Scoping Report

Greater Parramatta, Olympic Peninsula Water Cycle

Sydney WATER

sydneywater.com.au

July 2024

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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.

Sydney Water recognises the physical and cultural connection of local Aboriginal communities to waters and the land.

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1. Introduction

1.1 Project overview

Sydney Water is proposing to build and operate a new Water Resource Recovery Facility (WRRF) in Rosehill, in the Parramatta local government area (LGA) with an associated pump station upgrade and pipelines. The project is called the Greater Parramatta, Olympic Peninsula Water Cycle (GPOP WC) project.

The project is needed to service growth in the Greater Parramatta and Olympic Peninsula (GPOP) area. As a key growth area in Sydney, the population in GPOP is projected to double in size by 2056. An increase in residents and businesses in the area will generate substantial wastewater from kitchens, bathrooms, laundries and other drains from the properties requiring treatment. This would place substantial pressure on Sydney Water's existing wastewater network servicing this area. Under this pressure, the Northern Suburbs Ocean Outfall Sewer (NSOOS), a critical sewer main transferring wastewater to North Head WRRF, would reach capacity by 2031-32. To both provide a wastewater service for the growing population in GPOP and avoid substantial environmental, social and economic costs associated with duplication of the (NSOOS), Sydney Water is seeking approval to:

- build and operate a new wastewater treatment plant
- build and operate associated pipelines including for treated water and upgrade an existing pump station.

The new WRRF would produce advanced treated water and this would require release into Parramatta River. This release regime may reduce if the treated water can be integrated and re-used for Purified Recycled Water (PRW)[1] in the future (not covered under this proposal). PRW is water recycled from industry and homes (including from kitchens, showers and toilets) that has been purified to meet strict Australian Guidelines for Water Recycling to supplement drinking water sources.

The project objective, as detailed further in Section 1.7, is to provide a water cycle management solution for the GPOP growth corridor, that is efficient and cost effective for the community by avoiding duplication of the NSOOS and keeps sustainability, resilience and adaptability in mind.

Figure 1-1 shows an overview of the key project infrastructure assets and their locations. These locations are indicative and will be refined during the preparation of the Environmental Impact Statement (EIS).

[1] The approval of PRW is being undertaken by Sydney Water under a separate project, *'Securing our water supply, Quakers Hill to Prospect'*.

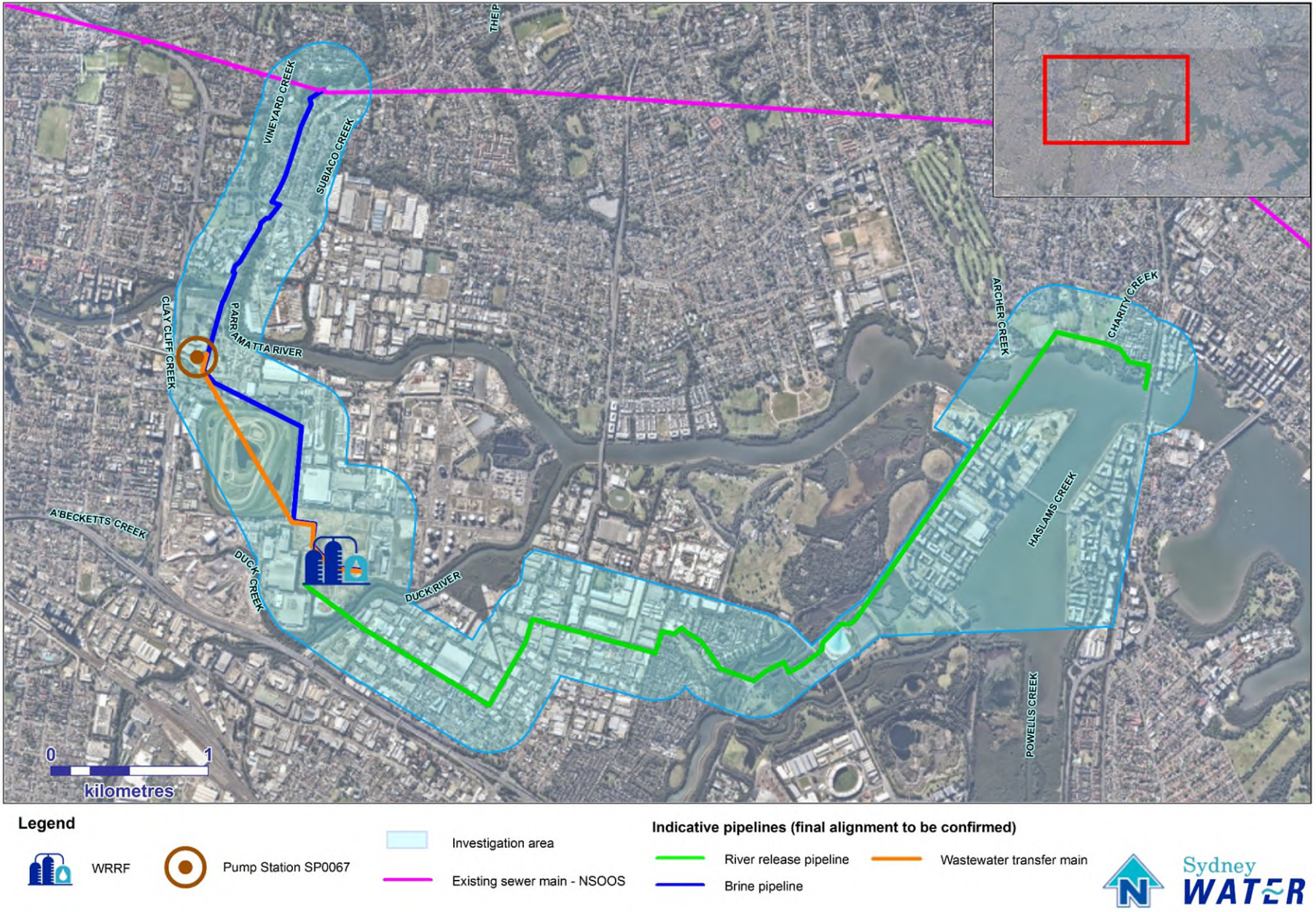

Figure 1-1. Project overview

1.2 Proponent details

The proponent details are set out in Table 1-1 below.

Table 1-1. Proponent details

Category	Proponent details
Proponent	Sydney Water Corporation
Address	1 Smith Street, Parramatta NSW 2150
ABN	49 776 225 038

1.3 Sydney Water's role

Sydney Water is a state-owned corporation, wholly-owned by the New South Wales Government. We are Australia's largest water utility, supplying water, wastewater, recycled water and stormwater services to more than five million people in Greater Sydney, the Blue Mountains and the Illawarra. Our area of operations covers about 12,700 km^2.

Sydney Water operates under an Operating Licence that sets out our operating standards and requirements and is subject to regular review. These requirements are underpinned by Sydney Water's corporate vision of 'creating a better life with world-class water services'.

For this project, Sydney Water will build, own and operate the proposed new and upgraded infrastructure to provide continued wastewater services to customers in central Sydney. We will work with partners from the private sector to deliver a leading-edge treatment plant, ensuring environmental protection and wastewater service at the least lifecycle costs and best value for customers.

1.4 Sydney's wastewater network

Wastewater is produced as an output from residential, commercial and industrial facilities. In Greater Sydney, about 70% of wastewater is generated by households. It is collected in sinks, showers, laundries, toilets and other drains within buildings.

Sydney Water owns and manages a comprehensive wastewater system. The Sydney Water-owned wastewater system consists of (Sydney Water, 2024):

- about 27,000 km of pipes
- about 30 WRRFs treating over 1.3 billion litres of wastewater every day
- 695 wastewater pump stations.

Wastewater collected from houses and businesses is transferred by a network of pipelines to one of Sydney Water's 30 WRRFs. After screening and biological treatment, the majority of the treated water is typically

released to the ocean, via one of three deep water ocean outfalls at North Head, Bondi and Malabar. Sydney Water is also managing WRRFs which discharge the advanced treated water to inland water ways.

The NSOOS is a critical sewer main servicing a population of approximately 1,440,000 from Narrabeen Lakes in the northeast to Blacktown in the west. Approximately 75% of wastewater currently generated within the GPOP corridor and surrounds is transferred by the NSOOS to the North Head WRRF. The NSOOS, along with smaller submains and various pump stations (SP0098, SP0103 and SP0067), pump wastewater from the GPOP corridor to the North Head WRRF (Figure 1-2).

At some of Sydney Water's water recycling plants, a portion of treated wastewater is further treated to a more advanced level to provide recycled water suitable for industrial and agricultural use, irrigating playing fields, or for non-drinking household use.

1.5 Planning for the future

The *Greater Sydney Water Strategy* 2022 (GSWS) (DPE, 2022a) underpins long term planning for key infrastructure and operational decisions to 2050, presented in Sydney Water's *Long Term Capital and Operational Plan* (LTCOP), 2023. The LTCOP acknowledges the trends and challenges shaping Sydney's future including growing cities, climate change, customer expectations, emerging technology, and unpredictable events.

To improve resilience and waterway health outcomes while minimising costs, decentralisation of the traditional west to east flow of our wastewater systems is a strategic planning opportunity. It will enable rainfall independent sources of water and reuse such as through PRW, avoiding costly augmentations of existing wastewater assets and reducing dependency on single assets. The GPOP WC project would extract flows from pump station SP0067 and divert those flows away from the NSOOS for local treatment. The project incorporates adaptability for resilient water management and avoids costly duplication and augmentation of an existing wastewater system. Refer to Section 2 for alignment with strategic plans.

1.6 Project need and benefits

GPOP was identified as a key economic growth corridor within the Central River City in the former Greater Sydney Commission's *Greater Sydney Region Plan - A Metropolis of Three Cities* (Greater Sydney Commission, 2018a). GPOP is forecast to grow by about 110,000 new homes and 196,000 new jobs by 2056. This growth will result in increased demand for wastewater services.

North Head WRRF which receives transferred wastewater via the NSOOS from the GPOP area, provides primary treatment and then treated flows are discharged to the ocean via a deep-water ocean outfall. Increased growth in GPOP will place increased pressure on the NSOOS and North Head WRRF where it is predicted that by 2056, the combined residential and non-residential population will reach 821,800 in 2056, which is almost 120 % increase on population numbers in 2021. The NSOOS does not have the capacity to transfer the additional wastewater generated from this growth. Capacity limits are expected to be reached around 2031 and therefore, the current system is inadequate to support new homes and job growth. The GPOP WC project would extract some of this wastewater for local treatment.

The GPOP WC project is an integrated water management approach to support the vision of a sustainable, resilient and productive Sydney. Expected benefits of the project include:

- a localised water cycle management approach to deliver sustainable wastewater services, keeping water in local waterways
- supporting both population and economic growth in the GPOP corridor, aligning with strategic goals set for GPOP
- surpasses duplication of a traditional wastewater system involving single use ocean disposal. This avoids substantial associated environmental, social and financial costs (estimated ~ $5 billion) that would otherwise be required to duplicate the NSOOS and expand North Head WRRF. Of the alternatives considered (Section 1.8), the project provides the lowest cost with highest benefit servicing solution to meet the needs of GPOP
- reduced uncontrolled overflow events that may adversely impact local waterways.
- adaptable to a circular economy future with PRW.

1.7 Project objectives

The project objectives are provided in Table 1-2.

Table 1-2. GPOP WC project objectives

Objectives	Description
Responds to growth	Provide a solution to water cycle management in the GPOP growth corridor, in line with the NSW Government's long-term population forecasts and Sydney Water's operating licence obligations.
Provide efficient and cost-effective services to the community	Deliver a servicing solution that provides the greatest benefit for investment to the community: • that avoids an unnecessary cost to the customer and maintains affordability for intergenerational equity • makes efficient use of available capital and operational funding over the life of the investment.
Sustainable solution	Demonstrate leadership in integrated and sustainable water management solutions, including: • an integrated approach to water supply and overall waterway health • enabling a circular economy through renewable energy and resource recovery solutions.
Resilient solution	Adequately address the need for resilience in infrastructure, including: • changes in community and customer values, policy, technology and demand • increased interdependencies between servicing infrastructure • recognition of risk to current and future assets

Objectives	Description
	• mitigation of possibly significant economic and social cost to the community.
Adaptable solution	Deliver a solution that enables an adaptable pathway to enabling future transitions for recycled water supply including for PRW.

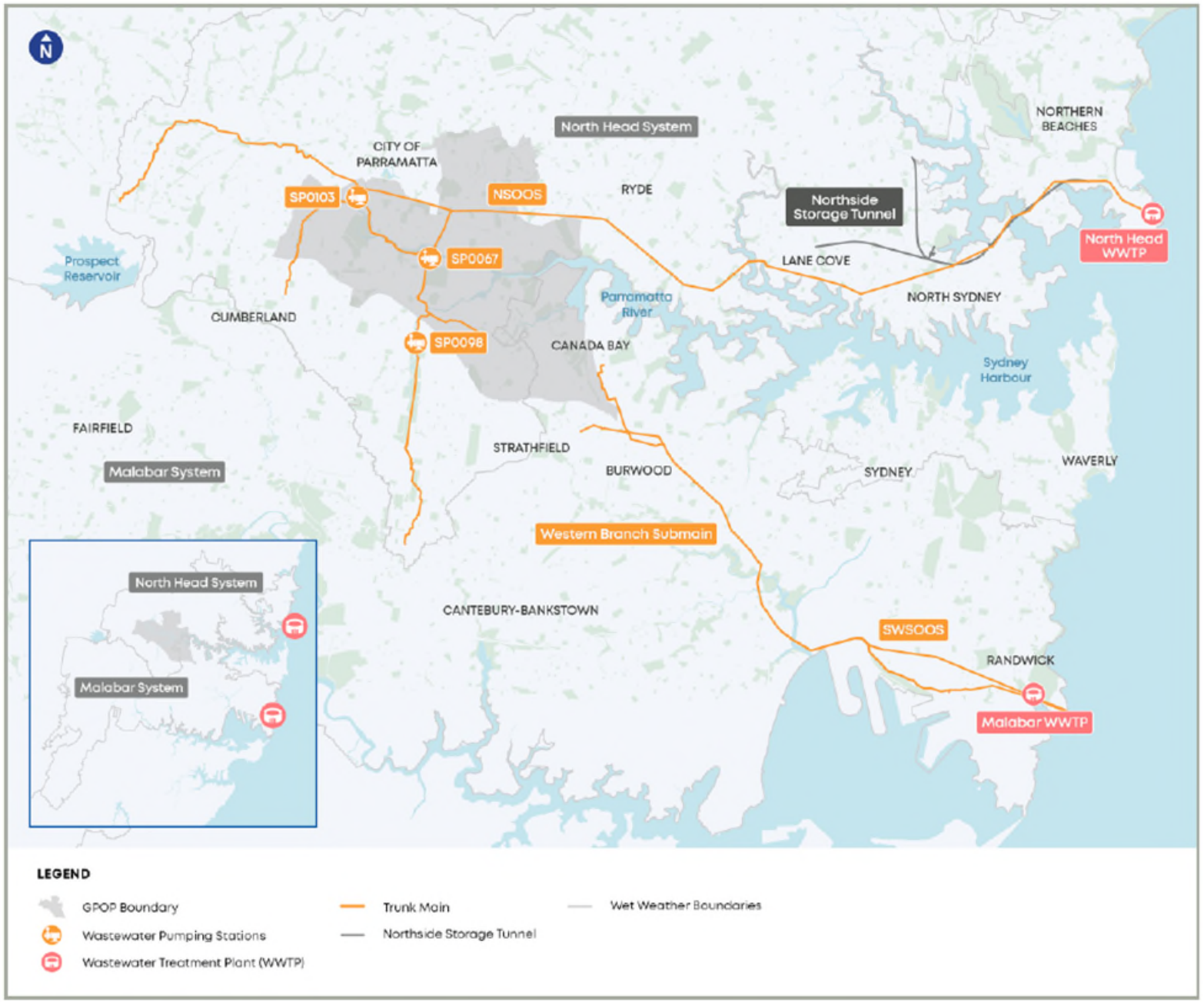

Figure 1-2. Wastewater in the GPOP is currently transferred via the NSOOS to North Head WRRF for treatment before ocean discharge.

1.8 Alternatives considered

For wastewater servicing of projected growth in the GPOP growth corridor, a ‘do-nothing’ or ‘do minimum’ approach was reviewed and not considered further as a feasible alternative. This is because substantial development in the GPOP growth corridor underpins several government strategies and not providing essential wastewater services would:

- jeopardise growth of residential and commercial land-use in the GPOP precincts and surrounds
- overload the North Head and NSOOS wastewater system capacities which would be unable to meet existing operating licence conditions
- increase the risk of uncontrolled discharges causing unacceptable public health and environmental outcomes
- defer or halt new housing, commercial and industrial investment in the region.

As a consequence of not providing essential wastewater services, Sydney Water would be in breach of its operating licence requirements.

Investigations into the servicing pathways for GPOP continued to review a base case scenario (duplication of the NSOOS for transfer to North Head WRRF) and ten alternatives to address the forecasted wastewater capacity constraints. These were then shortlisted to four alternatives (Alternatives 4, 5, 8 and 9). Multi-criteria and cost benefit analysis was performed which assessed direct cost, avoidable costs, social liveability benefits and quantifiable environmental impacts of each alternative. A description of the shortlisted alternatives is provided in Table 1-3.

Alternatives that greatly reduce the volume of wastewater transferred to the NSOOS and the North Head WRRF, such as river release and PRW, deliver better economic benefits. This is because of the significant deferral of costly amplifications to the NSOOS and North Head WRRF. PRW will also deliver additional benefit to increase water supply resilience for a substantial portion of Sydney Water’s customers. However, its implementation is subject to separate approval. During the strategic planning phase, recycled water for non-drinking uses was also considered. However, it was found to be not economically and financially viable as a standalone servicing alternative. This is because the recycled water scheme does not significantly defer amplifications to the NSOOS and North Head WRRF, and the cost of the recycled water scheme does not outweigh the deferral benefit.

Therefore, an adaptive pathway is proposed, starting with delivering a new WRRF that extracts flows that would otherwise end up in the NSOOS, treats the wastewater locally and releases advanced treated water to Parramatta River, in a way that ensures waterway health is maintained. This approach provides the flexibility to transition to PRW in the future when community acceptance and regulatory approval is secured, and to provide non-drinking recycled water where it is financially viable.

Alternative 9 aligned best with the above considerations and was therefore selected as the preferred option. Alternative 9 aligns to a PRW future where future flows can be diverted from the river into a PRW scheme, when the customer and regulatory environment demonstrates its support. It also allows deferral of NSOOS duplication and upgrades to the North Head WRRF beyond the assessment period (2056) for which population growth projections are known.

Table 1-3. Description of shortlisted servicing pathways

Do Nothing, Base Case and Shortlisted alternatives	Description
'Do Nothing'	A 'do nothing' scenario would jeopardise growth of the GPOP precinct which would not support government strategies and would place Sydney Water in breach of its operating licence. This scenario would also lead to an overload on the existing wastewater system, resulting in increased uncontrolled discharges to the environment. This scenario was not considered further as a feasible alternative.
Base Case - Ongoing transfer to North Head WRRF via NSOOS, for treatment and ocean discharge	This alternative would continue transfers to North Head WRRF for treatment and ocean discharge. It requires upgrade of the North Head WRRF duplication of NSOOS by 2032. The NSOOS is a 28 km long and about 3 m diameter pipeline traversing heavily populated residential areas between the western suburb of Blacktown to the eastern suburb of Manly. This alternative was not considered further because of substantial costs economically, socially, and environmentally associated with upgrades and duplication. There are also high uncertainties associated with substantial underground works that would be required. This alternative also does not provide any opportunity for future recycled water supply and is not compatible with building water cycle resilience into the system.
Alternative 4 - Long term recycled water, then river release	This alternative involves a new WRRF from 2026 to produce recycled water for non-drinking uses. From 2039, some wastewater is further treated to advanced standards and released to nearby waterways in line with regulated environmental standards. Under this alternative, river releases are deferred until 2039 and upgrades to the NSOOS and North Head WRRF are avoided until 2050. This alternative also assumes that recycled water would continue to be supplied to new customers after 2039 (after river releases commence). This alternative was not considered further as it provides the least economic value compared to other options without non-drinking recycled water and financial viability requires further investigations.
Alternative 5 - Short-term recycled water, then river release	This alternative involves a new WRRF from 2026 to produce around recycled water for non-drinking uses. From 2038, advanced treatment processes would enable river releases to occur. Unlike Alternative 4, the supply of recycled water would not be extended to new customers after 2039 once river releases are operational. Existing recycled water customers would continue to be serviced with recycled water. Under this alternative, river releases would be in effect from 2039 or earlier and upgrades to the NSOOS and North Head WRRF are avoided until 2050. Similar to Alternative 4, this alternative was not considered further as it provides the least economic value compared to other options without non-drinking recycled water and financial viability requires further investigations.
Alternative 8 - River release, then ocean discharge	This alternative involves a new WRRF and river release infrastructure by 2032. A proportion of wastewater would be treated to advanced standards before release into nearby waterways in line with regulated environmental standards. The remaining wastewater (i.e. all other residual volumes) would continue to North Head WRRF for treatment and ocean discharge. This alternative defers the need to upgrade the NSOOS and North Head WRRF. This alternative secures river releases in the first instance. However, this alternative was not considered further as there is no opportunity for PRW provision and significant investment in the NSOOS would still be required.

Do Nothing, Base Case and Shortlisted alternatives	Description
Alternative 9 - River release, then PRW	This alternative involves a new WRRF, river release infrastructure and potential transition for PRW transfers by 2032. Wastewater would be treated to advanced standards before release into nearby waterways in line with regulated environmental standards. Pending PRW approval (subject to separate assessment) the WRRF would be upgraded to produce highly PRW to be transferred to Prospect Reservoir for reuse as part of drinking water supply to improve reliability and resilience. This alternative secures river releases in the first instance. It enables flexibility for the new WRRF to adapt to a recycled water future which includes PRW, supporting the objectives of building resilience in water supply and integrated water cycle management.

Since confirmation of the preferred option (Alternative 9), locations for the WRRF, river release locations and pipelines were reviewed. Alternative locations that were considered are summarised below. Overall, these locations were selected based on several factors including feasibility, and the need to avoid and minimise impacts to the environment and community as much as possible. Further details are provided below.

1.8.1 WRRF

Camellia-Rosehill was identified as the preferred location for a new WRRF. This is because:

- Camellia-Rosehill is strategically located within the GPOP growth corridor and provides the opportunity for centralised servicing to growth in GPOP
- Proximity to the pump station SP0067 was a key factor. Pump station SP0067 services the GPOP catchment and represents 25% of the total flow in the NSOOS. Removing this inflow would substantially relieve capacity issues in the NSOOS
- The Camellia-Rosehill industrial precinct is hydraulically well positioned close to SP0067 to have wastewater readily directed to a new WRRF from SP0067
- The Camellia-Rosehill industrial precinct also comprises large parcels of land including parcels that will retain heavy industrial land zoning. The area was deemed a suitable location for a new WRRF requiring about 22 hectares, adjacent to compatible land uses. Identification of land parcels this size strategically located for GPOP growth would otherwise have impacted multiple landowners and business needs, requiring high relocation and compensation costs.

Several land parcels within the Camellia-Rosehill industrial precinct were investigated including hybrid options (connecting two sites). Due to the long industrial history at Camellia-Rosehill, legacy contamination was considered a key issue for site selection impacting land management costs. Other constraints included avoiding sites with key ecological habitat constraints, unsuitable geotechnical conditions, major flood impacted sites and distance from potentially impacted communities. Following the reviews, the preferred site for the new WRRF at Devon Street, Rosehill was selected.

1.8.2 River release location and pipeline

Several locations were reviewed for release of advanced treated water along the Parramatta River. From a long list of sites, two shortlisted sites were initially identified at Bedlam Point and Pulpit Point. These sites are located downstream in the harbour and were identified as areas of deep water in the river channel that may facilitate dispersion. Both Bedlam Point and Pulpit Point are located 9 km and 12 km (straight line distance), respectively downstream of the preferred WRRF site in Rosehill. However, construction impacts to the community and to vegetation would be key challenges for both locations. Bedlam Point also contained historical heritage values that would require careful management.

Further review identified another feasible location off Wentworth Point, located about 5 km (straight line distance) from the preferred WRRF site. With consideration to channel dimensions, water quality feasibility modelling confirmed the site as suitable for further investigations as a release point. Of all sites reviewed, Wentworth Point is the closest potential release point to the proposed WRRF in Rosehill. This presented the least cost in terms of environmental, social and financial impacts, presenting the best option to minimise bill impacts to customers.

However, construction advice on a release point at Wentworth Point revealed a complex construction environment with a need for careful management to avoid potential environmental risks during construction in the river, along with interruption to ferry services. Instead, a release location off Meadowbank was identified as a feasible location for construction, providing deeper water compared to Wentworth Point.

Several pipeline routes from the WRRF have been considered. This included trenched alignments along Holker Street and Hill Road to Wentworth Point. Discussions with key stakeholders (refer to Section 5.1.2) revealed the need for:

- careful co-ordination with other major project interfaces and service providers
- avoiding disturbance to the Silverwater Correctional Complex
- careful management of existing community fatigue
- careful management of fatigue from cumulative construction works.

From these discussions, a trenchless alignment was preferred that will avoid trenching along Holker Street and will under bore Parramatta River and allow releases off Meadowbank.

Alternative alignments will continue to be reviewed as part of detailed optioneering. This will include the potential for underboring Haslams Creek for a release location off Rhodes, located in Canada Bay Council.

1.8.3 Wastewater transfer pipeline

Three alignment options for the transfer wastewater pipeline alignment from SP0067 to the WRRF were reviewed. All routes would predominately traverse the industrial area of Camellia-Rosehill. The preferred alignment, being the shorter route was selected. During the concept design stage, detailed optioneering including investigation of ground conditions will confirm this alignment.

1.8.4 Brine pipeline

Selection of the brine pipeline route reviewed the shortest feasible route north of pump station SP0067 to a connection point into the NSOOS. The preferred northern portion of this route is based on the potential to use an existing Sydney Water service corridor, thereby minimising environmental and community impacts where possible. Detailed optioneering including investigation of ground conditions will confirm this alignment. It will also confirm the opportunity to follow the same alignment as the wastewater transfer pipeline and constructing both southern ends of these pipelines simultaneously.

2. Strategic context

2.1 Strategic need

The significance of the GPOP growth corridor for the development of the Central River City was recognised in the *Greater Sydney Region Plan - A Metropolis of Three Cities* (Greater Sydney Commission, 2018a). GPOP is a 6,000 hectare area at the core of the Central River City and the centre of Greater Sydney.

In recognition of the importance of GPOP's renewal, the former Greater Sydney Commission (GSC) piloted the Place-based Infrastructure Compact (PIC) in GPOP to ensure that growth is supported by infrastructure. Sydney Water has been an active member of the collaboration between the former GSC and other State agencies to deliver the pilot GPOP PIC and the placed based Strategic Business Case led by Infrastructure NSW.

The NSW Government's response to the PIC recommended that the, now, Department of Planning, Housing and Infrastructure (DPHI) support utilities in implementing the 'Transformative' and 'Visionary' scenarios in the PIC for GPOP, including recycled water and resource recovery, to promote better efficiency, resilience, resource management and low carbon precincts. Sydney Water's approach is for integrated water management that supports the Government's vision for a liveable, productive and sustainable GPOP.

The GPOP WC project will provide local wastewater infrastructure to support population and economic growth in the GPOP corridor. This solution ensures population growth in GPOP is serviced given impending capacity constraints in the NSOOS. By recovering wastewater and producing advanced treated water locally, this project provides the flexibility needed to transition to recycled water futures including rainfall independent sources of water and reuse, such as PRW.

2.2 Alignment with strategies, polices and plans

The project is strategically aligned with existing strategies, policies and plans and forms a critical component to achieving planning priorities for GPOP.

2.2.1 Commonwealth Infrastructure Priority List

The *Infrastructure Priority List 2021* (Infrastructure Australia, 2021) highlights that Greater Sydney's water security is a high priority initiative, acknowledging that water security and supply will be challenged by climate variability, population growth and ageing assets. It further acknowledges that there are 'growing community expectations that governments will improve waterway health and use more water for city greening and cooling'. Infrastructure Australia identifies *'GPOP growth area enabling infrastructure'* on the national Infrastructure Priority List. The opportunity to co-ordinate infrastructure delivery for GPOP is identified to '*derive nationally significant benefits, largely driven by residential property benefits, reduced congestion and vehicle pollution'.* Other strategically important benefits include *'additional tree canopy cover and improved water quality for the Parramatta River'.* The GPOP WC project will provide local wastewater treatment infrastructure which is a critical part to ensuring improvements in waterway health and enabling a pathway to realise opportunities for localised greening and cooling.

2.2.2 NSW Government Planning Priorities

In the *Greater Sydney Region Plan - A Metropolis of Three Cities* (Greater Sydney Commission, 2018a), GPOP is identified as integral to the vision of the Central River City, being the 'connected and unifying heart'. Investment in infrastructure was identified as critical in achieving the productivity outcomes necessary for developing the GPOP economic corridor and enabling a better connected and more competitive city (Objective 15). The transformation of GPOP will assist to rebalance economic and social opportunities to deliver a more equitable Greater Sydney. By providing wastewater infrastructure to service growth in GPOP, this project contributes to the productivity and economic objectives identified.

The *Our Greater Sydney 2056 - Central City District Plan* (Greater Sydney Commission, 2018b), set the planning priorities and actions to support growth and productivity in GPOP. Planning Priority C8 looks to deliver a more connected and competitive GPOP economic corridor. Planning Priority C19 also identifies the opportunity that GPOP presents for precinct-scale approach to change the way water resources are managed. This opportunity '*will shift the reliance on coastal treatment and ocean discharge of treated wastewater and will plan a new facility on site…in GPOP's urban services area'*. The District Plan also recognised opportunities for innovative and integrated resource recovery with respect to recycled water, co-digestion of biosolids and food waste to generate energy and the potential for electricity export to the grid. These opportunities including future space provisioning will be explored during concept planning of the WRRF.

The project also aligns with the *GPOP – Our true centre: the connected unifying heart* PIC (Greater Sydney Commission, 2019) which recognised the need for a new WRRF with the ability to provide recycled water to support the GPOP precincts.

2.2.3 State Infrastructure Strategy

The State Infrastructure Strategy (SIS) 2022-2042 *Staying Ahead* (Infrastructure NSW, 2022), sets out the State Government's infrastructure priorities for the next 20 years. Key objectives and recommendations of the SIS for which this project aligns, includes:

- Objective: Service growing communities
    - Recommendation #10 - fund and deliver enabling infrastructure to support approved or pending housing supply.
- Objective: Enhance long-term water security
    - Recommendation # 28 - increase the resilience of Greater Sydney's water through a full range of options, including better conservation and more diverse sources. This includes embedding integrated water cycled management approaches.
    - Recommendation #29 - develop a roadmap for the adoption of PRW.
- Objective: Protect our natural endowments
    - Recommendation #36 - identify and plan for future waste infrastructure needs as part of the Greater Sydney Region Plan and Regional Plans.

2.2.4 Greater Sydney Water Strategy

The Greater Sydney Water Strategy 2022 (GSWS) (DPE, 2022a) charts a direction for delivering sustainable and resilient water services to Greater Sydney for the next 20 to 40 years, servicing a growing Greater Sydney, including the Illawarra and Blue Mountains, and safeguarding our city even in times of prolonged drought and extreme weather events. The strategy recommends an integrated delivery of water, wastewater, recycled water and storm water services and has four primary objectives:

- Support economic growth and community wellbeing by providing confidence in the sustainability of Greater Sydney's water supply to meet growth and adapt to a changing climate to 2040 and beyond.
- Support delivery of the Greater Sydney Region Plan - A Metropolis of Three Cities and the Premier's Priorities for greening the city.
- Identify the strategic pathways for decision making in consultation with customers and the community.
- Set the pathways to identify highest economic value and most affordable investment portfolios for water infrastructure.

The GPOP WC project will realise priorities under the GSWS by providing a solution that enables adaptability on future water needs. The project provides a new wastewater infrastructure solution with a future pathway to rainfall independent supply in mind and consideration to supporting future cooling and green priorities. The project will manage wastewater locally, ensuring waterway health objectives are maintained or improved in consultation with the community and has been identified as the optimal economic solution that minimises impacts to customer bills.

2.2.5 NSW Circular Economy Policy Statement

The NSW Circular Economy Policy Statement – *Too Good To Waste* (NSW Government, 2019) sets the ambition and approach for a circular economy in NSW and provides the principles to guide resource use and management. The principles of the circular economy are:

- Sustainable management of all resources.
- Valuing resource productivity.
- Design out waste and pollution.
- Maintain the value of products and materials.
- Innovate new solutions for resource efficiency.
- Create new circular economy jobs.
- Foster behaviour change through education and engagement.

The GPOP WC project enables a more sustainable and resource efficient approach compared to the alternative of duplicating a traditional ocean discharge approach. The project also enables adaptability for future circular economy opportunities, such as PRW which aligns with this policy statement.

2.3 Local context

2.3.1 Parramatta River Masterplan

The Parramatta River flows through the geographical centre of Sydney and underpins the vision of the Central River City in the Greater Sydney Region Plan. The Parramatta River Masterplan (Parramatta River Catchment Group, 2018) recognises the significance of the river in achieving the community and recreational needs of a fast-growing city and provides an opportunity for urban greening and cooling.

The Masterplan was released by the Parramatta River Catchment Group (PRCG) in 2018, and establishes the actions required to achieve a swimmable Parramatta River by 2025. The PRCG are an alliance of councils, government agencies and local community groups with a joint initiative to improve the waterway health and community value of the Parramatta River. Sydney Water were appointed by the PRCG in 2019 to drive the implementation and delivery of the Masterplan, with four swimmable sites of the Parramatta River successfully implemented to open in 2022. The GPOP WC project will be compatible with healthy waterway objectives.

2.3.2 City of Parramatta Local Strategic Planning Statement

The City of Parramatta Local Strategic Planning Statement (LSPS) (City of Parramatta, 2020) sets out priorities and actions to achieve the vision for Greater Parramatta at the centre of the Central River City. The City of Parramatta LSPS recognises the need to:

- Limit the impacts of population growth by reducing potable water use in buildings and landscapes.
- Improve waterway health and water security and proposes the development of a blue infrastructure plan
- Reduce emissions and manage energy, water, and waste efficiently, through:
    - Introduction of high-performance building planning controls, including energy, water, and dual pipe for recycled water for non-potable use, for residential and non-residential developments proposed within Parramatta CBD
    - Sustainability requirements for areas outside Parramatta CBD, including precinct level renewables and sustainable use of energy, water, and dual pipe for recycled water for non-potable use
    - Advocate and work with stakeholders for the provision of recycled water networks, resource recovery infrastructure and local energy generation
    - Explore opportunities for circular economy strategies like waste-to-energy, bio-digestion, alternative water, waste and energy systems in growth precincts and developments.

2.3.3 Camellia – Rosehill Place Strategy

Camellia-Rosehill plays an important strategic role as an industry and employment hub within the GPOP economic corridor. The Camellia-Rosehill Place Strategy (DPE, 2022b) will guide renewal of the precinct over the next 20 years. The Place Strategy plans for a thriving town centre supporting up to 15,400 jobs and 10,000 new homes supported by infrastructure. Improved transport connections are planned, as well as opening up Parramatta River foreshore as a centre of community activity. The area will be a new urban services precinct that retains heavy industrial land, while setting sustainability targets along with integrated water management strategies.

3. Project description

Sydney Water is planning to build and operate a new WRRF in Rosehill. The WRRF will provide a different approach to managing the water cycle for GPOP. The new WRRF includes:

- a WRRF that will produce high quality treated water from wastewater
- a new river release pipeline from the WRRF to release the high quality treated water into the Parramatta River
- upgrade of existing pump station, SP0067
- a new wastewater transfer main from SP0067 to the new WRRF
- new brine pipeline from the WRRF to Sydney Water's existing wastewater system to discharge brine.

Figure 1-1 shows the key components of the project. The project is intended to be located within the local government areas of Parramatta and Ryde. Detailed optioneering will confirm the location of key project components.

The WRRF will be built to an optimal capacity to service imminent growth in GPOP and avoid the duplication of the NSOOS in 2031 and expansion of the North Head WRRF. Detailed optioneering will confirm this optimal capacity. Currently, it is envisaged that the new WRRF will be sized to 100 ML/day, initially operating at up to 50 ML/day. Associated pipelines will be built to ultimate capacity to avoid future construction impacts.

The WRRF will be designed to allow flexibility to expand for greater treatment capacities as the GPOP region grows, and for upgrades in the future to produce PRW.

In the future, the WRRF may be expanded in response to increased servicing demand because of growth. Within the treatment plant site, process unit expansions may occur to receive around 185 ML/d with additional wet weather flow diversions under investigation. Staggered investment allows Sydney Water to avoid over investing in infrastructure before it is required and ensures the best available technologies and innovation can be drawn on at the time.

