

Part B

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# The Bays Station

13

## 13.0 The Bays Station

This chapter provides a description of The Bays Station and its precinct during operation and construction of this proposal. This chapter also provides an assessment of potential impacts during operation and construction that relate to The Bays and identifies mitigation measures to address these impacts.

### 13.1 Overview

The Bays Station would be located at White Bay between Glebe Island and the former White Bay Power Station. The station would have direct access to the future Bays Waterfront Promenade, which would run north-south along White Bay. Port Access Road, Sommerville Road and Solomons Way provide access to the White Bay Cruise Terminal and other port operations located in the Glebe Island and White Bay destinations.

The Bays Station precinct is framed by the residential suburbs of Rozelle, Balmain and Balmain East, located to the north and west. There are several significant landmarks in proximity including the former White Bay Power Station, the Glebe Island Silos, and Anzac Bridge. Land use near the proposed site is largely maritime-related commercial and industrial. The land within The Bays has been identified as a State Significant Precinct and Growth Centre by the NSW Government. The Bays Station would support the renewal and development of The Bays and provide access to the established areas of Balmain and Rozelle.

The Bays Station is located within Bays West as defined in the *Bays West Place Strategy* (NSW Department of Planning, Industry and Environment, 2021a), a part of The Bays that includes White Bay, the former White Bay Power Station, Glebe Island, Rozelle Bay and Rozelle Rail Yards. Bays West is subject to a collaborative planning approach led by the NSW Department of Planning and Environment. Sydney Metro would work with stakeholders to support the planned growth at The Bays.

Sydney Metro has developed a precinct plan to inform the concept design for the station precinct in consultation with the NSW Department of Planning and Environment. The Bays Station precinct, including the provision for adjacent station development and public domain, would be subject to the Bays West Place Strategy and associated Bays West Urban Design Framework and sub-precinct master plans for the White Bay Power Station (and Metro) and Robert Street sub-precincts. The preparation of the Bays West Urban Design Framework and sub-precinct master plans are being led by the NSW Department of Planning and Environment to inform the initial rezoning for Bays West, and would be subject to separate planning process.

#### 13.1.1 Operation

The vision for The Bays Station and its surrounds is for a new mixed use innovation precinct including employment, civic, retail and residential activities in a high amenity harbour-side setting.

Customers would access the station via an entrance to the south of White Bay, near the future Bays Waterfront Promenade. When operational, The Bays Station would support the establishment of The Bays Precinct by facilitating a well-designed, high-quality station, public domain and development, and by substantially improving transport connectivity to the precinct. It would provide unimpeded access to White Bay foreshore from the station, reorientating the precinct towards the foreshore. It would also connect the Rozelle Parklands with the White Bay foreshore, as well as east-west access from Rozelle and Balmain through the site toward the Anzac Bridge and Pyrmont. Sydney Metro will continue to work with the NSW Department of Planning and Environment to integrate The Bays Station with the Bays West Place Strategy and the master planning being undertaken for this area.

New cycling, pedestrian, public transport facilities and a new road network would substantially enhance accessibility and connectivity to the area. This would include active transport links through the new precinct and connecting to Rozelle Parklands to the Anzac Bridge and through to the future reinstated Glebe Island Bridge (delivered by others). Vehicle access into the precinct would be managed through a new signalised intersection on Robert Street and provision of a new street around the precinct. Cruise passenger and ports traffic would be maintained via the new precinct street with access to James Craig Drive.

This proposal would improve the character and visual amenity of the area due to the new metro station and the associated accessibility and placemaking outcomes. The accessibility and placemaking improvements would also result in social benefits associated with increased accessibility to jobs, education and services and improved amenity, and provide some opportunities for local businesses.

The provision of trunk drainage infrastructure between Robert Street and White Bay, adjacent to the White Bay Power Station would help to manage flood levels adjacent to the site to reduce impacts and manage site access during flooding. With the implementation of flooding mitigation measures, this infrastructure would not cause any permanent local nuisance flooding or drainage issue.

Key potential impacts anticipated during operation of The Bays Station include:

- the design of the station and precinct has considered the important view corridors to and from the State heritage listed former White Bay Power Station. There would, however, be some minor direct and moderate indirect impacts to the former White Bay Power Station mainly associated with the new traction substation located to the south. The design and scale of the traction substation would be further considered as part of ongoing design to minimise these impacts
- the new Robert Street / new precinct street intersection would result in the loss of parking spaces along Robert Street and would be at the existing access to 48-50 Robert Street. Further investigation, including a safety assessment, would be carried out so that safe access is maintained to 48-50 Robert Street
- potential flooding impacts at the station as the proposed station entry surface levels are below the flood protection level and would require active protection measures.

Potential impacts associated with other environmental matters such as operational noise and vibration, groundwater, social and business would comply with the relevant criteria and/or be minor to negligible.

### 13.1.2 Construction

Major civil construction including station excavation and tunnelling work at The Bays was assessed under previous Sydney Metro West planning applications and does not form part of this proposal. This proposal includes the construction activities required to complete The Bays Station, and associated precinct work required for the operation of Sydney Metro West.

Construction of The Bays Station would require the continued use of the construction site established under the previous Sydney Metro West planning applications. Some additional areas to the north and south of the former White Bay Power Station would also be required to support utility and drainage work, road work, traction substation construction, and station precinct and public domain work. The proposed work is expected to have a total duration of about four years.

Due to the location of the construction site and the restricted public access, potential temporary construction transport impacts would be limited. Some parking spaces on Robert Street would be temporarily impacted during road and intersection upgrade works. Parking spaces along Robert Street would also be permanently removed once the new intersection is operational. Construction transport impacts would be managed in accordance with the Construction Traffic Management Framework (CTMF).

'Moderate' to 'high' temporary construction noise impacts are predicted at a small number of the commercial and industrial receivers during a worst-case situation, particularly when noise-intensive equipment is in use. There would be periods when construction noise levels are much lower than the worst-case levels predicted and there would be times when no equipment is in use and no impacts occur. 'Low' construction noise impacts are generally predicted at the nearest residential receivers, apart from short periods when noise-intensive works may be carried out near the boundary of the site. 'Low' sleep disturbance impacts are predicted at the nearest residential receivers north of the site as a result of heavy vehicle movements. The Sydney Metro Construction Noise and Vibration Standard (CNVS) would be implemented to manage these temporary impacts and further investigation of minimising sleep disturbance would be completed during detailed construction planning when further information becomes available.

Construction activities would be located within the heritage curtilage of the State heritage listed former White Bay Power Station. Construction of the traction substation would require excavation within the heritage curtilage and would result in the alteration of the yard area (part of areas assessed as having little to moderate heritage significance within the *White Bay Power Station Conservation Management Plan*), however no built fabric of the item would be directly impacted by these works. Excavation work for new drainage infrastructure to the north of the former White Bay Power Station may directly impact part of the Inlet Canal. Further work would be undertaken to confirm the depth of the Inlet Canal and the likelihood for direct impacts. Impacts on all other important heritage items in the vicinity of The Bays Station construction site would be neutral or negligible.

Works to grade and level the site for the traction substation would remove all archaeological remains related to the first White Bay Hotel; however, these remains have a low likelihood of being present and would be of local heritage significance. This would be managed under an Archaeological Research Design and Excavation Methodology prepared for this proposal.

Some additional vegetation clearing would be required in the additional footprint area to the south and north of the former White Bay Power Station. This vegetation is comprised of landscaped and regenerated exotic and native species. The removal of this vegetation would have minimal biodiversity impacts.

Other key potential impacts during construction would include:

- temporary medium social impacts due to construction-related disruptions and potential amenity impacts, noting the site is largely located in a non-residential area
- temporary slight to moderate negative impacts to local businesses, mainly associated with changed traffic conditions and potential amenity impacts.

Potential impacts associated with other environmental matters such as landscape and visual impacts, Aboriginal heritage, contamination, groundwater and flooding would be minor to negligible.

These impacts would be managed through the implementation of the Sydney Metro management frameworks and standard mitigation measures including the Construction Environmental Management Framework (CEMF), Overarching Community Communications Strategy (OCCS), CTMF and CNVS.

## 13.2 Station and precinct description

### 13.2.1 Design development

Development of the design has involved ongoing consultation with stakeholders and the Design Advisory Panel. This has included:

- feedback as part of submissions and consultation associated with the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a)
- ongoing meetings and design workshops held with the Inner West Council and the NSW Department of Planning and Environment since exhibition of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a)
- meetings and advice from the Design Advisory Panel.

Key features or changes to the design to avoid or minimise impacts, and respond to feedback from stakeholders and the Design Advisory Panel include:

- realignment of the main vehicle access road around the edge of the precinct to provide improved pedestrian and public open space outcomes. This responds to feedback from the NSW Department of Planning and Environment and is supported by the Design Advisory Panel
- locating the bus stops to the south of the precinct rather than directly adjacent to the station, which would impede connections to the waterfront, responding to feedback from the Design Advisory Panel
- locating the traction substation on the edge of the precinct near the former White Bay Power Station. This avoids the need for this large industrial element to be located within the new pedestrian-focused precinct. The Design Advisory Panel also identified that this provided the opportunity for the traction substation to be designed as a new industrial layer of infrastructure
- the provision of new public open space between the station entry, the former White Bay Power Station and the foreshore, responding to feedback from the Inner West Council
- a design that responds to the key heritage view lines associated with the former White Bay Power Station, consistent with the Conservation Management Plan and feedback from the Inner West Council and the NSW Department of Planning and Environment
- the provision of active transport links to the foreshore, Rozelle Parklands, Balmain and the future reinstated Glebe Island bridge (by others), based on feedback from the Inner West Council.

### 13.2.2 Station design

The indicative layout and key design elements of The Bays Station are shown in Figure 13-1, with a long-section and cross-section shown in Figure 13-2 and Figure 13-3 respectively. The design of the metro station is subject to design development.

The key features of The Bays Station are provided in Table 13-1.

**Table 13-1 Key features – The Bays Station**

| Key features             | Description   |
|--------------------------|---|
| Proposed station entry   | Entry to the south of White Bay, near the future Bays Waterfront Promenade.   |
| Customers                | <ul style="list-style-type: none"> <li>• new residents within the precinct</li> <li>• existing residents within walking and cycling distance</li> <li>• employees and visitors to and from business, education, and districts within The Bays</li> <li>• visitors to and from retail, commercial and recreational attractions</li> <li>• customers transferring to and from other transport modes.</li> </ul> |
| Primary station function | Origin and destination.   |
| Catchment                | Employment, residential and recreation.   |
| Transport interchange    | <ul style="list-style-type: none"> <li>• walk</li> <li>• cycle</li> <li>• bus</li> <li>• point-to-point transport</li> <li>• kiss and ride.</li> </ul>  |

The Bays Station would consist of an underground station with an island platform in an east–west orientation.

Customers would access the station via an entrance to the south of White Bay, near the future Bays Waterfront Promenade. Escalators and/or stairs and lifts would provide access to the platform from the surface. Public domain areas would be provided within the vicinity of the station, generally in areas shown on Figure 13-1.

The aboveground station infrastructure (including the station services, space for non-station use and concourse) would be approximately seven to eight storeys above street level.

A new precinct street (realigned Port Access Road) would be delivered under this proposal to provide connections to the station and within the precinct. The Port Access Road will have been relocated to a temporary position during construction, as part of work carried out under the determined *The Bays road relocation works Review of Environmental Factors* (Sydney Metro, 2020d). This proposal would realign it to a permanent position to support operation.

A landscape and drainage strategy would be implemented to support the station and adjacent station development (subject to separate approval). Areas for station services and utilities would also be provided.

A traction substation would be provided within the vicinity of The Bays Station. Further detail on the proposed traction substation is provided in Section 5.5.3 (Substations and traction power supply) of this Environmental Impact Statement. Refinements to the design and sizing of the traction substation would continue to be undertaken to minimise impacts to the adjacent heritage listed White Bay Power Station.

Sydney Metro will continue to work with the NSW Department of Planning and Environment to integrate The Bays Station with the Bays West Place Strategy and associated draft Bays West Urban Design Framework and relevant sub-precinct master plans. This may include changes to the:

- overall street network (such as the layout and function of the streets) within the precinct, and access to the precinct from Robert Street
- location of interchange facilities
- public domain and adjacent station development proposed throughout the precinct.

The NSW Department of Planning and Environment’s ongoing master planning work at Bays West is subject to separate community consultation and process.



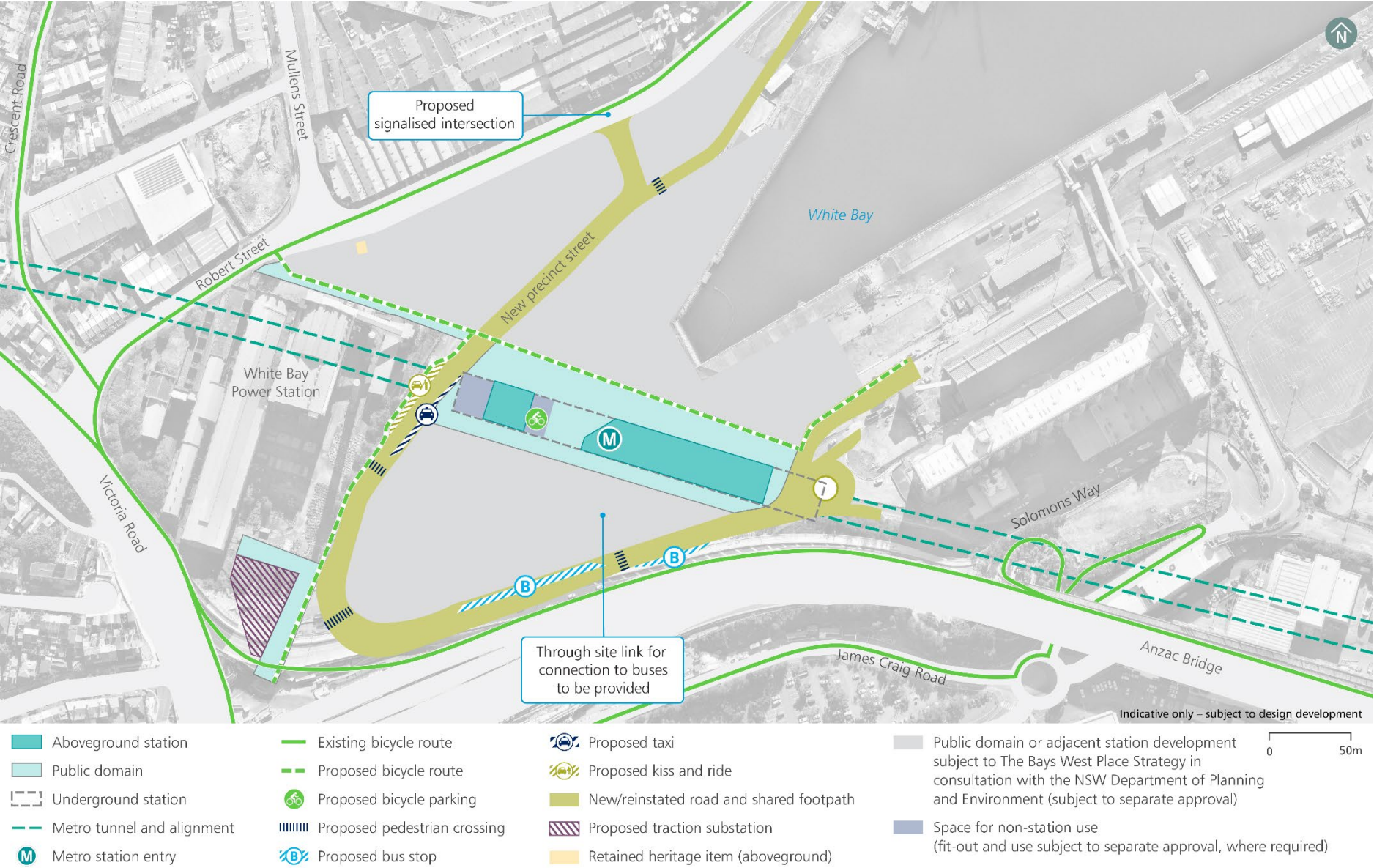


Figure 13-1 Indicative layout and key design elements – The Bays Station

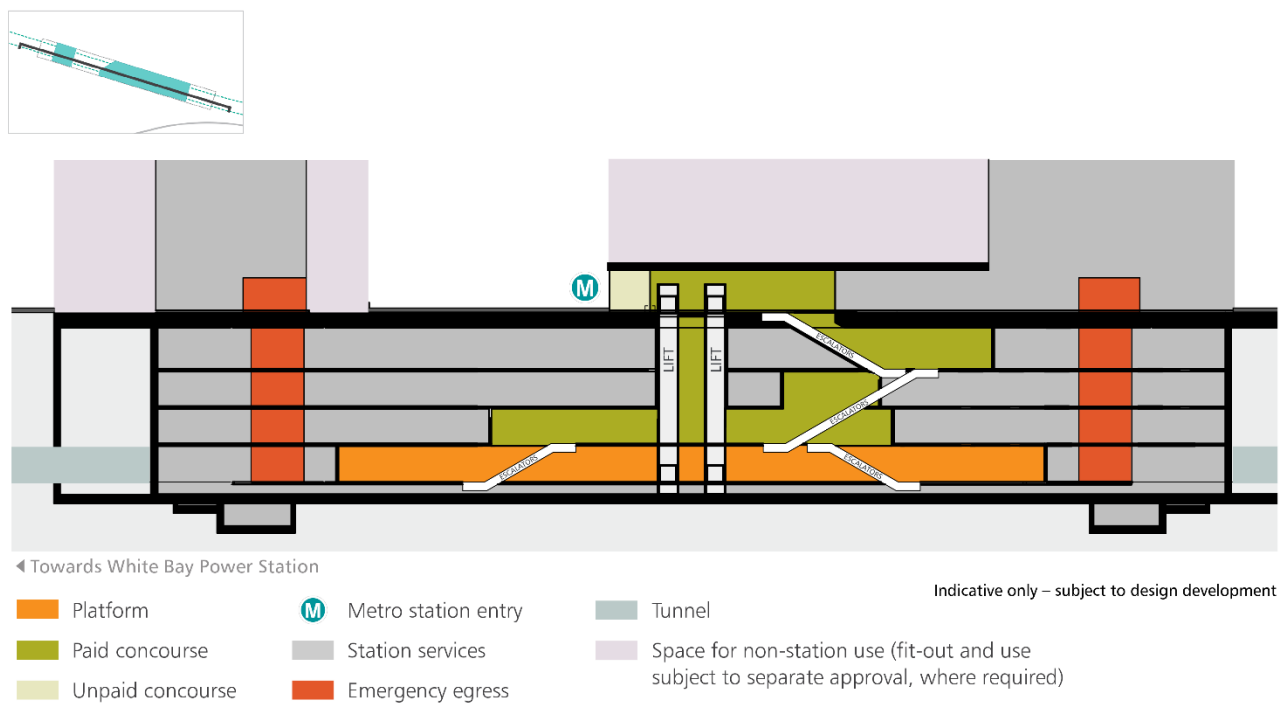


Figure 13-2 Indicative-long section – The Bays Station

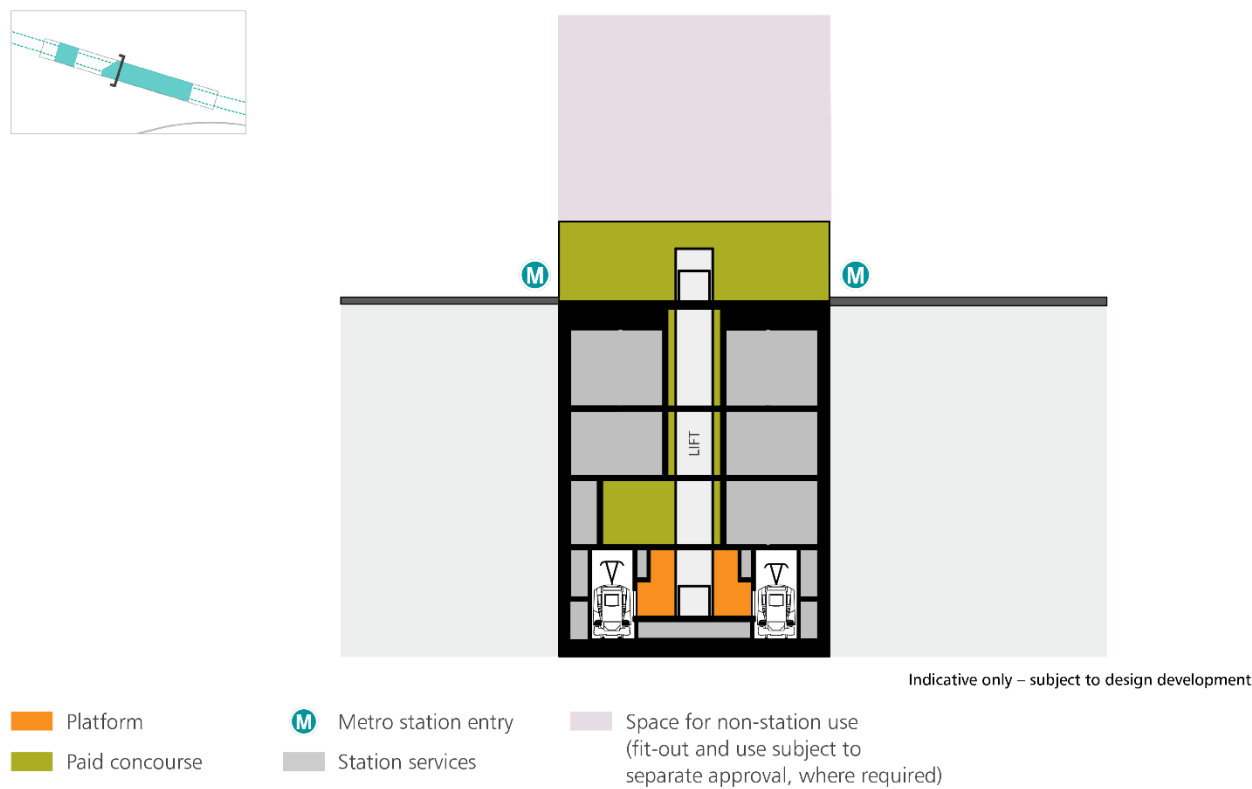


Figure 13-3 Indicative cross section – The Bays Station

### 13.2.3 Station precinct and interchange facilities

The Bays Station would include a series of precinct and interchange elements such as:

- a pedestrian network within the vicinity of the station to enable access to the station
- bicycle parking
- new bicycle path connections providing access throughout the station precinct
- delivery of a new precinct street (realigned Port Access Road) and footpaths
- bus interchange and shelters located on the new precinct street
- kiss and ride and point-to-point vehicle facilities on the new precinct street
- new north-south pedestrian links from Robert Street to provide accessibility to the station from the north
- pedestrian crossings on the new precinct street
- removal and reconfiguration of on-street parking on Robert Street
- modifications to Robert Street and delivery of a new intersection at Robert Street/new precinct street
- public domain areas including open space, landscaping and tie-in works within the vicinity of the station and the broader precinct (refer to Figure 13-1 for indicative extent)
- built elements and provision of utilities and services to provide space for future non-station uses (e.g. retail, commercial and/or community facilities), including structures connected to the station entry and services building to about the same height as the services building. Fit-out and use of these spaces would be subject to separate approval, where required. Refer to Section 5.4.3 (Structures and spaces for non-station uses) for further detail.

Sydney Metro will continue to work with the NSW Department of Planning and Environment to integrate The Bays Station with the Bays West Place Strategy and associated draft Urban Design Framework and relevant sub-precinct master plans.

### 13.2.4 Provisioning for adjacent station development

As shown in Figure 13-1, adjacent station development is proposed on the residual land required for construction, to the north and south of the metro station in line with the Bays West Place Strategy.

This proposal would include and has assessed the following to support the future adjacent development:

- provision of trunk utilities to the precinct, likely to be located beneath the new precinct street
- a drainage strategy across the site
- a new precinct street and pedestrian connections to support access to both the metro station and future adjacent development
- subdivision
- investigation of other opportunities to support the development of the broader precinct in line with the Bays West Place Strategy in consultation with the NSW Department of Planning and Environment.

Delivery of the adjacent development does not form part of this proposal and would be subject to separate assessment and approval (with the exception of the provisioning elements listed above). Access to the metro station would be maintained through these spaces and may be temporarily activated to provide public spaces and local community facilities. Adjacent station development is discussed further in Section 5.4.5 (Related development) of this Environmental Impact Statement.

## 13.3 Placemaking

The vision for The Bays Station and its surrounds is for:

*A new mixed use innovation precinct including employment, civic, retail and residential activities in a high amenity harbourside setting.*

### 13.3.1 Integration with strategic planning

The *Eastern City District Plan* (Greater Sydney Commission, 2018b) identifies The Bays Precinct for urban renewal opportunities to transform the Harbour CBD, expanding the innovation corridor of the CBD. To capitalise on this plan, a number of plans and strategies have been developed, which have informed the development of The Bays Station and would guide the future design.



This proposal has considered the objectives of *Better Placed* (Government Architect NSW, 2017) as outlined in Section 5.2 (Placemaking and design) of this Environmental Impact Statement. An overview of how this proposal meets the relevant transport and connectivity outcomes of the Healthy Built Environment Checklist (NSW Government, 2020a) is also provided in Appendix I (Healthy Built Environment Checklist).

### **Bays West Place Strategy**

The urban renewal of land within The Bays was identified as a State Significant Precinct and Growth Centre by the NSW Government in 2017. The Bays Station site would be located within the Bays West area, which includes Rozelle Bay, Rozelle Rail Yards, White Bay, Glebe Island and the former White Bay Power Station, and is currently in the early stages of planning. *The Bays West Place Strategy* (NSW Department of Planning, Industry and Environment, 2021a) released for consultation in March 2021, to help guide the final plans and shape the future of Bays West and finalised in November 2021. The Bays West area will build on its natural, cultural, maritime and industrial stories to shape an innovative and sustainable new place for living, recreation and working.

The Bays Station is seen as a first step to unlocking the precinct's potential. It provides a catalyst, offering significant development and connectivity opportunities for its future resident, worker and visitor populations. It would allow the future vision and opportunities for the precinct to be realised (NSW Department of Planning, Industry and Environment, 2021a, p.7). The Bays Station would be located in the White Bay Power Station sub-precinct, which would be the first stage of this place strategy to be delivered. This zone is described as a key activity centre for the precinct, providing events, services, and infrastructure for existing and new communities.

The *Bays West Strategic Place Framework* (2021) is one of the supporting documents to the Bays West Place Strategy. In relation to the design of places and spaces, the preservation of 'district and local views of landmark features that form a significant part of the place character' is listed as a priority. There are several significant landmarks located within the Bays West precinct, which 'act as unique visual markers on the journey between the Inner West and Sydney's CBD'. These elements include the former White Bay Power Station, the Glebe Island Silos and Anzac Bridge. The Bays West Strategic Place Framework further states that it is 'critical for any future development within Bays West to respect and preserve the existing signature views towards these landmarks from key public viewpoints', which 'offer a deep connection between the site, its immediate neighbourhood, the surrounding districts, and the broader city in terms of navigation, memory, and identity'. The design of the metro station has been developed to maintain these important view corridors.

The *Draft Bays West Urban Design Framework* (2021) is a supporting technical document to the Bays West Place Strategy. This framework builds on the vision set out in the strategy to inform future detailed master planning work and will be updated as each precinct within Bays West is master planned. A Draft Connecting with Country Framework (Bangawarra, 2021) has also been developed as a supporting document to the Bays West Place Strategy. This framework will inform consideration of Country during subsequent stages of planning at Bays West. The NSW Department of Planning and Environment is leading the preparation of the revised Bays West Urban Design Framework and sub-precinct master plans for the White Bay Power Station (and Metro) and Robert Street sub-precincts to inform the initial stage rezoning for Bays West (subject to separate planning process). Sydney Metro will continue to work with the NSW Department of Planning and Environment to integrate The Bays Station with the Bays West Place Strategy and associated draft Urban Design Framework and relevant sub-precinct master plans, including responding to the strategic intent of these frameworks relating to road layout and interchange facilities, land use, detailed built form and landscape design.

### **Our Place Inner West – Local Strategic Planning Statement**

The *Our Place Inner West – Local Strategic Planning Statement* (Inner West Council, 2020) is based around six themes and identifies the challenges and opportunities for the communities in the context of a changing climate, changing technologies and a growing population. It sets out planning priorities, objectives and actions to enable opportunities for social, economic and environmental benefits to be taken while maintaining the character, culture and values so important to the identity of Inner West communities.

A key priority of the planning statement is to develop diverse and strong stakeholder relationships to deliver positive planning outcomes. This includes working with stakeholders so that The Bays develops as a waterfront, sustainable destination with employment, housing and public spaces to support a healthy and vibrant community.

The northern foreshore of White Bay is identified as a 'future Blue/Green link', with the embedding of green infrastructure in the redevelopment of this area listed as a priority.

## Sydney Green Grid

White Bay and Blackwattle Bay Foreshore and Open Space are identified as a Green Grid project opportunity, which would improve foreshore access and allow for an increase in open space. Sydney Metro West would significantly improve transport connectivity to this project with a station at The Bays.

### 13.3.2 Place and design principles

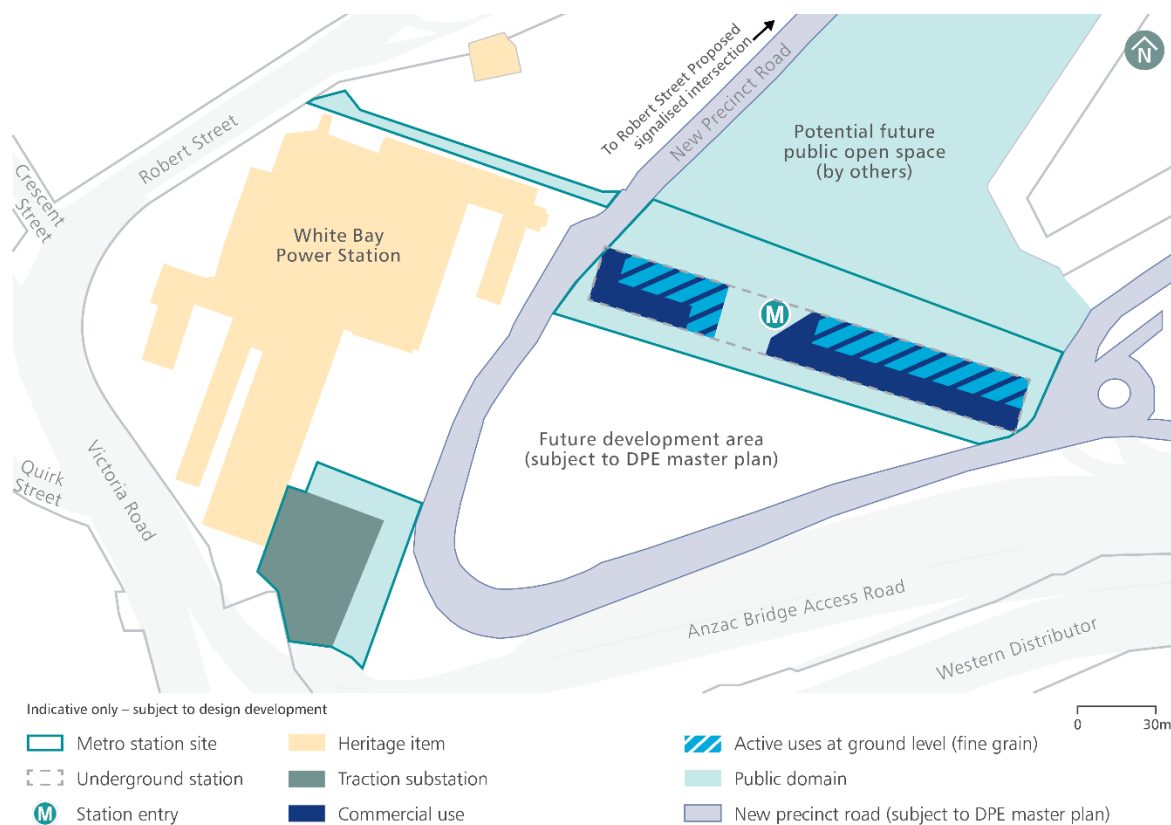
Place and design principles for The Bays Station were identified in Section 7.10.7 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays* (Sydney Metro, 2020a). The principles build on the five Sydney Metro-wide design objectives and have considered relevant local council strategies and *Better Placed* design objectives (refer to Section 5.2 (Placemaking and design) of this Environmental Impact Statement). Table 13-2 outlines how these principles have been achieved in The Bays Station design.

**Table 13-2 Design responses to The Bays Station place and design principles**

| Place and design principle  | Design response  |
|---|--|
| Support the establishment of The Bays Precinct by facilitating well-designed, high-quality station, public domain and development                 | <ul style="list-style-type: none"> <li>The Bays Station precinct includes unimpeded access to the White Bay foreshore from the station, orienting the precinct toward the foreshore</li> <li>development areas (by others) would buffer the public domain areas from the lower amenity environment of the arterial road network to the west and south of the site</li> <li>the provision of through-site links and perimeter road access within the precinct would build on and reinforce the opportunities for connecting with the Rozelle Parklands delivered as part of the WestConnex M4-M5 Link project to the west</li> <li>the extent and location of public domain elements would be of high quality and has been developed to be of appropriate scale and relevance to the precinct to capitalise to the precinct's unique character and context and would be of appropriate scale, function and relevance to the precinct.</li> </ul>  |
| Ensure station and precinct designs are coordinated with wider precinct planning frameworks   | <ul style="list-style-type: none"> <li>the design responds to the Big Moves and strategic intent of the Bays West Place Strategy, Draft Bays West Urban Design Framework and associated documents</li> <li>the design responds to principles in the <i>White Bay Power Station Conservation Management Plan</i> (Design 5 Architects &amp; Sydney Harbour Foreshore Authority, 2004), including its relationship with (and orientation toward) Anzac Bridge, relevant view corridors and by providing a contextually appropriate built form response and curtilage to the former White Bay Power Station</li> <li>Green Grid principles are achieved by substantially increasing the area of accessible open space surrounding the foreshore as part of the public domain improvements, with direct and unincumbered access to White Bay foreshore</li> <li>the precinct structure supports a key east-west movement corridor and reinforcing access to and connection with Rozelle Parklands west of the site.</li> </ul> |
| Facilitate intuitive and accessible interchange between Sydney Metro and other modes  | <ul style="list-style-type: none"> <li>the precinct structure and layout provides intuitive wayfinding and efficient transfer from the station to bus interchange (south) and point-to-point transport facilities (west)</li> <li>a new precinct street would be delivered within the site prioritising public and active transport user access.</li> </ul>  |
| Enhance legibility and accessibility through The Bays Precinct by facilitating connections to White Bay Power Station, Anzac Bridge and White Bay | <ul style="list-style-type: none"> <li>the east-west orientation of the metro station sits perpendicular to the former White Bay Power Station. Public domain would be delivered along the same axis, providing a coherent and legible street layout, including connection between the former White Bay Power Station and the east of the site toward the Anzac Bridge</li> </ul>  |

| Place and design principle  | Design response  |
|---|--|
|   | <ul style="list-style-type: none"> <li>the new precinct street would sit at the perimeter of the precinct, separating transport (movement) requirements from place outcomes that focus on the station precinct and prioritise access to the White Bay foreshore. The street network would continue to be refined in consultation with the NSW Department of Planning and Environment to provide alignment with the ongoing master planning for the area.</li> </ul>  |
| Promote active street frontages in development around the station to support a vibrant public domain and public amenity in this important harbour-side precinct | <ul style="list-style-type: none"> <li>activated public domain would surround the station and associated street frontages, which would clearly interface with surrounding areas, supporting opportunities for a vibrant public domain across the wider precinct</li> <li>the station precinct responds to the strong industrial landscape and the foreshore by reinforcing view lines from the former White Bay Power Station to the Anzac Bridge while at the same time orienting the precinct with the harbour through expansive public domain areas.</li> </ul> |
| Ensure key view corridors frame the new precinct  | <ul style="list-style-type: none"> <li>key view corridors would be reinforced through the precinct structure and layout, including the relationship the former White Bay Power Station to the Glebe Island Silos and beyond to Anzac Bridge, as well as views from the White Bay foreshore to the Sydney Harbour Bridge.</li> </ul>  |

The key urban design strategies to support the implementation of the place and design principles are illustrated in Figure 13-4, Figure 13-5 and Figure 13-6.



