Mill Stream Emergency Relief Structures Environment Management Plan 2027-2030
18 November 2026



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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Abbreviations and definitions

Term	Definition
AEO	Airport Environmental Officer
AEPR 1997	*Airports (Environment Protection) Regulations 1997* (Cth)
AEPR 2026	*Airports (Environment Protection) Regulations 2026* (Cth)
ALA	Access Licence Agreement
Authorisation	An authorisation under Part 5 Division 2 of AEPR 1997
BLLC	Botany Low Level Carrier
DITRDCSA	Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts
EMP	Environment Management Plan
EP	Equivalent Population: The total wastewater load on a wastewater system, expressed as an equivalent number of people. It accounts for residential, commercial and industrial wastewater contributions using standard wastewater generation rates.
ERS	Emergency Relief Structure: A designed wastewater-system structure that provides a controlled relief point for excess flows to reduce the risk of sewer surcharge, property flooding, infrastructure damage and uncontrolled wastewater overflows
FIFM	Flow Isolation and Flow Management
GPT	Gross Pollutant Trap
IICATS	Integrated Instrumentation Control Automation and Telemetry System
I&I	Inflow and Infiltration
iNSW	Infrastructure NSW
LAP	Liverpool Ashfield Pipeline
LTCOP	Long Term Capital and Operational Plan
Malabar SBC	Malabar Strategic Business Case
Mill Stream ERS	The eight emergency relief structures connected to the SWSOOS at Sydney Airport that discharge overflow water to Mill Stream during wet-weather conditions when wastewater-system flows exceed the available conveyance capacity of the system.
Mid-term works	Works associated with river release in the Malabar wastewater system under the Malabar System Investment Program, including planning, investigation and development activities for those works.
MSIP	Malabar System Investment Program
Near-term works	The four funded packages of works across Glenfield, Liverpool, Fairfield and LAP in the Malabar wastewater system under the Malabar System Investment Program, planned for development or delivery during the current investment period.
NGRS	Northern Georges River Submain
NO	Network Operator
NT	Network Technician
Operational incident	A historical reporting term used under the 2024–2027 Mill Stream ERS Authorisation for an overflow event that was not determined to involve material

	harm to the environment. For the proposed 2027–2030 EMP and Authorisation reporting framework, refer to "Overflow event not involving material harm".
Overflow event not involving material harm	An overflow event that, following assessment, is not determined to have caused or threatened material harm to the environment within the meaning of section 147 of the POEO Act 1997 (NSW).
Overflow event	A discharge of more than 0.05 ML from the Mill Stream ERS to Mill Stream. Discharges occurring on consecutive days are treated as a single overflow event.
PIRMP	Pollution Incident Response Management Plan
POEO Act 1997	*Protection of the Environment Operations Act 1997* (NSW).
REF	Review of Environmental Factors
SBC	Strategic Business Case
SRG	Stakeholder Reference Group
WRRF	Water Resource Recovery Facility

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1 Introduction

Emergency Relief Structures (ERS) are essential components of wastewater systems. They are critical control points which are engineered to protect public health, property and wastewater infrastructure by preventing system surcharging, sewage overflows from maintenance holes, and flooding of private and public land during wet weather events. ERS discharges, commonly referred to as overflows, typically occur during periods of heavy rainfall when stormwater enters the wastewater system through infiltration and inflow.

The Malabar wastewater system (Figure 1-1) is Sydney Water's largest wastewater system, serving more than 2 million people across approximately one-third of metropolitan Sydney. Wastewater from the western and southern catchments is conveyed via the South-Western Suburbs Ocean Outfall Sewer (SWSOOS) from the Arncliffe Merging Chamber to the Malabar Waste Resource Recovery Facility (WRRF). By 2056, the population serviced by the Malabar wastewater system is expected to increase by approximately 850,000 people (44%) significantly increasing demand on the system and the services it provides (Figure 1-2).

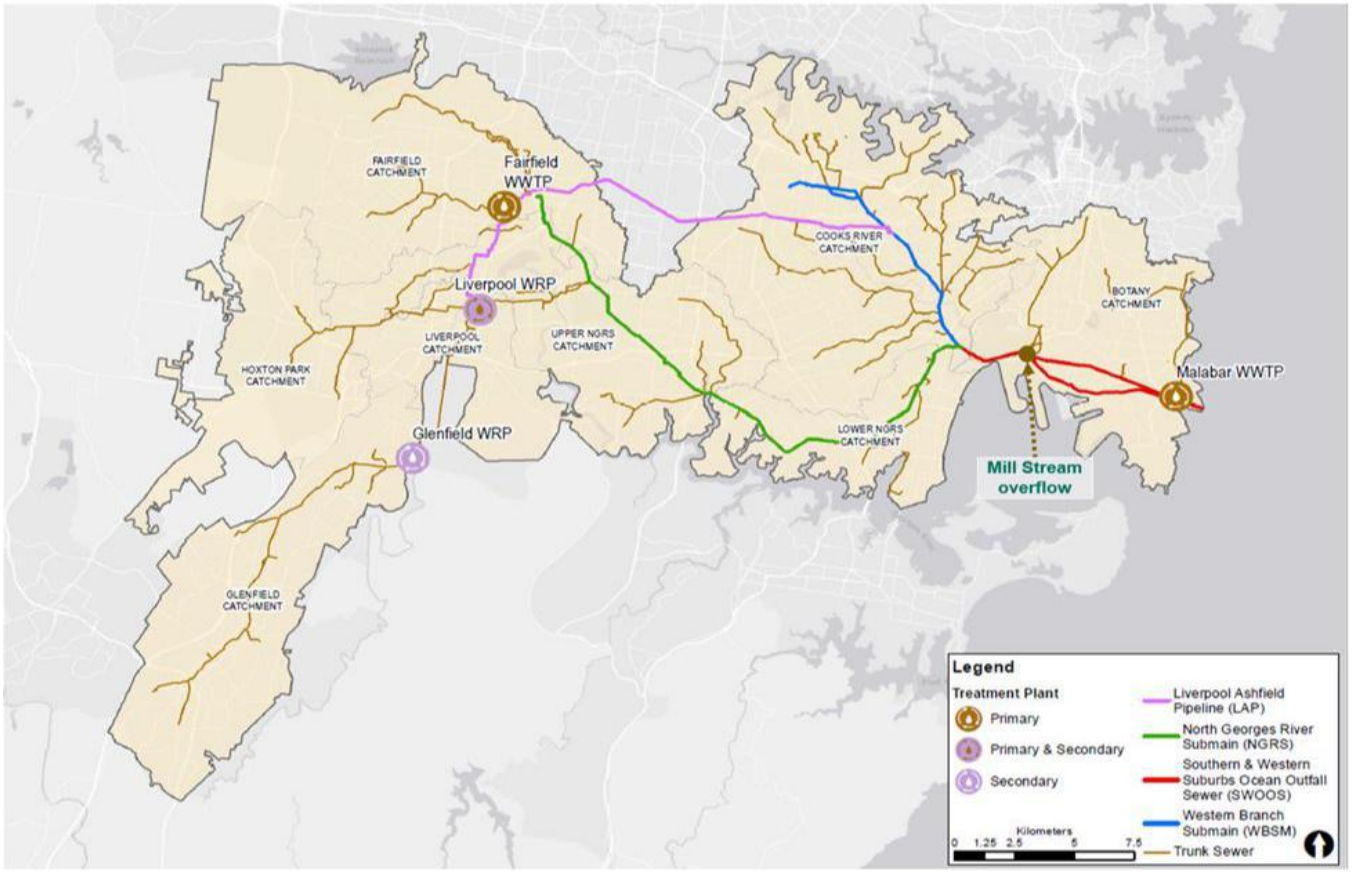

Figure 1-1: Map of the Malabar wastewater system

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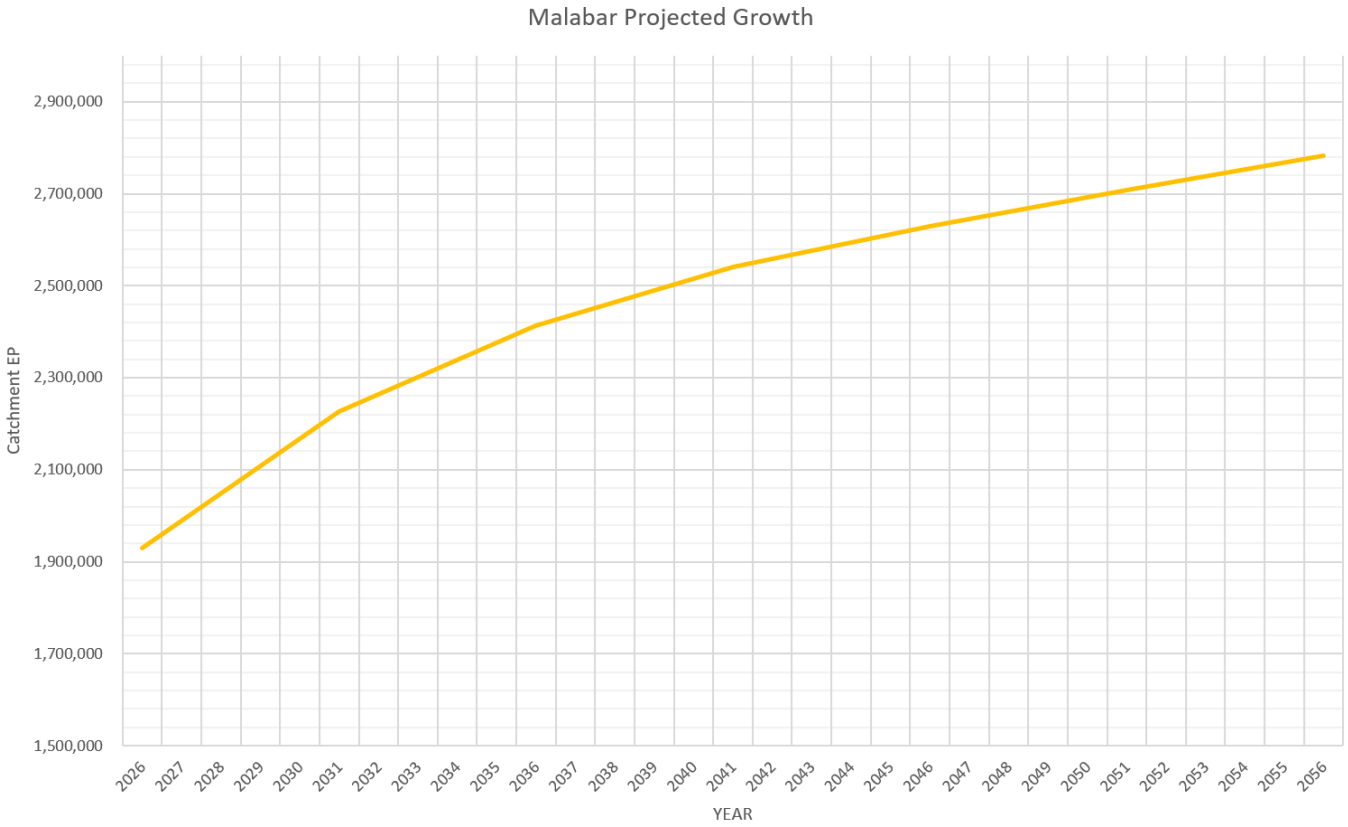

Figure 1-2: Expected growth of the Malabar wastewater system

Note: equivalent population (ep) represents the total wastewater load on a wastewater system, expressed as an equivalent number of people. It accounts for residential, commercial and industrial wastewater contributions using standard wastewater generation rates.

Sydney Water owns and operates eight ERSs on the SWSOOS that discharge a mixture of wastewater and storm water to the Mill Stream during wet weather, known collectively as the Mill Stream ERS. The Mill Stream ERS is one of the largest in Sydney Water's network and is located on the eastern side of Sydney Airport at Mascot. Figure 1-3 and Figure 1-4. provide spatial context for the Mill Stream ERS by showing the relationship between the receiving waterways, surrounding environment, key Sydney Water assets and the overflow location. It is the last major ERS on the SWSOOS before the Malabar WRRF. Figure 1-5 illustrates the layout of the sewer infrastructure near Mill Stream and its receiving environment.

This Environment Management Plan (EMP) is for the period of 1 April 2027 to 31 March 2030 and supports the application for authorisation to operate the Mill Stream overflows made pursuant to AEPR 1997. It describes the next phase of improvement work which builds on the work delivered during the previous Authorisation periods.

Although AEPR 2026 has commenced, AEPR 1997 continues to apply to the application for the Authorisation due to the operation of transitional provisions in AEPR 2026, as if AEPR 1997 had not been repealed. Accordingly, the application, proposed conditions of the Authorisation and this EMP have been prepared on the basis that the applicable requirements of AEPR 1997 continue to apply to the application.

The AEO has advised that, because Sydney Water's application will be lodged before 1 April 2027, the application and supporting EMP will be assessed under the AEPR 1997.

During the 2027–2030 Authorisation period, Sydney Water will review and, where necessary, update this EMP to address applicable requirements of AEPR 2026, having regard to the transitional provisions, the conditions of the Authorisation and clarification sought from the AEO where required.

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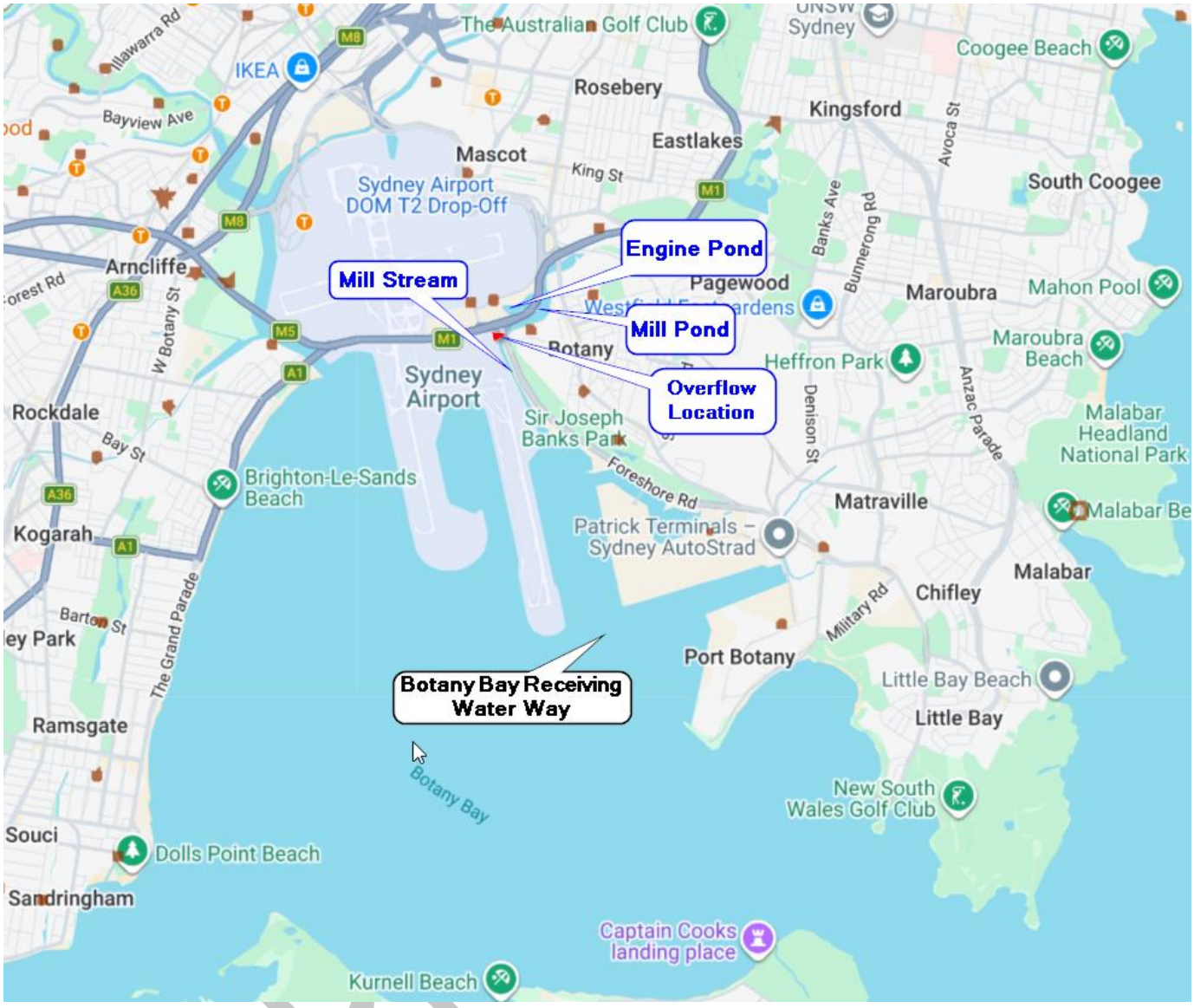

Figure 1-3: Mill Stream waterways and receiving environment

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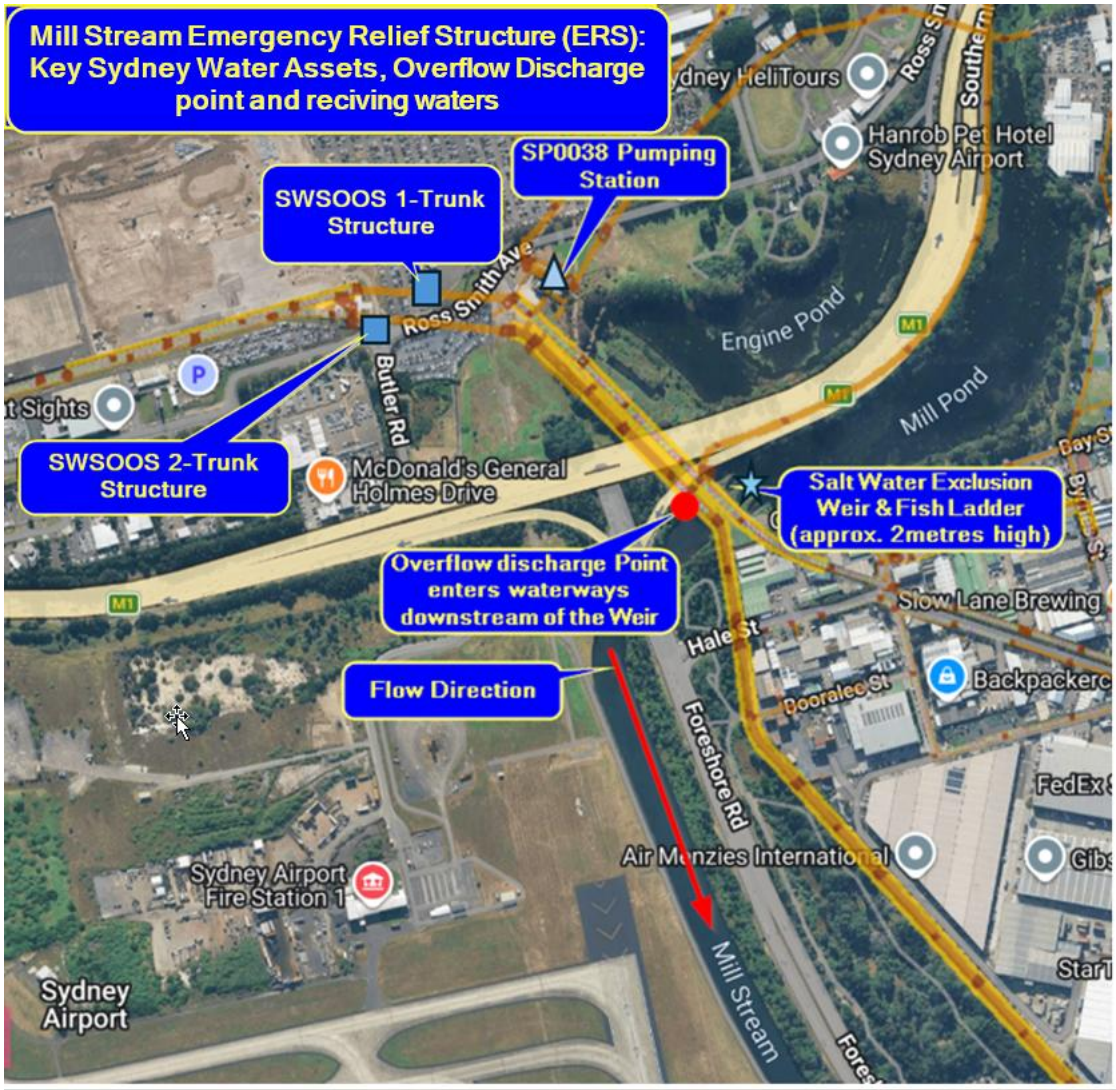

Figure 1-4: Mill Stream ERS - key Sydney Water assets, overflow discharge point and receiving waters

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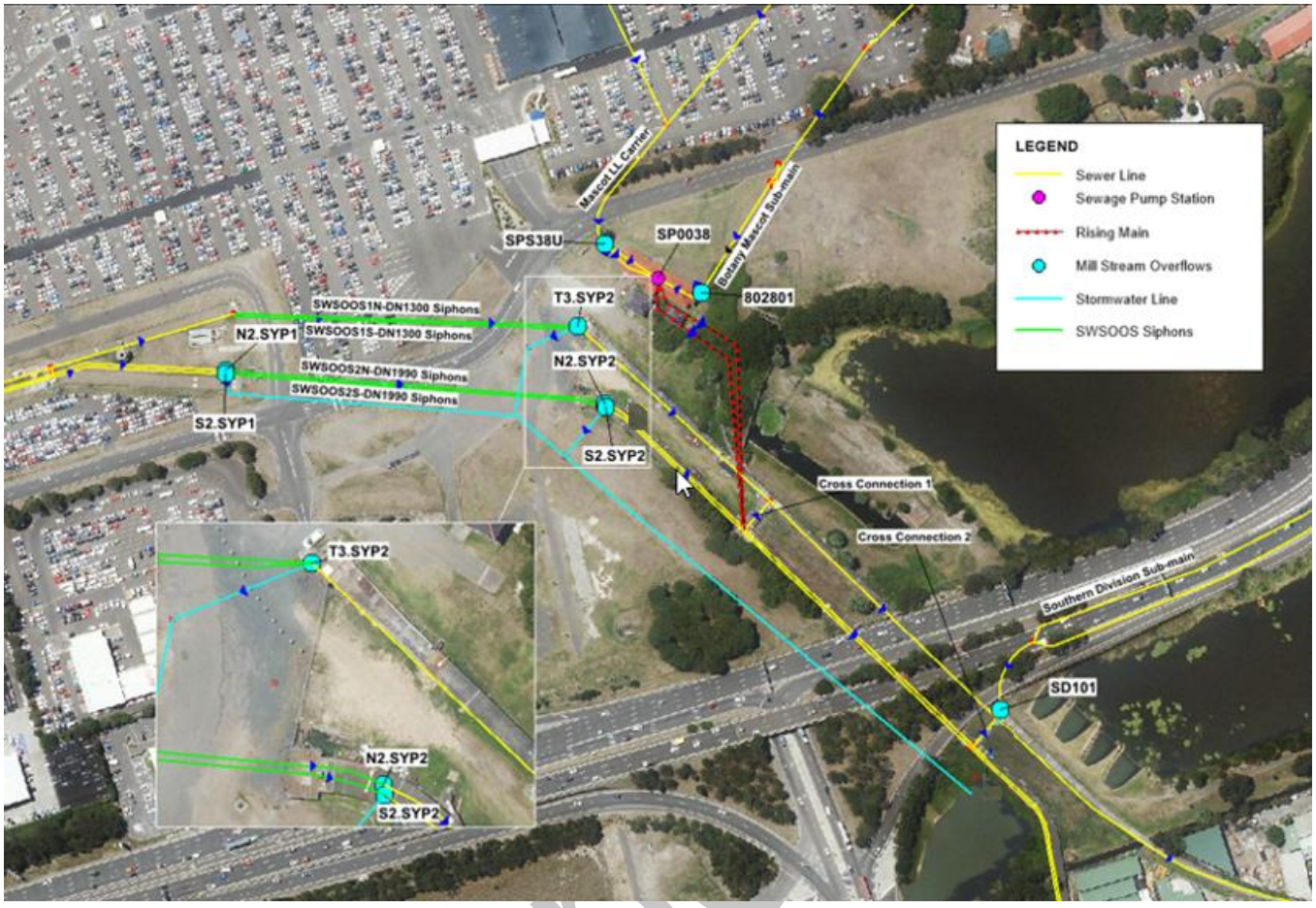

Figure 1-5: Location of the Mill Stream ERS and receiving environment

1.1 Background and regulatory authorities

The South-Western Suburbs Ocean Outfall Sewer (SWSOOS) comprises three major inter-connected trunk sewers: SWSOOS1 and the two parallel barrels of SWSOOS2 - SWSOOS2N and SWSOOS2S. Overflow discharges from the system are conveyed to Mill Stream through stormwater drainage infrastructure, or directly to Mill Stream in the case of the Emergency Relief Structure (ERS) marked SD101 in Figure 1-5. Sydney Airport advises that the stormwater pipe connected to the SWSOOS ERSs near the siphon's outlet also services operational areas of the airport and is not a dedicated wastewater overflow pipe. Historical information indicates that overflow arrangements were modified during the 1950s in association with diversion of the Cooks River, construction of General Holmes Drive, and construction of the Southern Division Submain. It is likely that the stormwater pipe to Mill Stream was constructed in the early 1950s to connect the siphon ERSs and airport stormwater flows that previously discharged directly to the Cooks River before the river was reclaimed and diverted in the location of the siphons. Historical aerial photographs labelled 1940s and 1950s are reproduced in Appendix C. They provide context of the changes in the waterway alignment and surrounding land configuration only.

Under the *Protection of the Environment Operations Act 1997* (NSW), wastewater reticulation systems and wastewater ERSs form part of the scheduled activity of Sewage Treatment. The wastewater network that conveys flows to the Mill Stream ERSs forms part of Sydney Water's Malabar wastewater system and is regulated by the NSW Environment Protection Authority (EPA) under Environment Protection Licence (EPL) 372. As the holder of EPL 372, Sydney Water is responsible for operating and maintaining the wastewater reticulation system and associated infrastructure in compliance with the conditions of that EPL.

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The Mill Stream ERS, however, is located on Commonwealth land within Sydney Airport and has the potential to impact the surrounding environment. Accordingly, operation of the ERS is regulated under the *Airports Act 1996* (Cth) and the *Airports (Environment Protection) Regulations 1997* (Cth). Sydney Water is therefore required to hold an authorisation issued by the Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCSA) for this undertaking.

As a result, the upstream and downstream wastewater network is regulated by the EPA under EPL 372, and the operation of the Mill Stream ERS and its discharge are regulated by DITRDCSA under AEPR 1997 and authorisations issued under that regulation.

1.2 Purpose of this EMP

This EMP supports Sydney Water's application for an Authorisation for the period 1 April 2027 to 31 March 2030.

The act, class of acts or sequence of acts for which the Authorisation is sought is the continued operation of the Mill Stream ERS, comprising eight emergency relief structures connected to the SWSOOS at Sydney Airport, including the discharge of overflow water through the ERS to Mill Stream when wastewater-system flows exceed the available conveyance capacity of the system. Such discharges may result in pollution emissions exceeding one or more of the accepted limits in Schedule 2 to AEPR 1997.

The Authorisation is sought because the Mill Stream ERS performs an important hydraulic-relief function within the Malabar wastewater system and its continued operation is considered necessary during the proposed Authorisation period to support the provision of essential wastewater services and reduce the risk of sewer surcharge, uncontrolled wastewater overflows, property impacts and adverse public-health and environmental consequences at unplanned locations elsewhere in the wastewater network. Nevertheless, the operation of the Mill Stream ERS may result in water-pollution emissions exceeding one or more of the accepted limits in Schedule 2 to AEPR 1997. Based on the investigations and planning undertaken to date, Sydney Water has not identified a feasible and reasonable alternative that could be implemented during the proposed Authorisation period to replace the hydraulic function of the ERS and avoid the need for an Authorisation.

The requested three-year period corresponds with the proposed EMP implementation and reporting cycle and is considered by Sydney Water to provide a practicable timeframe to implement and assess the operational, monitoring and improvement measures described in this EMP. It also enables the implementation and evaluation of initiatives that require multi-year monitoring, project development, approvals and delivery, while maintaining a defined timeframe for regulatory review and consideration of whether any further Authorisation may be required.

In support of the application, this EMP details the actions that Sydney Water proposes to take during the period for which the Authorisation will have effect to make satisfactory progress towards achievement of the outcome that pollution emissions overall are not more environmentally damaging than would be the case if exact compliance with the accepted limits mentioned in the Schedules to AEPR 1997 were achieved, as required by regulation 5.07(3) of AEPR 1997.

This EMP also provides information relevant to the AEO's consideration of the application and addresses the matters that the AEO is required to take into account as specified in regulation 5.09(2) of AEPR 1997 (see Section 1.2.5).

1.2.1 Need for continued operation of the Mill Stream ERS

The ERS forms a critical component of the Malabar wastewater system, providing essential prevention of sewer surcharge and uncontrolled wastewater overflows into homes, public places and waterways. Further, it is essential in preventing the pressurisation of the SWSOOS as well as limiting the peak flow into the Malabar WRRF during wet weather. There is currently no financially viable and technically feasible alternative to the continued

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operation of the Mill Stream ERS; which is in line with the Sydney Water's long-term plan to adopt river release strategy in the west. Sydney Water has investigated a range of options, including relocation of the grit pit and construction of additional SWSOOS facilities; however, feasibility assessments determined that these options are not practical or capable of replacing the critical function performed by the existing ERS.

Any alternative infrastructure that could theoretically provide a similar function would require substantial investment, involve significant delivery and constructability risks, and offer limited flexibility for future servicing needs. Given these constraints, the preferred long-term servicing strategy for the Malabar system is the progressive disconnection of upstream catchments through river release and, ultimately, reuse schemes, reducing dependence on major coastal conveyance augmentations while improving water and wastewater resilience. Dis-connection of upstream catchments will reduce the volume of wastewater being directed towards the Malabar WRRF and will support in improving the performance of the Mill Stream ERS.

Sydney Water's strategic planning has considered a range of options for the long-term servicing of the Malabar wastewater system, including major network augmentation and SWSOOS rising-main solutions. Based on the planning undertaken to date, and having regard to factors including relative cost, delivery timeframes, constructability and future servicing requirements, these options have not been identified as the preferred long-term approach. The current preferred strategy is the progressive disconnection of upstream catchments through river-release and, ultimately, water-reuse schemes. This strategy remains subject to ongoing planning, assessment, applicable approvals and future investment decisions.

Accordingly, the continued operation of the Mill Stream ERS is necessary to maintain essential wastewater services, protect public and environmental health, and minimise impacts on the community. In recognition of this ongoing need, this EMP has been prepared to support an application for a new Authorisation to operate the ERS.

1.2.2 Statutory requirements under AEPR 1997

Sydney Water is the operator of an undertaking at Sydney Airport, being the operation of the Mill Stream ERS.

Regulation 4.01 of AEPR 1997 places a general duty on Sydney Water to take all reasonable and practicable measures to prevent the generation of pollution from an undertaking, or if prevention is not reasonable or practicable, to minimise the generation of pollution from the undertaking.

