



A

As the client specified that the sewer needed to be returned to full operation at the end of each shift, this procedure enabled the sewer to function fully throughout the day - until work re-commenced the following night.

Interflow's crews needed to be flexible and prepared to accommodate variations in the start and finish times. Typically, as no more than three hours of liner installation work was possible each night, the relining work took 22 nights to complete.

On completion of the project, Interflow had installed a structural liner with no loss in flow capacity and without the need for bypassing or excavation. This project was completed under difficult circumstances - in 'live' flow conditions with non-standard working shifts, deep underground with minimal community disruptions. **T**



B

A: One end of the park.  
B: The aboveground site set up.

# LIVE FLOW RELINE

Interflow completes a challenging relining project on Melbourne Water's North West Sewer.

This project required lining a 232 m section of Melbourne Water's North West Sewer. This sewer transfers wastewater from Melbourne's inner northwest suburbs to the Western Treatment Plant.

The section relined, located under Montgomery Park Essendon, was 1,800 mm diameter and had 24 m deep access manholes at each end. Corrosive gases had caused significant deterioration of the reinforced concrete pipeline and this section of the sewer was at risk of failing.

Melbourne Water required a structural liner to be installed in its trunk sewer that could support maximum flows and loading capacity throughout construction. It also required an approach that would maximise safety while working within the 'live' sewer

and minimise construction impacts on the community.

Throughout construction, low flow periods were short and irregular. Generally, they were overnight, between midnight and 7am. Given the sewer relining work was to be completed in a quiet residential area, management of noise, light and odour were key priorities for this project. This relining project was completed in two stages:

- Installing the Ribline (steel reinforced polyethylene liner) in the sewer
- Grouting the area between the lining and the host pipe.

The use of Ribline met Melbourne Water's structural and corrosion resistant specifications and enabled the sewer to be reinstated to full flow capacity at short notice.

## THE PROJECT

To maximise safety while relining the sewer, a flow management plan was developed. This detailed a process for closing an upstream penstock to restrict sewage depths to no more than 500 mm and flow velocities below 0.5 m/sec while people were working within the sewer.

This meant the relining work could only be completed at night and that the flows held by the penstock varied from night to night. It also restricted work to night time hours only, when flows were at a minimum.

As the flows approached this agreed limit, Interflow's crew were advised to secure the Ribline winding machine that was located within the sewer, prepare to restore the sewer back to full flow capacity and leave the sewer.