**Figure 13-4 Land use and function urban design strategies – The Bays Station**

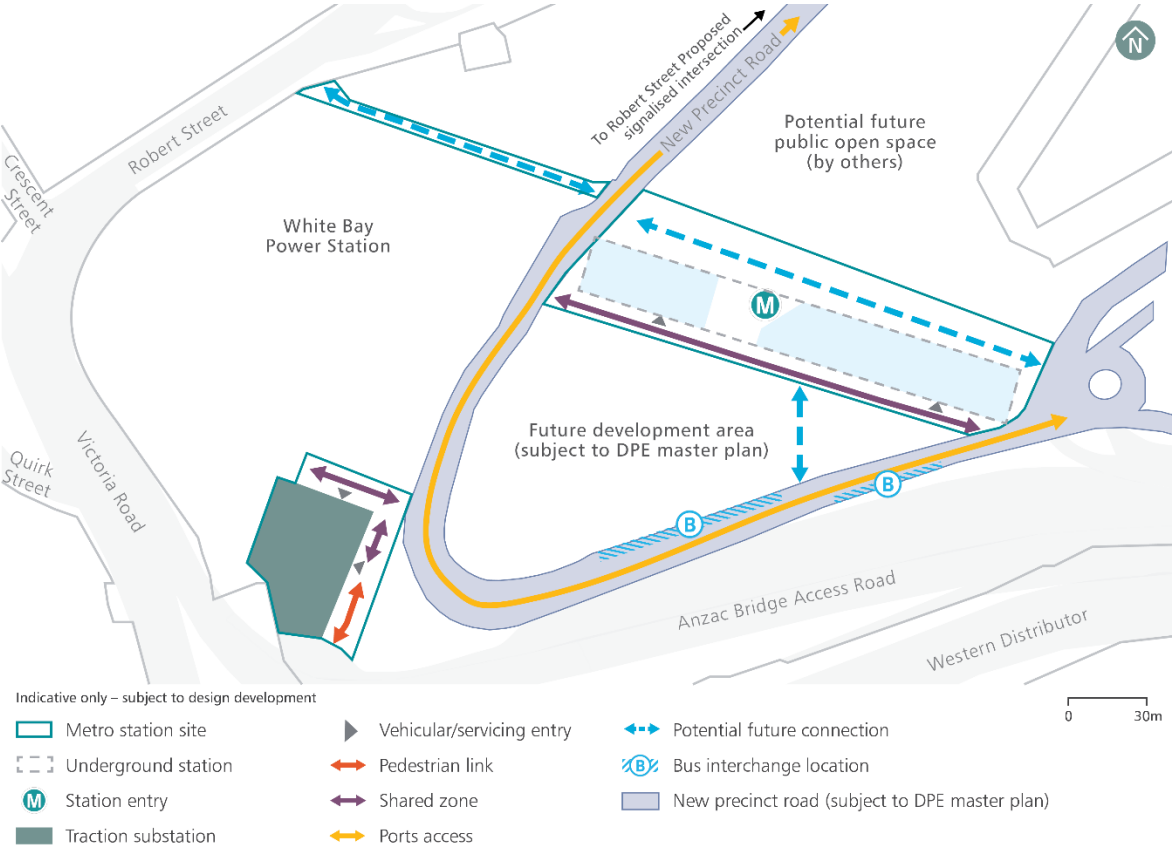


Figure 13-5 Access and connectivity urban design strategies – The Bays Station

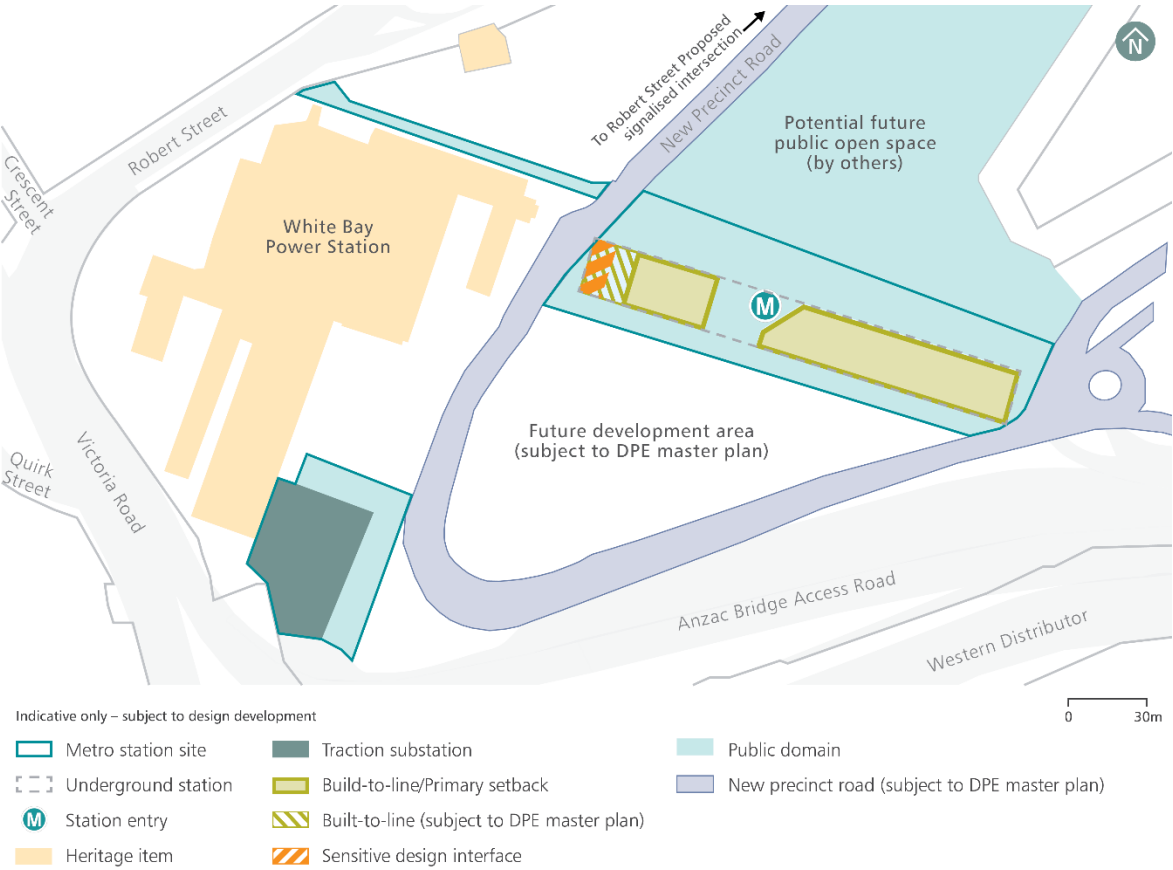


Figure 13-6 Built form urban design strategies – The Bays Station

The Bays Station design includes the following key movement and place features:

- public space in front of the station, protected from the regional movement corridors of Victoria Road and Anzac Bridge, and connections to the foreshore and the former White Bay Power Station
- responding to the key pedestrian and cyclist movement corridor from the south, through the site, connecting the Rozelle Parklands with the White Bay foreshore, as well as east-west access from Rozelle and Balmain in the west through the site toward Anzac Bridge, Pyrmont and the city beyond
- provision of a new precinct street at the periphery of the site, separating movement and place functions. The precinct would also provide expansive high amenity public domain areas, orienting the station toward the White Bay foreshore and views to the Sydney CBD and Sydney Harbour Bridge beyond
- providing opportunities for activation in key locations, including around the station entry and surrounding the western station services building that fronts the public domain, as well as the new precinct street adjacent to the former White Bay Power Station
- facilitating vehicular and other access to the precinct, through a new intersection with Robert Street to the north of site, away from the station entry and public domain areas.

### 13.3.3 Transport interchange, access and connectivity

A metro station at The Bays provides the catalyst for renewal of the site and provides connectivity opportunities for its future resident, worker and visitor populations. The Bays Station would provide a mass transit connection for this future precinct and serve the existing communities around Rozelle and Balmain. Transport integration opportunities are focused on active and public transport opportunities.

Examples of how The Bays Station design integrates with other transport modes and improves access for customers and the community include:

- the station precinct design would support active transport access and connectivity by providing:
- pedestrian and cyclist improvements at the intersection of Mullens and Robert Streets and the provision of access points from Robert Street (and areas of Balmain and Rozelle further north) into the precinct, which reinforce and support key movements through the site to Anzac Bridge
- cyclist and pedestrian infrastructure (connecting with existing or proposed facilities), which reinforce access to and connection with Rozelle Parklands located to the south-west of the site, including along the new precinct street, and to the east towards the future link across Glebe Island Bridge (by others)
- a new bus interchange would be introduced along the southern boundary of the site on the new precinct street to the south of the station entry. This would bring buses directly into the precinct and provide for efficient interchange with metro services
- the new precinct street would also provide access for taxi services, kiss and ride, and accessible parking
- substantial building setbacks along the new precinct street provide for expansive footpath areas that create safe, walkable streets designed for people and that provide easy access for all customers including those with disabilities. This would include several new pedestrian crossings of the new precinct street at key pedestrian desire lines.

For further information on transport interchange, access and connectivity features of The Bays Station, see Section 13.5.

## 13.4 Construction description

This section provides a description of the construction activities required to complete The Bays Station, and associated precinct work required for the operation of Sydney Metro West.

Major civil construction including station excavation and tunnelling work (between Westmead and The Bays) at The Bays was assessed and approved under the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a). Tunnelling work at The Bays (between The Bays and Sydney CBD) has been assessed under the *Sydney Metro West Environmental Impact Statement – Major civil construction between The Bays and Sydney CBD* (Sydney Metro, 2021a). The work subject to these previous Sydney Metro West planning applications does not form part of this proposal.



### 13.4.1 Overview

Construction of The Bays Station would require the continued use of the construction site established under the previous Sydney Metro West planning applications. Additional footprint areas are also required to support construction of this proposal.

The Bays Station construction site would be located between Robert Street on the northern side, White Bay on the eastern side, Anzac Bridge approach on the southern side, and the former White Bay Power Station on the western side.

The Bays Station construction site would be demolished and excavated as a result of activities under the previous Sydney Metro West planning applications prior to the commencement of this proposal.

The Bays Station construction site for this proposal would comprise:

- the construction site that will be established and used for work under the previous Sydney Metro West planning applications
- an area to the north of the former White Bay Power Station adjacent to Robert Street to allow for the construction of flood mitigation and active transport upgrade works
- an area to the south of the former White Bay Power Station adjacent to Victoria Road to allow for the construction of a traction substation and road work.

This proposal would include some additional minor excavation to construct flood mitigation work, trunk utilities and the traction substation.

The location and indicative layout of The Bays Station construction site is shown on Figure 13-7. Some activities would occur outside this construction site, such as delivery of construction equipment and station precinct and interchange work.

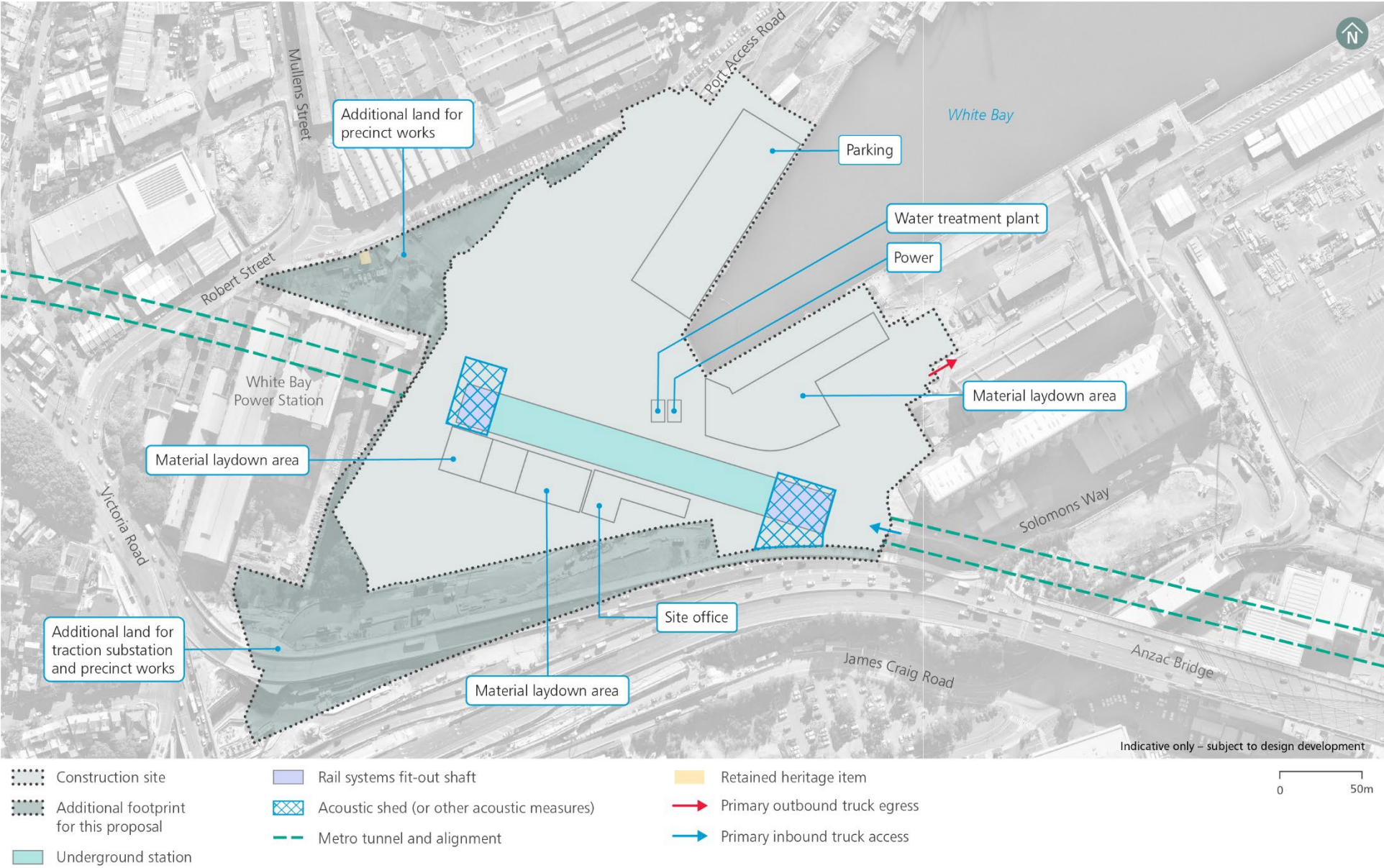


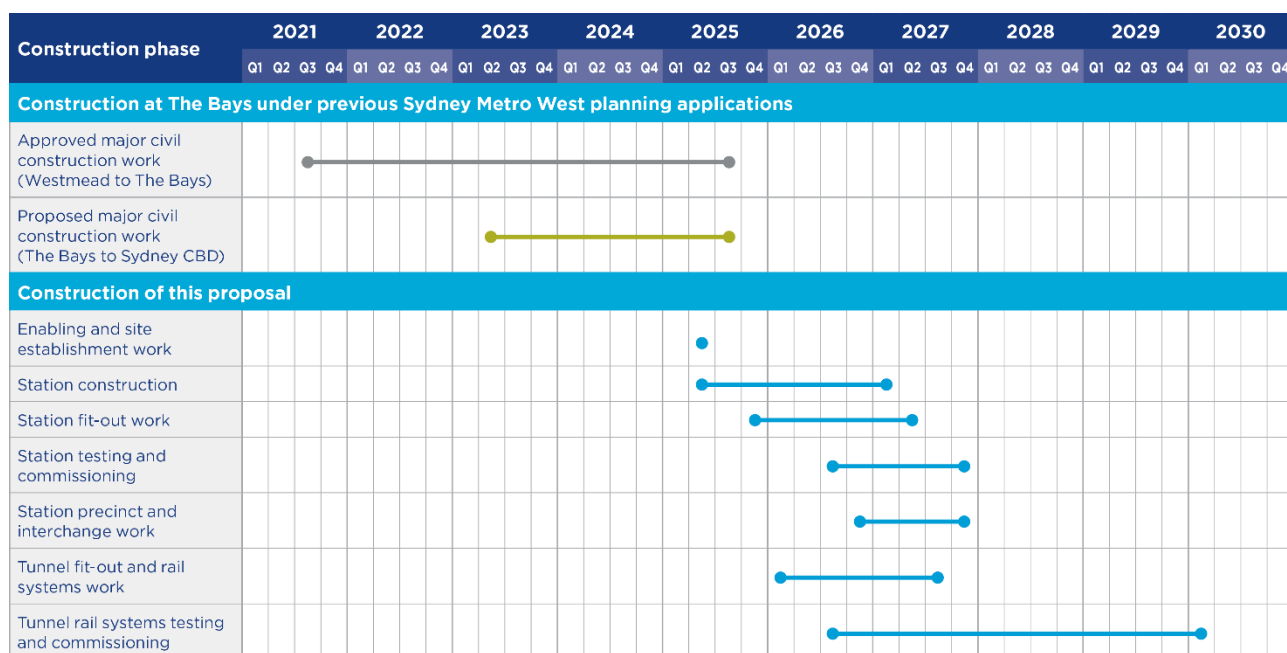
Figure 13-7 Indicative construction site layout – The Bays Station

### 13.4.2 Construction work

Key construction work at The Bays Station construction site would include:

- enabling and site establishment work, including installation of acoustic sheds (or other acoustic measures) over rail systems fit-out shafts
- construction of the station and structures for non-station use
- station fit-out
- construction of station precinct and interchange facilities, including construction of a bus interchange and shelters to service the station entrance, located on both sides of the new precinct street and provisioning for adjacent station development
- provision of infrastructure such as trunk utilities, as well as public domain and landscape works to service the station precinct and future adjacent station development (subject to separate approvals)
- access for tunnel fit-out and rail systems work
- construction of flood mitigation work from Robert Street, near its intersection with Mullens Street, through the site to White Bay, including a culvert beneath the new precinct street
- road work, including construction of a new precinct street, intersection upgrade and associated footpaths, which would service existing port uses, the White Bay Cruise Terminal and through site access
- construction of a traction substation, including:
  - excavation and construction of foundations
  - placement of underground conduit routes
  - construction of the substation building and yard
  - installation, testing and commissioning of electrical and mechanical equipment
  - finishing work, testing and commissioning.

The indicative construction program for The Bays Station construction site is shown on Figure 13-8.



**Figure 13-8 Indicative construction program – The Bays Station**

Other construction elements specific to The Bays Station are shown in Table 13-3. Indicative construction hours, plant and equipment and workforce for The Bays Station construction site are provided in Section 6.5 (Other construction elements) of this Environmental Impact Statement. Key elements specific to The Bays Station as described in the table below, are also depicted on Figure 13-7.

**Table 13-3 Other construction elements – The Bays Station**

| Construction element                   | Description   |
|--|---|
| Construction traffic access and egress | Continued access and egress arrangements established under the previous Sydney Metro West planning applications that would likely be maintained during construction include: <ul style="list-style-type: none"> <li>access to the construction site via James Craig Road and Solomons Way / Port Access Road</li> <li>egress from the construction site via James Craig Road and Solomons Way / Port Access Road, through to Sommerville Road.</li> </ul> |
|  | Additional and/or new access and egress arrangements likely to be required for construction of this proposal include: <ul style="list-style-type: none"> <li>potential secondary access to and egress from the construction site via right-in and left out to Robert Street.</li> </ul>   |
| Peak daily traffic movements           | <ul style="list-style-type: none"> <li>about 292 daily heavy vehicle movements</li> <li>about 300 daily light vehicle movements.</li> </ul> <p>Note: Movement refers to a one-way movement. A vehicle entering and then leaving a construction site represents two movements.</p>   |
| Transport network modifications        | The previous Sydney Metro West planning applications do not involve any temporary transport network modifications.  |
|  | Additional temporary transport network modifications that would be introduced as part of this proposal include temporary removal of on-street car parking spaces along Robert Street to implement final traffic arrangements such as a new intersection and line-marking etc. These spaces would also be permanently removed for operation of the station.  |

## 13.5 Transport

Further details of the operational and construction transport assessment, including the approach and methodology, is provided in Technical Paper 1 (Operational transport) and Technical Paper 2 (Construction transport).

Potential benefits and impacts at a regional level or where impacts are common across precincts are assessed in Chapter 18 (Proposal-wide) of this Environmental Impact Statement. This includes strategic transport benefits during operation, and potential impacts in relation to road user safety, construction worker parking, emergency vehicles and road condition during construction.

### 13.5.1 Baseline environment

The baseline transport environment described for The Bays Station includes the existing transport environment as well as adjustments made under the previous Sydney Metro West planning applications.

#### Active transport network

Pedestrian activity around The Bays Station is generally low given the maritime and industrial land uses. The predominately residential areas in surrounding suburbs have a well-developed pedestrian network. Key pedestrian facilities surrounding The Bays Station include:

- footpaths along both sides of Victoria Road, James Craig Road and Robert Street. Solomons Way and sections of Sommerville Road are not open to the general public; however, there are some formal footpaths on sections of these roads
- signalised pedestrian crossings on the east approach of the Victoria Road / Robert Street intersection, the west approach of the Victoria Road / The Crescent intersection and the east approach of the James Craig Road / The Crescent intersection
- a staged movement via the medians at the roundabout on James Craig Road east of The Crescent.

The cycle network surrounding The Bays Station includes:

- on-road cycle routes on Balmain Road, Darling Street, Lilyfield Road, Robert Street, Crescent Street, Gordon Street, Denison Street and Cecily Street
- connection to the regional cycle network via Anzac Bridge, Lilyfield Road, Balmain Road, Victoria Road, The Crescent and Young Street.



The active transport network around The Bays Station will be modified by the WestConnex M4-M5 Link that is part of the WestConnex program of works by 2023. These modifications include:

- Rozelle Rail Yards link: provision of an off-road active transport east-west connection between The Bay Run and Greenway in the west to Anzac Bridge and Sydney CBD in the east
- Whites Creek link: provision of a link between Callan Park, Rozelle Rail Yards and Parramatta Road via a predominately off-road active transport link along Whites Creek to Easton Park
- Rozelle land bridge: provision of a link from Bicentennial Park and Glebe foreshore to Rozelle Rail Yards and Easton Park, providing north-south connectivity between Glebe, Annandale, Rozelle and Balmain.

### Public transport network

A summary of the public transport services around The Bays Station is provided in Table 13-4.

**Table 13-4 Public transport services – The Bays Station**

| Mode  | Description  |
|-------|--|
| Rail  | <ul style="list-style-type: none"> <li>• L1 Dulwich Hill Line on the light rail network via the Rozelle Bay light rail stop about 500 metres south.</li> </ul>                                       |
| Bus   | <ul style="list-style-type: none"> <li>• 15 bus routes servicing the Sydney CBD, the Inner West, northern suburbs and western suburbs</li> <li>• 5 school bus routes.</li> </ul>                     |
| Ferry | <ul style="list-style-type: none"> <li>• White Bay Cruise Terminal about 1 kilometre north-east servicing cruise ships when the Overseas Passenger Terminal at Circular Quay is occupied.</li> </ul> |

### Parking, loading, servicing and pick-up arrangements

The parking environment around The Bays Station includes:

- no parking along City West Link and The Crescent east of City West Link with clearways in operation at all times, or along James Craig Road and The Crescent south of City West Link
- on-street parking on the northern side of Robert Street west of Mullens Street except during the weekday PM peak period
- angled parking on both sides of Robert Street east of Mullens Street, including for motorcycles.

