



Kinross Estate – Hydraulic Placement of Sand

Principal: CABP Group Pty Ltd

Location: Heatherbrae, New South Wales

The Kinross Estate is an industrial park developed by the CABP Group Pty Ltd in Heatherbrae, NSW. For development, the final levels need to be elevated to above the forecast flood levels. Previous stages were filled by conventional construction equipment with sand sourced from the other side of Masonite Road. This project aimed to use dredging techniques to transport the sand without the significant inconvenience to local road uses of construction traffic crossing the Road.



One pipeline was used to deliver the slurry to the fill area, and the second was used to return the slurry supernatant water to the holding pond for re-use. The sand was loaded into the dry feed bin with wheel loaders working with dual-screen hopper stockpilers.

Innovations

- Design and fabrication of the sand dry feed bin.
- The extraction, storage, use and re-use of bore water to hydraulically transfer the sand.

Challenges

- Minimising the loss of bore water at the fill area.
- Waterproofing the bore water containment pond.
- Maintaining safe navigational access for all boating traffic in this very popular and busy recreational waterway.

All works were performed on time and within budget. The CABP Group were delighted with the outcome of the project.



Scope of Work

Stage 9 of the Kinross Industrial Estate required the importation of 40,000m³ of sand from a stockpile located on the other side of a major Road. Neumann Dredging was challenged to develop a technique where the sand could transfer hydraulically through a pipeline and placed directly into the embankment.

Conventional dredging equipment could not be used due to the sensitivity of the local groundwater aquifer. Neumann proposed to use captured bore water (extracted under license) to feed a dry feed bin that would blend the sand and water and then pump the slurry under the Road to the fill area.

Neumann Dredging designed and fabricated the dry feed bin and then designed and constructed a bore water holding pond at the stockpile site. A pump was installed in the holding dam that fed the dry feed bin with the bore water, and a slurry booster pump was connected to the outlet of the bin. Twin 315mm poly pipelines were installed from the booster pump, under the Road and the fill area.