Based on current population growth projections, future expansion will likely be required by around 2040-2050. It is intended that future expansions in relation to this project will be subject to separate planning approvals under Division 5.1 *Environmental Planning and Assessment Act 1979* (EP&A Act). Future expansion is anticipated to deliver assets supporting PRW production and transfers, food waste co-digestion and a recycled water network.

Details of the project components are provided below.

3.1 Water Resource Recovery Facility

Table 3-1 summarises key features of the proposed WRRF.

Table 3-1. WRRF features

Feature	Detail
Location and area likely to be physically disturbed	The WRRF will be located on 21.41 hectares as shown in Figure 1-1 on land identified as Lot 1, Deposited Plan 1300589. Sydney Water has recently acquired this site.
Capacity	Average dry weather flow of up to 100 ML/d.
Wastewater treatment process	The WRRF will produce treated water at advanced levels, being the highest level of treatment. The treatment process involves diverting dry weather flows from an existing pump station SP0067 (to be upgraded, refer below) and sending wastewater to the WRRF. The WRRF treatment process will move the wastewater through various process units including: • Inlet works – preliminary treatment • Primary, secondary and tertiary wastewater treatment process units • Advanced treatment processes involving reverse osmosis • Disinfection systems • Biosolids handling facilities • Odour control facilities. High quality advanced treated water is produced at the end of the process. Cogeneration opportunities for heat and energy production will be investigated.
Operational products	The process will produce: • biosolids – a biosolids handling facility will be built where the biosolid product may be collected from the WRRF site for beneficial re-use • brine by-product – this will be transferred to North Head WRRF via the NSOOS • high quality advanced treated water – this will be released into Parramatta River.
Ancillary infrastructure	The WRRF will require a range of ancillary infrastructure such as an administration building, roads, connection to power, car parking, chemical storage, and water detention and retention basins. As described in Section 3.7, some of this ancillary infrastructure will be excluded from the scope.

3.2 River release pipeline

Table 3-2 summarises key features of the river release pipeline.

Table 3-2. River release features

Feature	Detail
Location and area likely to be physically disturbed	Release of advanced treated water will occur off Meadowbank. The exact release point will be subject to further detailed investigations. It is anticipated that the area likely to be physically disturbed will include the river bed and shoreline at Meadowbank for construction of the release structure. The pipeline will be about 7 km. From the WRRF, the pipeline is proposed to cross under Duck River follow Carnarvon Street, Voss Street, Fariola Street, Avenue of Oceania and cross Holker busway. From a parking lot, the pipeline will be underbored under Hill Road and Parramatta River until it reaches the banks at Meadowbank Park. Figure 1-1 shows an indicative release location and the pipeline route. This may change within the investigation area as detailed optioneering continues. Easements will likely be required in some locations for maintenance and inspection work.
Capacity	The river release pipeline will be constructed for an ultimate capacity release off Meadowbank of about 80 ML/d. This will avoid additional community and environmental disturbance that would occur if the pipeline needed to be duplicated in the future.
Release operations	High quality advanced treated water will be sent from the WRRF into the river release pipeline. The pipeline will transfer the water to the release point at Meadowbank, where a discharge structure will be built. Recycled water offtakes will provide future opportunities for high quality recycled water users to access the water, subject to commercial agreements and separate planning approvals. The EIS will assess the impacts of releasing advanced treated water to Parramatta River. If PRW and/ or recycled water schemes are developed and supplied by the WRRF in the future, this will reduce the volume of water released to the river.
Operational products	No products will be produced by the pipeline. The pipeline will convey and release high quality advanced treated water into Parramatta River.
Ancillary infrastructure	The pipelines will be predominantly below ground. However, they have some above ground components including maintenance holes, valve pits and covers, scour chambers, ventilation structures, energy dissipation structures and headwalls. Depending on how design and hydraulic assessments progress, other above ground structures may be required.

3.3 Pump station SP0067 upgrade

Table 3-3 summarises key features of the upgrade to existing pump station, SP0067.

Table 3-3. SP0067 upgrade features

Feature	Detail
Location and area likely to be physically disturbed	Pump station SP0067 is located in Lots 1 and 2 in DP 1248547. The upgrade and area likely to be physically disturbed will be located on Sydney Water owned land and primarily within the grounds of the existing pump station, SP0067.
Capacity	SP0067 currently contributes about 25 % of flows to North Head WRRF, servicing 250,000 people. The upgrade will divert flows to the WRRF at up to 100 ML/d.
SP0067 processes	The upgrade will enable sewer mining to deliver flows to the new WRRF. The upgrade will include the installation of new pumps for wastewater extraction to the new WRRF while remaining pumps will pump to the NSOOS via existing pressure mains. New connections will be required for diversions of wastewater into a new pressure transfer main. It is noted that refurbishment of pump station SP0067 is currently in progress to address reliability and has capacity to address growth in the catchment.
Operational products	No new operational products will be produced by the upgrade.
Ancillary infrastructure	The upgrade may require ancillary infrastructure such as changes to internal roads and connection to power. As described in Section 3.7, some of this ancillary infrastructure will be excluded from the scope.

3.4 SP0067 transfer main

Table 3-4 summarises key features of the transfer main.

Table 3-4. SP0067 transfer main features

Feature	Detail
Location and area likely to be physically disturbed	The SP0067 transfer main will be twin pipes about 1.5 km long. From SP0067, the pipeline may be located under the Rosehill Racecourse track until it reaches the WRRF. Figure 1-1 shows the indicative route, which may change subject to ongoing detailed optioneering. Easements will likely be required in some locations.
Capacity	The transfer main pipeline will be constructed for an ultimate capacity of about 185 ML/d peak dry weather flows, noting that wet weather flow diversions are under investigation. This will avoid additional community and environmental disturbance that would occur if the pipeline needed to be duplicated in the future.
Transfer main operation	The transfer pressure main will divert wastewater from SP0067 to the WRRF for treatment.
Operational products	No products will be produced by the pipeline.

Feature	Detail
Ancillary infrastructure	The upgrade may require ancillary infrastructure such as changes to internal roads and connection to power. As described in Section 3.7, some of this ancillary infrastructure will be excluded from the scope.

3.5 Brine pipeline

Table 3-5 summarises key features of the brine pipeline.

Table 3-5. Brine pipeline features

Feature	Detail
Location and area likely to be physically disturbed	The pipeline will be about 4 km long. From the WRRF, the pipeline will traverse through the Camellia-Rosehill precinct until it reaches SP0067. From there, the pipeline will continue north and is proposed to follow the similar alignment of an existing rising main that connects SP0067 to the NSOOS. Figure 1-1 shows the indicative route, which may change subject to ongoing concept design. Easements will likely be required in some locations.
Capacity	Construction will be to an ultimate capacity of up to 40 ML/d.
Brine pipeline operation	The brine pipeline pressure main will convey brine produced at the WRRF to the NSOOS.
Operational products	No products will be produced by the pipeline.
Ancillary infrastructure	The pipeline will be below ground. However, they have some above ground components including maintenance holes and valve structures. Depending on how design progresses, there may be some other above ground structures which will be identified in the EIS if needed.

3.6 Scope exclusions

3.6.1 Site management works

Site management works at the WRRF will need to be carried out prior to project approval. These will include:

- relocating existing utility connections
- site levelling, filling and compaction
- site drainage management.

The WRRF site may be filled and compacted above current ground levels. Site management works will be subject to separate planning approvals.

3.6.2 Wastewater network infrastructure

As development in GPOP occurs, a wastewater network will be required to connect residents and businesses to the existing wastewater system sending flows to SP0067. This wastewater network is excluded from the project scope as this system will be built progressively to integrate with future precinct planning and development plans.

3.6.3 Recycled water schemes

The WRRF will have the potential to produce recycled water for non-drinking purposes. Recycled water schemes and associated pipeline infrastructure are excluded from the project scope for further financial viability assessments. Any future recycled water schemes will be subject to separate planning approvals.

3.6.4 Access, utility connections and other infrastructure

The site will require connection of utilities such as electricity and water, as well as access roads for construction. These works are outside the scope of this project and will be delivered by Sydney Water or the relevant utility under separate planning approvals at a time when detailed constructability requirements are confirmed.

3.6.5 Site investigations

Site investigations will be required to progress design optioneering and development. These will be subject to separate planning approvals if required. The types of investigations include environmental and heritage studies, monitoring and testing, geotechnical and contamination investigations.

3.6.6 Property management

Sydney Water may need to carry out a range of property management activities on the WRRF site before the project is approved and during operation. These are excluded from the project scope and will be subject to separate planning approvals if needed. The types of property management activities include:

- relocating/adjusting utility connections
- vegetation management
- vermin/animal control
- site drainage management
- establishing site security
- demolition works
- land remediation activities.

3.6.7 Minor works and maintenance

Sydney Water proposes that once the project is operational, any maintenance, replacement and repair of that infrastructure or any minor works or upgrades will be out of scope of the project and assessed in separate planning approvals if needed. Similarly, any activities or works that improve environmental performance or have neutral environmental impact will be excluded from the project scope.

4. Statutory context

Table 4-1 describes the statutory planning process for the project and identifies other legislation and approvals that may apply to the project. Further investigations as part of the EIS will confirm whether these approvals will be needed and identify any additional approvals.

Sydney Water has not identified any pre-conditions to exercising the power to grant approval or any mandatory matters that influence the setting of the SEARs.

We note that the site forms a part of the land subject to development consents SSD-9302 and SSD-10459. These consents relate to the Viva Energy Clyde Western Area Remediation Project and the Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre, respectively. Sydney Water will not be continuing the developments proposed under either development consent so far as they relate to the site and has no requirement to do so. Therefore, Sydney Water will not be using or relying on either SSD-9302 or SSD-10459. Under this scoping report, Sydney Water is applying to use the site for the development of a water resource recovery facility (sewage treatment facility) to be classified as State Significant Infrastructure pursuant to Schedule 3, section 1(1) of State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP).

Table 4-1. Statutory context

Matter	Analysis
Power to grant approval	The project is considered to be State significant infrastructure (SSI) under Schedule 3, section 1(1) of Planning Systems SEPP. This is because Sydney Water would otherwise be the determining authority and has concluded that an EIS is required in accordance with section 5.7(1) of EP&A Act. The approval authority is the NSW Minister for Planning and Public Spaces.
Permissibility	The project is a sewerage system under Division 18 of State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP). Sydney Water is a public authority so the project will be carried out in the prescribed circumstances as outlined in section 2.126(1a) of the Transport and Infrastructure SEPP. **WRRF** Under section 2.126(2) of the Transport and Infrastructure SEPP, the WRRF is a sewage treatment plant which is permissible without consent on land in a prescribed zone in the prescribed circumstances. The WRRF site is zoned E5 – Heavy Industrial, which is a prescribed zone under section 2.125 of the Transport and Infrastructure SEPP. **Pipelines and pump station** Under section 2.126(6) of the Transport and Infrastructure SEPP, the pipelines and pump station are sewage reticulation systems which are permissible without consent on any land in the prescribed circumstances. The project is not located on land reserved under the National Parks and Wildlife Act 1974. The pipelines cross a series of areas identified as ‘Coastal Wetlands’ under State Environment Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP). This SEPP overrides the Transport and Infrastructure SEPP and provides that the pipelines would only be permissible with development consent will be required and therefore, not be classified as State significant infrastructure.

Matter	Analysis
	However, section 2.13(2) of the Planning Systems SEPP prevails to classify the pipelines as permissible without consent and declared to be State significant infrastructure. The river release pipeline is partially located within Sydney Olympic Park, which is declared as a State Significant Precinct under Appendix 4 of the State Environmental Planning Policy (Precincts – Central River City) 2021 (Precincts SEPP). State Significant Precinct is an area with state or regional planning significance because of their social, economic or environmental characteristics. Section 2.13(2) of the Planning Systems SEPP prevails to classify this pipeline as permissible without consent and declared to be State significant infrastructure.
Approvals consistent with approved SSI	Section 5.24(1) of the EP&A Act provides a number of approvals that are to be applied consistently to approved SSI projects and the following approvals may be relevant to the project: • an environment protection licence under Chapter 3 of the Protection of the Environment Operations Act 1997 • a consent under section 138 of the Roads Act 1993.
Approvals not required for approved SSI	Section 5.23(1) of the EP&A Act provides a number of approvals that are not required for approved SSI projects and the following approvals may be relevant to the project: • a permit under section 201, 205 (marine vegetation impacts) or 219 (blocking fish passage) of the Fisheries Management Act 1994 • an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977 • an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974 • a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the Water Management Act 2000.
Other NSW legislation and approvals	***Biodiversity Conservation Act 2016*** Development that is likely to significantly affect threatened species is required to be accompanied by a biodiversity development assessment report (BDAR) unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values. A BDAR will be prepared as part of the EIS. ***Sydney Olympic Park Authority Act 2001 (SOPA Act)*** The river release pipeline is partially located within the boundary of the Millennium Parklands. The granting of a lease, easement or licence is required to work within the Millennium Parklands from the Sydney Olympic Park Authority (SOPA). Sydney Water will consult with SOPA and seek relevant approvals. **Parramatta Local Environmental Plan 2023**

Matter	Analysis
	Parramatta Local Environmental Plan 2023 (Parramatta LEP) has placed a 12 m height restriction for lots within Camellia-Rosehill including at the WRRF site. If the WRRF design exceeds 12 m height, consultation on this will occur with the City of Parramatta to discuss requirements to support minimising the impacts of structures in excess of 12 m. ***Sydney Water Act 1994*** Sydney Water's principal functions are governed by its operating licence which enables Sydney Water to provide, construct, operate, manage and maintain systems and services for the storage and supply of water, provision of wastewater services, provision of stormwater drainage systems, and disposal of wastewater. Under the Sydney Water Act, Sydney Water is obligated to operate efficiently, to maximise its own net worth and to act in the interest of the community in which it operates. Sydney Water must protect human health and the environment in accordance with relevant operating licences and Environment Protection Licences (EPLs).
***Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)**	Where initial ecological investigations identify and indicate a potential to impact upon Matters of National Environmental Significance (MNES), then a referral will be made to the Commonwealth Minister for the Environment under section 68 of the EPBC Act. If the Project is determined to be a controlled action by the Minister, an impact assessment will be undertaken in accordance with the assessment requirements issued by the Minister under a bilateral agreement. If the Project is determined not to be a controlled action, no further assessment or approval will be required under the EPBC Act.
Native Title Act 1993	A review of the National Native Title Tribunal Register completed in July 2024, indicates that there are no active native title claims or any indigenous land use agreements that apply to land within the project area.

5. Community and stakeholder engagement

5.1 Engagement during scoping

5.1.1 Community and Stakeholder Engagement Plan

A Community and Stakeholder Engagement Plan (CSEP) has been developed and will ensure:

- internal and external stakeholders are aware of the engagement activities to support the project and are provided with consistent messages about the project
- community and stakeholders are provided with timely and relevant information about the project via a variety of channels
- opportunities for community feedback and input are available for the community to help shape the project
- First Nations people are engaged and have the opportunity to share knowledge to help shape the project for mutually beneficial outcomes
- communication to and from stakeholders and the community is adequately documented
- community and stakeholders are provided with a responsive point of contact for any enquiries, complaints or suggestions
- disruption to impacted stakeholders and the wider community are acknowledged, and minimised or mitigated
- Sydney Water communications procedures and protocols are followed.

5.1.2 Stakeholder Engagement

Preliminary engagement with stakeholders has taken place to provide a briefing on the project, understand project interfaces and stakeholder feedback. Sydney Water has met with the following stakeholders and will continue engagement activities as the project progresses. In addition, an agency meeting for the project was held on 10 April 2024. Agencies and stakeholders in attendance have been added to the list below.

- City of Parramatta
- Sydney Olympic Park Authority (SOPA)
- NSW Environment Protection Authority (EPA)
- Parramatta River Catchment Group (PRCG)
- Department of Planning, Housing and Infrastructure (DPHI)
- Transport for NSW (TfNSW), Parramatta Light Rail Stage 1 and 2
- Landcom

- Transport for NSW, Sydney Metro West
- NSW Health
- NSW State Emergency Services (SES)
- NSW DCCEEW.

Sydney Water will consider queries and comments raised during the project briefings and agency meetings as the project develops.

A summary of specific engagement and communication activities is provided below.

City of Parramatta

Meetings with the City of Parramatta (or Parramatta Council) representatives have occurred. The engagement to date has provided insight on developments in Parramatta LGA of relevance to this project. The continued engagement will be focused on ensuring that Parramatta Council is appropriately briefed on upcoming plans as well as the working together to understand opportunities that support Parramatta Council's goals.

Sydney Olympic Park Authority (SOPA)

Initial engagement with SOPA centred on the future supply of recycled water for the precinct. Subsequent engagement has discussed pipeline route options and avoidance of key constraints managed by SOPA. SOPA will be consulted as the design develops. The potential for direct or indirect impacts within SOPA land will be discussed with SOPA representatives.

Transport for NSW (TfNSW)

TfNSW's plans for local roads and light rail has been discussed. Engagement will continue to understand and identify opportunities where infrastructure activities may be coordinated.

Landcom

A briefing on the project was provided to Landcom. Discussions included Wentworth Point development plans and potential interfaces.

Department of Planning, Housing and Infrastructure (DPHI)

The Department of Planning, Housing and Infrastructure (DPHI) is leading the Camellia-Rosehill precinct rezoning plan and has been consulted on the project plan to understand wider precinct goals. Engagement will continue throughout project planning and relevant feedback will be considered as the project design develops.

NSW Environment Protection Authority

Engagement has taken place with the NSW Environment Protection Authority (EPA) to present the project plans and early feasibility study results on river releases. Updates to the EPA will be provided as the project develops and progresses through various milestones.

Parramatta River Catchment Group

A meeting was held with the Council members of Parramatta River Catchment Group to provide a brief on Sydney Water's vision for GPOP and investigation into river release.

A key focus of the group is to make the river swimmable again by 2025. Several sites have opened to the public for swimming and new sites are planned, including at McIlwaine Park in Rhodes, Putney Park and Bedlam Bay. Sydney Water is a member of the Parramatta River Catchment Group and the Urban Plunge initiative and is an active member in supporting a swimmable river.

NSW Fisheries

A meeting with NSW Fisheries was held to provide a briefing on the project including data collection and reviews completed to date. Consultation will continue as investigation milestones are reached for the project.

Australian Turf Club

The Australian Turf Club (ATC) was consulted on the project plan including an alignment option for the SP0067 transfer main that would be underbored, under the racecourse as well as an option along the northern and eastern boundaries. Sensitive locations and times (race days, training hours) were discussed. Engagement will continue with the ATC as the design progresses and routes are confirmed.

City of Ryde

City of Ryde Council has been consulted on the project to discuss project opportunities that may align with Council's plans such as the Masterplan for Meadowbank Park (a very active park) and Memorial Park. Discussions included avoiding stormwater and irrigation systems and the need for easements and maintenance requirements. Engagement will continue as the design progresses.

Canada Bay Council

Canada Bay Council have been consulted on the project including to discuss options in review for the river release pipeline, including extension into Canada Bay Council (at Rhodes). Discussions included future recycled water opportunities to support future developments and contaminated sites. Engagement will continue as the design progresses.

Feedback Summary

Feedback from our engagements with stakeholders has enabled Sydney Water to understand the complex construction environment along Hill Road to Wentworth Point (originally pursued as the preferred alignment for river releases). This included potential congestion of services, interfaces with other major infrastructure projects and community fatigue. These engagements have led Sydney Water to pursue another option which would enable releases at Meadowbank and avoid adding to cumulative impacts along Hill Road (by underboring the pipeline) and at Wentworth Point.

Through Sydney Water's largest ever customer research program – Our Water, Our Voice – we have learned what really matters to our customers. Since July 2022, we have heard from 13,000 residential customers, 79 small to medium businesses, and 91 stakeholders, asking questions about water and water services and giving our customers a direct line to tell us what their priorities are.

Our customers' attitudes have changed and Our Water, Our Voice shows their priorities are much more focussed on the future and on the community benefits of water than they were even five years ago. They want us to:

- maintain clean, safe drinking water at affordable prices
- improve waterways for recreational use and protection of the environment
- create more cool, green spaces
- build more infrastructure for water recycling and desalination.

Our customers are also focused on ‘preventative thinking’ – uses of water and wastewater which would mitigate against the two main risks identified by the community – drought and flood.

The community’s areas of interest in the GPOP region known at the scoping stage include, but are not limited to the following:

- health of local waterways
- health and safety impacts to local population and workers
- preservation and protection of heritage items in vicinity of the project
- opportunities for improved water literacy
- contamination and pollution in the area.

An initial social baseline analysis of localities was conducted based on an earlier river release alignment proposal at Wentworth Point. This identified that the community values green spaces and parks and the range of services and recreational facilities available to them.

Engagement with the community around the project sites, as well as the broader community, is underway to provide more information about the project, the planning approval process, as well as opportunities to provide feedback to help inform the EIS. Engagement with the community will continue throughout the life of the project.

5.2 Future engagement

Engagement activities will be undertaken to ensure community and stakeholders are well informed about the project, associated impacts and mitigations. The approach to community engagement may be refined as the EIS progresses in response to community feedback.

The engagement program will be aligned with the Undertaking Engagement Guidelines for State Significant Projects (DPHI, 2024). The objectives for future engagement are to:

- be inclusive and transparent for all customers including First Nations and culturally and linguistically diverse groups
- build awareness and understanding of the GPOP WC project
- gather feedback from the community on the project and consider options to address that feedback
- refine the approach as the EIS progresses, in response to feedback or new issues.

5.2.1 Key stakeholder and community groups

A list of key stakeholders and community groups with whom future engagement is planned or will continue is provided in Table 5-1.

Table 5-1. Key stakeholder list

Agencies	Commercial and industrial landowners and utilities
• City of Parramatta • Hunters Hill Council • City of Ryde • City of Canada Bay • Cumberland Council • Lane Cove Council • Department of Planning Housing and Infrastructure • NSW Environment Protection Authority • Transport for NSW • SOPA • NSW DCCEEW • NSW Fisheries	• VIVA Energy • Australian Turf Club • Valvoline Raceway • Parramatta River Catchment Group • URBNSURF Sydney • Western Sydney University • Endeavour Energy • Jemena • National Broadband Network • Telecommunication providers (i.e. Telstra) • Transgrid
Community / Community knowledge holders	**Environmental**
• Metropolitan Local Aboriginal Land Council • Deerubbin Local Aboriginal Land Council • Residents and landowners • Drinking water users • Local recreational visitors • Parramatta River user groups	• Parramatta River Catchment Group • Local environmental groups with interest in the Parramatta River

5.2.2 First Nations

Sydney Water has reached out to First Nations stakeholders. When an opportune time is identified, engagement will take guidance from principles identified through consultation in development of the NSW Aboriginal Water Strategy. Through listening and relationship development, the project will seek to identify opportunities for culturally aligned project planning.

5.2.3 Key actions

Engagement and consultation with the key stakeholders and community will form an important part of the EIS process.

Sydney Water's approach for this project will be focused on inform, consult and involve. It will focus on:

- ensuring community and stakeholder engagement occurs early and throughout the project
- identifying those interested and impacted by the project and informing them, gathering feedback and consulting on options to mitigate any impacts
- listening to community and stakeholder feedback
- coordinating engagement with concurrent projects
- maximising benefits and minimising impact on the environment and community.

Sydney Water is committed to providing equitable engagement making information and opportunities for feedback accessible to those who are interested and affected, regardless of cultural and linguistic backgrounds. References to interpreter guides for certain communications material will be available. We will focus on using an engaging tone and using plain English for complex concepts so technical concepts can be easily understood by stakeholders and community.

The high-level program is outlined in Table 5-2 below.

Table 5-2. High-level engagement program

Stage	Activities	Communications material
EIS preparation	• Project information line and email inbox • Stakeholder briefings and meetings • Community group briefings and meetings • Engagement with landholders for notices of entry • Engagement on river releases with Parramatta River Catchment Group, local councils, community, and environmental groups with a vested interest in Parramatta River and local First Nations groups.	• Targeted community newsletters • Information sessions in local community settings to allow focus on specific issues related to the relevant communities • Stakeholder briefings • FAQs • Media release • Sydney Water website • Social media
EIS exhibition	• EIS displays • Stakeholder briefings and meetings • Community group briefings and meetings • Project information line and emails • Newspaper advertisements.	• Targeted community newsletters • Information sessions in local community settings to allow focus on specific issues related to the relevant communities • Stakeholder briefings • Media release • Sydney Water website (SW Talk Page) • Social media • Newspaper adverts • Digital copies of the EIS available on NSW Planning Portal.
Post-EIS	• Stakeholder briefings and meetings	• Community newsletter

Stage	Activities	Communications material
	• Project information line and emails.	• Stakeholder briefings • Media release • Sydney Water website • Social media • Digital copies of the Submissions Report on NSW Planning Portal.

Feedback from our stakeholders and community is an important guide to ensure that we are communicating clearly and consistently. Engagement with key stakeholders and landowners is critical, as the project will take many years and ownership of land can change during this time. To ensure we are successfully engaging with stakeholders and the community, we will review and evaluate our progress over the implementation of the Community and Stakeholder Engagement Plan through:

- trend analysis of community feedback
- informal discussions with stakeholders
- follow up phone calls with stakeholders and attendees of meetings, workshops or events.

Where feedback shows issues of significant concern to our stakeholders and community, our engagement plan and activities will be adjusted.

6. Proposed assessment of impacts

This chapter provides an overview of the key matters that will require further assessment in the EIS and the proposed approach to assessing each of these matters. Matters requiring no further assessment as part of the EIS are included in Section 6.18.

The identification of key matters has been undertaken in accordance with DPHI's State significant infrastructure guidelines - preparing a scoping report, Appendix A to the state significant infrastructure guidelines (DPE, 2022c). The purpose of considering these matters at this stage is to inform the preparation of the SEARs, which will guide the preparation of the EIS.

Appendix A includes a scoping summary table in DPHI's template that summarises the impacts and assessment level for a range of matters.

6.1 Terrestrial flora and fauna

6.1.1 Existing environment

The Newington Nature Reserve is gazetted as a Nature Reserve under the NPWS Act and is defined as part of the Parklands of Sydney Olympic Park by the SOPA Act. The reserve is located over 1 km west of the proposed river release point at Meadowbank. The reserve contains endangered ecological communities protected under State and Commonwealth legislation, as well as habitat for threatened species such as the Green and Golden Bell Frog and migratory birds. Whilst the project will avoid work within the nature reserve, the project may partially travel through Millennium Parklands, including underboring Nuwi Wetlands governed by the Parklands Plan of Management (SOPA, 2010).

Green and Golden Bell Frog is known to be present within the project area, associated with the Narrawang Wetlands adjacent to Hill Road and within the eastern area of the Camellia-Rosehill precinct. The EIS will consider potential areas of habitat sensitivity and the project will seek to avoid or minimise impacts.

Newington Wetlands is located to the west of Hill Road, which is listed as a Directory of Important Wetlands Site. The project will avoid work in these wetlands. The project is also partially located within areas mapped as "coastal wetlands" and "land in close proximity to coastal wetlands" under the SEPP (Resilience and Hazards) 2021.

Figure 6-1 shows key ecological features in the vicinity of the project.

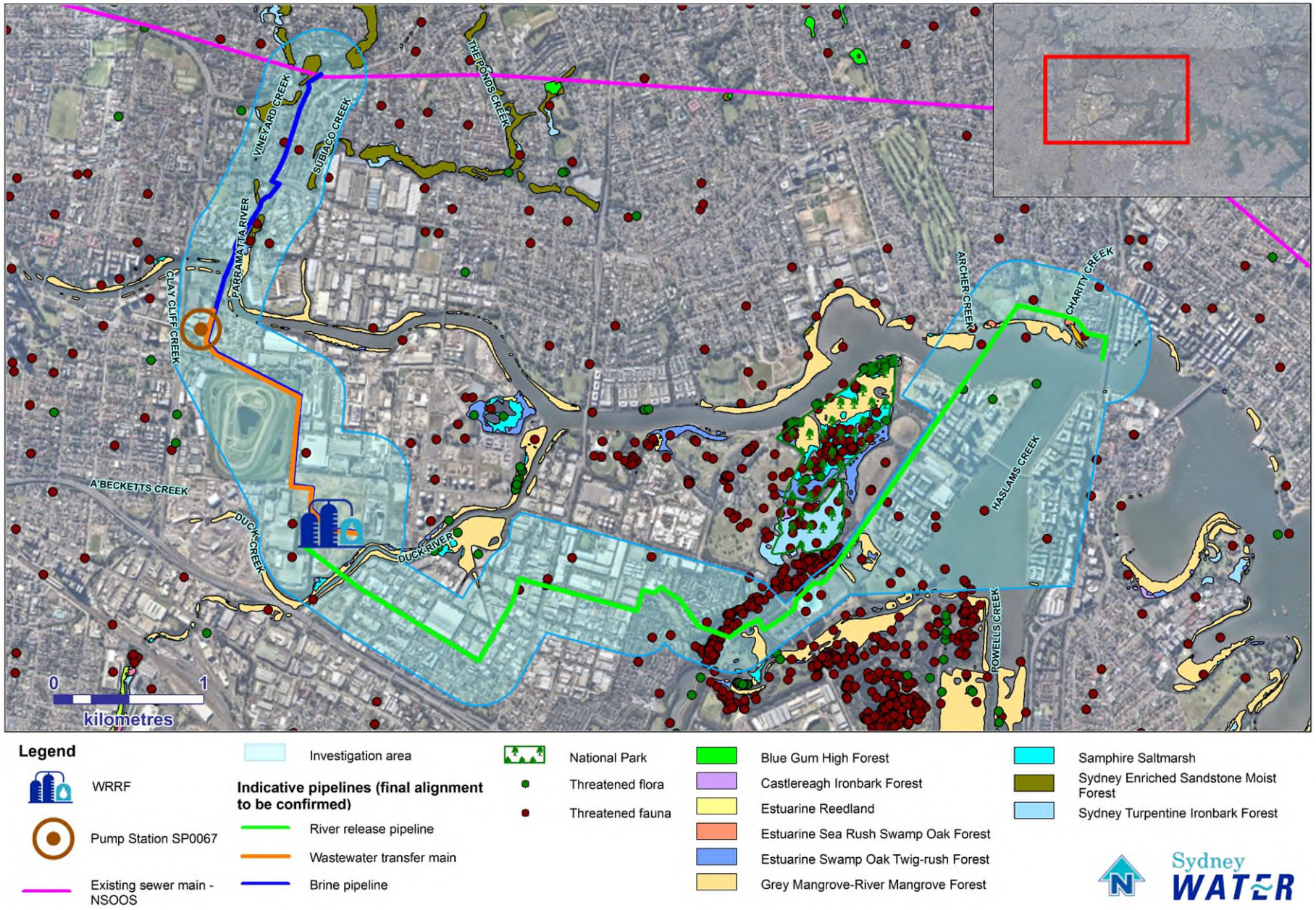

Figure 6-1.Terrestrial ecology values

6.1.2 Potential impacts

Construction

Construction may impact high values of biodiversity in SOPA land. Direct impacts will be avoided where possible. However, unavoidable impacts may include:

- removal or disturbance of threatened ecological communities, mangroves and threatened flora species
- removal or disturbance of known habitat of threatened fauna species, including Green and Golden Bell Frog
- removal of potential or known marginal foraging habitat for migratory species.

Potential indirect impacts include sedimentation and erosion impacts, introduction or spread of weeds and noise and vibration disturbance on sensitive fauna.

Operation

No impacts are anticipated.

6.1.3 Proposed assessment approach

A biodiversity impact assessment will be prepared and will include:

- desktop assessment
- field investigations across impact areas to ground-truth desktop assessment and inform development of vegetation and habitat mapping and impact assessment
- assessment of direct and indirect construction, operational and cumulative impacts
- assessment of prescribed impacts, such as impacts on movement corridors of the Green and Golden Bell Frog
- provision of measures to avoid and mitigate impacts.

Impacts on ecological matters of national environmental significance (MNES) will also be assessed pursuant to the requirements of the EPBC Act. If a significant impact on MNES is likely, a referral to the Commonwealth Minister for the Environment will be required.

6.2 Aquatic flora and fauna

6.2.1 Existing environment

Aquatic habitats within the project area include Parramatta River, Duck River, Duck Creek and Vineyard Creek, which are all mapped as key fish habitat. The northern bank of the Parramatta River along the suburb boundaries of Meadowbank, Melrose Park and Ryde feature the mangrove species, *Avicennia marina,* and patches of saltmarsh. On the north-east point of Wentworth Point foreshore and Newington Nature Reserve, areas of saltmarsh are present.

Preliminary side scan sonar and video transects initially conducted off Wentworth Point indicates a predominantly silty and sandy benthic substrate with limited seabed features. There is no presence of seagrass mapped in the area.

6.2.2 Potential impacts

Construction

Potential impacts to aquatic flora and fauna include:

- suspension of sediments which may impact estuarine ecology during dredging required for construction of a river release structure
- potential for frac-outs, which is the temporary loss of drilling fluids into the nearby waterways during trenchless construction. Inappropriately managed, this may harm aquatic ecology in the coastal wetlands as well as MNES.
- sedimentation and erosion impacts on downstream aquatic environments
- pollution of aquatic habitats resulting in reduced habitat conditions for vegetation and downstream aquatic habitats.

Operation

There may be potential impacts to estuarine shore habitat and aquatic ecology due to localised water quality changes such as differential salinity, compared with ambient conditions.

Preliminary reviews indicate that aquatic flora species in the river have broad salinity tolerance ranges, reflecting the dynamic nature of this section of Parramatta River. Whilst the treated water will be subject to the highest levels of water treatment, despite expert studies, there remains the potential for the community to perceive the impacts as detrimental to flora and fauna.

6.2.3 Proposed assessment approach

An aquatic ecology impact assessment will be prepared and will include:

- desktop and literature review of the aquatic and riparian ecosystem
- site inspections of the relevant waterways and habitats
- assessment of direct and indirect impacts on aquatic ecology, population, habitat and ecological communities
- appropriate monitoring and mitigation measures to address potential impacts identified.

6.3 Water quality and hydrology

6.3.1 Existing environment

The project is located within the Parramatta River catchment, which is surrounded by urban development and has a long history of industrial pollutants impacting the waterway. The headwaters of Parramatta River are freshwater up until the Charles Street Weir in Parramatta, where the river becomes estuarine. Major

tributaries of Parramatta River within proximity to the project include Duck River, Duck Creek and Vineyard Creek (Figure 6-2).

Downstream, a number of swimming sites have opened in Parramatta River. This includes Cabarita Park beach located about 3.5 km downstream of Meadowbank. Planned swimming sites include McIlwaine Park and Putney Park located about 1.5 km and 2 km downstream of Meadowbank, respectively.

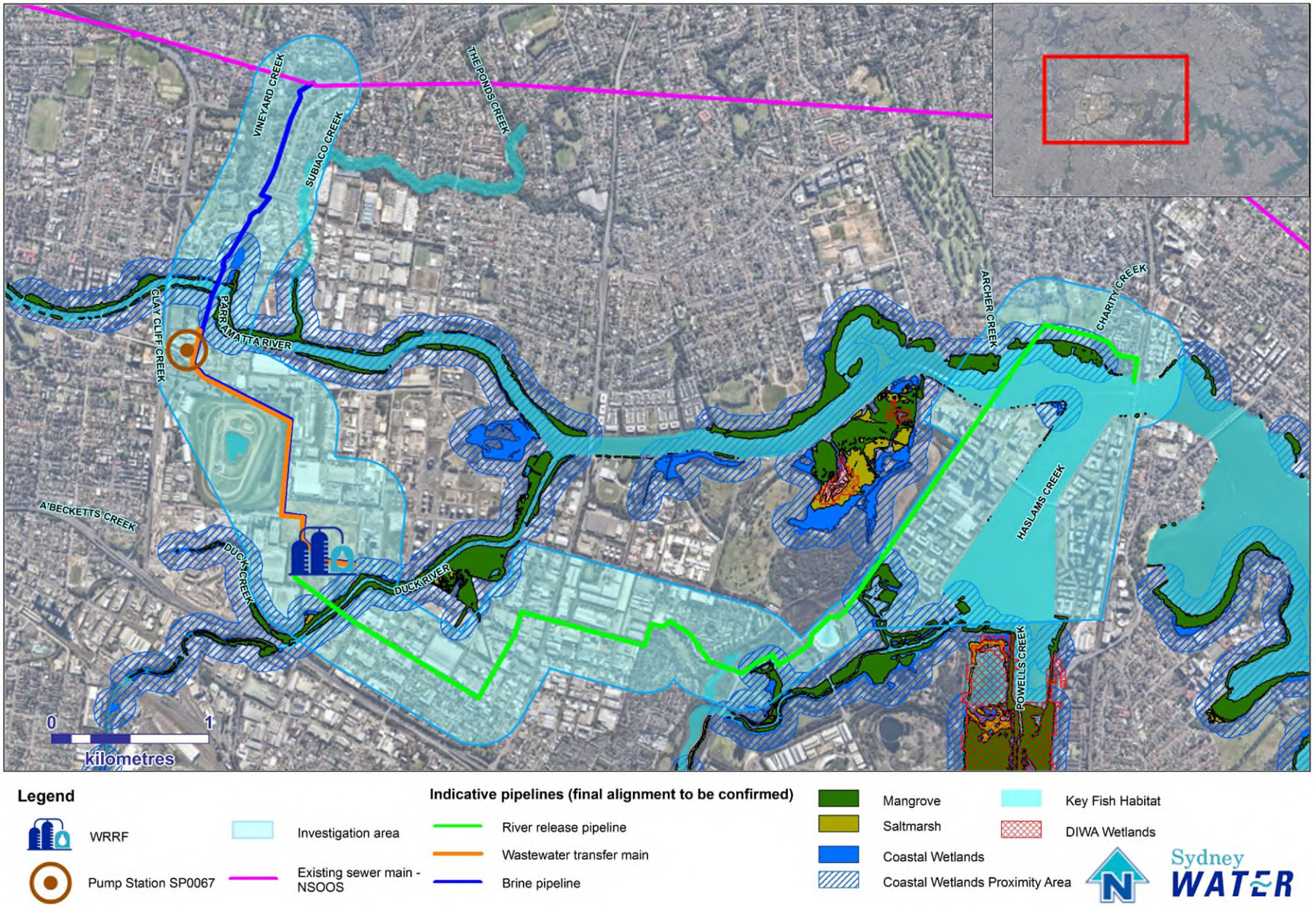

Figure 6-2. Waterways and associated features

6.3.2 Potential impacts

Construction

Potential construction impacts to water quality and hydrology include:

- potential off-site migration of contaminants in groundwater which may affect adjacent waterways
- potential for frac-outs which may lead to a pollution incident in the waterways
- potential disturbance of contaminated sediments impacting water quality during construction of the river release structure at Parramatta River
- erosion and sedimentation run-off into the waterways
- contamination from spillage or inappropriate storage of chemicals and fuels.