### Traffic volumes and patterns

Approximate peak hour midblock volumes on key access roads surrounding The Bays Station are shown in Table 13-5. The key access roads carry traffic volumes generally in line with their function. The future road network within the vicinity of The Bays Station will be modified to accommodate WestConnex M4-M5 Link. Additional road network changes are proposed as part of Western Harbour Tunnel and Warringah Freeway Upgrade, which would connect to the WestConnex Rozelle Interchange and the surface road network in Rozelle.

**Table 13-5 Existing peak hour traffic volumes (mid-block) by direction – The Bays Station (2021)**

| Road                                  | Direction  | AM peak hour volume (vehicles per hour) | PM peak hour volume (vehicles per hour) |
|---------------------------------------|------------|---|---|
| The Crescent west of James Craig Road | Eastbound  | 3,260                                   | 2,970                                   |
|                                       | Westbound  | 2,280                                   | 2,510                                   |
| City West Link west of The Crescent   | Eastbound  | 2,650                                   | 2,440                                   |
|                                       | Westbound  | 1,660                                   | 1,970                                   |
| James Craig Road east of The Crescent | Eastbound  | 130                                     | 40                                      |
|                                       | Westbound  | 60                                      | 140                                     |
| Victoria Road north of The Crescent   | Northbound | 1,720                                   | 2,890                                   |
|                                       | Southbound | 3,730                                   | 2,820                                   |



## Intersection performance

Modelled intersection performance during the AM and PM peak hours for key intersections in the vicinity of The Bays Station is shown in Table 13-6. This modelling considers the modifications that will be made by the WestConnex M4-M5 Link and that are proposed to be delivered as part of Western Harbour Tunnel and Warringah Freeway Upgrade.

Modelled intersection performance indicates that the following intersections currently perform at level of service E or F:

- City West Link / The Crescent during the AM peak hour, which is due to high through-movement traffic volumes conflicting with right turning and cross-street traffic, and substantial queuing along City West Link in the eastbound direction
- The Crescent / Victoria Road during the PM peak hour, which is due to high traffic volumes on all approaches leading to substantial queueing in the westbound direction.

**Table 13-6 Modelled peak hour baseline intersection performance – The Bays Station (2021)**

| Intersection and peak hour                   | Demand flow (vehicles per hour) | Average delay (seconds per vehicle) | Level of service | Maximum queue length by directional approaches (metres) |      |
|--|---------------------------------|-------------------------------------|------------------|---|------|
| City West Link / The Crescent (signalised)   |                                 |                                     |                  |   |      |
| AM peak                                      | 6,244                           | 87                                  | F                | NB  | 205  |
|  |                                 |                                     |                  | EB  | >500 |
|  |                                 |                                     |                  | SB  | -    |
|  |                                 |                                     |                  | WB  | 235  |
| PM peak                                      | 6,429                           | 39                                  | C                | NB  | 165  |
|  |                                 |                                     |                  | EB  | >500 |
|  |                                 |                                     |                  | SB  | -    |
|  |                                 |                                     |                  | WB  | 355  |
| The Crescent / James Craig Road (signalised) |                                 |                                     |                  |   |      |
| AM peak                                      | 5,937                           | 15                                  | B                | NB  | 30   |
|  |                                 |                                     |                  | EB  | >500 |
|  |                                 |                                     |                  | SB  | -    |
|  |                                 |                                     |                  | WB  | 135  |
| PM peak                                      | 6,228                           | 13                                  | A                | NB  | 40   |
|  |                                 |                                     |                  | EB  | 375  |
|  |                                 |                                     |                  | SB  | -    |
|  |                                 |                                     |                  | WB  | 245  |
| The Crescent / Victoria Road (signalised)    |                                 |                                     |                  |   |      |
| AM peak                                      | 7,789                           | 26                                  | B                | NB  | -    |
|  |                                 |                                     |                  | EB  | 100  |
|  |                                 |                                     |                  | SB  | 280  |
|  |                                 |                                     |                  | WB  | 420  |
| PM peak                                      | 8,095                           | 77                                  | F                | NB  | -    |
|  |                                 |                                     |                  | EB  | 180  |
|  |                                 |                                     |                  | SB  | 195  |
|  |                                 |                                     |                  | WB  | >500 |
| Victoria Road / Robert Street (signalised)   |                                 |                                     |                  |   |      |
| AM peak                                      | 6,300                           | 56                                  | D                | NB  | >500 |
|  |                                 |                                     |                  | EB  | -    |
|  |                                 |                                     |                  | SB  | 265  |
|  |                                 |                                     |                  | WB  | 165  |

| Intersection and peak hour                           | Demand flow (vehicles per hour) | Average delay (seconds per vehicle) | Level of service | Maximum queue length by directional approaches (metres) |     |
|--|---------------------------------|-------------------------------------|------------------|---|-----|
| PM peak  | 6,688                           | 28                                  | B                | NB  | 240 |
|  |                                 |                                     |                  | EB  | -   |
|  |                                 |                                     |                  | SB  | 310 |
|  |                                 |                                     |                  | WB  | 115 |
| Robert Street / Mullens Street (priority controlled) |                                 |                                     |                  |   |     |
| AM peak  | 1,660                           | 35                                  | C                | NB  | -   |
|  |                                 |                                     |                  | EB  | 10  |
|  |                                 |                                     |                  | SB  | <5  |
|  |                                 |                                     |                  | WB  | 5   |
| PM peak  | 1,492                           | 20                                  | B                | NB  | -   |
|  |                                 |                                     |                  | EB  | 5   |
|  |                                 |                                     |                  | SB  | <5  |
|  |                                 |                                     |                  | WB  | 5   |

### 13.5.2 Operational impact assessment

This section outlines the transport interchange provisions proposed at The Bays Station as shown in Figure 13-1.

The transport interchange provisions have been designed to maximise the seamless travel experience for all customer groups transferring between this proposal and other transport modes. Stations have been designed for ease of interchange from the different modes including pedestrian and cycle facilities and to minimise disruptions to public transport users and the surrounding road network.

This section also discusses the potential impact of the transport interchange provisions on the transport network during operation.

#### Passenger demand

Station passenger demand forecast for the 2036 AM peak hour (8am to 9am) indicates about 1,300 customers accessing The Bays Station and about 1,850 customers egressing The Bays Station during the AM peak hour.

The 2036 modal breakdown of forecast access and egress during the AM peak hour is presented in Table 13-7. Key observations from this analysis indicate the majority of customers would walk to and from the station. These customers would mainly be from the Balmain and Rozelle catchments to the north and north-east, with some also from the future development within the Bays West precinct. Bus transfers and kiss and ride are also reasonable proportions of station access trips.

**Table 13-7 2036 forecast mode of access and egress – The Bays Station**

| Mode   | Walk | Cycle | Ferry | Bus | Kiss and ride |
|--------|------|-------|-------|-----|---------------|
| Access | 58%  | 3%    | 2%    | 24% | 13%           |
| Egress | 96%  | 0%    | 0%    | 4%  | 0%            |

#### Integration with other transport modes

A description of how The Bays Station would integrate with existing transport modes during operation is provided in Table 13-8. Appropriate signage and wayfinding would be provided within the precinct to provide easy customer transfer and access to the station.

**Table 13-8 Network integration – The Bays Station**

| Network                  | Description  |
|--------------------------|--|
| Pedestrian network       | <p>The Bays Station entry would front onto a new public plaza located between White Bay and the former White Bay Power Station. The station would be accessed via a new shared user path.</p> <p>New pedestrian facilities proposed to be provided as part of the station and precinct include:</p> <ul style="list-style-type: none"> <li>• a shared user path to connect the precinct to the surrounding area, including Robert Street, Rozelle Parklands and Victoria Road shared user path</li> <li>• a pedestrian connection between the new bus interchange and the station entry</li> <li>• footpaths along the new precinct street</li> <li>• a number of zebra crossings of the new precinct street.</li> </ul> <p>2036 pedestrian modelling indicates all footpaths are forecast to operate sufficiently at level of service A for both the AM and PM peaks respectively with no crowding expected.</p>  |
| Cycle network            | <p>New cycling facilities proposed to be provided as part of the station and precinct include:</p> <ul style="list-style-type: none"> <li>• a shared user path to connect the precinct to the surrounding area, including Robert Street, Rozelle Parklands, Victoria Road shared user path and the existing shared user path on Anzac Bridge</li> <li>• a cycle connection across Johnstons Bay by reinstating the Glebe Island bridge or provision of a new bridge (to be delivered by others)</li> <li>• cycle crossing provision of new roads within the precinct</li> <li>• bicycle parking spaces adjacent to the station entry.</li> </ul>   |
| Public transport network | <p>Public transport integration at The Bays Station would include:</p> <ul style="list-style-type: none"> <li>• new bus stops on the new precinct street within close proximity to the station entry</li> <li>• provision for buses to access and egress the bus interchange via Robert Street and turn around in the precinct.</li> </ul>   |
| Road network             | <p>A number of changes are anticipated to be made to the surrounding road network as a result of WestConnex M4-M5 Link.</p> <p>Road network changes that would be implemented as part of the station precinct include:</p> <ul style="list-style-type: none"> <li>• a new signalised intersection on Robert Street at the entry to the precinct</li> <li>• a new intersection within the precinct at the new precinct street</li> <li>• public transport, kiss and ride vehicle and point-to-point vehicle access to the precinct via the new intersection on Robert Street. Precinct traffic would have the ability to travel via James Craig Road via the new precinct street</li> <li>• a new precinct street aligned around the station precinct</li> <li>• possible traffic calming measures, such as speed humps at or near crossing points where high pedestrian volumes are expected.</li> </ul> <p>Sydney Metro is also investigating the potential to provide some kiss and ride spaces on Robert Street to reduce the number of vehicles entering the precinct.</p> |

### Road network performance

Intersection performance results for the '2036 without proposal' and '2036 with proposal' scenarios during the AM and PM peak hours for key intersections in the vicinity of The Bays Station are shown in Table 13-6. The modelled scenario is described in detail in Technical Paper 1 (Operational transport).

Intersection performance analysis indicates that:

- the Robert Street / Mullens Street intersection is forecast to operate at level of service D and C as a priority controlled intersection in the 'without proposal' scenario in the AM and PM peak respectively. With this proposal, this intersection would operate at level of service F in the AM peak and E in the PM peak. Options to improve the performance of this intersection would be investigated in consultation with key stakeholders to improve capacity for future demand and to provide safe crossing for pedestrians and cyclists
- The Crescent / James Craig Road intersection is forecast to operate at level of service A and B as a signalised intersection in the 'without proposal' and 'with this proposal' scenarios for the AM and PM peak respectively

- the new Robert Street / new precinct street and new precinct street / Port Access Road intersections would operate at level of service A for both AM and PM peaks. Further investigation would be carried out to confirm the preferred pedestrian crossing arrangements at these intersections.



**Figure 13-9 Operational intersection performance – The Bays Station (2036)**

### Parking and property access

To accommodate the proposed road network changes on Robert Street east of Mullens Street, parking spaces would reduce from 124 to around 52.

The current gated one-way link road providing outbound movements from the Port Access Road onto Robert Street near 48-50 Robert Street would be removed as part of this proposal. Any required outbound access to Robert Street for port/cruise terminal traffic would be accommodated via the new precinct street intersection with Robert Street.

The proposed Robert Street / new precinct street intersection would be located at the access of 48-50 Robert Street. The access would be maintained however a safety assessment would be carried out. An adequate sight distance should be provided in response to the higher traffic activity anticipated at the vicinity of the access.

### 13.5.3 Construction impact assessment

#### Construction haul routes

The primary construction haul routes for The Bays Station are shown in Figure 13-10. A secondary haul route may involve the use of Robert Street to and from Victoria Road. Access and egress via Robert Street would also be required to carry out some of the construction works, such as the new precinct intersection on Robert Street and associated line marking, and the connection of the shared use path to Robert Street. Construction site access and egress locations, as well as the number of daily traffic movements anticipated at The Bays Station construction site, are outlined in Section 13.4.2.



**Figure 13-10 Primary construction haul routes – The Bays Station**

### Active transport network

Existing pedestrian and cycle routes surrounding The Bays Station construction sites would be maintained throughout construction.

Construction vehicles would travel adjacent to or across shared paths along Victoria Road, The Crescent and James Craig Road; however, potential impacts on cyclists would be minor given that cyclists would be interacting with a low number of additional heavy vehicles. To address potential conflicts, mitigation measures outlined in the CTMF would be implemented during construction.

### Public transport network

The Crescent is used by buses and also forms part of the construction haul route for The Bays Station construction site. Minimal impacts on buses are expected and would be limited to a potential minor increase in travel time due to the additional construction vehicles on the road network. No impacts are anticipated on the operation of bus stops.

No impacts on the light rail network or the White Bay Cruise Terminal are anticipated during construction.

### Parking and property access

Some parking spaces along Robert Street would be temporarily removed for short periods (for around a few months) during construction work for the new Robert Street / new precinct street intersection and associated line marking. Impacts are anticipated to be minor, given the short-term removal of these parking spaces and availability of alternative on-street parking nearby. Some parking spaces along Robert Street would be permanently removed once the new intersection is operational.

Where existing parking is removed to facilitate construction activities, a parking management plan would be developed in accordance with the requirements of the CTMF. This would include consultation with the Inner West Council to investigate opportunities to provide alternative parking facilities.



## Road network performance

Intersection performance results for the '2026 without proposal' (without construction vehicles) and '2026 with proposal' (with construction vehicles) scenarios are shown in Figure 13-11.

During the AM peak hour (7:15am to 8:15am) and PM peak hour (5pm to 6pm), it is anticipated that The Bays Station construction site would generate a total of 38 light vehicle movements and 34 heavy vehicle movements during the peak construction activity. These vehicle movement forecasts were assumed for the intersection performance modelling.

Peak hours were selected to represent the times when background traffic demand is at its greatest.

Modelled intersection performance during construction indicates that all intersections would perform at the same level of service with and without construction traffic.



**Figure 13-11 Construction site intersection performance – The Bays Station (2026)**

### 13.5.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

The approach to transport and traffic management during the construction phase, including the process for the development of all construction traffic management plans is outlined in the CTMF provided in Appendix G.

The CTMF provides the overall strategy and approach for construction traffic management for Sydney Metro West, and an outline of the traffic management requirements, mitigation measures and processes that would be common to each of the proposed construction sites. It establishes the traffic management processes and acceptable criteria to be considered and followed in managing roads and footpaths adjacent to construction sites.

Mitigation measures that are specific to address the operation of The Bays Station are listed in Table 13-9.

**Table 13-9 Transport mitigation measures – The Bays Station**

| Ref              | Impact/issue                    | Mitigation measure  | Timing    |
|------------------|---------------------------------|---|-----------|
| <b>Transport</b> |                                 |   |           |
| EIS-TT7          | Operational traffic congestion  | Provision of kiss and ride facilities on Robert Street to reduce the number of vehicle movements into and out of the precinct would be investigated in consultation with Inner West Council.  | Operation |
| EIS-TT8          | Pedestrian access               | The need for pedestrian crossing facilities at the Robert Street / new precinct street and new precinct street / Port Access Road intersections would be investigated in consultation with Inner West Council and NSW Department of Planning and Environment. | Operation |
| EIS-TT9          | Future road network performance | The potential signalisation of the Robert Street / Mullens Street intersection to improve future year level of service would be investigated in consultation with Inner West Council and NSW Department of Planning and Environment.                          | Operation |
| EIS-TT10         | Property access                 | Further investigation, including a safety assessment, would be carried out so that safe access is maintained to 48-50 Robert Street.  | Operation |

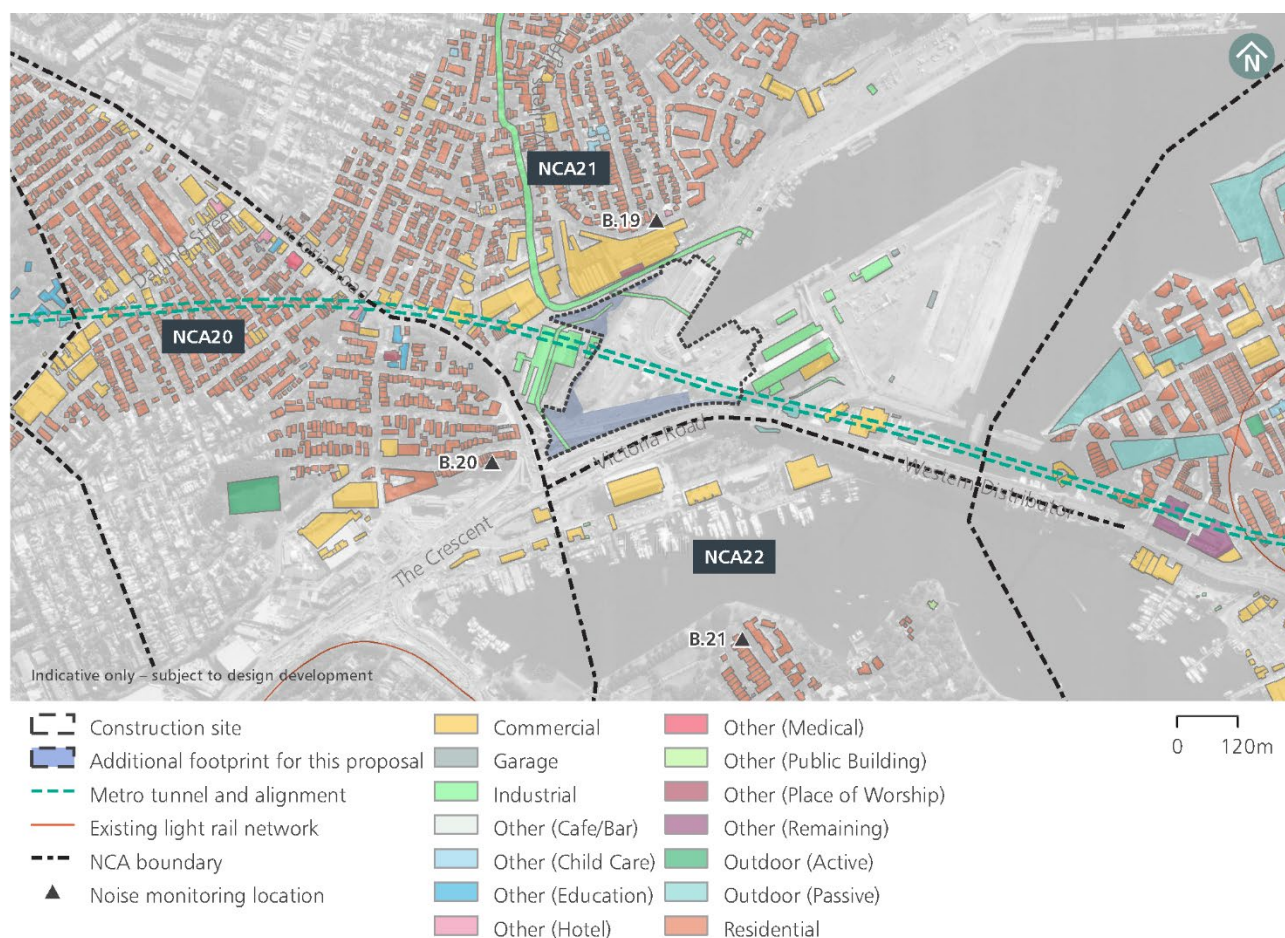
## 13.6 Noise and vibration

Further details on the operational and construction noise and vibration assessment, including the approach and methodology, are provided in Technical Paper 3 (Operational noise and vibration) and Technical Paper 4 (Construction noise and vibration).

### 13.6.1 Baseline environment

Existing noise levels around The Bays Station are controlled by road traffic noise on the surrounding road network and industrial noise from White Bay and Glebe Island. The area surrounding The Bays Station is mainly commercial and industrial and the nearest receivers are close to the boundary of the site. Residential receivers are located to the north and west of the site; however, they are generally shielded behind existing buildings.

