

DCPS FIRE ALARM SYSTEM
REQUIRED DOCUMENTATION & INSPECTION CHECKLISTS

The following pages provide a guide for contractors with regard to fire alarm system permitting, shop drawings, inspections and Fire Alarm Acceptance testing. The information required by each of the 6 parts shall be consolidated into a 3 ring binder to be kept at the site for inspections with copies provided to the Engineer of Record and DCPS Code Enforcement. It is the contractor's responsibility to provide the information to the EOR and DCPS Code Enforcement as the project progresses. The person verifying the completion of each checklist item shall sign off and date each individual item when completed.

PART I: PROJECT INFORMATION

School Name & Number:	
DCPS Project Manager:	
Engineer of Record (EOR):	
Contact Name, Email, Phone:	
Prime Contractor:	
Contact Name, Email, Phone:	
Fire Alarm System Supplier:	
Contact Name, Email, Phone:	

PART II: PERMITS

REQUIRED PERMITS¹			
A copy of all required permits shall be include in the permit/inspection binder on the project site.			
Prime:²		Permit No.:	
Electrical:		Permit No.:	
Mechanical:		Permit No.:	
Gas:		Permit No.:	
Fire Sprinkler:		Permit No.:	
Kitchen Hood:		Permit No.:	
Elevator:		Permit No.:	
Other:		Permit No.:	

1. Required permits are job specific.
2. Prime Contractor may also be the Electrical Contractor for fire alarm replacement projects.

PART III: FIRE ALARM SYSTEMS AGENTS

FIRE ALARM SYSTEMS AGENTS			
<p>Prior to beginning installation of the fire alarm system, the contractor shall provide copies of their Fire Alarm Systems Agent(s) identification cards (Chapter 489, F.S.). Provide the name of each agent and include a copy of each agent's ID card in the permit/inspection binder on the project site.</p>			

PART IV: FIRE ALARM SHOP DRAWINGS

FIRE ALARM SHOP DRAWINGS			
✓	Date	Verified by:	Checklist Item Description
			1. Contractor has verified that information provided on the shop drawings is complete as required by FBC Chapter 9 and NFPA 72.
			2. Fire alarm shop drawings reviewed by the Engineer of Record (EOR).
			3. Fire alarm shop drawings reviewed by DCPS Code Enforcement after review by EOR
			4. Contractor has picked up approved set of fire alarm shop drawings.
			5. An approved set of fire alarm shop drawings stamped by both the EOR and the DCPS Code Enforcement Fire Safety Inspector shall be kept at the project site with the approved permit documents for use during inspections.

PART V: INSPECTIONS DURING CONSTRUCTION

INSPECTIONS DURING CONSTRUCTION			
✓	Date	Verified by:	Checklist Item Description
			1. Underground Electrical Inspections shall be made after trenches or ditches are excavated, conduit or cable installed, and before any backfill is put in place.
			2. Routine Electrical Rough-in Inspections shall be made prior to covering the work.
			3. An Electrical Pathway Rough-in Inspection shall be made prior to pulling wire and shall include but not be limited to verifying fire-stopping.
			4. Mechanical Rough-in Inspection(s) shall be made for duct detector installation and access doors prior to covering the work. Fire damper testing shall be performed, <u>if applicable</u> .
			5. Mechanical Final Inspection shall be made at completion, and shall require the installing contractor’s pressure differential report for all duct detectors.
			6. Gas Rough-in & Final Inspections shall be made for any gas piping work, <u>if applicable</u> , and shall include required pressure tests.
			7. Request for Pre-Fire Alarm Acceptance Test Meeting shall be made upon approval of last section of fire alarm pathway.
			8. NFPA 72 Visual Inspection of fire alarm system components and devices
			9. Fire Alarm Acceptance Test (See Part VI)
			10. Electrical Demolition Inspection shall be made after the existing fire alarm system and devices have been removed and shall include verification of fire-stopping.
			11. Electrical Final Inspection (Certification of Completion for Prime Electrical Permit) shall be made after the EOR’s final acceptance and PASSED final inspections for associated permits (i.e. Mechanical, Gas, etc.). This inspection may be made during the Electrical Demolition Inspection.

