

CASE STUDY

PROJECT WASTEWATER REUSE FOR GOLF CLUB
PRODUCT BWRO
INDUSTRY Tourism & Leisure
LOCATION Pennant Hills, NSW



BACKGROUND

Pennant Hills Golf Club (PHGC) required an additional, reliable water source to support golf course operations after several years of low rainfall and limitations on supply from the local water authority. A previous project harvesting water from an underground sewer line had increased available supply, but it was still insufficient. The next available source was polished wastewater from the NorthConnex (NCX) water treatment plant that was otherwise discharged to Blue Gum Creek. This advanced wastewater treatment plant was designed, constructed, installed and commissioned by MAK Water in 2020.

MAK Water was commissioned to design, construct and deliver a customised water off-take project that would transfer the treated water from the NCX site, beneath the roadway and into the PHGC site.

SOLUTION

MAK Water technicians installed a 27,000 L accumulation tank, centrifugal pump set, automatic diversion valves, connected pipework, data signals and electrical cabling on the NCX side. The equipment was integrated with the existing MAK Water treatment plant and connected to the accumulation tank on the PHGC side. The highly customised field upgrade used pump sets, accumulation tanks, a programmable logic controller (PLC), diversion valve automation and level switches to synchronise treated-water flow across both sides of the road.

MAK WATER KEY SOLUTIONS

- Custom field upgrade integrated with the existing MAK Water wastewater treatment plant
- 27,000 L accumulation tank and centrifugal pump set
- Automatic diversion valves controlled through PLC automation
- Level switches, data signals and electrical integration to synchronise treated-water transfer
- Connected pipework transferring polished wastewater beneath the roadway to the PHGC site



RO permeate flowing to NCX delivery lines

RESULTS AND BENEFITS

- **Sustainability.** Reuses polished wastewater supporting a more sustainable water supply for golf course operations
- **Water security.** Provides PHGC with an additional treated-water source in response to low rainfall and limitations on local water authority supply
- **Operational integration.** Automated diversion valves, PLC controls and level switches synchronise water transfer between the NCX and PHGC sites
- **Economic and environmental benefit.** Supports water reuse and reduces reliance on an alternative water supply
- **Industry recognition.** The Tunnel to Turf sustainable future project received recognition from ClubsNSW



Water line entering the PHGC side