



OCEAN REEF MARINA SEAWALL SURVEY

PROJECT Ocean Reef Marina seawall survey | Ocean Reef, WA

CLIENT WA Limestone | Italia Stone Group JV

THE SITE

Perth's pristine coastline is a mecca for people and their desire to be on the waterfront. The vision to turn an existing boat ramp into a vibrant new marina has been on the drawing board for over ten years and gained approval in 2017.

The 80ha Ocean Reef Marina, located approximately 30 kilometres north of Perth in Western Australia, is set to become a world-class waterfront precinct. Estimated to have 550 boat pens and stackers, it will also include Perth's first ever coastal pool. With over a thousand dwellings, the waterfront precinct will provide a range of residential, recreational, tourism, and boating facilities and employment opportunities.

THE CHALLENGE

Two overlapping seawalls were to be constructed to protect the marina from the Indian Ocean an area that had previously been known for several surf breaks along the coastline. Each seawall was over 600m in length extending over 400m from the existing shore.

To ensure that the seawall was constructed within the design specifications a series of hydrographic surveys were necessary. The survey information needed to be processed, checked and presented to the client in an expedient manner to ensure that the seawall was within tolerance and progress payments could be claimed.

Managing prevailing ocean conditions, with a high swell environment, required meticulously timing to ensure that the survey was conducted in optimal conditions to achieve project specifications.

THE SOLUTION

MNG's hydrographic surveyor utilised the purpose-built hydrographic survey boat equipped with a multibeam echo sounder to conduct progress surveys along the offshore and inshore sections of the seawall. Safety on water is paramount for all projects, hence Safe Working Method Statements (SMWS) and fully qualified personnel are mandatory for the project.



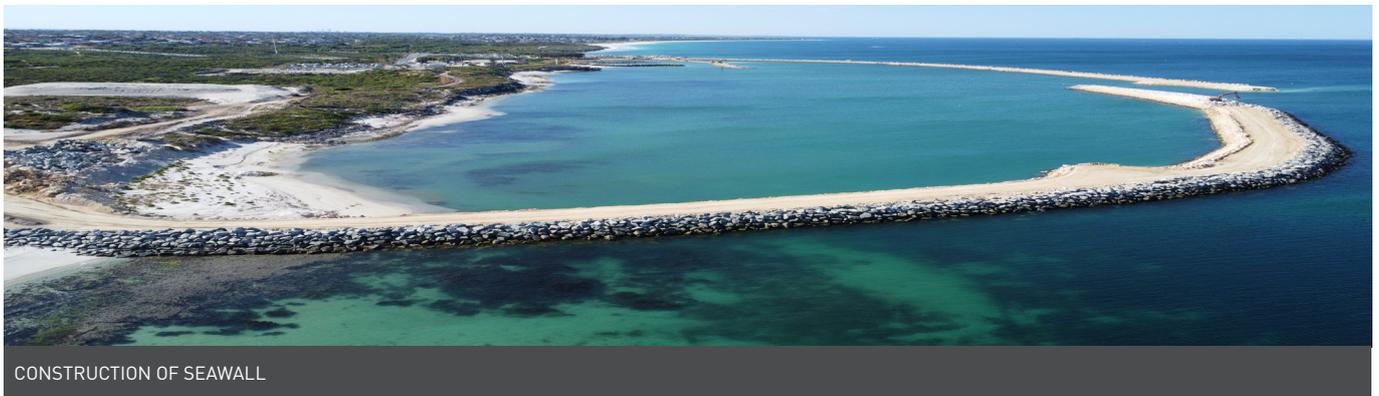
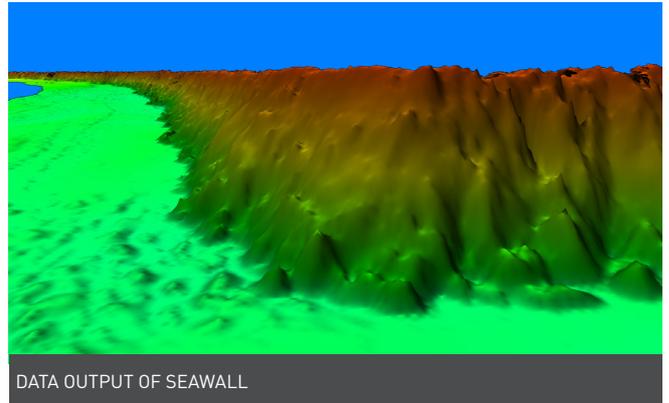
CONDUCTING THE HYDROGRAPHIC SURVEY

CASE STUDY

Using customised software the survey vessel is navigated along predetermined run-lines using GNSS positioning while the multibeam sonar captures a swathe of the seawall and ocean bed beneath the survey vessel. Subsequent run-lines are then collated to provide one homogenous model of the seawall that can be checked against the design model and specifications.

THE OUTCOME

Construction of the seawall is ongoing, however to date MNG has provided accurate and high quality data files of the construction and placement of over 1,000,000 tonnes of rock within the marina.



A KEY BENEFIT TO THE CLIENT WAS THE UTILISATION OF CUSTOMISED SURVEY SOFTWARE TO PROVIDE ACCURATE HIGH QUALITY DATA OF THE LARGE ROCK MASS.

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