



Athens-Clarke County Fire & Emergency Services



3.1.4 Fire Pump Checklist

Reviewer: _____

Date: _____

Job Name: _____

Address: _____

City: _____ Zip: _____

Complex Name: _____

General Building Information

Construction Type: _____ Stories? Height (ft): _____

Fire Sprinkler Company: _____ Phone: (____) ____ - ____

Contact Email: _____

Type: Wet: Dry: Pre-action: Combination:

Total number of heads: _____

Fire Pump Make: _____ Model: _____

Fire Pump GPM Rating: _____

Review Date: _____ Approved or Disapproved

NOTE: The designer must complete the form before plans are reviewed.

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Fire Pump Plan Review Checklist	Pass	Fail	N/A
1) IN PDF emailed to fire.marshall@accgov.com or USB Flash Drive mailed to 700 College Ave Athens Ga 30601 (Please do NOT submit paper copies) - Provide one (1) set of drawings, 1 set of calculations, 1 set of submittal data (scope of work on letterhead, specification sheets for all components)			
2) Equipment is listed for intended use; product listing data sheets are provided, 5.1.2.1, 5.7.			
3) A copy of a fire hydrant flow test summary sheet is provided, including static and residual pressures, flow rate, and the flow and test hydrant(s) location.			
4) Plan view and cross-sectional views of installed equipment are provided, 5.2.			
5) Room dimensions are provided.			
6) Equipment symbol legend is provided.			
7) Plot plan illustrating connection to the water supply pipe and pipe diameter and the pipe routing from the source to the fire pump.			
8) Driver, pump, and controller manufacturer, respective models, and driver type are specified.			
9) A copy of the factory pump test curve is provided,			
10) Pump GPM rating: Head rating: RPM is provided.			
11) A pressure gauge complying with 5.10.1 is detailed as installed near the discharge casting.			
12) A compound and vacuum pressure gauge complying with 5.10.2.1 are detailed as installed to the suction pipe,			
13) An automatic relief valve complying with 5.11.1 is detailed as installed on the discharge side of the pump before the discharge check valve, and it discharges to the drain. This requirement does not apply to engine-driven pumps that provide cooling water from its discharge to the engine.			
14) A nonsprinklered fire pump room is separated by a 2-hour fire barrier. A sprinklered fire pump room in a nonsprinklered building is separated by a 2-hour fire barrier. A sprinklered fire pump room in a sprinklered building is separated by a 1-hour fire barrier. An exterior fire pump building is separated from adjacent buildings by at least 50 ft., Table 5.12.1.1.			

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15) The fire pump room containing a diesel pump driver and fuel storage tanks is protected by an automatic sprinkler system in compliance with NFPA 13. 5.12.1.3.			
16) Outdoor fire pump unit is placed at least 50 ft. from any building that would be an exposure, 5.12.1.2.			
17) When required by the environment or engine manufacturer, the fire pump room has a heat source in accordance with Section 5.12.2.			
18) Emergency lighting for the fire pump room is provided in accordance with section 5.12.4.			
19) Ventilation is provided in the pump room, 5.12.5.			
20) The coupling guards for the flexible couplings or shaft connections between the pump driver and pump are noted or illustrated in 5.12.7.			
21) The size and type of pump suction and discharge pipe used are specified and detailed.			
22) Steel pipe size is specified for aboveground pipe, 5.13.1.			
23) The method of joining the steel pipe is specified in 5.13.2.			
CENTRIFUGAL PUMPS:			
24) The selected centrifugal pump is specified and meets the design requirements of 6.1.1.			
25) The application of a centrifugal pump complies with the requirements of section 6.1.2.			
26) The foundation and setting for the pump are detailed and in compliance with section 6.4.			
27) The method of securing the pump base plate to the foundation is detailed, 6.4.3.			
POSITIVE DISPLACEMENT PUMPS:			
28) The pump is listed for its intended use, and the listing verifies the pump's performance curves, 8.1.2.			
29) Detailed are compound suction and discharge pressure gauges, and a listed safety relief valve locations, 8.4.			
30) The pump foundation, support, anchoring, etc., design is detailed on the plans and in compliance with section 8.7.			
31) A means for flow testing is provided, and the piping schematic is provided, 8.9.			

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DRIVER INFORMATION:			
32) Type: Manufacturer: Model: Rated H.P.: RPM: are provided.			
33) If the pump uses a diesel driver, calculations indicating the number of hours of fuel supply are provided.			
CONTROLLER INFORMATION:			
34) Manufacturer: Model: are provided.			
ELECTRIC DRIVE			
35) An electrical circuit schematic is provided.			
36) When provided, the electrical schematic shall detail the design for the secondary power circuit and transfer equipment is provided, 9.2.4.			
37) A second power source is provided in accordance with 9.2.4 when electric motors are used, and the building height exceeds fire apparatus pumping capability, 9.2.1.2.			
38) Supply conductors shall directly connect to a listed combination fire pump controller and transfer switch or to a disconnecting means and one or more overcurrent protective devices, 9.2.5.4.			
39) Circuit conductors feeding fire pump(s) shall be dedicated and protected from fire, structural failure, or operational accident, 9.3.1.			
40) Circuits that supply the electric motor and that directly connect the power source to a listed pump controller are designed with a means of power continuity in accordance with 9.3.2.2.			
41) The electric motor is listed for fire pump service and meets the construction, horsepower, and locked rotor current requirement of section 9.5.1.1.			
42) When an on-site generator is required to meet the power reliability requirements of NFPA 20, it has the capacity to run under the loads identified in section 9.6.1. The loads are specified and provided.			
43) Required generator(s) shall comply with the foundation requirements in section 6.4 and be of the level, type, and class specified in section 9.6.2. The system shall be designed in accordance with NFPA 110 and have a minimum fuel supply to operate the fire pump at its 100 percent rated capacity, 9.6.2.			
44) Transfer of power shall occur in the pump room, 9.6.4.			
45) The controller installation is detailed. It is located near and in sight of the motors it controls, and energized controller components are provided working clearances in accordance with the National Electrical Code Article 110. NFPA 20 10.2.			

