

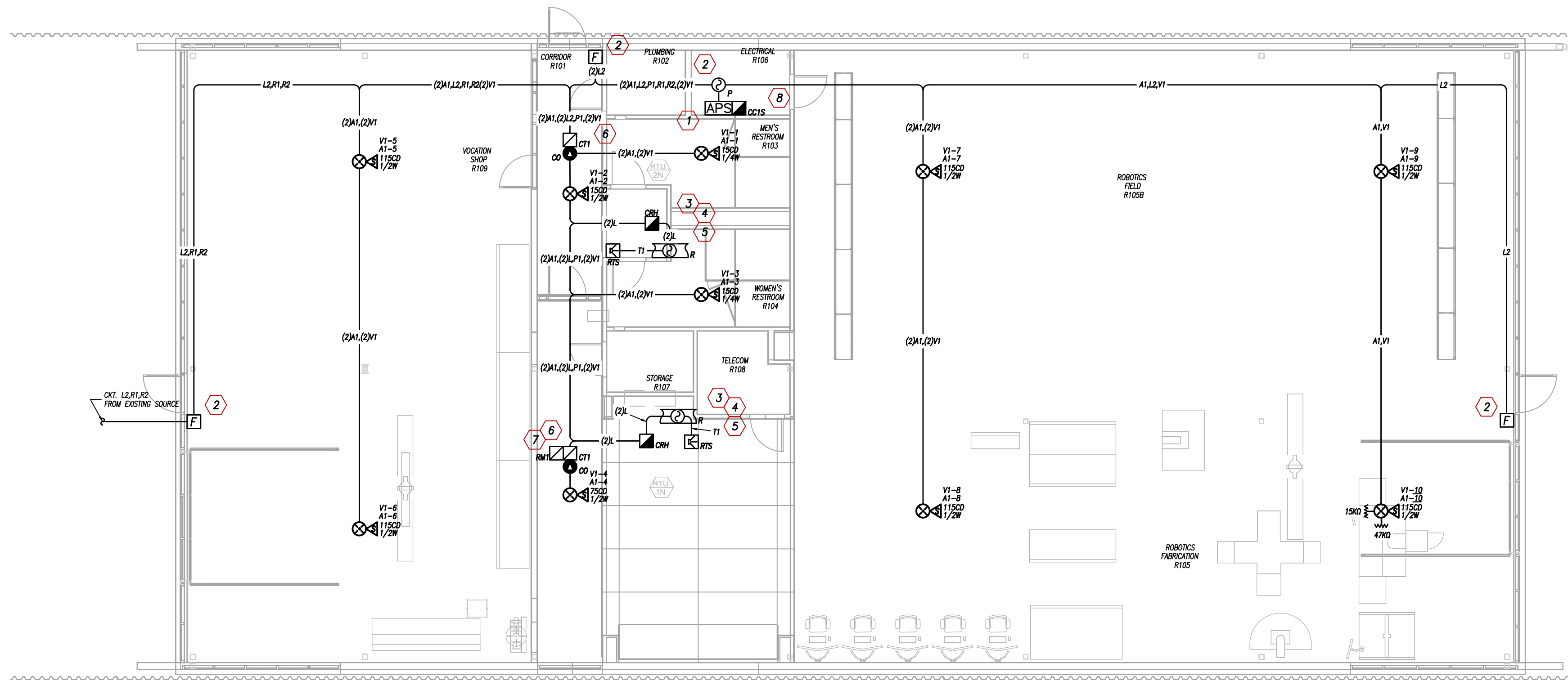
1. FIRE ALARM SYSTEM SHALL BE INSTALLED AND TESTED IN STRICT ACCORDANCE WITH NFPA 721, 2019 EDITION, NATIONAL FIRE ALARM CODE, NFPA 720, 2017 EDITION, NATIONAL ELECTRICAL CODE AND INTERNATIONAL BUILDING CODE (IBC) 2018 EDITION, AS WELL AS STATE AND LOCAL BUILDING CODES AND STANDARDS.
2. FIRE ALARM CONDUCTORS AND CABLES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH NFPA 720, 2017 EDITION NATIONAL ELECTRICAL CODE AND SPECIFICALLY WITH ARTICLES 760, 770 AND 800, WHERE APPLICABLE. OPTICAL FIBER CABLES SHALL BE PROTECTED AGAINST MECHANICAL INJURY IN ACCORDANCE WITH ARTICLE 760.
3. FIRE ALARM CONDUCTORS AND CABLES SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. CONDUCTORS AND CABLES SHALL BE SUPPORTED BY THE BUILDING STRUCTURE IN SUCH A MANNER THAT THE CABLE WILL NOT BE DAMAGED BY NORMAL BUILDING USE.
4. THE INSTALLING ELECTRICAL CONTRACTOR MUST PROVIDE THE FIRE ALARM CONDUCTOR (KELLER FIRE & SAFETY) WITH ACCURATE MARKED UP DRAWINGS SHOWING ALL JUNCTION BOXES, TERMINAL CABINETS, DEVICE LOCATIONS, WIRE ROUTING, ETC. FOR THE USE IN MAKING OF "RECORD DRAWINGS". FINAL PAYMENT WILL NOT BE AUTHORIZED UNTIL THE RECORD DOCUMENTS HAVE BEEN RECEIVED AND APPROVED.
5. CONDUIT ROUTING AND CONDUIT SIZE SHALL BE DETERMINED BY THE CONTRACTOR, IN CONJUNCTION WITH NFPA 700 (NEC), AND INDICATED ON THE RECORD DRAWINGS. CONDUIT FILL SHALL NOT EXCEED 40%.
6. PRIMARY POWER SOURCE (120VAC) TO FACP AND POWER SUPPLIES MUST BE ON A DEDICATED BRANCH CIRCUIT FROM THE EMERGENCY GENERATOR (IF APPLICABLE), WITH DISCONNECTING MEANS MARKED "FIRE ALARM CONTROL CIRCUIT". THE LOCATION OF THE DISCONNECT MUST BE IDENTIFIED AT THE FACP AND ALL POWER SUPPLIES. ALL FIRE ALARM CIRCUIT BREAKERS MUST BE CLEARLY MARKED AND MECHANICALLY SECURED TO PREVENT ANY UNAUTHORIZED TAMPERING.
7. DEVICE POLARITY MUST BE OBSERVED ON ALL DC CIRCUITS (S/LC, I/OG, NAC, AND AUXILIARY POWER).
8. ALL INITIATING AND NOTIFICATION CIRCUIT WIRING MUST BE SUPERVISED.
9. ALL WIRING, INCLUDING SHIELDS, MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
10. INITIATING DEVICES SHALL BE SUPPORTED INDEPENDENTLY OF THERE ATTACHMENT TO FIRE ALARM CIRCUIT CONDUCTORS.
11. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED AT TERMINAL AND JUNCTION LOCATIONS, IN A MANNER THAT WILL PREVENT UNINTENTIONAL INTERFERENCE WITH THE SIGNALING LINE CIRCUIT (S/LC) DURING TESTING AND SERVICING (NEC ARTICLE 760-10).
12. SMOKE DETECTORS SHALL BE MOUNTED IN ACCORDANCE WITH NFPA 72. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR FLOW NOR CLOSER THAN 3 FEET (1 METER) FROM AN AIR SUPPLY DIFFUSER OR RETURN AIR OPENING. FURTHER, DETECTORS SHALL NOT BE INSTALLED WITHIN 1 FOOT OF LIGHT FIXTURES.
13. DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER THE CONSTRUCTION CLEANUP OF ALL TRADES IS COMPLETE AND FINAL.
14. ALL FIRE ALARM DEVICES MUST BE INSTALLED IN A PROPER BACK BOX. NO DEVICE SHALL BE INSTALLED WITHOUT A BACK BOX.
15. POWER-LIMITED FIRE ALARM CIRCUIT CONDUCTORS AND CABLES (NEC ARTICLE 760-71) SHALL BE INSTALLED AS FOLLOWS:

