ORANGE COUNTY, FLORIDA

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FREDERICK C. BRUMMER

MATERN

PROFESSIONAL

ENGINEERING, INC.

CERT. OF AUTH. No. 5096

Maitland, FL 32751-3331 PHONE (407) 740-5020 FAX (407) 740-0365

130 Candace Drive

MATERN PROFFESSIONAL ENGINEERING, INC.

PRIME CONSULTANT



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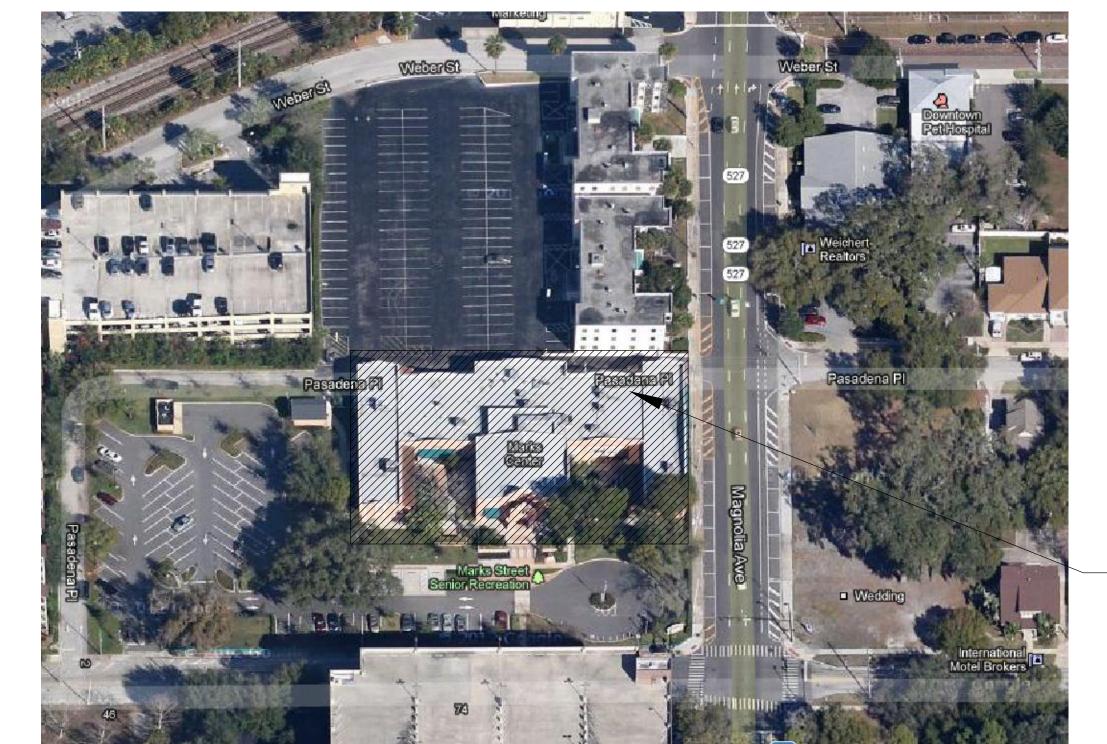
DISTRICT 6 COMMISSIONER

TIFFANY MOORE RUSSELL

MARKS STREET SENIOR CENTER FIRE ALARM REPLACEMENT

06/17/14 BID DOCUMENTS

99 EAST MARKS STREET ORLANDO, FLORIDA 32803



- SITE LOCATION

ELECTRICAL SHEET INDEX

NONE

1/8"=1'-0"

SCOPE OF WORK, LEGEND, GENERAL NOTES AND RISER DIAGRAM

FLOOR PLAN FIRE ALARM SYSTEM



PARCEL ID: 23-22-29-1300-00-470 MODEL CODE: 04 - Commercial TYPE CODE: 8600 - County

