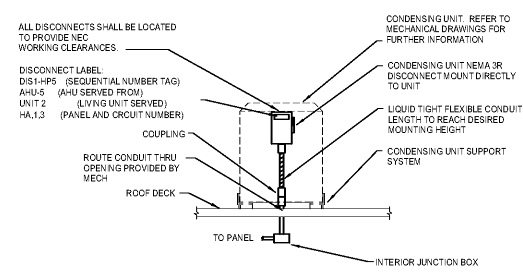
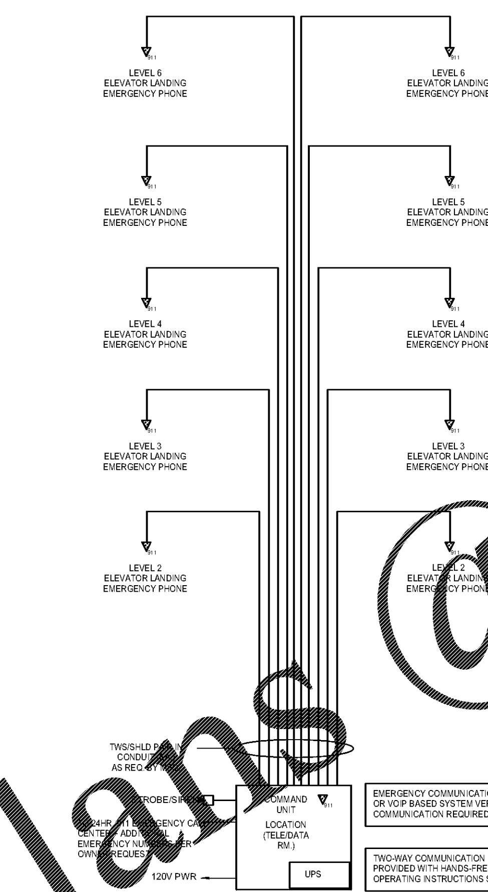



## 2 CONDENSER DISCONNECT MOUNTING DETAIL - ROOF
E011 NOT TO SCALE

NOTE: COORDINATE EXACT MOUNTING SYSTEM W/ ARCH. DRAWINGS.




EMERGENCY COMMUNICATION SYSTEM MAY BE ANALOG OR VOIP BASED SYSTEM VERIFY WITH OWNER TYPE OF COMMUNICATION REQUIRED BEFORE ORDERING SYSTEM.

TWO-WAY COMMUNICATION SYSTEMS SHALL BE PROVIDED WITH HANDS-FREE OPERATION. PROVIDE OPERATING INSTRUCTIONS SIGNAGE AT EACH STATION.

## 3 TWO-WAY COMMUNICATION DETAIL
E011 NOT TO SCALE

## FIRE ALARM SYSTEM MATRIX

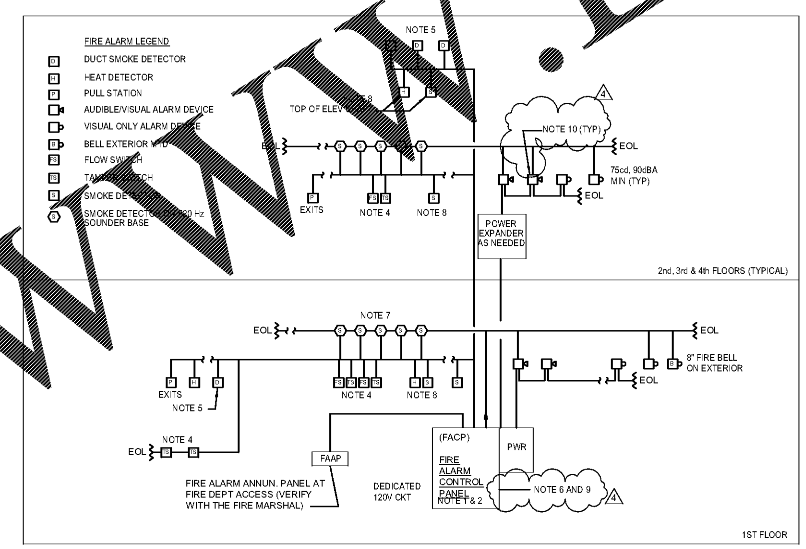
FIRE ALARM SYSTEM SEQUENCE OF OPERATIONS