16. ALL DEVICES SHALL BE LABELED WITH THEIR ADDRESS OR CIRCUIT NUMBER.
17. POWER-LINE CABLET CABLES AND CONDUCTORS SHALL NOT BE PLACED IN ANY CABLE, CABLE TRAY, COMPARTMENT, ENCLOSURE, OUTLET BOX, RACKWAY, OR SIMILAR FITTING WITH CONDUCTORS OF ELECTRIC LIGHT, POWER, CLASS 1 NONPOWER-LIMITED FIRE ALARM CIRCUIT, OR SLOW BURN NETWORK-POWER BOARD BOARD COMMUNICATIONS CIRCUITS (NEC ARTICLE 760-54).
18. POWER-LIMITED CIRCUIT CONDUCTORS SHALL NOT BE STRAPPED, TAPED OR ATTACHED BY ANY MEANS TO THE EXTERIOR OF ANY CONDUIT OR OTHER RACEWAY AS A MEANS OF SUPPORT.
19. INITIATING DEVICE CIRCUITS (NOC) AND NOTIFICATION APPLIANCE CIRCUITS (NAC), ARE TWO WIRE CLASS "B", AND "T-TAPPING" IS ALLOWED ON ANY OF THESE CIRCUITS.
20. AUXILIARY POWER CIRCUITS ARE TWO WIRE CIRCUITS THAT CAN BE T-TAPPED AS REQUIRED.
21. SIGNALING LINE CIRCUITS (SLC) DESIGNATED AS CLASS "B" ARE TWO WIRE DATA COMMUNICATIONS CIRCUITS. T-TAPPING IS ALLOWED ONLY AT JUNCTION BOXES AND SLC DEVICES, BUT SHALL BE KEPT TO A MINIMUM.
22. SIGNALING LINE CIRCUITS (SLC) DESIGNATED AS CLASS "A" ARE TWO WIRE DATA COMMUNICATIONS CIRCUITS. ~~NO T-TAPPING IS PERMITTED.~~ THE OUTGOING AND RETURN CONDUCTORS OF A CLASS "A" CIRCUIT, EXITING FROM AND RETURNING TO THE CONTROL UNIT, RESPECTIVELY, ~~SHOULD BE ROUTED SEPARATELY.~~ THE OUTGOING AND RETURN (REDUNDANT) CIRCUIT CONDUCTORS SHALL BE RUN IN THE SAME CABLE ASSEMBLY, ENCLOSURE, OR RACKWAY. THE OUTGOING AND RETURN CIRCUIT CONDUCTORS SHALL BE PERMITTED TO BE RUN IN THE SAME CABLE ASSEMBLY, ENCLOSURE, OR RACKWAY ONLY UNDER THE FOLLOWING CONDITIONS:
 - FOR A DISTANCE OF 10 FEET (3 METERS) WHERE THE OUTGOING AND RETURN CONDUCTORS ENTER OR EXIT THE INITIATING DEVICE, NOTIFICATION APPLIANCE, OR CONTROL UNIT ENCLOSURES.
 - SINGLE CONDUIT/RACEWAY DROPS (UNLIMITED LENGTH) TO INDIVIDUAL DEVICES OR APPLIANCES.
 - SINGLE CONDUIT/RACEWAY DROPS TO MULTIPLE DEVICES OR APPLIANCES INSTALLED WITH A SINGLE ROOM NOT EXCEEDING 1000 FEET (92.9 METERS) IN AREA.

