

Gilda Court

Construction efficiency for up to date business operations

Gilda Court
A
U
S
T
R
A
L
I
A
S
T
E
E
L



The combination of glass curtain walls, Alucabond and precast concrete gives the facades a modern look.

In most Australian cities business activities have sprung up outside the central business districts and older industrial suburbs. This trend has led to the construction of high quality business parks which optimise the day-to-day functions of today's commercial operations. Four, two storey contemporary office and warehouse buildings in Mulgrave, part of a planned building estate complex on the site of the former BHP research and development facility, have been designed for this purpose.

The nine unit complex of buildings has 7,050 square metres of under roof areas and was completed in July 2005. The high amenity offices have glassed curtain walls with an exposed steel entry. Aluminium louvers on steel outriggers protect the face of the buildings from harsh sunlight. The combination of glass curtain walls, Alucabond and precast concrete give the facades a modern look.

The original design of the Gilda Court project consisted of only 58 tonnes of structural steel for the roofs and entries.

Through a process of design meetings and costing analysis with CGA Bryson (the client / developer) and structural engineers Bonacci Group, steel fabricator Structural Challenge was successful in changing the hollowcore mezzanine system to a structural steel alternative.

Each block has an overall height of 9 metres with the height above the ridges at 8 metres. The suspended mezzanine floors were metal deck formwork, laid by Oceania Universal Paving, incorporating Stramit Condeck HP® on composite primary and secondary steel beams.

Units 4, 5, 6, 9 and 10 have no internal columns. The mezzanine floor composite beams were at three metre maximum centres. Spans ranged from 8 metres up to 12 metres between the precast dividing walls with beam sizes from 310UBs to 460UBs.

In units 1, 3, 7 and 8 the mezzanine floors consist of composite primary and secondary beams. The secondary beams were once again at 3 metre maximum centres. The secondary beams ranged in size from 200UBs to 360UBs for spans ranging from 5 metres to 9 ½ metres. The primary beams ranged in size from 360UBs to 530UBs for spans ranging from 4 to 9 metres. Smorgon Steel Distribution supplied the steelwork. The beams were cambered where required to maintain deflection limits in accordance with the code, and designed to avoid propping, creating a major cost saving for the client.

The roof structure was designed to span between the precast dividing walls, again cambered as required, to achieve open space in the warehouse. The roof purlins adopted were Stramit Z20015 with one row of bridging per bay.



Above: The buildings have an overall height of nine metres. Below: Construction of the structural steelwork commences.



The change from a hollowcore mezzanine system to a structural steel alternative meant an additional 120 tonnes of structural steel and a finishing time 4 weeks ahead of the contracted finishing date. Fabrication was completed at Structural Challenge's modern Hallam factory and erected by B V Rigging (Aust), in a successful partnering relationship which contributed to the time efficient installation process.

The impressive development is now home to a raft of companies.

Project team

Developer: CGA Bryson

Architect: Watson Young

Structural Engineer: Bonacci Group

Builder: CGA Bryson

Steel Fabricator: Structural Challenge

Steel Erection: B V Rigging (Aust)

Steel Detailer: Steel One Drafting