

Rylands, Kew



Location

Kew, Australia

Client

Buxton Group

Project Value

AUD\$21.0 Million

Office Responsible

Cardno Grogan Richards

Responsibilities

Structural, Civil & Traffic Engineering

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Project Scope

Three levels of exclusive retirement living wrapped around a nineteenth century mansion.

The structure includes a basement retention system, consisting of precast and shotcrete / soldier pile walls.

The superstructure is a post-tensioned, two way flat slab, with precast columns. A fully framed solution was adopted in lieu of load bearing walls due to the access difficulties of the site, longer spans and to avoid expensive transfer structures. The roof is steel framed with timber trusses around the perimeter.

The existing mansion was fully refurbished, with considerable work to the old structure, including the removal of large sections of load bearing brick walls, floor strengthening and improvement of the existing structures dynamic response. Other structural elements include a swimming pool and framing for a feature waterfall.

The civil engineering was a challenge due to the limitations of the surrounding stormwater infrastructure.

Pipe falls were critical due to the requirement of an onsite detention system and the high invert level of the legal point of discharge. The basement is drained to a sump and pumped up into the gravity system.