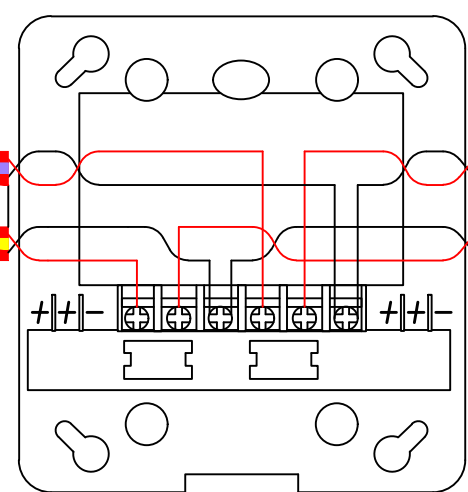
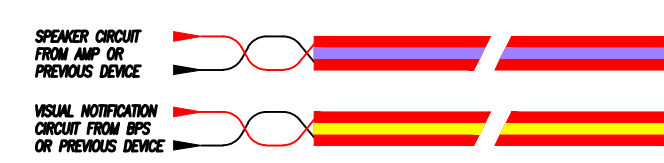
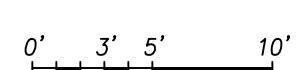
KELLER FIRE & SAFETY WILL PROVIDE LEE SUMMIT WEST HIGH SCHOOL WITH AN EST, FIRE ALARM ADDITION. DRAWINGS ARE BASED ON PROPOSAL DATED 03/29/2023 BY KAVB.

1. DRAWINGS ARE SCHEMATIC BY NATURE AND MAY NOT REFLECT FIELD LOCATIONS. AT PROJECT CLOSEOUT, THE INSTALLING CONTRACTOR SHALL SUBMIT ONE SET OF RECORD PRINTS HAVING ALL CHANGES NEATLY TRANSFERRED FROM THE FIELD SET TO A NEW SET (USING RED PENCIL). A CLEAN SET OF SHOP DRAWINGS WILL BE PROVIDED FOR THIS PURPOSE. FINAL PAYMENT WILL NOT BE AUTHORIZED UNTIL THE RECORD DOCUMENTS HAVE BEEN RECEIVED AND APPROVED.