PART VI: FIRE ALARM ACCEPTANCE CHECKLISTS

A. PRE-FIRE ALARM ACCEPTANCE CHECKLIST¹			
Prior to meeting on site for fire alarm acceptance testing the following written reports and confirmation from the contractor shall be provided to DCPS Code Enforcement in one collective submission (i.e. a binder):			
<input checked="" type="checkbox"/>	Date	Verified by:	Checklist Item Description
			1. Contractor shall provide the duct detector differential pressure report approved by the EOR.
			2. All deficiencies from the fire alarm device inspection conducted with the EOR shall be corrected . Contractor shall provide written verification noting completed items, and EOR shall provide letter or e-mail notifying Code Enforcement that corrections have been made.
			3. Contractor shall provide written verification that all devices have been tested and tagged .
			4. Contractor shall provide written verification that all associated control functions , as applicable, operate to provide a complete coverage fire alarm system: elevator recall, door release for smoke control, flow and tamper, AHU shutdown, etc.
			5. Contractor shall provide written certification that they have performed a pre-test using NFPA 72 protocol and have addressed all “trouble” issues. See FIRE ALARM ACCEPTANCE TEST GUIDE based on NFPA 72
			6. Contractor shall provide a fire alarm device count by type .
			7. Contractor shall provide written verification that the fire alarm panel has been properly tagged by the installing contractor .
			8. Prior to the scheduled date of fire alarm acceptance testing, the contractor shall provide written verification that the DCPS central station has been alerted on the planned fire alarm acceptance testing.

1. Upon receipt and review of the above items 1 through 8, the DCPS Building Official will notify the project team of acceptance or concerns and a date for the fire alarm acceptance test will be determined.

B. FIRE ALARM ACCEPTANCE TEST¹

The morning of acceptance testing, the following is required on site prior to the scheduled start time for acceptance testing:

✓	Date	Verified by:	Checklist Item Description ²
			1. Contractor shall have on site a copy of all written documentation of the verification items required in PART A: PRE-FIRE ALARM ACCEPTANCE TEST.
			2. Contractor shall have on site an approved set of permit documents including all revisions and RFIs with DCPS Code Enforcement review stamp or e-mail.
			3. Contractor shall have an EOR/Code Enforcement approved set of fire alarm shop drawings on site.
			4. The contractor shall ensure that the fire alarm system “ Record of Completion ” has been completed and is made available along with another copy of the device count .
			5. Contractor shall have a supervisory person on site who was directly involved with the installation along with a sufficient number of personnel to walk with Code Enforcement Inspectors (4) in order to provide access and testing/communication equipment.
			6. A representative from Simplex is required to be onsite.
			7. A representative from each associated contractor shall be on site.
			8. All doors and areas (including the kitchen) shall be unlocked and accessible prior to scheduled start time.
			9. DCPS fire alarm maintenance shall be invited to be onsite for the acceptance testing.
			10. Contractor shall have onsite a minimum of 4 canned smokes for testing smoke detectors.
			11. Contractor shall have onsite a minimum of 4 devices for testing heat detectors (testing device shall be recommended by the fire alarm device manufacturer).
			12. Contractor shall have onsite a minimum of 6 two-way radios . Cell phones are not efficient for fire alarm acceptance testing and are not an acceptable alternative.
			13. Contractor shall have onsite a minimum of 4 ladders for access to areas above ceiling, etc.
			14. Contractor shall have onsite supplemental lighting and/or any other equipment required to provide appropriate access and testing as related to the specific project.

1. See FIRE ALARM ACCEPTANCE TEST GUIDE based on NFPA 72

2. Failure to comply with one or more of the checklist items will most likely result in a FAILED fire alarm acceptance.

FIRE ALARM ACCEPTANCE TEST GUIDE:

Date: _____

1. Fire Alarm Acceptance Testing shall be performed in accordance with NFPA 72

2. Fire Alarm Control Panel Test

- a. Panel in normal standby condition
 - power indicator on
 - no trouble or alarm indicators on
- b. Operate lamp test switch, if applicable
 - all lamps on
- c. Trip main breaker to disconnect AC power
 - power indicator off
 - visual trouble indicator on
 - audible indicator on
- d. Operate trouble silence switch
 - audible trouble indicator shall silence
 - visual trouble indicator shall stay on
- e. Check operation from standby power source
- f. Initiate an alarm from any device in the system
 - all notification appliances shall activate
 - zone or device indicator shall be on
- g. Operate alarm silence switch
 - all notification appliances shall silence
 - zone or device indicator shall remain on
 - alarm silence lamp on, if applicable
- h. Reset device used to initiate alarm and/or operate reset switch
 - system reset
 - alarm indicators off
 - trouble indicators off, except for primary power trouble

For multi-zone systems only:

- i. Initiate an alarm from any device in the system (checks resound feature)
 - all notification appliances shall sound
 - operate alarm silence, all devices shall silence
 - initiate another alarm from a different device or circuit
 - all notification appliances shall sound
 - operate alarm silence, all devices shall silence
- j. Reset system
 - system shall return to normal, except for primary power trouble

(Drill switches not allowed in schools)

3. Manual Pull Stations

(Note: repeat this test on at least 10% for all pull stations)

