

ALGA – Annual Industry Excellence Awards 2019

Best Remedial Project (Regional)

Former Goulburn Gasworks Remediation Project




Jemena
bringing energy to life


ENVIROPACIFIC

Former Goulburn Gasworks Remediation Project

Goulburn, New South Wales

Jemena holds responsibility for multiple legacy contaminated sites from historical gasworks and associated infrastructure. These are managed to ensure long term environmental risks are reduced or mitigated through our priority site management regime. These include sites declared '*significantly contaminated land*' by the NSW Environment Protection Authority (EPA), which requires sites to be managed and in some cases remediated in accordance with an EPA approved management proposal.

The former Goulburn Gasworks operated from 1879 until the 1970s when the production of gas through coal gasification ceased. The historical gasworks-related operations and waste handling contaminated the soil and groundwater on- and immediately off-site along the adjacent foreshore area of the Mulwaree River, which forms part of the Sydney water drinking catchment.

The remediation works, which commenced in late 2018, represent a significant achievement given the complexities and obstacles encountered both prior to and during the works. The project is supported through a collaborative and agile team, consisting of **Jemena** (site owner), **Enviropacific** (remediation contractor), **GHD** (environmental consultant) and **Senversa** (independent Site Auditor). The project continues to deliver significant environmental, social and economic benefits for the people of Goulburn.

The project consist of works on-site at the former gasworks and off-site along the foreshore area, adjacent the Mulwaree River.

On-site the project scope included: Off-site, the project scope included:

- i) the construction of a 90 m low permeable barrier wall between the site and adjacent foreshore area;
- ii) removal of primary tar sources; and
- iii) *ex-situ* stabilisation of tar-impacted material with powdered activated carbon.

All treatment activities have been undertaken within a purpose built odour control enclosure to minimise impacts to the community

- i) the removal and treatment of migrated tar within natural material at depth;
- ii) removal of fill and asbestos impacts; and
- iii) the repair of the embankment separating the former gasworks site and foreshore area.

The foreshore area will be reinstated with validated excavated natural material and vegetation suitable for the area with input and assistance from Council and local community groups.

Environmental, Social and Economic Benefits

The project has involved not only many obstacles and benefits but also many opportunities for environmental and social benefits to the Goulburn community.

By empowering our team to be nimble, Jemena was able to provide additional environmental and community benefits through increased community collaboration. This brought the project significant stature within the Goulburn community, which, importantly, resulted in strong and ongoing support for the project. This allowed Jemena increased



flexibility to complete works, especially when activity impacted community amenities (including the foreshore area).

The environmental benefit resulting from the adopted sustainable remediation methodology of *ex-situ* stabilisation saw 13,000 m³ of contaminated soil treated on-site. Further, this

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reduced significant emissions from the transport and treatment of contaminated material.

A secondary benefit of the Project, was to improve the aesthetics and function of the area to demonstrate the Jemena's commitment to the community. This included:

- the decommissioning and realignment underground of overhead powerlines to ensure unfettered access to contamination identified within the foreshore area;
- reinstatement of imported clean material and placement of native vegetation with input from Council and local community groups; and
- re-installation of a renewed bike path with the addition of a donated park bench.

Social Benefits at a Glance

- Majority of the contractors and suppliers were local Goulburn businesses.
- Council foreshore area re-instated with native vegetation, upgraded bike path and donated park bench.
- Protection of an on-site building with heritage significance.

Proactive Engagement

To facilitate the remediation of the former Goulburn Gasworks, the project team undertook substantial engagement and advocacy with a range of government and public stakeholders. The focussed engagement was undertaken to ensure all stakeholders supported and understood both the objectives and methodology required to undertake and complete the remediation successfully. The effectiveness of the stakeholder engagement process was evident prior to the remediation when

Environmental Benefits at a Glance

- Reduction of **6,500+ tonnes** of CO² emissions through on-site treatment.
- Destruction of **~250 tonnes** of legacy tar, which would have continued to leach into the environment.
- Use of hybrid diesel/electric excavators.
- Removal of **~130** non-native and invasive trees and planting of **2,500+** local native trees and shrubs.

Finally, one of the project's critical obstacles was transformed into an opportunity to provide support to the nearby drought-affected golf course. Jemena received a NSW EPA Resource Recovery Exemption and Order which allowed the application of treated and validated water from the water treatment plant to golf course fairways. This offered significant benefit to the community and has temporarily reduced the golf course's extraction requirements from the Mulwaree River.

no objections to the development application were made. We continued our open engagement with a community open day and ALGA industry site visit, allowing unfettered access and tours from Jemena and Enviropacific personnel through the site's water treatment plant, odour control enclosure, *ex-situ* stabilisation process as well as access to the health and safety equipment required for the project team.

The proactive engagement with the NSW EPA, Goulburn Mulwaree Council, Water NSW, Local Aboriginal Groups, multiple Heritage Associations, DPI Water, Crown multiple Heritage Associations, DPI Water, Crown Lands, local community and groups proved pivotal in the project's ability to succeed.

Engagement at a Glance

Four community engagement and information sessions as well as two project open-days with unfettered access to the site.

Continuous project notifications and updates to the local community and regulators.



Communicating Challenges

The knowledge gained by managing the complexities of the site remediation itself in addition to the stakeholder engagement required to achieve, not only the development approval but the ongoing community support was shared at the ALGA – Former Goulburn Gasworks Remediation Open Day (photo above). The day provided an opportunity to demonstrate the extent which the project team was going to in order to achieve success and sharing the valuable lessons learnt.