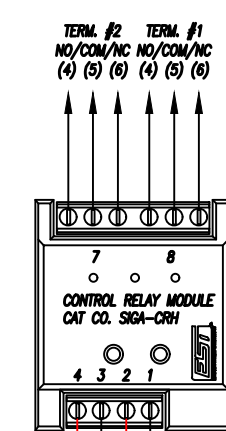
1. AUXILIARY POWER SUPPLY REQUIRES 120VAC DEDICATED CIRCUIT (BY OTHERS).
2. NEW INITIATING DEVICE SHALL BE CONNECTED TO EXISTING SYSTEM. FIELD LOCATE EXISTING DEVICE AND RECORD ON REQUIRED "AS-BUILT".
3. DUCT MOUNTED SMOKE DETECTOR FOR FAN POWERED MECHANICAL AIR HANDLING SHUTDOWN SHALL INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
4. REMOTE TEST SWITCH SHALL BE LABELED AND INSTALLED IN AN ACCESSIBLE LOCATION. FIELD COORDINATE FINAL LOCATION WITH OWNER/GC.
5. RELAY MODULE(S) PROVIDED FOR SMOKE DAMPER. MODULE SHALL BE INSTALLED WITHIN 3'-0" OF DEVICE BEING CONTROLLED.
6. SIGA-C71 PROVIDED FOR CO DETECTOR MONITORING.
7. SIGA-RM1 PROVIDED FOR CO POWER MONITORING.
8. OCT. L2,P1,R2 FROM EXISTING PANEL AREA THROUGH UNDERGROUND CONDUIT.



