

Chapter 2

Location and setting



Parramatta Light Rail Stage 2

Environmental impact statement



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2. Location and setting

The EIS assesses the potential impacts of the project on the project site and, where relevant, the broader study area. This chapter describes the project site and study area for the purpose of the EIS and provides a summary of the general environment and key features of the study area. Further information on the existing environment, as it relates to the environmental issues assessed by the EIS, is provided in the chapters in Part C of the EIS.

2.1 Regional setting

As a result of its location close to the geographic centre of Sydney's metropolitan area, Parramatta's role as a major centre has strengthened over the last decade. This has been driven by a range of government and institutional investments in health, education, urban renewal, recreation, culture, entertainment and amenity improvements (Greater Sydney Commission, 2018a). These investments, and recent strategic planning directions (including those defined by the Greater Sydney Region Plan *A Metropolis of Three Cities* (Greater Sydney Commission, 2018a) establish Parramatta's role as the core of Sydney's Central River City.

The GPOP area, within which the project is located, sits at the heart of the Central River City. The 4,000 hectare GPOP area takes in Greater Parramatta; the Westmead health and education precinct; existing and proposed urban renewal and development areas in Camellia, Rydalmere, Silverwater and Auburn; and Sydney Olympic Park. GPOP includes significant areas of new development, both proposed and underway. Proposed and planned future development has the potential to attract additional population and jobs in high density urban renewal precincts surrounding the project site.

Most of the project is located in the City of Parramatta local government area (LGA). The proposed light rail infrastructure would be located in the suburbs of Parramatta, Camellia, Rydalmere, Ermington, Melrose Park, Wentworth Point, Sydney Olympic Park and Lidcombe. The project would operate along the infrastructure proposed as part of the project in these suburbs, in addition to Parramatta Light Rail Stage 1 infrastructure in the suburbs of Parramatta, Rosehill and Camellia.

A small section (about 50 metres) of the proposed light rail alignment and associated road intersection changes are located in the City of Ryde LGA in the suburb of Melrose Park, close to the northern bank of the Parramatta River.

The regional location of the project is shown on Figure 2.1.

2.1.1 Planned urban growth precincts

Strategic planning for, and proposed future development within, the Central River City (including GPOP) is guided by *A Metropolis of Three Cities* (Greater Sydney Commission, 2018a) and the *Central City District Plan* (Greater Sydney Commission, 2018b). These plans establish a number of planned urban renewal and growth precincts, which guided those used to develop the project. The precincts (see Figure 2.1) align for the most part with the suburbs in the study area. Further information on the strategic context for the project, including strategic planning for the Central River City and GPOP, is provided in Chapter 3 (Strategic context and need).

2.2 The project site

The term 'project site' is used in the EIS to refer to the area that would be directly disturbed by construction of the project (for example, because of ground disturbance and the construction of foundations for structures). It includes the location of construction activities, and the location of permanent operational infrastructure.

The project site, which is shown on Figure 2.2 to Figure 2.7, is located in three sections between the Parramatta CBD and Lidcombe. The main section of the project site extends for about 10 kilometres between the eastern end of the Parramatta Light Rail Stage 1 alignment in Camellia and the Carter Street precinct in Lidcombe (adjacent to Sydney Olympic Park). This section of project site starts in the former freight rail (Sandown Line) corridor to the north of Grand Avenue (see Figure 2.2). The western part of this section of the project site encompasses a section of Parramatta Light Rail Stage 1 where an additional stop (the Sandown Boulevard stop) and a section of active transport link are proposed as part of the project.

The project site extends from just east of Grand Avenue North (see Figure 2.2) and continues east along the Sandown Line corridor and Grand Avenue in Camellia. It then extends north across the Parramatta River to Rydalmere (see Figure 2.3). The project site continues north along John Street and then extends to the east along South Street in Rydalmere, and crosses Silverwater Road into Ermington. The project site continues to the east through Ken Newman Park in Ermington, and to the east/north-east along Boronia Street and Hope Street (see Figure 2.4) in Ermington and Melrose Park.

The project site then extends to the south along Waratah Street in Melrose Park. It crosses the Parramatta River to Wentworth Point and extends along Hill Road to the south-west in Wentworth Point and Sydney Olympic Park (see Figure 2.5 and Figure 2.6). At the intersection with Holker Street, the project site extends to the south-east along the Holker Busway. The project site continues along Australia Avenue in Sydney Olympic Park to Dawn Fraser Avenue. The project site then extends south-west along Dawn Fraser Avenue, crossing Olympic Boulevard and Edwin Flack Avenue into Uhrig Road in Lidcombe, ending between Edwin Flack Avenue and Carter Street (see Figure 2.7).

