

Functional Performance Test

[Project Name]

System: **Fire Alarm System**

<i>Functional Performance Check</i>	<i>Pass</i>	<i>Fail</i>	<i>Remarks:</i>
Fire Alarm Control Panel & Fire Alarm Annunciator Panel			
Notify all building occupants that testing will be conducted.			
Fire alarm contractor shall have personnel with 2-way radios at the fire alarm control and annunciator panels and at Monitoring System – prior to start of testing			
Fire suppression systems are secured to prevent inadvertent actuation.			
Verify that the fire alarm control panel and fire alarm annunciator panel are free from alarms, troubles and supervisory signals			
Activate the system supervisory service audible signal and verify that the LED is illuminated			
Pressing the “Supervisory Acknowledge Key” silences the audible signal on both the fire alarm control and annunciator panel			
Ground fault current indication shall be verified			
Power Supply			
Disconnect 24v dc secondary power supply to simulate loss of batteries			
Verify that the fire alarm control and annunciator panel receive notification of power loss.			
Initiate an alarm and verify that all annunciation devices operate			
Reconnect secondary power supply			
Verify that trouble is cleared from the fire alarm control and annunciator panel			
Disconnect primary power supply by opening circuit breaker			
Verify that the fire alarm control and annunciator panel receive trouble notification of power loss			

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Power Supply (continued)			
Measure the systems standby and alarm current demand and verify the ability of the batteries to supply power			
Initiate an alarm and verify that all annunciation devices operate. Test shall be conducted for a minimum of five minutes			
Reconnect primary power			
Verify that trouble is cleared from the fire alarm control and annunciator panel			
Verify all fuse ratings and supervision			
Batteries			
Prior to any test, ensure that all system software stored in volatile memory is protected from loss			
Inspect batteries for corrosion or leakage			
Verify all connections are tight			
Electrolyte level in lead acid batteries shall be visually inspected			
Verify batteries are in operational condition			
Verify batteries are connected to battery charger.			
Verify batteries are fully charged			
Discharge Test			
Load test the batteries per manufacturers recommendations and verify that voltage level does not fall below specified level (an artificial load equal to the fire alarm full load connected to the battery shall be permitted for this test)			
Load Voltage Test			

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Batteries (continued)			
With the battery charger disconnected, the terminal voltage shall be measured while supplying the maximum load. The voltage level shall not fall below specified level (an artificial load equal to the fire alarm full load connected to the battery shall be permitted for this test)			
Primary Battery Load Voltage Test			
With batteries fully charged and connected to charger the voltage across the batteries shall be measured with a voltmeter and voltage shall be verified and shall be per manufacturers recommendations			
Under load, the battery shall perform in accordance with manufacturer recommendations			
Conductors			
Verify that there is no stray voltage between conductors or conductors and ground. Max stray voltage shall not exceed manufacturers recommendations (or 1vac/dc)			
Verify conductor isolation from ground			
Verify conductor to conductor isolation			
Verify loop resistance does not exceed the limits specified per manufacturers recommendations. With each initiating and indicating circuit conductor pair short circuited at far end, the resistance of each circuit shall be measured and recorded			
Verify that a fault in any circuit monitored for integrity shall result in a trouble indication at the fire alarm control panel			

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Conductors (continued)			
Verify that each initiating device, notification appliance, and signal line circuit shall be tested to confirm that the installation conductors are monitored for integrity			
Verify that the fiber optic line from the Rowlett Building is terminated per the bid documents			
The fiber optic line shall be tested in accordance with the manufacturers recommendations with an optical time domain reflectometer used to measure the relative power loss of the line. This relative figure shall be recorded in the fire alarm control panel. If the power level drops 2 percent or more from the recorded value, the issue shall be rectified			
Verify that a fault in any supervised circuit shall result in a trouble indication at the fire alarm control panel.			
Each initiating device, notification appliance, and signaling			
Central Station Reporting			
Verify central supervising station is receiving notification of alarm			
Verify central supervising station is receiving notification of trouble			
Verify central supervising station is receiving notification of supervisory signal			
System Reset			
Press the "System Reset" button on the FACP and verify the panel returns to normal state.			
System Override			
Activate the fire alarm system and then silence the system			

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System Override Continued			
Activate another initiation device and verify the alarm signal overrides the silence feature			
Reset system and verify it returns to normal operation			
Remove a smoke detector head and verify a trouble signal is received			
Activate an initiation device and verify it overrides the trouble signal			
Reset system and verify it returns to normal operation			
Activate a s sprinkler tamper switch and verify a supervisory signal is received			
Activate an initiation device and verify it overrides the supervisory signal			
Reset system and verify it returns to normal operation			
First Floor			
Exit Vestibule 100A			
(1) Strobe Unit			
Activate the fire alarm system and verify the following:			
The strobe is in sync with all other strobe devices			
Verify the Candela Rating			
Public Elev. A			
(1) Smoke Detector with Elevator Control			
Activate the smoke detector per manufacturers recommendations and verify the following:			
The fire alarm system is activated			
The address indicated by the FACP is:			
The Location indicated by the FACP is:			
The Type of device indicated by the FACP is:			
The Elevator is recalled			