Operation

The treated water subject to river release will undergo advanced treatment and remineralisation (if needed) to match ambient salinity. Preliminary modelling demonstrates that a negative impact on water quality from releases to Parramatta River is unlikely. The results have been supported by an independent panel of scientific experts. However, the local community may still perceive the concept of river releases negatively.

There is also potential for scouring to occur in Parramatta River, which may suspend contaminated sediment in the riverbed. The river release structures will be designed to minimise scouring potential.

6.3.3 Proposed assessment approach

A hydrodynamics and water quality impact assessment will be prepared and will include:

- review of available water quality data
- baseline water quality monitoring
- identification of waterway values and objectives
- hydrodynamic and water quality modelling to assess potential water quality impacts
- results from human health impact assessment
- appropriate monitoring and mitigation measures to address potential impacts.

6.4 Traffic, parking and access

6.4.1 Existing environment

Rosehill and Camellia

The predominant land use within Rosehill and Camellia is for industrial purposes. The site of the WRRF is owned by Sydney Water and bounded by Devon Street and Colquhoun Street, which are local roads and mostly used by adjacent industries and construction sites. The primary access point to the WRRF site will be Grand Avenue, which is a local road and heavily congested during peak travel times and events at Rosehill

Gardens Racecourse. Grand Avenue connects to James Ruse Drive to the west, which is a major State arterial road.

Street parking is predominately available along the local road network. Camellia Railway Station is located to the north of Grand Avenue, which is now a light rail stop for Parramatta Light Rail, due to be operational in 2024.

Rydalmere and Dundas

The land use within Rydalmere varies from residential to industrial, with Western Sydney University being located to the north of Parramatta River. The current brine pipeline alignment would extend from the WRRF along Camellia Rail Bridge and Victoria Road, which is a State road. Rydalmere Railway Station is located south of Victoria Road, which is now a light rail stop for Parramatta Light Rail. Rydalmere Wharf also provides ferry services between Parramatta and Circular Quay (ferry service F3).

An existing bridge over the Parramatta River connects Grand Avenue to the Parramatta Valley cycleway. The Parramatta Valley Cycleway is a formal separated cycleway, which extends along the northern side of Parramatta River foreshore.

Silverwater

The river release pipeline would travel from the WRRF along local roads, including Carnarvon Street, Vore Street and Fariola Street. The pipeline would also traverse across Silverwater Road, which is a State road. The land use within Silverwater is primarily industrial, with some residential areas to the south of Carnarvon Street.

Street parking is available along the local road network.

Newington and Sydney Olympic Park

The land use within Newington is predominately residential and recreational. The river release pipeline would travel on local roads.

Sydney Olympic Park has open space and recreational premises, including URBNSURF, an artificial lagoon created for recreational surfing and associated parking areas.

Wentworth Point

The river release pipeline alignment would pass Holker Street and Hill Road, which are classified as regional roads. The pipeline is proposed to be underbored under Hill Road. On-street parking is present on one side of Hill Road, and the Woo-La-Ra car park is also located on the western side of Hill Road with restricted parking.

Sydney Olympic Park Wharf is located at the end of Hill Road and provides services between Parramatta and Circular Quay. There are cycle paths parallel to Hill Road that provide a connection to Sydney Olympic Park and Rhodes via Bennelong Bridge.

Meadowbank

The river release pipeline would extend through Meadowbank Park and Memorial Park and ultimately to John Whitton Bridge. These areas are predominately surrounded by residential properties and Parramatta River foreshore.

Meadowbank Park is a major sporting and recreation area with sporting fields for soccer, cricket, netball and tennis. The park also provides walking and cycling paths along the Parramatta River as part of the Ryde Riverwalk.

Memorial Park is a popular area with views of Parramatta River and picnic areas with a playground, war memorial and bushland areas.

The John Whitton Bridge, also known as Meadowbank Railway Bridge, is used as a railway line across Parramatta River connecting Rhodes and Meadowbank. The bridge also provides a shared cyclist and pedestrian path.

6.4.2 Potential impacts

Construction

Potential construction impacts to traffic, transport and access include:

- increased volume of heavy and light vehicle movements, impacting traffic flows
- temporary road closures and traffic diversions
- temporary impacts to pedestrian and cycle access
- potential to disrupt public and private ferry services
- loss of parking
- potential for navigational changes and safety concerns for recreational activities in Parramatta River.

Operation

During operation, increased heavy vehicle movements from the WRRF may be expected due to biosolids outloading (subject to further optioneering) and chemical deliveries.

Parramatta River is used by a range of commercial and recreational users. The project will be designed to minimise operational impacts on navigation.

6.4.3 Proposed assessment approach

A traffic and transport impact assessment will be prepared and will include:

- desktop background research and baseline survey of the existing traffic conditions on the surrounding road network
- identify construction and operational haulage routes
- assess construction and operational traffic impacts on the road network through intersection modelling, where relevant
- assessment of the direct and indirect navigational impacts
- review potential cumulative impacts
- appropriate mitigation measures to address potential impacts.

6.5 Social and economic

6.5.1 Existing environment

The key socio-economic factors for the local community are:

- Camellia-Rosehill is limited in terms of existing social infrastructure due to its industrial nature with the exception being Rosehill Racecourse and associated transport facilities.
- Meadowbank is primarily a residential area, featuring the Meadowbank Railway Station and recreational open spaces including Meadowbank Park and Memorial Park.
- Wentworth Point has undergone significant transformation from an industrial suburb to a residential precinct, and is slated for further change under the Hill Road Master Plan (City of Parramatta, 2021). Wentworth Point adjoins Homebush Bay, the Parramatta River, and Sydney Olympic Parklands.
- There is an abundance of open space provided through the Blaxland Riverside Park, Newington Armory, and Wentworth Common with significant cycle networks and walking paths clustered around the community, along the riverside and throughout Sydney Olympic Park.
- The Wentworth Point community has access to public transport options in the form of ferries, local buses, as well as the Rhodes and Sydney Olympic Park train stations. Parramatta Light Rail's planned second stage will also connect Wentworth Point to Sydney Olympic Park to the south and Melrose Park, Ermington, Rydalmere, Camellia and the Parramatta CBD to the west.
- Parramatta River represents an important recreational, scenic and economic resource. Current uses of the river include recreation including swimming, boating, fishing and aesthetics.

6.5.2 Potential impacts

Construction

Potential impacts include:

- temporary interruption of transport and access, including physical disruption of property access
- short-term and long-term adverse effects on environments which are highly valued by the community
- temporary disturbance to places of social and recreational value
- amenity impacts caused by construction
- generation of construction employment opportunities and procurement opportunities for businesses
- educational opportunities for local schools on water and wastewater operations.

Operation

Potential operational impacts include:

- concerns for waterway health as a result of risks to the broader environment associated with operations
- anxiety caused by the potential for increased noise and odour close to the WRRF, as well as visual presence of the WRRF

- supporting and sustaining population growth in the area
- improved and holistic water management approach and potential circular economy benefits
- employment and training opportunities
- reduced risk to public health and the environment as a result of reduced load in the NSOOS.

The WRRF will provide advanced level of treatment with potential PRW supply in the future. This will help secure water availability and resilience into the future.

River releases at Meadowbank will remain compatible with waterway health objectives including swimming objectives for downstream swim sites along the river.

6.5.3 Proposed assessment approach

A social impact assessment will be prepared and will:

- identify areas of social influence for the project
- review existing social baseline including demographic characteristics, community and recreational facilities and community values
- identify potential social and economic impacts and benefits during construction and operation, as informed by stakeholder and community consultations
- consider how future growth or property development may interact with the project
- consolidate information from other specialist areas to determine potential cumulative impacts
- identify potential mitigation and management measures to reduce the social impacts and maximise potential benefits.

6.6 Land contamination

6.6.1 Existing environment

Camellia and Rosehill are known to be heavily contaminated as a result of extensive industrial activities since the 1880s. There are number of contaminated sites in the Camellia-Rosehill precinct that are regulated by the NSW EPA under the *Contaminated Land Management Act 1997*.

The site of the new WRRF was declared as a significantly contaminated land in June 2016. However, this declaration was repealed in July 2022 as remedial requirements were satisfied to the extent that the contamination no longer warranted regulation for the intended purpose at that time.

The review of historical aerial photos indicates that a number of industrial premises were located along Hill Road at Wentworth Point since 1970s. This area has since been developed for residential land uses. The Woo-La-Ra landfill and associated leachate management infrastructure is located adjacent to Hill Road and is managed under EPA remediation notices by SOPA. This landfill has been capped, landscaped and turned into parkland.

Acid sulfate soils (ASS) may be present at the eastern end of the Camellia-Rosehill precinct in shallow soils along Hill Road and in Parramatta River.

6.6.2 Potential impacts

Construction

The project is likely to encounter and disturb known contaminated sites, particularly in the following areas:

- There is a potential to encounter contaminated soil and/ or groundwater at the WRRF and landfill gases associated with Woo-La-Ra Landfill.
- Contaminated soil, sediment and groundwater may be encountered within and adjacent to Parramatta River due to the current and historical industrial land uses located on either side of the river.
- The exposure of contaminated materials during construction may increase the potential for contaminant mobilisation and may create exposure pathways to receiving receptors.
- There is a potential to result in contamination of soils and/or groundwater due to spills and leaks of fuel, oils and other hazardous materials.
- The exposure of acid sulfate soils during excavation may result in the release of acidic soils which could impact surrounding vegetation.

Operation

Operation of the project has the potential to result in suspension of the contaminated sediments due to scouring at the river release location with potential impacts to instream flora and fauna.

6.6.3 Proposed assessment approach

A detailed site assessment will be undertaken to assess the potential impacts of construction and provide measures to manage contamination. An accredited site auditor under the *Contaminated Land Management Act 1997* will be engaged as necessary. The assessment will include:

- confirming areas of contamination including known contaminated sites and areas of potential contamination
- soil and groundwater sampling at select locations in accordance with the requirements of relevant EPA guidelines
- assessing the potential impacts of disturbing contaminated sites, considering potential receptors and exposure pathways
- reviewing remediation works and management requirements associated with existing contaminated sites that the project may interact with
- identifying mitigation and management measures to address potential contamination impacts consistent with relevant regulations and guidelines.

6.7 Noise and vibration

6.7.1 Existing environment

Rosehill and Camellia

The nearest residential receivers are located about 300 m from the project in this precinct. The existing noise environment primarily consists of industrial noise and from Rosehill Racecourse during race events. Noise at the nearest residential receivers is dominated by road traffic noise from James Ruse Drive.

Rydalmere and Dundas

Rydalmere and Dundas areas are residential areas dominated by suburban noise and road noise from major arterial roads including Kissing Point Road, Victoria Road and James Ruse Drive. Noise levels in suburban areas are characterised by road traffic noise, noise from the natural environment and human activity.

Silverwater

Silverwater is a mix of residential and industrial premises. The existing noise environment is primarily sourced from freight movements and warehouse operations.

Newington, Sydney Olympic Park and Wentworth Point

Newington and Wentworth Point are high-density residential areas dominated by suburban noise including road traffic noise. Sydney Olympic Park experiences suburban noise associated with open space and recreational premises, including URBNSURF.

Meadowbank

Meadowbank is a medium to high density residential area dominated by suburban noise and road traffic noise from local roads.

6.7.2 Potential impacts

Construction

Temporary noise impacts are expected to sensitive receivers situated along the project alignment. Temporary surface vibration from construction activities may lead to amenity impacts or structural damage to heritage-listed items. Night works may be required at the WRRF and for pipeline construction, where the pipelines are located on major roads.

Operation

Operational requirements may involve noise generating equipment at the WRRF. The pipelines will be located underground. There would be no noise and vibration generated from the operation of the pipelines. Infrequent maintenance may generate temporary noise for short periods.

6.7.3 Proposed assessment approach

A noise and vibration impact assessment will be prepared and will include:

- desktop research on existing and future noise environment and current and future land uses

- use existing baseline noise data and noise monitoring data to establish noise criteria
- quantitative modelling at the WRRF on proposed construction and operational activities
- assessment based on proposed construction activities
- a framework for an Out of Hours Work Strategy
- reasonable and feasible mitigation measures.

6.8 Air and odour

6.8.1 Existing environment

The air quality in the project area is typical of an urban area, consisting of emissions from traffic on the road network and existing industries. Given that there are a number of infrastructure projects under construction in the area, this is likely to impact the existing local air quality.

Receivers at Camellia and Rosehill are generally limited to workers in commercial and industrial sites as well as spectators visiting Rosehill Racecourse during events. At Rydalmere, sensitive receivers comprise of residential, commercial properties and students and staff at Western Sydney University. At Sydney Olympic Park and Meadowbank, the sensitive receivers are limited to residential and recreational users of the parklands.

6.8.2 Potential impacts

Construction

Potential air quality and odour impacts include construction activities such as demolition, earthworks and the use of plant and machinery which may generate dust and odour.

Operation

Emissions, including odour will be generated as part of the treatment processes at the WRRF.

Due to advanced treatment and the release point submerged under the astronomical tide at Parramatta River, operational odour impacts are not anticipated at the river release location.

6.8.3 Proposed assessment approach

An air quality and odour impact assessment will be prepared and will include:

- identify sensitive receivers and characterise the local air quality environment
- collate data about expected project emissions
- assessment of construction impacts
- develop an odour model for the WRRF site during operation
- confirm relevant odour criteria and assess outputs from the odour model against these
- analyse the potential for cumulative impacts including consideration to future development sites

- identify mitigation and management measures to address the impacts.

6.9 Historic heritage

6.9.1 Existing environment

No heritage items listed on the World Heritage List, Commonwealth Heritage List and National Heritage List are known to occur in or within 200 m of the project.

The project is located within 50 m of the following State heritage items:

- Rydalmere Hospital Precinct (former)
- Sydney Water Wastewater Pump Station, SP0067
- Sydney Water NSOOS
- Meadowbank Rail ('John Whitton') Bridge over Parramatta River.

Local heritage items listed on the Parramatta LEP and Ryde LEP located within 50 m of the project area include:

- Capral Aluminium
- 'Wetlands' along foreshore of Parramatta River and Duck River
- 'Ernest Fleming Pty Ltd, Machinery Merchants' near Vore Street at Silverwater
- 'Explosive Store' along Avenue of Oceania at Newington
- 'Tram Alignment' along Grand Avenue at Camellia
- Western Sydney University Parramatta Campus (former Rydalmere Hospital & Female Orphan School)
- Meadowbank Rail Bridge over Parramatta River.

Figure 6-3 shows State heritage items in the vicinity of project.

6.9.2 Potential impacts

Construction

Potential impacts may occur to both State and local heritage items from construction activities. Run-off and poor site management from construction of the river release pipeline may lead to potential sedimentation, which could impact the heritage significance of adjacent 'Wetlands', also locally heritage listed.

Operation

No impacts are anticipated.

6.9.3 Proposed assessment approach

A historic heritage impact assessment will be prepared and will include:

- undertake a survey to investigate areas of historic heritage and historical archaeological potential
- assess potential impacts on the identified historic heritage and potential archaeology
- where impacts could not be avoided, develop management measures to minimise, mitigate and manage remaining impacts.

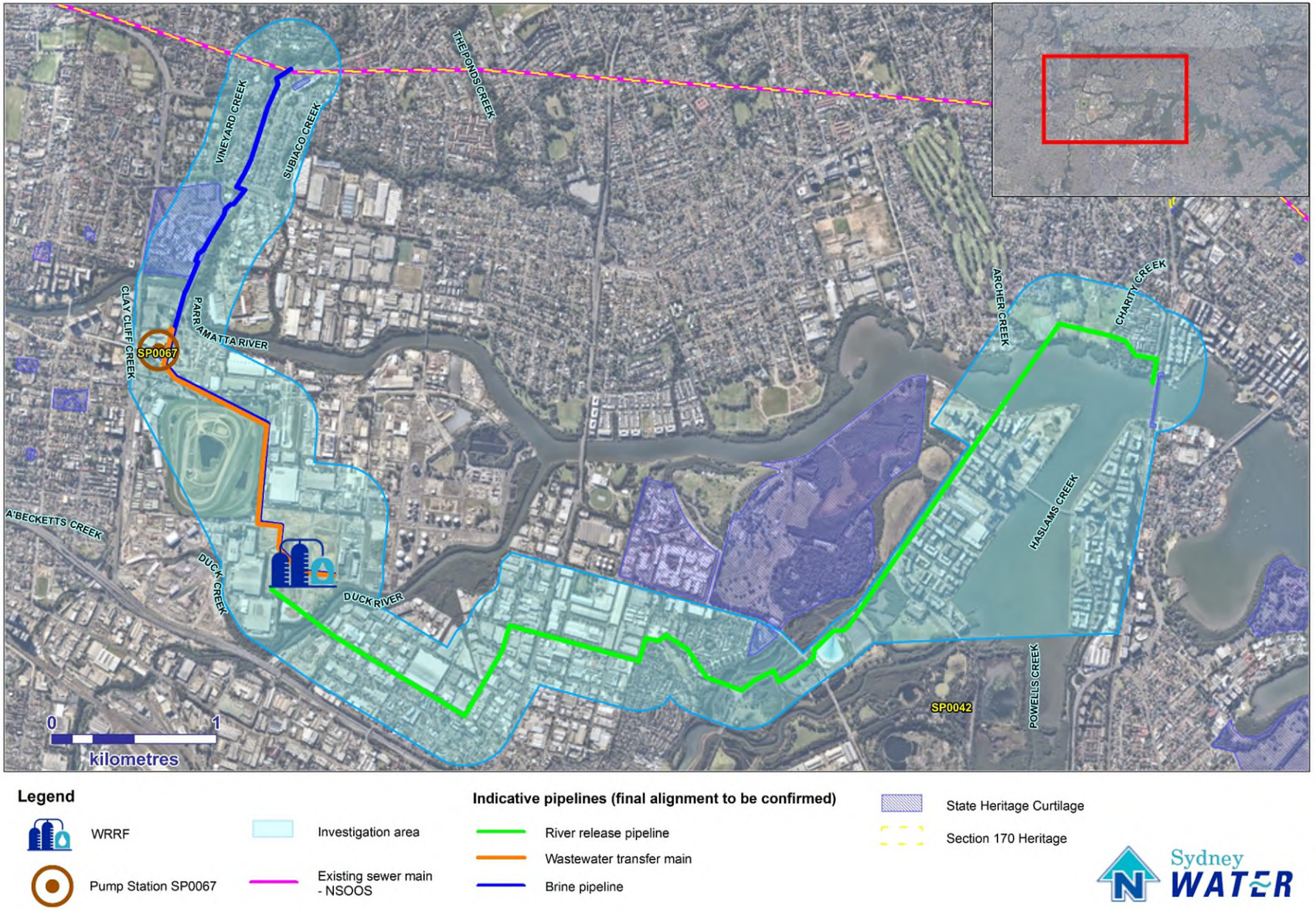

Figure 6-3. Historic heritage

6.10 Groundwater

6.10.1 Existing environment

The project is located in the Sydney Basin Central Groundwater Source under the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2023. There are no high priority groundwater dependent ecosystems (GDEs) listed under the relevant Water Sharing Plan that is in the vicinity of the project. Groundwater that may be encountered during construction may be contaminated due to legacy contamination in the area.

6.10.2 Potential impacts

Construction

Potential impacts to groundwater will include:

- limited groundwater drawdown during excavation
- impacts to groundwater quality during the disturbance of existing contaminated land
- off-site migration of potentially contaminated groundwater during construction activities at the WRRF site.

Operation

Operational activities are not anticipated to interact with the groundwater environment. Subject to further design optioneering and associated contamination findings at the WRRF, management measures as part of property management may be required to limit interactions with groundwater during, for example, maintenance activities.

6.10.3 Proposed assessment approach

A groundwater impact assessment will be prepared and will include:

- baseline hydrogeological assessment including understanding groundwater quality
- estimation of groundwater inflows and groundwater levels where relevant
- assessment of potential hydrogeological impacts to receptors such as groundwater users and groundwater dependent ecosystems
- appropriate monitoring and mitigation measures to address potential impacts, if interaction with the groundwater environment is likely.

6.11 Flooding

6.11.1 Existing environment

The project is located in areas of flood risk during a 1 in 100 year annual recurrence interval (ARI) event corresponding to low lying areas located along Parramatta River and its tributaries. Localised flood risks are also expected along the project alignment due to overland flows, which can be exacerbated by inadequate

or blocked local drainage systems, or restrictions in overland flow paths. Flood risks in the lower Parramatta River catchments could also be exacerbated when flood events coincide with high tides.

6.11.2 Potential impacts

Construction

Construction may locally alter existing flood behaviour due to stockpiling of construction materials and spoil. Flooding may result in stockpiles of construction materials and spoil being washed into nearby waterways or floodwater entering the construction sites.

Operation

There may be a change to local drainage and flood resilience of adjoining areas at the WRRF, noting that management works for the WRRF site is expected to raise the site out of a 1 in 100 year ARI event. Preliminary investigations indicate that the volumes for river release is considered unlikely to substantially contribute to flood potential in the Parramatta River given the large tidal water body and absence of downstream flow constraints (e.g. weirs).

6.11.3 Proposed assessment approach

A flood impact assessment will be prepared and will:

- review relevant existing flood study reports/ models and flood behaviour
- develop a model to assess relative impacts resulting from the project
- assess potential flooding impacts, including using the results of modelling to assess the potential impacts on adjacent land uses
- recommend appropriate measures to minimise adverse changes to the flood regime as a result of the project.

6.12 Visual amenity

6.12.1 Existing environment

The project area contains a range of urban, recreational, commercial, residential, parklands and industrial land uses. The sensitivity of the existing visual environment varies considerably along the project pipeline alignments. The WRRF site is predominantly surrounded by industrial/ commercial land uses, however visual amenity sensitivity to the WRRF may change with future developments.

6.12.2 Potential impacts

Construction

Temporary visual impacts are anticipated to residential and industrial receivers along the pipeline alignments. Impacts may include changes to local character and amenity due to visible construction areas, vegetation removal, equipment and material laydown areas temporarily impacting recreational areas or parking availability. Given the surrounding land uses around the WRRF site, visual impacts during construction are not anticipated to be limited to industrial and commercial receivers.

Operation

The WRRF may be readily visible from future sensitive receivers associated with the Camellia-Rosehill town centre as well as other planned developments which remain unconfirmed at the time of writing. The discharge design for river release will consider future foreshore path use and visual amenity to the community using the parklands.

6.12.3 Proposed assessment approach

A visual impact assessment will be prepared and will:

- identify landscape character zones, based on the relationship between natural, built and community elements and their sensitivity to change
- identify representative viewpoints and sensitive receptors
- assess the potential for landscape and visual impacts during construction and operation
- assess the significance of potential impacts
- identify potential mitigation and management measures.

6.13 Aboriginal heritage

6.13.1 Existing environment

The majority of the project area is highly disturbed. Previous landfill and historical disturbance have affected the archaeological potential in the area. However, there is potential for Aboriginal objects to occur across the landscape, particularly around waterways. Preliminary desktop research indicates that there are eight registered sites within the investigation area on the Aboriginal Heritage Information Management System. The Parramatta sand body is known to occur west of the release point and SP0067.

6.13.2 Potential impacts

Construction

Construction of the project will involve sub-surface activities along the route, which may impact on potential Aboriginal archaeological items and values.

Operation

No impacts are anticipated during operation of the project.

6.13.3 Proposed assessment approach

An Aboriginal cultural heritage assessment report will be prepared and will:

- identify the significance of Aboriginal sites and places
- assess the impacts associated with the project
- identify the need for further archaeological testing and/or detailed archaeological excavations.

- identify appropriate measures to avoid, minimise and/or mitigate potential impacts.

6.14 Waste

6.14.1 Existing environment

A variety of solid and liquid waste will be generated during construction and operation. Due to legacy contamination and landfilling activities, existing ground conditions may result in generated waste including:

- excavated rock and spoil that is deemed unsuitable for reuse for the project, such as for backfilling excavations
- uncontrolled fill material with contaminated materials
- contaminated groundwater if dewatering is required
- buried construction waste.

Other waste from the existing environment which may generated, include:

- vegetation waste from clearing activities
- potential demolition waste from existing SP0067 structures with the potential to contain hazardous building materials
- general construction waste.

6.14.2 Potential impacts

Construction

Typical construction waste will be generated and require appropriate management and disposal options. Construction spoil, if required to be removed, at the WRRF may be contaminated and appropriate disposal / treatment performed, where relevant.

Construction works in Parramatta River may generate contaminated spoil.

Operation

Chemicals will be delivered to and stored on site during operation. Inappropriate storage and handling may lead to spills and leaks. Subject to optioneering on biosolid disposal approaches, biosolids may be transported from the WRRF for re-use. Brine waste will be conveyed to the NSOOS for treatment at North Head WRRF.

6.14.3 Proposed assessment approach

A waste impact assessment will be prepared and will:

- identify waste streams and approximate volumes generated during construction and operation
- identify likely resources required
- assess impacts to quantify, characterise and classify wastes generated

- develop management strategies for the identification, handling, transport and disposal of hazardous substances
- consider options for reusing materials, where appropriate.

6.15 Hazards

6.15.1 Existing environment

The WRRF site has undergone some changes with buried infrastructure largely removed. Camelia and Rosehill precinct has legacy of industrial activities and it is understood that gas and fuel pipelines traverse the area.

6.15.2 Potential impacts

Construction

During construction, excavations below ground may encounter buried hazardous infrastructure. Due diligence will be conducted to avoid these instances.

Operation

At the WRRF site, chemical storage and deliveries will occur with the potential for spills and leaks.

6.15.3 Proposed assessment approach

An assessment for hazardous and offensive development will be produced.

6.16 Sustainability and climate change

6.16.1 Potential impacts

Construction

Construction activities will generate greenhouse gas emissions. Opportunities to reduce the volume of greenhouse gas emissions will be identified in the EIS.

Climate change risks will primarily be associated with the occurrence of severe weather events, which may result in an increased erosion and sedimentation impacts during construction, and potential flooding of construction sites.

Operation

Over the design life, assets will be subject to a changing climate, resulting in a potential vulnerability to future climate related risks.

6.16.2 Proposed assessment approach

A sustainability and climate change risk assessment will be prepared and will:

- demonstrate how the project has addressed sustainability in design
- identify potential construction and operational carbon emissions

- review climate change projections relevant to the project
- review past and observed climate and natural hazard events for the site
- identify potential climate risks and assess against key asset vulnerabilities
- identify possible current and future controls that may increase the resilience of project components to climate impacts, in accordance with Sydney Water's Position Statement on Climate Change Adaption.

6.17 Cumulative impacts

6.17.1 Potential impacts

The project could contribute to cumulative impacts during construction and operation associated with traffic generation, air quality, noise and vibration, visual amenity and social and economic impacts.

Future developments likely to have concurrent construction and operation phases with the project include, but are not limited to:

- Parramatta Light Rail Stage 2
- Sydney Metro West
- Grand Avenue Data Centre Expansion
- Hill Road Masterplan – including proposed drainage works
- Wentworth Point Peninsula redevelopment.

6.17.2 Proposed assessment approach

Specialist studies will consider the potential for cumulative impacts, as identified in the Scoping Summary (Appendix A). The outputs will inform a consolidated cumulative impact assessment.

Sydney Water will continue to engage with relevant major projects and key stakeholders to ensure effective engagement and cumulative impact mitigation.

6.18 Matters requiring no further assessment

Table 6-1 provides a list of the matters that require no further assessment as part of the EIS.

Table 6-1. Matters that require no further assessment

Matter	Justification
Access – Port and airport facilities	Not applicable as the project is not related to port and airport facilities.
Hazards and risks - Bushfire	Not applicable as the project is not located on bushfire prone land.
Hazards and risks – Dam safety	Not applicable as the project is not related to dams.

7. References

City of Parramatta (2020) *Local Strategic Planning Statement – City Plan 2036*

Department of Planning and Environment (2022a) *Greater Sydney Water Strategy*

Department of Planning and Environment (2022b) *Camellia – Rosehill Place Strategy*

Department of Planning and Environment (2022c) *State significant infrastructure guidelines – preparing a scoping report, Appendix A to the state significant infrastructure guidelines*

Department of Planning, Housing and Infrastructure (2024) *Undertaking Engagement Guidelines for State Significant Projects*

Greater Sydney Commission (2018a) *Greater Sydney Region Plan - A Metropolis of Three Cities*

Greater Sydney Commission (2018b) *Our Greater Sydney 2056 – Central City District Plan*

Greater Sydney Commission (2019) *GPOP – Our true centre: the connected unifying heart: Place-based Infrastructure Compact Pilot Summary Paper*

Infrastructure Australia (2021) *Infrastructure Priority List*

Infrastructure NSW (2022) *Staying Ahead: State Infrastructure Strategy 2022-2042*

NSW Government (2019) *NSW Circular Economy Policy Statement – Too Good To Waste*

Parramatta River Catchment Group (2018) *Duba, Budu, Barra: Ten steps to a living river – The Parramatta River Master Plan*

Parramatta River Catchment Group (2024) PRCG overview webpage PRCG overview | Parramatta River (ourlivingriver.com.au)

Sydney Water (2024) Sydney Water's wastewater network systems webpage https://www.sydneywater.com.au/water-the-environment/how-we-manage-sydneys-water/wastewater-network.html

Sydney Water's *Long Term Capital and Operational Plan* (LTCOP), 2023.

8. Glossary of terms and abbreviations

Term/ acronym	Description
ARI	Average Recurrence Interval
BDAR	Biodiversity Development Assessment Report
CSEP	Community and Stakeholder Engagement Plan
DPE	Department of Planning and Environment (now DPHI and NSW DCCEEW)
DPHI	Department of Planning, Housing and Infrastructure
NSW DCCEEW	Department of Climate Change, Energy, the Environment and Water (NSW)
DSI	Detailed Site Investigation
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPL	Environment Protection Licence
FAQ	Frequently Asked Questions
GDE	Groundwater Dependent Ecosystem
GPOP	Greater Parramatta and Olympic Peninsula
GSC	Greater Sydney Commission
GSWS	Greater Sydney Water Strategy 2022
INSW	Infrastructure NSW
LEP	Local Environmental Plan
LGA	Local Government Area
LSPS	Local Strategic Planning Statement

Term/ acronym	Description
LTCOP	Long-term Capital and Operational Plan
ML	Megalitres
ML/d	Megalitres per day
MNES	Matters of National Environmental Significance
NSOOS	Northern Suburbs Ocean Outfall Sewer
NSW	New South Wales
PIC	Place-based Infrastructure Compact
PRCG	Parramatta River Catchment Group
PRW	Purified Recycled Water *Purified recycled water is water recycled from industry and homes (including from kitchens, showers and toilets) that has been purified to meet strict Australian Guidelines for Water Recycling to supplement drinking water sources. (Definition approved by NSW Health)*
PSI	Preliminary Site Investigation
RO	Reverse Osmosis
RW	Recycled Water *Recycled water is water recycled from industry and homes (including from kitchens, showers and toilets) that has been treated to be safely used in Greater Sydney for irrigation, manufacturing, enhancing public spaces through placemaking and non-drinking uses in homes (such as toilet flushing). (Definition approved by NSW Health)* Recycled water for non-drinking purposes is treated and subject to end use controls to meet the strict Australian Guidelines for Water Recycling for its intended uses.
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SES	State Emergency Services
SIS	State Infrastructure Strategy

Term/ acronym	Description
SOPA	Sydney Olympic Park Authority
SOPA Act	*Sydney Olympic Park Authority Act 2001*
SSI	State Significant Infrastructure
TfNSW	Transport for New South Wales
WC	Water Cycle
WRRF	Water Resource Recovery Facility

9. Appendices

9.1 Appendix A – Scoping summary table

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Terrestrial flora and fauna	No	General	• EPBC Act environmental offsets policy, (Department of Sustainability, Environment, Water, Population and Communities, 2012) • EPBC Act guidance documents for survey and assessment of matters of national environmental significance (various) • Guidance to assist a decision-maker to determine a serious and irreversible impact (Department of Planning Industry and Environment, 2019) • National Recovery Plans for Species and TEC, Conservation Advice and Listings (various) • NSW Biodiversity Assessment Method (BAM), and additional survey guidelines (various) • Significant impact guidelines - matters of national environmental significance (Department of the Environment, 2013) • Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Department of Environment and Conservation, 2004).	Section 6.1
Standard	Aquatic flora and fauna	No	Specific	• Aquatic Ecology in Environmental Impact Assessment – EIA guideline (Marcus Lincoln Smith, 2003) • Policy and Guidelines for Fish Habitat Conservation and Management (Department of Primary Industries, Update 2013)	Section 6.2

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
				• Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003).	
Detailed	Water quality and hydrology	No	Specific	• Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC, 2000) • Managing Urban Stormwater, Soils and Construction Volume 1, 4th Edition (Landcom, 2004) • Australian Drinking Water Guidelines 6, Version 3.8 (National Health and Medical Research Council, Updated 2022) • Guidelines for Managing Risks in Recreational Water (National Health and Medical Research Council, 2008) • National Water Quality Management Strategy (Australian Government, 2018) • NSW Water Quality and River Flow Objectives (https://www.environment.nsw.gov.au/ieo/) • Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions (Office of Environment and Heritage, 2017 • Health Impact Assessment Guidelines, Environmental Health Committee (enHealth, 2017)	Section 6.3

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
				• Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards, 2012 (enHealth, 2012).	
Standard	Traffic, parking and access to property	Yes	Specific	• Traffic Modelling Guidelines (Roads and Maritime Services, 2013) • Guide to Traffic Generating Developments (Roads and Traffic Authority, 2002) • Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments (Austroads, 2020) • Guide to Traffic Management Part 3: Transport Studies and Analysis Methods (Austroads, 2020) • Future Transport Strategy 2056 (Transport for NSW, 2020).	Section 6.4
Standard	Social and economic	Yes	Specific	• Social Impact Assessment Guideline (DPIE, 2023)	Section 6.5
Standard	Land contamination	No	General	• Contaminated Land Guidelines: Sampling Design Part 1 – Application (NSW EPA, 2022) • Contaminated Land Guidelines: Sampling Design Part 2 – Interpretation (NSW EPA, 2022) • Contaminated Land Guidelines: Consultants Reporting on Contaminated Sites (NSW EPA, 2020)	Section 6.6

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
				• Guidelines for the Assessment and Management of Groundwater Contamination (NSW EPA, 2007) • Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (NSW EPA, 2015) • National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended in 2013) • Guidelines for the NSW Site Auditor Scheme (Third Edition) (NSW EPA, 2017).	
Standard	Noise and vibration	Yes	Specific	• Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009) • NSW 'Assessing Vibration; a technical guideline' regarding human comfort and to BS 7385 and DIN 4150 for damage to buildings (Department of Environment and Conservation, 2006) • NSW Road Noise Policy (Department of Environment, Climate Change and Water, 2011) • NSW Noise Policy for Industry (EPA, 2017) • Construction Noise and Vibration Strategy, (Transport for NSW, 2023).	Section 6.7
Standard	Air and odour	No	Specific	• Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2022)	Section 6.8

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
				• Technical Framework - Assessment and Management of Odour from Stationary Sources in NSW (Department of Environment and Conservation, 2006).	
Standard	Historic heritage	No	General	• Assessing heritage significance: Guidelines for assessing places and objects against the Heritage Council of NSW criteria (Department of Planning and Environment, 2023) • Guidelines for preparing a statement of heritage impact (Department of Planning and Environment, 2023) • Assessing Significance for Historical Archaeological Sites and Relics (NSW Heritage, 2009) • Archaeological Assessments (Department of Urban Affairs and Planning, 1996) • Photographic Recording of Heritage Items using Digital Capture (Heritage Office, 2006) • State Agency Heritage Guide (Heritage Council of NSW and Heritage Office, 2005)	Section 6.9
Standard	Groundwater	No	General	• Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2023 • NSW Aquifer Interference Policy (NSW Department of Primary Industries, 2012)	Section 6.10

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
				• Guide to Groundwater Management in NSW (Department of Planning and Environment, 2023).	
Standard	Flooding	Yes	General	• Floodplain Development Manual (NSW Government and Department of Infrastructure, Planning and Natural Resources, 2005) • Practical Consideration of Climate Change – Flood Risk Management Guideline (Department of Environment and Climate Change, 2007) • Australian Rainfall and Runoff – A guide to flood estimation (ARR 2016)	Section 6.11
Standard	Visual amenity	No	Specific	• Guideline for Landscape Character and Visual Impact Assessment – EIA N04 (Transport for NSW, 2023).	Section 6.12
Standard	Aboriginal heritage	No	General	• Aboriginal Cultural Heritage Consultation Requirements for Proponents (Department of Environment, Climate Change and Water, 2010) • Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (Department of Climate Change and Water, 2010) • Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (Office of Environment and Heritage, 2011).	Section 6.13
Standard	Waste	No	General	• Waste Classification Guidelines (NSW EPA, 2014)	Section 6.14

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
				• Asbestos Waste Strategy, 2019-2021 (NSW EPA, 2019) • NSW Circular Economy Policy Statement Too Good Too Waste (NSW EPA, 2019) • NSW Waste and Sustainable Materials Strategy 2041 – Stage 1: 2021-2027 (Department of Planning, Industry and Environment, 2021)	
Standard	Hazards	No	General	• State Environment Planning Policy No. 33 – Hazardous and Offensive Development • Applying SEPP 33 Guideline, NSW DPIE (DPIE, 2011a)	Section 6.15
Standard	Sustainability and climate change	No	General	• AS 5334-2013: Climate change adaptation for settlements and infrastructure − A risk-based approach (2013) • Climate Change Impacts and Risk Management – A guide for business and development (Department of Environment and Heritage, 2006) • Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability (IS) Rating Tool • NSW Climate Change Policy Framework (Office of Environment and Heritage, 2016) • NSW Government Resource Efficiency Policy (Office of Environment and Heritage, 2019)	Section 6.16

Level of assessment	Matter	Cumulative impact assessment	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
				• United Nations Sustainable Development Goals • National Climate Resilience and Adaptation Strategy 2021-2025 (DAWE, 2021) • Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard (World Resources Institute, 2005) • National Greenhouse and Energy Reporting Scheme • National Greenhouse Accounts Factors 2023.	