- a. Locate any pull station on a circuit, preferably not the last one.
- b. Activate the pull station
 - system shall alarm
 - device or circuit location shall indicate on panel
- c. Activate signal silence, notification appliances shall silence
 - system shall stay in alarm (AHU shutdown, doors closed etc.)
- d. Remove pull station from the wall
- e. Reset pull station and reset system
 - system shall return to normal, except for primary power trouble
- f. Remove one of the wires connected to the pull station
 - system shall initiate trouble from that device or circuit
 - system trouble indicator lamp shall light and audible must sound
- g. Reconnect wire to pull station
 - system shall return to normal
 - reinstall pull station on wall
- h. Activate pull station
 - notification appliances shall sound
- i. Activate signal silence
 - notification appliances shall silence
- j. Activate system reset
 - system shall return to normal, except for primary power trouble

4. Smoke Detectors and Duct Detectors

(Note: repeat this test on at least 10% of all smoke detectors)

- a. Check detector power indicator, if applicable
 - power on
 - check for baffle in duct detectors, if applicable
- b. Test detector to ensure smoke entry into the sensing chamber and a alarm response
 - detector shall activated and indicator on detector turn on
 - system alarm shall activate
 - device or circuit location shall be indicated on panel
- c. Activate signal silence and reset system
 - detector shall return to normal
 - notification appliances shall silence
 - system shall return to normal, except for primary power trouble
 - remove detector
 - system shall indicate trouble (audible and visual)
 - system shall indicate circuit or device affected
- d. Reinstall detector
 - system shall return to normal, except for primary power trouble

5. **Heat Detectors (rate-of-rise and restorable fixed temperature only)**

- a. Heat test with heat source to ensure response in one minute
 - system alarm shall activate
 - device or circuit location shall indicate on panel
- b. Activate signal silence and system reset
 - detector should self restore
 - notification appliances shall silence
 - system shall return to normal, except for primary power trouble
- c. Remove detector or remove one wire
 - system shall indicate trouble (audible and visual)
 - device or circuit location shall indicate on panel
- d. Replace detector or wiring

6. **Restore Primary Power to System (A/C)**

- a. System shall return to normal

7. **Alarm Notification Appliances (audible and visuals)**

- a. Remove A/V from the wall
- b. Remove one of the wires connected to the A/V
 - system shall initiate trouble from that device or circuit
 - system trouble indicator lamp shall light and audible must sound
- c. Reconnect wire to A/V
 - system shall return to normal
 - reinstall A/V on wall

Note: repeat this test on each A/V circuit
- d. Activate the system alarm
 - all audible notification appliances shall sound (db meter preferred)
 - emergency voice evacuation shall activate (assembly occupancies > 300)
 - all visuals notification appliance shall activate
- e. Activate signal silence
 - all audible notification appliances shall silence
 - emergency voice evacuation shall silence (assembly occupancies > 300)
 - all visual notification appliances shall stop flashing
- f. Activate system reset
 - system shall return to normal

8. **Fire Safety Functions and Interface Equipment**

- a. Activate a system alarm
 - all notification appliances shall activate
 - activate signal silence
 - all notification appliances shall deactivate

all fire safety functions shall remain activated (i.e., fan control, smoke damper operation, elevator recall, elevator power shutdown, door holder release, door unlocking, gas shut off, etc.)

Note: Initiate elevator recall at smoke detector

b. Reset system

all fire safety functions shall return to normal (except some gas valves requiring manual reset)

system shall return to normal

c. Interface equipment being supervised (i.e. special hazard fire suppression control unit such as for kitchen hoods)

operate/simulate supervised equipment

verify signal at FACP

9. Water-based Fire Protection

a. Risers

hydraulic name plate in place

control valves labeled

spare sprinkler cabinet in place (each riser)

300 sprinklers=6 spares

301-1000 sprinklers=12 spares

1001+sprinklers=24 spares

sprinkler wrench

10. Water Flow Devices

a. Locate inspector's valve (discharge size is the same as the smallest orifice size in the system)

open valve and time by seconds until alarm

alarm shall occur within 90 seconds

b. Close inspector's valve

activate signal silence and reset

system shall return to normal

11. Water Flow Supervisory Devices

a. Locate all supervisory (tamper) switches

turn valve two turns or 1/5 of its travel distance

a supervisory trouble shall be indicated at the panel

b. Return valve to the normal open position

supervisory indication at the panel shall clear

system shall return to normal

12. Digital Alarm Communicator Transmitter (DACT) (if applicable)

a. Call central station and place account on test

connected to two separate means of communication

test system alarm transmission by activating a system alarm

central station receives alarm within 90 seconds

reset system

central station receives an alarm restore signal

activate a trouble on the panel

central station receives a trouble indication within 4 minutes

- return trouble to normal
- central station receives a trouble restore signal

13. Phone Line Test

- remove primary phone line
- central station receives a phone line trouble within 4 minutes
- replace primary phone line
- central station receives a phone line trouble restore
- repeat this test on secondary phone line

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