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| SYMBOL | DESCRIPTION | MOUNTING HEIGHT | MOUNTING |
|------------|--|---|-----------|
| F | MANUAL PULL STATION WITH KEY RESET AND DUAL ACTION OPERATION | 48" A.F.F. TO CENTER | WALL |
| F | FIRE ALARM SPEAKER AND STROBE | MINIMUM 80" A.F.F. TO BOTTOM AND MAXIMUM 96" A.F.F. TO TOP OF ENTIRE LENS | WALL |
| Œ. | STROBE LIGHT | MINIMUM 80" A.F.F. TO BOTTOM AND MAXIMUM 96" A.F.F. TO TOP OF ENTIRE LENS | WALL |
| <u>S</u> | CEILING MOUNTED SMOKE DETECTOR, PHOTOELECTRIC TYPE | AT CEILING MINIMUM 3' FROM DIFFUSER | CEILING |
| SD) | DUCT SMOKE DETECTOR, PHOTOELECTRIC TYPE, WITH TUBES SIZED AS REQUIRED FOR DUCT | AT CEILING | HVAC DUCT |
| \oplus | CEILING MOUNTED HEAT DETECTOR, FIXED TEMPERATURE 135 DEG. F WITH (2) FORM "A" CONTACTS | AT CEILING MINIMUM 3' FROM DIFFUSER | CEILING |
| R | AHU/EXHAUST FAN SHUT-DOWN RELAY, 24VDC | WITHIN 3 FEET OF STARTER | SURFACE |
| KB | KNOX LOCK BOX WITH UL LISTED TAMPER SWITCHES | | SURFACE |
|) (TISI | DUCT SMOKE DETECTOR REMOTE TEST SWITCH AND INDICATING LIGHT | 60" A.F.F. TO CENTER OR MOUNT ON HOUSING IF VISIBLE | WALL |
| FACP | FIRE ALARM CONTROL PANEL WITH SMOKE DETECTOR MOUNTED ABOVE PANEL PER NFPA | 6'-0" A.F.F. TO TOP | WALL |
| FAAP | FIRE ALARM ANNUNCIATOR PANEL | 6'-0" A.F.F. TO TOP | WALL |

SPECIAL NOTE

THE FIRE ALARM RISER DIAGRAM IS PROVIDED IN ORDER TO

COMMUNICATE THE OVERALL PROJECT SCOPE. THE ENGINEER HAS

MADE A GOOD FAITH EFFORT TO IDENTIFY AND INCLUDE ALL FIRE

ALARM DEVICES INTO THE RISER DIAGRAM. THE OMMISSION OF A

THE CONTRACTOR FROM THE RESPONSIBILITY OF FURNISHING AND

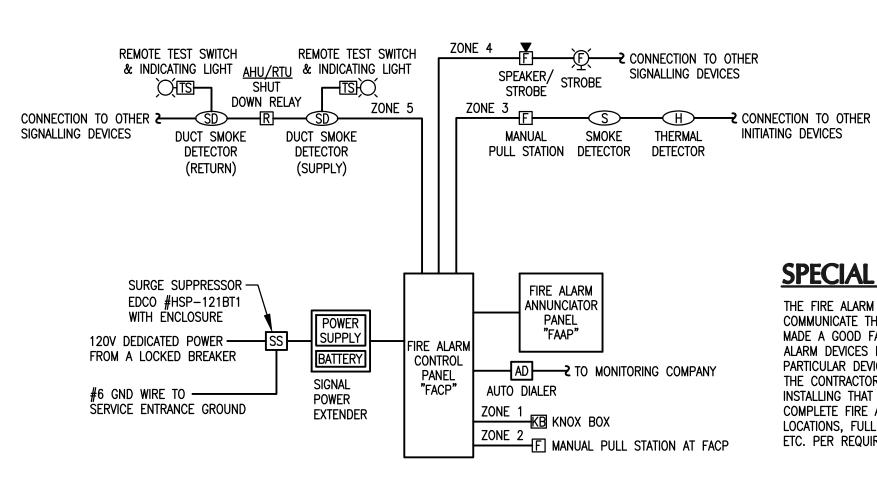
LOCATIONS, FULL SYSTEM RISER DIAGRAM, BATTERY CALCULATIONS,

INSTALLING THAT DEVICE. THE CONTRACTOR SHALL PROVIDE A

ETC. PER REQUIREMENTS OF THE FIRE ALARM CODE.