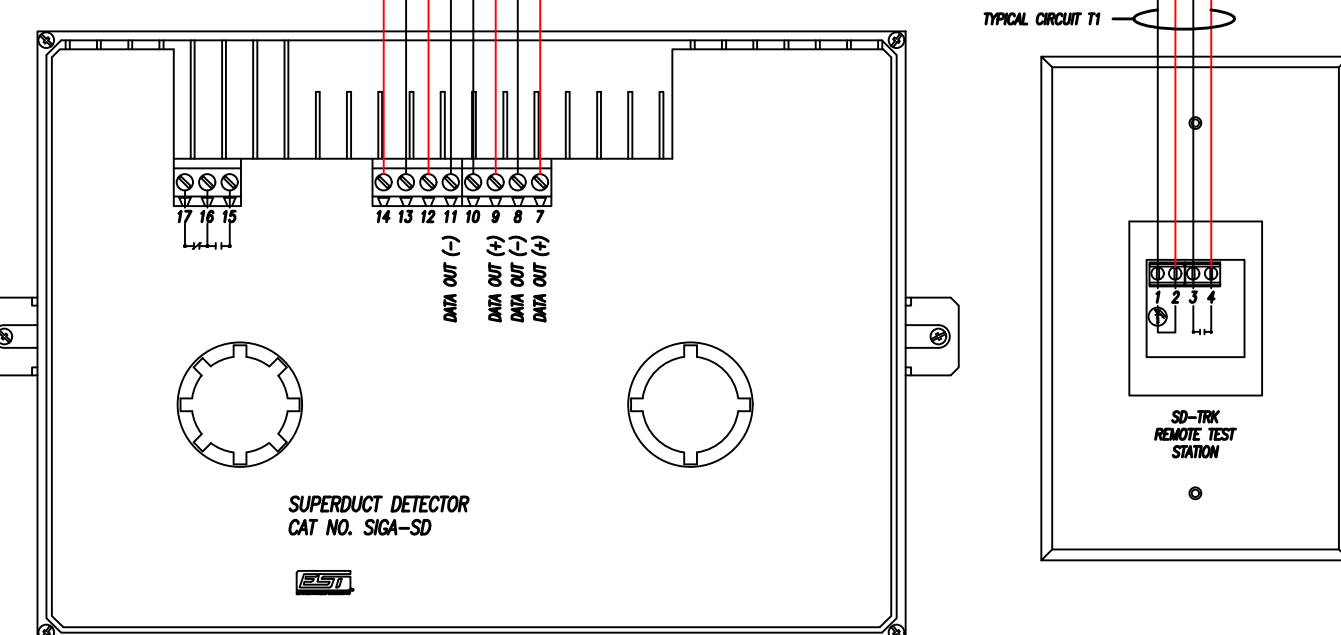
PARTIAL 1ST FLOOR FIRE ALARM PLAN



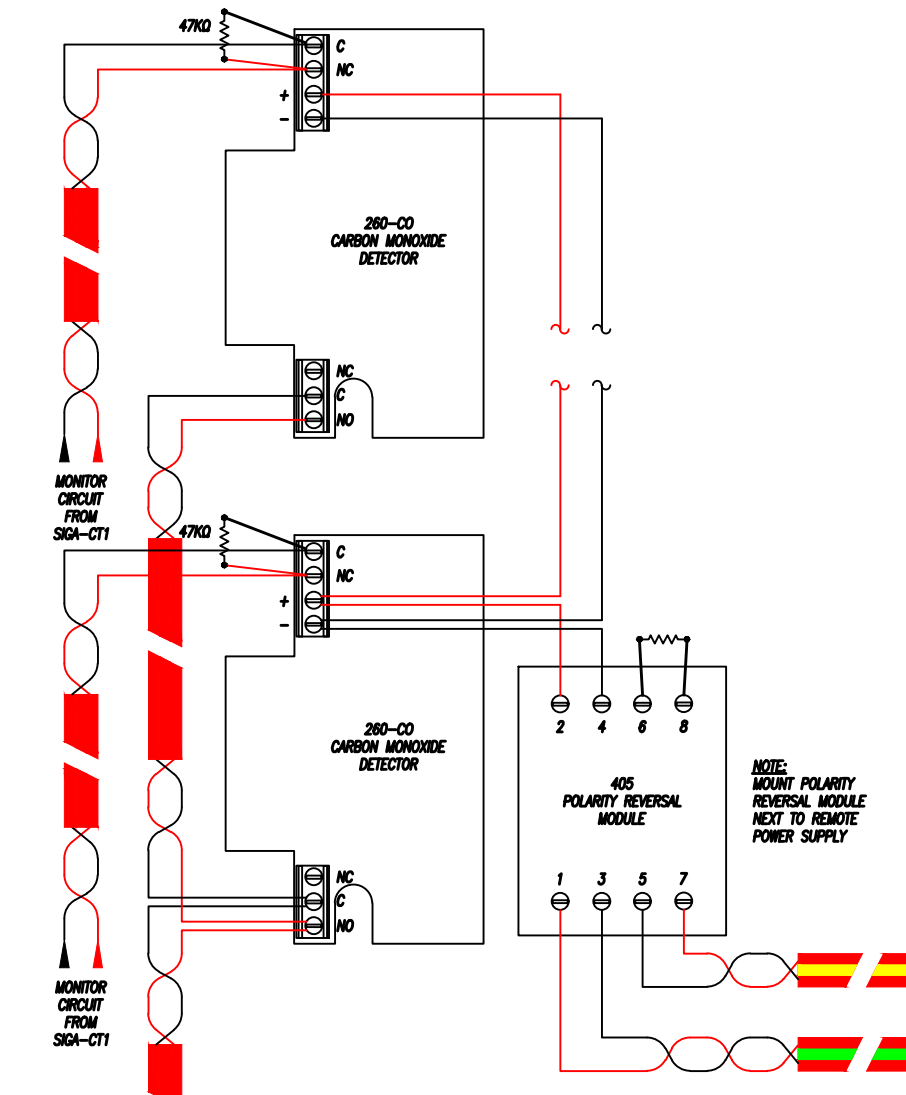
GRSW-10 WIRING DETAIL
NTS



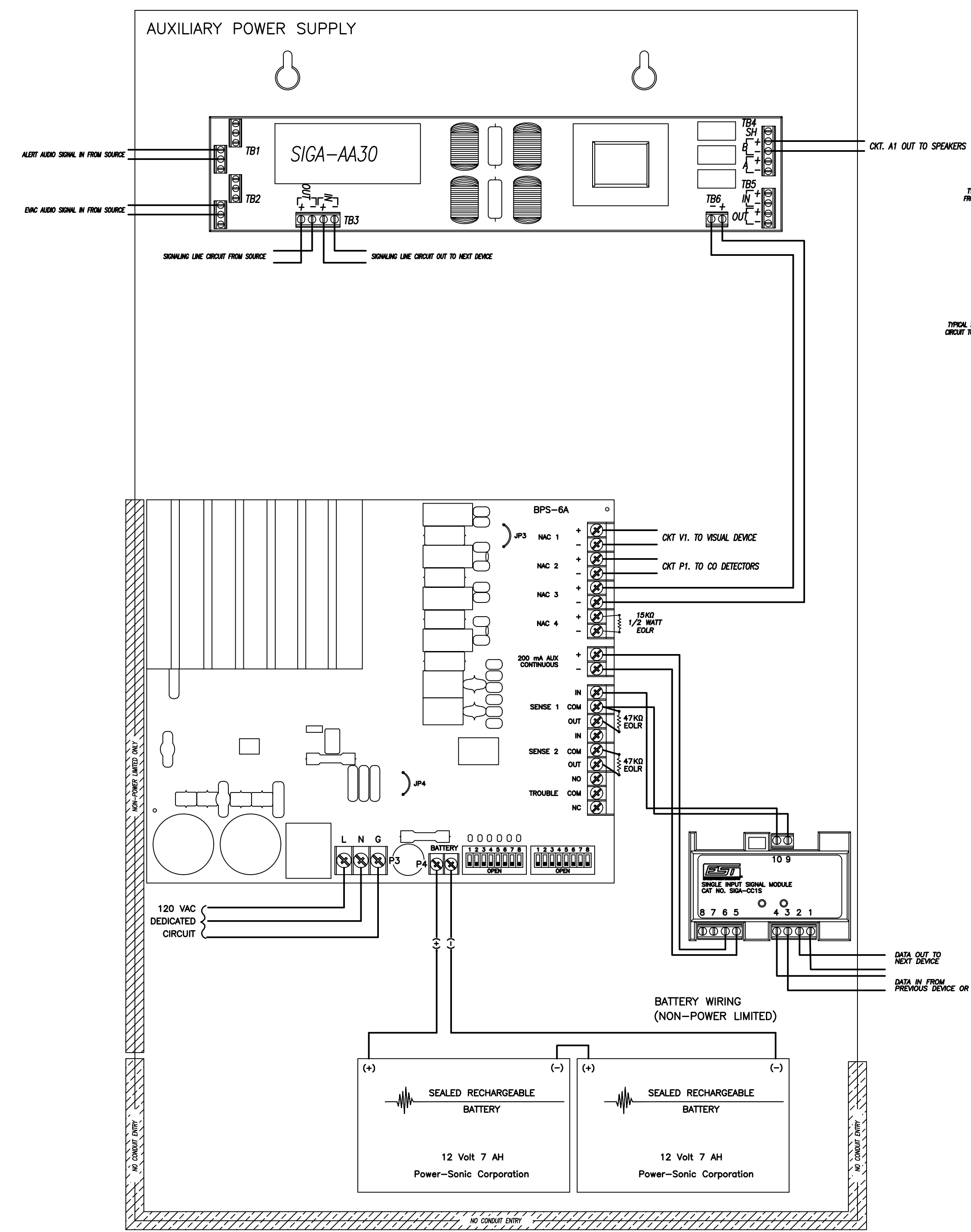
SIGA-CRH WIRING DETAIL



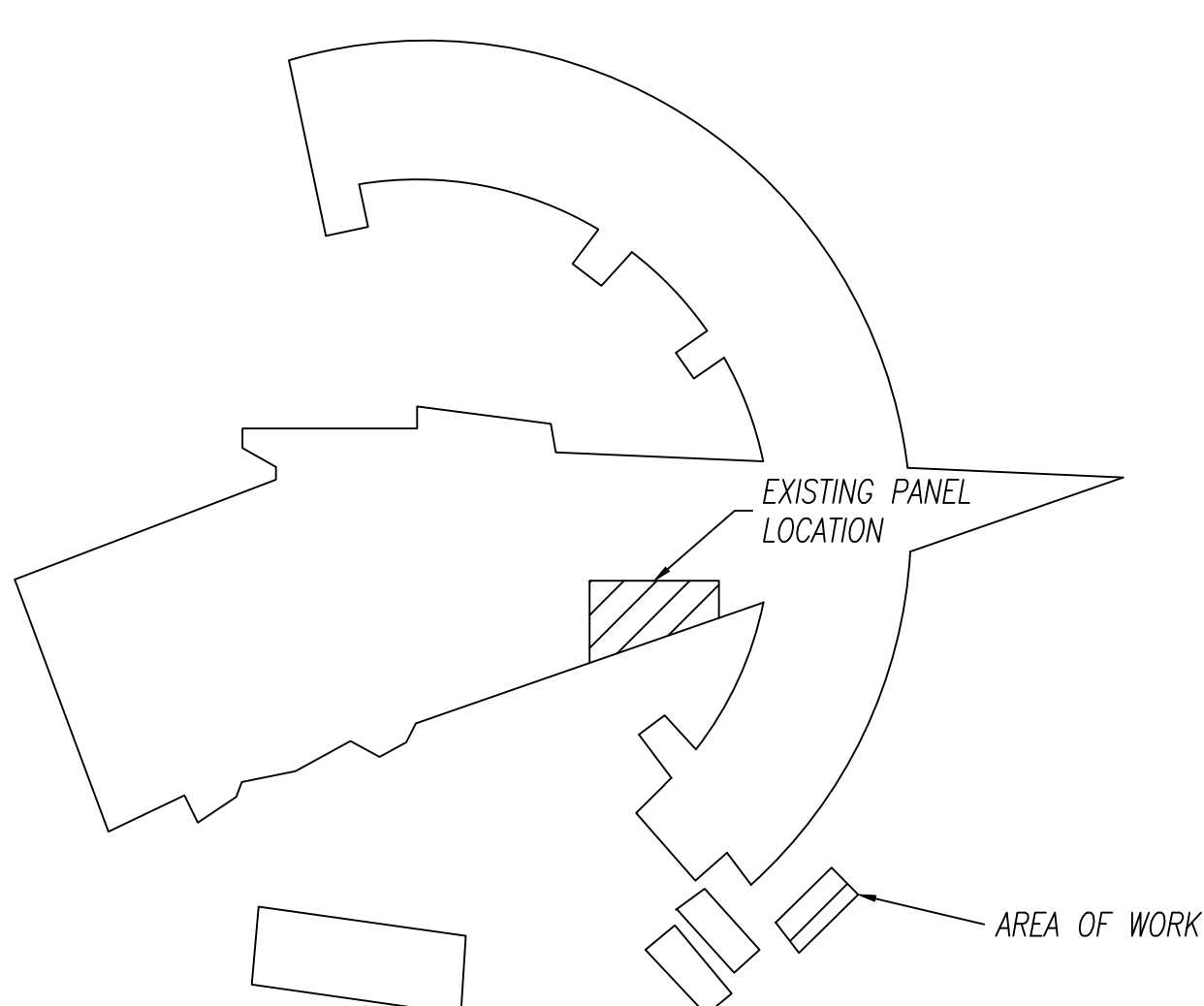
SIGA-SD WIRING DETAIL












260-CO WIRING DETAIL



APS6A WIRING DETAIL



SITE MAP
NTS

EQUIPMENT SCHEDULE						
SYMBOL	QTY	PART NUMBER	MFG	BACKBOX	MOUNTING HEIGHT	DESCRIPTION
	1	AP50A	EST	21" x 15" x 5.5"	72" AFF. TO TOP OF CABINET	AUXILIARY/BOOSTER POWER SUPPLY
	1	SGA-A43D	EST	INSIDE AFS	N/A	30 WATT AMPLIFIER
	2	PS-1270	EST	N/A	N/A	12V 7AH BATTERY
	1	SGA-PS	EST	N/A	N/A	PHOTOELECTRIC SMOKE DETECTOR
	1	SGA-SM4	EST	4" OCTAGON	N/A	DETECTORS SMOKE
	2	240-CO	EST	1-GANG BOX	N/A	CO DETECTOR
	2	250-COPLT	EST	N/A	N/A	ADAPTER PLATE
	1	ESL-A05-01	EST	INSIDE AFS	N/A	POLARITY REVERSE MODULE
