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Rail Infrastructure Corporation

Project Location

Quirindi, NSW, Australia

Atlantis Application

Underground Infiltration Tanks

Project Overview

Completed for the Rail Infrastructure Corporation in Quirindi, NSW, the project required an underground infiltration system to manage excess surface runoff around newly constructed bridge abutments. The installation was completed in February 2004.

The system provides 180 m³ of underground infiltration capacity using Atlantis Flo-Tank® Double modules wrapped in geotextile. Inlet pipes convey runoff into the modular tank, where the captured water is managed through infiltration.

Technical Summary

Project	Rail Infrastructure Corporation
Location	Quirindi, NSW, Australia
Application	Underground Infiltration Tanks
Completion	February 2004
Size	180 m³
Surface Use	--
Atlantis System	Flo-Tank® Double

Design Challenge

The project required management of excess surface runoff around newly constructed bridge abutments in Quirindi. The stormwater solution needed to provide substantial underground infiltration capacity while integrating with the drainage infrastructure associated with the bridge works.

A 180 m³ modular infiltration tank was required to receive runoff through inlet pipes and provide the necessary underground infiltration function. Construction also required preparation of a level tank base, installation of geotextile and arrangement of the individual tank modules within the excavation.

01 Manage excess surface runoff around newly constructed bridge abutments.

02 Provide 180 m³ of underground infiltration capacity.

03 Integrate inlet pipework with the modular infiltration tank.

04 Incorporate geotextile around the Atlantis tank modules.

05 Establish a level base using 5–10 mm gravel.

06 Configure the Flo-Tank® Double modules as a continuous underground tank system.

Solution

The stormwater infiltration system was constructed using 180 m³ of Atlantis Flo-Tank® Double modules. The modules were installed within the prepared excavation and wrapped in geotextile to form the underground infiltration tank serving the bridge abutment area.

The tank base was levelled using 5–10 mm gravel and laser levels before the Flo-Tank® Double modules were positioned on the geotextile. The modules were arranged directly adjacent to one another, with the surrounding soil and backfill providing restraint to hold the system in place.

Inlet pipes were incorporated into the completed tank area to convey surface runoff into the underground infiltration system.

Benefits

- 180 m³ of underground infiltration capacity provided for surface runoff around the bridge abutments.
- Atlantis Flo-Tank® Double modules configured as an underground infiltration tank.
- Geotextile wrapping incorporated around the modular tank system.
- 5–10 mm gravel base provided for levelling of the tank installation.
- Inlet pipework integrated directly with the completed infiltration tank.

Considerations

The excavation base was levelled with 5–10 mm gravel using laser levels before installation of the Atlantis Flo-Tank® Double modules. Geotextile was laid over the prepared base, and the tank modules were subsequently positioned on the geotextile.

The modules were arranged adjacent to one another, with the surrounding soil and backfill holding them in place. Once assembled, the tank system was wrapped in geotextile, with inlet pipes integrated into the completed tank area.

Project Outcomes

- 180 m³ underground infiltration tank installed in Quirindi.
- Excess surface runoff managed around the newly constructed bridge abutments.
- Atlantis Flo-Tank® Double modules incorporated into the infiltration system.
- Tank modules installed over a levelled 5–10 mm gravel base.
- Modular system wrapped in geotextile.
- Inlet pipework incorporated into the completed tank area.

The project combined a 180 m³ modular infiltration volume with a defined base preparation and installation sequence. Levelling the excavation with 5–10 mm gravel provided the prepared base for the Flo-Tank® Double modules, while the geotextile-wrapped configuration and integrated inlet pipework formed the underground system required to infiltrate excess runoff around the bridge abutments.

Did You Know?

The Quirindi installation provides 180 m³ of underground infiltration capacity specifically for excess surface runoff around newly constructed bridge abutments.













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Thank You For Your Attention



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