COMPLETE FIRE ALARM SYSTEM SUBMITTAL TO INCLUDE DEVICE

PARTICULAR DEVICE FROM THE RISER DIAGRAM DOES NOT ALLEVIATE



FIRE ALARM SYSTEM RISER DIAGRAM

GENERAL NOTES

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND 2008 NATIONAL ELECTRICAL CODE
- 2. REFER TO SPECIFICATIONS FOR BASIS OF DESIGN.
- 3. LOCATIONS OF ALL DEVICES ON PLANS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS, HEIGHTS, ETC. WITH OWNER PRIOR TO ROUGH-IN.
- 4. PROVIDE UL LISTED FIRE STOPPING ON ALL CONDUITS PENETRATING A RATED WALL OR FLOOR.
- 5. ALL RACEWAYS TO BE CONCEALED UNLESS SPECIFICALLY NOTED OTHERWISE OR APPROVED BY OWNER. SEE SPECIFICATIONS AND GENERAL NOTES FOR ADDITIONAL CLARIFICATIONS.
- 6. ELECTRICAL CONTRACTOR SHALL INSTALL PULL STRINGS IN ALL EMPTY CONDUITS.
- 7. ALL RACEWAY TERMINATIONS SHALL HAVE BUSHINGS AND BE GROUNDED WHERE RACEWAY IS METAL.
- 8. PROVIDE SYSTEM COMPLETE WITH ALL DEVICES, CABLES, RACEWAYS, CONDUITS, ETC.
- 9. ALL WIRE/CABLE SHALL BE IN A RACEWAY/CONDUIT SYSTEM. INSTALL/SIZE RACEWAY SYSTEM AS REQUIRED TO COMPLY WITH SPECIFICATIONS, THE N.E.C. AND AS RECOMMENDED BY MANUFACTURER.
- 10. MINIMUM RACEWAY/CONDUIT SIZE TO BE 3/4".
- 11. ALL BOXES, PLASTER RINGS, EXTENSION RINGS AND BOX COVERS SHALL BE METAL.
- 12. ALL CONDUITS SHALL BE PARALLEL AND PERPENDICULAR TO STRUCTURAL MEMBERS.
- 13. ALL BENDS SHALL BE MADE IN CONDUIT USING PROPER EQUIPMENT AND MEET NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS.
- 14. ALL DEVICES SHALL BE COMMERCIAL OR SPECIFICATION GRADE.
- 15. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED.
- 16. GROUNDING SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250

17. COORDINATE WITH AUTHORITY HAVING JURISDICTION PRIOR TO BID.

- AND APPLICABLE REQUIREMENTS OF IEEE STANDARDS 142 AND 241.
- 18. ALL EQUIPMENT/DEVICES TO BE ADDRESSABLE TYPE.
- 19. ALL STROBES TO BE MINIMUM OF 75 CANDELA UNLESS OTHERWISE NOTED.

ON LINE AND OPERATING CORRECTLY.