Other sections of the project site are located as follows (see Figure 2.2):

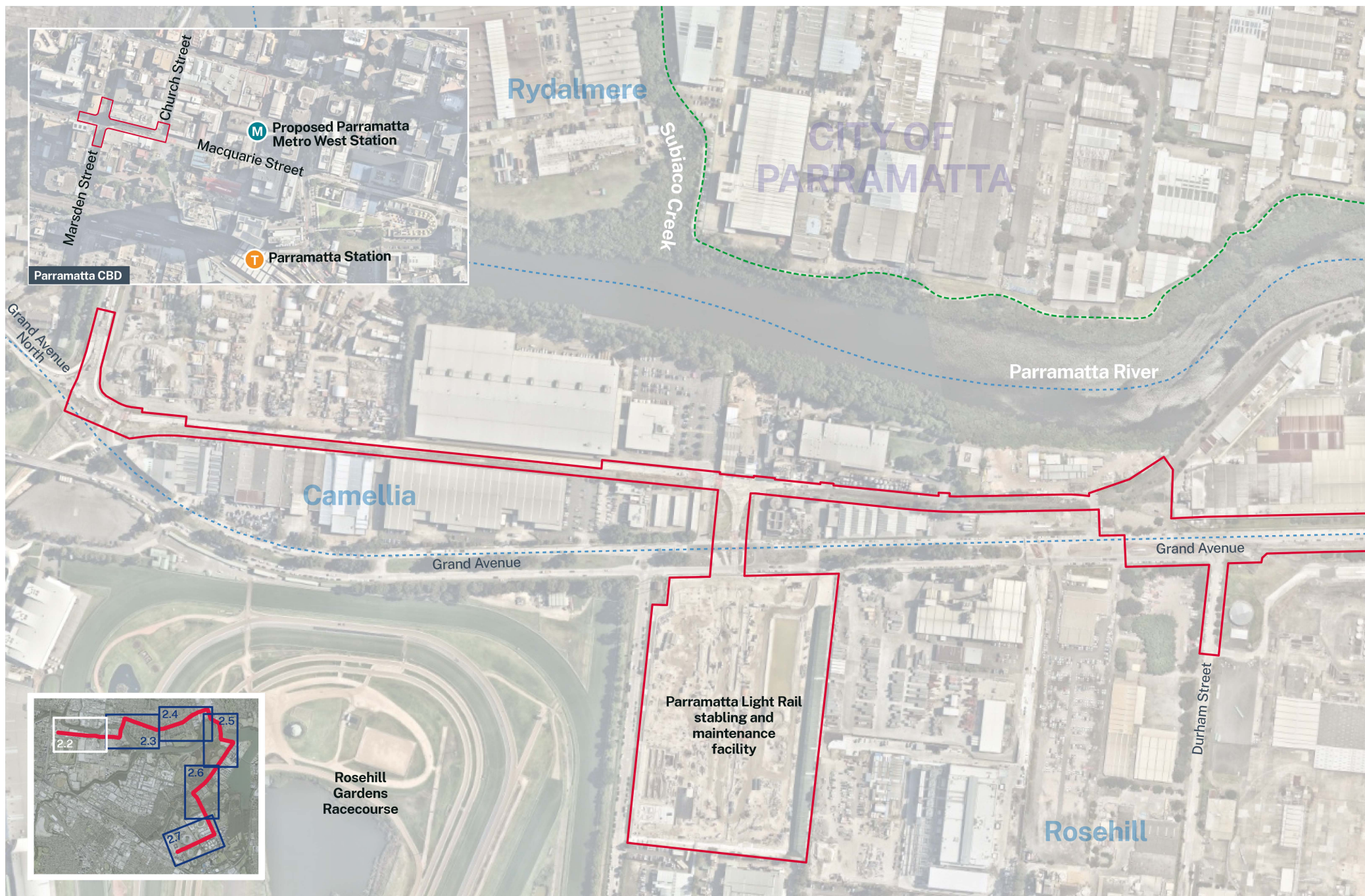
- on Macquarie Street between Church Street and Marsden Street in the Parramatta CBD, to the west of the Parramatta Light Rail Stage 1 Parramatta Square stop
- at the Parramatta Light Rail Stage 1 stabling and maintenance facility site in Camellia.