9.2 Appendix B – Social Impact Scoping Report

Greater Parramatta, Olympic Peninsula Water Cycle Project

Social Impact Scoping Report

Prepared for Sydney Water Corporation

July 2024

Greater Parramatta, Olympic Peninsula Water Cycle Project

Social Impact Scoping Report

Sydney Water Corporation

E230458 RP1

July 2024

Version	Date	Prepared by	Reviewed by	Comments
V1	8 March 2024	Breannan Dent and Emma Barrie	Chris Mahoney	Draft
V2	29 April 2024	Breannan Dent	Chris Mahoney	Final
V3	17 July 2024	Breannan Dent	Chris Mahoney	Draft
V4	22 July 2024	Breannan Dent	Chris Mahoney	Final

Approved by

Chris Mahoney
Associate Director, National Technical Leader Social Assessment
22 July 2024

Ground floor 20 Chandos Street
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This report has been prepared in accordance with the brief provided by Sydney Water Corporation and, in its preparation, EMM has relied upon the information collected at the times and under the conditions specified in this report. All findings, conclusions or recommendations contained in this report are based on those aforementioned circumstances. The contents of this report are private and confidential. This report is only for Sydney Water Corporation's use in accordance with its agreement with EMM and is not to be relied on by or made available to any other party without EMM's prior written consent. Except as permitted by the Copyright Act 1968 (Cth) and only to the extent incapable of exclusion, any other use (including use or reproduction of this report for resale or other commercial purposes) is prohibited without EMM's prior written consent. Except where expressly agreed to by EMM in writing, and to the extent permitted by law, EMM will have no liability (and assumes no duty of care) to any person in relation to this document, other than to Sydney Water Corporation (and subject to the terms of EMM's agreement with Sydney Water Corporation).

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Executive summary

EMM Consulting Pty Limited (EMM) has prepared this Social Impact Assessment (SIA) Scoping Report on behalf of Sydney Water Corporation (the proponent) for the proposed development of the Greater Parramatta, Olympic Peninsula Water Cycle Project (the project).

This Social Impact Assessment (SIA) Scoping Report has been prepared to support the project Scoping Report, which will be submitted to the Department of Planning, Housing and Infrastructure (DPHI). The project is located in, and services the future population growth of, the Greater Parramatta and Olympic Peninsula area, and comprises a water resource recovery facility (WRRF) in Camellia, a river release pipeline from Camellia to the Parramatta River, a pump station upgrade (SP0067), a transfer main from the pump station and a brine pipeline to the Northern Suburbs Ocean Outfall Sewer (NSOOS).

This report applies the methodology outlined in the NSW SIA Guideline 2023 (DPE, 2023a). An overview of the identified impacts and benefits is provided in Table ES1. The below is an initial identification of potential effect.

Table ES1 Summary of identified social impacts and benefits

Positive/ negative	Category	Impact/benefit	Social locality/ extent)	Affected stakeholder group	Assessment level
PLANNING					
Positive	Decision-making systems	Project facilitates delivery of strategic planning objectives for the GPOP area and the broader Central City, including increased housing availability and employment and business opportunity characteristics.	• Local area • Sub-regional area • Regional area	• Residents of the Central City region	Detailed
Positive	Decision-making systems	Project demonstrates prioritisation of beneficial economic, environmental and social outcomes in the planning process creates confidence in governance and decision making systems.	• Local area • Regional area	• Sydney Water customers	Detailed
CONSTRUCTION					
Negative	Access	Temporary interruption of pedestrian and private vehicle access, including disruption of property access due to construction activities	• Local area	• Local community	Detailed
Negative	Access	Potential interruption to public transport, including rail and bus routes, due to construction activities	• Local area • Sub- regional area • Regional area	• Public transport users • Transport for NSW	Detailed
Negative	Access	Temporary interruption of access to services as a result of construction activities, including as a result of service isolations or construction activities physically disrupting access (e.g. schools).	• Local area	• Local community • Service providers	Detailed
Positive	Livelihoods	Generation of construction employment opportunities for people in Sydney.	• Regional area	• Regional workforce	Detailed
Positive	Livelihoods	Business opportunities due to procurement of goods and services during project construction.	• Regional area • Regional businesses	• Regional businesses	Detailed

Table ES1 Summary of identified social impacts and benefits

Positive/ negative	Category	Impact/benefit	Social locality/ extent)	Affected stakeholder group	Assessment level
Negative	Culture	Potential impact to places of Aboriginal cultural significance, including heritage sites and environment affecting aboriginal connection to place.	• Local area • Regional area	• Traditional custodians • Local Aboriginal community • Landholders	Detailed
Negative	Culture	Potential impact to places of cultural significance for sense of identity, connection to place and heritage (including heritage sites, estuaries and travel paths, e.g. Homebush, Newington Armoury, Meadowbank Park, Memorial Park, Meadowbank Bridge, Parramatta River and Duck River), within a location which has already been heavily developed.	• Local area • Sub-regional area • Regional area • Sydney UCL	• Local communities • Regional communities • Community of Sydney • Local government • State government • Tourists • Community groups	Detailed
Positive	Community	Opportunity to provide educational benefit for local schools around water and wastewater network operation and project construction process.	• Local area	• Local students	Detailed
Negative	Surroundings	Potential short term adverse effects on environments which are highly valued by the community.	• Local area • Sub-regional area • Regional area	• Local communities • Regional communities • Community of Sydney • Local government • State government • Recreational users • Visitors • Tourists • Community groups	Detailed
Negative	Surroundings	Potential long term adverse effects on environments which are highly valued by the community.	• Local area • Sub-regional area • Regional area	• Local communities • Regional communities • Community of Sydney • Local government • State government • Recreational users • Visitors • Tourists • Community groups	Detailed
Negative	Surroundings	Potential temporary impacts to places of social and recreational significance (including public open space and travel paths, e.g. Homebush, Newington Armoury Parklands, Meadowbank Park, Memorial Park, Meadowbank Bridge and Parramatta River)	• Local area • Sub-regional area • Regional area	• Local communities • Regional communities • Community of Sydney • Local government • State government • Recreational users • Tourists • Community groups	Detailed

Table ES1 Summary of identified social impacts and benefits

Positive/ negative	Category	Impact/benefit	Social locality/ extent)	Affected stakeholder group	Assessment level
Negative	Health and wellbeing	Amenity impacts (related to visual impacts, noise, air quality (dust and odour) caused by construction of the WRRF, release points, pipelines and offtake.	• Local area	• Local communities	Detailed
OPERATION					
Positive	Livelihoods	Supporting and sustaining population growth through increasing the longevity and service capacity of the wastewater network.	• Regional area • Sydney	• Residents of the Central City region	Detailed
Negative	Access	The project facilitates future planned changes to regional land uses, which may affect the availability and characteristics of employment and business opportunities.	• Local area • Sub-regional area • Regional area	• Local communities • Regional residents employed within the local area. • Local government • Local businesses • Local economic and industry groups	Detailed
Positive	Livelihoods	Business opportunities due to procurement of goods and services during project operation.	• Regional area • Regional businesses	• Regional businesses	Detailed
Positive	Surroundings	Improved sustainability of the wastewater network, aligned with holistic water management approaches and potential beneficial circular economy outcomes from reuse of wastewater.	• Regional area	• Residents of the Central City region	Detailed
Positive	Livelihoods	Operational employment and training opportunities.	• Regional area	• Regional workforce, students and apprentices	Detailed
Negative	Surroundings	Concerns for environmental health as a result of risks to the broader environment associated with operational approaches and practices.	• Local area • Regional area	• Local communities • Local government • Service providers	Detailed
Negative	Health and wellbeing	Anxiety caused by the potential for increased noise and odour close to the WRRF during operation, as well as visual presence of the WRRF.	• Local area	• Local communities • Local government	Detailed
Positive	Health and wellbeing	Reduced risk to public health and the environment following heavy rainfall events.	• Central City region • Parramatta River	• Residents of the Central City region • Users of the Parramatta River	Detailed

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1 Introduction

Sydney Water Corporation (Sydney Water) is planning to build and operate new wastewater infrastructure to service Greater Parramatta and Olympic Peninsula (GPOP). Located on the traditional lands of the Dharug Nation, the proposed development will include a new water resource recovery facility (WRRF) centrally located in the GPOP. Along with the associated river release pipeline, pump station upgrade, transfer main, and brine pipeline, the WRRF will be known as the 'project'.

The Greater Parramatta and Olympic Peninsula Master Plan sets the long-term direction for water services in the area. It forms a key part of Sydney Water's long-term plans for delivering safe water to its customers while supporting a thriving, liveable and sustainable Greater Sydney.

Under the Greater Sydney Region Plan: A Metropolis of Three Cities (Greater Sydney Commission, 2018), Greater Parramatta and Olympic Peninsula (GPOP) is the core of the Central River City (Central City) and one of three growth centres with the potential to be a diverse urban economy. While the Greater Sydney Commission is no longer an entity, its strategic directions are still considered as they have yet to be replaced at the time of writing this report.

The Place-based Infrastructure Compact (PIC) for GPOP (2019) aligns infrastructure investment and delivery with growth targets through collaboration with more than 20 NSW Government partners, including Sydney Water.

The 'Transformative' scenario identified by the PIC includes a new Sydney Water resource recovery facility to manage waste and produce recycled water to be available for Parramatta CBD and Sydney Olympic Park.

A new strategic plan and place strategies are being prepared by the DPHI to replace those previously prepared by the Greater Sydney Commission (DPHI, 2024), and the Camellia - Rosehill Place Strategy has (DPE, 2022) already been finalised to guide renewal of the precinct over the next 20 years.

The proposed new WRRF would be located north of Duck Creek, close to the Parramatta River within the Parramatta Local Government Area (LGA). Currently, it is envisaged that the new WRRF will be sized to 100 megalitres per day (ML/day), initially operating at up to 50 ML/day.

The location of the project is shown in Figure 1.1, which also indicates an indicative release location and the pipeline route. This may change within the investigation area as detailed optioneering continues.

The project has been deemed State Significant Infrastructure (SSI) pursuant to State Environmental Planning Policy (Planning Systems) 2021 (the Planning Systems SEPP), and approval for the project is required under Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). An SSI application for the project will be accompanied by a project Scoping Report.

A project Scoping Report has been prepared by Sydney Water to support a request to the Department of Planning, Housing and Infrastructure (DPHI) for Secretary's Environmental Assessment Requirements (SEARs) for the project. The SEARs will identify the matters to be assessed in the Environmental Impact Statement (EIS) and the level of assessment required.

This Social Impact Assessment Scoping Report ('SIA Scoping Report') has been prepared by EMM Consulting Pty Limited (EMM) on behalf of Sydney Water to support the Scoping Report, and was developed in accordance with the *Social Impact Assessment Guideline for State Significant Projects* (the 'SIA Guideline') (DPE, 2023a) and the *Technical Supplement: Social Impact Assessment Guideline for State Significant Projects* (the 'SIA Technical Supplement') (DPE, 2023b).

This SIA Scoping Report documents the process and outcomes of the scoping phase of the SIA. Scoping is an evaluation procedure which serves to define the scope (i.e. scale and extent) of the SIA. This will ensure proportionate emphasis and focus is provided to respective social impacts generated by the project.

1.1 The applicant

The applicant for the project is Sydney Water Corporation.

Table 1.1 Applicant details

Requirement	Detail
Applicant	Sydney Water Corporation
ABN	49 776 225 038
Applicant address	1 Smith Street, Parramatta NSW 2150

1.2 The project

1.2.1 Background

Traditional water servicing at GPOP involves 'single-use' water. Currently, GPOP's wastewater is discharged into the deep ocean at North Head and Malabar.

As GPOP transforms into a thriving economic growth corridor, its demand for water will grow too. Under this single-use water servicing model, Sydney Water would need to augment the water supply system and duplicate its major wastewater infrastructure at great cost and impact to the community and environment.

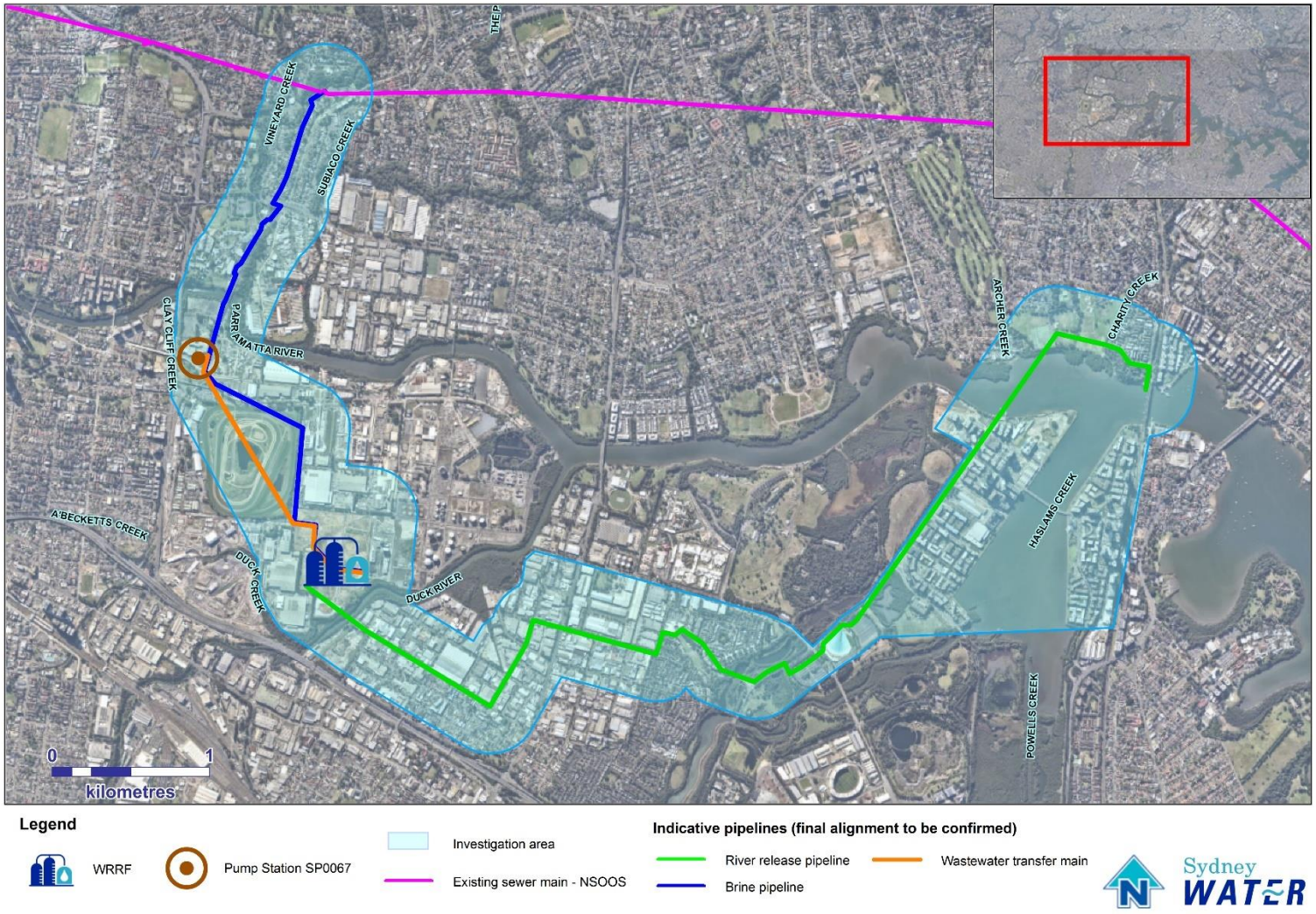
The project supports growth while also enabling a more sustainable water future. It allows Sydney Water to move from single-use water to an integrated water cycle approach, as the area grows and acceptability of and need for purified recycled water (PRW) evolves.

Subject to financial feasibility, non-potable recycled water can be made available for local irrigation to support green spaces that will provide shade and cooler conditions as well as support City of Parramatta Council's recycled water goals. A solution incorporating river releases was identified as critical for the adaptability to a PRW future and potential recycled water servicing pathways for GPOP.

This adaptive pathway approach will enable timely investments to further upgrade treatment capacity and enable production of PRW for indirect potable reuse in the future, subject to approvals and community acceptance.

1.2.2 Project components

Sydney Water is planning to build and operate new wastewater infrastructure to service Greater Parramatta and Olympic Peninsula (GPOP). The proposed development will include a new WRRF centrally located in the GPOP, along with associated pipelines. Further details of each component of the project are provided below.



Source: Sydney Water, 2024. Alignments may change during detailed optioneering

Figure 1.1 Project overview

i Wastewater Resource Recovery Facility

The WRRF comprises a wastewater treatment plant with the capacity to treat up to 50 ML of wastewater per day. In the future, ultimate capacity may reach up to 185 ML/day.

The WRRF will produce:

- advanced treated water which will be released into Parramatta River
- biosolids suitable for beneficial reuse
- brine, as a by-product of reverse osmosis treatment.

ii Transfer main

A transfer main about 1.5 kilometres (km) long will be constructed to divert sewage from SP0067 to the WRRF for treatment.

iii Pump station upgrade (SP0067)

The existing pump station, SP0067, will be upgraded to enable wastewater extraction from the existing network to deliver flows to the new WRRF. The upgrade will include the installation of new pumps for sewage extraction to the new WRRF.

iv River release pipeline

A pipeline about 7 km long will be constructed to release advanced treated water from the WRRF to Parramatta River at Meadowbank. If purified recycled water (PRW) and/or recycled water schemes are developed and supplied by the WRRF in the future, this will reduce the volume of water released to the river.

v Brine pipeline

A brine pipeline about 4 km long will be constructed to transfer brine from the WRRF to the Northern Suburbs Ocean Outfall Sewer (NSOOS).

The pipelines will be built to ultimate capacity, but only operated to transport volumes produced by this first stage of the project. The timing and scale of future stages will be phased to respond to drivers including the population growth rate and the most efficient way for Sydney Water to optimise its wastewater systems.

1.2.3 Project justification

By undertaking this project, Sydney Water can avoid a costly and high impact duplication of the NSOOS, which would be required to continue to service wastewater needs for this growing community.

Benefits associated with integrated water cycle management include:

- localised water cycle management which values water as a precious, finite resource
- supporting both population and economic growth in the GPOP corridor, aligning with strategic goals set for GPOP
- a pathway to water supply for irrigation of green spaces to support City of Paramatta's recycled water goals
- environmental benefits for improved water quality in local rivers by reducing uncontrolled overflow events that may adversely impact local waterways

- moving towards a circular economy future with PRW, representing Sydney Water's investment in water resilience for Greater Sydney
- opportunity to build community awareness of and support for integrated water cycle management, water recycling and indirect potable use of PRW beyond 2031
- timely investment into future ready, diversified water supply network that is more resilient to drought and climate change.

1.3 Authorship and SIA Scoping Report declarations

i Authorship

This report has been prepared by a suitably qualified and experienced reviewer, Chris Mahoney, and lead author, Breannan Dent, consistent with SIA Guideline requirements. All contributors hold appropriate qualifications and have the relevant experience to carry out the SIA. The curriculum vitae for each author is provided in Appendix A.

ii SIA Declarations

The authors declare that this SIA Scoping Report:

- was completed in July 2024
- has been prepared in accordance with the EIS process under the *Environmental Planning and Assessment Act 1979* (EP&A Act)
- has been prepared in accordance with the SIA Guideline 2023
- contains all reasonably available project information relevant to the SIA
- as far as EMM Consulting Pty Limited (EMM) is aware, contains information that is neither false nor misleading.

Limitations of this report are outlined in Section 2.5.

2 Methodology

SIA is a process for analysing, monitoring, and managing the social consequences of a development (Vanclay, Esteves, Aucamp, & Franks, 2015).

Social impact scoping is an exercise to determine the main issues of concern and the affected parties for a particular planned intervention (Vanclay, Esteves, Aucamp, & Franks, 2015). As such, scoping forms an essential element of the overall SIA process.

This section describes the methodology that has been used to complete social impact scoping and initial assessment. The SIA Guideline (DPE, 2023a) and the International Association for Impact Assessment's *SIA guidance for assessing and managing the social impacts of projects* (Vanclay, Esteves, Aucamp, & Franks, 2015) underpins this methodology.

As outlined in the SIA Guideline, the SIA process comprises three distinct but iterative phases:

- Phase 1: social impact scoping and initial assessment
- Phase 2: social impact assessment
- Phase 3: social impact management and monitoring.

Each phase is underpinned with objectives and key tasks, resulting in distinct deliverables as detailed in Table 2.1.

Table 2.1 Phases of the SIA process

	Phase 1: social impact scoping and initial assessment	Phase 2: social impact assessment	Phase 3: social impact management and monitoring
Objective	Ensure that proportionate depth and scope is given to the potentially significant social impacts of the project	Identify, describe and assess the social impacts which may occur in local and regional communities as a result of the project and propose responses to the identified social impacts	Outline how social impacts associated with the project will be managed, monitored and adapted
Key tasks/elements	• Defining the project's social locality • Initial analysis of social baseline • review of stakeholder sentiment • Preliminary identification and evaluation of social impacts • Considering and articulating project refinement	• Summarising outcomes of scoping • Detailed social baseline analysis • Predict and analyse the extent and nature of likely social impacts • Develop responses (avoidance, mitigation and enhancement measures) to social impacts • Identify and explain residual social impacts • Community and stakeholder engagement	• Program to monitor predicted social impacts against actual impacts • Social incident notification and reporting process • Program for the ongoing analysis of social risks and opportunities • Process to release monitoring results • Ongoing community and stakeholder engagement
Deliverable	Social impact scoping report (including SIA Scoping Worksheet)	Social impact assessment report	Social impact management plan (if required)

As defined in the SIA Guideline, Phase 1 determines the extent and scale of likely social impacts of the Project which defines the scope of the SIA (DPE, 2023a).

Outcomes of social impact scoping and initial assessment are presented in a SIA Scoping Report (this report) to support the project Scoping Report. The project Scoping Report will be submitted along with an application to the DPHI for the project SEARs. The SEARs will define the matters to be considered in Phase 2. The SIA report completed in Phase 2 will summarise the scoping and initial assessment undertaken in Phase 1.

The key tasks undertaken during social impact scoping and initial assessment are:

- defining the project's social locality
- initial social baseline analysis
- review of stakeholder sentiment
- preliminary identification and evaluation of social impacts.

These key tasks are described below.

2.1 Defining the social locality

An initial output of scoping is definition of the project's social locality. As outlined in the SIA Guideline 2023 (DPE, 2023a), the term 'social locality' is also referred to as 'area of social influence' or 'SIA study area'. The Guideline notes 'There is no prescribed meaning or fixed, predefined geographic boundary (e.g. the local suburb, or 'within 500 m') to a social locality; rather, the social locality should be construed for each project, depending on its nature and its impacts'.

Identifying the social locality begins with understanding the scale and nature of the project, the characteristics of affected communities and how positive and negative impacts may be reasonably perceived or experienced by different people (DPE, 2023a).

Defining a social locality for a project is influenced by numerous factors, including:

- understanding key project activities and the potential change on the social environment to identify the geographic extent of change and the relevant baseline indicators. The geographic extents of social change may be local, regional, or state-wide
- identifying who may be affected by the project and how they may be affected, through stakeholder profiling and analysis
- understanding the regional development context and other proposed and operating projects in the region
- describing the local setting of the project site, including land uses, nearby built or natural features, and access and connectivity.

Outcomes of the above activities inform determination of a project's social locality which is adopted for the initial social baseline analysis. To enable data collection and analysis, consideration is also given to the Australian Bureau of Statistics (ABS) Australian Statistical Geography Standard (ASGS) in defining the applicable social locality.

2.2 Initial social baseline analysis

Initial analysis of the social baseline serves to build an understanding of the characteristics of the communities which constitute the project's social locality.

The initial social baseline analysis is tailored to the project context and only includes the indicators and information relevant to the scoping and preliminary evaluation of impacts in the social locality.

The initial social baseline analysis draws on a range of primary and secondary sources to obtain both qualitative and quantitative data.

Quantitative data sources include:

- ABS, including Census and population data
- Department of Planning and Environment population projections
- the Australian Government's Labour Market Portal unemployment and labour force participation data
- the Australian Institute of Health and Welfare, including health and wellbeing data
- previous outcomes of Sydney Water engagement, including Our Water, Our Voice and community feedback on similar projects.

Qualitative data sources include:

- feedback generated through stakeholder engagement including community values, capacities and challenges
- review of literature, including:
  - peer-reviewed academic journal articles
  - industry-commissioned surveys and research reports
  - government policy and publications
- desktop review of:
  - the location of social infrastructure
  - areas and elements of social interest
  - locations of other major projects.

The initial social baseline will be expanded and further refined during the Phase 2 social impact assessment. The initial social baseline analysis for the project is provided in Section 4.

2.3 Community and stakeholder engagement

Best practice SIA is participatory and involves understanding impacts from the perspectives of those affected by a project activity.

The project will conduct extensive community engagement during the EIS stage. The SIA engagement approach will be aligned with EIS engagement to ensure the community and key stakeholders have access to project information, and to reduce the risks of consultation fatigue. As an interim approach, the SIA has reviewed engagement undertaken and impacts identified by nearby relevant projects, as well as reviewing Council plans and policies undertaken in consultation with the community. SIA scoping has also considered feedback from project engagement undertaken with key stakeholders.

2.4 Preliminary identification and evaluation of social impacts

Preliminary identification and evaluation of social impacts is completed for different groups in the social locality to determine the level at which these impacts need to be assessed in the SIA.

The initial identification and evaluation of social impacts is facilitated through completion of the SIA scoping worksheet (DPE, 2023a). This decision support tool is used to consider the social impacts of a project. It is used to demonstrate how scoping will inform the level of assessment undertaken for each identified impact in the SIA (Phase 2).

Quantitative and qualitative information collected through consultation activities is compiled and analysed to identify potential perceived social impacts associated with the project, from the perspectives of affected parties, and to allow the preliminary evaluation of social impacts.

Social impacts are considered across eight categories in accordance with the SIA Guideline 2023 (DPE, 2023a) (Table 2.2).

Table 2.2 Social impact categories

Impact category	Description
Way of life	How people live, how they get around, how they work, how they play, and how they interact each day.
Community	Composition, cohesion, character, how the community functions, resilience and people's sense of place.
Accessibility	How people access and use infrastructure, services and facilities, whether provided by a public, private, or not-for-profit organisation.
Culture	Both Aboriginal and non-Aboriginal, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings.
Health and wellbeing	Physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health.
Surroundings	Ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity.
Livelihoods	People's capacity to sustain themselves through employment or business.
Decision-making systems	Extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

Some projects may have impacts in all these categories, but others may only have impacts in a few categories.

In accordance with the SIA Scoping Tool (DPE, 2023c), each project activity is assessed by its potential impacts on people, whether previous investigations of the impact have been undertaken, the potential for cumulative impacts, and possible mitigation or enhancement measures to reduce negative impacts and enhance positive impacts. Social impact characteristics that have been considered include:

- extent
- duration
- intensity/scale
- sensitivity/importance
- level of concern/interest.

Based on the assessment of these impact characteristics, the likelihood and magnitude of the potential impact (positive or negative) and their occurrence across differing stakeholder groups is determined making use of the impact significance matrix in the SIA Guideline 2023 (DPE, 2023a) (Figure 2.1).

		Magnitude level				
		1	2	3	4	5
Likelihood level		Minimal	Minor	Moderate	Major	Transformational
A	Almost certain	Low	Medium	High	Very High	Very High
B	Likely	Low	Medium	High	High	Very High
C	Possible	Low	Medium	Medium	High	High
D	Unlikely	Low	Low	Medium	Medium	High
E	Very unlikely	Low	Low	Low	Medium	Medium

Source: DPE (2023b).

Figure 2.1 Social impact significance matrix

The levels of likelihood and magnitude are described in Table 2.3.

Table 2.3 Defining livelihood and magnitude levels of social impacts

Level	Meaning
Likelihood criteria	
Almost certain	Definite or almost definitely expected (e.g. has happened on similar projects).
Likely	High probability.
Possible	Medium probability.
Unlikely	Low probability.
Very unlikely	Improbable or remote probability.
Magnitude criteria	
Transformational	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	Little noticeable change experienced by people in the locality.

Source: DPE (2023b).

Once the significance of likely social impacts is identified, the assessment level is determined. As outlined in the SIA Guideline 2023 (DPE, 2023a), there are four assessment levels:

- Detailed: the project may result in significant social impacts, including cumulative impacts.
- Standard: the project is unlikely to result in significant social impacts, including cumulative impacts.
- Minor: the project may result in minor social impacts.
- Not relevant: the project will have no social impact, or the social impacts of the project will not be so small that they do not warrant consideration.

The assessment levels determine the scope and detail required for the SIA (Phase 2).

2.5 Limitations

This SIA Scoping Report has been based on the currently available project information, including the current project design. The design may be refined during preparation of the SIA and EIS. Further assumptions and limitations of the research include the following:

- A key source of data describing social conditions is the ABS Census of Population and Housing, the latest of which was in 2021. There may have been changes to social characteristics since this census event. Another consideration is that the 2021 Census occurred during the height of COVID epidemic restrictions which may have impacted upon socio-economic trends and characteristics as recorded.
- Though the SIA has considered secondary engagement data sources, SIA specific engagement has not been conducted as part of the scoping phase. Extensive engagement will be undertaken as part of the EIS and specifically to inform the SIA.

3 The social locality

This section describes how the project's social locality was defined. This involved building an understanding of the scale and nature of the project, the characteristics of affected communities and how positive and negative impacts may be reasonably perceived or experienced by different people (DPE, 2023a).

3.1 Key project activities

The nature and scale of key project activities, as known at the time of social impact scoping, informs the identification and evaluation of potential changes to the social environment. The geographic extent of these changes may be at a site specific, local or regional scale.

An overview of key project activities, the potential change they could invoke to the social environment, the potential geographical extent of the social change, and potentially affected stakeholders is provided in Table 3.1.

Table 3.1 Key project activities and potential change to social environment

Stage	Key project activity	Potential change to social environment	Geographical extent of social change	Potentially affected stakeholders
Construction of the project	• Procurement of goods and services	• Direct and indirect stimulation of economic activity and injection of wealth into the regional economy • Generation of opportunities for local and regional businesses • Increased competition for resources • Application of Sydney Water's Aboriginal Procurement Participation Plan creates opportunities for Aboriginal people	• Regional area	• Regional businesses • Concurrent development projects • Local economic and industry groups • Traditional Owners and Aboriginal communities
	• Release of tender work packages and recruitment of required construction workforce	• Creation of employment opportunities for residents in the local and regional area • Increased demand for skilled employees in the construction sector which could affect delivery of other infrastructure projects. • Application of Sydney Water's Aboriginal Procurement Participation Plan creates opportunities for Aboriginal people	• Regional area	• Regional businesses • Local and regional communities • Traditional Owners and Aboriginal communities

Table 3.1 Key project activities and potential change to social environment

Stage	Key project activity	Potential change to social environment	Geographical extent of social change	Potentially affected stakeholders
	• Changes to traffic conditions in the local road network due to construction of pipelines and other infrastructure	• Increased travel times for local commuters, (potentially affecting journey to and from work, delays in service provision or travel to service providers, delays in freight and product movements)	• Local area	• Landholders • Local communities • Local businesses • Local Government • Concurrent development projects • Social infrastructure providers and community services • Infrastructure and utility service providers
	• Generation of traffic on local road networks resulting from transportation of construction materials, transportation of required workforce to site	• Change to perceptions of health and safety risk • Inconvenience and frustration for local commuters caused by increased travel times	• Local haulage route	• Landholders • Local communities • Local businesses • Local Government • Concurrent development projects • Social infrastructure providers and community services
	• Vegetation and site clearing • Preparation of site for construction, including environmental management and groundworks	• Change to amenity (including visual, noise, vibration, and dust) • Anxiety and concerns related to risks associated with high-value local landscape and wildlife habitat • Change to perceptions of health and safety risk • Concerns regarding waste management, particularly contaminated materials and spread of weeds due to related health and property maintenance effects • Concerns regarding sustainable waste management and resource re-use	• Project area • Local area • Parramatta River • Haulage route	• Landholders • Local communities • Local businesses • Local Government • Peak bodies, authorities and organisations and environmental groups • Government agencies • Traditional Owners and Aboriginal communities

Table 3.1 Key project activities and potential change to social environment

Stage	Key project activity	Potential change to social environment	Geographical extent of social change	Potentially affected stakeholders
	• Construction of the WRRF and ancillary infrastructure, as well as pipelines and connections to SP0067 and the NSOOS	• Change to amenity (including visual, noise, vibration, and dust) • Disturbance or displacement of Aboriginal and non-Aboriginal heritage sites and/or items • Anxiety and concerns related to risks associated with high-value local landscape, marine environments and wildlife habitat • Access changes to recreational areas • Access changes to transport infrastructure	• Project area • Local • Regional	• Local communities • Local Government • Government agencies • Traditional Owners and Aboriginal communities • Social infrastructure providers and community services • Infrastructure and utility service providers • Regional businesses • Regional communities
Operation of the project	• Operation of WRRF	• Change to amenity (including visual, noise and odour) • Perceived changes to the value of nearby industrial properties and properties slated for future land use changes under the future Camellia Rosehill Place Strategy • Enabling of growth and development across the GPOP- creation of residential expansion, businesses, etc. • Contribute to long term liveability of the local area	• Local area • Regional area • Parramatta River and Duck Creek	• Landholders • Local communities • Local Government • State and Federal Government elected representatives • Government agencies • Traditional Owners and Aboriginal communities • Social infrastructure providers and community services • Infrastructure and utility service providers • Regional businesses • Regional communities • PRW advocates, peak bodies, authorities and organisations and environmental groups • Other community groups
	• Property maintenance	• Concerns regarding waste management • Concerns around spread of weeds due to related environmental health and property maintenance effects	• Local	• Landholders • Local communities • Regional communities • Authorities and organisations and environmental groups • Government agencies

Table 3.1 Key project activities and potential change to social environment

Stage	Key project activity	Potential change to social environment	Geographical extent of social change	Potentially affected stakeholders
	• Intake and treatment of wastewater from existing wastewater system	• Concerns around potential changes to amenity (pump noise and odour) • Deferred cost of duplicating/upgrading the NSOOS and North Head WRRF	• Local • Regional area	• Regional communities • Government agencies
	• Environmental effects on waterways through project discharge and release of treated water to Parramatta River	• Anxiety and concerns related to risks associated with high-value local environments. Potential considerations include impacts to useability (e.g. swimming) and visual amenity	• Local • Regional • Parramatta River	• Landholders • Local communities • Local Government • State and Federal Government elected representatives • Government agencies • Traditional Owners and Aboriginal communities • Parramatta River businesses • Regional communities • Local and downstream water based recreation groups • Peak bodies, authorities and organisations and environmental groups • Water resource users (water licences) • Other community groups

3.2 Stakeholder profile

Stakeholder profiling identifies who may be affected by the project and how they may be affected. Outlined in Table 3.2 is an initial profile of stakeholders who may be affected by the project, and the social impact categories (as outlined in Section 2.4) which may be of interest to them.

