ORANGE COUNTY FIRE AUTHORITY

VICINITY MAP

NFPA 72 FIRE ALARM SYSTEM

OCFA STAMP

PROJECT INFORMATION REQUIREMENTS
PROJECT LOCATION:

100 ELK LANE,SANTA ANA, CA 92701

DETAILED SCOPE OF WORK
NOTE: OCFA WILL ONLY REVIEW WORK OUTLINED IN SCOPE OF WORK

NEW MANUAL AND AUTOMATIC FIRE ALARM SYSTEM PER CFC 2016 AND NFPA 72 02016

SYSTEM INFORMATION
- ● MANDATORY ○ VOLUNTARY
- ● WATER FLOW MONITORING
- ○ DETECTION
- ● OCCUPANT NOTIFICATION
- ○ VOICE EVACUATION
- ○ 2 WAY COMMUNICATION

INITIATING DEVICES

	NEW	RELOCATED	REPLACED
DETECTORS	119		
DUCT DETECTORS	15		
MANUAL PULL	1		

— USED FOR FEE CALCULATION

NOTIFICATION DEVICES

	NEW	RELOCATED	REPLACED
HORN/STROBES	1,112		

OTHER DEVICES

	NEW	RELOCATED	REPLACED
TAMPER/FLOW	55		
FACU	1		

○ COMMUNICATOR REPLACED
COMMUNICATOR TYPE: ○ POTS ● CELLULAR ○ MESH RADIO
● SINGLE PATH ○ DUAL PATH

SPECIAL CONDITIONS
- ○ EXTINGUISHING SYSTEM MONITORING
- ○ DELAYED EGRESS
- ○ ACCESS CONTROL
- ○ CROSS ZONING
- ● OUTDOOR DEVICES
- ○ EXPOSED BEAMS
- ○ SPECIAL PROCESSES
- ○ HIGH MOVEMENT AIR
- ○ ADA ROOMS:

CENTRAL SUPERVISING STATION
NAME: CENTRAL MONITORING SERVICES
ADDRESS: 14231 GARDENS ROAD #1
CITY: POWAY STATE: CA ZIP: 92064
PHONE: 858-748-0211

OCCUPANT HISTORY
APPROXIMATE AGE OF BUILDING: NEW
- ● OCCUPANT NEW TO BUILDING
- ○ OCCUPANT EXISTING TO BUILDING

NUMBER OF FLOORS OCCUPIED: 7

OCCUPANCY TYPE (CHECK ALL THAT APPLY)
* INDICATES SFM REGULATED OCCUPANCY. OCFA PLAN SUBMITTAL REQUIRED
\# GROUP S MOTOR VEHICLE REPAIR AND AIRCRAFT REPAIR REQUIRE OCFA PLAN SUBMITTAL

○ GROUP A1*	○ GROUP A2*	● GROUP A3*	○ GROUP A4*	○ GROUP A5*	
● GROUP B	○ GROUP E*	○ GROUP F1	○ GROUP F2	○ GROUP H1*	
○ GROUP H2*	○ GROUP H3*	○ GROUP H4*	○ GROUP H5*	○ GROUP I1*	
○ GROUP I2*	○ GROUP I3*	○ GROUP I4*	○ GROUP M	○ GROUP R1*	
● GROUP R2*	○ GROUP R2.1	○ GROUP R2.2	○ GROUP R3	○ GROUP R3.1	
○ GROUP R4*	○ GROUP S1#	● GROUP S2#	○ GROUP U		

OCCUPANT LOAD

TYPE OF CONSTRUCTION

● TYPE IA	○ TYPE IB
○ TYPE IIA	○ TYPE IIB
● TYPE IIIA	○ TYPE IIIB
○ TYPE IV	
○ TYPE VA	○ TYPE VB

BUILDING INFORMATION
AREA: 705,222 SF
HEIGHT: 69'-5"
- ● RATED CONSTRUCTION
- ○ HIGH RISE

OCFA STANDARD NOTES

1. OCFA INSPECTIONS ARE REQUIRED FOR THIS PROJECT. PLEASE SCHEDULE ALL FIELD INSPECTIONS AT LEAST 48 HOURS IN ADVANCE. INSPECTIONS CANCELED AFTER 1 P.M. ON THE DAY BEFORE THE SCHEDULED DATE WILL BE SUBJECT TO A RE-INSPECTION FEE. CALL OCFA INSPECTION SCHEDULING AT (714) 573-6150 AND PROVIDE THE SERVICE REQUEST NUMBER ON THESE PLANS.
2. THE SCOPE OF WORK SHALL BE TESTED BY THE INSTALLER PRIOR TO THE OCFA INSPECTION TO DETERMINE THE SYSTEM PROPERLY FUNCTIONS AS APPROVED ON THE PLANS.
3. FOR EXTREMELY LARGE SYSTEMS, OCFA MAY REQUIRE THE INSTALLING CONTRACTOR TO PROVIDE A WRITTEN CERTIFICATION BY A DIFFERENT THIRD PARTY LICENSED CONTRACTOR, TO VERIFY ALL OR SPECIFIC PORTIONS OF THE SYSTEM FUNCTION AS APPROVED ON THE PLANS (NFPA 72, 7.5.2).
4. THIS SYSTEM WAS DESIGNED AND INSTALLED UNDER THE 2019 CODE REQUIREMENTS.
5. APPROVED DRAWINGS AND DOCUMENTS SHALL BE RETAINED. DRAWINGS SHALL BE ACCESSIBLE UPON REQUEST. AFTER FINAL INSPECTION, APPROVED SHOP DRAWINGS AND MAINTENANCE INSTRUCTIONS SHALL BE PROPERLY DELIVERED TO A REPRESENTATIVE OF THE OCCUPYING BUSINESS, WHO SHALL OFFER COPIES TO THE BUILDING OWNER (NFPA 72, 7.5.3 AND 7.7.1).
6. WRITTEN RECORDS AND REPORTS OF THE ALARM SYSTEM TESTING FREQUENCIES AND RESULTS, SHALL BE AVAILABLE FOR REVIEW ON THE PREMISES FOR THE OCFA INSPECTOR DURING FIRE INSPECTIONS.
7. TESTING AND SERVICE PERSONNEL SHALL BE QUALIFIED AND EXPERIENCED PER NFPA 72, 10.5.3.
8. ANY FUTURE MODIFICATIONS TO THE SYSTEM AFTER THIS FINAL OCFA INSPECTION SHALL CAUSE A NEW PLAN TO BE DRAFTED AND SUBMITTED BY THE TENANT OR BUILDING OWNER. THE MODIFICATIONS SHALL NOT BE STARTED UNTIL THE NEW PLANS ARE APPROVED BY OCFA (NFPA 72, 7.5.6.6).
9. WHEN THE FIRE ALARM CONTROL UNIT (FACU) PANEL IS IN A ROOM ACCESSED THROUGH A DOOR, A PERMANENT SIGN SHALL BE PROVIDED ON THE DOOR INDICATING, "FIRE ALARM CONTROL UNIT" OR EQUIVALENT. WHEN THERE ARE SUB-PANELS, DOOR SIGNS SHALL ALSO INDICATE WHERE THE MAIN FACU PANEL IS LOCATED.
10. A 24-HOUR EMERGENCY RESPONSE PHONE NUMBER SHALL BE PERMANENTLY POSTED AT THE CONTROL PANEL.
11. THE CIRCUIT BREAKER POWER DISCONNECT SHALL ONLY BE ACCESSIBLE TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM" (NFPA 72, 10.6.5.2). THE ELECTRICAL PANEL WITH THE FIRE ALARM CIRCUIT SHALL BE IN A SECURE ROOM, OR A CIRCUIT BREAKER LOCKING DEVICE SHALL BE INSTALLED (NFPA 72, 10.6.5.4).
12. STORAGE BATTERIES SHALL BE MARKED WITH THE MONTH AND YEAR OF MANUFACTURE (NFPA 72, 10.6.10).
13. THE BATTERIES SHALL BE ABLE TO RUN THE SYSTEM IN STAND-BY MODE FOR 24 HOURS WITHOUT BUILDING POWER IN A NON-ALARM CONDITION, AND THEN IMMEDIATELY BE ABLE TO OPERATE ALL DEVICES FOR 5 MINUTES (15 MINUTES IS REQUIRED FOR VOICE EVACUATION SYSTEMS) (NFPA 72, 10.6.7.2.1, CFC 907.1.2).
14. IF A 24 HOUR BATTERY TEST WAS NOT REQUIRED, OCFA COULD REQUIRE SHUT DOWN OF THE AC POWER TO VERIFY TROUBLE SIGNALS.
15. BATTERIES SHALL BE FULLY CHARGED UNDER NORMAL CONDITIONS AND AFTER A POWER LOSS EVENT DISCHARGE (NFPA 72, 10.6.10.3).
16. A BATTERY CHARGER FAILURE SHALL BE DETECTED AS A TROUBLE SIGNAL (NFPA 72, 10.6.10.6.1).
17. AN ALARM SIGNAL SHALL OCCUR WITHIN 10 SECONDS AFTER INITIATING DEVICE ACTIVATIONS (NFPA 72, 11.11.1). THE ALARM SIGNALS SHALL BE AUDIBLY DISTINCTIVE FROM ALL OTHER DIFFERENT TYPES OF AUDIBLE SYSTEMS OR ALARMS (NFPA 72, 10.10).
18. ALL AUDIBLE ALARM NOTIFICATION SIGNALS SHALL BE A THREE PULSE TEMPORAL PATTERN (CFC 907.5.2.1.3).
19. AUDIBLE ALARM SOUND PRESSURE LEVELS SHALL BE PROVIDED AS SPECIFIED BY CFC 907.5.2.1. AND 907.5.2.1.2
20. WHEN MORE THAN TWO VISUAL NOTIFICATION APPLIANCES ARE LOCATED WITHIN THE SAME ROOM OR AREA, THEY SHALL BE SYNCHRONIZED (NFPA 72, 18.5.5.4.2).
21. MANUAL PULL STATION KEY(S) SHOULD BE PLACED IN THE MAIN FACU BOX OR SPRINKLER HEAD BOX.
22. WHEN TIED TO THE MAIN FIRE ALARM PANEL, DUCT DETECTOR ACTIVATIONS SHALL ONLY CAUSE A SUPERVISORY SIGNAL TO THE CENTRAL SUPERVISING STATION.
23. INSPECTION, TESTING AND MAINTENANCE SHALL BE PERFORMED AND MAINTAINED PER CHAPTER 14 OF NFPA 72 AND THE MANUFACTURER SPECIFICATIONS.
24. WHERE A BUILDING FIRE ALARM OR MONITORING SYSTEM IS INSTALLED, AUTOMATIC FIRE-EXTINGUISHING SYSTEMS SHALL BE MONITORED TO THE CENTRAL SUPERVISING STATION BY THE BUILDING FIRE ALARM OR WATER FLOW SYSTEM IN ACCORDANCE WITH NFPA 72 AND CFC 904.3.5.
25. ELEVATOR RECALL SHALL OPERATE PER THE SIGNALS FOUND IN SEQUENCE OF OPERATIONS ON THIS PLAN (NFPA 72, 21.4).
26. ALL FIRE ALARM AND WATER FLOW ALARM SYSTEMS UNDERGOING A CHANGE IN CENTRAL SUPERVISING STATION COMPANIES ARE REQUIRED TO BE IMMEDIATELY TESTED IN THE PRESENCE OF OCFA. THIS IS TO VERIFY THAT NEW COMPANY IS APPROPRIATELY RECEIVING NECESSARY SIGNALS, TRANSMITTING EMERGENCY 911 COMMUNICATIONS, AND THAT DEVICES DEDICATED FOR SUPERVISORY AND TROUBLE SIGNALS DO NOT CAUSE AN EMERGENCY RESPONSE. WHEN THE CHANGE OF THE SUPERVISING STATION COMPANY IS NOT PART OF THE NEW CONSTRUCTION INSPECTION ON THESE PLANS, THE RESPONSIBLE PARTY CAUSING THE CHANGE SHALL COMPLETE A NEW SERVICE REQUEST APPLICATION/FEE PROCESS AT OCFA HEADQUARTERS. THE RESPONSIBLE PARTY IS REQUIRED TO GENERATE THE OCFA INSPECTION. NO PLAN REVIEW IS REQUIRED FOR THIS SCOPE OF WORK (CFC 901.9).

APPLICABLE CODES
- ○ 2019 CALIFORNIA FIRE CODE
- ○ 2019 CALIFORNIA BUILDING CODE
- ○ 2019 CALIFORNIA RESIDENTIAL CODE
- ○ 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
- ○ 2019 CALIFORNIA MECHANICAL CODE
- ○ 2019 CALIFORNIA ELECTRICAL CODE
- ○ 2019 CALIFORNIA PLUMBING CODE
- ○ 2019 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS
- ○ APPLICABLE NFPA STANDARDS:
- ○ LOCALLY ADOPTED ORDINANCES:
- ○ OCFA GUIDELINE
- ○ CONDITIONS OF APPROVAL:

RELATED PLANS
- ○ FIRE MASTER PLAN SR:
- ○ RESIDENTIAL SITE PLAN SR:
- ○ ARCHITECTURAL PLAN SR:

REVISION
- ○ ORIGINAL PLAN SR:

COPY OF ORIGINAL APPROVED PLAN REQUIRED TO BE SUBMITTED WITH ALL REVISED PLANS.

REVISION SCOPE OF WORK

SEE SCOPE OF WORK ON FA-0.0

PROJECT DIRECTORY

CONTRACTOR
BUSINESS NAME: EMCOM INC
CONTACT NAME: JOE ECCHER
ADDRESS: 256 WITHERSPOON WAY, SUITE H
CITY: EL CAJON STATE: CA ZIP: 92020
PHONE: 619-667-1200
EMAIL: JOE@EMCOMINC.COM
LICENSE NUMBER: 820216

PROPERTY OWNER
BUSINESS NAME: ELAN - BUILDING #1
CONTACT NAME: SANTA ANA FIRST STREET LLC
ADDRESS: 5120 SHOREHAM PLACE #150
CITY: SAN DIEGO STATE: CA ZIP: 92122
PHONE: 858-5351475
EMAIL:

REVISIONS

NO.	DATE
7	
6	
5	
4	
3	
2	
1	

DESIGNED:
DRAWN:
CHECKED:
DATE:
SCALE:

OCFA REVIEW AND INSPECTIONS (OCFA USE ONLY)
- ☐ NO OCFA REVIEW REQUIRED
- ☐ PLAN REVIEW ONLY
- ☐ PLAN REVIEW AND INSPECTION

PLANS PREPARED BY:
ENGINEER LICENSE NO. EXP. DATE

ELAN - BUILDING #1

ORANGE COUNTY FIRE AUTHORITY
COMMUNITY RISK REDUCTION - PLANNING AND DEVELOPMENT SECTION

SERVICE REQUEST NUMBER

SHEET 1

REVISED 06/10/2020

ELAN - BUILDING #1

100 ELK LANE

SANTA ANA, CA 92701

FIRE ALARM SYSTEM

ORANGE COUNTY FIRE AUTHORITY NOTES

Fire Alarm, Water Flow Alarm & Signaling Systems

First complete the bottom portion and then copy the notes on the plans

1. OCFA inspections are required for this project. Please schedule all field inspections at least 48 hours in advance. Inspections canceled after 1 p.m. on the day before the scheduled date will be subject to a re-inspection fee. Call OCFA inspection scheduling at (714) 573-6150 and provide the service request number on these plans.
2. The scope of work shall be tested by the installer prior to the OCFA inspection to determine the system properly functions as approved on the plans.
3. For extremely large systems, OCFA may require the installing contractor to provide a written certification by a different third party licensed contractor, to verify all or specific portions of the system function as approved on the plans (NFPA 72, 7.5.2).
4. This system was designed and installed under the 2019 code requirements.
5. Approved drawings and documents shall be retained. Drawings shall be accessible upon request. After final inspection, approved shop drawings and maintenance instructions shall be properly delivered to a representative of the occupying business, who shall offer copies to the building owner (NFPA 72, 7.5.3 and 7.7.1).
6. Written records and reports of the alarm system testing frequencies and results, shall be available for review on the premises for the OCFA inspector during fire inspections.
7. Testing and service personnel shall be qualified and experienced per NFPA 72, 10.5.3.
8. Any future modifications to the system after this final OCFA inspection shall cause a new plan to be drafted and submitted by the tenant or building owner. The modifications shall not be started until the new plans are approved by OCFA (NFPA 72, 7.5.6.6).
9. When the Fire Alarm Control Unit (FACU) panel is in a room accessed through a door, a permanent sign shall be provided on the door indicating, "Fire Alarm Control Unit" or equivalent. When there are sub-panels, door signs shall also indicate where the main FACU panel is located.
10. A 24-hour emergency response phone number shall be permanently posted at the control panel.
11. The circuit breaker power disconnect shall only be accessible to authorized personnel, and shall be identified as "FIRE ALARM" (NFPA 72, 10.6.5.2). The electrical panel with the fire alarm circuit shall be in a secure room, or a circuit breaker locking device shall be installed (NFPA 72, 10.6.5.4).
12. Storage batteries shall be marked with the month and year of manufacture (NFPA 72, 10.6.10).
13. The batteries shall be able to run the system in stand-by mode for 24 hours without building power in a non-alarm condition, and then immediately be able to operate all devices for 5 minutes (15 minutes is required for voice evacuation systems) (NFPA 72, 10.6.7.2.1, CFC 907.1.2).
14. If a 24 hour battery test was not required, OCFA could require shut down of the AC power to verify trouble signals.
15. Batteries shall be fully charged under normal conditions and after a power loss event discharge (NFPA 72, 10.6.10.3).
16. A battery charger failure shall be detected as a trouble signal (NFPA 72, 10.6.10.6.1).
17. An alarm signal shall occur within 10 seconds after initiating device activations (NFPA 72, 11.11.1). The alarm signals shall be audibly distinctive from all other different types of audible systems or alarms (NFPA 72, 10.10).
18. All audible alarm notification signals shall be a three pulse temporal pattern (CFC 907.5.2.1.3).
19. Audible alarm sound pressure levels shall be provided as specified by CFC 907.5.2.1. and 907.5.2.1.2

20. When more than two visual notification appliances are located within the same room or area, they shall be synchronized (NFPA 72, 18.5.5.4.2).
21. Manual pull station key(s) should be placed in the main FACU box or sprinkler head box.
22. When tied to the main fire alarm panel, duct detector activations shall only cause a supervisory signal to the central supervising station.
23. Inspection, testing and maintenance shall be performed and maintained per Chapter 14 of NFPA 72 and the manufacturer specifications.
24. Where a building fire alarm or monitoring system is installed, automatic fire-extinguishing systems shall be monitored to the central supervising station by the building fire alarm or water flow system in accordance with NFPA 72 and CFC 904.3.5.
25. Elevator recall shall operate per the signals found in sequence of operations on this plan (NFPA 72, 21.4).
26. All fire alarm and water flow alarm systems undergoing a change in central supervising station companies are required to be immediately tested in the presence of OCFA. This is to verify that new company is appropriately receiving necessary signals, transmitting emergency 911 communications, and that devices dedicated for supervisory and trouble signals do not cause an emergency response. When the change of the supervising station company is not part of the new construction inspection on these plans, the responsible party causing the change shall complete a new Service Request application/fee process at OCFA headquarters. The responsible party is required to generate the OCFA inspection. No plan review is required for this scope of work (CFC 901.9).
27. The following must be completed by the designer prior to copying on the plans. List the number of all total devices proposed only for this specific job.

This scope of work only covers the following quantity of devices:			
Devices below are factored in fee charges			Devices not factored in fee charges
List the # of Initiating Devices below:			***List the # Other Devices below:***
Detectors New/Added: 119 Relocated: Replaced:	**Duct Detectors** New/Added: 15 Relocated: Replaced:	**Manual Pull** New/Added: 1 Relocated: Replaced:	**Tamper/Water Flow** New/Added: 55 Relocated: Replaced:
List # of Notification Devices below:			**FACU** New/Added: 1 Relocated: Replaced:
Horns / Strobes New/Added: 1,112 Relocated: Replaced:			(Indicate) Dialer Replaced Yes / No NEW DIALER Extinguishing System Yes / No

(The Information Above Shall Match the Equipment Legend/Bill of Materials).

Occupant History and Background: (Provide the information underlined on each below)

i. Approximate age of the building? (In Years) NEW.
ii. Occupant will be new to the building? Yes / No. (Yes circled)
iii. Number of floors this occupant will occupy? 7.
iv. Occupant is already existing in the building? Yes / No. (No circled)
If occupant is existing, list the approximate amount of years occupied ________.
- Occupant will be occupying an additional floor? Yes / No.
- Occupant is staying on the current floor level, and occupying new area? Yes / No.

U.L. Listed Central Supervising Station Facility (CSSF) Information:

The CSSF Name: CENTRAL MONITORING SERVICES Phone Number: 858-748-0211

CSSF Address: 14231 GARDEN ROAD #1, POWAY, CA 92064

SCOPE OF WORK

1. INTENT, PURPOSE & REASON:
NEW FIRE ALARM SYSTEM TO BE INSTALLED FOR NEW RESIDENTIAL APARTMENT BUILDINGS AS REQUIRED BY CODE. FIRE ALARM SYSTEM PROVIDED TO ALERT OCCUPANTS OF FIRE DANGER WITHIN THE BUILDING. SYSTEM SHALL REPORT STATUS TO AN APPROVED CENTRAL STATION VIA MAIN COMMUNICATOR PANEL IN MPOE BUILDING.
2. SCOPE:
NEW SYSTEM SHALL PROVIDE MONITORING OF WATERFLOW/ TAMPER SWITCHES, ACTIVATE AUDIBLE/VISUAL NOTIFICATION DEVICES, PROVIDE ELEVATOR RECALL AND SHUNT TRIP AND ACTIVATE AUDIBLE SPRINKLER FLOW BELL ON EXTERIOR OF BUILDING.
3. TYPE OF FA SYSTEM:
THE SYSTEM INSTALLED SHALL BE A MANUAL / AUTOMATIC SYSTEM

Orange County Fire Authority
Fire Prevention Division
INFORMATIONAL BULLETIN 05 – 16

Subject: Elevator Recall and Fire Alarm Interface Requirements/Firefighter Emergency Operations (FEO)

Scope: New elevators that have a travel rise that exceeds 80 inches will require FEO recall in accordance with this bulletin. For existing elevators, FEO features will be required to be retrofitted to these latest requirements only when significant changes are proposed to the existing recall alarm equipment or controllers. (This bulletin is a supplement to The OCFA Fire Alarm Signaling Guideline D-03).

Purpose: The information below is required to be shown on fire alarm and water flow monitoring system plans, when submitting plans for approval to The OCFA Planning and Development Section.

Requirements and Sequence of Operations for Plan Review:

Phase One Automatic and Manual Recall:
- Phase One cab recall to a predetermined floor level needs to be automatically activated by the hoistway, machine room, or elevator lobby smoke detectors, and a water flow switch signal.
- Phase One recall shall also be designed for firefighters to activate manually, by using a key switch located at the elevator lobby, annunciator key pad and/or fire alarm control panel.

Phase Two Manual Recall Key Switch Operation:
- Phase Two recall overrides Phase One, and is manually activated from inside the cab by using a key switch. Firefighters are required to press and hold buttons to command the elevator operations.

Firefighter's Hat Lamp and Sounder Indications during Phase One and Phase Two Recall:
- Phase One activation in the cab causes the firefighter hat lamp to glow, and a sounder to activate.
- Upon smoke detector activation within the elevator hoistway or machine room, the Firefighter's hat lamp in the cab will change from a steady glow to flashing off and on. This alerts firefighters to exit the cab and not use the elevator(s) for FEO.

Heat Detector and Power-Shutdown (Shunt Trip Mechanism):
- Heat detector(s) in the machine room shall activate first to prevent sprinkler head activation.
- Hoistway Heat detector(s) are only required when sprinkler system water would damage elevator related equipment enough to make the elevator unsafe to use.
- Heat detector activation shall cause a shunt trip mechanism to shut down the power to the elevator(s) to prevent FEO usage completely, to ensure firefighter safety.

Smoke Detection:
- Smoke detectors are not allowed in the hoistway without sprinklers present.
- If the elevator lobby, hoistway, or machine room detectors are only dedicated to activating recall, then the signal is supervisory and therefore does not cause building evacuation.
- Unless codes specifically require a smoke detection system, common area detectors, door holders, or duct detectors just activate a supervisory signal. Other circumstances identified during plan review may be allowed for common area detectors to cause building evacuation and/or emergency response.

Associated Alarm Devices and Panel Operations:
- Manual pull boxes do not recall elevators unless mandated by OCFA during plan review. Manual pull boxes shall cause evacuation and an emergency response.
- Dedicated recall devices shall be connected to the fire alarm or water flow panel. If there is no fire alarm or water flow panel, a dedicated stand-alone and signed recall panel is required to be installed.

05-11-16 BA

DRAWING INDEX

SHEET	SHEET DESCRIPTION	SHEET CONTENTS
FA-0.0	TITLE SHEET	NOTES, CODE ANALYSIS, SCOPE OF WORK
FA-0.1	SITE PLAN	BACK FLOW DETAIL
FA-0.1	MATERIALS & PARTS LIST	DEVICE LEGEND AND MATERIAL LIST, WIRE LEGEND, SEQUENCES OF OPS
FA-0.2	SITE PLAN	
FA-1.0	BASEMENT B2 OVERALL FLOOR PLAN	
FA-1.1	BASEMENT B2 FLR PLAN - SEGMENT A	
FA-1.2	BASEMENT B2 FLR PLAN - SEGMENT B	
FA-1.3	BASEMENT B2 FLR PLAN - SEGMENT C	
FA-1.4	BASEMENT B2 FLR PLAN - SEGMENT D	
FA-2.0	BASEMENT B1 OVERALL FLOOR PLAN	
FA-2.1	BASEMENT B1 FLR PLAN - SEGMENT A	
FA-2.2	BASEMENT B1 FLR PLAN - SEGMENT B	
FA-2.3	BASEMENT B1 FLR PLAN - SEGMENT C	
FA-2.4	BASEMENT B1 FLR PLAN - SEGMENT D	
FA-3.0	1ST STORY OVERALL FLOOR PLAN	
FA-3.1	1ST STORY FLR PLAN - SEGMENT A	
FA-3.2	1ST STORY FLR PLAN - SEGMENT B	
FA-3.3	1ST STORY FLR PLAN - SEGMENT C	
FA-3.4	1ST STORY FLR PLAN - SEGMENT D	
FA-4.0	2ND STORY OVERALL FLOOR PLAN	
FA-4.1	2ND STORY FLR PLAN - SEGMENT A	
FA-4.2	2ND STORY FLR PLAN - SEGMENT B	
FA-4.3	2ND STORY FLR PLAN - SEGMENT C	
FA-4.4	2ND STORY FLR PLAN - SEGMENT D	
FA-5.0	3RD STORY OVERALL FLOOR PLAN	
FA-5.1	3RD STORY FLR PLAN - SEGMENT A	
FA-5.2	3RD STORY FLR PLAN - SEGMENT B	
FA-5.3	3RD STORY FLR PLAN - SEGMENT C	
FA-5.4	3RD STORY FLR PLAN - SEGMENT D	
FA-6.0	4TH STORY OVERALL FLOOR PLAN	
FA-6.1	4TH STORY FLR PLAN - SEGMENT A	
FA-6.2	4TH STORY FLR PLAN - SEGMENT B	
FA-6.3	4TH STORY FLR PLAN - SEGMENT C	
FA-6.4	4TH STORY FLR PLAN - SEGMENT D	
FA-7.0	5TH STORY OVERALL FLOOR PLAN	
FA-7.1	5TH STORY FLR PLAN - SEGMENT A	
FA-7.2	5TH STORY FLR PLAN - SEGMENT B	
FA-7.3	5TH STORY FLR PLAN - SEGMENT C	
FA-7.4	5TH STORY FLR PLAN - SEGMENT D	
FA-8.0	6TH STORY OVERALL FLOOR PLAN	
FA-8.1	6TH STORY FLR PLAN - SEGMENT A	
FA-8.2	6TH STORY FLR PLAN - SEGMENT B	
FA-8.3	6TH STORY FLR PLAN - SEGMENT C	
FA-8.4	6TH STORY FLR PLAN - SEGMENT D	
FA-9.0	7TH STORY OVERALL FLOOR PLAN	
FA-9.1	7TH STORY FLR PLAN - SEGMENT A	
FA-9.2	7TH STORY FLR PLAN - SEGMENT B	
FA-9.3	7TH STORY FLR PLAN - SEGMENT C	
FA-9.4	7TH STORY FLR PLAN - SEGMENT D	
FA-10.0	ROOF OVERALL PLAN	
FA-10.1	ROOF PLAN - SEGMENT A	
FA-10.2	ROOF PLAN - SEGMENT B	
FA-10.3	ROOF PLAN - SEGMENT C	
FA-10.4	ROOF PLAN - SEGMENT D	
FA-11.0	SYSTEM RISER DIAGRAM - 1	
FA-11.1	SYSTEM RISER DIAGRAM - 2	
FA-11.2	SYSTEM RISER DIAGRAM - 3	
FA-12.0	BATTERY & VOLTAGE DROP CALCULATIONS - 1	
FA-12.1	BATTERY & VOLTAGE DROP CALCULATIONS - 2	
FA-12.2	BATTERY & VOLTAGE DROP CALCULATIONS - 3	
FA-12.3	BATTERY & VOLTAGE DROP CALCULATIONS - 4	
FA-12.4	BATTERY & VOLTAGE DROP CALCULATIONS - 5	
FA-13.0	PRE-WIRE FOR FUTURE HEARING IMPAIRED UNITS	
FA-14.0	POINT TO POINT WIRING DETAIL	

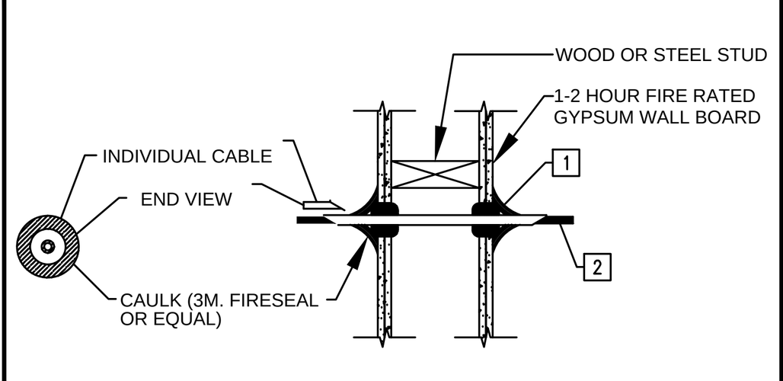
BUILDING CODE ANALYSIS

BUILDING (NEW OR EXISTING):	NEW CONSTRUCTION - MIXED USE 310 UNIT RESIDENTIAL BLDG
OCCUPANCY CLASS:	R-2, B, A-3, S-2
CONSTRUCTION TYPE:	TYPE IIIA OVER TYPE IA
NUMBER OF LEVELS/ STORIES:	7 STORIES
OVERALL HEIGHT OF BUILDING:	69'-5"
BUILDING TOTAL SQUARE FOOTAGE:	705,222 S.F.
TYPE OF SYSTEM:	AUTOMATIC FIRE ALARM SYSTEM
BUILDING IS FULLY SPRINKLERED:	YES (NFPA-13)
MECHANICAL UPGRADE:	YES
EMERGENCY GENERATOR:	NO
OFF-SITE EMERGENCY GENERATOR:	NO
FIRE PUMP	YES
RPDA (BACKFLOW DEVICE)	YES

CENTRAL MONITORING STATION
CENTRAL MONITORING SERVICES
14231 GARDEN ROAD #1
POWAY, CA 92064
PHONE #:858-748-0211
UL#: UUFX S2669-1

APPLICABLE CODES AND REGULATIONS
CALIFORNIA BUILDING CODE, TITLE 24 CALIFORNIA CODE OF REGULATIONS (CCR)
2016 CALIFORNIA BUILDING CODE (CBC), TITLE 24 PART 2
2016 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24 PART 3
2016 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24 PART 4
2016 CALIFORNIA FIRE CODE (CFC), TITLE 24 PART 9
NATIONAL FIRE PROCTECTION ASSOCIATION
2016 NFPA 72
2016 NFPA 70
2016 NFPA 90A

U.L. SYSTEM NO. WL3001
CABLE THROUGH FRAMED WALL



THRU WALL SECTION

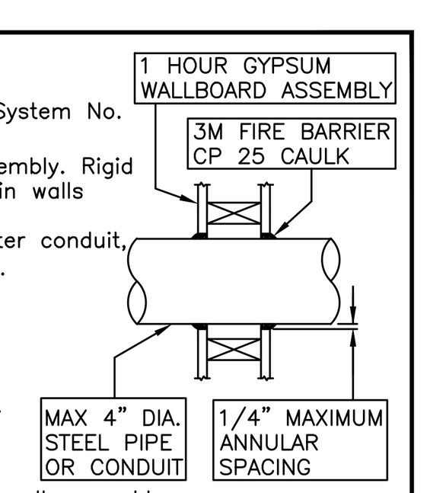
1. CAULK OR PUTTY FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN CABLE AND GYPSUM WALLBOARD ON BOTH SIDES OF WALL AND WITH A MINIMUM 1/4" DIAMETER BEAD OF CAULK OR PUTTY APPLIED TO PERIMETER OF CABLE AT ITS EGRESS FROM EACH SIDE OF THE WALL.
2. DIAMETER OF CIRCULAR THROUGH OPENING TO BE 3/8" TO 5/8" LARGER THAN OUTSIDE OF CABLE.

MINNESOTA MINING & MFC. CO. - CP 25CB+

FIRESTOP THROUGH PENETRATION CABLE THROUGH FRAMED WALL

SYSTEM DETAILS: CALIFORNIA: UL SYSTEM # WL1001

1. System Justification: UL Through–Penetration Firestop System No. WL1001, per ASTM E 814 (ANSI/UL1479) Fire Test.
2. Assembly: 1–hr. fire rated gypsum wallboard/stud assembly. Rigid steel or EMT conduits 4–in. diameter may only be used in walls constructed using steel channel studs.
3. Rating: F–1hr., T–0hr. with 2 to nominal 4–in. diameter conduit, T–1 hr. with nominal 1–in. diameter (or smaller) conduit.
4. Penetrating Item(s):
Nominal 4–in. diameter (or smaller),
Nominal 4–in. diameter (or smaller) rigid steel conduit.
Nominal 4–in. diameter (or smaller) steel EMT conduit.
Nominal 4–in. diameter (or smaller) flexible steel conduit.



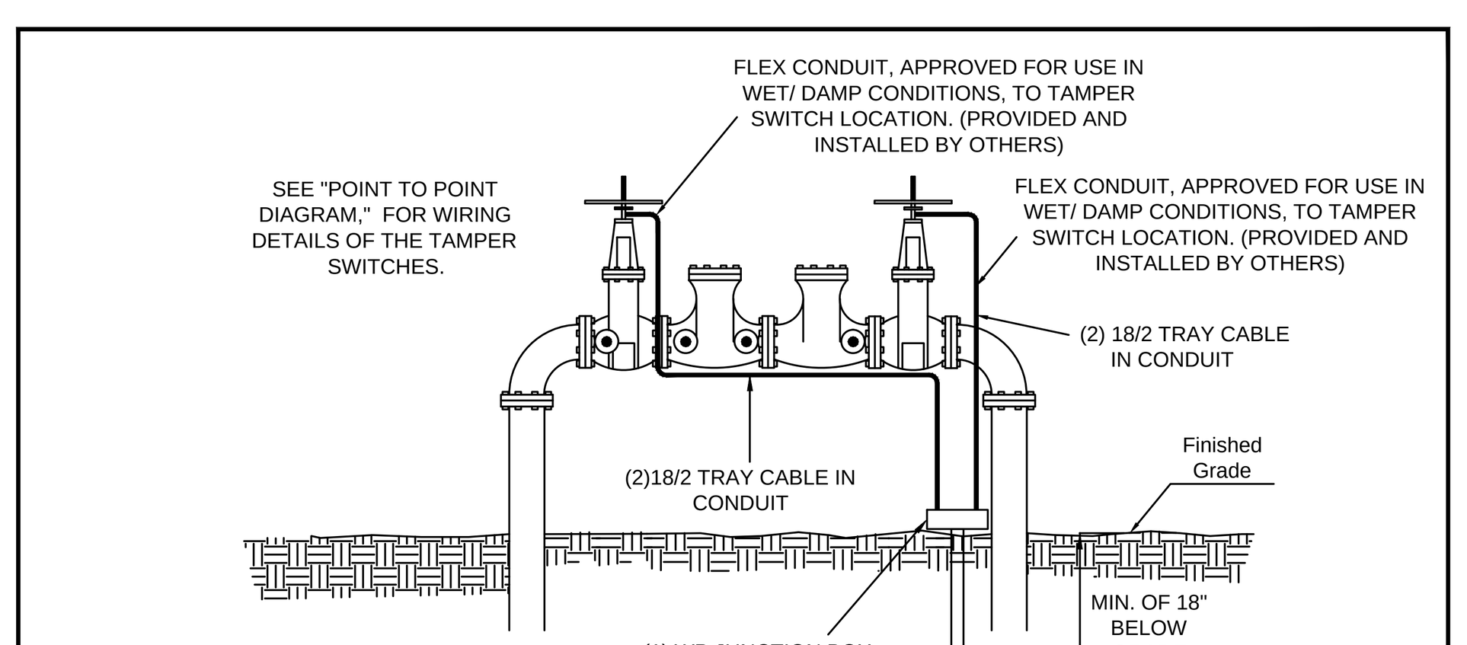
APPLICATION DETAILS:

1. Install the firestop symmetrically on both sides of the wall assembly.
2. Annular space requirements:

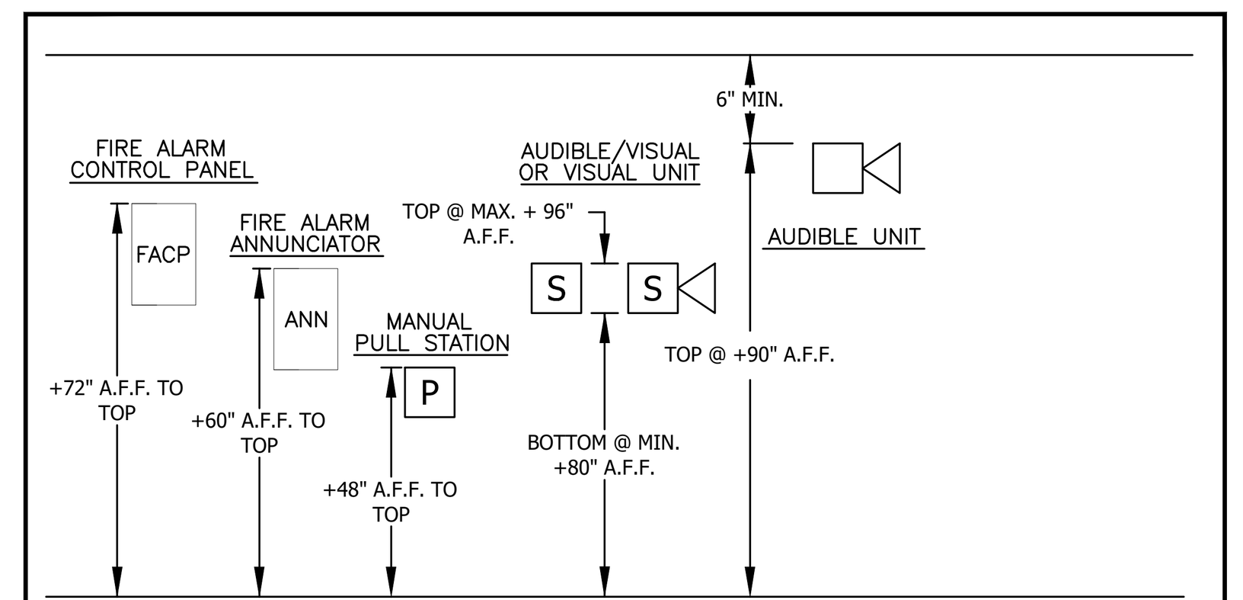
Max Pipe ø	Annular Space	F Rating Hr	T Rating Hr
1 in. 1 in.	0–3/16 in. 1/4–1/2 in.	1 or 2 3 or 4	0 +,1 or 2 3 or 4

3. 3M Fire Barrier CP 25 Caulk is to be forced into the annular space to the maximum extent possible with a minimum 1/4in. diameter bead of CP 25 Caulk applied to the perimeter of the pipe/conduit at its egress from the wall.

FIRESTOP THROUGH PENETRATION GYPSUM WALLBOARD (1 HR)

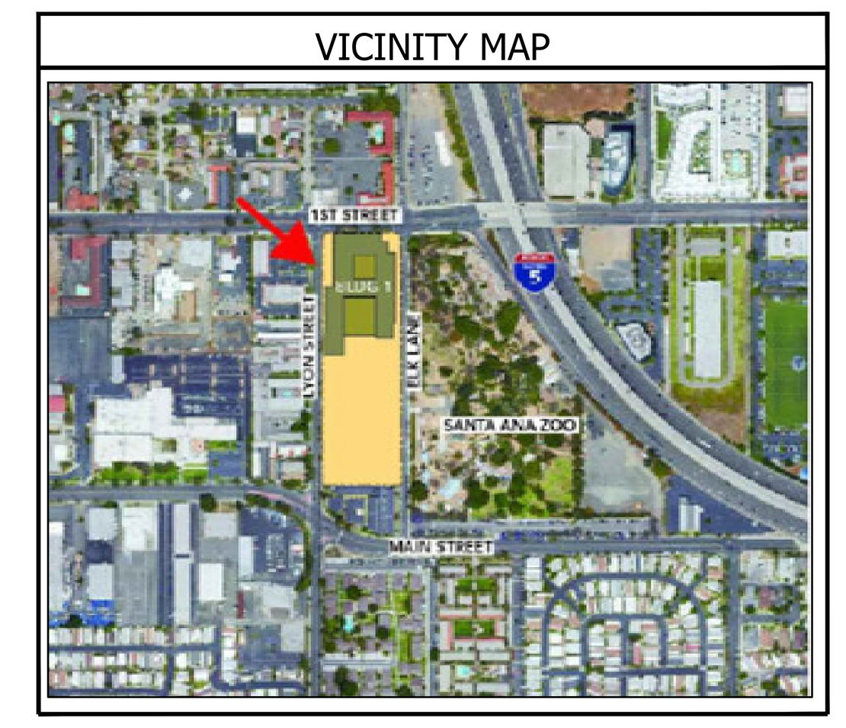


NOTE:
EXACT LOCATIONS OF CONDUIT, FLEX CONDUIT, WP JUNCTION BOX AND TAMPER SWITCHES ARE TO BE DETERMINED BY OTHERS, BUT SHALL MEET ALL REQUIRED CODES FOR WET/ DAMP LOCATIONS.



TYPICAL DEVICE ELEVATION DETAIL

VICINITY MAP



EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1
100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: TITLE SHEET

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO. FA-0.0

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

SEQUENCE OF OPERATIONS

ACTION:	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE COMMON TROUBLE SIGNAL	ACTUATE NOTIFICATION APPLIANCES	RELEASE DOOR HOLDERS	ACTUATE ELEVATOR SMOKE GUARD	ACTUATE ELEVATOR SHUNT-TRIP	ACTUATE PRIMARY ELEVATOR RECALL. RECALL ELEVATOR TO LEVEL 1 **(SEE NOTE#2)**	ACTUATE SECONDARY ELEVATOR RECALL. RECALL ELEVATOR TO LEVEL 2 **(SEE NOTE#2)**	ACTUATE ELEVATOR CAB FIREMEN'S HAT LAMP	CLOSE FIRE SMOKE DAMPERS PER FLOOR	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
MANUAL PULL STATION	●	●					●								●		
SMOKE DETECTOR	●	●					●	●							●		
ELEVATOR LOBBY SMOKE/HEAT DETECTOR 1ST FLR	●	●					●	●	●			●	● (STEADY)		●		
ELEVATOR LOBBY SMOKE/HEAT DETECTOR FLOORS B1,B2 & 2NDTHRU 7TH	●	●					●	●	●		●		● (STEADY)		●		
ELEVATOR MACHINE ROOM HEAT DETECTOR			●	●				●	●	●			● (FLASHES)			●	
ELEVATOR MACHINE ROOM SMOKE DETECTOR			●	●				●					● (FLASHES)			●	
ELEVATOR SHUNT TRIP 120V POWER LOSS			●	●												●	
FIRE SMOKE DAMPER SPOT SMOKE DETECTOR. SEE FSD METHOD OF ACTIVATION NOTE (M-3) ON FLR PLANS	●	●					●	●						●	●		
WATERFLOW SWITCH ACTIVATED	●	●					●								●		
SPRINKLER TAMPER VALVE CLOSED			●	●												●	
SPRINKLER BACK FLOW VALVE CLOSED			●	●												●	
FIRE SMOKE DAMPER DUCT SMOKE DETECTOR **(SEE NOTE #1)**. SEE FSD METHOD OF ACTIVATION NOTE (M-1) ON FLR PLANS.			●	●												●	
FIRE PUMP "RUNNING", "LOSS PHASE" AND "PHASE REVERSAL", "NOT IN AUTOMATIC" STATUS			●	●												●	
SLC LOOP OPEN					●	●											●
SLC LOOP SHORT					●	●											●
SLC LOOP EARTH GROUND					●	●											●
NOTIFICATION CIRCUIT OPEN					●	●											●
NOTIFICATION CIRCUIT SHORT					●	●											●
NOTIFICATION CIRCUIT EARTH GROUND					●	●											●
LOW BATTERY					●	●											●
BOOSTER PANEL AC FAIL					●	●		●									●
BOOSTER PANEL TROUBLE					●	●											●
CELLULAR PANEL TROUBLE					●	●											●
FACP AC FAIL					●	●		●									●

NOTE #1 : DUCT DETECTOR RESET BY AND PROVIDED BY MECHANICAL CONTRACTOR.