Between the Parramatta CBD and Camellia, the project would operate along about three kilometres of the Parramatta Light Rail Stage 1 alignment. This shared running section is located between the Stage 1 Parramatta Square stop in the Parramatta CBD and Camellia (just east of the intersection of Grand Avenue and Colquhoun Street) (see Figure 1.1). The only infrastructure proposed to be constructed along this section as part of the project is the Sandown Boulevard stop and a section of active transport link, as noted above.

2.2.1 Land ownership

Most of the project site (about 85 per cent) is located on publicly-owned land, predominately in existing road reserves. Other land in the project site (about 15 per cent) is owned by private landowners

Acquisition or leasing of land would be required to construct the project and locate some of the operational infrastructure. Further information on the project's permanent and temporary land requirements is provided in sections 6.9 and 7.6 respectively. Property impacts associated with these land requirements are considered in Chapter 13 (Land use and property).



LEGEND

- Project site
- Parramatta Valley Cycleway
- Suburb boundary

Figure 2.2 Project site –map 1

0 200m





LEGEND

- Project site
- - - Parramatta Valley Cycleway
- - - Suburb boundary

Figure 2.3 Project site – map 2

0 200m





LEGEND

- Project site
- Parramatta Valley Cycleway
- Suburb boundary
- LGA boundary

Figure 2.4 Project site – map 3

0 200m



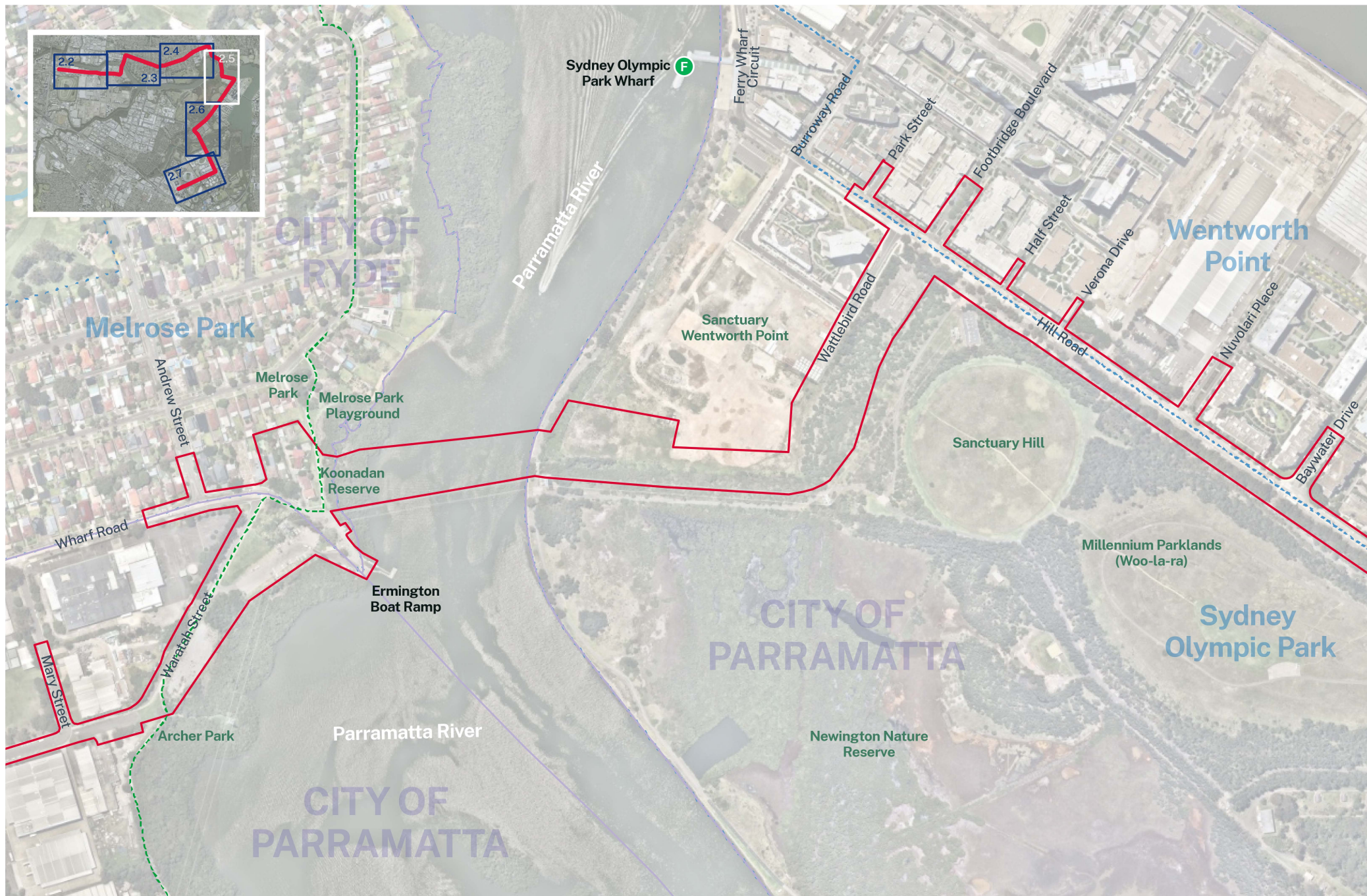


Figure 2.5 Project site – map 4

0 200m





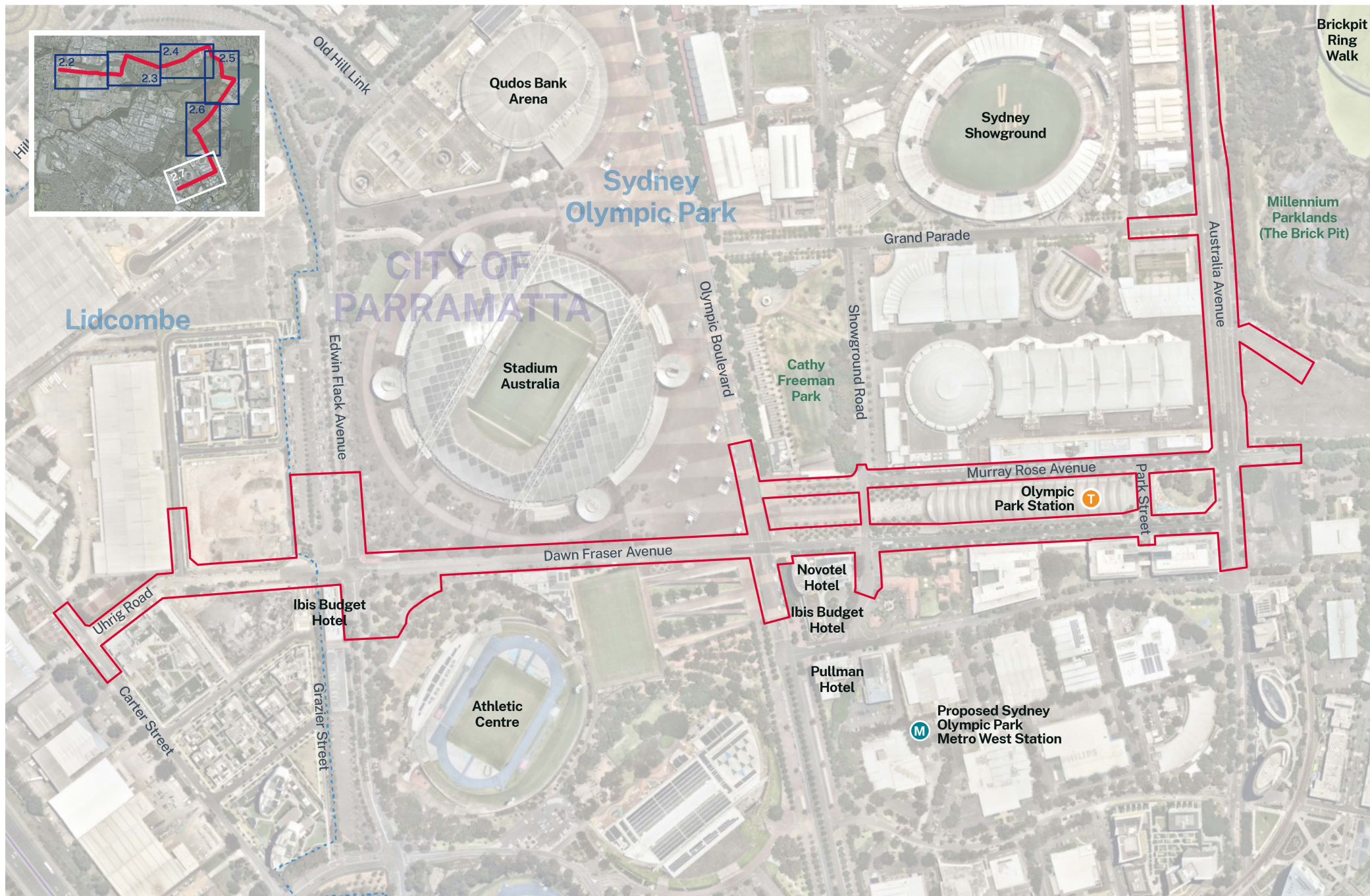
LEGEND

- Project site
- Suburb boundary

Figure 2.6 Project site – map 5

0 200m





0 200m



2.3 Key features of the study area

2.3.1 Definition