- 20. VERIFY LOCATIONS OF DUCT SMOKE DETECTORS WITH MECHANICAL REFERENCE DRAWINGS. EACH DETECTOR SHALL BE PROVIDED WITH A REMOTE TEST SWITCH/INDICATOR LIGHT WALL MOUNTED TO BE ACCESSIBLE IN A LOCATION ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION IN ACCORDANCE WITH NFPA 72.
- 21. MECHANICAL AIR SYSTEM SHUT-DOWN: A. COORDINATE SHUT-DOWN OF ALL MECHANICAL AIR SYSTEMS WITH DIVISION 15. ALL MECHANICAL AIR SHUT-DOWNS SHALL BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER IN BRINGING THE MECHANICAL SYSTEM BACK ON LINE AND IN CORRECT OPERATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR SHUTTING DOWN THE MECHANICAL AIR SYSTEM. THE CONTRACTOR WILL BE RESPONSIBLE FOR BRINGING THE MECHANICAL AIR SYSTEM BACK
- B. PROVIDE ALL WORK AND EQUIPMENT TO SHUT DOWN ALL AIR MOVING EQUIPMENT AS REQUIRED BY APPLICABLE CODES.
- C. VERIFY WITH DIVISION 15 CONTRACTOR LOCATION AND REQUIREMENTS FOR THE INTERFACE TO SHUT DOWN EQUIPMENT UPON FIRE ALARM
- D. UNITS REQUIRED TO BE SHUT DOWN BY THE STANDARD MECHANICAL CODE AND NOT REQUIRED TO BE SHUT DOWN BY THE FIRE ALARM SYSTEM ARE TO HAVE ALL WORK AND EQUIPMENT PROVIDED AND
- INSTALLED BY DIVISION 15 CONTRACTOR. E. WHERE REQUIRED, INSTALLER SHALL PROVIDE AND INSTALL AN INDIVIDUAL ADDRESSABLE RELAY OR MODULE AT EACH PIECE OF HVAC EQUIPMENT FOR SHUT-DOWN. DAISY-CHAINING MULTIPLE PIECES OF EQUIPMENT TO
- A COMMON RELAY OR MODULE SHALL NOT BE ACCEPTABLE. 22. COORDINATE WITH OWNER ON REQUIREMENTS FOR MONITORING THE FIRE ALARM SYSTEM AND PROVIDE ALL ELECTRICAL.
- 23. CONTRACTOR SHALL PROVIDE, INSTALL AND TERMINATE ALL ELECTRICAL AND FIRE ALARM SYSTEM EQUIPMENT: INCLUDING BUT NOT LIMITED TO. RACEWAYS, WIRE/CABLE, CIRCUIT BREAKERS, MODULES, RELAYS (UL LISTED FOR USE WITH FIRE ALARM SYSTEMS), ETC. NECESSARY TO SHUT DOWN OR CONTROL ANY AIR HANDLING UNIT. SUPPLY FAN. SMOKE OR FIRE DAMPER. ETC. REQUIRED TO BE SHUT DOWN OR CONTROLLED BY FIRE ALARM SYSTEM. THIS REQUIREMENT FOR CONNECTION OF THE FIRE ALARM SYSTEM SHALL BE EXTENDED TO INCLUDE ANY APPLICABLE CODE OR STANDARD DIRECTLY OR INDIRECTLY REFERENCED BY THE SPECIFICATIONS THAT REQUIRES INTERFACE WITH THE FIRE ALARM SYSTEM FOR CONTROLS OR MONITORING OF A DEVICE IN ORDER TO PROVIDE A COMPLETE CODE COMPLIANT FIRE ALARM SYSTEM. COORDINATE ALL WORK WITH DIVISION 15 (AND/OR ANY OTHER APPLICABLE DIVISION) PRIOR TO ROUGH-IN.
- 24. DO NOT MOUNT SMOKE AND/OR HEAT DETECTORS CLOSER THAN 3 FEET TO ANY SUPPLY REGISTER OF THE HVAC SYSTEM.
- 25. WHEN CEILING MOUNTED, SMOKE AND/OR HEAT DETECTORS SHALL BE MOUNTED NO CLOSER THAN 4 INCHES TO A SIDE WALL; OR WHEN WALL MOUNTED. NO HIGHER THAN 4 INCHES OR LOWER THAN 12 INCHES FROM THE TOP OF THE DETECTOR TO THE CEILING.
- 26. UNDERGROUND/OVERHEAD WIRING ENTERING OR LEAVING A BUILDING SHALL BE INSTALLED AND PROTECTED IN ACCORDANCE WITH NFPA72-4.4.4.3./4.4.4.4. AND NFPA70-ARTICLE 280. WHEN REQUIRED, SURGE SUPPRESSORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA70-ARTICLE 285.