This precinct is covered by three noise catchment areas (NCAs) for the construction noise assessment – NCA20 to NCA22. The site and NCAs are shown in Figure 13-12.



**Figure 13-12 Location of sensitive receivers near The Bays Station and NCAs**

Unattended noise monitoring was carried out at sensitive receiver locations near The Bays Station between March and July 2019 as part of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a). This data represents the noise environment prior to the commencement of the work carried out under the previous Sydney Metro West planning application and was used to inform this assessment.

The results of the unattended noise monitoring are summarised in Table 13-10 and indicate that background noise levels generally reflect the commercial and industrial nature of the area.

Short-term attended noise monitoring was also carried out at The Bays Station between March and July 2019. The results were generally found to be consistent with the unattended noise monitoring. Detailed observations from the attended monitoring are provided in Technical Paper 4 (Construction noise and vibration).

**Table 13-10 Summary of unattended noise monitoring – The Bays Station**

| Location ID | Noise logger location        | Noise level (dBA) <sup>1,2</sup> |         |       |   |         |       |
|-------------|------------------------------|----------------------------------|---------|-------|---|---------|-------|
|             |                              | Background noise (RBL)           |         |       | Average noise level (L <sub>Aeq</sub> ) |         |       |
|             |                              | Day                              | Evening | Night | Day                                     | Evening | Night |
| B.19        | 21 Mansfield Street, Rozelle | 43                               | 43      | 35    | 56                                      | 54      | 47    |
| B.20        | 22 Lilyfield Road, Rozelle   | 51                               | 51      | 45    | 57                                      | 57      | 54    |
| B.21        | 308 Glebe Point Road, Glebe  | 48                               | 47      | 39    | 59                                      | 58      | 51    |

Notes:

1. The RBL and L<sub>Aeq</sub> noise levels have been determined with reference to the procedures in the Noise Policy for Industry (NSW Environment Protection Authority, 2017)
2. Daytime is 7am to 6pm, evening is 6pm to 10pm, and night-time is 10pm to 7am

### 13.6.2 Operational impact assessment

The operational noise associated with The Bays Station has been assessed for the nearest and most noise affected residential receivers for each source type as presented in Table 13-11. Preliminary noise impacts for the traction substation have been included in these calculations.

The results indicate that the predicted noise levels would be compliant with the applicable noise criteria. Noise attenuation has been incorporated into the design to determine the predicted noise levels and includes consideration of the use of large fan attenuators, vent orientation, acoustic louvres and appropriate plant selection. To control noise levels from the traction substation, potential mitigation may include attenuators on the exhaust for major plant such as the single and three phase transformers and the heat exchangers. These measures would be further developed throughout the detailed design phase so that compliance with the environmental noise criteria is achieved.

At The Bays Station the sleep disturbance noise criteria is  $L_{AFmax}$  52 dB(A) and 60 dB(A) to the north and west of the station respectively. Given the generous offset distances to existing sensitive receivers, the highest predicted noise impact is  $L_{AFmax}$  35 dB(A). Given the predicted noise impact does not exceed the criteria at the sensitive receivers, further consideration of noise attenuation is not required.

There would be no sources of vibration as part of operation of the station that would impact nearby receivers. Potential operational vibration impacts from trains operating in the tunnels are addressed in Chapter 16 (Tunnels) of this Environmental Impact Statement.

**Table 13-11 Operational noise levels – The Bays Station**

| Source  | Criteria <sup>1</sup> , dB(A) | Predicted noise level ( $L_{Aeq,15min}$ ) |
|---|-------------------------------|---|
| <b>Lilyfield Road (west of the station) – residential</b> |                               |   |
| Daytime   | 56                            | 42  |
| Evening   | 48                            | 42  |
| Night-time  | 43                            | 42  |
| Emergency mode  | 48                            | 43  |
| Draught relief noise impacts                              | 65 $L_{AFmax}$                | 35  |
| <b>Mansfield Street (north of station) – residential</b>  |                               |   |
| Daytime   | 48                            | 32  |
| Evening   | 48                            | 32  |
| Night-time  | 40                            | 31  |
| Emergency mode  | 45                            | 33  |
| Draught relief noise impacts                              | 65 $L_{Amax,95th}$ percentile | 32  |

Notes:

1. Criteria differs between operational noise source type (refer Technical Paper 3 (Operational noise and vibration))

### 13.6.3 Construction impact assessment

The construction scenarios and anticipated working hours at The Bays Station construction site are shown in Table 13-12. The estimated duration of each activity is also provided, noting that most activities would be intermittent and would not occur on a continual basis during every day of the activity.

The proposed work is anticipated to have a total duration of about four years. Refer to Figure 13-8 for the indicative construction program at The Bays Station.

Temporary construction noise and vibration impacts would be managed through the implementation of standard and additional mitigation measures in accordance with the Sydney Metro CNVS.

**Table 13-12 Construction activities and working hours – The Bays Station**

| Scenario                                  | Activity |   | Indicative duration (months) | Hours of work <sup>1</sup> |                    |         |       |
|---|----------|---|------------------------------|----------------------------|--------------------|---------|-------|
|   |          |   |                              | Std. day                   | Out of hours works |         |       |
|   |          |   |                              |                            | Day OOH            | Evening | Night |
| Site establishment and public domain work | Typical  | Deliveries and general work                             | 18                           | ✓                          | ✓                  | -       | -     |
|   | Peak     | Construction/decommissioning of facilities and hoarding |                              | ✓                          | ✓                  | -       | -     |
| Piling                                    | Typical  | Supporting work   | 9                            | ✓                          | ✓                  | -       | -     |
|   | Peak     | Bored piling with support plant                         |                              | ✓                          | ✓                  | -       | -     |
| Station/facility construction             | Typical  | Internal construction and fit-out                       | 27                           | ✓                          | ✓                  | ✓       | ✓     |
|   | Peak 1   | Installation of framing and structure                   |                              | ✓                          | ✓                  | ✓       | -     |
|   | Peak 2   | Concrete work   |                              | ✓                          | ✓                  | ✓       | -     |
| Rail systems access shaft                 | Typical  | Surface support   | 21                           | ✓                          | ✓                  | ✓       | ✓     |
|   | Peak     | Deliveries and tunnel access                            |                              | ✓                          | ✓                  | ✓       | ✓     |
| Road work                                 | Typical  | Supporting work   | 9                            | ✓                          | ✓                  | -       | -     |
|   | Peak     | Noise intensive work                                    |                              | ✓                          | ✓                  | -       | -     |

Notes:

1. OOH = out-of-hours

### Airborne construction noise

The predicted airborne NML exceedances from The Bays Station construction site are summarised in Table 13-13 for all residential receivers and in Table 13-14 for commercial and other sensitive receivers. The predictions are representative of the highest noise levels that would be experienced when the works are nearest to the sensitive receiver.

The number of receivers predicted to experience exceedances of the NMLs are summarised in bands of 10 dB and are separated into day, evening and night-time periods, as appropriate.

During the daytime, the highest construction noise impacts are predicted during road work when noise-intensive equipment such as a concrete saw or rockbreaker would be in use. The highest impact work is expected to last for around nine months; however, concrete saws and rockbreakers would only be used intermittently as required.

During the night-time, the highest construction noise impacts are predicted during rail systems access shafts. The majority of this work would occur inside the built station structure and does not require noise-intensive equipment. This work is expected to last for around 21 months.



**Table 13-13 Overview of NML exceedances (residential receivers) – The Bays Station construction site**

| Scenario                                  | Activity | Indicative duration (months) | Number of receivers exceeding NML |          |        |                           |          |        |         |          |        |            |          |        |                   |          |        |
|---|----------|------------------------------|-----------------------------------|----------|--------|---------------------------|----------|--------|---------|----------|--------|------------|----------|--------|-------------------|----------|--------|
|   |          |                              | Standard hours daytime            |          |        | Out of hours <sup>3</sup> |          |        |         |          |        |            |          |        |                   |          |        |
|   |          |                              |                                   |          |        | Daytime out of hours      |          |        | Evening |          |        | Night time |          |        | Sleep disturbance |          |        |
|   |          |                              | 1 10 dB                           | 10 20 dB | >20 dB | 1 10 dB                   | 10 20 dB | >20 dB | 1 10 dB | 10 20 dB | >20 dB | 1 10 dB    | 10 20 dB | >20 dB | 1 10 dB           | 10 20 dB | >20 dB |
| Site establishment and public domain work | Typical  | 18                           | 1                                 | -        | -      | 16                        | -        | -      | n/a     | n/a      | n/a    | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |
|   | Peak     |                              | 25                                | -        | -      | 120                       | 1        | -      | n/a     | n/a      | n/a    | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |
| Piling                                    | Typical  | 9                            | -                                 | -        | -      | 2                         | -        | -      | -       | -        | -      | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |
|   | Peak     |                              | 2                                 | -        | -      | 92                        | -        | -      | 15      | -        | -      | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |
| Station/facility construction             | Typical  | 27                           | -                                 | -        | -      | -                         | -        | -      | 556     | 28       | -      | 45         | -        | -      | -                 | -        | -      |
|   | Peak 1   |                              | -                                 | -        | -      | 15                        | -        | -      | -       | -        | -      | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |
|   | Peak 2   |                              | 170                               | -        | -      | 554                       | 28       | -      | -       | -        | -      | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |
| Rail systems access shaft                 | Typical  | 21                           | -                                 | -        | -      | -                         | -        | -      | -       | -        | -      | -          | -        | -      | -                 | -        | -      |
|   | Peak     |                              | -                                 | -        | -      | -                         | -        | -      | 15      | -        | -      | 76         | -        | -      | 9                 | -        | -      |
| Road work                                 | Typical  | 9                            | 11                                | 3        | -      | 25                        | 7        | -      | n/a     | n/a      | n/a    | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |
|   | Peak     |                              | 405                               | 92       | 14     | 364                       | 288      | 32     | n/a     | n/a      | n/a    | n/a        | n/a      | n/a    | n/a               | n/a      | n/a    |

**Table 13-14 Overview of NML exceedances (other sensitive receivers) – The Bays Station construction site**

| Scenario                                  | Activity | Indicative duration (months) | Number of receivers exceeding NML |          |        |            |          |        |             |          |        |                  |          |        |                    |          |        |
|---|----------|------------------------------|-----------------------------------|----------|--------|------------|----------|--------|-------------|----------|--------|------------------|----------|--------|--------------------|----------|--------|
|   |          |                              | Commercial                        |          |        | Child care |          |        | Educational |          |        | Place of worship |          |        | Passive recreation |          |        |
|   |          |                              | 1 10 dB                           | 10 20 dB | >20 dB | 1 10 dB    | 10 20 dB | >20 dB | 1 10 dB     | 10 20 dB | >20 dB | 1 10 dB          | 10 20 dB | >20 dB | 1 10 dB            | 10 20 dB | >20 dB |
| Site establishment and public domain work | Typical  | 18                           | 1                                 | -        | -      | -          | -        | -      | -           | -        | -      | -                | 1        | -      | -                  | -        | -      |
|   | Peak     |                              | 5                                 | -        | -      | 3          | -        | -      | -           | -        | -      | -                | -        | 1      | -                  | -        | -      |
| Piling                                    | Typical  | 9                            | -                                 | -        | -      | -          | -        | -      | -           | -        | -      | -                | -        | -      | -                  | -        | -      |
|   | Peak     |                              | -                                 | -        | -      | 1          | -        | -      | -           | -        | -      | 1                | -        | -      | -                  | -        | -      |
| Station/facility construction             | Typical  | 27                           | -                                 | -        | -      | -          | -        | -      | -           | -        | -      | -                | -        | -      | -                  | -        | -      |
|   | Peak 1   |                              | -                                 | -        | -      | -          | -        | -      | -           | -        | -      | -                | -        | -      | -                  | -        | -      |
|   | Peak 2   |                              | 1                                 | -        | -      | 5          | -        | -      | -           | -        | -      | 1                | -        | -      | 1                  | -        | -      |
| Rail systems access shaft                 | Typical  | 21                           | -                                 | -        | -      | -          | -        | -      | -           | -        | -      | -                | -        | -      | -                  | -        | -      |
|   | Peak     |                              | -                                 | -        | -      | -          | -        | -      | -           | -        | -      | 1                | -        | -      | -                  | -        | -      |
| Road work                                 | Typical  | 9                            | 3                                 | -        | -      | 1          | -        | -      | -           | -        | -      | -                | 1        | -      | -                  | -        | -      |
|   | Peak     |                              | 3                                 | 2        | 3      | 1          | 4        | 1      | 2           | 1        | -      | 1                | -        | 1      | 1                  | -        | -      |

The findings of the worst-case construction noise impact assessment at The Bays Station construction site during the daytime indicate:

- the nearest receivers to the site include commercial and industrial receivers, with residential receivers located further away from the construction site. 'Moderate' to 'high' impacts are predicted at a small number of the nearest receivers, particularly when noise-intensive equipment such as concrete saws or rockbreakers are being used as part of road work
- noise levels during the other construction activities are predicted to comply with the noise management levels at most residential, commercial and other sensitive receivers or result in only 'low' impacts
- the 'peak' scenarios would generate more noise and result in more exceedances than the 'typical' scenarios, which would result from the 'peak' scenarios using noise-intensive (or noisier) equipment
- the nearest commercial and 'other sensitive' receivers are predicted to be impacted during some of the noisier outdoor work activities. The highest impacts at these receivers are predicted when rockbreakers or concrete saws are being used as part of road work. 'High' or 'moderate' worst-case impacts are predicted at:
  - 'high' at C3 Church Balmain and Rosebud College Child Care
  - 'moderate' at Inner Sydney Montessori School.

The findings of the worst-case construction noise impact assessment at The Bays Station construction site during the night-time indicate:

- noise levels at the majority of receivers are predicted to comply with the noise management levels
- 'low' impacts are predicted at the nearest residential receivers during rail system access shafts.

The impacts presented above are based on all equipment working simultaneously in each assessed scenario. There would be periods when construction noise levels are much lower than the worst-case levels predicted and there would be times when no equipment is in use and no impacts occur.

### **Highly affected residential receivers**

Eleven residential receivers are expected to be highly noise affected without mitigation during road work during the daytime when concrete saws or rockbreakers are being used. The total duration of this work is expected to be about around 9 months, however the use of rockbreakers and concrete saws would be intermittent during this period. These receivers are located to the north and east of the site.

### **Sleep disturbance**

A sleep disturbance screening assessment has been completed for the construction work and is summarised in Table 13-13.

'Low' sleep disturbance impacts are predicted at some of the nearest residential receivers north of the site. These impacts mainly result from heavy vehicles movements within the site.

The number of potential instances of sleep disturbance would depend on several factors, including the number of heavy vehicles accessing the site during the night-time and the way in which vehicles are operated. The number of heavy vehicles at this construction site during the night-time is expected to be around four trucks per hour.

During detailed construction planning, sleep disturbance would continue to be investigated to identify opportunities to minimise sleep disturbance impacts.

### **Vibration impacts**

Construction work for this proposal at The Bays Station would not involve major sources of vibration generating equipment. As such, potential vibration impacts are anticipated to be negligible and would be managed through the Sydney Metro CNVS.

### **Ground-borne noise**

Ground-borne noise impacts would only arise where ground-borne noise levels are higher than the corresponding airborne noise levels. This can occur where work is underground or where surface work is shielded by noise barriers or other structures. For all scenarios at The Bays Station construction site, airborne noise is anticipated to be higher than ground-borne noise levels and, as such, a ground-borne noise assessment is not required.

## Construction traffic noise

Construction related traffic has the potential to temporarily increase road traffic noise levels at receivers which are adjacent to the construction site and haul routes. The forecast construction traffic volumes outlined in Section 13.5.3 have been used to determine where potentially noticeable increases in road traffic noise (i.e. a greater than 2 dB increase above the existing noise level) is likely. No roads around The Bays Station construction site are anticipated to have a greater than 2 dB increase.

### 13.6.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

The approach to noise and vibration management during the construction phase, including the process for the development of all construction noise and vibration statements is outlined in the CNVS (Appendix H).

The CNVS provides the overall strategy and approach for construction noise and vibration management for Sydney Metro West, and an outline of the noise and vibration management requirements and processes that would be common to each of the proposed construction sites.

In addition, the Sydney Metro CEMF (Appendix F) outlines the construction noise and vibration mitigation measures to minimise impacts as relevant to this proposal as a whole.

The CNVS and CEMF are discussed further in Chapter 20 (Synthesis) of this Environmental Impact Statement.

## 13.7 Non-Aboriginal heritage

Further details on the non-Aboriginal heritage assessment, including the approach and methodology, are provided in Technical Paper 5 (Non-Aboriginal heritage).

### 13.7.1 Baseline environment

The assessment of non-Aboriginal heritage impacts in Chapter 12 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a) included a description of the existing environment. The non-Aboriginal heritage assessment for this proposal has predominantly used the baseline environment that will be established following the completion of the previous Sydney Metro West planning applications.

Areas within the approved The Bays Station construction site under the previous Sydney Metro West planning applications will have been cleared of existing structures and vegetation, with the station box excavated.

In carrying out work under the previous Sydney Metro West planning applications, a revised Archaeological Research Design and excavation methodology will be prepared and implemented (as required by condition of approval D25 for that approval). As such, the baseline environment assumes that all archaeology at The Bays Station construction site would be managed under the previous Sydney Metro West planning application.

For the purpose of this heritage assessment, the study area for The Bays Station has been defined as a 50-metre buffer around the full extent of the site.

### Existing setting

The existing setting around the study area comprises a combination of industrial and maritime development within a harbourside setting near the historic suburbs of Balmain and Rozelle beyond. The Bays Station study area and existing heritage items within the study area shown in Figure 13-13.

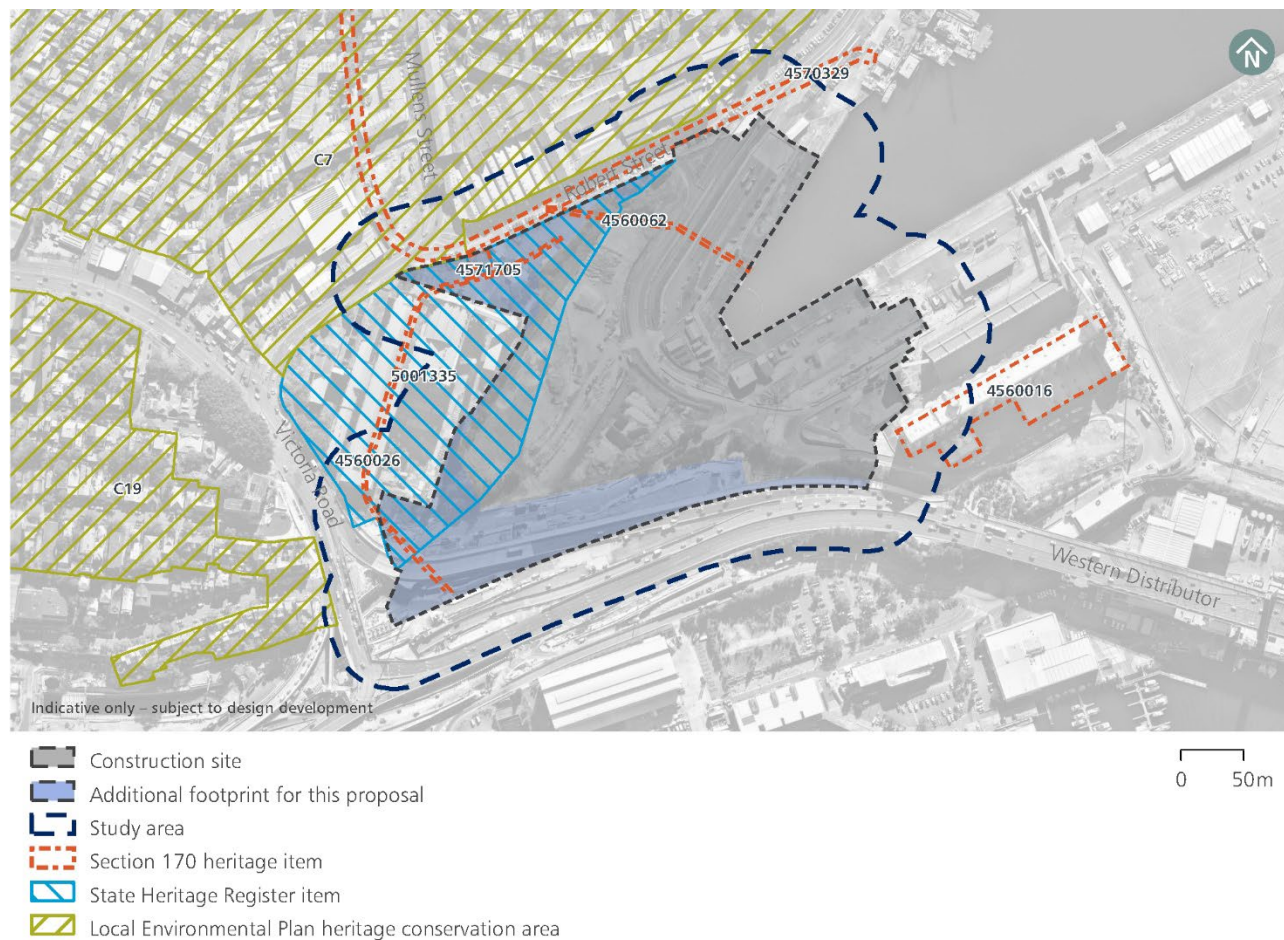
### Site history

The study area is located within the curtilage of the Balmain Estate, granted to William Balmain in 1800, and is located in an area occupied largely by the original White Bay water body prior to reclamation in the 1890s. From 1854, White Bay was the site of a prominent timber and joinery works site in Sydney, which principally supplied the emerging boat and ship building industries in Balmain. This timber/manufacturing use continued up until 1923, when the Sydney Harbour Trust purchased White Bay to establish a shipyard. Other industrial uses in Balmain included an Australian Gas Light Company works near the corner of Robert Street and Mansfield Street (which operated between 1841 and 1909), and the Lever Brothers (subsequently Unilever) soap factory on Booth Street (which operated between 1900 and 1988).