FIRE ALARM SYSTEM RESPONSE: CONTROL UNIT ANNUNCIATION (columns 1–7); NOTIFICATION (columns 8–12); FIRE SAFETY CONTROL (columns 13–20); ELEVATOR (columns 17–19)

Columns: 1 ACTUATE COMMON ALARM SIGNAL INDICATOR; 2 ACTUATE AUDIBLE ALARM SIGNAL; 3 ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR; 4 ACTUATE AUDIBLE SUPERVISORY SIGNAL; 5 ACTUATE COMMON TROUBLE SIGNAL INDICATOR; 6 ACTUATE AUDIBLE COMMON TROUBLE SIGNAL; 7 ACTUATE ALARM INDICATOR; 8 ACTIVATE EVACUATION SIGNAL; 9 DISPLAY/PRINT CHANGE OF STATUS; 10 SEND FIRE ALARM SIGNAL TO CENTRAL STATION; 11 SEND SUPERVISORY SIGNAL TO CENTRAL STATION; 12 SEND TROUBLE SIGNAL TO CENTRAL STATION; 13 ACTUATE AHU SHUTDOWN; 14 UNLOCK ANY ELEC./MAG.-HELD EGRESS DOORS; 15 RELEASE (CLOSE) SMOKE DOORS; 16 RELEASE SMOKE DAMPERS (PER FLOOR/ZONE); 17 RECALL ELEVATORS TO PRIMARY FLOOR; 18 RECALL ELEVATORS TO SECONDARY FLOOR; 19 ACTUATE ELEVATOR SHUNT-TRIP BREAKER; 20 ACTUATE EVACUATION SIGNAL (PER UNIT ONLY)

| SYSTEM INPUTS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MANUAL FIRE ALARM PULL STATION (PER FLOOR/ZONE) | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | | | | | |
| SMOKE DETECTOR (PER FLOOR/ZONE) | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | | | | | |
| HEAT DETECTOR (PER FLOOR/ZONE) | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | | | | | |
| DUCT DETECTOR (PER FLOOR/ZONE) | | | ● | ● | | | | | ● | | ● | | ● | | | ● | | | | |
| SPRINKLER WATERFLOW | ● | ● | | | | | ● | ● | ● | ● | | | ● | ● | ● | ● | | | | |
| SPRINKLER TAMPER | | | ● | ● | | | | | ● | | ● | | | | | | | | | |
| FIRE ALARM AC POWER FAILURE | | | | | ● | ● | | | | | | ● | | | | | | | | |
| FIRE ALARM SYSTEM LOW BATTERY | | | | | ● | ● | | | | | | ● | | | | | | | | |
| OPEN CIRCUIT | | | | | ● | ● | | | | | | ● | | | | | | | | |
| GROUND FAULT | | | | | ● | ● | | | | | | ● | | | | | | | | |
| NOTIFICATION APPLIANCE CIRCUIT SHORT | | | | | ● | ● | | | | | | ● | | | | | | | | |
| MANUAL AHU SHUTDOWN AND SMOKE DAMPER SWITCH | | | ● | ● | | | | | ● | | ● | | ● | ● | ● | ● | | | | |
| DRY SYSTEM PRESSURE SWITCH | ● | ● | | | | | ● | ● | ● | ● | | | ● | ● | ● | ● | | | | |
| **ELEVATOR** | | | | | | | | | | | | | | | | | | | | |
| SMOKE/HEAT AT PRIMARY FLOOR ELEVATOR LOBBY OR PRIMARY FLOOR CONTROL/MACHINE SPACE | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | | | ● | | |
| SMOKE/HEAT AT SECONDARY FLOOR ELEVATOR LOBBY OR SECONDARY FLOOR CONTROL/MACHINE SPACE | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | | ● | | | |
| SMOKE/HEAT IN THE HOISTWAY IF SPRINKLERS ARE LOCATED IN THE HOISTWAY, UNLESS OTHERWISE NOTED IMMEDIATELY BELOW | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | | ● | | | |
| SMOKE/HEAT AT OR BELOW THE LOWEST LEVEL OF RECALL IF THE SECONDARY LEVEL IS LOCATED ABOVE THE PRIMARY LEVEL | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | | | ● | | |
| HEAT DETECTOR LOCATED WITHIN 24" OF SPRINKLER HEAD IN THE ELEVATOR SHAFT OR MACHINE ROOM | | | | | | | | | | | | | | | | | | | ● | |
| ELEVATOR SHUNT TRIP POWER LOSS | | | ● | ● | | | | ● | | ● | | | | | | | | | | |
| **SLEEPING ROOMS** | | | | | | | | | | | | | | | | | | | | |
| SYSTEM TYPE SMOKE DETECTORS ON 520 Hz SOUNDER BASE | | | ● | ● | | | | | ● | | | | | | | | | | | ● |