PROJECT SCOPE OF WORK

- 1. THE CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE 24 VDC, CLOSED CIRCUIT, FULLY ADDRESSABLE, ELECTRICALLY SUPERVISED ZONE ANNUNCIATED (MINIMUM 25 ZONES) FIRE ALARM SYSTEM WITH VOICE EVACUATION TO REPLACE AN EXISTING SYSTEM. THE NEW SYSTEM SHALL INCLUDE BUT NOT BE LIMITED TO ALL CONTROL PANELS, POWER SUPPLIES, SIGNAL INITIATING DEVICES, AUDIBLE AND VISUAL ALARM DEVICES, CONDUIT AND WIRING, AND ALL ACCESSORIES REQUIRED TO PROVIDE A COMPLETE OPERATING SYSTEM.
- 2. ALL DEVICES, APPLIANCES, PANELS, CONDUIT AND WIRING SHALL BE
- 3. ALL CONTROL/POWER EQUIPMENT SHALL HAVE SURGE PROTECTION INSTALLED PER NFPA-72 (LATEST EDITION) AND NEC ARTICLES 280 AND 800 (LATEST EDITION).
- 4. ALL WIRING ENTERING OR LEAVING A BUILDING SHALL HAVE SURGE PROTECTION INSTALLED PER NFPA-70 (LATEST EDITION).
- 5. THE EXISTING MAIN FIRE ALARM CONTROL PANEL IS LOCATED IN THE MAIN ELECTRICAL ROOM. THE CONTRACTOR SHALL BEGIN THE WORK IN THIS SECTION OF THE FACILITY.
- 6. IT IS THE DESIGN INTENT THAT THE NEW FIRE ALARM SYSTEM SHALL BE CONSTRUCTED WHILE THE EXISTING FIRE ALARM SYSTEM REMAINS FUNCTIONAL AND OPERATIONAL TO SERVE THE FACILITY.
- 7. THE CONTRACTOR SHALL REVIEW THE CONTRACT DRAWINGS AND SPECIFICATIONS AND VISIT THE JOB SITE TO ASCERTAIN ALL CONDITIONS INCLUDING CONDUIT RUNS, INTERFACING, INTERFERENCES, CONFLICTS, DISCREPANCIES, ETC. AND SHALL REPORT THE SAME TO THE ENGINEER FOR CLARIFICATION. FAILURE TO COMPLY WITH THIS CONDITION SHALL CONSTITUTE AN ACCEPTANCE OF THE CONDITIONS AND ANY NECESSARY CHANGES WILL BE AT THE CONTRACTOR'S EXPENSE. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND DO NOT SHOW ALL EXISTING CONDITIONS AND/OR EVERY ACCESSORY TO BE REMOVED AND/OR REPLACED. DRAWINGS ARE NOT TO BE SCALED, AND SITE CONDITIONS SHALL GOVERN EXACT LOCATION OF ALL ELECTRICAL EQUIPMENT, DEVICES, WIRING, CONDUIT, ETC.
- 8. ALL EXISTING DUCT MOUNTED SMOKE DETECTORS AND RELAYS SHALL BE REPLACED AS PART OF THIS PROJECT. INSTALL NEW DEVICES AT NEW LOCATIONS WHERE SHOWN ON THE PLAN.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING "FIRE WATCH" AS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH "FIRE WATCH". THERE SHALL BE NO ADDITIONAL COST TO THE OWNER FOR "FIRE WATCH".