The study area is defined as the wider area including and surrounding the project site, with the potential to be directly or indirectly affected by construction and operation of the project (for example, by noise and vibration, visual, or traffic impacts). The actual size and extent of the study area varies according to the nature and requirements of each assessment and the relative potential for impacts. For example, the study area for the heritage assessment is generally restricted to the area with the potential for heritage impacts, contained within or adjacent to the project site. In comparison, the study area for the noise and vibration assessment is based on noise catchment areas.

The following sections provide a summary of the general environment surrounding the project site, the key features of which are shown on Figure 2.2 to Figure 2.7. Further information on the existing environment is provided in the chapters in Part C.

2.3.2 Social and cultural environment

Land use

The study area includes a varied mix of land uses, including residential, industrial, commercial, education, recreation, and transport infrastructure. Most of the project site is located within existing transport corridors, mainly local roads, but also including small sections of the Sandown Line corridor in Camellia and the Holker Busway in Sydney Olympic Park. Small sections of the project site are located on land currently used for industrial, recreation and residential land uses.

Land surrounding the western end of the project site (in the Parramatta CBD and Camellia) is dominated by commercial and industrial uses.

In Rydalmere and Ermington, the project site is surrounded mainly by residential land occupied by low-density detached housing. Other land uses in Rydalmere and Ermington include:

- transport infrastructure (Rydalmere Wharf)
- recreation/reserves (Eric Primrose Reserve and Broadoaks Park in Rydalmere and Ken Newman Park in Ermington)
- education (Rydalmere East Public School)
- commercial/light industrial (to the west of John Street in Rydalmere and east of Atkins Road in Ermington).