In 1850, the government resumed land at Glebe Island for the construction of the Glebe Island Abattoir, which commenced operation in 1860. The abattoir was closed by 1916 following calls from Balmain and Glebe residents for its closure due to poor management, and the construction of a new abattoir at Homebush.

The former White Bay Power Station comprised a key power plant to support the Sydney transport network, including the underground city circle rail tunnels and the tramway network. The Power Station operated between 1917 and 1983 and remains a prominent visual landmark in Balmain.

The White Bay Hotel was originally opened at the corner of the Victoria and Lilyfield Road in Rozelle. In 1910, the hotel was resumed for the development of rail lines to service the White Bay Power Station, and a second White Bay Hotel was constructed off Victoria Road in 1916. The hotel closed in 1992 following the closure of the White Bay Power Station and the development of surrounding roads, including the City West Link and Victoria Road. In 2008 the hotel was damaged in a fire and subsequently demolished.



**Figure 13-13 Heritage items within the study area – The Bays Station**

### 13.7.2 Impact assessment

#### Built heritage impact assessment

Table 13-15 summarises the potential impacts of operation and construction of this proposal on built heritage items within the study area at The Bays Station. An assessment against relevant conservation management policies has also been carried out and is included in Technical Paper 5 (Non-Aboriginal heritage).

Potential impacts to built heritage items at The Bays Station would generally be minor or neutral, with potential moderate impacts to the former White Bay Power Station and the White Bay Power Station (inlet) canal. Management of potential impacts is outlined in Section 13.7.3. A draft Heritage Interpretation Strategy has been prepared for this proposal (Appendix K). Where heritage items, including significant archaeology are impacted by this proposal, they would be considered for inclusion in the Heritage Interpretation Strategy or place specific interpretation plans prepared as part of this proposal.



**Table 13-15 Impacts on significance of built heritage items – The Bays Station**

| Item, listing and significance   | Potential impact   | Magnitude         |
|--|--|-------------------|
| White Bay Power Station<br><br>SHR Listing No. 01015<br>Urban Growth NSW Development Corporation<br>s170 4500460<br>SREP No. 26 – City West Part 3 No. 11<br><br>State | <b>Direct impact</b><br>Activities associated with construction and operation of this proposal (including for public domain areas, interchange facilities and drainage infrastructure) would be located within the heritage curtilage of the item but would not impact upon the built heritage elements of the item (located about two metres – 40 metres to the north and west). These ancillary works would result in negligible direct impacts to the item. The traction substation would be located within the former location of the upper and mid-south yards of the former White Bay Power Station. Construction of this structure would require excavation within the heritage curtilage and would result in the alteration of the yard area (part of areas assessed as having little to moderate heritage significance within the <i>White Bay Power Station Conservation Management Plan</i> (Design 5 Architects & Sydney Harbour Foreshore Authority, 2004)); however, no built fabric of the item would be directly impacted by these works. As such, the proposed introduction of the substation would result in minor direct impacts to the overall curtilage of the heritage item. | <b>Minor</b>      |
|  | <b>Settlement and vibration</b><br>Construction of the traction substation would occur to the south-west of the built heritage elements of the item. Some of these works would be located within the heritage curtilage of the item, however none of these activities have been identified as being vibration intensive.   | <b>Negligible</b> |
|  | <b>Temporary indirect (visual) impact</b><br>Two acoustic sheds (or other acoustic measures) would be established on either end of the station box during construction of this proposal. The western acoustic shed would be located on the eastern margin of the heritage curtilage of this item and would be around 15 metres in height and around 40 metres in length. This structure would temporarily largely obstruct significant heritage view lines of the former White Bay Power Station from the east down to White Bay. However, the proposed acoustic shed (or other acoustic measures) would be substantially smaller than the large structure of the power station and would not overshadow it. Therefore, temporary indirect impacts to the heritage item are considered to be minor during construction.  | <b>Minor</b>      |
|  | <b>Permanent indirect (visual) impact</b><br>The overall visual setting of the item as an industrial landscape would be altered by this proposal during operation through the introduction of the station precinct and public domain facilities. The metro station services buildings and metro station entrance would be located to the east of the heritage item. These would be about 20 metres in height and would largely obstruct views (identified in the <i>White Bay Power Station Conservation Management Plan</i> (Design 5 Architects & Sydney Harbour Foreshore Authority, 2004)) from within the study area towards the eastern façade of the power station complex. However, due to the location and height of the Anzac Bridge, the view lines from this location towards the item would not be impacted by these works.   | <b>Moderate</b>   |

| Item, listing and significance  | Potential impact   | Magnitude      |
|---|--|----------------|
|   | A traction substation, about five to six storeys in height would be constructed to the south of the former White Bay Power Station building. This new structure would obstruct heritage significant views of the Turbine Hall, Boiler House and chimneys when viewed from the south, and heritage significant views of the building from the Anzac Bridge and from Jubilee/Bicentennial Parks in Glebe. This would disrupt the visual relationship of the Turbine Hall and Boiler House from these vantage points and would interrupt the landmark quality of the building. The new traction substation would diminish the heritage significance of the power station by the introduction of visual clutter. Mitigation measures to manage this potential impact are provided in Section 13.7.3. |                |
| The Valley Heritage Conservation Area<br><br>Leichhardt LEP Item No. C7 | <b>Direct impact</b><br>The proposed works at the intersection and east of Mullens Street include the introduction of intersection signals and line marking to the existing roadway. These works would be consistent with existing roadways in the area and would not result in any adverse direct (physical) impacts to the heritage conservation area overall.   | <b>Neutral</b> |
| Local   | <b>Settlement and vibration impacts</b><br>Vibration levels from the surrounding construction works are predicted to be below the cosmetic damage screening criteria. Potential direct impacts associated with vibration are not anticipated.  | <b>Neutral</b> |
|   | <b>Temporary indirect (visual) impact</b><br>During construction of this proposal, the construction site would be surrounded by hoarding on the southern side of Robert Street and would feature large acoustic sheds (or other acoustic measures), machinery and plant, which would be visible from within the heritage conservation area. However, these temporary features would not obstruct or overshadow significant views of historic architectural elements and street frontages or detract from the industrial character of the southern portion of this heritage conservation area.  | <b>Neutral</b> |
|   | <b>Permanent indirect (visual) impact</b><br>Roadworks within the heritage conservation area would be localised and minor in the streetscape setting and within the overall heritage curtilage of the heritage conservation area, resulting in no adverse visual impacts. The proposed public domain spaces, trunk drainage infrastructure and redevelopment of the car park to the south of the heritage conservation area would retain the existing views towards the former White Bay Power Station (SHR #01015). These works would not result in any adverse indirect visual impacts.  | <b>Neutral</b> |
| Sewage Pumping Station No 7 (SP0007)<br><br>Sydney Water s170 4571705   | <b>Direct impact</b><br>This item is located within the additional footprint for this proposal, in an area proposed as public domain where no works to this item as part of this proposal are indicated. As such, there would be no modification to the physical fabric of this heritage item.   | <b>Neutral</b> |
| Local   | <b>Settlement and vibration</b><br>Vibration levels from the surrounding construction works are predicted to be below the cosmetic damage screening criteria. Potential direct impacts associated with vibration are not anticipated.  | <b>Neutral</b> |

| Item, listing and significance   | Potential impact   | Magnitude  |
|--|--|------------|
|  | <b>Temporary indirect (visual) impact</b><br>Temporary construction work would involve the installation of acoustic sheds (or other acoustic measures) approximately 100 metres to the south of the item. These structures are sufficiently distanced to not result in overshadowing or obstructing any view-lines of the façade of the building.  | Negligible |
|  | <b>Permanent indirect (visual) impact</b><br>An area of public domain would be installed about 15 metres to the south of the item. This would improve public access in proximity to the building and would not include obstructive or overshadowing structures near the item. However, with the fence preserved no new direct views would be provided, resulting in no improvement to view lines or alteration of the setting of the item.   | Negligible |
| White Bay Power Station (inlet) canal<br><br>Port Authority of NSW s170 4560062<br><br>State | <b>Direct impact</b><br>The item is located underground within The Bays Station construction site for this proposal. Box culvert excavation for new drainage (about two to four metres in depth) in the northern part of the construction site may result in partial removal of significant fabric of the canal. Piling work for the traction substation may also potentially impact the canal. Condition of approval D26 for the previous Sydney Metro West planning application requires that the 'revised Archaeological Research Design and Excavation Methodology(s) must include provision for early physical investigation of areas of impact identified as likely to contain State significant archaeology or subterranean Heritage items in the research design to inform excavation in these areas. This must include the White Bay Power Station (inlet) Canal'. This investigation would confirm the final depth, fabric and integrity of the canal prior to work for this proposal. Potential direct impacts would be managed in accordance with the measures detailed in Section 13.7.3. | Moderate   |
|  | <b>Settlement and vibration</b><br>Ground excavation for the traction substation may result in vibration to the canal below the sandstone outcrop (located above the time), and piling excavation for the installation of the traction substation has the potential to result in physical damage to the buried structure.<br>Potential direct impacts associated with vibration would be managed in accordance with standard mitigation measures outlined in the CEMF that include structural assessment, identification of applicable safe vibration levels and specific consideration of the heritage values of the structure in consultation with a heritage specialist to ensure sensitive heritage fabric is adequately monitored and managed.  | Minor      |
|  | <b>Temporary indirect (visual) impact</b><br>This heritage item is located below ground and has no significant views or settings that can be impacted.   | Neutral    |
|  | <b>Permanent indirect (visual) impact</b><br>This heritage item is located below ground and has no significant views or settings that can be impacted.   | Neutral    |

| Item, listing and significance  | Potential impact  | Magnitude         |
|---|---|-------------------|
| White Bay Power Station (outlet) canal<br><br>Port Authority of NSW s170 4560026<br><br>State                     | <b>Direct impact</b><br>The item is located underground, extending from beyond the south-western boundary of The Bays Station construction site. A roadway would also be located above a short section of the outlet canal. Construction activity required to deliver this would be the limited and involve localised removal of hardstand or excavation. The proposed works would not directly (physically) impact the item as excavation would not require excavation into the fabric of the item below ground. | <b>Negligible</b> |
|   | <b>Settlement and vibration</b><br>Construction would occur above this item; however, these activities have not been identified as being vibration intensive. Potential direct impacts associated with vibration are not anticipated.   | <b>Negligible</b> |
|   | <b>Temporary indirect (visual) impact</b><br>This heritage item is located below ground and has no significant views or settings that can be impacted.  | <b>Neutral</b>    |
|   | <b>Permanent indirect (visual) impact</b><br>This heritage item is located below ground and has no significant views or settings that can be impacted.  | <b>Neutral</b>    |
| Beattie Street Stormwater Channel No. 15<br><br>Sydney Water s170 4570329<br><br>Local                            | <b>Direct impact</b><br>The item is located predominately underground until Robert Street, where sections of the channel are visible from the streetscape. This proposal includes minor upgrades to Robert Street including new traffic signals and line marking. These works would be located over a short section of the item; however, these works would not result in direct (physical) impact to the item itself.  | <b>Neutral</b>    |
|   | <b>Settlement and vibration</b><br>Vibration levels from construction of this proposal are predicted to be below the cosmetic damage screening criteria. Potential direct impacts associated with vibration are not anticipated.  | <b>Neutral</b>    |
|   | <b>Temporary indirect (visual) impact</b><br>The portion of the channel near to The Bays Station construction site is underground and there are no significant view lines for the item within proximity to the construction site.   | <b>Neutral</b>    |
|   | <b>Permanent indirect (visual) impact</b><br>The portion of the channel near to The Bays Station is underground and there are no significant view lines for the item within proximity to the station.   | <b>Neutral</b>    |
| Glebe Island Silos<br><br>Port Authority of NSW s170 4560016<br>SREP No. 26 – City West Part 3 No. 1<br><br>Local | <b>Direct impact</b><br>This heritage item is located over 100 metres east of The Bays Station construction site. As such, this proposal would not result in any direct (physical) impacts to this item.  | <b>Neutral</b>    |
|   | <b>Settlement and vibration</b><br>Vibration levels from construction work is predicted to be below the cosmetic damage screening criteria. Potential direct impacts associated with vibration are not anticipated.   | <b>Neutral</b>    |
|   | <b>Temporary indirect (visual) impact</b><br>Acoustic sheds (or other acoustic measures) would be established within the construction site, with the eastern acoustic shed installed about 60 metres west of the heritage item. The acoustic shed would be about 15 metres in height and at the current ground level of the site.   | <b>Negligible</b> |

| Item, listing and significance            | Potential impact   | Magnitude         |
|---|--|-------------------|
|   | The heritage item is located on a higher elevation at the centre of Glebe Island and therefore the acoustic shed would not obstruct views of the structure from the west. Significant heritage views of the item (from the White Bay foreshore and from the Anzac Bridge in particular) would not be obstructed.   |                   |
|   | <b>Permanent indirect (visual) impact</b><br>This proposal includes the introduction of permanent aboveground infrastructure, public domain and transport integration elements. These new elements and structures would be sited over 100 metres north-west of the item and would not overshadow or obstruct views towards the item. In addition, the proposed height of the station services infrastructure (about 20 metres) is noticeably smaller than the item and would be located at a lower elevation. Due to the siting of the proposed work, the visual setting of the item would not be significantly impacted by the proposed work to the west. | <b>Negligible</b> |
| Hornsey Street Heritage Conservation Area | <b>Direct impact</b><br>This heritage conservation area is located over 30 metres west of The Bays Station construction site and there would be no direct (physical) impacts to this item as a result of construction or operation of this proposal.   | <b>Neutral</b>    |
| Leichhardt LEP Item No. C19               | <b>Settlement and vibration</b><br>Vibration levels from the surrounding construction works are predicted to be below the cosmetic damage screening criteria. Potential direct impacts associated with vibration are not anticipated.  | <b>Neutral</b>    |
| Local                                     | <b>Temporary indirect (visual) impact</b><br>Construction activities, involving the use of tall plant and machinery and the introduction of site offices and lay down areas, may be visible across Victoria Road from the Heritage Conservation Area; however, these works would not obscure or overshadow significant views of the late 19th and early 20th century housing and streetscapes or the character of the area.  | <b>Neutral</b>    |
|   | <b>Permanent indirect (visual) impact</b><br>The proposed station services buildings would be around 20 metres in height and may be partly visible from the Heritage Conservation Area to the west of Victoria Road. The traction substation may partially impede heritage significant view lines of the former White Bay Power Station and the Sydney CBD from its eastern edge. However, this would not noticeably reduce the heritage significant character of the housing styles and street patterning that gives the heritage conservation area its significance.   | <b>Negligible</b> |

### Archaeological impact assessment

This section considers the potential archaeological impacts at The Bays Station within areas of additional footprint for the construction of this proposal (shown in Figure 13-14).

As noted in Section 13.7.1, in carrying out work under the previous Sydney Metro West planning application, a revised Archaeological Research Design and excavation methodology will be prepared and implemented (refer to condition of approval D25 for the previous Sydney Metro West planning application). The area within the approved The Bays Station construction site has been previously assessed in Chapter 12 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a), and all archaeological investigations will be completed prior to the construction of this proposal.

Table 13-16 identifies the type of archaeological remains that may be present, the potential for those archaeological remains to occur within the study area, their likely heritage significance, as well as the potential for those remains to be impacted by this proposal.



Land use phasing information presented in Table 13-16 has been developed from original archaeological phasing outlined in Chapter 12 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a).

A summary of the land use and previous impacts at The Bays Station are considered in Technical Paper 5 (Non-Aboriginal heritage).

**Table 13-16 Potential archaeological impacts – The Bays Station**

| Phase and potential archaeological feature               | Potential for occurrence | Heritage significance | Potential archaeological remains  |
|--|--------------------------|-----------------------|---|
| <b>Phase 1</b><br>First White Bay Hotel<br>(1800 – 1910) | Low                      | Local                 | <p>Potential archaeological remains would be related to the former corner hotel including stone and brick footings, brick or stone hearths, and deeper brick- or timber-lined privies with discarded or backfilled historical artefacts (glass, ceramic, bone, demolition rubble).</p> <p>Proposed work in the additional footprint areas at The Bays Station construction site would include ground excavation across the former location of the first White Bay Hotel in order to install a new traction substation. Works to grade and level the site, and to install the traction substation, would likely wholly remove all archaeological remains related to this former hotel.</p> <p>Additional footprint areas for this proposal to the north and east of the former White Bay Power Station have no predicted significant archaeological remains. Work in this area would not result in adverse impacts to any significant archaeological remains. Impacts to potentially significant archaeological remains related to the first White Bay Hotel would be archaeologically managed under an Archaeological Research Design and Excavation Methodology prepared for this proposal. Further detail on the management of potential impacts is outlined in Section 13.7.3.</p> |

### 13.7.3 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

During construction of this proposal, non-Aboriginal heritage would be managed in accordance with Sydney Metro's CEMF (Appendix F). The CEMF includes heritage management objectives and mitigation measures to minimise impacts as relevant to this proposal as a whole.

Mitigation measures that are specific to the operation and construction of The Bays Station to address potential impacts are listed in Table 13-17.