NOTES
1. VERIFY EXACT REQUIREMENTS WITH THE LOCAL AHJ.




## 4 FIRE ALARM RISER DIAGRAM
E011 NOT TO SCALE

FIRE ALARM HEADEND SHALL BE LOCATED IN THE LEASING OFFICE.
-- BUILDINGS 'A' AND 'D' SHALL BE SERVED TOGETHER BY COMMON (HEADEND) SYSTEM.
-- BUILDINGS 'B' & 'E' SHALL BE PROVIDED WITH STAND-ALONE SYSTEMS TO BE MONITORED BY THE HEADEND SYSTEM FOR COMMUNICATION TO UL LISTED CENTRAL MONITORING STATION.

## FIRE ALARM CRITERIA

(1) OVERALL DESCRIPTION
PROVIDE SUPERVISION OF WET-PIPE SPRINKLER SYSTEM VIA TAMPER AND FLOW SWITCHES. PROVIDE SUPERVISION OF THE FIRE ALARM CONTROL PANEL'S POWER FROM BOTH THE DEDICATED 120VAC LINE AND THE INTERNAL BATTERY LINE. PROVIDE ACTIVATION OF ALL DOOR LOCKS FOR SAFE EGRESS FROM THE BUILDING WHEN IN ALARM. PROVIDE ANNUNCIATION OF THE FIRE ALARM SYSTEM VIA AUDIBLE/VISUAL DEVICES LOCATED THROUGHOUT NORMALLY OCCUPIED SPACES.

(2) GOVERNING CODES
THE FIRE ALARM SYSTEM SHALL MEET ALL OF THE REQUIREMENTS OF THE LATEST APPLICABLE EDITIONS OF THE NORTH CAROLINE BUILDING CODE, THE FIRE PREVENTION CODE, NFPA 72 , AND ALL LOCAL, NATIONAL, AND INTERNATIONAL CODES. THE FIRE ALARM SYSTEM SHALL MEET ALL OF THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

(3) MINIMUM SYSTEM REQUIREMENTS
THE ENGINEERING DRAWINGS CONTAINED HEREIN IDENTIFY MINIMUM FIRE ALARM SYSTEM REQUIREMENTS. ALL FIRE ALARM SWITCHES, MODULES, AND WIRING SHALL BE PROVIDED BY THE FIRE ALARM SUB-CONTRACTOR. FIRE ALARM SYSTEM SUB-CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT DETAILED SYSTEM DRAWINGS, CUTSHEETS, WIRING DIAGRAMS, ETC. AS REQUIRED FOR FINAL PERMITTING.

