

AIR SCOURING - PLANNING AND EXECUTION



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ABSTRACT

This paper gives an overview of how a large mains cleaning project was completed in a timely manner with little inconvenience to the client and their customers.

1.0 INTRODUCTION

Air scouring is the process used by 'us' to perform cleaning of water main networks.

Injection of compressed air and water lifts the sediment off the walls of the main being cleaned. The sediment in the main can be caused due to biological build up, increase in iron deposits and the build up of magnesium.

Air scouring will use 60% less water than regular flushing, making it as a mains cleaning tool in these water restrictive times extremely effective and efficient.

Air scouring reduces the turbidity and increases the chlorine residual to the outlying areas of the water system. It also removes the sediment that has built up over time, improving the water quality which leads to sustained customer satisfaction.

Lower Murray Water asked for tenderers to air scour 440km of potable water main from 300mm to 38mm taking in the residential, commercial, industrial and some outer rural areas with 18,000 customers requiring notification.

The project took 10 weeks to complete from planning liaison to completion of the works with several criteria that needed to be met:

- Time frame for completion
- Client/Customer satisfaction
- Improvement in the water quality
- OHS&E Requirements.
- Customer complaints handling
- Water on/off times
- Rural and city customers needs
- Communication & Response

1.1 Notification Content

Notification cards were distributed well in advance and direct consultation with business owners was performed.

Dear Sir/Madam

As part of the continuing program to improve our service to customers, Lower Murray Water has engaged 'us' – Utility Services to clean the water mains in your area. This will result in interruption to the water supply at your property between the hours of **11pm** and **5am** on

NIGHT WORKS

The officers cleaning the water mains do not necessarily have to be in your street or at your property to clean the mains. So if you do not see the officers, it does not mean that they are not carrying out any works.

What do I do if I require continuous supply of water for my business?

Contact Lower Murray Water immediately on the following number if the proposed shut down will have any adverse affects on the running of your business.

Contact: Craig Newton 0417 748 797

What if I am elderly infirmed. Frail and/or have special requirements?

If you are in a circumstance or situation that requires continuous supply of water, please contact Lower Murray Water on the number below.

Contact: Craig Newton 0417 748 797

How will I get water for my house during the day?

Prior to the interruption, you should store sufficient water for your day's needs. For convenience, water can be stored in the bath and in containers for drinking water. If for any reason you do find yourself in urgent need, please call the phone numbers indicated at the end of this letter.

2.0 PLANNING

In planning a project of this size there are a number of issues that need to be observed.

These include:

The client's (authority) requirements, which include water on and off times, number of days that customers require notification as there can be a different amount of days for residential, commercial and industrial customers. Water quality testing results and hydraulic requirements, OHS&E, traffic management, code of conduct, interaction with public, presentation and attitude, coordination and cooperation with engineering and operations.

The Residential customer requirements: these may include frail and elderly customers who require constant care, mothers with small babies and children at home, customers who self-dialyse at home and the customers who work from home.

The Commercial customer requirements: they may need water to run their business such as take away and coffee shops, businesses that require water for only part of the day, and businesses that require water for their customers such as hairdressers, pet groomers and Laundromats. Schools, day care and kindergartens fall into this category as well and must get close attention.

The Industrial customer requirements: These customers are usually key customers who use bulk water such as large processing and manufacturing plants. Core business functions with potential loss of income must not be affected.

Essential Services: such as hospitals, medical centres, nursing homes, police and CFA, who need to know where the water is off and for how long

Environmental Requirements: handling of discharged sediment, drainage issues and water wastage.

To meet the above requirements we consulted with all of the parties and came up with an agreed execution plan listing some key items below.

- The planner/supervisors mobile number on the notification card
- Weekly meetings with clients work superintendent
- 100micron filter bags to collect the discharged sediment
- Personal delivered notification cards to all commercial and industrial customers with the card going to a manager or to the maintenance manager.
- All residential customers had their cards hand delivered or slipped under the front door.
- Once all plans are completed a copy is given to the clients so their call centre knows which streets are going to be cleaned and at what time.
- Flexible working hours that allow to meet commercial and industrial customer requirements
- Temporary water via mobile mini tank or tempory hoses that maintain supply to customers who are unable to go without water



3.0 PERFORMANCE

To complete this project on time we had three air-scouring units completing 3-4 KM each per day, allowing us to complete the 440 km in 9.5 weeks. These crews worked varying hours including nights and early mornings. This was essential for Industrial and Commercial businesses to be not affected by the shutdown of the water supply.

The scouring of Mildura had its own set of issues with part of the job being in the farming and rural area's. These zones had only one feed in and are controlled with non return valves and jacking pumps. In consultation with the works superintendent and the field supervisor, we where able to scour these areas with customers only being without water at one given time.



As part of the works, the crews repaired all leaking hydrants, stop taps that required replacing, and minor plumbing repairs such as blocked toilets and leaking hot water services and taps.

To aid the client an asset fault sheet was filled out where an asset was missing or defective, which was handed over to the client allowing them to program and budget for the future.

There was also a valve audit sheet filled out which allowed our crews to keep track of all valves that were operated. These sheets were also used by the client to audit the works quickly and efficiently.

To aid in the quick response to customer queries and requests, the supervisor on site phone number was printed on the notification cards. The field crews who notified a certain planned area were the crew who scoured that section in due course.

Water testing for chlorine residuals and turbidity were taken prior to the area being scoured and also after the scour was finished, to give the crews and water authority quick results on how the scouring process impact was performing.



4.0 CONCLUSION

This project was completed on time with minimal inconvenience to the end-user. Our client consultation program planning with Lower Murray Water and their key stakeholders identified any potential problem areas and allowed for appropriate preparation to manage our works effectively.

Observation and liaison about public concerns allowed us to engage and taking care about those little things that have a big impact. Delivering the full scope of services out of one hand, from water quality testing at site, fixing problems on the spot, assisting the public end-user and dealing with any issues directly, we contributed to Lower Murray Water's performance and asset maintenance program.

The planning and preparation was the key to the overall success.

5.0 REFERENCES

Lower Murray Water

South East Water Limited

Glenelg Water (Wannon Water)

Swan Water (Western Australia)

Westernport Water

South West Water (Wannon Water)