	2	SGA-S9	EST	N/A	N/A	DUCT MOUNTED SMOKE DETECTOR
	2	SD-IRK	EST	1-GANG BOX	N/A	REMOTE TEST SWITCH
	1	SGA-G21S	EST	INSIDE AFS	N/A	SYNC/ACTIVATION MODULE
	2	SGA-ORV	EST	4" SQUARE	N/A	RELAY MODULE
	2	SGA-CTI	EST	1-GANG BOX	N/A	MOTOR MODULE
	1	SGA-RM1	EST	2-GANG BOX	N/A	MANUAL PULL STATION
	1	SGA-278	EST	4" SQUARE W/ 1-GANG RING	44" AFF. BOTTOM OF BOX	MANUAL, PULL, STARTING
	10	GC5WVF	EST	DEEP 4" SQUARE	N/A	CEILING MOUNT SPEAKERS/SSTROBE, WHITE
	10	GRSW-10	EST	N/A	N/A	MOUNTING PLATE

CIRCUIT SCHEDULE			
CIRCUIT	CABLE/WIRE DESCRIPTION	FUNCTION	REMARKS
A1	18AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #762365 (OR EQUIV.)	SPEAKER CIRCUIT	AUDIBLE DEVICES (RED JACKET, PURPLE STRAPE)
L2	18AWG 2-CONDUCTOR FPLP; OR MATCH EXISTING	EX. SIGNALING LINE CIRCUIT	INITATING DEVICES (RED JACKET, RED STRAPE)