Table 3.2 Stakeholder profile and potential interest in social impact categories

Stakeholder group	Stakeholder	Way of life	Community	Accessibility	Culture	Health and wellbeing	Surroundings	Livelihoods	Decision-making systems
Landholders	Nearby properties that may be impacted by the work at the pump station and/or construction and operation of the new plant or pipelines. <u>Camellia/Rosehill:</u> • VIVA Energy • Australian Turf Club • Transport for NSW (TfNSW) (metro and light rail) • Sydney Water (SP0067) • Valvoline Raceway • childcare centres and educations facilities • other local businesses and residents <u>Wentworth Point:</u> • local businesses and residents • Landcom and TfNSW • residents on, or relying on, roads likely to be impacted by road closures and construction traffic • residents on, or along, pipeline construction routes <u>Sydney Olympic Park</u> • Sydney Olympic Park Authority (SOPA) • URBNSURF Sydney <u>Meadowbank and Melrose Park</u> • Ryde City Council • TfNSW (Meadowbank Bridge) • residents on, or along, pipeline construction routes	•	•	•	•	•	•	•	•

Table 3.2 Stakeholder profile and potential interest in social impact categories

Stakeholder group	Stakeholder	Way of life	Community	Accessibility	Culture	Health and wellbeing	Surroundings	Livelihoods	Decision-making systems
Local communities	• residents or businesses with views of the project area • recreational users of local parks, the Parramatta River and Meadowbank Bridge(e.g. Meadowbank Park, Memorial Park and Newington Armoury) and waterways (Parramatta River and Duck Creek) • individuals seeking nearby employment opportunities • people looking to purchase or rent housing in the local area • businesses looking to establish in the local area	•	•	•	•	•	•	•	•
Local Government (Cit of Parramatta, City of Ryde)	• Mayors • Councillors • General Manager and Managers	•	•	•	•	•	•	•	•
State and Federal Government elected representatives	• State Ministers • State and Federal MPs	•	•	•	•	•	•	•	•
Government agencies	• DPHI • NSW Department of Climate Change, Energy, Environment and Water (DCCEEW) • NSW Health • NSW Environment Protection Authority (EPA) • TfNSW • NSW Department of Primary Industries – Fisheries	•	•	•	•	•	•	•	•
Traditional Owners and Aboriginal communities	• Dharug people • Metropolitan Local Aboriginal Land Council (LALC) • Deerubbin LALC	•			•		•	•	•

Table 3.2 Stakeholder profile and potential interest in social impact categories

Stakeholder group	Stakeholder	Way of life	Community	Accessibility	Culture	Health and wellbeing	Surroundings	Livelihoods	Decision-making systems
Social infrastructure providers and community services	• healthcare service providers, including hospitals (Westmead, Ryde and Auburn), as well as local medical service providers and pharmacies • NSW Ambulance: Auburn, Parramatta, Northmead • NSW Police Force: Cumberland Police Area Command (PAC), Auburn PAC and Marine Area Command • Fire and Rescue NSW: Parramatta, Rhodes, Rydalmere and Silverwater • Wentworth Public School • Wentworth Point High School (completion 2025)			•		•			•
Infrastructure and utility service providers	• TfNSW (Sydney Metro West and Parramatta Light Rail) • Endeavour Energy • Jemena • National Broadband Network (NBN) • Telecommunications providers, i.e. Telstra • Transgrid			•			•		•
Regional businesses	• businesses with the capacity to service construction and operational project needs, including but not limited to catering, construction supplies and hire, professional services and labour hire • businesses relying on access to local roads, or Parramatta River access (including water licenses) and amenity • developers • the Media	•	•	•	•	•	•	•	•
Regional communities	• individuals seeking employment opportunities • businesses seeking procurement opportunities • people looking to purchase or rent housing • businesses looking to establish in the area • recreational users of waterways	•	•	•				•	•
Local economic and industry groups	• Parramatta Chamber of Commerce	•						•	•

Table 3.2 Stakeholder profile and potential interest in social impact categories

Stakeholder group	Stakeholder	Way of life	Community	Accessibility	Culture	Health and wellbeing	Surroundings	Livelihoods	Decision-making systems
PRW advocates, Peak bodies, authorities and organisations and environmental groups	• Parramatta River Catchment Group (PRCG) • Sydney Harbour Trust • Bushcare Groups (Hunters Hill, City of Canada Bay and City of Ryde) • Parramatta River Riverkeeper Network								
Other community groups	• sporting clubs, including Rowing NSW, swimming and boating groups • heritage interest groups, such as the Parramatta Historical Society • Australian Turf Club	•	•	•	•	•	•	•	•

3.3 Project site and surrounds

The WRRF comprises approximately 21 hectares (ha). Land uses on and immediately surrounding the project site are mainly industrial and commercial.

The residential suburbs within the local area largely comprise waterfront, or adjacent, suburbs with high levels of amenity due to walkability, access to public and/or active transport options and high recreational amenity linked to their surroundings, including Sydney Olympic Park, Homebush Bay, Duck Creek and the Parramatta River.

However, strategic plans indicate transport infrastructure (James Ruse Drive, Silverwater Road, the M4 and Hill Road as well as construction projects including the Parramatta Light Rail and Sydney Metro West) has the potential to affect amenity, as these major roads and projects can constitute barriers to walkability (due to safety issues), can become congested, and are a potential source of noise, dust and vibration.

3.4 Social locality

Determination of the project's social locality has been informed through an understanding of key project activities, stakeholders likely to be affected by the project, and the regional and local development contexts. The social locality is defined with reference to the Australian Statistical Geography Standard (ASGS), which classifies Australia into a hierarchy of statistical areas (ABS, 2021a). It is used for the publication and analysis of official statistics and other data, including the ABS Census of Population and Housing. The ASGS statistical areas applied to define the social locality are:

- Suburbs and Localities (SALs) – approximate representation of the officially recognised boundaries of suburbs and localities as defined by the State and Territory governments of Australia.
- Urban Centres and Localities (UCLs) – representation of areas of concentrated urban development.
- Local Government Areas (LGAs) – approximate representation of gazetted local government boundaries as defined by each state and territory.

- Statistical Area 2 (SA2) –used to represent and analyse local business characteristics.

As of the 2021 ABS Census, SAL classifications replaced the State Suburb Classification (SSC) classification, however, remain comparable. This report refers to SALs when discussing the 2021 ABS Census data and, where relevant, refers to SSCs when citing ABS Census data from previous years.

Table 3.3 details the social locality determined for the project.

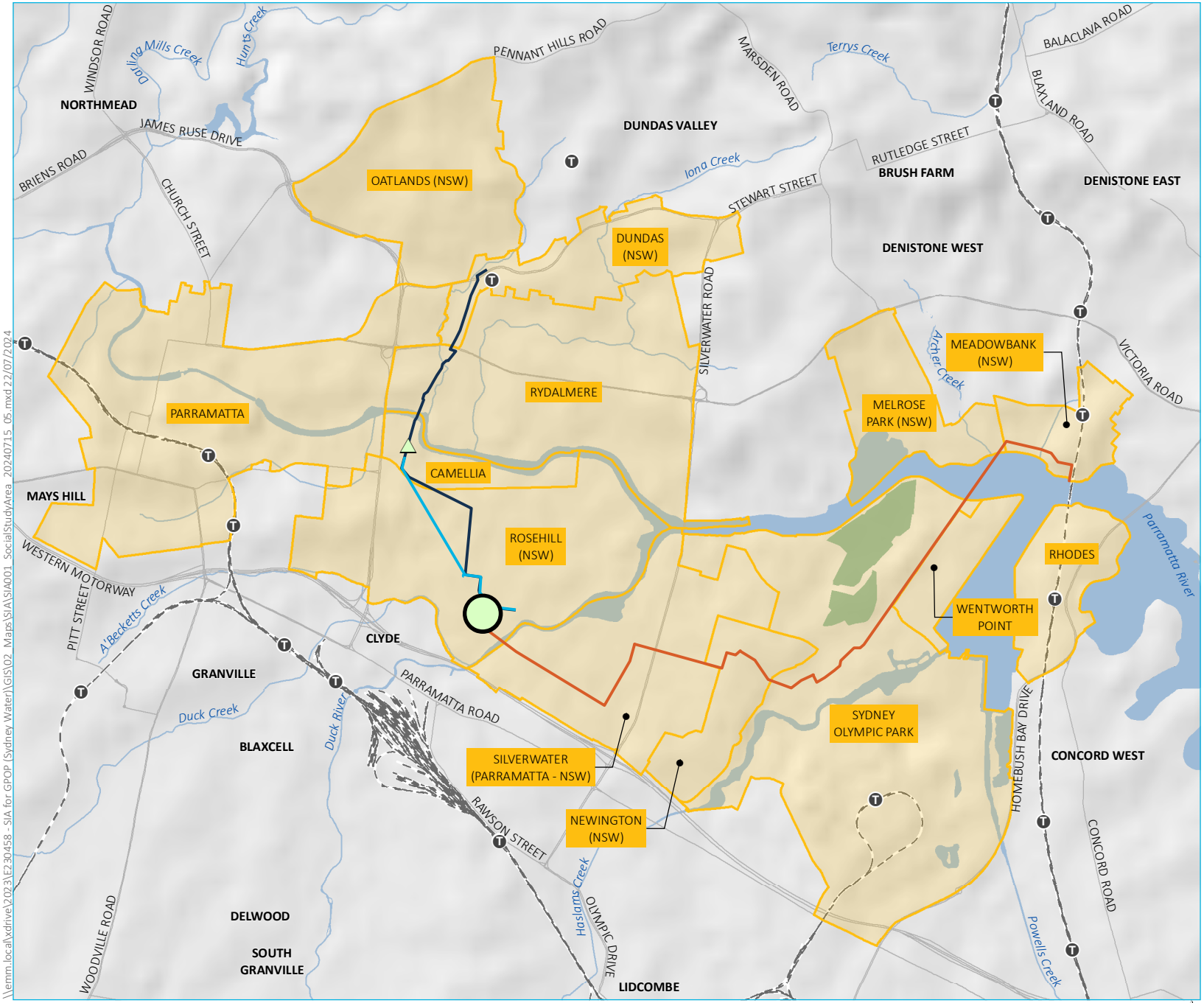
Table 3.3 Project social locality mapped to ASGS

Social locality	Geographic area	ASGS statistical area code	Description/relevance to project
Local area	Rosehill	Rosehill SAL13422	Potential area of effect for localised construction benefits and impacts, and direct operational impacts.
	Camellia	Camellia SAL10773	
	Rydalmere	Rydalmere SAL13468	
	Dundas	Dundas SAL11315	
	Silverwater	Silverwater SAL13562	
	Newington	Newington SAL12962	
	Sydney Olympic Park	Sydney Olympic Park SAL13731	
	Wentworth Point	Wentworth Point SAL14244	
	Melrose Park	Melrose Park SAL12574	
	Meadowbank	Meadowbank SAL12560	
	Rhodes	Rhodes SAL13372	
	Oatlands	Oatlands SAL13074	
	Parramatta	Parramatta SAL13167	
Sub-regional area	City of Parramatta	Parramatta LGA16260	Potential positive or negative effects on sub-regional networks and services, including environmental, wastewater, transport, recreation and access.
	City of Ryde	Ryde LGA16700	
	City of Canada Bay	Canada Bay LGA11520	
Regional area	Central River City, City of Canada Bay and City of Ryde	Parramatta LGA16260	Potential area of effect for recreational, environmental, economic, development and wastewater servicing benefits and impacts.
		Cumberland LGA12380	
		Canterbury-Bankstown LGA11570	
		Georges River LGA12930	
		The Hills Shire LGA17420	
		Blacktown LGA10750	
		Ryde LGA16700	
		Canada Bay LGA11520	
Area of reference	Sydney	Sydney UCL101001	Used as a basis for comparison of some datasets.

Table 3.3 Project social locality mapped to ASGS

Social locality	Geographic area	ASGS statistical area code	Description/relevance to project
NSW	State of NSW	NSW STE1	Used as a basis for comparison of some datasets.

The social locality has been determined based on current estimation of the degree of impact from the project. Following further investigation, additional areas may need to be incorporated into the EIS stage social impact assessment. These may include the suburbs of Meadowbank and Melrose Park, depending on the outcomes of relevant technical studies and project engagement.



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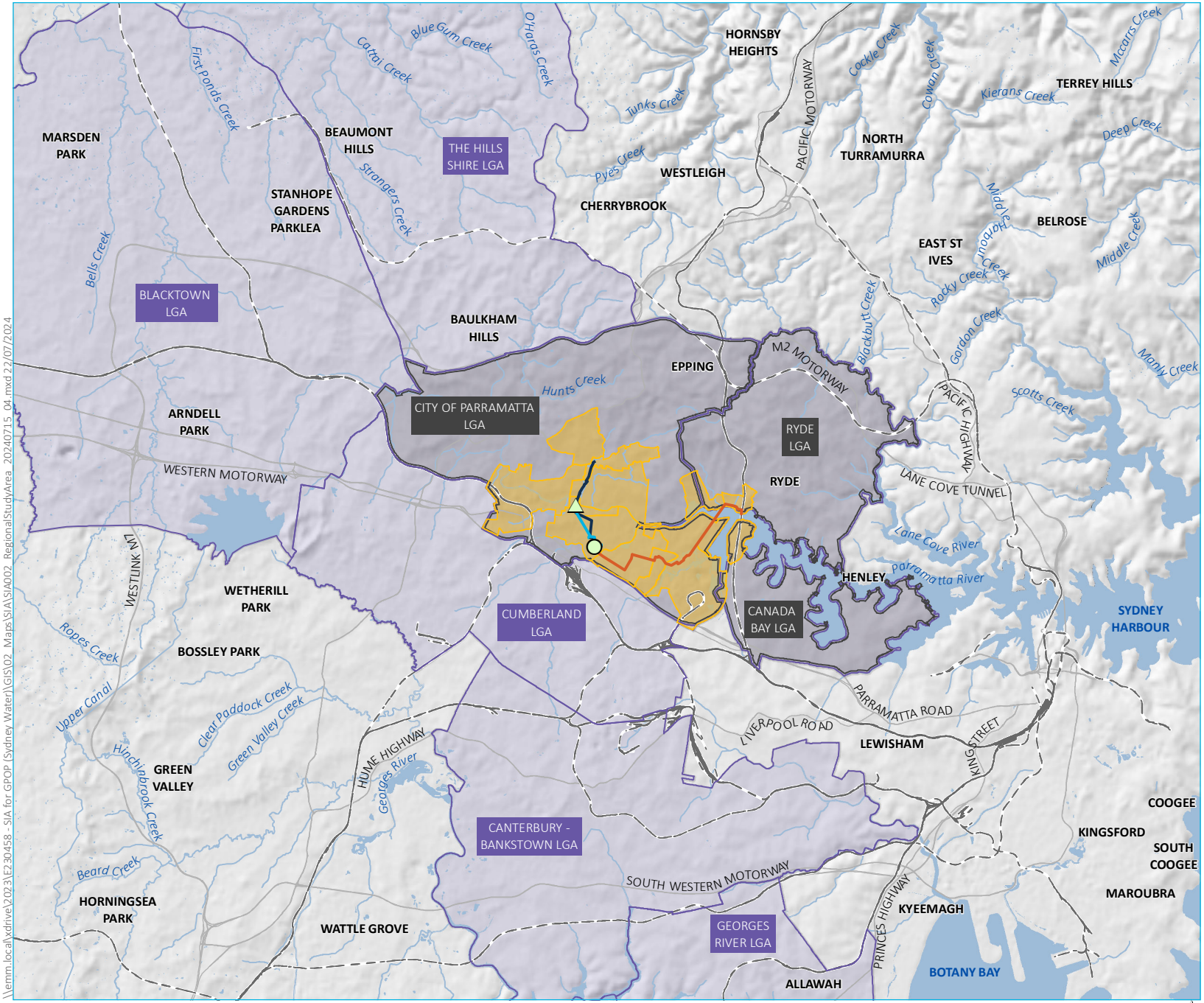
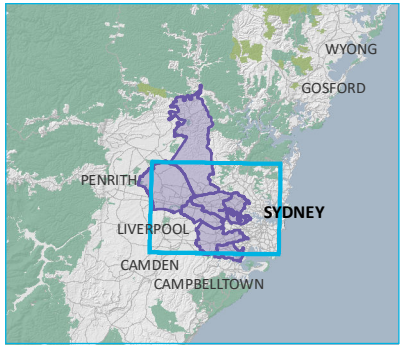
Source: EMM (2024); ABS (2021); DCSSS (2023); GA (2009)

Social locality – local area

GPOP (Sydney Water)
Social Impact Assessment
Figure 3.1

EMM
creating opportunities





KEY

- Local area
- Sub-regional area
- Regional area
- SP0067
- WRRF

Preferred alignments

- Indicative river release pipeline
- Indicative brine pipeine
- Indicative tranfer main

Existing environment

- Rail line
- Major road
- Named watercourse
- Named waterbody

INSET KEY

- Major road
- NPWS reserve
- State forest

Source: EMM (2024); ABS (2021); DCSSS (2024); GA (2009)

0 5 10 km

GDA2020 MGA Zone 56

N

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Project social locality – sub-regional and regional areas, and area of reference

GPOP (Sydney Water)
Social Impact Assessment
Figure 3.2

EMM
creating opportunities

4 Initial social baseline analysis

This section presents the initial social baseline analysis of the project's social locality. As outlined in Section 3, the project's social locality comprises the suburbs of Rosehill, Camellia, Rydalmere, Dundas, Silverwater, Newington, Sydney Olympic Park, Wentworth Point, Melrose Park, Oatlands, Parramatta, Meadowbank and Rhodes (local area), the Parramatta LGA, Ryde LGA and Canada Bay LGA (sub-regional area) and identifies the regional area as the Central River City (Parramatta LGA, Cumberland LGA, Canterbury-Bankstown LGA, Georges River LGA, The Hills Shire LGA Blacktown LGA, Canada Bay LGA, and Ryde LGA). The Sydney Urban Centre and Locality area has also been identified as an area of reference.

Included in this section is an overview of the policy and planning and regional development context, along with community profiles of relevant geographic area and an overview of key socio-economic characteristics and trend. Relevant baseline indicators were identified with reference to the potential social change generated by project activities.

4.1 Policy and planning context

The project is being advanced within a policy and planning framework. Table 4.1 provides an overview of the social and economic policies and strategies relevant to the project and describes how the project may contribute to achievement of community goals, aspirations, or actions.

Table 4.1 Overview of policy and planning context

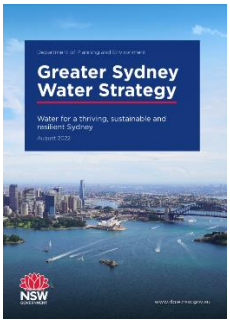
Plan, policy or strategy	Description and alignment with project
State Government	
State Infrastructure Strategy 2022-2042: Staying Ahead (Infrastructure NSW, 2022) 	This 20-year Strategy sets out Infrastructure NSW's independent advice on the current state of NSW's infrastructure and the needs and priorities over the next 20 years. The Strategy outlines the importance of diversifying the infrastructure investment pipeline, maintaining service reliability in the existing asset base, embedding resilience, harnessing digital technology and growing partnerships with the private sector.
Greater Sydney Water Strategy (DPE, 2022) 	This strategy outlines the long-term vision for ensuring the Greater Syndey region engages in sustainable water services for the next 20 years. The strategy focuses on the importance of maintaining supply that aligns with demand to support the region through growth and drought events. The region is forecast to grow rapidly over coming decades. The strategy focuses on practices to sustain long-term water supply. The strategy received feedback that the community is open to new approaches to securing Sydney's water supply. Recycled water use for non-potable purposes was overwhelmingly supported by the community, and the strategy noted "Feedback emphasised the importance of driving demand management and water efficiency options, as well as enabling training and information sharing to assist communities in responding to climate change". This demonstrates that recycled water is part of a wholistic solution to futureproofing Sydney's water supply. Water quality and waterway health and climate resilience were also overwhelmingly supported as key drivers of future water resource strategies, as were greening and cooling of urban spaces. These outcomes are interconnected and would be supported by delivery of the project.

Table 4.1 Overview of policy and planning context

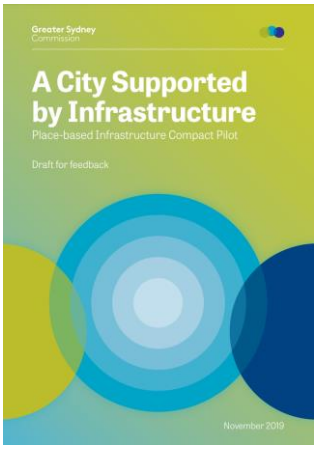
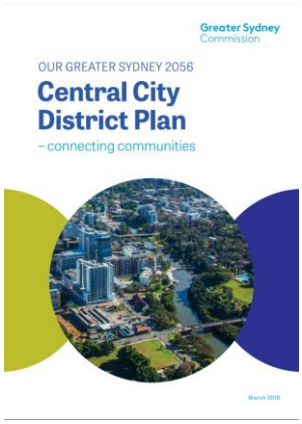
Plan, policy or strategy	Description and alignment with project
A City Supported by Infrastructure: Place-based Infrastructure Compact Pilot (Greater Sydney Commission, 2019) 	The Place-based Infrastructure Compact (PIC) is a strategic planning model that looks holistically at improved alignment of growth with the provision of infrastructure. The Greater Parramatta and Olympic Park area in particular, is being transformed with unprecedented levels of public and private investment. The PIC identified four realistic scenarios over 10, 20 and 40 years based on expected jobs and housing growth, and infrastructure and services to support such growth. The PIC considered that a 'good' scenario for the GPOP area would include a place with greater positive environmental outcomes, resource efficiency and resilience, alongside liveability and productivity outcomes. After comparing the costs and the benefits, the 'Transformative' scenario was chosen to develop a draft sequencing plan and proposed infrastructure priorities for GPOP, to help shape the area as it grows, starting with the next 10 years. Transformative elements required to support delivery of this plan include land use changes around new metro stations and a new light rail line through Ermington and Melrose Park across the Parramatta River to Wentworth Point, Sydney Olympic Park and Carter Street. The plan proposes to enhance the benefits of improved liveability and sustainability, and to stimulate greater productivity benefits as more people and businesses choose to move to the area. The PIC recognises that ambitious growth targets can only be achieved if supported by infrastructure investment. More than 20 NSW Government partners, including Sydney Water, collaborated on the PIC to assess the infrastructure needs and costs for GPOP. The PIC identified scenarios and recommended sequencing for the delivery of infrastructure to support growth. The 'Transformative' scenario includes investment in a new resource recovery facility to manage waste and enable recycled water to be available for Parramatta CBD and Sydney Olympic Park.
Central City District Plan (Greater Sydney Commission, 2018) 	This district plan identifies GPOP as falling within the Central City (also identified in the Metropolis of Three Cities as the Central River City) a precinct in the middle of Sydney, closely linked to transport attributes and the Parramatta River. The area is slated for significant future change and is characterised by a mix of land use and development types. The vision for the Central City District is for residents to have quicker and easier access to a wider range of jobs, housing types and activities. The vision seeks to improve the District's lifestyle and environmental assets. Key strategies for enhancing this area over the next 20 years which are relevant to the project include: • developing the economy with jobs and skills growth from unprecedented city-scale infrastructure investments • retaining industrial and urban services land and creating new skills with a 21st century clean-tech and advanced manufacturing cluster around precincts such as Camellia, Rydalmere, Silverwater and Auburn • enhancing the quality of, and access to, waterways such as Parramatta River, Duck River and South Creek. The project plays a significant role in achieving these objectives and is expected to improve water quality by removing pressure on the NSOOS and preventing future overflows into local waterways downstream. The project will implement design and environmental management measures to secure these outcomes.

Table 4.1 Overview of policy and planning context

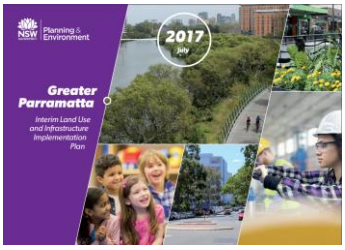
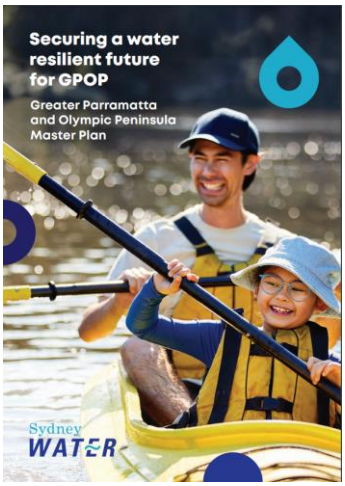
Plan, policy or strategy	Description and alignment with project
Greater Parramatta - Interim land use and infrastructure implementation plan (DPE, 2017) 	The interim land use and infrastructure implementation plan defines Greater Parramatta and the Olympic Peninsula as a 6,000-ha area in Greater Sydney, spanning 13 km east-west from Strathfield to Westmead, and 7 km north-south from Carlingford to Lidcombe and Granville. The project falls within the proposed Next Generation living precinct from Camellia to Carlingford, and the Essential Urban Services, Advanced Technology and Knowledge Sectors in Camellia, Rydalmere, Silverwater and Auburn. GPOP is anticipated to produce a 60–70% increase in jobs and an 86% increase in housing. The Department is committed to preparing a new strategic plan to guide development, working closely with other agencies to coordinate infrastructure and growth. However, a new approach to planning was introduced in 2020, and an amended strategy is currently being prepared. The project will facilitate delivery of development outlined in the current GPOP plan, and future plans will be delivered collaboratively with the Department. .
Camellia-Rosehill Place Strategy, (DPE, 2022) 	Department of Planning and Environment (DPE) has created a Camellia-Rosehill Place Strategy, which will guide renewal of the precinct over the next 20 years. The strategy outlines plans for: • a thriving town centre and entertainment precinct • up to 15,400 jobs • 10,000 new homes supported by infrastructure and new public open spaces • improved transport connections including light rail, road upgrades and cycling and pedestrian paths • opening up the Parramatta River foreshore and making it a centre of community activity • enabling a new urban services precinct and retention of heavy industrial land that will ensure Camellia-Rosehill advances in its role as an employment powerhouse for Sydney and NSW. The project will enhance the service capacity of the existing wastewater network, supporting delivery of increased population density.
Securing a water resilient future for GPOP - Greater Parramatta and Olympic Peninsula Master Plan (Sydney Water, 2023) 	The GPOP Master plan outlines Sydney Water's approach to servicing population growth in the GPOP. The plan aligns with the Central City district Plan to identify that as of 2041, the Central River City's population is forecast to increase by 400,000 people, with more than half of the population expected to reside in the GPOP area. The plan identifies challenges faced in servicing the region including: • climate – drought and heavy rainfall periods • infrastructure development and asset capacity – immediate need for solutions to increase capacity and service growing populations • growth and urban form – aligning service delivery with need created by growth to deliver a whole water cycle approach that services 'green' and 'blue' infrastructure • waterway health – "an important priority of the Central River City, identified in the Parramatta River Masterplan, is to make the Parramatta River swimmable." To service growth, a holistic water management approach is proposed, including "alternative water servicing pathways and a centrally located resource recovery facility that can provide recycled water and, in the future, purified recycled water. These alternative water sources are drought resilient and will help to maintain healthy waterways, which is critical to making Greater Parramatta a lifestyle destination." The project will enable delivery of this vision, and directly addresses the above challenges.

Table 4.1 Overview of policy and planning context

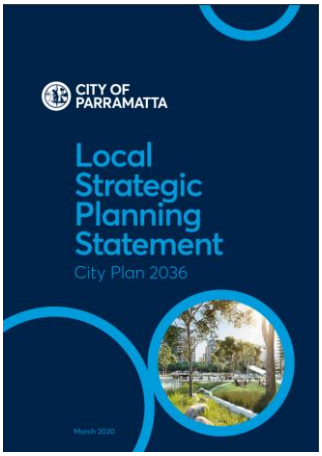
Plan, policy or strategy	Description and alignment with project
Local Government	
Community Strategic Plan (CSP) 2018-2038 (City of Parramatta, 2022) 	City of Parramatta's *Community Strategic Plan 2018-2038* (CSP) provides a community informed vision for the LGA, that forms part of their integrated planning and strategic vision. The CSP highlights the strengths, challenges, and opportunities within the LGA. Key desired outcomes identified by the community which are relevant to the project include: • working close to home with minimal commute times • enjoyment of Parramatta's green and open spaces, and the Parramatta River • an eco-efficient City, where buildings use less energy and water, as well as recycling more and wasting less • balance between maintaining existing assets and building new ones. The project provides a new work opportunity outside of the Sydney CBD for people in the construction industry. Furthermore, the CSP demonstrates how the city is eco-conscious, with specific goals around recycling.
Local Strategic Planning Statement City Plan 2036 (City of Parramatta, 2020) 	The City of Parramatta *Local Strategic Planning Statement* (LSPS) identifies the 20-year vision for land use in Parramatta LGA to meet social, economic, and environmental needs. The plan identifies three key objectives for the city, to be sustainable, liveable, and productive. Among the key priorities identified are ensuring energy water flows are captured and re-used, as well as restating the desire to create walkable, 30-minute cities. Key points raised by the community were outlined in the attached Community Engagement Report. These included: • concern regarding the proposed intense growth of the City's population • the impact of growth on the capacity of roads and public transport as well as on amenity and liveability, air quality, waterways, local character and the visual impacts of towers • that growth should occur with infrastructure delivery as well as addressing existing deficits in infrastructure across the LGA • a concern around the role of developers in the planning process, with developers having too much influence over where growth occurs and residential density.
Hill Road Master Plan (City of Parramatta, 2021) 	Wentworth Point has been experiencing significant developmental change to transform the area from an industrial suburb to a high density residential and business hub. The objective of the plan is to transform Hill Road into an inclusive place and achieve a rebalancing of streetscape functions, by supporting its primary roles: 1. as an important corridor for a variety of transport modes 2. as a place that supports and nurtures local street life that is people-friendly for all residents, workers and visitors who use Hill Road. The master plan focuses on making Hill Road more environmentally sustainable, contributing to a liveable and resilient precinct. While the project is likely to enhance deliverability of these outcomes by supporting capacity of services to manage future population growth, it is noted that implications for cumulative development context may include both positive and negative social outcomes, such as traffic congestion and amenity impacts, while the area experiences transition between its current and future functions.

Table 4.1 Overview of policy and planning context

Plan, policy or strategy	Description and alignment with project
Our Vision for Ryde 2028 Community Strategic Plan (CSP) (City of Ryde, 2018) 	The Community Strategic Plan sets strategic directions for the City of Ryde, including: • providing opportunities and choice for recreation and active learning and living • strengthening community life, connectedness and wellbeing • reducing our environmental footprint and protecting our natural and built environments • reducing our impact on our natural systems and strengthening the health of our natural corridors • managing infrastructure to reduce risk and impacts These objectives indicate support for enhancing infrastructure sustainability, but also indicate that works within the Melrose Park portion of the investigation area are likely to raise environmental and recreation concerns within Council and the community.
Meadowbank & Memorial Parks Masterplan Report (City of Ryde, 2019) 	The Masterplan sets strategic directions for planning and management of Meadowbank and Memorial parks, with the vision that the area will be a multifunctional sports hub with high quality facilities and amenities that will meet the current and future sporting needs of the Ryde residential community. The parks will serve as a community hub that advocates for wellbeing for all. A diverse range of activities and leisure opportunities and improvements in safety, wayfinding and access, will attract a broad spectrum of the Ryde Community to use the park for both active and passive recreation. At a broader scale, the parks will make substantial contributions in improving ecological functions; increased tree canopy cover; increased diversity in flora; and improved water quality and stormwater discharge. There are key interactions between project construction planning and implementation, and the City of Ryde's plans for delivery of these objectives, in addition to existing community usage of these spaces.
Our Future 2036 Community Strategic Plan (City of Canada Bay , 2022b) 	The Community Strategic Plan identifies the community's top three values as being: • the natural environment and open space • care for and access to our foreshore • community safety. Council's top priorities are identified as: • managing traffic and parking • ensuring a sustainable natural environment • nurturing a sense of community and social cohesion. Key directions from the Plan relevant to the project are: • connected community • sustainable and thriving environment • infrastructure and transport. Objectives to encourage active transport and support pedestrian safety will be important considerations in ensuring transport linkages to nearby suburbs are maintained. The project will support improved sustainability outcomes, but high community interest in care for and access to the foreshore may also generate interest in the project beyond areas of direct construction impact.

4.2 Regional development context

There are several operating, approved and proposed major projects in the local study area. Therefore, the project is likely to contribute to cumulative social impacts which may include increased numbers of heavy vehicles and worksites along the region's road networks, demand for labour and amenity changes and environmental impacts.

Appendix B outlines the known details of other proposed major projects within the local area and the likely cumulative social impact considerations. It determines that the following proximate projects are most likely to contribute to cumulative social impacts:

- Camellia:
  - Parramatta Light Rail Stage 2
  - Camellia Waste Facility
- Rosehill:
  - Grand Avenue Data Centre Expansion, Rosehill
  - 6 Grand Avenue Multi-Level Warehouse Rosehill
  - James Hardie Research & Development Facility
  - Viva Energy Clyde Western Area Remediation Project (and Modification 1)
  - Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre (and Modifications 1 and 2)
  - CSR Concrete Tile Manufacturing Plant
  - Clyde Hydrodesulphurisation Plant
  - Clyde Refinery - Hydrodesulphurisation Unit
  - Clyde Refinery - Cracking Unit Upgrade
  - Shell Mogas Improvement
  - Rosehill Industrial Estate Stage 3
  - Rosehill Industrial Estate Stage 4
  - Rosehill Industrial Estate - Stage 5
- Wentworth Point and Sydney Olympic Park:
  - Sydney Olympic Park new high school (and Mod 1)
  - Sydney Metro West - Concept and Stage 1 (major civil construction between Westmead and The Bays).

These proposed and existing projects within the region have potential to overlap with the operation of this project, thereby contributing to cumulative social impacts.

4.3 Community profiles

This section presents profiles of the communities relevant to the project. Community profiles are primarily based on qualitative data to provide a description of socio-economic characteristics and trends. The social locality is within the easternmost part of the Parramatta LGA, the southern part of the Ryde LGA, and the western part of the Canada Bay LGA (the sub-regional area), along the Parramatta River.

4.3.1 Parramatta River

The Parramatta River is tidal up to the Charles Street Weir in Parramatta and flows eastward through the centre of Sydney. The river is the main tributary of Sydney Harbour, and its total catchment area is approximately 252 square kilometres (km^2) (Roy, Williams, Jones, & Yassini, 2001). The river was an important source of food and a place for trade by the Aboriginal peoples of the Wallumettagal nations and the Wangal, Toongagal (or Tugagal), Burramattagal, and Wategora clans of the Darug people, who have occupied the surrounding lands for thousands of years (Parramatta City Council, 2010).

The river has significant social, environmental and recreational value, as well as economic value, and is considered critical blue infrastructure for central and eastern parts of Sydney (Parramatta City Council, 2023).

The project Community and Stakeholder Engagement Plan (CSEP) has identified that ParraParents (an online group with over 25 000 members), in coordination with the Parramatta River Catchment Group (PRCG), organised a community clean-up event in mid-2021 to highlight the issue of littering along Duck Creek, Duck River and the wider Parramatta River. The event was part of a plan to clean up Duck Creek with the long-term goal of making Parramatta River swimmable again by 2025. The Parramatta River Catchment Group (PRCG) is also investigating a pilot project to identify key litter sources and hot spots and Sydney Water has installed a gross pollutant trap to minimise litter flowing into Parramatta River. Sydney Water also participates in the Parramatta Waterway Health Improvement Program.

4.3.2 Central City

The Central City is a geographic area specified in the Central City District Plan (Greater Sydney Commission, 2018), which includes Parramatta LGA (City of Parramatta Council), Cumberland LGA (Cumberland City Council), Canterbury-Bankstown LGA (City of Canterbury-Bankstown Council), Georges River LGA (Georges River Council), The Hills Shire LGA (The Hills Shire Council) and Blacktown LGA (City of Blacktown Council). These LGAs are united by their mix of land uses, their location in the centre of Sydney and opportunities to create a “30 minute city” within this precinct. The renewal of Greater Parramatta and Olympic Park as an employment hub is central to the success of the region, alongside sustainability outcomes for green infrastructure, improvements to liveability and connectivity, and infrastructure improvements which facilitate planned growth. The GPOP is located within the Dharug Nation.