NOTE#2 : SEE OCFA BULLETIN 05-16 ON TITLE SHEET FA-0.0 FOR ELEVATOR RECALL AND FIRE ALARM REQUIREMENTS/ FIREFIGHTERS EMERGENCY OPERATIONS (FEO)

DEVICE LEGEND & MATERIAL LIST

SYMBOL	QTY	DESCRIPTION	MANUFACTURE	MODEL	CSFM#	BACKBOX TYPE
FACP	1	FIRE ALARM SYSTEM CONTROL UNIT	MIRCOM	FX-2003-12NDS	7165-1477:0111	INCLUDED
	1	ISOLATOR QUAD LOOP CONTROLLER	MIRCOM	ALCN-792MISO	7165-1477:0111	--
	1	DIGITAL ALARM COMMUNICATOR	MIRCOM	UDACT-300A	7165-1477:0111	--
	1	UNIVERSAL BACKBOX	MIRCOM	UB-1024DS	7165-1477:0111	--
	1	UNIVERSAL BACKBOX DOOR	MIRCOM	DOX-1024DSR	7165-1477:0111	--
--	1	BATTERY CABINET	MIRCOM	BC-160	--	--
FAA	1	LCD ANNUNICATOR	MIRCOM	RAX-N-LCD	7165-1477:0111	INCLUDED
FAC	1	CELLULAR COMMUNICATION PANEL	TELGUARD	TG-7FS	7300-1402:0109	INCLUDED
BPS	21	BOOSTER POWER SUPPLY PANEL, 10 AMP, 8 OUTPUTS	ALTRONIX	FIRESWITCH 108	7315-1335:0122	INCLUDED
--	2	12V, 26AH RECHARGEABLE LEAD-ACID BATTERIES (FOR FACU)	POWER SONIC	PS-12260	--	--
--	42	12V, 12AH RECHARGEABLE LEAD-ACID BATTERIES (FOR BPS)	POWER SONIC	PS-12120	--	--
--	1	12V, 7H RECHARGEABLE LEAD-ACID BATTERIES (FOR CELL PHAEL)	POWER SONIC	PS-1270	--	--
--	1	SYSTEM RECORDS CABINET ACE-11	SPACE AGE	SS500685	7300-0553:0110	--
	106	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	MIRCOM	MIX-225IAP	7272-1477:0161	4S BOX W/ 3.O MUDRING
	13	INTELLIGENT HEAT DETECTOR, FIXED 135 F	MIRCOM	MIX-525IAP	7272-1477:0160	4S BOX W/ 3.O MUDRING
--	119	DETECTOR BASE	SYSTEM SENSOR	B210LP	7300-1653:0109	--
F	1	ADDRESSABLE PULL STATION	MIRCOM	MS-700APU	7150-1477:0128	BB-700
	15	DUCT SMOKE DETECTOR (BY OTHERS)	MUST BE CSFM LISTED			INCLUDED
MM	51	ADDRESSABLE SINGLE-INPUT MINI MODULE	MIRCOM	MIX-M501MAP	7300-1477:0167	4S BOX
DM	24	ADDRESSABLE DUAL MONITOR MODULE	MIRCOM	MIX-M500DMAP	7300-1477:0126	4S BOX
CR	41	ADDRESSABLE RELAY MODULE	MIRCOM	MIX-M500RAP	7300-1477:0167	4S BOX
R	14	ENCAPSULATED 120VAC, 10 AMP RELAY	AIR PRODUCTS	PAM-1	7300-1004:0101	4S BOX
	756	HORN LOW FREQ, WALL (WHITE)	SYSTEM SENSOR	HWL-LF	7135-1653:0516	1-GANG
	31	MULTI-CANDELA HORN-STROBE, WALL (WHITE)	SYSTEM SENSOR	P2WL	7135-1653:0503	1-GANG
C	232	MULTI-HI CANDELA HORN-STROBE, CEILING (WHITE)	SYSTEM SENSOR	PC2WL	7135-1653:0503	1-GANG
WP	6	MULTI-CANDELA HORN-STROBE WEATHER PROOF, WALL (WHITE)	SYSTEM SENSOR	P2WK	7125-1653:0188	SA-WBB
WP 185cd	10	MULTI-HI CANDELA HORN-STROBE WEATHER PROOF, WALL (WHITE)	SYSTEM SENSOR	P2WHK	7125-1653:0188	SA-WBB
	11	MULTI-CANDELA STROBE, WALL (WHITE)	SYSTEM SENSOR	SWL	7125-1653:0504	1-GANG
C	59	MULTI-CANDELA STROBE, CEILING (WHITE)	SYSTEM SENSOR	SCWL	7125-1653:0504	1-GANG
	118	DOOR HOLDER	RSG	DH24120	3550-1039:0100	1-GANG
	21	SPRINKLER FLOW SWITCH (BY OTHERS)	MUST BE CSFM LISTED			--
	32	SPRINKLER CONTROL VALVE TAMPER SWITCH (BY OTHERS)	MUST BE CSFM LISTED			--
	2	OS&Y / BACKFLOW TAMPER SWITCH (BY OTHERS)	MUST BE CSFM LISTED			--
FSD	--	FIRE SMOKE DAMPERS (BY OTHERS)	MUST BE CSFM LISTED			--
ADA	--	ADA J-BOX	--			--

WIRE LEGEND

WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SITE PLAN
NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

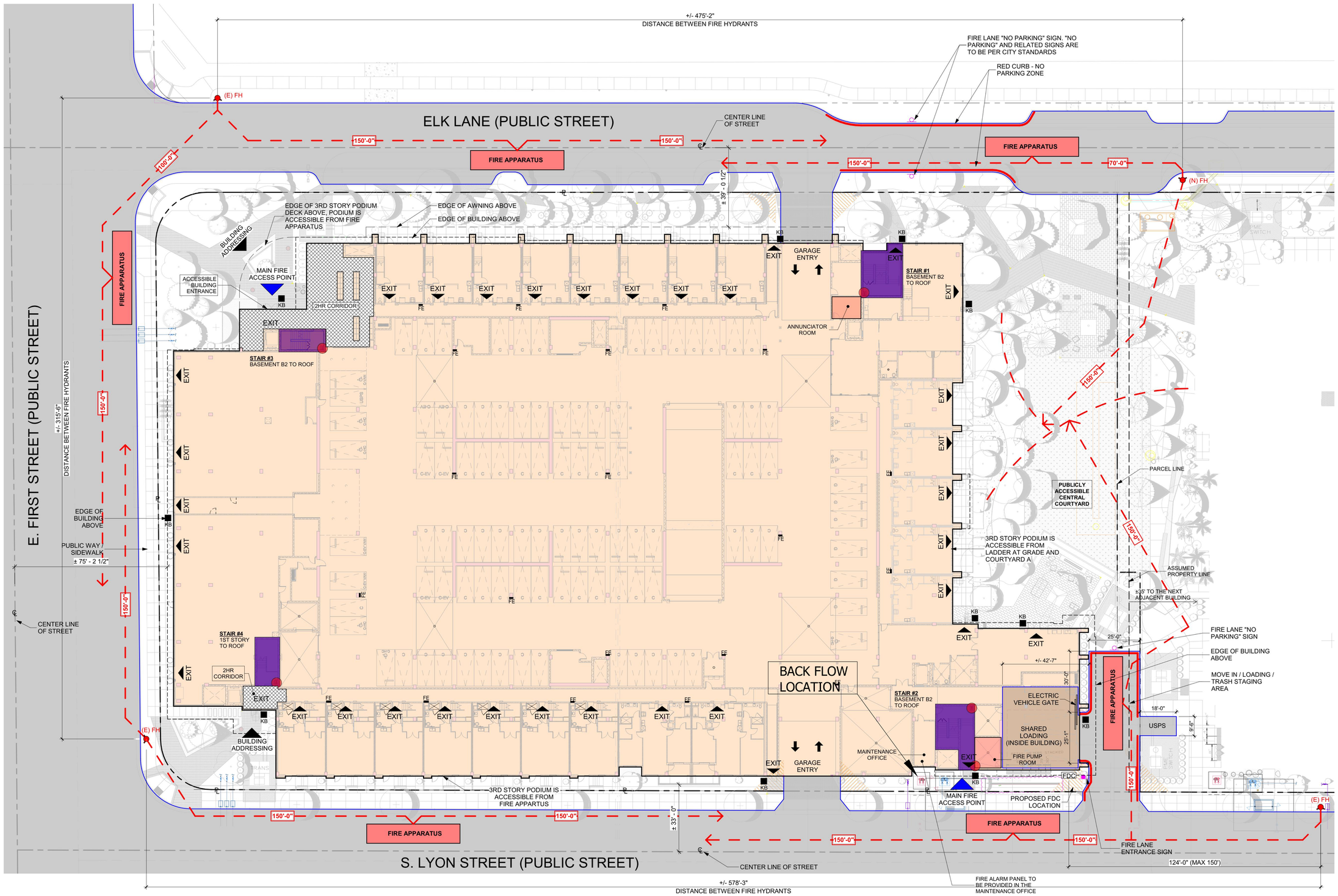
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: SITE PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-0.1



SITE PLAN
NOT TO SCALE

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880502
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-9637, NICET III #84003
carlos.olveras@fuegoeng.com

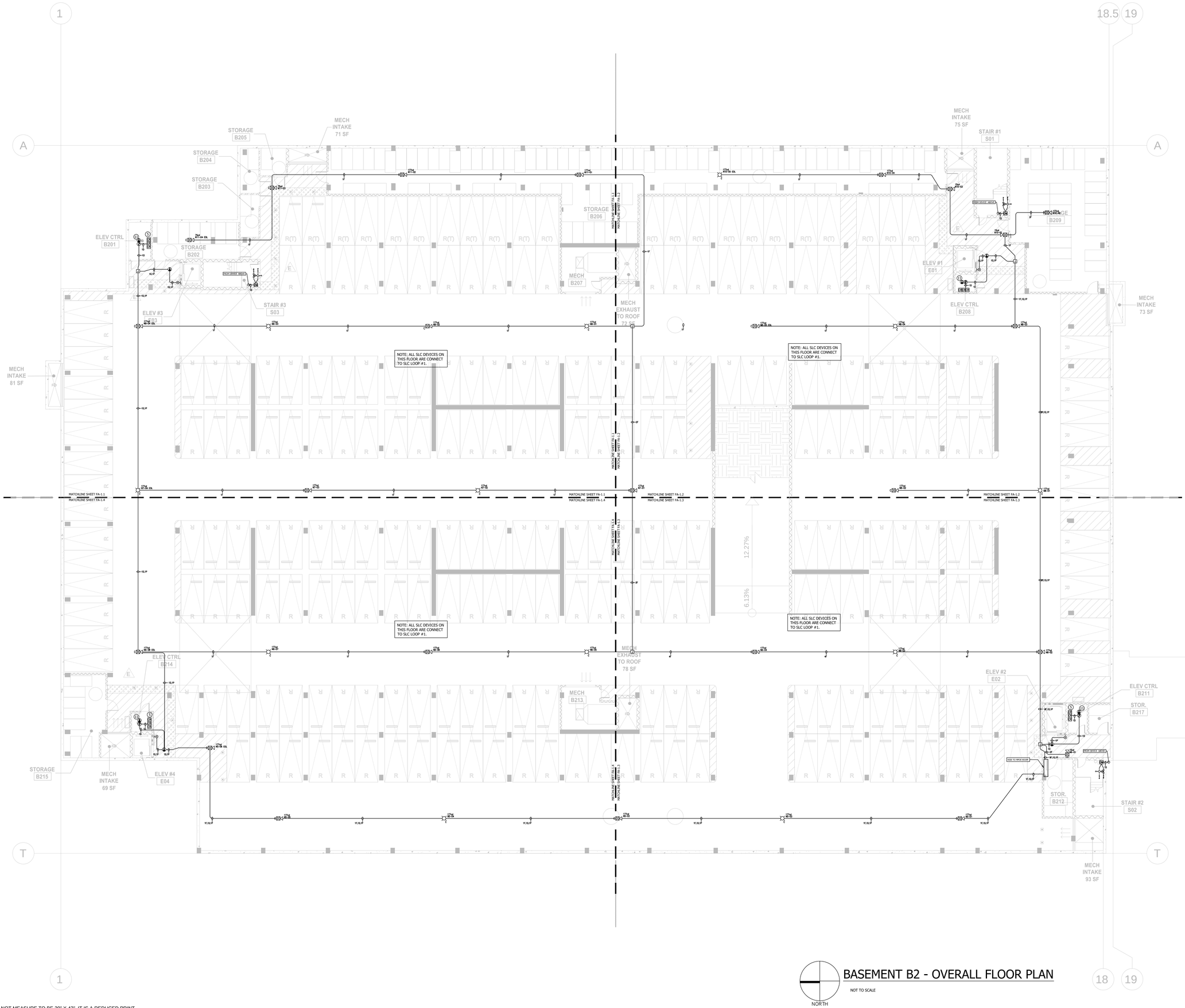
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: SITE PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-0.2



BASEMENT B2 - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 615-9637, NICET III #84003
carlos.oliveras@fuegoeng.com

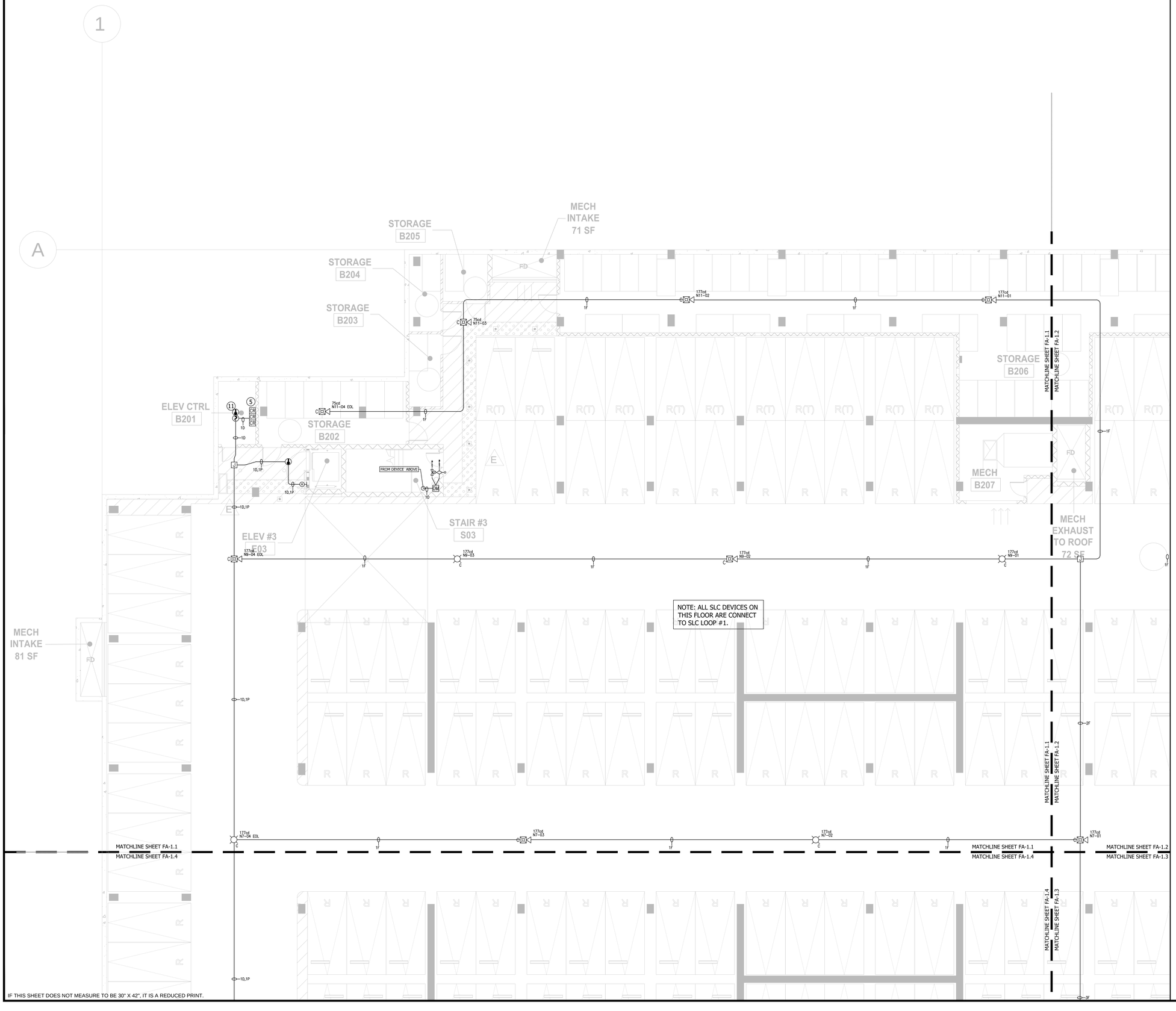
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BASEMENT B2
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-1.0



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

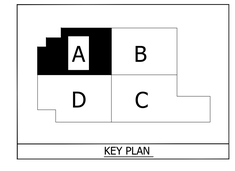
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

BASEMENT B2 FLR PLAN
SEGMENT A

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #846003
carlos.olivera@fuegoeng.com

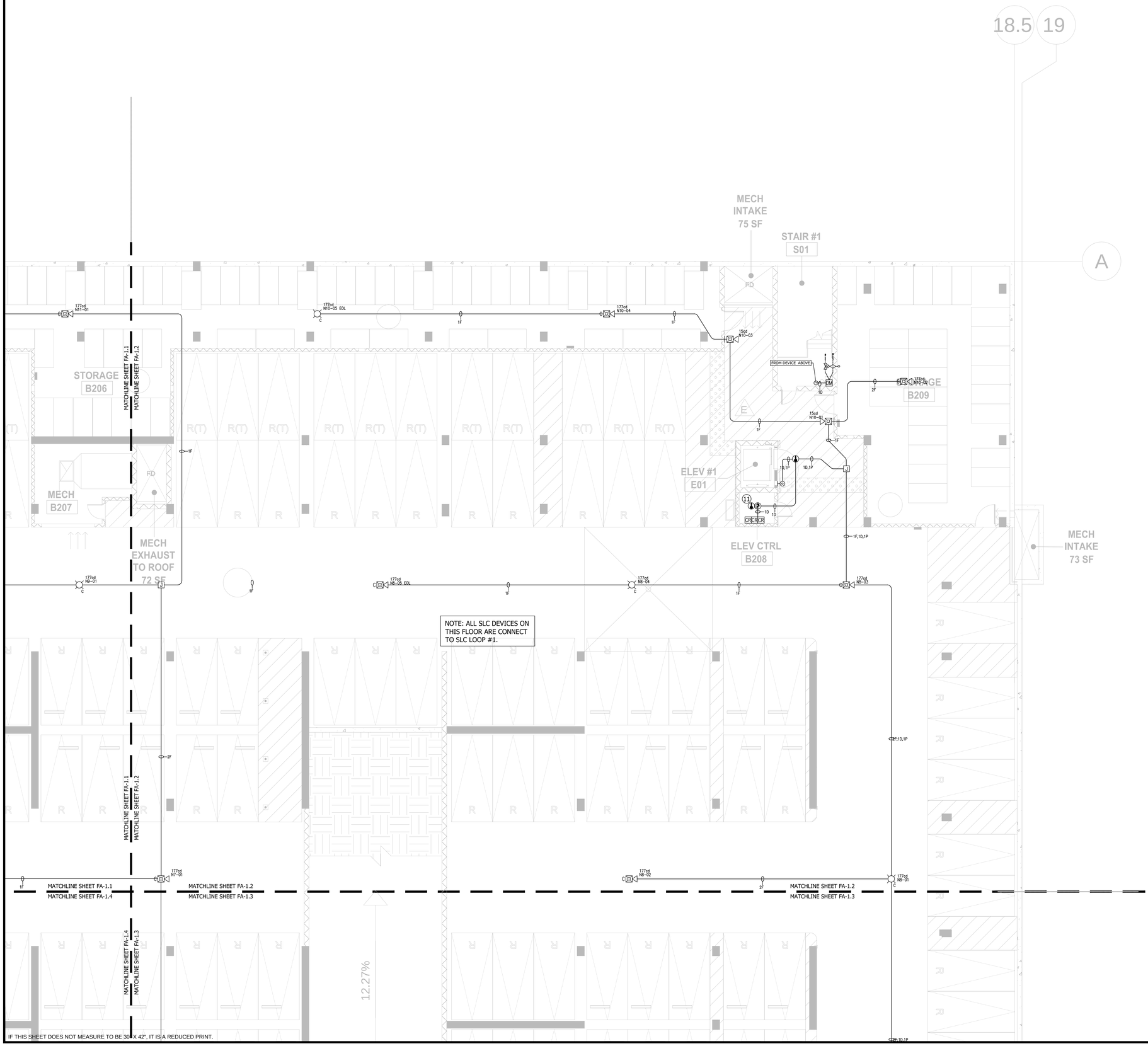
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
BASEMENT B2
FLOOR PLAN
SEGMENT A

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-1.1



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

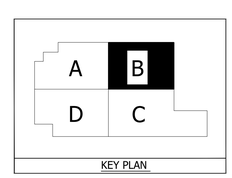
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

BASEMENT B2 FLR PLAN
SEGMENT B

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

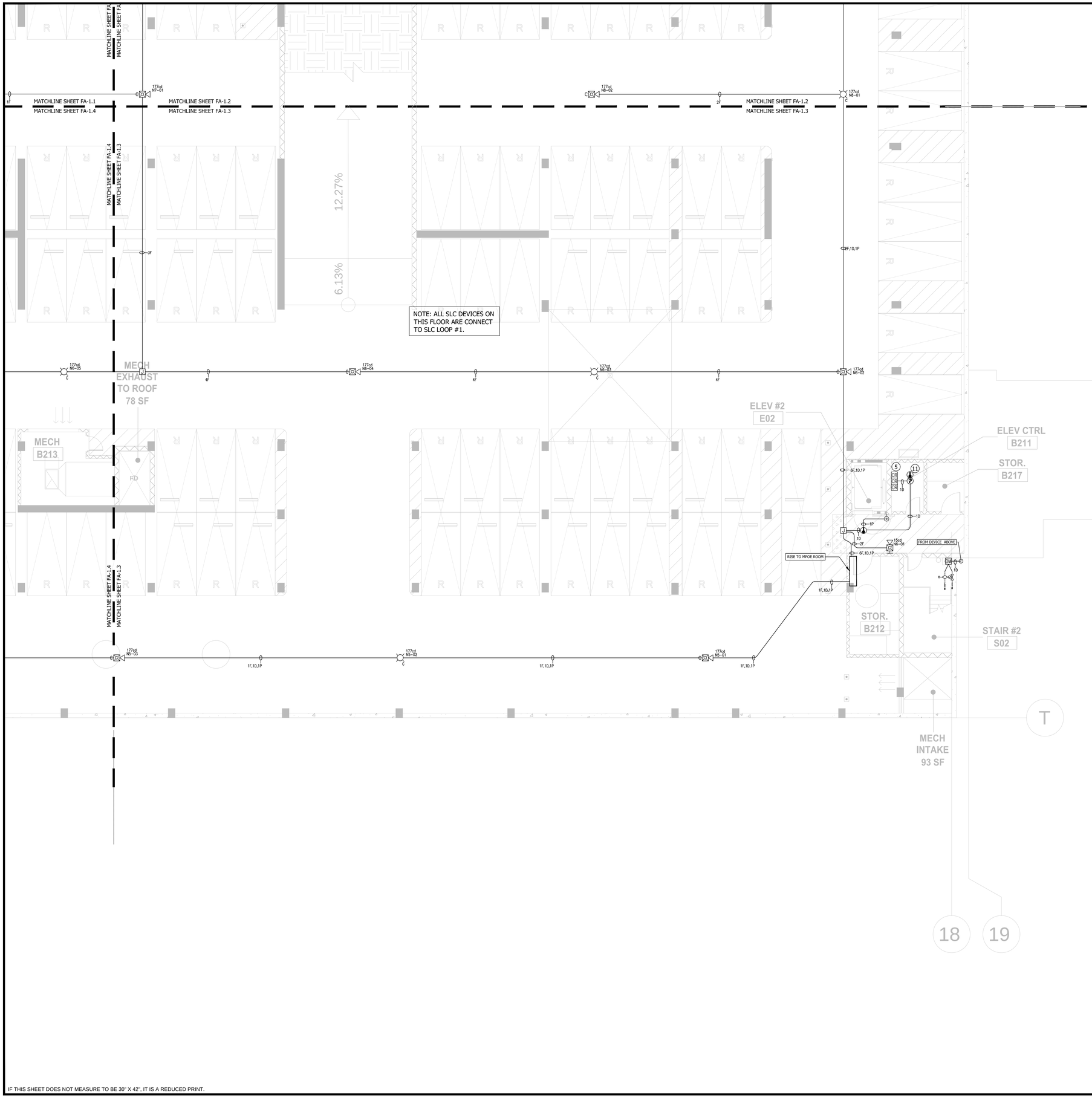
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BASEMENT B2
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-1.2



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS.
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

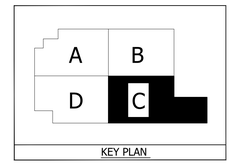
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

BASEMENT B2 FLR PLAN
SEGMENT C

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

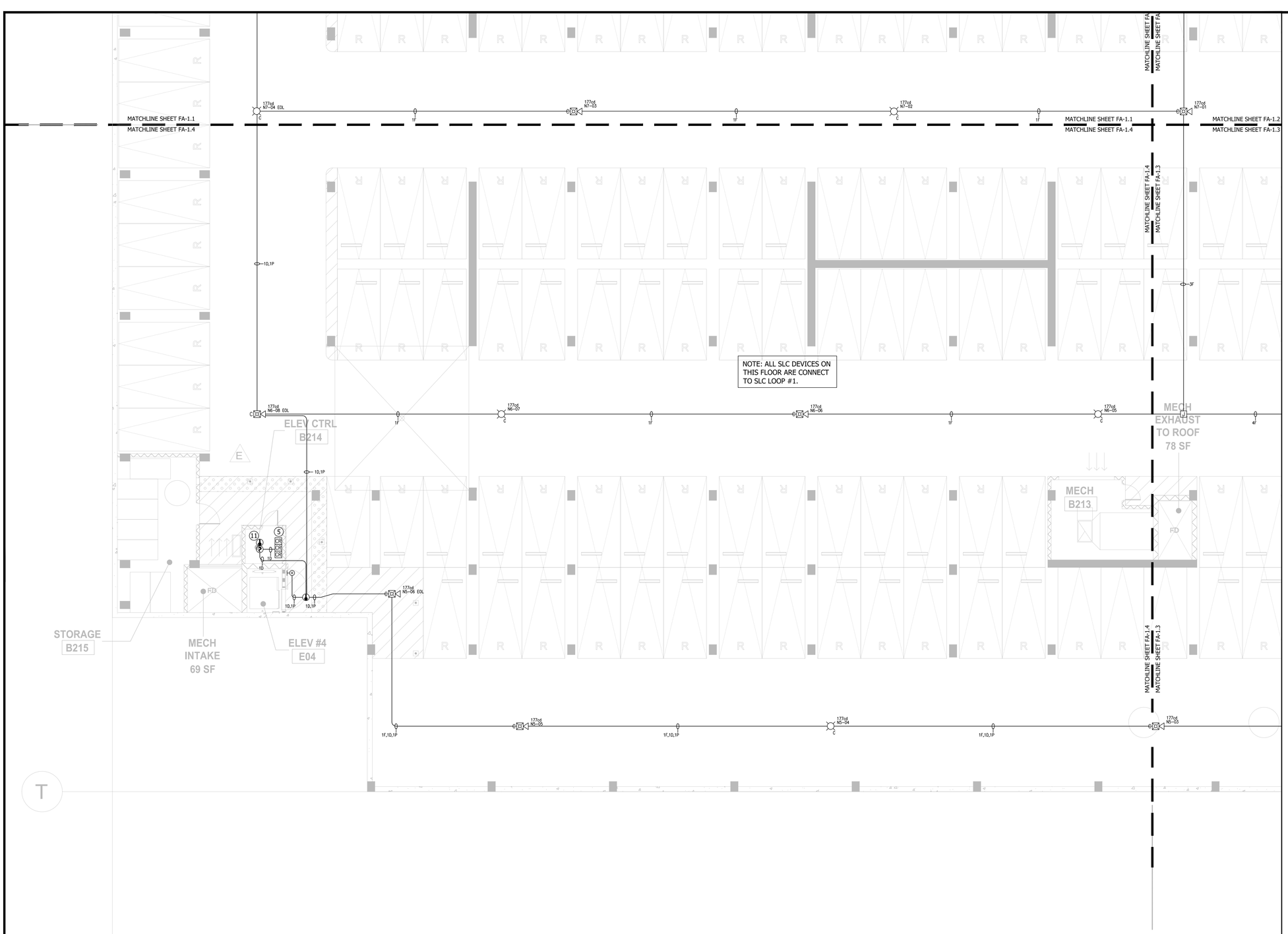
SHEET TITLE:
BASEMENT B2
FLOOR PLAN
SEGMENT C

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-1.3



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
DH	DOOR HOLDER

WIRE LEGEND

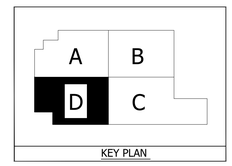
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

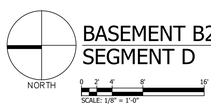
SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN



BASEMENT B2 FLR PLAN SEGMENT D

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED
C-7 C-10
CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

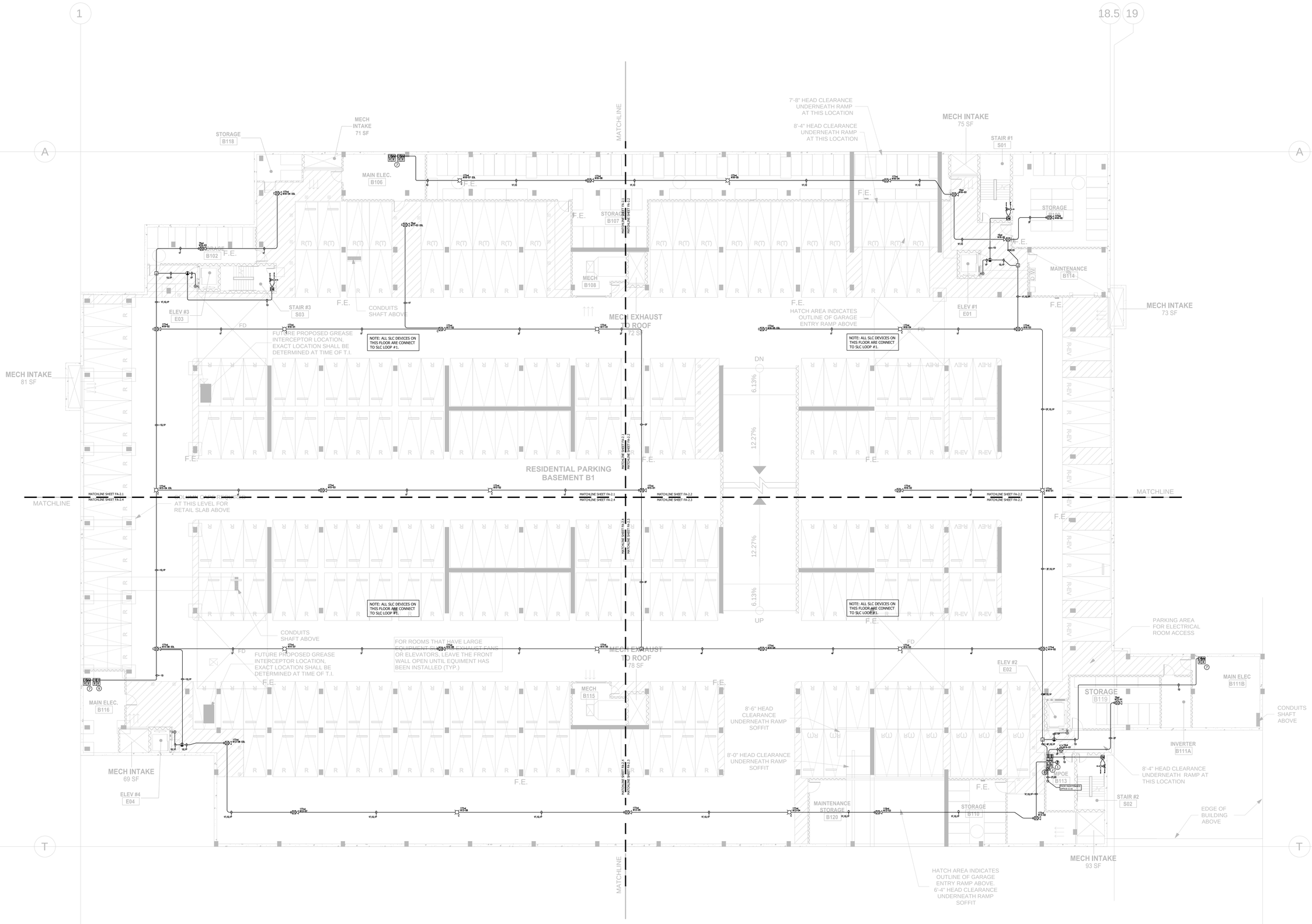
SHEET TITLE:
BASEMENT B2
FLOOR PLAN
SEGMENT D

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-1.4



BASEMENT B1 - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

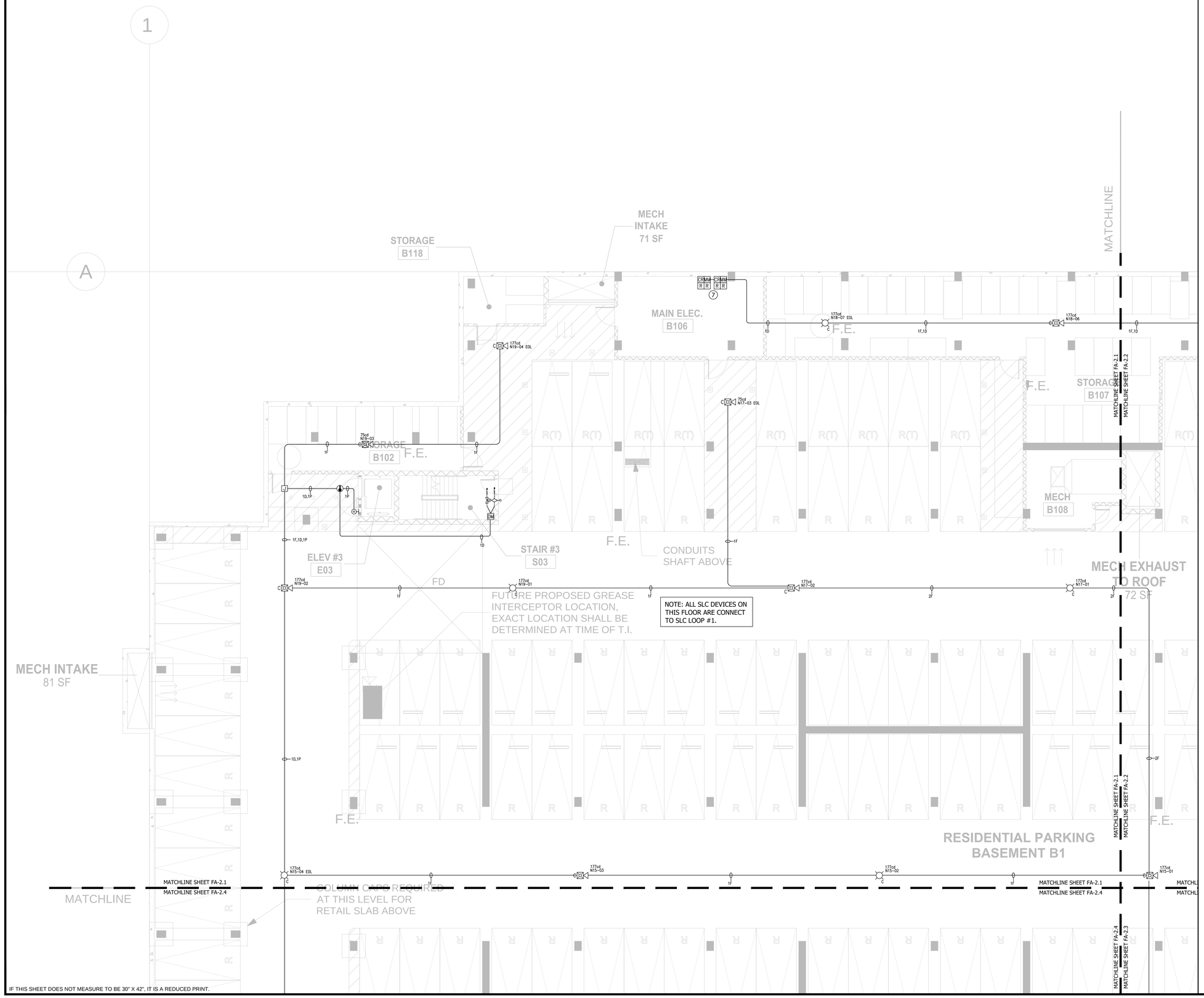
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BASEMENT B1
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-2.0



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
-----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

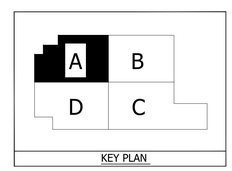
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

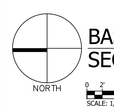
SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN



BASEMENT B1 FLR PLAN
SEGMENT A

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED
C-7 C-10
CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

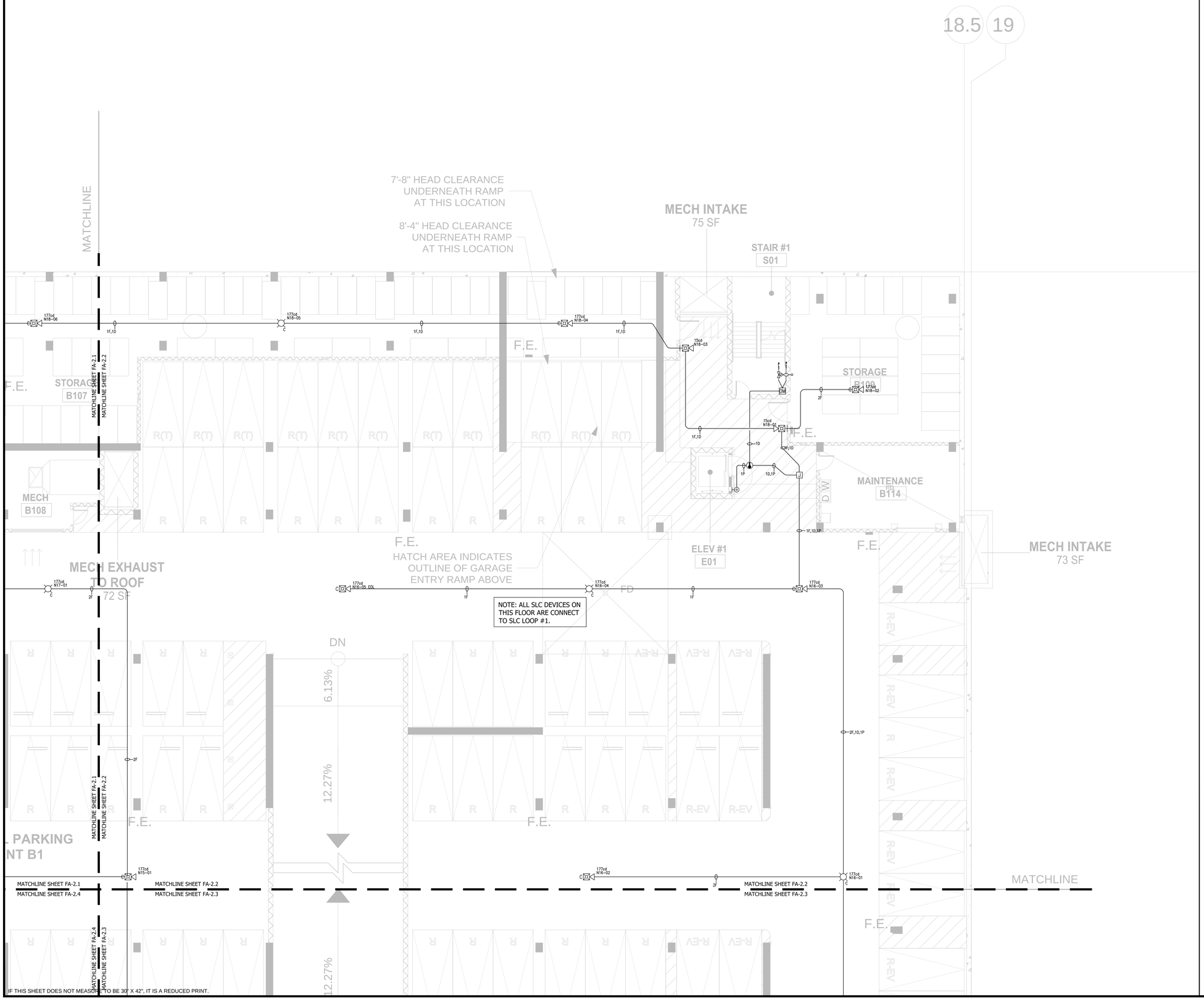
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
BASEMENT B1
FLOOR PLAN
SEGMENT A

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-2.1



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

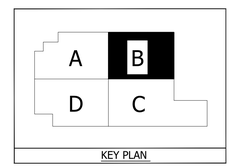
DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



NORTH

BASEMENT B1 FLR PLAN
SEGMENT B

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637 , NICET III #84003
carlos.oliveras@fuegoeng.com

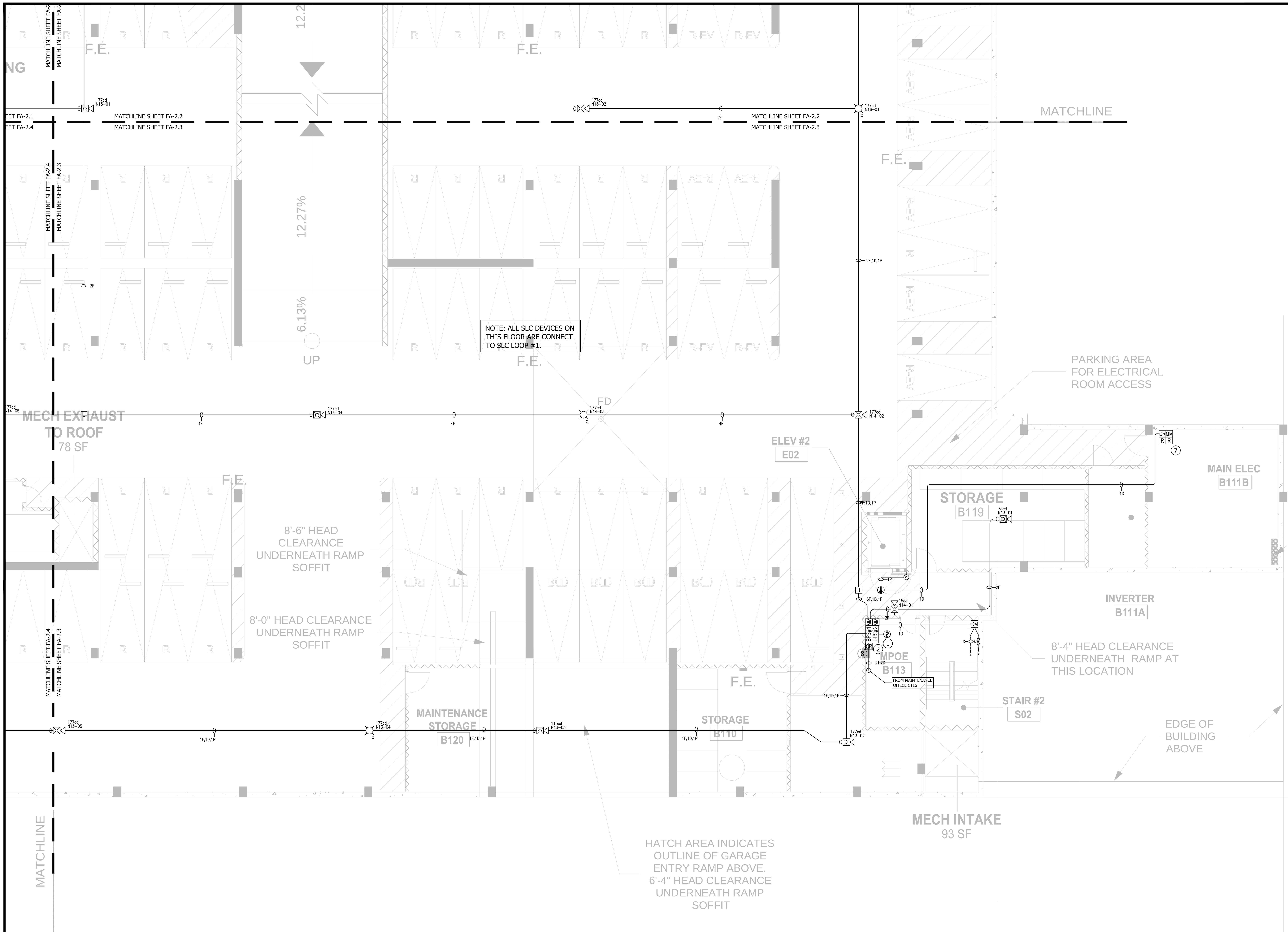
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BASEMENT B1
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-2.2



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

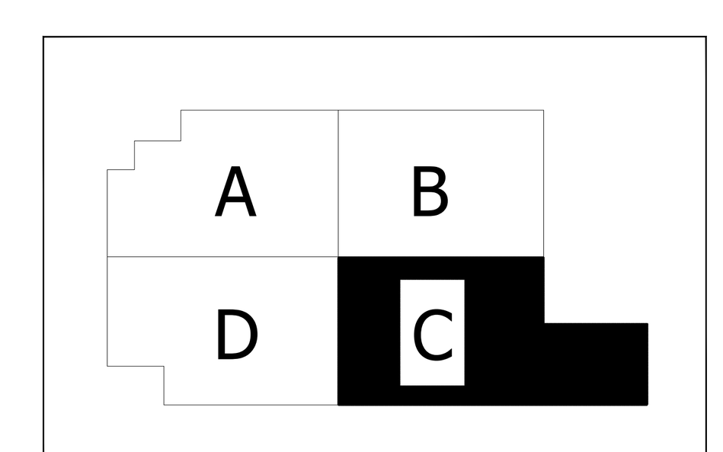
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

BASEMENT B1 FLR PLAN SEGMENT C

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1
100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER:
FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

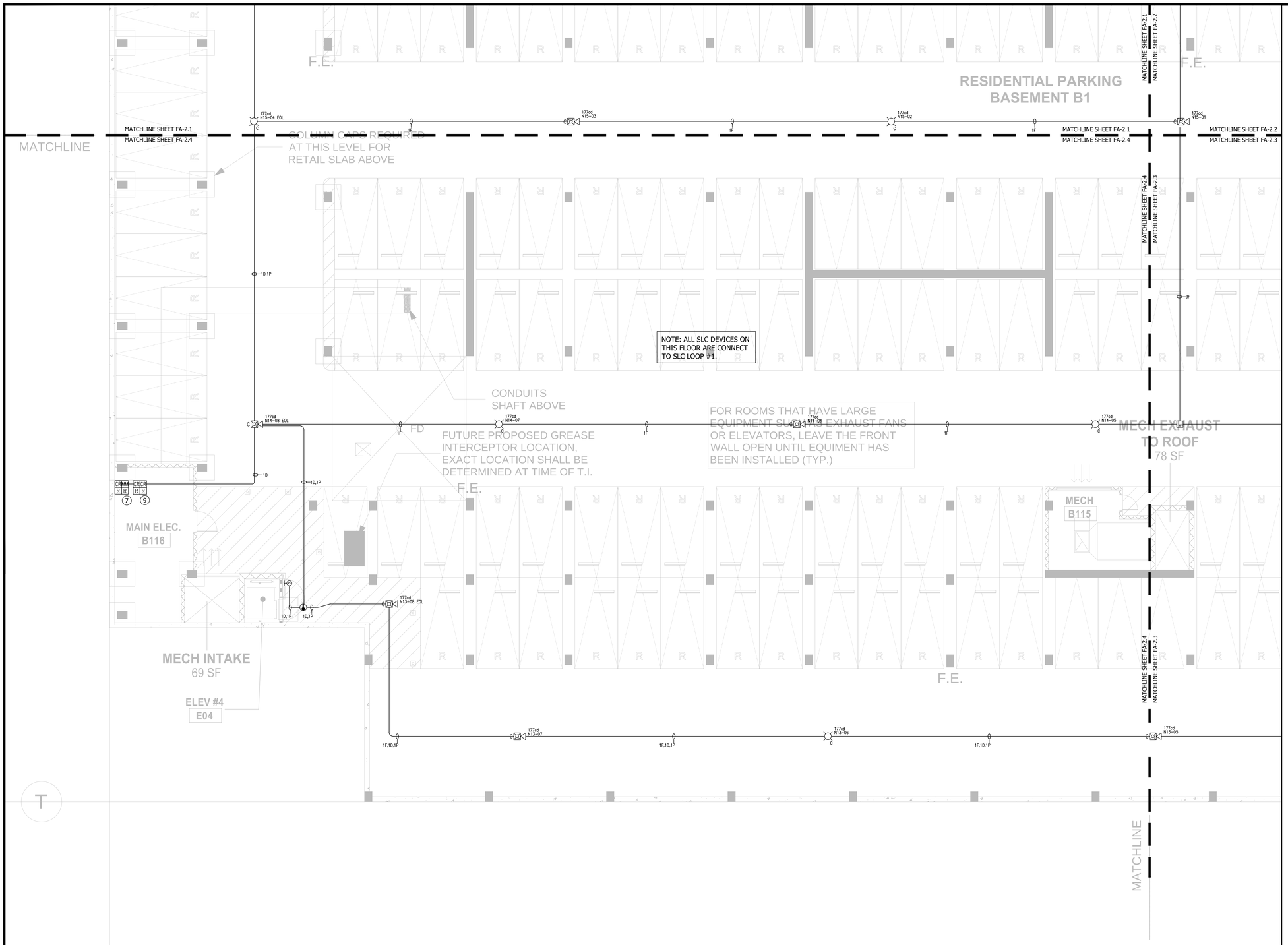
SHEET TITLE:
BASEMENT B1 FLOOR PLAN SEGMENT C

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-2.3



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

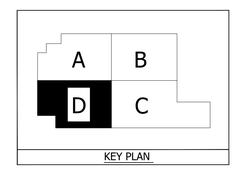
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
REFER TO 716.3.3.2 (CBC 2016)	



KEY PLAN

BASEMENT B1 FLR PLAN SEGMENT D

NORTH

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

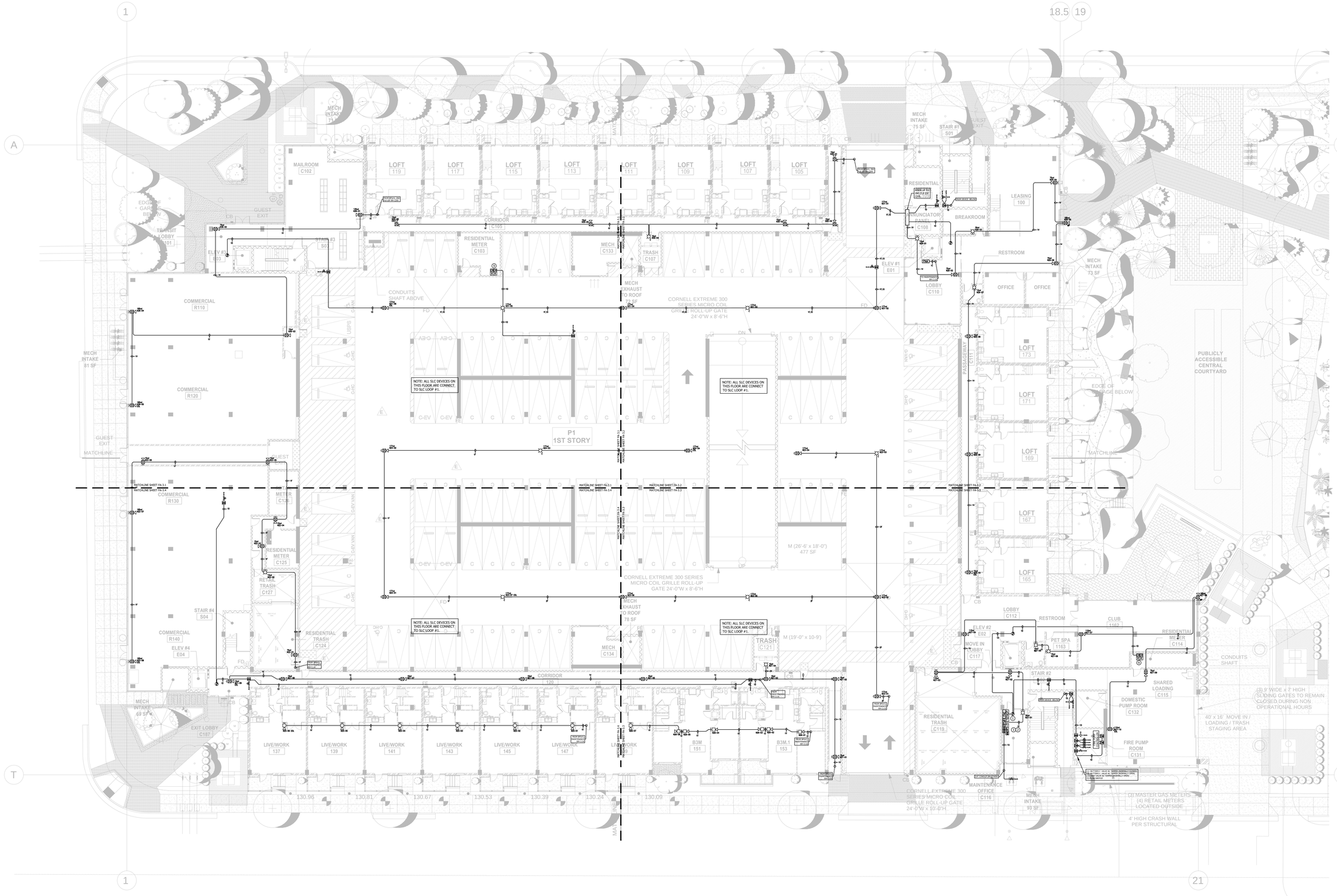
SHEET TITLE:
BASEMENT B1
FLOOR PLAN
SEGMENT D