The considerations that determine whether a measure is reasonable or practicable include:

(a) the sensitivity of the receiving environment to pollution that the undertaking is capable of generating; and

(b) the nature of the harm that pollution that the undertaking is capable of generating will cause, or has potential to cause; and

(c) the current state of technical knowledge about preventing, or minimising, pollution being generated from an undertaking of the kind being operated; and

(d) all measures that might practicably be used to prevent or minimise the pollution, and the probable benefits and detriments (if any) that should be expected from the implementation of each measure.

The operator of an undertaking at an airport is taken to comply with this general duty, despite the generation of pollution from the undertaking, if the quantity, or rate being generated is not inconsistent with an authorisation that is in force (see regulation 4.02(1) of AEPR 1997).

Regulation 5.07(3) states:

An application must be supported by an environmental management plan detailing the actions that the applicant proposes to take, during the period for which the authorisation has effect:

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(a) that the applicant expects will ensure that pollution emissions overall are not more environmentally damaging than would be the case if exact compliance with the accepted limits mentioned in the Schedules were achieved; or

(b) if the applicant believes the outcome described in paragraph (a) can be achieved only by incremental improvements over a greater period of time-to make satisfactory progress toward achievement of that outcome.

The operation of the Mill Stream ERS results in water pollution that exceeds certain accepted limits contained in Schedule 2 of AEPR 1997. This will continue during the 2027-2030 Authorisation period and likely beyond this period. This is unavoidable having regard to current technical knowledge about preventing, or minimising, pollution of the kind generated by the Mill Stream ERS and feasibility studies carried out to date.

Sydney Water believes that the outcome described in regulation 5.07(3)(b) can be achieved only over a period that exceeds the period for which the authorisation will have effect.

This EMP details the actions that Sydney Water will take to ensure that satisfactory progress is being made towards achieving the outcome that the operation of the Mill Stream ERS, in accordance with the Authorisation, will result in pollution emissions overall that are not more environmentally damaging than would be the case if exact compliance with the accepted limits in the schedules to AEPR 1997 were achieved.

1.2.3 Anticipated pollution emissions and environmental effects

1.2.3.1 Anticipated Schedule 2 water-quality exceedances

Historical water quality monitoring undertaken in 2020, 2023 and 2024-25 demonstrates that overflow discharges contribute to impacts in receiving waters, particularly for bacteriological indicators and nutrients. Historical monitoring data indicates that exceedances of the relevant Schedule 2 limits have occurred during both wet-weather and dry-weather conditions. Wet weather overflow event monitoring is conducted when a confirmed ERS overflow discharge has commenced. Sydney Water will target a variety of overflow events (volume and duration, and preceding rainfall) during the monitoring program. Dry weather monitoring is conducted when there has been <5mm in the preceding 72 hours, and <15mm and no overflows in the preceding 14 days, Sydney Water will target dry weather monitoring beyond 14 days post overflow, when possible, in a quarterly period. Sydney Water will be commencing wet weather no-overflow event monitoring as part of the routine monitoring program, which will capture water quality during rainfall events but with no Mill Stream discharge, and no Mill Stream discharge for the preceding 14 days. Rainfall measurements are taken from Sydney Airport meteorological station (066037). In particular, ammonium nitrogen, nitrate nitrogen, total phosphorus and chlorophyll-a have recorded dry-weather median concentrations above the relevant Schedule 2 limits, while faecal coliforms have similarly exceeded the Schedule 2 criterion during dry-weather conditions. It is noted that faecal coliform concentrations observed during overflow events are generally an order of magnitude greater than those recorded during dry weather.

The specified periods without overflows and with limited rainfall are used to select sampling times when the immediate effects of these events are expected to have diminished, allowing a more representative assessment of background water quality.

The exceedance of Schedule 2 limits during dry-weather conditions indicates that contaminant concentrations in receiving-water are also influenced by sources other than ERS overflow discharges. As dry-weather monitoring is undertaken in the absence of recent rainfall and confirmed overflow activity, concentrations above the Schedule 2 limits observed during these periods demonstrate that some contaminants are present at levels

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exceeding the relevant Schedule 2 limits even when ERS overflows are not occurring. As such, exceedances during wet weather overflow events are likely to reflect the combined influence of ERS overflow discharges and other existing contaminant sources within the catchment rather than only ERS contributions. Further information on receiving-water quality is provided in Section 1.3.2.

The primary environmental risk associated with the operation of the ERS is the potential impact of overflow events on the receiving water quality. Sydney Water prepares an Annual Water Quality Report which characterises the nature and extent of potential impacts associated with ERS discharges through assessment of pollutant concentrations at Mill Stream and the receiving water quality against acceptable limits in Schedule 2 of AEPR 1997. The findings of the 2025 Annual Water Quality Report are summarised in Section 1.3.2

Based on historical data from the previous authorisation period, some analyte concentrations are likely to exceed the accepted limits within this authorisation period if granted. Contaminants that may exceed the accepted limits are detailed in Table 1, which includes the likely extent of exceedance. The values presented are based on historically observed concentrations rather than modelled concentrations, reflecting the episodic and variable nature of ERS overflow events and the receiving water conditions.

Historical monitoring has consistently identified that the highest contaminant concentrations are observed at monitoring location MSFSR. The monitoring location is immediately downstream of Foreshore Road and is the first downstream location of the ERS discharge point (see Figure 1-4). Concentrations generally reduce further downstream towards Foreshore Beach and Botany Bay. Accordingly, the likely extent of exceedance presented in Table 1 is most accurately represented by the range of historical wet-weather median concentration at MSFSR, providing a conservative indication of the contaminant concentrations most likely to occur at the location of greatest impact (which includes contaminant concentrations of the receiving water with contributions from the ERS overflows and other catchment sources).

The "Range of concentrations previously observed" column provides the minimum and maximum concentrations measured across all receiving water monitoring events and indicates the variability of historical conditions during and following wet weather overflows and during dry weather. The wet-weather and dry-weather columns present median concentrations at MSFSR and are intended to represent the likely receiving-water conditions during overflow and non-overflow periods, respectively. These median values have been used to indicate the likely extent of compliance with, or departure from, the relevant Schedule 2 limits.

Table 1: Anticipated extent of exceedances of, or departures from, Schedule 2 pollutant limits

Analyte / parameter	Schedule 2 limit (AEPR 1997)	Range of concentrations previously observed (receiving waters only)[1]	Wet weather – range of historical median concentrations at MSFSR (likely extent)[2]	Dry weather – historical median concentration at MSFSR (likely extent)[2]
Faecal Coliforms	150 CFU/100mL and >20% samples are <600 CFU/100mL	<1 to 5,400,000 CFU/100mL	3,500 to 85,500 CFU/100mL	600 CFU/100mL[3]
Ammonium Nitrogen (as N)	0.005 mg/L	0.005 to 10.387 mg/L	0.150 to 0.170 mg/L	0.150 mg/L[3]

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Nitrate Nitrogen (NO_3-N)	0.01 mg/L	<0.01 to 1.07 mg/L	0.06 to 0.22 mg/L	0.12 mg/L[3]
Total Phosphorus	0.005 mg/L	0.01 to 2.12 mg/L	0.07 to 0.12 mg/L	0.07 mg/L[3]
Chlorophyll-a	1 µg/L	1.1 to 76.7 µg/L	3.3 to 15.86 µg/L	7.58 µg/L[3]
Total Copper	5 µg/L	<0.5 to 95.7 µg/L	1.5 to 7.0 µg/L	1.05 µg/L
Dissolved Oxygen	> 6 mg/L or to 80% of the average saturation level for a normal 24-hour period	0.2 to 10.8 mg/L	6.0 to 9.4 mg/L (historical median did not exceed)	5.9 mg/L[3]

1. Concentration ranges are based on historical monitoring undertaken between 2020 and 2025 at the receiving-water monitoring locations MSFSR, MSNFB, MS4 and MSRW. Results from MS1, the upstream reference site, and MSERS, the overflow-effluent monitoring location, are excluded. This is because these locations are not considered to be receiving water and as such, should not be compared against receiving water guidelines.
2. The likely extent of departure is represented by historical median results recorded at MSFSR, the receiving-water monitoring location immediately downstream of the ERS where the greatest effects have historically been observed. Monitoring has generally demonstrated that the influence of ERS discharges reduces with distance downstream from the discharge location. MSFSR is therefore used to provide a conservative indication of the likely extent of departure from the relevant Schedule 2 limits.
3. The dry-weather median exceeded the applicable Schedule 2 maximum limit or, for dissolved oxygen, did not meet the applicable minimum criterion during periods when no ERS overflow was occurring.

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Figure 1-6: Receiving water sample locations at Mill Stream

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1.2.3.2 Nature and extent of receiving-water impacts

Historical monitoring indicates that the greatest observed effects on receiving-water quality generally occur immediately downstream of the ERS discharge point, particularly for bacteriological indicators and nutrients. Concentrations generally reduce with distance downstream towards Foreshore Beach and Botany Bay, consistent with the influence of dilution, dispersion, decay and tidal mixing. Monitoring also indicates that receiving-water quality is affected by dry-weather conditions and broader catchment inputs. Accordingly, observed concentrations should not be attributed solely to operation of the Mill Stream ERS. Further information is provided in Section 1.3.2.

1.2.3.3 Factors influencing receiving-water quality and monitoring assessment

The Mill Stream ERS differs from a wastewater-treatment-plant discharge because overflows comprise untreated wastewater that is generally diluted by wet-weather inflows and occur episodically and intermittently in response to rainfall and wastewater-network conditions. The dilution of untreated wastewater by stormwater and groundwater entering the sewer network varies between and during wet-weather overflow events, depending on rainfall intensity and duration, preceding catchment conditions and wastewater flows, so a single dilution factor cannot reliably represent all events.

The timing, frequency, duration and volume of overflow events can therefore vary substantially between years and individual events. Receiving water quality is also influenced by a range of factors, including overflow volume, rainfall characteristics, dilution, tidal conditions, background water quality and other catchment inputs.

Historical monitoring data have been used to characterise contaminant occurrence, spatial trends and potential effects within Mill Stream and the broader receiving environment. Ongoing water-quality monitoring will continue to strengthen the evidence base for understanding receiving-water conditions, the potential influence of ERS overflows and other catchment inputs.

During the 2027–2030 Authorisation period, the water-quality monitoring program will be expanded to include defined wet-weather non-overflow and dry-weather monitoring. This will strengthen the characterisation of background receiving-water conditions and support comparison with conditions observed during ERS overflow events. Further details of the monitoring and assessment framework are provided in Sections 4.13 and 7.4.4.

1.2.3.4 Other potential pollution emissions

Based on the assessments undertaken to date, no other material air, water or soil pollution emissions associated with the undertaking have been identified (having regard to the definitions of air pollution, water pollution and soil pollution in Part 2 of AEPR 1997).

Air quality

Air-quality monitoring undertaken in accordance with Australian Standard AS 4323 and NSWEPA air quality monitoring guidelines between 2024 and 2025 found that recorded hydrogen sulphide concentrations associated with the monitored overflow events were low, localised and short-lived. Within the scope, locations and period of the monitoring program, the results did not identify measurable overflow-related effects beyond the immediate vicinity of the discharge location. Further information is provided in Section 4.12.

Noise pollution

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A noise impact assessment will be undertaken during the 2027–2030 Authorisation period to assess relevant activities against the applicable Schedule 4 excess-noise requirements. Further information is provided in Section 4.8, with associated reporting requirements addressed in Section 7.4.5.

1.2.4 Management approach and satisfactory progress

This EMP outlines the actions proposed for implementation during the Authorisation period from 1 April 2027 to 31 March 2030. Sydney Water will continue to pursue incremental improvements consistent with the requirements of AEPR 1997 and the satisfactory-progress framework described in Section 1.2.2. During the proposed Authorisation period, it will not be reasonably practicable to eliminate all Mill Stream ERS overflow events, given the hydraulic function of the ERS, the configuration of the broader wastewater network and the influence of wet-weather inflows. Sydney Water's management approach therefore focuses on implementing reasonable and practicable measures to reduce overflow frequency, duration, volume and potential environmental effects over time.

Given the scale and complexity of the Malabar wastewater system, material improvements in system performance and receiving-water outcomes will require a staged approach extending beyond the proposed Authorisation period. This EMP therefore focuses on demonstrating satisfactory progress through a combination of specific operational and improvement initiatives, including source-control programs, SWSOOS2 desilting, wastewater-screening implementation and ongoing water-quality monitoring, together with progression of the near-term works and mid-term works under the Malabar System Investment Program (MSIP), as described in Sections 4.10 and 7.2. For clarity, the near-term works comprise the four MSIP packages across Glenfield, Liverpool, Fairfield and Liverpool Ashfield Pipeline (LAP), while the mid-term works comprise works associated with river release. These MSIP works are distinct from SWSOOS2 desilting, wastewater screening and WWOA initiatives, which are addressed through separate objectives and actions in the EMP. These measures are intended to support improved system performance, strengthen understanding of receiving water conditions and progressively reduce the potential environmental effects associated with ERS overflows. Monitoring results, project delivery and program outcomes will be assessed throughout the Authorisation period to inform future monitoring, assessment and management decisions.

Proposal

1.2.5 Matters relevant to determination of the application

In considering the application, the AEO must consider the matters identified in regulation 5.09(2) of AEPR 1997. This EMP addresses those matters as follows:

1. **Reasonable alternatives:** Section 1.2.1 and Sections 4.1, 4.2, 4.3, 4.5 and 4.10, describe the alternatives and improvement options considered, including network augmentation, relocation of infrastructure, hydraulic improvements, wastewater screening and the progressive disconnection of upstream catchments. The assessments completed to date have not identified a feasible and reasonable alternative that would replace the critical hydraulic function of the Mill Stream ERS or avoid the need for an Authorisation during the proposed period.
2. **Measures to avoid or minimise pollution and the need for an Authorisation:** Sections 3, 4 and 7, describe completed, current and proposed operational, maintenance, monitoring and capital measures intended to reduce overflow frequency, volume and environmental consequences. These include source-control programs, SWSOOS2 desilting, grit-pit maintenance, wastewater-screening implementation, water-quality monitoring and delivery of the Malabar System Investment Program.

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3. **Consequences for health, safety, amenity and the environment:** Sections 1.2.3 and 1.3 describe the nature and extent of anticipated pollution emissions, receiving-water effects, relevant public-health and recreational considerations, ecological and heritage values, and the factors that influence water quality and assessment of impacts. Sydney Airport has raised the potential relationship between Mill Stream ERS overflow events, bird attraction and associated aviation safety / bird-strike risk. This is addressed through the assessment and management framework under Action 4.6 (Section 7.4.6).

4. **Practical period required:** The requested period for the authorisation of 1 April 2027 to 31 March 2030 aligns with the EMP implementation and reporting cycle and provides a defined period in which to implement and assess the measures in this EMP. The period also allows for monitoring programs, project development, approvals, delivery and evaluation that cannot reasonably be completed within a shorter period, while preserving a clear point for regulatory review.

5. **Adequacy and implementation of the EMP:** Sections 4 to 7 establish the actions, performance indicators, responsibilities, governance, monitoring, reporting and review arrangements for implementation. Progress will be assessed through the reporting and assurance framework described in this EMP, including identification of relevant delivery dependencies and any corrective or adaptive management response.

6. **Remedial work relating to existing airport-sourced pollution:** The Authorisation is sought for the continued operation of the Mill Stream ERS and does not relate to a separate program for remediation of pollution arising from other airport catchment activities. The monitoring and assessment framework recognises that receiving-water quality is influenced by multiple catchment sources and will be used to improve understanding of ERS-related effects and other relevant influences.

7. **Consistency with the Sydney Airport Environment Strategy:** The current Sydney Airport Environment Strategy (AES) 2025–2030 forms Section 4 of the Sydney Airport Master Plan 2045. Sections 1.3.1, 1.3.3, and 1.3.4 provide relevant waterway, heritage and ecological context for this EMP. The EMP recognises the updated environmental and heritage characterisation in the current AES, including that Mill Stream is no longer identified as an environmentally significant area. This change does not, of itself, establish an absence of environmental values or potential effects from ERS discharges; the management, monitoring and mitigation measures described in this EMP remain relevant.

8. **Interests of other persons:** The EMP recognises the interests of Sydney Airport, regulators, adjoining land managers, local government, the community, recreational users, First Nations stakeholders and other relevant parties. Sections 5, 6, 7.5.1 and 7.6.1 describes the governance, communication, consultation and complaint-management arrangements intended to identify and manage potential effects on those interests.

9. **Submissions and other relevant matters:** Sydney Water will consider and respond to submissions received in relation to the application in accordance with the applicable regulatory process. Other relevant technical, operational, environmental, planning, approval, investment and stakeholder matters are addressed throughout this EMP and will continue to inform implementation and review.

1.2.6 Objectives of the EMP

The objectives of this EMP are to address the applicable requirements of AEPR 1997 and to provide a clear and auditable framework for implementing measures proposed to avoid or minimise pollution during the 2027–2030 Authorisation period. Each objective is cross-referenced to the principal EMP provisions through which it is addressed.

1. Specify the actions Sydney Water proposes to take during the 2027–2030 Authorisation period to make satisfactory progress, in accordance with regulation 5.07(3)(b) of AEPR 1997, towards the outcome described in regulation 5.07(3)(a) (Sections 1.2.2, 1.2.4, 4.7, 4.14, and 7).

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2. Establish measurable performance indicators for assessing implementation of, and progress against, the actions and commitments in this EMP (Sections 5.14 and 7).
3. Set out the water-quality monitoring and assessment framework for characterising receiving-water conditions and evaluating the potential influence of Mill Stream ERS overflows during the Authorisation period (Sections 1.2.3, 1.3.2, 4.13 and 7.4.4).
4. Identify the reasonable and practicable measures proposed to prevent pollution or, where prevention is not reasonable or practicable, minimise pollution arising from operation of the Mill Stream ERS, consistent with regulation 4.01 of AEPR 1997 (Sections 1.2.2, 1.2.4and 7.1–7.3).
5. Identify the matters addressed in regulation 4.04 of AEPR 1997 and the reasonable and practicable measures relevant to discharging that duty (Sections 1.3.3, 1.3.4, 6.1.4, 7.3.4 and 7.4.4).
6. Identify how the EMP addresses the applicable requirements of Part 5 Division 2 and other relevant provisions of AEPR 1997 (Sections 1.2.1- 1.2.5, 2.1 and 7).
7. Establish reporting, review and meeting arrangements to support implementation, compliance assessment and continuous improvement (Sections 4.4, 4.14and 7.6.1–7.6.3).
8. Define governance arrangements, including roles, responsibilities, accountabilities and reporting lines for implementation of the EMP (Sections 5 and 7).
9. Establish communication, consultation and stakeholder-engagement arrangements, including processes for receiving, responding to and documenting concerns, complaints and feedback (Sections 4.9, 6.1, 7.5.1and 7.6.1).

1.3 Site description

The undertaking is located within the Mill Stream catchment on Commonwealth land at Sydney Airport, Mascot, NSW. The area to which this Environment Management Plan (EMP) applies is shown in Figure 1-7 and identifies the location and spatial extent of the undertaking, including the relevant land-parcel boundaries and operational areas associated with the continued operation and management of the Mill Stream ERS. Figure 1-8provides additional site context, showing the location of key Sydney Water infrastructure associated with the undertaking and surrounding features within the Mill Stream area.

Figure 1-8 also shows key features relevant to implementation of the EMP, including Mill Stream, Mill Pond, Foreshore Beach, Sydney Water assets, ERS locations, monitoring locations and clean-up areas subject to overflow inspection and clean-up activities. Cadastral boundaries and the associated Lot and Deposited Plan (DP) references are provided to assist in identifying the undertaking area. The mapped boundary and supporting cadastral information identify the geographical extent of the undertaking and implementation of this EMP and do not imply Sydney Water ownership or control of every identified land parcel (Figure 1-7).

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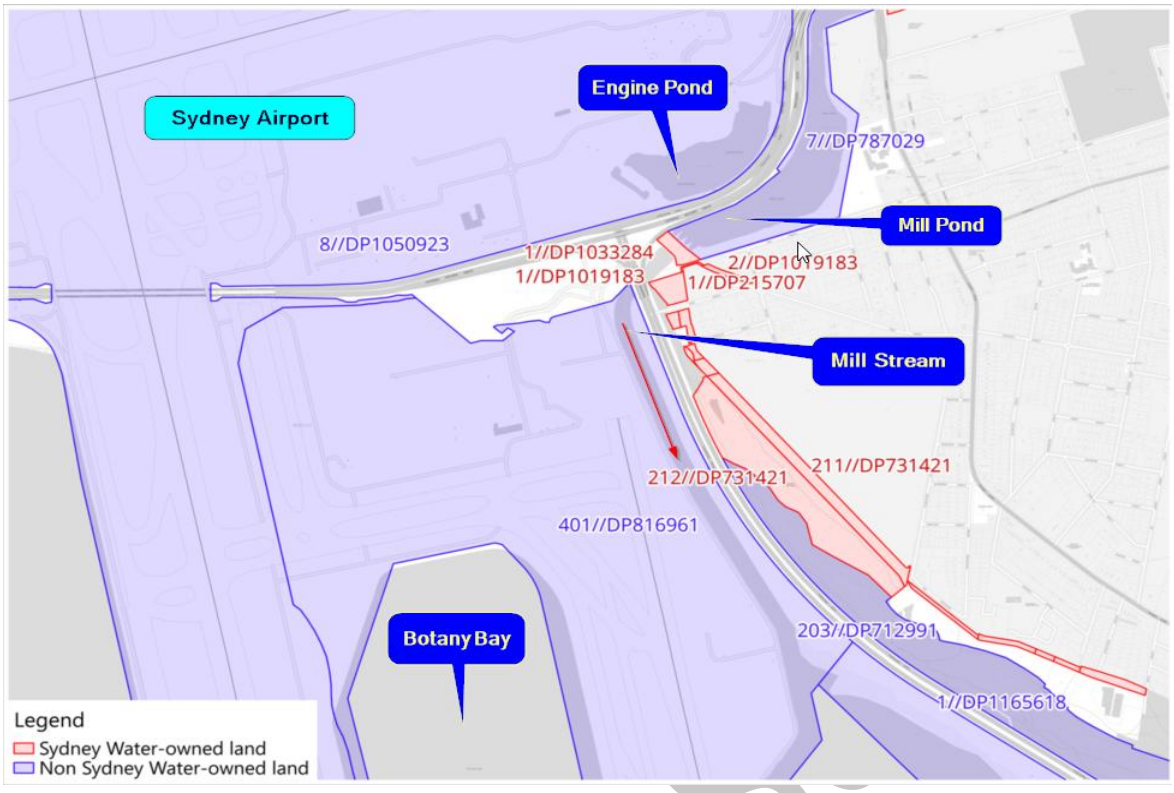

Figure 1-7: Mill Stream EMP site location and undertaking area



Figure 1-8: Mill Stream Area – Key Sydney Water Infrastructure and Surrounding Features

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1.3.1 Waterway

Mill Stream is a lined stormwater channel that receives flows from both the Mill Pond weir and the tidal waters of Botany Bay. The weir separates the tidal reaches of Mill Stream from the upstream freshwater Mill Pond and Engine Ponds (see Figure 1-9). Water quality within the catchment may be influenced by a range of sources, including activities associated with Sydney Airport, Port Botany, major arterial roads and freight corridors, and surrounding industrial land uses. During rainfall events, stormwater runoff may mobilise and transport contaminants associated with these catchment activities into Mill Stream. The SWSOOS conveys domestic wastewater and licensed trade waste from industrial and commercial premises, including relevant facilities at Sydney Airport and Airservices Australia. During wet weather, flows may also be affected by inflow and infiltration.

Port Botany is one of Australia's major shipping ports, with regular vessel movements through the area. The surrounding area is also mapped as having potential acid sulfate soil constraints. Assessment of the potential environmental effects associated with Mill Stream ERS overflows must account for multiple diffuse pollution sources within the catchment and the tidal nature of the waterway. The tidal influence limits the ability to apply a conventional upstream–downstream monitoring design to distinguish the potential influence of ERS overflows from broader catchment influences.

The *Sydney Airport Environment Strategy 2025–2030*, which forms Section 4 of the Sydney Airport Master Plan 2045, supersedes the 2019–2024 strategy. Mill Stream is no longer identified as an environmentally significant area under the current AES. This changed designation does not, of itself, establish an absence of ecological or heritage values or potential effects from ERS discharges. Relevant receiving-water, heritage and ecological considerations remain addressed in Sections 1.3.2–1.3.4 and through the management and monitoring measures in this EMP.

Foreshore Beach is used for recreational activities, including swimming, fishing and boating with Beachwatch information providing relevant context on recreational water quality at Foreshore Beach. Further information on Beachwatch annual grades, notifications and the relationship between Beachwatch and Sydney Water's Mill Stream ERS monitoring program is provided in Section 1.3.2.1.

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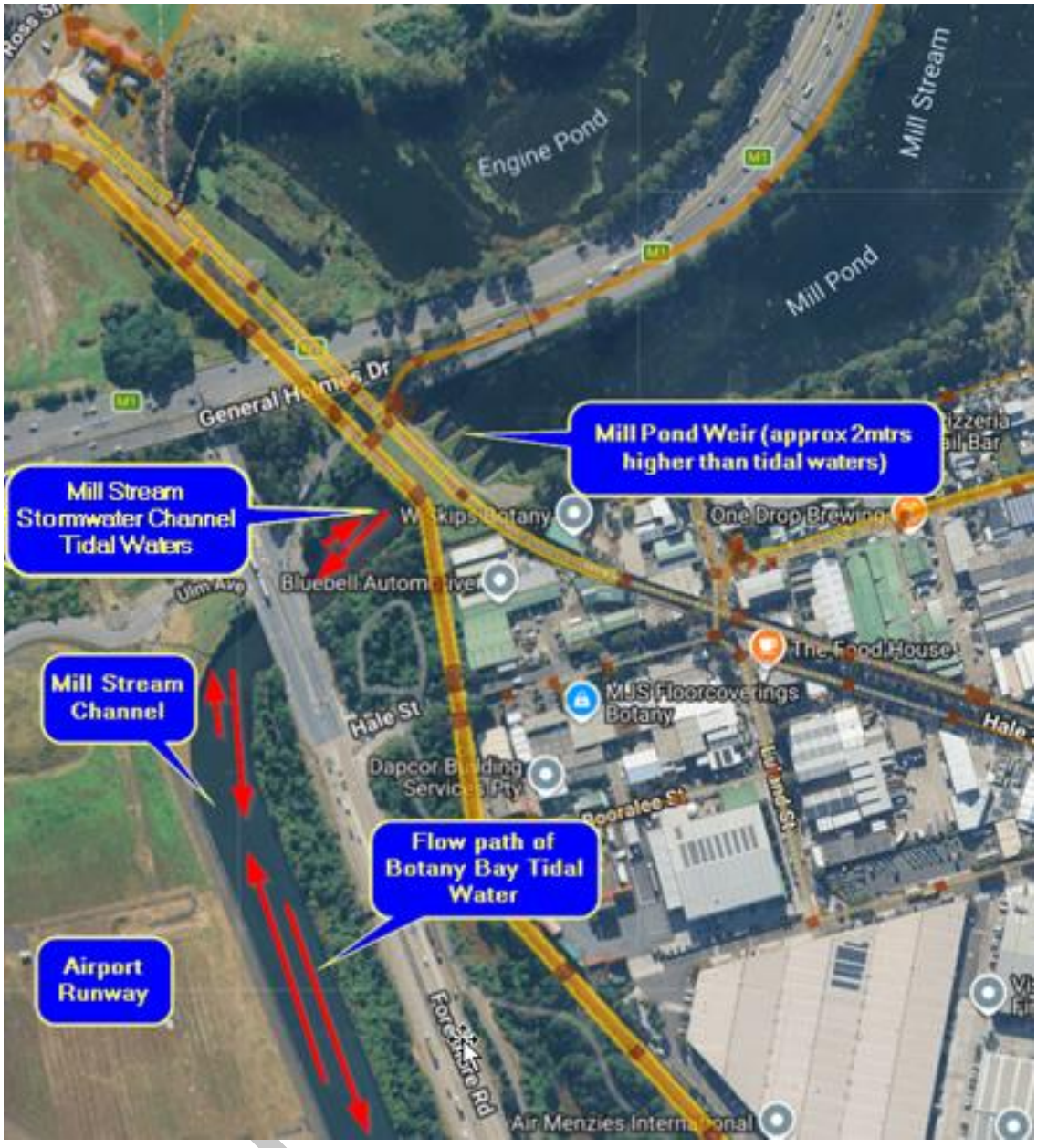

Figure 1-9: Mill Stream weir and tidal reach showing the separation between upstream freshwater ponds and the tidal waters of Mill Stream

1.3.2 Receiving water quality

Historical monitoring indicates that the greatest observed effects on receiving water quality generally occur immediately downstream of the Mill Stream ERS discharge point at MSFSR Foreshore Road. Bacteriological indicators including faecal coliforms and enterococci, and nutrients, including nitrogen and phosphorus, have generally recorded higher concentrations at monitoring locations closest to the ERS. Concentrations generally reduce at downstream locations towards Foreshore Beach and Botany Bay, consistent with the influence of dilution, dispersion, decay and tidal mixing. Figure 1-10 provides spatial context for Mill Stream, Foreshore Beach and Botany Bay.

Monitoring has also identified degraded receiving-water quality during both wet-weather overflow events and dry-weather conditions when no overflows are occurring. During dry weather, several water quality indicators,

including bacteriological indicators and nutrients, exceeded the relevant Schedule 2 limits and ANZG (2018) default guideline values. Metals, organic contaminants, PFAS, sulfides and other physicochemical parameters generally exhibited less spatial variation during the monitored wet and dry weather conditions. This suggests that these results may be influenced by broader receiving-water and catchment conditions rather than individual ERS overflow events.

Of the contaminants assessed, the strongest observed overflow-related signal was identified for faecal coliforms, ammonium nitrogen, nitrate nitrogen and total phosphorus. Metals, PFAS, sulfides and many other physicochemical parameters generally exhibited less spatial variability and appeared to be influenced by broader catchment conditions. Accordingly, monitoring results should be interpreted having regard to the tidal nature of Mill Stream, the influence of multiple catchment sources and the scope and limitations of the available monitoring data.

1.3.2.1 Recreational beach water quality

Foreshore Beach is located downstream of Mill Stream, as shown in Figure 1-10, and may be influenced by a range of factors, including ERS overflows, stormwater runoff, tidal conditions and other catchment inputs. Beachwatch annual grades provide a longer-term assessment of recreational water quality and may be influenced by wet-weather pollution events, stormwater inputs and other catchment pressures. In contrast, Beachwatch daily forecasts and recent sampling results provide a short-term indication of swimming suitability at a particular point in time.

Beachwatch and Sydney Water's Mill Stream monitoring program have different objectives, methodologies and assessment criteria. Beachwatch information should therefore be interpreted as relevant contextual information on recreational water quality rather than as a direct measure of the effects of individual Mill Stream ERS overflow events. Accordingly, a favourable recent Beachwatch sample result or caution-based daily forecast does not, of itself, alter the broader interpretation of long-term water-quality conditions at Foreshore Beach or the ongoing relevance of potential effects associated with Mill Stream ERS overflows to EMP monitoring and reporting.

