

**APPENDIX 9****WATER SUPPLIES FOR FIRE-FIGHTING****1 Definitions:****a. Sources of water supply:**

The sources which are used to provide sufficient quantities of water for firefighting. It may be considered as public water mains and water tanks (Fixed or mobile), or natural sources as rivers, lakes, wells and other similar sources.

b. Public water mains:

Distribution pipelines forming a part of the water supply distribution network of any town or village which is pressurized under normal circumstances.

c. Public fire hydrants:

The hydrants which are fixed on branches distributed from public water mains for the purpose of fighting fires and to be used only by Mauritius Fire and Rescue Service.

d. Private fire hydrants:

The hydrants which are recommended by the Mauritius Fire and Rescue Service for the protection of private properties, it may be installed inside a building with special connections or outside around the building within the boundary of the property. These hydrants shall however be installed and maintained at the owner's cost.

e. Suction tanks:

Tanks which need water pumping system to provide adequate flow and pressure which will be suitable to extinguish the fire.

2 Water Supplies requirements:

- 2.1** Most of water demanded for fire-fighting is taken from public water mains supply, where these mains are available in the area with suitable capacities. Generally, a water supply capable of providing a minimum of (1125 litre/min) at all times be required.
- 2.2** In cases where the public water main supply does not meet the above requirement, each fire main should be fed from either an elevated reservoir or a suction tank or interconnected tanks having a minimum capacity of (45,000) litres.
- 2.3** The tank or tanks should be automatically supplied from any other source of water controlled by a ball valve (s) and the capacity of these mains together with the contents of the reservoir or tanks should be such as to maintain a flow of Water capable of supplying three fire-fighting jets for 45 min, when water is supplying a total rate of (1125 litre/min).



- 2.4** Tanks supplying water for domestic purposes should not be used as suction tanks unless arrangements have been made for these domestic supplies to be drawn off in such a manner that the requisite reserve of water is always preserved.

3 Fire hydrants:

- 3.1** Public fire hydrants should comply with the following:

- a.** It should comply with the standard approved by Mauritius Fire and Rescue Service.
- b.** It should be included in piped water distribution system and located along the Pavements of streets and public roads.
- c.** Its locations must be determined by the Mauritius Fire and Rescue Service in coordination with Water Local Authorities.
- d.** In cities and urban areas, a spacing of (90) - (120) m is desired between the hydrants. The distance between a nearest public hydrant and residential buildings should not exceed 100 m, and for industrial or commercial buildings should not exceed (90) m.
- e.** Flow requirements from each hydrant should be (1125) - (2000) lt/min.

- 3.2** In case of installing private hydrants, the water supply, installation and location of the hydrant, shall comply with the requirements of Mauritius Fire and Rescue Service.

4 Firefighting pump set:

Where a firefighting pump set is to be installed to provide sufficient flow of water under suitable pressure for firefighting, the following requirement should be met:

- 4.1** The pumps used should comply with the standards approved by Mauritius Fire and Rescue Service.
- 4.2** There should be one duty electric pump and one standby diesel pump and should be capable of maintaining a system pressure of 4.5 Bar while delivering (1125) lt/min.
- 4.3** It should be fitted adjacent to the main water storage tank.
- 4.4** The power supply equipment must be solely for the use of the fire pumps. Where it is the practice to switch off the supply to the premises it should be ensured that such switching off does not interrupt the mains supply to the fire pumps.
- 4.5** A separate diesel oil storage tank should be provided, sized to allow (30) minutes running of the diesel pump. Pumps room should be constructed from fire resistance non-combustible construction, and used for no purpose other than housing water supplies. Adequate ventilation and light should be provided. Floors should be clear from waste at all times.



- 4.6** Pumps room should be constructed from fire resistance non-combustible construction, and used for no purpose other than housing water supplies. Adequate ventilation and light should be provided. Floors should be clear from waste at all times.
- 4.7** In the event of system pressure falling to (2.7) Bar the electric pump should cut in and boost pressure to (4.5) Bar. The pumps should remain energized until either manually switched off or low water level cut out switch mounted 30 m above tank floor over rides pump. In the event of system pressure falling to (3.0) Bar the diesel pump should cut in and boost pressure to (4.5) Bar. The pump should remain energized until either manually switched off or until fuel runs out.
- 4.8** The pump set should include a normally closed by-pass valve to allow for testing. The pump set should include a pressure relief valve connected to the by-pass system to open at a pressure of 4.8 Bar.
- 4.9** All control panels are to provide the following facilities:
- a) On/Off/Auto switch for each pump.
 - b) On light for each pump (Green).
 - c) Trip light for each pump (Red).
 - d) Hour run meter for each pump.
 - e) System pressure gauge.
 - f) Adjustable pressure settings for high and low pressure setting points.
- 4.10** Automatic priming devices must be provided, to ensure that the pump will be fully primed with water at all times.
- 4.11** The correct sequence of operation of the units shall be ensured and all controls to ensure that the system works satisfactorily shall be included.