Land uses surrounding the project site in Melrose Park include a mix of residential, commercial/light industrial, education (Melrose Park Public School) and recreation (Archer Park, which includes Ermington Boat Ramp).

Land uses surrounding the south-eastern end of the project site in Wentworth Point and Sydney Olympic Park include:

- residential (multi-storey apartment buildings)
- commercial (including a range of street-level businesses along Hill Road and Dawn Fraser Avenue)
- mixed use (including the Sanctuary Wentworth Point development at the northern end of Wentworth Point, which is proposed to include high density residential development and other facilities, including a shopping centre and recreation facilities)
- recreation and events (including Millennium Parklands and the numerous sporting facilities and venues in Sydney Olympic Park, including Sydney Showground)

- conservation (Newington Nature Reserve and Millennium Parklands)
- transport (Sydney Olympic Park Wharf, the Holker Busway and Olympic Park Station).

In Lidcombe the project site is surrounded by industrial and residential uses.

The land use in the nominated urban renewal areas in the study area will be subject to change and intensification into the future as noted below and in Chapter 3 (Strategic context and need).

Further information on land use in and around the project site is provided in Chapter 13 (Land use and property). The existing business environment is summarised in Chapter 14 (Socio-economic impacts), with a detailed description provided in Technical Paper 8 (Business Impact Assessment).

Social

The Parramatta LGA is characterised by a young and culturally and linguistically diverse population – the median age is 34 and over 45 per cent of the population was born in a country where English was not the main spoken language. The population within the LGA increased by 35 per cent between 2011 and 2016 and is projected to increase by 66 per cent by 2036 (Forecast id, 2021a). The estimated resident population of the Parramatta LGA was 258,799 in 2021.

