARM PLAN – AREA B
FA1.11	LEVEL 01 FIRE ALARM PLAN – AREA A
FA1.20	LEVEL 2 FIRE ALARM PLAN – AREA B
FA1.21	LEVEL 2 FIRE ALARM PLAN – AREA A
FA2.01	SYSTEM RISER DIAGRAM – 1
FA2.02	SYSTEM RISER DIAGRAM – 2
FA3.01	EXISTING CONTROL PANEL LAYOUT – FACU F1
FA4.01	SYSTEM CALCULATIONS – 1
FA4.02	SYSTEM CALCULATIONS – 2
FA5.01	DEVICE MOUNTING & WIRING DETAILS – 1
FA5.02	DEVICE MOUNTING & WIRING DETAILS – 2
FA5.03	DEVICE MOUNTING & WIRING DETAILS – 3

⚠️ DEVICE INSTALLATION/OPERATING GUIDELINES ⚠️

	THE UL LISTED OPERATING TEMPERATURE RANGE FOR ALL ADDRESSABLE DEVICES IS FROM 32°F (0°C) TO 100°F (38°C). IF A DEVICE IS SHOWN IN AN AREA WHICH MAY EXPERIENCE EXTREME COLD OR HEAT, CONTACT YOUR SIEMENS REPRESENTATIVE.
	FIRE ALARM EQUIPMENT SHALL NOT BE STORED OR INSTALLED IN AREAS EXPOSED TO THE ELEMENTS EXCEEDING NORMAL OPERATING CONDITIONS. LISTED WEATHERPROOF DEVICES MAY BE INSTALLED AT EXTERIOR LOCATIONS PER MANUFACTURER INSTRUCTIONS. ALL OTHER DEVICES NOT SPECIFICALLY LISTED AS WEATHERPROOF MUST BE INSTALLED IN SUITABLE LOCATIONS OR LISTED NEMA ENCLOSURES APPLICABLE FOR THE ANTICIPATED ENVIRONMENT AND DEVICES TO BE INSTALLED.
	THE INSTALLATION OF A FIRE ALARM SYSTEM AND ANY FIRE ALARM EQUIPMENT MUST NOT BE INSTALLED NEXT TO OR WITHIN CLOSE PROXIMITY OF ANY RADIO FREQUENCY EQUIPMENT (EMI, RF, MF, HIGH OUTPUT, ETC.). SUCH INSTALLING CONDITIONS MAY CAUSE UNDESIRABLE EFFECTS TO THE SYSTEM SUCH AS INTERMITTENT FAULTS, IMPROPER SYSTEM OPERATIONS, FALSE ALARMS, ETC.
	ENSURE EACH ADDRESSABLE DEVICE HAS BEEN PROPERLY PROGRAMMED PRIOR TO ITS INSTALLATION. DO NOT TERMINATE WIRES ONTO ADDRESSABLE DEVICES BEFORE IT HAS BEEN PROGRAMMED.
	DO NOT REMOVE DUST COVERS FROM SMOKE DETECTORS UNTIL ALL CONSTRUCTION HAS BEEN COMPLETED. DUST COVERS WHICH HAVE BEEN REMOVED FROM ANY DETECTOR PRIOR TO THE FINAL CLEAN-UP OF ALL TRADES SHALL BE CLEANED OR REPLACED, IN ACCORDANCE WITH NFPA 72. SIEMENS IS NOT RESPONSIBLE FOR FAULTS FOUND TO BE RELATED TO CONTAMINATION.
	ALL INITIATING DEVICES (DETECTORS, PULL STATIONS, ETC.) AND NOTIFICATION APPLIANCES (HORNS, STROBES, ETC.) MUST BE INSTALLED WITH BACKBOXES. THE EQUIPMENT SHOULD NEVER BE SUPPORTED WITH THE CIRCUIT WIRES.
	THE USE OF MAGNETS FOR THE PURPOSE OF TESTING DETECTORS FOR INITIATION OF AN ALARM IS STRICTLY PROHIBITED. TESTING WITH A MAGNET DOES NOT SATISFY NFPA 72 TEST METHOD REQUIREMENT OF 'SMOKE ENTRY INTO THE SENSING CHAMBER', AND MAY CAUSE UNDESIRABLE EFFECTS TO THE DETECTOR.
	THE PAINTING OR MODIFYING OF ANY FIRE ALARM EQUIPMENT IS STRICTLY PROHIBITED AND SHOULD NOT BE PERFORMED UNDER ANY CIRCUMSTANCES.

APPLICABLE CODES & REGULATIONS

–INTERNATIONAL BUILDING CODE: 2018 EDITION
–INTERNATIONAL FIRE CODE: 2018 EDITION
–NATIONAL ELECTRICAL CODE (NFPA 70): 2017 EDITION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
–NFPA 72: 2010 EDITION

BUILDING/PROJECT INFORMATION

BUILDING OCCUPANCY: B – BUSINESS, M – MERCANTILE
SPRINKLERS: YES
NUMBER OF STORIES: 2 STORIES
SQUARE FOOTAGE OF PROJECT: ESTIMATED 92,000 SQ. FT.

CIRCUIT INFORMATION

SIGNALING LINE CIRCUIT (SLC): CLASS B
NOTIFICATION APPLIANCE CIRCUITS (NAC): CLASS B
NETWORK/PANEL COMMUNICATION (SLC): CLASS B
SPEAKER CIRCUIT VOLTAGE: 70V

CONTRACTOR INFORMATION

CONTRACTOR: MARK ONE ELECTRIC COMPANY INC
ADDRESS: 1414 GENESSEE ST.
KANSAS CITY, MO 64102

SIEMENS CONTACT INFORMATION

PROJECT MANAGER: STEPHEN SMITH
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CHECK LIST FOR START UP

THE FOLLOWING IS A LIST OF CRITERIA THAT MUST BE MEET PRIOR TO START UP

- ☐ MARK-UP THE SIEMENS FIRE SAFETY SHOP DRAWINGS, SHOWING THE ACTUAL WIRE RUNS. NOTE THAT ANY DISCREPANCIES/CHANGES BETWEEN THE ACTUAL CONDITIONS AND THE SYSTEM DRAWINGS SHOULD BE NOTED FOR INCLUSION ON THE FINAL RECORD DRAWINGS.
- ☐ ALL DEVICES HAVE BEEN INSTALLED AND TERMINATED PROPERLY.
- ☐ CONTACTED SIEMENS FIRE SAFETY PROJECT MANAGER 14 DAYS PRIOR TO SCHEDULED START UP.
- ☐ ALL FIELD DEVICES INCLUDING DETECTORS, MODULES, NOTIFICATION APPLIANCES BOTH VISUAL AND AUDIBLE ARE ADDRESSED AND OUTPUT SET (AS REQUIRED) AND INSTALLED.
- ☐ IF YOUR SYSTEM IS BEING FURNISHED WITH A DIALER, APPLICABLE AMOUNT OF RJ31X PHONE JACKS MUST BE INSTALLED WITHIN 3 FEET OF THE MAIN FIRE ALARM CONTROL UNIT. THESE PHONE LINES MUST BE CONNECTED BEFORE ALL BUILDING PHONE EQUIPMENT (NO "9" PREFIX), AND SHOULD HAVE NO DIAL-OUT RESTRICTIONS. PROVIDE THE SIEMENS PROJECT MANAGER WITH A CUSTOMER EMERGENCY CALL LIST. IF MONITORING NOT PROVIDED BY SIEMENS, THEN FOLLOWING INFORMATION MUST ALSO BE OBTAINED PRIOR TO START UP: CENTRAL STATION ACCOUNT NUMBER, RECEIVER PHONE NUMBERS, CENTRAL STATION VOICE LINE NUMBER, AND ALARM COMPANY PHONE NUMBER.
 - ☐ CHECK HERE IF NOT APPLICABLE

CHECK FIELD WIRING WITH AN OHM METER:

ALL FIRE ALARM CIRCUITS SHOULD BE COMPLETED AND TESTED BEFORE THE ARRIVAL OF THE FIRE ALARM AUTHORIZED PERSONNEL. CIRCUITS MUST BE FREE OF OPENS, SHORTS, AND GROUND FAULTS BEFORE BEING CONNECTED TO THE SYSTEM. CIRCUITS SHOULD HAVE END OF LINE RESISTORS INSTALLED BEFORE TESTING THEM. A WRITTEN CONFIRMATION SHALL BE PROVIDE TO SIEMENS BY THE INSTALLER ACKNOWLEDGING ALL CIRCUITS HAVE BEEN TESTED. ADHERENCE TO THIS PRACTICE WILL SAVE TIME AND MONEY FOR ALL CONCERNED PARTIES. IF IT IS A NAC CIRCUIT, THE RESISTOR IS WITH THE EQUIPMENT THAT CONTROLS THAT CIRCUIT.

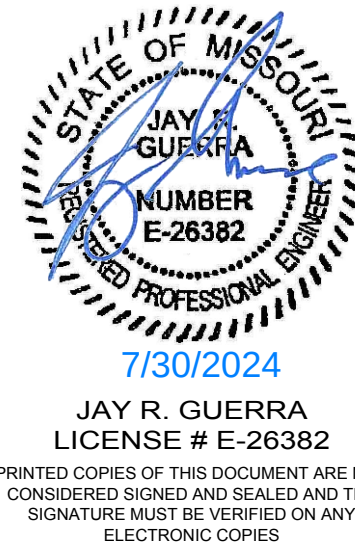
A GROUND FAULT IS A CONDUCTOR THAT IS CONNECTED TO GROUND. THEY CAN OCCUR FROM SKINNED INSULATION OR INTERNAL DEVICE FAILURES. FIRE ALARM SYSTEMS MONITOR BOTH THE POSITIVE AND NEGATIVE CONDUCTORS FOR SHORTS TO GROUND. SHORTS CAN BE DETECTED BY USING A CONTINUITY DETECTOR OR AN OHMMETER. SIMPLY CONNECT ONE LEAD OF YOUR METER TO A GOOD GROUND SOURCE AND THE OTHER TO THE CONDUCTOR YOU ARE TRYING TO TEST. THE METER SHOULD GIVE AN INDICATION OF AN OPEN IF THE CIRCUIT IS FREE FROM A FAULT. MEG OHM GROUND FAULTS MAY INDICATE THE PRESENCE OF WATER IN CONTACT WITH SYSTEM WIRING. ALL SYSTEM FIELD WIRING MUST BE FREE OF GROUNDS AND SHORTS, BEFORE THE START UP.

- ☐ MEASURE EACH CONDUCTOR OF THE ADDRESSABLE LOOP (SLC) TO GROUND, CONDUCTOR TO CONDUCTOR, CONDUCTOR TO SHIELD, AND SHIELD TO EARTH. THE RESISTANCE SHOULD BE GREATER THAN 1 MEGA OHM. NOTE LINE TO LINE MEASUREMENTS REQUIRE ONE END OF THE PAIR TO BE SHORTED. STRAY VOLTAGES SHOULD BE LESS THAN 1 VDC/AC. RECORD THE READINGS.
- ☐ MEASURE EACH CONDUCTOR OF THE NOTIFICATION APPLIANCE CIRCUIT (NAC) TO GROUND, AND CONDUCTOR TO CONDUCTOR. THE RESISTANCE SHOULD BE GREATER THAN 1 MEGA OHM, WITHOUT THE END OF LINE RESISTOR. STRAY VOLTAGES SHOULD BE LESS THAN 1 VDC/AC.
- ☐ MEASURE ACROSS THE CONDUCTORS OF A NOTIFICATION APPLIANCE CIRCUIT(NAC), YOUR READING SHOULD BE EQUIVALENT TO THE VALUE OF THE END OF LINE RESISTOR INSTALLED AT THE LAST DEVICE.

IF THE MEASUREMENTS ARE NOT WITHIN THE ACCEPTABLE VALUES, THEN THE CIRCUIT WIRING HAS A SHORT, OPEN, OR GROUND FAULT, AND IS NOT READY FOR START UP!

GENERAL NOTES

- IT IS THE INTENT THAT THE GENERAL NOTES INDICATED HERE BE APPLICABLE ONLY TO THE CONTRACTED SCOPE OF WORK INDICATED WITHIN THIS DRAWING PACKAGE. NOT ALL NOTES MAY APPLY TO THIS PROJECT.
- THESE GENERAL NOTES SHALL NOT BE APPLICABLE TO ANY EXISTING CONDITIONS WITHIN THE FACILITY. I.E. EXISTING CONDITIONS FOUND TO BE PRESENT PRIOR TO THIS CONTRACT, WORK PREVIOUSLY PERFORMED BY OTHER OR PREVIOUS SYSTEM CONTRACTORS, SEPARATE WORK UNRELATED TO THIS CONTRACT, SYSTEMS PREVIOUSLY APPROVED UNDER PAST CODES / REGULATIONS, ETC.
- SIEMENS EQUIPMENT IS UNDERWRITERS LABORATORIES (UL) LISTED FOR POWER LIMITED INSTALLATION.
- A STAMPED SET OF APPROVED PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION/ INSPECTOR OF RECORD. SIEMENS SHALL NOT BEAR ANY ADDITIONAL COST FOR RE-ENGINEERING AS A RESULT OF DEVIATIONS.
- THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. ANY RACEWAY RUNS THAT ARE INDICATED WITHIN THIS DRAWING PACKAGE ARE SHOWN DIAGRAMMATICAL AND ARE FOR CIRCUITING PURPOSES ONLY. EXACT ROUTING OF THE CONDUITS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL THE CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
- WIRING SHALL NOT BE LOOPED UNDER DEVICE TERMINALS. WIRE MUST BE CUT FOR IN AND OUT RUNS PRIOR TO INSTALLING UNDER DEVICE TERMINALS.
- ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO USE COLOR CODE AND/OR WIRE NUMBERS PER CONTRACT DOCUMENTATION ON ALL WIRING. SUCH IDENTIFICATIONS SHALL BE MADE CONTINUOUS THROUGHOUT ALL CIRCUITS, CONNECTIONS, TERMINATIONS AND AT JUNCTION BOXES.
- WHERE SHIELDED CABLE IS USED, THE SHIELD SHALL BE CONTINUOUS AND GROUNDED ONLY ONCE AT THE RESPECTIVE CONTROL UNIT.
- T-TAPPING IS ONLY ACCEPTABLE ON SLC CLASS B CIRCUITS EXCEPT WHERE CONTRACT SPECIFICATIONS PROHIBIT.
- ALL 120VAC CIRCUITS FEEDING FIRE ALARM EQUIPMENT SHALL BE FROM A DEDICATED CIRCUIT MARKED AS 'FIRE ALARM', MARKED RED, AND PROVIDED WITH A BREAKER LOCK-ON DEVICE.
- ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANELS SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION. (CONTROL UNIT(S) TO SUPERVISE ANNUNCIATOR PANEL(S), SUB-PANEL(S), ALL CIRCUITS AND INITIATING DEVICES).
- UNLESS OTHERWISE NOTED, ALL MANUAL PULL STATIONS SHALL BE MOUNTED AT A MAXIMUM HEIGHT OF 48" ABOVE FINISHED FLOOR TO THE OPERABLE PART.
- FIRE ALARM SIGNAL SHALL MEET ANSI S3.41, AUDIBLE EMERGENCY EVACUATION SIGNAL (TEMPORAL PATTERN). FIRE ALARM AUDIBILITY SHALL BE NO LESS THAN 15db (PUBLIC MODE) OR 10db (PRIVATE MODE) ABOVE AMBIENT SOUND THROUGHOUT THE AREA OF ALARM.
- WHERE MORE THAN TWO VISUAL APPLIANCES ARE IN THE SAME FIELD OF VIEW, THEY SHALL BE SYNCHRONIZED IN ACCORDANCE WITH NFPA 72.
- CEILING MOUNTED VISUAL NOTIFICATION APPLIANCES SHALL BE MOUNTED BELOW VISUAL OBSTRUCTIONS, AND WHEN THESE APPLIANCES ARE MOUNTED ABOVE 10' A.F.F., THEY SHALL BE DERATED OR PROVIDED WITH PERFORMANCE-BASED ALTERNATIVE IN ACCORDANCE WITH NFPA 72.
- IN ACCORDANCE WITH NFPA 72, DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER THE CONSTRUCTION CLEAN-UP OF ALL TRADES IS COMPLETE AND FINAL. EXCEPTION: WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR PROTECTION DURING CONSTRUCTION. DETECTORS THAT HAVE BEEN INSTALLED PRIOR TO FINAL CLEAN-UP BY ALL TRADES SHALL BE CLEANED OR REPLACED.
- INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS AND LISTINGS. MISAPPLICATION OF EQUIPMENT AND SUCH, VOIDS ALL WARRANTIES EITHER EXPRESSED OR IMPLIED WITH REGARDS TO LOSS, DAMAGE, LIABILITIES AND/OR SERVICE PROBLEMS.
- UNLESS NOTED OTHERWISE ALL WIRING AND INSTALLATION METHODS SHALL CONFORM TO APPLICABLE ELECTRICAL CODE. MINIMUM SIZE OF 3/4" METALLIC RACEWAY SHALL BE INSTALLED.
- EFFORTS MUST BE PLACED ON MINIMIZING UNNECESSARY WIRE RUNS WITHIN DEVICE BACKBOXES. DO NOT INSTALL WIRE WITHIN A BACKBOX THAT DOES NOT SERVE ITS CORRESPONDING DEVICE AND WHICH MAY INHIBIT ITS PROPER INSTALLATION. GOOD WIRING/INSTALLATION PRACTICES MUST BE ADHERED TO AT ALL TIMES.
- AS FIELD CONDITIONS DICTATE ACTUAL RACEWAY INSTALLATIONS, DEVICE BACK BOXES AND JUNCTION BOXES SHALL BE SIZED PER FIELD INSTALLING CONDITIONS. DEVICE BACK BOX SIZES INDICATED WITHIN THIS DRAWING PACKAGE ARE MINIMUM REQUIREMENTS ONLY. AN INCREASE IN BACK BOX DEPTH, ADDITION OF EXTENSION BOX/RING, ETC. MAY BE REQUIRED IN ORDER TO PROPERLY ACCOMMODATE FOR WIRE QUANTITIES INSTALLED WITHIN THE RACEWAY.
- THE INSTALLATION OF DEVICE BACKBOXES & WIRE SHALL BE SIZED AND INSTALLED PER APPLICABLE ELECTRICAL CODE. IN ADDITION SUCH BOXES & WIRE SHALL BE INSTALLED IN A MANNER AS TO ALLOW FOR THE EASE OF DEVICE INSTALLATION & FUTURE MAINTENANCE. THE INSTALLATION OF DEVICES WHICH REQUIRE EXCESSIVE FORCE OR THE PINCHING OF WIRES IN ORDER TO PROPERLY SEAT THE DEVICE TO ITS FINISHED SURFACE MAY RESULT IN GROUND FAULTS OR OTHER SYSTEM TROUBLES, AND SHALL BE CONSIDERED AN UNACCEPTABLE INSTALLATION STANDARD.
- DO NOT APPLY POWER TO CONTROL UNIT(S) UNTIL SIEMENS AUTHORIZED PERSONNEL HAVE VERIFIED THE SYSTEM INSTALLATIONS. UPON SATISFACTORY COMPLETION OF THEIR INSPECTION, POWER WILL BE APPLIED TO THE CONTROL UNIT(S). SIEMENS ASSUMES NO LIABILITY FOR ANY DAMAGE TO THE EQUIPMENT SUPPLIED IF POWER IS APPLIED TO THE CONTROL UNIT(S) PRIOR TO INSPECTION OF THE INSTALLATION BY SIEMENS AUTHORIZED PERSONNEL.
- CABLE INSTALLED IN UNDERGROUND RACEWAYS OR OTHER WET LOCATIONS SHALL BE RATED/LISTED FOR WET LOCATIONS.
- FOR ADDITIONAL INSTALLATION INSTRUCTIONS, REFER TO CATALOG CUT SHEETS AND/OR INSTALLATION INSTRUCTIONS.
- ALL EXISTING HVAC UNITS ARE BEING DEMOED. ONLY ONE HVAC UNIT OVER 2000CFM IS BEING ADDED UNIT VRF IU-A201A.