**Table 13-17 Non-Aboriginal heritage mitigation measures – The Bays Station**

| Ref.                           | Impact/issue                         | Proposed mitigation measure   | Timing       |
|--------------------------------|--------------------------------------|---|--------------|
| <b>Non-Aboriginal heritage</b> |                                      |   |              |
| EIS-NAH2                       | Permanent indirect (visual) impact   | <p>Detailed design for aboveground station elements, ancillary facilities and public domain and landscaping work located in or near to heritage significant items, would respond to the following heritage guidelines during design development in order to minimise indirect (visual) impacts to heritage items identified under this proposal:</p> <ul style="list-style-type: none"> <li>• The Burra Charter – The Australia ICOMOS Charter for Places of Cultural Significance (2013), Australia ICOMOS</li> <li>• Better Placed – Design Guide for Heritage (2019), prepared by the NSW Government Architect</li> <li>• Design in Context (2005), prepared by the NSW Heritage Office and the Royal Australian Institute of Architects NSW Chapter</li> <li>• New Uses for Heritage Places (2008), prepared by the Heritage Council of NSW and the Royal Australian Institute of Architects</li> <li>• Draft Connecting with Country Framework (2020), Government Architect NSW.</li> </ul> <p>Detailed design would also respond to guidelines and policies outlined in existing Conservation Management Plans or other relevant heritage assessment for relevant heritage items (State Abattoir, White Bay Power Station), with particular focus on preserving significant views towards the item.</p> | Operation    |
| EIS-NAH8                       | Archaeology                          | An addendum to the existing Archaeological Research Design/s or a new Archaeological Research Design/s would be prepared to identify the excavation methodology for predicted locally significant non-Aboriginal archaeological remains for the additional footprint area at The Bays construction site. Archaeological mitigation measures recommended in the Archaeological Research Design would be carried out in accordance with Heritage NSW guidelines, and where appropriate, supervised by a suitably qualified Excavation Director with experience in managing locally significant archaeology.   | Construction |
| EIS-NAH9                       | Archaeology                          | Preliminary archaeological reports would be prepared within six months of completion of works stage site specific archaeological investigations. Archaeological Excavation Report/s would be prepared by the Excavation Director/s. An executive summary would be prepared for the purposes of publication and communication with community where significant archaeological remains are identified. The final reports would be provided to the NSW Heritage Division within twenty-four months of the completion of archaeological excavations specified in the archaeological research design(s).   | Construction |
| EIS-NAH10                      | Direct and indirect heritage impacts | <p>In order to mitigate direct (physical) and indirect (visual) impacts to heritage items located within The Bays Station:</p> <ul style="list-style-type: none"> <li>• the proposed culvert to the north of the White Bay Power Station would not intersect the 'White Bay Power Station (Inlet) Canal' (Port Authority of NSW s170 SHI #4560062)</li> </ul>   | Construction |

| Ref. | Impact/issue | Proposed mitigation measure  | Timing |
|------|--------------|--|--------|
|      |              | <ul style="list-style-type: none"> <li>the design would respond to guidelines and policies outlined in the existing Conservation Management Plan for the White Bay Power Station or as updated. Opportunities to minimise the scale or alter the siting of the proposed traction substation so that the prominence of White Bay Power Station is not obstructed on significant view lines from the south and south-east would be explored during detailed design</li> <li>piling and other foundational works to install the traction substation would be sited and designed so that they do not directly impact the 'White Bay Power Station (Inlet) Canal' (Port Authority of NSW s170 #4560062).</li> </ul> |        |

## 13.8 Aboriginal heritage

The approach and methodology for the Aboriginal heritage assessment are provided in Chapter 4 (Methodology) of this Environmental Impact Statement. The legislative context for the assessment is provided in Appendix B (Legislative and policy context).

### 13.8.1 Baseline environment

The previous Sydney Metro West planning applications assessed the potential impacts of the establishment of The Bays Station construction site. This section summarises the existing environment presented in the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a) including providing context for the additional footprint required for this proposal (refer to Figure 13-14).

#### Landscape and archaeological context

The Bays Station construction site lies within the White Bay tidal flats and as such, is characterised as a predominantly flat area. Throughout the Last Glacial Maximum (approximately 24,000 to 18,000 years BP (before present)), sea levels in the Australasian region were around 100 to 130 metres below the current level. Between 19,000 to 18,000 years BP, a climate reversal resulted in deglaciation and a subsequent rapid rise in global sea levels. By about 10,000 years BP, sea levels in south-eastern Australia had risen and it was around this time that the Port Jackson embayment was flooded, drowning the ancient valley systems underlying the current Middle Harbour, Parramatta River and Lane Cove River environs. Marine sediments and delta sands were subsequently pushed landwards, infilling Port Jackson while additional sedimentation occurred in the middle and upper portions of these valleys with the deposition of estuarine muds and tidal sands.

Between about 7,900 to 7,700 years BP, the sea level along south-eastern Australia reached its present level. During this phase, former overhangs and cliff lines that had previously formed within the Hawkesbury Sandstone bedrock were inundated and infilled with sediments as described above. Early European settlement of the Balmain peninsula area provides useful context for identifying the impacts of development on The Bays Station construction site and to determine the resulting archaeological potential. Development of the Balmain peninsula and local environs was initially hampered by a number of geological and topographic factors. When Governor Phillip landed in Sydney Cove, the area was noted as being “covered with a dense tea tree scrub through which the gum trees struggled for an existence. The rocky coastline was lined with brambles and native currants but for farming the land was regarded as utterly useless.” Once established, though, the discovery of clay-rich soils facilitated the establishment of cropping and pastoral opportunities, and brick making.

The earliest settlement in Balmain occurred at Peacock Point where two boat building yards were established during the late 1830s. The earliest sales pitches made for land in Balmain stressed the suitability of the waterfront for forming into dockyards and mooring areas (Thorpe, 2012:26). Industry played one of the most significant roles in shaping the development of suburbs in the Leichardt local government area. Rozelle, Balmain and Birchgrove, in particular, have been the most significant industrial centres close to Sydney from earliest settlement, relying largely on the shipping industry. By 1855 the first dry dock at Morts Bay was fully operational.

By the late 19<sup>th</sup> century, Balmain and surrounding suburbs were thriving industrial and commercial suburbs. To accommodate transportation of goods to and from the shipping terminals at Glebe Island and surrounds, a goods line from Rozelle to the northern end of Darling Harbour was constructed in the mid-19<sup>th</sup> century within an area that would be occupied by The Bays Station construction site. Construction of the goods line required the importation of fill material to consolidate the ground surface. The former White Bay Power Station, another notable landmark of the area which relied on the goods line to transport coal, was constructed in 1912 with upgrades occurring throughout the 1920s and 1950s. The area fell into disrepair after the White Bay Power Station was decommissioned in the 1980s.

Following the above, the survival of Aboriginal sites within coastal buried and/or submerged contexts is a factor of the interplay between the environment and the composition of the physical evidence itself (Nutley 2006:1). Likewise, the characteristics of the submerged landform itself (width, depth and slope and the interplay of coastal and riverine hydrology and sediment transportation) are critical to site survival. For the Bays Station construction site, consideration of estuarine and coastal systems with backwater environs, mud flats, swamp, mangrove and marshland environments are capable of retaining cultural materials in ever-increasing layers of sedimentation and/or coastal reclamation works. Nutley suggests that stone artefacts, quarry sites, and, in some areas, stone fish traps may be preserved in such inundated environments since they are relatively durable cultural material items. Open artefact sites (comprising flaked or ground lithic objects) for example, that either settle into, or are inundated by anaerobic environments, are likely to avoid the abrasive, chemical and biological attack otherwise endured during gradual inundation. However, not all site types provide such clear evidence. In the Greater Sydney context, this is best demonstrated by the Aboriginal resource and gathering site registered as AHIMS ID#45-6-0751, identified during the construction of the Alexandra Canal in the 1890s. Located in Alexandria approximately seven kilometres south of The Bays construction site, both Aboriginal edge ground stone hatchets and dugong (*Dugong dugon*) skeletal remains were identified, the latter showing indications of butchering. The investigation documented a five-metre-deep sedimentary sequence comprising alternating layers of estuarine sands, shelly sands and peat containing terrestrial plant remains including in situ roots and stumps, suggesting that the site alternated between sub-aerial exposure and submergence throughout the Holocene. Conventional radiocarbon (C14) dating from a sample of the dugong bones produced an age of 5,520 plus or minus 70 years BP. The investigation concluded that the discovery of the terrestrial plant remains at the depth of 4.5 metres below the high-water level represented a clear demonstration of climactic and environmental change during this time and evidence of past Aboriginal peoples' activity in the area.

### Previous Aboriginal cultural heritage assessments

The following summarises a key archaeological investigation undertaken in the local environs that are relevant to this proposal:

- Artefact Heritage Services Pty Ltd undertook an assessment of The Bays Station construction site and identified that The Bays Station construction site had experienced significant infilling phases along the eastern foreshore in the early 20<sup>th</sup> century which were suggested to have preserved any intact archaeological deposits or Aboriginal artefacts and could preserve both precontact and contact era remains (refer to Technical Paper 4 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a)). The assessment did not identify any site-specific cultural values at the construction site for work carried out under the previous Sydney Metro West planning application. The assessment concluded that there was low-moderate archaeological potential for Aboriginal archaeological remains to be preserved in the south-western portion of The Bays Station construction site, located in part immediately adjacent to the current The Bays Station construction site
- The Draft Bays West Connecting With Country Framework (Bangawarra, 2021) also provides some context to the Aboriginal values at The Bays. It states that the stretch of Country now known as Bays West has been celebrated for vast expanses of garaban (rock and sandstone) which in some places provides shelter, gibbaragunya (stone/cave shelters), and in other places creates yiningmah (steep cliffs) where ceremony can be performed privately without uninitiated onlookers. The Framework also provides recommendations on Designing with Country at The Bays, including to incorporate shared histories of cultural landscapes into project design principles.

### Recorded Aboriginal sites

The *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a) identified one previously recorded site immediately adjacent to The Bays Station construction site, AHIMS 45-6-3826 (The Bays PAD 01) (refer to Figure 13-14). This registered site consists of a yet unverified area of Potential Archaeological Deposit. It has been assessed as the location of the former foreshore prior to reclamation, with the potential to retain archaeological potential below the reclamation fill material on that basis. The AHIMS site card referenced geotechnical investigations that identified extant ground surfaces approximately 2.8 metres below current ground level.

Figure redacted for public exhibition

**Figure 13-14 Aboriginal heritage sites at The Bays Station construction site**

An updated search of the AHIMS database was undertaken for this assessment on 21 August 2021 (Search ID 609567). There were no additional entries identified in the search results within 100 metres of The Bays Station construction site beyond AHIMS 45-6-3826 (The Bays PAD 01) which was previously identified by the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020).

In accordance with mitigation measure AH2 for the previous Sydney Metro West planning application, archaeological test excavation (and salvage when required) at The Bays Station under the previous Sydney Metro West planning application would be carried out where intact natural profiles with the potential to contain significant archaeological deposits are encountered. Excavations would be conducted in accordance with the Aboriginal archaeological test excavation methodology as required by condition of approval D22 for the previous Sydney Metro West planning application and in consultation with Registered Aboriginal Parties.

In addition, in accordance with mitigation measure AH3 for the previous Sydney Metro West planning application, if Aboriginal archaeological remains are recovered, results would be incorporated into Aboriginal heritage interpretation for the Sydney Metro West in consultation with registered Aboriginal parties.



## Aboriginal community consultation and cultural values

Consultation undertaken with Registered Aboriginal Parties under the previous Sydney Metro West planning application did not identify any site-specific cultural values at The Bays Station construction site. However, Registered Aboriginal Party field representatives did note that the area is part of a wider cultural landscape of high cultural significance to the local Aboriginal community. In particular, major water sources and former estuarine areas including White Bay were of particular cultural significance as an ancestral resource gathering site.

Ongoing consultation with Aboriginal heritage knowledge holders is underway as part of design development for this proposal, including for the purposes of better understanding cultural values and addressing the Connecting with Country framework.

### Field investigation results

The *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a) included a survey of The Bays Station construction site undertaken with participation from Registered Aboriginal Party representatives from the Metropolitan Local Aboriginal Land Council. A field investigation was undertaken on 11 January 2022 for the additional footprint required for this proposal at The Bays Station construction site with participation from a Registered Aboriginal Party representative from the Metropolitan Local Aboriginal Land Council. No site-specific cultural values were identified during the field investigation, however the representative noted that culturally significant elements of the inner Sydney environs (including The Bays Station area) would have included the iconography of canoes in daily life. Canoes were used as vessels of connectivity between Aboriginal peoples and the harbour, reflecting both the cultural and practical focus on the water environs of the Sydney regions for Aboriginal peoples. The representative further noted that fig trees in the wider harbour area continue to hold cultural significance for Aboriginal peoples, specifically associated with women's business and birthing practices. Acacia (wattle) flora species also hold cultural significance in the inner Sydney area, representing both a source of food and medicine, as well as marking seasonal changes during flowering.

### 13.8.2 Operational impact assessment

#### Direct impacts

No identified Aboriginal sites, objects and/or site-specific cultural heritage values would be directly impacted during operation of this proposal at The Bays Station.

#### Indirect impacts

No identified Aboriginal sites, objects and/or site-specific cultural heritage values would be indirectly impacted during operation of this proposal at The Bays Station.

During development of Sydney Metro West, consultation was undertaken with knowledge holders to inform the project development as part of the Connecting with Country Pilot program. This consultation will continue during further development of the project. In accordance with Concept conditions of approval CB4 and CB5, a draft Heritage Interpretation Strategy has been prepared for this proposal (Appendix K) which details how Aboriginal heritage values at The Bays Station would be interpreted and reflected within the design of this proposal.

Further details regarding Sydney Metro's approach to Connecting with Country, and heritage and archaeology design guidelines are provided in the station and precinct design guidelines in Appendix E (Design Guidelines).

### 13.8.3 Construction impact assessment

#### Direct impacts

In accordance with condition of approval D21 for the previous Sydney Metro West planning application, archaeological test excavation of AHIMS ID#45-6-3826 (The Bays PAD-01) will be undertaken prior to the commencement of the work to determine the presence and/or nature of archaeological deposits within the construction site. If Aboriginal archaeological remains are recovered, results would be incorporated into the design and Aboriginal heritage interpretation for this proposal, in consultation with registered Aboriginal parties.

Consistent with the impact assessment and mitigation measures in the previous Sydney Metro West planning application, should archaeological deposits be identified within the areas of additional footprint required for this proposal, and if excavation is proposed to reach 2.8 metres below ground level, further archaeological investigation of The Bays Station construction site may be required prior to construction.

## Indirect impacts

This proposal may have indirect impacts on identified Aboriginal sites, objects and/or site-specific cultural heritage values at The Bays Station construction site. Further investigation is required in accordance with the mitigation measures identified for the previous Sydney Metro West planning application to determine the presence and/or nature of archaeological deposits within The Bays Station construction site and corresponding cultural values.

### 13.8.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

During construction of this proposal, Aboriginal heritage would be managed in accordance with Sydney Metro's CEMF (Appendix F). The CEMF management objectives and mitigation measures to minimise impacts as relevant to this proposal as a whole.

Mitigation measures that are specific to the operation and construction of The Bays Station to address potential impacts are listed in Table 13-18.

**Table 13-18 Aboriginal heritage mitigation measures – The Bays Station**

| Ref                        | Impact/issue    | Mitigation measure  | Timing       |
|----------------------------|-----------------|---|--------------|
| <b>Aboriginal heritage</b> |                 |   |              |
| EIS-AH1                    | Test excavation | Consistent with the <i>Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD</i> (Sydney Metro, 2020a), archaeological test excavation (and salvage if required) must be carried out where intact natural profiles with the potential to contain significant archaeological deposits are encountered OR if archaeological deposits are identified within AHIMS ID#45-6-3826 (The Bays PAD 01). Excavations must be undertaken in accordance with the methodology outlined in the Aboriginal cultural heritage assessment report (Artefact Heritage Pty Ltd, 2020). | Construction |

## 13.9 Landscape and visual amenity

Further details on the landscape and visual amenity assessment, including the approach and methodology, are provided in Technical Paper 6 (Landscape and visual amenity).

### 13.9.1 Baseline environment

The Bays Station would be located on the south-western foreshore area of White Bay, adjacent to the former White Bay Power Station.

The foreshore land surrounding the former White Bay Power Station is not publicly accessible and is heavily modified with a history of industrial and maritime use. Buildings and vegetation on most of the site will have been removed under the previous Sydney Metro West planning applications. The landscape setting of The Bays Station site is in a state of transition, with several major projects under construction in the area. Key projects include the Port Authority of NSW Glebe Island multi-user facility project, WestConnex M4-M5 Link and the Western Harbour Tunnel and Warringah Freeway Upgrade.

Some further removal of vegetation, buildings and/or structures would be required as part of this proposal. The Port Access Road will have been relocated to a temporary position under the determined *The Bays road relocation works Review of Environmental Factors* (Sydney Metro, 2020d).

The Bays Station would be located in Bays West, a State significant precinct undergoing major urban renewal.

The recently upgraded Anzac Bridge Access Road, located to the south of The Bays Station site, rises up towards Anzac Bridge and includes a new shared-use pathway that overlooks the site. The Victoria Road corridor has also been widened and two buildings were removed at the end of Hornsey Street, opening up views between this part of Rozelle and The Bays.

The Bays has historically been a key maritime, industrial and infrastructure precinct in Sydney, having been used to support maritime trade and industry since European settlement. Key developments in this area include the former White Bay Power Station (opened in 1913), the Glebe Island Silos (constructed in 1975) and the White Bay Cruise Terminal (opened in 2013). The former White Bay Power Station (a State heritage listed item) and Glebe Island Silos (of local heritage significance) both provide dominant visual landmarks, being reminders of the area's industrial history.

The Bays Station would be framed by Rozelle, Balmain and Balmain East, located to the north and west. These suburbs are generally elevated, sloping down towards the bay, and are predominantly residential in character. Some other uses, including commercial, retail and public open space is interspersed among these areas.

Although public access to the foreshore area at White Bay is restricted due to the maritime nature of the area, there are foreshore public open space areas in the surrounding area. There are foreshore public open space areas from the edges to Jones Bay and Johnstons Bay at Pyrmont, including Pirrama Park, with views towards the site across the bay. Views are also available from the foreshore areas of Barangaroo and from ferries operating between ferry stops at Balmain East, Barangaroo and Pyrmont Bay.

Section 13.3 provides further discussion of the intended future character and local strategic plans relevant to The Bays. A detailed review of local planning guidance relevant to landscape and visual context is provided in Technical Paper 6 (Landscape and visual amenity).

### Landscapes and public realm areas

The landscapes and public realm areas potentially impacted by this proposal, and the landscape sensitivity level for these areas, are outlined in Table 13-19.