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Figure 1-10: Mill Stream stormwater channel in relation to Foreshore Beach and Botany Bay

1.3.3 Heritage

Based on the information reviewed for this EMP, no registered Aboriginal sites or places have been identified within the Commonwealth land occupied by Sydney Airport that is relevant to the undertaking. Although the highly disturbed nature of the area may reduce the potential for previously unidentified Aboriginal objects or sites, it does not rule out the presence of Aboriginal cultural heritage.

Sydney Airport is recognised for its Commonwealth heritage value as one of the oldest continually operating airports in the world. The current Sydney Airport Environment Strategy 2025–2030 supersedes the 2019–2024 strategy. Accordingly, this EMP does not rely on the superseded strategy's categorisation of Mill Pond and Mill Stream as features of exceptional heritage significance.

The extent and applicability of individual heritage listings require separate consideration of the relevant listing information.

The Botany Water Reserves is listed on the NSW State Heritage Register (SHR No. 01317), with listing information available through the State Heritage Inventory. Figure 1-11 shows the listed curtilage for heritage context. Mill Pond, Engine Pond East and the heavily modified tidal section of Mill Stream associated with construction of Sydney Airport's third runway are outside the listed curtilage. The figure does not depict the extent of all heritage values discussed in this section or determine the legal applicability of NSW heritage requirements to Commonwealth airport land.

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The State Heritage Inventory record for the Botany Water Reserves identifies surviving elements of non-Aboriginal heritage associated with the water-supply and wastewater systems, including:

- Sewage Pumping Station No. 38 (1916), near the engine house ruins (SHR No. 01344);
- Part of the Southern- Western Suburbs Ocean Outfall Sewer System (SWSOOS) Nos. 1 and 2;
- 1915 sewer pump house;
- Twin sewer inverted syphons and easements (this relates to the twin sewer siphons under the Cooks River); and
- Siphonic overflow structures, including structures associated with the SWSOOS.

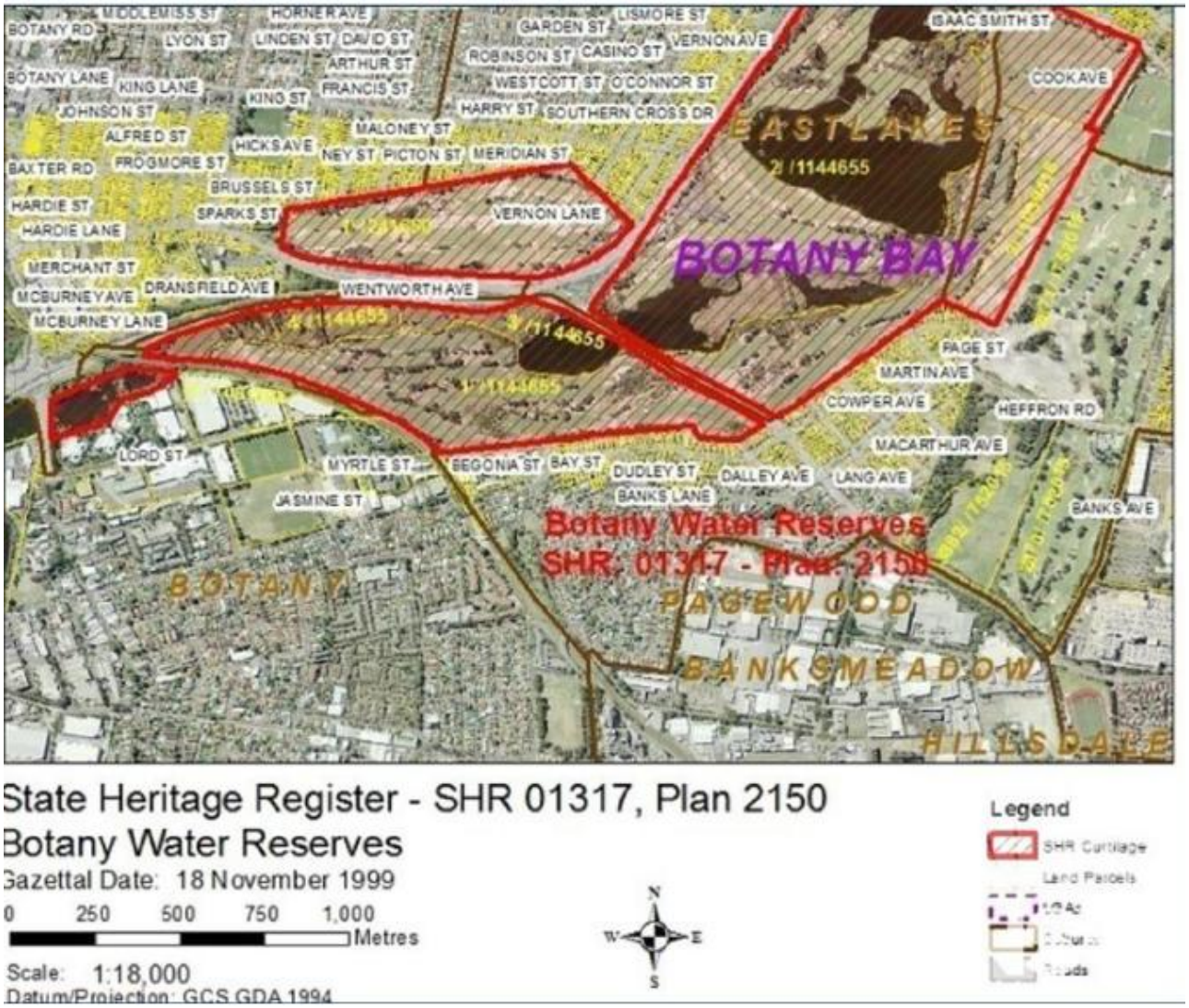

Figure 1-11: Area covered by the Botany water reserves listing in the State Heritage Inventory

1.3.4 Ecology

The aquatic environment within and adjoining the Mill Stream ERS comprises the lower reaches of Mill Stream, Foreshore Beach, Penrhyn Estuary and adjacent waters of Botany Bay. Downstream of the weir, Mill Stream is a highly modified estuarine channel characterised by concrete-lined banks, soft sediment substrates and tidal

influence. The saltwater exclusion weir separates the tidal waters of Mill Stream from the upstream freshwater wetlands. Sydney Airport advises that a fish ladder has been installed to facilitate the movement of aquatic fauna between these areas.

Foreshore Beach comprises a constructed sandy shoreline formed from dredged estuarine sediments and functions as a groundwater discharge zone into Botany Bay.

The nearshore marine environment adjacent to Foreshore Beach has been mapped as containing patches of seagrass communities containing *Posidonia australis* and *Zostera* species. Seagrass is an ecosystem requiring protection, and the Botany Bay population of *Posidonia australis* is listed as endangered in NSW. Seagrass protection and rehabilitation initiatives involving Port Authority of NSW and University of NSW (UNSW) is currently underway. These works aim to restore seagrass habitat and improve the ecological function of the Botany Bay foreshore through the establishment and expansion of native seagrass meadows.

Port Authority of NSW has identified a *Posidonia australis* restoration activity area at Foreshore Beach, shown in Figure 1-12. In advice provided on 11 November 2026, Port Authority confirmed that this area contains active research aquatic vegetation plots located between the boat ramp and the nearest groyne, with further seagrass planting planned across the whole restoration activity area as part of a collaboration with Sydney Airport. The whole mapped restoration activity area, including existing research plots and areas planned for further planting, is identified as important for protection in the event of an incident affecting Foreshore Beach. The current mapped extent of aquatic vegetation communities within the research area has not been confirmed by Porth Authority.

No clearing, excavation or other direct physical disturbance within known seagrass rehabilitation plots or mapped seagrass habitat is proposed as part of the activities described in this EMP. Relevant personnel-awareness and protection measures are described in Section 7.3.4. These measures address direct physical disturbance only and do not establish the absence of potential indirect water-quality effects from ERS discharges. Several protected, vulnerable, endangered and migratory species that have been recorded in the area or on land adjacent to the works, with the majority of these species being highly mobile (e.g., the Pied Oystercatcher and the Little Tern) are unlikely to be affected by the clean-up activities detailed in this EMP. The Mill Stream area forms part of the broader Botany Bay habitat network and is within proximity to Penrhyn Estuary, Towra Point Nature Reserve and the Towra Point Ramsar Wetland.

All reasonable and practicable measures will be taken to ensure that the operation of the Mill Stream ERS (including any clean-up activities) will have no adverse consequences for threatened species or ecological communities, in accordance with the measures described in this EMP.

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Figure 1-12 Foreshore Beach seagrass restoration activity area identified by Port Authority of NSW

Source: Port Authority of NSW supplied 11 November 2026

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2 Legal requirements

2.1 Development and approval process

The SWSOOS and associated ERS infrastructure form part of an established wastewater system that predates the *Environmental Planning and Assessment Act 1979* (NSW). The system has been progressively constructed, modified and maintained over time. Development, maintenance or modification activities undertaken during the 2027-2030 Authorisation period will remain subject to applicable assessment, approval, access and environmental management requirements.

The key statutory instruments, licences and approvals relevant to the operation of the Mill Stream ERS and the broader Malabar wastewater system are summarised in Table 2.

Table 2: Key statutory obligations, licences and approvals

Activity or undertaking	Legislation	Licence or approval	Regulatory authority	Expiry or renewal date	Date obtained	Reporting requirements
Operation of the Mill Stream ERS where pollution emissions may exceed acceptable limits in Schedule 2	*Airports (Environment Protection) Regulations 1997 (Cth)*	Authorisation No. 02/2026 (current, substituted for Authorisation No. 1/2024); proposed 2027-2030 Authorisation	DITRDCSA, AEO and Minister administering the *Airports Act 1996* (Cth)	Current Authorisation expires 31 March 2027; proposed Authorisation to expire 31 March 2030	Substitute Authorisation issued following the Delegate's final decision dated 19 October 2026; proposed Authorisation pending	Annual compliance reports and other reporting required by the Authorisation and EMP
Operation of the Southern Suburbs Sewerage Treatment System including the Malabar STP at Fishermans Road, Malabar NSW 2036	*Protection of the Environment Operations Act 1997 (NSW)*	Environment Protection Licence No.372	NSW EPA	Not applicable - subject to statutory licence review	25 May 2000 (and varied from time to time)	Annual returns and other reporting required by EPL 372

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3 Continuous improvement during the 2024-2027 Authorisation period

The performance of the Mill Stream ERS has improved since 2020, during which Sydney Water implemented a range of operational, maintenance, and capital initiatives across successive Authorisation periods. Modelled overflow frequency reduced from 19 events per year to approximately 13 events per year and modelled annual overflow volume reduced from 3,094 ML/year to approximately 1,238 ML/year. Sydney Water considers that the initiatives implemented and progressed during the 2024-2027 Authorisation period demonstrate satisfactory progress towards the outcome described in regulation 5.07(3)(a) of AEPR 1997. The modelled results should be interpreted having regard to the assumptions and limitations of the hydraulic model and the cumulative influence of measures implemented over time.

During the 2024-2027 Authorisation period, Sydney Water completed or progressed a range of initiatives, including:

1. continued enhancement of water quality monitoring programs.
2. completion of the feasibility assessment for relocation of the SWSOOS grit pit.
3. establishment of the Malabar System Investment Program (MSIP), building on the Malabar Strategic Business Case, including:
    i. targeted reconfigurations of the Liverpool Ashfield Pipeline (LAP) and Northern Georges River Submain (Near-term works);
    ii. upgrades to the Fairfield Wet Weather Treatment Plant (Near-term works); and
    iii. secondary capacity upgrades to the Glenfield and Liverpool Wastewater Resource Recovery Facilities (WRRFs) (Near-term works).
4. commencement of investigations into ERS overflow events and their potential relationship to bird strike frequency.
5. continuation of wet weather source control program.
6. implementing daytime cleaning shifts and maintenance of a minimum eight grit pit cleaning cycles each year.
7. completion of grit pit hardstand, improving all weather access for routine grit pit maintenance.
8. collaboration with Sydney Airport and relevant stakeholders on a Fish Kill protocol.
9. continuing engagement with key stakeholders, including the AEO, on the basis and application of the hydraulic sewer model.
10. implementation of the water quality monitoring buoy trial; and
11. strengthened stakeholder engagement by chairing 21 Project Control Group (PCG) meetings during the Authorisation period.

While not all these initiatives were expected to deliver immediate reductions in modelled overflow frequency or volume, they strengthened system knowledge, monitoring, maintenance, planning and project development. These activities provide a foundation for future performance improvements and support Sydney Water's assessment of satisfactory progress during the 2024-2027 Authorisation period.

During the 2027-2030 Authorisation period, Sydney Water proposes to continue key initiatives, including SWSOOS2 desilting, wet-weather source control programs and ongoing grit pit maintenance. These activities are

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intended to support further incremental improvements in Mill Stream ERS performance despite forecast population growth in the Malabar wastewater catchment. As described in Section 4.7, works expected to be completed by the end of the Authorisation period are forecast to support modelled performance of approximately 10-12 events per year and 1,115 ML/year. Following completion of the full SWSOOS2 desilting program, modelled performance is forecast to improve further to approximately 10 overflow events per year and 928 ML/year. These forecasts remain contingent on project delivery and the applicable modelled assumptions.

More substantial, long-term improvements may depend on broader system investments planned and delivered through the MSIP. Figure 3-1 illustrates the continuous improvement pathway for the Mill Stream ERS, including initiatives completed during the 2021-2027 Authorisation periods, and long-term investment programs.

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Mill Stream plan on a page: average annual overflows

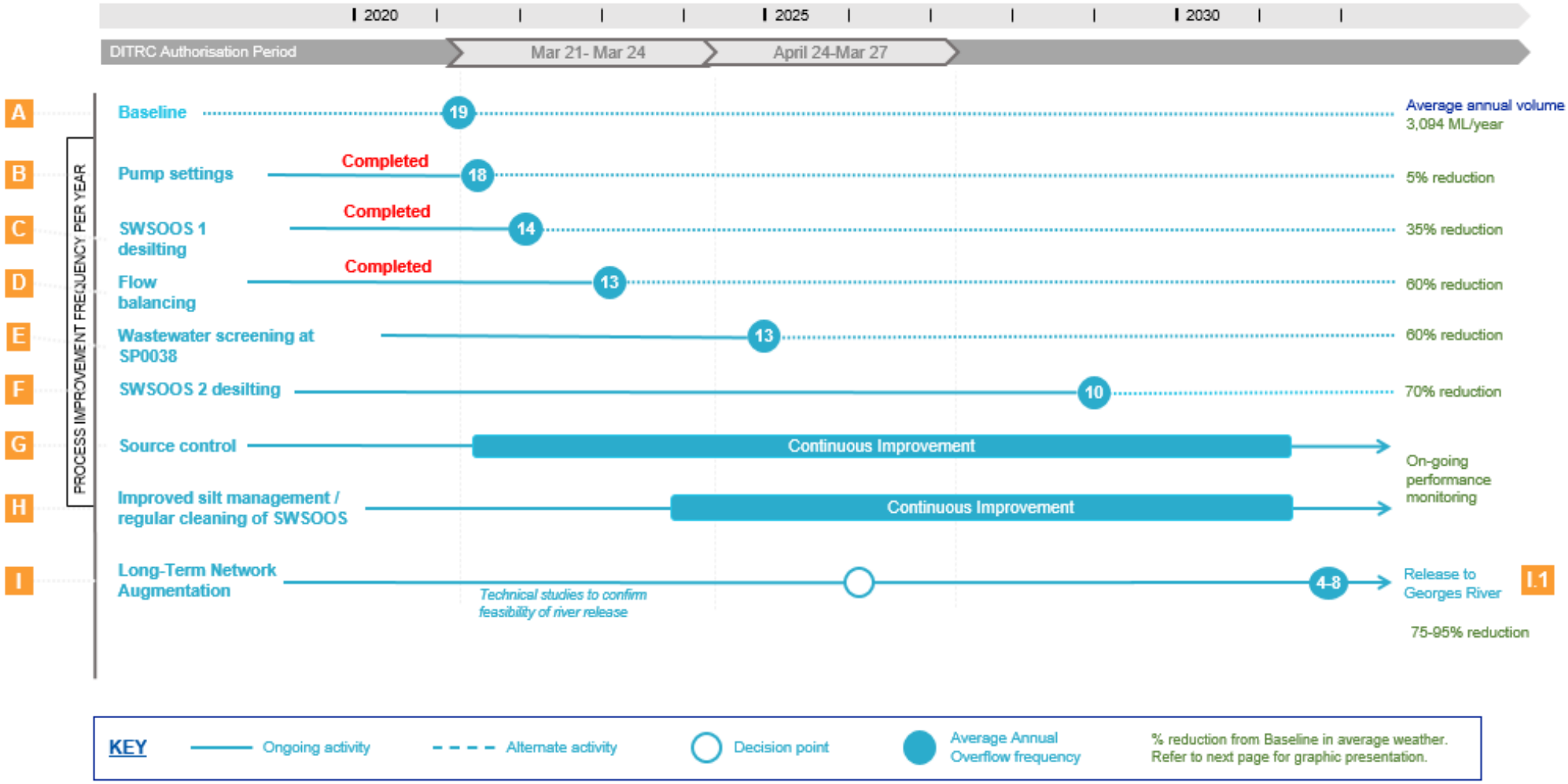

Figure 3-1: Continuous improvement pathway for the Mill Stream ERS

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4 Lessons learned from the 2024-2027 Authorisation

This section summarises the key lessons learned during implementation of the 2024–2027 Authorisation and explains how those lessons have informed the proposed 2027-2030 Authorisation and EMP. The lessons relate to project delivery, environmental monitoring, stakeholder engagement, reporting requirements and continuous improvement measures. They have been used to refine the proposed actions, performance indicators and reporting framework for the next Authorisation period.

Implementation of the 2024–2027 Authorisation provided further information regarding the factors that can affect the delivery of environmental improvement initiatives and the timing of associated benefits. Key lessons included:

- the need to account for third-party approval, land-access requirements and other external dependencies when establishing delivery timeframes;
- the importance of allowing sufficient time to address technical, safety, heritage, environmental and constructability requirements identified during project development;
- the influence of weather, supply-chain constraints, and investment approvals on project sequencing and delivery;
- the value of feasibility assessment, option analysis and design development in confirming whether proposed measures are practicable and likely to deliver proportionate environmental benefits;
- the need for performance measures that recognise verifiable progress through defined project milestones while maintaining accountability for delivery and environmental outcomes;
- the complexity of assessing the contribution of ERS discharges to water quality within a tidal receiving environment influenced by multiple catchment sources; and
- the value of engagement and reporting arrangements that are accessible, proportionate and responsive to stakeholder and community feedback.

These lessons, together with stakeholder feedback, have informed the proposed approach for the 2027-2030 Authorisation. The proposed approach seeks to maintain clear and measurable obligations while better aligning project milestones, reporting requirements and performance indicators with the nature of the relevant activities, their delivery dependencies and the environmental outcomes sought.

Table 3 summarises the proposed treatment of conditions from the 2024-2027 Authorisation, including conditions proposed to be maintained, amended or removed and new conditions proposed for inclusion. The table also outlines the basis for each proposed change and its relationship to implementation experience, stakeholder feedback and the objective of supporting continuous environmental improvement.

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Table 3: Proposed treatment of conditions of Authorisation No 02/2026 for the 2027-2030 Authorisation period

The proposed treatment reflects im**plementation experience and outcomes from the 2024–2027 Authorisation period.**

202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
1	EMP compliance	Sydney Water is required to implement the EMP and measures outlined in the letter submitted to the AEO under Condition 18.	Amended	Dates and terminology are proposed to be updated for the new Authorisation period. References to the former Condition 18 would be removed because the requirements of that condition have been completed. See Section 7 and Table 10.
2	Reporting	Annual compliance reporting	Amended	The reporting period and submission timeframe are proposed to be revised to align with the proposed Authorisation period and applicable reporting requirements. The amendment is intended to provide a clear and workable reporting framework while retaining annual compliance accountability. See Section 7.6.3.
3(a)-(c)	Reporting	Monthly reporting	Maintained	Monthly reporting is proposed to be maintained to provide regular information on overflow frequency, volume and duration, consistent with stakeholder feedback and the objective of maintaining transparent performance reporting. See Sections 7.4.1and 7.6.3.
3(d)	Reporting	Complaint reporting	Maintained	Complaint reporting is proposed to be maintained to support transparent complaint management and alignment with Sydney Water procedures and relevant statutory reporting obligations. See Sections 7.5.1and 7.6.3.

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
3(e)-(g)	Reporting	Short term improvements	Maintained	Reporting on SWSOOS2 desilting, source control and grit pit maintenance is proposed to continue because these activities remain key measures for maintaining and progressively improving wastewater-system performance and reducing overflow risk. Reporting would address relevant delivery milestones, completed activities, key dependencies, material variances and environmental or operational outcomes, as applicable to each initiative. See Sections 7.1, 7.6.2and 7.6.3.
3(h)	Reporting	Progress towards Malabar Strategic Business Case (SBC)	Amended	Reporting is proposed to transition from the Malabar Strategic Business Case to the near-term works and mid-term works under the Malabar System Investment Program (MSIP), as defined in this EMP. The near-term works comprise the four MSIP packages across Glenfield, Liverpool, Fairfield and Liverpool Ashfield Pipeline, while the mid-term works comprise works associated with river release. This reflects progression from strategic business case development to phased planning, development and delivery. Reporting would be limited to MSIP works and activities relevant to the performance or potential environmental effects of the Mill Stream ERS. See Section 4.10 and 7.2.1 to 7.2.3

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
3(i)	Reporting	Botany Low Level Carrier (BLLC)	Not included	Detailed investigations indicated that full BLLC rehabilitation was not expected to provide a proportionate reduction in modelled overflow performance relative to the scale, complexity and cost of the works. An equivalent reporting requirement is therefore not proposed for inclusion. Targeted repairs associated with identified third-party impacts would continue to be progressed, with progress reported through the SRG. See Section 4.1.
3(j)	Reporting	Feasibility of grit pit relocation	Completed - not carried forward	The grit pit relocation feasibility assessment has been completed and the preferred management approach comprising-continued daytime access supported by the completed hardstand has been implemented. The completed assessment requirement is therefore not proposed to be carried forward. See Section 4.5.
3(k)	Reporting	Hydraulic improvement plan	Not included	Investigations did not identify dredging as a proportionate measure for achieving sustained improvement in the environmental performance of the authorised undertaking. As a comparable Hydraulic Improvement Plan is not proposed to continue as a separate requirement during the 2027-2030 Authorisation period, an equivalent standalone reporting requirement is also not proposed. Relevant hydraulic and

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				sediment management matters may continue to be considered through the SRG if new evidence, monitoring outcomes or changed circumstances warrant further review. See Section 4.2.
3(l)	Reporting	Wastewater screening	Maintained	Wastewater-screening reporting is proposed to be maintained to provide ongoing visibility of project feasibility, design, constructability, investment, external approvals and delivery progress. Reporting would address progress against relevant milestones, key dependencies and the outcomes of material feasibility, approval and investment decisions. The associated fixed construction requirement is addressed separately under Condition 23. See Sections 4.3 and 7.3.2.
3(m)	Reporting	Reduction in discharge concentrations and progress towards the Schedule 2 water pollution limits	Amended	The requirement is proposed to be aligned with the updated water-quality monitoring program and the applicable regulatory framework. Monitoring results will be assessed against the applicable Schedule 2 water-pollution criteria under AEPR 1997 and, where legally applicable, any relevant investigation levels determined under section 14 of AEPR 2026 and for water pollution under section 16. Monitoring and reporting will be used to assess contaminant occurrence, receiving water

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				conditions and opportunities for future improvement. See Sections 4.13 and 7.4.4, Table 7 and Table 10
3(n)	Reporting	Hydraulic sewer model	Maintained	Hydraulic model reporting is proposed to be maintained because calibrated modelling provides a consistent basis for assessing long-term system performance and the modelled benefits of improvement initiatives independently of annual rainfall variability. See Sections 8.4.1 and 5.7.
3(o)	Reporting	Bird strike reporting	Amended	Bird-strike reporting is proposed to continue through Action 4.6 (Section 7.4.6), supported by Table 7 and Table 10 and informed by the report, expert review and recommendations required under current Condition 28 of Authorisation No. 02/2026. Six-monthly progress reports and Annual EMP Compliance Reports will identify assessment progress, responses to recommendations, applicable mitigation measures, implementation progress, effectiveness reviews, outstanding work and reasons for material delays.
3(p)	Reporting	Pollutants	Amended	The pollutant-reporting terminology is proposed to be updated to include debris balls and align with current Sydney Water inspection, clean-up and reporting processes. See Sections 7.3.1, 7.4.1, 7.6.2 and 7.6.3.

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
3(q)	Reporting	Detailed evidence of improvement in the receiving environment, having regard to affected ecosystems and community health and wellbeing, including water quality, community expectations, beach suitability grades, odour and First Nations community values.	Maintained	Reporting on the receiving environment is proposed to be maintained to provide evidence on water quality, affected environmental values, community considerations and other relevant indicators. The wording should recognise the influence of multiple catchment sources and require evidence to be interpreted within the scope and limitations of the available monitoring and assessment programs. See Sections 1.3.2–1.3.4, 4.12, 4.13, 6.1.3, 6.1.4 and 7.4.4.
4-6	Wet weather performance targets	Expected wet weather performance targets for the Authorisation period.	Amended	Performance requirements are proposed to be linked to defined improvement initiatives, measurable indicators and project-delivery milestones. Reporting would identify progress against relevant milestones, forecast overflow outcomes, key assumptions and material delivery dependencies. Where a milestone is delayed, reporting would identify the reason for the variance, actions taken or proposed and any revised milestone or delivery timeframe. See Sections 4.4, 4.7, 7.1.1–7.1.3 and 7.4.1.
7-8	Reporting	Quarterly reporting	Amended	Six-monthly written progress reporting is proposed in place of quarterly written reports, informed by stakeholder feedback. Quarterly SRG meetings would continue to provide more frequent

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				updates, while written reports would consolidate progress against EMP actions and milestones, key dependencies, material variances, revised timeframes, risks and outcomes. See Sections 7.6.1 and 7.6.2.
9	Community engagement	Locally held community meeting	Amended	The engagement requirement is proposed to allow accessible and flexible delivery formats, including participation through established community forums and events. The amendment responds to stakeholder and customer feedback while retaining opportunities for the public to receive information, ask questions and provide feedback. See Section 4.9.
10	Reporting	Publication of annual compliance report on the Sydney Water website and distribution to key external stakeholders.	Amended	Publication and distribution requirements are proposed to be aligned with the revised annual reporting period. The amendment would retain public access to annual compliance information and require its distribution to identified external stakeholders, including the Port Authority of NSW. See Section 7.6.3.
11	Short term improvements	Achieve eight grit pit maintenance cycles in each 12-month period.	Amended	A minimum of eight grit pit maintenance cycles in each reporting year is proposed to be retained as the principal performance requirement. Reporting would include the number of cycles completed and the tonnage of material removed. Where the minimum number of

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				cycles is not achieved, reporting would identify the reasons for the shortfall, relevant operational or external constraints, reasonable steps taken to avoid or minimise the shortfall, and the proposed timing of any rescheduled maintenance. This maintains a clear and measurable maintenance requirement while recognising that access, weather, wastewater-flow conditions and sediment accumulation may affect individual maintenance activities. See Section 7.1.3.
12	Reporting	Incident reporting	Maintained	Incident reporting is proposed to be maintained to support timely notification, investigation, response and transparent reporting of material-harm incidents and other reportable overflow events. See Sections 7.1.3and 7.4.2.
13	Reporting	Material harm	Amended	The wording is proposed to be updated to apply the definition of material harm to the environment under section 147 of the *Protection of the Environment Operations Act 1997* and to improve consistency with Sydney Water's incident-response processes. See Sections 7.1.3 and 7.4.2.
14	Reporting	Provide Annual EMP Compliance Reports, Quarterly Reports, the Condition 18 bird-strike letter, the Condition 21 Water Quality Monitoring Report and other	Not included	A standalone general 21-day distribution condition is not proposed for inclusion. Instead, the relevant proposed reporting conditions would specify the reports to be

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
		investigations undertaken during the Authorisation to SACL within 21 days of finalisation.		provided to Sydney Airport, the applicable recipients and distribution deadlines. See Sections 7.4.4, 7.4.6, 7.6.2 and 7.6.3.
15	Community engagement	Sydney Water to host Hydraulic Improvement Leadership Group (HILG)	Not included	The HILG was established to support the development and implementation of the Hydraulic Improvement Plan. As the Plan is not proposed to continue, a separate HILG is no longer considered necessary. Relevant hydraulic and sediment-management matters may continue to be considered through the established SRG if new evidence, monitoring outcomes or changed circumstances warrant further review. See Section 4.2.
16	Community engagement	Maintain a presence at the SRG and, where invited, attend key stakeholder forums to provide updates on EMP implementation and performance.	Amended	The SRG requirement is proposed to become a standalone condition requiring four meetings per Authorisation year. The requirement to attend other relevant stakeholder forums, where invited, would continue to support transparent communication on EMP implementation and performance. The associated EMP implementation and reporting requirements are set out in Action 6.1 (Section 7.6.1)
17	Short-term improvements	Feasibility assessment for the relocation of the SWSOOS grit pits	Completed - not carried forward	The grit pit relocation feasibility assessment was completed, and the preferred management approach has been implemented. The completed requirement is therefore not proposed to be carried forward.

