



AWE is a South Australian based consulting firm providing sustainable and innovative engineering, water resources, planning and natural resource management solutions for the community and our clients. Our team of professional and support staff has strong technical capabilities in hydrogeology, hydrology, civil and environmental engineering, integrated water resources management, groundwater modelling, ecology, spatial services, environmental management and planning, consultation and community engagement and data management.

Professional, independent land and water solutions benefiting people and the environment.

AWE Capabilities:

- Hydrology
- **Civil Engineering**
- Environmental Engineering
- Integrated Water Resources Management
- Groundwater Modelling
- Ecology
- Spatial Services
- Environmental Management
- Statutory Planning
- Environmental Planning
- Consultation and Community Engagement
- Data Management

Coastal Engineering and Coastal Management Studies

AWE offers consulting services in coastal engineering and coastal management studies.

AWE understands that a comprehensive framework is required to understand the risks and impacts on coastal communities, developments and assets arising from sea level rise and climate change.

Our work on coastal engineering and coastal management studies involves the following:

- *Assessing coastal processes;*
- *Assessing future planning levels for sea level rise;*
- *Mapping of sea level rise inundation zones;*
- *Assessing sea level rise and groundwater interactions;*
- *Undertaking risk and condition assessments on natural assets and infrastructure at risk from erosions, inundation and changed climate conditions;*
- *Developing adaptation treatment options management and planning responses and recession setbacks;*
- *Design and documentation of adaptation infrastructure and solutions such as sea walls, break waters, levees, site build up, soft engineering and vegetation treatments;*
- *Environmental assessments, Development applications and design of boat ramp facilities;*
- *Land development feasibility studies and infrastructure designs on coastal development sites; and*
- *Consultation with government agencies and local communities.*



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Environmental assessment - Pt Hughes boat ramp upgrade

AWE recently undertook an environmental assessment of upgrading the Pt Hughes boat ramp on Yorke Peninsula, for the Copper Coast Council. The critical issues related to impacts to the marine environment such as seagrass, and coastal processes, such as sand movement along the coast. Modifications to the design of breakwaters was done to minimise impacts affecting sensitive environments. The environmental assessment report was lodged with the Planning Approval Application to the state government's Development Assessment Commission. A concept design and traffic impact assessment together with a dredging management strategy was prepared.

Victor Harbor Coastal Management Study

AWE recently undertook a coastal management study along the Encounter Bay foreshore to identify coastal hazards and develop appropriate management responses. The key issues included coastal recession, Inman River impacts, future inundation from sea level rise projections, and identifying important infrastructure and historical sites. Extensive community and stakeholder engagement helped appreciate coastal issues and identify the assets requiring protection.



National Climate Change Coastal Vulnerability Assessment

AWE led a multidisciplinary project team to assess potential climate change impacts on coastal settlements of Yorke Peninsula, and the implications for government planning and approval processes. The assessment will be used to assist decision makers in identifying key climate challenges for policy development and implementation, and provide tools to develop adaptive responses. An extensive range of biophysical, built form and socio-economic data was collated for the project, which was managed, analysed and mapped using GIS software. The risk assessment process was used to identify the higher risk assets for more detailed analysis, such as damage costs and adaptation options/costs.



Port Hughes-Moonta Bay Cliff Top Stability Study

AWE recently completed a coastal management study on the Yorke Peninsula to identify coastal hazards and develop intervention and management responses for the coast from Port Hughes to Moonta Bay. This involved assessing coastal recession, stormwater impacts, looking at historical data and photographs, assessing future inundation from sea level rise. Community and stakeholder engagement was undertaken. Hard and soft engineering solutions together with recommendations to policy and planning were also developed to help facilitate management of the coastline.

Victor Harbor Foreshore Renewal Project

The redevelopment of the Victor Harbor Foreshore will revitalise and improve the public space and community facilities at this iconic location. The team at AWE undertook the design of a variety of components including: roads & pavements, feature paving and features, retaining walls, seawalls for 2100 climate conditions, raised garden beds, stormwater drainage, water reticulation system & water fountains, irrigation network, horse drawn tram platform, park and street furniture, landscaping, soft planting and feature walls. For this project, AWE also developed Traffic & Environmental management plans for the abutting road network.



Northern LeFevre Peninsula Infrastructure Headworks

AWE undertook the detailed planning and preliminary design of infrastructure headworks comprising stormwater, wetland and Managed Aquifer Recovery investigations.

Staff from AWE undertook detailed planning of all transport infrastructure, site grading for 2050 climate change, water and wastewater infrastructure and services infrastructure including an innovative pressure sewer system.

Echo Beach and Rivoli Point Land Feasibility Study

AWE undertook an assessment of the impacts of coastal erosion, sea level rise inundation and climate change on bio-diversity communities, land and infrastructure on coastal land between Beachport and Southend to confirm the potential for and viability of developing land for Eco tourism development.

Mallala Coastal Study

AWE is assisting in assessing the condition of existing coastal levees and sea walls at four coastal settlements and are their suitability or likely upgrades required and associated upgrade costs for accommodating 2050 and 2100 climatic conditions.