4.3.3 City of Parramatta

The City of Parramatta (Parramatta LGA) is located in the centre of Sydney, about 25 km from the Sydney Central Business District. The suburb of Parramatta is the point where the Parramatta River mixes salt and fresh water. The LGA spans 84 km^2 and 35 suburbs, some of which are shared with other councils, such as Melrose Park.

Parramatta has a culturally and linguistically diverse mix of residents. Retaining and sharing cultural values is highly important to the community, as demonstrated through the Community Strategic Plan (2018) and events such as Lunar New Year celebrations, Parramasala (a South-east Asian arts festival), and Parramatta Lanes.

Parramatta CBD serves as an economic hub for the region, providing employment, education and economic opportunity. The Parramatta CBD is known as Sydney’s second city,

A key landmark of the region is the Parramatta River. The Parramatta River's environmental health, role as a source of recreation for swimming and boating, indigenous and non-indigenous history, the transport options and economic opportunities the river provides, including overall enhanced amenity, are highly important to the community. The river's tributaries, including Duck River and Duck Creek also form an important part of character of nearby suburbs and have an important role in overall river health.

A key focus of the Sydney Water GPOP Masterplan (2023), which was informed by stakeholders and communities around the Parramatta River, is to make the river swimmable again by 2025. Several sites have already been opened up and new ones are being planned, including at McIlwaine Park in Rhodes, Putney Park and Bedlam Bay.

4.3.4 City of Ryde

The City of Ryde (Ryde LGA) makes up part of the projects' sub-regional area. The Ryde LGA includes the Meadowbank and Melrose Park SALs and is connected to the Canada Bay LGA via the Ryde Bridge. The Ryde and Canada Bay LGAs are also connected via rail, with the Meadowbank Bride (also known as the John Whitton Bridge and the Parramatta Railway Bridge) which connects the Meadowbank and Rhodes train stations. The Meadowbank Bridge is heritage listed and multi-purpose, including a pedestrian walkway and cycle path which were added to the bridge in 2000 (Transport NSW, 2024).

The City of Ryde is home to the developing Macquarie Park Innovation District, which is considered to be a leading hub for employment and residential amenities (City of Ryde, 2024). The growth of Ryde will be supported through existing infrastructure and services, including Macquarie University, the Ryde and Macquarie hospitals, schools, and a number of public transport options, which connect Ryde to Parramatta and the city.

Ryde growth is further proven by the 11% population growth recorded in the 5 years leading to 2021 (ABS, 2021a). Projections by the Department of Planning, Housing and Infrastructure (2023) estimate that Ryde's population will increase by 35% from 2021 to 2041 (up to 180,341 residents).

Ryde has a high proportion of residents that speak a language other than English at home (41.4%, compared to 22.4% in NSW), with the highest spoken languages being Chinese, Indo-Aryan and Korean languages, indicating cultural diversity. Ryde had a high labour force participation rate of 63.8% compared to the state (58.7%) (ABS, 2021a).

4.3.5 City of Canada Bay

Canada Bay LGA is along the southern bank of the Parramatta River. It has multiple public transport options, including Concord West and North Strathfield train stations. The Cabarita Wharf allows ferries to and from Circular Quay and Barangaroo. The LGA is bordered by the Western Motorway (M4), Parramatta Road and Homebush Bay Drive.

Canada Bay is mostly residential, with a number of open spaces which can be used for sport and recreation. Health services in the area range from Concord Hospital, dentists, and an aged care facility. These is a selection of restaurants and cafes in the area. There are also community spaces such as a library and various community halls. The area experienced growth of 1.3% in the 5 years leading to the 2021 census (ABS, 2021a), and is expected to welcome an additional 11,400 residents by 2041 (DPE, 2023). In 2021, the area had relatively higher individual and household incomes ($1,107 and $2,317 respectively) compared to NSW ($813 and $1,829 respectively).

4.3.6 Camellia, Rosehill and Silverwater

Camellia and the portion of Rosehill east of James Ruse Drive are historically industrial precincts which have formed a key employment hub for western Sydney. However, due to the area's central location and proximity to the Parramatta River, it has been identified as a focal point for future redevelopment as a high-density residential area under the Camellia-Rosehill Place Strategy (2022). As the area has been contaminated by previous land uses, environmental remediation to manage contamination and make the area suitable for redevelopment is underway.

Camellia and Rosehill are located 17 km west of the Sydney central business district. The area is bounded by the Parramatta River to the north, Clay Cliff Creek to the west, Duck River to the east, and Duck Creek and the M2 to the south. Grand Avenue (east-west) separates Camellia and Rosehill. James Ruse Drive (north-south) dissects the suburbs.

The precinct is characterised by a strong industrial history and a large variety of industrial land uses, most notably the Viva Energy fuel storage and distribution terminal (operated by Shell as a refinery until 2012) which currently comprises approximately 50% of the precinct and distributes around 50% of the state's fuel. Other industrial land uses include warehousing and freight distribution, resource recovery and manufacturing.

The other key land use within the precinct is private recreation, namely Rosehill Racecourse and (historically) the Parramatta Speedway/Granville Showground, which has now been repurposed as marshalling yards for Parramatta Light Rail and Sydney Metro West train line. The racecourse provides a natural buffer between residential areas west of James Ruse Drive and industrial land uses to the east. Sydney Water's heritage-listed Sewage Pumping Station 67 is also a local landmark.

The Camellia-Rosehill Place Strategy proposes the creation of an additional 10,000 homes across the area, as well as new open spaces and better transport connections.

The Parramatta Light Rail will connect Camellia with Westmead and Parramatta upon its expected completion in 2024, with proposed future expansion to Melrose Park, Wentworth Point and Sydney Olympic Park.

The CSEP has identified there is an active community around Duck River and associated Duck Creek, with a focus on the removal of rubbish and environmental restoration of these waterways.

Silverwater is located on the opposite side of Duck River from the project site. Silverwater has a similar industrial context to Camellia, and is bound by the Parramatta River, Duck River, the M4 Motorway and Silverwater Road. It is home to the Silverwater Correctional Complex and is bisected by Silverwater Road (north-south). The area is currently predominantly used for industrial and commercial purposes.

4.3.7 Wentworth Point, Newington, Sydney Olympic Park and Rhodes

Wentworth Point has undergone a significant transformation from an industrial suburb to a residential precinct and is slated for further change under the Hill Road Master Plan (City of Parramatta, 2021). Wentworth Point adjoins Homebush Bay, the Parramatta River, and Sydney Olympic Parklands.

There is an abundance of open space provided through the Blaxland Riverside Park, Newington Armory, and Wentworth Common with significant cycle networks and walking paths clustered around the community, along the riverside and throughout Sydney Olympic Park.

The Wentworth Point community has access to public transport options in the form of ferries, local buses, as well as the Rhodes and Sydney Olympic Park train stations. Parramatta Light Rail's planned second stage will also connect Wentworth Point to Sydney Olympic Park to the south and Melrose Park, Ermington, Rydalmere, Camellia and the Parramatta CBD to the west.

The GPOP Plan (2016) identifies that Sydney Olympic Park is a tourism hub with more than 10 million visitors each year. As part of its Olympic legacy, the area is home to world class sporting and leisure facilities and continues to host sporting events, concerts and the Sydney Royal Easter Show. The remediation of past domestic, commercial and industrial waste sites was the largest project of its kind in Australia and is one of the most significant environmental legacies of the Olympic Games. The Olympic Peninsula's parkland setting and river views have attracted aligned development. Newington was redeveloped as an athlete's village to service the Olympics, and in addition to the Newington Marketplace shopping precinct, also includes commercial buildings providing office and warehouse space.

Rhodes is to the east of Wentworth Point, Newington and Sydney Olympic Park. Wentworth Point and Rhodes are connected via the Bennelong Bridge, which crosses Homebush Bay (also known as The Flats). The bridge is multipurpose, including bus only lanes, and a shared cyclist and pedestrian path (Transport NSW, 2024). Rhodes is a mixture of residential and commercial property, with a range of services in the suburb, including restaurants, gym, retail and public parks. Rhodes has its own train station, which connected to Ryde LGA suburbs via the Meadowbank Bridge.

4.3.8 Melrose Park and Meadowbank

Melrose Park and Meadowbank are neighbouring suburbs on the banks of the Parramatta River within the Ryde LGA. The suburbs had a combined population of 7,148 residents at the 2021 census (ABS, 2021a). Meadowbank is connected to Rhodes via the Meadowbank bride, which can be crossed by train, walking or cycling. Meadowbank train station connected directly to Rhodes and offers direct trains into the city and the Northern Suburbs. Melrose Park has less public transport options, with bus routes connecting to Melrose Park and West Ryde train stations.

Meadowbank and Melrose Park have a range of recreation facilities and parks, including tennis courts, netball facilities, and other sporting fields. There are a range of education facilities within the suburbs, including the Meadowbrook TAFE campus and Melrose Park Public School.

4.3.9 Rydalmere, Oatlands and Dundas

Rydalmere is on the northern side of Parramatta, opposite Camellia.

Rydalmere has good access to public transport, though Rydalmere and Dundas railway stations. Oatlands does not have a train station but does has bus routes into Parramatta. Rydalmere has a ferry wharf on the Parramatta River, access to connecting paths including the Ponds walk and a Pedestrian Bridge over the Parramatta River, as well as access to the Putney Cycleway and various bus routes. Victoria Road (east west) connects Parramatta to the Anzac Bridge, and local shops are located on both sides of the road.

The Parramatta Employment Lands Strategy (City of Parramatta, 2020a) identifies the 104 ha Rydalmere industrial precinct as an opportunity to support "a high-tech and knowledge precinct so that businesses in this sector may benefit from being close, and having ties to the neighbouring university." This industrial precinct is located 3 km from the Parramatta CBD and fronts the Parramatta River and Victoria Road. It is characterised by industrial and business uses ranging in size and industry sector.

Council's Employment Lands Strategy (ELS) identifies Rydalmere as a Key Employment Precinct which is undergoing change with restructuring of key industries, and is of a significant scale and size to support urban renewal and increased employment densities.

Rydalmere also has a mix of housing types, including single dwellings and apartments, and excellent access to open space with 12 parks, as well as views of the Parramatta River. Various elements of built heritage are present as local landmarks, including churches and the Female Orphan School. One of the Western Sydney University campuses is located at the corner of James Ruse Drive and Victoria Road. Social infrastructure in the area includes three schools and social clubs including sporting, scouts, rotary and a branch of the Australian Labour Party. And initial review of the area shows one medical centre each in Rydalmere and Dundas.

The naming of Vineyard Creek, which runs (north-south) through Dundas and Rydalmere, harks back to the area's history as a vineyard, as does the nearby Subiaco Creek. These creeks connect to the Parramatta River and provide green corridors through the suburbs. The Ponds walk runs along Subiaco Creek and the Ponds Creek.

Alongside housing, Rydalmere and Dundas both house a mixture of commercial development types.

Dundas is where the brine pipeline, which runs from SP0067 in Camellia through Rydalmere, will connect to the Northen Suburbs Ocean Outfall Sewer. Dundas has excellent access to open space, including Sturt Park, which is home to local sporting facilities, and Dundas Park.

To the north of Rydalmere and Dundas, Oatlands is majority residential, with a number of open spaces, including nature reserves, a golf course, and the Oatlands Estate. Oatlands in bordered by James Ruse Drive and the Cumberland highway, proving connectivity. Oatlands is also in close proximity to Charles Sturt University's Parramatta campus and Western Sydney University's Parramatta North campus.

4.3.10 Parramatta

Within the Parramatta LGA, the Parramatta SAL is densely populated locality with a population of 30,211 at the 2021, which was a growth of 17.1% from 2016 (ABS, 2021a). The locality has infrastructure such as high-rise residential buildings to cater for the high population, with 85.6% of residents living in a flat or apartment at the 2021 census. The locality also had a high proportion of renters (70.2%).

This area is attractive due to its connectivity and infrastructure. With Parramatta train station, the Parramatta Ferry, and the developing Parramatta Light Rail and Sydney Metro, the locality has a range of public transport options connecting it to suburbs across Sydney urban area. There are also a number of residential developments in the Parramatta locality catering to population growth across the LGA, reflected in the high proportion of unoccupied dwellings in the locality (12.8%). There are multiple social services in the area and surrounds, including Western Sydney University, Parramatta business district, restaurants, retail, and medical facilities. There are also opens spaces and sport and recreation facilities.

4.4 Key social characteristics

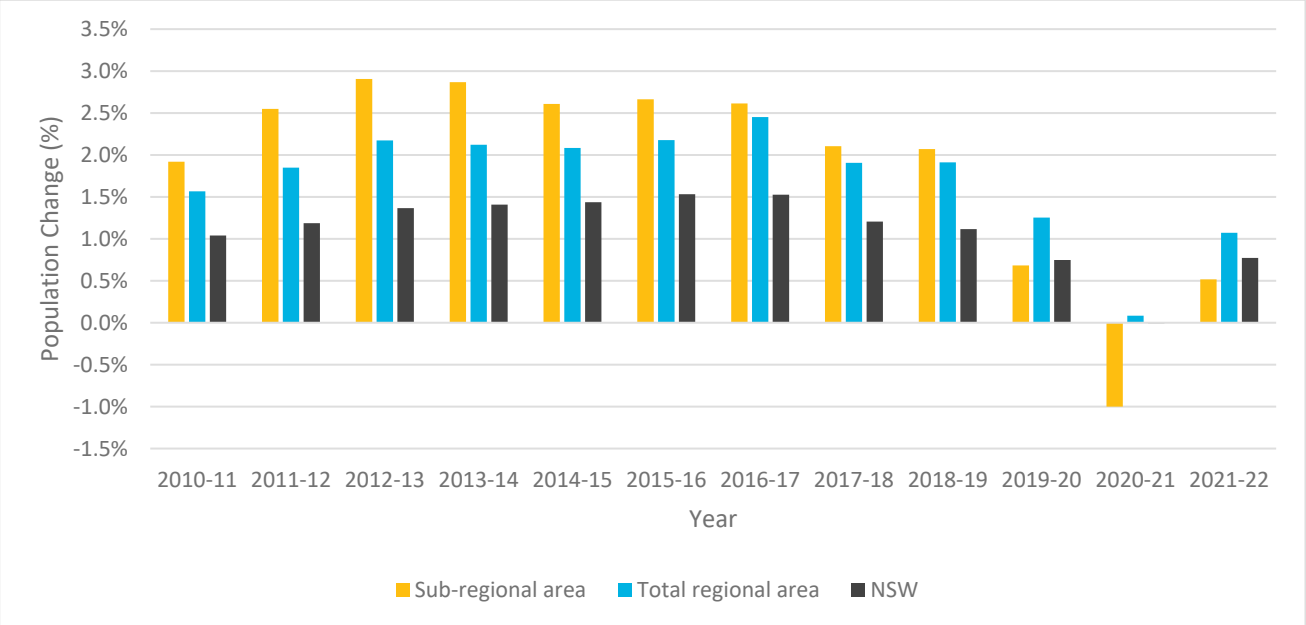
Social trends in the project's social locality have been identified and analysed across key social themes, including population, housing, labour force, business and industry, and access and connectivity. The baseline characterisation principally draws on ABS Census and NSW government data, as well as feedback generated through stakeholder engagement. Key social trends are discussed within the local area, the sub-regional and regional area and have been contextualised with reference to broader trends across Sydney. Detailed baseline data is provided in Appendix C.

4.4.1 Population

According to the 2021 ABS Census, the total population of the local area was 97,724 people (Table C.1). Sydney Olympic Park experienced the greatest population growth (179.3%) between 2016 and 2021, growing from 1,736 people to 4,848 people. This was followed by Wentworth Point, which experienced population growth of 81.6% between 2016 and 2021. Comparatively, the population of the sub-regional area grew by only 10.4% between 2016 and 2021. Conversely, Silverwater SAL experienced a population decline of 13.6% between 2016 and 2021, from 4,166 people to 3,600 people. The sub-region as a whole is undergoing extensive redevelopment, in alignment with the applicable strategic plans.

Figure 4.1 presents population trends across the Parramatta, Canada Bay and Ryde LGAs (the sub-regional area), the broader region, and NSW from 2010 to 2022. Over the 10-year period of 2012 to 2022 both the sub-regional area and the total regional area experienced greater growth compared to NSW. However, in 2020–21, no population growth was recorded for the sub-regional area. This correlates with the urban-rural shift which occurred during the COVID-19 pandemic (González-Leonardo, Rowe, & Fresolone-Caparrós, 2022). Alternatively, the broader regional experienced small growth, while NSW recorded no growth. In 2021–22, population growth in the sub-regional begun to recover, albeit at a considerably lower rate than experienced in previous years.

While COVID-19 presented a setback in growth for the sub-regional study area in 2019-2021, Sydney Olympic Park (179%) and Wentworth Point (81%) experienced significant population growth over the 5 years leading up to 2021. Silverwater (-13.6%), Rhodes (-3.8%) and Newington (-2.7%), experienced population decline. These trends indicate overall alignment with current State and Local development strategies, such as the Hill Road Master Plan and the Camellia-Rosehill Place Strategy, and with the period of transition during residential rezoning and renewal of growth suburbs.



Source: Estimated resident population, regional population 2021, ABS.

Figure 4.1 Annual population change, 2010 to 2022

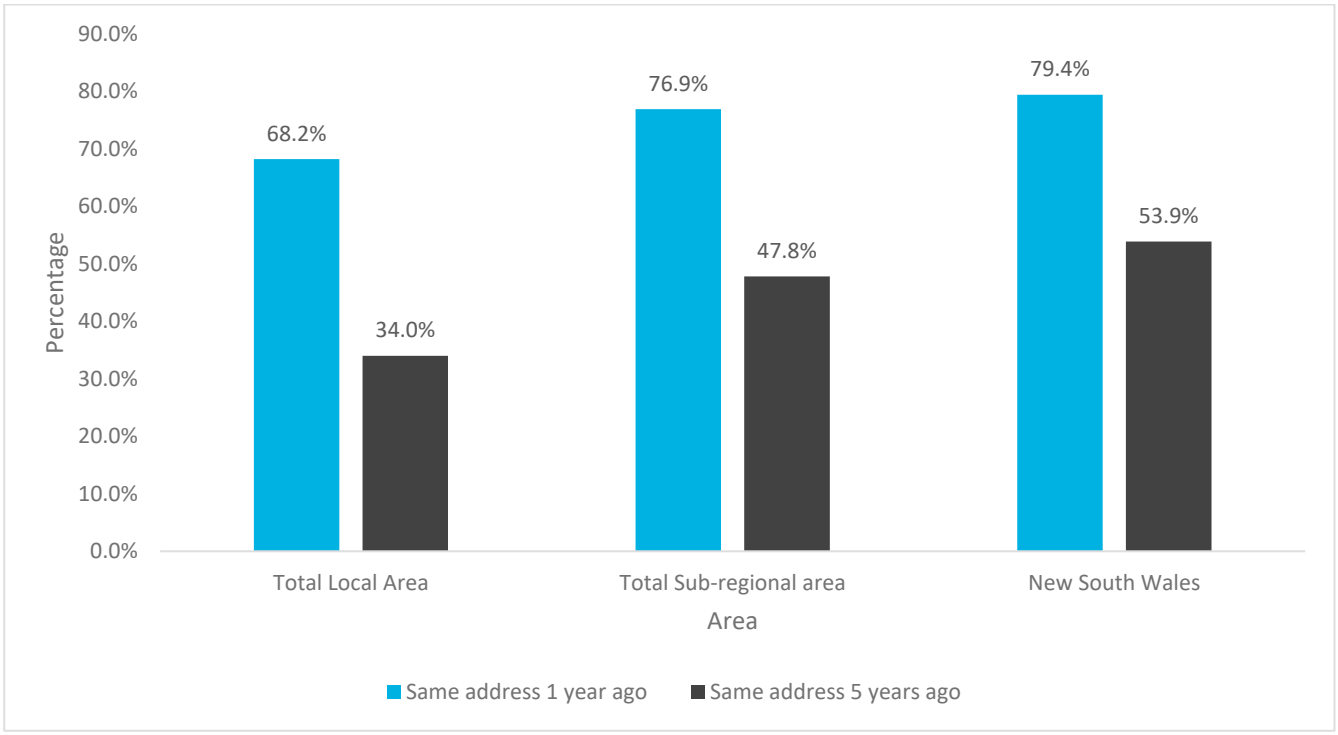
The NSW DPE provides population projections to year 2041 at the LGA level. By 2041, the population of the sub-regional area is expected to increase by 187,732 people to 597,819 residents, representing a relatively high increase of 32.2% in the 20 years from 2021 to 2041 (DPE, 2023). In comparison, the regional area is expected to grow by 22.8% from 1,718,579 people to 2,109,652 people. Out of the regional study area, Canada Bay LGA is expected to have the lowest rate of population growth at 11.8% (DPE, 2023). This, combined with local strategic directions, means there will likely be strong continued growth and high rates of population change resulting from in-migration by the time the project is delivered.

i Population mobility

Population mobility is an indicator of migration within a population. Population mobility may be measured through length of residency at the same address, one year and five years prior to data collection. A high proportion of the population residing at the same address five years ago indicates relative stability in a community.

> Residential mobility is driven by a range of factors including housing and location choice, tenure, labour market related decisions as well as household composition. Renters are three times more likely to move as owners, while a person who is unemployed has a 20% change of moving compared to an employed person (James, Rowley, Davies, Viforj, & Singh, 2021).

In the local area, there was a substantially lower proportion of people living at the same address five years ago compared to across the sub-regional area (34.0% compared to 47.8%). This indicates relatively high levels of population mobility. The local area also recorded a relatively low proportion of people living at the same address one year ago.



Source: General community profile, ABS 2021.

Figure 4.2 Population mobility, 2021

4.4.2 Health

Key health indicators are presented in Table C.2. In terms of the proportion of persons with a long-term health condition, Oatlands, Rydalmere, Melrose Park and Dundas (23.4%, 23.0%, 20.3% and 21.1%, respectively) recorded elevated rates compared to the local area as a whole (15.4%) and the sub-regional area (20.1%) but was lower than NSW as a whole (27.0%). Elevated rates in Oatlands, Rydalmere, Melrose Park and Dundas are likely due to the overall higher number of persons aged over 65 years (18.4%, 13.1%, 13% and 12.8%, respectively) compared to the local area (8.2%). The top three long-term health conditions in the local area were asthma (4.5%), mental health conditions (4.5%), and diabetes (3.4%).

In terms of public hospital admissions related to respiratory system disease, the sub-regional area did have a higher rate for respiratory system diseases, particularly for asthma but had lower levels of chronic obstructive pulmonary disease (COPD) compared to NSW. Understanding the baseline health conditions enables the project to contextualise potential concerns associated with health and amenity, such as dust.

Table 4.2 Health characteristics related to respiratory system diseases (modelled estimates)

	Sub-regional area*		NSW	
	Number	Age-Standardised Rate per 100	Number	Age-Standardised Rate per 100
Prevalence of selected chronic diseases and conditions, 2017/18				
Asthma	33,822	7.5	827,910	10.6
COPD	7,040	1.7	175,425	2.2
Admissions by principal diagnosis, Public hospitals 2020/21				
Respiratory system diseases	4,011	1062.3	86,652	1,170.4
Asthma	439	68.8	7,223	99.0
COPD	397	133.9	14,595	194.7

Source: (PHIDU, 2023)

*Calculated based on sum of Parramatta LGA, Canada Bay and Ryda LGAs

4.4.3 Housing

As outlined in Table C.3, Sydney Olympic Park recorded a relatively high proportion of unoccupied dwellings (21.6%) compared to the local area (11.9%), the sub-regional area (9.6%), and NSW (9.4%). This likely reflects the recent uplift of new residential developments within Sydney Olympic Park.

In terms of dwelling type, housing stock in Sydney Olympic Park and Wentworth Point is almost entirely flats or apartments (99.8% and 98.8%, respectively). Sydney Olympic Park and Wentworth Point also recorded a relatively high proportion of rented dwellings (67.7% and 59.3%, respectively) compared to the sub-regional area (43.1%) and NSW as a whole (34.6%). The median weekly rental cost in Sydney Olympic Park is $520 and $500 in Wentworth Point, which is higher than the sub-regional area ($460) and NSW ($420).

Newington and Rhodes recorded the highest median weekly rent in the local study area ($560 per week for both) but Oatlands had the lowest proportion of rented dwellings (25.1%). Conversely, Rosehill had the lowest median rent ($390 per week) and a high proportion of rented dwellings (67.6%). A Market Report for Newington (Your Investment Property, 2024) identified that the population of Newington grew by 9.2% between 2011 and 2016, and continues to grow, predominantly with young professional families. A likely key attraction for these families is the residential amenity of the area, with five parks covering nearly 6.2% of total area, along with cafes and shops and relatively new housing stock.

A similar assessment performed for Rosehill found it has 5 parks covering nearly 20.2% of total area and is also primarily populated by couples with children. However, Rosehill has more rental stock with a mix of single dwellings and apartments, and a mix of new and old housing stock, which likely contributes to the difference in value.

City of Parramatta's CSP identified the need for dwelling growth to match the growth of the population. It estimated that by 2036, Wentworth Point's planning forecast will total 8,980 dwellings, the most out of any precinct within Parramatta LGA (City of Parramatta, 2020).

In general, suburbs south of the Parramatta River demonstrated a higher proportion of apartments and reduced mix of dwelling types than Dundas and Rydalmere. Wentworth Point, Meadowbank, Rhodes, Parramatta and Sydney Olympic Park, in particular, showed a significantly higher proportion of flats or apartments and a high proportion of rented dwellings compared to the sub-regional area.

4.4.4 Labour force

Labour force indicators examine the regional area (which has been identified as the likely catchment area for project employment on the premise of the "30 minute city" set by the Metropolitan Plan) alongside Sydney UCL and NSW to obtain a broader understanding of labour force dynamics. The regional area had a labour force participation rate of 57.8%, which was slightly lower than Sydney UCL (60.3%) and similar to NSW (58.7%). The regional area also had a higher unemployment rate (5.9%) than Sydney UCL (5.2%) and NSW (4.9%). The number of unemployed workers, combined with labour force participation rates, may mean that there is a proportion of this unskilled workforce available to be employed by the project; however, it is acknowledged that growing and continued demand for workers in the construction sector may compromise this availability. With regards to availability of skilled workers, primary industries of occupation in the regional area include:

- health care and social assistance
- professional, scientific, and technical services
- retail trade
- education and training
- manufacturing
- transport, postal and warehousing.

Within the local area, the top three industries of employment were professional, scientific and technical services (15.7%), healthcare and social assistance (12.1%), and financial and insurance services (9.3%).

4.4.5 Access and connectivity

The City of Parramatta's CSP reported the community's desire for a stronger public transport network, supported by walking and cycling paths (City of Parramatta, 2022). Further needs identified by the community include inclusivity and accessibility of neighbourhood as well as ongoing transport infrastructure and parking improvements.

Communities in the local area do have access to a range of public transport options, in the form of ferries, local buses, and train stations. Wentworth Point and Newington's closest train station is the Sydney Olympic Park station. Silverwater's closest train station is Auburn, which is connected by bus routes and stops along and near Silverwater Road. Meadowbank and Rhodes have train stations which are connected by the heritage listed Meadowbank Bridge across the Parramatta River. Northern Line (T9) trains run from Gordon to Central then Strathfield and on to the Central Coast and Newcastle. Melrose Park is connected to Meadowbank and Parramatta by bus routes. Parramatta is a main train station within Sydney's transport system, with trains connecting directly to the city as well as the Blue Mountains.

The Camellia train station is currently closed, it will be replaced by a new station under the Parramatta Light Rail project, which is due to be operational in 2024. In the interim, Clyde and Granville stations are within an approximately 5 km drive of the area and are accessible by bus. There are 6 bus stops within a 10-minute walk of Camellia and Rosehill.

While the local area is characterised by high-quality public transport options, private vehicle transport can be restrained by local geography. For example, Wentworth Point is one way in and out through Hill Road, and as Sydney Olympic Park regularly holds large-scale events, this can affect local traffic movements at certain times.

Suburbs within the study area have access to high quality public open space including the Blaxland Riverside Park, Newington Armory, and Wentworth Common. Cycle networks and walking paths are clustered around the local communities, with bike trails along the riverside and throughout Sydney Olympic Park.

The Sydney Metro West project will also bring greater vehicle connectivity to Sydney.

4.4.6 Local business and industry

Across the sub-regional area there were approximately 57,063 recorded businesses, with the majority of businesses in the Parramatta LGA (30,050) (ABS, 2022). The construction industry had the largest number of total registered businesses, comprising 16.9% of all total registered businesses, compared to 17.3% in New South Wales.

The industries relevant to project included the construction industry which was the top industry of registered businesses in Silverwater – Newington SA2, West Ryde- Meadowbank SA2 and Ermington- Rydalmere SA2. Construction was also prevalent in the Rosehill – Harris Park SA2 and Wentworth Point – Sydney Olympic Park SA2, being the second and third top industry, respectively (ABS, 2022). This data is detailed in Appendix C.5.

Businesses with less than 20 employees can be considered 'small businesses'. In the investigation area, the majority of businesses were small businesses, with 97.7% in Wentworth Point – Sydney Olympic Park SA2, 97.8% in Rosehill – Harris Park, and 94.4% in Silverwater – Newington SA2. Small businesses often face barriers in accessing supply chains for large development projects, such as resource construction projects, due to factors such as contracting requirements and compressed timeframes that limit the opportunity for new entrants in the supply chain (Briggs, et al., 2022).

The City of Parramatta CSP also identified that the community desires working options close to home with lessened commute times which could be achieved by "new and larger companies basing their operations in Parramatta" as well as "supporting small businesses" (City of Parramatta, 2022).

The top three registered business types were rental, hiring and real estate services, transport, postal and warehousing, professional, scientific and technical services, wholesale trade and construction. This indicates a possible disconnect between people who live in the local area, and people who are employed in the area. This assessment can be enhanced through analysis of journey to work data at the detailed assessment stage, as part of the SIA.

4.4.7 Community characteristics which may affect service delivery

Understanding service availability and level of community satisfaction can assist to identify gaps in service provision, areas of higher demand, and opportunities for community investment. It also provides insight into what the key challenges, values and opportunities are within the community.

In terms of challenges and vulnerabilities for the local area the data indicates that in the local study area, except Oatlands (7.2%) and Rydalmere (5.4%), there were lower proportions of people who have a need for assistance compared to the sub-regional area (4.3%).

The local study area (11.1%) had a lower proportion of households earning less than $650 per week, compared to the sub-regional area (12.5%) and NSW (15.3%). This indicates a lower degree of economic vulnerability in these communities. However, Rydalmere recorded 16% of the population earning less than $650 per week. This may be linked to a higher proportion of elderly people and people requiring assistance within this area. Combined, data indicates people living in Rydalmere may experience a higher level of vulnerability than other suburbs in the local area.

Rydalmere is likely to experience a higher chance of vulnerability than other suburbs, due to the percentage of elderly residents, lower income (% of people earning under $650 per week), prevalence of long-term health concerns and need for assistance.

Silverwater, Newington, Wentworth Point, Meadowbank, and Rhodes recorded extremely low to no social housing compared to the sub-regional area (8.5%), alongside high rates of development. This could indicate a housing affordability challenge, and corresponds with City of Parramatta's CSP, which identified a need for "a more diverse range of affordable housing options, so that families of all income levels are catered for" and that "strengthened social services and programs [are required to] support the homeless and disengaged youth in the community" (City of Parramatta, 2022).

Other key challenges identified include:

- managing the growth of the area, particularly in relation to improved infrastructure demand
- better transport connections between neighbourhoods and the CBD
- valuing cultural heritage.

A challenge for the project will be addressing factors which inhibit dissemination of information within the community. Many households in the local and sub-regional area do not speak English at home, as outlined in Appendix C.6.

A further challenge for community engagement is the relatively high level of population mobility which may indicate communities are not well connected and cohesive meaning that project information is less likely to spread organically through communication between local residents. This can be addressed within project and SIA communication and engagement methodologies.

More detailed assessment is required at the EIS stage to specifically identify key service providers in the health, social support and child care spaces within the local area, and targeted engagement may assist in determining their capacity.

4.4.8 Community values

The City of Parramatta CSP was developed in 2018 and amended in 2022, and involved consultation with 9,000 residents, workers and visitors to the city. Feedback provides an insight into what is valued by the community including the following:

- "Growth to be managed with the economy and other infrastructure improved to keep up with demand. You want Parramatta's rich heritage to be the cornerstone of future development."
- "To get where you need to go easily and efficiently, with a strong public transport network supported by walking and cycling paths."
- "A city that promotes inclusivity, accessibility and is designed to meet the needs of people with varying abilities."
- "To be able to work close to home, and not spend lots of time commuting across Sydney. You want to see new and larger companies basing their operations in Parramatta, and support for small business."
- "To build on Parramatta's unique cultural identity, celebrating our rich history, sense of community and diversity. You believe that diversity – of cultures, ages, and income levels – is our City's greatest strength, and fundamental to our identity."

- “Strengthened social services and programs to support the homeless and disengaged youth in the community.”

- “To continue to enjoy Parramatta’s green and open spaces, and the Parramatta River. You also want to see action on our changing climate, and for Parramatta to be an eco-efficient City, where our buildings use less energy and water, and we recycle more and waste less.”

In terms of volunteering rates, the sub-regional area (11.8%) had a lower rate of volunteering than the rest of NSW (13.0%); however, Oatlands (15.65%), Melrose Park (13.9%), Dundas (14.7%), a more established suburb and Newington (13.2%), a more affluent suburb, had higher rates.

5 Preliminary identification and evaluation of social impacts

This section presents the preliminary identification and evaluation of social impacts for different groups in the social locality. The preliminary evaluation determines the level at which these impacts need to be assessed during Phase 2 SIA. The initial identification and evaluation of social impacts was facilitated through completion of the SIA scoping worksheet (DPE, 2023a).

5.1 Project community and stakeholder engagement

Key stakeholder feedback received during project Scoping Report engagement is summarised in Section 5 of the project Scoping Report, including engagement with key stakeholders:

- City of Parramatta
- City of Ryde
- City of Canada Bay
- Australian Turf Club
- Sydney Olympic Park Authority (SOPA)
- NSW Environment Protection Authority (EPA)
- Parramatta River Catchment Group (PRCG)
- Department of Planning, Housing and Infrastructure (DPHI)
- TfNSW, Parramatta Light Rail Stage 1 and 2
- Landcom
- TfNSW, Sydney Metro West
- NSW Health
- NSW State Emergency Services (SES)
- NSW DCCEEW

In the Scoping Report, the principal stakeholder concern was the need for ongoing engagement as the project progresses, and the Parramatta River Catchment Groups' objective to "make the river swimmable again by 2025, … including at McIlwaine Park in Rhodes, Putney Park and Bedlam Bay." The Australian Turf Club noted the need to avoid pipeline construction impacts to sensitive locations and times, for example training hours and race days. The City of Ryde noted the importance to the Meadowbank and Memorial parks, as well as current masterplans and infrastructure servicing requirements. Council stakeholders also raised interest in future recycled water opportunities.

An initial understanding of community views has been gained through Sydney Water's customer research program – Our Water, Our Voice, which has engaged with 13,000 residential customers, 79 small to medium businesses, and 91 stakeholders since July 2022. Scoping Report Section 5.1.3 notes areas of interest of the community in the GPOP region include, but are not limited to:

- health of local waterways
- health and safety impacts to local population and workers
- preservation and protection of heritage items in vicinity of the project
- opportunities for improved water literacy
- contamination and pollution in the area.

Feedback outlined in Section 5 of the project Scoping Report has been considered in preliminary identification of potential social impacts and benefits, and potential mitigation and enhancement measures.

Sydney Water's Community and Stakeholder Engagement Plan (CSEP) will guide ongoing engagement regarding the project, ensuring:

- internal and external stakeholders are aware of the community and stakeholder engagement activities to support the project and are provided with consistent messages about the project
- community and stakeholders are provided with timely and relevant information about the project
- communication to and from stakeholders and the community is adequately documented
- community and stakeholders are provided with a responsive point of contact for any enquiries, complaints or suggestions
- disruption to impacted stakeholders and the wider community are minimised or mitigated
- Sydney Water communications procedures and protocols are followed.

EIS stage engagement for the purpose of completing the SIA will be delivered in alignment with the project CSEP approach and timelines, ensuring minimised risks of engagement fatigue and improved outcomes from social engagement methods.

5.2 Preliminary social impact identification

Preliminary social impacts are identified across the social impact categories defined in Section 2.4. The primary impact categories are identified in the worksheet provided in Appendix D. The table below includes additional categories which may be apply, to a lesser degree.