The population is forecast to increase significantly within many of the suburbs in the study area, particularly the areas proposed for urban renewal and ongoing development in Camellia/Rosehill, Melrose Park, Wentworth Point and Sydney Olympic Park. For example, the NSW Government's strategic planning for Camellia and Rosehill will deliver a new residential and business community and a new town centre, in conjunction with retaining urban services and industrial uses (DPIE, 2021b). Melrose Park is currently undergoing significant renewal, with the delivery of a new town centre and surrounding high density residential development. Strategic planning for the Carter Street precinct in Lidcombe proposes new residential and business areas, integrated with public transport and recreation facilities (DPIE, 2020a).

Further information on the strategic context for the project, including proposed urban renewal areas, is provided in Chapter 3 (Strategic context and need) and Appendix B (Strategic planning review). Further information on the social environment is provided in Chapter 14 (Socio-economic impacts) and Technical Paper 7 (Social Impact Assessment).

Transport infrastructure

Road network

As described in section 2.2, the project site is located along a number of roads, all of which are local roads. The project site crosses over Silverwater Road (a classified main road) via a new bridge. Other classified main roads in the study area, which provide regional connections to and from land surrounding the project site, include James Ruse Drive, Victoria Road, Homebush Bay Drive and the M4 Motorway.

Public transport

Two stations on the Sydney Trains suburban rail network are located close to the project site – Parramatta Station is located about 300 metres south-east of the section of project site in Macquarie Street, and Olympic Park Station is located adjacent to the project site in Dawn Fraser Avenue. Rhodes Station is about 1.3 kilometres east of the section of project site located in Hill Road.

The F3 Parramatta River Ferry stops at two wharves close to the project site – Rydalmere Wharf is located adjacent to the project site in Rydalmere, and Sydney Olympic Park Wharf is located close to the project site in Wentworth Point.

Two Sydney Metro West stations are proposed close to the project site in the Parramatta CBD and Sydney Olympic Park (see Figure 2.2 and Figure 2.7).

Several bus routes cross the project site and provide access between the Parramatta CBD and Ryde for areas north of the Parramatta River, and access between Wentworth Point and Sydney Olympic Park (via the Holker Busway) for areas south of the Parramatta River. There is also a bus route providing access between Wentworth Point and Rhodes Station via Footbridge Boulevard and the Bennelong Bridge.

Active transport

The active transport network in the vicinity of the project site includes:

- footpaths along the road network
- shared paths along the banks of the Parramatta River (Parramatta Valley Cycleway / Parramatta River Walk)
- shared paths in the Millennium Parklands (including the Louise Sauvage Pathway)
- on-road cycling connections.

Further information on the transport environment is provided in Chapter 10 (Transport and traffic) and Technical Paper 2 (Transport and Traffic).

Heritage

Aboriginal

The Parramatta River and its tributaries were an important focal point of activity for Aboriginal groups in the area, including the Burramattagal and Wangal people, and would have provided food and fresh water sources as well as forming a significant part of the cultural and economic practices in the area.

Most of the study area is highly disturbed; however, intact soils and geological formations with the potential for archaeological remains may be capped by overlying layers of disturbance and fill.

Two registered Aboriginal heritage sites (potential archaeological deposits (PADs)) listed by the Aboriginal Heritage Information Management System (AHIMS) are located partially within the Parramatta CBD section of the project site. Thirteen registered sites are located within 200 metres of other sections of the project site. Of these, the closest listed site is a PAD about 50 metres west of the project site where it is located in Hill Road, Sydney Olympic Park.

The project site extends through or adjoins eight areas with the potential for sub-surface archaeological deposits (PADs) identified during the archaeological field survey. Four of these are considered to have a high potential for archaeological deposits.

Further information on Aboriginal heritage is provided in Chapter 11 (Aboriginal heritage) and Technical Paper 4 (Preliminary Aboriginal Cultural Heritage Assessment Report).

Non-Aboriginal

The study area has a long history of settlement and development, with significant historical features and activities, including agriculture, residential and industrial development, and shipping and trade along the Parramatta River.

There are no items listed on the World, National or State heritage registers located within the project site. Five items listed on other heritage registers are located within the project site:

- Tram Alignment (item I6 listed under the Parramatta Local Environmental Plan 2011 (the Parramatta LEP))
- Wetlands (item I1 under the Parramatta LEP)
- Bulla Cream Dairy (Willowmere) (item I64 under the Parramatta LEP)

- Ermington Wharf (item I82 under the Parramatta LEP), which is also listed as Wharf (item 165) under the Ryde Local Environmental Plan 2014 and as the Former Pennant Hills Wharf under the Sydney Environmental Planning Policy (Biodiversity and Conservation) 2021
- State Abattoir locality (under the State Environmental Planning Policy (Precincts – Central River City) 2021).

