



## PROJECT PROFILE

### Coptic Orthodox Church of WA St Mary & Archangel Michael Church Demolition of Existing Internal Wall

Design Engineering “Wilkie” was approached by the Coptic Orthodox Church of WA for the structural engineering design of the removal of an existing load bearing wall at the St Mary & Archangel Michael Church, East Victoria Park, WA.

#### OUTCOME

- Wall was successfully demolished and a new lintel installed
- Increased seating capacity for the congregation

#### BACKGROUND

The St. Mary & Archangel Michael Coptic Orthodox Church is a small church located in East Victoria Park. During Sunday masses, the church becomes overcrowded. It was therefore proposed to demolish an existing internal load bearing wall that separated the main church and a hall at the back in order to increase the seating capacity of the church.

#### PROJECT OBJECTIVES

A structural assessment of the church was required to determine if a 7.4m section of wall could be demolished. A new lintel beam was required to be installed to support roof trusses above.

#### CHALLENGES

Design had to ensure that the roof truss load could be transferred effectively around the proposed opening without using an overly heavy lintel which would be difficult to install. The existing brickwork mortar was old and crumbly which meant the location of the lintel needed to be moved to avoid weak brickwork to crumble away during installation.

#### OUR APPROACH

Design began with a structural inspection and assessment report to determine the proposed methodology for the demolition and the design criteria for the new lintel beam to be installed. As the proposed opening was large, it was important to determine the loads acting on the existing wall as these would have a large impact on the size of the lintel beam. The designs were to comply with the Australian Standards and building code regulations for strength and serviceability.

The demolition methodology was also included to ensure the works would not affect other sections of the building and formed part of the deliverables. The report and drawings were certified by a building surveyor and submitted to the local council for approval which was granted. Wilkie also assisted the client in identifying a suitable builder who could confidently quote and perform the works involved in the project.

Design thereafter provided construction advice to the builder and supervised the construction work in order to ensure the works were completed as per the designs and that any changes that needed to be made were compliant with the design requirements. The final outcome of the project was a pleased client, whose congregation had waited for over 20 years for this expansion to happen successfully and with guaranteed professionalism as demonstrated by Design.