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-2.4



1ST STORY - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

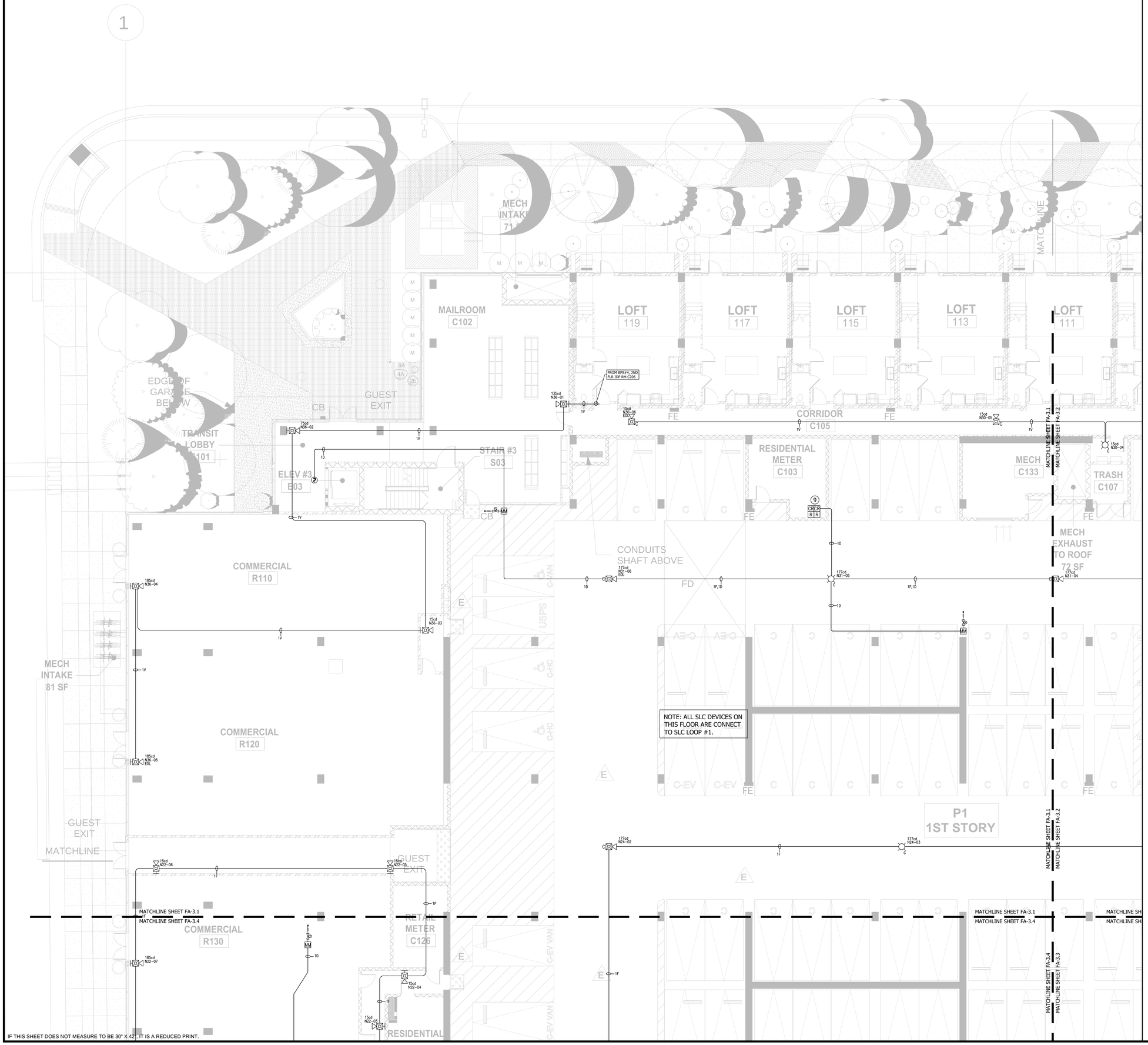
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
1ST STORY
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-3.0



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

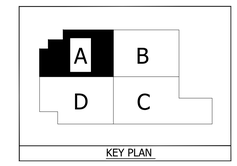
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

1ST STORY FLR PLAN SEGMENT A

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

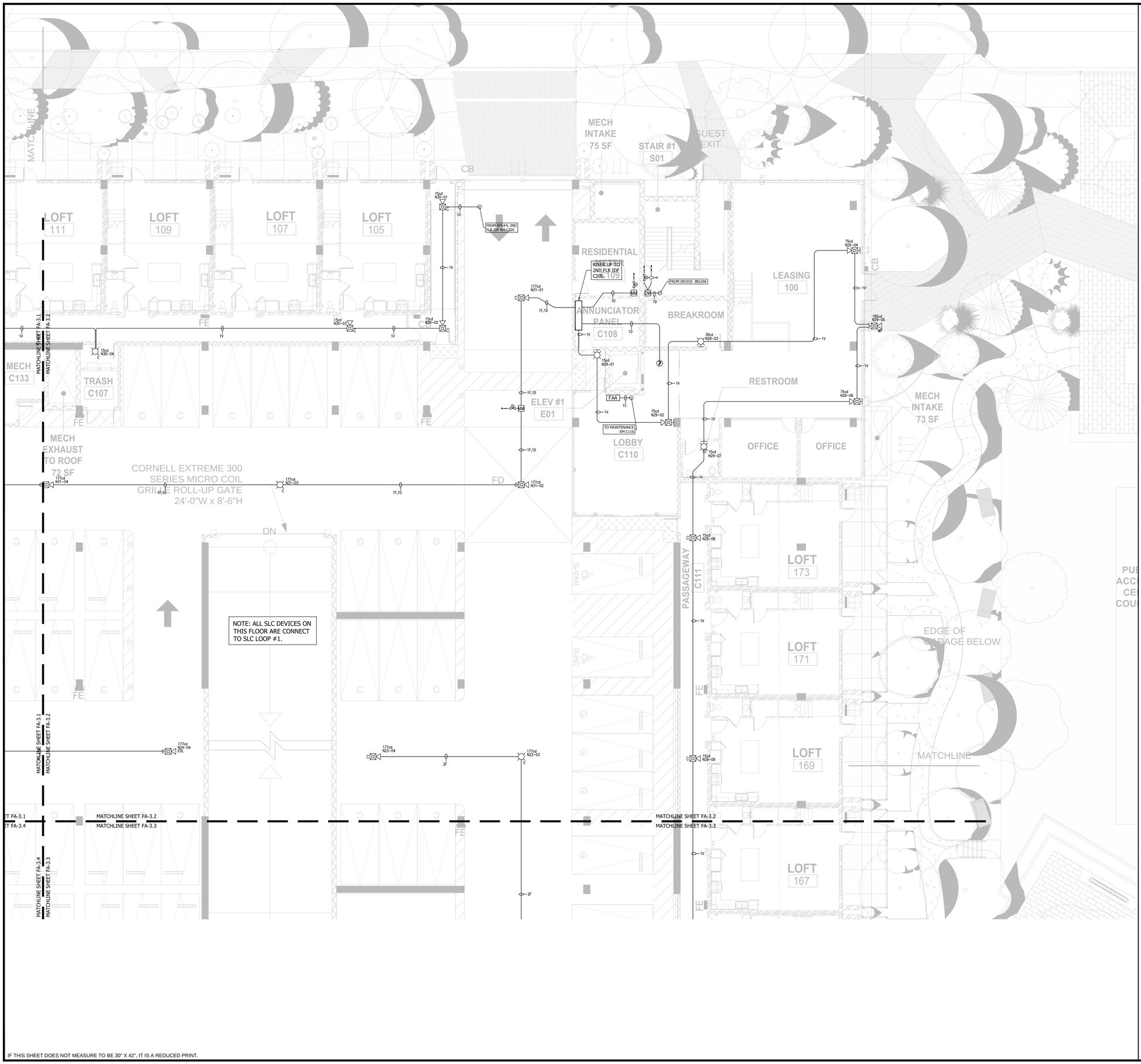
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
1ST STORY FLOOR PLAN SEGMENT A

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-3.1



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

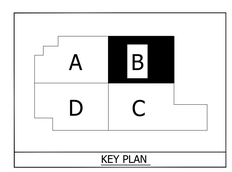
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNCIATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

1ST STORY FLR PLAN
SEGMENT B

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

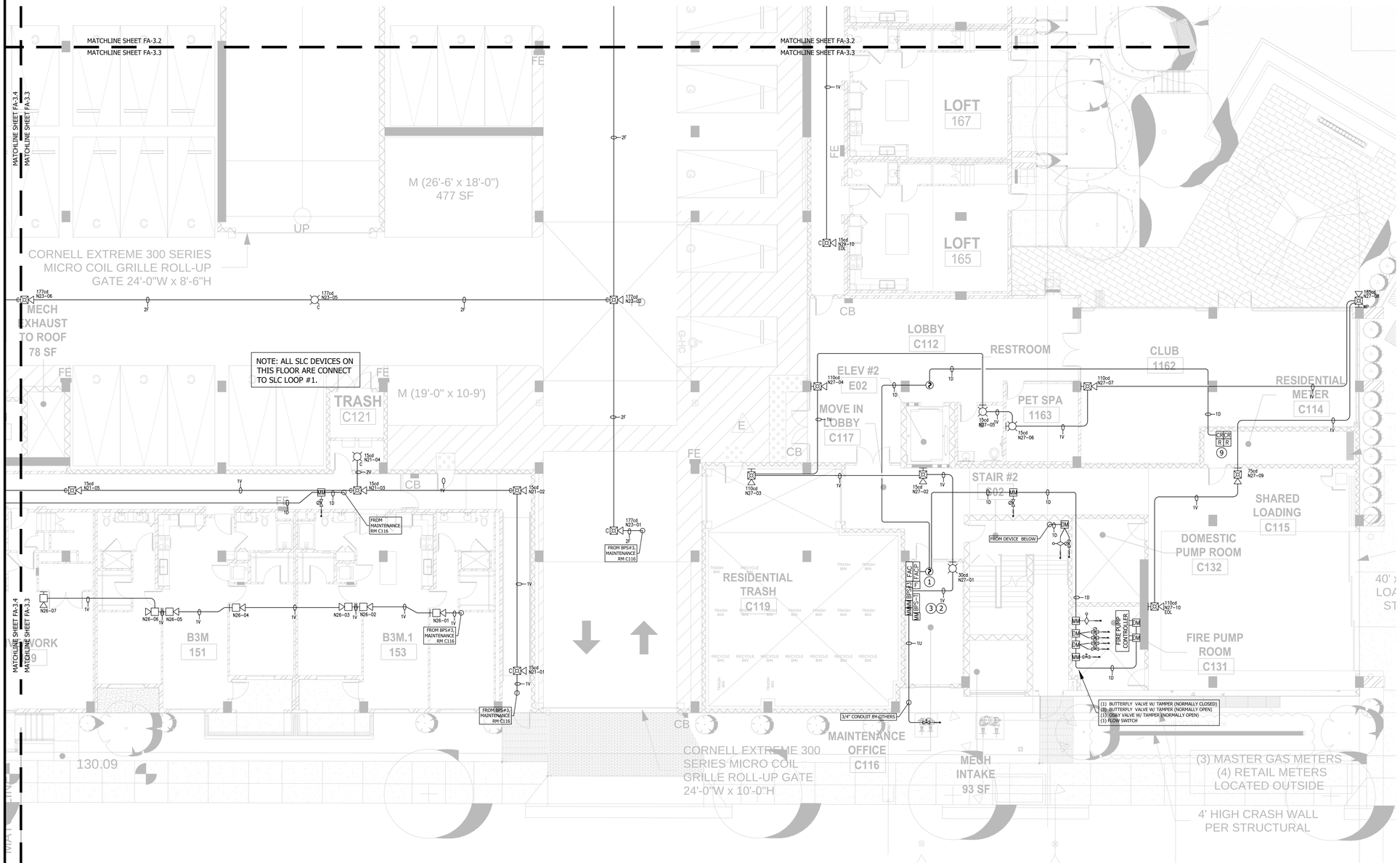
SHEET TITLE:
1ST STORY
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-3.2



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

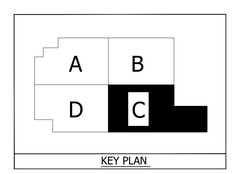
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

1ST STORY FLR PLAN
SEGMENT C

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

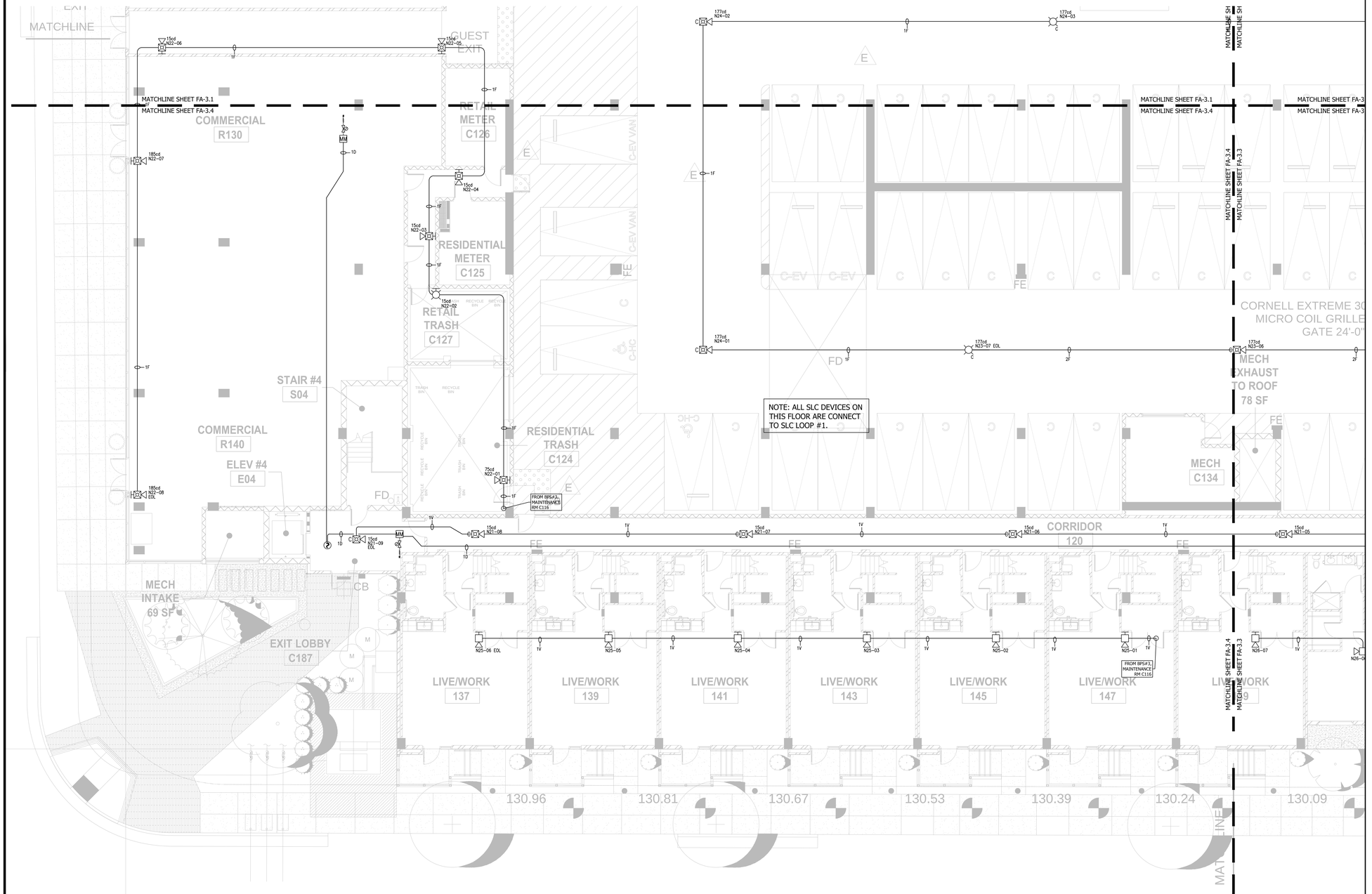
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
1ST STORY
FLOOR PLAN
SEGMENT C

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-3.3



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

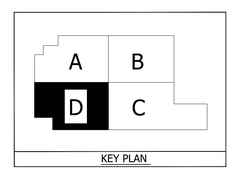
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

1ST STORY FLR PLAN
SEGMENT D

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

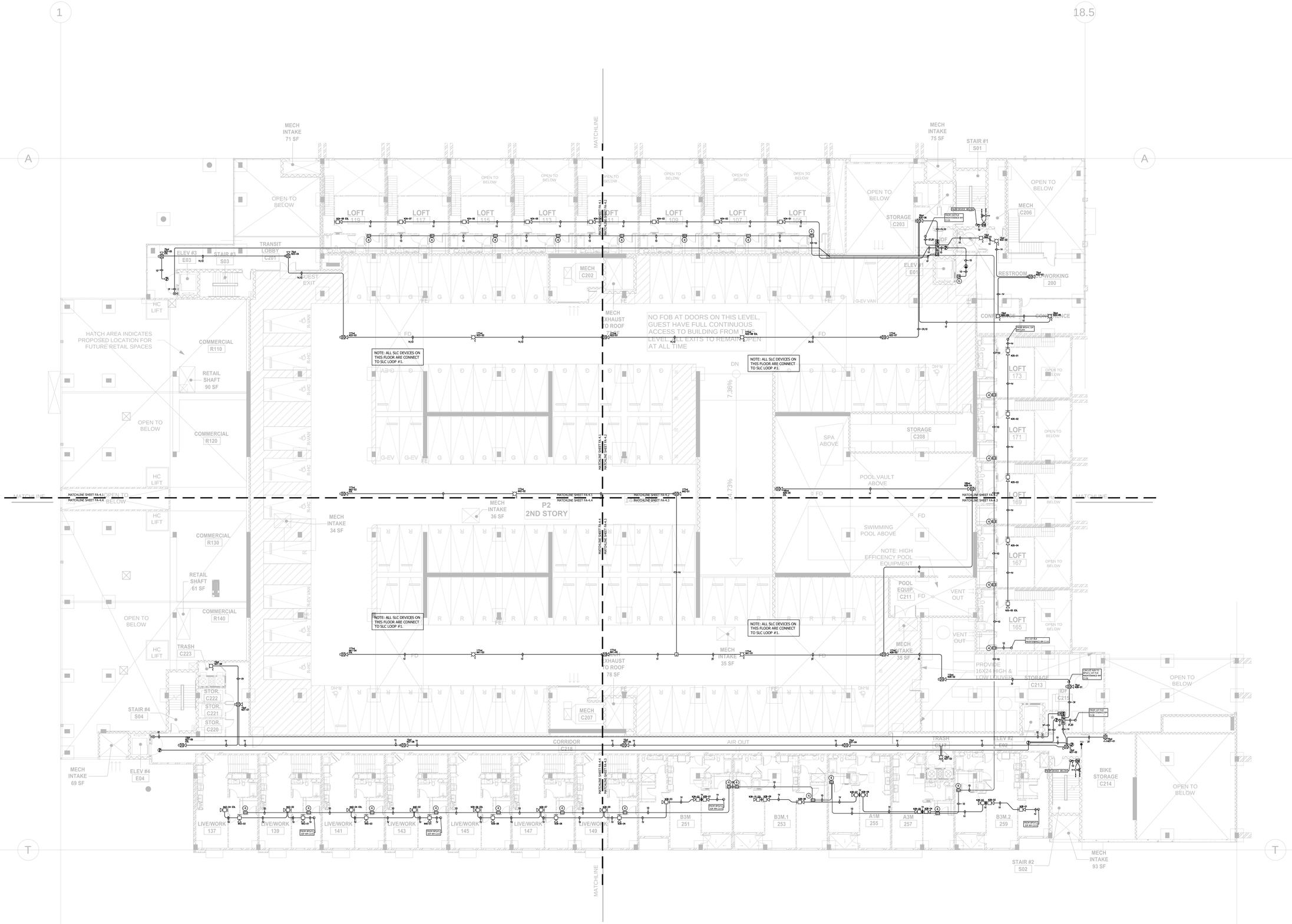
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
1ST STORY
FLOOR PLAN
SEGMENT D

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-3.4



2ND STORY - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

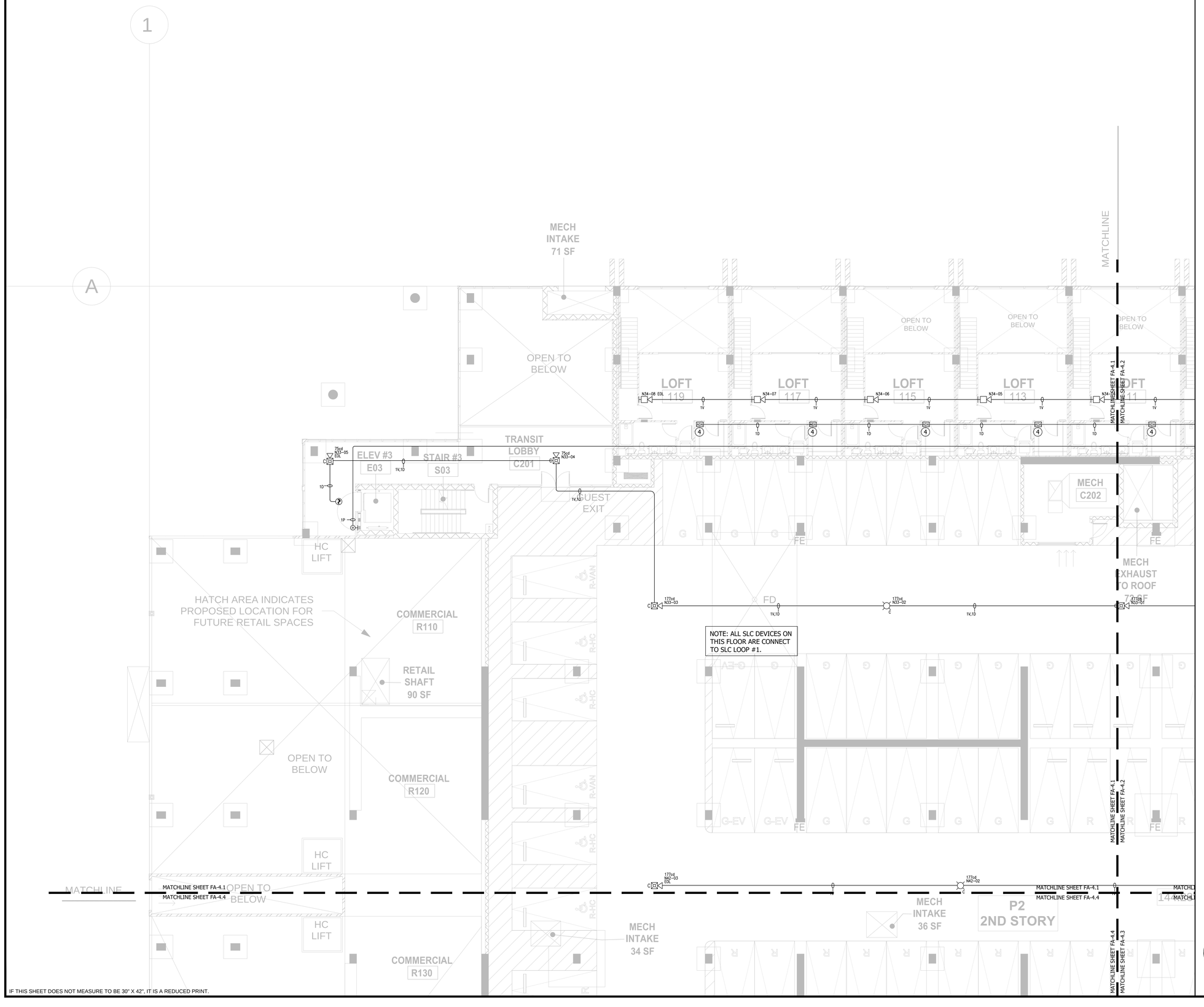
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
2ND STORY
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-4.0



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

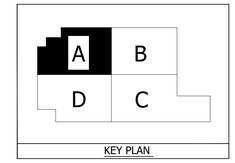
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

2ND STORY FLR PLAN SEGMENT A

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #844003
carlos.oliveras@fuegoeng.com

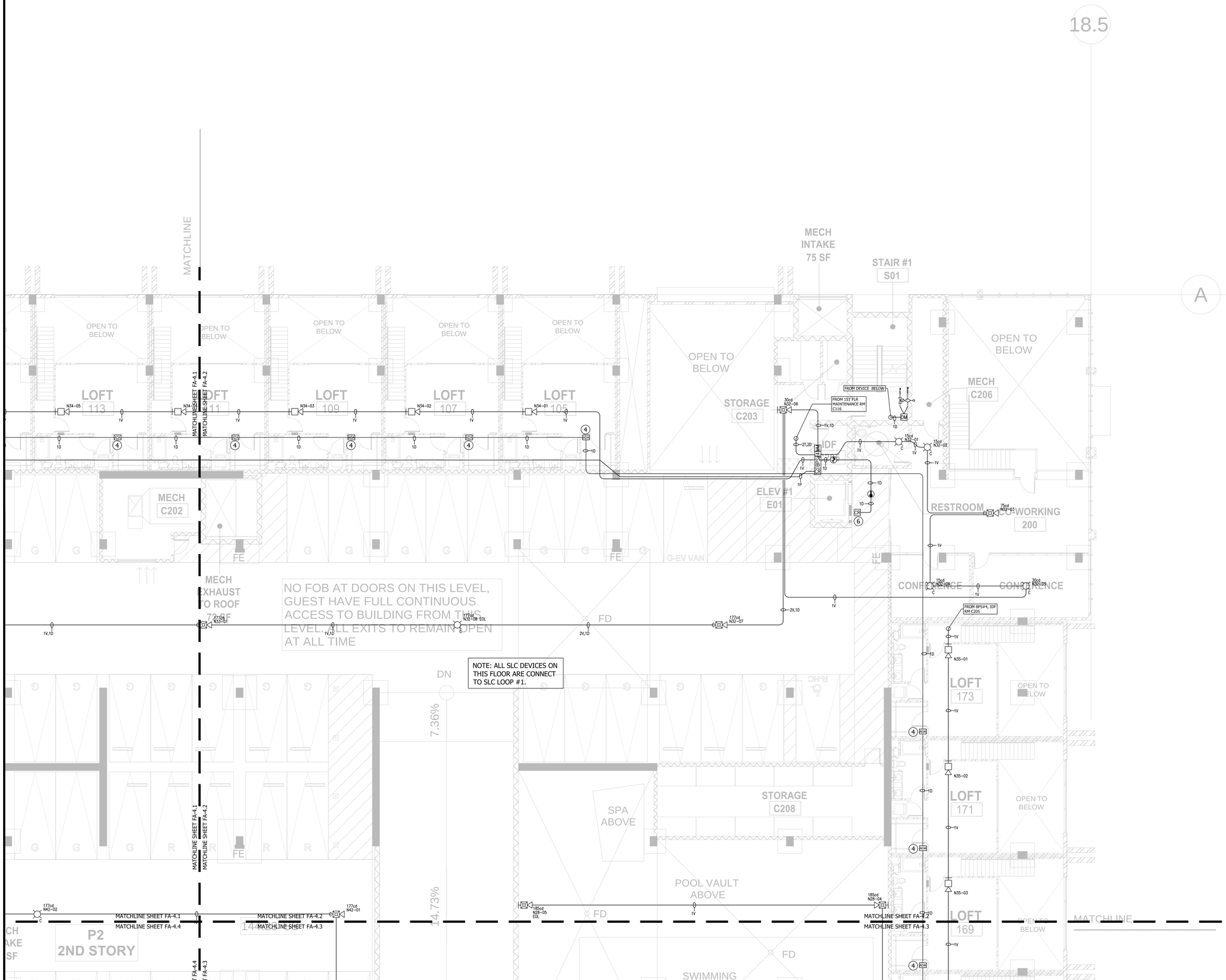
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
2ND STORY FLOOR PLAN SEGMENT A

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-4.1



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

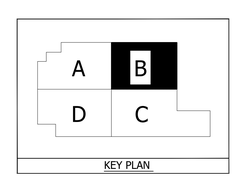
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

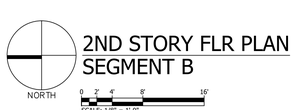
DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)





2ND STORY FLR PLAN
SEGMENT B

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

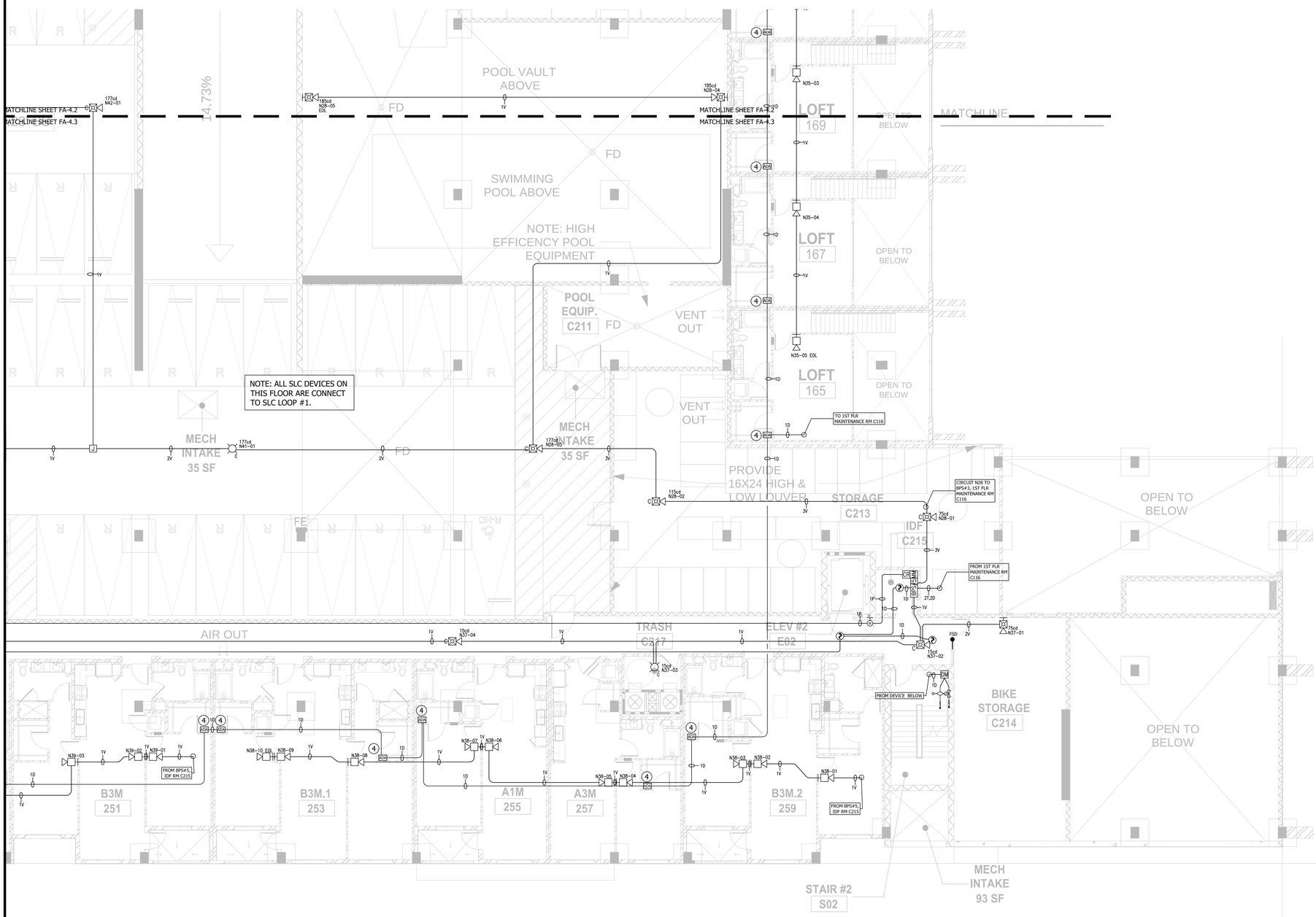
SHEET TITLE:
2ND STORY
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-4.2

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

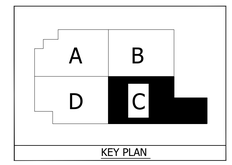
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

2ND STORY FLR PLAN
SEGMENT C

NORTH

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

ELECTRONIC SYSTEM, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
2ND STORY
FLOOR PLAN
SEGMENT C

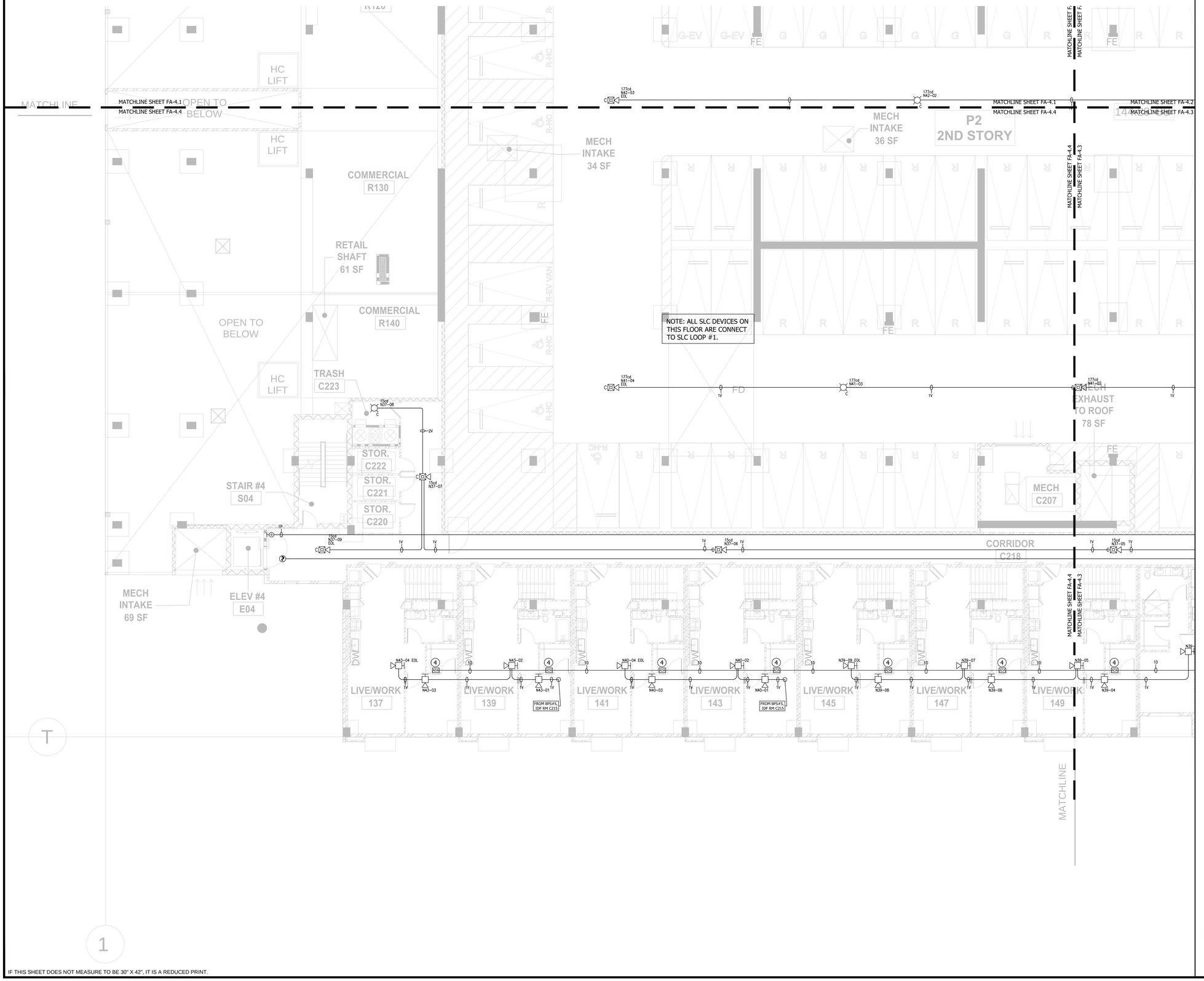
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-4.3

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

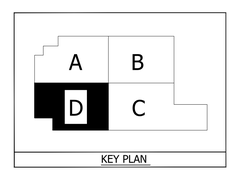
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

2ND STORY FLR PLAN
SEGMENT D

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

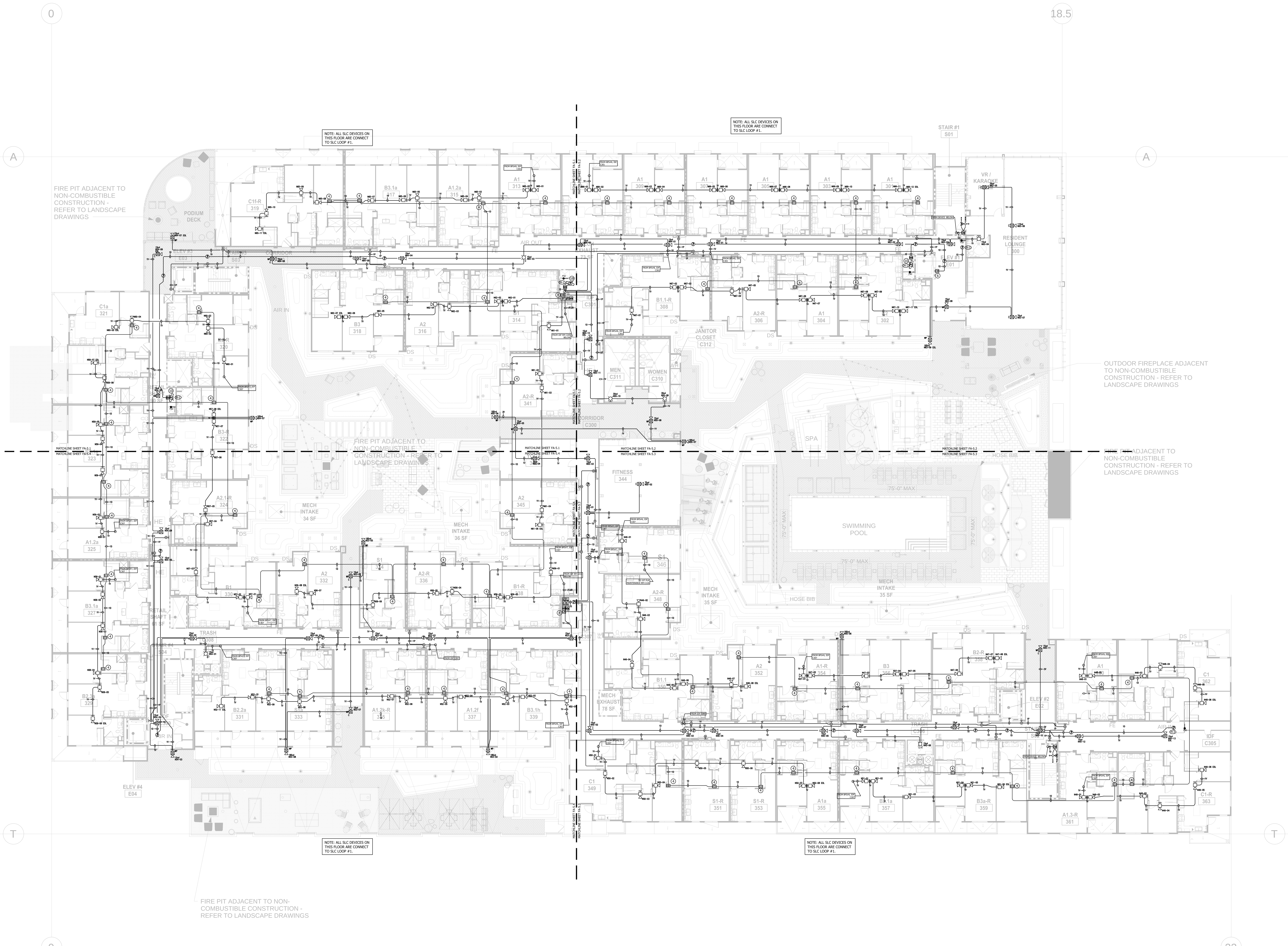
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
2ND STORY
FLOOR PLAN
SEGMENT D

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-4.4



3RD STORY - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

DERRICK M. EMGE

ELAN - BUILDING #1
100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER:
FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

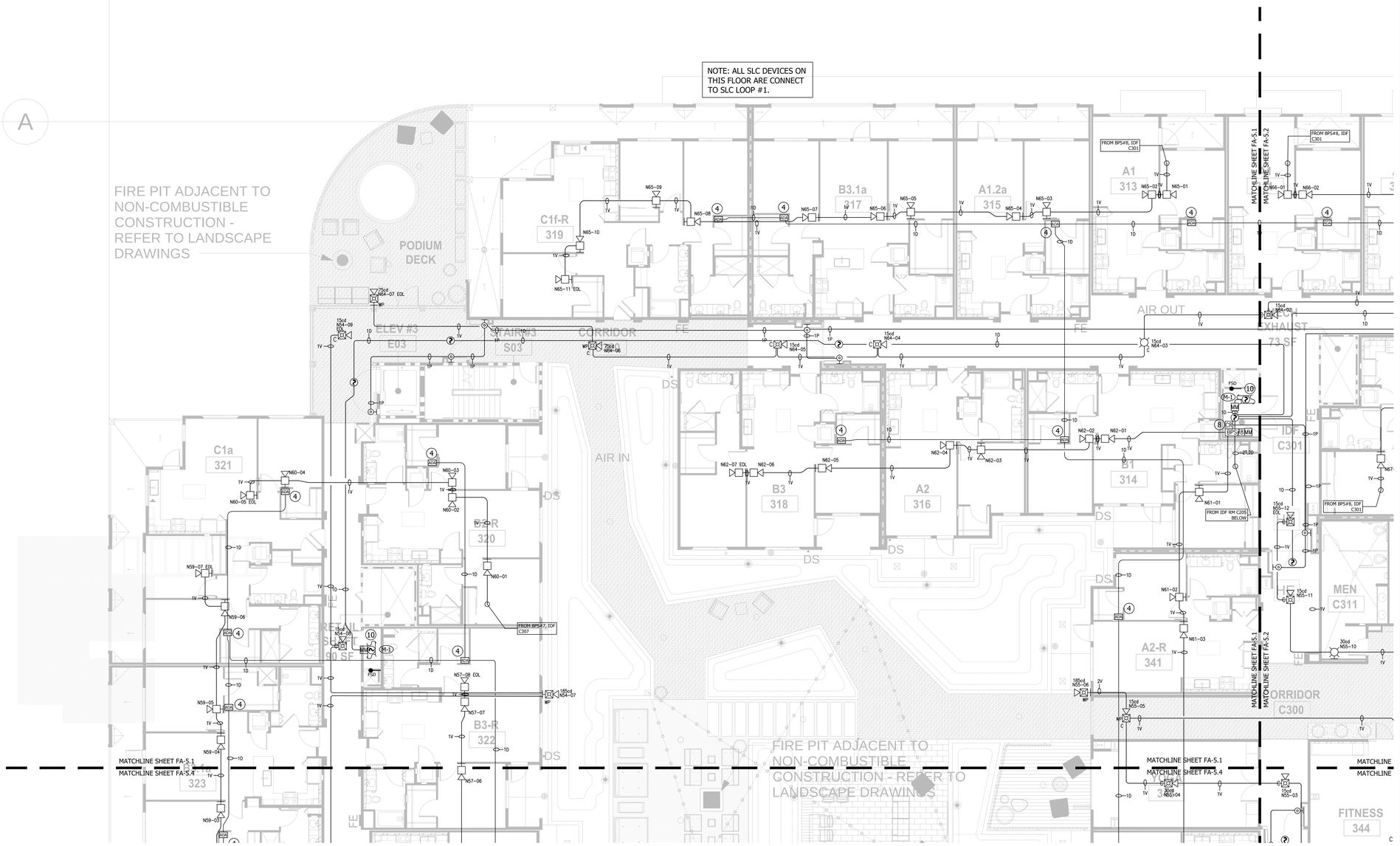
SHEET TITLE:
3RD STORY
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO. FA-5.0

NOTE: ALL SLC DEVICES ON THIS FLOOR ARE CONNECT TO SLC LOOP #1.



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITTION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

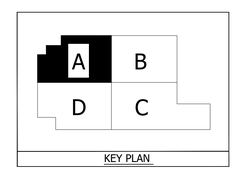
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

3RD STORY FLR PLAN SEGMENT A

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 885922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: 3RD STORY FLOOR PLAN SEGMENT A

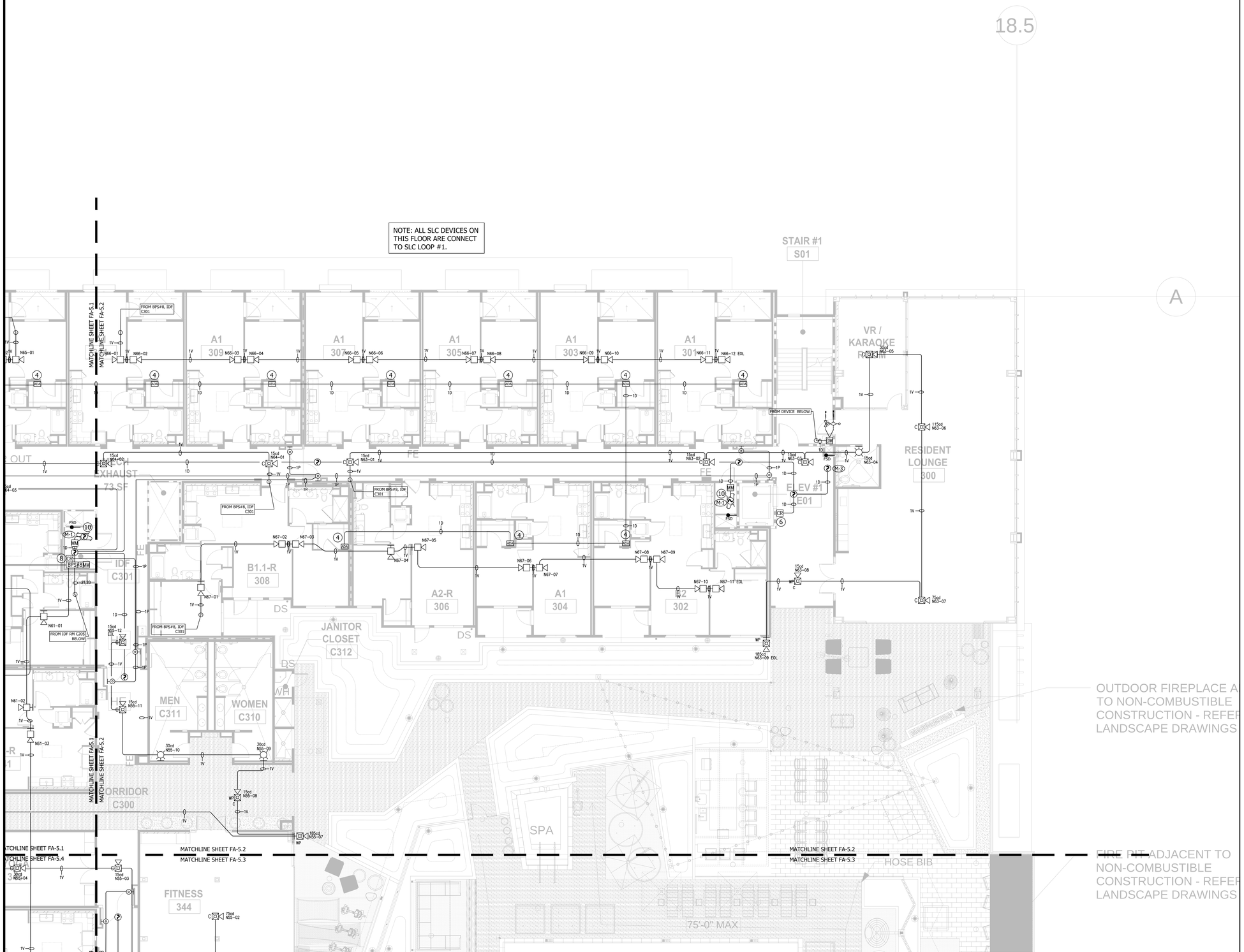
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO. FA-5.1

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES:

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
?	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
H	HORN-STROBE WALL
C H	HORN-STROBE CEILING
WP H	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

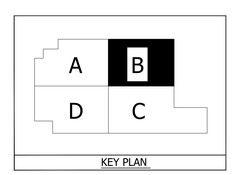
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

3RD STORY FLR PLAN
SEGMENT B

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

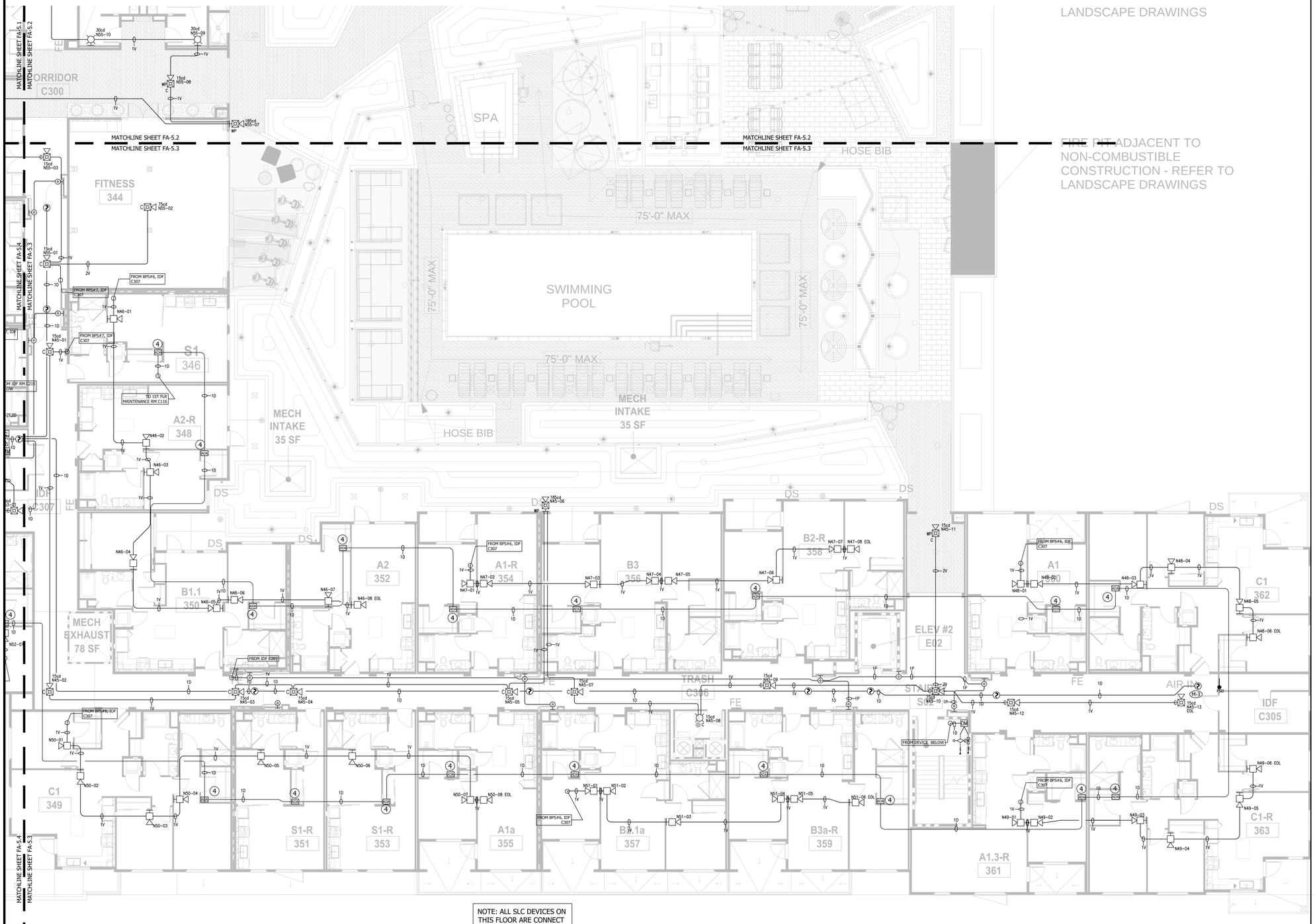
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
3RD STORY
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-5.2



LANDSCAPE DRAWINGS

FIRE PIT ADJACENT TO NON-COMBUSTIBLE CONSTRUCTION - REFER TO LANDSCAPE DRAWINGS

NOTE: ALL SLC DEVICES ON THIS FLOOR ARE CONNECT TO SLC LOOP #1.

