

Industry: Government and Utilities

Product: ContextCapture

User: The City of Onkaparinga

Country: Australia

November 2, 2015

Reality Capture Enables Smarter Coastal Mapping for the City of Onkaparinga

The City of Onkaparinga is located on the southern fringe of Adelaide, South Australia. It is the largest local authority in South Australia, with an estimated population of 164,800 people in both urban and rural communities. It is also geographically expansive, encompassing an area of 518.3 kilometres. The city has 30 kilometres of coastline that is extremely vulnerable to coastal erosion, which can cause significant damage to infrastructure and disrupt the lives of residents.

Coastal erosion is considered one of society's major environmental hazards, and it is vital to know the current conditions of the coastline and provide ongoing monitoring. The goal of this AUD 50,000 project by the city of Onkaparinga was to document the state of its coastline to an accuracy of 100 millimetres and to create a base dataset to be used for comparison in future assessments. Since much of the coastline is rugged, AEROMETREX captured the imagery by helicopter. The objective was to map and model the detail without occlusions.

Using Bentley's ContextCapture, 25,000 oblique photographs and 125 ground-control points were processed to create a detailed 3D mesh that ensured model accuracy of 100 millimetres. This process allowed volume, distance, and texture, and visually identified rocks, ground types, and the various structures.

By capturing imagery at different points in time, Onkaparinga can not only analyse the current state and condition of the coastline but also detect change in condition over time. The benefit to residents of the city, and to those in close proximity to the coastline, will be significant. Much of the erosion is encroaching on people's property and has caused safety concerns. By using this capture method, however, the city is now able to monitor the coastline to help assess these safety concerns and provide high-definition models with a high degree of accuracy.

David Byrne, technical director, AEROMETREX, said, "Without the use of Bentley's remarkable ContextCapture software the amazing detail and accuracy achieved in this project would not have been possible."



Image Link: <https://www.hightail.com/download/bXBaZ28wdGpUME43czhUQw>

Caption: The City of Onkaparinga- Smart Coastal Mapping