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				See Section 5.5.
18	Reporting	Bird-strike assessment and reporting	Completed - not carried forward	Sydney Water completed the assessment and reporting required under former Condition 18. That completed requirement is not proposed to be carried forward as a standalone condition. Its completion does not discharge the separate requirements of Condition 28 of Authorisation No. 02/2026. Relevant continuing assessment, consultation, expert review, mitigation and reporting will be addressed through Action 4.6 (Section 7.4.6), supported by Table 7 and Table 10 and the proposed bird-strike requirement identified below in Table 3.
19	Reporting	IPART funding allocations	Completed - not carried forward	The required IPART 2025–2030 funding and prioritisation updates have been provided, and this completed submission requirement is not proposed to be carried forward as a standalone condition. Its completion does not establish that the full works program has been funded or discharge the separate requirements of Condition 26 of Authorisation No. 02/2026. Relevant measures identified through any required alternative action plan are proposed to be incorporated into the near-term works, mid-term works and Master Plan activities under Actions 2.1–2.3 (Sections 7.2.1–7.2.3), with implementation and progress reported

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				through the existing EMP arrangements, supported by Table 7and Table 10. See Section 4.6.
20	Short-term improvements	Botany Low Level Carrier (BLLC)	Not included	Investigations indicated that full BLLC rehabilitation was not expected to provide a proportionate reduction in modelled overflow performance relative to the scale, complexity and cost of the works. Targeted repairs associated with identified third-party impacts would continue to be progressed where required, but an equivalent broader rehabilitation requirement is not proposed for inclusion. See Section 4.1.
21	Reporting	Water quality assessment	Amended	Dates, monitoring scope and reporting requirements are proposed to be updated for the 2027–2030 Authorisation period. The revised program under Action 4.4 (Section 7.4.4) would include wet-weather overflow, wet-weather non-overflow and dry-weather monitoring to improve understanding of receiving water conditions and catchment influences. See Section 4.13, and Table 7and Table 10
22	Reporting	Hydraulic sewer model quality-management system, methods and calibration	Completed - not carried forward	Sydney Water has submitted the required information on the hydraulic model quality management system, modelling methodologies and calibration processes. The completed one-off requirement is not proposed to be carried forward, while

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				routine model use and relevant performance reporting would continue. See Sections 4.7, 7.4.1 and 7.6.3.
23	Short-term improvement	Construction of screening at SP0038	Amended	The fixed construction completion requirement is proposed to be amended to reflect the project's design development and remaining feasibility, constructability, investment and external-approval dependencies. The revised requirement would provide for continued progression through defined project review, approval and delivery milestones, with implementation subject to satisfactory completion of those processes. Sydney Water would report on progress, key dependencies and the outcomes of material feasibility, approval and investment decisions. This would maintain accountability and transparent progress reporting while recognising the project's heritage, hydraulic, operational, funding and external approval dependencies. See Sections 4.3, 4.4, and 7.3.2

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
24	Short-term improvement	Desilting of 40% of SWSOOS 2	Amended	SWSOOS2 desilting is proposed to continue as a delivery initiative during the 2027–2030 Authorisation period. The fixed completion requirement is proposed to be amended to reflect the remaining technical, safety, access, approval, procurement and delivery dependencies. The revised requirement would provide for continued progression against defined investigation, design, access, approval, procurement and delivery milestones, with reporting on completed works, key dependencies, forecast completion dates and environmental or operational outcomes. Where a milestone is delayed, Sydney Water would report the reason for the variance, actions taken or proposed and any revised milestone or delivery timeframe. This would retain accountability for active project delivery while recognising material dependencies outside Sydney Water's direct control. See Sections 4.4, 4.7 and 7.1.1.
25	Long-term improvement	Malabar Strategic Business Case	Amended	The condition is proposed to transition from the Malabar Strategic Business Case to the Malabar System Investment Program (MSIP). The amended condition would address the near-term works, comprising the four MSIP packages across Glenfield, Liverpool, Fairfield and Liverpool Ashfield Pipeline, and the mid-term works associated with river release. Associated

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
				reporting would be provided under the proposed amendment to Condition 3(h). See Sections 4.10, 7.2.1 and 7.2.2.
26 (Additional Condition #1)	Funding contingency and alternative action plan	If the full capital and operational works program identified in the Sydney Water Environmental Protection Strategic Investment Plan is not funded, submit a Board-endorsed alternative action plan to the AEO by 31 January 2027. The plan must achieve significant and measurable reductions in pollution and overflow-event numbers, identify feasible and achievable new or additional measures, be developed in consultation with the SRG and be assessed by independent technical experts approved by the AEO. It may revisit a wet-weather treatment plant and other measures examined before the April 2021 Authorisation.	Not proposed to be carried forward.	A separate funding-contingency condition is not proposed to be carried forward because relevant measures identified through any required alternative action plan are proposed to be incorporated into the delivery, planning and reporting arrangements under Actions 2.1, 2.2 and 2.3 (Sections 7.2.1–7.2.3). Measures adopted for implementation during 2027–2030 would be identified against the relevant actions, with responsibilities, milestones, timeframes and performance indicators documented in Table 7 and Table 10 and progress reported through EMP reporting arrangements.
27 (Additional Condition #2)	Dissolved oxygen monitoring and expert reporting	Monitor dissolved oxygen near to and downstream from the ERS on airport land to investigate possible connections between overflows and future fish kills. Submit an expert-opinion report to the AEO and SACL by 31 March 2027 covering methodology, locations, duration and results; correlation with overflow events and the	Not proposed to be carried forward - monitoring outcomes to inform revised program.	A separate dissolved oxygen monitoring condition is not proposed to be carried forward. The findings and recommendations of the dissolved oxygen monitoring report required under Condition 27 will inform the review and, where required, update of the Mill Stream Water Quality Monitoring Plan under Action 4.4 (Sections 4.13 and 7.4.4). Any ongoing monitoring requirements

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202024-2027 Authorisation Condition	Requirement type	Requirement summary	Proposed action	Basis for proposed action
		location's ability to detect changes; and information informing review of monitoring location, methodology and equipment.		identified through that review will be incorporated into the monitoring plan and implemented and reported through the existing water-quality monitoring and EMP reporting arrangements, avoiding duplication of monitoring programs and reporting requirements.
28 (Additional Condition #3)	Wildlife-strike mitigation report and expert review	Submit a report to the AEO and SACL by 31 March 2027, based on available data, setting out existing or planned mitigation measures addressing NASF Guideline C. The report should reference independent third-party field monitoring to assess whether Mill Stream ERS wet-weather overflows contribute to bird-strike risk, use data including the ATSB National Aviation Wildlife Strike Dashboard, and be reviewed by a recognised Australian bird-strike expert acceptable to the AEO.	Not proposed to be carried forward - outcomes to inform proposed bird-strike requirement.	Action 4.6 (Section 7.4.6), supported by Table 7 and Table 10, carries forward relevant findings, expert recommendations and outstanding assessment requirements into the proposed 2027–2030 program. The action provides for any outstanding independent field monitoring and assessment, stakeholder consultation, expert review, documented responses to recommendations, and implementation and evaluation of applicable mitigation measures. Responsibilities and dated milestones will be confirmed before EMP finalisation. Progress and any outstanding actions will be reported through six-monthly progress reports and Annual EMP Compliance Reports.

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4.1 Botany Low Level Carrier (BLLC)

During the 2024-2027 Authorisation period, the BLLC rehabilitation requirements in Conditions 3(i) and 20 were not completed. The Botany Low Level Carrier (BLLC) is a disused gravity main located within Sydney Airport that was identified as a potential opportunity to provide additional wet-weather storage at Sewer Pumping Station SP0038. Under the original concept, wastewater would temporarily accumulate within the rehabilitated carrier during periods of high flow and subsequently return to SWSOOS2 via SP0038 after flows had subsided, with the aim of improving the performance of the Mill Stream ERS.

Hydraulic, operational and economic investigations undertaken during the 2024-2027 Authorisation period indicated that full rehabilitation of the BLLC was not expected to provide a proportionate reduction in modelled overflow performance relative to the scale, complexity and cost of the works. Modelling indicated that the proposed rehabilitation would contribute approximately 0.0097% to the modelled reduction in annual overflow volume, while requiring estimated capital expenditure of several million dollars. Having regard to these findings, Sydney Water reviewed alternative measures for achieving the objectives of the Hydraulic Improvement Plan and determined that full rehabilitation of the BLLC was not the preferred investment approach. Sydney Water instead proposes to progress targeted repairs associated with identified third-party impacts, including subsidence and pavement defects at Ross Smith Avenue. Broader rehabilitation may be reconsidered if future investigations identify materially greater environmental benefit, or another demonstrated operational or business need.

In September 2025, Sydney Water submitted a request to vary the Authorisation and, in June 2026, submitted a corresponding proposed variation to the EMP to reflect the revised project scope. The proposed approach focuses on targeted repairs associated with identified third-party impacts rather than full rehabilitation of the BLLC for wet weather storage. This approach was supported by Sydney Airport and the NSW EPA. The approach would also allow available investment to be prioritised towards initiatives expected to provide greater environmental benefit, including SWSOOS2 desilting.

Accordingly, Sydney Water proposes that conditions equivalent to Conditions 3(i) and 20 of the 2024–2027 Authorisation are not included in the 2027–2030 Authorisation. This proposed treatment reflects the investigation findings that full BLLC rehabilitation was not expected to provide a proportionate reduction in modelled overflow performance relative to the scale, complexity and cost of the works. Relevant considerations included the limited modelled benefit, estimated capital cost, delivery constraints associated with construction within Sydney Airport and the availability of alternative initiatives expected to provide greater environmental benefit. Targeted repairs at Ross Smith Avenue will continue to be progressed, subject to the required access, approvals and delivery dependencies, with progress reported through the SRG. Following execution of the Access Licence Agreement, Sydney Water will seek to complete the targeted repairs within approximately three months, subject to site conditions and applicable operational, safety and access requirements.

4.2 Hydraulic Improvement Plan and HILG

Sydney Water proposes that conditions equivalent to Conditions 3(k) and 15 of the 2024-2027 Authorisation are not included in the 2027-2030 Authorisation.

Investigations undertaken during the 2024–2027 Authorisation period considered whether dredging at the mouth of Mill Stream could provide sustained hydraulic or environmental benefits relevant to the authorised undertaking. The dredging option identified further assessment through the Hydraulic Improvement Plan (HIP) investigations involved removing the sandbar at the entrance to the waterway. The area investigated is shown in Figure 4-1 , with the location of the sandbar marked by a blue dot.

The investigations indicated that sediment deposition and sandbar formation are ongoing processes influenced by the physical and hydraulic characteristics of the waterway, broader catchment inputs and tidal influence.

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Sydney Airport has raised concerns that the presence of the sandbar may reduce flow and flushing within the Mill Stream. Dredging could temporarily increase local hydraulic capacity however, the investigations to date indicate that sediment would be likely to reaccumulate and that periodic maintenance dredging may be required to retain any benefit. Dredging may also result in localised environmental impacts, including disturbance and resuspension of sediment, temporary water-quality impacts, disturbance of aquatic habitat and fauna, and requirements for managing and disposing of dredged material. The nature and extent of any impacts would depend on the scope and method of the works and would require further assessment, consultation and applicable approvals.

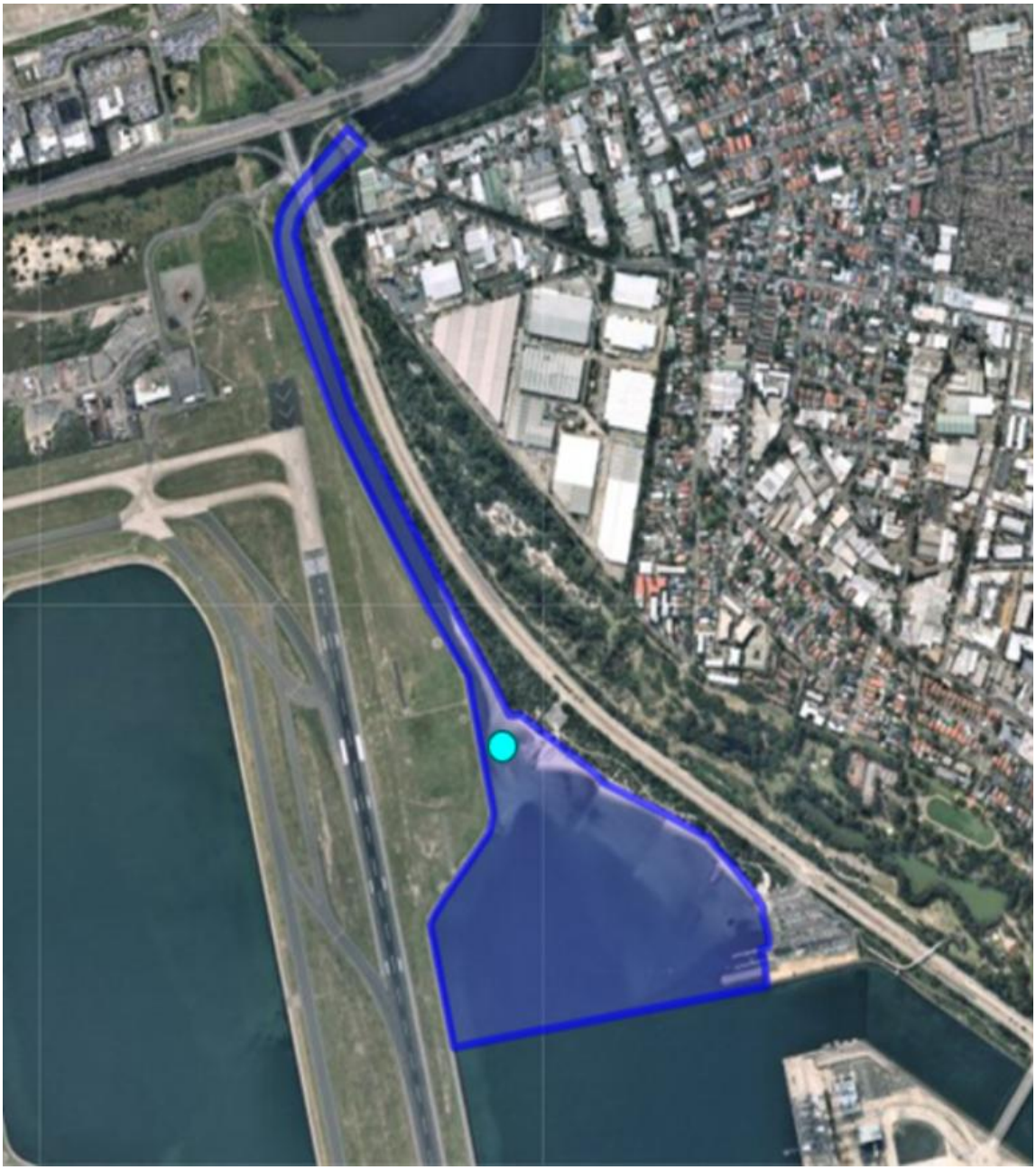

Figure 4-1: Aerial view showing the dredging area considered through the Hydraulic Improvement Plan investigation.

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During the 2024–2027 Authorisation period, Sydney Water continued to assess the proposal through its investment planning and prioritisation processes, including consideration of a potential shared funding arrangement with Sydney Airport. As the areas considered for dredging are not owned or controlled by Sydney Water, implementation would also require land access arrangements, applicable approvals and stakeholder agreement. Investment proposals are assessed against competing compliance, operational, renewal, growth and customer service priorities. These access approvals, funding and prioritisation considerations were considered alongside the technical and environmental findings when assessing whether dredging represented a proportionate measure for the authorised undertaking.

Based on the investigations completed, dredging was not identified as a proportionate measure for achieving sustained improvement in the environmental performance of the authorised undertaking. Sydney Water therefore proposes that a comparable HIP does not continue as a separate requirement during the 2027–2030 Authorisation period.

The HILG was established to support the development and implementation of the HIP. As the HIP is not proposed to continue, a separate HILG is no longer considered necessary. Relevant hydraulic and sediment-management matters may continue to be considered through the established Stakeholder Reference Group if new evidence, monitoring outcomes or changed circumstances warrant further review.

Accordingly, Sydney Water proposes that conditions equivalent to Conditions 3(k) and 15 of the 2024-2027 Authorisation are not included in the 2027-2030 Authorisation. This does not preclude future consideration of hydraulic or sediment-management measures if further evidence identifies a relevant environmental benefit and the proposed measures are feasible, proportionate and supported through applicable planning, approval and investment processes.

4.3 Implementation of wastewater screening at Sewer Pumping Station SP0038

Sydney Water proposes that the 2027-2030 Authorisation include an amended condition addressing continued progression of the wastewater screening project at Sewer Pumping Station SP0038, based on Condition 23 of the 2024-2027 Authorisation. Rather than prescribing a fixed completion date, the proposed condition would require Sydney Water to continue progressing project implementation and provide periodic progress updates. This approach recognises that the timing of implementation is largely dependent on both internal approvals and third-party processes (outside Sydney Water's control), while still ensuring transparency and ongoing reporting of progress toward delivery.

The objective of the wastewater screening project is to reduce gross pollutants discharged from the Mill Stream ERS during wet-weather overflow events, thereby reducing the impacts on the receiving environment and associated public amenity. A feasibility and options study completed in March 2023 identified wastewater screening at SP0038 as the preferred option for further development to support this objective.

Since the preferred option was identified in 2023, the project has undergone three major design iterations to identify a solution capable of achieving the intended gross pollutant removal outcomes while being feasible to construct and operate within the site's heritage, operational and hydraulic constraints. These design iterations have affected the project timeframe because earlier options were not considered suitable for further progression following identification of hydraulic, heritage, operational or constructability constraints.

HYDRA gauge information provides supporting hydraulic monitoring context for assessment of the project, including the spatial relationship between SP0038, the SWSOOS infrastructure and the SG0035 overflow location (Figure 4-2).

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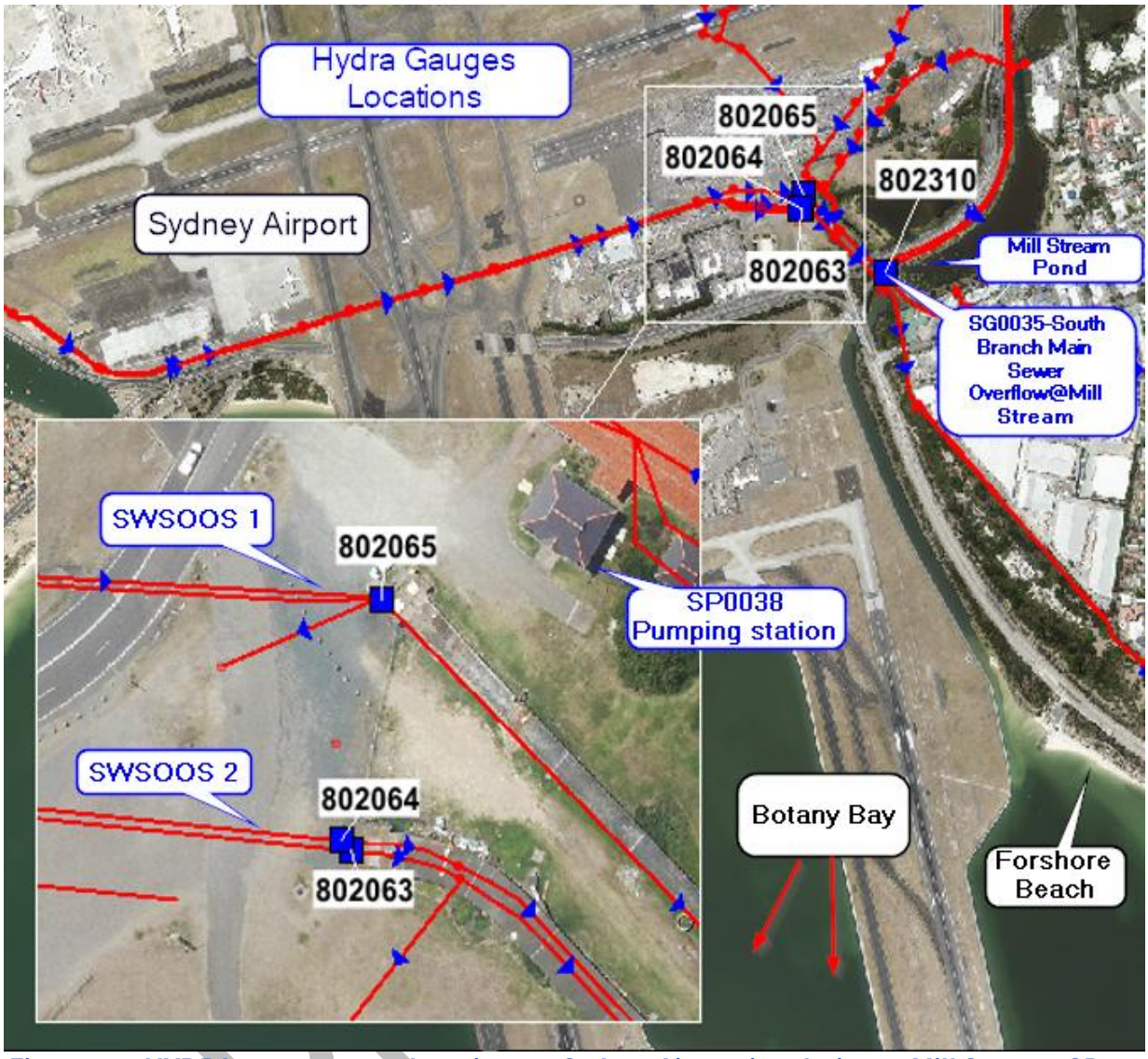

Figure 4-2: HYDRA gauge sensor locations at Sydney Airport in relation to Mill Stream, SP0038, SWSOOS infrastructure and the SG0035 overflow location

In October 2024, concept design investigations identified that the preferred screening options could have significant impacts on the heritage fabric of the State Heritage Register-listed SP0038, increasing construction complexity and delivery risks. Sydney Water therefore undertook further assessment of alternative options that could achieve the intended environmental outcomes while reducing heritage impacts.

In January 2025, a gross pollutant trap (GPT) was progressed for assessment as an alternative option. Subsequent design investigations identified hydraulic and site constraints indicating that the GPT was not expected to consistently achieve the required level of gross-pollutant removal during significant rainfall events. The GPT option was therefore not progressed further.

Following these assessments, a revised wastewater screening design was identified as the preferred option for continued development and has progressed through detailed design and risk reduction activities. Approximately 90% of detailed design has been completed, site and heritage investigations have been finalised, relevant heritage approvals have been obtained, and procurement activities are underway. The project remains subject to satisfactory completion of final feasibility and constructability reviews, investment approval and relevant external approvals and agreements, including those associated with Sydney Airport and the Commonwealth. As

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some of these matters remain outside Sydney Water's direct control, the timing and implementation of the current design cannot yet be confirmed.

Having regard to the design development undertaken and the remaining feasibility, constructability, funding and external-approval dependencies, Sydney Water proposes that the fixed completion requirement in Condition 23 be replaced with a requirement based on defined project-review, approval and reporting milestones. This approach would recognise progress made while retaining accountability for continued project development and allowing decisions on implementation to be informed by the outcomes of the remaining assessments and approval processes. Sydney Water would provide periodic progress updates on the status of the project, including progress against relevant milestones, key dependencies and the outcomes of material feasibility, approval and investment decisions.

4.4 Transition from fixed completion dates to milestone-based progress reporting

The 2024-2027 Authorisation included several short-term improvement initiatives with fixed completion dates, including completion of the Botany Low Level Carrier works Condition 20, installation of screening at Sewer Pumping Station SP0038 under Condition 23, and desilting of SWSOOS2 under Condition 24. Fixed completion dates provide a clear basis for assessing delivery. However, implementation experience during the 2024-2027 Authorisation period indicated that project timeframes may be materially affected by third-party approvals, land access requirements, weather conditions and supply chain constraints. These dependencies may affect delivery despite Sydney Water actively progressing the components of a project within its control.

A key lesson from the current Authorisation period relates to the increasing influence of third-party approvals on projects undertaken on Commonwealth airport land. During the SWSOOS1 desilting project, relevant access agreements were generally secured within approximately three months. For projects progressed under the current approval process, relevant approvals and access timeframes have ranged from a minimum of 12 months to 26 months. As illustrated in Figure 4-3 , these processes may add substantial lead times before physical works can commence. It is to be noted that Sydney Water delivers projects within a live wastewater network operations where asset condition and operational constraints are progressively verified as investigations and planning advance. Consequently, project requirements may evolve, requiring updates to design, methodology and environmental documentation.

Where material changes occur, Sydney Airport's approval process require re-engagement with SYD to assess the revised scope/environmental impacts, extending approval durations beyond the formal review period.

Project completion dates may therefore be materially influenced by external approval pathways as well as Sydney Water's readiness to undertake the works.

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Figure 4-3: Approval process and indicative timeframes

Note: SW= Sydney Water; SYD=Sydney Airport

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Several improvement initiatives, including the Botany Low Level Carrier works, SP0038 wastewater screening and SWSOOS2 desilting, depend on Sydney Airport access approvals, licensing arrangements and associated negotiations. Project sequencing and delivery timeframes may therefore be materially affected by third-party processes and site-access restrictions outside Sydney Water's direct control.

For SWSOOS2 desilting, Sydney Water undertook additional investigations, flow modelling and detailed design to develop a flow-isolation valve solution intended to provide safe crew access and reduce the risk of dry-weather overflows. The revised scope required updated access arrangements and progression through Sydney Airport's licensing and approval process. These requirements are currently forecast to extend the desilting program timeframe by approximately 10 months, notwithstanding the progress achieved through investigation, design and risk reduction.

A similar issue arose for the SP0038 wastewater screening project under Condition 23. Technical, operational heritage and constructability constraints required three design iterations to identify an option suitable for continued development and capable of supporting the intended gross pollutant removal outcomes, subject to the remaining feasibility, approval and investment processes. These iterations represent verifiable progress through options assessment, design development and risk reduction, but are not fully reflected where performance is assessed solely against a fixed construction completion date, as discussed in Section 4.3.

Fixed completion dates may also create pressure to prioritise schedule over safe, environmentally appropriate and effective delivery. Where unforeseen safety, technical, heritage or environmental matters arise, Sydney Water must retain sufficient flexibility to undertake further investigation, refine designs and implement appropriate risk controls before physical works proceed.

Delivery may also be affected by weather and environmental conditions, particularly for desilting activities, and by the availability of specialist contractors, equipment and materials. These factors may alter project sequencing and timing despite reasonable planning and active project progression. For projects materially affected by unresolved technical, access, approval or investment dependencies, Sydney Water proposes that fixed completion dates be supported or, where appropriate, replaced by defined and measurable project milestones. Milestones would be tailored to the stage and circumstances of each project and may include completion of investigations and design, constructability review, access and external approvals, investment decisions, procurement and delivery readiness, commencement of works and implementation. Reporting would identify progress against milestones, matters within Sydney Water's control, key dependencies, stakeholder engagement, environmental outcomes and forecast completion dates where reasonably available. Where a milestone is delayed, Sydney Water would report the reason for the variance, actions taken or proposed, and any revised milestone or delivery timeframe. This approach would retain accountability and regulatory visibility while recognising material delivery dependencies outside Sydney Water's direct control.

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4.5 Completion of the SWSOOS grit pits relocation feasibility assessment

Sydney Water's grit pits are located within the boundaries of Sydney Airport. Ongoing maintenance of these facilities requires regular site access; however, access can be constrained by airport operational requirements and security protocols. To address these challenges, Sydney Water completed a feasibility assessment to investigate options for relocating the grit pits outside airport land in accordance with Condition 17 of the 2024-2027 Authorisation.

The outcome of the feasibility assessment was reported in Sydney Water's 2024 Mill Stream Environment Management Plan Annual Compliance Report. In accordance with Condition 17 of the 2024-2027 Authorisation,

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Sydney Water provided the final feasibility report (Sydney Water, 2024, *Sydney Airport Grit Pit Relocation Options Report*) to the Airport Environment Officer (AEO) on 30 July 2024.

The assessment recommended proceeding with Option 2, which involved maintaining daytime access to the existing grit pits and monitoring the effectiveness of this arrangement over a 12-month period. Between 2024 and 2025, daytime access arrangements generally supported maintenance activities. The construction of a hardstand area has further improved access during wet weather and enhanced the efficiency of silt removal operations, as shown in
Figure 4-4.

While some maintenance activities have been delayed due to the unavailability of Sydney Airport security escorts, these issues have been formally raised with Sydney Airport and will continue to be progressed through ongoing engagement. Updates on access arrangements and any remaining challenges will continue to be reported through the Mill Stream SRG.

As the feasibility assessment required by Condition 17 of the 2024-2027 Authorisation has been completed and the final report was provided to the AEO on 30 July 2024, Sydney Water proposes that an equivalent to Condition 17 not be carried forward into the 2027–2030 Authorisation. The preferred management approach of continued daytime access to the existing grit pits, supported by the completed hardstand has been implemented and has generally supported ongoing maintenance activities.

Access remains subject to Sydney Airport operational, security and escort requirements, and any material access constraints will continue to be addressed through engagement with Sydney Airport and reported through the Mill Stream SRG. Not carrying forward an equivalent to Condition 17 would avoid retaining a completed one-off feasibility requirement, while maintaining accountability for ongoing grit pit access and maintenance through Action 1.3 and the SRG reporting arrangements.

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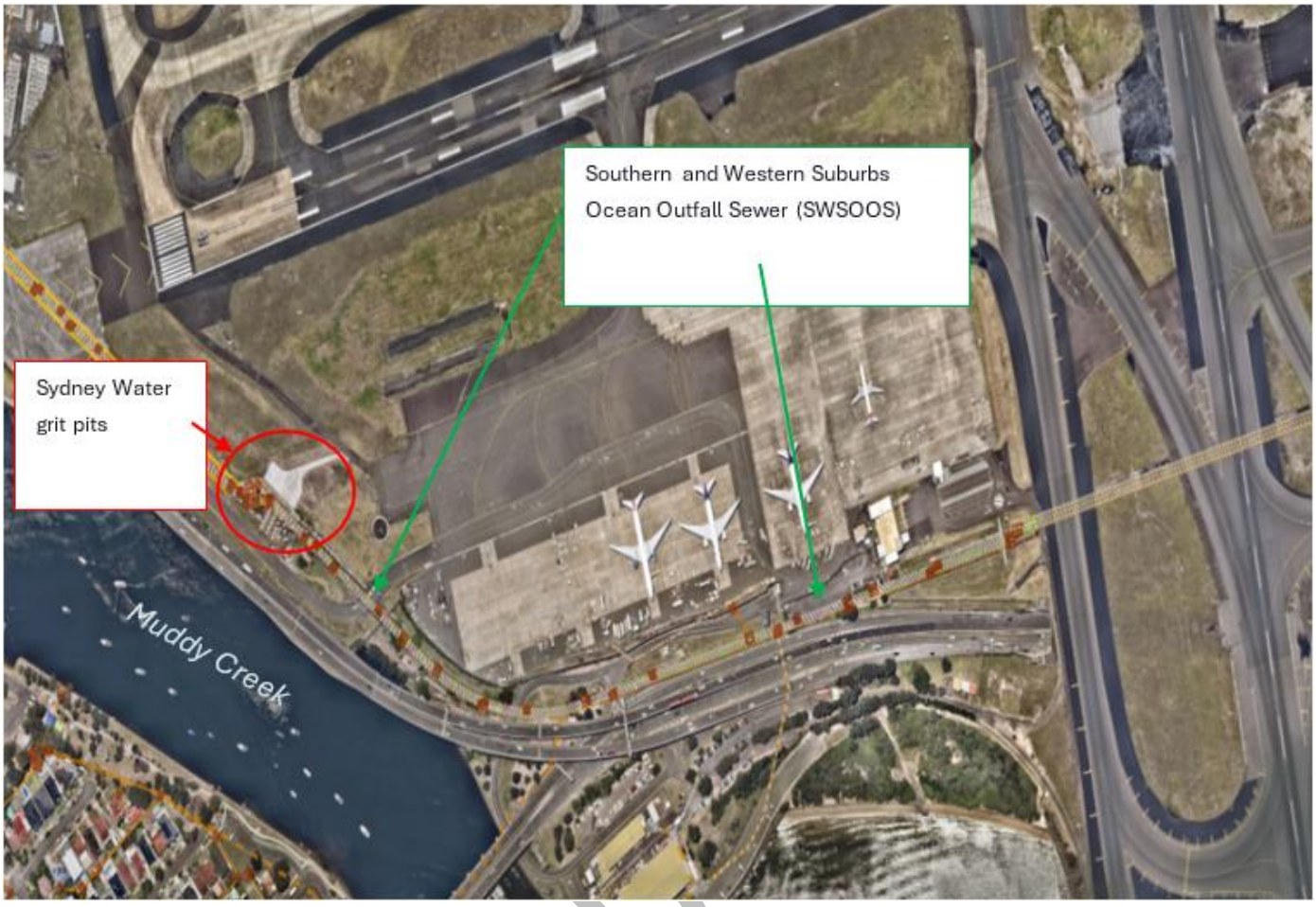

Figure 4-4: Location of the SWSOOS grit pits at Sydney Airport

4.6 Completion and proposed removal of the IPART reporting requirement

Sydney Water proposes that a condition equivalent to Condition 19 of the 2024-2027 Authorisation is not carried forward into the 2027-2030 Authorisation. Condition 19 required Sydney Water to submit its pricing proposal for the IPART 2025–2030 determination period, including relevant funding allocations and milestones, and to provide evidence of that submission to the AEO.