APPROVAL STAMPS

SIEMENS

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RELEASED FOR CONSTRUCTION
As Noted on Plan Review

Lee's Summit Fire Department
Lee's Summit, Missouri
08/05/2024

VICINITY MAP



LOCATION OF WORK

TYPICAL CALLOUTS & ABBREVIATIONS			
AC	= ABOVE CEILING	HT	= HEIGHT
AFF	= ABOVE FINISHED FLOOR	ID	= IN-DUCT MOUNTED
AHJ	= AUTHORITY HAVING JURISDICTION	IDC	= INITIATING DEVICE CIRCUIT
AHU	= AIR HANDLING UNIT	MAX	= MAXIMUM
ANH	= ANNUNCIATOR	MIN	= MINIMUM
BMS	= BUILDING MANAGEMENT SYSTEM	N	= NEW
C	= CEILING MOUNTED	N/A	= NOT APPLICABLE
°C	= CONDUIT (CIRCULAR RACEWAY)	NAC	= NOTIFICATION APPLIANCE CIRCUIT
CD	= (i.e., 15CD) CANDELA	NIC	= NOT IN CONTRACT
CFM	= CUBIC FEET PER MINUTE (AIRFLOW)	NTS	= NOT TO SCALE
CKT	= CIRCUIT	PS	= POWER SUPPLY
CSFD	= COMBINATION SMOKE FIRE DAMPER	RA	= RETURN-AIR GRILL MOUNTED
DACT	= DIGITAL ALARM COMM. TRANSMITTER	RL	= RELOCATED DEVICE
DR	= DROP & RE-HANG EXISTING	RR	= REMOVE EXISTING, REPLACE w/ NEW
E	= EXISTING	SF	= DEVICE MOUNTED IN SUB-FLOOR
EL	= ELEVATOR RECALL	SLC	= SIGNALING LINE CIRCUIT
EOL	= END OF LINE	TBD	= TO BE DETERMINED
EPO	= EMERGENCY POWER OFF	Typ	= TYPICAL
ER	= EXISTING TO BE RELOCATED	UF	= UNDER-FLOOR
FAA	= FIRE ALARM ANNUNCIATOR	UON	= UNLESS OTHERWISE NOTED
FACP	= FIRE ALARM CONTROL PANEL	WM	= DEVICE WALL MOUNTED
FACU	= FIRE ALARM CONTROL UNIT	WP	= WEATHERPROOF
FATC	= FIRE ALARM TERMINAL CABINET	X	= DEMO EXISTING
FBO	= FURNISHED BY OTHERS	XP	= EXPLOSION PROOF
FSD	= FIRE SMOKE DAMPER		

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DACT	= DIGITAL ALARM COMM. TRANSMITTER	RELOCATED	= RELOCATED DEVICE
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ADDRESSABLE ALARM INITIATING DEVICES		ALARM NOTIFICATION APPLIANCE	
EXAMPLE: 1:1.1.030 ← DEVICE ADDRESS INDICATES DEVICE ADDRESS INDICATES LOOP NUMBER (IF APPLICABLE) ABOVE EXAMPLE MEANS: SMOKE DETECTOR, NODE 1, LOOP 1, DEVICE ADDRESS 30	EXAMPLE: 30CD ← CANDELA RATING 1VF1.1-1 ← INDICATES DEVICE NUMBER 1SF1.1-1 ← INDICATES RPS# OR PANEL & CXT TYPE ABOVE EXAMPLE MEANS: 30CD SPEAKER STROBE, PANEL 1SF1, CIRCUIT 1, DEVICE 1 PANEL 1VF1, CIRCUIT 1, DEVICE 1		
DEVICE CONDUIT WIRING GUIDELINE			
INSTALLATION GUIDELINES: DEVICE BACKBOXES SHOULD NOT CONTAIN WIRE THAT DOES NOT SERVE ITS ASSOCIATED DEVICE. TO PREVENT BACKBOX OVERFILL & IMPROPER DEVICE INSTALL, ALL EFFORTS MUST BE MADE TO PREVENT UNNECESSARY WIRE FILL WITHIN DEVICE BACKBOXES. MOUNTING SPECIFICATIONS INDICATED WITHIN THE EQUIPMENT & DEVICE LEGEND ARE MINIMUM RECOMMENDATIONS. JUNCTION BOXES, EXTENSION RINGS, ETC. MUST BE INSTALLED AS NEEDED AND AS FIELD CONDITIONS DICTATE.			
FLOOR PLAN EXAMPLE: 1A,1V,1S 1A,1V,1S 1A,1V,1S 15CD C ? ?	EXAMPLE DEFINED: 1A,1V,1S 1A,1V,1S 1A,1V,1S TV 15CD TV ? ? *—WHERE T-TAPPING IS ALLOWED, THIS CAN BE 1A IN CLASS B SLC CIRCUITS		
DEPICTION OF A DIAGRAMMATICAL INSTALL SHOWN ON FLOOR PLAN	ACTUAL FIELD INSTALLATION		

ADDRESSABLE ALARM INITIATING DEVICES EXAMPLE: ABOVE EXAMPLE MEANS: SMOKE DETECTOR, NODE 1, LOOP 1, DEVICE ADDRESS 30	ALARM NOTIFICATION APPLIANCE EXAMPLE: ABOVE EXAMPLE MEANS: 30CD SPEAKER STROBE, PANEL 1SF1, CIRCUIT 1, DEVICE 1 PANEL 1V1, CIRCUIT 1, DEVICE 1
DEVICE CONDUIT WIRING GUIDELINE	
<u>INSTALLATION GUIDELINES:</u> DEVICE BACKBOXES SHOULD NOT CONTAIN WIRE THAT DOES NOT SERVE ITS ASSOCIATED DEVICE. TO PREVENT BACKBOX OVERFILL & IMPROPER DEVICE INSTALL, ALL EFFORTS MUST BE MADE TO PREVENT UNNECESSARY WIRE FILL WITHIN DEVICE BACKBOXES. MOUNTING SPECIFICATIONS INDICATED WITHIN THE EQUIPMENT & DEVICE LEGEND ARE MINIMUM RECOMMENDATIONS. JUNCTION BOXES, EXTENSION RINGS, ETC. MUST BE INSTALLED AS FIELD CONDITIONS DICTATE.	
<u>FLOOR PLAN EXAMPLE:</u>	<u>EXAMPLE DEFINED:</u> *-WHERE T-TAPPING IS ALLOWED, THIS CAN BE 1A IN CLASS B SLC CIRCUITS
<u>DEPICTION OF A DIAGRAMMATIC INSTALL SHOWN ON FLOOR PLAN</u>	<u>ACTUAL FIELD INSTALLATION</u>

CABLE LEGEND								
LTR	DESCRIPTION				AWG	# OF COND	SHIELD	
A	(SLC) ADDRESSABLE LOOP				18	2	NO	
P	24VDC POWER				14	2	NO	
S	(NAC) SPEAKER CIRCUIT				16	2	NO	
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT				14	2	NO	
SB	(NAC) SOUNDER BASE CIRCUIT				14	2	NO	
HN	H-NET COMMUNICATION CIRCUIT				16	2	NO	
N	NETWORK CABLE				CAT6 CABLE			
XB	BATTERY CABLE				12	2	NO	
---	120VAC POWER WIRING (W/GROUND)				12	3	NO	
CONDUIT WIRE FILL CHART								
CONDUIT TRADE SIZE	ELECTRICAL METALLIC CONDUIT		FLEXIBLE METALLIC CONDUIT		RIGID METALLIC CONDUIT		FLEXIBLE LIQUIDTIGHT METALLIC CONDUIT	
	INTERNAL DIAMETER	*MAXIMUM FILL-40%	INTERNAL DIAMETER	*MAXIMUM FILL-40%	INTERNAL DIAMETER	*MAXIMUM FILL-40%	INTERNAL DIAMETER	*MAXIMUM FILL-40%
3/4"	0.8240	0.2130	0.8240	0.2130	0.8360	0.2200	0.8300	0.2160
1"	1.0490	0.3460	1.0200	0.3270	1.0630	0.3550	1.0540	0.3490
1 1/4"	1.3800	0.5980	1.2750	0.5110	1.3940	0.6100	1.3950	0.6110
1 1/2"	1.6100	0.8140	1.5380	0.7430	1.6240	0.8290	1.5880	0.7920
2"	2.0670	1.3420	2.0400	1.3070	2.0830	1.3630	2.0330	1.2980
* UNIT MEASUREMENTS INDICATED UNDER 40% MAXIMUM FILL REPRESENT SQUARE INCHES. FOR REFERENCE ONLY - RECOMMENDATION FOR CONDUIT SIZE PER N.E.C.								

LTR	DESCRIPTION	AWG	# OF COND	SHIELD
A	(SLC) ADDRESSABLE LOOP	18	2	NO
P	24VDC POWER	14	2	NO
S	(NAC) SPEAKER CIRCUIT	16	2	NO
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT	14	2	NO
SB	(NAC) SOUNDER BASE CIRCUIT	14	2	NO
HN	H-NET COMMUNICATION CIRCUIT	16	2	NO
N	NETWORK CABLE	CAT6 CABLE		
XB	BATTERY CABLE	12	2	NO
---	120VAC POWER WIRING (W/GROUND)	12	3	NO

CONDUIT TRADE SIZE	ELECTRICAL METALLIC CONDUIT		FLEXIBLE METALLIC CONDUIT		RIGID METALLIC CONDUIT		FLEXIBLE LIQUIDTIGHT METALLIC CONDUIT	
	INTERNAL DIAMETER	*MAXIMUM FILL-40%	INTERNAL DIAMETER	*MAXIMUM FILL-40%	INTERNAL DIAMETER	*MAXIMUM FILL-40%	INTERNAL DIAMETER	*MAXIMUM FILL-40%
3/4"	0.8480	0.2430	0.8240	0.2130	0.8360	0.2250	0.8300	0.2160
1"	1.0490	0.3160	1.0200	0.3270	1.0630	0.3500	1.0540	0.3490
1 1/8"	1.3800	0.5890	1.3510	0.5910	1.3940	0.6100	1.3850	0.6090
1 1/2"	1.6100	0.8140	1.5380	0.7430	1.6240	0.8290	1.6150	0.7920
2"	2.0670	1.3420	2.0400	1.3070	2.0830	1.3630	2.0730	1.2980

* UNIT MEASUREMENTS INDICATED UNDER 40% MAXIMUM FILL REPRESENT SQUARE INCHES.
 FOR REFERENCE ONLY - RECOMMENDATION FOR CONDUIT SIZE PER N.E.C.

CONDUIT TRADE SIZE	ELECTRICAL METALLIC CONDUIT		FLEXIBLE METALLIC CONDUIT		RIGID METALLIC CONDUIT		FLEXIBLE LIQUIDTIGHT METALLIC CONDUIT	
	INTERNAL DIAMETER	*MAXIMUM FILL—40%	INTERNAL DIAMETER	*MAXIMUM FILL—40%	INTERNAL DIAMETER	*MAXIMUM FILL—40%	INTERNAL DIAMETER	*MAXIMUM FILL—40%
3/4"	0.680	0.213	0.130	0.036	0.680	0.213	0.680	0.213
1"	0.940	0.348	0.200	0.370	0.940	0.350	0.940	0.348
1 1/4"	1.380	0.589	1.275	0.511	1.394	0.610	1.350	0.611
1 1/2"	1.610	0.814	1.538	0.743	1.624	0.829	1.588	0.792
2"	2.067	1.240	2.040	1.307	2.083	1.260	2.033	1.288

* UNIT MEASUREMENTS INDICATED UNDER 40% MAXIMUM FILL REPRESENT SQUARE INCHES.
FOR REFERENCE ONLY - RECOMMENDATION FOR CONDUIT SIZE PER N.E.C.

