

Wattle Grove Shopping Centre

Clients: Devwest Securities Pty Ltd and Whyte Constructions

Overview

AEC was engaged by Devwest Securities Pty Ltd to undertake the structural design for a \$5.4m shopping centre development in Wattle Grove, Western Australia. Whyte Constructions engaged AEC to undertake site inspections during construction.

The Challenges

The site was a mixture of clay and sand, so bulk earthworks were required to minimise the expense of foundations.

The 1 in 100 year flood level exceeds the level of the loading dock slab and was only 0.5m below the finished floor level. The water table was within 1m of the ground surface at the time the geotechnical inspections were carried out.

This was one of the first developments for the German based retailer Aldi in Western Australia (the main anchor tenant for this development). Aldi were in the process of adapting their specifications to suit WA conditions and building practices.

The Solution

AEC identified the impact of the high water table before commencing the detailed design and discussed the challenges with Devwest Securities and the builder that was nominated as the preferred Contractor. AEC proposed that the stormwater elbows should be cast into the strip footings in order to minimise the depth of the foundations. This prevented the requirement to de-water in order to achieve the required level of soil compaction.

The loading dock was designed as an “inverted bath” with a sump so that it can be pumped dry during heavy rainfall events, when the groundwater level exceeds the loading dock slab level. Close supervision of the construction was undertaken by AEC throughout the build.

Outcome

Construction has progressed in accordance with the schedule. There were no delays due to structural issues and the builder and developer were happy with the outcome. Construction is due was completed in Q3, 2016.



Aldi Retail Area (March 2016)



Medical Centre and other Tenancies (March 2016)



Front Elevation (March 2016)



Entrance Structure (March 2016)