Table 5.1 Initial social impact identification

Potential social impact	Social locality/ extent	Way of life	Community	Accessibility	Culture	Health and wellbeing	Surroundings	Livelihoods	Decision-making systems
Negative impacts									
Temporary interruption of pedestrian and private vehicle access, including disruption of property access due to construction activities	• Local area	•	•	•					
Potential interruption to public transport, including rail and bus routes, due to construction activities	• Local area • Sub-regional area	•	•	•					
Temporary interruption of access to services as a result of construction activities, including as a result of service isolations or construction activities physically disrupting access (e.g. schools).	• Local area	•	•	•					
Potential impact to places of Aboriginal cultural significance, including heritage sites and environment affecting aboriginal connection to place.	• Local area • Regional area		•				•		
Potential impact to places of cultural significance for sense of identity, connection to place and heritage (including heritage sites, estuaries and travel paths, e.g. Homebush, Newington Armoury, Meadowbank Park, Memorial Park, Meadowbank Bridge, Parramatta River and Duck River), within a location which has already been heavily developed.	• Local area • Sub-regional area • Regional area • Sydney UCL	•			•	•			
Potential short term adverse effects on environments which are highly valued by the community.	• Local area • Sub-regional area • Regional area	•	•			•	•		
Potential long term adverse effects on environments which are highly valued by the community.	• Local area • Sub-regional area • Regional area	•	•	•		•	•	•	
Potential temporary impact to places of social and recreational significance (including public open space and travel paths, e.g. Homebush, Newington Armoury Parklands, Meadowbank Park, Memorial Park, and Parramatta River).	• Local area • Sub-regional area • Regional area • Recreational users • Visitors • Tourists	•		•		•	•	•	

Table 5.1 Initial social impact identification

Potential social impact	Social locality/ extent	Way of life	Community	Accessibility	Culture	Health and wellbeing	Surroundings	Livelihoods	Decision-making systems
Amenity impacts (related to visual impacts, noise, air quality (dust and odour) caused by construction of the WRRF, release point, pipelines and offtake.	• Local area	•				•	•	•	
The project facilitates future planned changes to regional land uses, which may affect the availability and characteristics of employment and business opportunities and housing.	• Vulnerable groups • Local area • Sub-regional area • Regional area	•		•					•
Concerns for environmental health as a result of risks to the broader environment associated with operational approaches and practices.	• Local area • Regional area	•		•		•	•		•
Anxiety caused by the potential for increased noise and odour close to the WRRF during operation, as well as visual presence of the WRRF.	• Local area	•				•	•	•	
Positive impacts									
Project facilitates delivery of strategic planning objectives for the GPOP area and the broader Central City, including increased housing availability and employment and business opportunity characteristics.	• Local area • Sub-regional area • Regional area	•				•	•	•	•
Project demonstrates prioritisation of beneficial economic, environmental and social outcomes in the planning process creates confidence in governance and decision-making systems.	• Local area • Regional area						•	•	•
Generation of construction employment opportunities for people in Sydney.	• Regional area							•	
Business opportunities due to procurement of goods and services during project construction.	• Regional area • Regional businesses							•	
Opportunity to provide educational benefit for local schools around water and wastewater network operation and project construction process.	• Local schools and students		•			•			
Supporting and sustaining population growth through increasing the longevity and service capacity of the wastewater network.	• Regional area • Sydney		•					•	•
Business opportunities due to procurement of goods and services during project operation.	• Regional area • Regional businesses							•	

Table 5.1 Initial social impact identification

Potential social impact	Social locality/ extent	Way of life	Community	Accessibility	Culture	Health and wellbeing	Surroundings	Livelihoods	Decision-making systems
Improved sustainability of the wastewater network, aligned with holistic water management approaches and potential beneficial circular economy outcomes from reuse of wastewater.	• Regional area			•			•		
Operational employment and training opportunities	• Regional area							•	
Reduced risk to public health and the environment following heavy rainfall events	• Parramatta River					•	•	•	

5.3 Preliminary social impact evaluation

Preliminary social impact evaluation is undertaken through application of the SIA worksheet provided as part of the SIA Guideline. The SIA scoping worksheet is a decision support tool which assists in evaluating potential social impacts in order to determine the level of assessment and effort required to address the identified impact as part of the SIA (DPE, 2023a).

As defined in the NSW SIA Guideline, the level of assessment for each social impact are as follows:

- Detailed assessment: the project may result in significant social impacts, including cumulative impacts.
- Standard assessment: the project is unlikely to result in significant social impacts, including cumulative impacts.
- Minor assessment: the project may result in minor social impacts.
- Not relevant: the project will have no social impacts, or the social impacts of the project will be so small that they do not warrant consideration.

To determine the level of assessment for each social impact, a preliminary impact significance evaluation is undertaken by determining the likelihood and magnitude of the potential impact. The significance levels of an impact are low, medium, high, and very high, with each impact significant rating applied to a level of assessment:

- Impacts assigned a significance rating of High or Very High require a detailed assessment.
- Impacts assigned a significance rating of Medium require a standard assessment.
- Impacts assigned a significance rating of Low require a minor assessment.

The significance ratings identified are based on preliminary investigation and current understanding of the potential social impacts, prior to any mitigation measures being applied. The impact significance ratings will be revised in the Phase 2 SIA that will accompany the EIS.

A summary of outcomes of the SIA scoping worksheet is provided in Table 5.2. The SIA scoping worksheet is provided as Appendix D.

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Negative impact								
Temporary interruption of pedestrian and private vehicle access, including disruption of property access due to construction activities	• Access	C	• Local community	Almost certain (A)	Moderate (3)	High (A3)	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including measures to proactively address planned and unplanned access interruptions. • Provide alternate access routes	Detailed
Potential interruption to public transport, including rail and bus routes, due to construction activities	• Access	C	• Public transport users • TfNSW	Possible (C)	Major (4)	High (C4)	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including measures to proactively address planned and unplanned access interruptions. • Collaborate with TfNSW to ensure impacts from construction activities are avoided or mitigated	Detailed
Temporary interruption of access to services as a result of construction activities, including as a result of service isolations or construction activities physically disrupting access (e.g. schools).	• Access	C	• Local community • Service providers	Likely (B)	Moderate (3)	High (B3)	• Development and effective implementation of a CSEP including measures to proactively address planned and unplanned service outages or interruptions by responding to community feedback throughout project planning, including responses to EIS stage engagement.	Detailed

[1] PC: pre-construction. C: construction. O: operations. DC: decommissioning.

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Potential impact to places of Aboriginal cultural significance, including heritage sites and environment affecting aboriginal connection to place.	• Culture	C, O	• Traditional custodians • Local Aboriginal community • Landholders	Possible (C)	Major (4)	High (C4)	• The effective implementation of measures recommended in the Aboriginal Cultural Heritage Assessment report (ACHA) to avoid or mitigate disturbance to culturally important places, sites or artefacts. • Ongoing engagement with local community and key stakeholders as the project progresses.	Detailed
Potential impact to places of cultural significance for sense of identity, connection to place and heritage (including heritage sites, estuaries and travel paths, e.g. Homebush, Newington Armoury, Meadowbank Park, Memorial Park, Meadowbank Bridge, Parramatta River and Duck River), within a location which has already been heavily developed.	• Culture	C, O	• Local communities • Sub-regional communities • Area of Reference (Sydney UCL) • Local government • State government • Tourists • Community groups	Possible (C)	Major (4)	High (C4)	• Ongoing engagement with local community and key stakeholders as the project progresses. Communication with key stakeholders will identify opportunities for collaboration on community/social space. Establish programs and engagement strategies that support collaboration across the sub-regional area to address impacts and priorities. • Support for community events within these spaces which enable interaction between community members and enable dissemination of project information to potentially affected community members.	Detailed

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Potential short term adverse effects on environments which are highly valued by the community.	• Surroundings	C, O, DC	• Local communities • Area of Reference (Sydney UCL) • Local government • State government • Recreational users • Visitors • Tourists • Community groups	Likely (B)	Major (4)	High (B4)	• To address the local and regional community's concerns and priorities, establish programs and engagement strategies that support collaboration across the project. • Ongoing engagement with local community and key stakeholders as the project progresses.	Detailed
Potential long term adverse effects on environments which are highly valued by the community.	• Surroundings	C, O, DC	• Local communities • Regional communities • Community of Sydney • Local government • State government • Recreational users • Visitors • Tourists • Community groups	Possible (C)	Major (4)	High (C4)	• To address the local and regional community's concerns and priorities, establish programs and engagement strategies that support collaboration across the project. • Ongoing engagement with local community and key stakeholders as the project progresses.	Detailed

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Potential temporary impact to places of social and recreational significance (including public open space and travel paths, e.g. Homebush, Newington Armoury Parklands, Meadowbank Park, Memorial Park, Meadowbank Bridge and Parramatta River).	• Surroundings	C,	• Local communities • Regional communities • Community of Sydney • Local government • State government • Recreational users • Tourists • Community groups	Possible (C)	Moderate (3)	Medium (C3)	• To address the local and regional community's concerns and priorities, establish programs and engagement strategies that support collaboration across the project. • Ongoing engagement with local community and key stakeholders as the project progresses.	Detailed
Amenity impacts (related to visual impacts, noise, air quality (dust and odour) caused by construction of the WRRF, release points, pipelines and offtake.	• Health and wellbeing	C	• Local communities	Almost certain (A)	Moderate (3)	High (A3)	• Ongoing engagement with the local community and key stakeholders as the project progresses. • Consideration of changes to project design and layout, where feasible, based on feedback from early engagement with local stakeholders.	Detailed
The project facilitates future planned changes to regional land uses, which may affect the availability and characteristics of employment, business opportunities and housing.	• Access	PC, C, O	• Local communities, including people from the broader region currently employed within the local area • Local government • Local businesses • Local economic and industry groups	Likely (B)	Minor (2)	Medium (B2)	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including demonstrating the alignment of project outcomes with adopted strategies for the growth and development of the Central River City and existing capacity and demand predictions.	Detailed

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Concerns for environmental health as a result of risks to the broader environment associated with operational approaches and practices.	• Surroundings	O, DC	• Local communities • Local government • Service providers	Unlikely (D)	Minor (3)	Low (D3)	• Development of project Environmental Management Plans per applicably policies, and dissemination of information about elements of these plans, should community concerns be identified through complaints and grievance processes under the project Consultation Management Plan.	Detailed
Anxiety caused by the potential for increased noise and odour close to the WRRF during operation, as well as visual presence of the WRRF.	• Health and wellbeing	O, DC	• Local communities • Local government	Possible (C)	Moderate (3)	Medium (C3)	• Development and effective implementation of the project Community and Stakeholder Engagement Plan, including complaint management measures and reporting procedures. • Specialist studies will inform design development to reduce operational impacts. Environmental management plans will also be produced.	Detailed

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Positive impact (Benefits)								
Project facilitates delivery of strategic planning objectives for the GPOP area and the broader Central City, including increased housing availability and employment and business opportunity characteristics.	• Decision-making systems	PC, O	• Residents of the Central City region	Almost certain (A)	Major (4)	Very High (A4)	• Build greater community awareness around the alignment of project outcomes with adopted strategies for the growth and development of the Central City.	Detailed
Project demonstrates prioritisation of beneficial economic, environmental and social outcomes in the planning process creates confidence in governance and decision-making systems.	• Decision-making systems	PC, C, O, DC	• Sydney Water customers	Likely (B)	Moderate (3)	High (B3)	• Collaborate with other developers of projects in the local area to ensure that any cumulative impacts associated with concurrent ongoing and planned developments are identified and effectively mitigated. • Where feasible, publication of key project documentation, as well as alignment with Sydney Water Annual Reporting deliverables.	Detailed
Generation of construction employment opportunities for people in Sydney.	• Livelihoods	C	• Regional workforce	Almost certain (A)	Moderate (3)	High (A3)	• Provide opportunities for local workers to specialise, re-skill or upskill in collaboration with local training organisations.	Detailed
Business opportunities due to procurement of goods and services during project construction.	• Livelihoods	C	• Regional businesses	Likely (B)	Major (4)	High (B4)	• Strategically target opportunities to local and indigenous businesses and service providers in supply and servicing of the project, in alignment with the Sydney Water Aboriginal Procurement Participation Plan.	Detailed

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Opportunity to provide educational benefit for local schools around water and wastewater network operation and project construction process.	• Community	PC, C	• Local students	Likely (B)	Minor (2)	Medium (B2)	• Engage with local schools to determine support and potential deliverables for education programmes, include these within the Community and Stakeholder Engagement Plan.	Detailed
Supporting and sustaining population growth through increasing the longevity and service capacity of the wastewater network.	• Livelihoods	O	• Residents of the Central City region	Likely (B)	Major (4)	High (B4)	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including demonstrating the alignment of project outcomes with adopted strategies for the growth and development of the Central River City and existing capacity and demand predictions.	Detailed
Business opportunities due to procurement of goods and services during project operation.	• Livelihoods	O	• Regional businesses	Almost certain (A)	Minor (2)	Medium (A2)	• Strategically target opportunities to local and indigenous businesses and service providers in supply and servicing of the project, in alignment with the Sydney Water Aboriginal Procurement Participation Plan.	Detailed
Improved sustainability of the wastewater network, aligned with holistic water management approaches and potential beneficial circular economy outcomes from reuse of wastewater.	• Surroundings	O	• Residents of the Central City region	Likely (B)	Major (4)	High (B4)	• Strategically identify and target opportunities to reuse wastewater processing byproducts, where feasible.	Detailed

Table 5.2 Preliminary social impact evaluation

Social impact	Primary impact category	Project phase[1]	Affected stakeholder group	Preliminary impact significance			Existing and potential mitigation measures	Phase 2 assessment level
				Likelihood	Magnitude	Significance		
Operational employment and training opportunities.	• Livelihoods	O	• Regional workforce, students and apprentices	Almost certain (A)	Moderate (3)	High (A3)	• Provide opportunities for local workers to specialise, re-skill or upskill in collaboration with local training organisations.	Detailed
Reduced risk to public health and the environment following heavy rainfall events.	• Health and Wellbeing	O	• Area of Reference (Sydney UCL)	Likely (B)	Minor (2)	Medium(B2)	• Development and effective implementation of the project Community and Stakeholder Engagement Plan, including demonstrating the net-positive effects of servicing future population growth.	Detailed

5.4 Potential enhancement and mitigation measures

Table 5.3 identifies mitigation and enhancement measures currently proposed to be employed for the project (existing). It also outlines measures that may be considered as the project progresses in response to social impacts, both positive and negative. These suggestions have been identified through a review of similar projects in the region.

Table 5.3 Potential and existing enhancement and mitigation measures

Existing mitigation and enhancement measures	Potential mitigation and enhancement measures
• Changes to project design, layout and construction approaches based on feedback from early engagement with local stakeholders. • Employment and training opportunities for local community including young people and Aboriginal people. • Preference to use local contractors and suppliers. • Ongoing engagement with local community and key stakeholders as the project progresses. • Collaborate and engage with local governments to identify strategies to reduce the potential for impacts to sites of social and cultural significance. • Explore opportunities to provide alternate access for pedestrians and private vehicles to mitigate construction impacts. • Collaborate with TfNSW to ensure impacts from construction activities on public transport and roads are avoided or mitigated. • Building greater community awareness and education around how construction projects can affect local residents, and what is done to reduce the impact of these outcomes, how the environmental impacts of water use can be minimised through holistic management systems, and safety around construction sites. • The early identification of Aboriginal culturally important places, sites or artefacts, to avoid disturbance or seeking advice to mitigate disturbance. • Development and effective implementation of a Community Engagement Plan, including: – initiatives to contribute to maintaining social cohesion in the local area, which is in a period of transition – engagement with local schools and educational institutions, such as University of Western Sydney, to determine opportunities for collaboration and alignment with education programs – demonstrating the alignment of project outcomes with adopted strategies for the growth and development of the Central River City and existing capacity and demand predictions – demonstrating the net-positive effects of servicing future population growth – identify opportunities to apply IAP2-aligned collaborative approaches with key stakeholders in project design and delivery – outline key deliverables and set community expectations for the approaches that will be applied under the project Consultation Management Plan – initiatives to increase infiltration of project information, designed to address the sub-region and local area's demographic characteristics.	• Establishment of a Community Benefits Plan including a Community Sponsorship Program for the project. • Working with the City of Parramatta to understand opportunities that support the Parramatta City Council's goals. • Provide opportunities for local workers to specialise, re-skill or upskill in collaboration with local training organisations • Capacity-building/support for local environmental restoration and protection programs, including weed control, cleanup and waste management. • Strategically target opportunities to local businesses and service providers in supply and servicing of the project. • Establish programs and engagement strategies that support collaboration across the project to address the local and regional communities' concerns around potential impacts and priorities. • Support for community events which enable interaction between community members. • Collaborate with Parramatta City Council, Parramatta Light Rail and other developers across the local area to ensure that cumulative negative impacts associated with concurrent ongoing and planned developments are identified and effectively mitigated.

6 Conclusion

This report has documented the SIA scoping process for the project as part of the Scoping Report that will inform the SEARs.

This report has provided an initial social baseline analysis including community profiles for the local and regional study area, analysis of the findings of SIAs for recent projects in the local study area and their potential for cumulative effects, and preliminary social impact identification, evaluation, and mitigation.

This SIA scoping process identified a total of 21 impacts and benefits. Of these, 11 were classified as potential negative social impacts, of which all have been identified as requiring detailed assessment due to the scale of the project and the need for community engagement for SIA purposes to be undertaken.

Key predicted impacts of the project (with a High or Very High level of predicted significance) include:

- temporary interruption of pedestrian and private vehicle access, including disruption of property access due to construction activities
- potential interruption to public transport, including rail and bus routes, due to construction activities
- temporary interruption of access to services as a result of construction activities, including as a result of service isolations or construction activities physically disrupting access (e.g. schools)
- potential impact to places of Aboriginal cultural significance, including heritage sites and environment affecting aboriginal connection to place
- potential impact to places of cultural significance for sense of identity, connection to place and heritage within a location which has already been heavily developed
- potential short term adverse effects on environments which are highly valued by the community
- potential long term adverse effects on environments which are highly valued by the community
- amenity impacts (related to visual impacts, noise, air quality (dust and odour) caused by construction of the WRRF, release points, pipelines and offtake.

The scoping process also identified 10 predicted positive impacts (benefits), which have also been assigned a detailed level of assessment.

Key predicted benefits of the project (with a High or Very High level of predicted significance) include:

- project facilitates delivery of strategic planning objectives for the GPOP area and the broader Central City, including increased housing availability and employment and business opportunity characteristics
- project demonstrates prioritisation of beneficial economic, environmental and social outcomes in the planning process creates confidence in governance and decision-making systems
- generation of construction employment opportunities for people in Sydney
- business opportunities due to procurement of goods and services during project construction
- improved sustainability of the wastewater network, aligned with holistic water management approaches and potential beneficial circular economy outcomes from reuse of wastewater
- operational employment and training opportunities

- reduced risk to public health and the environment following heavy rainfall events.

During the EIS process, the initial assessments of the social impacts and benefits will be refined in response to community feedback, technical study findings and further research. As part of the EIS, the next stage for the SIA will involve the following key activities:

- an update of the baseline social profile to ensure that any further data relevant to the impacts identified are obtained
- further identification of, and consultation with, affected communities and vulnerable groups; this engagement will:
    - be aligned with broader project engagement to minimise consultation fatigue and ensure stakeholders have an opportunity to consider project information
    - include surveys, targeted interviews and attendance at community events to ensure feedback is received from a broad range of the stakeholders and community members who may be affected positively or negatively by the project
    - be undertaken by a qualified and experienced social research practitioner
- a comprehensive assessment and evaluation of social impacts against existing baseline conditions
- refinement of enhancement and mitigation measures
- consideration of cumulative impacts in the context of projects within the region.

Potential social impacts and benefits will be assessed according to the requirements of the SIA Guideline (DPE, 2023a) utilising the risk matrix presented in the *Technical Supplement* (DPE, 2023b).

Acronyms and abbreviations

Table 6.1 Acronyms and abbreviations

Acronym/abbreviation	Meaning
ABS	Australian Bureau of Statistics
ACHMP	Aboriginal Cultural Heritage Management Plan
ASGS	Australian Statistical Georgraphy Standard
CSEP	Community and Stakeholder Engagement Plan
CSP	Community Strategic Plan
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EMM	EMM Consulting Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
FTE	full time equivalent
IAIA	International Association for Impact Assessment
IEO	Index of Education and Occupation
IER	Index of Economic Resources
IRSAD	Index of Relative Socio-Economic Advantage and Disadvantage
IRSD	Index of Relative Socio-Economic Disadvantage
LGA	Local Government Area
LSPS	Local Strategic Planning Statement
NSOOS	Northern Suburbs Ocean Outfall Sewer
NSW	New South Wales
m	metres
PIC	Place-based Infrastructure Compact
SAL	Suburb and Localities
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SIA	Social Impact Assessment
SIA Guideline 2023	Social Impact Assessment Guideline for State Significant Projects
SIA Technical Supplement 2023	Technical Supplement: Social Impact Assessment Guideline for State Significant Projects
the project	The Greater Parramatta and Olympic Peninsula Wastewater Resource Recovery Project

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Appendix A
Curriculum vitae

EMM
creating opportunities

Breannan Dent

Senior Social Planner

EMM Consulting Pty Limited

Professional Overview

Breannan is a Senior Social Planner with 8 years' experience in urban planning and community engagement.

With a track record of robust research and a comprehensive understanding of planning policy, Breannan can distil complex information into simple and approachable documents and conversations.

Breannan has managed and delivered planning proposals, new local planning controls and community engagement strategies.

Breannan taps into existing expertise and opportunities by fostering collaborative relationships through genuine interest and integrity.

Breannan's outstanding customer focus, intrapersonal skills, problem solving skills and work ethic have allowed her to support her colleagues in delivering future-focused projects with excellent design, sustainability and resilience outcomes for the community.

Qualifications and licences

Masters of Urban Management and Planning, University of Western Sydney, 2014

Bachelor of Social Science, University of Western Sydney, 2013

Major in Urban Geography, University of Western Sydney, 2013

Sub-Major in Peace and Development Studies, University of Western Sydney, 2013

Specialisation

Social Impact Assessment

Community and Stakeholder Engagement

Statutory Planning

Representative experience

Senior Social Planner

- Lead author of desktop review to identify social opportunities of a potential Development Application for workforce accommodation on the Olive Downs Coking Coal Project including circular economy, sustainability, amenity, economic and mental health and wellbeing benefits
- Birriwa Solar Farm SIA Amendment Report lead author responsible for preparation of an amendment to include workforce accommodation within the project site in response to submissions received during public exhibition of the EIS, and assisting with development of a preliminary SIMP.
- Lake Lyell Pumped Hydro Energy Storage Project (PHES) Social Impact Assessment (SIA) Scoping Report lead author, identifying key potential impacts and benefits through field work, including collaborating with the client project team to synchronize SIA engagement with project community engagement opportunities. Breannan is also the lead author for preparation of the project Environmental Impact Statement (EIS) SIA, which is ongoing.
- Oven Mountain PHES EIS SIA, collaborating with the project team to prepare analysis of water, recreation, infrastructure and liveability impacts.
- New Dungowan Dam project EIS Social Impact Assessment lead author, identifying project impacts and benefits, conducting in-depth engagement and facilitating improved project outcomes.
- Mallee Solar SIA Scoping Report lead author responsible for delivery of an SIA scoping report for the project's EIS. The project involves delivery of new renewable energy infrastructure within the South West Renewable Enery Zone near Mildura.
- Belhaven Battery Energy Storage System SIA lead author responsible for delivery of the social impact assessment for the project, which involves installation and connection of a new BESS just outside the city of Wagga Wagga.
- Epping Aquatic Center, worked with Parramatta City Council to deliver an SIA for renewal of the Epping Aquatic Centre, a recreational asset of local heritage, community and health and wellbeing significance.
- Cowal Gold Operations EIS SIA author. Tasks included collaborating with the project team to deliver enhanced and cohesive social benefits aligned with broader project objectives, data analysis, impact identification and risk assessment, and development of social impact mitigation framework and reporting
- Sutton Forest Quarry EIS combined Social Impact Assessment and Response to Submissions report lead author. Prepared a response to submissions in a context of high community sensitivity to the Project, with tasks including data analysis, impact identification and risk assessment, and development of social impact mitigation framework and reporting
- Collaborator on Hunter Valley Operations Coal Mining Continuation Project EIS Social Impact Assessment, preparing analysis around economic benefits and climate change and community cohesion impacts.

Senior Planner Penrith City Council

- Employment Zones Reform, reviewing and reconciling proposed changes to Commercial Centre and Heavy Industrial zones from the existing Penrith Local Environment Plan (LEP) 2010 controls to the proposed changes under the Standard Instrument (Local Environmental Plans) Order 2006.

Acting Senior Planner Penrith City Council

- 61–79 Henry Street, Penrith Planning Proposal to amend Penrith LEP 2010, assessment of a planning proposal which involved assessments of strategic and social context of the mixed-use development project, including access to recreation opportunities and housing demand. Led extensive negotiations with the proponent and reported the project to the Local Planning Panel and Councilor Briefings.
- Penrith DCP 2014 controls for Urban Heat, lead author. This involved preparing controls to meet local strategic objectives,

leading internal and industry engagement and reporting the project to Council for endorsement. This project and associated Penrith LEP 2010 amendments formed part of the Penrith City Council Urban Heat Planning Package, which won the 2022 PIA Award for Climate Change & Resilience.

Planner Penrith City Council

- DCP Review 2022, Stage 1, lead author reviewing and amending controls for urban heat, sustainability and industrial land, and supporting author amending and developing controls for business and commercial land, manor houses and the Erskine Park precinct. Involved reviewing strategies, studies, demographic information and community engagement responses to determine the community's needs.
- Boarding Houses and Multi Dwelling Housing DCP 2014 amendment, amendment of DR Residential Development and chapters of the DCP 2014, included research to identify key issues and concerns, addressing priority issues with boarding houses and multi-dwelling housing developments, identifying outcomes through community submissions, application assessments and management plans.
- Rodgers Street Planning Proposal to amend Penrith LEP 2010, managing the review of planning controls applying to this recreational land, seeking rezoning to support housing development and facilitating the Gateway process, Local Planning Panel referral, public exhibition, heading and traffic, flood evacuation and property history matters; managing the engagement of consultants and demonstrating transparency and superior stakeholder management.
- Four Sites in Penrith and St Marys Planning Proposal to amend Penrith LEP 2010, planning proposal to amend community classified land seeking a gateway determination from DPE, engagement and reporting within prescribed timeframes on planning legislation and processes.
- Penrith DCP 2014 lead author for amendment to Site Planning and Design, Vegetation Management, Notification and Advertising, Boarding Houses and Outdoor Dining and Trading controls. Involved managing a series of amendments to improve consistency with local and state policies, address contentious boarding house development matters, coordinate internal contributions, address community needs and ensure legal consistency.
- Seven sites at Reynolds Road and The Driftway, Londonderry Planning Proposal to amend Penrith LEP 2010 to support future development of the site for housing purposes, managing initial stages of the planning proposal including communication and developing proponent relations.
- Community Engagement Strategy and Community Participation Plan (CPP), lead author and project manager. outlining engagement processes for the CPP.
- Australian Arms Hotel Planning Proposal to amend Penrith LEP 2010, project managed the planning proposal from commencement to conclusion in accordance with the procedure for preparing a Local Environmental Plan.
- 176–202 Victoria St, Werrington Planning Proposal to amend Penrith LEP 2010, assessment of a planning proposal seeking reclassification and rezoning of Council owned land involving key considerations of rezoning and traffic management.
- 11–13 Chesham St, St Marys Planning Proposal to amend Penrith LEP 2010 to reclassify and re-zone the sites, managing the public exhibition, public hearing and reporting processes for the project within tight deadlines.

Community and Stakeholder Relations Officer at RPS

- Garden Island Wharf Extension Proposal, Department of Defense proposal to extend the Garden Island wharf, involving communicating elements of the proposal to the public and developing communication strategies and materials to ensure the project complied with conditions of consent (Department of Defence).
- Green Square Stormwater Drain Project, Sydney Water and City of Sydney Council community and stakeholder relations office responsible for internal communications and liaising with the community and stakeholders (City of Sydney Council and Sydney Water Corporation).
- Sydney Water Delivery Management team, assessed the community impact of new infrastructure and renewal projects, delivered communication strategies for work on multiple assets across the Sydney Water network (Sydney Water Corporation).
- Balmain Pumping Station renewal, Sydney Water delivered effective communication to the community for the high profile project, assisting to complete both project work and manage existing community issues (Sydney Water Corporation).

Graduate Community Relations Officer at RPS

- Priority Sewerage Program Sydney Water, community relations officer. Communicating the complex infrastructure project program, liaising with government officials, stakeholders and project leaders, communicating with and representing community members and producing communications materials including newsletters and web content. Breannan offered expert advice on the projects history during project planning for an investigation of customer connections into the PSP systems (Priority Sewerage Program Alliance and Sydney Water Corporation).
- Lime Kiln Bay Overflow Sydney Water, graduate consultant for the project involving collating community responses and producing reports outlining community feedback on the proposed site (Sydney Water Corporation).
- Northern Beaches Hospital Project, Roads and Maritime Services, worked to establish first contact with residents regarding contentious infrastructure plans, provided community relations services including stakeholder engagement and collating community feedback (Roads and Maritime Services).
- Lord Howe Island LEP Review, Lorde Howe Island Board, developed community surveys to capture community views on the plans and identify opportunities for project improvement which involved data management, reporting and research, events management and project launch management (Lord Howe Island Board).

Chris Mahoney

Associate Director, National Technical Leader
EMM Consulting Pty Limited

Professional Overview

Chris is one of Australia's most experienced social analysts. With over 25 years' professional experience, Chris has delivered social and economic assessments, social analysis and advice for a multitude of major projects and policy initiatives.

Chris focusses on providing practical, grounded research to find solutions to complex social problems and enable social opportunities to be realised. He is highly adept at managing the interface between governments, industry and the community to derive the best possible outcomes. He has had the opportunity to work in a diverse range of social settings, having led projects throughout Australia, the Pacific and Asia. As a qualified land use and social planner Chris has contributed to major infrastructure plans, development plans and land use planning policy. Chris also maintains operation of a family farm and is passionate about social opportunities for residents of rural and regional Australia.

Chris possesses exceptional social research skills which have been refined in the course of delivering over 150 complex social impact assessments and other forms of social analysis. He brings a technically skilled yet pragmatic approach which focuses on the realisation of optimal solutions for complex social problems. Chris fosters a highly collaborative approach to development and implementation of social risk mitigation and management and the adaptive management of social risk and opportunity.

Qualifications and licences

Master of Urban and Regional Planning (Environmental Planning), Griffith University

Bachelor of International Economic Relations, Griffith University

Member of the International Association of Impact Assessment (IAIA): Social Impact Assessment Group

Member of the Planning Institute of Australia (PIA)

Specialisation

Provision of Social Performance specialist advice

Delivery of Impact Assessments (SIA) for large projects

Provision of community engagement programs

Design and delivery of community development initiatives

Representative experience

- Warragamba Dam Project, Chris was the lead author of the Socio-economic Impact Assessment (SEIA) for this contentious project. Chris designed and delivered a stakeholder engagement program to inform the SEIA involving 9 local government authorities, more than 80 different business interests and 250 representatives of community interests. The SEIA included a rigorous assessment of social vulnerability across a study area of more than 2 million people (Water Infrastructure NSW, NSW, 2022).
- The Oven Mountain Pumped Hydro Energy Storage project is situated in the New England Renewable Energy Zone and will provide reliable energy generation and storage capability with reservoirs able to store water for up to 12 hours of energy generation. Chris provided technical oversight of the Social Impact Assessment (SIA). This was informed by an extensive community and stakeholder engagement program which included two public surveys and interviews with over 50 key stakeholders. The SIA met all requirements of the NSW Social Impact Assessment Guideline (IMPS Pty Ltd, NSW, 2021).
- North Coast Connect Faster Rail, Chris was the Social Technical Lead for the North Coast Connect Consortium which delivered the Business Case for a fast rail service between Brisbane and the Sunshine Coast. He was responsible for the delivery of the Service Needs and Social Risk Assessment, the Social chapter of the Feasibility Study and Business Case along with technical oversight across all social inputs to options assessments and design considerations (NCC Consortium, Qld).
- MacIntyre Wind Farm, the MacIntyre Wind Farm is one of the largest onshore wind farms in the world. With a total investment of AU$1.96 billion, the 1,026MW MacIntyre Wind Farm Precinct is Acciona's biggest renewable energy facility. Chris was commissioned to complete a full technical review of the Social Impact Assessment and Social Impact Management Plan (SIMP) which comprised sub-plans dedicated to Workforce Management, Local Industry and Procurement, Community Health and Wellbeing, Housing and Accommodation and Community and Stakeholder Engagement. Chris also participated in the establishment of the MacIntyre Community Consultative Committee (Accoina, Qld).
- ARTC Inland Rail project, provided specialist technical assessments and expert advice as lead advisor, review of social and economic impact assessments, community development and social management plans, overseeing the development of frameworks supporting the projects monitoring and evaluation program (ARTC, National, 2018-Current).
- Salisbury to Beaudesert Corridor Protection Study, project manager for the delivery of engineering design and consultation programs to support the gazettal of a transport and infrastructure corridor of 70 km connecting Brisbane to high population growth which stretch to the south through to Beaudesert. Delivery of the project involved development of innovative engagement mechanics such as interactive web-based tools and collateral and direct engagement methods to refine project design and enable gazettal of the corridor (Department of Transport and Main Roads, Qld, 2022).

- Hunter Valley Operations (HVO) project, Chris provided technical oversight across the SIA process as part of the EIS for continued operation and expansion of Glencore's HVO mine. The SIA included extensive engagement with a broad range of stakeholders including landholders, Aboriginal groups, nearby residents, horse studs and other agricultural enterprises. To understand the social impacts which would occur if HVO were to cease operations, research was undertaken with the existing operations workforce and local and regional businesses which provide goods and services to the project. The SIA was delivered in accordance with the NSW SIA Guideline (Glencore, NSW, 2020).
- Coal Infrastructure Masterplan, Chris was the author of the 'social effects' chapter in the coal infrastructure master plan (Department of the Coordinator General, Qld).
- Cross River Rail project – community infrastructure assessments, Chris was the lead social planner advising on the community infrastructure elements of the project precincts, preparation of detailed baseline assessments and negotiation with stakeholders (Cross River Rail Development Authority, Brisbane Qld, 2019).
- South East Queensland Priority Infrastructure Plan, preparation of policy guiding the delivery of essential infrastructure to service a region comprising 2.5 million people, involved extensive population modelling and collaborative policy development (Queensland Department of Planning, Qld).
- Valeria project, Chris provided technical oversight of the social impact assessment and associated social impact management plan along with strategic communications and engagement support to the project. Completion of a detailed assessment of housing and accommodation options including potential utilization of the Glencore occupied township of Tieri. Implementation of an engagement program which included requirements for the Progressive Rehabilitation and Closure Plan (PRCP) (Glencore, Qld, 2020).
- Moreton Bay Regional Public Transport Strategy, Chris provided expert social opinion and advice along with facilitating workshops and other stakeholder engagement activities which informed development of the Moreton Bay Regional Public Transport Strategy (Moreton Bay Regional Council, Qld).
- Winchester South project, lead author and project manager of the social impact assessment and social impact management plan for a proposed coal project involving developing comprehensive suite of management plans relating to housing and accommodation, workforce management, local industry procurement and community health and wellbeing (Whitehaven Coal, Qld, 2023).
- Meadowbrook project, lead author and project manager for delivery of the social impact assessment and social impact management plan for the underground expansion of the existing Lake Vermont coal mine. A focus of the SIA was analysis of the social opportunity cost of the project not proceeding and the subsequent closure of open cut operations. Project included a targeted program of stakeholder engagement informed the development of social commitments measures formalised through the social impact management plan (Jellinbah Resources, Qld, 2023).
- Social Infrastructure Model, development of a GIS-based social infrastructure model to determine social infrastructure gaps and the prediction of social infrastructure requirements in line with growth across the Mackay Regional Council area. Included the prediction of costs and an outline of delivery options (Mackay Regional Council, Qld).
- Townsville Port Expansion, project manager for the delivery of the social impact assessment and economic impact assessment for a major port expansion project, including the development and implementation of an extensive stakeholder engagement program (North Queensland Bulk Ports, Qld).
- Lake Macdonald Dam Upgrade Project, Lead author of the Social Impact Assessment (SIA) for this complex project which involves the draining of Lake Macdonald which is a central to the community of Cooroy in Queensland in order to undertake a full upgrade so to protect community safety downstream. Also had oversight of the community and stakeholder engagement program associated with the Impact Assessment Report (IAR) process- the first to be completed in Queensland (SEQ Water, Qld).
- Isaac Downs Coal project, author of the social impact assessment and social impact management plan in the EIS for a greenfield coal project, competed a detailed assessment of land use compatibility and potential conflict (Stanmore Coal, Qld).
- Ravenswood Gold project, update and revision of the social impact management plan to align with the requirements of the Queensland Social Impact Assessment Guideline (2018) and document the current social context and community sentiment towards the project's planned transition. A primary objective was to design a SIMP which is a useable adaptive management tool, providing the rationale and schedule of delivery for investments in community infrastructure and other initiatives which serve to ensure the ongoing sustainability of the Ravenswood township (Ravenswood Gold, Qld).
- Cape York Water Planning Project, delivery of a social values assessment which included engagement with 12 communities, and the development of a decision support tool to assist the government to properly consider community values in natural resource planning processes (Department of Resources, Qld).
- Telfer Mine, socio-economic baseline assessment of Traditional Owners of lands surrounding the mine which involved primary data collection in remote Aboriginal communities, included the preparation of a business development plan to assist in meeting ILUA obligations (Newcrest Mining, Pilbara Region WA).
- United Nations Development Program (UNDP), social expert responsible for completing social and environmental risk assessments for climate change projects nominated by the countries for Global Environment Fund funding, Egypt, Bangladesh and Kyrgyzstan (UNDP).
- Wafi Golpu project, lead social performance advisor for the approvals phase of the project, responsible for the delivery of the Socio-economic Baseline and Socio-economic Impact Assessment in accordance with national and international standards, development of social management plans relating to community development, in-migration management and re-settlement (Newcrest/Harmony Gold, Papua New Guinea).