DEVICE & SYMBOL LEGEND			ALL PARTS ARE SIEMENS UNLESS OTHERWISE NOTED	
SYMBOL	QTY	MODEL NUMBER	DESCRIPTION	*ROUGH IN
	(E)	1 DESGO MODULAR	EXISTING DESGO FIRE SAFETY MODULAR FIRE ALARM CONTROL UNIT	SEM-FLUSH OR SURFACE MOUNT
	(E)	1 CAB-BATT 500-63391	EXISTING BATTERY CABINET FOR UP TO (2) 100 A.H. BATTERIES	EXISTING
	2	100AH	EXISTING 100AH BATTERIES	EXISTING
	1	SSD-C 500-64873	SYSTEM STATUS DISPLAY WITH CONTROL	4S DEEP BOX
	1	PAG-5-9A 5A4329-A17-A1	ADDRESSABLE POWER SUPPLY NOTIFICATION APPLIANCE EXTENDER - 9A (INCLUDES PAG-ENCL, PAG-5-WR, FF2012-U1)	SURFACE MOUNT
	2	CAB-BATT 500-63391	BATTERY CABINET FOR UP TO (2) 100 A.H. BATTERIES	SEM-FLUSH MOUNT
	4	DUR12-3SC	DURACELL BATTERY 12 VOLT 35 AMP HOUR	BATTERY CABINET
	(E)	1 EXISTING	EXISTING FIRE ALARM SURGE SUPPRESSION PANEL	SURFACE MOUNT
	7	CP2297	SURGE SUPPRESSOR 24VDC	INTERNAL PANEL COMPONENT
	1	FSP 4004 MC	SPEAKER SURGE SUPPRESSOR	INTERNAL PANEL COMPONENT
	1	FDB2492 5A4319-622-A1	DUCT DETECTOR HOUSING	FELD VERIFY
	1	FD4241 5A4320-F4-A1	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR HEAD	FDB2-492
	1	ST-100 500-649713	SAMPLING TUBE (FOR DUCTS 5" TO 10")	FDB2-492
	1	TSW-1X 5A4370-B7-A1	INTELLIGENT REMOTE TEST STATION w/ LED	4S DEEP BOX w/ EXT & 1-GANG RING
	54	FD007441 5A4320-F7-A1	INTELLIGENT MULTI-CRITERIA SMOKE DETECTOR HEAD	DB-11
	54	DB-11 500-094151	DETECTOR BASE	4S DEEP BOX w/ 1-GANG RING
	30	FD007C441 5A4320-F8-A1	INTELLIGENT MULTI-CRITERIA FIRE / CO DETECTOR	ASHW-48
	30	ABSW-48 5A4320-F13-A1	INTELLIGENT DETECTOR BASE w/ SOUNDER (TEMP-3, TEMP-4, STEADY)	4S DEEP BOX w/ EXTENSION
	35	FD1421 5A4320-F5-A1	INTELLIGENT HEAT DETECTOR HEAD	DB-11
	35	DB-11 500-094151	DETECTOR BASE	4S DEEP BOX w/ 1-GANG RING
	9	XMS-D 5A4321-F8-A1	INTELLIGENT MANUAL PULL STATION DUAL ACTION, KEY RESET	4S DEEP BOX w/ 1-GANG RING
	(E)	9	XMS-D 5A4321-F8-A1	4S DEEP BOX w/ 1-GANG RING
	3	RMS-1T-KL/BLUE	WEATHER NOTIFICATION PULL STATION	4S DEEP BOX w/ 1-GANG RING
	3	RMS-1T-KL/WHITE	LOCKDOWN NOTIFICATION PULL STATION	4S DEEP BOX w/ 1-GANG RING
	14	XTRI-R 5A4370-B1-A1	INTELLIGENT CONTROLLABLE RELAY w/ SINGLE INPUT MONITOR MODULE	4S DEEP BOX
	6	XTRI-M 5A4370-B4-A1	INTELLIGENT SINGLE INPUT MINI-MONITOR MODULE	4S DEEP BOX
	3	XTRI-D 5A4370-B2-A1	INTELLIGENT DUAL INPUT MONITOR MODULE	4S DEEP BOX
	29	SL2SWR-F 5A4329-F208-A1	MULTI-CANDELA LED STROBE, WALL MOUNT - RED FELD SELECTABLE 15/30/75/110/135/185cd	4S DEEP BOX w/ 1-GANG RING
	6	SL2SWN-F 5A4329-F198-A1	MULTI-CANDELA LED STROBE, CEILING MOUNT - WHITE FELD SELECTABLE 15/30/75/110/135/185cd	4S DEEP BOX w/ EXTENSION
	39	SL2SPW-F 5A4329-F166-A1	HFT SPEAKER/STROBE, 25/TW, WALL MOUNT - CEILING- FELD SELECTABLE 15/30/75/110/135/177cd 1/8-3W	4S DEEP BOX w/ EXTENSION
	104	SL2SPW-F 5A4329-F146-A1	HFT SPEAKER, 25/TW, CEILING MOUNT - WHITE FELD SELECTABLE 1/8-2W/25W, 1/8W-3W(2W)	4S DEEP BOX w/ EXTENSION

SYMBOL	QTY	MODEL NUMBER	DESCRIPTION	*ROUGH IN
 (E)	1	DESIGO MODULAR	EXISTING DESIGO FIRE SAFETY MODULAR FIRE ALARM CONTROL UNIT	SEMI-FLUSH OR SURFACE MOUNT
 (E)	1	CAB-BATT 500-633917	EXISTING BATTERY CABINET FOR UP TO (2) 100 A.H. BATTERIES	EXISTING
	2	100AH	EXISTING 100AH BATTERIES	EXISTING
 (E)	1	SSD-C 500-648733	SYSTEM STATUS DISPLAY WITH CONTROL	4S DEEP BOX
 (E)	1	PAD-5-94 (S54328-A17-A1)	ADDRESSABLE POWER SUPPLY NOTIFICATION APPLIANCE EXTENDER - 9A (INCLUDES PAB-ENCL, PAD-5-WBS, F72012-U1)	SURFACE MOUNT
 (E)	2	CAB-BATT 500-633917	BATTERY CABINET FOR UP TO (2) 100 A.H. BATTERIES	SURFACE OR SEMI-FLUSH MOUNT
	4	DUR612-35C	DURACELL BATTERY 12 VOLT 35 AMP HOUR	BATTERY CABINET
 (E)	1	EXISTING	EXISTING FIRE ALARM SURGE SUPPRESSION PANEL	SURFACE MOUNT
	7	CP2297	SURGE SUPPRESSOR 24VDC	INTERNAL PANEL COMPONENT
	1	FSP 4004 MC	SPEAKER SURGE SUPPRESSOR	INTERNAL PANEL COMPONENT
 (E)	1	FDB2492 (S54319-B22-A1)	DUCT DETECTOR HOUSING	FIELD VERIFY
	1	FDB421 (S54320-F4-A1)	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR HEAD	FDB2-492
	1	ST-100 500-649713	SAMPLING TUBE (FOR DUCTS '5 TO 10')	FDB2-452
 (E)	1	TSW-11 (S54370-B7-A1)	INTELLIGENT REMOTE TEST STATION w/ LED	4S DEEP BOX w/ EXT & 1-GANG RING
 (E)	54	FDD07441 (S54320-F7-A1)	INTELLIGENT MULTI-CRITERIA SMOKE DETECTOR HEAD	DB-11
	54	DB-11 500-094151	DETECTOR BASE	4S DEEP BOX w/ 1-GANG RING
 (E)	30	FDD07441 (S54320-F8-A1)	INTELLIGENT MULTI-CRITERIA FIRE / CO DETECTOR	ABHW-48
	30	ABHW-4B (S54320-F13-A1)	INTELLIGENT DETECTOR BASE w/ SOUNDER (TEMP-3, TEMP-4, STEADY)	4S DEEP BOX w/ EXTENSION
 (E)	35	FID421 (S54320-F5-A1)	INTELLIGENT HEAT DETECTOR HEAD	DB-11
	35	DB-11 500-094151	DETECTOR BASE	4S DEEP BOX w/ 1-GANG RING
 (E)	1	XWS-D (S54321-F8-A1)	INTELLIGENT MANUAL PULL STATION DUAL ACTION, KEY RESET	4S DEEP BOX w/ 1-GANG RING
 (E)	1	XWS-D (S54321-F8-A1)	EXISTING INTELLIGENT MANUAL PULL STATION DUAL ACTION, KEY RESET	4S DEEP BOX w/ 1-GANG RING
 (E)	3	RMS-11-KL/BLUE	WEATHER NOTIFICATION PULL STATION	4S DEEP BOX w/ 1-GANG RING
 (E)	3	RMS-11-KL/WHITE	LOCKDOWN NOTIFICATION PULL STATION	4S DEEP BOX w/ 1-GANG RING
 (E)	14	XTR-M (S54370-B1-A1)	INTELLIGENT CONTROLLABLE RELAY w/ SINGLE INPUT MONITOR MODULE	4S DEEP BOX
	6	XTR-M (S54370-B4-A1)	INTELLIGENT SINGLE INPUT MINI-MONITOR MODULE	4S DEEP BOX
	3	XTR-D (S54370-B2-A1)	INTELLIGENT DUAL INPUT MONITOR MODULE	4S DEEP BOX
 (E)	29	SL23WR-F (S54329-F208-A1)	MULTI-CANDELA LED STROBE, WALL MOUNT - RED FIELD SELECTABLE 15/30/75/110/135/185cd	4S DEEP BOX w/ 1-GANG RING
 (E)	6	SL25OW-F (S54329-F198-A1)	MULTI-CANDELA LED STROBE, CEILING MOUNT - WHITE FIELD SELECTABLE 15/30/75/110/150/177cd	4S DEEP BOX
 (E)	3	SL25P5OW-F (S54329-F165-A1)	HRT SPENGER/STROBE, 25/70, WALL MOUNT - CEILING-FIELD SELECTABLE 15/30/75/110/150/177cd, 1/8-SW	4S DEEP BOX w/ EXTENSION
 (E)	104	SL25P5OW-F (S54329-F146-A1)	HRT SPENGER, 25/70, WALL MOUNT - WHITE FIELD SELECTABLE 15/30/75/110/150/177cd, 1/8-SW/20V	4S DEEP BOX w/ EXTENSION
 (E)	1	AS-75-R-WP 500-636016	WEATHERPROOF HORN/STROBE, WALL MOUNT - RED	WPBES-R
	1	WPBES-R 500-636037	WEATHERPROOF BAYOXBOX - RED	SURFACE MOUNT
 (E)	2	MT-SUR-BOX-W 500-636057	WEATHERPROOF SPENGER/STROBE, 25/70, CEILING MOUNT - WHITE FIELD SELECTABLE 1/8-SW	MT-SUR-BOX-W
	2	MT-SUR-BOX-W 500-636118	WEATHERPROOF BAYOXBOX - WHITE	SURFACE MOUNT
 (E)	3	ZR-MC-R 500-636169	EXISTING MULTI-CANDELA STROBE, WALL MOUNT - RED FIELD SELECTABLE 15/30/75/110cd	4S DEEP BOX w/ 2-GANG RING
 (E)	2	CP2341	SURGE SUPPRESSOR 120VAC	FIELD VERIFY
 (E)	F.B.O. <BY OTHERS>		SPRINKLER WATERFLOW SWITCH	F.B.O.
 (E)	F.B.O. <BY OTHERS>		SPRINKLER TAMPER SWITCH	F.B.O.

(*) THE ABOVE REFERENCED "ROUGH IN" MOUNTING REQUIREMENTS INDICATED SHALL BE CONSIDERED AS A MINIMUM RECOMMENDATION ONLY. SPECIFIC FIELD CONDITIONS SHALL DICTATE ACTUAL ROUGH IN REQUIRED INSTALLATIONS. I.E. MULTIPLE CONDUIT RACEWAYS WITHIN A DEVICE BACKBOX, WIRE SIZE, WIRE TYPE, ETC. THE ADDITION OF EXTENSION RINGS OR LARGER BACKBOXES MAY BE REQUIRED TO BE INSTALLED TO ACCOMMODATE FOR ACTUAL FIELD CONDITIONS. ALTERNATE ROUGH IN EQUIPMENT WHICH MEETS SIEMENS INSTALLATION STANDARDS AND IS OF A LIKE NATURE MAY BE UTILIZED. ALL ROUGH IN INSTALLATION SHALL PROPERLY COMPLY WITH ALL APPLICABLE CODES/STANDARDS/REGULATIONS. TO MINIMIZE ANY COST IMPACTS ALL ISSUES AND DISCREPANCIES MUST IMMEDIATELY BE BROUGHT TO THE ATTENTION OF SIEMENS PRIOR TO ANY ROUGH-IN/INSTALLATION.

--

Building Sequence of Operations	Control Unit Annunciation			Notification							Required Fire Safety Control					
	Activate control unit ALARM buzzer and LED	Activate control unit SUPERVISORY buzzer and LED	Activate control unit TROUBLE buzzer and LED	Annunciate at remote fire alarm annunciator	Send Signal to supervising station (24 Hour Attended location)	Activate all audible/visual devices throughout the building	Activate sprinkler alarm device	Activate associated CO sounders (Temp-4 Code)	Activate Alarm Speakers with "Lockdown" Message	Activate Alarm Speakers with "Weather" Message	Shutdown required air handling (HVAC) units throughout building immediately	Recall associated elevator(s) to primary recall floor *	Recall associated elevator(s) to alternate recall floor *	Shunt elevator power	Send signal to elevator controller of device activation in Elevator hoistway or machine room (Halt Light) *	Activate Associated Relay to Shutdown HVLVS Fans throughout building immediately
AUDIBLE MESSAGE TO BE (FEMALE VOICE, ENGLISH) - "May I have your attention please, may I have your attention please? There has been a fire emergency reported in the building. Please evacuate the building by the nearest exit."																
* - Elevator recall to primary or alternate floor and Visual Warning (Firefighter Hat) shall be performed by the elevator controller per the Elevator Code ASME A17.1																
System Inputs																
Manual fire alarm box	X			X	X	X										X
Blue - Weather Activation Pull Station		X		X	X					X						
White - Lockdown Activation Pull Station		X		X	X											
Smoke detector above FA panel	X			X	X	X										X
Area smoke / heat detector	X			X	X	X										X
Carbon monoxide sensor		X		X	X			X								
Duct smoke detector @ Fan duct		X		X	X						X					X
Elevator lobby smoke detector-main floor	X			X	X	X							X			X
Elevator lobby smoke detector-all other floors	X			X	X	X						X				X
Elevator hoistway smoke detector	X			X	X	X						X				X
Elevator hoistway heat detector	X			X	X	X										
Elevator 120VAC shunt trip circuit failure		X		X	X									X	X	
Sprinkler water flow switch	X			X	X	X	X				X					X
Sprinkler valve supervisory switches		X		X	X											
FACU 120VAC power failure				X	X	X										
Remote power supply trouble (power, wiring)				X	X	X										
System device trouble				X	X	X										
System wiring trouble (ground, open, short)				X	X	X										
SEQUENCE OF OPERATIONS TO MATCH THE EXISTING BUILDING SEQUENCE OF OPERATIONS																
Special Notes: X- Function of Fire Alarm System O- Function by others																

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SIEMENS INDUSTRY, INC.
8066 FLINT STREET
LENEXA, KS 66214
913.905.6700

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REV	NO.	DATE	REMARKS	IN
0		07/06/2024	INITIAL SUBMISSION	
1		07/12/2024	REVISED AS PER ENGINEERING COMMENTS	
2		07/30/2024	REVISED AS PER CITY REVIEW COMMENTS	

DRAWN: VAISHNA

SHEET DESCRIPTION:

FIRE ALARM SYSTEM
**SYSTEM INFORMATION, NOTES,
LEGENDS & SEQUENCE OF
OPERATION**

JOB NUMBER: 44OP-379485

[illegible]

MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING
NUMBER:

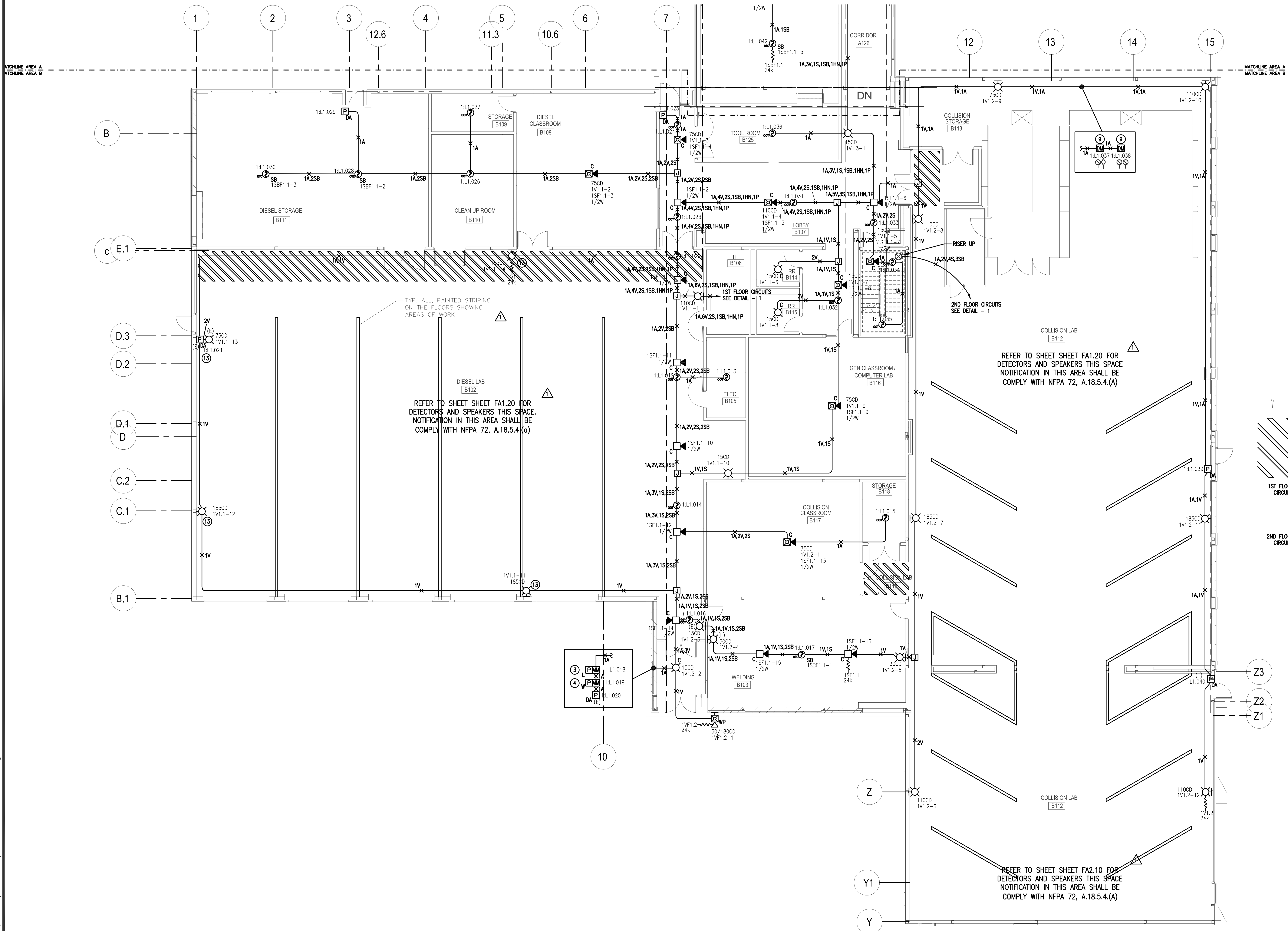
FA0.02

SHEET SIZE: ARCH E1 - 30x42

7/30/2024 9:20 PM K:\2024\1910\2024\1910\DWG\FA1.10-MCC - LV Automotive-IST.dwg lucaif