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

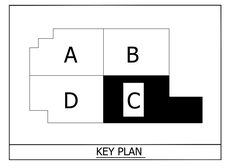
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

3RD STORY FLR PLAN
SEGMENT C

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: 3RD STORY FLOOR PLAN SEGMENT C

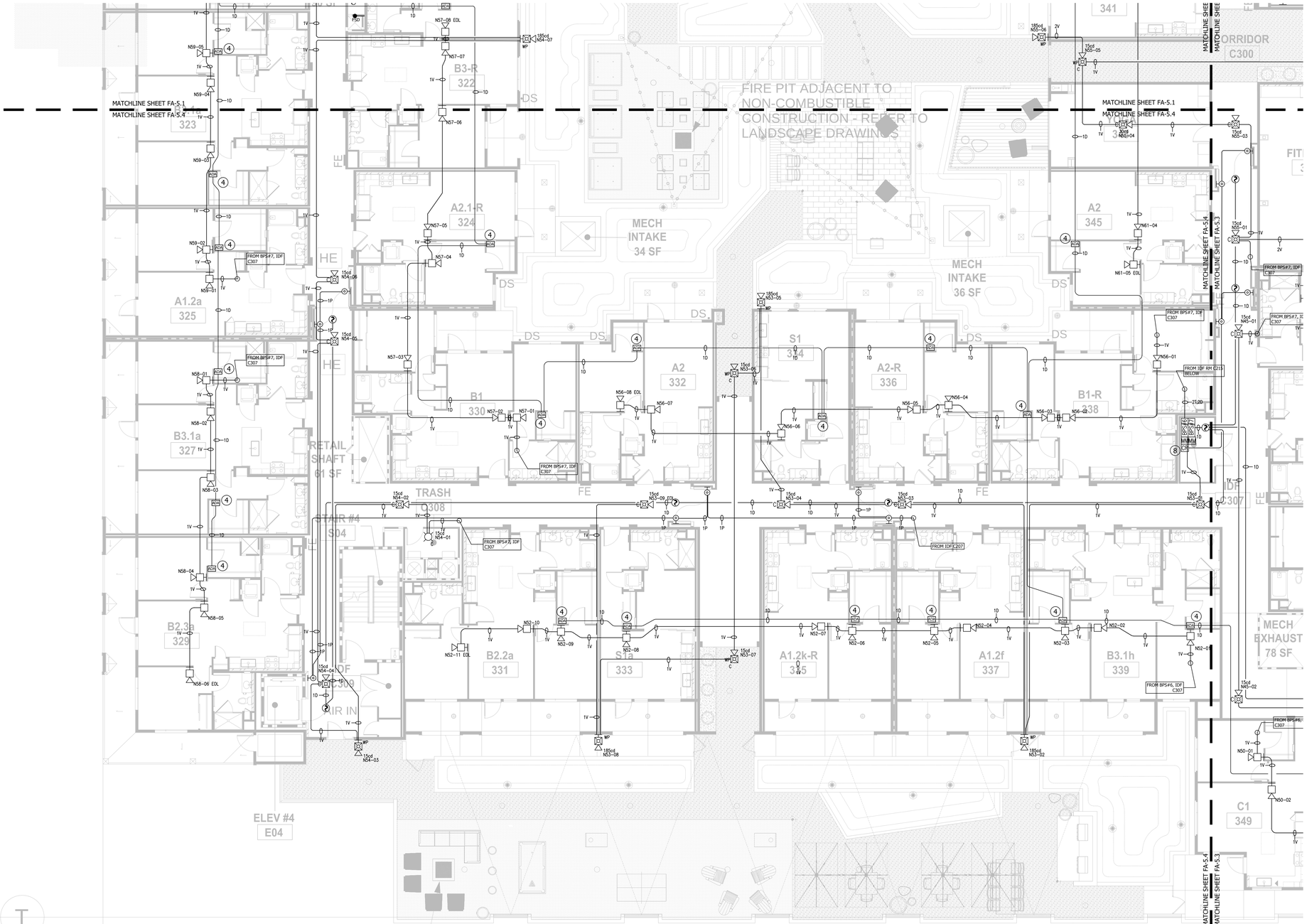
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.

FA-5.3



NOTE: ALL SLC DEVICES ON THIS FLOOR ARE CONNECT TO SLC LOOP #1.

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

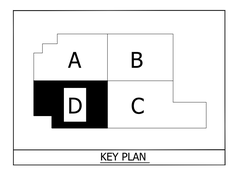
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

3RD STORY FLR PLAN SEGMENT D

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 615-9637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: 3RD STORY FLOOR PLAN SEGMENT D

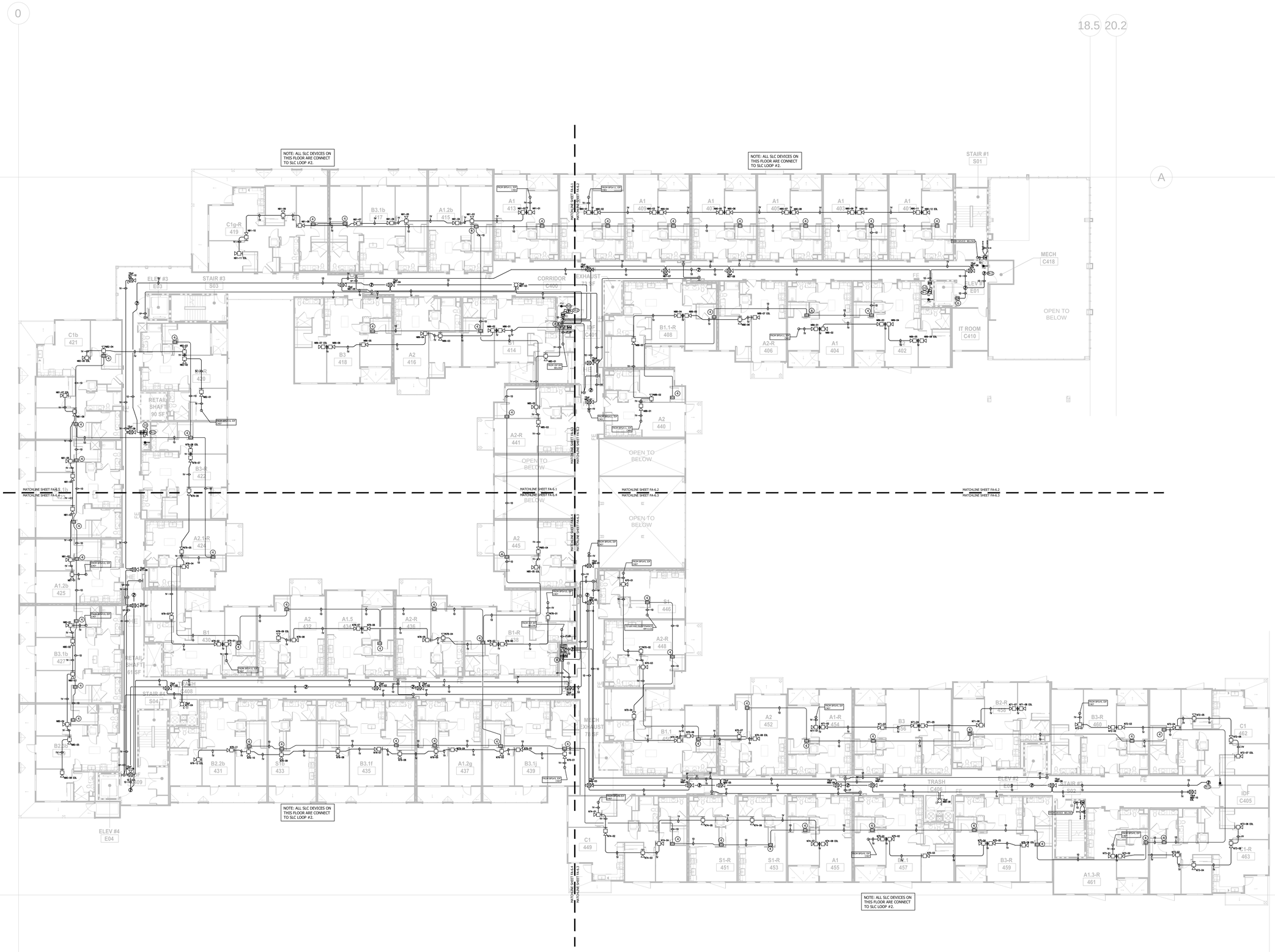
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.

FA-5.4



4TH STORY - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED
C-7 C-10
CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #846003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

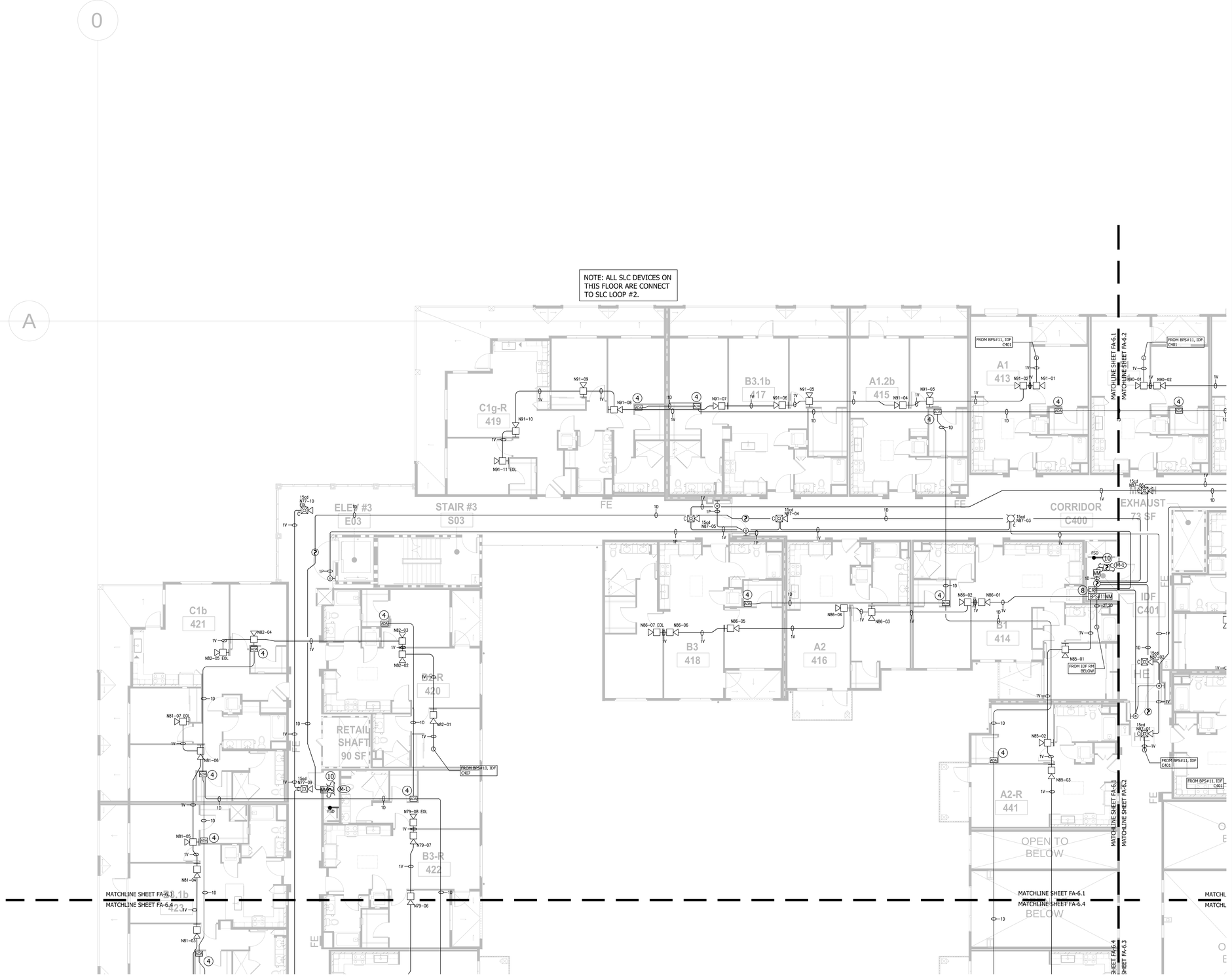
SHEET TITLE:
4TH STORY
OVERALL FLOOR PLAN

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-6.0



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS.
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

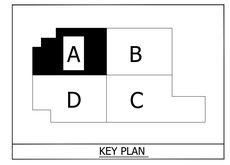
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

4TH STORY FLR PLAN SEGMENT A

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #846003
carlos.oliveras@fuegoeng.com

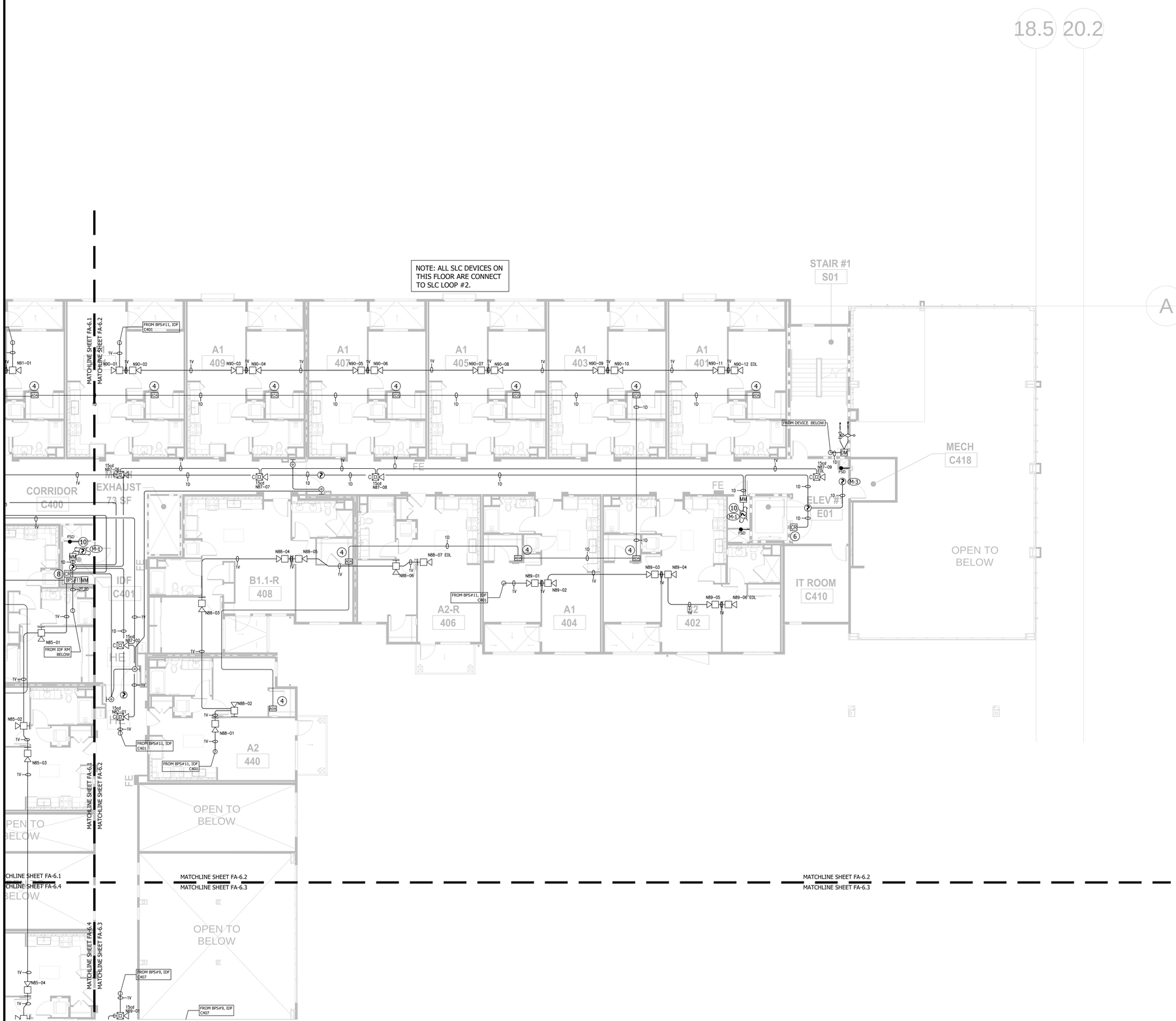
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
4TH STORY
FLOOR PLAN
SEGMENT A

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-6.1



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

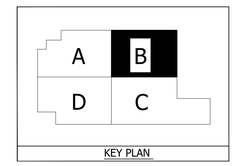
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
BOX	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

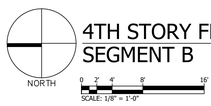
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN



4TH STORY FLR PLAN
SEGMENT B

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 619-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

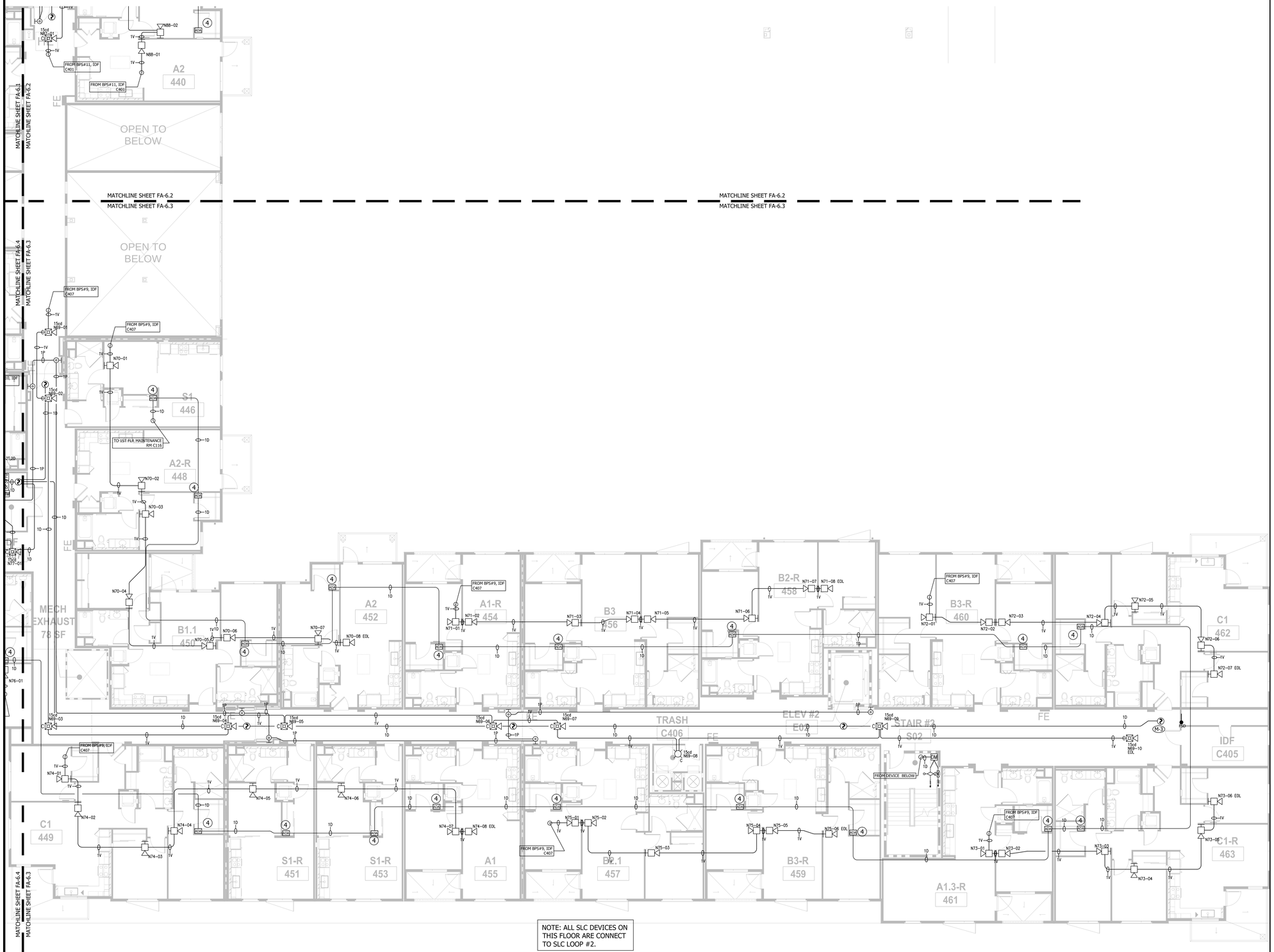
SHEET TITLE:
4TH STORY
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-6.2



NOTE: ALL SLC DEVICES ON THIS FLOOR ARE CONNECT TO SLC LOOP #2.

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

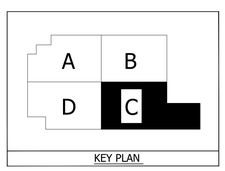
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

4TH STORY FLR PLAN
SEGMENT C

NORTH

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED
C-7 C-10
CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

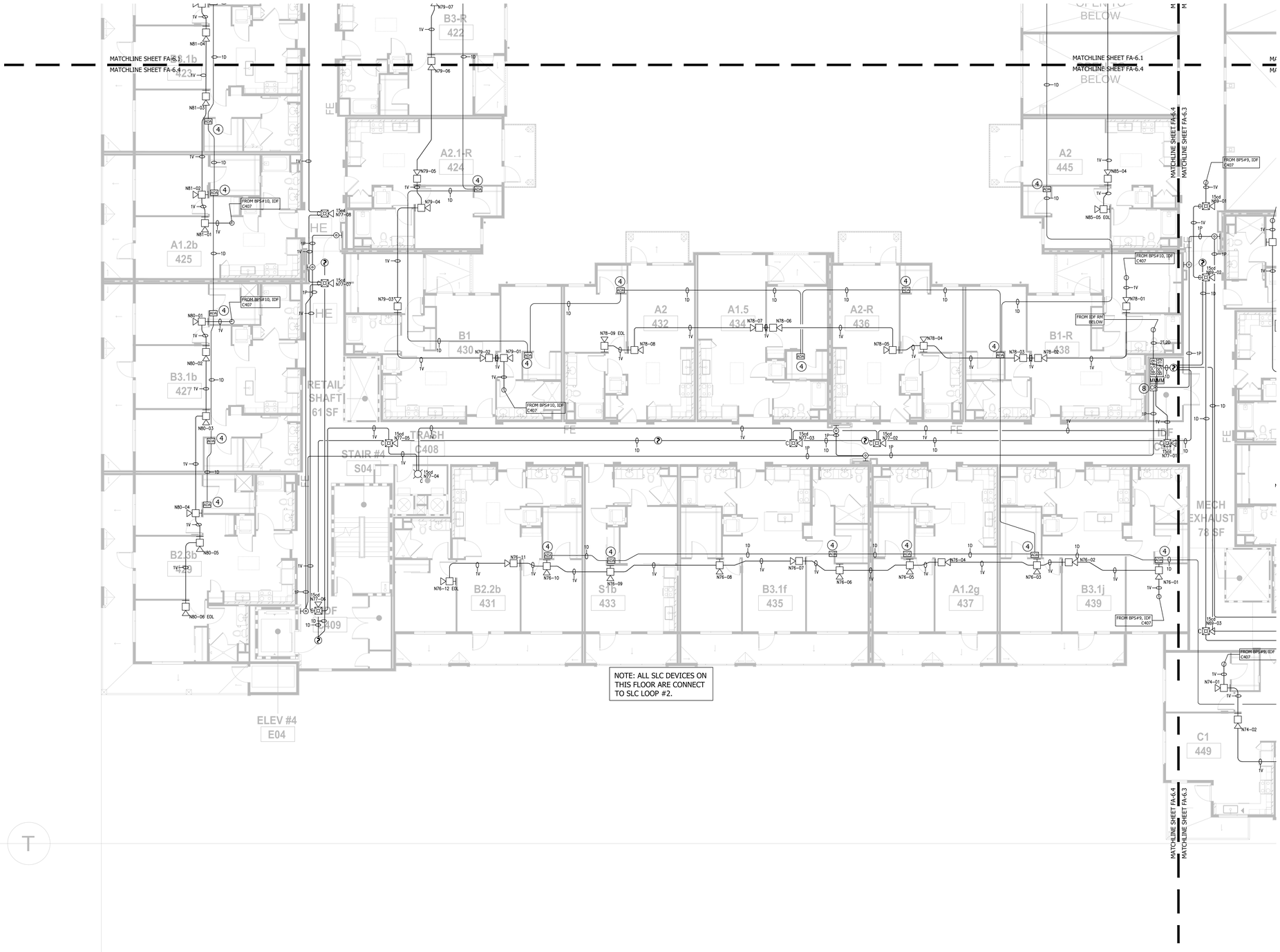
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
4TH STORY
FLOOR PLAN
SEGMENT C

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-6.3



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS, BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMENS HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

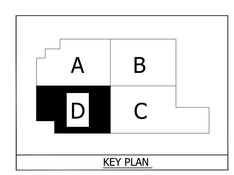
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

4TH STORY FLR PLAN
SEGMENT D

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: 4TH STORY FLOOR PLAN SEGMENT D

ELAN - BUILDING #1

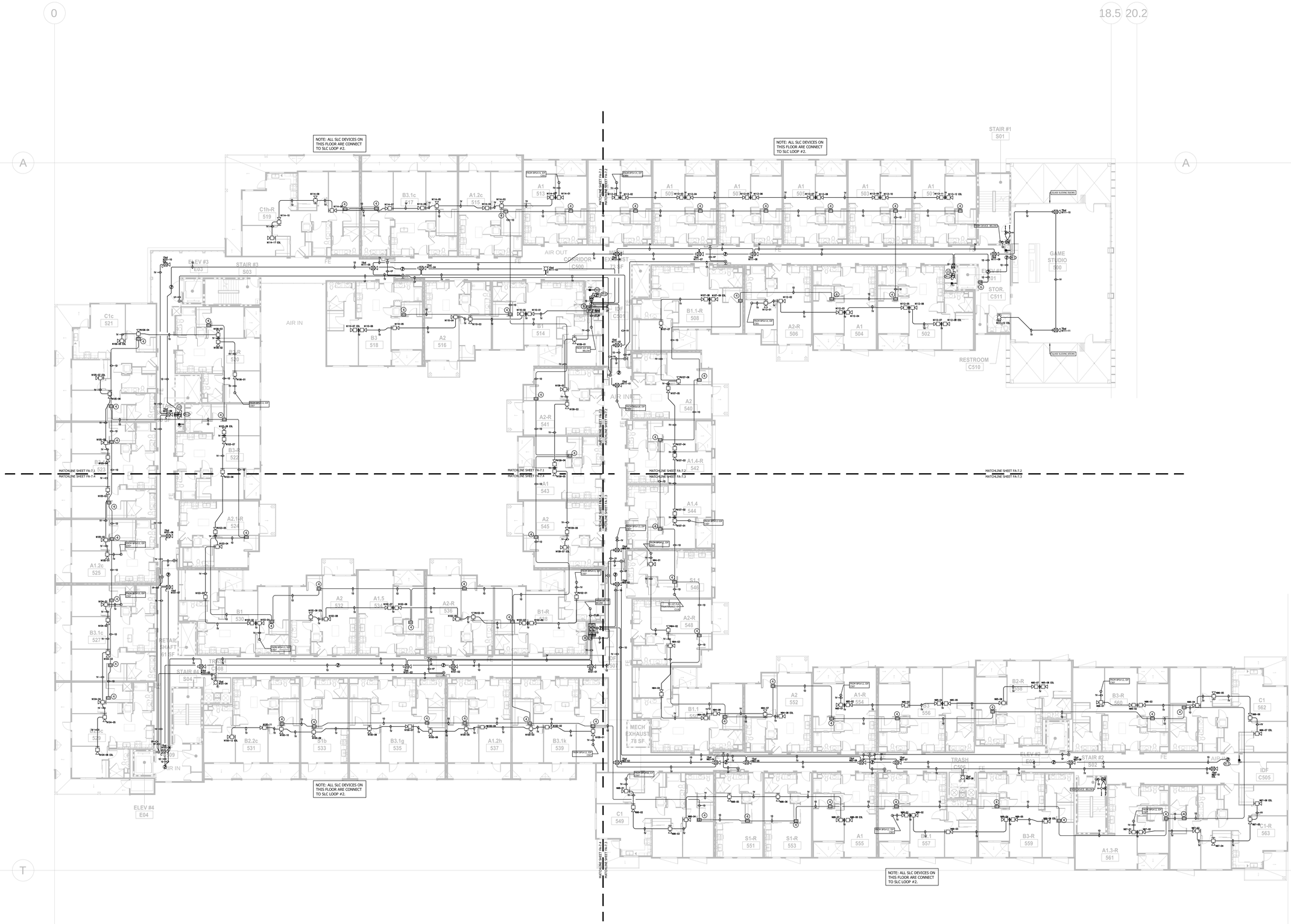
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.

FA-6.4

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



5TH STORY - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED
C-7 C-10
CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

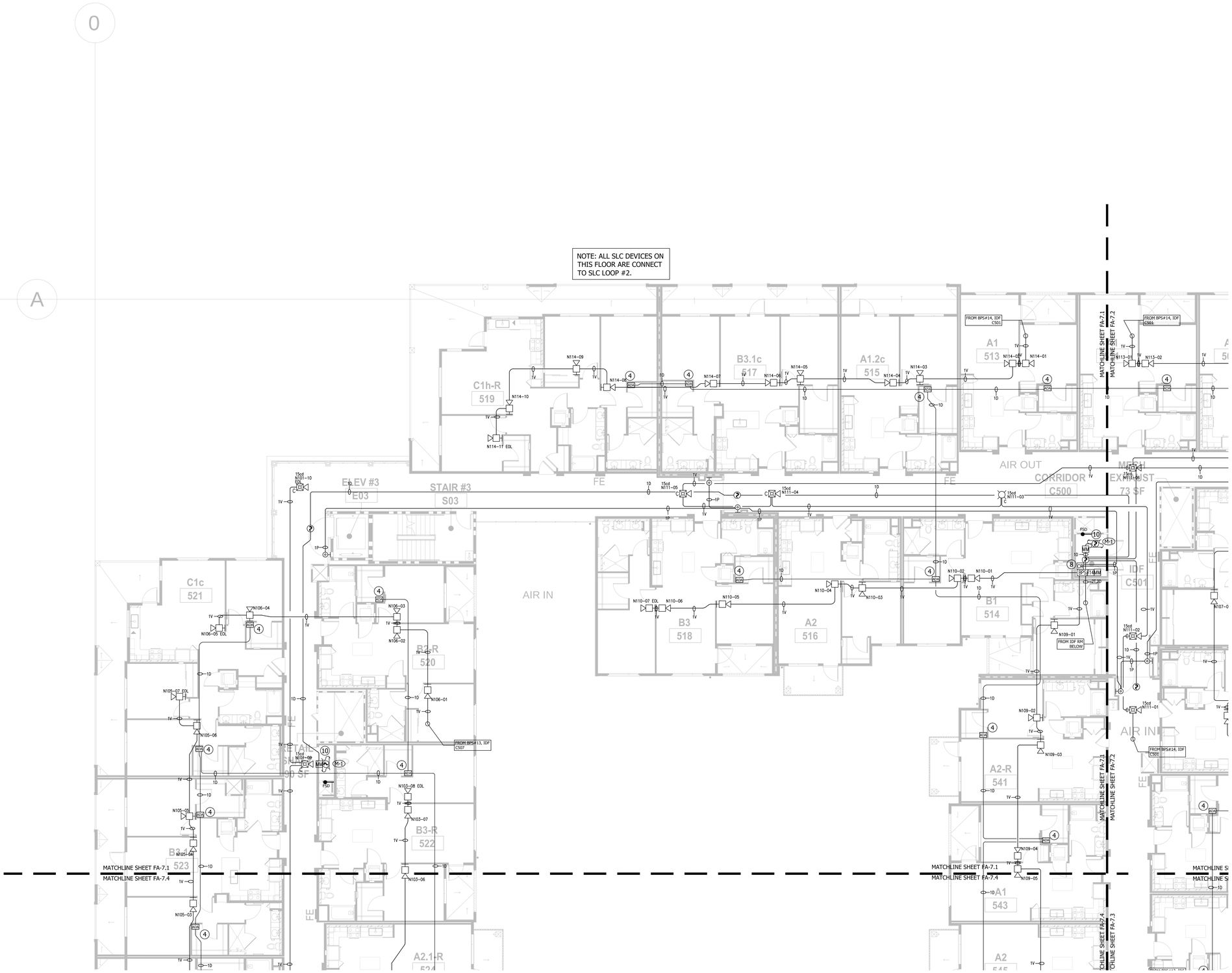
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
5TH STORY
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-7.0



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

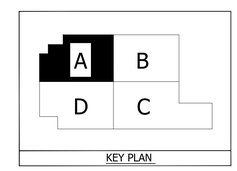
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

NORTH

5TH STORY FLR PLAN
SEGMENT A

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 619-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE: 5TH STORY FLOOR PLAN SEGMENT A

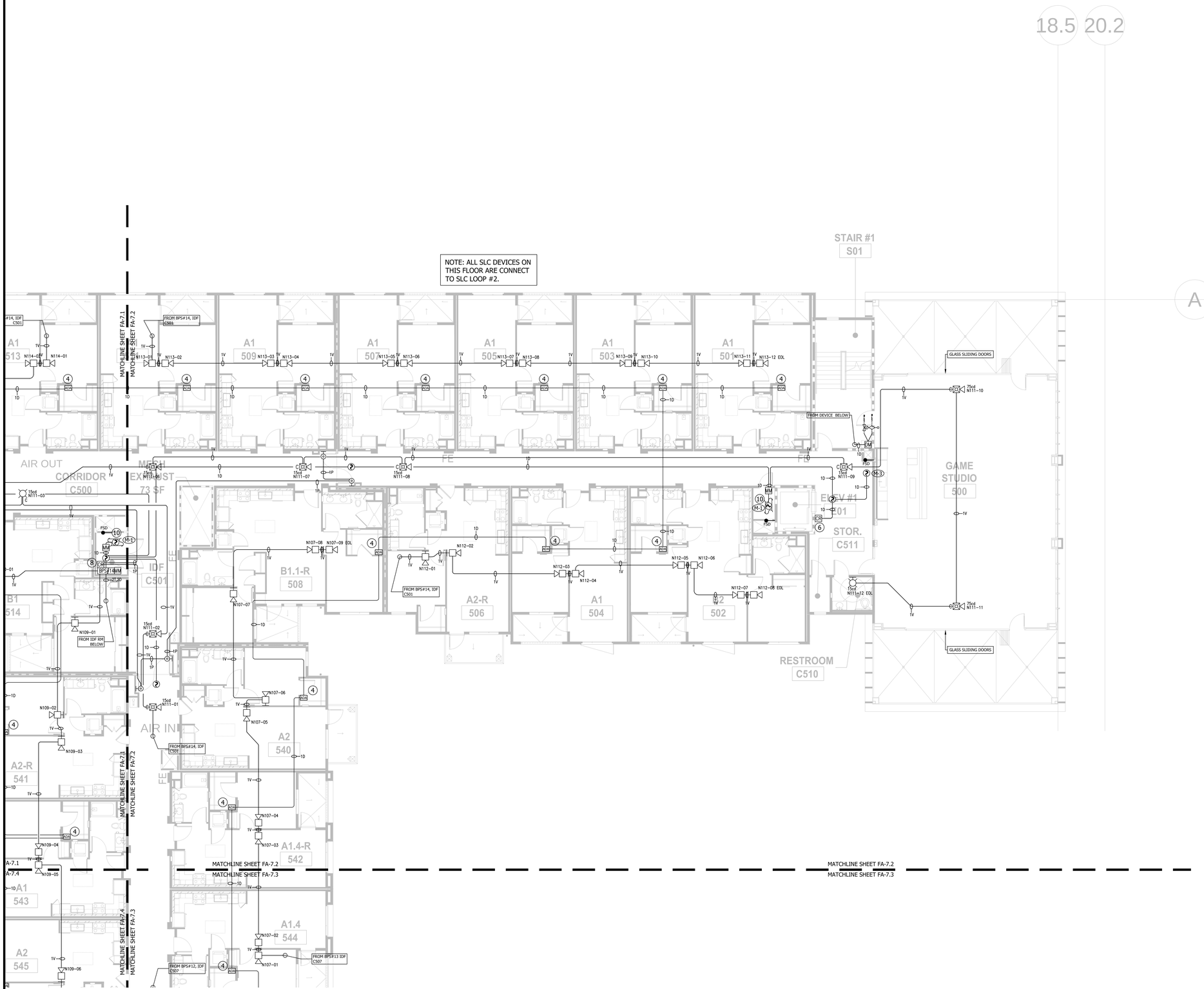
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.

FA-7.1



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS.
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

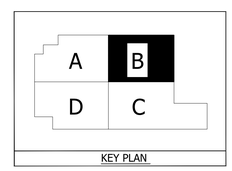
DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

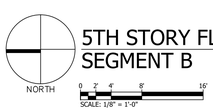
** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN



5TH STORY FLR PLAN
SEGMENT B

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER:
FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-8637, NICET III #846003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

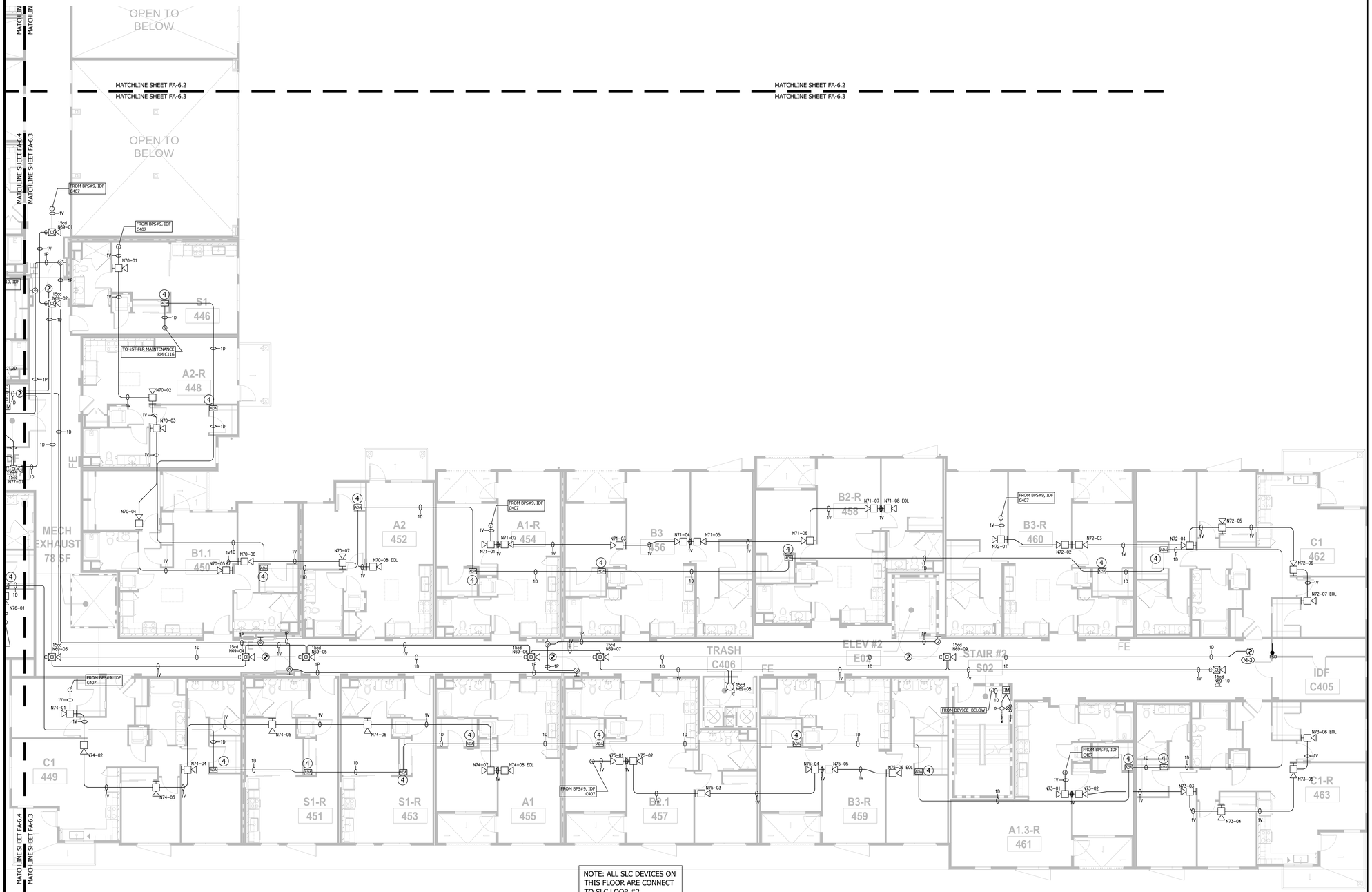
SHEET TITLE:
5TH STORY
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-7.2



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

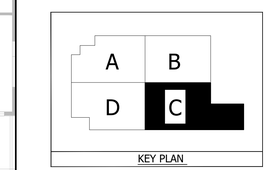
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CM	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



5TH STORY FLR PLAN
SEGMENT C

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
5TH STORY
FLOOR PLAN
SEGMENT C

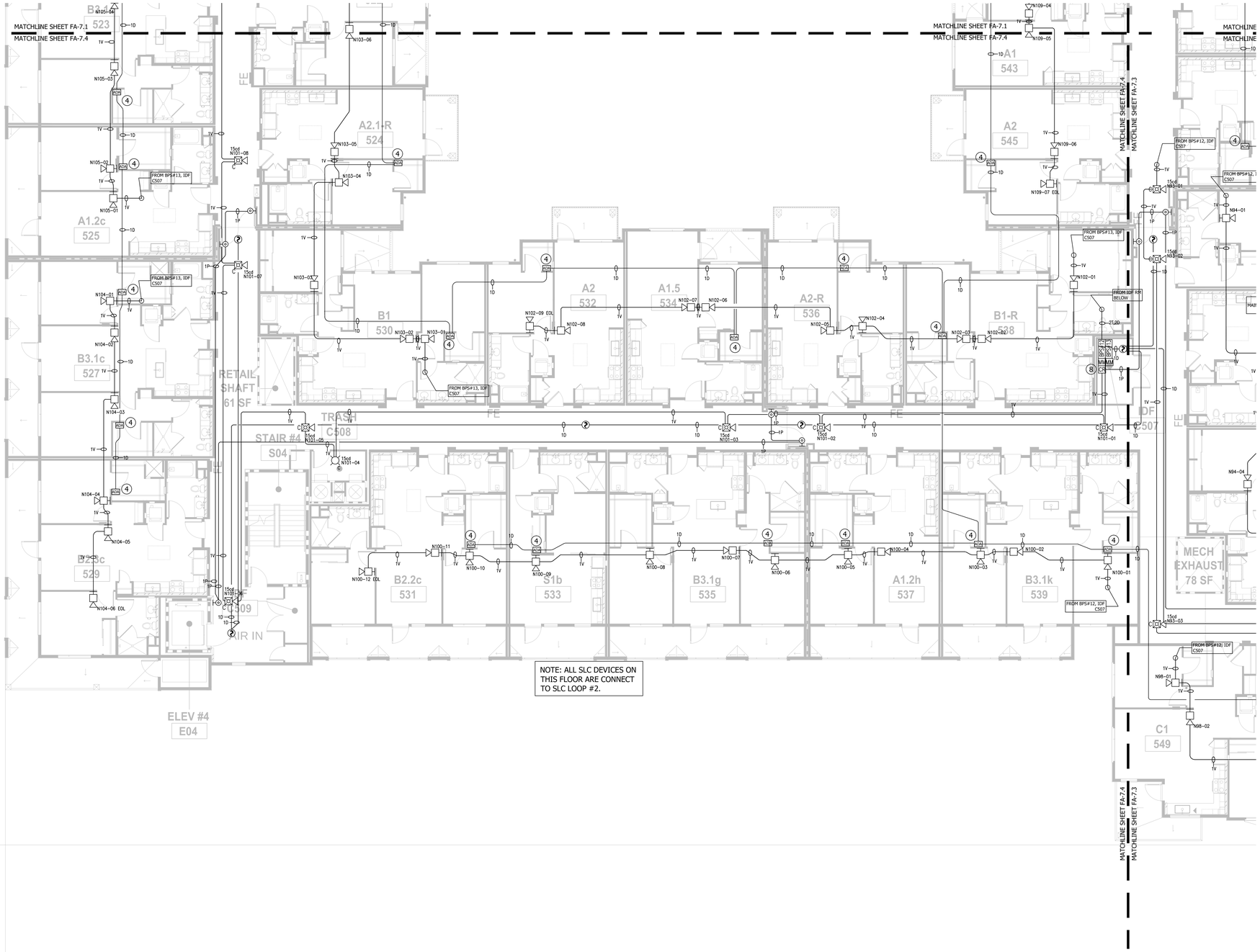
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-7.3

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

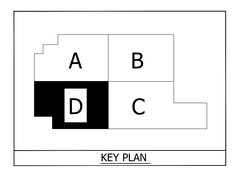
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