The pricing proposal was submitted, IPART completed its assessment and issued its Final Determination, and Sydney Water documented compliance with Condition 19 in its 2025 Annual Compliance Report. Accordingly, the specific one-off submission and reporting obligation established by Condition 19 has been completed.

Funding and prioritisation information was also discussed with key stakeholders through the SRG, including a specific IPART update at the April 2026 meeting. Related investment-program progress was discussed at subsequent SRG meetings as part of ongoing EMP and Malabar System Investment Program updates. These discussions provide additional context on investment planning and program progress, while completion of Condition 19 is evidenced separately through the completed IPART process and Sydney Water's compliance reporting.

The completed Condition 19 obligation should be distinguished from continuing investment prioritisation and project-delivery reporting: Near-term initiatives being progressed during the 2025–2030 determination period will

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continue to be reported through the EMP progress, annual compliance and SRG arrangements. Mid-term initiatives will remain subject to further investigation, assessment, prioritisation, approval and future funding decisions, including consideration through Sydney Water's 2030-2035 IPART pricing submission where applicable.

Funding for the SP0038 screening project remains subject to the feasibility, constructability, investment and approval processes described in Section 4.3. Not carrying forward a condition equivalent to Condition 19 would avoid retaining a completed one-off submission requirement, while maintaining transparency and accountability through continuing EMP, annual compliance, SRG and MSIP reporting arrangements.

Completion of the funding and prioritisation reporting required under Condition 19 does not establish that the full works program has been funded or discharge the separate requirements of Condition 26 of Authorisation No. 02/2026. Where the funding trigger in Condition 26 applies, Sydney Water must submit a Board-endorsed alternative action plan to the AEO by 31 January 2027, meeting the consultation, independent technical assessment and other requirements of that condition. Relevant measures identified through that plan are proposed to be incorporated into the near-term works, mid-term works and Master Plan activities under Actions 2.1–2.3 (Sections 7.2.1–7.2.3), with implementation and progress reported through the existing EMP arrangements, supported by Table 7and Table 10.

4.7 Wet-weather overflow performance and forecast outcomes

Modelled performance of the Mill Stream ERS has improved since 2020, reflecting the cumulative effect of operational, maintenance and capital initiatives across successive Authorisation periods. Modelled overflow frequency reduced from 19 to approximately 13 events per year, while modelled annual overflow volume reduced from 3,094 ML/year to approximately 1,238 ML/year. These results should be interpreted having regard to assumptions and limitations of the hydraulic model and the cumulative influence of measures implemented over time.

For SWSOOS2 desilting works expected to be completed by 31 March 2030, modelled performance is forecast to improve to approximately 10-12 overflow events per year and no more than approximately 1,115 ML per year. These figures align with the wet-weather overflow performance targets proposed for the 2027-2030 Authorisation.

Following completion of the full SWSOOS2 desilting program, modelled performance is forecast to improve further to approximately 10 overflow events per year and 928 ML per year. The full program forecast should be distinguished from the performance anticipated from works expected to be completed during the 2027-2030 Authorisation period.

These forecast outcomes are modelled estimates and do not represent guaranteed annual operating results. Actual overflow frequency and volume will vary depending on rainfall, catchment conditions, wastewater flows, delivery of the relevant works and other factors affecting system performance. The forecasts also remain subject to the assumptions, calibration, scope and limitations of the hydraulic model.

The Authorisation period figures provide performance targets for assessing achievement or satisfactory progress during the Authorisation period. They should not be interpreted as fixed limits applying independently of project delivery status, relevant model assumptions or documented factors outside Sydney Water's reasonable control. An actual annual overflow volume below 928 ML would represent performance better than the modelled full-program forecast and would therefore be treated as outperforming, rather than falling outside the target.

Satisfactory progress may be demonstrated through trends in modelled or observed overflow performance, implementation of the improvement works identified in this EMP, achievement of relevant project milestones and reasonable corrective or adaptive-management actions where performance is not trending towards the targets.

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Reporting will identify the relevant results, project-delivery status, assumptions, dependencies, material variances and any reasonable corrective or adaptive-management measures proposed.

Further information on milestone-based project reporting is provided in Section 4.4. The SWSOOS2 desilting commitments and performance indicators are set out in Action 1.1-Desilt SWSOOS2-SP0038 to Malabar WRRF in Section 7.1.1, with associated performance indicators summarised in Table 7and Table 10.

4.7.1 Comparison of actual and modelled overflow performance

This sub-section compares actual Mill Stream ERS overflow event and discharge volumes for selected years within the 2021-2024 and 2024-2027 Authorisation periods with the corresponding modelled annual performance presented in the EMPs. The modelled figures provide a reference for comparison under the rainfall sequence and system assumptions used in the corresponding EMPs, rather than a prediction of performance under the actual rainfall conditions experienced in each reporting year. Differences between recorded and modelled performance should therefore be considered in that context.

2021–2024 Authorisation period

For the 2021–2024 Authorisation period, the 2021 results show close alignment between actual and modelled overflow frequency. The Mill Stream ERS recorded 20 overflow events in 2021, compared with 19 modelled events. Actual overflow volume for 2021 was not reliably quantifiable and therefore cannot be directly compared with the modelled annual overflow volume of 3,094 ML. Annual rainfall was 1,290 mm, approximately 13% higher than the modelling-period annual average of 1,145 mm.

2024–2027 Authorisation period

For the 2024–2027 Authorisation period, actual overflow performance in 2024 exceeded the modelled annual values for both event frequency and discharge volume. The Mill Stream ERS recorded 16 overflow events compared with 13 modelled events, while actual overflow volume was 3,345 ML compared with the modelled annual volume of 1,238 ML. Annual rainfall in 2024 was approximately 43% higher than the modelling-period annual average of 1,145 mm. These wetter conditions are consistent with increased wet-weather inflows and infiltration and provide important context when interpreting the higher actual overflow frequency and volume compared with the modelled values (Figure 4-5).

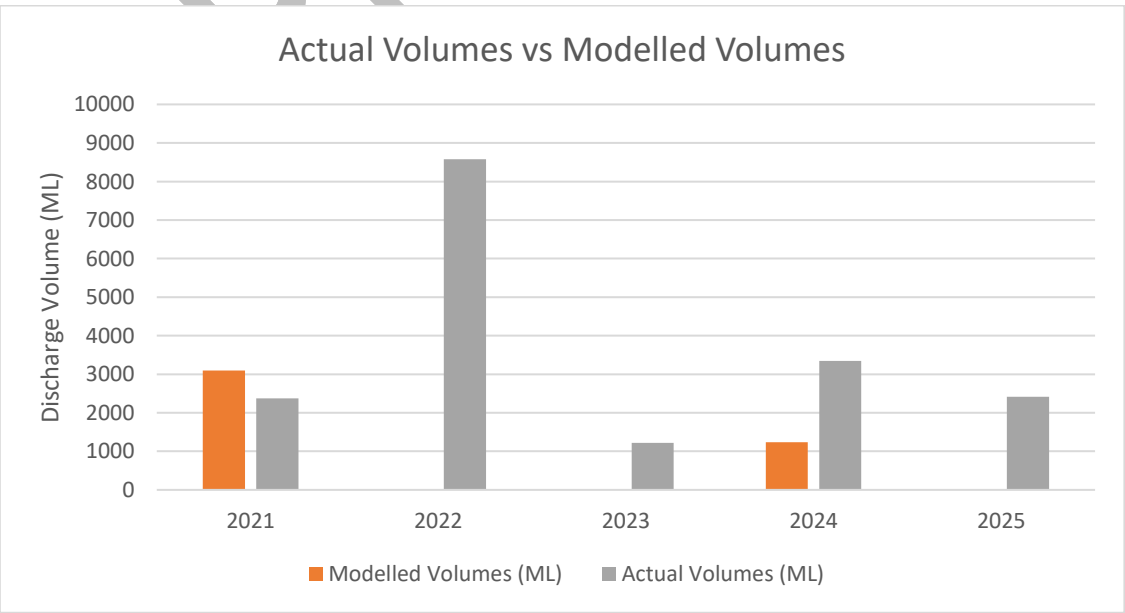

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Figure 4-5 Comparison of Modelled and Actual Mill Stream Discharge Volumes (2021–2025)

Notes: Overflow discharge volumes for gauge 802310, which measures overflow from the Southern Division Submain, cannot be reliably calculated for periods before 2024 because the necessary monitoring instrumentation was installed late 2023.

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4.8 Noise impact assessment

Since Sydney Water's previous Authorisation, AEPR 1997 has been repealed and replaced by AEPR 2026. However, AEPR 1997 continues to apply to this application due to the operation of the transitional provisions in AEPR 2026.

AEPR 2026 places a greater emphasis on the assessment and management of noise impacts associated with activities undertaken within airport precincts.

Historically, noise monitoring has not been a standard requirement for Sydney Water's short-term maintenance activities, such as grit pit maintenance. As a result, noise monitoring has not been incorporated into the planning, resourcing or operational budgets for these activities. In addition, implementing noise monitoring within the airport environment presents practical challenges due to the complex and dynamic acoustic setting, where aircraft movements and other airport operations can influence the collection and interpretation of representative noise data. Given these factors, noise monitoring may not provide the most efficient or reliable means of assessing compliance with the applicable noise requirements of AEPR 1997.

A noise impact assessment is therefore considered the most appropriate approach for demonstrating compliance with AEPR 1997 and alignment with AEPR 2026. The assessment will address works and activities associated with the operation and maintenance of the Mill Stream ERS, use the applicable methodologies and assessment techniques, and evaluate whether Sydney Water's activities are likely to comply with the applicable noise requirements. This approach provides a practical, cost-effective and risk-based means of identifying potential noise impacts and determining whether mitigation measures or further assessment may be required.

Should the assessment identify a high risk of non-compliance, significant uncertainty in the predicted noise levels, or a need to validate assessment assumptions, targeted noise monitoring may be recommended as a follow-up measure to confirm assessment outcomes and inform any additional mitigation requirements.

The assessment will be completed and documented, and the assessment report provided to the AEO, by 30 September 2028, approximately midway through the 2027–2030 Authorisation period. If the assessment identifies an exceedance of an applicable noise requirement, the report will identify recommended measures to mitigate the noise impact and address the exceedance. Sydney Water will report on its consideration of and response to those recommendations in the Mill Stream ERS EMP Annual Compliance Report for the reporting year ending 31 March 2029, with subsequent progress reported annually until the relevant actions are completed. The associated implementation and reporting requirements are set out in Action 4.5 (Section 7.4.5)

4.9 Proposed amendment to Condition 9-community engagement requirements

Stakeholder feedback called for increased community engagement, while individual customer correspondence raised concerns about the timing and format of the annual community meeting and requested opportunities for online participation and shared discussion.

In response, Sydney Water reviewed the community engagement requirements included in Condition 9 of the 2024-2027 Authorisation, having regard to participation outcomes, feedback received and the effectiveness of available engagement methods.

Under Condition 9 of the 2024-2027 Authorisation, Sydney Water was required to provide an annual update on implementation of the EMP through a meeting held within the local community by 1 February each year. While intended to facilitate community engagement, the requirement presents practical challenges. The February

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timing coincides with the summer and school holiday period when many residents are away, limiting participation opportunities. In addition, the requirement for a locally held meeting restricted Sydney Water's ability to use alternative engagement formats, including online engagement activities and participation through established community or stakeholder forums and events. Individual customer feedback specifically supported the use of online engagement methods.

Despite significant promotion and notification efforts, participation in the annual EMP update meetings remained low. In 2025, approximately 20 residents attended following the distribution of more than 6,000 letterbox notifications to local households. In 2026, Sydney Water expanded its engagement approach through geotargeted social media advertising and promotion through Bayside Council communication channels, reaching more than 11,500 people; however, only one resident attended the meeting. These outcomes indicate that participation remained low despite substantial efforts to notify and engage the community through multiple communication channels. The results suggest that the prescribed requirement for a standalone annual community meeting is not the most effective mechanism for achieving broad community participation and engagement.

To improve engagement outcomes, Sydney Water therefore proposes to replace the prescribed locally held annual meeting with a requirement to undertake at least one community or stakeholder engagement activity during each Authorisation year. The engagement activity may be delivered through a Sydney Water-hosted community or stakeholder forum, an online engagement activity, or participation in an established community or stakeholder forum or event convened by Bayside Council, Sydney Airport, Port Authority of NSW or another relevant organisation. This approach was directly informed by feedback from key stakeholders. Established forums and events may be better attended, have established communication channels and benefit from trusted relationships with the community. Using a range of engagement methods is expected to improve community reach, support accessibility and enable Sydney Water to engage with a broader and more representative cross-section of the community than is currently achieved through a standalone annual meeting.

Sydney Water will continue to support participation through targeted digital communications, community consultation activities and other appropriate communication channels. Together, these measures will continue to achieve the intent of Condition 9 by providing opportunities for the community to receive information on EMP implementation, ask questions and provide feedback, while supporting accessible and effective engagement. The proposed approach also provides greater flexibility to adopt engagement methods that are proportionate, accessible and responsive to community preferences based on demonstrated participation trends and feedback received.

To support ongoing community and stakeholder engagement, Sydney Water will undertake at least one community or stakeholder engagement activity during each Authorisation year to provide information on implementation of the EMP, respond to questions and provide an opportunity for feedback. The engagement activity may be delivered through:

i. a Sydney Water-hosted community or stakeholder forum;

ii. an online engagement activity; or

iii. participation in an established community or stakeholder forum or event convened by Bayside Council, Sydney Airport, Port Authority of NSW or another relevant organisation.

Sydney Water will provide the AEO with written notice of each planned engagement activity as soon as practicable after the arrangements are confirmed and where reasonably practicable, at least one month before the activity.

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For each publicly accessible engagement activity, Sydney Water will publish relevant information on its website as soon as practicable after the arrangements are confirmed and, were reasonably practicable, at least one month before the activity. The published information will include:

- the date, time and location of the activity;
- details of how members of the community may participate, where applicable;
- a brief description of the purpose and subject matter of the activity; and
- contact details or another means of obtaining further information.

Additional engagement activities may be undertaken where appropriate, having regard to stakeholder interest, emerging issues, feedback received and the effectiveness of available engagement methods. This approach retains a clear and measurable minimum annual engagement commitment while providing flexibility to use engagement mechanisms that are proportionate, accessible and effective in reaching relevant stakeholders and community members.

Sydney Water proposes to maintain a stakeholder communication plan for the 2027–2030 Authorisation period, covering planned engagement activities, digital communications and arrangements for receiving and responding to community enquiries. Reporting through the SRG and EMP progress reports will summarise engagement undertaken, key themes raised by the community and relevant follow-up actions. Where matters involve overlapping responsibilities, Sydney Water will liaise with Sydney Airport and other relevant stakeholders, subject to applicable privacy and confidentiality requirements.

Further information on community and stakeholder engagement arrangements is provided in Section 6.1.3.

4.10 Malabar Strategic Business Case (SBC) to Malabar System Investment Program (MSIP)

Since the 2021–2024 Authorisation, Sydney Water has reported on the development and implementation of its long-term strategy for improving the performance of the Malabar wastewater system. Reporting was initially required under Condition 10 of the 2021–2024 Authorisation and subsequently under Condition 25 of the 2024–2027 Authorisation. Condition 25 required Sydney Water to significantly progress the concept design, environmental assessments and approvals for the preferred option identified through the Malabar Strategic Business Case. Progress against this requirement has been documented through the applicable progress and annual compliance reporting arrangements.

The Malabar Strategic Business Case assessed a range of long-term servicing options for the Malabar wastewater system and identified the progressive disconnection of upstream catchments through river-release and, ultimately, water-reuse schemes as the preferred long-term strategy. As planning has progressed, this strategy has informed the Malabar System Investment Program (MSIP), which provides Sydney Water's program framework for planning and progressing potential improvements to the capacity, resilience and environmental performance of the Malabar wastewater system.

The MSIP has progressed from strategic planning into phased development and delivery. The near-term works comprise the four MSIP packages across Glenfield, Liverpool, Fairfield and LAP. Relevant near-term works for which funding has been approved or provided through the 2025–2030 determination are progressing through the applicable stages of planning, design, procurement and delivery, subject to project-specific approvals and dependencies. The mid-term works comprise works associated with river release under the MSIP. Relevant planning and development activities for these works are being progressed for potential consideration in future investment submissions and remain subject to further planning, business-case development, prioritisation,

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applicable approvals and future investment decisions. The near-term and mid-term MSIP works are distinct from SWSOOS2 desilting, wastewater screening and WWOA initiatives, which respond to separate objectives and actions in this EMP.

For the proposed 2027–2030 Authorisation period, Sydney Water proposes that the existing reporting requirement transition from the Malabar Strategic Business Case to the near-term works and mid-term works under the MSIP, as defined in this EMP. Reporting will distinguish between the near-term works comprising the four MSIP packages across Glenfield, Liverpool, Fairfield and LAP, and the mid-term works associated with river release.

Reporting would address progress against relevant actions and milestones, delivery status, key dependencies, applicable approvals, material variances, revised or forecast timeframes, risks and relevant outcomes.

Progress would be documented through the six-monthly EMP progress reports and annual compliance reports described in this EMP (Sections 7.6.2 and 7.6.3). Quarterly Stakeholder Reference Group meetings (Section 7.6.1) would provide more frequent stakeholder updates on relevant progress and emerging matters. This reporting approach recognises that the frequency and volume of wet-weather overflows from the Mill Stream ERS are influenced by the performance of the broader Malabar wastewater system. Measures implemented within or relevant to the Authorisation are intended to support incremental improvement. More substantial reductions in overflow frequency or volume may depend on broader system-wide investments planned and, where approved, delivered through the MSIP.

Accordingly, Sydney Water proposes that the 2027-2030 Authorisation include an amended requirement reflecting the substantive intent of Condition 25 of the 2024-2027 Authorisation, with associated reporting through the Mill Stream ERS EMP Interim Compliance Reports and Mill Stream ERS EMP Annual Compliance Reports, to reflect the transition from the Malabar Strategic Business Case to the MSIP. Reporting would be limited to MSIP works and activities relevant to the performance or potential environmental effects of the Mill Stream ERS.

The identification or reporting of a work or activity under the MSIP would not, of itself, represent a commitment to deliver that work or activity where it has not been funded, approved or scheduled for delivery within the Authorisation period. Mid-term and longer-term works and activities would remain subject to planning, business-case development, prioritisation, applicable approvals and future investment decisions. The associated implementation and reporting requirements for the near-term and mid-term works are set out in Action 2.1 and 2.2 (Sections 7.2.1 and 7.2.2).

4.11 Sydney Water Master Plan 2055

The Sydney Water Master Plan 2055 provides a long-term strategic planning framework for infrastructure, operational and servicing decisions across Greater Sydney. It considers matters including population growth, system capacity, resilience, environmental performance, customer outcomes, affordability and regulatory obligations. The Master Plan is relevant to the Mill Stream ERS because it provides broader strategic context for considering long-term servicing options, system constraints and potential future investment pathways for the Malabar wastewater system.

The Malabar System Investment Program (MSIP) is a program framework through which initiatives relevant to the capacity, resilience and environmental performance of the Malabar wastewater system are being considered or progressed. The Master Plan provides broader strategic context that may be relevant to the MSIP and other potential future initiatives. Individual projects and investment decisions remain subject to further planning, options assessment, prioritisation, business-case development, funding, applicable approvals and Sydney Water governance processes.

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When relevant finalised information becomes available during the 2027–2030 Authorisation period, Sydney Water may, at its discretion, provide the SRG with a summary of information that Sydney Water considers relevant to the future planning, environmental management or performance of the Mill Stream ERS. Any summary would be limited to information approved for release and subject to applicable confidentiality, commercial, legal, security and third-party restrictions.

References to the Master Plan in the Authorisation or EMP are intended to explain the strategic relationship between broader Malabar system planning and the longer-term planning context that may be relevant to future Mill Stream ERS performance. They do not constitute a commitment to deliver an unfunded or unapproved project, require consultation on development of the Master Plan, require disclosure of commercially sensitive or otherwise restricted information, extend the scope of the Mill Stream Authorisation to Sydney Water's broader enterprise planning activities, or establish a separate or recurring reporting obligation in relation to the Master Plan. See also Action 2.3 -Sydney Water Master Plan 2055 (Section 7.2.3).

4.12 Air quality monitoring (H2S) near discharge location

Sydney Water undertook an air-quality monitoring program undertaken in accordance with Australian Standard AS 4323 and NSWEPA air quality monitoring guidelines between September 2024 and October 2025 to assess hydrogen sulphide (H_2S) concentrations and potential odour impacts associated with Mill Stream ERS overflow events. Monitoring was undertaken at the overflow location and selected nearby sensitive receptors.

The monitoring results indicated that recorded H_2S concentrations associated with the monitored overflow events were low, localised and short-lived. Within the scope, locations and period of the monitoring program, the available results did not identify measurable overflow-related impacts beyond the immediate vicinity of the discharge location. Further information is provided in Sydney Water's September 2025 Odour Monitoring at Mill Stream report.

The monitoring findings and proposed conclusion of the program were considered at the Stakeholder Reference Group meeting held on 23 October 2025 and discussed with relevant regulators. The EPA confirmed its agreement with the recommendation to discontinue monitoring and remove the monitors in correspondence dated 7 November 2025. The AEO subsequently confirmed by email dated 10 November 2025 that, based on the results presented in the report provided to the AEO on 26 September 2025, the recommendation to discontinue monitoring and remove the monitors was appropriate. The AEO also required Sydney Water to notify the AEO of future odour concerns raised by members of the public or other parties that could be attributed to Mill Stream overflows.

As the monitoring program has been completed, achieved its stated objective and did not identify a basis for routine ongoing H_2S monitoring, Sydney Water proposes to not include air-quality monitoring as an ongoing action in the 2027–2030 EMP. This would not affect Sydney Water's obligation to notify the AEO of relevant future odour concerns or preclude further assessment or targeted monitoring if future complaints, changed operating conditions, monitoring information or other evidence indicate that additional investigation is warranted.

4.13 Schedule 2 (AEPR 1997) monitoring and assessment framework

4.13.1 Existing monitoring program in accordance with AEPR (1997)

The monitoring and assessment framework described in this EMP has been developed in general accordance with the requirements of AEPR 1997 and the proposed Authorisation.

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The current regulatory environment has changed with the repeal of AEPR 1997 and commencement of AEPR 2026 (with a transitional period) and the publication of a report entitled *Proposed content for a Ministerial Instrument under the Airports (Environment Protection) Regulations: Updating and moving Schedules 1-4 to a Ministerial Instrument,* dated April 2026.

With this in mind, Sydney Water undertook a review of the monitoring requirements contained in AEPR 2026 and the draft Proposed Ministerial Instrument to identify opportunities to improve and future-proof the monitoring program. The outcomes of that review have been used to inform the proposed monitoring framework described in the sections below.

The Schedule 2 accepted limits in AEPR 1997 have the same values as the Schedule 2 investigation levels in AEPR 2026. After the authorisation is granted or after 1 April 2027 (whichever date is later) a reference to an accepted limits may be read as reference to the corresponding investigation level. This EMP may be reviewed if new investigation levels are set by legislative instrument under section 14 of AEPR 2026.

4.13.2 Review of the monitoring program and consideration of AEPR (2026) and draft Proposed Ministerial Instrument (2026)

A systematic review of the routine monitoring program was undertaken to improve the quality and usefulness of the monitoring dataset and ensure the program continues to provide meaningful information on environmental outcomes associated with ERS overflow discharges. The review also considered the introduction of AEPR 2026 and the draft Proposed Ministerial Instrument, which expand and update the suite of contaminants identified for environmental monitoring. As part of this process, Sydney Water assessed both existing and newly proposed contaminants against criteria including relevance to ERS overflow discharges, historical monitoring outcomes, availability of suitable analytical methods, and the existence of applicable assessment criteria. The outcomes of this review were used to categorise contaminants into routine monitoring, interim campaign monitoring, or exclusion from the monitoring program, thereby aligning the monitoring framework with emerging regulatory requirements while maintaining a practical, risk-based approach.

Contaminants were assigned to the following categories:

- **Routine Monitoring Program** (Table 4): contaminants considered relevant to Mill Stream discharges and for which suitable monitoring methods, supporting data and regulatory justification exist. These contaminants will form part of the routine monitoring program
- **Interim Campaign Monitoring Program** (Table 5): contaminants requiring additional investigation to confirm occurrence, prevalence and significance within the sewer network before consideration for routine monitoring.
- **Excluded Contaminants** (Table 6): contaminants that were determined to be of low relevance to discharges, do not have a marine investigation level, had no credible pathway to the sewer network, were not detected in historical monitoring, or could not be reliably assessed using currently available analytical methods.

This tiered approach focuses monitoring effort on contaminants most likely to provide meaningful information and is intended to support development of a practical monitoring program that responds to the expanded contaminant scope proposed under AEPR 2026 and the draft Proposed Ministerial Instrument.

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4.13.3 Proposed program for Authorisation period 2027-2030

The routine monitoring program comprises contaminants included in the existing AEPR framework and/or the proposed Ministerial Instrument. These parameters have established analytical methods, are routinely monitored or readily implementable, and represent the contaminant groups required to assess potential impacts on receiving waters. The routine suite includes chemicals commonly detected or have investigation levels that warrant ongoing surveillance. Table 4 details the chemicals proposed for routine monitoring. The accepted limits specified in AEPR 1997 will be applied to the assessment.

In the absence of an accepted limit in AEPR 1997, the draft guideline in the proposed Ministerial Instrument will be applied in the interim. Where guideline values are proposed to be updated in the proposed Ministerial Instrument, accepted limits in AEPR 1997 will continue to apply until any pro Ministerial Instrument is made.

Table 4: Chemicals and and parameters included in the routine monitoring program and the relevant assessment criteria under the AEPR 1997, AEPR 2026 and proposed Ministerial Instrument 2026.

Chemical / Parameter	AEPR 1997/2026 limit	ANZG 2018 / Proposed Ministerial Instrument investigation level
Dissolved oxygen [1]	>6 mg/L or to >80% saturation of the average saturation level for a normal 24-hour period	Estuarine: 80-110% saturation
pH[1]	Marine: increase >0.2 pH units	Estuarine: pH 7.0-8.5
Salinity[1]	Increase >5% or >1000 mg/L	Estuarine: ecosystem-specific range (not a single value)
Turbidity / Total Suspended Solids[1]	TSS change >10% seasonally or clarity reduction >10%	Estuarine: 0.5-10 NTU
Faecal coliforms	Median 150 CFU/100mL and >20% samples <600 CFU/100mL	Median 150 CFU/100mL and >20% samples <600 CFU/100mL
Enterococci[5]	Not specified	40 CFU/100mL median recreational trigger value*
Temperature	Increase >2°C above seasonal mean	Increase >2°C above seasonal mean
Ammonia[1]	Not specified for marine	910 µg/L marine
Arsenic (total) [1,3]	50 µg/L marine	Replaced by As(III) and As(V)
Arsenic (III) [2]	Not specified	2.3 µg/L marine
Arsenic (V) [2]	Not specified	4.5 µg/L marine
Cadmium[1]	2 µg/L marine	0.7 µg/L marine
Chromium (total)[1,3]	50 µg/L marine	Replaced by Cr(III) and Cr(VI)
Chromium (III)[2]	Not specified	10 µg/L marine
Chromium (VI)[2]	Not specified	4.4 µg/L marine
Copper[1]	5 µg/L marine	1.3 µg/L marine
Cyanide[1]	5 µg/L marine	4 µg/L marine
Sulphide[1,3]	2 µg/L marine	Not specified
Hydrogen Sulphide[3]	Not specified	1 µg/L marine
Iron [2]	Not specified for marine	Not specified for marine[2]
Lead [1]	5 µg/L marine	4.4 µg/L marine
Mercury (inorganic)[3]	0.1 µg/L marine	0.1 µg/L marine
Nickel[1]	15 µg/L marine	7 µg/L marine
Selenium (Total)[1]	70 µg/L marine	3 µg/L marine
Silver[1]	1 µg/L marine	1.4 µg/L marine
Zinc[1]	50 µg/L marine	8 µg/L marine

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Chemical / Parameter	AEPR 1997/2026 limit	ANZG 2018 / Proposed Ministerial Instrument investigation level
Fuel (C6-C9 fractions)[2]	Not specified marine	150 µg/L marine
Mineral Oil (>C9 fractions)[2]	Not specified marine	600 µg/L marine
Phosphates (as P)	5 µg/L marine	5 µg/L estuarine; 1 µg/L coastal
Total Nitrogen[5]	Not specified	ANZG estuarine default guideline value
Nitrates (as N)	10 µg/L marine	10 µg/L marine
Ammonium (as N)[1]	5 µg/L marine	15 µg/L marine
Chlorophyll-a[1]	1 µg/L marine	4 µg/L estuarine
PFOS[2,4]	Not specified	0.135 µg/L marine
PFOA[2,4]	Not specified	220 µg/L marine

1. **The proposed Ministerial Instrument introduces a revised investigation level for this parameter. Until the proposed Ministerial Instrument is finalised and in force, the applicable AEPR 1997 accepted limit / AEPR 2026 investigation level will continue to apply.**

2. No accepted limit/investigation level is specified in the AEPR 1997 / AEPR 2026. In the interim, Sydney Water will assess results against the ANZG (2018) default guideline value, which aligns with the corresponding value proposed in the proposed Ministerial Instrument. For values not proposed in the Ministerial Instrument, the ANZG (2018) default guideline value will be applied.

3. The proposed Ministerial Instrument replaces or supplements this chemical with alternative, more specific or additional analytes. Until the proposed Ministerial Instrument comes into effect, both the parameter specified under AEPR 1997 / AEPR 2026 and the corresponding analytes specified in the proposed Ministerial Instrument will be analysed and reported. Once the proposed Ministerial Instrument is in force, monitoring and reporting will transition to the analytes specified in that instrument.

4. Included to align with the HEPA PFAS National Environmental Management Plan 3.1 (2026).

5. Included as a supporting environmental monitoring parameter to maintain consistency with historical Mill Stream monitoring and assessment. No corresponding accepted limit/investigation level is specified under the AEPR 1997/AEPR 2026 or the proposed Ministerial Instrument.

Table 5 specifies contaminants that are proposed to be included in the interim campaign monitoring program prior to determining if they are included in the routine monitoring program. They are listed in AEPR 1997/AEPR 2026 or the proposed Ministerial Instrument, however, there is sufficient information available to determine if they are suitable for inclusion in the routine monitoring program. These contaminants were selected where there is a plausible sewer pathway, an identified regulatory or emerging contaminant interest, or existing detections in wastewater or effluent, and have insufficient evidence to confidently justify inclusion or exclusion from the routine program. The data will be used to determine whether these contaminants occur within the sewer network at concentrations relevant to the proposed investigation levels and whether ongoing monitoring is warranted.