CABLE LEGEND

LTR	DESCRIPTION	AWG	# OF COND	SHIELD
A	(SLC) ADDRESSABLE LOOP	18	2	NO
P	24VDC POWER	14	2	NO
S	(NAC) SPEAKER CIRCUIT	16	2	NO
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT	14	2	NO
SB	(NAC) SOUNDER BASE CIRCUIT	14	2	
HN	H-NET COMMUNICATION CIRCUIT	16	2	NO
N	NETWORK CABLE	CAT6 CABLE		
XB	BATTERY CABLE	12	2	NO
---	120VAC POWER WIRING (W/GROUND)	12	3	NO



1 LEVEL 01 FIRE ALARM PLAN - AREA B

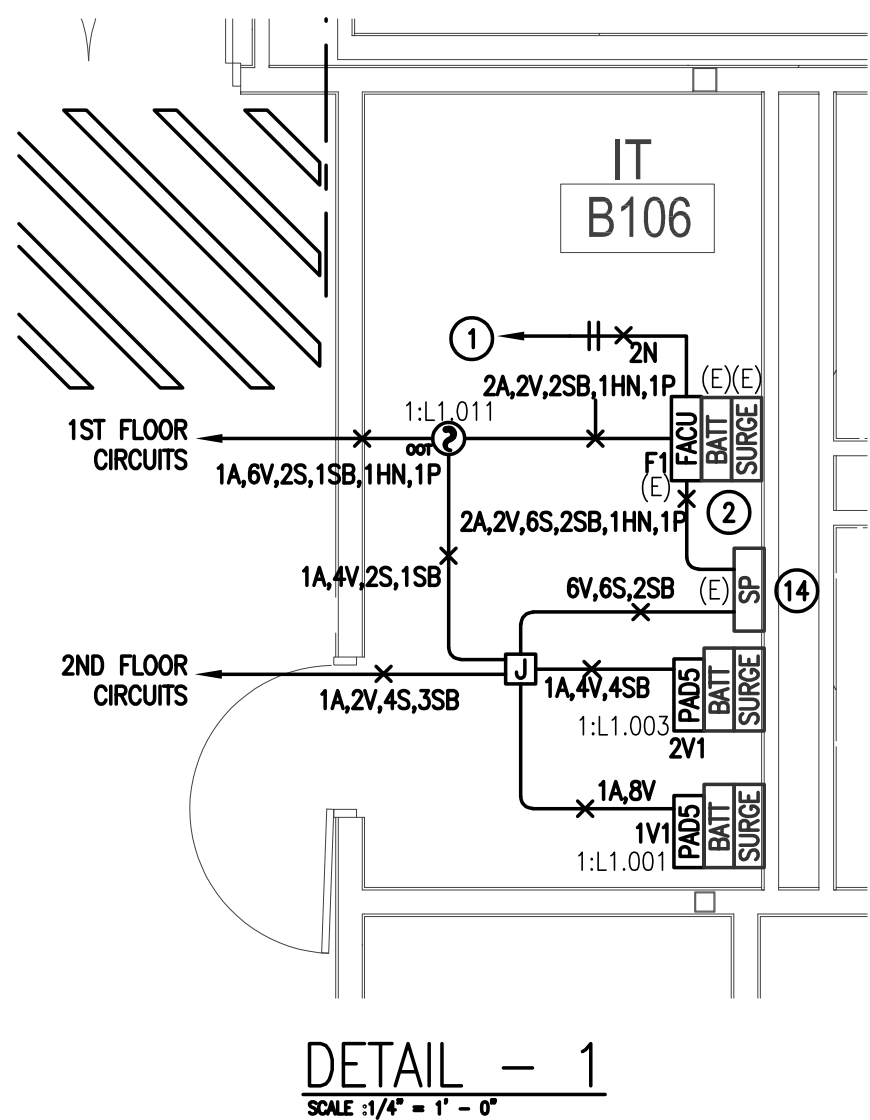
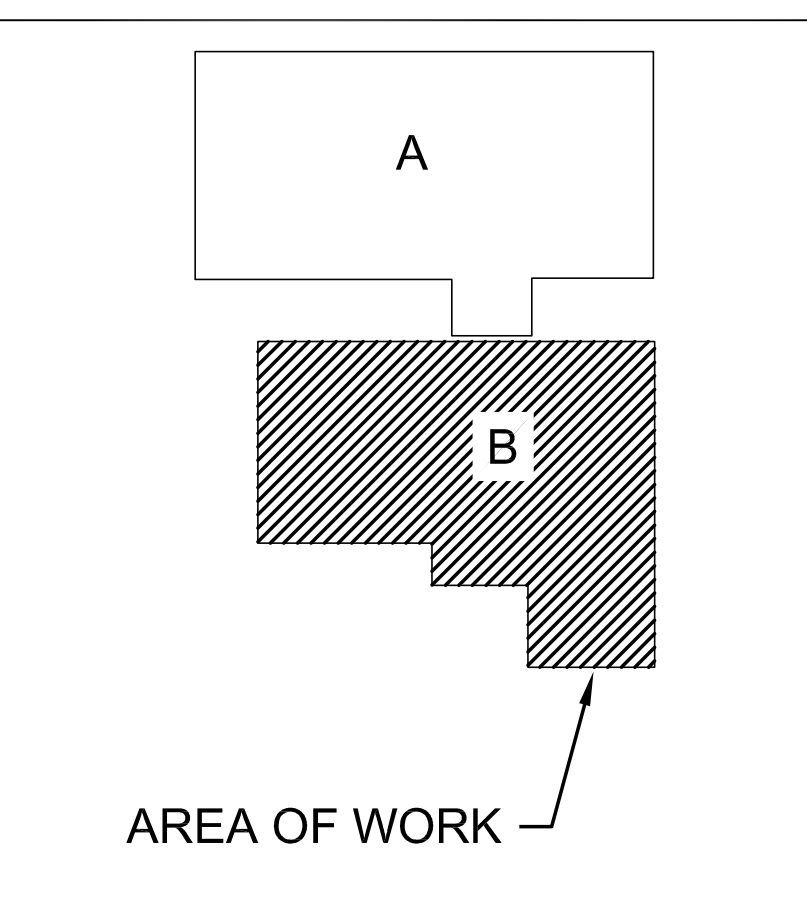
SCALE: 1/8" = 1'-0" 0 4' 8' 16'



NOTES

- PLAN NOTES: 08
1. PROVIDE EXISTING NETWORK DROP FROM MCC BUILDING NETWORK FOR DTEL EQUIPMENT.
 2. RELOCATE EXISTING EXISTING FACU F1 & SURGE PROTECTOR PANEL.
 3. USE WHITE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR BUILDING LOCK DOWN.
 4. USE BLUE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR EMERGENCY WEATHER NOTIFICATION.
 5. XTRI-R MODULE ASSOCIATED WITH ELEVATOR PRIMARY RECALL.
 6. XTRI-R MODULE ASSOCIATED WITH ELEVATOR ALTERNATE RECALL.
 7. XTRI-R MODULE ASSOCIATED WITH ELEVATOR FIRE HAT.
 8. XTRI-R MODULE ASSOCIATED WITH SHUNT TRIP.
 9. XTRI-D MODULE ASSOCIATED WITH SPRINKLER SYSTEM WATER FLOW & TAMPER SWITCH MONITORING. FIELD VERIFY THE LOCATION & QUANTITIES.
 10. XTRI-R MODULE ASSOCIATED WITH HVAC FAN SHUT DOWN. FIELD VERIFY THE LOCATION OF FAN CONTROLLER.
 11. XTRI-R MODULE ASSOCIATED WITH VRF UI-A201A DUCT DETECTOR FOR HVAC & FAN SHUTDOWN.
 12. TOP OF THE SHUNT HEAT DETECTOR TO INSTALL WITHIN 2 FT FROM THE SPRINKLER HEAD.
 13. FIELD VERIFY THE DEVICE LOCATION & CONDUIT ROUTING.
 14. ALL NAC, SLC & NETWORK CIRCUITS CONNECTED TO EXISTING SP - SURGE SUPPRESSION PANEL. SEE FA3.01 FOR MORE DETAILS.
- GENERAL NOTES:
1. FIELD VERIFY THE RISER LOCATION
 2. (E) = EXISTING DEVICE TO REMAIN, TIE IN TO NEW CIRCUITS AS SHOWN.

KEYPLAN



APPROVAL STAMPS

SIEMENS

SIEMENS INDUSTRY, INC.
8066 FLINT STREET
LENEXA, KS 66214
913.905.6700

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AGENCY REFERENCE:

REV NO.	DATE	REMARKS	INTL
2	07/30/2024	REVISED AS PER CITY REVIEW COMMENTS	VTR
1	07/12/2024	REVISED AS PER ENGINEERING COMMENTS	VTR
0	07/08/2024	INITIAL SUBMISSION	VTR

DRAWN: VAISHNAV

CHECKED: AKSHAY

SHEET DESCRIPTION:

FIRE ALARM SYSTEM
LEVEL 01 FIRE ALARM PLAN - AREA B

JOB NUMBER:

44OP-379485

PROJECT NAME \ ADDRESS:

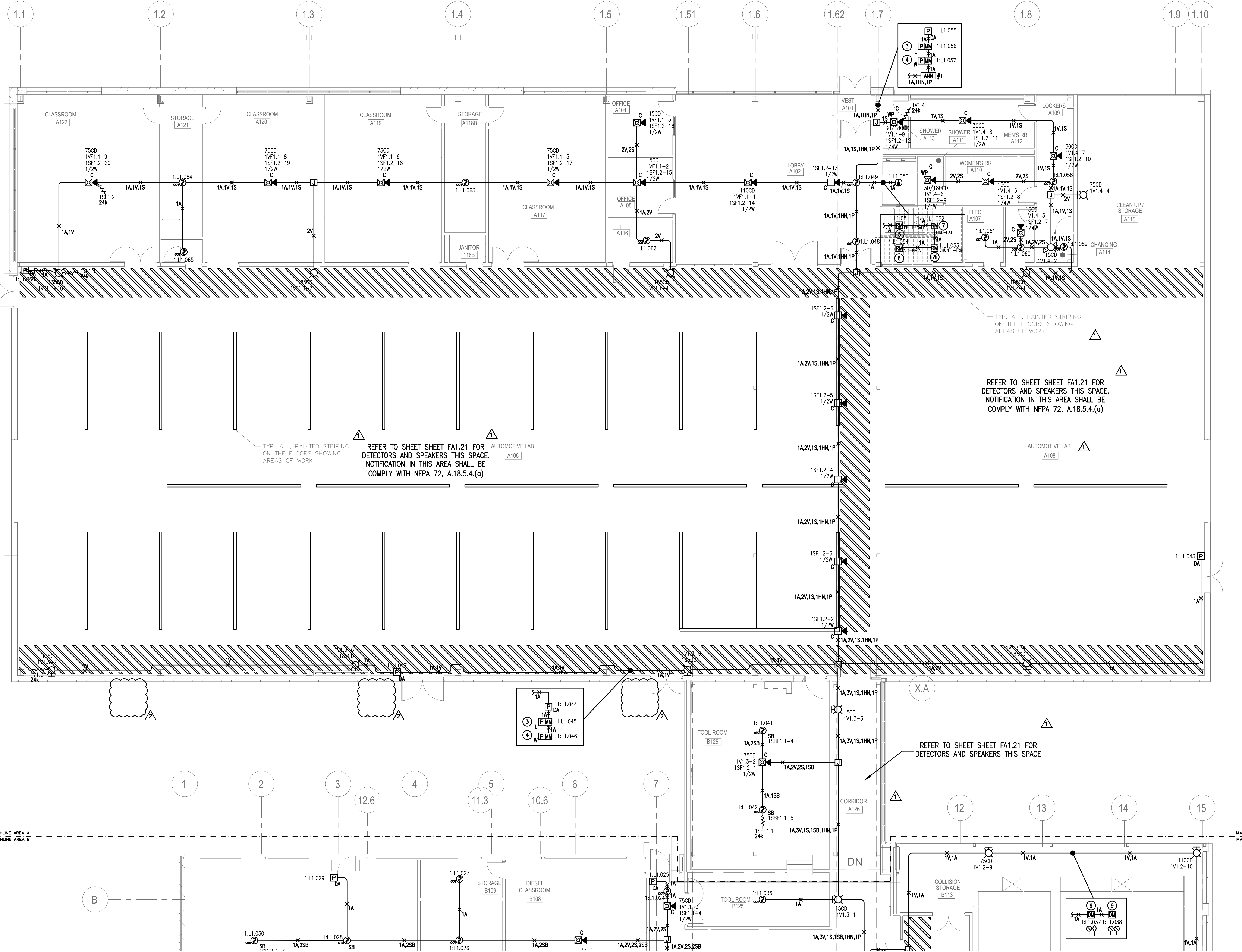
MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING NUMBER:

FA1.10

SHEET SIZE: ARCH E1 - 30x42

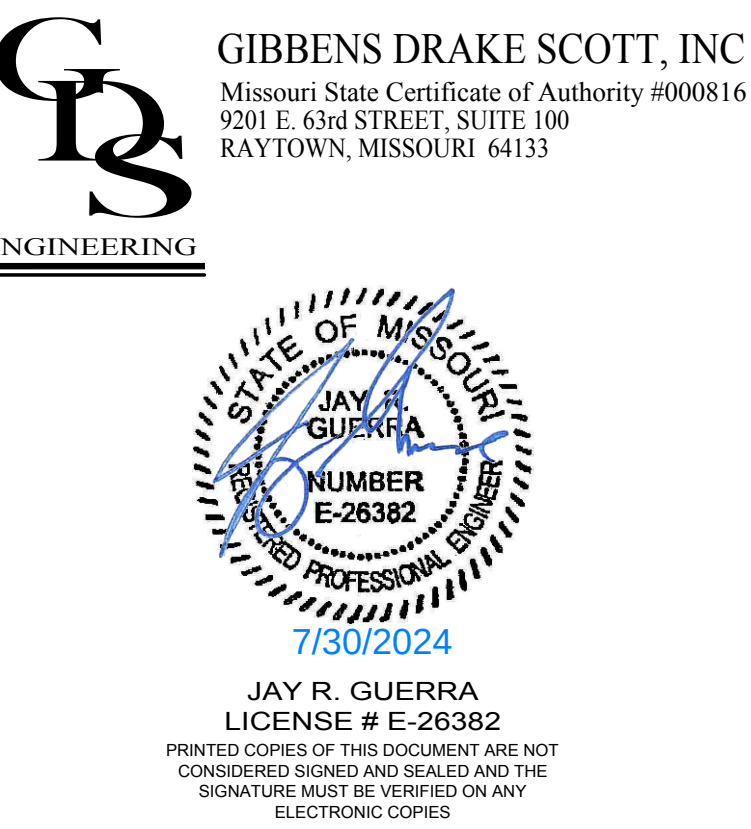
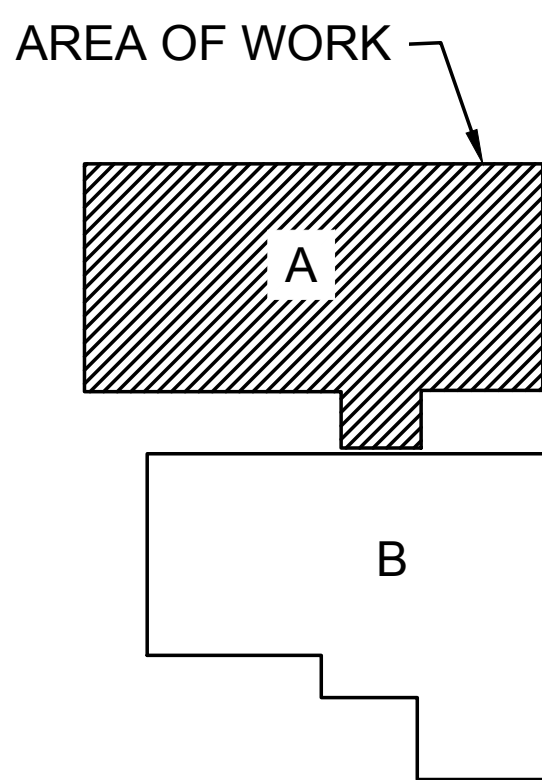
CABLE LEGEND				
LTR	DESCRIPTION	AWG	# OF COND	SHIELD
A	(SLC) ADDRESSABLE LOOP	18	2	NO
P	24VDC POWER	14	2	NO
S	(NAC) SPEAKER CIRCUIT	16	2	NO
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT	14	2	NO
SB	(NAC) SOUNDER BASE CIRCUIT	14	2	NO
HN	H-NET COMMUNICATION CIRCUIT	16	2	NO
N	NETWORK CABLE	CAT6 CABLE		
XB	BATTERY CABLE	12	2	NO
///	120VAC POWER WIRING (W/GROUND)	12	3	NO



NOTES

- PLAN NOTES: @
1. PROVIDE EXISTING NETWORK DROP FROM MCC BUILDING NETWORK FOR DITEL EQUIPMENT.
 2. RELOCATE EXISTING EXISTING FACU F1 & SURGE PROTECTOR PANEL.
 3. USE WHITE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR BUILDING LOCK DOWN.
 4. USE BLUE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR EMERGENCY WEATHER NOTIFICATION.
 5. XTRI-R MODULE ASSOCIATED WITH ELEVATOR PRIMARY RECALL.
 6. XTRI-R MODULE ASSOCIATED WITH ELEVATOR ALTERNATE RECALL.
 7. XTRI-R MODULE ASSOCIATED WITH ELEVATOR FIRE HAT.
 8. XTRI-R MODULE ASSOCIATED WITH SHUNT TRIP.
 9. XTRI-D MODULE ASSOCIATED WITH SPRINKLER SYSTEM WATER FLOW & TAMPER SWITCH MONITORING. FIELD VERIFY THE LOCATION & QUANTITIES.
 10. XTRI-R MODULE ASSOCIATED WITH HALLS FAN SHUT DOWN. FIELD VERIFY THE LOCATION OF FAN CONTROLLER.
 11. XTRI-R MODULE ASSOCIATED WITH VRF UI-A201A DUCT DETECTOR FOR HVAC & FAN SHUTDOWN.
 12. TOP OF THE SHUNT HEAT DETECTOR TO INSTALL WITHIN 2 FT FROM THE SPRINKLER HEAD.
 13. FIELD VERIFY THE DEVICE LOCATION & CONDUIT ROUTING.
 14. ALL NAC, SLC & NETWORK CIRCUITS CONNECTED TO EXISTING SP - SURGE SUPPRESSION PANEL. SEE FA3.01 FOR MORE DETAILS.
- GENERAL NOTES:
1. FIELD VERIFY THE RISER LOCATION
 2. (E) = EXISTING DEVICE TO REMAIN, TIE IN TO NEW CIRCUITS AS SHOWN.

