A9: Effective and affordable opportunities for the treatment of industrial pollutants in stormwater drains

Objective(s)

To determine the most effective ways to reduce pollution from industrial estates, including structural and non-structural options. It will also trial innovative assets that treat dry weather flows in stormwater drains and assess benefits for downstream waterways.

Why this research is important

Industrial areas can be major sources of pollution to local waterways and therefore, a significant risk to environmental values. The continued development of technologies to treat dry weather flows from industrial areas will increase confidence in our ability to effectively management pollution from industrial catchments, influence policy and planning and help to support the achievement of the HWS for Greater Melbourne. There is also potential for this project to influence urban stormwater management policy and for best practice control measures to be incorporated into standards and guidelines.

Contribution to Melbourne Water research priorities

Key Research Area: Stormwater management and flooding and Water Quality: Understanding the environmental impacts of pollutants, including contaminants of concern, to inform risk-based management of waterways across the region.

Achievements to date

Online Treatment Solutions: Engagement

Two programs within Melbourne Water are currently investigating building pilot online treatment facilities to reduce pollutants from industrial areas: Old Joes Creek industrial online treatment facility and Stony Creek online treatment facility. We continue to support these programs by aiding in the scoping and designing of these online facilities.

Pre sampling before the build at Old Joes Creek

Pre sampling of the receiving waterways was conducted in 2024 prior to the online treatment facility being built. This provided baseline data on pollutants and their levels entering downstream waterways for post construction comparison.

Synthesis document: Assessment of control options (Structural and Non-structural) Update of 2020 review incorporating new proprietary structural controls and technologies for pollution capture (due end Year 2)

Research Note: Case studies of control options to manage pollutants from industrial estates

Drawing on previous A3P field and lab research it outlines the benefits of implementing structural online treatment facilities (due end Year 2)

Approach for Year 3

Online Treatment Solutions: Engagement

Continue to provide technical support in design and construction of the pilot online treatment facilities.

Pre sampling before the build at Stony Creek (subject to works approval)

Further Potential activities for Year 3:

Research into industrial pollution Student projects: Biochar as a filter material or microplastics in industry

Collaborative research on non-structural solutions

Review EPA's current strategy, Explore sensor and alert system collaboration or Prioritisation and target setting for HWS

Key outputs for Year 3

- Online Treatment Solutions: Engagement
- Pre-sampling of waters from Stony Creek (if approved)
- Research notes on student project: biochar/microplastics
- Collaborative Research on Non-structural Solutions
- Assessment of new online facilities (if built)

Expected benefits

- Stakeholders have awareness of industrial estate treatment options to inform decision making.
- Increased confidence in the ability of online treatment assets to manage industrial pollution.
- Could be incorporated in best practice management guidelines for industrial runoff.

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A3P Aquatic Pollution Prevention Partnership

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