FIRE ALARM SYSTEM GENERAL NOTES

- 1. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL AND FIRE ALARM EQUIPMENT INCLUDING CONDUIT, WIRE, RELAYS, ETC. FOR THE OPERATION/CONTROL OF ANY EXISTING SMOKE DAMPERS AND COMBINATION OF SMOKE/FIRE
- 2. THE FIRE ALARM SYSTEM SHALL BE ACTIVATED BY THE FOLLOWING METHODS: A. ACTIVATION OF ANY AUTOMATIC DEVICE. B. ACTIVATION OF A PULL STATION.
- 3. MAINTAIN EXISTING FIRE ALARM SYSTEM OPERATIONAL. DISABLE EXISTING FIRE ALARM SYSTEM ONLY TO MAKE SWITCH OVERS AND CONNECTIONS. NOTIFY OWNER AND LOCAL FIRE SERVICE AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING THE FIRE ALARM SYSTEM. MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREAS. MINIMIZE OUTAGE DURATION. BUILDING EGRESS SHALL NOT BE OBSTRUCTED DURING BUILDING OCCUPANCY.
- 4. WHERE CONDUIT PENETRATES A FIRE RATED WALL, FLOOR, ETC., FIRESTOPPING SHALL BE PROVIDED. MEET ALL REQUIREMENTS FOR UL ASSEMBLY INVOLVED. PROVIDE FIRESTOPPING UL LISTED FOR ASSEMBLY AND/OR CONDUIT INVOLVED.
- 5. ALL NEW INTERIOR CONDUITS SHALL BE INSTALLED CONCEALED ABOVE CEILINGS AND IN WALLS WHERE PRACTICAL. IF CONDUITS CANNOT BE INSTALLED IN WALLS, PROVIDE SURFACE METAL RACEWAY: WIREMOLD 500 OR 700, AS REQUIRED. NEW CONDUITS INSTALLED IN MECHANICAL ROOMS AND ELECTRICAL ROOMS MAY BE SURFACE MOUNTED.
- 6. PROVIDE NEW CONDUIT FOR THE ENTIRE FIRE ALARM SYSTEM WHERE REQUIRED.
- 7. MECHANICAL AIR SYSTEM SHUT-DOWN: A. ALL MECHANICAL AIR SHUT-DOWNS SHALL BE COORDINATED WITH THE
- OWNER. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER IN BRINGING THE MECHANICAL SYSTEM BACK ON LINE AND IN CORRECT OPERATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR SHUTTING DOWN THE MECHANICAL AIR SYSTEM. THE CONTRACTOR WILL BE RESPONSIBLE FOR BRINGING THE MECHANICAL AIR SYSTEM BACK ON LINE AND OPERATING CORRECTLY.
- B. PROVIDE ALL ELECTRICAL AND FIRE ALARM EQUIPMENT REQUIRED TO SHUT-DOWN THE EXISTING AIR MOVING EQUIPMENT PER ALL APPLICABLE CODES.
- 8. THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN IN OPERATION DURING CONSTRUCTION. PROVIDE ALL TEMPORARY CONNECTIONS REQUIRED TO MAINTAIN CONTINUITY TO EXISTING SYSTEM CIRCUITS. THE CONTRACTOR SHALL VERIFY EXISTING SYSTEM IS WORKING PROPERLY PRIOR TO SUBMISSION OF BID. SUBMISSION OF A BID SHALL BE CONSTRUED AS EVIDENCE THAT SUCH VERIFICATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED FOR MAINTAINING A COMPLETE AND OPERATING FIRE ALARM SYSTEM DURING CONSTRUCTION SHALL NOT BE RECOGNIZED.
- 9. THE FIRE ALARM SYSTEM SHALL CLOSE ANY EXISTING GAS SOLENOID VALVES UPON ACTIVATION OF THE FIRE ALARM SYSTEM.
- 10. IDENTIFY POWER (FACP, FAPS, SMOKE DAMPER, ETC) AS PER NFPA 72 1-5.2.5.
- 11. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING SPARE DEVICES LISTED AS AN ALLOWANCE TO THE BID. THE DEVICES SHALL INCLUDE A MINIMUM OF 25 FEET OF CONDUIT, WIRE, CABLE AND ALL LABOR TO INSTALL AS MAY BE REQUIRED DURING CONSTRUCTION. ANY DEVICES NOT USED AS ADDITIONAL DEVICES INSTALLED SHALL BE
 - SURRENDERED TO THE OWNER: A. SYSTEM SMOKE DETECTORS QTY OF 3
 - B. SYSTEM DUCT DETECTORS QTY OF 3
 - C. MANUAL PULL STATIONS QTY OF 2
 - D. SPEAKER/STROBES QTY OF 4
 - STROBES QTY OF 3
 - F. MONITOR MODULES QTY OF 3 G. CONTROL/RELAY MODULES QTY OF 4



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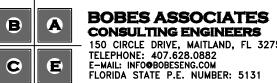
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ORANGE COUNTY MARKS STREET SENIOR CENTER FIRE ALARM REPLACEMENT

<u>AUGUSTO E. BOBES JR. P.E.</u> FLORIDA P.E. # 39410



Revisions

| No. | Date | Description |
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Key Plan