KEYPLAN



APPROVAL STAMPS



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8066 FLINT STREET
LENEXA, KS 66214
913.905.6700

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AGENCY REFERENCE

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2	07/30/2024	REVISED AS PER CITY REVIEW COMMENTS		VIR
1	07/12/2024	REVISED AS PER ENGINEERING COMMENTS		VIR
0	07/30/2024	INITIAL SUBMISSION		YRB

DRAWN: VAISHNAV

CHECKED: AKSHAY

SHEET DESCRIPTION:

FIRE ALARM SYSTEM
LEVEL 01 FIRE ALARM PLAN - AREA A

JOB NUMBER: 44OP-379485

PROJECT NAME \ ADDRESS:

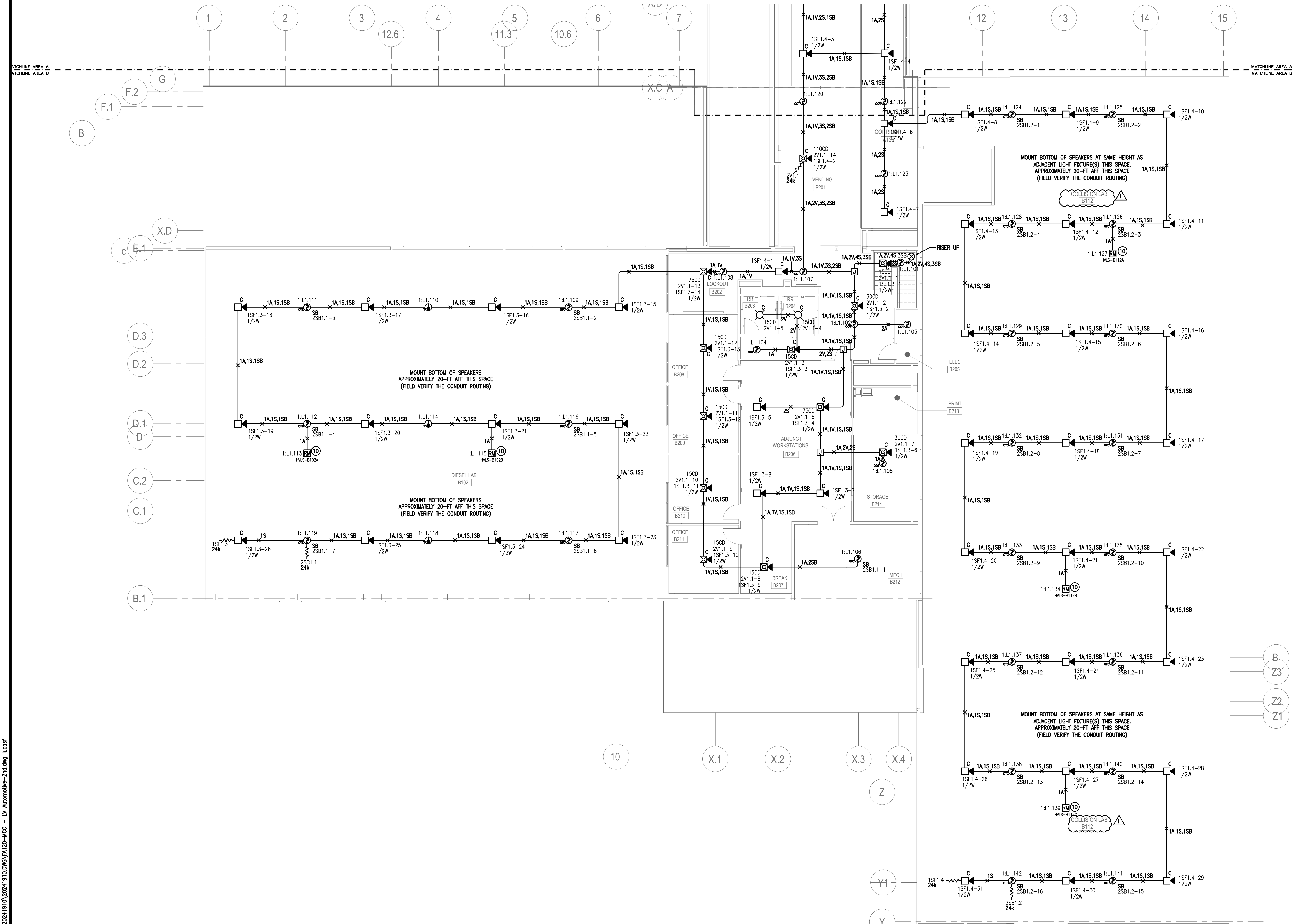
MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING NUMBER:

FA1.11

SHEET SIZE: ARCH E1 - 30x42

CABLE LEGEND				
LTR	DESCRIPTION	AWG	# OF COND	SHIELD
A	(SLC) ADDRESSABLE LOOP	18	2	NO
P	24VDC POWER	14	2	NO
S	(NAC) SPEAKER CIRCUIT	16	2	NO
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT	14	2	NO
SB	(NAC) SOUNDER BASE CIRCUIT	14	2	NO
HN	H-NET COMMUNICATION CIRCUIT	16	2	NO
N	NETWORK CABLE	CAT6 CABLE		
XB	BATTERY CABLE	12	2	NO
---	120VAC POWER WIRING (W/GROUND)	12	3	NO



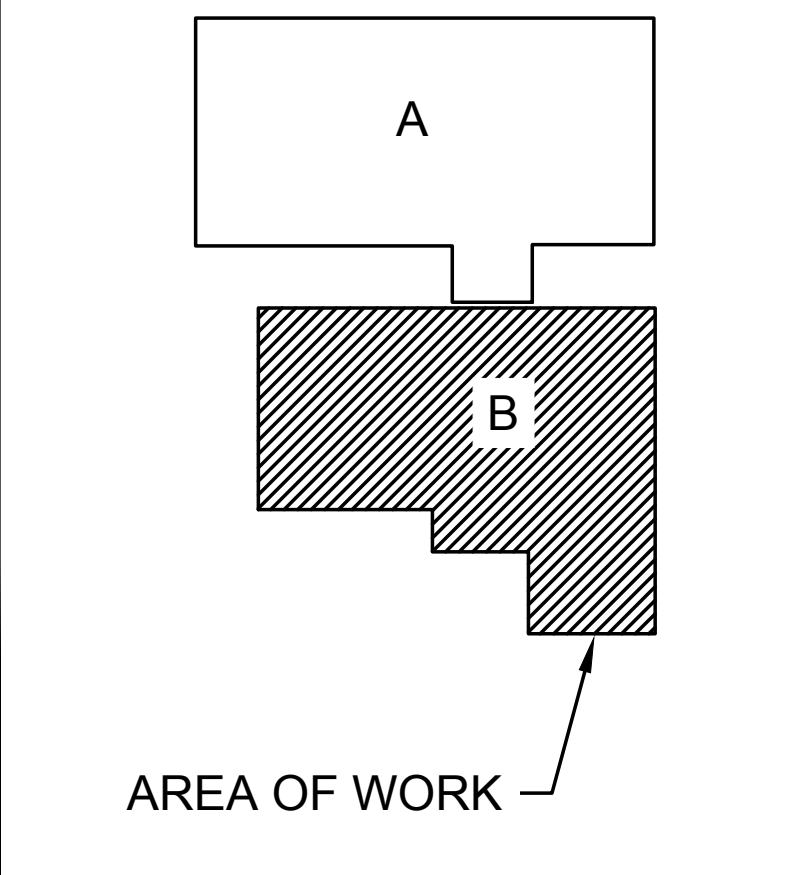
1 LEVEL 2 FIRE ALARM PLAN - AREA B
SCALE: 1/8" = 1'-0"

NOTES

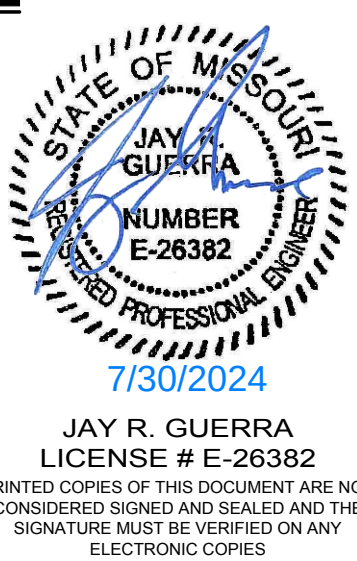
- PLAN NOTES: @
1. PROVIDE EXISTING NETWORK DROP FROM MCC BUILDING NETWORK FOR DITEL EQUIPMENT.
 2. RELOCATE EXISTING EXHAUST FAN F1 & SURGE PROTECTOR PANEL.
 3. USE WHITE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR BUILDING LOCK DOWN.
 4. USE BLUE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR EMERGENCY WEATHER NOTIFICATION.
 5. XTRI-R MODULE ASSOCIATED WITH ELEVATOR PRIMARY RECALL.
 6. XTRI-R MODULE ASSOCIATED WITH ELEVATOR ALTERNATE RECALL.
 7. XTRI-R MODULE ASSOCIATED WITH ELEVATOR FIRE HAT.
 8. XTRI-R MODULE ASSOCIATED WITH SHUNT TRIP.
 9. XTRI-D MODULE ASSOCIATED WITH SPRINKLER SYSTEM WATER FLOW & TAMPER SWITCH MONITORING. FIELD VERIFY THE LOCATION & QUANTITIES.
 10. XTRI-R MODULE ASSOCIATED WITH HALL FAN SHUT DOWN. FIELD VERIFY THE LOCATION OF FAN CONTROLLER.
 11. XTRI-R MODULE ASSOCIATED WITH VRF U-A201A DUCT DETECTOR FOR HVAC & FAN SHUTDOWN.
 12. TOP OF THE SHUNT HEAT DETECTOR TO INSTALL WITHIN 2 FT FROM THE SPRINKLER HEAD.
 13. FIELD VERIFY THE DEVICE LOCATION & CONDUIT ROUTING.

- GENERAL NOTES:
1. FIELD VERIFY THE RISER LOCATION
 2. (E) = EXISTING DEVICE TO REMAIN, TIE IN TO NEW CIRCUITS AS SHOWN.

KEYPLAN



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Missouri State Certificate of Authority #000816
9201 E. 63rd STREET, SUITE 100
RAYTOWN, MISSOURI 64133



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AGENCY REFERENCE:

	</				

DRAWN: VAISHNAV
CHECKED: AKSHAY

SHEET DESCRIPTION:
FIRE ALARM SYSTEM
LEVEL 2 FIRE ALARM PLAN - AREA B

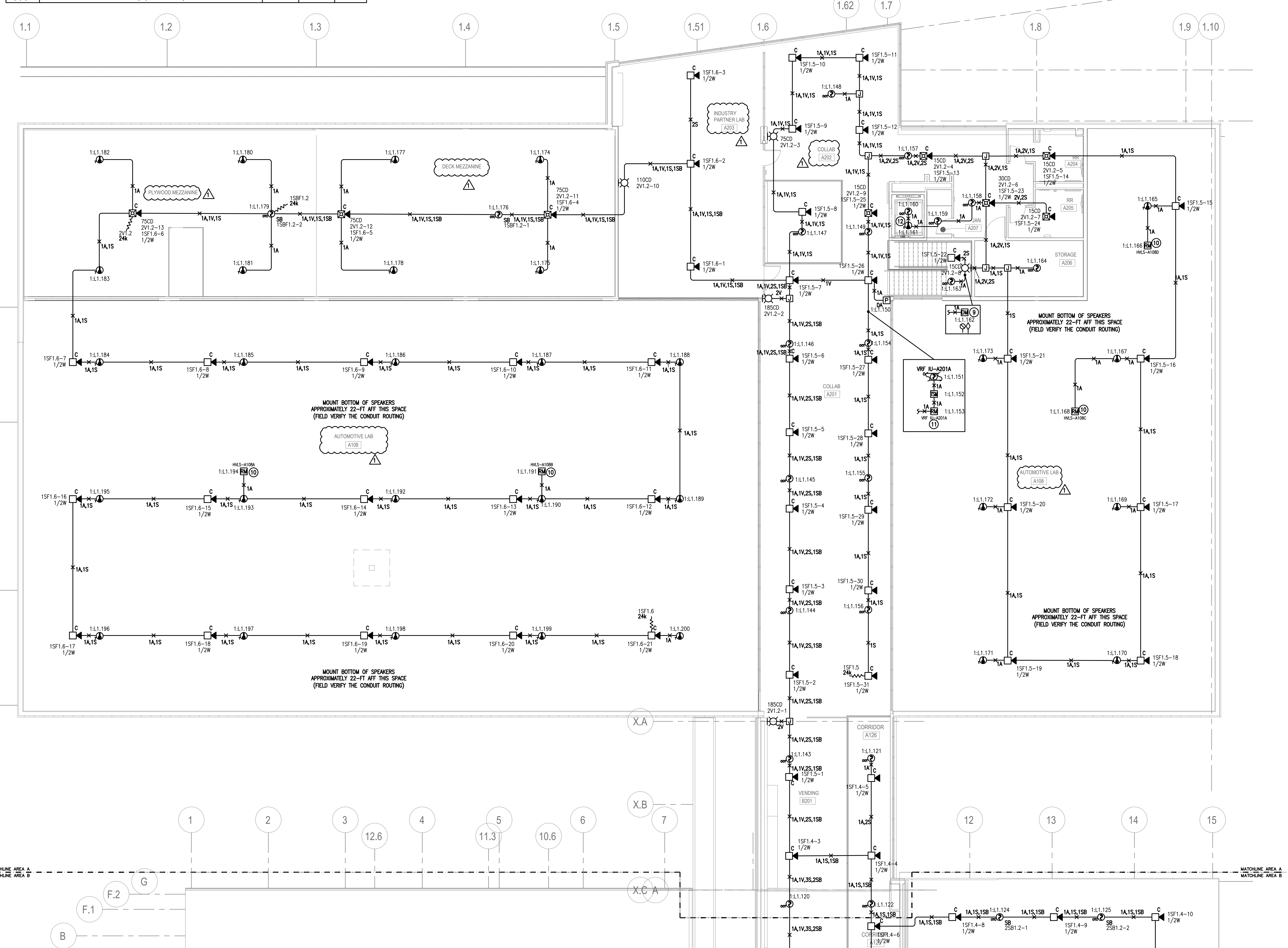
JOB NUMBER: 44OP-379485

PROJECT NAME \ ADDRESS:
MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING NUMBER: FA1.20

SHEET SIZE: ARCH E1 - 30x42

CABLE LEGEND				
LTR	DESCRIPTION	AWG	# OF COND	SHIELD
A	(SLC) ADDRESSABLE LOOP	18	2	NO
P	24VDC POWER	14	2	NO
S	(NAC) SPEAKER CIRCUIT	16	2	NO
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT	14	2	NO
SB	(NAC) SOUNDER BASE CIRCUIT	14	2	
HN	H-NET COMMUNICATION CIRCUIT	16	2	NO
N	NETWORK CABLE	CAT6 CABLE		
XB	BATTERY CABLE	12	2	NO
---	120VAC POWER WIRING (W/GROUND)	12	3	NO