5TH STORY FLR PLAN
SEGMENT D

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

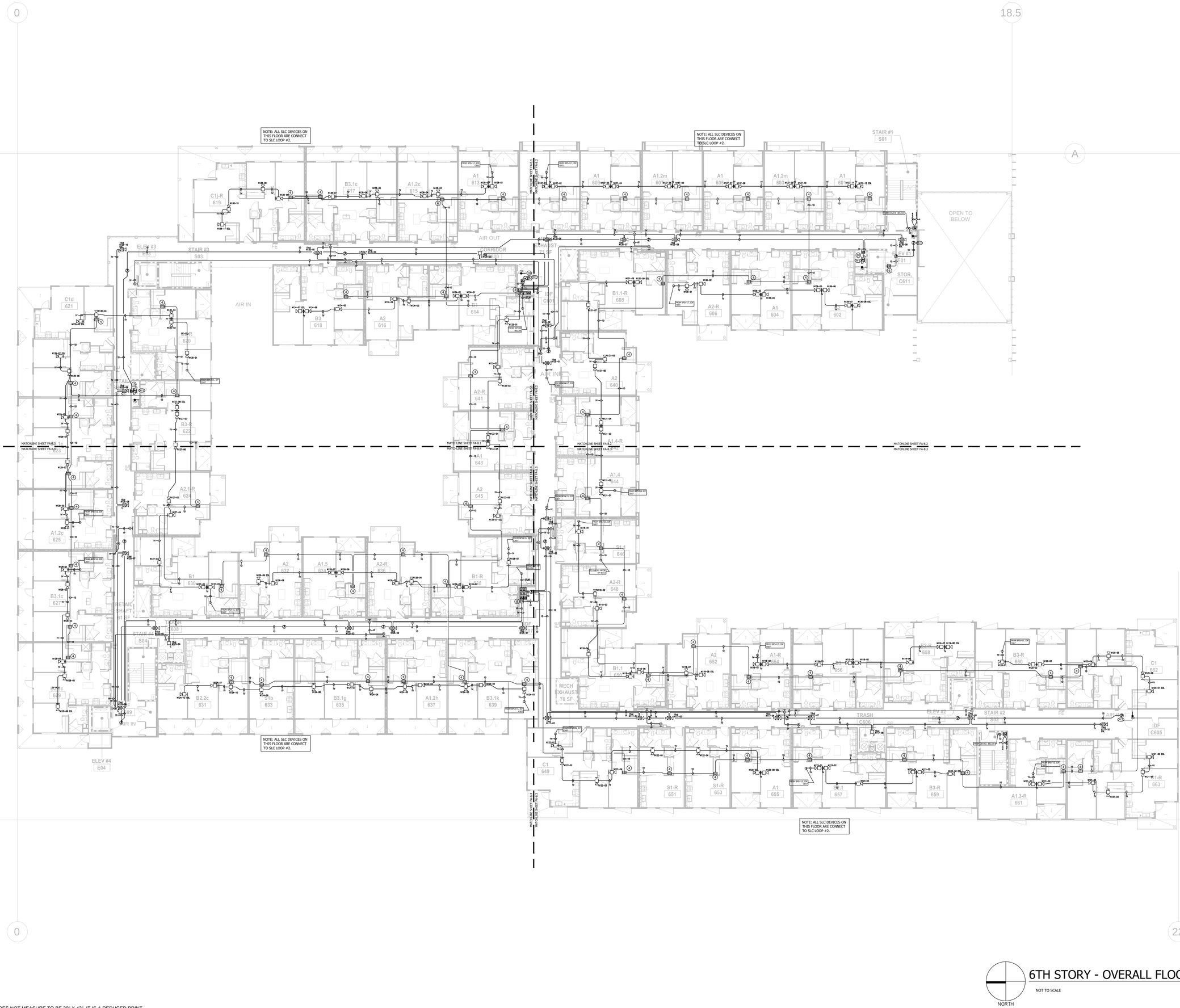
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
5TH STORY
FLOOR PLAN
SEGMENT D

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-7.4



6TH STORY - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

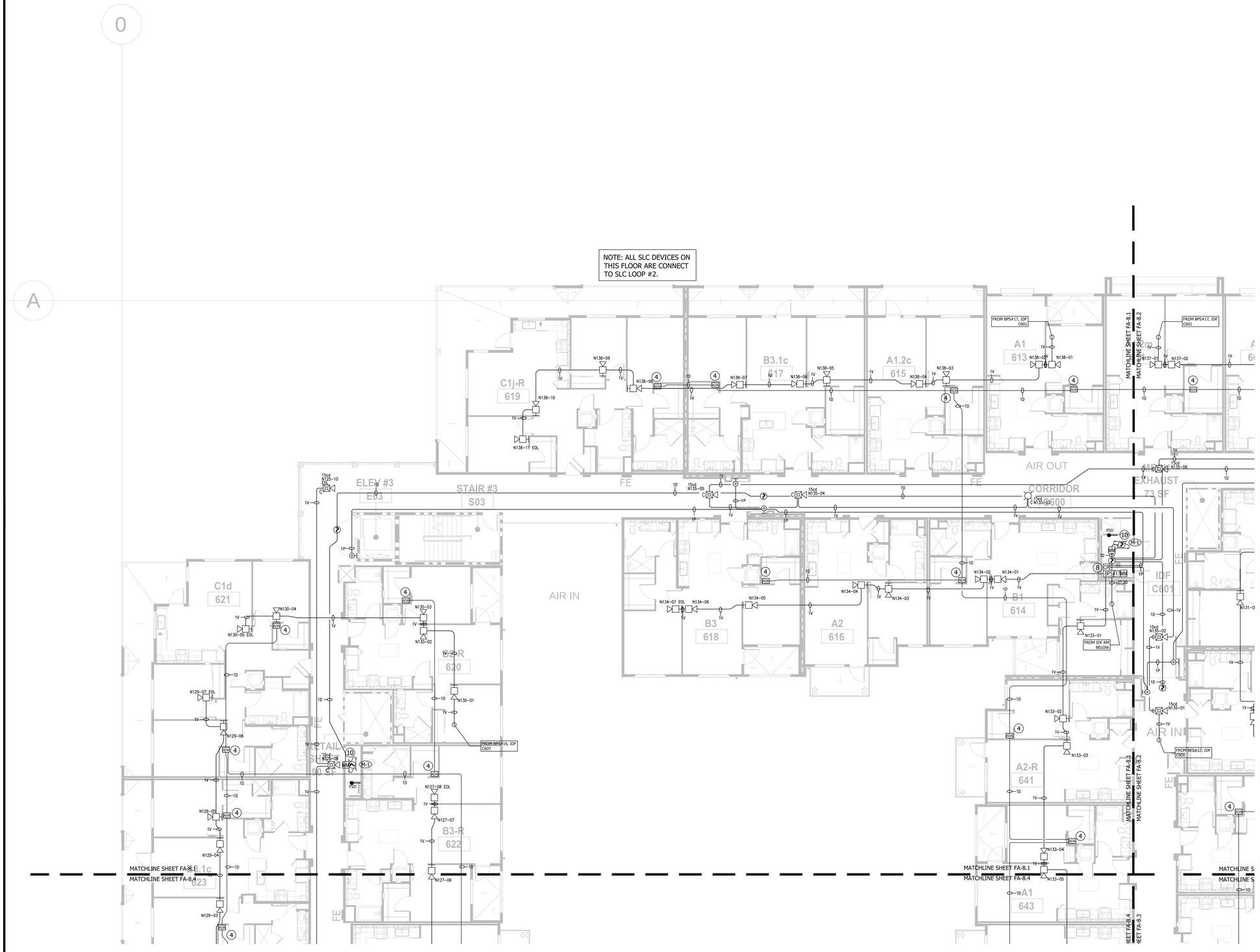
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
6TH STORY
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-8.0



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
?	SMOKE DETECTOR
?	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
?	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

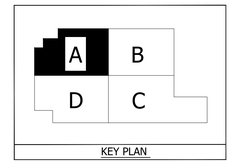
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILLATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

NORTH

6TH STORY FLR PLAN
SEGMENT A

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

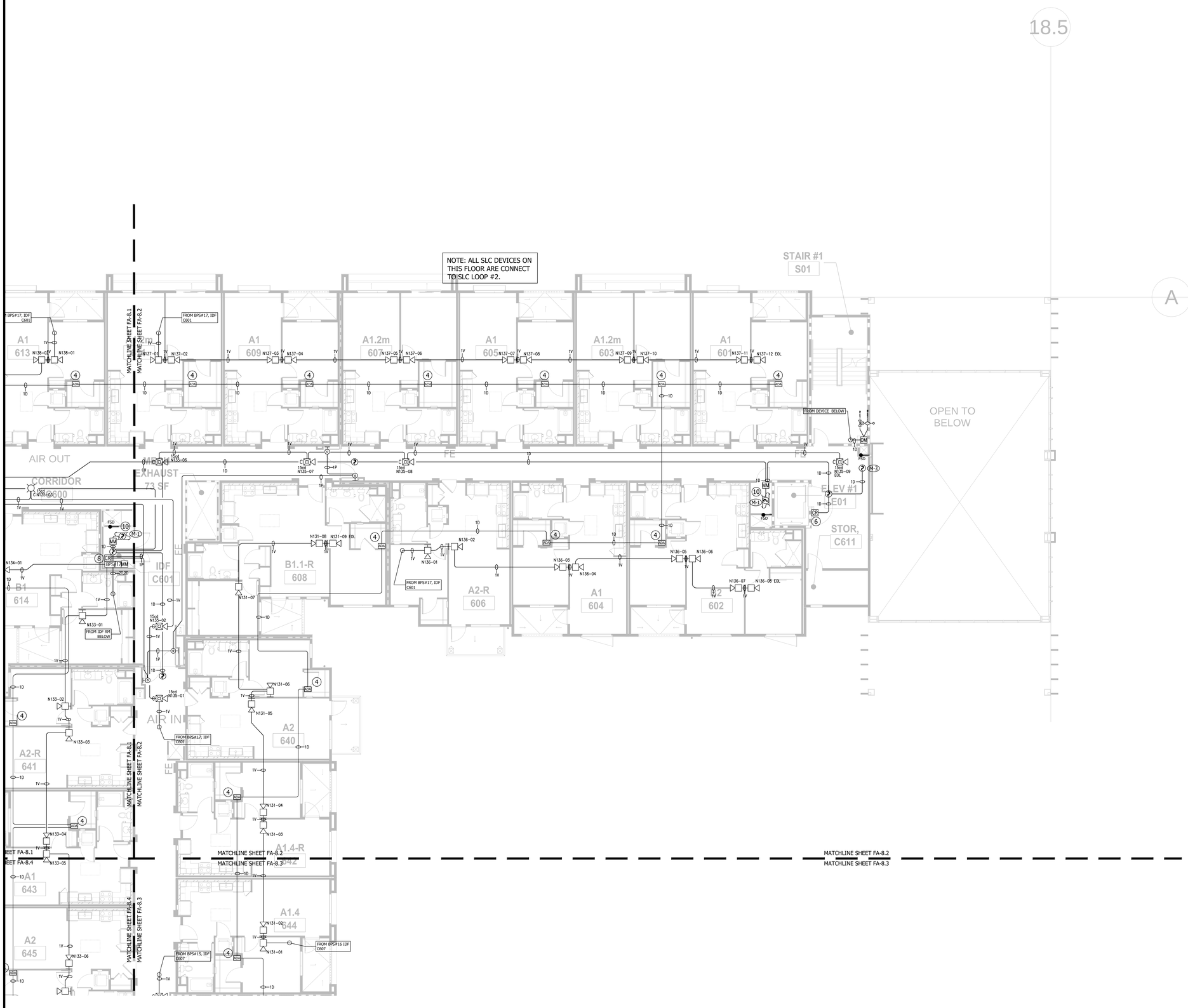
SHEET TITLE:
6TH STORY
FLOOR PLAN
SEGMENT A

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-8.1



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

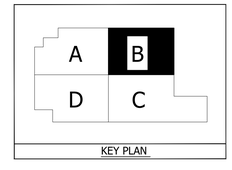
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

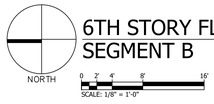
SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN



6TH STORY FLR PLAN
SEGMENT B

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

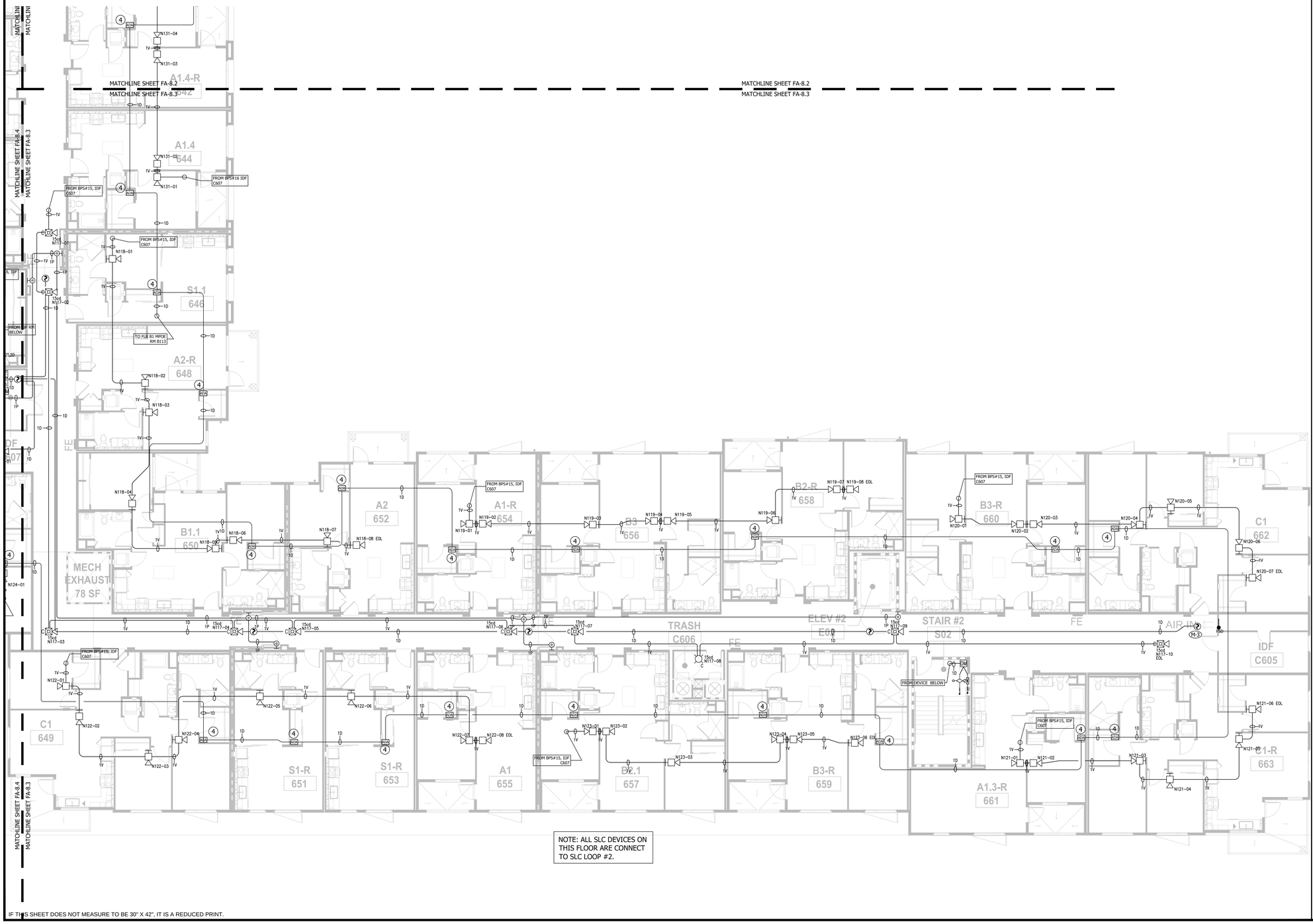
SHEET TITLE:
6TH STORY
FLOOR PLAN
SEGMENT B

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-8.2



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

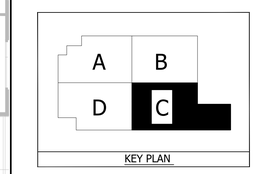
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



6TH STORY FLR PLAN SEGMENT C

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
6TH STORY
FLOOR PLAN
SEGMENT C

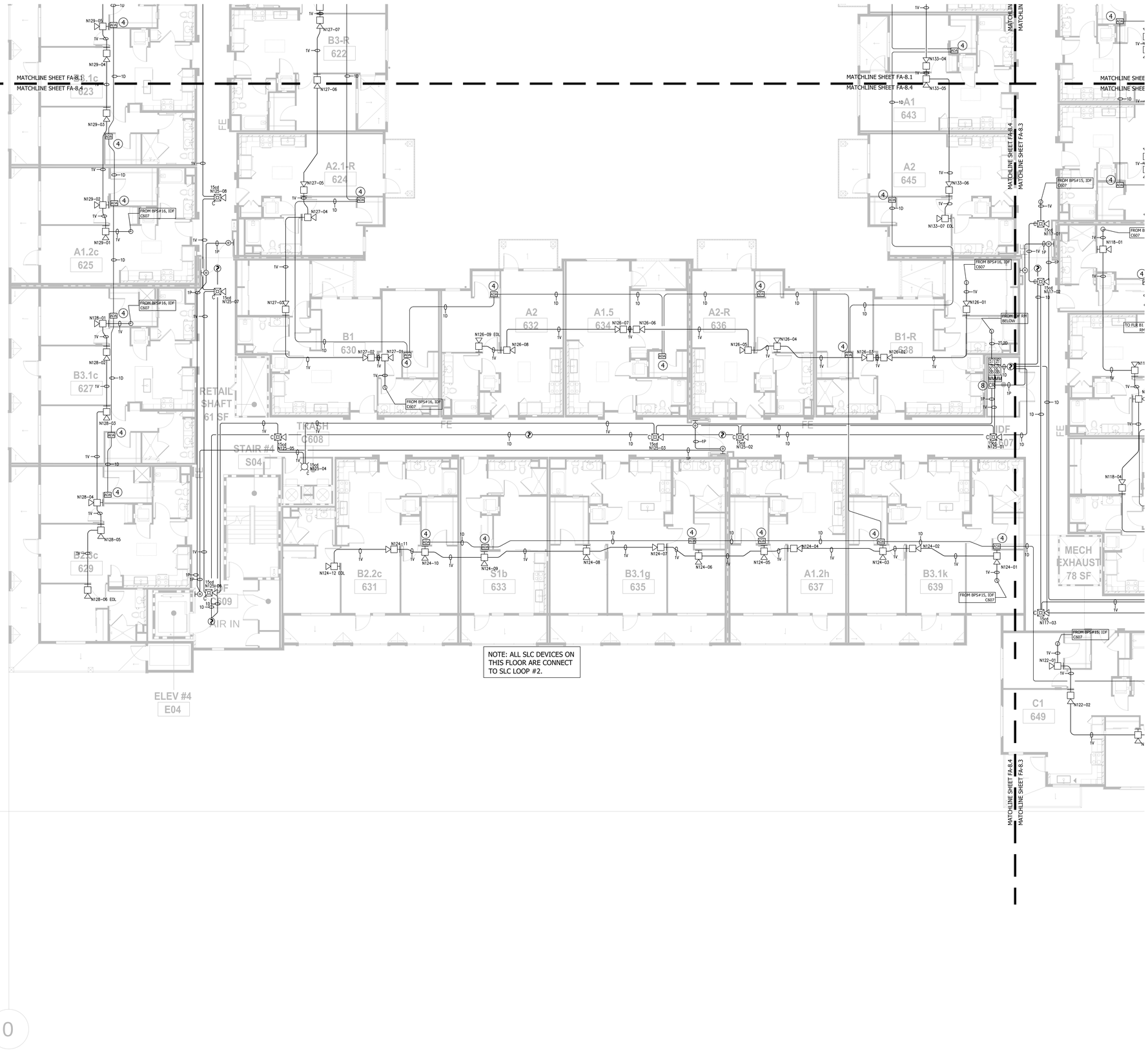
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-8.3

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

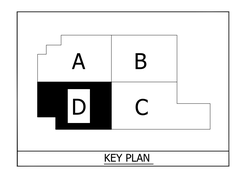
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
?	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

6TH STORY FLR PLAN SEGMENT D

NORTH

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

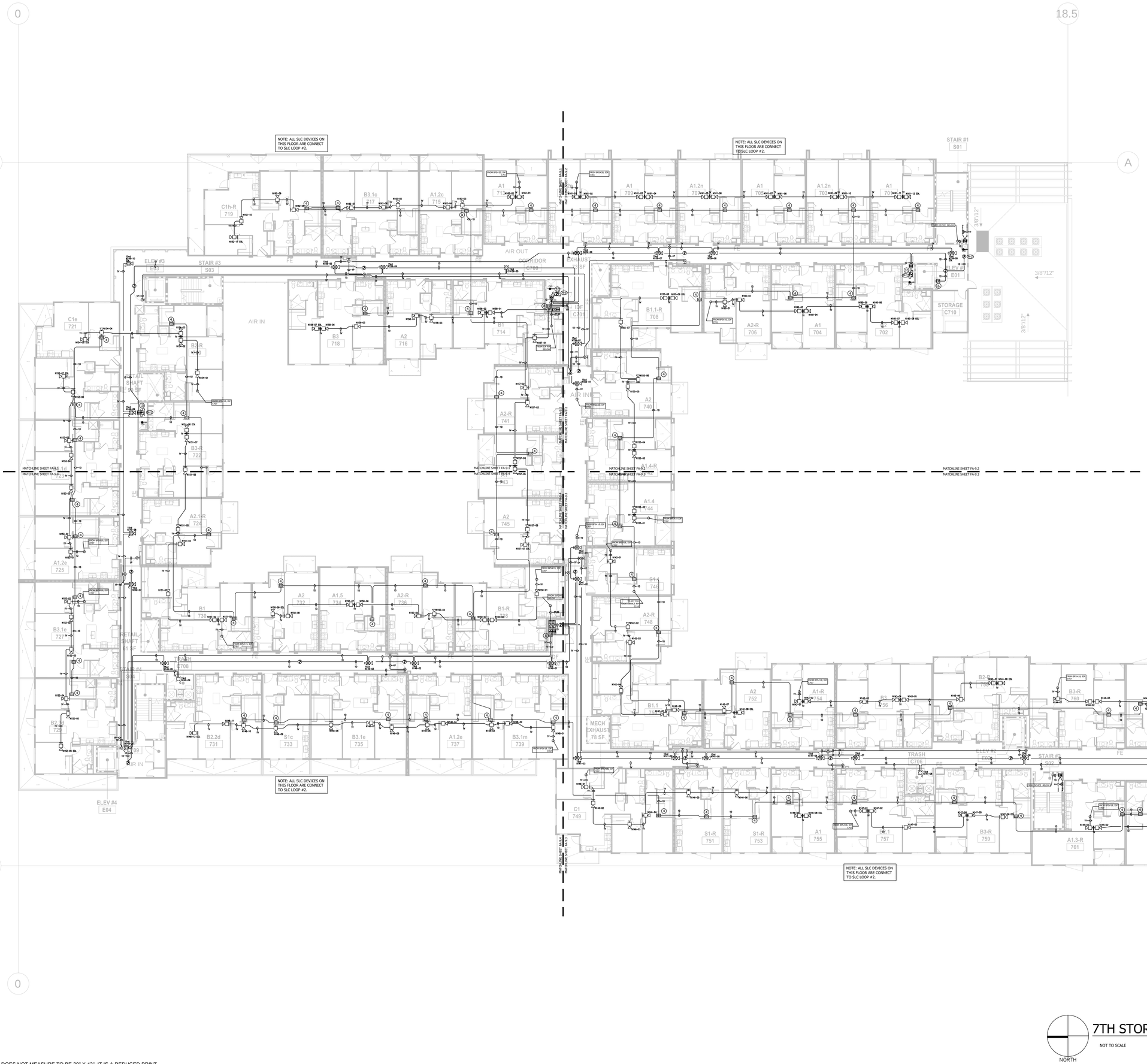
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
6TH STORY
FLOOR PLAN
SEGMENT D

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-8.4



7TH STORY - OVERALL FLOOR PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

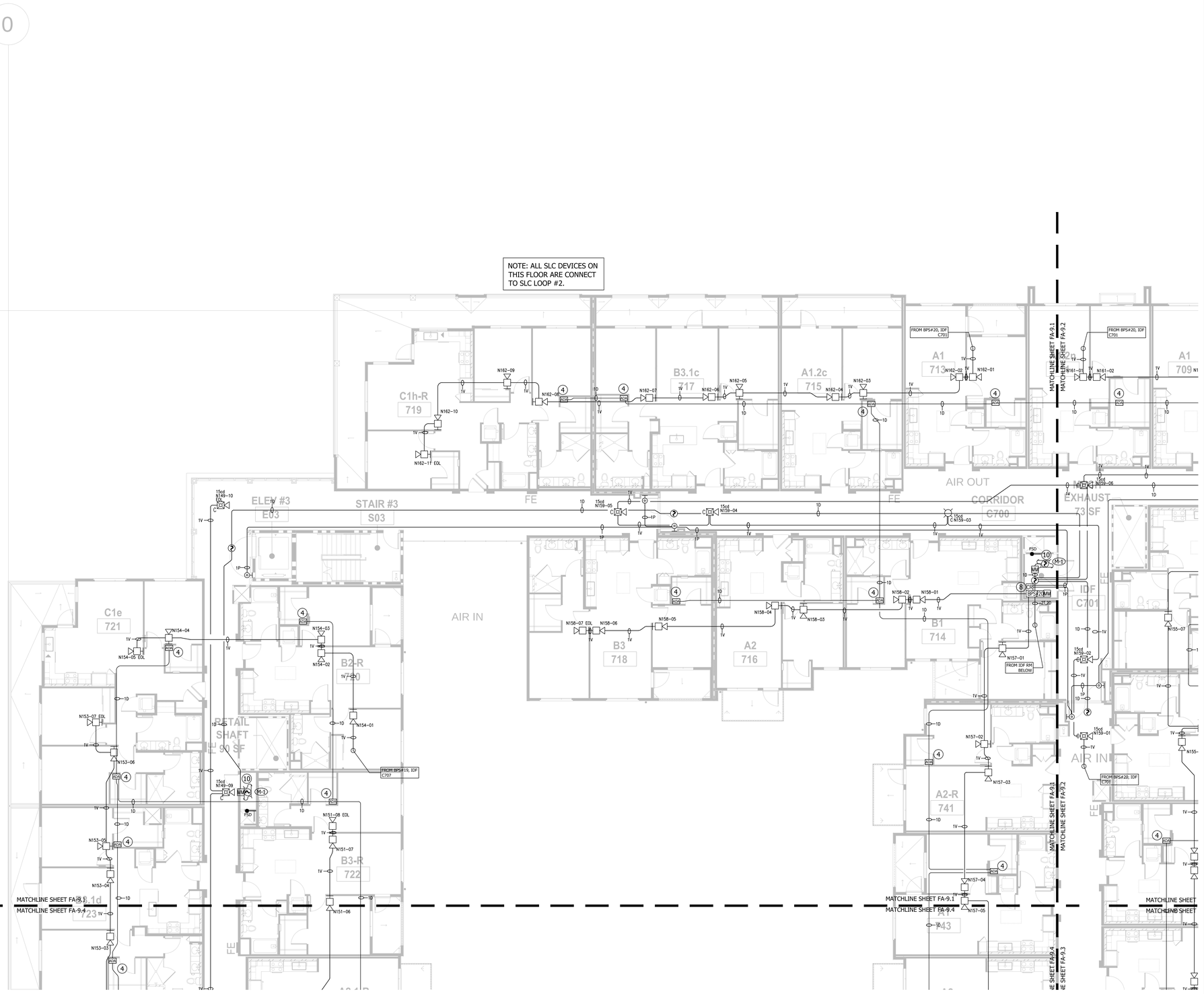
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:
7TH STORY
OVERALL FLOOR PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-9.0



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

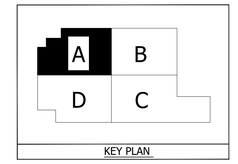
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
T	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

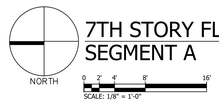
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN



7TH STORY FLR PLAN
SEGMENT A

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

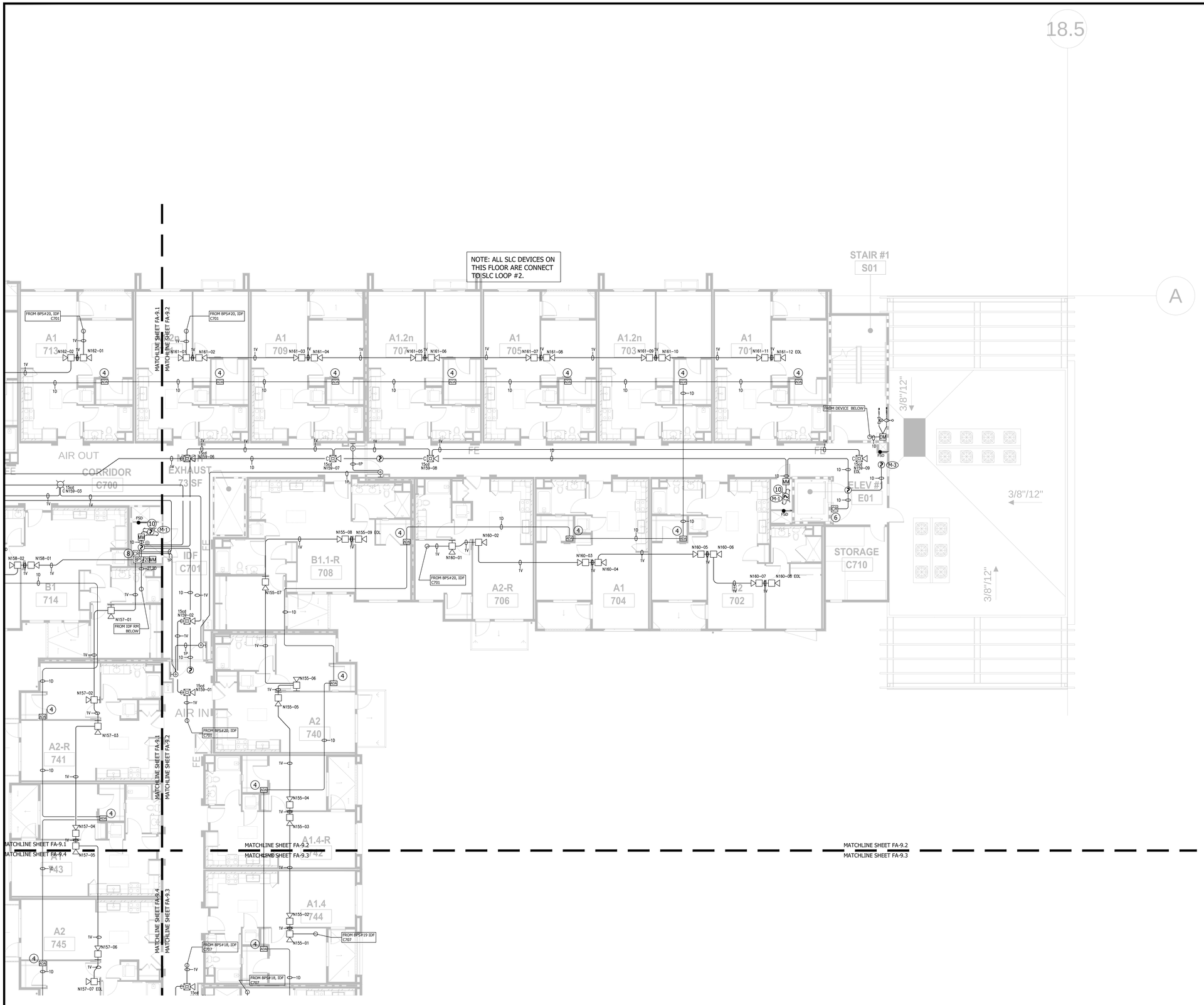
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
7TH STORY
FLOOR PLAN
SEGMENT A

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-9.1



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

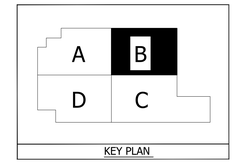
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

7TH STORY FLR PLAN
SEGMENT B

NORTH

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

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
7TH STORY
FLOOR PLAN
SEGMENT B

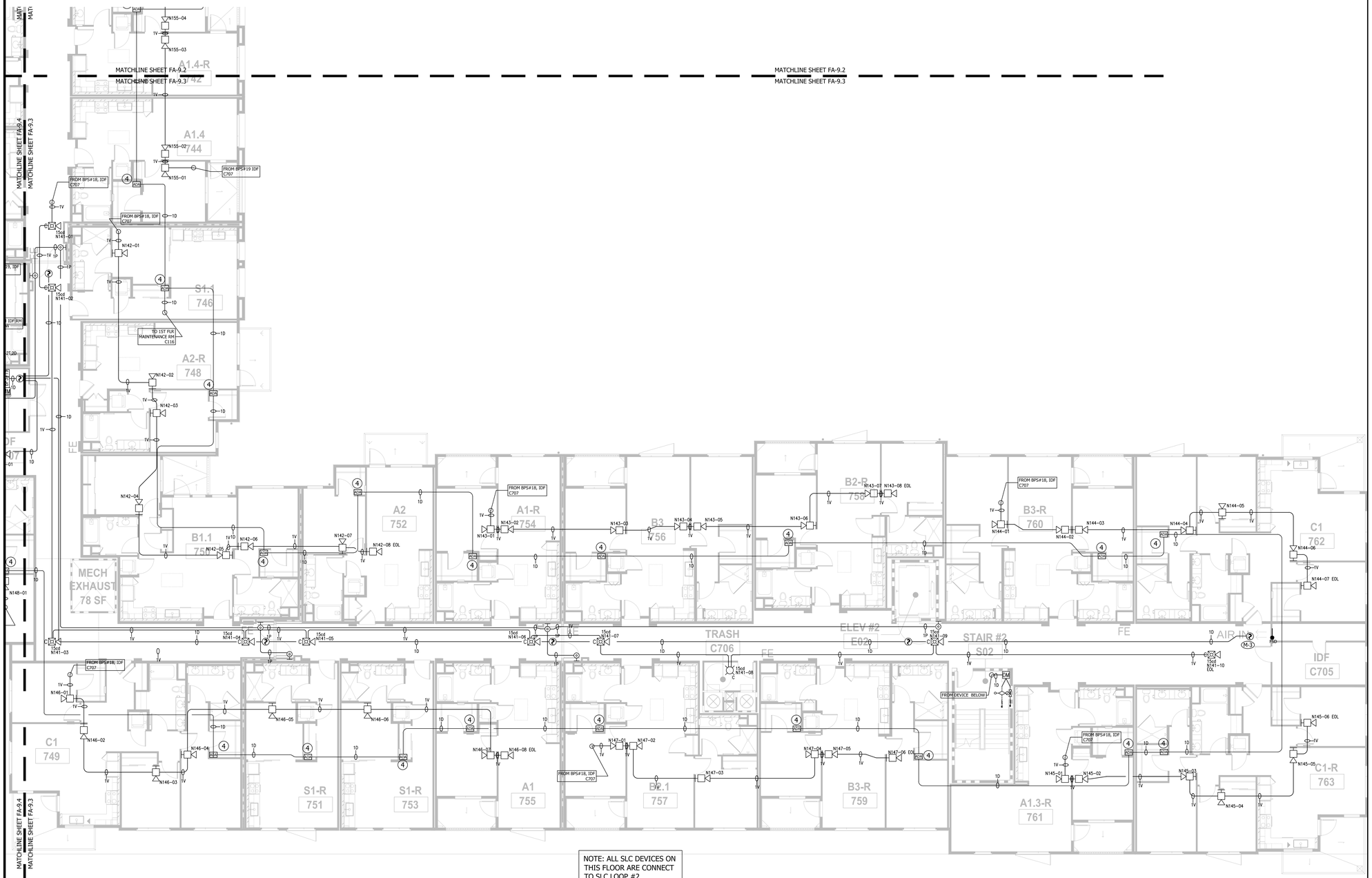
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-9.2

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



NOTE: ALL SLC DEVICES ON THIS FLOOR ARE CONNECT TO SLC LOOP #2.

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FISREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES:

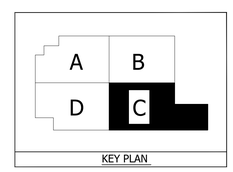
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

7TH STORY FLR PLAN
SEGMENT C

NORTH

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER:
FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

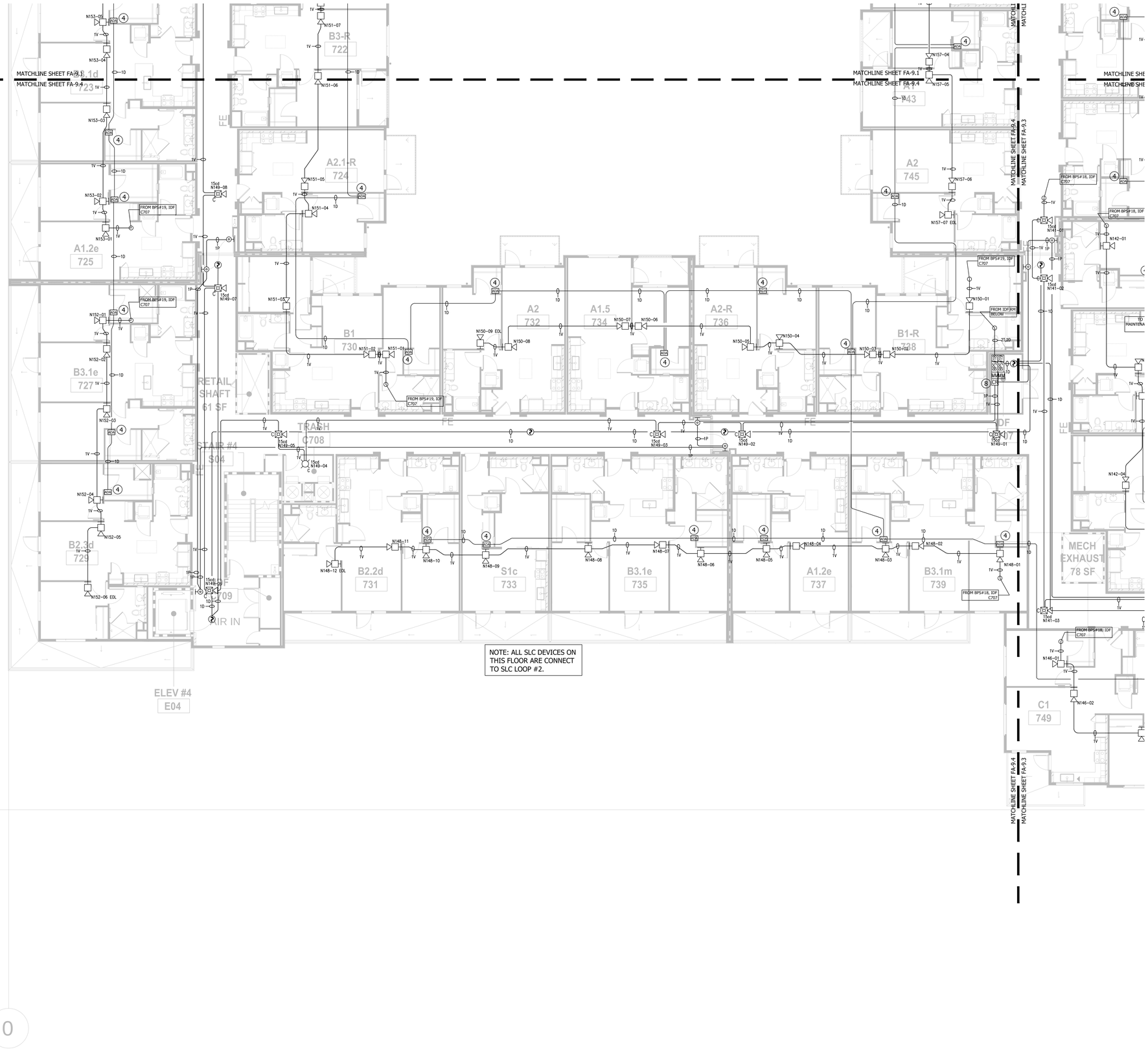
SHEET TITLE:
7TH STORY
FLOOR PLAN
SEGMENT C

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-9.3



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

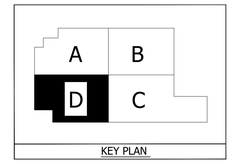
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

7TH STORY FLR PLAN
SEGMENT D

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1
100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER:
FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

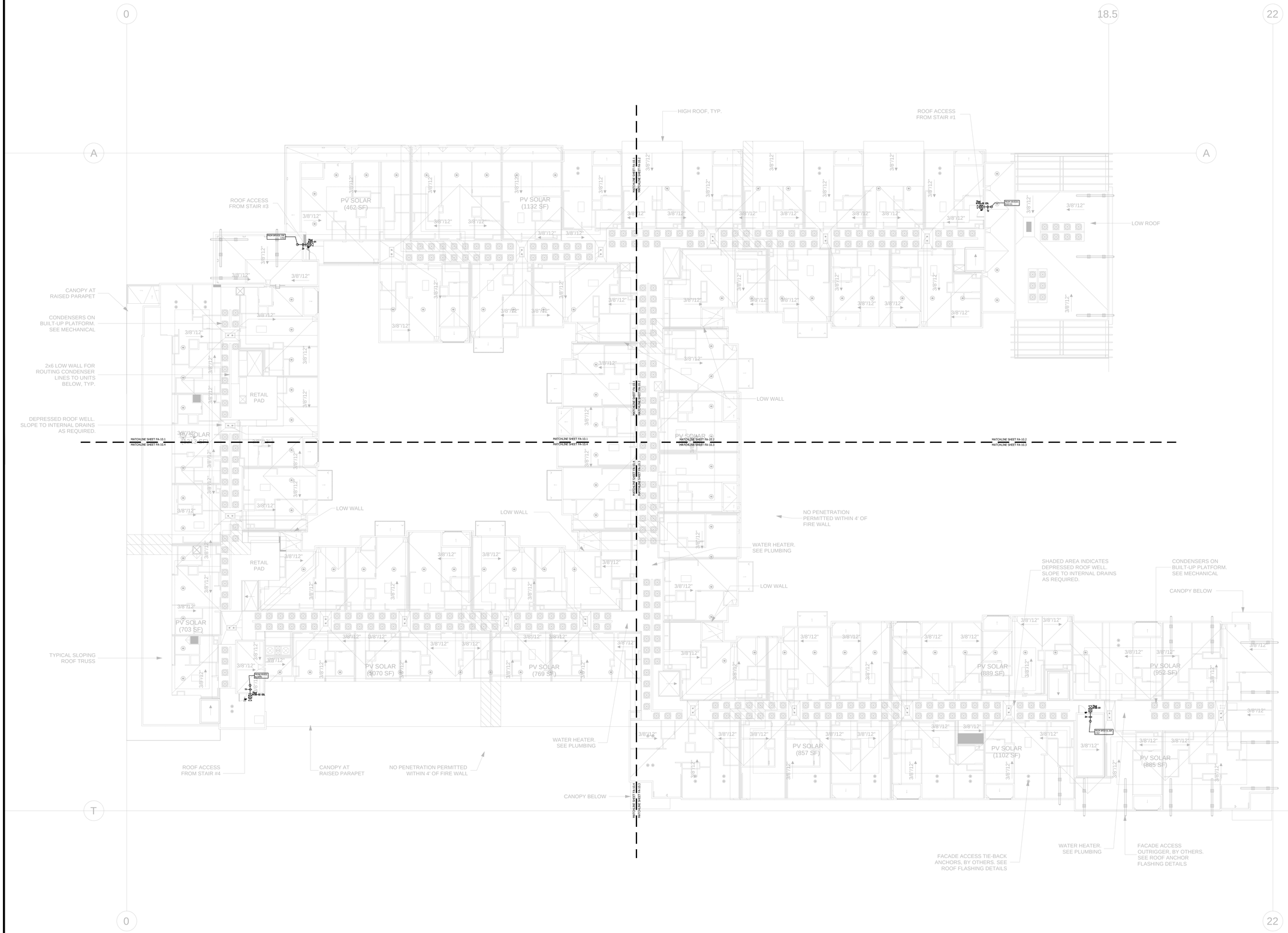
SHEET TITLE:
7TH STORY
FLOOR PLAN
SEGMENT D

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-9.4

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



ROOF - OVERALL PLAN

NOT TO SCALE

NORTH

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

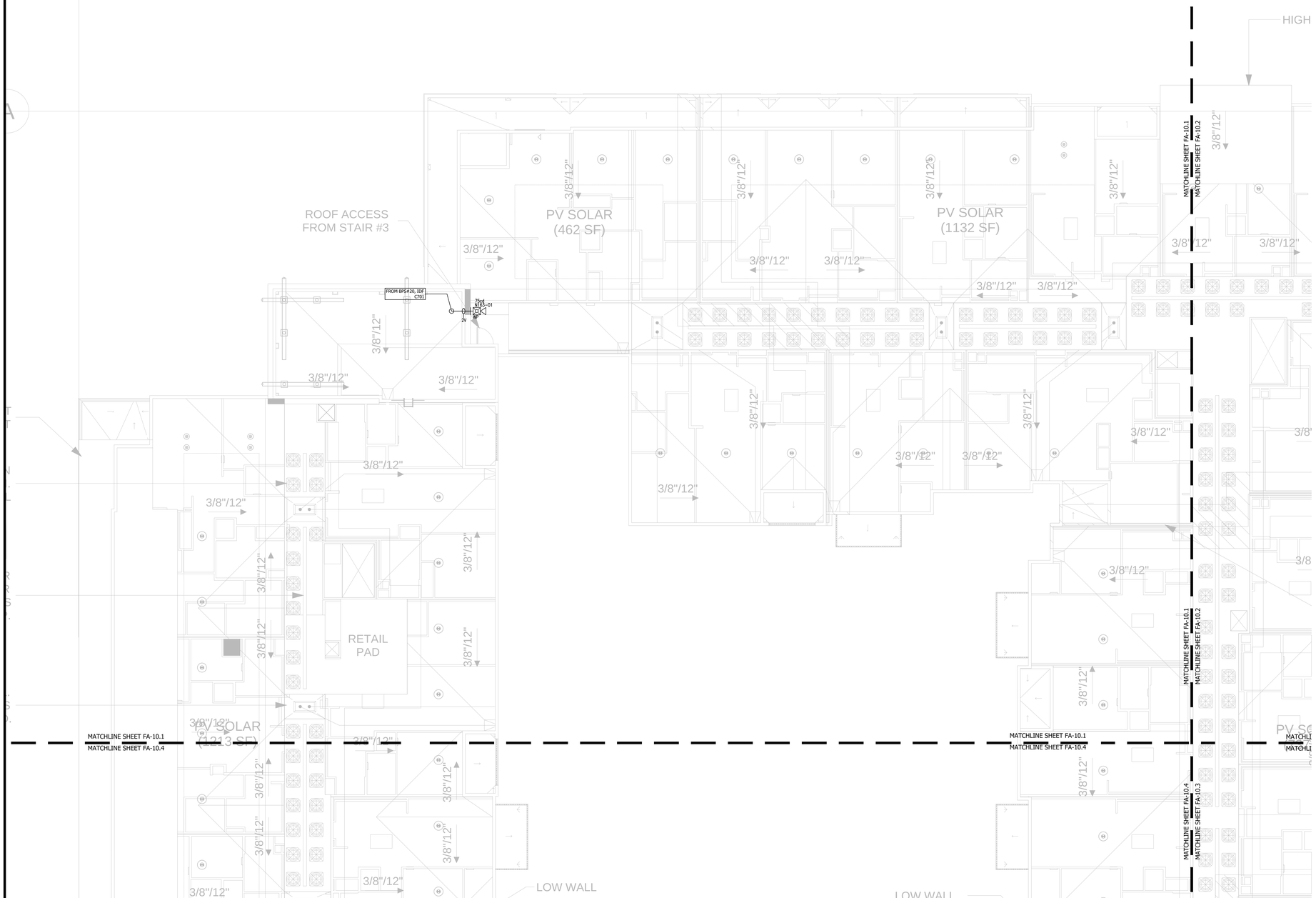
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
ROOF
OVERALL PLAN

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-10.0



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

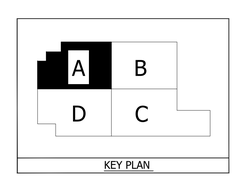
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
IM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADM	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

ROOF PLAN
SEGMENT A

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637 , NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

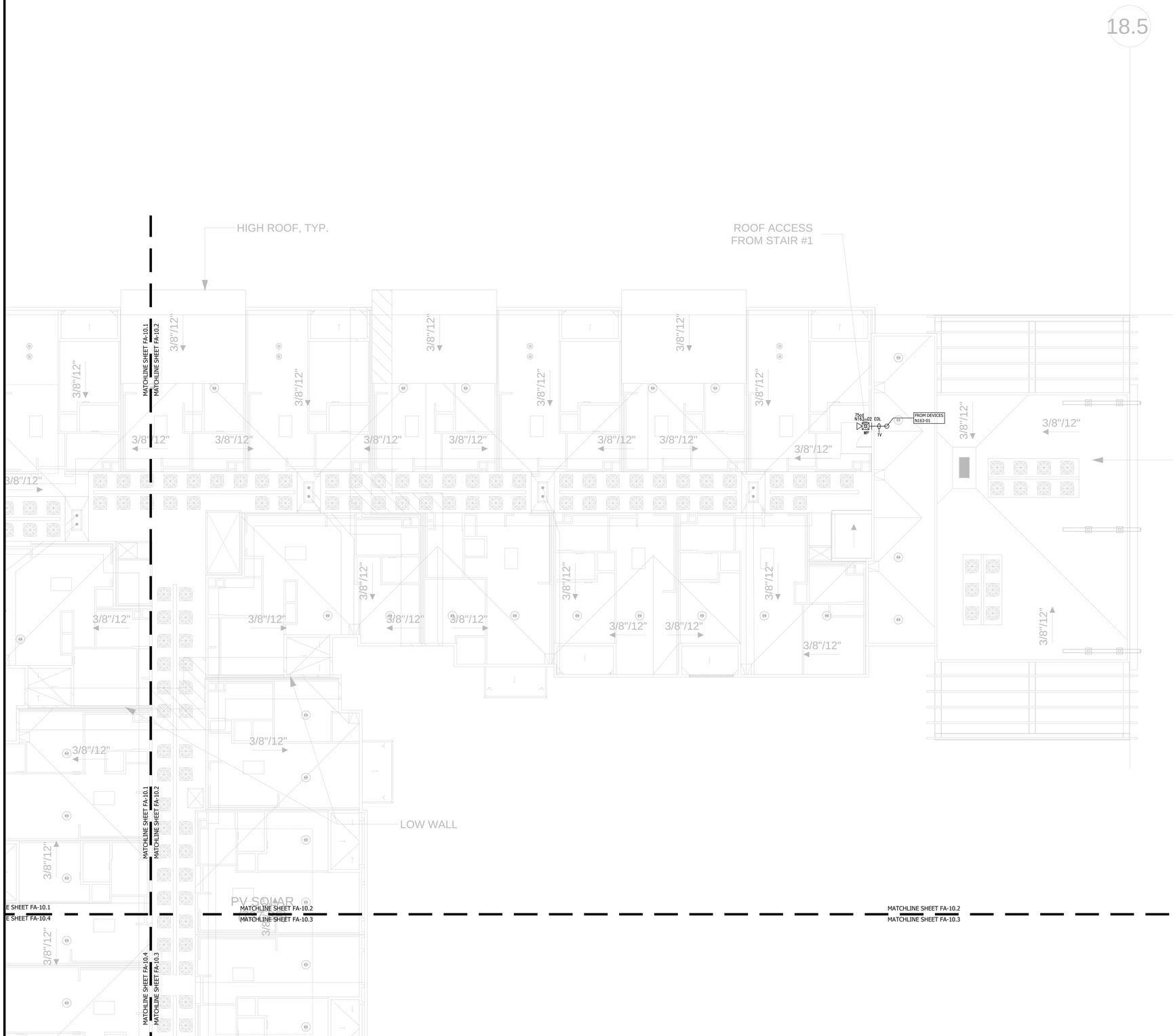
SHEET TITLE:
ROOF PLAN
SEGMENT A

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-10.1

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.



KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

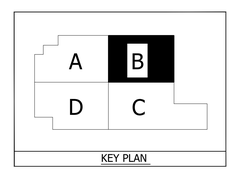
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN

ROOF PLAN
SEGMENT B

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Olveras (619) 619-9637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

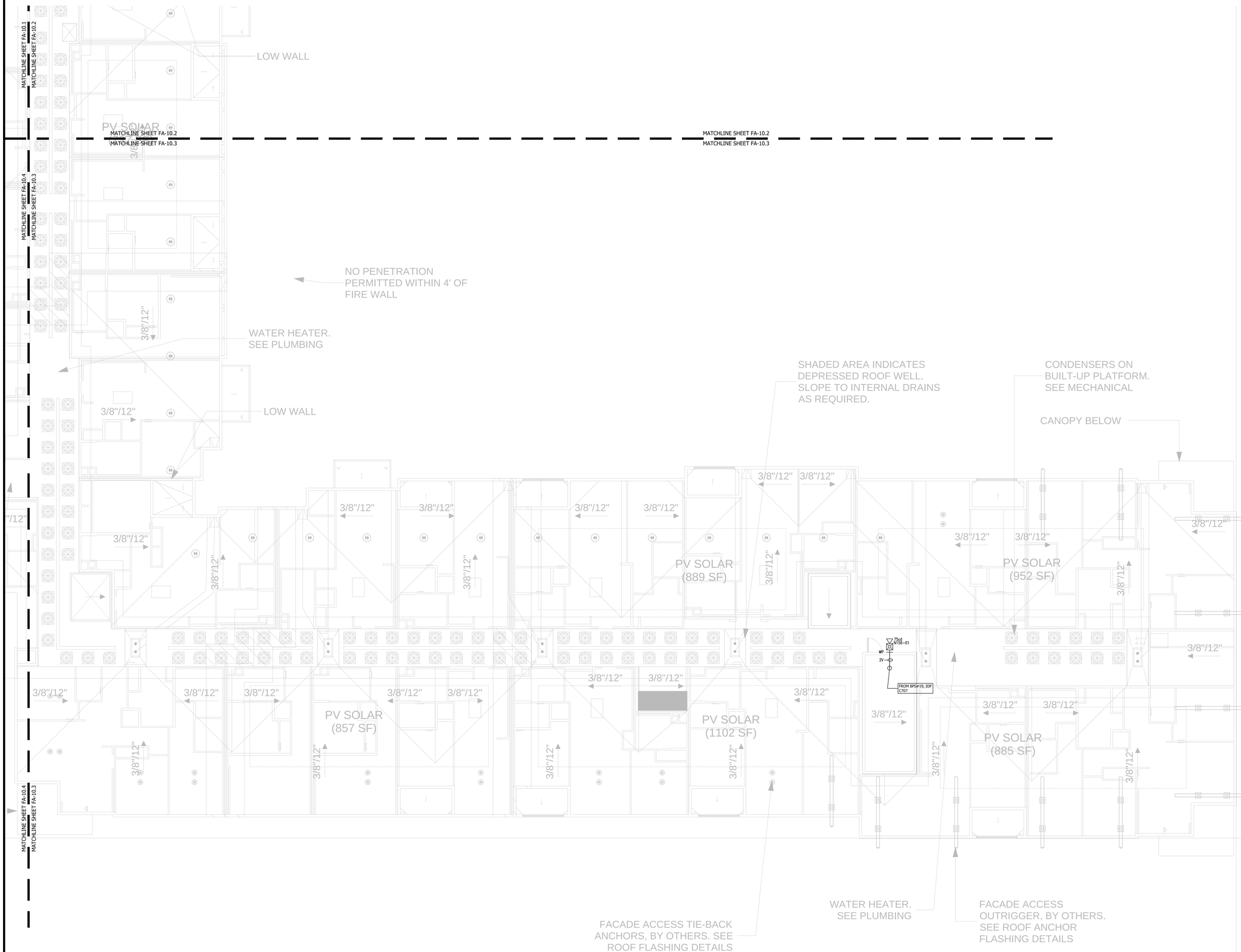
SHEET TITLE:
ROOF PLAN
SEGMENT B

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.
FA-10.2



KEY NOTES	
1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIES(PROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY, FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

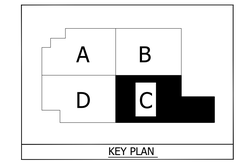
1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
OR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
BOX	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

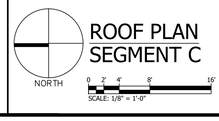
WIRE LEGEND		
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION	
M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.
	REFER TO 716.3.3.2 (CBC 2016)



KEY PLAN



ROOF PLAN SEGMENT C

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

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE:11/16/2020	PLOT:

SHEET TITLE:

ROOF PLAN SEGMENT C

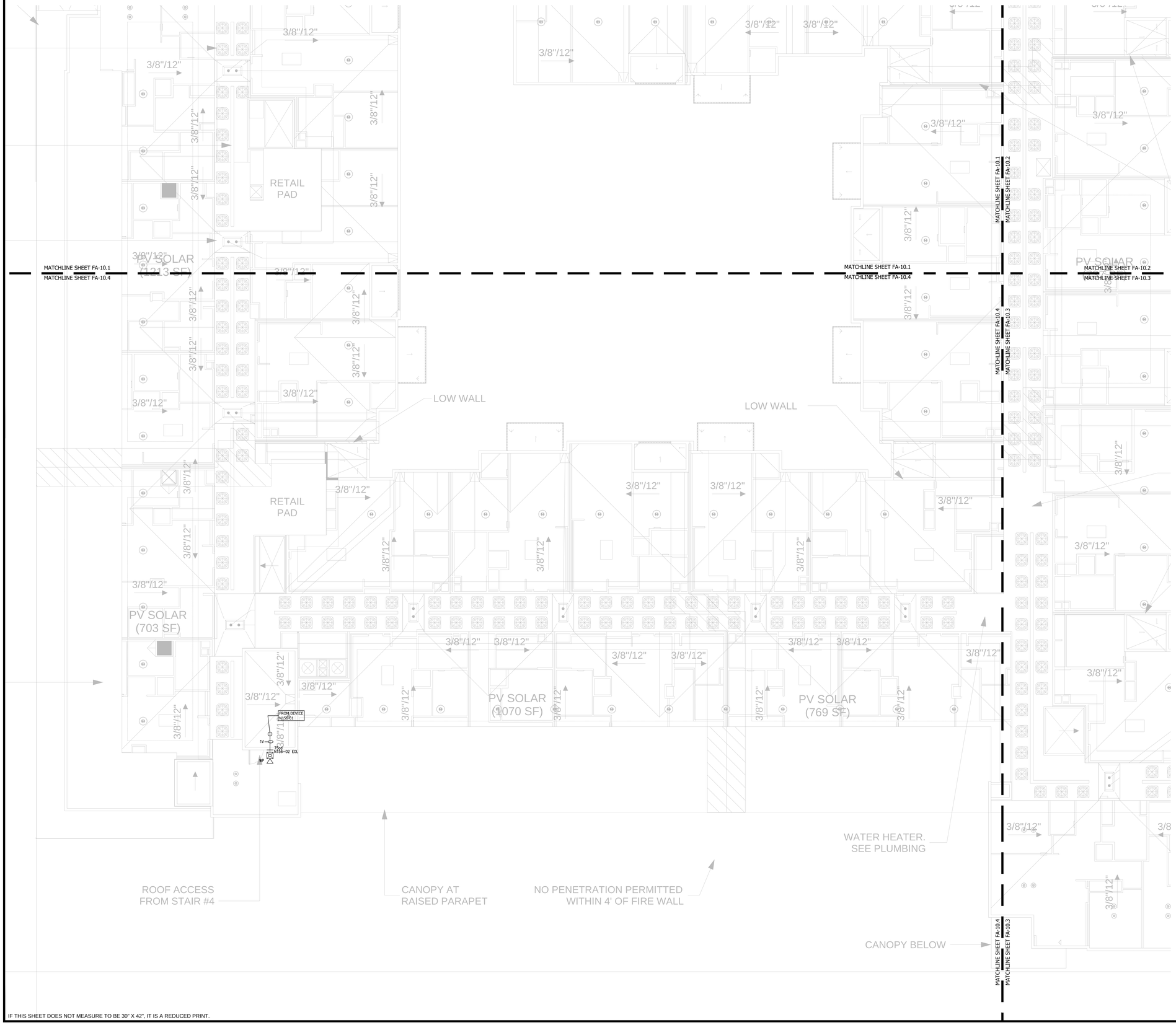
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.

FA-10.3



IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

KEY NOTES

1	INSTALL SMOKE DETECTOR NO MORE THAN 5 FEET FROM FIRE CONTROL / BOOSTER POWER SUPPLY PANELS .
2	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIESPROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
3	INSTALL SYSTEMS RECORD CABINET ADJACENT TO FACP PER NFPA 2016 7.7.2
4	INSTALL ADA BOX FOR FUTURE HEARING IMPAIRED IN AS SHOWN ON FLOOR PLAN. SEE SHEET FA-13.0 FOR DETAIL OF PRE-WIRE.
5	ELEVATOR RECALL AND FIREMEN'S HAT RELAY MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
6	ELEVATOR SMOKE GUARD RELAY. FIELD VERIFY LOCATIONS WITH ELEVATOR CONTRACTOR.
7	ELEVATOR SHUNT-TRIP MODULES. FIELD VERIFY LOCATION. INSTALL NO MORE THAN 3'-0" AWAY FROM INTERFACE DEVICE.
8	HOLDER RELAY.
9	FIRE SMOKE DAMPER ACTIVATION RELAY. FIELD VERIFY LOCATION WITH ELECTRIC CONTRACTOR.
10	DUCT SMOKE DETECTORS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM SYSTEM TO MONITOR DUCT SMOKE DETECTORS.
11	INSTALL HEAT DETECTOR NO MORE THAN 24" AWAY FROM SPRINKLER HEAD.

GENERAL NOTES

1. SMOKE /CO ALARMS IN UNITS INSTALLED BY ELECTRICAL CONTRACTOR. REFERENCE ELECTRICAL PLAN FOR LOCATIONS.

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
----	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
	SMOKE DETECTOR
	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
MM	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
	DUCT SMOKE DETECTOR
	HORN LOW FREQ
	HORN-STROBE WALL
C	HORN-STROBE CEILING
WP	HORN-STROBE WALL, WP
	STROBE WALL
	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD	FIRE SMOKE DAMPER
	DOOR HOLDER

WIRE LEGEND

WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
C	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

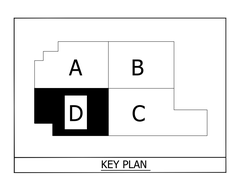
** ALL FIRE ALARM CONDUIT SHALL BE A MINIMUM OF 3/4" U.O.N.

SMOKE DAMPER ACTUATION

M-1	WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
M-2	WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING.
M-3	WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
M-4	WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
M-5	WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITHIN AREAS SERVED BY A HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEM, SMOKE DAMPERS SHALL BE PERMITTED TO BE CONTROLLED BY THE SMOKE DETECTION SYSTEM.

REFER TO 716.3.3.2 (CBC 2016)

KEY PLAN



ROOF PLAN SEGMENT D

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: ROOF PLAN SEGMENT D

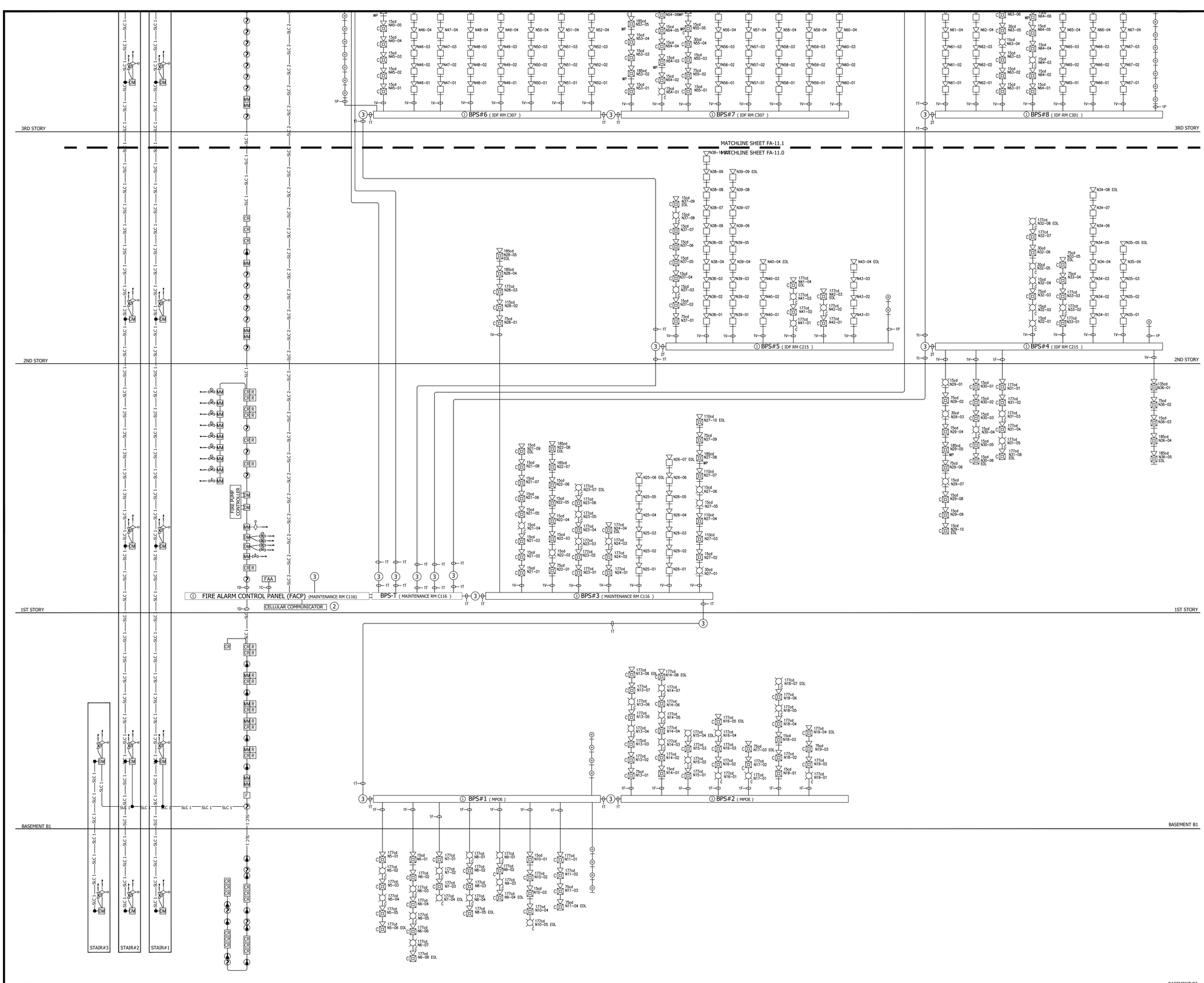
ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: 1/8" = 1'

SHEET NO.

FA-10.4



SYSTEM RISER NOTES	
1	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIES PROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
2	METHOD OF COMMUNICATIONS TO CENTRAL STATION SHALL BE VIA CELLULAR COMMUNICATOR PER NFPA-72 SECTION 26.6.3.1.5 SINGLE PATH OF COMMUNICATIONS.
3	UTILIZE THE BPS-T BOOSTER PANEL TO TRIGGER BOOSTER POWER SUPPLIES. TRIGGER CKT#1 - BPS,1,2,3 CKT#2 - BPS,5,6,7 CKT3 - BPS-9,10,12,13, CKT#4 - BPS, 15,16,18,19 CKT#5 - BPS-4,8,11 CKT#6 - BPS, 14,17,20
4	NOT USED.

SYSTEM RISER DIAGRAM -1

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
SYSTEM RISER DIAGRAM -1

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-11.0

SYSTEM RISER NOTES	
1	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIES PROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
2	METHOD OF COMMUNICATIONS TO CENTRAL STATION SHALL BE VIA CELLULAR COMMUNICATOR PER NFPA-72 SECTION 26.6.3.1.5 SINGLE PATH OF COMMUNICATIONS.
3	UTILIZE THE BPS-T BOOSTER PANEL TO TRIGGER BOOSTER POWER SUPPLIES. TRIGGER CKT#1 - BPS,1,2,3 CKT#2 - BPS,5,6,7 CKT3 - BPS-9,10,12,13, CKT#4 - BPS, 15,16,18,19 CKT#5 - BPS-4,8,11 CKT#6 - BPS, 14,17,20
4	NOT USED.

6TH STORY

MATCHLINE SHEET FA-11.2

MATCHLINE SHEET FA-11.1

5TH STORY

4TH STORY

MATCHLINE SHEET FA-11.1

MATCHLINE SHEET FA-11.0

3RD STORY

① BPS#15 (IDF RM C607)
① BPS#16 (IDF RM C607)
① BPS#17 (IDF RM C601)
① BPS#12 (IDF RM C507)
① BPS#13 (IDF RM C507)
① BPS#14 (IDF RM C501)
① BPS#9 (IDF RM C407)
① BPS#10 (IDF RM C407)
① BPS#11 (IDF RM C401)
① BPS#6 (IDF RM C307)
① BPS#7 (IDF RM C307)
① BPS#8 (IDF RM C301)

SYSTEM RISER DIAGRAM -2

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: SYSTEM RISER DIAGRAM -2

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO. FA-11.1

SYSTEM RISER NOTES	
1	120 VAC, 20 AMP DEDICATED CIRCUIT TO FACP / BOOSTER POWER SUPPLIES PROVIDED BY OTHERS. BREAKER SHALL BE RED IN COLOR AND LOCKED OUT IN THE "ON" POSITION.
2	METHOD OF COMMUNICATIONS TO CENTRAL STATION SHALL BE VIA CELLULAR COMMUNICATOR PER NFPA-72 SECTION 26.6.3.1.5 SINGLE PATH OF COMMUNICATIONS.
3	UTILIZE THE BPS-T BOOSTER PANEL TO TRIGGER BOOSTER POWER SUPPLIES. TRIGGER CKT#1 - BPS,1,2,3 CKT#2 - BPS,5,6,7 CKT3 - BPS-9,10,12,13, CKT#4 - BPS, 15,16,18,19 CKT#5 - BPS-4,8,11 CKT#6 - BPS, 14,17,20
4	NOT USED.

SYSTEM RISER DIAGRAM -3

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
SYSTEM RISER DIAGRAM -3

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-11.2

FX-2003-12NDS FACP - (5 MINTUES IN ALARM, 24HRS STANDBY) — MIRCOM

A	B	C	D	E	F
INTERNAL FACP COMPONENES / ADDRESSABLE DEVICES	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current	Total Alarm Current (B x E)
FX-2003-NDS MAIN BOARD	1	0.31000A	0.31000A	0.73300A	0.73300A
ALCN-792MISO ISOLATED DUAL ANALOG LOOP MODULE	1	0.13000A	0.13000A	0.14500A	0.14500A
UDACT-300A DIALER MODULE	1	0.04500A	0.04500A	0.12000A	0.12000A
RAXN-LCD REMOTE ANNUNCIATOR	1	0.02200A	0.02200A	0.26200A	0.26200A
MIX-M501MAP MINI-MONITOR MODULE	51	0.00060A	0.03060A	0.00060A	0.03060A
MIX-M500DMAP DUAL MONITOR MODULE	24	0.00075A	0.01800A	0.00640A	0.15360A
MIX-2251AP SMOKE DETECTOR	106	0.00030A	0.03180A	0.00650A	0.68900A
MIX-5251AP HEAT DETECTOR 135F FIXED TEMP	13	0.00030A	0.00390A	0.00650A	0.08450A
MIX-M500RAP RELAY MODULE	41	0.00030A	0.01230A	0.00650A	0.26650A
MS-710APU PULLSTATION	1	0.00040A	0.00040A	0.00060A	0.00060A
		Total Standby Current =	0.604A	Total Alm Current=	2.485A

STROBE CIRCUIT	DEVICE CURRENT DRAW	N1- TRIGGER	N2- TRIGGER	N3- SPARE	N4-SPARE	
	NAC CKT CURRENT DRAW =	0.000A	0.000A	0.000A	0.000A	
					TOTAL NAC CKT CURRENT DRAW =	0.000A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.604
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	14.4960 AH

	ALARM CURRENT CALCULATIONS	TOTAL ALARM CURRENT CALCU
19	Total alarm current	2.485
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.2071 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	14.7031 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	17.6437 AH
		(2) BATTERY SUPPLIED =26 AMP

FIRESWITCH 108 BPS-T (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	BPS TRIGGER CKT#1	BPS TRIGGER CKT#2	BPS TRIGGER CKT#3	BPS TRIGGER CKT#4	BPS TRIGGER CKT#5	BPS TRIGGER CKT#6	SPARE	SPARE	
		BPS#1,#2,#3	BPS#5,#6,#7	BPS#9,#10 12,#13	BPS#15,#16, #18,#19	BPS#4,#8, #11	BPS#14,#17, #20			
									TOTAL NAC CKT CURRENT DRAW =	0.000A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH

	ALARM CURRENT CALCULATIONS	TOTAL ALARM CURRENT CALCU
19	Total alarm current	0.200A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.0167 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.3367 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.2040 AH
		(2) BATTERY SUPPLIED = 12 AMP

FIRESWITCH 108 BPS#1 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N5	N6	N7	N8	N9	N10	N11	N12-SPARE	
15cd HORN-STROBE, WALL	0.054A	0	2	0	0	0	2	0	0	
177cd STROBE, CEILING	0.226A	2	3	2	2	2	1	0	0	
75cd HORN-STROBE, CEILING	0.143A	0	0	0	0	0	0	2	0	
177cd HORN-STROBE, CEILING	0.254A	4	2	2	3	2	2	2	0	
135cd HORN-STROBE, WP, WALL OR 185cd HORN-STROBE WALL	0.245A	0	1	0	0	0	0	0	0	
	NAC CKT CURRENT DRAW =	1.468A	1.539A	0.960A	1.214A	0.960A	0.842A	0.794A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	7.777A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH

	ALARM CURRENT CALCULATIONS	TOTAL ALARM CURRENT CALCU
19	Total alarm current	7.977A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.6645 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.9845 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.9814 AH
		(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N5-01	0.254A	58'	72'	1.468A	0.405v	1.468A	1.353v	6.6336%
N5-02	0.226A	65'	65'	1.214A	0.304v			
N5-03	0.254A	59'	69'	0.988A	0.264v			
N5-04	0.226A	63'	69'	0.734A	0.196v			
N5-05	0.254A	60'	66'	0.508A	0.129v			
N5-06	0.254A	50'	55'	0.254A	0.054v			

N.A.C #5
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N10-01	0.054A	220'	242'	0.842A	0.787v	0.842A	1.097v	5.3761%
N10-02	0.254A	22'	24'	0.788A	0.074v			
N10-03	0.054A	56'	62'	0.534A	0.127v			
N10-04	0.254A	26'	29'	0.480A	0.053v			
N10-05	0.226A	59'	65'	0.226A	0.057v			

N.A.C #10
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N6-01	0.054A	38'	42'	1.539A	0.248v	1.539A	1.625v	7.9646%
N6-02	0.245A	45'	50'	1.485A	0.284v			
N6-03	0.226A	53'	58'	1.240A	0.279v			
N6-04	0.054A	51'	56'	1.014A	0.220v			
N6-05	0.226A	61'	67'	0.960A	0.249v			
N6-06	0.254A	57'	63'	0.734A	0.178v			
N6-07	0.226A	58'	64'	0.480A	0.118v			
N6-08	0.254A	46'	51'	0.254A	0.050v			

N.A.C #6
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N11-01	0.254A	404'	444'	0.794A	1.362v	0.794A	1.601v	7.8483%
N11-02	0.254A	64'	70'	0.540A	0.147v			
N11-03	0.143A	52'	57'	0.286A	0.063v			
N11-04	0.143A	48'	53'	0.143A	0.029v			

N.A.C #11
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N7-01	0.254A	264'	290'	0.960A	1.076v	0.960A	1.430v	7.0090%
N7-02	0.226A	56'	62'	0.706A	0.168v			
N7-03	0.254A	62'	68'	0.480A	0.126v			
N7-04	0.226A	62'	68'	0.226A	0.059v			

N.A.C #7
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N8-01	0.226A	118'	130'	1.214A	0.608v	1.214A	1.348v	6.6087%
N8-02	0.254A	53'	58'	0.988A	0.222v			
N8-03	0.254A	120'	132'	0.734A	0.374v			
N8-04	0.226A	44'	48'	0.480A	0.090v			
N8-05	0.254A	50'	55'	0.254A	0.054v			

N.A.C #8
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N9-01	0.226A	338'	372'	0.960A	1.378v	0.960A	1.723v	8.4471%
N9-02	0.254A	57'	63'	0.734A	0.178v			
N9-03	0.226A	58'	64'	0.480A	0.118v			
N9-04	0.254A	46'	51'	0.254A	0.050v			

N.A.C #9
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

FIRESWITCH 108 BPS#2 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENES	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N13	N14	N15	N16	N17	N18	N19	N20-SPARE	
15cd HORN-STROBE, WALL	0.054A	0	2	0	0	0	2	0	0	
177cd STROBE, CEILING	0.226A	2	3	2	2	1	2	1	0	
75cd HORN-STROBE, CEILING	0.143A	1	0	0	0	0	0	1	0	
115cd HORN-STROBE, CEILING	0.187A	1	0	0	0	0	0	0	0	
177cd HORN-STROBE, CEILING	0.254A	4	2	2	3	2	3	2	0	
135cd HORN-STROBE, WP, WALL OR 185cd HORN-STROBE WALL	0.245A	0	1	0	0	0	0	0	0	
	NAC CKT CURRENT DRAW =	1.798A	1.539A	0.960A	1.214A	0.734A	1.322A	0.877A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	8.444A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH

	ALARM CURRENT CALCULATIONS	TOTAL ALARM CURRENT CALCU
19	Total alarm current	8.644A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.7200 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	5.0400 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	6.0481 AH
		(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N13-01	0.143A	78'	86'	1.798A	0.595v	1.798A	1.912v	9.3745%
N13-02	0.254A	24'	26'	1.655A	0.169v			
N13-03	0.187A	59'	65'	1.401A	0.351v			
N13-04	0.226A	33'	36'	1.214A	0.170v			
N13-05	0.254A	59'	65'	0.988A	0.248v			
N13-06	0.226A	63'	69'	0.734A	0.196v			
N13-07	0.254A	60'	66'	0.508A	0.129v			
N13-08	0.254A	50'	55'	0.254A	0.054v			

N.A.C #13
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N18-01	0.054A	198'	218'	1.322A	1.111v	1.322A	1.904v	9.3324%
N18-02	0.254A	22'	24'	1.268A	0.118v			
N18-03	0.054A	56'	62'	1.014A	0.241v			
N18-04	0.254A	26'	29'	0.960A	0.106v			
N18-05	0.226A	59'	65'	0.706A	0.177v			
N18-06	0.254A	51'	56'	0.480A	0.104v			
N18-07	0.226A	48'	53'	0.226A	0.046v			

N.A.C #18
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N14-01	0.054A	18'	20'	1.539A	0.118v	1.539A	1.494v	7.3240%
N14-02	0.245A	45'	50'	1.485A	0.284v			
N14-03	0.226A	53'	58'	1.240A	0.279v			
N14-04	0.054A	51'	56'	1.014A	0.220v			
N14-05	0.226A	61'	67'	0.960A	0.249v			
N14-06	0.254A	57'	63'	0.734A	0.178v			
N14-07	0.226A	58'	64'	0.480A	0.118v			
N14-08	0.254A	46'	51'	0.254A	0.050v			

N.A.C #14
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N19-01	0.226A	434'	477'	0.877A	1.616v	0.877A	1.870v	9.1657%
N19-02	0.254A	46'	51'	0.651A	0.127v			
N19-03	0.143A	45'	50'	0.397A	0.076v			
N19-04	0.254A	47'	52'	0.254A	0.051v			

N.A.C #19
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N15-01	0.254A	200'	220'	0.960A	0.815v	0.960A	1.169v	5.7302%
N15-02	0.226A	56'	62'	0.706A	0.168v			
N15-03	0.254A	62'	68'	0.480A	0.126v			
N15-04	0.226A	62'	68'	0.226A	0.059v			

N.A.C #15
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N16-01	0.226A	98'	108'	1.214A	0.505v	1.214A	1.245v	6.1033%
N16-02	0.254A	53'	58'	0.988A	0.222v			
N16-03	0.254A	120'	132'	0.734A	0.374v			
N16-04	0.226A	44'	48'	0.480A	0.090v			
N16-05	0.254A	50'	55'	0.254A	0.054v			

N.A.C #16
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N17-01	0.226A	318'	350'	0.734A	0.991v	0.734A	1.169v	5.7305%
N17-02	0.254A	57'	63'	0.508A	0.123v			
N17-03	0.254A	51'	56'	0.254A	0.055v			

N.A.C #17
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

FIRESWITCH 108 BPS#3 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N21	N22	N23	N24	N25	N26	N27	N28	
15cd STROBE WALL	0.043A	0	1	0	0	0	0	2	0	
30cd STROBE WALL / CEILING	0.063A	0	0	0	0	0	0	1	0	
15cd HORN-STROBE, WALL	0.054A	0	4	0	0	0	0	1	0	
75cd HORN-STROBE, WALL OR 95cd STROBE, WALL	0.121A	0	1	0	0	0	0	1	1	
110cd HORN-STROBE, WALL	0.162A	0	0	0	0	0	0	4	0	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
177cd STROBE, CEILING	0.226A	0	0	3	1	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	8	0	0	0	0	0	0	0	
115cd HORN-STROBE, CEILING	0.187A	0	0	0	0	0	0	0	1	
177cd HORN-STROBE, CEILING	0.254A	0	0	4	3	0	0	0	1	
135cd HORN-STROBE, WP, WALL OR 185cd HORN-STROBE WALL	0.245A	0	2	0	0	0	0	0	2	
177cd HORN-STROBE, WP, WALL/CEILING	0.290A	0	0	0	0	0	0	0	0	
185cd HORN-STROBE, WP, WALL/CEILING	0.297A	0	0	0	0	0	0	1	0	
HORN LOW FREQ	0.108A	0	0	0	0	6	7	0	0	
	NAC CKT CURRENT DRAW =	0.609A	0.870A	1.694A	0.988A	0.648A	0.756A	1.269A	1.052A	
									TOTAL NAC CKT CURRENT DRAW =	7.886A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH

	ALARM CURRENT CALCULATIONS	TOTAL ALARM CURRENT CALCU
19	Total alarm current	8.086A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.6736 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.9936 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.9923 AH
		(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N21-01	0.071A	95'	105'	0.609A	0.391v	0.609A	0.950v	4.6562%
N21-02	0.071A	33'	36'	0.538A	0.120v			
N21-03	0.071A	28'	31'	0.467A	0.088v			
N21-04	0.041A	3'	3'	0.396A	0.008v			
N21-05	0.071A	51'	56'	0.355A	0.122v			
N21-06	0.071A	49'	54'	0.284A	0.094v			
N21-07	0.071A	49'	54'	0.213A	0.070v			
N21-08	0.071A	49'	54'	0.142A	0.047v			
N21-09	0.071A	19'	21'	0.071A	0.009v			

N.A.C #21
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N27-01	0.063A	15'	17'	1.269A	0.129v	1.269A	1.757v	8.6145%
N27-02	0.054A	7'	8'	1.206A	0.057v			
N27-03	0.162A	19'	21'	1.152A	0.148v			
N27-04	0.162A	62'	68'	0.990A	0.415v			
N27-05	0.043A	50'	55'	0.828A	0.280v			
N27-06	0.043A	36'	40'	0.785A	0.191v			
N27-07	0.162A	74'	81'	0.742A	0.371v			
N27-08	0.297A	21'	23'	0.580A	0.082v			
N27-09	0.121A	30'	33'	0.283A	0.057v			
N27-10	0.162A	26'	29'	0.162A	0.028v			

N.A.C #27
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N22-01	0.121A	326'	359'	0.870A	1.204v	0.870A	1.748v	8.5680%
N22-02	0.043A	46'	51'	0.749A	0.146v			
N22-03	0.054A	11'	12'	0.706A	0.033v			
N22-04	0.054A	16'	18'	0.652A	0.044v			
N22-05	0.054A	35'	39'	0.598A	0.089v			
N22-06	0.054A	51'	56'	0.544A	0.118v			
N22-07	0.245A	24'	26'	0.490A	0.050v			
N22-08	0.245A	61'	67'	0.245A	0.063v			

N.A.C #22
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N28-01	0.121A	70'	77'	1.052A	0.497v	1.052A	1.383v	6.7798%
N28-02	0.187A	49'	54'	0.931A	0.308v			
N28-03	0.254A	29'	32'	0.744A	0.146v			
N28-04	0.245A	95'	105'	0.490A	0.314v			
N28-05	0.245A	71'	78'	0.245A	0.117v			

N.A.C #28
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N23-01	0.254A	65'	72'	1.694A	0.468v	1.694A	1.660v	8.1374%
N23-02	0.254A	41'	45'	1.440A	0.251v			
N23-03	0.226A	59'	65'	1.186A	0.297v			
N23-04	0.254A	40'	44'	0.960A	0.163v			
N23-05	0.226A	111'	122'	0.706A	0.333v			
N23-06	0.254A	50'	55'	0.480A	0.102v			
N23-07	0.226A	49'	54'	0.226A	0.047v			

N.A.C #23
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N24-01	0.254A	314'	345'	0.988A	1.317v	0.988A	1.700v	8.3356%
N24-02	0.254A	61'	67'	0.734A	0.190v			
N24-03	0.226A	63'	69'	0.480A	0.128v			
N24-04	0.254A	60'	66'	0.254A	0.065v			

N.A.C #24
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N25-01	0.108A	239'	263'	0.648A	1.046v	0.648A	1.298v	6.3611%
N25-02	0.108A	23'	25'	0.540A	0.084v			
N25-03	0.108A	23'	25'	0.432A	0.067v			
N25-04	0.108A	23'	25'	0.324A	0.050v			
N25-05	0.108A	23'	25'	0.216A	0.034v			
N25-06	0.108A	23'	25'	0.108A	0.017v			

N.A.C #25
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N26-01	0.108A	150'	165'	0.756A	0.766v	0.756A	0.916v	4.4910%
N26-02	0.108A	11'	12'	0.648A	0.048v			
N26-03	0.108A	3'	3'	0.540A	0.011v			
N26-04	0.108A	17'	19'	0.432A	0.050v			
N26-05	0.108A	10'	11'	0.324A	0.022v			
N26-06	0.108A	3'	3'	0.216A	0.004v			
N26-07	0.108A	21'	23'	0.108A	0.015v			

N.A.C #26
HORN-STROBE CIRCUIT

L SERIES SYSTEM SENSOR NOTIFICATION APPLIANCE CURRENT DRAW LIST

VDC CURRENT	Wall		Weatherproof		Ceiling		
Candela Rating	Strobe	Horn/ Strobe	Strobe	Horn/ Strobe	Strobe	Horn/ Strobe	LF-Horn / Strobe
15cd	0.043	0.054	0.066	0.079	0.041	0.071	
30cd	0.063	0.074	0.094	0.107	0.063	0.090	
75cd	0.107	0.121	0.158	0.176	0.111	0.143	
95cd	0.121	0.142	0.181	0.194	0.134	0.165	
110cd	0.148	0.162	0.202	0.212	--	--	
115cd	--	--	0.210	0.218	0.158	0.187	
135cd	0.172	0.196	0.228	0.245	--	--	
150cd	--	--	0.246	0.259	0.189	0.217	
177cd	--	--	0.281	0.290	0.226	0.254	0.266
185cd	0.222	0.245	0.286	0.297	--	--	
							0.108

A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
12 AWG = 1.93 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST
CASE VOLTAGE OF 20.4 VDC

METHOD OF CALCULATIONS: POINT TO POINT
A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
14 AWG = 3.07 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST
CASE VOLTAGE OF 20.4 VDC

BATTERY & VOLTAGE DROP CALCULATIONS - 1

NOT TO SCALE

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1
100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER:
FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE: BATTERY & VOLTAGE DROP CALCULATIONS - 1

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO. FA-12.0

FIRESWITCH 108 BPS#4 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N29	N30	N31	N32	N33	N34	N35	N36	
15cd STROBE WALL	0.043A	2	0	0	3	0	0	0	0	
30cd STROBE WALL / CEILING	0.063A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, WALL	0.054A	0	0	0	1	0	0	0	0	
30cd HORN-STROBE, WALL	0.074A	0	0	0	1	0	0	0	0	
75cd HORN-STROBE, WALL OR 95cd STROBE, WALL	0.121A	3	0	0	1	0	0	0	1	
135cd HORN-STROBE, WALL	0.196A	0	0	0	0	0	0	0	1	
15cd STROBE, CEILING	0.041A	0	1	0	0	0	0	0	0	
177cd STROBE, CEILING	0.226A	0	0	2	1	1	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	3	5	0	0	0	0	0	0	
75cd HORN-STROBE, CEILING	0.143A	0	0	0	0	2	0	0	0	
177cd HORN-STROBE, CEILING	0.254A	0	0	4	1	2	0	0	0	
135cd HORN-STROBE, WP, WALL OR 185cd HORN-STROBE WALL	0.245A	0	0	0	0	0	0	0	2	
185cd HORN-STROBE, WP, WALL/CEILING	0.297A	1	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	0	0	0	0	8	5	0	
	NAC CKT CURRENT DRAW =	1.022A	0.396A	1.468A	0.858A	1.020A	0.864A	0.540A	0.807A	
									TOTAL NAC CKT CURRENT DRAW =	6.975A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	**TOTAL ALARM CURRENT CALCU**
19	Total alarm current	7.175A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.5977 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.9177 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.9012 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N29-01	0.043A	30'	33'	1.022A	0.207v	1.022A	1.109v	5.4361%
N29-02	0.121A	29'	32'	0.979A	0.192v			
N29-03	0.063A	24'	26'	0.858A	0.139v			
N29-04	0.121A	45'	50'	0.795A	0.242v			
N29-05	0.297A	19'	21'	0.674A	0.086v			
N29-06	0.121A	52'	57'	0.377A	0.132v			
N29-07	0.043A	19'	21'	0.256A	0.033v			
N29-08	0.071A	19'	21'	0.213A	0.027v			
N29-09	0.071A	41'	45'	0.142A	0.039v			
N29-10	0.071A	23'	25'	0.071A	0.011v			

N.A.C #29
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N30-01	0.071A	79'	87'	0.396A	0.211v	0.396A	0.444v	2.1743%
N30-02	0.071A	26'	29'	0.325A	0.057v			
N30-03	0.071A	24'	26'	0.254A	0.041v			
N30-04	0.041A	58'	64'	0.183A	0.072v			
N30-05	0.071A	25'	28'	0.142A	0.024v			
N30-06	0.071A	80'	88'	0.071A	0.038v			

N.A.C #30
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N31-01	0.254A	32'	35'	1.468A	0.199v	1.468A	0.933v	4.5746%
N31-02	0.254A	41'	45'	1.214A	0.211v			
N31-03	0.226A	53'	58'	0.960A	0.216v			
N31-04	0.254A	50'	55'	0.734A	0.156v			
N31-05	0.226A	49'	54'	0.480A	0.100v			
N31-06	0.254A	47'	52'	0.254A	0.051v			

N.A.C #31
HORN-STROBE CIRCUIT
NOTE: 12AWG USED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N32-01	0.043A	18'	20'	0.858A	0.104v	0.858A	1.042v	5.1056%
N32-02	0.054A	5'	6'	0.815A	0.028v			
N32-03	0.121A	25'	28'	0.761A	0.128v			
N32-04	0.043A	26'	29'	0.640A	0.112v			
N32-05	0.043A	19'	21'	0.597A	0.077v			
N32-06	0.074A	89'	98'	0.554A	0.333v			
N32-07	0.254A	55'	61'	0.480A	0.178v			
N32-08	0.226A	53'	58'	0.226A	0.081v			

N.A.C #32
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N33-01	0.254A	175'	193'	1.020A	1.206v	1.020A	1.813v	8.8874%
N33-02	0.226A	53'	58'	0.766A	0.274v			
N33-03	0.254A	49'	54'	0.540A	0.179v			
N33-04	0.143A	60'	66'	0.286A	0.116v			
N33-05	0.143A	40'	44'	0.143A	0.039v			

N.A.C #33
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N34-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.881v	4.3194%
N34-02	0.108A	22'	24'	0.756A	0.112v			
N34-03	0.108A	22'	24'	0.648A	0.096v			
N34-04	0.108A	22'	24'	0.540A	0.080v			
N34-05	0.108A	22'	24'	0.432A	0.064v			
N34-06	0.108A	22'	24'	0.324A	0.048v			
N34-07	0.108A	22'	24'	0.216A	0.032v			
N34-08	0.108A	22'	24'	0.108A	0.016v			

N.A.C #34
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N35-01	0.108A	70'	77'	0.540A	0.255v	0.540A	0.416v	2.0381%
N35-02	0.108A	22'	24'	0.432A	0.064v			
N35-03	0.108A	22'	24'	0.324A	0.048v			
N35-04	0.108A	22'	24'	0.216A	0.032v			
N35-05	0.108A	22'	24'	0.108A	0.016v			

N.A.C #35
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N36-01	0.196A	248'	273'	0.807A	1.352v	0.807A	1.904v	9.3321%
N36-02	0.121A	64'	70'	0.611A	0.264v			
N36-03	0.245A	68'	75'	0.490A	0.225v			
N36-04	0.245A	38'	42'	0.245A	0.063v			

N.A.C #36
HORN-STROBE CIRCUIT

FIRESWITCH 108 BPS#5 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N37	N38	N39	N40	N41	N42	N43	N44-SPARE	
75cd HORN-STROBE, WALL OR 95cd STROBE, WALL	0.121A	1	0	0	0	0	0	0	0	
15cd STROBE, CEILING	0.041A	2	0	0	0	0	0	0	0	
177cd STROBE, CEILING	0.226A	0	0	0	0	1	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	6	0	0	0	0	0	0	0	
177cd HORN-STROBE, CEILING	0.254A	0	0	0	0	3	3	0	0	
HORN LOW FREQ	0.108A	0	10	9	4	0	0	4	0	
	NAC CKT CURRENT DRAW =	0.629A	1.080A	0.972A	0.432A	0.988A	0.762A	0.432A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	5.295A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	**TOTAL ALARM CURRENT CALCU**
19	Total alarm current	5.495A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.4577 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.7777 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.7333 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N37-01	0.121A	22'	24'	0.629A	0.093v	0.629A	0.866v	4.2459%
N37-02	0.071A	14'	15'	0.508A	0.048v			
N37-03	0.041A	52'	57'	0.437A	0.153v			
N37-04	0.071A	40'	44'	0.396A	0.107v			
N37-05	0.071A	83'	91'	0.325A	0.182v			
N37-06	0.071A	83'	91'	0.254A	0.142v			
N37-07	0.071A	72'	79'	0.183A	0.089v			
N37-08	0.041A	27'	30'	0.112A	0.020v			
N37-09	0.071A	63'	69'	0.071A	0.030v			

N.A.C #37
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N38-01	0.108A	45'	50'	1.080A	0.328v	1.080A	0.718v	3.5220%
N38-02	0.108A	11'	12'	0.972A	0.072v			
N38-03	0.108A	3'	3'	0.864A	0.018v			
N38-04	0.108A	23'	25'	0.756A	0.117v			
N38-05	0.108A	3'	3'	0.648A	0.013v			
N38-06	0.108A	26'	29'	0.540A	0.095v			
N38-07	0.108A	3'	3'	0.432A	0.009v			
N38-08	0.108A	22'	24'	0.324A	0.048v			
N38-09	0.108A	11'	12'	0.216A	0.016v			
N38-10	0.108A	3'	3'	0.108A	0.002v			

N.A.C #38
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N39-01	0.108A	167'	184'	0.972A	1.096v	0.972A	1.399v	6.8581%
N39-02	0.108A	3'	3'	0.864A	0.018v			
N39-03	0.108A	10'	11'	0.756A	0.051v			
N39-04	0.108A	23'	25'	0.648A	0.101v			
N39-05	0.108A	7'	8'	0.540A	0.026v			
N39-06	0.108A	20'	22'	0.432A	0.058v			
N39-07	0.108A	7'	8'	0.324A	0.015v			
N39-08	0.108A	20'	22'	0.216A	0.029v			
N39-09	0.108A	7'	8'	0.108A	0.005v			

N.A.C #39
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N40-01	0.108A	279'	307'	0.432A	0.814v	0.432A	0.864v	4.2336%
N40-02	0.108A	7'	8'	0.324A	0.015v			
N40-03	0.108A	20'	22'	0.216A	0.029v			
N40-04	0.108A	7'	8'	0.108A	0.005v			

N.A.C #40
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N41-01	0.226A	143'	157'	0.988A	0.954v	0.988A	1.460v	7.1584%
N41-02	0.254A	50'	55'	0.762A	0.257v			
N41-03	0.254A	49'	54'	0.508A	0.168v			
N41-04	0.254A	47'	52'	0.254A	0.081v			

N.A.C #41
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N42-01	0.254A	226'	249'	0.762A	1.163v	0.762A	1.479v	7.2489%
N42-02	0.254A	61'	67'	0.508A	0.209v			
N42-03	0.254A	62'	68'	0.254A	0.106v			

N.A.C #42
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N43-01	0.108A	325'	358'	0.432A	0.596v	0.432A	0.627v	3.0751%
N43-02	0.108A	7'	8'	0.324A	0.010v			
N43-03	0.108A	20'	22'	0.216A	0.018v			
N43-04	0.108A	7'	8'	0.108A	0.003v			

N.A.C #43
HORN-STROBE CIRCUIT

FIRESWITCH 108 BPS#6 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N45	N46	N47	N48	N49	N50	N51	N52	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	10	0	0	0	0	0	0	0	
15cd HORN-STROBE, WP, WALL/CEILING	0.079A	1	0	0	0	0	0	0	0	
185cd HORN-STROBE, WP, WALL/CEILING	0.297A	1	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	8	8	6	6	8	6	11	
	NAC CKT CURRENT DRAW =	1.127A	0.864A	0.864A	0.648A	0.648A	0.864A	0.648A	1.188A	
									TOTAL NAC CKT CURRENT DRAW =	6.851A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	**TOTAL ALARM CURRENT CALCU**
19	Total alarm current	7.051A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.5873 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.9073 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.8888 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N45-01	0.071A	22'	24'	1.127A	0.167v	1.127A	1.867v	9.1523%
N45-02	0.071A	68'	75'	1.056A	0.485v			
N45-03	0.071A	36'	40'	0.985A	0.239v			
N45-04	0.071A	13'	14'	0.914A	0.080v			
N45-05	0.071A	43'	47'	0.843A	0.245v			
N45-06	0.297A	43'	47'	0.772A	0.224v			
N45-07	0.071A	42'	46'	0.475A	0.135v			
N45-08	0.041A	25'	28'	0.404A	0.068v			
N45-09	0.071A	14'	15'	0.363A	0.034v			
N45-10	0.071A	34'	37'	0.292A	0.067v			
N45-11	0.079A	39'	43'	0.221A	0.058v			
N45-12	0.071A	44'	48'	0.142A	0.042v			
N45-13	0.071A	44'	48'	0.071A	0.021v			