(4) PLAN REQUIREMENTS: MINIMUM SYSTEM REQUIREMENTS ARE SHOWN ON THE ENGINEERING DRAWINGS CONTAINED HEREIN:

a. SYSTEM RISER DIAGRAM WITH ALL INITIATION AND NOTIFICATION COMPONENTS AND CABLING REQUIREMENTS IS INDICATED THIS DRAWING.
b. EXTERIOR BELL (OR OTHER AUDIBLE DEVICE) REQUIRED BY NFPA 13 SHALL BE PROVIDED AT LOCATION ACCEPTABLE TO THE FIRE MARSHAL. ADDITIONAL DEVICES SHALL BE INCLUDED IN THE BID AND PROVIDED AS DIRECTED BY THE FIRE MARSHAL. RELATED SYSTEMS INCLUDE ELEVATOR CONTROLS, SMOKE CONTROL SYSTEMS, DAMPERS, AND DOORS
c. STROBE INTENSITY AND AUDIBLE OUTPUT RATINGS FOR ALL NOTIFICATION DEVICES ARE 75cd AND 90dBA, UON. STROBES MAY BE 15cd IN 20 FT WIDE OR NARROWER CORRIDORS. LOWER VISUAL INTENSITIES THAN 75cd ARE ALLOWED AS LONG AS THE ENTIRE NORMALLY OCCUPIED SPACE IS COVERED ACCORDING TO NFPA 72 VISUAL DEVICE CHARACTERISTICS. THE AUDIBLE INTENSITY SHALL BE INCREASED WHERE REQUIRED FOR COMPLETE COVERAGE OF NORMALLY OCCUPIED SPACE. 177cd VISUAL DEVICES. IN SLEEPING ROOMS, PROVIDE 520 HZ AUDIBLE DEVICES AND
d. INITIATING DEVICE CIRCUITS SHALL BE CLASS B, STYLE B; SIGNAL LINE CIRCUITS SHALL BE CLASS B, STYLE 4; NOTIFICATION APPLIANCE CIRCUITS SHALL BE CLASS B, STYLE Y.
e. THE ALARM SYSTEM SHALL RECEIVE INITIATION SIGNALS AND PROVIDE NOTIFICATION SIGNALS AS SHOWN IN THE FIRE ALARM RISER AND OPERATIONS MATRIX . THE TRANSMISSION OF EMERGENCY SIGNALS SHALL BE BY DUAL LINE TELEPHONE CONNECTION TO UL LISTED CENTRAL STATION . ALL ALARM, TROUBLE AND SUPERVISORY CONDITIONS SHALL BE TRANSMITTED TO THE CENTRAL STATION
f. THE FIRE ALARM SYSTEM TYPE SHALL BE . ADDRESSABLE , 24VDC, POWER LIMITED, FULLY SUPERVISED, WITH 5 MINUTE ALARM, 24 HOUR STANDBY BATTERY SYSTEM.