1 LEVEL 2 FIRE ALARM PLAN - AREA A

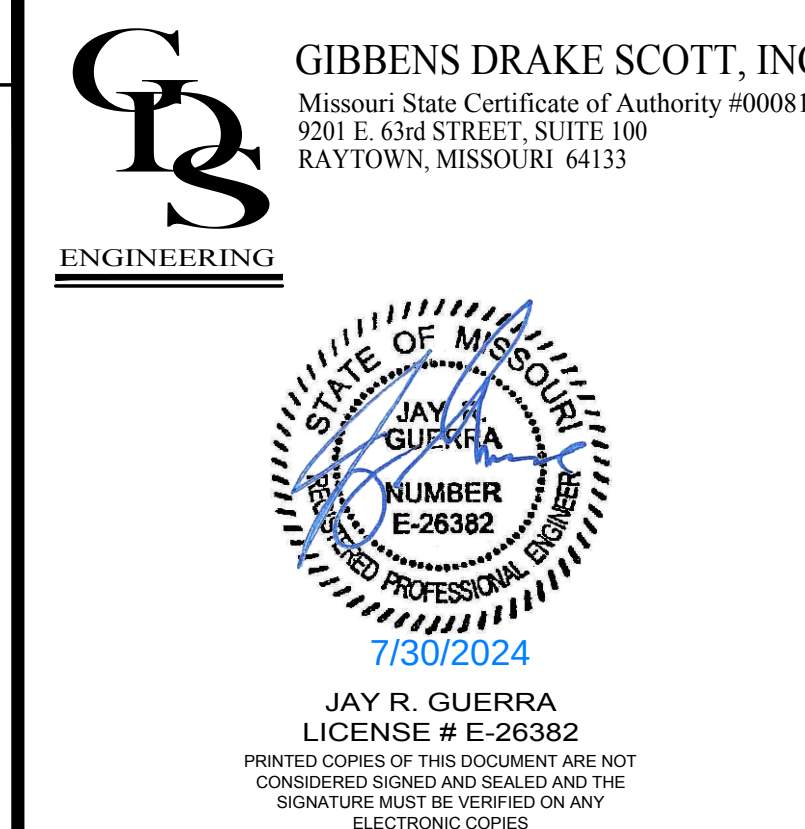


NOTES

- PLAN NOTES: @**
1. PROVIDE EXISTING NETWORK DROP FROM MCC BUILDING NETWORK FOR EXISTING EQUIPMENT.
 2. LOCATE EXISTING EXISTING FACU F1 & SURGE PROTECTOR PANEL.
 3. USE WHITE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR BUILDING LOCK DOWN.
 4. USE BLUE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR EMERGENCY WEATHER NOTIFICATION.
 5. XTRI-R MODULE ASSOCIATED WITH ELEVATOR PRIMARY RECALL.
 6. XTRI-R MODULE ASSOCIATED WITH ELEVATOR ALTERNATE RECALL.
 7. XTRI-R MODULE ASSOCIATED WITH ELEVATOR FIRE HAT.
 8. XTRI-R MODULE ASSOCIATED WITH SHUNT TRIP.
 9. XTRI-D MODULE ASSOCIATED WITH SPRINKLER SYSTEM WATER FLOW TAMPERS SHUNT MONITORING. FIELD VERIFY THE LOCATION & QUANTITIES.
 10. XTRI-M MODULE ASSOCIATED WITH HXLS FAN SHUT DOWN. FIELD VERIFY THE LOCATION OF FAN COUPLER.
 11. XTRI-M MODULE ASSOCIATED WITH 120V X201A DUCT DETECTOR FOR HVAC & FAN SHUTDOWNS.
 12. TOP OF THE SHAFT HATE DETECTOR TO INSTALL WITHIN 2 FT OF SPRINKLER HEAD.
 13. FIELD VERIFY THE DEVICE LOCATION & CONDUIT ROUTING.

GENERAL NOTES :

1. FIELD VERIFY THE RISER LOCATION
2. (E) = EXISTING DEVICE TO REMAIN, TIE IN TO NEW CIRCUITS AS SHOWN



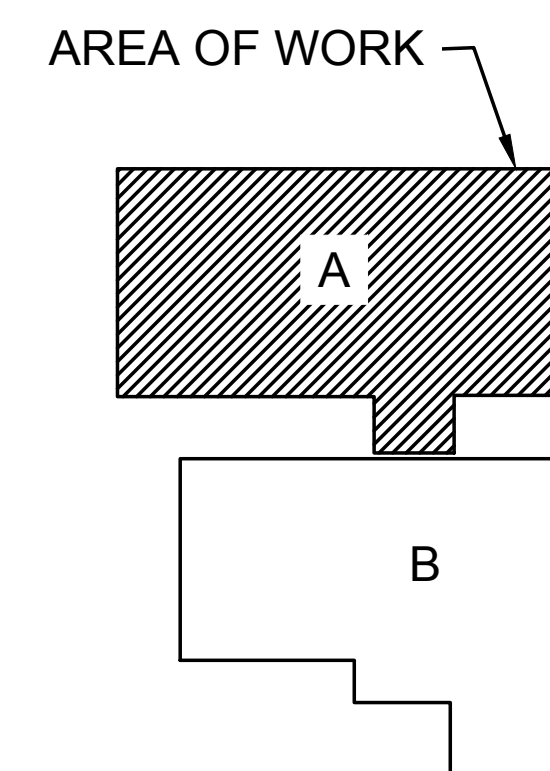
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913.905.6700

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KEYPLAN

[illegible]

DRAWN: VAISHNAV

CHECKED: AKSHAY

SHEET DESCRIPTION:

FIRE ALARM SYSTEM
LEVEL 2 FIRE ALARM PLAN - AREA A

JOB NUMBER: 44QP-379485

PROJECT NAME \ ADDRESS:
MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

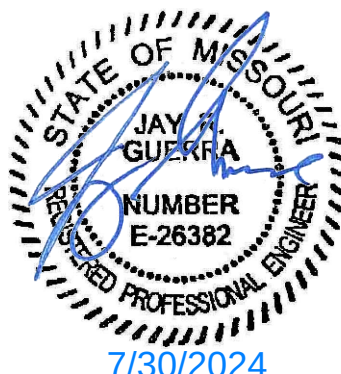
DRAWING NUMBER: **FA1.21**

SHEET SIZE: ARCH E1 - 30x4

7/30/2024 9:20 PM K:\2024\1910\2024\1910.DWG\2024\1910-MCC - LV Automotive-RSR.dwg lucasf



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9201 E. 63rd STREET, SUITE 100
RAYTOWN, MISSOURI 64133



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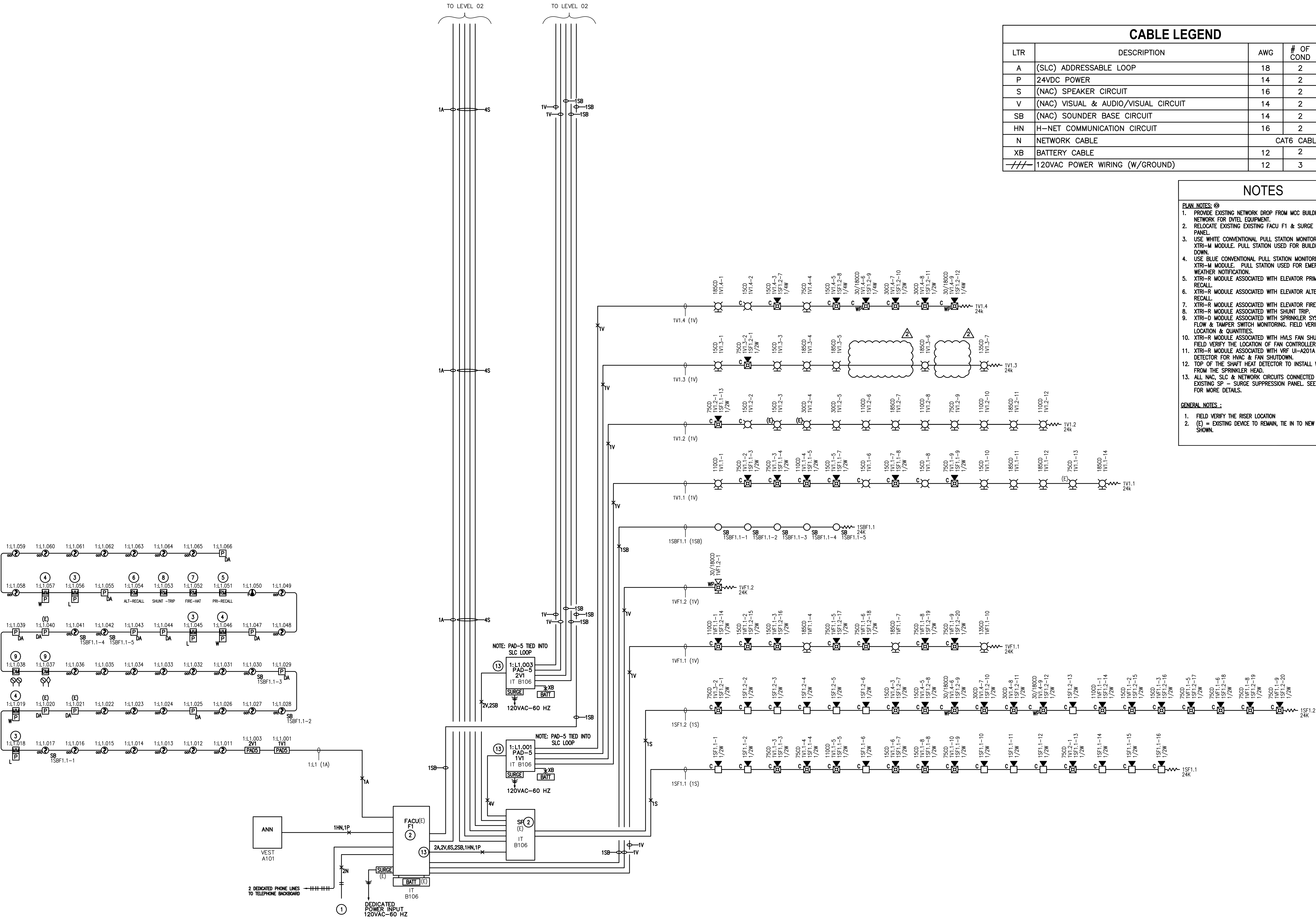
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LENEXA, KS 66214
913.905.6700

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CABLE LEGEND				
LTR	DESCRIPTION	AWG	# OF COND	SHIELD
A	(SLC) ADDRESSABLE LOOP	18	2	NO
P	24VDC POWER	14	2	NO
S	(NAC) SPEAKER CIRCUIT	16	2	NO
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT	14	2	NO
SB	(NAC) SOUNDER BASE CIRCUIT	14	2	
HN	H-NET COMMUNICATION CIRCUIT	16	2	NO
N	NETWORK CABLE	CAT6 CABLE		
XB	BATTERY CABLE	12	2	NO
---	120VAC POWER WIRING (W/GROUND)	12	3	NO

NOTES

- PLAN NOTES: @
- PROVIDE EXISTING NETWORK DROP FROM MCC BUILDING NETWORK FOR DTEL EQUIPMENT.
 - RELOCATE EXISTING EXISTING FACU F1 & SURGE PROTECTOR PANEL.
 - USE WHITE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR BUILDING LOCK DOWN.
 - USE BLUE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR EMERGENCY WEATHER NOTIFICATION.
 - XTRI-R MODULE ASSOCIATED WITH ELEVATOR PRIMARY RECALL.
 - XTRI-R MODULE ASSOCIATED WITH ELEVATOR ALTERNATE RECALL.
 - XTRI-R MODULE ASSOCIATED WITH ELEVATOR FIRE HAT.
 - XTRI-R MODULE ASSOCIATED WITH SHUNT TRIP.
 - XTRI-D MODULE ASSOCIATED WITH SPRINKLER SYSTEM WATER FLOW & TAMPER SWITCH MONITORING. FIELD VERIFY THE LOCATION & QUANTITIES.
 - XTRI-R MODULE ASSOCIATED WITH HMLS FAN SHUT DOWN. FIELD VERIFY THE LOCATION OF FAN CONTROLLER.
 - XTRI-R MODULE ASSOCIATED WITH VRF UI-A201A DUCT DETECTOR FOR HVAC & FAN SHUTDOWN.
 - TOP OF THE SHUNT HEAT DETECTOR TO INSTALL WITHIN 2 FT FROM THE SPRINKLER HEAD.
 - ALL NAC, SLC & NETWORK CIRCUITS CONNECTED TO EXISTING SP - SURGE SUPPRESSION PANEL. SEE FA3.01 FOR MORE DETAILS.
- GENERAL NOTES:
- FIELD VERIFY THE RISER LOCATION
 - (E) = EXISTING DEVICE TO REMAIN, TIE IN TO NEW CIRCUITS AS SHOWN.



1 SYSTEM RISER DIAGRAM - 1
SCALE: NOT TO SCALE

AGENCY REFERENCE:

REV	NO.	DATE	DESCRIPTION	BY	CHKD
2	07/30/2024	REVISED AS PER CITY REVIEW COMMENTS		VJR	
1	07/12/2024	REVISED AS PER ENGINEERING COMMENTS		VJR	
0	07/30/2024	INITIAL SUBMISSION		VJR	

DRAWN: VAISHNAV

CHECKED: AKSHAY

SHEET DESCRIPTION:
FIRE ALARM SYSTEM
SYSTEM RISER DIAGRAM - 1

JOB NUMBER:
44OP-379485

PROJECT NAME \ ADDRESS:
MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING NUMBER:
FA2.01

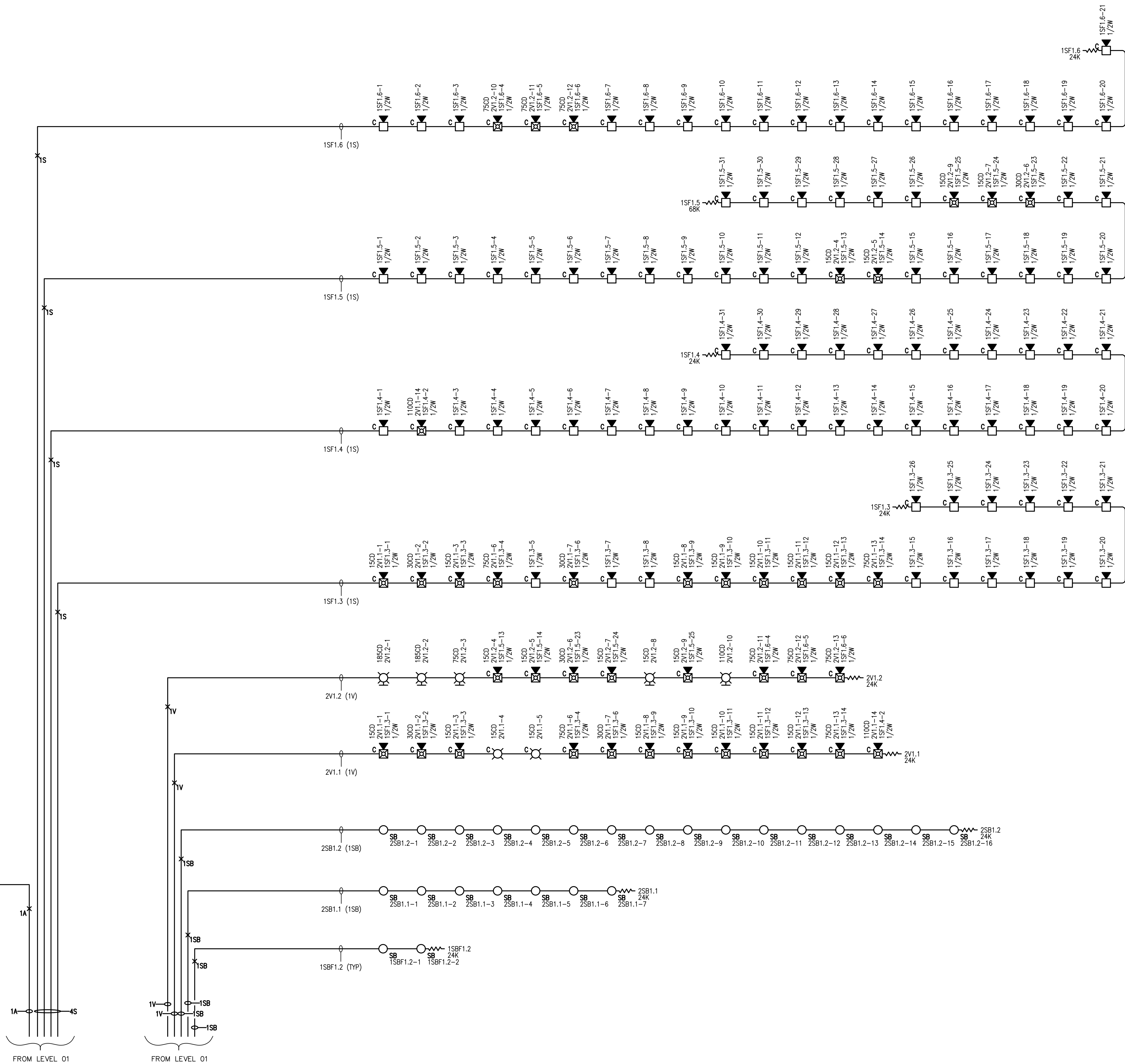
SHEET SIZE: ARCH E1 - 30x42

PLAN NOTES: ☼

1. PROVIDE EXISTING NETWORK DROP FROM MCC BUILDING NETWORK FOR DTVL EQUIPMENT.
2. RELOCATE EXISTING EXISTING FACU F1 & SURGE PROTECTOR PANEL.
3. USE WHITE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR BUILDING LOCK DOWN.
4. USE BLUE CONVENTIONAL PULL STATION MONITORED BY XTRI-M MODULE. PULL STATION USED FOR EMERGENCY WEATHER NOTIFICATION.
5. XTRI-R MODULE ASSOCIATED WITH ELEVATOR PRIMARY RECALL.
6. XTRI-R MODULE ASSOCIATED WITH ELEVATOR ALTERNATE RECALL.
7. XTRI-M MODULE ASSOCIATED WITH ELEVATOR FIRE HAT.
8. XTRI-R MODULE ASSOCIATED WITH SUNKIN TRIP.
9. XTRI-D MODULE ASSOCIATED WITH SPRINKLER SYSTEM WATER FLOW & TAMPER SWITCH MONITORING. FIELD VERIFY THE EXISTING WATERSHED.
10. XTRI-M MODULE ASSOCIATED WITH HVLS FAN SHUT DOWN. FIELD VERIFY THE LOCATION OF FAN CONTROLLER.
11. XTRI-M MODULE ASSOCIATED WITH VRF U/A-ZOTA DUCT FAN. FIELD VERIFY THE LOCATION OF FAN CONTROLLER.