N.A.C #45
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N46-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%
N46-02	0.108A	30'	33'	0.756A	0.153v			
N46-03	0.108A	5'	6'	0.648A	0.022v			
N46-04	0.108A	17'	19'	0.540A	0.062v			
N46-05	0.108A	23'	25'	0.432A	0.067v			
N46-06	0.108A	3'	3'	0.324A	0.007v			
N46-07	0.108A	17'	19'	0.216A	0.025v			
N46-08	0.108A	4'	4'	0.108A	0.003v			

N.A.C #46
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N47-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%
N47-02	0.108A	3'	3'	0.756A	0.015v			
N47-03	0.108A	19'	21'	0.648A	0.083v			
N47-04	0.108A	10'	11'	0.540A	0.036v			
N47-05	0.108A	3'	3'	0.432A	0.009v			
N47-06	0.108A	18'	20'	0.324A	0.039v			
N47-07	0.108A	16'	18'	0.216A	0.023v			
N47-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #47
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N48-01	0.108A	227'	250'	0.648A	0.993v	0.648A	1.108v	5.4314%
N48-02	0.108A	3'	3'	0.540A	0.011v			
N48-03	0.108A	18'	20'	0.432A	0.053v			
N48-04	0.108A	8'	9'	0.324A	0.018v			
N48-05	0.108A	19'	21'	0.216A	0.028v			
N48-06	0.108A	8'	9'	0.108A	0.006v			

N.A.C #48
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N49-01	0.108A	274'	301'	0.648A	1.199v	0.648A	1.310v	6.4219%
N49-02	0.108A	3'	3'	0.540A	0.011v			
N49-03	0.108A	17'	19'	0.432A	0.050v			
N49-04	0.108A	8'	9'	0.324A	0.018v			
N49-05	0.108A	19'	21'	0.216A	0.028v			
N49-06	0.108A	7'	8'	0.108A	0.005v			

N.A.C #49
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N50-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.727v	3.5613%
N50-02	0.108A	6'	7'	0.756A	0.031v			
N50-03	0.108A	19'	21'	0.648A	0.083v			
N50-04	0.108A	8'	9'	0.540A	0.029v			
N50-05	0.108A	23'	25'	0.432A	0.067v			
N50-06	0.108A	17'	19'	0.324A	0.037v			
N50-07	0.108A	31'	34'	0.216A	0.045v			
N50-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #50
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N51-01	0.108A	186'	205'	0.648A	0.512v	0.648A	0.636v	3.1201%
N51-02	0.108A	3'	3'	0.540A	0.011v			
N51-03	0.108A	17'	19'	0.432A	0.050v			
N51-04	0.108A	24'	26'	0.324A	0.053v			
N51-05	0.108A	3'	3'	0.216A	0.004v			
N51-06	0.108A	10'	11'	0.108A	0.007v			

N.A.C #51
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N52-01	0.108A	37'	41'	1.188A	0.297v	1.188A	0.790v	3.8724%
N52-02	0.108A	16'	18'	1.080A	0.117v			
N52-03	0.108A	5'	6'	0.972A	0.033v			
N52-04	0.108A	16'	18'	0.864A	0.093v			
N52-05	0.108A	5'	6'	0.756A	0.026v			
N52-06	0.108A	14'	15'	0.648A	0.061v			
N52-07	0.108A	5'	6'	0.540A	0.018v			
N52-08	0.108A	35'	39'	0.432A	0.102v			
N52-09	0.108A	12'	13'	0.324A	0.026v			
N52-10	0.108A	5'	6'	0.216A	0.007v			
N52-11	0.108A	13'	14'	0.108A	0.009v			

N.A.C #52
HORN-STROBE CIRCUIT

FIRESWITCH 108 BPS#7 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N53	N54	N55	N56	N57	N58	N59	N60	
15cd STROBE WALL	0.043A	0	0	0	0	0	0	0	0	
30cd STROBE WALL / CEILING	0.063A	0	0	2	0	0	0	0	0	
15cd STROBE, CEILING	0.041A	0	1	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	4	6	4	0	0	0	0	0	
30cd HORN-STROBE, CEILING	0.090A	0	0	1	0	0	0	0	0	
75cd HORN-STROBE, CEILING	0.143A	0	0	1	0	0	0	0	0	
15cd HORN-STROBE, WP, WALL/CEILING	0.079A	2	1	2	0	0	0	0	0	
185cd HORN-STROBE, WP, WALL/CEILING	0.297A	3	1	2	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	0	0	8	8	6	7	5	
	NAC CKT CURRENT DRAW =	1.333A	0.843A	1.395A	0.864A	0.864A	0.648A	0.756A	0.540A	
									TOTAL NAC CKT CURRENT DRAW =	7.243A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	**TOTAL ALARM CURRENT CALCU**
19	Total alarm current	7.443A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.6200 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.9400 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.9280 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N53-01	0.071A	10'	11'	1.333A	0.090v	1.333A	1.855v	9.0923%
N53-02	0.297A	76'	84'	1.262A	0.648v			
N53-03	0.071A	67'	74'	0.965A	0.437v			
N53-04	0.071A	21'	23'	0.894A	0.127v			
N53-05	0.297A	37'	41'	0.823A	0.206v			
N53-06	0.079A	17'	19'	0.526A	0.060v			
N53-07	0.079A	54'	59'	0.447A	0.163v			
N53-08	0.297A	41'	45'	0.368A	0.102v			
N53-09	0.071A	47'	52'	0.071A	0.023v			

N.A.C #53
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N54-01	0.041A	162'	178'	0.843A	0.922v	0.843A	1.983v	9.7205%
N54-02	0.071A	12'	13'	0.802A	0.065v			
N54-03	0.079A	59'	65'	0.731A	0.291v			
N54-04	0.071A	21'	23'	0.652A	0.092v			
N54-05	0.071A	64'	70'	0.581A	0.251v			
N54-06	0.071A	20'	22'	0.510A	0.069v			
N54-07	0.297A	74'	81'	0.439A	0.219v			
N54-08	0.071A	50'	55'	0.142A	0.048v			
N54-09	0.071A	51'	56'	0.071A	0.024v			

N.A.C #54
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N55-01	0.071A	50'	55'	1.395A	0.471v	1.395A	1.768v	8.6683%
N55-02	0.143A	23'	25'	1.324A	0.206v			
N55-03	0.071A	41'	45'	1.181A	0.327v			
N55-04	0.090A	21'	23'	1.110A	0.157v			
N55-05	0.079A	23'	25'	1.020A	0.158v			
N55-06	0.297A	4'	4'	0.941A	0.025v			
N55-07	0.297A	71'	78'	0.644A	0.309v			
N55-08	0.079A	23'	25'	0.347A	0.054v			
N55-09	0.063A	7'	8'	0.268A	0.013v			
N55-10	0.063A	20'	22'	0.205A	0.028v			
N55-11	0.071A	16'	18'	0.142A	0.015v			
N55-12	0.071A	10'	11'	0.071A	0.005v			

N.A.C #55
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N56-01	0.108A	18'	20'	0.864A	0.105v	0.864A	0.421v	2.0631%
N56-02	0.108A	24'	26'	0.756A	0.123v			
N56-03	0.108A	3'	3'	0.648A	0.013v			
N56-04	0.108A	18'	20'	0.540A	0.066v			
N56-05	0.108A	5'	6'	0.432A	0.015v			
N56-06	0.108A	26'	29'	0.324A	0.057v			
N56-07	0.108A	27'	30'	0.216A	0.039v			
N56-08	0.108A	5'	6'	0.108A	0.004v			

N.A.C #56
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N57-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9058%
N57-02	0.108A	3'	3'	0.756A	0.015v			
N57-03	0.108A	24'	26'	0.648A	0.105v			
N57-04	0.108A	20'	22'	0.540A	0.073v			
N57-05	0.108A	4'	4'	0.432A	0.012v			
N57-06	0.108A	20'	22'	0.324A	0.044v			
N57-07	0.108A	10'	11'	0.216A	0.015v			
N57-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #57
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N58-01	0.108A	183'	201'	0.648A	0.801v	0.648A	0.905v	4.4374%
N58-02	0.108A	5'	6'	0.540A	0.018v			
N58-03	0.108A	10'	11'	0.432A	0.029v			
N58-04	0.108A	19'	21'	0.324A	0.042v			
N58-05	0.108A	4'	4'	0.216A	0.006v			
N58-06	0.108A	13'	14'	0.108A	0.009v			

N.A.C #58
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N59-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%
N59-02	0.108A	4'	4'	0.648A	0.018v			
N59-03	0.108A	17'	19'	0.540A	0.062v			
N59-04	0.108A	10'	11'	0.432A	0.029v			
N59-05	0.108A	4'	4'	0.324A	0.009v			
N59-06	0.108A	17'	19'	0.216A	0.025v			
N59-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #59
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N60-01	0.108A	232'	255'	0.540A	0.846v	0.540A	0.950v	4.6591%
N60-02	0.108A	17'	19'	0.432A	0.050v			
N60-03	0.108A	3'	3'	0.324A	0.007v			
N60-04	0.108A	29'	32'	0.216A	0.042v			
N60-05	0.108A	8'	9'	0.108A	0.006v			

N.A.C #60
HORN-STROBE CIRCUIT

FIRESWITCH 108 BPS#8 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N61	N62	N63	N64	N65	N66	N67	N68-SPARE	
15cd STROBE WALL	0.043A	0	0	1	0	0	0	0	0	
15cd STROBE, CEILING	0.041A	0	0	0	1	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	0	0	3	4	0	0	0	0	
30cd HORN-STROBE, CEILING	0.090A	0	0	1	0	0	0	0	0	
75cd HORN-STROBE, CEILING	0.143A	0	0	1	0	0	0	0	0	
115cd HORN-STROBE, CEILING	0.187A	0	0	1	0	0	0	0	0	
15cd HORN-STROBE, WP, WALL/CEILING	0.079A	0	0	1	0	0	0	0	0	
75cd HORN-STROBE, WP, WALL/CEILING	0.176A	0	0	0	2	0	0	0	0	
HORN LOW FREQ	0.108A	5	7	0	0	11	12	11	0	
	NAC CKT CURRENT DRAW =	0.540A	0.756A	1.052A	0.677A	1.188A	1.296A	1.188A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	6.697A

	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	**TOTAL ALARM CURRENT CALCU**
19	Total alarm current	6.897A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.5745 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.8945 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.8734 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N61-01	0.108A	25'	28'	0.540A	0.091v	0.540A	0.231v	1.1299%
N61-02	0.108A	21'	23'	0.432A	0.061v			
N61-03	0.108A	4'	4'	0.324A	0.009v			
N61-04	0.108A	45'	50'	0.216A	0.066v			
N61-05	0.108A	5'	6'	0.108A	0.004v			

N.A.C #61
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N62-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%
N62-02	0.108A	3'	3'	0.648A	0.013v			
N62-03	0.108A	20'	22'	0.540A	0.073v			
N62-04	0.108A	4'	4'	0.432A	0.012v			
N62-05	0.108A	24'	26'	0.324A	0.053v			
N62-06	0.108A	10'	11'	0.216A	0.015v			
N62-07	0.108A	3'	3'	0.108A	0.002v			

N.A.C #62
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N63-01	0.071A	76'	84'	1.052A	0.540v	1.052A	1.648v	8.0790%
N63-02	0.071A	72'	79'	0.981A	0.477v			
N63-03	0.071A	22'	24'	0.910A	0.135v			
N63-04	0.043A	10'	11'	0.839A	0.057v			
N63-05	0.090A	21'	23'	0.796A	0.113v			
N63-06	0.187A	24'	26'	0.706A	0.114v			
N63-07	0.143A	35'	39'	0.519A	0.123v			
N63-08	0.079A	28'	31'	0.376A	0.071v			
N63-09	0.297A	9'	10'	0.297A	0.018v			

N.A.C #63
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N64-01	0.071A	63'	69'	0.677A	0.288v	0.677A	0.862v	4.2249%
N64-02	0.071A	30'	33'	0.606A	0.123v			
N64-03	0.041A	19'	21'	0.535A	0.069v			
N64-04	0.071A	59'	65'	0.494A	0.197v			
N64-05	0.071A	20'	22'	0.423A	0.057v			
N64-06	0.176A	35'	39'	0.352A	0.083v			
N64-07	0.176A	38'	42'	0.176A	0.045v			

N.A.C #64
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N65-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%
N65-02	0.108A	3'	3'	1.080A	0.022v			
N65-03	0.108A	21'	23'	0.972A	0.138v			
N65-04	0.108A	4'	4'	0.864A	0.023v			
N65-05	0.108A	17'	19'	0.756A	0.087v			
N65-06	0.108A	4'	4'	0.648A	0.018v			
N65-07	0.108A	10'	11'	0.540A	0.036v			
N65-08	0.108A	19'	21'	0.432A	0.055v			
N65-09	0.108A	9'	10'	0.324A	0.020v			
N65-10	0.108A	19'	21'	0.216A	0.028v			
N65-11	0.108A	7'	8'	0.108A	0.005v			

N.A.C #65
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N66-01	0.108A	54'	59'	1.296A	0.473v	1.296A	0.967v	4.7413%
N66-02	0.108A	3'	3'	1.188A	0.024v			
N66-03	0.108A	19'	21'	1.080A	0.139v			
N66-04	0.108A	3'	3'	0.972A	0.020v			
N66-05	0.108A	19'	21'	0.864A	0.111v			
N66-06	0.108A	3'	3'	0.756A	0.015v			
N66-07	0.108A	19'	21'	0.648A	0.083v			
N66-08	0.108A	3'	3'	0.540A	0.011v			
N66-09	0.108A	19'	21'	0.432A	0.055v			
N66-10	0.108A	3'	3'	0.324A	0.007v			
N66-11	0.108A	19'	21'	0.216A	0.028v			
N66-12	0.108A	3'	3'	0.108A	0.002v			

N.A.C #66
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N67-01	0.108A	33'	36'	1.188A	0.265v	1.188A	0.778v	3.8116%
N67-02	0.108A	23'	25'	1.080A	0.168v			
N67-03	0.108A	3'	3'	0.972A	0.020v			
N67-04	0.108A	18'	20'	0.864A	0.105v			
N67-05	0.108A	3'	3'	0.756A	0.015v			
N67-06	0.108A	24'	26'	0.648A	0.105v			
N67-07	0.108A	3'	3'	0.540A	0.011v			
N67-08	0.108A	21'	23'	0.432A	0.061v			
N67-09	0.108A	3'	3'	0.324A	0.007v			
N67-10	0.108A	13'	14'	0.216A	0.019v			
N67-11	0.108A	3'	3'	0.108A	0.002v			

N.A.C #67
HORN-STROBE CIRCUIT

L SERIES SYSTEM SENSOR NOTIFICATION APPLIANCE CURRENT DRAW LIST

VDC CURRENT

Candela Rating	Wall Strobe	Wall Horn/Strobe	Weatherproof Strobe	Weatherproof Horn/Strobe	Ceiling Strobe	Ceiling Horn/Strobe	LF-Horn / Strobe
15cd	0.043	0.054	0.066	0.079	0.041	0.071	
30cd	0.063	0.074	0.094	0.107	0.063	0.090	
75cd	0.107	0.121	0.158	0.176	0.111	0.143	
95cd	0.121	0.142	0.181	0.194	0.134	0.165	
110cd	0.148	0.162	0.202	0.212	--	--	
115cd	--	--	0.210	0.218	0.158	0.187	
135cd	0.172	0.196	0.228	0.245	--	--	
150cd	--	--	0.246	0.259	0.189	0.217	
177cd	--	--	0.281	0.290	0.226	0.254	0.266
185cd	0.222	0.245	0.286	0.297	--	--	
							0.108

A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
12 AWG = 1.93 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST CASE VOLTAGE OF 20.4 VDC

METHOD OF CALCULATIONS: POINT TO POINT
A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
14 AWG = 3.07 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST CASE VOLTAGE OF 20.4 VDC

BATTERY & VOLTAGE DROP CALCULATIONS - 2

NOT TO SCALE

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC — REGISTERED C-7 C-10 CONTRACTOR — NO. 820216 EXP. 05/31/2021 — STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1
100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BATTERY & VOLTAGE DROP CALCULATIONS - 2

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO. FA-12.1

	FIRESWITCH 108 BPS#9 (5 MINTUES IN ALARM, 24HRS STANDBY)									ALTRONIX	
	A	B	C	D	E	F					
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
			Total Standby Current =	0.180A	Total Alm Current=	0.200A					
	NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N69	N70	N71	N72	N73	N74	N75	N76	
	15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
	15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
	HORN LOW FREQ	0.108A	0	8	8	7	6	8	6	12	
		NAC CKT CURRENT DRAW =	0.680A	0.864A	0.864A	0.756A	0.648A	0.864A	0.648A	1.296A	
										TOTAL NAC CKT CURRENT DRAW =	6.620A
	TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
16	Total standby current			0.180A							
17	Multiply by 24 or 60 for standby hours needed.			24H							
18	Total standby AH (Amp Hours)			4.3200 AH							
	ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
19	Total alarm current										6.820A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm										0.0833
21	Total alarm current.										0.5681 AH
	BATTERY BACKUP REQUIREMENTS										
22	Sub total, add line 18+21										4.8881 AH
23	Multiply by 1.2 for 20% Battery Derating Factor										20%
24	Total AH (Amp Hours)										5.8657 AH
											(2) BATTERY SUPPLIED = 12 AMP

N.A.C #69 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N69-01	0.071A	40'	44'	0.680A	0.184v	0.680A	0.858v	4.2049%
N69-02	0.071A	14'	15'	0.609A	0.058v			
N69-03	0.071A	68'	75'	0.538A	0.247v			
N69-04	0.071A	36'	40'	0.467A	0.114v			
N69-05	0.071A	13'	14'	0.396A	0.035v			
N69-06	0.071A	43'	47'	0.325A	0.094v			
N69-07	0.071A	17'	19'	0.254A	0.029v			
N69-08	0.041A	25'	28'	0.183A	0.031v			
N69-09	0.071A	39'	43'	0.142A	0.037v			
N69-10	0.071A	61'	67'	0.071A	0.029v			

N.A.C #70 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N70-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%
N70-02	0.108A	30'	33'	0.756A	0.153v			
N70-03	0.108A	5'	6'	0.648A	0.022v			
N70-04	0.108A	17'	19'	0.540A	0.062v			
N70-05	0.108A	23'	25'	0.432A	0.067v			
N70-06	0.108A	3'	3'	0.324A	0.007v			
N70-07	0.108A	17'	19'	0.216A	0.025v			
N70-08	0.108A	4'	4'	0.108A	0.003v			

N.A.C #71 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N71-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%
N71-02	0.108A	3'	3'	0.756A	0.015v			
N71-03	0.108A	19'	21'	0.648A	0.083v			
N71-04	0.108A	10'	11'	0.540A	0.036v			
N71-05	0.108A	3'	3'	0.432A	0.009v			
N71-06	0.108A	18'	20'	0.324A	0.039v			
N71-07	0.108A	16'	18'	0.216A	0.023v			
N71-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #72 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N72-01	0.108A	218'	240'	0.756A	1.113v	0.756A	1.271v	6.2324%
N72-02	0.108A	10'	11'	0.648A	0.044v			
N72-03	0.108A	3'	3'	0.540A	0.011v			
N72-04	0.108A	18'	20'	0.432A	0.053v			
N72-05	0.108A	8'	9'	0.324A	0.018v			
N72-06	0.108A	19'	21'	0.216A	0.028v			
N72-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #73 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N73-01	0.108A	274'	301'	0.648A	1.199v	0.648A	1.310v	6.4219%
N73-02	0.108A	3'	3'	0.540A	0.011v			
N73-03	0.108A	17'	19'	0.432A	0.050v			
N73-04	0.108A	8'	9'	0.324A	0.018v			
N73-05	0.108A	19'	21'	0.216A	0.028v			
N73-06	0.108A	7'	8'	0.108A	0.005v			

N.A.C #74 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N74-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.727v	3.5613%
N74-02	0.108A	6'	7'	0.756A	0.031v			
N74-03	0.108A	19'	21'	0.648A	0.083v			
N74-04	0.108A	8'	9'	0.540A	0.029v			
N74-05	0.108A	23'	25'	0.432A	0.067v			
N74-06	0.108A	17'	19'	0.324A	0.037v			
N74-07	0.108A	31'	34'	0.216A	0.045v			
N74-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #75 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N75-01	0.108A	186'	205'	0.648A	0.512v	0.648A	0.636v	3.1201%
N75-02	0.108A	3'	3'	0.540A	0.011v			
N75-03	0.108A	17'	19'	0.432A	0.050v			
N75-04	0.108A	24'	26'	0.324A	0.053v			
N75-05	0.108A	3'	3'	0.216A	0.004v			
N75-06	0.108A	10'	11'	0.108A	0.007v			

N.A.C #76 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N76-01	0.108A	37'	41'	1.296A	0.324v	1.296A	0.867v	4.2479%
N76-02	0.108A	16'	18'	1.188A	0.128v			
N76-03	0.108A	5'	6'	1.080A	0.036v			
N76-04	0.108A	16'	18'	0.972A	0.105v			
N76-05	0.108A	5'	6'	0.864A	0.029v			
N76-06	0.108A	13'	14'	0.756A	0.066v			
N76-07	0.108A	7'	8'	0.648A	0.031v			
N76-08	0.108A	13'	14'	0.540A	0.047v			
N76-09	0.108A	20'	22'	0.432A	0.058v			
N76-10	0.108A	11'	12'	0.324A	0.024v			
N76-11	0.108A	5'	6'	0.216A	0.007v			
N76-12	0.108A	13'	14'	0.108A	0.009v			

	FIRESWITCH 108 BPS#12 (5 MINTUES IN ALARM, 24HRS STANDBY)									ALTRONIX	
	A	B	C	D	E	F					
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
			Total Standby Current =	0.180A	Total Alm Current=	0.200A					
	NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N93	N94	N95	N96	N97	N98	N99	N100	
	15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
	15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
	HORN LOW FREQ	0.108A	0	8	8	7	6	8	6	12	
		NAC CKT CURRENT DRAW =	0.680A	0.864A	0.864A	0.756A	0.648A	0.864A	0.648A	1.296A	
										TOTAL NAC CKT CURRENT DRAW =	6.620A
	TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
16	Total standby current			0.180A							
17	Multiply by 24 or 60 for standby hours needed.			24H							
18	Total standby AH (Amp Hours)			4.3200 AH							
	ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
19	Total alarm current										6.820A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm										0.0833
21	Total alarm current.										0.5681 AH
	BATTERY BACKUP REQUIREMENTS										
22	Sub total, add line 18+21										4.8881 AH
23	Multiply by 1.2 for 20% Battery Derating Factor										20%
24	Total AH (Amp Hours)										5.8657 AH
											(2) BATTERY SUPPLIED = 12 AMP

N.A.C #93 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N93-01	0.071A	40'	44'	0.680A	0.184v	0.680A	0.858v	4.2049%
N93-02	0.071A	14'	15'	0.609A	0.058v			
N93-03	0.071A	68'	75'	0.538A	0.247v			
N93-04	0.071A	36'	40'	0.467A	0.114v			
N93-05	0.071A	13'	14'	0.396A	0.035v			
N93-06	0.071A	43'	47'	0.325A	0.094v			
N93-07	0.071A	17'	19'	0.254A	0.029v			
N93-08	0.041A	25'	28'	0.183A	0.031v			
N93-09	0.071A	39'	43'	0.142A	0.037v			
N93-10	0.071A	61'	67'	0.071A	0.029v			

N.A.C #94 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N94-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%
N94-02	0.108A	30'	33'	0.756A	0.153v			
N94-03	0.108A	5'	6'	0.648A	0.022v			
N94-04	0.108A	17'	19'	0.540A	0.062v			
N94-05	0.108A	23'	25'	0.432A	0.067v			
N94-06	0.108A	3'	3'	0.324A	0.007v			
N94-07	0.108A	17'	19'	0.216A	0.025v			
N94-08	0.108A	4'	4'	0.108A	0.003v			

N.A.C #95 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N95-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%
N95-02	0.108A	3'	3'	0.756A	0.015v			
N95-03	0.108A	19'	21'	0.648A	0.083v			
N95-04	0.108A	10'	11'	0.540A	0.036v			
N95-05	0.108A	3'	3'	0.432A	0.009v			
N95-06	0.108A	18'	20'	0.324A	0.039v			
N95-07	0.108A	16'	18'	0.216A	0.023v			
N95-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #96 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N96-01	0.108A	218'	240'	0.756A	1.113v	0.756A	1.271v	6.2324%
N96-02	0.108A	10'	11'	0.648A	0.044v			
N96-03	0.108A	3'	3'	0.540A	0.011v			
N96-04	0.108A	18'	20'	0.432A	0.053v			
N96-05	0.108A	8'	9'	0.324A	0.018v			
N96-06	0.108A	19'	21'	0.216A	0.028v			
N96-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #97 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N97-01	0.108A	274'	301'	0.648A	1.199v	0.648A	1.310v	6.4219%
N97-02	0.108A	3'	3'	0.540A	0.011v			
N97-03	0.108A	17'	19'	0.432A	0.050v			
N97-04	0.108A	8'	9'	0.324A	0.018v			
N97-05	0.108A	19'	21'	0.216A	0.028v			
N97-06	0.108A	7'	8'	0.108A	0.005v			

N.A.C #98 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N98-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.727v	3.5613%
N98-02	0.108A	6'	7'	0.756A	0.031v			
N98-03	0.108A	19'	21'	0.648A	0.083v			
N98-04	0.108A	8'	9'	0.540A	0.029v			
N98-05	0.108A	23'	25'	0.432A	0.067v			
N98-06	0.108A	17'	19'	0.324A	0.037v			
N98-07	0.108A	31'	34'	0.216A	0.045v			
N98-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #99 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N99-01	0.108A	186'	205'	0.648A	0.512v	0.648A	0.636v	3.1201%
N99-02	0.108A	3'	3'	0.540A	0.011v			
N99-03	0.108A	17'	19'	0.432A	0.050v			
N99-04	0.108A	24'	26'	0.324A	0.053v			
N99-05	0.108A	3'	3'	0.216A	0.004v			
N99-06	0.108A	10'	11'	0.108A	0.007v			

N.A.C #100 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N100-01	0.108A	37'	41'	1.296A	0.324v	1.296A	0.867v	4.2479%
N100-02	0.108A	16'	18'	1.188A	0.128v			
N100-03	0.108A	5'	6'	1.080A	0.036v			
N100-04	0.108A	16'	18'	0.972A	0.105v			
N100-05	0.108A	5'	6'	0.864A	0.029v			
N100-06	0.108A	13'	14'	0.756A	0.066v			
N100-07	0.108A	7'	8'	0.648A	0.031v			
N100-08	0.108A	13'	14'	0.540A	0.047v			
N100-09	0.108A	20'	22'	0.432A	0.058v			
N100-10	0.108A	11'	12'	0.324A	0.024v			
N100-11	0.108A	5'	6'	0.216A	0.007v			
N100-12	0.108A	13'	14'	0.108A	0.009v			

	FIRESWITCH 108 BPS#10 (5 MINTUES IN ALARM, 24HRS STANDBY)									ALTRONIX	
	A	B	C	D	E	F					
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
			Total Standby Current =	0.180A	Total Alm Current=	0.200A					
	NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N77	N78	N79	N80	N81	N82	N83-SPARE	N84-SPARE	
	15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
	15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
	HORN LOW FREQ	0.108A	0	9	8	6	7	5	0	0	
		NAC CKT CURRENT DRAW =	0.680A	0.972A	0.864A	0.648A	0.756A	0.540A	0.000A	0.000A	
										TOTAL NAC CKT CURRENT DRAW =	4.460A
	TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
16	Total standby current			0.180A							
17	Multiply by 24 or 60 for standby hours needed.			24H							
18	Total standby AH (Amp Hours)			4.3200 AH							
	ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
19	Total alarm current										4.660A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm										0.0833
21	Total alarm current.										0.3882 AH
	BATTERY BACKUP REQUIREMENTS										
22	Sub total, add line 18+21										4.7082 AH
23	Multiply by 1.2 for 20% Battery Derating Factor										20%
24	Total AH (Amp Hours)										5.6498 AH
											(2) BATTERY SUPPLIED = 12 AMP

N.A.C #77 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N77-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%
N77-02	0.071A	53'	58'	0.609A	0.218v			
N77-03	0.071A	13'	14'	0.538A	0.047v			
N77-04	0.041A	77'	85'	0.467A	0.243v			
N77-05	0.071A	12'	13'	0.426A	0.035v			
N77-06	0.071A	47'	52'	0.355A	0.113v			
N77-07	0.071A	64'	70'	0.284A	0.123v			
N77-08	0.071A	20'	22'	0.213A	0.029v			
N77-09	0.071A	50'	55'	0.142A	0.048v			
N77-10	0.071A	51'	56'	0.071A	0.024v			

N.A.C #78 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N78-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%
N78-02	0.108A	24'	26'	0.864A	0.140v			
N78-03	0.108A	3'	3'	0.756A	0.015v			
N78-04	0.108A	18'	20'	0.648A	0.079v			
N78-05	0.108A	5'	6'	0.540A	0.018v			
N78-06	0.108A	25'	28'	0.432A	0.073v			
N78-07	0.108A	3'	3'	0.324A	0.007v			
N78-08	0.108A	26'	29'	0.216A	0.038v			
N78-09	0.108A	5'	6'	0.108A	0.004v			

N.A.C #79 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N79-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9058%
N79-02	0.108A	3'	3'	0.756A	0.015v			
N79-03	0.108A	24'	26'	0.648A	0.105v			
N79-04	0.108A	20'	22'	0.540A	0.073v			
N79-05	0.108A	4'	4'	0.432A	0.012v			
N79-06	0.108A	20'	22'	0.324A	0.044v			
N79-07	0.108A	10'	11'	0.216A	0.015v			
N79-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #80 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N80-01	0.108A	183'	201'	0.648A	0.801v	0.648A	0.905v	4.4374%
N80-02	0.108A	5'	6'	0.540A	0.018v			
N80-03	0.108A	10'	11'	0.432A	0.029v			
N80-04	0.108A	19'	21'	0.324A	0.042v			
N80-05	0.108A	4'	4'	0.216A	0.006v			
N80-06	0.108A	13'	14'	0.108A	0.009v			

N.A.C #81 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N81-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%
N81-02	0.108A	4'	4'	0.648A	0.018v			
N81-03	0.108A	17'	19'	0.540A	0.062v			
N81-04	0.108A	10'	11'	0.432A	0.029v			
N81-05	0.108A	4'	4'	0.324A	0.009v			
N81-06	0.108A	17'	19'	0.216A	0.025v			
N81-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #82 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N82-01	0.108A	232'	255'	0.540A	0.846v	0.540A	0.950v	4.6591%
N82-02	0.108A	17'	19'	0.432A	0.050v			
N82-03	0.108A	3'	3'	0.324A	0.007v			
N82-04	0.108A	29'	32'	0.216A	0.042v			
N82-05	0.108A	8'	9'	0.108A	0.006v			

	FIRESWITCH 108 BPS#11 (5 MINTUES IN ALARM, 24HRS STANDBY)									ALTRONIX	
	A	B	C	D	E	F					
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
			Total Standby Current =	0.180A	Total Alm Current=	0.200A					
	NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N85	N86	N87	N88	N89	N90	N91	N92-SPARE	
	15cd STROBE, CEILING	0.041A	0	0	1	0	0	0	0	0	
	15cd HORN-STROBE, CEILING	0.071A	0	0	8	0	0	0	0	0	
	HORN LOW FREQ	0.108A	5	7	0	7	6	12	11	0	
		NAC CKT CURRENT DRAW =	0.540A	0.756A	0.609A	0.756A	0.648A	1.296A	1.188A	0.000A	
										TOTAL NAC CKT CURRENT DRAW =	5.793A
	TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
16	Total standby current			0.180A							
17	Multiply by 24 or 60 for standby hours needed.			24H							
18	Total standby AH (Amp Hours)			4.3200 AH							
	ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
19	Total alarm current										5.993A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm										0.0833
21	Total alarm current.										0.4992 AH
	BATTERY BACKUP REQUIREMENTS										
22	Sub total, add line 18+21										4.8192 AH
23	Multiply by 1.2 for 20% Battery Derating Factor										20%
24	Total AH (Amp Hours)										5.7831 AH
											(2) BATTERY SUPPLIED = 12 AMP

N.A.C #85 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N85-01	0.108A	25'	28'	0.540A	0.091v	0.540A	0.231v	1.1299%
N85-02	0.108A	21'	23'	0.432A	0.061v			
N85-03	0.108A	4'	4'	0.324A	0.009v			
N85-04	0.108A	45'	50'	0.216A	0.066v			
N85-05	0.108A	5'	6'	0.108A	0.004v			

N.A.C #86 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N86-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%
N86-02	0.108A	3'	3'	0.648A	0.013v			
N86-03	0.108A	20'	22'	0.540A	0.073v			
N86-04	0.108A	4'	4'	0.432A	0.012v			
N86-05	0.108A	24'	26'	0.324A	0.053v			
N86-06	0.108A	10'	11'	0.216A	0.015v			
N86-07	0.108A	3'	3'	0.108A	0.002v			

N.A.C #87 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N87-01	0.071A	45'	50'	0.609A	0.185v	0.609A	0.835v	4.0939%
N87-02	0.071A	10'	11'	0.538A	0.036v			
N87-03	0.041A	43'	47'	0.467A	0.136v			
N87-04	0.071A	59'	65'	0.426A	0.170v			
N87-05	0.071A	18'	20'	0.355A	0.043v			
N87-06	0.071A	82'	90'	0.284A	0.157v			
N87-07	0.071A	33'	36'	0.213A	0.047v			
N87-08	0.071A	18'	20'	0.142A	0.017v			
N87-09	0.071A	90'	99'	0.071A	0.043v			

N.A.C #88 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N88-01	0.108A	57'	63'	0.756A	0.291v	0.756A	0.511v	2.5030%
N88-02	0.108A	5'	6'	0.648A	0.022v			
N88-03	0.108A	26'	29'	0.540A	0.095v			
N88-04	0.108A	23'	25'	0.432A	0.067v			
N88-05	0.108A	3'	3'	0.324A	0.007v			
N88-06	0.108A	18'	20'	0.216A	0.026v			
N88-07	0.108A	4'	4'	0.108A	0.003v			

N.A.C #89 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N89-01	0.108A	95'	105'	0.648A	0.416v	0.648A	0.516v	2.5280%
N89-02	0.108A	3'	3'	0.540A	0.011v			
N89-03	0.108A	21'	23'	0.432A	0.061v			
N89-04	0.108A	3'	3'	0.324A	0.007v			
N89-05	0.108A	13'	14'	0.216A	0.019v			
N89-06	0.108A	3'	3'	0.108A	0.002v			

N.A.C #90 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N90-01	0.108A	54'	59'	1.296A	0.473v	1.296A	0.967v	4.7413%
N90-02	0.108A	3'	3'	1.188A	0.024v			
N90-03	0.108A	19'	21'	1.080A	0.139v			
N90-04	0.108A	3'	3'	0.972A	0.020v			
N90-05	0.108A	19'	21'	0.864A	0.111v			
N90-06	0.108A	3'	3'	0.756A	0.015v			
N90-07	0.108A	19'	21'	0.648A	0.083v			
N90-08	0.108A	3'	3'	0.540A	0.011v			
N90-09	0.108A	19'	21'	0.432A	0.055v			
N90-10	0.108A	3'	3'	0.324A	0.007v			
N90-11	0.108A	19'	21'	0.216A	0.028v			
N90-12	0.108A	3'	3'	0.108A	0.002v			

N.A.C #91 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N91-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%
N91-02	0.108A	3'	3'	1.080A	0.022v			
N91-03	0.108A	21'	23'	0.972A	0.138v			
N91-04	0.108A	4'	4'	0.864A	0.023v			
N91-05	0.108A	17'	19'	0.756A	0.087v			
N91-06	0.108A	4'	4'	0.648A	0.018v			
N91-07	0.108A	10'	11'	0.540A	0.036v			
N91-08	0.108A	19'	21'	0.432A	0.055v			
N91-09	0.108A	9'	10'	0.324A	0.020v			
N91-10	0.108A	19'	21'	0.216A	0.028v			
N91-11	0.108A	7'	8'	0.108A	0.005v			

L SERIES SYSTEM SENSOR NOTIFICATION APPLIANCE CURRENT DRAW LIST

VDC CURRENT

Candela Rating	Wall Strobe	Wall Horn/ Strobe	Weatherproof Strobe	Weatherproof Horn/ Strobe	Ceiling Strobe	Ceiling Horn/ Strobe	LF-Horn / Strobe
15cd	0.043	0.054	0.066	0.079	0.041	0.071	
30cd	0.063	0.074	0.094	0.107	0.063	0.090	
75cd	0.107	0.121	0.158	0.176	0.111	0.143	
95cd	0.121	0.142	0.181	0.194	0.134	0.165	
110cd	0.148	0.162	0.202	0.212	--	--	
115cd	--	--	0.210	0.218	0.158	0.187	
135cd	0.172	0.196	0.228	0.245	--	--	
150cd	--	--	0.246	0.259	0.189	0.217	
177cd	--	--	0.281	0.290	0.226	0.254	0.266
185cd	0.222	0.245	0.286	0.297	--	--	
							0.108

A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
12 AWG = 1.93 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST
CASE VOLTAGE OF 20.4 VDC

METHOD OF CALCULATIONS: POINT TO POINT
A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
14 AWG = 3.07 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST
CASE VOLTAGE OF 20.4 VDC

	FIRESWITCH 108 BPS#13 (5 MINTUES IN ALARM, 24HRS STANDBY)									ALTRONIX	
	A	B	C	D	E	F					
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
			Total Standby Current =	0.180A	Total Alm Current=	0.200A					
	NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N101	N102	N103	N104	N105	N106	N107	N108-SPARE	
	15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
	15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
	HORN LOW FREQ	0.108A	0	9	8	6	7	5	9	0	
		NAC CKT CURRENT DRAW =	0.680A	0.972A	0.864A	0.648A	0.756A	0.540A	0.972A	0.000A	
										TOTAL NAC CKT CURRENT DRAW =	5.432A
	TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
16	Total standby current			0.180A							
17	Multiply by 24 or 60 for standby hours needed.			24H							
18	Total standby AH (Amp Hours)			4.3200 AH							
	ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
19	Total alarm current										5.632A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm										0.0833
21	Total alarm current.										0.4691 AH
	BATTERY BACKUP REQUIREMENTS										
22	Sub total, add line 18+21										4.7891 AH
23	Multiply by 1.2 for 20% Battery Derating Factor										20%
24	Total AH (Amp Hours)										5.7470 AH
											(2) BATTERY SUPPLIED = 12 AMP

N.A.C #101 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N101-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%
N101-02	0.071A	53'	58'	0.609A	0.218v			
N101-03	0.071A	13'	14'	0.538A	0.047v			
N101-04	0.041A	77'	85'	0.467A	0.243v			
N101-05	0.071A	12'	13'	0.426A	0.035v			
N101-06	0.071A	47'	52'	0.355A	0.113v			
N101-07	0.071A	64'	70'	0.284A	0.123v			
N101-08	0.071A	20'	22'	0.213A	0.029v			
N101-09	0.071A	50'	55'	0.142A	0.048v			
N101-10	0.071A	51'	56'	0.071A	0.024v			

N.A.C #102 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N102-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%
N102-02	0.108A	24'	26'	0.864A	0.140v			
N102-03	0.108A	3'	3'	0.756A	0.015v			
N102-04	0.108A	18'	20'	0.648A	0.079v			
N102-05	0.108A	5'	6'	0.540A	0.018v			
N102-06	0.108A	25'	28'	0.432A	0.073v			
N102-07	0.108A	3'	3'	0.324A	0.007v			
N102-08	0.108A	26'	29'	0.216A	0.038v			
N102-09	0.108A	5'	6'	0.108A	0.004v			

N.A.C #103 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N103-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9058%
N103-02	0.108A	3'	3'	0.756A	0.015v			
N103-03	0.108A	24'	26'	0.648A	0.105v			
N103-04	0.108A	20'	22'	0.540A	0.073v			
N103-05	0.108A	4'	4'	0.432A	0.012v			
N103-06	0.108A	20'	22'	0.324A	0.044v			
N103-07	0.108A	10'	11'	0.216A	0.015v			
N103-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #104 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N104-01	0.108A	183'	201'	0.648A	0.801v	0.648A	0.905v	4.4374%
N104-02	0.108A	5'	6'	0.540A	0.018v			
N104-03	0.108A	10'	11'	0.432A	0.029v			
N104-04	0.108A	19'	21'	0.324A	0.042v			
N104-05	0.108A	4'	4'	0.216A	0.006v			
N104-06	0.108A	13'	14'	0.108A	0.009v			

N.A.C #105 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N105-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%
N105-02	0.108A	4'	4'	0.648A	0.018v			
N105-03	0.108A	17'	19'	0.540A	0.062v			
N105-04	0.108A	10'	11'	0.432A	0.029v			
N105-05	0.108A	4'	4'	0.324A	0.009v			
N105-06	0.108A	17'	19'	0.216A	0.025v			
N105-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #106 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N106-01	0.108A	232'	255'	0.540A	0.846v	0.540A	0.950v	4.6591%
N106-02	0.108A	17'	19'	0.432A	0.050v			
N106-03	0.108A	3'	3'	0.324A	0.007v			
N106-04	0.108A	29'	32'	0.216A	0.042v			
N106-05	0.108A	8'	9'	0.108A	0.006v			

N.A.C #107 HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N107-01	0.108A	74'	81'	0.972A	0.486v	0.972A	0.794v	3.8903%
N107-02	0.108A	3'	3'	0.864A	0.018v			
N107-03	0.108A	19'	21'	0.756A	0.097v			
N107-04	0.108A	3'	3'	0.648A	0.013v			
N107-05	0.108A	20'	22'	0.540A	0.073v			
N107-06	0.108A	5'	6'	0.432A	0.015v			
N107-07	0.108A	26'	29'	0.324A	0.057v			
N107-08	0.108A	23'	25'	0.216A	0.034v			
N107-09	0.108A	3'	3'	0.108A	0.002v			

BATTERY & VOLTAGE DROP CALCULATIONS - 3

NOT TO SCALE

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOMELECTRONIC SYSTEM, INC REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BATTERY & VOLTAGE DROP CALCULATIONS - 3

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO. FA-12.2

FIRESWITCH 108 BPS#14 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N109	N110	N111	N112	N113	N114	N115-SPARE	N116-SPARE	
15cd STROBE WALL	0.043A	0	0	1	0	0	0	0	0	
15cd STROBE, CEILING	0.041A	0	0	1	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	0	0	8	0	0	0	0	0	
75cd HORN-STROBE, CEILING	0.143A	0	0	2	0	0	0	0	0	
HORN LOW FREQ	0.108A	7	7	0	8	12	11	0	0	
	NAC CKT CURRENT DRAW =	0.756A	0.756A	0.938A	0.864A	1.296A	1.188A	0.000A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	5.798A

#	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU / TOTAL ALARM CURRENT CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	
19	Total alarm current	5.998A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.4996 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.8196 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.7836 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N109-01	0.108A	15'	17'	0.756A	0.077v	0.756A	0.303v	1.4839%
N109-02	0.108A	21'	23'	0.648A	0.092v			
N109-03	0.108A	4'	4'	0.540A	0.015v			
N109-04	0.108A	25'	28'	0.432A	0.073v			
N109-05	0.108A	3'	3'	0.324A	0.007v			
N109-06	0.108A	25'	28'	0.216A	0.036v			
N109-07	0.108A	5'	6'	0.108A	0.004v			

N.A.C #109
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N110-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%
N110-02	0.108A	3'	3'	0.648A	0.013v			
N110-03	0.108A	20'	22'	0.540A	0.073v			
N110-04	0.108A	4'	4'	0.432A	0.012v			
N110-05	0.108A	24'	26'	0.324A	0.053v			
N110-06	0.108A	10'	11'	0.216A	0.015v			
N110-07	0.108A	3'	3'	0.108A	0.002v			

N.A.C #110
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N111-01	0.071A	45'	50'	0.938A	0.285v	0.938A	1.867v	9.1524%
N111-02	0.071A	10'	11'	0.867A	0.059v			
N111-03	0.041A	43'	47'	0.796A	0.231v			
N111-04	0.071A	59'	65'	0.755A	0.301v			
N111-05	0.071A	18'	20'	0.684A	0.083v			
N111-06	0.071A	82'	90'	0.613A	0.339v			
N111-07	0.071A	33'	36'	0.542A	0.121v			
N111-08	0.071A	18'	20'	0.471A	0.057v			
N111-09	0.071A	91'	100'	0.400A	0.246v			
N111-10	0.143A	38'	42'	0.329A	0.084v			
N111-11	0.143A	43'	47'	0.186A	0.054v			
N111-12	0.043A	22'	24'	0.043A	0.006v			

N.A.C #111
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N112-01	0.108A	69'	76'	0.864A	0.403v	0.864A	0.628v	3.0786%
N112-02	0.108A	4'	4'	0.756A	0.020v			
N112-03	0.108A	24'	26'	0.648A	0.105v			
N112-04	0.108A	3'	3'	0.540A	0.011v			
N112-05	0.108A	21'	23'	0.432A	0.061v			
N112-06	0.108A	3'	3'	0.324A	0.007v			
N112-07	0.108A	13'	14'	0.216A	0.019v			
N112-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #112
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N113-01	0.108A	54'	59'	1.296A	0.473v	1.296A	0.967v	4.7413%
N113-02	0.108A	3'	3'	1.188A	0.024v			
N113-03	0.108A	19'	21'	1.080A	0.139v			
N113-04	0.108A	3'	3'	0.972A	0.020v			
N113-05	0.108A	19'	21'	0.864A	0.111v			
N113-06	0.108A	3'	3'	0.756A	0.015v			
N113-07	0.108A	19'	21'	0.648A	0.083v			
N113-08	0.108A	3'	3'	0.540A	0.011v			
N113-09	0.108A	19'	21'	0.432A	0.055v			
N113-10	0.108A	3'	3'	0.324A	0.007v			
N113-11	0.108A	19'	21'	0.216A	0.028v			
N113-12	0.108A	3'	3'	0.108A	0.002v			

N.A.C #113
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N114-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%
N114-02	0.108A	3'	3'	1.080A	0.022v			
N114-03	0.108A	21'	23'	0.972A	0.138v			
N114-04	0.108A	4'	4'	0.864A	0.023v			
N114-05	0.108A	17'	19'	0.756A	0.087v			
N114-06	0.108A	4'	4'	0.648A	0.018v			
N114-07	0.108A	10'	11'	0.540A	0.036v			
N114-08	0.108A	19'	21'	0.432A	0.055v			
N114-09	0.108A	9'	10'	0.324A	0.020v			
N114-10	0.108A	19'	21'	0.216A	0.028v			
N114-11	0.108A	7'	8'	0.108A	0.005v			

N.A.C #114
HORN-STROBE CIRCUIT

FIRESWITCH 108 BPS#15 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N117	N118	N119	N120	N121	N122	N123	N124	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	8	8	7	6	8	6	10	
	NAC CKT CURRENT DRAW =	0.680A	0.864A	0.864A	0.756A	0.648A	0.864A	0.648A	1.080A	
									TOTAL NAC CKT CURRENT DRAW =	6.404A

#	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU / TOTAL ALARM CURRENT CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	
19	Total alarm current	6.604A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.5501 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.8701 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.8441 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N117-01	0.071A	40'	44'	0.680A	0.184v	0.680A	0.858v	4.2049%
N117-02	0.071A	14'	15'	0.609A	0.058v			
N117-03	0.071A	68'	75'	0.538A	0.247v			
N117-04	0.071A	36'	40'	0.467A	0.114v			
N117-05	0.071A	13'	14'	0.396A	0.035v			
N117-06	0.071A	43'	47'	0.325A	0.094v			
N117-07	0.071A	17'	19'	0.254A	0.029v			
N117-08	0.041A	25'	28'	0.183A	0.031v			
N117-09	0.071A	39'	43'	0.142A	0.037v			
N117-10	0.071A	61'	67'	0.071A	0.029v			

N.A.C #117
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N118-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%
N118-02	0.108A	30'	33'	0.756A	0.153v			
N118-03	0.108A	5'	6'	0.648A	0.022v			
N118-04	0.108A	17'	19'	0.540A	0.062v			
N118-05	0.108A	23'	25'	0.432A	0.067v			
N118-06	0.108A	3'	3'	0.324A	0.007v			
N118-07	0.108A	17'	19'	0.216A	0.025v			
N118-08	0.108A	4'	4'	0.108A	0.003v			

N.A.C #118
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N119-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%
N119-02	0.108A	3'	3'	0.756A	0.015v			
N119-03	0.108A	19'	21'	0.648A	0.083v			
N119-04	0.108A	10'	11'	0.540A	0.036v			
N119-05	0.108A	3'	3'	0.432A	0.009v			
N119-06	0.108A	18'	20'	0.324A	0.039v			
N119-07	0.108A	16'	18'	0.216A	0.023v			
N119-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #119
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N120-01	0.108A	218'	240'	0.756A	1.113v	0.756A	1.271v	6.2324%
N120-02	0.108A	10'	11'	0.648A	0.044v			
N120-03	0.108A	3'	3'	0.540A	0.011v			
N120-04	0.108A	18'	20'	0.432A	0.053v			
N120-05	0.108A	8'	9'	0.324A	0.018v			
N120-06	0.108A	19'	21'	0.216A	0.028v			
N120-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #120
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N121-01	0.108A	274'	301'	0.648A	1.199v	0.648A	1.310v	6.4219%
N121-02	0.108A	3'	3'	0.540A	0.011v			
N121-03	0.108A	17'	19'	0.432A	0.050v			
N121-04	0.108A	8'	9'	0.324A	0.018v			
N121-05	0.108A	19'	21'	0.216A	0.028v			
N121-06	0.108A	7'	8'	0.108A	0.005v			

