

PROJECT:	New Perth Museum
LOCATION:	Perth WA 6000
SCOPE OF WORK:	Wet/Dry Fire Protection
COMPLETION DATE:	December 2019
CONTRACT VALUE:	\$4.0M

The New Perth Museum located in the heart of Perth's cultural precinct has been designed to display a collection of physical and virtual stories for visitors to engage with the Western Australian history. The spaces within the building have been created to promote engagement and collaboration to both the Museum and the community. Upon completion the building is almost four times bigger than the old museum.

The new design which integrates a new state of the art building with the existing heritage buildings is based on the intersection of a horizontal and vertical loop creating large spaces for displaying both fixed and temporary exhibitions. There is also a public space that is the central point of the new museum, which is a spectacular outdoor room framed by refurbished heritage buildings & intersected by new buildings & virtual viewing platforms.



Firesafe were awarded the contract to install new fire systems including hydrants, sprinklers, detection and EWIS throughout the heritage buildings plus new areas. We also installed a Gaseous Suppression and Wet Chemical Kitchen system. The new areas, spread over six levels have a new combined fire system with a fire pump room housing fire pumps and tanks located within the South East corner of the State Library carpark.

SCOPE DETAILS

Within our scope, we were tasked with the design and installation of:

- A compliant Fire Sprinkler system in accordance with AS2118-1999, AS2118.6 – 2012
- A compliant Fire Hydrant system in accordance with AS2419.1-2005
- Compliant Fire Pumps consisting of 1 x single stage electric duty booster pump, 1 x single stage diesel standby booster pump. An electrically driven jockey pump is also installed.
- DCP & CO2 Fire Extinguishers have been provided throughout all the areas as defined within the Fire Services Specification.
- A Gaseous Suppression system has been installed in accordance with ISO1450.1-2009 to protect the Electrical Rooms on Basement Level 1.
- Automatic Fire Detection & Alarm system in accordance with AS1670.1-2005 has been installed to both the existing heritage building and the new build areas.
- Emergency Warning & Intercommunication system has been installed to all areas of the building in accordance with AS1670.4-2015.



The combined fire sprinkler/fire hydrant fire water pumps draw water from the 2 x galvanised water tanks. These tanks are fed by a Grade 1 town's main water supply from James & Francis Streets.

Fire Sprinkler Control Valves have been installed at the North Core, South Core, Geologist Core, Jubilee Plant Room and the Pump Room.

The fire sprinkler system is interfaced with the Fire Indicator Panel, which is also equipped with a test switch to remotely operate the flow switch test solenoid on each sprinkler valve assembly.

There is a combined Fire Sprinkler/Fire Hydrant fire brigade booster connection facility which complies with DFES requirements and AS2419.1-2005 located at the entrance to the building on Francis Street.



Linear heat detection is installed to the underfloor areas where there is no sprinkler protection & optical smoke imaging detection is installed to the exhibition galleries. A new Fire Indicator Panel has been fitted within the main foyer/reception area complete with fire Fan Control Panel, batteries, battery charger and interface device for the fire brigade monitoring connection. All interfaces are provided for air conditioning ventilation, smoke exhaust, mechanical switchboards to operate under emergency conditions as required by AS1668.1.

The Emergency Control Panel is located within the Main Fire Indicator Panel cabinet at the main foyer/reception and emergency speakers and horns are provided throughout all areas. Flashing alert beacons are fitted within the exhibition galleries, plantroom areas and areas where required speech transmission index cannot be achieved.



CHALLENGES & SOLUTIONS

- Due to the Heritage significance of the building great care had to be exercised throughout the installation to integrate the heritage portions to the new.
- Due to location of this site within Perth's CBDs logistical management was required to ensure that deliveries to site were efficiently organised, and maintained so as not to disrupt not only the installation and progress of our own services but also that of other contractors.