V1	14AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #767963 (OR EQUIV.)	VISUAL NOTIFICATION CIRCUIT	APS OUTPUT 1, VISUAL DEVICES (RED JACKET, YELLOW STRAPE)
M	14AWG 2-CONDUCTOR FPLP	MONITORING CIRCUIT	TYPICAL MONITORING CIRCUIT FROM MONITOR MODULE(S)
N1	14AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #767963 (OR EQUIV.)	NOTIFICATION CIRCUIT	APS OUTPUT 3 TO POLARITY REVERSAL MODULE
P1	14AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #767966 (OR EQUIV.)	24VDC CD POWER CIRCUIT	APS OUTPUT 2 TO POLARITY REVERSAL MODULE
R1	14AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #767962 (OR EQUIV.)	AUDIO RISER CIRCUIT	ALERT AUDIO RISER CXT FROM EXISTING FACP
R2	14AWG 2-CONDUCTOR FPLP; WINDY CITY WIRE #767960 (OR EQUIV.)	AUDIO RISER CIRCUIT	EVAC AUDIO RISER CXT FROM EXISTING FACP
T1	18AWG 4-CONDUCTOR FPLP; WINDY CITY WIRE #762360 (OR EQUIV.)	REMOTE TEST CIRCUIT	DVAC DETECTOR TEST SWITCH COMM. (RED JACKET, WHITE STRAPE)