Once sufficient data is collected, a reassessment will be undertaken to determine their suitability for inclusion in the routine monitoring program following the campaign monitoring program. Sydney Water will update the AEO and relevant stakeholders on the finding.

Table 5: Chemicals proposed for interim campaign monitoring prior to reassessment.

Chemical	Source
Tributyltin	AEPR 2026 + Proposed Ministerial Instrument
1,1,2-trichloroethylene	Proposed Ministerial Instrument
Ethylbenzene	Proposed Ministerial Instrument
Dieldrin	AEPR 2026 + Proposed Ministerial Instrument

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Chemical	Source
Azinphos-methyl	Proposed Ministerial Instrument
Chlorpyrifos	AEPR 2026 + Proposed Ministerial Instrument
Malathion	AEPR 2026 + Proposed Ministerial Instrument
Diazinon	Proposed Ministerial Instrument
Dimethoate	Proposed Ministerial Instrument
Glysophate	Proposed Ministerial Instrument
Diquat	Proposed Ministerial Instrument
Dibutylphthalate	Proposed Ministerial Instrument
Diethylphthalate	Proposed Ministerial Instrument
Benzo(a)pyrene	Proposed Ministerial Instrument
Naphthalene	Proposed Ministerial Instrument
Anthracene	Proposed Ministerial Instrument
Phenanthrene	Proposed Ministerial Instrument
Fluoranthene	Proposed Ministerial Instrument
1,2,3,4-Tetrachlorobenzene	Proposed Ministerial Instrument
1,2,3,5-Tetrachlorobenzene	Proposed Ministerial Instrument
1,2,4,5-Tetrachlorobenzene	Proposed Ministerial Instrument
Pentachlorobenzene	Proposed Ministerial Instrument

Proposal

The excluded contaminants were assessed and determined not to warrant inclusion in either the routine monitoring program or the proposed campaign monitoring. Exclusions were based on one or more of the following factors: absence of a marine investigation level, lack of a credible sewer source or pathway, historical non-detection in wastewater, low environmental relevance in the context of sewage discharges, removal of the contaminant from contemporary use, or the absence of a suitable analytical method capable of reliably assessing compliance against the proposed investigation level. These contaminants may be reconsidered in future if new evidence, improved analytical methods, or other regulatory requirements emerge. These chemicals are detailed in Table 6.

Table 6: Chemicals proposed for exclusion from the routine monitoring program.

Chemical	Source
Aluminium (pH >6.5)	AEPR 2026 + Proposed Ministerial Instrument
Aluminium (pH <6.5)	Proposed Ministerial Instrument
Boron	Proposed Ministerial Instrument

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Chemical	Source
Beryllium	AEPR 2026 + Proposed Ministerial Instrument
Antimony (III)	AEPR 2026 + Proposed Ministerial Instrument
Selenium (IV)	Proposed Ministerial Instrument
Thallium	AEPR 2026 + Proposed Ministerial Instrument
AES	Proposed Ministerial Instrument
Alcohol Ethoxylated Surfactants (AE)	Proposed Ministerial Instrument
LAS	Proposed Ministerial Instrument
BP1100X	Proposed Ministerial Instrument
Corexit 7664	Proposed Ministerial Instrument
Corexit 8667	Proposed Ministerial Instrument
Corexit 9527	Proposed Ministerial Instrument
Corexit 9550	Proposed Ministerial Instrument
Hexachlorobutadiene	AEPR 2026 + Proposed Ministerial Instrument
Benzene	AEPR 2026 + Proposed Ministerial Instrument
Phenol	AEPR 2026 + Proposed Ministerial Instrument
Toluene	Proposed Ministerial Instrument
Monochlorobenzene	Proposed Ministerial Instrument
1,2-Dichlorobenzene	AEPR 2026 + Proposed Ministerial Instrument
1,3-Dichlorobenzene	AEPR 2026 + Proposed Ministerial Instrument
1,4-Dichlorobenzene	AEPR 2026 + Proposed Ministerial Instrument
1,2,4-Trichlorobenzene	AEPR 2026 + Proposed Ministerial Instrument
1,3,5-Trichlorobenzene	AEPR 2026 + Proposed Ministerial Instrument
Hexachlorobenzene	AEPR 2026 + Proposed Ministerial Instrument
2-Chlorophenol	Proposed Ministerial Instrument
4-Chlorophenol	Proposed Ministerial Instrument
2,4-Dichlorophenol	AEPR 2026 + Proposed Ministerial Instrument

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Chemical	Source
2,4,6-Trichlorophenol	AEPR 2026 + Proposed Ministerial Instrument
Tetrachlorophenol	AEPR 2026 + Proposed Ministerial Instrument
2,3,4,6-Tetrachlorophenol	Proposed Ministerial Instrument
Pentachlorophenol	AEPR 2026 + Proposed Ministerial Instrument
Aldrin	AEPR 2026 + Proposed Ministerial Instrument
Chlordane	AEPR 2026 + Proposed Ministerial Instrument
DDE	AEPR 2026 + Proposed Ministerial Instrument
DDT	AEPR 2026 + Proposed Ministerial Instrument
Endosulfan	AEPR 2026 + Proposed Ministerial Instrument
Endrin	AEPR 2026 + Proposed Ministerial Instrument
Heptachlor	AEPR 2026 + Proposed Ministerial Instrument
Lindane	AEPR 2026 + Proposed Ministerial Instrument
Methoxychlor	AEPR 2026 + Proposed Ministerial Instrument
Mirex	AEPR 2026 + Proposed Ministerial Instrument
Toxaphene	AEPR 2026 + Proposed Ministerial Instrument
Demeton	AEPR 2026 + Proposed Ministerial Instrument
Parathion	AEPR 2026 + Proposed Ministerial Instrument
Fenitrothion	Proposed Ministerial Instrument
Profenofos	Proposed Ministerial Instrument
Temephos	AEPR 2026 + Proposed Ministerial Instrument
Acrolein	AEPR 2026 + Proposed Ministerial Instrument
Paraquat	Proposed Ministerial Instrument
2,4-D	Proposed Ministerial Instrument
Metsulfuron-methyl	Proposed Ministerial Instrument
Di-(2-ethylhexyl) phthalate (DEHP)	AEPR 2026 + Proposed Ministerial Instrument
Dimethylphthalate	Proposed Ministerial Instrument

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Chemical	Source
Aroclor 1242	Proposed Ministerial Instrument
Aroclor 1254	Proposed Ministerial Instrument
PFBA	Proposed Ministerial Instrument
PFHxS	Proposed Ministerial Instrument

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4.14 Proposed changes to EMP performance indicators

Table 7 compares selected performance indicators and requirements from the 2024–2027 Authorisation period with those proposed for 2027–2030 and explains the reasons for each change. The complete set of proposed EMP actions, timeframes and performance indicators is provided in Table 10. The proposed indicators have been informed by implementation experience, lessons learned and the proposed 2027–2030 Authorisation framework. They are intended to provide measurable evidence of implementation and progress, while recognising relevant project stages, delivery dependencies and the nature of the environmental or operational outcomes being assessed

Table 7: Comparison of previous and proposed EMP performance indicators and reasons for change

Action	2024 – 2027 EMP indicators and Authorisation requirements	Proposed 2027 – 2030 EMP New Performance indicators	Justification
Action 1.1 Section 7.1.1 Desilt SWSOOS2 - SP0038 to Malabar WRRF	Procurement and contract award to be completed by December 2024 15% (1.35km) desilted December 2025 35% (3.15km) desilted December 2026 40% (3.6km) desilted by March 2027, achieve overflow performance of 12 events/year and 1115 ML/year	• Report the extent of desilting completed and the tonnage of sediment removed. • Assess and report changes in sediment accumulation and available hydraulic conveyance capacity using pre- and post-desilting information, identifying the assessment method, assumptions and limitations. • Report progress against approved work packages, forecast completion dates and material delivery dependencies.	Updated to align with the milestone-based reporting framework and focus on measurable changes in sewer capacity rather than fixed completion dates.
Action 1.2 Section 7.1.2 Implement source control for the Malabar system to reduce wet weather inflows into the SWSOOS	Prospect, GPOP, Lower NGRS/ Cooks and Lower Georges River catchment completed by June 2025 Completion of further WWOA stages as indicated in Appendix A and to be reported in Annual Compliance reports	• Progress delivery of the Wet Weather Overflow Abatement Program. • Progress delivery of the Wet Weather Overflow Abatement Program. • Progress delivery of source-control initiatives supporting growth within the Malabar catchment.	Updated to reflect the ongoing nature of source-control activities across the Malabar wastewater system. The revised indicators focus on delivery progress, completed works and achievement of program milestones rather than completion of broader programs that extend beyond the Authorisation period. This approach maintains accountability while recognising the long-term nature of these initiatives.

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Action	2024 – 2027 EMP indicators and Authorisation requirements	Proposed 2027 – 2030 EMP New Performance indicators	Justification
		• Report completed scope, key milestones achieved and progress against each program.	
Action 1.3 Section 7.1.3 Conduct Grit Pit Maintenance	Grit Pit Hardstand constructed November 2024 Achieve 8 maintenance cycles each 12-month period Increase tonnage removed per quarter	• Complete a minimum of eight grit pit maintenance cycles during each Authorisation reporting year. • Report the number of maintenance cycles completed. • Report the tonnage of material removed during maintenance activities • Where fewer than eight maintenance cycles are completed during an Authorisation year, report the reasons, steps taken to avoid or minimise the shortfall, and proposed timing of rescheduled maintenance.	Retains the minimum maintenance-frequency requirement while reporting the quantity of material removed as supporting operational information. Removal quantities vary with rainfall, wastewater flows and sediment availability and are therefore not used as a standalone measure of maintenance effectiveness. The completed hardstand requirement is not carried forward.
Actions 2.1 – 2.3 Sections 7.2.1– 7.2.3 Manage funding contingencies and track alternative pollution-reduction measures-originating from Condition 26 Authorisation (2024-2027)	Condition 26 was imposed on 19 October 2026 after preparation of the original EMP. Where the specified funding trigger is met, Sydney Water must submit a Board-endorsed alternative action plan to the AEO by 31 January 2027. The plan must achieve significant and measurable reductions in pollution and overflow-event numbers, identify feasible and achievable new or additional measures, be developed in consultation with the SRG and be assessed by one or more independent technical experts approved by the AEO. These requirements remain- applicable unless varied by the AEO.	• Identify relevant measures adopted from any alternative action plan under Condition 26 against Actions 2.1–2.3, with responsibilities, milestones, timeframes and intended outcomes. Report implementation progress, material variances, corrective actions, revised forecasts and implications for expected outcomes through the existing EMP reporting arrangements.	Integrates relevant alternative-action-plan measures into the near-term works, mid-term works and Master Plan activities under Actions 2.1–2.3, avoiding a duplicate delivery and reporting framework.

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Action	2024 – 2027 EMP indicators and Authorisation requirements	Proposed 2027 – 2030 EMP New Performance indicators	Justification
Action 3.2 Section 7.3.2 Implement wastewater screening at SP0038 See Section 4.3 and Table 3 (Conditions 3(l) and 23)	All works completed and screening implemented by December 2026. Completion of project stages as indicated in Appendix A and to be reported in Annual Compliance reports.	• Document the outcomes of material feasibility reviews, approval processes and investment decisions, including their implications for project implementation. • Progress the wastewater-screening project at SP0038 through defined feasibility, design, constructability, investment, external-approval and delivery milestones. • Viability assessment report by 30 April 2027 with progress reporting against relevant milestones, key dependencies and forecast completion dates where reasonably available. • Where a milestone is delayed, report the reasons for the variance, actions taken or proposed, and any revised milestone or delivery timeframe.	Updated to reflect the project's design development and remaining feasibility, constructability, investment and external-approval dependencies. The revised indicators focus on progression through defined project review, approval and delivery milestones, with reporting on progress, key dependencies and material decisions. Implementation timeframe remains subject to internal and external approval processes.
Action 4.5- Noise Impact Assessment Sections 4.8 and 7.4.5	No equivalent EMP performance indicator.	• Complete and document the noise impact assessment and provide the report to the AEO by 30 September 2028. • Assess relevant works and activities associated with operation and maintenance of the Mill Stream ERS against applicable noise requirements and identify recommended monitoring, controls or mitigation measures. • Report Sydney Water's consideration of and response to recommendations in the Annual EMP Compliance Report for the	Introduces a measurable noise-assessment requirement, with completion approximately midway through the Authorisation period. The timing allows findings to inform monitoring, controls or mitigation during the remaining period and establishes reporting on Sydney Water's response to recommendations.

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Action	2024 – 2027 EMP indicators and Authorisation requirements	Proposed 2027 – 2030 EMP New Performance indicators	Justification
		year ending 31 March 2029, with subsequent progress reported annually until relevant actions are completed.	
Action 4.4 Sections 4.13 and 7.4.4 Review and implement the dissolved oxygen monitoring program	Condition 27 was imposed on 19 October 2026 after preparation of the original EMP. Sydney Water must monitor dissolved oxygen near to and downstream from the ERS on airport land to investigate any possible connection between overflow events and future fish kill events. An expert-opinion report must be submitted to the AEO and SACL by **31 March 2027**, addressing monitoring methodology, locations, duration and results; correlation with overflow events and the location's ability to detect overflow-related changes; and information to inform review of the suitability of monitoring locations, methodology and equipment.	• Review the findings and recommendations of the dissolved oxygen monitoring report required under Condition 27 and document any resulting updates to the Mill Stream Water Quality Monitoring Plan under Action 4.4. Implement and report any ongoing monitoring requirements through the existing water-quality monitoring and EMP reporting arrangements.	Incorporates relevant findings and recommendations into the existing water-quality monitoring framework, avoiding duplication of monitoring programs and reporting requirements.
Action 4.6 Section 7.4.6 Undertake independent bird-strike assessment and implement applicable mitigation measures	Condition 28 Authorisation (2024-2027) was imposed on 19 October 2026 after preparation of the original EMP. Sydney Water must submit a report to the AEO and SACL by 31 March 2027, based on available data, setting out planned or existing mitigation measures addressing NASF Guideline C.	• Implement applicable mitigation measures and assess their effectiveness, documenting the findings and limitations of the effectiveness assessment. • Report progress, assessment findings, mitigation implementation and effectiveness-review outcomes, reasons for material delays, revised forecast completion dates, limitations, outstanding	Carries forward relevant findings and expert recommendations from the Condition 28 report and identifies any continuing assessment, mitigation and effectiveness-review activities for implementation during 2027–2030.

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Action	2024 – 2027 EMP indicators and Authorisation requirements	Proposed 2027 – 2030 EMP New Performance indicators	Justification
	The report should reference the independent third-party field-monitoring trial assessing whether Mill Stream ERS wet-weather overflows contribute to bird-strike risk, draw on relevant data including the ATSB National Aviation Wildlife Strike Dashboard, and be reviewed by a recognised Australian bird-strike expert acceptable to the AEO.	work and responses to recommendations through the six-monthly progress report and the Annual EMP Compliance Reports.	
Action 3.3 Section 7.3.3 Maintain permanent signage at Foreshore Beach	Permanent signage maintained at Foreshore Beach, with all overflow inspections to include signage checks. External review of public health content and language to be completed and implemented, if required, by October 2024.	• Maintain permanent public-health signage at Foreshore Beach and other designated Mill Stream ERS locations. • Include signage checks in overflow inspections. • Review signage content where updated public-health advice or regulatory guidance is provided by relevant authorities. • Record signage defects identified during inspections and report their rectification status.	Updated to retain the improvements delivered during the 2024-2027 Authorisation period while ensuring signage remains current and effective. The revised indicators focus on ongoing maintenance, inspection and review processes to support community awareness and access to information

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5 Roles and responsibilities

Overall accountability for compliance with the Mill Stream Authorisation and implementation of this Environment Management Plan (EMP) rests with the Head of Business, Water, Environment and Infrastructure Performance (WEIP).

The Mill Stream Project Team is responsible for coordinating implementation of the EMP, providing governance and compliance assurance, monitoring progress against EMP actions and performance indicators, and coordinating the information required for Authorisation reporting.

Delivery responsibilities are assigned to the relevant Sydney Water business units according to their operational, project-delivery and technical functions. Each responsible business unit is accountable for implementing its assigned EMP actions, maintaining appropriate records, managing delivery risks and dependencies, and providing timely and accurate information to support compliance reporting.

Table 8 summarises overall accountability for compliance with the Authorisation and implementation of the EMP, the Mill Stream Project Team's governance, coordination and compliance assurance responsibilities, and the responsibilities of relevant Sydney Water business units for delivering assigned EMP actions.

Table 8: Sydney Water business unit supporting deliver of the EMP

Business Unit	Accountability
Water, Environment and Infrastructure Performance	• Ensures that Sydney Water fulfils its regulatory obligations and meets customer expectations, including accountability for Sydney Water compliance with the Mill Stream Authorisation • Oversee the application process and monitors the delivery of actions under the EMP • Manages overflow reporting and stakeholder forums and meetings
System Planning & Land Acquisition	• Ensures planning studies are conducted for solutions for Mill Stream ERS and Malabar system, including source control works
Program Delivery	• Ensures capital work projects are designed and constructed to meet their required objectives (e.g. desilting and source control works)
Major Projects	• Development and delivery of the Malabar System Investment Program
Customer Hub	• The Systems Operations Centre (SOC) monitors and controls the Mill Stream ERS on a 24/7 basis using IICATS (telemetry system) • Coordinate notification and response teams, sends work instructions for overflow events and odour complaints • Environmental Liaison Officers are responsible for the notification and reporting of material harm incidents to the relevant regulatory authorities. The Environmental Specialists provide environmental advice to mitigate the environmental impacts associated with the material harm incidents
Operational Technology	• Conducts wastewater system monitoring and performance reporting
Network Operations	• Manages grit pit hardstand and maintenance activities

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Business Unit	Accountability
Customer Hub	• Ensures correct measures and resources are available for environmental incidents and alignment to EMP objectives
Network Operations	• Implements and ensures correct measures and resources for environmental incidents and EMP activities
Laboratory Services	• Conduct water monitoring and reporting
Government Stakeholder and Community	• Maintain relationships with regulators, government, Sydney Water's customers and the public • Ensures platforms for stakeholders to interact with Sydney Water on Mill Stream are available (e.g. Sydney Water Talk Mill Stream page)

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6 New Authorisation development: communication and engagement

6.1 Stakeholder engagement

6.1.1 Stakeholder Reference Group (SRG)

Since January 2020 when the Mill Stream SRG was established, the group has been meeting quarterly to ensure key stakeholders contributed to the EMP. The SRG members include representatives from Sydney Water, DITRDCSA, Bayside Council, Sydney Airport, Port Authority of NSW and the NSW EPA.

At the SRG meeting in April, July and October 2026, Sydney Water discussed the plans for the next Authorisation for members to provide their inputs and views.

6.1.2 Engagement with key stakeholders

Sydney Water developed a Stakeholder Engagement Plan for supporting extensive engagements with key stakeholders throughout the Authorisation period. Sydney Water provided updates on EMP actions, and near and long-term plans for Mill Stream in the next Authorisation period through the following engagements:

- **August 2026**: Consultation workshop with Bayside Council's Executive Engineer and Manager Environment and Resilience.

6.1.3 Community and Stakeholder consultation on the proposed 2027-2030 Authorisation and EMP

Sydney Water developed a Stakeholder Engagement Plan for supporting extensive engagements with key stakeholders throughout the Authorisation period. Sydney Water provided updates on EMP actions, and near and long-term plans for Mill Stream in the next Authorisation period.

Sydney Water also undertook community engagement to inform development of the proposed 2027–2030 Authorisation and EMP. The engagement program sought feedback on Sydney Water's performance during the 2024–2027 Authorisation period and opportunities for improvement during the proposed 2027–2030 Authorisation period. The engagement was in addition to consultation with key stakeholders and members of the SRG and included engagement with interested community members, participation in community events and targeted community consultation activities. The community consultation and engagement activities undertaken or planned are summarised in Table 9 below.

To support community participation, Sydney Water engaged directly with interested community members and maintained a presence at community events. Activities undertaken or planned included:

Table 9: Community and stakeholder consultation and engagement activities

Date	Engagement activity	Details/outcome
29 June 2026	Stakeholder engagement	Consultation workshop with the Sydney Airport General Manager.

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Date	Engagement activity	Details/outcome
22 July 2026	Stakeholder engagement	Update provided to Bayside Councillors, General Manager and Executives.
10 August 2026	Community consultation	Consultation with an engaged community member (C1) via Microsoft Teams involving Sydney Water representatives.
21 August 2026	Community consultation	Consultation with an engaged community member (C2) via telephone.
August 2026	Stakeholder engagement	Consultation workshop with Bayside Council's Executive Engineer and Manager Environment and Resilience.
28 August 2026	Stakeholder engagement	Consultation workshop with the Port Authority of NSW Senior Manager, Planning and Sustainability.
1 September 2026	Stakeholder engagement	Consultation workshop with DITRDCSA
5 September 2026	Community consultation	Bayside Council Spring Fair. Sydney Water personnel were available to discuss the Mill Stream ERS, answer questions and provide information regarding the proposed Authorisation and EMP.
16 September 2026	Community consultation	Targeted campaign commenced seeking feedback on the 2024–2027 Authorisation period and opportunities for future improvement. Digital advertising was geotargeted to residents within the Bayside Council local government area and selected suburbs within the Randwick City Council local government area. An example of the advertisement and campaign results is provided in Figure 6-1 .
29 September 2026	Community consultation	Consultation with an engaged community member (C2) via telephone.
14 October 2026	Stakeholder engagement	Engagement with Bayside Councillors, the General Manager and Council Executive.
28 October 2026	Community consultation	Consultation with an engaged community member (C3) via telephone.
30 November	Community consultation	Update to be provided to the combined precincts. Combined Precinct- Bays and Beaches Precinct, Matraville Precinct.
1 December 2026	Community consultation	Update to be provided to the Port Botany Community Consultative Committee.
1 December 2026	Community consultation	Mill Stream Webinar. Online customer engagement on the 2027-2030 EMP.

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Feedback received through direct consultation and broader engagement activities indicated support for flexible engagement approaches, including online engagement opportunities and participation in existing community and stakeholder forums. These outcomes were considered in the development of the proposed community engagement framework for the 2027–2030 Authorisation and informed Sydney Water's proposed amendments to the community engagement requirements.

Sydney Water proposes to continue engaging with the community through a combination of targeted consultation activities, digital communication channels, participation in established community events and

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engagement through existing stakeholder networks, including forums facilitated by organisations such as Bayside Council, Sydney Airport and Port Authority of NSW. Leveraging these existing forums is expected to provide greater community reach, improve accessibility and create additional opportunities for meaningful community participation compared with a standalone annual meeting. This approach maintains the intent of the existing condition while providing greater flexibility to adopt engagement methods that are proportionate, accessible and responsive to community preferences.

Sydney Water will undertake at least one community or stakeholder forum during each Authorisation year to provide information on implementation of the EMP, respond to questions and receive feedback. The forum may be delivered as a Sydney Water-hosted event, through a hybrid or online format, or through participation in an established community or stakeholder forum.

Additional engagement activities may be undertaken where appropriate, having regard to stakeholder interest, emerging issues, feedback received and the effectiveness of available engagement methods.

During September–October 2026, Sydney Water delivered a targeted digital advertising campaign to promote community awareness and invite feedback on the proposed 2027–2030 Authorisation and EMP. The advertisements directed community members to the consultation landing page, where they could access information and provide feedback. An example of the advertisement is shown in Figure 6-1 .

The campaign achieved broad exposure within its target audience, reaching 19,171 users and generating 37,399 advertising impressions, 1,230 clicks to the consultation landing page and 16 comments on the advertisements. This provided a further avenue for community participation alongside direct consultation and community events. These results demonstrate the reach of the campaign and interaction with the consultation material; they do not represent the number of unique consultation participants or formal submissions or establish community support for the proposals.

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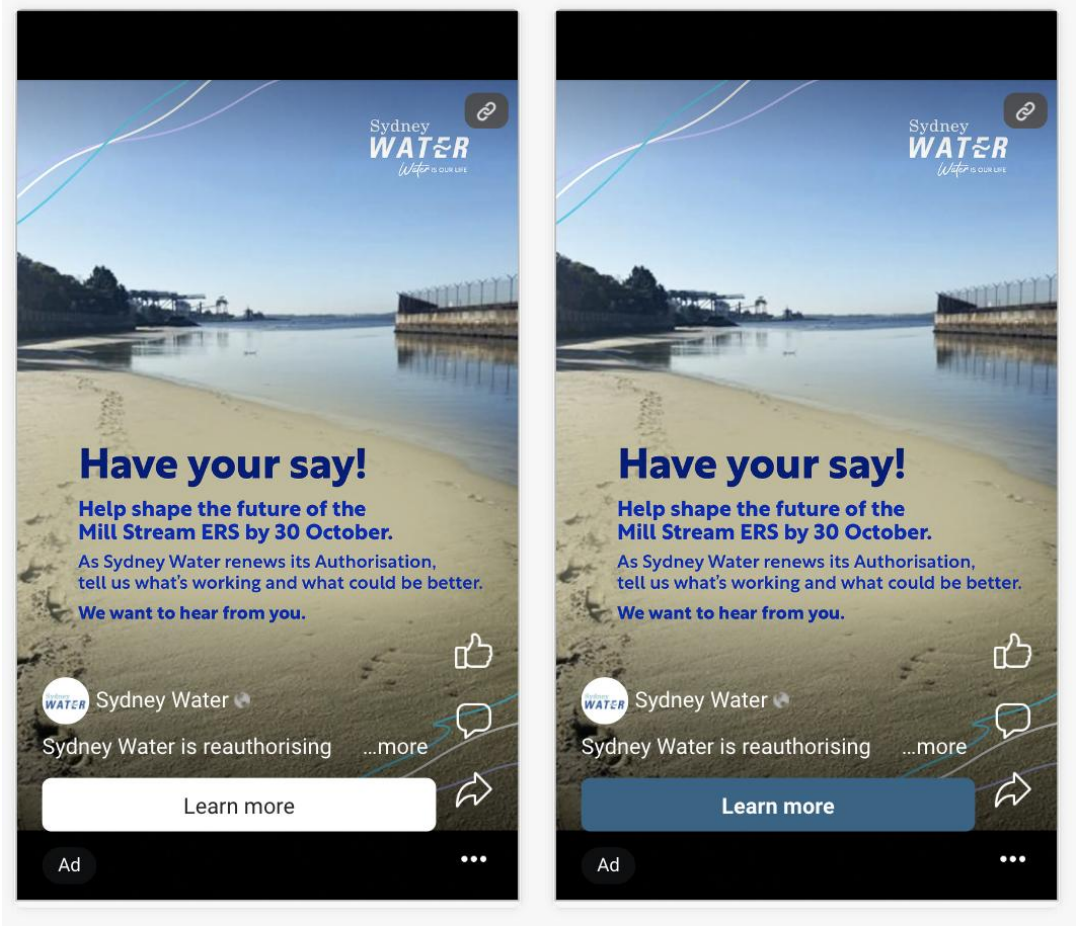

Figure 6-1: Example of community engagement advertisement.

6.1.4 First Nations engagement

Sydney Water recognises the importance of considering First Nations values, knowledge and priorities in the implementation and ongoing review of the Mill Stream EMP. Sydney Water has initiated ongoing engagement with the Gamay Rangers, a program of the La Perouse Local Aboriginal Land Council (La Perouse LALC), who have been identified as a key First Nations engagement partner for Mill Stream and its receiving environment, to provide an overview of the Mill Stream ERS, the Authorisation and this EMP, and to discuss current and proposed EMP actions and related projects. This long-term engagement supports information sharing and identify matters relevant to the environmental and cultural values of Mill Stream and its receiving environment.

Sydney Water will continue to liaise with the Gamay Rangers, where appropriate, as relevant EMP actions and projects progress. Feedback and insights received through this engagement will be considered in the implementation and review of the EMP, subject to Sydney Water's responsibilities and applicable planning, approval and Authorisation requirements.

Sydney Water will seek opportunities to engage more broadly with First Nations communities and organisations around Botany Bay, including the La Perouse Local Aboriginal Land Council and Gujaga Foundation, on matters relevant to the Mill Stream EMP.

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6.1.5 Stakeholder review of the draft 2027-2030 EMP and proposed Authorisation

As part of the lessons learned from implementing previous Mill Stream EMPs and Authorisations, Sydney Water adopted a transparent and collaborative approach to preparing the draft 2027–2030 EMP and application for a new Authorisation. Sydney Water engaged with Sydney Airport and other key stakeholders during the drafting process and provided them with an opportunity to review and comment on the proposed EMP actions, management measures and Authorisation requirements. Stakeholder feedback was considered and incorporated where relevant before the application and supporting EMP were submitted to the Airport Environment Officer for assessment. This approach supported open communication, informed stakeholder participation and a shared focus on achieving improved environmental outcomes for the Mill Stream ERS and its receiving environment.

On 20 October 2026 Sydney Water circulated the draft EMP and proposed Authorisation to Bayside Council, Port Authority of NSW and Sydney Airport for stakeholder review. Stakeholders were provided with a two-week review period, ending on Tuesday 3 November 2026 to provide feedback. Sydney Water received feedback from Sydney Airport, Bayside Council and Port Authority of NSW concerning implementation timeframes, delivery accountability and measurable environmental outcomes; long-term infrastructure planning; water-quality monitoring, reporting and public-health communication; assessment and management of bird-attraction and aviation safety risks; overflow notification arrangements, signage approvals and seagrass protection; and community and First Nations engagement. The feedback was reviewed and relevant comments were incorporated into the final EMP and proposed Authorisation, where appropriate. Where comments were not incorporated, Sydney Water considered the matters raised and documented the basis for retaining the proposed approach.

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7 EMP actions and continuous improvement for the 2027-2030 Authorisation period

This section sets out the actions Sydney Water will implement or progress during the 2027–2030 Authorisation period to support continuous and incremental improvement in the environmental performance of the Mill Stream ERS. The statutory basis, purpose and objectives of this EMP are described in Section 1.2 - Purpose of this EMP. Improvements achieved under previous Authorisations are summarised in Section 3 - Continuous improvement during the 2024-2027 Authorisation period, while the lessons informing the scope, performance measures and delivery framework for the 2027–2030 actions are outlined in Section 4 - Lessons learned from the 2024-2027 Authorisation.

The EMP actions include operational and maintenance controls, environmental monitoring and assessment, stakeholder engagement, and short- and longer-term infrastructure initiatives. Collectively, these actions are intended to minimise the environmental consequences of wet-weather overflows and support progressive reductions in modelled overflow frequency and volume. Forecast performance outcomes and associated delivery dependencies are addressed in Sections 5.4 -Transition from fixed completion dates to milestone-based progress reporting and 5.7E -Wet-weather overflow performance and forecast outcomes, while the broader long-term investment pathway for the Malabar wastewater system is described in Section 4.10-Malabar Strategic Business Case (SBC) to Malabar System Investment Program (MSIP).

