Odour Monitoring at Mill Stream

September 2025

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26 September 2025



Acknowledgement of Country

Sydney Water respectfully acknowledges the Traditional Custodians of the land and waters on which we work, live and learn. We pay respect to Elders past and present.

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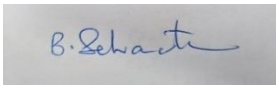

_____ 11/09/2025

Bala Selvananthan

Planning Program Lead
Integrated Planning East, SP&LA

Endorsed by: **Date:**



_____ 15/09/2025

Nilesh Panwalkar

Manager, Integrated Planning East
SP&LA

Approved by: **Date:**



_____

Tim Hill 26/09/2025

Environmental Regulatory Manager

Water, Environment and Infrastructure Performance

1. Introduction 5

2. Odour monitoring 7

2.1 Monitoring undertaken in Phase 1 7

2.2 Monitoring undertaken in Phase 2 7

2.3 Recommendation 7

3. Appendix 8

3.1 Monitoring data from Botany Public School, Foreshore Beach and ERS at Mill Stream 9

Figures

Figure 1: Location of Mill Stream Emergency Relief Structure 6

Figure 2: Odour monitoring locations 8

Figure 3: Monitoring data from Botany Public School, Foreshore Beach and ERS at Mill Stream 9

Tables

No table of figures entries found.

1. Introduction

Sydney Water owns the Mill Stream Emergency Relief Structure (ERS) located within the grounds of Sydney Airport (**Figure 1**).

Emergency relief structures are an essential component of all wastewater systems. They are critical control points which are engineered to prevent damage to networks and protect public health by preventing wastewater surcharges and flooding of private property and public spaces during wet weather. The structures and discharges are commonly referred to as 'overflows' and most often occur at times of intense rainfall when the stormwater flows have infiltrated the wastewater system.

The Malabar wastewater system is the largest system that Sydney Water owns and operates. It covers approximately one third of Sydney and services nearly 1.8 million people. The South Western Suburbs Ocean Outfall Sewer (SWSOOS) conveys wastewater from the merging chamber at Arncliffe to Malabar Water Resource Recovery Facility (WRRF).

Sydney Water owns and operates eight ERSs on the SWSOOS that discharge wastewater to the Mill Stream during wet weather (known collectively as the Mill Stream ERS). The Mill Stream is located on the eastern side of Sydney Airport at Mascot. It is the last major ERS on the SWSOOS before the Malabar WRRF.

Odour in the past has been identified as a potential issue for the operation of the ERS due to complaints that have been received from the local community, particularly from residents in Botany to the east of the ERS. The Mill Stream Quarterly Compliance Reports have reported the below complaints since the odour monitoring commenced on 18 September 2024:

- For the quarterly reporting period of 1 July 2024 to 30 September 2024, there were no odour complaints received.
- For the quarterly reporting period of 1 October 2024 to 31 December 2024, a complaint was received on 17 December 2024. Sydney Water investigated this issue, however no odour was detected, and all Sydney Water assets were operating as normal. Sydney Water concluded that odour may have been coming from a vent stack nearby due to wind and heat. A second complaint was received on 23 October 2024, however it was related to the odour control unit (OCU) located near the Sydney Airport Control Tower (SY0041).
- For the quarterly reporting period of 1 January 2025 to 30 March 2025, there were no odour complaints received related to the Mill Stream ERS. One complaint was received on 7 January 2025 related to OCU SY0041.
- For the quarterly reporting period of 1 April 2025 to 30 June 2025, one complaint was received on 13 June 2025. The complainant reported odours emanating from the Mill Pond wastewater overflow facility located adjacent to Botany Public School at 1076 Botany Road, Botany. Sydney Water investigated this issue, and the odour was deemed to be potentially attributed to a private fault located in front of 1367 Botany Road, Botany.
- Any complaints received for the current reporting period (1 July 2025 – 30 September 2025) will be included in the next Quarterly Compliance Report and tabled at the next Mill Stream Stakeholder Reference Group meeting, to be held on 23 October 2025.



Figure 1: Location of Mill Stream Emergency Relief Structure

2. Odour monitoring

Sydney Water commissioned odour sampling of potential sources to better understand the potential odour impacts of the ERS. The sampling was initially carried out between July 2020 and March 2021 and aimed to quantify odour emissions from the Mill Stream ERS discharge point and up and downstream of the ERS, among other potential sources. The sampling was carried out in normal (dry weather), overflow and after overflow (wet weather) conditions.

2.1 Monitoring undertaken in Phase 1

Monitoring was conducted at the Airport Fence and Botany Public School over a twelve-month period from January 2021 and January 2022. The results indicate that the H_2S values at both sites were low, with a maximum concentration of 0.037 ppm at Botany Public School and 0.756 ppm at the Airport fence. The monitors were removed after consistently low level of H_2S recorded at both locations.

2.2 Monitoring undertaken in Phase 2

As part of the Environmental Management Plan (EMP) Section 6.5.5, Sydney Water installed four continuous air quality monitoring (H_2S) stations near Mill Stream overflows to capture periods of overflow discharge over a period of 12 months. The findings have complemented the monitoring that was conducted in 2020/21.