g. SURGE PROTECTIVE DEVICES SHALL BE LOCATED ON THE INCOMING AC POWER (ADJACENT TO OR WITHIN THE PANEL) AND THE POINT OF ENTRY TO THE BUILDING FOR ANY EXTERIOR CIRCUITS.
h. THE FIRE ALARM CONTROL PANEL SHALL BE LOCATED IN 32°F TO 104°F NON-CONDENSING. ANY OUTDOOR NOTIFICATION DEVICES SHALL BE WEATHER PROOF.
i. SMOKE DETECTION IS REQUIRED FOR THIS BUILDING (LIVING UNITS, HVAC SYSTEMS OVER 2,000cfm, ELEVATOR RECALL.)
j. SMOKE STRATIFICATION IS NOT APPLICABLE TO THIS CONSTRUCTION
k. THIS PERFORMANCE BASED CRITERIA SHALL PROVIDE THE BASIS OF DESIGN FOR THE FULL FIRE ALARM PERMIT DOCUMENTS AND MEET THE LOCAL AHJ'S REQUIREMENTS. NOTE THAT FIRE ALARM PLANS SUBMITTED HEREIN FOR BUILDING PERMIT ARE NOT PART OF THE FIRE ALARM PERMIT REVIEW. A SEPARATE SUBMITTAL AND PERMIT IS REQUIRED TO BE PROVIDED BY THE CONTRACTOR FOR THE FIRE ALARM SYSTEM MEETING ALL OF THE LOCAL AHJ'S REQUIREMENTS. IF REQUIRED BY THE AHJ, FIRE ALARM PERMIT DRAWINGS SHALL BE SIGNED AND SEALED BY 3RD PARTY PROFESSIONAL ENGINEER.
l. THE CONSTRUCTION IS MULTI-TENANT. THE ENTIRE BUILDING SHALL HAVE A GENERAL EVACUATION SIGNAL, HOWEVER LIVING UNIT ALARM SHALL NOT ACTIVATE THE GENERAL EVACUATION SIGNAL.
m. WIRING FOR UNDERGROUND AND WET LOCATIONS SHALL BE AS RECOMMENDED BY THE MANUFACTURER. ANY EXTERIOR CIRCUITS SHALL BE INSTALLED IN CONDUIT, MINIMUM 18" BELOW GRADE WITH ORANGE WARNING TAPE ABOVE THE CONDUIT.
n. OPERATION AND MAINTENANCE PROCEDURES AND MANUALS SHALL BE PROVIDED PER ARE INDICATED IN THE FIRE ALARM SPECIFICATIONS . VENDOR TO PROVIDE FULL OPERATION & MAINTENANCE MANUALS AND AS-BUILT PLANS FOR OWNER'S FUTURE USE. VENDOR TO SUBMIT TO OWNER PROPOSED CONTRACT FOR REQUIRED ANNUAL TESTING OF THE SYSTEM. A MINIMUM OF TWO, ONE-HOUR ON-SITE TRAINING SESSIONS FOR SYSTEM OPERATION SHALL BE PROVIDED TO THE OWNER.