Sydney Water uses calibrated hydraulic wastewater modelling to assess long-term changes in system performance independently of annual rainfall variability. The model is applied using consistent rainfall conditions to provide a repeatable basis for comparing system performance and assessing the cumulative benefits of improvement initiatives. Actual overflow observations remain important for operational management and incident response but are influenced by seasonal and annual rainfall patterns and should not be directly compared with long-term modelled averages. The continuous improvement pathway for the Mill Stream ERS is illustrated in Figure 3-1.

Table 10 consolidates the objectives and actions established under this EMP and identifies the applicable AEPR 1997 provisions and proposed Authorisation conditions, delivery timeframes, responsible Sydney Water business units and performance indicators. The sections following Table 10 provide further detail on the scope, implementation approach, delivery dependencies and reporting requirements for each action.

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Table 10: EMP objectives, actions, timeframes and performance indicators

Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
Objective 1 Increase capacity of the wastewater system to reduce frequency and volume of overflow	Regulation 5.07(3)(b)	TBC	Action 1.1 Desilt SWSOOS2 - SP0038 to Malabar WRRF See 7.1.1	April 2027–March 2030	Program Delivery	• Report the extent of desilting completed and the tonnage of sediment removed • Assess and report changes in sediment accumulation and available hydraulic conveyance capacity using pre- and post-desilting information, identifying the assessment method, assumptions and limitations. • Report progress against approved work packages, forecast completion dates and material delivery dependencies
	Regulation 5.07(3)(b)	TBC	Action 1.2 Implement source control for the Malabar system to reduce wet weather inflows into the SWSOOS See 7.1.2	April 2027–March 2030	System Planning & Land Acquisition, Program Delivery	• Progress delivery of the Wet Weather Overflow Abatement Program • Progress delivery of source-control initiatives supporting growth within the Malabar catchment • Report completed scope, key milestones achieved and progress against each program
	Regulation 5.07(3)(b)	TBC	Action 1.3 Conduct Grit Pit Maintenance	April 2027–March 2030	Network Operations	• Complete a minimum of eight grit pit maintenance cycles

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
			See 7.1.3			during each Authorisation reporting year • Report the number of maintenance cycles completed • Report the tonnage of material removed during maintenance activities
Objective 2 Long term improvements	Regulation 5.07(3)(b)	TBC	Action 2.1 Progress the delivery of Malabar Near-Term works See 7.2.1	April 2027- March 2030	Major Projects	• Report the status of each of the four near-term MSIP packages across Glenfield, Liverpool, Fairfield and Liverpool Ashfield Pipeline, where relevant to the Mill Stream ERS, • Report key milestones achieved during the reporting period • Report forecast completion dates and material delivery dependencies. • Provide annual progress updates to the SRG on delivery status and anticipated environmental outcomes.
	Regulation 5.07(3)(b)	TBC	Action 2.2 Progress planning and assessment of the MSIP mid-term works associated with river release See 7.2.2	April 2027-March 2030	System Planning & Land Acquisition and Major Projects	• Progress planning, investigation, concept design and assessment activities for the MSIP mid-term works associated with river release. • By 31 March 2030, identify the preferred approach for the mid-term river-release works, subject to the outcomes of

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
						relevant investigations, assessments and applicable approval processes. • Report key planning milestones achieved during the reporting period • Provide the SRG with an update on whether funding for the preferred approach has been included in Sydney Water's 2030-2035 IPART pricing submission
	Regulation 5.07(3)(b)	TBC	Action 2.3 Sydney Water Master Plan 2055 See 7.2.3	April 2027–March 2030	System Planning & Land Acquisition	• Sydney Water will provide the SRG with a summary of finalised Master Plan information that Sydney Water considers relevant to the future planning, environmental management or performance of the Mill Stream ERS. Any information provided will be limited to information approved for release.
Objective 3 Protect the environment and public health	Regulation 4.01	TBC	Action 3.1 Inspect Mill Stream and Foreshore Beach after all overflow events and remove gross pollutants See 7.3.1	April 2027–March 2030	Customer Hub, Network Maintenance	• Undertake inspections in accordance with the approved Mill Stream/Foreshore Beach wet-weather clean-up work instruction • Complete inspections within two days of overflow cessation, subject to rainfall, tidal and safety conditions

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
						• Record the volume of gross pollutants removed during clean-up activities • Notify relevant stakeholders of material-harm incidents within the required timeframe
	Regulation 4.01	TBC	Action 3.2 Implement wastewater screening at SP0038 See 7.3.2	Viability assessment by 30 April 2027; subsequent progression during 2027–2030.	Program Delivery	• Document the outcomes of material feasibility reviews, approval processes and investment decisions, including their implications for project implementation. • Progress the wastewater-screening project at SP0038 through defined feasibility, design, constructability, investment, external-approval and delivery milestones. • Report progress against relevant milestones, key dependencies and forecast completion dates were reasonably available. • Where a milestone is delayed, report the reasons for the variance, actions taken or proposed, and any revised milestone or delivery timeframe.

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
	Regulation 4.01	TBC	Action 3.3 Maintain permanent signage at Foreshore Beach See section 7.3.3	April 2027–March 2030	Network Maintenance	• Maintain permanent public-health signage at Foreshore Beach and other designated Mill Stream ERS locations • Include signage checks in overflow inspections • Review signage content where updated public-health advice or regulatory guidance is provided by relevant authorities • Record signage defects identified during inspections and report their rectification status.
	Regulation 4.04	TBC	Action 3.4 Ensure all maintenance personnel and contractors are aware of threatened species fact sheets See 7.3.4	April 2027–March 2030	Network Maintenance Customer Hub Network Operations	• Include threatened-species fact sheets in relevant work instructions, work orders and awareness training • Verify that personnel undertaking clean-up activities have access to the fact sheets • Implement appropriate controls to avoid impacts on threatened species and nesting areas during clean-up activities
	Regulation 4.01	TBC	Action 3.5	April 2027–March 2030	Network Maintenance Network Operations	• Store collected material securely on a waterproof

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
			Store gross pollutants appropriately during clean-ups See 7.3.5			membrane prior to removal from site. • Maintain photographic records of storage arrangements • Maintain clean-up records demonstrating compliance with storage requirements storage
	Regulation 4.01	TBC	Action 3.6 Dispose of gross pollutants appropriately See 7.3.6	April 2027–March 2030.	Network Maintenance Network Operations	• Dispose of collected gross pollutants at an appropriately licensed waste facility • Maintain disposal records and waste receipts • Demonstrate that collected material has been removed from site and disposed of appropriately receipts
Objective 4 Monitor wastewater system performance, and receiving waterway health	Regulation 5.07(3)(b)	TBC	Action 4.1 Conduct continuous overflow monitoring and routine monthly reporting See 7.4.1	April 2027–March 2030	Wastewater, Environment and Infrastructure Performance; Operational Technology	• Continuously monitor overflow activity at the Mill Stream ERS • Record overflow frequency, duration and volume • Submit monthly reports to SRG members on request.
	NA	TBC	Action 4.2 Provide overflow alerts to SRG	April 2027–March 2030	Operational Technology	• Maintain the stakeholder notification list

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
			members on request See 7.4.2			• Verify through monthly audits that alerts were generated for confirmed overflow events • Investigate discrepancies between triggered alerts and confirmed overflow activity • Maintain records of audit outcomes and corrective actions
	Regulation 5.07(3)(b)	TBC	Action 4.3 Monitor the dry weather sewage capacity in the SWSOOS See 7.4.3	April 2027–March 2030	Operational Technology	• Monitor the minimum wastewater level over a rolling six-month period against the nominated performance measure of 0.45 m • Report dry-weather sewage capacity trends • Investigate material changes indicating deterioration in available capacity.
	Regulation 5.07(3)(b)	TBC	Action 4.4 Monitor water quality at Mill Stream See 7.4.4	1 June 2028 1 August 2029	Laboratory Services	• Review the findings and recommendations of the dissolved oxygen monitoring report required under Condition 27 and document any resulting updates to the Mill Stream Water Quality Monitoring Plan • Complete the updated water-quality monitoring program

Proposed

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
						• Provide an interim monitoring data report by 1 June 2028 • Provide a final monitoring report by 1 August 2029 • Assess monitoring results against applicable criteria and provide recommendations for future monitoring
	Part 4 Division 3	TBC	Action 4.5 Noise Impact Assessment See 7.4.5	30 September 2028	Network Operations	• Complete and document the noise impact assessment for relevant critical maintenance activities by 30 September 2028. • Assess relevant works and activities associated with operation and maintenance of the Mill Stream ERS against applicable noise requirements and identify recommended monitoring, controls or mitigation measures. • Report Sydney Water's consideration of and response to recommendations in the Annual EMP Compliance Reports ending 31 March 2029, with subsequent progress reported annually until relevant actions are completed.

Proposed

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
	Regulation 5.07(3)(b)	TBC	Action 4.6 Undertake independent bird-strike assessment and implement applicable mitigation measures Proposed See 7.4.6	April 2027–March 2030	Water, Environment and Infrastructure Performance	• Implement applicable mitigation measures and assess their effectiveness, documenting the findings and limitations of the effectiveness assessment. • Report progress, assessment findings, mitigation implementation and effectiveness-review outcomes, reasons for material delays, revised forecast completion dates, limitations, outstanding work and responses to recommendations through the six-monthly progress report and the Annual EMP Compliance Reports.
Objective 5 Conduct effective complaint management	NA	TBC	Action 5.1 Respond to and investigate all complaints regarding the Mill Stream ERS See 7.5.1	April 2027–March 2030	Customer Hub	• Provide responses within applicable Sydney Water service timeframes. • Report complaint information through SRG and annual compliance reporting.
Objective 6 Progress Reporting	NA	TBC	Action 6.1 Chair Quarterly Stakeholder Reference Group (SRG) meeting See 7.6.1	April 2027–March 2030	Water, Environment and Infrastructure Performance	• Convene a minimum of four SRG meetings during each Authorisation year • Maintain meeting agendas, minutes and action registers

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
						• Provide updates on EMP implementation and environmental performance • Report progress on continuous improvement initiatives and monitoring outcomes
	NA	TBC	Action 6.2 Provide Six-monthly Progress Reports See 7.6.2	Reporting periods: 1 April–30 September each Authorisation year.	Water, Environment and Infrastructure Performance	• Prepare one six-monthly progress report for each Authorisation year. • Provide the April–September progress report by 30 November following the reporting period. • Provide reports to SRG. • Report progress against EMP actions, performance indicators and milestones. • Identify material delays, delivery dependencies, corrective actions and revised forecasts where delivery milestones have changed.
	Regulation 5.17	8	6.3 Provide Annual EMP Compliance Report See 7.6.3	April 2027–March 2030	Water, Environment and Infrastructure Performance	• Prepare an Annual EMP Compliance Report for each Authorisation year covering 1 April to 31 March.

Proposed

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Objective	AEPR 1997	2027-2030 Authorisation Condition	Action	Timeframe	Responsible Sydney Water Business Unit	Proposed 2027-2030 Performance indicators
						• Provide the Annual EMP Compliance Report to the SRG members by 31 May following the reporting year. • Assess compliance with the applicable Authorisation and EMP requirements over the full reporting year. • Report progress against EMP actions and performance indicators. • Identify material delays, delivery dependencies, corrective actions and revised forecasts where delivery milestones have changed. • The Annual EMP Compliance Report may cross-reference supporting information in the six-monthly progress reports but must present a clear annual compliance assessment. • The final Annual EMP Compliance Report will cover 1 April 2029 to 31 March 2030 and be provided by 31 May 2030.

Authorisation linkage: Conditions 26–28 refer to Authorisation No. 02/2026 and retain their existing requirements and submission deadlines. These EMP actions address relevant continuing measures during 2027–2030 and do not replace, defer or establish completion of those obligations.
TBC References to conditions in the proposed 2027–2030 Authorisation will be confirmed against its final numbering and wording.

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7.1 Objective 1 – Increase capacity of the wastewater system to reduce frequency and volume of overflow

Sydney Water considers that the most appropriate pathway to improved environmental performance is through the implementation of a coordinated program of incremental and measurable improvements over time. The most effective means of improving the environmental performance of the Mill Stream ERS and to make satisfactory progress towards achieving the outcome that pollution emissions overall are not more environmentally damaging than would be the case if exact compliance with the accepted limits in the schedules to AEPR 1997 is to increase wastewater system capacity and performance through desilting works, enhanced grit removal, the reduction of stormwater ingress, and targeted network augmentations. The initiatives outlined below, together with their associated delivery timeframes, are designed to progressively improve wastewater system performance and reduce the frequency and volume of overflow discharges throughout the Authorisation period.

Although the precise contribution of individual initiatives, including the desilting of SWSOOS2, source control works, enhanced grit removal, and the defined MSIP near-term and mid-term works, cannot be reliably isolated through modelling, these initiatives are expected to contribute to improvements in overflow performance over time. For clarity, the near-term works comprise the four MSIP packages across Glenfield, Liverpool, Fairfield and Liverpool Ashfield Pipeline, while the mid-term works comprise works associated with river release. SWSOOS2 desilting, wastewater screening and WWOA/source-control initiatives are separate improvement initiatives addressed through specific objectives and actions in this EMP and do not form part of the defined MSIP near-term or mid-term works.

During the 2027–2030 Authorisation period, forecast improvements are principally associated with the staged delivery of the SWSOOS2 desilting program and related capacity-improvement initiatives. Longer-term reductions beyond the Authorisation period are expected to be supported by progression of the defined near-term and mid-term works under the Malabar System Investment Program (MSIP), including the mid-term works associated with river release, subject to applicable planning, funding, approvals and investment decisions.

Collectively, these initiatives are expected to reduce overflow performance to an average of 4-8 events per year and annual overflow volumes to a range of 155-774 ML, demonstrating a clear trajectory of continuous environmental improvement over the Authorisation period.

7.1.1 Action 1.1 -Desilt SWSOOS2 – SP0038 to Malabar WRRF

Desilting of SWSOOS2 is a key initiative being undertaken by Sydney Water to improve the performance of the Mill Stream overflows. The extent of the proposed desilting works is shown in Figure 7-1. The SWSOOS barrels are among Sydney Water's largest and most critical wastewater assets, conveying wastewater from approximately one-third of Sydney's population each day. To undertake desilting works, an individual barrel must be isolated from service, with wastewater flows temporarily diverted to the remaining barrels to allow safe access for personnel and equipment. Desilting of SWSOOS1 was completed in May 2023.

Detailed planning for the desilting of SWSOOS2 could only commence following completion of the SWSOOS1 desilting works and the implementation of associated flow-balancing arrangements. Planning activities have included flow isolation trials under a range of operating conditions to inform the development of Flow Isolation and Flow Management (FIFM) plans. These plans are critical to the safe and environmentally responsible delivery of the works. Sydney Water has completed all required FIFM preparations and is ready to mobilise, subject to obtaining the necessary approvals from Sydney Airport.

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Due to the enormity and strategic importance of the asset for Sydney Water operations, FIFM constraints and potential impact on compliance with regulatory requirements, the work will be carried out in several packages. The first package of work is in delivery with additional two packages of work in procurement and will move into delivery upon completion of the first package. The desilting works are currently scheduled for completion in 2030. This completion date has been revised from the previous EMP because of delays experienced because of additional flow isolation measures to ensure safe access for operational personnel, an increase in the overall project scope and negotiations with Sydney Airport for an Access Licence Agreement. By the end of the current Authorisation period (March 2030), Sydney Water expects to have completed the first package. Progress will be measured by the progressive completion of desilting work across both barrels of SWSOOS2.

Based on current hydraulic modelling, completion of the first work package is forecast to support overflow performance to approximately 12 events per year and 1,115 ML per year. Completion of the full desilting program is forecast to support overflow performance of approximately 10 events per year and 928 ML per year, subject to successful delivery of the works and the assumptions underpinning the hydraulic model.

Delivery of the project remains highly dependent on weather conditions. Desilting activities cannot be undertaken following rainfall events, as increased wastewater flows prevent the safe and effective isolation of the work area. During the SWSOOS1 desilting program, wet weather resulted in approximately 120 stand-down days, significantly affecting project delivery. Accordingly, wet weather continues to represent one of the most significant risks to the timely completion of the SWSOOS2 desilting works.



Figure 7-1: SWSOOS location and desilting extents.

7.1.2 Action 1.2 – Implement source control for the Malabar system to reduce wet weather inflows into the SWSOOS

Source control works reduce the amount of stormwater entering the wastewater system by controlling Inflow and Infiltration (I&I) and reduce the frequency and volume of overflows from the ERS. These works will be conducted in sewer catchments across the Malabar system and will be crucial to the medium to long term improvement of the Mill Stream ERS. The source control works are conducted in three stages, described in Table 11. The stages will progress concurrently, and not all stages are implemented in every sewer catchment area.

There are works currently underway or planned for completion through to 2030. The Malabar system is large and necessitates extensive works across multiple sub-catchments, upstream of the Mill Stream overflows, to enable

observable benefits at Mill Stream. The planned works will also see localised benefits, with reduced overflow frequency and volumes at those ERS' that discharge to the Georges and Cooks River catchments.

Table 11: Source control stages

Source Control Stage	Definition
Stage 1 – Inflow management	Prevention of stormwater inflow at ERS principally by installing inflow (backflow) prevention valves on the overflow pipeline. These valves prevent stormwater that is backing up in the stormwater system from flowing into the wastewater system via overflow discharge pipelines.
Stage 2 – Infiltration management	Prevention of stormwater infiltration through faulty and damaged pipes and maintenance holes. This stage targets assets that are in high infiltration areas. The works include inflow prevention at maintenance chamber lids. The works include pipelining, maintenance hole repairs and installation of anti-inflow devices (rain stoppers) under the lids of maintenance holes. The maintenance holes targeted for inflow prevention re those that become flooded during rainfall because they are low or located in stormwater flow paths.
Stage 3 – Private properties	Prevention of inflow and infiltration to private sewer pipes. The work uses smoke testing and property inspections to identify issues and correct faulty and defective private property connections. The works include repairing and raising overflow relief gullies, redirecting roof drainage connections from the sewer to stormwater, and repairs to damaged private sewer pipelines.

The source control program has been structured to align with the Malabar Wastewater System Environment Protection Licence (EPL) No.372 and associated Pollution Reduction Program (PRP) No. 307.2. The program includes source control works specifically proposed to support performance improvements at Mill Stream, while also addressing broader wet weather overflow management requirements across the Malabar system.

The program comprises three key components:

- Mill Stream overflow improvement
- Wet weather overflow abatement Program
- Source control to support growth within the Malabar catchment

Together, these components represent an integrated program of works focused on improving performance within the Mill Stream catchment and delivering broader system-wide benefits across the Malabar wastewater network. Table 12 Table 12 outlines the proposed scope of works, including the number of assets identified for investigation and repair, which is expected to improve performance at Mill Stream:

Table 12: Summary of source control projects.

Project	ERS (Nos)	Manholes (Nos)	Properties (Nos)	School (Nos)
Mill Stream overflow improvement	137	1150		311

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Source control to support growth (Malabar catchment)	232	1041	11126	77
Wet weather overflow abatement Program	190	1725	27081	38

The 2025–2030 Wet Weather Overflow Abatement source control program is currently in delivery. The program has been prioritised and optimised to align with the Independent Pricing and Regulatory Tribunal's (IPART) pricing determination and Sydney Water's Capital Investment Plan. Figure 7-2: Proposed WWOA source control works for period 2025-2030., provides the geographical reference for the scope under consideration.

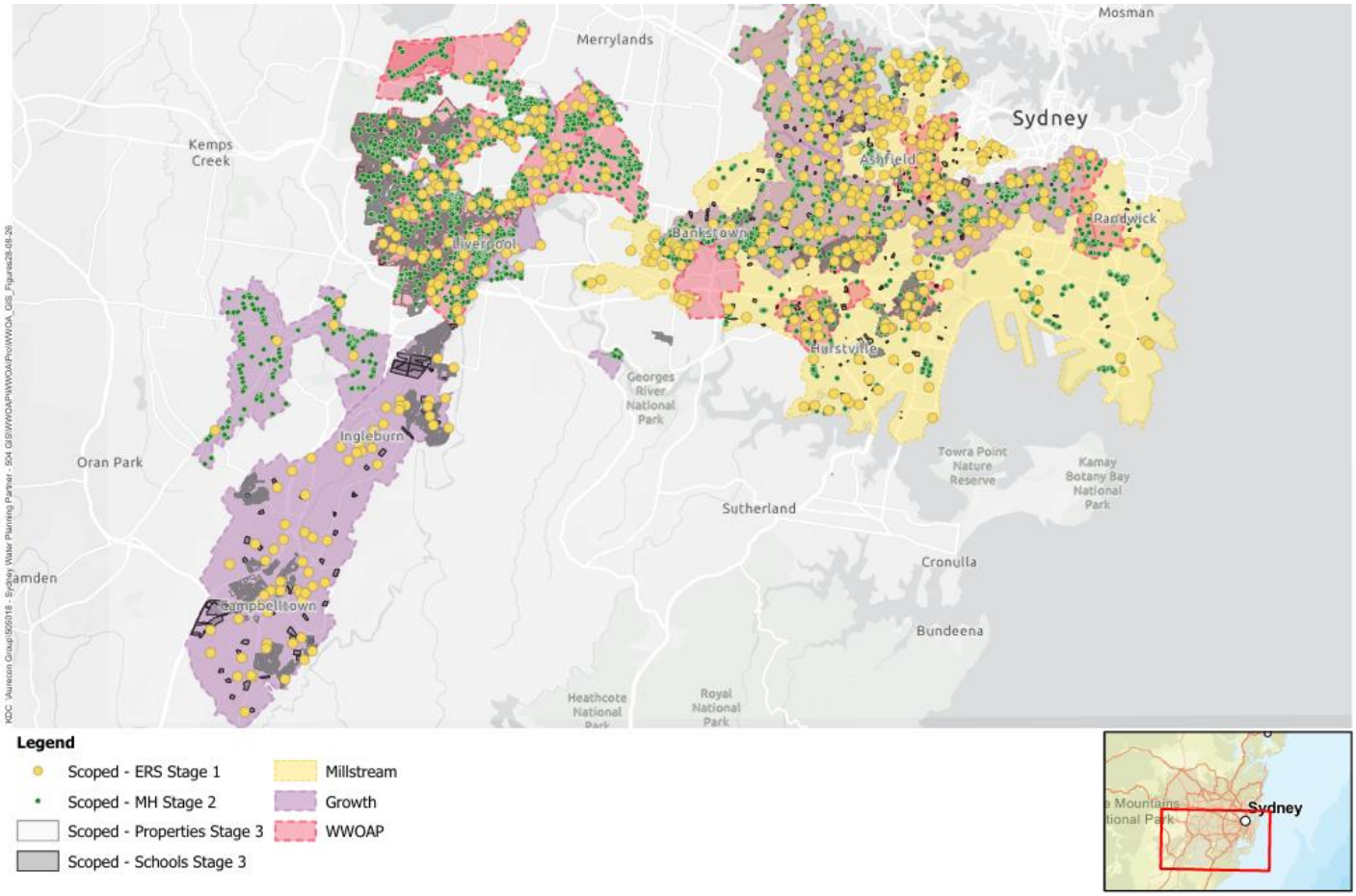

Figure 7-2: Proposed WWOA source control works for period 2025-2030.

7.1.3 Action 1.3 – Conduct grit pit maintenance

Sydney Water's airport grit pits are located airside within Sydney Airport and comprise multiple compartments extending across all three barrels: SWSOOS1, SWSOOS2 North and SWSOOS2 South (Figure 7-3). These grit pits play a critical role in intercepting sediment before it accumulates further downstream, where removal becomes significantly more difficult, costly and operationally disruptive.

During each maintenance cycle, Sydney Water removes approximately 150 to 200 tonnes of grit from the pits. Ongoing grit pit maintenance will continue throughout the Authorisation period to minimise sediment transfer downstream and support the short-term improvement of the Mill Stream ERS.

Operational efficiency continued to improve during the 2024-2027 Authorisation period, supported by completion of the hardstand area in October 2024. The hardstand enables safe, all-weather access for maintenance crews and facilitated Sydney Airport's approval for daytime cleaning activities allowing longer on-site hours (Figure 7-3). In addition, improved planning and coordination between Sydney Water and Sydney Airport has streamlined desilting activities and reduced the number of shifts required to complete each cleaning cycle.

Sydney Water is committed to completing a minimum of eight grit pit cleaning cycles per year where operational conditions allow. However, access to the grit pits and the cleaning process remain subject to several constraints, including:

- the requirement for permits, airside access approvals and safety escorts from Sydney Airport, with escort availability periodically affecting planned works
- Access for cleaning is not permitted if the east-west runway is in operation
- cleaning activities being unable to proceed during periods of high rainfall or elevated flows within the SWSOOS
- each cleaning cycle typically taking one to two weeks to complete, depending on weather conditions and operational constraints.

Sydney Water will continue to work closely with Sydney Airport to maximise access opportunities and maintain the highest practicable frequency of grit pit cleaning throughout the Authorisation period.

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Figure 7-3: Complete hardstand on Sydney Airport site with Sydney Water grit pits.

7.2 Objective 2 – Long term improvements

7.2.1 Action 2.1 - Progress delivery of the Malabar near-term works

The Malabar System Investment Program (MSIP) provides a program framework for planning and progressing potential improvements to the capacity, resilience and environmental performance of the Malabar wastewater system. The program comprises a coordinated portfolio of network, treatment and servicing initiatives intended to accommodate future population growth, improve wet weather performance and reduce overflow risks across the catchment.

During the 2027–2030 Authorisation period, Sydney Water will progress relevant near-term works that have received the necessary funding and approvals for development or delivery. For the purposes of this EMP, the near-term works comprise the four MSIP packages across Glenfield, Liverpool, Fairfield and Liverpool Ashfield Pipeline. Reporting under this action will address the status of each of these four near-term MSIP packages, where relevant to the performance or environmental outcomes of the Mill Stream ERS, including the Glenfield and Liverpool Water Resource Recovery Facility capacity upgrades.

Sydney Water will provide the SRG with an annual update on the relevant near-term MSIP works, including the current delivery stage, updated schedule of works, key milestones achieved, material delivery dependencies and forecast environmental and operational outcomes. These updates will provide visibility of the near-term investments being delivered to improve the performance of the broader Malabar wastewater system.

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7.2.2 Action 2.2 – Progress planning and assessment of the MSIP mid-term works associated with river release

Sydney Water will continue to progress planning and assessment of the mid-term works associated with river release in the Malabar wastewater system during the 2027–2030 Authorisation period. These works form part of the MSIP and are intended to provide the next stage of system-wide improvement following delivery of the near-term works.

Planning activities will focus on progressing the preferred approach for the mid-term works associated with river release. This will include concept design, environmental assessment and other technical, planning and approval activities required to inform the preferred delivery pathway and future investment decisions.

By 31 March 2030, Sydney Water will identify the preferred approach for the mid-term works associated with river release, subject to the outcomes of relevant investigations, assessments and approval processes. Sydney Water will also provide the SRG with an update on whether funding for a sufficiently developed preferred approach has been, or is proposed to be, included for consideration in Sydney Water's 2030–2035 IPART pricing submission. Subsequent delivery will remain subject to applicable approvals, investment decisions and funding.

7.2.3 Action 2.3 – Sydney Water Master Plan 2055

The Sydney Water Master Plan 2055 provides the overarching strategic framework that informs future servicing, infrastructure investment and operational decision-making across Greater Sydney. During the Authorisation period, Sydney Water may, where relevant finalised information becomes available and is approved for release, provide the SRG with a summary of information from the Master Plan that Sydney Water considers relevant to the future planning, environmental management or performance of the Mill Stream ERS or the Malabar wastewater system. Any information provided will be subject to applicable confidentiality, commercial, legal, security and third-party restrictions.

Information provided under this action is intended to improve transparency and provide visibility of long-term planning relevant to the Malabar wastewater system.

Provision of information under this action does not constitute a commitment to deliver any specific future project, funding decision or investment outcome. Individual projects and investment decisions remain subject to planning, business-case development, prioritisation, funding, applicable approvals and Sydney Water governance processes.

7.3 Objective 3 – Protect the environment and public health

Sydney Water will continue to make incremental improvements and satisfactory progress in accordance with regulation 5.07(3)(b) of AEPR 1997. Through the actions outlined in Sections 7.1 to 7.6, Sydney Water aims to reduce the frequency, volume and environmental consequences of overflow events and minimise potential risks to human health, wildlife and the receiving environment. These measures include wastewater-system capacity improvements, post-overflow inspections and clean-ups, assessment and progression of wastewater screening at SP0038 subject to applicable feasibility, funding and approval processes, permanent public-information signage, protection of threatened species during maintenance and clean-up activities, and ongoing environmental monitoring. Sydney Water will also continue to assess and implement further reasonable and practicable measures to minimise pollution and support incremental improvement in the environmental performance of the Mill Stream ERS over time.

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7.3.1 Action 3.1 – Overflow monitoring, incident response and notification

The Mill Stream ERS operates during wet-weather events when wastewater-system conditions trigger an overflow. The ERS is continuously monitored by Sydney Water's Systems Operations Centre (SOC), enabling the timely identification of overflow events and activation of the relevant response, notification, inspection and clean-up procedures. Following an overflow event, Sydney Water undertakes inspection and, where required, clean-up activities in accordance with the Foreshore Beach Wet Weather Overflow Clean-up Plan (Appendix A) *)*. The work instruction complements Sydney Water's Mill Stream incident response and notification procedure, the Pollution Incident Response Management Plan (PIRMP), and broader incident management, reporting and remediation procedures.

The inspection and clean-up process is intended to identify and remove gross pollutants associated with overflow events, assess site conditions and collect information required for operational, environmental and regulatory reporting. Areas subject to inspection and clean-up are shown in Figure 7-4 and the process is summarised in Table 13.

As part of the inspection process, Sydney Water may collect information including photographs, site observations, odour observations, observations of gross pollutants and any monitoring results obtained in accordance with applicable procedures.

Where gross pollutants are identified, Sydney Water will undertake clean-up activities in accordance with applicable procedures and work instructions. Collected material will be managed and disposed of in accordance with the *Foreshore Beach Wet Weather Overflow Clean-up Plan* and applicable Sydney Water procedures.

Where a pollution incident occurs, Sydney Water will manage the incident in accordance with the PIRMP, applicable Sydney Water procedures and relevant statutory requirements. Notification of pollution incidents will be undertaken in accordance with the *Protection of the Environment Operations Act 1997* (NSW), the PIRMP and any other applicable regulatory obligations

Overflow event notifications and material harm incident reports will be provided to the SRG members.

Sydney Water will maintain records of inspections, clean-up activities and relevant environmental observations and will report overflow events, material-harm incidents and associated environmental information in accordance with the Authorisation and applicable reporting requirements.

Sydney Water will report all incidents resulting in material harm and all overflow events not involving material harm in its Annual EMP Compliance Report. An overflow event that did not result in material harm was referred to as an *operational incident*.

For the purposes of the 2027–2030 EMP and proposed Authorisation reporting framework, the term “overflow event not involving material harm” is used, consistent with the definition adopted in this EMP.