- Frieda River project, social technical lead for the approvals phase for a large proposed open cut mine, delivery of the social impact assessment and social studies including resettlement, alluvial mining and in-migration management (PanAust, Papua New Guinea).
- PNG LNG Expansion project (P'nyang Project), development of a major gas field and pipeline including oversight across all social aspects of the project approvals process including socio-economic baseline, socio-economic impact assessment, stakeholder engagement program, health impact assessment and cultural heritage assessment (Exxon Mobil, Papua New Guinea).
- Waisoi Copper Project, technical oversight across all social elements of the environmental and social impact assessment, expansive fieldwork in 23 villages was undertaken to inform the ESIA and included implementation of stakeholder engagement programs involving studies on macro-economic effects, cultural heritage, traffic and land use (Newcrest, Fiji).

Appendix B
Proximal project review

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B.1 Proximal projects with the potential for cumulative impacts

Table B.1 identifies a list of proximal projects for Camellia, Rosehill, Silverwater, Sydney Olympic Park, Wentworth Point, Meadowbank and Parramatta, which have been identified as potentially sharing cumulative impacts. Outside of this part of the local area, the risks of cumulative impacts are lower, either due to a lack of recent projects on the Planning Portal (Newington, Dundas, Rhodes, Melrose Park) or because the projects identified are of a different type, a smaller scale and/or are away from likely project impact areas (Rydalmere, Oatlands, Parramatta).

Table B.1 Major projects in Camellia, Rosehill, Silverwater, Sydney Olympic Park, Wentworth Point, Meadowbank and Parramatta

Reference	Project	Location	Status	Known workforce requirements		Impacts
				Construction	Operation	
Camellia						
SSI-10035	Parramatta Light Rail Stage 2 Also applies to: Wentworth Point, Rydalmere and Sydney Olympic Park	City Of Parramatta Council And Ryde City Council	Assessment	5-year timeframe (start Q3 2025) 750 to 1,000 FTE workers	-	• Changes to access arrangements and connectivity. • Changes to residential and community amenity as a result of noise, vibration, dust, traffic and visual changes. • Impacts on community infrastructure, including recreation and open space facilities. • Employment generation and training opportunities. Operation: • improved public transport facilities, with benefits to access and connectivity • changes to residential and community amenity • impacts on community infrastructure, including recreation facilities/open space, as a result of the project's permanent land requirements • economic and employment benefits.
SSD-4964	Camellia Waste Facility	37 Grand Avenue, Camelia	Determination	9-month timeframe Peak 40 workers		• Changes to residential and community amenity as a result of noise, vibration, dust, traffic and visual changes. • Increased resource recovery capabilities in the Sydney region. • Reduction of waste to landfill sites. • Economic and employment benefits.

Table B.1 Major projects in Camellia, Rosehill, Silverwater, Sydney Olympic Park, Wentworth Point, Meadowbank and Parramatta

Reference	Project	Location	Status	Known workforce requirements		Impacts
				Construction	Operation	
Rosehill						
SSD-53338465	Grand Avenue Data Centre Expansion, Rosehill	8 Grand Avenue, Rosehill	Response to submissions	18-month timeframe 250 FTE workers	36 FTE workers	• Potential temporary impacts to amenity for nearby businesses/industries caused by impacts to air quality, noise and vibration, traffic, and visual amenity during construction. • Potential positive impact to the wider economy with the provision of data storage services supporting the digital network. • Potential impact to human health caused by the storage of hazardous materials on site (e.g. lithium-ion batteries).
SSD-55522478	6 Grand Avenue Multi-Level Warehouse Rosehill	6 Grand Avenue, Rosehill	Response to submissions	18-month timeframe 247 FTE workers	458 FTE workers	• Changes to residential and community amenity as a result of noise, vibration, dust, traffic and visual changes. • Changes to access arrangements and connectivity. • Economic and employment benefits.
SSD-32555788	James Hardie Research & Development Facility	10 Colquhoun Street, Rosehill	Prepare EIS	36-month timeframe 300 direct and indirect jobs	30 FTE workers	• The delivery of a key piece of research infrastructure within the Camellia Peninsula. • The creation of job opportunities.
SSD-9302	Viva Energy Clyde Western Area Remediation Project	9 Devon Street, Rosehill	Operational	2-year timeframe Peak 80 FTE workers	-	-
Mod-1	Modification 1 Amendment to Final Landform Plan	9 Devon Street, Rosehill	-	-	-	-
SSD-10459	Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre	9 Devon Street, Rosehill	Operational	Peak 85 FTE workers	-	-

Table B.1 Major projects in Camellia, Rosehill, Silverwater, Sydney Olympic Park, Wentworth Point, Meadowbank and Parramatta

Reference	Project	Location	Status	Known workforce requirements		Impacts
				Construction	Operation	
Mod-1	MOD 1 - CSIE Lot Drainage	9 Devon Street, Rosehill	-	-	-	-
Mod-2	CSIE Modification 2 - Lot drainage and subdivision	9 Devon Street, Rosehill	-	-	-	-
DA102-04-00	CSR Concrete Tile Manufacturing Plant	10 Grand Avenue, Rosehill	Operational	-	-	-
DA249-09-01	Clyde Hydrodesulphurisation Plant	9 Devon Street, Rosehill	Operational	-	-	-
MP07_0067	Clyde Refinery - Hydrodesulphurisation Unit	Gate 5 Durham Street, Rosehill	Operational	-	-	-
MP06_0013	Clyde Refinery - Cracking Unit Upgrade	Durham Street, Rosehill	Operational	-	-	-
DA140-6-2004-I	Shell Mogas Improvement	Rosehill	Operational	-	-	-
DA491-11-2003-I	Rosehill Industrial Estate Stage 3	Rosehill	Operational	-	-	-
DA40-2-2004-I	Rosehill Industrial Estate Stage 4	Rosehill	Operational	-	-	-
DA138-6-2004-I	Rosehill Industrial Estate - Stage 5	Rosehill	Operational	-	-	-

Table B.1 Major projects in Camellia, Rosehill, Silverwater, Sydney Olympic Park, Wentworth Point, Meadowbank and Parramatta

Reference	Project	Location	Status	Known workforce requirements		Impacts
				Construction	Operation	
Silverwater						
SSD-10354	Cricket NSW Centre of Excellence	City of Parramatta	Approved	89 FTE jobs in the construction industry 143 FTE jobs in related (supplier) Industries	190 to 210	• Loss of open space. • Perceptions associated with the relocation from the Sydney CBD. • Design and operation of the site to consider neighbouring facilities, such as the Silverwater correctional facility. • Impacts on amenity, the potential for increased traffic congestion and potential reduction of access to recreation facilities and open space. The project also includes minor unapproved modifications for lighting.
Wentworth Point						
SSD-11802230	Sydney Olympic Park new high school	City of Parramatta	Approved	735	80	• New school for up to 850 students. • Low positive impact on the local community, increasing access to secondary education in an area of identified need. • Reducing the need for some students and parents to commute longer distances to access education.
SSD-11802230-Mod-1	Sydney Olympic Park new high school – Mod 1	City of Parramatta	Approved	-	-	Modification approved 30 January 2024. Construction of the development is currently underway, and it is expected that the new high school will be open for Year 7 in 2025.

Table B.1 Major projects in Camellia, Rosehill, Silverwater, Sydney Olympic Park, Wentworth Point, Meadowbank and Parramatta

Reference	Project	Location	Status	Known workforce requirements		Impacts
				Construction	Operation	
Sydney Olympic Park						
SSI-10038	Sydney Metro West - Concept and Stage 1 (major civil construction between Westmead and The Bays)	Burwood, City of Canada Bay, City of Parramatta, City of Sydney, Cumberland, Inner West, Strathfield	Approved	5 to 10 years 10,000 direct, 70,000 indirect	-	• Construction impacts on amenity. • Changes to community character and sense of place, particularly in low density residential suburbs. • Transport infrastructure modifications affect access for public and pedestrian transport users, as well as increased traffic and loss of parking. • Health effects due to construction noise and vibration. • Health effects on owners affected by property acquisition. • Perceived and actual safety risks due to changes to the landscape and influx of construction workers. • Personal and property rights affected by the property acquisition process. • Concerns and aspirations associated with longer term urban renewal impacts. • Better transport connections and improved accessibility.
Meadowbank						
SSD-10349	SSD-10349-MOD-2 Multi-Trades and Digital Technology Hub at TAFE Meadowbank - Additional two levels to the approved carpark	City of Ryde - Meadowbank	Approved			• Risk to visual amenity for nearby residents. • Temporary traffic impacts (lower number of parking spaces for students and staff). • Potential noise impacting nearby residents. • Potential impacts on heritage. • Alleviation of high demand for parking on streets near the TAFE.

Table B.1 Major projects in Camellia, Rosehill, Silverwater, Sydney Olympic Park, Wentworth Point, Meadowbank and Parramatta

Reference	Project	Location	Status	Known workforce requirements		Impacts
				Construction	Operation	
Parramatta						
SSD-70099458	2-10 Valentine Avenue Build-to-rent	City of Parramatta	Prepare EIS			• Potential visual and noise impact. • Potential impacts to traffic to nearby main roads. • Benefit of more housing in the area.
SSD-8800	Parramatta Leagues Club Hotel	City of Parramatta	Assessment	200-250	100	• Benefits of visiting to Parramatta. • Temporary amenity impacts (noise and visual).

Appendix C
Detailed baseline data

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C.1 Population indicators

Table C.1 Population indicators

	Rosehill SAL	Rydalmere SAL	Dundas SAL	Silverwater SAL	Newington SAL	Sydney Olympic Park SAL	Wentworth Point SAL	Melrose Park SAL	Meadowbank SAL	Rhodes SAL	Parramatta SAL	Oatlands SAL	Total local area	Sub-regional area (Parramatta LGA + Ryde LGA + Canada Bay LGA)	NSW
Population 2021 (#)	4,047	7,274	4,959	3,600	5,648	4,848	12,703	2,059	5,089	11,453	30,211	5,833	97,724	475,029	8,072,163
Population 2016 (#)	3,806	6,642	4,740	4,166	5,802	1,736	6,994	1,574	4,408	11,906	25,798	5,660	83,232	430,466	7,480,228
Population change over 5 years to 2021 (%)	6.3%	9.5%	4.6%	-13.6%	-2.7%	179.3%	81.6%	30.8%	15.4%	-3.8%	17.1%	3.1%	17.4%	10.4%	7.9%
Population mobility *Same address 1 year ago (%)*	71.4%	80.9%	83.7%	48.3%	84.4%	48.8%	67.1%	70.5%	68.4%	59.7%	65.1%	86.7%	68.4%	76.9%	79.4%
Different address 1 year ago (%)	22.4%	14.2%	13.5%	11.4%	13.9%	44.7%	28.7%	26.2%	28.4%	36.2%	28.8%	10.1%	25.6%	18.7%	14.8%
Population mobility *Same address 5 years ago (%)*	33.4%	56.2%	56.0%	28.7%	58.4%	9.9%	18.4%	57.3%	29.4%	25.2%	25.0%	63.8%	33.1%	47.8%	53.9%
Different address 5 years ago (%)	60.0%	38.4%	40.9%	29.3%	39.8%	83.7%	77.2%	39.2%	66.9%	70.0%	68.4%	31.2%	60.3%	47.4%	39.9%

C.2 Age and socio-cultural indicators

Table C.2 Age and socio-cultural indicators

	Rosehill SAL	Rydalmere SAL	Dundas SAL	Silverwater SAL	Newington SAL	Sydney Olympic Park SAL	Wentworth Point SAL	Melrose Park SAL	Meadowbank SAL	Rhodes SAL	Parramatta SAL	Oatlands SAL	Total local area	Sub-regional area (Parramatta LGA + Ryde LGA+ Canada Bay LGA)	NSW
Identify as Aboriginal and/or Torres Strait Islander (#)	35	62	45	312	22	30	66	9	11	34	156	40	822	3,193	278,043
Identify as Aboriginal and/or Torres Strait Islander (%)	0.9%	0.9%	0.9%	8.7%	0.4%	0.6%	0.5%	0.4%	0.2%	0.3%	0.5%	0.7%	0.8%	0.7%	3.4%
Males (%)	53.3%	49.6%	49.8%	64.4%	49.4%	50.4%	48.5%	49.7%	49.2%	48.3%	51.8%	48.7%	50.7%	49.4%	49.4%
Females (%)	46.8%	50.4%	50.3%	35.6%	50.6%	49.6%	51.5%	50.2%	50.8%	51.7%	48.1%	51.4%	49.4%	50.6%	50.6%
Median age 2021 (#)	32	37	37	35	38	31	32	37	34	32	32	42	-	37	39
Median age 2016 (#)	31	37	35	33	35	31	32	40	32	29	31	40	-	36	38
Aged 14 years or younger (children) (%)	19.2%	19.1%	18.6%	13.1%	22.3%	12.7%	14.2%	19.4%	11.9%	12.2%	16.3%	18.6%	16.0%	17.2%	18.2%
Aged 15 to 24 years (youth) (%)	9.3%	12.1%	12.7%	11.1%	10.6%	9.3%	7.5%	12.6%	8.4%	10.0%	11.1%	13.6%	10.5%	11.1%	11.8%
Aged 25 to 64 years (adults) (%)	50.4%	47.9%	47.1%	56.3%	50.5%	52.0%	51.8%	48.3%	54.4%	50.9%	49.4%	45.1%	50.1%	47.7%	45.1%

Table C.2 Age and socio-cultural indicators

	Rosehill SAL	Rydalmere SAL	Dundas SAL	Silverwater SAL	Newington SAL	Sydney Olympic Park SAL	Wentworth Point SAL	Melrose Park SAL	Meadowbank SAL	Rhodes SAL	Parramatta SAL	Oatlands SAL	Total local area	Sub-regional area (Parramatta LGA + Ryde LGA+ Canada Bay LGA)	NSW
Aged 65 years or older (elderly) (%)	6.1%	13.1%	12.8%	5.8%	11.0%	3.4%	5.1%	13.0%	8.4%	6.4%	6.6%	18.4%	8.2%	14.0%	17.6%
Number of families (#)	994	1,932	1,318	598	1,625	1,387	3,712	581	1,442	3,314	7,621	1,581	26,105	129,164	2,135,964
Has a need for assistance (%)	2.9%	5.4%	3.8%	1.7%	2.5%	1.5%	1.4%	3.1%	2.3%	1.7%	2.8%	7.2%	2.9%	4.3%	5.8%
Has a long-term health condition	14.6%	23.0%	21.1%	11.1%	17.8%	12.3%	13.5%	20.3%	17.5%	11.3%	13.4%	23.4%	15.4%	20.1%	27.0%
Engaged in voluntary work (%)	7.4%	11.7%	14.7%	5.2%	13.2%	7.4%	7.7%	13.9%	9.8%	8.0%	7.8%	15.6%	9.3%	11.8%	13.0%
Median weekly household income ($)	1,763	1,871	1,962	1,875	2,465	1,975	2,035	2,182	1,993	2,183	2,092	2,292	-	-	1,829
Completed Year 12 or equivalent (%)	83.2%	75.4%	75.7%	77.5%	87.3%	90.0%	89.2%	81.6%	88.3%	91.6%	87.9%	77.3%	86.0%	80.9%	63.3%
Households earning less than $650 per week (%)	11.4%	16.0%	12.5%	11.2%	7.9%	11.2%	9.7%	11.4%	12.5%	10.6%	10.5%	13.0%	11.1%	12.5%	15.3%
Lone person households (%)	29.7%	22.7%	19.0%	23.2%	16.4%%	32.7%	31.8%	21.1%	37.0%	25.7%	26.1%	16.7%	26.5%	24.0%	25.0%
Speaks a language other than English at home (%)	59.5%	37.3%	39.3%	30.3%	43.3%	54.3%	51.8%	34.7%	49.0%	61.2%	59.9%	38.2%	51.5%	43.0%	22.4%
Top three languages spoken at home other than English	Indo-Aryan languages (48.7%) Chinese languages (12.3%) Arabic (10.3%)	Chinese languages (31.4%) Korean (16.5%) Indo-Aryan language: (8.5%)	Chinese languages (41.7%) Korean (16.6%) Indo-Aryan languages (7.2%)	Korean (32.1%) Chinese languages (14.9%) Arabic (13.6%)	Chinese languages (35.1%) Korean (26.3%) Indo-Aryan languages (8.7%)	Chinese languages (35.8%) Korean (18.4%) Indo-Aryan languages (9.8%)	Chinese languages (44.4%) Korean (15%) Indo-Aryan languages (7.4%)	Chinese languages (38.5%) Korean (18.9%) Arabic (5.3%)	Chinese languages (32.2%) Korean (16.7%) Indo-Aryan languages 15.1%)	Chinese languages (50.2%) Korean (14.4%) Indo-Aryan languages (10.6%)	Indo-Aryan languages (41.1%) Chinese languages (16.6%) Tamil (8.1%)	Chinese languages (31.5%) Arabic (20.3%) Korean (14.2%)	Chinese languages (29.9%) Indo-Aryan languages (22.8%) Korean (10.8%)	Chinese languages (34.8%) Indo-Aryan languages (17.9%) Korean (9.3%)	Chinese languages (19.5%) Indo-Aryan languages (17.6%) Arabic (11%)

C.3 Housing indicators

Table C.3 Housing indicators

	Rosehill SAL	Rydalmere SAL	Dundas SAL	Silverwater SAL	Newington SAL	Sydney Olympic Park SAL	Wentworth Point SAL	Melrose Park SAL	Meadowbank SAL	Rhodes SAL	Parramatta SAL	Oatlands SAL	Total local area	Sub-regional area (Parramatta LGA + Ryde LGA+ Canada Bay LGA)	NSW
Number of private dwellings (#)	1,796	2,703	1,729	886	2,032	2,880	6,742	808	2,787	5,657	13,470	1,973	43,463	194,243	3,199,988
Unoccupied dwellings (%)	14.8%	6.7%	5.8%	10.8%	5.5%	21.6%	13.0%	7.8%	12.4%	11.5%	12.8%	6.2%	11.9%	9.6%	9.4%
Separate house (%)	17.2%	53.1%	52.2%	30.5%	38.9%	0.0%	0.0%	64.4%	2.3%	3.2%	7.7%	61.0%	16.1%	39.1%	65.6%
Flat or apartment (%)	73.3%	13.8%	6.2%	48.0%	43.9%	99.8%	98.8%	30.6%	96.8%	95.1%	85.6%	5.5%	74.0%	47.5%	21.7%
Owned outright or with a mortgage (%)	29%	56.1%	63.3%	48.2%	66.6%	30.2%	39.3%	70.1%	39.8%	38.2%	27.5%	71.4%	40.4%	54.2%	58.0%

Table C.3 Housing indicators

	Rosehill SAL	Rydalmere SAL	Dundas SAL	Silverwater SAL	Newington SAL	Sydney Olympic Park SAL	Wentworth Point SAL	Melrose Park SAL	Meadowbank SAL	Rhodes SAL	Parramatta SAL	Oatlands SAL	Total local area	Sub-regional area (Parramatta LGA + Ryde LGA+ Canada Bay LGA)	NSW
Rented (%)	67.6%	41.9%	34.5%	48.7%	31.5%	67.7%	59.3%	25.9%	59.4%	59.2%	70.2%	25.1%	57.4%	43.1%	32.6%
Median rent ($)	390	430	428	450	560	520	500	490	430	560	440	530		460	420
Social housing (%)	3.9%	31.6%	12.8%	0.0%	0.0%	1.4%	0.3%	7.3%	0.9%	0.6%	4.6%	21.7%	4.6%	8.5%	12.8%

C.4 Labour force indicators

Table C.4 Labour force indicators

	Total local area	Canterbury-Bankstown LGA	Cumberland LGA	Parramatta LGA	Georges River LGA	The Hills LGA	Blacktown LGA	Ryde LGA	Canada Bay LGA	Total Regional Area	Sydney UCL	NSW
Participates in labour force (#)	34,364	143,939	93,846	130,510	74,332	100,595	185,750	69,053	48,280	846,305	2,310,052	3,874,012
Labour force participation rate (%)	66.0%	48.4%	49.8%	62.1%	58.1%	66.5%	60.6%	63.8%	64.3%	57.8%	60.3%	58.7%
Unemployed persons (#)	1,919	10,348	7,816	7,470	3,874	4,119	10,816	3,495	1,965	49,903	119,104	189,852
Unemployment rate (%)	5.6%	7.2%	8.3%	5.7%	5.2%	4.1%	5.8%	5.1%	4.1%	5.9%	5.2%	4.9%
Youth unemployment rate (%)	10.1%	12.7%	13.9%	10.4%	9.4%	9.0%	12.7%	10.1%	7.9%	11.4%	10.3%	9.8%
Top industries of employment												
Top	Professional, scientific and technical services (13.5%)	Health care and social assistance (13.0%)	Health care and social assistance (14.6%)	Health care and social assistance (14.2%)	Health care and social assistance (15.0%)	Health care and social assistance (13.2%)	Health care and social assistance (14.8%)	Professional, scientific, and technical services (14.1%)	Professional, scientific and technical services (13.4%)	Health care and social assistance (13.9%)	Health care and social assistance (13.2%)	Health care and social assistance (14.4%)
Second	Health care and social assistance (11.8%)	Retail trade (10.2%)	Retail trade (9.9%)	Professional, scientific and technical services (12.9%)	Professional, scientific and technical services (10.0%)	Professional, scientific and technical services (11.6%)	Retail trade (10.0%)	Health care and social assistance (13.0%)	Health care and social assistance (12.5%)	Professional, scientific and technical services (10.0%)	Professional, scientific and technical services (11.5%)	Retail trade (9.0%)
Third	Financial and insurance services (9.3%)	Education and training (8.6%)	Professional, scientific and technical services (8.0%)	Retail trade (8.5%)	Retail trade (9.8%)	Education and training (9.3%)	Transport, postal and warehousing (8.1%)	Education and training (9.0%)	Financial and insurance services (9.7%)	Retail trade (9.4%)	Retail trade (8.7%)	Professional, scientific and technical services (8.9%)

C.5 Local business and industry

Table C.5 Top industries of registered businesses

	Wentworth Point – Sydney Olympic Park SA2	Rosehill – Harris Park SA2	Silverwater – Newington SA2	West Ryde – Meadowbank SA2	Ermington – Rydalmere SA2	Rhodes SA2
Top	Rental, hiring and real estate services (365 businesses or 22.8%)	Transport, postal and warehousing (347 businesses or 26.5%)	Construction (330 businesses or 16.2%)	Construction (379 businesses or 18.6%)	Construction (630 businesses or 23.0%)	Rental, hiring and real estate services (360 businesses or 19.5%)
Second	Professional, scientific and technical services (361 businesses or 22.6%)	Construction (159 businesses or 12.1%)	Wholesale trade (258 businesses or 12.7%)	Professional, scientific and technical services (313 businesses or 15.3%)	Professional, scientific and technical services (315 businesses or 11.5%)	Professional, scientific and technical services (280 businesses or 15.2%)
Third	Construction (313 businesses or 19.5%)	Professional, scientific and technical services (151 businesses or 11.5%)	Rental, hiring and real estate services (249 businesses or 12.2%)	Rental, hiring and real estate services (242 businesses or 11.9%)	Rental, hiring and real estate services (281 businesses or 10.3%)	Construction (234 businesses or 12.6%)

C.6 Percentage of the population who speak a language other than English at home

Table C.6 Percentage of the population who speak a language other than English at home

Rosehill SAL	Rydalmere SAL	Dundas SAL	Silverwater SAL	Newington SAL	Sydney Olympic Park SAL	Wentworth Point SAL	Melrose Park SAL	Meadowbank SAL	Rhodes SAL	Parramatta SAL	Oatlands SAL	Total local area	Sub-regional area	Regional area
59.5%	37.3%	39.3%	30.3%	43.3%	54.3%	51.8%	34.7%	49.0%	61.2%	59.9%	38.2%	1.5%	45.2%	43.5%

Appendix D
SIA scoping worksheet

EMM
creating opportunities

Social Impact Assessment (SIA) Worksheet

Project name: Greater Parramatta and Olympic Peninsula Water Cycle Management

Date: 28 February 2024

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS	ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT				SIA METHODS	PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics — **extent** i.e. number of people potentially affected?	**duration** of expected impacts? (i.e. construction vs operational phase).	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity** or vulnerability of people potentially affected?	**level of concern/interest** of people potentially affected?	Level of assessment for each social impact	What methods and data sources will be used to investigate this impact? — Secondary data	Primary Data - Consultation	Primary Data - Research	What methods will be used to investigate this impact?	Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
decision-making systems	Project facilitates delivery of strategic planning objectives for the GPOP area and the broader Central City, including increased housing availability and employment and business opportunity characteristics.	Positive	Yes - other project	Parramatta Light Rail Stage 2	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2 and Changing land use affects characteristics of local employment	Yes	Yes	Unknown	Yes	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Build greater community awareness around the alignment of project outcomes with adopted strategies for the growth and development of the Central City
decision-making systems	Project demonstrates prioritisation of beneficial economic, environmental and social outcomes in the planning process creates confidence in governance and decisionmaking systems	Positive	No		Yes	Improved sustainability of the wastewater network, aligned with holistic water management approaches and potential beneficial circular economy outcomes from reuse of wastewater	No	Yes	Unknown	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Where feasible, publication of key project documentation, such as procurement, engagement and environmental management plans, as well as alignment with Sydney Water Annual Reporting deliverables. • Collaborate with other developers of projects in the local area to ensure that any cumulative impacts associated with concurrent ongoing and planned developments are identified and effectively mitigated.
access	Temporary interruption of pedestrian and private vehicle access, including disruption of property access due to construction activities.	Negative	Yes - other project	Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme, Camellia Waste Facility	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia Waste Facility, Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including measures to proactively address planned and unplanned access interruptions.
access	Potential interruption to public transport, including rail and bus routes, due to construction activities.	Negative	Yes - other project	Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme, Camellia Waste Facility	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia Waste Facility, Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including measures to proactively address planned and unplanned access interruptions. • Collaborate with transport for NSW to ensure impacts from construction activities are avoided or mitigated
access	Temporary interruption of access to services as a result of construction activities, including as a result of service isolations or construction activities physically disrupting access (eg, schools).	Negative	Yes - other project	Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme,	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme,	Yes	Yes	Unknown	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development and effective implementation of a Community and Stakeholder Engagement Plan including measures to proactively address planned and unplanned service outagesor interruptions.
livelihoods	Generation of construction employment opportunities for people in Sydney	Positive	Yes - other project	Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme, Camellia Waste Facility,	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme, Camellia Waste Facility, Operational employment and training opportunities	Yes	Yes	Yes	Yes	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Provide opportunities for local workers to specialise, re-skill or upskill in collaboration with local training organisations.
livelihoods	Business opportunities due to procurement of goods and services during project construction	Positive	Yes - other project	'Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme	Yes	Parramatta Light Rail Stage 1, 'Parramatta Light Rail Stage 2 and combined operational business opportunities due to procurement of goods and services for this project	Unknown	Yes	No	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Strategically target opportunities to local and indigenous businesses and service providers in supply and servicing of the project, in alignment with the Sydney Water Aboriginal Procurement Participation Plan. • Plan construction activities to avoid or mitigate impact on a case-by-case basis, depending on individual stakeholders within the area of impact of each protion of the project area. Options include provision of alternate access, or planning works outside of peak times.
culture	Potential impact to places of Aboriginal cultural significance, including heritage sites and environment affecting aboriginal connection to place	Negative	No		Yes	Potential impact to places of cultural significance for social and recreational purpose, sense of identity and connection to place, heritage,or transport and travel, including public open space and recreation, heritage sites, estuaries and travel paths (e.g. Homebush, Newington Armoury Parramatta River and Duck River), within a location which has already been heavily developed.	Unknown	No	Yes	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• The effective implementation of an Aboriginal Cultural Heritage Management Plan (ACHMP) to avoid or mitigate disturbance to culturally important places, sites or artefacts. • Ongoing engagement with local community and key stakeholders as the project progresses.
culture	Potential impact to places of cultural significance for sense of identity, connection to place and heritage (including heritage sites, estuaries and travel paths, e.g. Homebush, Newington Armoury, Meadowbank Park, Memorial Park, Meadowbank Bridge, Parramatta River and Duck River), within a location which has already been heavily developed.	Negative	Yes - other project	Parramatta light rail stage 2, Camellia and Rosehill Recycled Water Scheme.	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Potential impact to places of Aboriginal cultural significance, including heritage sites and environment affecting aboriginal connection to place	Unknown	Yes	Unknown	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Ongoing engagement with local community and key stakeholders as the project progresses. Communication with key stakeholders will identify opportunities for collaboration on community/social space. • Establish programs and engagement strategies that support collaboration across the region to address regional impacts and priorities. • Support for community events within these spaces which enable interaction between community members, and enable dissemination of project information to potentially affected community members.
community	Opportunity to provide educational benefit for local schools around water and wastewater network operation and project construction process	Positive	No		No	Not required	Yes	No	No	Yes	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Engage with local schools to determine support and potential deliverables for education programmes, include these within the Community and Stakeholder Engagement Plan
surroundings	Potential short term adverse effects on environments which are highly valued by the community	Negative	Yes - other project	Parramatta Light Rail Stage 2, Camellia Waste Facility	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia Waste Facility, Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre, Potential temporary impacts to places of social and recreational significance	Unknown	No	Unknown	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• To address the local and regional community's concerns and priorities, establish programs and engagement strategies that support collaboration across the project. • Ongoing engagement with local community and key stakeholders as the project progresses.
surroundings	Potential long term adverse effects on environments which are highly valued by the community.	Negative	No		Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia Waste Facility, Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre and Potential short term adverse environmental effects environemnts which are highly valued by the community	Unknown	Unknown	Unknown	No	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• To address the local and regional community's concerns and priorities, establish programs and engagement strategies that support collaboration across the project. • Ongoing engagement with local community and key stakeholders as the project progresses.
surroundings	Potential temporary impacts to places of social and recreational significance (including public open space and travel paths, e.g. Homebush, Newington Armoury Parklands, Meadowbank Park, Memorial Park, Meadowbank Bridge and Parramatta River)	Negative	No		No	Not required	Unknown	No	Unknown	Yes	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• To address the local and regional community's concerns and priorities, establish programs and engagement strategies that support collaboration across the project. • Ongoing engagement with local community and key stakeholders as the project progresses.
health and wellbeing	Amenity impacts (related to visual impacts, noise, air quality (dust and odour) caused by construction of the WRRF, release point, pipelines and offtake.	Negative	No		Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia Waste Facility, Grand Avenue Data Centre Expansion, Rosehill, James Hardie Research & Development Facility, Viva Energy Clyde Western Area Remediation Project, Central Sydney Industrial Estate and Downer Sustainable Road Resource Centre, Sydney Metro West Concept and Stage 1	Yes	No	Yes	No	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Ongoing engagement with local community and key stakeholders as the project progresses. • Consideration of changes to project design and layout, where feasible, based on feedback from early engagement with local stakeholders.
livelihoods	Supporting and sustaining population growth through increasing the longevity and service capacity of the wastewater network	Positive	No		No	Camellia and Rosehill Recycled Water Scheme, Not required	Yes	Yes	No	Yes	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including demonstrating the alignment of project outcomes with adopted strategies for the growth and development of the Central City and existing capacity and demand predictions.
access	The project facilitates future planned changes to regional land uses, which may affect the availability and characteristics of employment and business opportunities.	Negative	No		No	Not required	Yes	No	Yes	Yes	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including demonstrating the alignment of project outcomes with adopted strategies for the growth and development of the Central River City and existing capacity and demand predictions.

CATEGORIES OF SOCIAL IMPACTS	POTENTIAL IMPACTS ON PEOPLE		PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS		ELEMENTS OF IMPACTS - Based on preliminary investigation					ASSESSMENT LEVEL FOR EACH IMPACT				SIA METHODS	PROJECT REFINEMENT	MITIGATION / ENHANCEMENT MEASURES
what **social impact categories** could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. NB. Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.	Is the impact expected to be **positive or negative**	Has this impact previously been investigated (on this or other project/s)?	If "yes - this project," briefly describe the previous investigation. If "yes - other project," identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulative)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: You can also consider the various magnitudes of these characteristics					Level of assessment for each social impact	What methods and data sources will be used to investigate this impact?			What methods will be used to investigate this impact?	Has the project been refined in response to preliminary impact evaluation or stakeholder feedback?	What **mitigation / enhancement measures** are being considered?
							extent i.e. number of people potentially affected?	**duration** of expected impacts? (i.e. construction vs operational phase)	**intensity** of expected impacts i.e. scale or degree of change?	**sensitivity** or **vulnerability** of people potentially affected?	**level of concern/interest** of people potentially affected?		Secondary data	Primary Data - Consultation	Primary Data - Research			
livelihoods	Business opportunities due to procurement of goods and services during project operation	Positive	Yes - other project	Parramatta Light Rail Stage 2, Camellia and Rosehill Recycled Water Scheme, Camellia Waste Facility	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2	No	Yes	Yes	No	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Strategically target opportunities to local and indigenous businesses and service providers in supply and servicing of the project, in alignment with the Sydney Water Aboriginal Procurement Participation Plan.
surroundings	Improved sustainability of the wastewater network, aligned with holistic water management approaches and potential beneficial circular economy outcomes from reuse of wastewater	Positive	Yes - other project	Camellia and Rosehill Recycled Water Scheme,	Yes	Increasing the longevity and service capacity of the wastewater network servicing Wesstern Sydney	Unknown	Yes	Yes	No	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Strategically identify and target opportunities to reuse wastewater processing byproducts, where feasible.
livelihoods	Operational employment and training opportunities	Positive	Yes - other project	Camellia and Rosehill Recycled Water Scheme	Yes	Camellia and Rosehill Recycled Water Scheme and Construction employment and training opportunities	Yes	Yes	No	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Provide opportunities for local workers to specialise, re-skill or upskill in collaboration with local training organisations.
surroundings	Concerns for environmental health as a result of risks to the broader environment associated with operational approaches and practices.	Negative	No		Yes	Camellia Waste Facility, Central Sydney Industrial Estate and Downer Sustainale Road Resource Centre, Reduced risk to public health and the environment following heavy rainfall events	Unknown	Unknown	Unknown	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development of project Environmental Management Plans per applicably policies, and dissemination of information about elements of these plans, should community concerns be identified through ongoing complaints of concerns be identified through project engagement under the Consultation Management Plan.
health and wellbeing	Anxiety caused by the potential for increased noise and odour close to the WRRF during operation, as well as visual presence of the WRRF	Negative	Yes - other project	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia Waste Facility	Yes	Parramatta Light Rail Stage 1, Parramatta Light Rail Stage 2, Camellia Waste Facility and Amenity impacts (related to visual impacts, noise, air quality (dust and odour)) caused by construction of the WRRF, release points, pipelines and offtake.	Unknown	No	Unknown	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development and effective implementation of the project Community and Stakeholder Engagement Plan, including complaint management measures and reporting procedures. • Specialist studies will inform design development to reduce operational impacts. Environmental management plans will also be produced.
health and wellbeing	Reduced risk to public health and the environment following heavy rainfall events	Positive	No		Yes	Concerns for sustainability as a result of risks to the broader environment associated with operational approaches and practices, as well as eventual decomlssioning of the site.	Yes	Yes	Yes	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research	• Community engagement, including targeted interviews and broad engagement tools • Research - secondary sources • Review of project information, including technical studies	No	• Development and effective implementation of the project Community and Stakeholder Engagement Plan including demonstrating the net-positive effects of servicing future population growth.
INSERT NEW ROWS ABOVE THIS ROW																		

Australia

SYDNEY
Ground floor, 20 Chandos Street
St Leonards NSW 2065
T 02 9493 9500

NEWCASTLE
Level 3, 175 Scott Street
Newcastle NSW 2300
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Spring Hill QLD 4000
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Level 2, Suite 2.04
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Canberra City ACT 2601

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