COMPLETED PROJECTS

PROJECT:	**Wellington Street Student Accommodation**
LOCATION:	**Wellington Street, PERTH WA 6000**
SCOPE OF WORK:	Wet Fire Protection
COMPLETION DATE:	March 2022
CONTRACT VALUE:	$700K

Wellington Street Student Accommodation is a purpose-built building located on the corner of Wellington Street and Queen Street in Perth CBD, opposite Yagan Square and within close proximity to public transport facilities.

The building is spread over 39 levels comprising 258 units with a total of 483 beds and including commercial tenancies and 86 bicycle parking spaces. Upon completion the building will be Perth's tallest residential building. Levels 1 and 2 are dedicated to communal facilities including a theatrette, group and private study areas, lounge, gym and laundry.

SCOPE DETAILS

Within our scope, we were tasked with the design and installation of:
A compliant Fire Sprinkler system in accordance with AS2118.1 – 2017, AS2118.4 – 2012 & AS2118.6 - 2012

- Fire pumps as per AS2941.1 – 2013
- Fire Hydrants in accordance with AS2419.1 - 2005
- Fire Extinguishers installed in accordance with AS2444 - 2001

The sprinkler system incorporates fast response sprinklers throughout the building to comply with the hazard classifications – Ground Floor OH1 to Café & Food & Beverage areas, Light Hazard to Common Areas up to Level 39 and Residential to Bedrooms from Level 3 to Level 38.

Fire Sprinkler Control Valves have been installed in the stairwell landings to each floor. The water supply is provided by 2 x 25kL capacity concrete tanks, installed by the Builder and are located on Level 1; infill is via 2 x feeds downstream of backflow prevention with feeds brought into the building (from other contractors) from the town's main on Wellington Street. These tanks feed the fire pumps housed in the Ground Floor Fire Pump Room.

Fire Hydrants have been installed on each landing of the scissor stairs within the fire stairwell. An additional hydrant is located in the external escape passage on the Ground Floor and on Level 1 Southern fire corridor. There is a booster accessible from Wellington Street which comprises a vertically stacked booster assembly that faces the street. The booster connection consists of 4 x booster and 4 x feed hydrant connections to suit boosting flow rates in accordance with DFES requirements.

The fire pumps installed consist of a combined sprinkler/hydrant pump set comprising a full duty electric main pump and a full duty diesel standby pump completed with a jacking pump. The remote start button for the pumps is located in the Booster Cabinet.

A relay pump has also been installed to comply with DFES operational requirements for boosting the upper levels of the building in the event of the main and standby pump failure.

The main fire pump room is accessed via the fire isolated passageway from Wellington Street on Ground Floor and the Electric Relay Pump is located in the Hydraulic Services Room on Level 1.

CHALLENGES & SOLUTIONS

Throughout the project we were faced with various challenges:

- The site is located within the Perth CBD area, therefore scheduling of deliveries and access was imperative to minimise the disruption to peak hour traffic and street parking, whilst still maintaining consistent productivity onsite.
- A relay pump was required to be installed on Level 1 of the building and introduced in the final month of the project; meaning that we had to design, procure and install the pump in the final stages of the project. This required a high level of discussions with DFES to ensure their operational requirements were achieved, constant dialogue with logistical companies for delivery, interfacing with finishing trades and quick turnaround of installation, commissioning and authorities sign off.
- Discussions were held with DFES regarding the design of the booster assembly so that it is compliant with clearance around the inlets and outlets within the cabinet.
- Achieving delivery of the project whilst dealing with the impacts both locally and globally with the COVID pandemic, which affected availability of resources, materials and budgets.