

What lies beneath

This structural marvel claims a prized beachfront location



Photography: Simon Whitbred

his project involved a major renovation of an old house, part of which was once a burger shop where locals would gather to talk and eat. In reinventing this dwelling, the owner wanted to create a home in which family and friends would feel just as welcome to visit, sharing good food and good conversation. The owners looked to Gartner Trovato Architects to design the renovation and Bangalley Building to give it form.

The property enjoys a beachfront location at The Basin, Mona Vale, and while the views are to be envied, having a home which sits on a sand dune presented a host of very real challenges. It was imperative that the engineering design ensured the proposed renovation would satisfy the government's new Coastal Management Plan and be able to withstand 100-year ARI storm erosion.

As a result, a significant portion of the budget was spent underground on the foundations as the kind of engineering usually only found in apartment block construction was needed to ensure the longevity of the renovated dwelling.

The eastern structure is built on 9m-deep CFA piles so that in the event of a catastrophic storm and high sea levels, the house will stand on its own like a wharf. A secant wall with a capping beam was built running north-south, dividing the east and west sides of the property to

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protect the existing garage, which was retained, from storm erosion. Large rock anchors were installed to assist the secant wall should it ever need to stand alone.

During construction, it was discovered that the suitable foundation on the west side of the property was not where the geotechnical report anticipated so the existing garage footings were deemed inadequate. A CFA piling was required to install 12m-deep piers to support the renovated house. This involved a large piling rig, excavator and crew all working within the existing walls of the garage.

The simple elegance of the interior, however, gives no hint of the complex construction involved. The main living area is vast and light filled with large sliding doors that open the home to the beach. For comfort, hydronic floor heating was installed to the tiled living areas; for energy efficiency, there are photovoltaic array solar panels with an LG battery to power the house when not using the grid. Motorised external blinds and privacy screens enhance thermal comfort and keep prying eyes at bay.

To provide additional privacy, but without obstructing ocean views, the brief included a vertical louvered fence constructed of weathering steel. This low maintenance fence blends well with the iron in the feature stone walls.





The facts

Location of home: Mona Vale, NSW Time taken to build: 2.5 years Year completed: 2019 Award: Renovations/Additions Project over \$3 million finalist

The figures

Size of home: 720sqm Bedrooms: 5 Bathrooms: 4 + powder room Floors: 2 + garage

The details

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