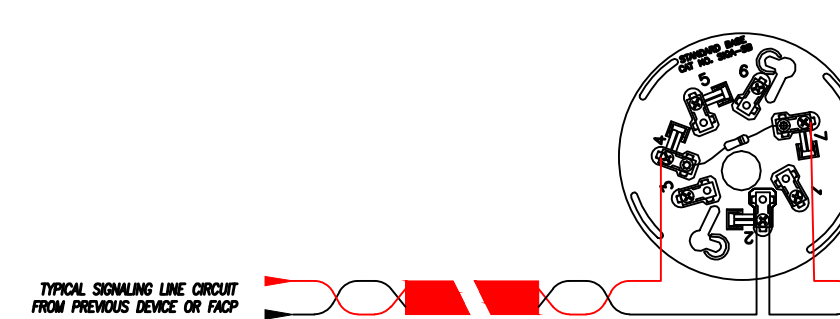
MODULE SCHEDULE		
ADDRESS	DEVICE TYPE	DESCRIPTION
7BD	SIGA-CC15	SYNC/ACTIVATION MODULE
7BD	SIGA-CRW1	RTU 2N SHUTDOWN RELAY
7BD	SIGA-CRW4	RTU 1N SHUTDOWN RELAY
7BD	SIGA-CT1	CO DETECTOR MONITOR MODULE
7BD	SIGA-CT1	CO DETECTOR MONITOR MODULE
7BD	SIGA-RW1	POWER CIRCUIT MONITOR MODULE
7BD	SIGA-Z78	MANUAL PULL STATION R109
7BD	SIGA-Z78	MANUAL PULL STATION R101
7BD	SIGA-Z78	MANUAL PULL STATION R105



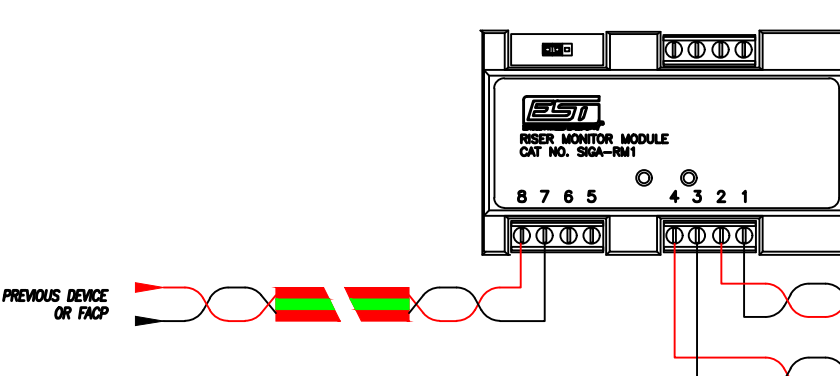
SIGA-CT1 WIRING DETAIL



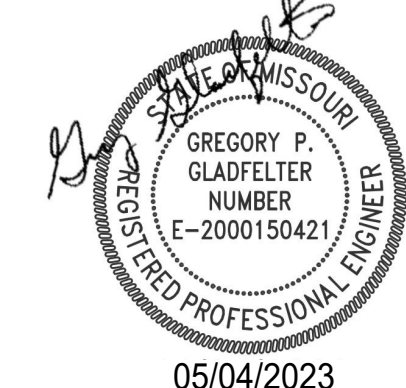
SIGA-278 WIRING DETAIL



SIGA-SB4 WIRING DETAIL



SIGA-RM1 WIRING DETAIL



05/04/2023

GREGORY P.
GLADFELTER PE

50233 MILLSTONE DRIVE, #4112

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TEST, FIRE ALARM ADDITION

CUSTOMER:

ROBOTICS LAB
FIRE ALARM PLAN AND DETAILS

DRAWING NUMBER:

FA100
1 OF 1 SHEETS

FILE: 5-23-0037