(5) WIRING, BATTERY, VOLTAGE DROP RESPONSIBILTY:
THE FIRE ALARM SHOP DRAWINGS SHALL INDICATE THE WIRING TO BE PROVIDED, BATTERY AND VOLTAGE DROP (CIRCUIT ANALYSIS) CALCULATIONS. THE CALCULATIONS SHALL APPLY THE MANUFACTURER'S DATA AND APPLICABLE NFPA 72 PROCEDURES.

(6) SYSTEM TEST REQUIREMENTS:
VENDOR SHALL FULLY TEST AND CERTIFY THE FIRE ALARM SYSTEM DOCUMENTING PROPER FUNCTION OF ALL DEVICES, INTERLOCKS, PROGRAMMING AND COMMUNICATIONS PROVIDING A FIRE ALARM SYSTEM RECORD OF COMPLETION AS REQUIRED BY NFPA 72, CHAPTER 10.

(7) SPECIAL SYSTEM REQUIREMENTS:
THERE ARE NO OWNER, INSURANCE UNDERWRITER, OR LOCAL FIRE CODE AMENDMENTS REQUIRED FOR THIS CONSTRUCTION.

FIRE ALARM RISER DIAGRAM NOTES:

1. NOTE THAT FIRE ALARM REQUIREMENTS SUBMITTED HEREIN FOR BUILDING PERMIT ARE NOT PART OF THE BUILDING PLANS REVIEW. A SEPARATE SUBMITTAL AND PERMIT IS REQUIRED FOR THE FIRE ALARM SYSTEM.
2. ALL FIRE ALARM SWITCHES, MODULES, AND WIRING SHALL BE PROVIDED BY THE FIRE ALARM SUB-CONTRACTOR. FIRE ALARM SYSTEM SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING DETAILED SYSTEM DRAWINGS, CUTSHEETS, WIRING DIAGRAMS, ETC AS REQUIRED FOR FINAL PERMITTING.
3. ALL COMPONENTS NECESSARY FOR CERTIFICATE OF OCCUPANCY SHALL BE INCLUDED IN THE BID. COORDINATE WITH LOCAL AUTHORITY IF ADDITIONAL DEVICES SHALL BE REQUIRED.
4. ALL TAMPER AND FLOW SWITCH CONNECTIONS TO BE FIELD VERIFIED WITH SPRINKLER SUB-CONTRACTOR AS REQUIRED. PROVIDE MONITORING OF ALL VALVES (BACKFLOW, INTERIOR MAIN, FLOOR CONTROL AND STANDPIPE) AND FLOW SWITCHES.
5. COORDINATE WITH MECHANICAL TO PROVIDE SHUTDOWN INTERLOCK WIRING TO RESPECTIVE HVAC AS REQUIRED. DUCT SMOKE DETECTORS REQUIRED IN ADDITION FACTORY FURNISHED SMOKE DETECTORS ARE PROVIDED FOR OUTDOOR AIR UNITS.
6. FOR HEADEND (BLDGS 'A' & 'D') SYSTEM, PROVIDE DUAL TELEPHONE LINE CONNECTIONS FOR UL LISTED CENTRAL STATION MONITORING. BUILDINGS 'B' AND 'E' SHALL BE MONITORED BY THE HEADEND VIA FIBER OPTIC CONNECTION. ALL ALARM, TROUBLE AND SUPERVISORY CONDITIONS SHALL BE TRANSMITTED TO THE CENTRAL STATION.
7. SYSTEM TYPE SMOKE DETECTORS ON SOUNDER BASE WITH LOW FREQUENCY ALARM IN SLEEPING AREAS. STANDARD HORN SOUNDER MAY BE PROVIDED OUTSIDE OF SLEEPING ROOMS IN LIVING UNITS. ALL UNITS WITHIN GIVEN LIVING UNIT TO BE INTERLOCKED TO SOUND WHEN ANY ONE DETECTOR IN THE UNIT IS ALARMED. SOUNDER BASES TO ALARM UPON ANY GENERAL BUILDING ALARM.
8. COORDINATE WITH THE ELEVATOR SYSTEM CONTRACTOR FOR RECALL AND SHUNT TRIP REQUIREMENTS OF THE ELEVATOR SYSTEM. SHUNT TRIP POWER OF THE ELEVATOR SYSTEM TO BE SUPERVISED.
9. PROVIDE 2 DEDICATED PHONE LINES THAT CONNECT TO A UL APPROVED CENTRAL STATION WITH MONITORING PER NFPA72.
10. FIRE ALARM AT APPARTMENT UNITS SHALL COMPLY WITH 520mHz REQUIREMENTS AND SHALL COMPLY WITH SECTION 907.6.2.3.4-GROUP R2 OF THE N.C. FIRE CODE, ICC-A117.1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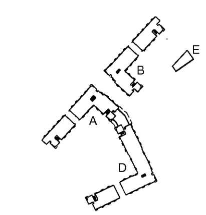
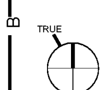
# NoDa Philemon Road Community

PHILEMON ROAD
CHARLOTTE, NORTH CAROLINA




KEY PLAN




| REVISION | DATE | DESCRIPTION |
|---|---|---|
| 4 | 11/30/2018 | ADDENDUM 4 |
| 3 | 10/29/2018 | ADDENDUM 3 |

ADDENDA OR MODIFICATION

| ISSUE | DATE | DESCRIPTION |
|---|---|---|
| CD | 08/17/2016 | CONTRACT DOCUMENTS |

FULL SET ISSUES

| | |
|---|---|
| PROJECT NO: | 4068-001 |
| P.I.C. | JIM SYNDER |
| P MGR. | CAROLYN ENTZMINGER |
| P ARCH. | |
| DESIGN BY | BRAD BARTHOLOMEW |
| JOB CAPTAIN | |
| DRAWN BY | Author |
| CHECKED BY | Checker |

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