MPE PROJ#: 2013-009

Designed By: WMC

Drawn By: **WMC**

Checked By: ABJr

Issue Date: 06/17/14

Drawing Scale: NO SCALE

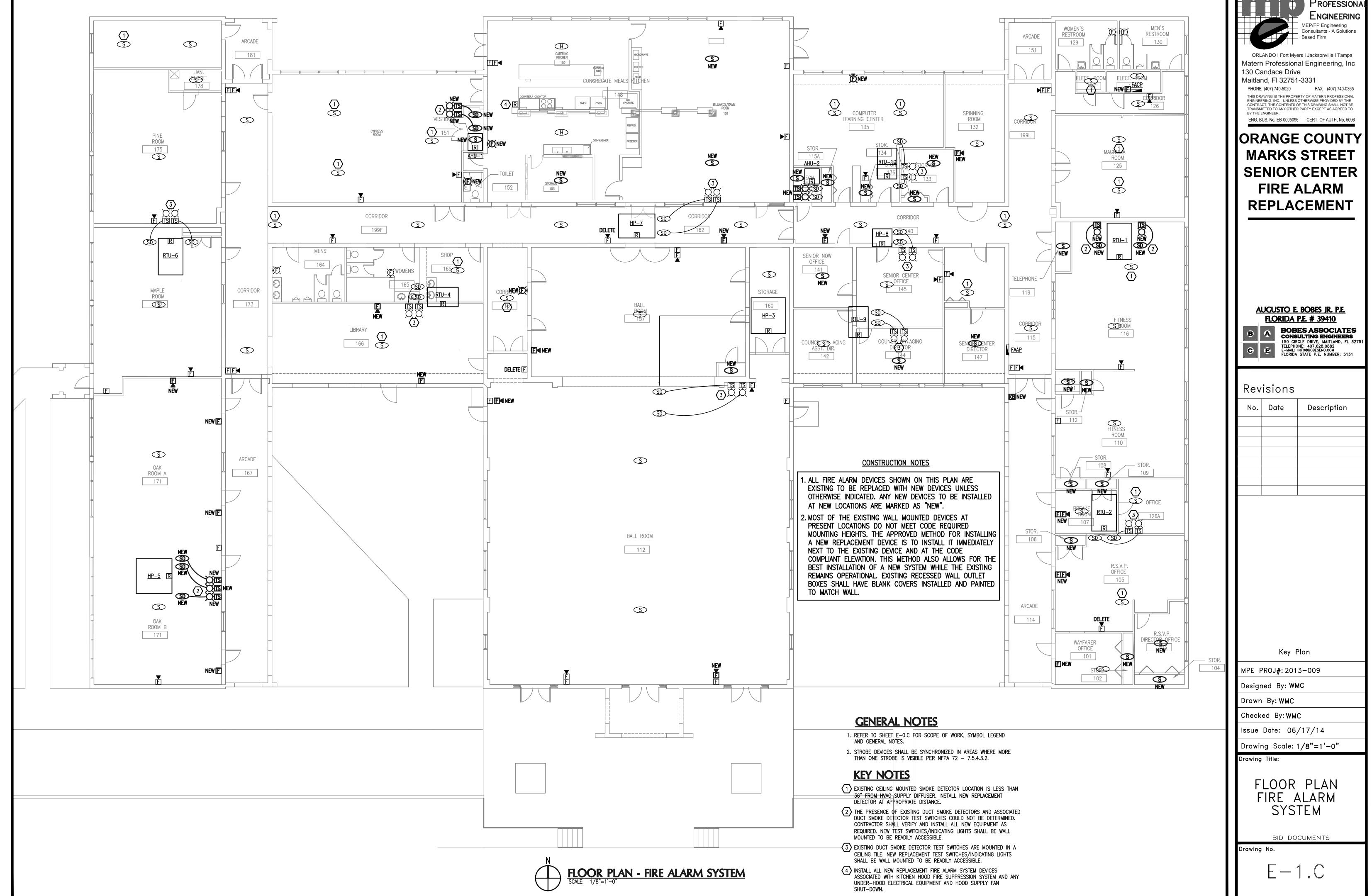
Drawing Title: SCOPE OF WORK

LEGEND, GENERAL NOTES AND RISER DIAGRAM

BID DOCUMENTS

Drawing No.

E-0.C



MATERN Professional