Table 13: Mill Stream overflow inspecting and clean-up process

Wet weather overflow clean-up Work instructions	
Notification	Overflow alarms generated through IICATS initiate Sydney Water's operational response procedures. Notifications are issued in accordance with the Authorisation, applicable procedures and stakeholder notification arrangements. In accordance with the

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Wet weather overflow clean-up Work instructions	
	Authorisation, Sydney Water notifies SRG members (i.e. the AEO, Sydney Airport, Bayside Council and the Port Authority of NSW of overflow events).
Inspection and Assessment	A Network Technician (NT) inspects Mill Stream and Foreshore Beach to assess site conditions and determine whether clean-up activities are required. Relevant observations may include the presence of gross pollutants, debris balls, syringes, odour and other environmental conditions. Information collected during inspections supports Sydney Water's assessment of actual or potential environmental impacts associated with the overflow event.
Clean-up and Remediation	Where required, maintenance personnel and contractors remove gross pollutants including wipes, rags, sanitary products, syringes, debris balls and other litter from identified areas. Collected material is managed, stored and removed in accordance with the *Foreshore Beach Wet Weather Overflow Clean-up Plan* and applicable Sydney Water procedures. Water quality sampling may be undertaken in accordance with applicable procedures.
Incident Management and Notification	Where a pollution incident occurs, Sydney Water manages the incident in accordance with the PIRMP, applicable Sydney Water procedures and relevant statutory requirements. Where applicable, notifications are undertaken in accordance with the *Protection of the Environment Operations Act 1997* (NSW). Incident reporting and relevant updates for incidents involving material harm will be provided to SRG members in accordance with the Authorisation requirements.
Validation	Inspection findings, environmental observations and any available monitoring results are reviewed to determine whether further response actions are required in accordance with applicable procedures.
Reporting	Information collected through inspections, clean-up activities and incident response is recorded and reported in accordance with the Authorisation, applicable procedures and reporting requirements. This may include information on gross pollutants removed, syringe observations, debris-ball observations, environmental observations and any monitoring undertaken where required by the Authorisation or applicable procedures. Relevant information is reported through monthly overflow reporting, six-monthly progress reports, incident reporting (where applicable) and the Annual EMP Compliance Report.

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Figure 7-4: Location map indicating area of concern for Mill Stream overflow inspection and clean-ups.

7.3.2 Action 3.2 – Implement wastewater screening at SP0038

The objective of the wastewater screening project is to reduce the transport of gross pollutants from Mill Stream ERS wet weather overflows to Foreshore Beach, thereby minimising potential impacts on public health and the environment. A feasibility and options study completed in March 2023 identified wastewater screening at Pump Station 38 (SP0038) as the preferred solution to achieve this objective. The proposed infrastructure would provide preliminary treatment of overflow discharges by diverting flows through a screening system prior to discharge to Mill Stream, removing debris and gross pollutants while maintaining the hydraulic performance of the overflow system.

Since the preferred option was identified, the project has undergone extensive design development and assessment to identify a solution that can achieve the required environmental outcomes while remaining feasible to construct and operate within the site's heritage, operational and hydraulic constraints. Three major design iterations have been assessed, with previous concepts either unable to fully meet project objectives or presenting unacceptable construction, operational or heritage risks. These investigations have resulted in significant changes to the project's scope and design and have extended the timeframe required to progress the project.

Following these assessments, a revised wastewater screening design was identified as the preferred option and has progressed substantially through design development and risk reduction activities. Approximately 90% of detailed design has been completed, site and heritage investigations have been finalised, heritage approvals have been secured, and procurement planning has commenced. The current design remains subject to final feasibility and constructability reviews, funding approval, and several external approvals and agreements, including those associated with Sydney Airport and the Commonwealth.

Sydney Water will submit Sydney Airports planning approval, complete contractor pre-procurement activities, and progress easement negotiations by 30 March 2027. These activities will determine implementation

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timeframe and is subject to change depending on various approvals and easement negotiation. Should the preferred option successfully progress through these processes, Sydney Water will continue to advance project delivery and provide regular updates on implementation progress through future reporting.

7.3.2.1 Design of the Model Screens.

The preferred option was assessed for effectiveness against the existing baseline (2020) modelled performance of the Mill Stream ERS, to identify the amount of overflow volume which would be screened. This is presented in Table 14 and is estimated that all overflow volume in smaller rain events will be screened, while in medium events (70%) and large events (40%) the volume that is screened reduces.

Table 14: Modelled screening effectiveness during different rainfall events.

Screening Effectiveness (Flow Balance and Desilting completed)		
Smaller rain events (<30mm)	Medium rain events (30-50mm)	Large rain events (>50mm)
100%	70%	40%

The preferred option is for a 5 mm multi-rake mechanical screen capable of continuous, unmanned operation during a 1-in-10-year storm event, screening flows from the SWSOOS1 Upper Leg ERS and macerating the screenings before returning the screenings into SWSOOS 2. The screened effluent would continue to flow to millstream via the existing stormwater infrastructure. The design includes lowering the weir crest by 100 mm, to preference the screened ERS and reduce the volume from the symphonic overflow. This infrastructure would be located between Ross Smith Avenue and the driveway of SP0038 (Figure 7-4).

Sydney Water has prepared the scope for site investigations and are now liaising with Sydney Airport to gain all the necessary access/permits to begin work. We expect to complete the investigation and planning works by end of 2026 and commence construction in early 2027, subject to investment approval.

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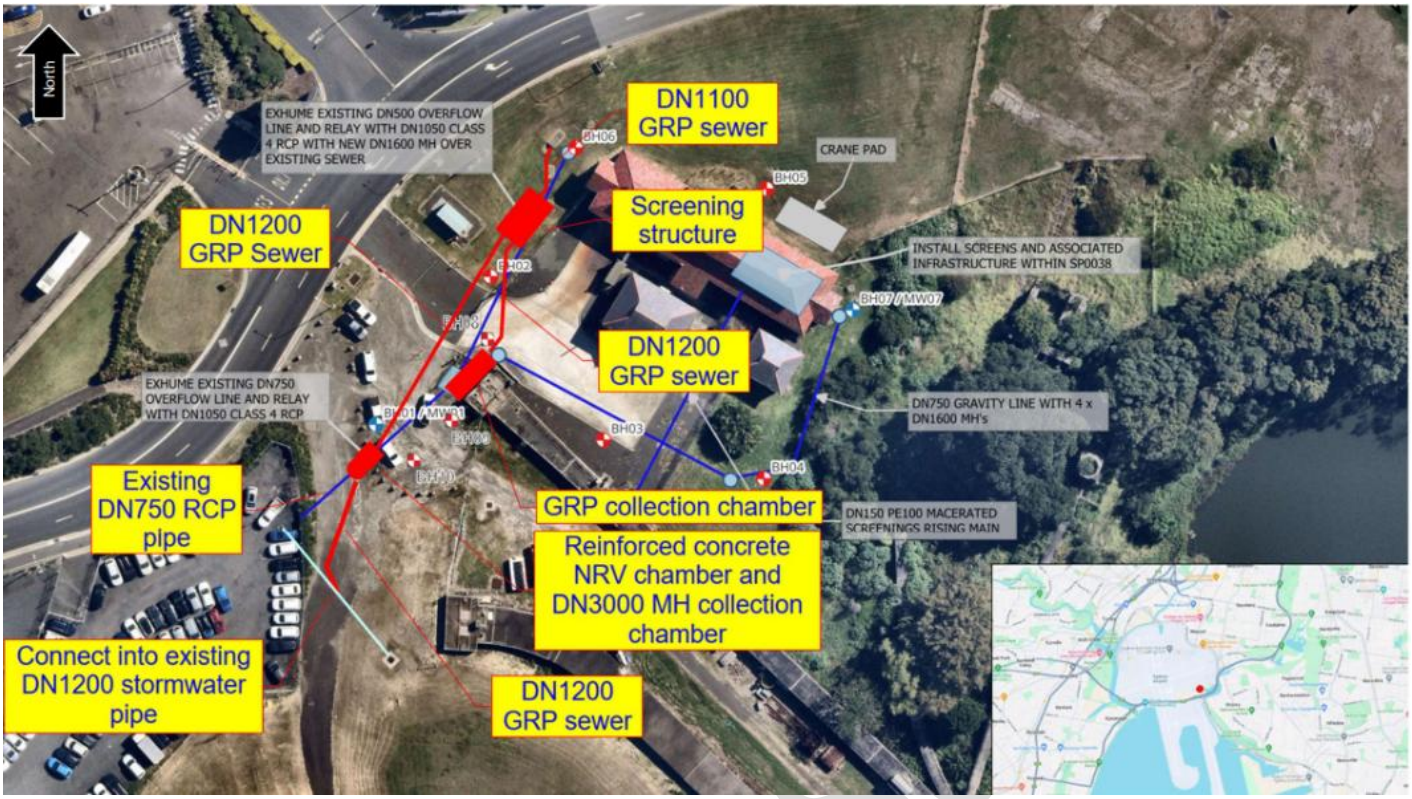

Figure 7-5: Locations and design of wastewater screening configuration.

7.3.3 Action 3.3 – Maintain permanent signage at Foreshore Beach

Sydney Water will continue to maintain permanent signage at designated locations (Figure 7-7). Signage has been progressively upgraded throughout the previous two Authorisation periods, with the latest upgrades completed on 28 November 2024.

The upgraded signage enhances community access to information through the inclusion of QR codes linking to Beachwatch updates and Mill Stream information, multi-language notifications, interpreter service details as shown in Figure 7-6, and permanent signs located at Foreshore Drive Car Park and Mill Stream Lookout.

Sydney Water will continue to engage with relevant stakeholders to review the effectiveness of signage and identify improvements to support community awareness and access to information. As Foreshore Beach and the Mill Stream carpark are located on Port Authority of NSW land, Sydney Water will obtain landowner approval before installing any signage in these locations.

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Figure 7-6: Mill Stream signage showing QR codes and interpreter service.



Figure 7-7: Mill Stream Look Out signage locations June 2026.

7.3.4 Action 3.4 - Threatened species and seagrass protection awareness

Sydney Water will ensure that maintenance personnel and contractors undertaking activities at Mill Stream and Foreshore Beach are aware of the potential presence of threatened bird species, including the Pied Oystercatcher (*Haematopus longirostris*) and Little Tern (*Sternula albifrons*), and the measures required to avoid or minimise impacts on birds, nests and nesting habitat during inspection, maintenance and clean-up activities.

Sydney Water personnel will consider potential risks to flora and fauna when undertaking activities within the Mill Stream and Foreshore Beach area and implement appropriate environmental controls where required.

Threatened-species fact sheets for the Pied Oystercatcher and Little Tern are included in relevant Mill Stream work orders and will continue to be reviewed before commencing clean-up activities. The fact sheets are also incorporated into relevant training and environmental awareness programs for personnel and contractors undertaking work in the area.

Personnel and contractors undertaking relevant works, incident-response and clean-up activities will be made aware of the mapped seagrass habitat and the whole *Posidonia australis* restoration activity area described in 1.3.4 and shown in Figure 1-12. This restoration activity area includes existing research plots and areas identified for further planting and is important for protection in the event of an incident affecting Foreshore Beach. Available mapping and restoration-area information will be considered when planning the response and reviewed before relevant on-site activities commence to identify appropriate access arrangements and work methods. Sydney Water will implement appropriate measures to avoid direct physical disturbance of mapped seagrass habitat and existing restoration plots, and to minimise disturbance within areas identified for further planting.

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The threatened-species fact sheets are provided in Appendix B. Threatened Species and are also referenced in the *Foreshore Beach Wet Weather Overflow Clean-up Plan*.

7.3.5 Action 3.5 – Store gross pollutants appropriately during clean ups

During clean-up activities, collected gross pollutants will be placed in sealed bags and stored on waterproof membranes as soon as practicable to prevent pollution of land and minimise the risk of material being redistributed by wind, rainfall or tidal conditions. Sydney Water will remove collected material from the site as soon as practicable following completion of the clean-up activities. Gross pollutants will be stored and managed in accordance with the *Foreshore Beach Wet Weather Overflow Clean-up Plan* and applicable Sydney Water procedures prior to transport and disposal at an appropriately licensed waste facility (Figure 7-8).



Figure 7-8: Gross pollutants stored in secured area prior to disposal.

7.3.6 Action 3.6 – Dispose of gross pollutants appropriately

Sydney Water will collect and maintain records of waste disposal receipts from contractors to verify that gross pollutants removed from Foreshore Beach following overflow events are disposed of at an appropriately licensed waste facility. Collected material will be removed from the site as soon as practicable following completion of clean-up activities and may be temporarily stored in designated waste bins at Sydney Water depot facilities prior to transport and disposal. Disposal records and waste receipts will be retained to demonstrate that collected material has been managed and disposed of appropriately.

7.4 Objective 4 – Monitor wastewater system performance, and receiving waterway health

7.4.1 Action 4.1 – Conduct continuous overflow monitoring and routine monthly reports

The Mill Stream ERS is monitored continuously using two level sensors and two pressure-change detection sensors (Figure 7-9). Together, these instruments enable Sydney Water to identify when an overflow event commences and ceases, generate overflow alerts, and quantify the volume of overflow discharged to Mill Stream. Sensor performance is reviewed weekly, with reactive maintenance undertaken as required. Routine maintenance is conducted quarterly, with an annual verification check undertaken to confirm ongoing accuracy and reliability. Overflow volumes are calculated using a rating developed through analysis of the real-time hydraulic behaviour of the overflow and the physical and hydraulic characteristics of the overflow chamber outlet pipe.

Sydney Water will provide monthly reports to the AEO and Sydney Airport on the volume, frequency and duration of overflow events from the Mill Stream ERS. Each month, Sydney Water will review overflow monitoring data and relevant incidents to provide transparent reporting on:

- Overflow volume and frequency
- Overflow duration
- Overflow behaviour vs rainfall
- Volume of gross pollutants removed from Foreshore Beach

Monthly reporting will support ongoing assessment of Mill Stream ERS performance and provide stakeholders with timely information regarding overflow activity and associated environmental management outcomes.

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Figure 7-9: Overflow chamber of the ERS from interior showing sensor (left) and exterior (right).

7.4.2 Action 4.2 – Provide overflow alerts to AEO, Sydney Airport and Bayside Council representatives

Sydney Water will notify the Airport Environment Officer (AEO), Sydney Airport and Bayside Council representatives after each confirmed overflow event. Sydney Water will maintain the stakeholder contact list and update it as required to reflect changes in relevant personnel or organisational arrangements.

Overflow alerts are sent to external stakeholders by email using the stakeholder email addresses listed below.

The current group email addresses for overflow notifications are:

- AEO Sydney- aeosydney@infrastructure.gov.au
- Sydney Airport Environment - environment@syd.com.au,
- Bayside Council- millstreamsewage@bayside.nsw.gov.au
- Port Authority of NSW – enquires@portauthoritynsw.com.au

Overflow alerts generated through Sydney Water's Integrated Instrumentation Control Automation and Telemetry System (IICATS) are issued from Sewer System are sent from Sewer System <NO_REPLY_IICATS@sydneywater.com.au>.

These notifications support timely stakeholder awareness and response in the event of overflow activity.

Sydney Water undertakes monthly audits of Mill Stream ERS overflow activity and associated response actions. As part of this process, Sydney Water's Hydrometric team compares triggered alerts against confirmed overflow activity and investigates any discrepancies.

This process verifies that email alerts were generated but does not confirm receipt by the intended external stakeholders.

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7.4.3 Action 4.3 – Monitor the dry weather sewage capacity in the SWSOOS

Sydney Water is monitoring the wastewater level in the SWSOOS in the vicinity of the overflows as a check for deterioration (and improvement) in capacity over time. The measure being used is the minimum wastewater level for a rolling 6-month period being below 0.45m. The gauge measuring the sewer level (SG0035) is in the SWSOOS and is connected by telemetry to the Sydney Water Integrated Instrumentation Control Automation and Telemetry System (IICATS) with flow depths captured and recorded every 15 minutes. Desilting and grit removal increases the capacity and reduces the wastewater level. The minimum wastewater level is used as this level is not affected by fluctuations in wastewater depths due to wet weather, and a rolling 6-month period is used to ensure that a measured period isn't fully influenced by wet weather.

7.4.4 Action 4.4 – Monitor water quality at Mill Stream

Sydney Water will undertake the routine Mill Stream water-quality monitoring program in accordance with a documented monitoring plan covering wet-weather overflow, wet-weather non-overflow and dry-weather monitoring. Sydney Water present an overview of the revised monitoring program at the SRG. The plan will specify monitoring objectives, locations, parameters, event-selection criteria, sampling frequency and duration, applicable dissolved oxygen monitoring improvements, assessment criteria and reporting arrangements. The plan is summarised below and detailed discussion on the status of analytes to be monitored is discussed in section 4.13.3.

A copy of the final monitoring plan will be provided to 2027 SRG.

Rainfall measurements will be taken from Sydney Airport meteorological station (066037). The rainfall and antecedent no-overflow criteria used to select monitoring events will be consistent with Section 1.2.3.1 and documented in the monitoring plan. The antecedent no-overflow and rainfall periods are a monitoring-selection criterion which ensures that the immediate influences from stormwater and overflow events have subsided and the water quality data represent the ambient or background state.

Validated monitoring results will be assessed, as relevant, against:

- the applicable Schedule 2 criteria under the *Airports (Environment Protection) Regulations 1997*;
    - the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, including ANZECC/ARMCANZ 2000 and ANZG 2018;
    - relevant PFAS assessment values in the *PFAS National Environmental Management Plan*, Version 3.1; and
- any relevant values in any final Ministerial Instrument made under the *Airports (Environment Protection) Regulations 2026*, if applicable at the time of assessment.

Draft Ministerial Instrument values may also be considered as supplementary contextual information where relevant. Consideration of draft values will not imply that they have statutory effect before the relevant instrument is finalised and becomes applicable.

The program is intended to include three monitoring events per quarter over a 12-month period:

1. **Wet-weather overflow event:** sampling undertaken as soon as reasonably practicable following confirmation of operation of the Mill Stream ERS and, where practicable, continued for five consecutive days.

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2. **Wet-weather non-overflow event:** sampling undertaken following a rainfall event during which no Mill Stream ERS overflow is recorded and, where practicable, continued for three consecutive days.

3. **Dry-weather event:** sampling undertaken on one day following an appropriate antecedent dry-weather period, as defined in the monitoring plan.

Implementation of the event-based monitoring program will be subject to the occurrence of suitable monitoring events and to safe access, operational, laboratory and logistical constraints. Where a planned event cannot be completed, Sydney Water will document the reason and, where reasonably practicable, undertake a replacement event.

Validated monitoring results and a summary of relevant observations will be included in quarterly SRG updates and associated reporting. The monitoring locations are identified in Table 15 and shown in Figure 7-10.

The monitoring program will be undertaken over the two-year period from 1 April 2027 to 31 March 2029. Sydney Water will provide:

- an interim data report by 1 June 2028, presenting the first year of validated monitoring data and relevant quality-assurance and quality-control information. The interim report will be a factual data summary and will not provide the final analysis or conclusions of the monitoring program; and
- a final water-quality report by 1 August 2029, presenting analysis appropriate to the monitoring objectives and available dataset, assessment against the applicable regulatory criteria and relevant assessment guidelines, and quality-assurance and quality-control outcomes.

The final report will consider results from the current and relevant previous monitoring periods, having regard to the limitations of the monitoring design and the influence of other catchment sources. It may identify recommendations for consideration in the development of future monitoring programs. Any future monitoring commitments will remain subject to the applicable regulatory process, technical review, prioritisation and approval. A summary of the results will be presented to the SRG.

Table 15: Mill Stream water quality monitoring locations.

Site	General location	Existing site code	GPS co-ordinates
Ms upstream	Upstream of the Mill Stream ERS and weir in the Mill Stream Pond	MILLSTREAM1	-33.944726, 151.189950
Mill stream ERS*	Sample of wastewater discharge	MILLSTREAMERS	-33.944574, 151.189436
Ms immediately d/s*	Mill stream from u/s side of Foreshore Road	MILLSTREAMER10	-33.945462, 151.188795
Ms northern end Foreshore Beach	Mill stream – norther most extend of Foreshore Beach	MILLSTREAMNFB	-33.952654, 151.191906
Foreshore Beach	Mill Stream/Botany Bay – near Mill Stream look out	MILLSTREAM4	-33955088, 151.19365

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Site	General location	Existing site code	GPS co-ordinates
Runway* downstream	From rock groyne adjacent to Foreshore boat ramp (FST to confirm following site inspection)	MILLSTREAMRWA	-33.958586, 151.197763



Figure 7-10: Mill Stream monitoring locations map

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7.4.5 Action 4.5 – Noise Impact Assessment

Sydney Water will undertake a targeted noise impact assessment for relevant critical maintenance activities to evaluate potential noise impacts on the surrounding environment. The assessment will be completed and documented, and the assessment report provided to the AEO, by 30 September 2028. The assessment will be undertaken against the applicable requirements of AEPR 1997, with consideration of relevant AEPR 2026 requirements where appropriate. If the assessment identifies an exceedance of an applicable noise requirement, the report will identify recommended measures to mitigate the noise impact and address the exceedance. Sydney Water will report on its consideration of and response to those recommendations in the Mill Stream ERS EMP Annual Compliance Report for the reporting year ending 31 March 2029, with subsequent progress reported annually until the relevant actions are completed. SWSOOS2 desilting operations will not be included in this assessment, as noise requirements for those works are addressed through the approved Review of Environmental Factors.

7.4.6 Action 4.6 -Undertake independent bird strike assessment and implement applicable mitigation measures

7.4.6.1 Purpose and Authorisation linkage

This action carries forward relevant findings, expert recommendations and outstanding assessment requirements from Condition 28 of Authorisation No. 02/2026 into the 2027–2030 EMP.

Condition 28 of the 2024-2027 Authorisation requires a report to the AEO and SYD identifying planned or existing mitigation measures addressing NASF Guideline C. The report should reference the independent field-monitoring trial, use relevant data including the ATSB National Aviation Wildlife Strike Dashboard, and be reviewed by a recognised Australian bird-strike expert acceptable to the AEO.

7.4.6.2 Implementation

Sydney Water will complete outstanding independent field monitoring and assessment to investigate whether Mill Stream ERS wet-weather overflows contribute to bird attraction and associated aviation safety risks, including bird-strike risk.

The program will document specialist qualifications and independence; monitoring methods and event coverage; data sources, assumptions and limitations; stakeholder consultation; and dated assessment and review milestones. It will address NASF Guideline C and relevant overflow, field-monitoring and aviation wildlife-strike data.

The assessment will undergo review by a recognised Australian bird-strike expert acceptable to the AEO. Sydney Water will document responses to recommendations, including reasons for non-adoption, and assign owners and implementation dates to applicable mitigation measures.

7.4.6.3 Performance assessment and reporting

Sydney Water will retain the Condition 28 report, submission evidence and expert review, and track assessment progress, responses to recommendations and mitigation effectiveness.

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Six-monthly progress reports and Annual EMP Compliance Reports will identify completed and outstanding activities, delays, revised forecasts and limitations. Reporting will distinguish assessment completion from demonstrated risk reduction. Absence of a demonstrated relationship will not, by itself, establish that no risk exists.

Performance indicators and implementation requirements are set out in Table 7 and Table 10.

7.5 Objective 5 – Conduct effective complaint management

7.5.1 Action 5.1 – Respond to and investigate all complaints regarding the Mill Stream ERS

Complaints will be managed in accordance with Sydney Water's established procedures and recorded in the Customer Relationship Management (CRM) system. Complaints relating to the operation of the Mill Stream ERS will be tracked, investigated as required, and reported through annual EMP compliance reports and quarterly SRG meetings.

Permanent signage at Mill Stream and Foreshore Beach, as well as information available on Sydney Water's website and Sydney Water Talk platform, directs community members to Sydney Water's 24-hour contact centre (13 20 90) as the primary channel for reporting incidents, concerns, or complaints relating to the operation of the ERS. Community members may also submit complaints or enquiries through the online feedback portal available on Sydney Water's website.

7.6 Objective 6 – Progress Reporting

7.6.1 Action 6.1 – Chair Stakeholder Reference Group (SRG) meeting

Sydney Water will chair the SRG and convene meetings on a quarterly basis and/or four meetings per Authorisation year. Sydney Water will provide updates on the implementation and progress of all EMP actions. The SRG membership includes representatives from DITRDCSA, Sydney Airport, Bayside Council, Port Authority of NSW and the NSW EPA.

The SRG will provide an opportunity for:

- progress updates on all EMP actions;
- stakeholder engagement updates;
- complaints received;
- discussion of overflow volume, frequency and duration for the reporting quarter, including incident information; and
- stakeholder feedback and discussion regarding environmental performance and continuous improvement opportunities.

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7.6.2 Action 6.2 – Provide Six-monthly Progress Reports

Sydney Water will prepare a six-monthly progress report for each Authorisation year. The report will cover 1 April to 30 September and will be provided to the AEO and Sydney Airport by 30 November following the relevant reporting period. The six-monthly progress report will address implementation of EMP actions and progress against applicable performance indicators and milestones.

7.6.3 Action 6.3 – Provide Annual EMP Compliance Report

Sydney Water will prepare an Annual EMP Compliance Report for each Authorisation year, covering 1 April to 31 March. The report will be provided to SRG by 31 May following the relevant reporting period.

The annual report will assess compliance with the applicable Authorisation and EMP requirements over the full reporting year. It may cross-reference supporting information in the six-monthly progress report but will present a clear annual compliance assessment. The final annual report will cover 1 April 2029 to 31 March 2030 and will be provided by 31 May 2030.

- the progress of all EMP actions
- community and stakeholder engagement
- summary of overflow volume, frequency and duration for that year
- summary of complaints received
- number of incidents resulting in material harm and overflow events not involving material harm
- any failure to comply with or delays in EMP actions along with details of the cause and what Sydney Water is doing to rectify the matter

In addition to the updates detailed above, the annual compliance report will also consider:

- Rationale and assessment criteria were considered to demonstrate that the overflows were unavoidable
- Information on best practice environmental management and due diligence
- Sewerage system operations and maintenance best practice considerations
- Reference to field data, asset condition and performance reports
- Reference to any external audit of the operational procedures, monitoring programs and records of the system
- Reference to model calibration procedures.
- Detail evidence of improvement in the receiving environment in consideration of affected ecosystems and the health and wellbeing of the community (water quality, community expectations, beach suitability grade, odour, First Nations community values).

The third and final compliance report will provide a summary of progress for the full Authorisation period and include a final assessment of the modelled Mill Stream average performance. This will provide the measure for assessing what improvement has been observed from works conducted during the period and provide the level that will be used for assessment in the following Authorisation period.

Proposal

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Appendices

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Appendix A

Foreshore Beach Wet Weather overflow clean-up plan - (D0001845.02)



Take care to keep away from threatened bird species and their nests, particularly between August and January – see page 3

Network Operator

Assess for material harm two hours each side of low tide. See page 4 for guidance regarding 'material harm'.

Assess areas A-B-C-D. Check for solids, syringes, debris balls and dead fish. Install signs and danger tape and locate on clean-up plan. Take photographs (use timestamp app). An incident must be declared for regulator reporting

- If there is new ***Material Harm*** (see page 4) call the Dispatcher to declare a Material Harm incident.
- **OTHERWISE** - Declare an ***Operational Incident*** (e.g. clean-up is not required, or a clean-up is in progress from a previous incident)

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Areas requiring clean-up					
A		B		C	

Area 'A' is usually worst affected

Take care to keep away from threatened bird species and their nests, particularly between August and January – see page 3

Clean-up Crews

Work can start at high tide and continue till 2-hours after low tide. Prioritise syringe removal.

In the areas marked above, gather and bag any sewage solids (debris balls, wetwipes, plastics, ear buds, sanitary products, syringes etc). Pay attention to debris wrapped around rocks, and small plastic items in the seaweed at the high tide line. Full bags to be temporarily stored on a waterproof membrane (e.g. tarp) – see page 3.

Daily email update - count and photograph (with timestamp), syringes, debris balls and rubbish bags collected. Also count bags removed / left on site. If solids collected using plant, estimate of the cubic metres of waste removed.
Email to environmentalregulation@sydneywater.com.au

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PHOTOGRAPHS - Page 3/4

Gather and bag any sewage solids.
Full bags to be temporarily stored on a waterproof membrane (e.g. tarp) and enclosed in a temp fence.



Install signs and danger tape and locate on clean-up plan. Take photographs (use timestamp app).



Take care to keep away from threatened bird species and their nests, particularly between August and January

Pied Oystercatcher





Little Tern





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MATERIAL HARM - Page 4/4

There is Material Harm if you find any dead fish OR any debris balls (can be black, grey or white).





There is Material Harm if you find any of the following in quantities that are too much to collect in full as you conduct the material harm assessment (one bag) and further clean-up is required.



Condoms



Sanitary Pad



Debris



Wet Wipes



Syringe



Syringe

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Appendix B

Threatened Species

Pied Oystercatcher

Conservation status in NSW: Endangered

1. Favours intertidal flats of inlets and bays, open beaches and sandbanks.
2. Forages on exposed sand, mud and rock at low tide, for molluscs, worms, crabs and small fish.
3. Two to three eggs are laid between August and January.
4. Breeding behaviours
   a. The Pied Oystercatcher breeds in pairs. A breeding territory of some 200 m is formed and is defended by both birds. Nesting takes place on sand, shell grit or shingle just above high-water mark on beaches, sandbars, margins of estuaries and lagoons. The eggs are well-camouflaged, being pale brown with darker brown and black blotches and streaks. Both sexes share parenting duties.
   b. Breeding Season: October to January (earlier in the north) Clutch size: 2 to 3
5. The vegetation type located near the work sites is Coastal Foredune Wattle Scrub which is known to be associated with the Pied Oystercatcher



(Photos sourced from https://www.ala.org.au, information sourced from https://www.ala.org.au and https://www.environment.nsw.gov.au)

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Little Tern

Conservation status in NSW: Endangered

1. In NSW, it arrives from September to November, occurring mainly north of Sydney
2. Almost exclusively coastal, preferring sheltered environments; however, may occur several kilometres from the sea in harbours, inlets and rivers (with occasional offshore islands or coral cay records).
3. Breeding behaviours
   a. Nests in small, scattered colonies in low dunes or on sandy beaches just above high tide mark near estuary mouths or adjacent to coastal lakes and islands.
   b. The nest is a scrape in the sand, which may be lined with shell grit, seaweed or small pebbles
   c. Both parents incubate up to three well-camouflaged eggs for up to 22 days, aggressively defending the nest against intruders until the young fledge at 17 - 19 days
   d. It breeds in spring and summer along the entire east coast from Tasmania to northern Queensland, and is seen until May, with only occasional birds seen in winter months
4. The vegetation type located near the work sites is Coastal Foredune Wattle Scrub which is not



(Photos sourced from https://www.ala.org.au, information sourced from https://www.ala.org.au and https://www.environment.nsw.gov.au)

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Appendix C

Historical aerial photographs of the Mill Stream and Sydney Airport area



Photograph (a): Area labelled "1940s"



Photograph (b): Area labelled "1950s"

These photographs provide historical context for changes in the waterway alignment and surrounding land configuration. They do not establish the construction date of the stormwater outlet or the dates when wastewater overflows were connected or diverted to it.

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