All of the above items, with the exception of Bulla Cream Dairy (Willowmere), are located partially within the project site.

The project site crosses two heritage conservation areas (listed under State Environmental Planning Policy (Precincts – Central River City) 2021):

- Millennium Parklands Heritage Precinct
- State Abattoirs.

Four items listed by the State heritage register are located within 50 metres of the project site:

- St John's Anglican Cathedral (State heritage register (SHR) item 01805, also listed as item I01805 under the Parramatta LEP)
- Archaeological Site and Associated Artefacts (SHR item 01850), also listed as item A11 under the Parramatta LEP
- Sewage Pumping Station 67 (SHR item 01643, also listed on the Sydney Water Section 170 heritage register (4571724) and as item I01643 under the Parramatta LEP)
- Newington Armament Depot and Nature Reserve (SHR No. 01850).

Further information on non-Aboriginal heritage is provided in Chapter 13 (Non-Aboriginal heritage), Technical Paper 5 (Statement of Heritage Impact – Built Heritage) and Technical Paper 6 (Historical Archaeological Assessment).

2.3.3 Biophysical environment

Water

The study area is located in the Parramatta River catchment, which covers an area of about 252 square kilometres. The Parramatta River catchment is highly urbanised and modified, with typically poor water quality and modified flow regimes.

The Parramatta River is the main tributary of Sydney Harbour and extends from Blacktown Creek to the confluence of the Lane Cove River at Clarkes Point. Parramatta River is tidal to Charles Street Weir in Parramatta. The geomorphology of this section of the river is influenced by waves, astronomical tides and river discharge, resulting in the mixing of fresh and saline waters. The project site crosses the Parramatta River in two locations.

Haslams Creek is located close to the project site where it runs along Hill Road. The project site crosses Haslams Creek via a bridge on the Holker Busway in Sydney Olympic Park (see Figure 2.6). The project site also crosses an unnamed intermittent drainage line/gully in Ken Newman Park.

Preliminary modelling indicates that a number of low-lying areas within the project site are prone to flooding during a 100-year average recurrence interval storm event.

Further information on the existing water environment, including hydrology, flooding and water quality, is provided in Chapter 17 (Water) and Technical Paper 10 (Hydrology, Flooding and Water Quality).

Soils

The project site is located within the Sydney Basin, with the underlying geology consisting predominantly of sandstones and shales from the Wianamatta group. A variety of soil landscapes are located within the study area, including disturbed terrain in Camellia, and soils characteristic of coastal swamps in Sydney Olympic Park.

A number of contaminated sites listed by the NSW Environment Protection Authority (NSW EPA) are located within and adjacent to the project site in Camellia. The source of the contamination at these sites is generally associated with the existing and historical use of the area for industrial activities, including chemical and asbestos manufacturing and disposal. Contaminants of concern include hexavalent chromium, asbestos, hydrocarbons and heavy metals. Contamination due to past landfilling activities is also present within Sydney Olympic Park. Other areas of contamination are known to exist along and within the banks of the Parramatta River.

Further information on soils and contamination is provided in Chapter 18 (Soils and contamination).

Biodiversity

Much of the study area consists of disturbed land, which has been subject to historical vegetation clearing. While the majority of original vegetation and other natural features along the project site have been removed or modified, some natural vegetation and features remain. Native vegetation communities in the study area, particularly in Melrose Park, Wentworth Point and Sydney Olympic Park, are characterised by mangroves, saltmarsh, freshwater wetlands, Swamp Oak Forest and Sydney Turpentine-Ironbark Forest. Some of this vegetation is consistent with threatened ecological communities listed under the *Biodiversity Conservation Act 2016* (NSW) (BC Act), the (EPBC Act), or as protected marine vegetation under the *Fisheries Management Act 1994* (NSW) (FM Act).

A series of wetlands occur south of the Parramatta River and adjacent to the project site in the Newington Nature Reserve and Millennium Parklands, and along Haslams Creek. A range of listed threatened species are associated with these areas, including the Green and Golden Bell Frog.

The majority of vegetation within the project site comprises exotic or planted native species on highly modified landforms. A small proportion of the vegetation in the project site (about 2.55 hectares) comprises native vegetation.

Further information on biodiversity is provided in Chapter 16 (Biodiversity) and Technical Paper 9 (Biodiversity Development Assessment Report).