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Fire Pump Plan Review Checklist ELECTRIC DRIVE	Pass	Fail	N/A
46) The fire pump controller is listed for use with an electric motor-driven fire pump and labeled in accordance with section 10.1.2.1.			
47) The controller and accessories are mounted on a single noncombustible support foundation, 10.3.2.			
48) Enclosures for the controller and accessories are in compliance with Section 10.3.3.			
49) Controllers shall be provided with a voltage surge arrestor, isolating switch, circuit breaker, locked rotor protection, and motor contacts in accordance with sections 10.4.1 through 10.4.5.			
50) Provided and detailed is an alarm circuit and a signal device at a constantly attended location when the pump room is not constantly attended. The alarm signal transmission occurs in accordance with Sections 10.4.7.2(A) through 10.4.7.2(D), 10.4.7.			
51) When required, the dedicated fire pump transfer switch location is detailed, the listing data sheets are provided, and the design complies with Section 10.8.3.			
52) When required, one dedicated transfer switch is assigned to a fire pump, 10.8.2.3.			
DIESEL DRIVER:			
53) The engine is a compression ignition type and is listed for fire pump service, 11.1.2.1 and 11.2.1.			
54) The engine meets the rating requirements of section 11.2.2.			
55) The engine connection to the fire pump is noted and designed in compliance with Section 11.2.3.			
56) The engine is equipped with a governor complying with the requirements of Section 11.2.4.1.			
57) When the engine uses a variable speed pressure limiting control system, it is noted on the plans and complies with Section 11.2.4.2.			
58) The engine is equipped with an overspeed shutdown device that complies with Section 11.2.4.3.			
59) The engine is equipped with an instrument panel containing a tachometer, oil pressure gauge, and temperature gauge, 11.2.4.4-11.2.4.7.			

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Fire Pump Plan Review Checklist DIESEL DRIVER	Pass	Fail	N/A
60) Batteries have two means of recharging detailed, and the chargers are listed for fire pump service and comply with the requirements listed in Sections 11.2.5.2.3 and 11.2.5.2.4.			
61) Detailed or noted on the plans is that each engine has two batteries that are rack supported, and current carrying parts (cables) are not less than 12 in. above the floor, 11.2.5.2.1.1. and 11.2.5.2.5 -.6			
62) The engine cooling system is closed-circuit liquid type and is specified as radiator or heat exchange type, 11.2.6.			
63) Adequate ventilation is provided for the pump room and the engine, 11.3.2.			
64) Fuel supply tank capacity calculations are provided and are at least 1 gallon per horsepower plus 5 percent volume for expansion and 5 percent volume for sump, 11.4.3, and the fuel supply tank design complies with IFC 34.			
65) Fuel piping is designed in compliance with Section 11.4.6.			
66) The controller is listed for use with diesel engine-driven fire pumps and labeled in accordance with Section 12.1.3.			
67) The controller installation is detailed. It is located near and in sight of the engine it controls, and energized controller components are provided working clearances in accordance with the National Electrical Code Article 110, 12.2.2 -.4.			
68) The controller and accessories are mounted on a single noncombustible support foundation, 12.3.2.			
69) Enclosures for the controller and accessories are in compliance with Section 12.3.3.			
70) Provided and detailed is an alarm circuit and a signal device(s) in the engine room. The visible indicators and a common alarm signal occur in accordance with events listed in sections 12.4.1.3(1) through 12.4.1.3(11), 12.4.			
71) When the pump room is not constantly attended, the alarm and signal devices are remote from the controller in a constantly attended location and are detailed and designed in accordance with section 12.4.2.			
72) Engine exhaust is vented to the exterior and where the exhaust will not harm persons or endanger buildings, 11.5.			

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DIESEL DRIVER			
73) Engine exhaust piping connections, diameter, clearances to combustible materials, and termination points are detailed and designed in accordance with Section 11.5.3.			
OTHER			
74) The pump room shall have suitable means to maintain the temperature >40 degrees F.			
75) Valves shall be electrically supervised in their normal position, includes test valves.			

Additional Comments:

The above is not an all-inclusive list – all buildings must meet all NFPA, International Fire Code, and State of Georgia requirements. Please refer to Chapter 120-3-3, Rules and Regulations of the Safety Fire Commissioners website.

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