

Great Keppel Island QLD

Monitoring bore installation for groundwater quality (saline intrusion) monitoring; Installation of water bore casing on Great Keppel Island.

Great Keppel Island located off the Central Queensland coast within the Great Barrier Reef area, is one of only 28 islands in the area which offer purpose-built tourism resorts. Over a five year period, Douglas Partners provided groundwater, geotechnical and geological services for the GKI Revitalisation Plan.

Located 12 km off the Central Queensland coast, Great Keppel Island (GKI) is one of only 28 islands within the Great Barrier Reef area that have purpose-built tourism resorts. Douglas Partners (DPs) initially carried out hydrogeological investigations in 2006 and 2007 with the objective of augmenting the former resort's water supply with groundwater. DP was subsequently engaged in 2010 and 2011 to prepare the geotechnical, geological, and groundwater sections of the Environmental Impact Statement (EIS) for the GKI Revitalisation Plan. The plan will create a low rise, eco-tourism resort comprising a hotel and spa with villas and apartments, a golf course, and a marina.

Douglas Partners' groundwater team designed and supervised the hydrogeological investigations comprising EM-34 geophysical surveyings, drilling and installation of monitoring bores, bore census, groundwater quality monitoring, installation of two new production bores, test pumping and analysis, borefield design, development of

aquifer and groundwater management plans, as well as numerical modelling and assessment of aquifer sustainable yields.

To assess potential impacts from the revitalisation plan for the EIS, DP carried out geotechnical, geological, acid sulfate soil and additional groundwater investigations across the proposed new resort areas of GKI. These investigations were completed together efficiently and cost-effectively for the client.

Practical management and mitigation measures were recommended by DP and incorporated into the plan to reduce any potential impacts to the environment from the construction of the proposed new resort. The revitalisation plan will also address and mitigate many of the environmental issues resulting from previous activities on the island.



“Integrated Practical Solutions were provided by Douglas Partners by applying geotechnical, environmental and groundwater expertise to the EIS”

Carl Deegan - Senior Associate / Hydrogeologist

CLIENT GKI Resort Pty Ltd

YEAR 2006 - 2011

SCOPE OF WORK

- Groundwater exploration
- Design and installation of borefield
- Numerical modelling
- Groundwater impact assessment