Monitors were installed on 18 September 2024, upstream of overflows near Botany Public School, at the Mill Stream overflows, and near the Botany container terminal along Foreshore Drive. These monitors have been in place for a period of nearly 12 months.

Please see the locations of monitoring sites in **Figure 2.**

During the monitoring period of 18 September 2024 to the 26 August 2025, a maximum of 0.006 ppm was detected on 18 August 2025 at Sydney Airport Fence, a level that was not detectable by the human nose. A maximum of 0.21 ppm was detected on 8 May 2025 at Foreshore Beach, a level that was detectable but a very low level and presents no danger to human health. A maximum of 0.43 ppm was detected on 7 December 2024, a level that was detectable by the human nose but a very low level and presents no danger to human health.

2.3 Recommendation

Based on the consistently low levels of H_2S recorded as part of phase 2 at the three sites mentioned above, it is recommended that monitoring be discontinued and the monitors removed.









Figure 2: Odour monitoring locations

3. Appendix

3.1 Monitoring data from Botany Public School, Foreshore Beach and ERS at Mill Stream

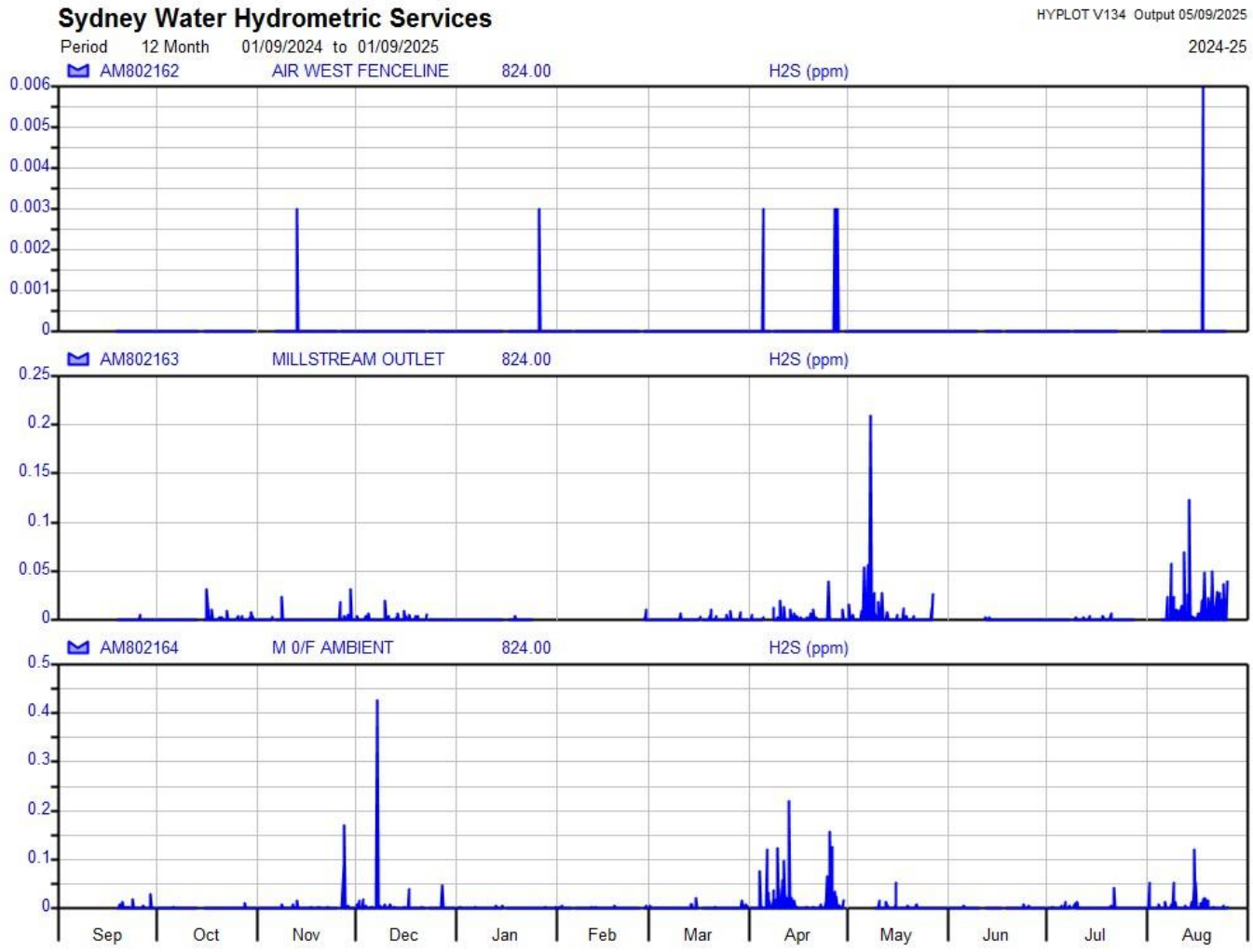

Figure 3: Monitoring data from Botany Public School, Foreshore Beach and ERS at Mill Stream