

# The Waverley Residence Strikes the Perfect Balance

> Text by Tim Roberts, Photography by Jackie Chan

Steve Togher, Architectural Products Manager of Bent & Curved Glass, discusses this striking residential project's opportunities, challenges and rewards.

Enraptured visitors to Waverley House will immediately notice one stylistic feature – the two-storey glazed cylinder, which forms the building's visual centrepiece and grounds its strong visual continuity.

Creating this complex feature involved installing the project's most challenging section of glazing. 'Most of Waverley House's sliding panels are located in this curved cylinder,' Steve explains. 'The fixed glazing within the barrel was structurally glazed direct to the steelwork in a façade glazing system, a decision which placed significant pressure on the tolerances for each individual panel.'

The cylinder also perfectly demonstrates how the project's environmental aspects were seamlessly melded with the owners' aesthetic expectations. 'Waverley House is situated on a corner, a visual advantage which also creates privacy issues with the large glazed areas,' says Steve. 'The owners wanted an open feel to the interior with high levels of light transmission, while also seeking to maintain privacy – a difficult balance to strike.'

The unique double-height barrel of Waverley House has been cleverly constructed to solve these opposing design constraints. 'By combining low-E with a white translucent interlayer on the upper-level glazing, we addressed both the thermal performance issues and the practical aspects of privacy,' Steve notes. 'The white translucent interlayer lets a high level of light through during the day. It has the reverse effect at night, however, when it shines out like a lantern.'

It's an elegant solution to a complex issue, agrees Principal Architect Neph Wake. 'The opaque top level is visible from the street,' she notes. 'This geometry is replicated on the lower level, where the curved clear glazing enables a 180-degree view of the lap pool from the dining room.'

'The transparent glass reflects the afternoon sun from the pool onto the ceiling of the living area, providing a delightful sense of space,' Neph adds. 'The curvature of the glass in Waverley House echoes the shape of the dining room's central table, which was a key aspect of the client's brief.'

The lower level also houses a billiard room (currently used as a kids' rumpus room), as well as an adjacent walk-in cellar which continues Waverley House's dominant circular visual motif.

Bent & Curved Glass manufactured the cellar's laminated curved glazed panels, but faced an unexpected engineering challenge after initial installation. 'It was discovered that the temperature-controlled air conditioning system had been set lower than anticipated at some point, causing condensation problems,' notes Steve. 'To remedy this issue, we worked with Wellfix Glass and Aluminium to retrofit frameless curved IGUs onto the cellar's glazed wall.'

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(The Waverley Residence continued)

The massive sliding doors within Waverley House presented their own distinctive set of challenges. 'The owners were hoping to install a set of very large sliding doors – the maximum size possible – to visually and functionally unite the house's inside and outside aspects,' Steve remembers.

As Darren Andrews from AVS Windows and Doors observes, meeting this challenge was far more difficult in practice. 'It was a challenge ensuring that the huge curved sliding doors would slide smoothly so that the family's young children could use them,' he says. 'The door sizes for Waverley House were approximately 2700 x 3600mm, with a very large single panel sliding around the wall's exterior at a weight in excess of 300kg.'

The meticulous handiwork of Bent & Curved Glass is evident throughout the sinuous curves running right through Waverley House. 'We make everything in-house,' says Steve. 'Double-glazed units are usually fabricated on automatic lines, but that's simply not possible with curved glass – instead, it's a hands-on manual process all the way. As double glazing becomes increasingly popular, we're responding to the challenge of creating curved glass panels for a huge range of applications, including prestigious and demanding projects such as this one.'

The curving visual motif defines the family home's overarching look and feel. 'The circular wall continues internally after it abuts the main structure, extending the circular glazing line as it melds with an internal wall between ensuite, bathroom and walkway areas,' Steve explains. 'The wall then continues curving away to the outside from within the bathroom, completing the circular motif which can be sensed from within the house. The curved panes of glass we created by Bent & Curved Glass form a crucial part of that visual effect.'

From the beginning, creating Waverley House involved constructive collaboration. 'Our involvement with the project got off to an ideal start,' Steve recalls. 'We conversed with the architects and builders at the early design stage, answering their questions about the glazing system and providing them with a deeper understanding of their design's impressive glazing possibilities.'

'By producing a range of glazing samples, we enabled them to visualise how the glass would look in situ, the maximum glass sizes

achievable, and where the joins could occur relative to each glazed panel we fabricated. Being involved throughout the contracting and tendering process enabled us to keep the architects fully updated.

'Clinton from CplusC Architectural Workshop ran the site, with his clear passion for the project contributing to this superb outcome. We were able to communicate with him regarding the house's design, and he was kept abreast of the glazing options as the detailing was developed and finalised onsite. Along with Darren Andrew from AVS Windows and Doors, the three of us collaborated in detail on the glazing systems to carefully manage the manufacture and project delivery process.'

The architects clearly appreciated this ongoing process of consultation. 'Engaging with the supplier and fabricator so early in the project helped us determine the maximum obtainable glass sizes, while ensuring that our original architectural vision could be realised,' says Clinton.

'In addition to the aesthetic requirements, the glass was required to meet thermal performance standards,' he adds. 'The samples of low-E glass, low-iron glass and interlayers supplied by Bent & Curved Glass enabled us to make a series of informed decisions regarding specification, including the consistency of the framing and track systems.'

In Steve's view, Waverley House is a model showcase for cross-industry collaboration. 'By working very closely and accurately with AVS Windows and Doors for this project, we demonstrated how members of two different bodies – the AWA and the AGGA – can collaborate for mutual benefit.'

Waverley House has also given Bent & Curved Glass an opportunity to show how glass and glazing companies can add value and contribute to the bespoke design process. 'It's rare to have the opportunity to work on such a high-end custom project in such a direct way from inception through to completion and beyond. This required our whole team to work harmoniously together, with elements of this project travelling through all parts of our factory in almost every production stream,' Steve concludes.

For proof of their success, simply witness the gorgeous undulating lines of this unforgettable family home. [GA](#)