TOP OF THE SHAFT HEAD DETECTOR TO INSTALL WITHIN 2 FT FROM THE SPRINKLER HEAD.

1. FIELD VERIFY THE RISER LOCATION
2. (E) = EXISTING DEVICE TO REMAIN, TIE IN TO NEW CIRCUITS AS SHOWN.



LTR	DESCRIPTION	AWG	# OF COND	SHIELD
A	(SLC) ADDRESSABLE LOOP	18	2	NO
P	24VDC POWER	14	2	NO
S	(NAC) SPEAKER CIRCUIT	16	2	NO
V	(NAC) VISUAL & AUDIO/VISUAL CIRCUIT	14	2	NO
SB	(NAC) SOUNDER BASE CIRCUIT	14	2	
HN	H-NET COMMUNICATION CIRCUIT	16	2	NO
N	NETWORK CABLE	CAT6 CABLE		
XB	BATTERY CABLE	12	2	NO
---	120VAC POWER WIRING (W/GROUND)	12	3	NO

1 SYSTEM RISER DIAGRAM - 2
SCALE: NOT TO SCALE

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913.905.6700

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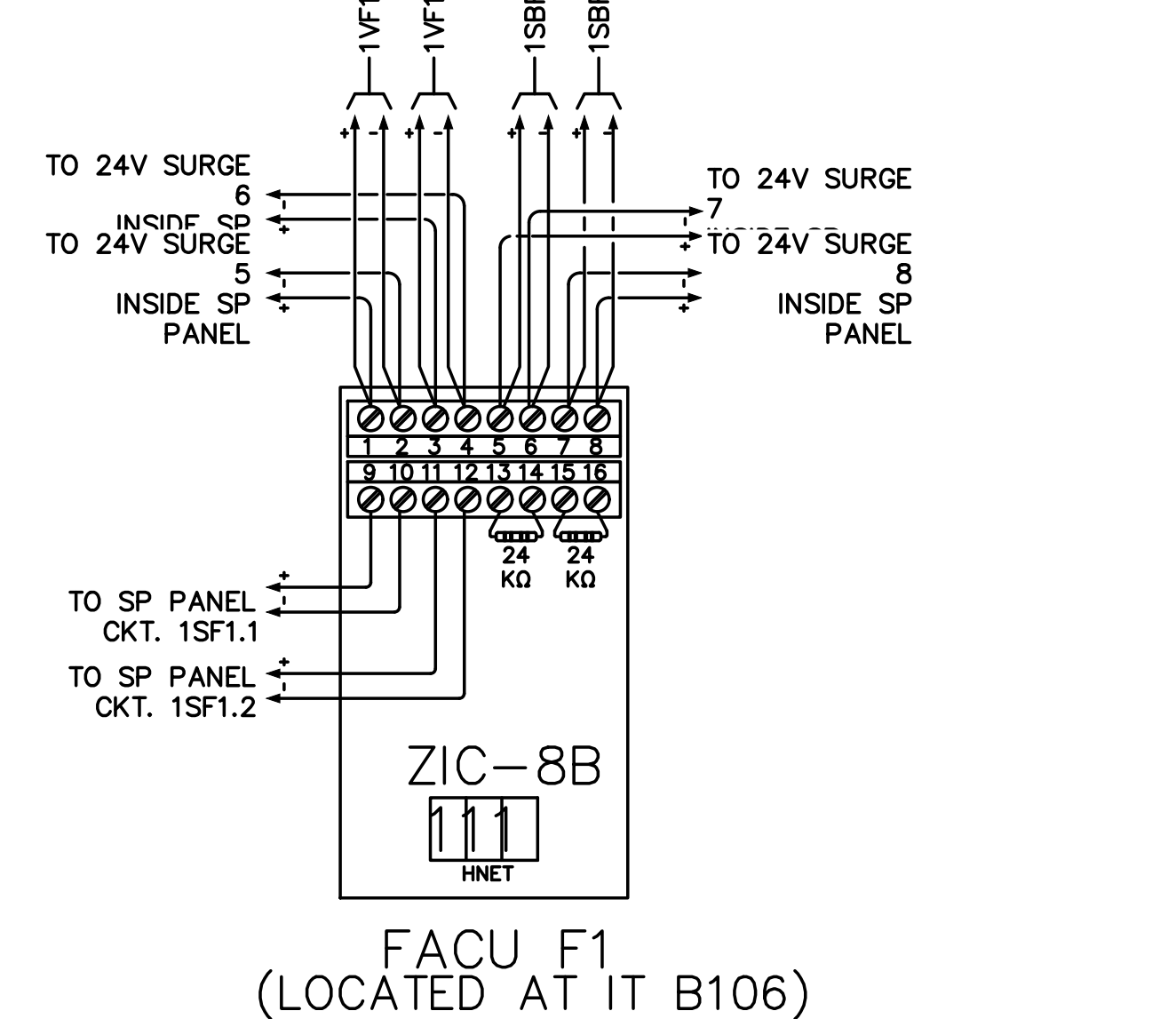
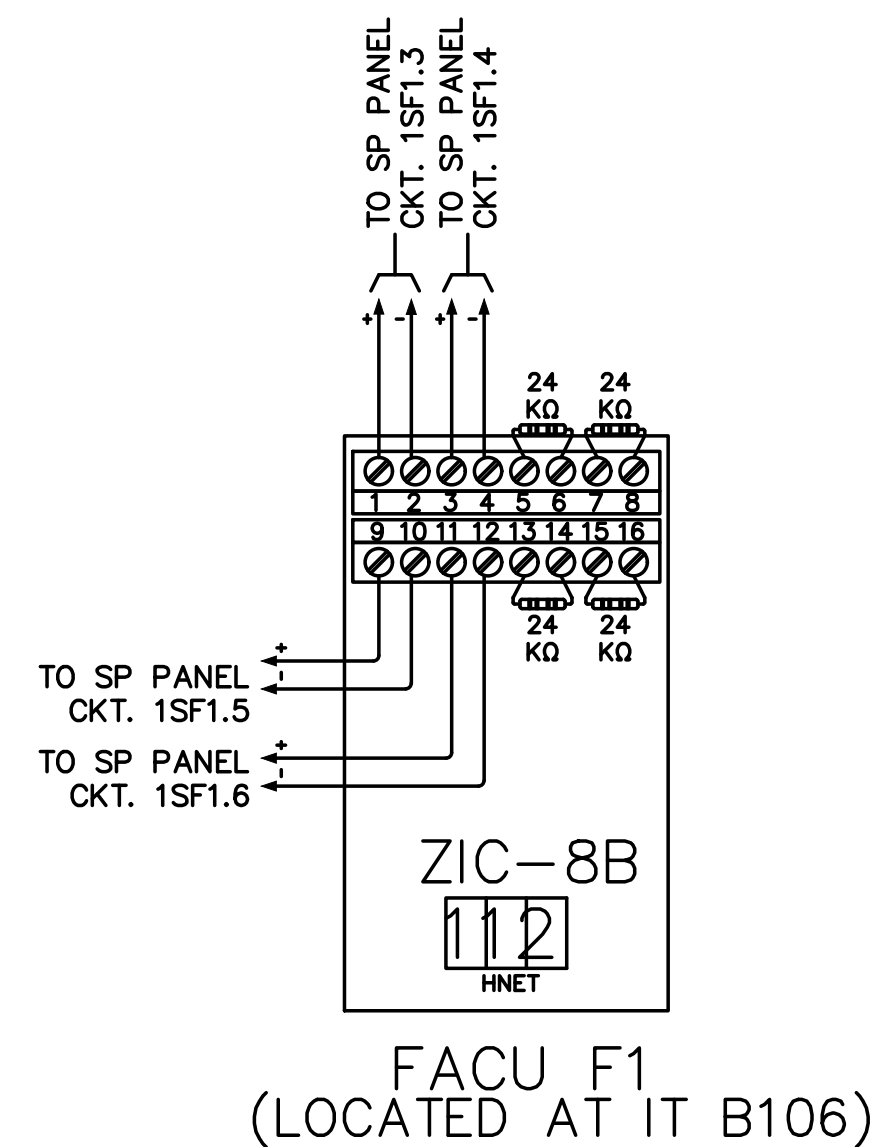
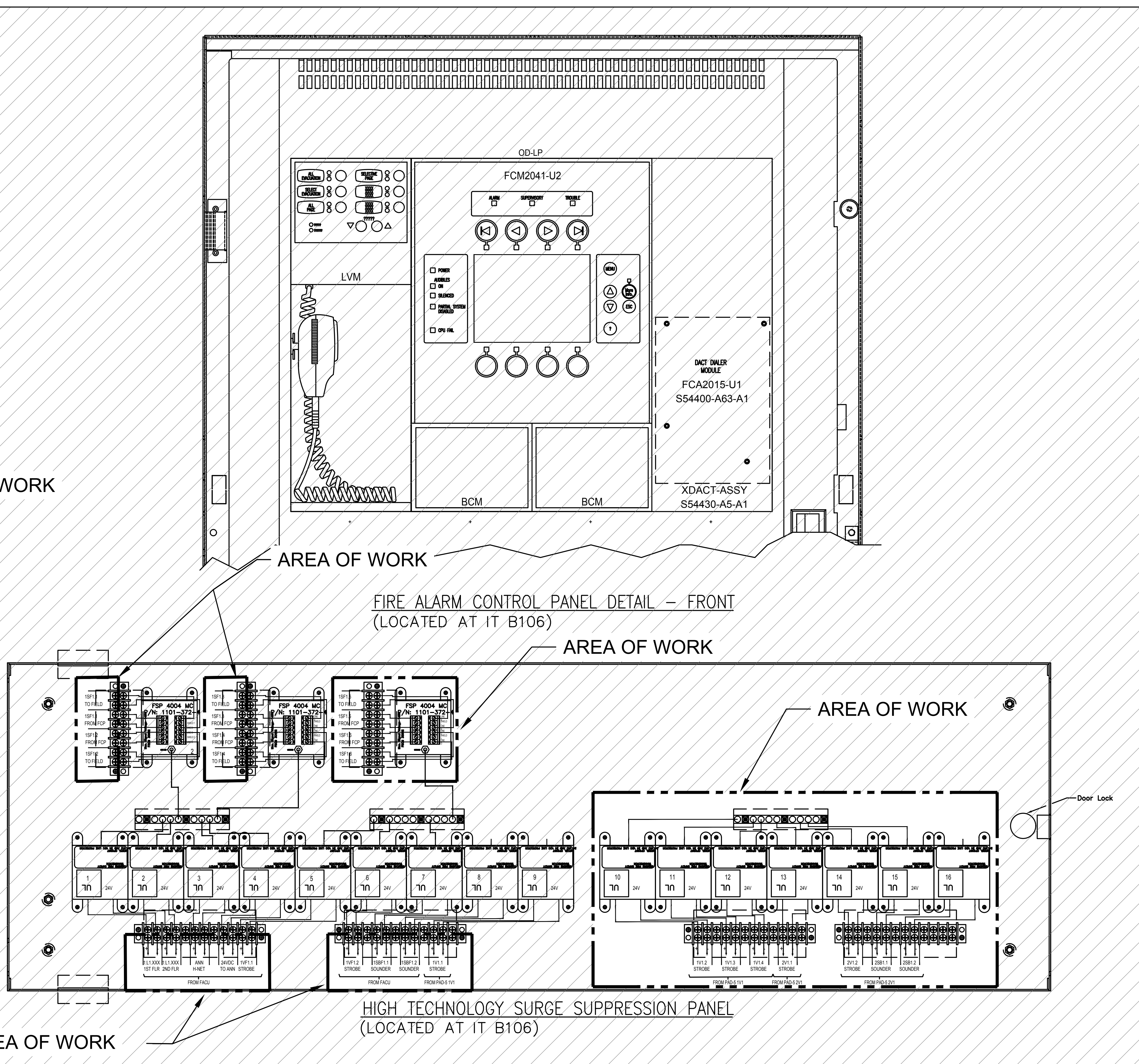
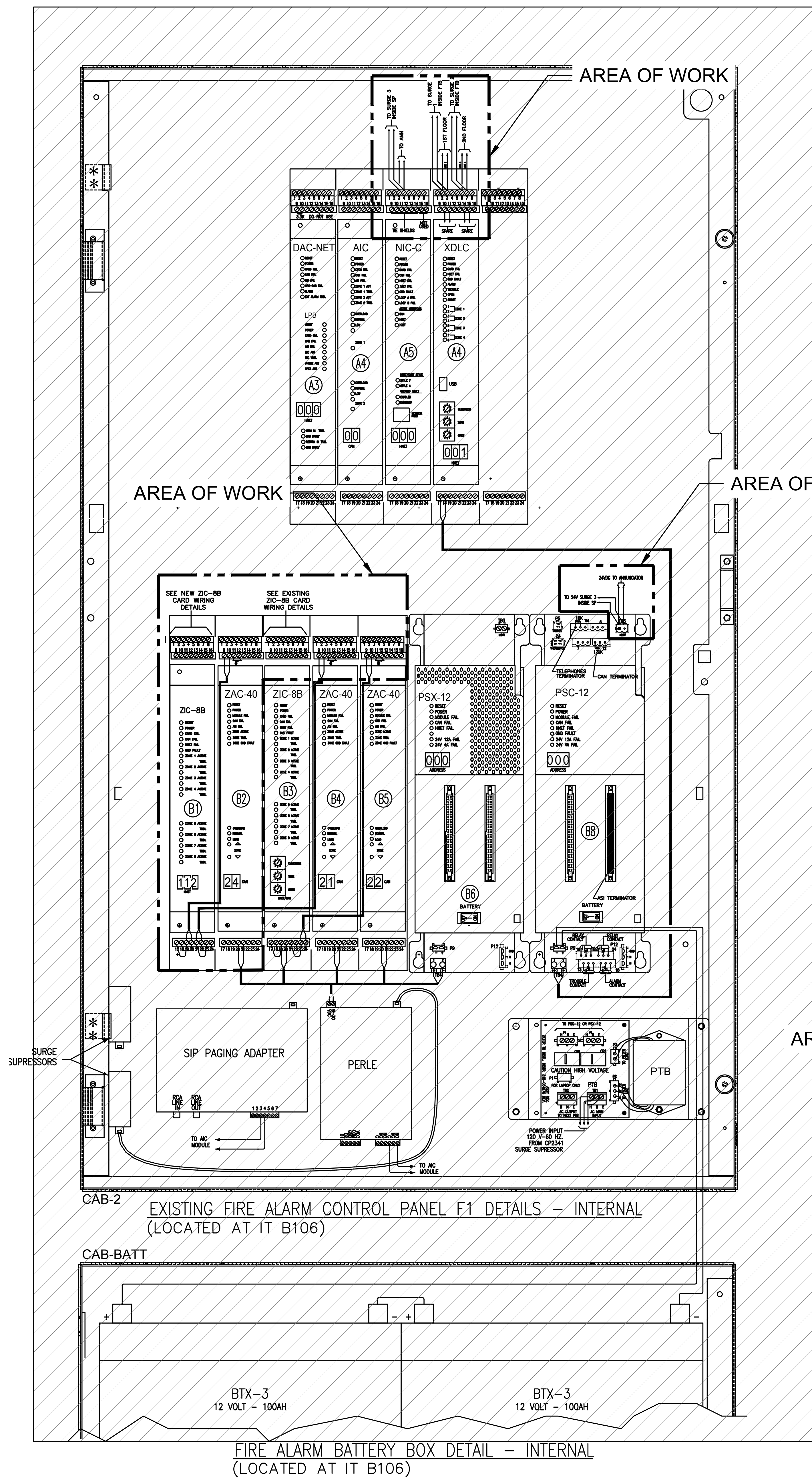
DRAWN:	VAISHNAV
CHECKED:	AKSHAY

JOB NUMBER: 44OP-379485

DRAWING NUMBER: **FAC 00**

SHEET SIZE: ARCH E1 - 30x4

7/30/2024 5:20 PM K:\2024\1910\20241910.DWG\FA3.01-MC - LV Automotive-PNL.dwg Lucasf





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9201 E. 63rd STREET, SUITE 100
RAYTOWN, MISSOURI 64133



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LICENSE # E-26382
7/30/2024

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2	07/30/2024	REVISED AS PER CITY REVIEW COMMENTS	VIR
1	07/12/2024	REVISED AS PER ENGINEERING COMMENTS	VIR
0	07/30/2024	INITIAL SUBMISSION	YRB

DRAWN: VAISHNAV
CHECKED: AKSHAY
SHEET DESCRIPTION: FIRE ALARM SYSTEM
EXISTING CONTROL PANEL LAYOUT - FACU F1

JOB NUMBER: 44OP-379485

PROJECT NAME \ ADDRESS: MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING NUMBER: **FA3.01**
SHEET SIZE: ARCH E1 - 30x42

B. BATTERY SIZE CALCULATION			1V1
STANDBY		ALARM	
Standby Period in Hours->	24 Hr	15 Min	<-Alarm Period in Minutes
Extender internal current->	0.078 amp	0.174 amp	<-Extender internal current
Extender circuit current->	0.004 amp	3.687 amp	<-Extender circuit current
Total Standby Current->	0.082 amp	3.861 amp	<-Total Alarm Current
Standby Amp-Hrs Required->	1.97 AH	0.97 AH	<-Alarm Amp-Hrs Required
Standby + Alarm Amp-Hrs->		2.93 AH	
Multiplied by the De-rating Factor->		20%	
Minimum Battery Amp-Hrs Required->		3.52 AH	
Actual Battery Size->		35.00 AH	PASS
Battery Safety Factor->		1193%	
Maximum Battery Capacity: 100 A.H (Maximum Inside Enclosure: 18 A.H.)			

