



BROADLANDS IRRIGATION INTAKE

Client: Landcorp Farming Limited

Description: A riverbank filtration gallery and well supplying 300 L/s for a 380 ha irrigation development near Taupo.



The key innovations were as follows:

- **Safety** – no electrical equipment is installed near open water, and no manpower is required to work over water for lifting pumps or maintenance of screens.
- **Ease of maintenance** – the screen cannot be blocked with weed as it is surrounded by scoria behind a 1 m wide gabion rock basket, and the entrance velocity through the rock is very low (<0.05 m/s). The gallery removes the requirement for having a self-cleaning screen system in the river. *“Experience with the Waikato River is that self-cleaning screens require regular manual attention, which creates an additional job and also creates Health and Safety concerns”* – WaterForce (pers. comm.).
- **Environmental improvements** – compared to traditional intakes, this intake has no direct contact with open water, hence excellent fish exclusion through the gabion rock followed by the scoria filter surrounding the 14 m long stainless steel screen.
- **Unobtrusive** – no physical or visual impact on the Waikato River, and therefore no boat navigational hazard.
- **Cost effective** – significantly lower capital cost than conventional floating pontoon, and significantly lower operational costs as the intake does not need self-cleaning screens, which require a portion of water to flow back from the pumping system to the river. Therefore, negating a level of inefficiency.