N.A.C #121
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N122-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.727v	3.5613%
N122-02	0.108A	6'	7'	0.756A	0.031v			
N122-03	0.108A	19'	21'	0.648A	0.083v			
N122-04	0.108A	8'	9'	0.540A	0.029v			
N122-05	0.108A	23'	25'	0.432A	0.067v			
N122-06	0.108A	17'	19'	0.324A	0.037v			
N122-07	0.108A	31'	34'	0.216A	0.045v			
N122-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #122
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N123-01	0.108A	186'	205'	0.648A	0.512v	0.648A	0.636v	3.1201%
N123-02	0.108A	3'	3'	0.540A	0.011v			
N123-03	0.108A	17'	19'	0.432A	0.050v			
N123-04	0.108A	24'	26'	0.324A	0.053v			
N123-05	0.108A	3'	3'	0.216A	0.004v			
N123-06	0.108A	10'	11'	0.108A	0.007v			

N.A.C #123
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N124-01	0.108A	37'	41'	1.356A	0.339v	1.356A	0.929v	4.5548%
N124-02	0.108A	16'	18'	1.248A	0.135v			
N124-03	0.108A	5'	6'	1.140A	0.038v			
N124-04	0.108A	16'	18'	1.032A	0.112v			
N124-05	0.108A	5'	6'	0.924A	0.031v			
N124-06	0.108A	13'	14'	0.816A	0.072v			
N124-07	0.108A	7'	8'	0.708A	0.033v			
N124-08	0.108A	13'	14'	0.600A	0.053v			
N124-09	0.108A	20'	22'	0.492A	0.066v			
N124-10	0.108A	11'	12'	0.384A	0.029v			
N124-11	0.138A	5'	6'	0.276A	0.009v			
N124-12	0.138A	13'	14'	0.138A	0.012v			

N.A.C #124
HORN-STROBE CIRCUIT

FIRESWITCH 108 BPS#16 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N125	N126	N127	N128	N129	N130	N131	N132-SPARE	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	9	8	6	7	5	9	0	
	NAC CKT CURRENT DRAW =	0.680A	0.972A	0.864A	0.648A	0.756A	0.540A	0.972A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	5.432A

#	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU / TOTAL ALARM CURRENT CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	
19	Total alarm current	5.632A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.4691 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.7891 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.7470 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N125-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%
N125-02	0.071A	53'	58'	0.609A	0.218v			
N125-03	0.071A	13'	14'	0.538A	0.047v			
N125-04	0.041A	77'	85'	0.467A	0.243v			
N125-05	0.071A	12'	13'	0.426A	0.035v			
N125-06	0.071A	47'	52'	0.355A	0.113v			
N125-07	0.071A	64'	70'	0.284A	0.123v			
N125-08	0.071A	20'	22'	0.213A	0.029v			
N125-09	0.071A	50'	55'	0.142A	0.048v			
N125-10	0.071A	51'	56'	0.071A	0.024v			

N.A.C #125
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N126-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%
N126-02	0.108A	24'	26'	0.864A	0.140v			
N126-03	0.108A	3'	3'	0.756A	0.015v			
N126-04	0.108A	18'	20'	0.648A	0.079v			
N126-05	0.108A	5'	6'	0.540A	0.018v			
N126-06	0.108A	25'	28'	0.432A	0.073v			
N126-07	0.108A	3'	3'	0.324A	0.007v			
N126-08	0.108A	26'	29'	0.216A	0.038v			
N126-09	0.108A	5'	6'	0.108A	0.004v			

N.A.C #126
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N127-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9058%
N127-02	0.108A	3'	3'	0.756A	0.015v			
N127-03	0.108A	24'	26'	0.648A	0.105v			
N127-04	0.108A	20'	22'	0.540A	0.073v			
N127-05	0.108A	4'	4'	0.432A	0.012v			
N127-06	0.108A	20'	22'	0.324A	0.044v			
N127-07	0.108A	10'	11'	0.216A	0.015v			
N127-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #127
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N128-01	0.108A	183'	201'	0.648A	0.801v	0.648A	0.905v	4.4374%
N128-02	0.108A	5'	6'	0.540A	0.018v			
N128-03	0.108A	10'	11'	0.432A	0.029v			
N128-04	0.108A	19'	21'	0.324A	0.042v			
N128-05	0.108A	4'	4'	0.216A	0.006v			
N128-06	0.108A	13'	14'	0.108A	0.009v			

N.A.C #128
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N129-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%
N129-02	0.108A	4'	4'	0.648A	0.018v			
N129-03	0.108A	17'	19'	0.540A	0.062v			
N129-04	0.108A	10'	11'	0.432A	0.029v			
N129-05	0.108A	4'	4'	0.324A	0.009v			
N129-06	0.108A	17'	19'	0.216A	0.025v			
N129-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #129
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N130-01	0.108A	232'	255'	0.540A	0.846v	0.540A	0.950v	4.6591%
N130-02	0.108A	17'	19'	0.432A	0.050v			
N130-03	0.108A	3'	3'	0.324A	0.007v			
N130-04	0.108A	29'	32'	0.216A	0.042v			
N130-05	0.108A	8'	9'	0.108A	0.006v			

N.A.C #130
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N131-01	0.108A	74'	81'	0.972A	0.486v	0.972A	0.794v	3.8903%
N131-02	0.108A	3'	3'	0.864A	0.018v			
N131-03	0.108A	19'	21'	0.756A	0.097v			
N131-04	0.108A	3'	3'	0.648A	0.013v			
N131-05	0.108A	20'	22'	0.540A	0.073v			
N131-06	0.108A	5'	6'	0.432A	0.015v			
N131-07	0.108A	26'	29'	0.324A	0.057v			
N131-08	0.108A	23'	25'	0.216A	0.034v			
N131-09	0.108A	3'	3'	0.108A	0.002v			

N.A.C #131
HORN-STROBE CIRCUIT

L SERIES SYSTEM SENSOR NOTIFICATION APPLIANCE CURRENT DRAW LIST

VDC CURRENT	Wall		Weatherproof		Ceiling		
Candela Rating	Strobe	Horn/ Strobe	Strobe	Horn/ Strobe	Strobe	Horn/ Strobe	LF-Horn / Strobe
15cd	0.043	0.054	0.066	0.079	0.041	0.071	
30cd	0.063	0.074	0.094	0.107	0.063	0.090	
75cd	0.107	0.121	0.158	0.176	0.111	0.143	
95cd	0.121	0.142	0.181	0.194	0.134	0.165	
110cd	0.148	0.162	0.202	0.212	--	--	
115cd	--	--	0.210	0.218	0.158	0.187	
135cd	0.172	0.196	0.228	0.245	--	--	
150cd	--	--	0.246	0.259	0.189	0.217	
177cd	--	--	0.281	0.290	0.226	0.254	0.266
185cd	0.222	0.245	0.286	0.297	--	--	
							0.108

A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
12 AWG = 1.93 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST CASE VOLTAGE OF 20.4 VDC

METHOD OF CALCULATIONS: POINT TO POINT
A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
14 AWG = 3.07 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST CASE VOLTAGE OF 20.4 VDC

FIRESWITCH 108 BPS#17 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N133	N134	N135	N136	N137	N138	N139-SPARE	N140-SPARE	
15cd STROBE, CEILING	0.041A	0	0	1	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	0	0	9	0	0	0	0	0	
HORN LOW FREQ	0.108A	7	7	0	8	12	11	0	0	
	NAC CKT CURRENT DRAW =	0.756A	0.756A	0.680A	0.864A	1.296A	1.188A	0.000A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	5.540A

#	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU / TOTAL ALARM CURRENT CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	
19	Total alarm current	5.740A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.4781 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.7981 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.7578 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N133-01	0.108A	15'	17'	0.756A	0.077v	0.756A	0.303v	1.4839%
N133-02	0.108A	21'	23'	0.648A	0.092v			
N133-03	0.108A	4'	4'	0.540A	0.015v			
N133-04	0.108A	25'	28'	0.432A	0.073v			
N133-05	0.108A	3'	3'	0.324A	0.007v			
N133-06	0.108A	25'	28'	0.216A	0.036v			
N133-07	0.108A	5'	6'	0.108A	0.004v			

N.A.C #133
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N134-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%
N134-02	0.108A	3'	3'	0.648A	0.013v			
N134-03	0.108A	20'	22'	0.540A	0.073v			
N134-04	0.108A	4'	4'	0.432A	0.012v			
N134-05	0.108A	24'	26'	0.324A	0.053v			
N134-06	0.108A	10'	11'	0.216A	0.015v			
N134-07	0.108A	3'	3'	0.108A	0.002v			

N.A.C #134
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N135-01	0.071A	45'	50'	0.680A	0.207v	0.680A	1.020v	4.9989%
N135-02	0.071A	10'	11'	0.609A	0.041v			
N135-03	0.041A	43'	47'	0.538A	0.156v			
N135-04	0.071A	59'	65'	0.497A	0.198v			
N135-05	0.071A	18'	20'	0.426A	0.052v			
N135-06	0.071A	82'	90'	0.355A	0.197v			
N135-07	0.071A	33'	36'	0.284A	0.063v			
N135-08	0.071A	18'	20'	0.213A	0.026v			
N135-09	0.071A	72'	79'	0.142A	0.069v			
N135-10	0.071A	23'	25'	0.071A	0.011v			

N.A.C #135
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N136-01	0.108A	69'	76'	0.864A	0.403v	0.864A	0.628v	3.0786%
N136-02	0.108A	4'	4'	0.756A	0.020v			
N136-03	0.108A	24'	26'	0.648A	0.105v			
N136-04	0.108A	3'	3'	0.540A	0.011v			
N136-05	0.108A	21'	23'	0.432A	0.061v			
N136-06	0.108A	3'	3'	0.324A	0.007v			
N136-07	0.108A	13'	14'	0.216A	0.019v			
N136-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #136
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N137-01	0.108A	54'	59'	1.296A	0.473v	1.296A	0.967v	4.7413%
N137-02	0.108A	3'	3'	1.188A	0.024v			
N137-03	0.108A	19'	21'	1.080A	0.139v			
N137-04	0.108A	3'	3'	0.972A	0.020v			
N137-05	0.108A	19'	21'	0.864A	0.111v			
N137-06	0.108A	3'	3'	0.756A	0.015v			
N137-07	0.108A	19'	21'	0.648A	0.083v			
N137-08	0.108A	3'	3'	0.540A	0.011v			
N137-09	0.108A	19'	21'	0.432A	0.055v			
N137-10	0.108A	3'	3'	0.324A	0.007v			
N137-11	0.108A	19'	21'	0.216A	0.028v			
N137-12	0.108A	3'	3'	0.108A	0.002v			

N.A.C #137
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N138-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%
N138-02	0.108A	3'	3'	1.080A	0.022v			
N138-03	0.108A	21'	23'	0.972A	0.138v			
N138-04	0.108A	4'	4'	0.864A	0.023v			
N138-05	0.108A	17'	19'	0.756A	0.087v			
N138-06	0.108A	4'	4'	0.648A	0.018v			
N138-07	0.108A	10'	11'	0.540A	0.036v			
N138-08	0.108A	19'	21'	0.432A	0.055v			
N138-09	0.108A	9'	10'	0.324A	0.020v			
N138-10	0.108A	19'	21'	0.216A	0.028v			
N138-11	0.108A	7'	8'	0.108A	0.005v			

N.A.C #138
HORN-STROBE CIRCUIT

FIRESWITCH 108 BPS#18 (5 MINTUES IN ALARM, 24HRS STANDBY) — ALTRONIX

A	B	C	D	E	F
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
		Total Standby Current =	0.180A	Total Alm Current=	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N141	N142	N143	N144	N145	N146	N147	N148	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	8	8	7	6	8	6	12	
	NAC CKT CURRENT DRAW =	0.680A	0.864A	0.864A	0.756A	0.648A	0.864A	0.648A	1.296A	
									TOTAL NAC CKT CURRENT DRAW =	6.620A

#	TOTAL STANDBY CALCULATIONS	TOTAL STANDY CALCU / TOTAL ALARM CURRENT CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH
	ALARM CURRENT CALCULATIONS	
19	Total alarm current	6.820A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current.	0.5681 AH
	BATTERY BACKUP REQUIREMENTS	
22	Sub total, add line 18+21	4.8881 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.8657 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N141-01	0.071A	40'	44'	0.680A	0.184v	0.680A	0.858v	4.2049%
N141-02	0.071A	14'	15'	0.609A	0.058v			
N141-03	0.071A	68'	75'	0.538A	0.247v			
N141-04	0.071A	36'	40'	0.467A	0.114v			
N141-05	0.071A	13'	14'	0.396A	0.035v			
N141-06	0.071A	43'	47'	0.325A	0.094v			
N141-07	0.071A	17'	19'	0.254A	0.029v			
N141-08	0.041A	25'	28'	0.183A	0.031v			
N141-09	0.071A	39'	43'	0.142A	0.037v			
N141-10	0.071A	61'	67'	0.071A	0.029v			

N.A.C #141
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N142-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%
N142-02	0.108A	30'	33'	0.756A	0.153v			
N142-03	0.108A	5'	6'	0.648A	0.022v			
N142-04	0.108A	17'	19'	0.540A	0.062v			
N142-05	0.108A	23'	25'	0.432A	0.067v			
N142-06	0.108A	3'	3'	0.324A	0.007v			
N142-07	0.108A	17'	19'	0.216A	0.025v			
N142-08	0.108A	4'	4'	0.108A	0.003v			

N.A.C #142
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N143-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%
N143-02	0.108A	3'	3'	0.756A	0.015v			
N143-03	0.108A	19'	21'	0.648A	0.083v			
N143-04	0.108A	10'	11'	0.540A	0.036v			
N143-05	0.108A	3'	3'	0.432A	0.009v			
N143-06	0.108A	18'	20'	0.324A	0.039v			
N143-07	0.108A	16'	18'	0.216A	0.023v			
N143-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #143
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N144-01	0.108A	218'	240'	0.756A	1.113v	0.756A	1.271v	6.2324%
N144-02	0.108A	10'	11'	0.648A	0.044v			
N144-03	0.108A	3'	3'	0.540A	0.011v			
N144-04	0.108A	18'	20'	0.432A	0.053v			
N144-05	0.108A	8'	9'	0.324A	0.018v			
N144-06	0.108A	19'	21'	0.216A	0.028v			
N144-07	0.108A	8'	9'	0.108A	0.006v			

N.A.C #144
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N145-01	0.108A	274'	301'	0.648A	1.199v	0.648A	1.310v	6.4219%
N145-02	0.108A	3'	3'	0.540A	0.011v			
N145-03	0.108A	17'	19'	0.432A	0.050v			
N145-04	0.108A	8'	9'	0.324A	0.018v			
N145-05	0.108A	19'	21'	0.216A	0.028v			
N145-06	0.108A	7'	8'	0.108A	0.005v			

N.A.C #145
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N146-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.727v	3.5613%
N146-02	0.108A	6'	7'	0.756A	0.031v			
N146-03	0.108A	19'	21'	0.648A	0.083v			
N146-04	0.108A	8'	9'	0.540A	0.029v			
N146-05	0.108A	23'	25'	0.432A	0.067v			
N146-06	0.108A	17'	19'	0.324A	0.037v			
N146-07	0.108A	31'	34'	0.216A	0.045v			
N146-08	0.108A	3'	3'	0.108A	0.002v			

N.A.C #146
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N147-01	0.108A	186'	205'	0.648A	0.512v	0.648A	0.636v	3.1201%
N147-02	0.108A	3'	3'	0.540A	0.011v			
N147-03	0.108A	17'	19'	0.432A	0.050v			
N147-04	0.108A	24'	26'	0.324A	0.053v			
N147-05	0.108A	3'	3'	0.216A	0.004v			
N147-06	0.108A	10'	11'	0.108A	0.007v			

N.A.C #147
HORN-STROBE CIRCUIT

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N148-01	0.108A	37'	41'	1.296A	0.324v	1.296A	0.867v	4.2479%
N148-02	0.108A	16'	18'	1.188A	0.128v			
N148-03	0.108A	5'	6'	1.080A	0.036v			
N148-04	0.108A	16'	18'	0.972A	0.105v			
N148-05	0.108A	5'	6'	0.864A	0.029v			
N148-06	0.108A	13'	14'	0.756A	0.066v			
N148-07	0.108A	7'	8'	0.648A	0.031v			
N148-08	0.108A	13'	14'	0.540A	0.047v			
N148-09	0.108A	20'	22'	0.432A	0.058v			
N148-10	0.108A	11'	12'	0.324A	0.024v			
N148-11	0.108A	5'	6'	0.216A	0.007v			
N148-12	0.108A	13'	14'	0.108A	0.009v			

N.A.C #148
HORN-STROBE CIRCUIT

BATTERY & VOLTAGE DROP CALCULATIONS - 4

NOT TO SCALE

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOMELECTRONIC SYSTEM, INC — REGISTERED C-7 C-10 CONTRACTOR — NO. 820216 — EXP. 05/31/2021 — STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1
100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BATTERY & VOLTAGE DROP CALCULATIONS - 4

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO. FA-12.3

FIRESWITCH 108 BPS#19 (5 MINTUES IN ALARM, 24HRS STANDBY) — **ALTRONIX**

	A	B	C	D	E	F
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
			Total Standby Current =	0.180A	Total Alm Current =	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N49	N50	N51	N52	N53	N54	N55	N56	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
75cd HORN-STROBE, WP, WALL/CEILING	0.176A	0	0	0	0	0	0	0	2	
HORN LOW FREQ	0.108A	0	9	8	6	7	5	9	0	
	NAC CKT CURRENT DRAW =	0.680A	0.972A	0.864A	0.648A	0.756A	0.540A	0.972A	0.352A	
									TOTAL NAC CKT CURRENT DRAW =	5.784A

TOTAL STANDBY CALCULATIONS		TOTAL STANDBY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH

ALARM CURRENT CALCULATIONS		TOTAL ALARM CURRENT CALCU
19	Total alarm current	5.984A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current..	0.4985 AH
BATTERY BACKUP REQUIREMENTS		
22	Sub total, add line 18+21	4.8185 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.7822 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N49-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%	N.A.C #149 HORN-STROBE CIRCUIT
N49-02	0.071A	53'	58'	0.609A	0.218v				
N49-03	0.071A	13'	14'	0.538A	0.047v				
N49-04	0.041A	77'	85'	0.467A	0.243v				
N49-05	0.071A	12'	13'	0.426A	0.035v				
N49-06	0.071A	47'	52'	0.355A	0.113v				
N49-07	0.071A	64'	70'	0.284A	0.123v				
N49-08	0.071A	20'	22'	0.213A	0.029v				
N49-09	0.071A	50'	55'	0.142A	0.048v				
N49-10	0.071A	51'	56'	0.071A	0.024v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N50-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%	N.A.C #150 HORN-STROBE CIRCUIT
N50-02	0.108A	24'	26'	0.864A	0.140v				
N50-03	0.108A	3'	3'	0.756A	0.015v				
N50-04	0.108A	18'	20'	0.648A	0.079v				
N50-05	0.108A	5'	6'	0.540A	0.018v				
N50-06	0.108A	25'	28'	0.432A	0.073v				
N50-07	0.108A	3'	3'	0.324A	0.007v				
N50-08	0.108A	26'	29'	0.216A	0.038v				
N50-09	0.108A	5'	6'	0.108A	0.004v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N51-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9098%	N.A.C #151 HORN-STROBE CIRCUIT
N51-02	0.108A	3'	3'	0.756A	0.015v				
N51-03	0.108A	24'	26'	0.648A	0.105v				
N51-04	0.108A	20'	22'	0.540A	0.073v				
N51-05	0.108A	4'	4'	0.432A	0.012v				
N51-06	0.108A	20'	22'	0.324A	0.044v				
N51-07	0.108A	10'	11'	0.216A	0.015v				
N51-08	0.108A	3'	3'	0.108A	0.002v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N52-01	0.108A	183'	201'	0.648A	0.801v	0.648A	0.905v	4.4374%	N.A.C #152 HORN-STROBE CIRCUIT
N52-02	0.108A	5'	6'	0.540A	0.018v				
N52-03	0.108A	10'	11'	0.432A	0.029v				
N52-04	0.108A	19'	21'	0.324A	0.042v				
N52-05	0.108A	4'	4'	0.216A	0.006v				
N52-06	0.108A	13'	14'	0.108A	0.009v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N53-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%	N.A.C #153 HORN-STROBE CIRCUIT
N53-02	0.108A	4'	4'	0.648A	0.018v				
N53-03	0.108A	17'	19'	0.540A	0.062v				
N53-04	0.108A	10'	11'	0.432A	0.029v				
N53-05	0.108A	4'	4'	0.324A	0.009v				
N53-06	0.108A	17'	19'	0.216A	0.025v				
N53-07	0.108A	8'	9'	0.108A	0.006v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N54-01	0.108A	232'	255'	0.540A	0.846v	0.540A	0.950v	4.6591%	N.A.C #154 HORN-STROBE CIRCUIT
N54-02	0.108A	17'	19'	0.432A	0.059v				
N54-03	0.108A	3'	3'	0.324A	0.007v				
N54-04	0.108A	29'	32'	0.216A	0.042v				
N54-05	0.108A	8'	9'	0.108A	0.006v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N55-01	0.108A	74'	81'	0.972A	0.486v	0.972A	0.794v	3.8903%	N.A.C #155 HORN-STROBE CIRCUIT
N55-02	0.108A	3'	3'	0.864A	0.018v				
N55-03	0.108A	19'	21'	0.756A	0.097v				
N55-04	0.108A	3'	3'	0.648A	0.013v				
N55-05	0.108A	20'	22'	0.540A	0.073v				
N55-06	0.108A	5'	6'	0.432A	0.015v				
N55-07	0.108A	26'	29'	0.324A	0.057v				
N55-08	0.108A	23'	25'	0.216A	0.034v				
N55-09	0.108A	3'	3'	0.108A	0.002v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N56-01	0.176A	263'	289'	0.352A	0.625v	0.352A	1.053v	5.1627%	N.A.C #156 HORN-STROBE CIRCUIT
N56-02	0.176A	360'	396'	0.176A	0.428v				

FIRESWITCH 108 BPS#20 (5 MINTUES IN ALARM, 24HRS STANDBY) — **ALTRONIX**

	A	B	C	D	E	F
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A
			Total Standby Current =	0.180A	Total Alm Current =	0.200A

NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N57	N58	N59	N60	N61	N62	N63	N64-SPARE	
15cd STROBE, CEILING	0.041A	0	0	1	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	0	0	9	0	0	0	0	0	
HORN LOW FREQ	0.108A	7	7	0	8	12	11	0	0	
	NAC CKT CURRENT DRAW =	0.756A	0.756A	0.680A	0.864A	1.296A	1.188A	0.352A	0.000A	
									TOTAL NAC CKT CURRENT DRAW =	5.892A

TOTAL STANDBY CALCULATIONS		TOTAL STANDBY CALCU
16	Total standby current	0.180A
17	Multiply by 24 or 60 for standby hours needed.	24H
18	Total standby AH (Amp Hours)	4.3200 AH

ALARM CURRENT CALCULATIONS		TOTAL ALARM CURRENT CALCU
19	Total alarm current	6.092A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm	0.0833
21	Total alarm current..	0.5075 AH
BATTERY BACKUP REQUIREMENTS		
22	Sub total, add line 18+21	4.8275 AH
23	Multiply by 1.2 for 20% Battery Derating Factor	20%
24	Total AH (Amp Hours)	5.7930 AH

(2) BATTERY SUPPLIED = 12 AMP

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N57-01	0.108A	15'	17'	0.756A	0.077v	0.756A	0.303v	1.4839%	N.A.C #157 HORN-STROBE CIRCUIT
N57-02	0.108A	21'	23'	0.648A	0.092v				
N57-03	0.108A	4'	4'	0.540A	0.015v				
N57-04	0.108A	25'	28'	0.432A	0.073v				
N57-05	0.108A	3'	3'	0.324A	0.007v				
N57-06	0.108A	25'	28'	0.216A	0.036v				
N57-07	0.108A	5'	6'	0.108A	0.004v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N58-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%	N.A.C #158 HORN-STROBE CIRCUIT
N58-02	0.108A	3'	3'	0.648A	0.013v				
N58-03	0.108A	20'	22'	0.540A	0.073v				
N58-04	0.108A	4'	4'	0.432A	0.012v				
N58-05	0.108A	24'	26'	0.324A	0.053v				
N58-06	0.108A	10'	11'	0.216A	0.015v				
N58-07	0.108A	3'	3'	0.108A	0.002v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N59-01	0.071A	45'	50'	0.680A	0.207v	0.680A	1.020v	4.9989%	N.A.C #159 HORN-STROBE CIRCUIT
N59-02	0.071A	10'	11'	0.609A	0.041v				
N59-03	0.041A	43'	47'	0.538A	0.156v				
N59-04	0.071A	59'	65'	0.497A	0.198v				
N59-05	0.071A	18'	20'	0.426A	0.052v				
N59-06	0.071A	82'	90'	0.355A	0.197v				
N59-07	0.071A	33'	36'	0.284A	0.063v				
N59-08	0.071A	18'	20'	0.213A	0.026v				
N59-09	0.071A	72'	79'	0.142A	0.069v				
N59-10	0.071A	23'	25'	0.071A	0.011v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N60-01	0.108A	69'	76'	0.864A	0.403v	0.864A	0.628v	3.0786%	N.A.C #160 HORN-STROBE CIRCUIT
N60-02	0.108A	4'	4'	0.756A	0.020v				
N60-03	0.108A	24'	26'	0.648A	0.105v				
N60-04	0.108A	3'	3'	0.540A	0.011v				
N60-05	0.108A	21'	23'	0.432A	0.061v				
N60-06	0.108A	3'	3'	0.324A	0.007v				
N60-07	0.108A	13'	14'	0.216A	0.019v				
N60-08	0.108A	3'	3'	0.108A	0.002v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N61-01	0.108A	54'	59'	1.296A	0.473v	1.296A	0.967v	4.7413%	N.A.C #161 HORN-STROBE CIRCUIT
N61-02	0.108A	3'	3'	1.188A	0.024v				
N61-03	0.108A	19'	21'	1.080A	0.139v				
N61-04	0.108A	3'	3'	0.972A	0.020v				
N61-05	0.108A	19'	21'	0.864A	0.111v				
N61-06	0.108A	3'	3'	0.756A	0.015v				
N61-07	0.108A	19'	21'	0.648A	0.083v				
N61-08	0.108A	3'	3'	0.540A	0.011v				
N61-09	0.108A	19'	21'	0.432A	0.055v				
N61-10	0.108A	3'	3'	0.324A	0.007v				
N61-11	0.108A	19'	21'	0.216A	0.028v				
N61-12	0.108A	3'	3'	0.108A	0.002v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N62-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%	N.A.C #162 HORN-STROBE CIRCUIT
N62-02	0.108A	3'	3'	1.080A	0.022v				
N62-03	0.108A	21'	23'	0.972A	0.138v				
N62-04	0.108A	4'	4'	0.864A	0.023v				
N62-05	0.108A	17'	19'	0.756A	0.087v				
N62-06	0.108A	4'	4'	0.648A	0.018v				
N62-07	0.108A	10'	11'	0.540A	0.036v				
N62-08	0.108A	19'	21'	0.432A	0.055v				
N62-09	0.108A	9'	10'	0.324A	0.020v				
N62-10	0.108A	19'	21'	0.216A	0.028v				
N62-11	0.108A	7'	8'	0.108A	0.005v				

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	
N63-01	0.176A	205'	226'	0.352A	0.487v	0.352A	0.856v	4.1954%	N.A.C #163 HORN-STROBE CIRCUIT
N63-02	0.176A	310'	341'	0.176A	0.368v				

CELLULAR COMMUNICATION PANEL TGT-FS BATTERY CALCULATIONS

PART#	DESCRIPTION	QTY	STANDBY CURRENT DRAW PER ITEM (AMPS)	TOTAL STANDBY CURRENT DRAW PER ITEM (AMPS)	QTY	ALARM CURRENT DRAW PER ITEM (AMPS)	TOTAL ALARM CURRENT DRAW ITEM (AMP
TGT-FS	Cellular Panel	1	X 0.034 =	0.034	1	X 0.121 =	0.121
		TOTAL SYSTEM STANDBY CURRENT (AMPS)		0.0340	TOTAL SYSTEM ALARM CURRENT (AMPS)		0.1210

	REQUIRED STANDBY TIME (HRS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED STANDBY CAPACITY (AMP-HOURS)	REQUIRED ALARM TIME (HOURS) 5Min=.083 15Min= .25		TOTAL SYSTEM ALARM CURRENT (AMPS)		REQUIRED ALARM CAPACITY (AMP-HOURS)
	24	X	0.0340	=	0.8160	0.25	X	0.1210	=	0.0303

	REQUIRED STANDBY CAPACITY (AMP-		REQUIRED ALARM CAPACITY (AMP-		TOTAL CAPACITY (AMP-HOURS)	TOTAL CAPACITY (AMP-HOURS)		BATTERY DERATING FACTOR 20%		ADJUSTED BATTERY CAPACITY (AMP-
	0.82	+	0.0303	=	0.8463	0.8463	X	20%	=	1.016
BATTERY CAPACITY = (1) 7 AMP BATTERY										
Max Battery Charging Capacity = 7AH Battery										

L SERIES SYSTEM SENSOR NOTIFICATION APPLIANCE CURRENT DRAW LIST

VDC CURRENT

Candela Rating	Wall Strobe	Wall Horn/ Strobe	Weatherproof Strobe	Weatherproof Horn/ Strobe	Ceiling Strobe	Ceiling Horn/ Strobe	LF-Horn / Strobe
15cd	0.043	0.054	0.066	0.079	0.041	0.071	
30cd	0.063	0.074	0.094	0.107	0.063	0.090	
75cd	0.107	0.121	0.158	0.176	0.111	0.143	
95cd	0.121	0.142	0.181	0.194	0.134	0.165	
110cd	0.148	0.162	0.202	0.212	--	--	
115cd	--	--	0.210	0.216	0.158	0.187	
135cd	0.172	0.196	0.228	0.245	--	--	
150cd	--	--	0.246	0.259	0.189	0.217	
177cd	--	--	0.281	0.290	0.226	0.254	0.266
185cd	0.222	0.245	0.286	0.297	--	--	
							0.108

A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
12 AWG = 1.93 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST CASE VOLTAGE OF 20.4 VDC

METHOD OF CALCULATIONS: POINT TO POINT
A x (L/1000) x R x 2)
A= CURRENT REQUIRED BY THE DEVICE
L= LENGTH DISTANCE FROM DEVICE TO DEVICE
R = RESISTANCE OF WIRE PER 1000 FT.
14 AWG = 3.07 OHMS PER 1000FT.
VOLTAGE DROP BASE ON PANELS WORST CASE VOLTAGE OF 20.4 VDC

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

BATTERY & VOLTAGE DROP CALCULATIONS - 5
NOT TO SCALE

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC. REGISTERED C-7 C-10 CONTRACTOR NO. 820216 EXP. 05/31/2021 STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.olveras@fuegoeng.com

DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
BATTERY & VOLTAGE DROP CALCULATIONS - 5

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-12.4

California State Fire Marshal
CODE INTERPRETATION

Date Issued	November 12, 2015	Interpretation	15-001 Revised
Topic	Capability of Visible Alarms		
Code Section(s)	2013 CBC 907.5.2.3.4		
Requested by	Pyro-Comm Systems, Inc. Kyle J. Schuler, SET		
Date Received	April 01, 2015		

Questions:

Does the California Building Code (CBC) Section 907.5.2.3.4, require that dwelling and sleeping unit bathrooms be prewired for the capability to support visible alarms in Group R-2 occupancies.

Answer: No. Section 907.5.2.3.4 states "In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with NFPA 72. Such capability shall be permitted to include the potential for future interconnection of the building fire alarm system with the unit smoke alarms, replacement of audible appliances with combination audible/visible appliances, or future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances."

Since NFPA 72 requires the installation of audible notification appliances in sleeping areas i.e. bedrooms and living spaces, Section 907.5.2.3.4 does not provide direction to pre-wire or install visual notification within R-2 occupancy bathrooms. Section 907.5.2.3.1 does have requirements to install visible notification appliances within public sanitary facilities including restrooms, bathrooms, and shower rooms not private occupancies such as an R-2.

Section 907.5.2.3.4 does give the designer three options to choose from to accommodate someone with a hearing impairment in the future which include the following:

- Potential for future interconnection of the building fire alarm system with the unit smoke alarms.
- Replacement of audible appliances with combination audible/visible appliances.
- Future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.

California State Fire Marshal
CODE INTERPRETATION

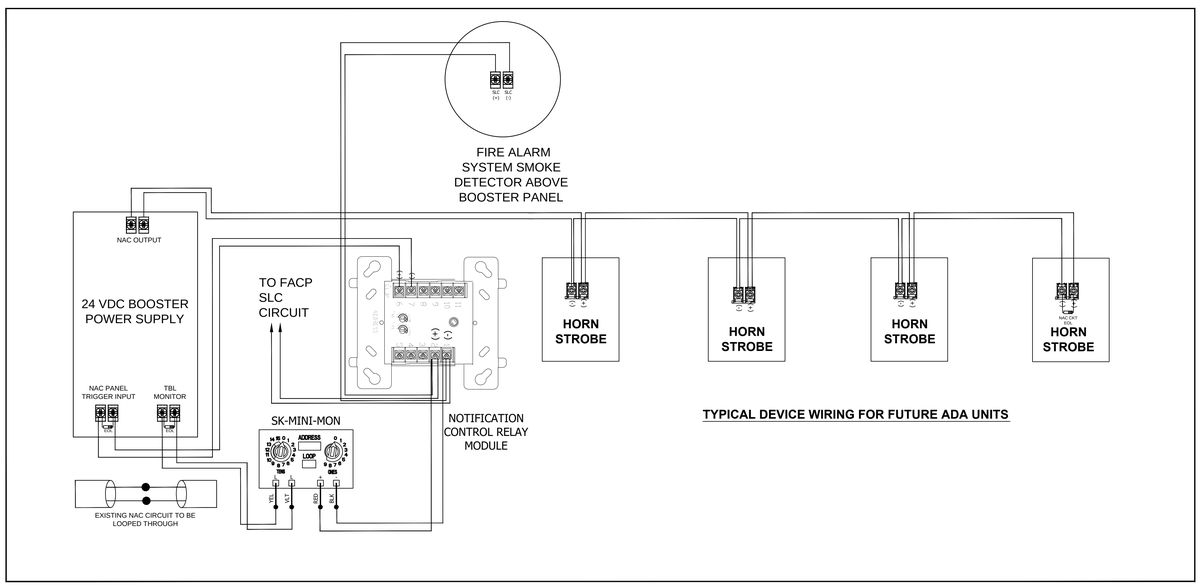
Date Issued	03-18-03	Interpretation #	02-043 **REVISED**
Topic	Visual devices in hearing impaired rooms		
Code Section(s)	Section 1007.2.9.1.5, California Fire Code (1998 ed)		
Requested by	Scott V. Giles, Fire Marshal Long Beach Fire Department 925 Harbor Plaza #100 Long Beach, CA 90602		

1. Is the visual device required by this section intended to be part of the fire alarm system that requires that it comply with all the requirements of NFPA 72?

Yes. While the State Fire Marshal (SFM) does not adopt Section 1007.2.9.1.5 of the 1998 Uniform Fire Code, SFM does adopt Section 1006.2.9.1.5 of the 2001 Uniform Fire Code. This later adoption requires that visible notification appliances in rooms for the hearing impaired must be operated by both the smoke detector in the room and the building fire alarm system. It also requires compliance with the installation requirements of NFPA 72.

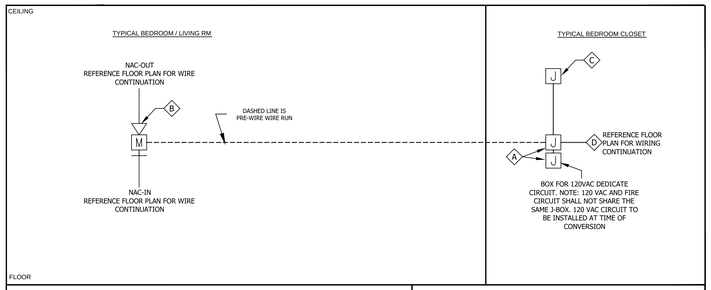
2. Does a visual device built into a single station smoke detector and a separate visual device connected to the building fire alarm system meet the intent of this section, even though each will activate and operate independent of each other?

Yes.



TYPICAL DEVICE WIRING FOR FUTURE ADA UNITS

FUTURE HEARING IMPAIRED PRE-WIRE DETAIL



A. INSTALL (1) 4 SQUARE BOX AND (1) SINGLE GANG BOX. NIPPLE SINGLE BOX TO 4 SQUARE BOX. ELECTRICIAN TO PULL 120 VAC DEDICATED CIRCUIT TO SINGLE GANG BOX TO POWER FUTURE BOOSTER PANEL AT TIME OF CONVERSION. PULL (1) 18/2 SLC WIRE TO 4 SQUARE BOX AS SHOWN ON FLOOR PLANS.

B. PRE-WIRE:
PULL (1) 14/2 FPLR FROM ADA BOX AND LOOP THROUGH EACH J-BOX AS SHOWN ON TYPICAL DIAGRAM. COIL UP SOME SLACK OF WIRE IN EACH BACK BOX. THIS PAIR OF WIRE IS IN ADDITION TO THE NAC CIRCUIT WIRE SHOWN ON FLOOR PLANS. LABEL WIRE: ' FOR FUTURE ADA'

C. INSTALL (1) 1-SINGLE GANG BOX W/ BLANK COVER PLATE IN CLOSET CEILING ABOVE ADA BOX FOR FUTURE FIRE ALARM SYSTEM SMOKE DETECTOR.

D. SEE FLOOR PLAN FOR ADA WIRE ROUTING.

NOTE:
IN GROUP R-2 OCCUPANCIES REQUIRED BY SECTION 907 TO HAVE A FIRE ALARM SYSTEM, ALL DWELLING UNITS AND SLEEPING UNITS SHALL BE PROVIDED WITH THE CAPABILITY TO SUPPORT VISIBLE ALARM NOTIFICATION APPLIANCES IN ACCORDANCE WITH CFC 2016 - 907.5.2.3.4

AT TIME OF CONVERSION NOTES:

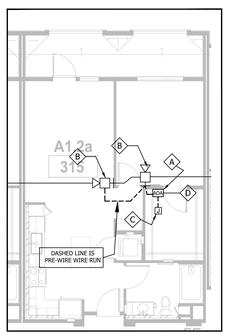
1. AT TIME OF CONVERSION 120VAC SMOKE ALARM /CO IN UNIT TO BE REPLACED WITH 120VAC SMOKE ALARM WITH INTEGRATED STROBE.
2. INSTALL (1) BOOSTER PANEL, (1) NOTIFICATION CONTROL AND (1) MONITOR MODULE USED TO MONITOR AND TRIGGER THE BOOSTER PANEL, (1) FIRE ALARM SYSTEM FIRE SMOKE DETECTOR ABOVE BOOSTER PANEL AND 120 VAC DEDICATE CIRCUIT TO POWER BOOSTER PANEL.
3. REPLACE EXISTING HORNS WITH 185cd HORN-STROBES. USE SPARE WIRE TO LOOP THE HORN-STROBE CIRCUIT TO THE BOOSTER PANEL.
4. LOOP THROUGH EXISTING HORN CIRCUIT TO COMPLETE CONNECTION OF HORNS FOR OTHER UNITS.
5. REPLACE EXISTING FACP WITH ADDRESSABLE FIRE CONTROL PANEL (IF APPLICABLE).

SEQUENCE OF OPS:

1. UPON A SPRINKLER WATER FLOW /GENERAL ALARM ALL AUDIBLE/ VISUAL WILL ACTIVATE THROUGHOUT THE ENTIRE BUILDING AND HEARING IMPAIRED CONVERTED UNITS.
2. IN THE EVENT THE HEARING IMPAIRS UNIT 120 VAC SMOKE ALARM DETECTOR IS ACTIVATED ALL SOUNDERS AND ALL INTEGRATED DETECTOR STROBES WILL ACTIVATE. THIS IS LOCAL TO THE APARTMENT UNIT AND WILL NOT ACTIVATE OR SIGNAL THE BUILDING FIRE ALARM SYSTEM.

INSTALLATION NOTE:

ALL INTERIOR BOXES AND WIRING SHOWN WITHIN THE UNITS WILL BE INSTALLED AT TIME OF FUTURE ADA CONVERSION.



TYPICAL UNIT PRE-WIRE DETAIL

0 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEMS, INC
REGISTERED
C-7 C-10
CONTRACTOR
NO. 820216
EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

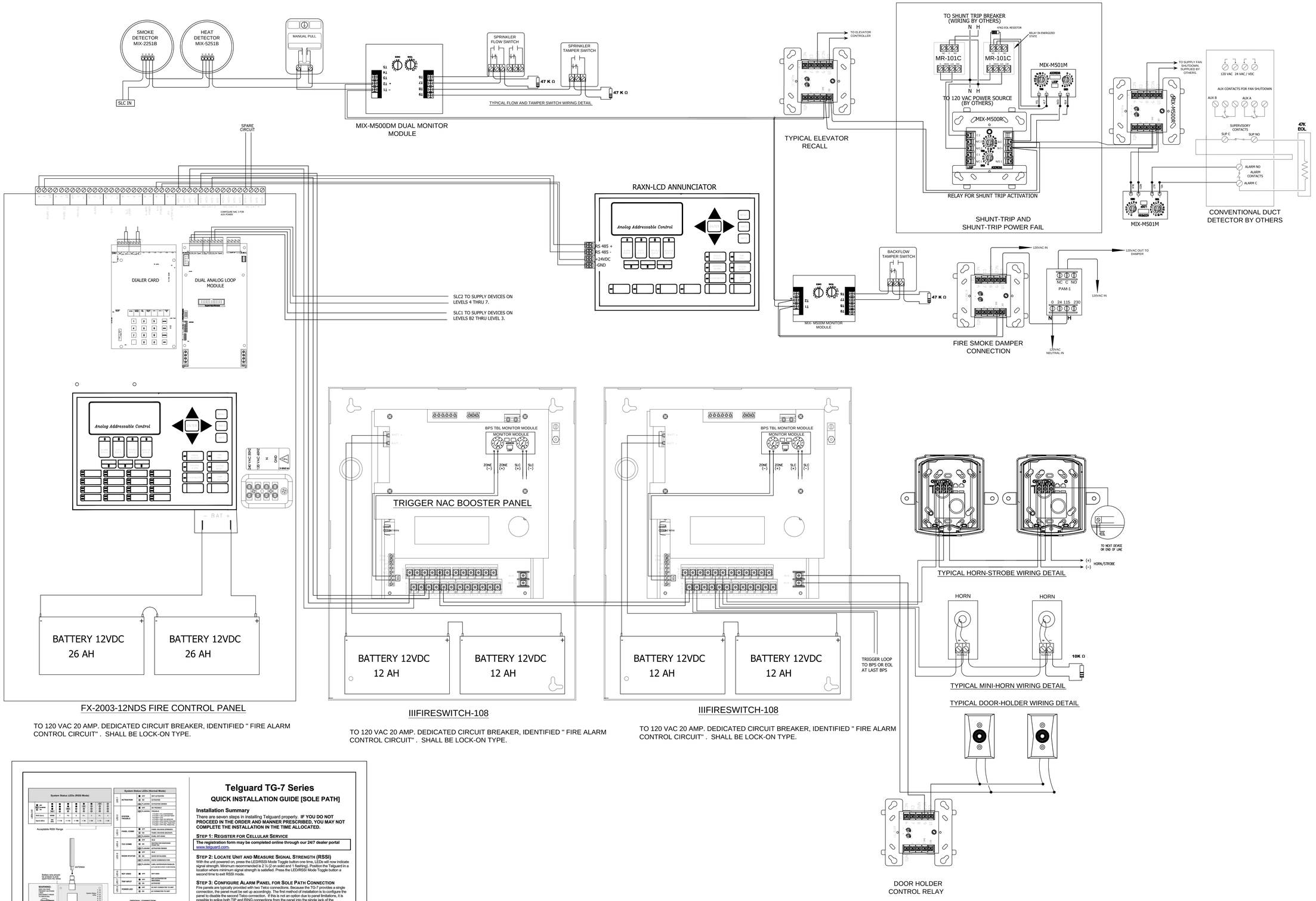
DESIGN: C.O.	DRAWN:
CHECKED: JE	JOB NO:
DATE: 11/16/2020	PLOT:

SHEET TITLE:
PRE-WIRE FOR FUTURE
HEARING IMPAIRED UNITS

ELAN - BUILDING #1
FIRE ALARM SYSTEM

SCALE: N.T.S.

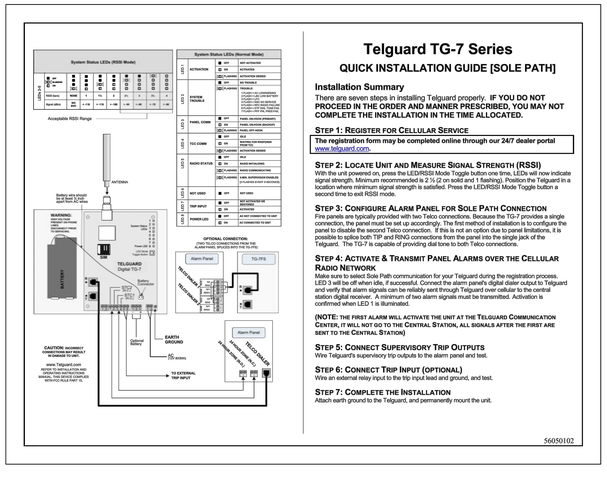
SHEET NO.
FA-13.0



TO 120 VAC 20 AMP. DEDICATED CIRCUIT BREAKER, IDENTIFIED " FIRE ALARM CONTROL CIRCUIT" . SHALL BE LOCK-ON TYPE.

TO 120 VAC 20 AMP. DEDICATED CIRCUIT BREAKER, IDENTIFIED " FIRE ALARM CONTROL CIRCUIT" . SHALL BE LOCK-ON TYPE.

TO 120 VAC 20 AMP. DEDICATED CIRCUIT BREAKER, IDENTIFIED " FIRE ALARM CONTROL CIRCUIT" . SHALL BE LOCK-ON TYPE.



Telguard TG-7 Series

QUICK INSTALLATION GUIDE [SOLE PATH]

Installation Summary

There are seven steps in installing Telguard properly. **IF YOU DO NOT PROCEED IN THE ORDER AND MANNER PRESCRIBED, YOU MAY NOT COMPLETE THE INSTALLATION IN THE TIME ALLOCATED.**

STEP 1: REGISTER FOR CELLULAR SERVICE

The registration form may be completed online through our 24/7 dealer portal www.telguard.com.

STEP 2: LOCATE UNIT AND MEASURE SIGNAL STRENGTH (RSSI)

With the unit powered on, press the LED/RSSI Mode Toggle button one time, LEDs will now indicate signal strength. Minimum recommended is 2 % (2 on solid and 1 flashing). Position the Telguard in a location where minimum signal strength is satisfied. Press the LED/RSSI Mode Toggle button a second time to exit RSSI mode.

STEP 3: CONFIGURE ALARM PANEL FOR SOLE PATH CONNECTION

Fire panels are typically provided with two Telco connections. Because the TG-7 provides a single connection, the panel must be set up accordingly. The first method of installation is to configure the panel to disable the second Telco connection. If this is not an option due to panel limitations, it is possible to splice both TIP and RING connections from the panel into the single jack of the Telguard. The TG-7 is capable of providing dial tone to both Telco connections.

STEP 4: ACTIVATE & TRANSMIT PANEL ALARMS OVER THE CELLULAR RADIO NETWORK

Make sure to select Sole Path communication for your Telguard during the registration process. LED 3 will be off when idle, if successful. Connect the alarm panel's digital dialer output to Telguard and verify that alarm signals can be reliably sent through Telguard over cellular to the central station digital receiver. A minimum of two alarm signals must be transmitted. Activation is confirmed when LED 1 is illuminated.

(NOTE: THE FIRST ALARM WILL ACTIVATE THE UNIT AT THE TELGUARD COMMUNICATION CENTER, IT WILL NOT GO TO THE CENTRAL STATION, ALL SIGNALS AFTER THE FIRST ARE SENT TO THE CENTRAL STATION)

STEP 5: CONNECT SUPERVISORY TRIP OUTPUTS

Wire Telguard's supervisory trip outputs to the alarm panel and test.

STEP 6: CONNECT TRIP INPUT (OPTIONAL)

Wire an external relay input to the trip input lead and ground, and test.

STEP 7: COMPLETE THE INSTALLATION

Attach earth ground to the Telguard, and permanently mount the unit.

56050102

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

EMCOM ELECTRONIC SYSTEMS, INC
256 WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
C-7 C-10 # 820216 | EXP. DATE 05/31/2021
CONTACT: DERRICK EMGE @ 619-667-1200

EMCOM ELECTRONIC SYSTEM, INC
REGISTERED C-7 C-10 CONTRACTOR
NO. 820216 EXP. 05/31/2021
STATE OF CALIFORNIA

DERRICK M. EMGE

ELAN - BUILDING #1

100 ELK LANE
SANTA ANA, CA 92701

REV.	DATE	DESCRIPTION	D.B.
1			
2			
3			
4			

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O. | DRAWN:

CHECKED: JE | JOB NO:

DATE: 11/16/2020 | PLOT:

SHEET TITLE:
POINT TO POINT WIRING DETAILS

ELAN - BUILDING #1

FIRE ALARM SYSTEM

SCALE: N.T.S.

SHEET NO.
FA-14.0