3. BATTERY SIZE CALCULATION			2V
STANDBY		ALARM	
Standby Period in Hours->	24 Hr	15 Min	<- Alarm Period in Minutes
Internal current->	0.078 amp	0.174 amp	<- Extend internal current
Circuit current->	0.004 amp	1.484 amp	<- Extend circuit current
Total Standby Current->	0.082 amp	1.658 amp	<- Total Alarm Current
Standby Amp-Hrs Required->	1.97 AH	0.41 AH	<- Alarm Amp-Hrs Required
Standby + Alarm Amp-Hrs->		2.38 AH	
Multiplied by the De-rating Factor ->		20%	
Minimum Battery Amp-Hrs Required->		2.86 AH	
Actual Battery Size->		35.00 AH	PASS
Battery Safety Factor->		1469%	
Maximum Battery Capacity: 100 AH (Maximum Inside Enclosure: 18 AH.)			

ZIC-8B CURRENT DRAW PER CIRCUIT IN AMPERES:	0.000	0.000	0.000	0.000
---	-------	-------	-------	-------

The ZIC-8B is a Module of the Designo Modular. See FACP for the standby battery calculations

7/30/2024 5:20 PM K:\2024\1910\2024\1910\DWG\FA501-MCC - LV Automotive-DET.dwg lucasf

1

DETECTOR LOCATION DETAIL

NOT TO SCALE --- SEE APPLICABLE EQUIPMENT INSTRUCTIONS FOR ADDITIONAL INFORMATION

2

DUCT DETECTOR MOUNTING DETAIL

NOT TO SCALE --- SEE APPLICABLE EQUIPMENT INSTRUCTIONS FOR ADDITIONAL INFORMATION

3

MANUAL PULL STATION DEVICE LOCATION DETAIL

NOT TO SCALE --- SEE APPLICABLE EQUIPMENT INSTRUCTIONS FOR ADDITIONAL INFORMATION

4

NOTIFICATION APPLIANCE LOCATION DETAIL

NOT TO SCALE --- SEE APPLICABLE EQUIPMENT INSTRUCTIONS FOR ADDITIONAL INFORMATION

5

ADDRESSABLE DETECTOR

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

6

DETECTOR BASE WIRING DIAGRAM

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS AND SYMBOLS LEGEND FOR ADDITIONAL INFORMATION

7

ABHW-4B INTELLIGENT AUDIBLE BASE (LOOP POWERED) WIRING DIAGRAM

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

8

DUCT DETECTOR HOUSING WIRING DIAGRAM

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

9

INTELLIGENT REMOTE TEST SWITCH

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

10

ADDRESSABLE MANUAL PULL STATION WIRING DIAGRAM

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

11

DUAL INPUT MONITOR MODULE WIRING DIAGRAM

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

12

SINGLE INPUT RELAY MODULE WIRING DIAGRAM

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

13

MINI MONITOR MODULE WIRING DIAGRAM

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

14

CEILING-MOUNTED HIGH-FIDELITY SPEAKER APPLIANCE WIRING

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

15

CEILING-MOUNTED HIGH-FIDELITY SPEAKER STROBE APPLIANCE WIRING

NOT TO SCALE --- SEE THE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

GIBBENS DRAKE SCOTT, INC.

Missouri State Certificate of Authority #000816

9201 E. 63rd STREET, SUITE 100

RAYTOWN, MISSOURI 64133

ENGINEERING

JAY R. GUERRA

NUMBER E-26382

7/30/2024

JAY R. GUERRA

LICENSE # E-26382

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AGENCY REFERENCE:

DRAWING NUMBER:

44OP-379485

PROJECT NAME \ ADDRESS:

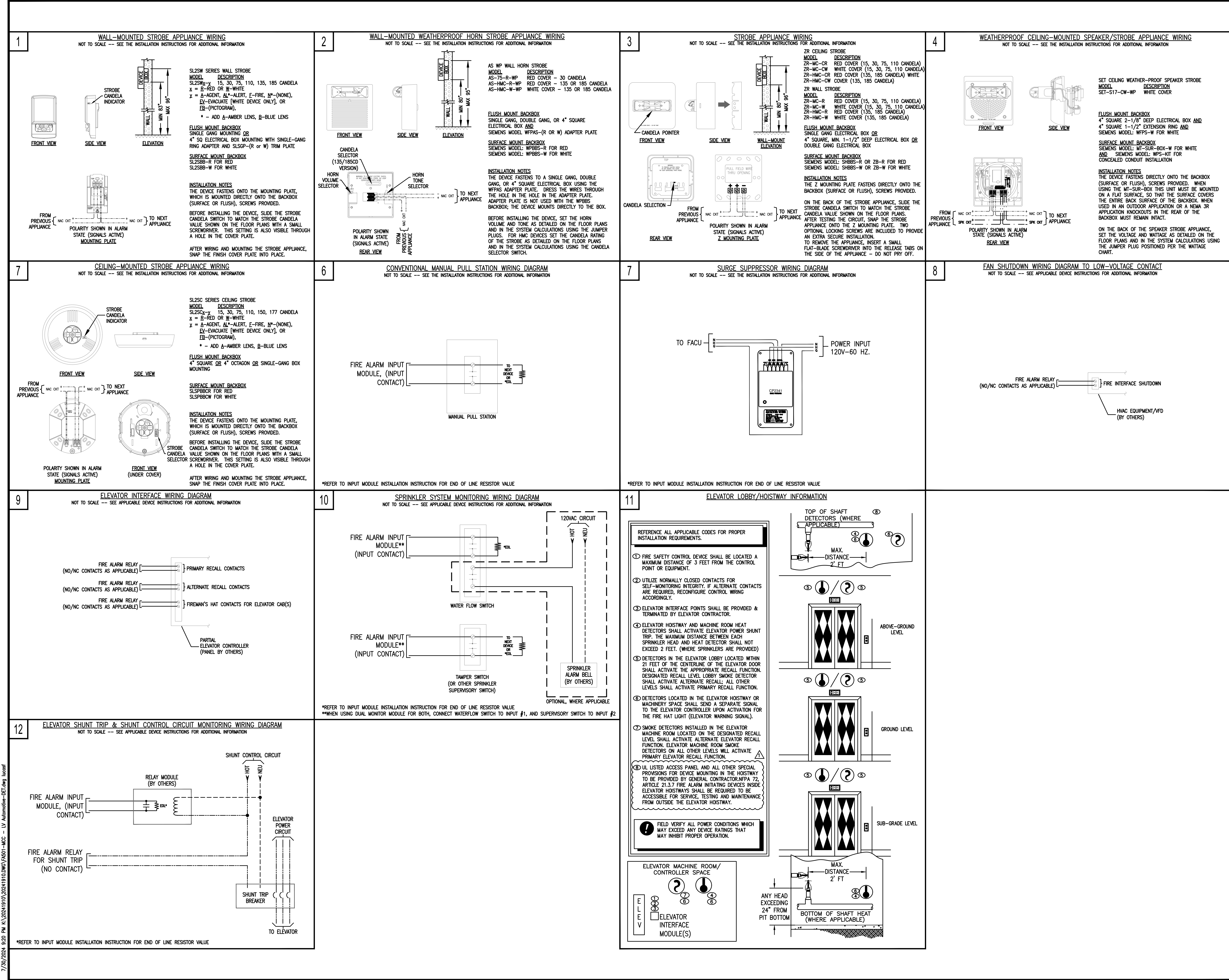
MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING NUMBER:

FA5.01

SHEET SIZE: ARCH E1 - 30x42

7/30/2024 5:20 PM K:\2024\1910\20241910.DWG (A501-MC) - LV Automotive-DE.dwg lucasf



GIBBENS DRAKE SCOTT, INC.
Missouri State Certificate of Authority #000816
9201 E. 63rd STREET, SUITE 100
RAYTOWN, MISSOURI 64133

JAY R. GUERRA
LICENSE # E-26382
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APPROVAL STAMPS

SIEMENS INDUSTRY, INC.
8066 FLINT STREET
LENEXA, KS 66214
913.905.6700

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AGENCY REFERENCE

REV	NO.	DATE	REMARKS	INTL
2	07/30/2024	REVISED AS PER CITY REVIEW COMMENTS		VIR
1	07/12/2024	REVISED AS PER ENGINEERING COMMENTS		VIR
0	07/30/2024	INITIAL SUBMISSION		VIR

DRAWN: VAISHNAV
CHECKED: AKSHAY

SHEET DESCRIPTION: FIRE ALARM SYSTEM
DEVICE MOUNTING & WIRING DETAILS
- 2

JOB NUMBER: 44OP-379485

PROJECT NAME \ ADDRESS: MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING NUMBER: FA5.02

SHEET SIZE: ARCH E1 - 30x42



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8066 FLINT STREET
LENEXA, KS 66214
913.905.6700

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AGENCY REFERENCE:

2	07/30/2024	REVISED AS PER CITY REVIEW COMMENTS		VTR
1	07/12/2024	REVISED AS PER ENGINEERING COMMENTS		VTR
0	07/08/2024	INITIAL SUBMISSION		VTR
REV NO.	DATE	REMARKS		INT

DRAWN: VAISHNAV

CHECKED: AKSHAY

SHEET DESCRIPTION:

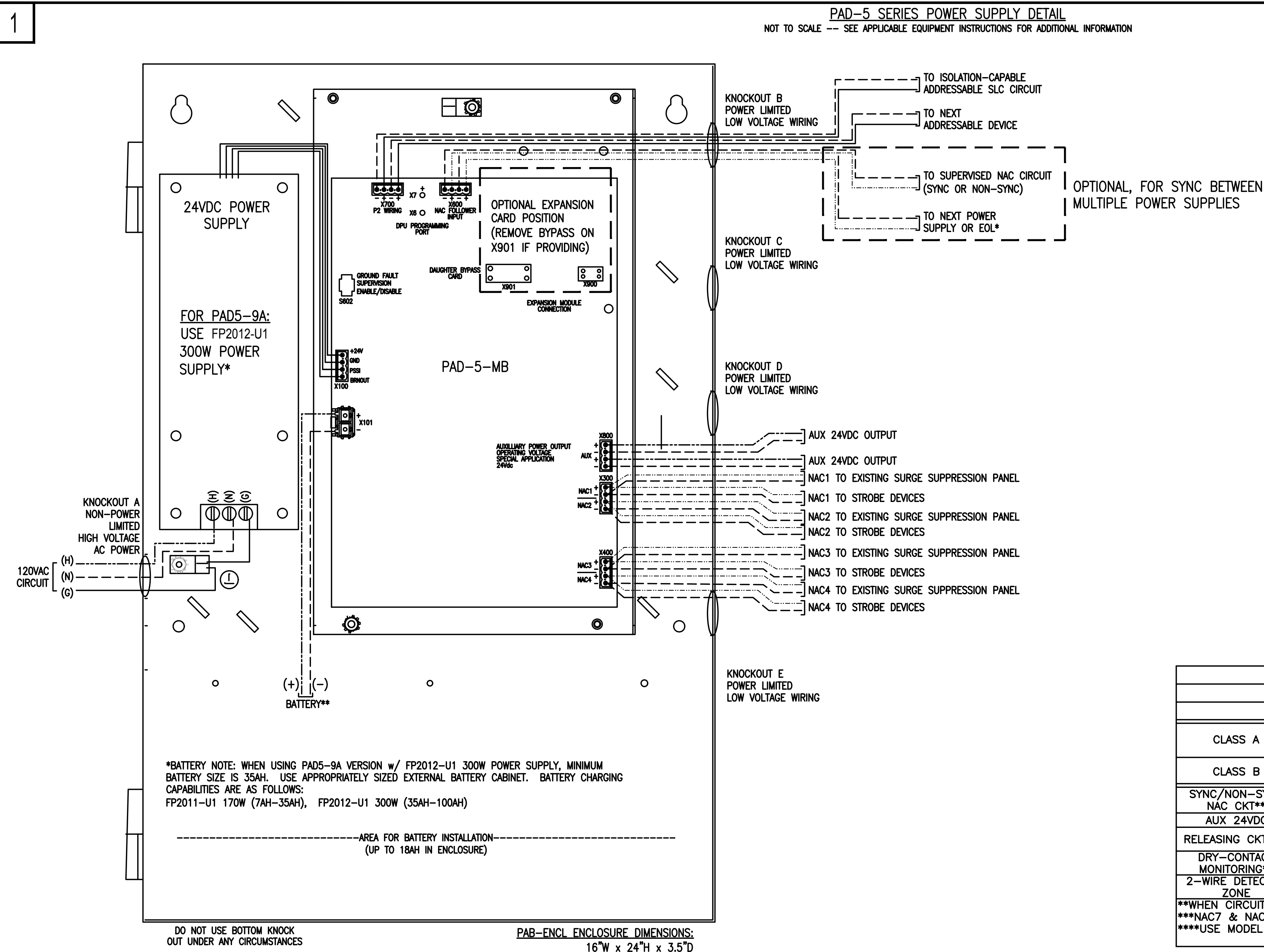
FIRE ALARM SYSTEM
DEVICE MOUNTING & WIRING DETAILS
- 3

JOB NUMBER: 44OP-379485

PROJECT NAME \ ADDRESS:
MCC AUTOMOTIVE INSTITUTE
500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

DRAWING
NUMBER: **FA5.03**

SHEET SIZE: ARCH E1 - 30x4



CIRCUIT CLASSES & CLSA												
	MAIN BOARD			PAD5-CLSA				PAD5-CDC				
	NAC1	NAC2	NAC3	NAC4	NAC5	NAC6	NAC7	NAC8	ZONE1	ZONE2	ZONE3	ZONE4
CLASS A	X	(NAC1 RTN)	X	(NAC3 RTN)	X	(NAC5 RTN)	X	(NAC7 RTN)	X	X	X	X
CLASS B	X	X	X	X	X	X	X	X	X	X	X	X
SYNC/NON-SYNC NAC CKT**	X	X	X	X	X	X	X***	X***				
AUX 24VDC	X	X	X	X	X	X	X***	X***				
RELEASING CKT****					X	X						
DRY-CONTACT MONITORING**	X	X	X	X	X	X	X	X	X	X	X	X
2-WIRE DETECTOR ZONE									X	X	X	X

**WHEN CIRCUIT IS IN CLASS B CONFIGURATION, USE 2.2K-24K OHM RESISTOR FOR SUPERVISION

***NAC7 & NAC8 CANNOT BE USED FOR OUTPUT CIRCUITS IF NAC5 OR NAC6 ARE USED FOR RELEASING CKT

****USE MODEL REL-EOL AT SOLENOID FOR RELEASING APPLICATIONS