**Table 13-19 Landscapes and public realm areas – The Bays Station**

| Location   | Baseline environment   | Landscape sensitivity level |
|--|--|-----------------------------|
| <b>White Bay and Glebe Island portside industrial and commercial areas</b> | The White Bay and Glebe Island portside industrial and commercial areas are a predominantly working harbour landscape. The landform is highly modified and largely cleared for the purposes of portside industrial activity. This landscape is undergoing a transformation as a result of work carried out under previous Sydney Metro West planning applications, in addition to several projects under construction in the vicinity of the site. The site and surrounding area have been largely cleared of vegetation, with some trees remaining along the boundary with Robert Street and adjacent to the Anzac Bridge. These trees are located behind fences, providing limited contribution to the shade and amenity of the adjacent portside industrial and commercial areas. | Neighbourhood               |

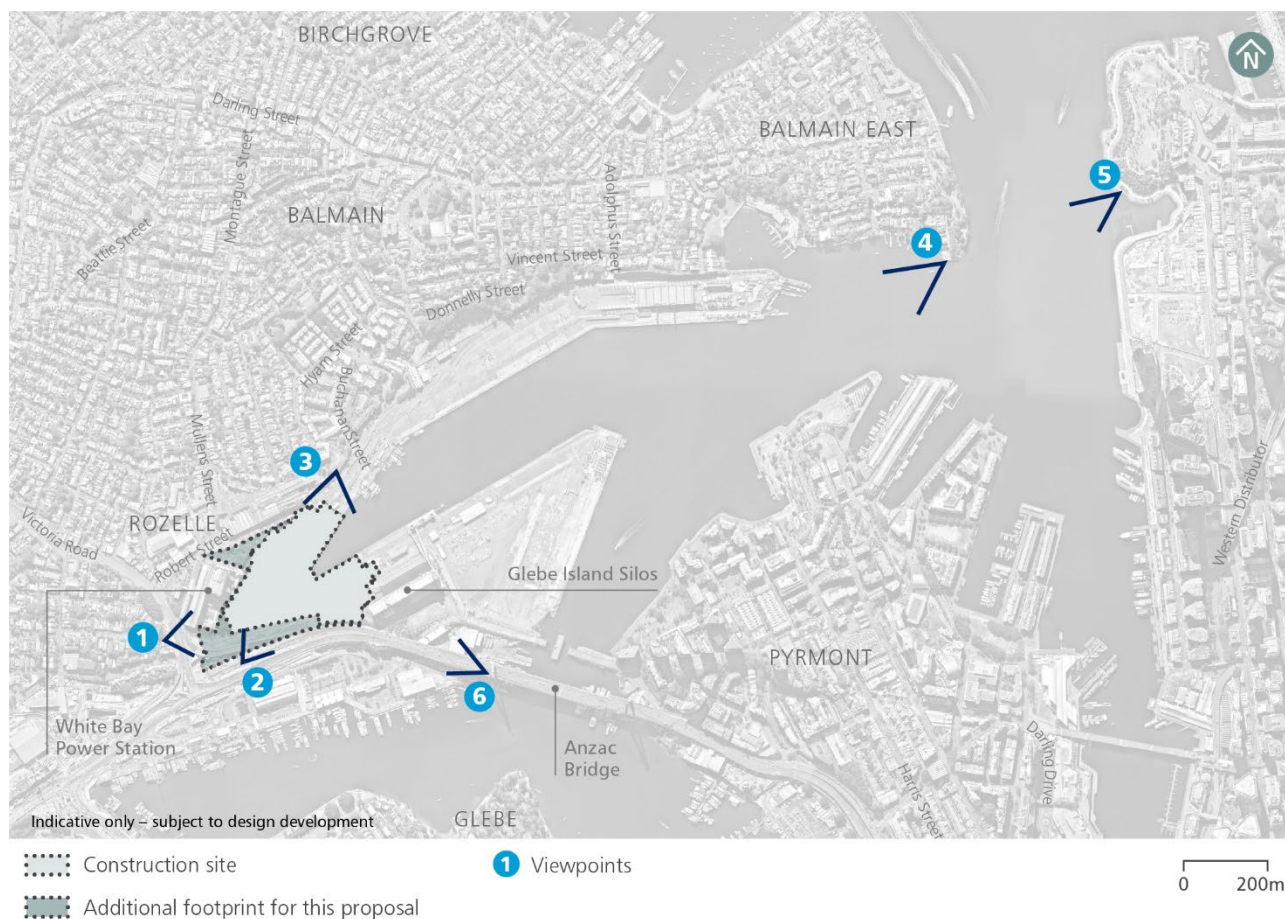
### Representative viewpoints

Six representative viewpoints that have been selected to inform the daytime visual impact assessment are shown in Figure 13-15. Viewpoint 1 is of neighbourhood sensitivity. Viewpoints 2, 3 and 4 are of local sensitivity. Viewpoints 5 and 6 are of regional sensitivity.

While the impact ratings for all six viewpoints are provided, the following four have been selected as the most representative viewpoints for this station to be discussed further in this chapter. These take into account the degree of sensitivity, and potential operational and construction elements that would be visible:

- **viewpoint 1: view east from Hornsey Street, Rozelle** – presents potential impacts from the Rozelle residential area, as well as potential changes in views toward Anzac Bridge and the Sydney Harbour Bridge (which is partially obscured)
- **viewpoint 3: view south from Mansfield Street open space, Rozelle** – presents potential impacts visible from the Rozelle residential area and an area of open space
- **viewpoint 5: view south-west from Barangaroo Reserve** – presents potential impacts to a panoramic view across the harbour to the suburb of Balmain East and urban areas of Pyrmont
- **viewpoint 6: view west from Anzac Bridge** – presents visual potential impacts from Anzac Bridge, an important city landmark with high volumes of road users, and this view is terminated with the former White Bay Power Station view.

These viewpoints are assessed in further detail in this section. A detailed assessment of all viewpoints is provided in Technical Paper 6 (Landscape and visual amenity).



**Figure 13-15 Representative viewpoints – The Bays Station**

### Night-time visual sensitivity

The setting of The Bays Station would be in an area of medium district brightness (A3) that would be of low sensitivity. The setting is moderately lit by security lighting at the former White Bay Power Station and the maritime and harbour industries at Rozelle Bay, White Bay and Glebe Island. Headlights from vehicle traffic and street lighting at the WestConnex M4-M5 Link, including Victoria Road and the western approach to Anzac Bridge, add to the brightness of the night sky in this area. Visiting ships at the White Bay Cruise Terminal and other maritime vessels would add to night-time lighting levels. The nearby high-density areas of Pyrmont and the Sydney CBD would further contribute to a high level of sky glow in this part of Sydney. There would be some remaining security lighting from the work under the previous Sydney Metro West planning applications.

#### 13.9.2 Operational impact assessment

Operation of this proposal at The Bays Station would comprise underground and surface elements. The key elements that would be seen are described in Section 13.2.

### Landscape impact

Landscape impacts anticipated as a result of the operation of this proposal are summarised in Table 13-20.

The aboveground station building would be set within a broad new area of public domain, including elements such as high-quality pavements, furniture, trees and gardens. To the north of the station, there would be a new public domain extending between Robert Street in the west and White Bay, creating a new publicly accessible precinct, including foreshore access. There would be footpaths and street trees along the new precinct street, cycle paths and bicycle parking at the station. These treatments would create a high level of comfort and amenity for pedestrians and cyclists.



There would also be improved connectivity between the surrounding residential areas of Rozelle and Balmain East and the foreshore areas of White Bay. Overall, due to the provision of public domain, including through-site links, cycle and pedestrian facilities, there would be improved accessibility, legibility and amenity at The Bays.

**Table 13-20 Landscape impacts during operation – The Bays Station**

| Location   | Landscape sensitivity level | Magnitude of change      | Impact rating    |
|--|-----------------------------|--------------------------|------------------|
| <b>White Bay and Glebe Island portside industrial and commercial areas</b> | Neighbourhood               | Considerable improvement | Minor beneficial |

### Daytime visual amenity impact

Visual amenity impacts at selected representative viewpoints anticipated as a result of the operation of this proposal are summarised in Table 13-21. During operation, there would be minor beneficial, negligible and minor adverse potential visual impacts from different viewpoints, associated with the establishment of a new metro station and ancillary infrastructure in a former industrial area. Management of potential impacts is discussed in Section 13.9.4. An artist's impression of The Bays Station during operation is shown in Figure 13-16. Potential station finishes would be identified as part of design development and would be consistent with the principles and outcomes presented in the Design Guidelines (Appendix E).

**Table 13-21 Daytime visual impacts during operation – The Bays Station**

| Location   | Sensitivity rating | Magnitude of change    | Impact rating    |
|--|--------------------|------------------------|------------------|
| <b>Viewpoint 1: view east from Hornsey Street, Rozelle</b>                           | Neighbourhood      | Considerable reduction | Minor adverse    |
| <b>Viewpoint 2: view north-east from Anzac Bridge Access Road shared use pathway</b> | Local              | Noticeable reduction   | Minor adverse    |
| <b>Viewpoint 3: view south from Mansfield Street open space, Rozelle</b>             | Local              | Noticeable improvement | Minor beneficial |
| <b>Viewpoint 4: view south-west from Peacock Point Reserve, Balmain East</b>         | Local              | Noticeable improvement | Minor beneficial |
| <b>Viewpoint 5: view south-west from Barangaroo Reserve, Barangaroo</b>              | Regional           | No perceived change    | Negligible       |
| <b>Viewpoint 6: view west from Anzac Bridge</b>                                      | Regional           | Noticeable reduction   | Moderate adverse |

As noted in Section 13.9.1, the most representative viewpoints have been described in detail in this section. Potential impacts from these viewpoints would include the following:

- **viewpoint 1: view east from Hornsey Street, Rozelle** – this view would experience a minor adverse visual impact during operation. The aboveground station building would be located in the middle ground of this view, partly screened by the former White Bay Power Station (left of view). The traction substation would be seen, rising above Victoria Road, to the south and east of the former White Bay Power Station. Between the traction substation and the former White Bay Power Station, the metro station building would be seen in the middle ground, obstructing the glimpse to the White Bay and view of the Sydney Harbour Bridge in the background. While this view has the capacity to absorb new built form, the obstruction of the distant view to the Sydney Harbour Bridge by the new station building would somewhat reduce the amenity of this view. However, given that the viewpoint is of neighbourhood sensitivity, the potential impacts would be minor



- **viewpoint 3: view south from Mansfield Street open space, Rozelle** – this view would experience a minor beneficial impact during operation, due to the transformation of the site from former industrial uses to a new urban precinct with contemporary station architecture and public domain areas. The station building would be in the middle to background of this view (right of view), to the west of the Glebe Island Silos. This building would rise about seven to eight storeys above the site, partly obstructing the view to the Anzac Bridge Access Road, WestConnex M4-M5 Link, and part of the Sydney Boathouse and leafy backdrop of Rozelle. The aboveground station would screen views of both the leafy residential areas, large scale roads and industrial scale buildings beyond, further improving the amenity of this view. There would be new public domain surrounding the station and along the foreshore, further improving the amenity of this view. The traction substation would be out of view
- **viewpoint 5: view south-west from Barangaroo Reserve** – this view would experience a negligible impact during operation. There would be no perceived change in the amenity of this view as the view has the capacity to absorb additional built form that would be seen. The aboveground station and services buildings would be seen in the background of this view, between the Glebe Island Silos and former White Bay Power Station. This building would be below a vegetated backdrop and would not obstruct the view to the former White Bay Power Station
- **viewpoint 6: view west from Anzac Bridge** – this view would experience a moderate adverse visual impact during operation, as this proposal would retain but partly obstruct an axial view to the former White Bay Power Station façade from this location. This view would be partly obstructed by the aboveground station buildings, that would rise about seven to eight storeys, and the upper portion of the traction substation, which would be located to the south of the former power station and rise about five to six storeys. These buildings would have a similar bulk and scale to the base of the former White Bay Power Station building. The silhouette of the chimney stacks would continue to rise prominently above the skyline in this view. This proposal would also transform part of the former industrial area with new high-quality architecture, slightly improving the setting of the Glebe Island Silos.



*Indicative only – subject to design development*

**Figure 13-16 Artist's impression of The Bays Station during operation**

### Night-time visual amenity impact

The anticipated night-time visual impacts during operation are summarised in Table 13-22.

The station, interchange and public domain areas, and entries to services buildings would be brightly lit to provide for customer safety. Lighting would be designed to minimise light spill and skyglow. This additional light would be absorbed into this area of medium district brightness and set within an area intended for redevelopment with increased development density.

**Table 13-22 Night-time visual amenity impacts during operation – The Bays Station**

| Location         | Sensitivity rating             | Magnitude of change | Impact rating |
|------------------|--------------------------------|---------------------|---------------|
| The Bays Station | A3: Medium district brightness | No perceived change | Negligible    |

### 13.9.3 Construction impact assessment

Construction of The Bays Station would require the continued use of the construction site established under the previous Sydney Metro West planning applications. Additional areas are also required to support construction of this proposal (shown in Figure 13-7). The main elements that would be visible in these additional areas would include construction of a traction substation location, as well as precinct and road work. The proposed work, construction site features, equipment and vehicle access routes that would be visible are described in Chapter 6 (Proposal description – construction) of this Environmental Impact Statement and Section 13.4.

#### Landscape impact

Landscape impacts anticipated as a result of the construction of this proposal are summarised in Table 13-23. Management of potential impacts is discussed in Section 13.9.4.

As the foreshore land surrounding the former White Bay Power Station is not publicly accessible, there would be no change in public access or permeability within this area. Some vegetation removal would be required in additional footprint areas for this proposal, to the north and south of the former White Bay Power Station, along the boundary with Robert Street and adjacent to the Anzac Bridge.

Road work would be undertaken in publicly accessible areas around Robert Street. Work in this area would include construction of a new precinct street and associated footpaths, including new intersection with Robert Street. This would involve temporary impacts on accessibility and legibility within this area. This work would be relatively contained and localised.

**Table 13-23 Landscape impacts during construction – The Bays Station**

| Location  | Landscape sensitivity level | Magnitude of change  | Impact rating |
|---|-----------------------------|----------------------|---------------|
| White Bay and Glebe Island portside industrial and commercial areas | Neighbourhood               | Noticeable reduction | Negligible    |

#### Daytime visual amenity impact

Visual amenity impacts anticipated as a result of the construction are summarised in Table 13-24. Viewpoints would generally experience negligible to minor adverse temporary visual impacts during construction, due to the surrounding context of industry and construction work for other major infrastructure projects. Management of potential impacts is discussed in Section 13.9.4.

**Table 13-24 Daytime visual impacts during construction – The Bays Station**

| Location   | Sensitivity rating | Magnitude of change    | Impact rating    |
|--|--------------------|------------------------|------------------|
| <b>Viewpoint 1: view east from Hornsey Street, Rozelle</b>                           | Neighbourhood      | Considerable reduction | Minor adverse    |
| <b>Viewpoint 2: view north-east from Anzac Bridge Access Road shared use pathway</b> | Local              | Considerable reduction | Moderate adverse |
| <b>Viewpoint 3: view south from Mansfield Street open space, Rozelle</b>             | Local              | Noticeable reduction   | Minor adverse    |

| Location   | Sensitivity rating | Magnitude of change  | Impact rating    |
|--|--------------------|----------------------|------------------|
| <b>Viewpoint 4: view south-west from Peacock Point Reserve, Balmain East</b> | Local              | No perceived change  | Negligible       |
| <b>Viewpoint 5: view south-west from Barangaroo Reserve, Barangaroo</b>      | Regional           | No perceived change  | Negligible       |
| <b>Viewpoint 6: view west from Anzac Bridge</b>                              | Regional           | Noticeable reduction | Moderate adverse |

As noted in Section 13.9.1, the most representative viewpoints have been discussed in detail in this section. Potential temporary impacts from these viewpoints for the duration of construction would include the following:

- **viewpoint 1: view east from Hornsey Street, Rozelle** – this view would experience minor adverse visual impacts during construction. The construction site would continue to be seen in the centre, middle ground of this view. The site would be expanded to include additional areas to the south of the power station, beside the Anzac Bridge Access Road (centre of view). An acoustic shed (or other acoustic measures) would be seen in the centre, middle ground of this view in front of the Glebe Island Silos. Following the removal of the acoustic shed (or other acoustic measures), works to construct the proposed station entry, services buildings and traction substation would be visible in the centre middle ground of this view. This height of the structures would generally be about five to six storeys, and of a similar height to the former White Bay Power Station. The work would obstruct views to the bay and the Sydney Harbour bridge; however, would be seen in the surrounding context of industry and infrastructure
- **viewpoint 3: view south from Mansfield Street open space, Rozelle** – this view would experience minor visual impact due to its elevated location. This construction of this proposal would be visually compatible with this view due to the existing industrial scale uses and ongoing use of The Bays for construction work on other major infrastructure projects. There would continue to be construction activity across the middle to background of this view. An acoustic shed (or other acoustic measures) would be located to the east of the construction site (left of view), near the Glebe Island Silos. Following removal of the acoustic shed (or other acoustic measures), construction of the proposed aboveground station and services buildings would be prominent in this view, located centrally on the site to the west of the Glebe Island Silos. This would include the use of large construction equipment and buildings rising about six storeys above the site. The additional construction footprint areas that form a part of this proposal would not be visible from this location
- **viewpoint 5: view south-west from Barangaroo Reserve** – this view would experience a negligible visual impact during construction due to the distance to the construction site and visual compatibility of the construction work with the character of this view. The construction site for this proposal would be visible in the far background of this view, largely screened by existing buildings and structures
- **viewpoint 6: view west from Anzac Bridge** – this view would experience a moderate adverse visual impact during construction, as the view toward the former White Bay Power Station would be partly obstructed by construction work. The Bays Station would be constructed on the lower foreshore area between the Glebe Island Silos and former White Bay Power Station, in the centre of view. As construction of the aboveground station building nears completion it would reduce the extent of the former White Bay Power Station façade seen from this location. It may obstruct part of the silhouette of the former power station building, however views to the chimney stacks would be maintained. Construction of the surrounding station precinct works would not be visible from this location due to intervening elements. The construction of the proposed traction substation to the south of the former White Bay Power Station would be seen rising several storeys above the road.

To manage these potential impacts, management and mitigation measures are provided in Section 13.9.4 and Chapter 20 (Synthesis) of this Environmental Impact Statement. These sections include measures to locate elements of construction sites to minimise visual impact, where feasible and reasonable.

### Night-time visual amenity impact

The anticipated night-time visual impacts as a result of the construction of this proposal are summarised in Table 13-25.



Night work would be required at The Bays Station construction site. This lighting would be partly enclosed by the acoustic shed (or other acoustic measures). Outside of this structure, lighting would be provided at key areas of the construction site. There would also be additional headlights from heavy vehicles accessing and moving along the surrounding streets. This additional lighting would be seen within an area of medium district brightness, where there is lighting associated with the existing construction activity (including for Sydney Metro West and other infrastructure projects within the vicinity) and the headlights on Victoria Road and Anzac Bridge Access Road. Construction work would remain set back from the residential areas of Rozelle.

**Table 13-25 Night-time visual amenity impacts during construction – The Bays Station**

| Location         | Sensitivity rating             | Magnitude of change  | Impact rating |
|------------------|--------------------------------|----------------------|---------------|
| The Bays Station | A3: Medium district brightness | Noticeable reduction | Minor adverse |

### 13.9.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and outlining performance outcomes for the operation and construction of this proposal.

During construction of this proposal, landscape and visual amenity impacts would be managed in accordance with Sydney Metro's CEMF (Appendix F). The CEMF includes landscape and visual amenity management objectives and mitigation measures to minimise impacts as relevant to this proposal as a whole.

The design of this proposal would also be consistent with the principles and outcomes presented in the Design Guidelines (Appendix E).

Mitigation measures that are specific to the operation and construction of The Bays Station to address potential impacts are listed in Table 13-26.

**Table 13-26 Landscape and visual amenity mitigation measures – The Bays Station**

| Ref                                 | Impact/issue               | Mitigation measure  | Timing    |
|-------------------------------------|----------------------------|---|-----------|
| <b>Landscape and visual amenity</b> |                            |   |           |
| EIS-LV6                             | Activation of streetscapes | Opportunities to provide temporary activation would be explored in areas of future adjacent station development (that would be delivered by others).  | Operation |
| EIS-LV9                             | Visual impacts             | Design of the traction substation building would have an industrial character with a high quality architectural finish and not detract from the visual prominence of the existing power station façade and silhouette of the twin stacks. | Operation |

## 13.10 Soils, contamination and groundwater

Further details on the contamination assessment, including the approach and methodology, are provided in Technical Paper 7 (Contamination). The approach and methodology for the soils and groundwater assessments are provided in Chapter 4 (Methodology) of this Environmental Impact Statement and Appendix D (Detailed assessment methodologies). The legislative context for the assessment is provided in Appendix B (Legislative and policy context).

### 13.10.1 Baseline environment

The baseline environment as relevant to soils, contamination and groundwater is discussed in the following sections.

Prior to the commencement of this proposal, the buildings and infrastructure on the majority of the land required for The Bays Station construction site will be demolished, and bulk excavation work for the station will have occurred as part of the work under the previous Sydney Metro West planning application. Areas of additional construction footprint are also required for this proposal to the north-west and south-west.

## Soils

The existing soils environment is described in detail in Chapter 19 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a) and is summarised in the following sections. In addition, these sections describe the existing soils environment in the areas of additional construction footprint required for this proposal.

### *Soil and geology types*

The geological units expected to be encountered at The Bays Station construction site include Quaternary deposits (0 – 4 metres below ground level), Ashfield Shale and Mittagong Formation (4 to 16 metres below ground level) and Hawkesbury Sandstone (greater than 16 metres below ground level).

The *Soil Landscapes of Sydney 1:100,000 Sheet* (Chapman et al., 2009) and *Penrith 1:100,000 Sheet* (Bannerman et al., 2010) identify disturbed terrain soil units in the vicinity of The Bays Station. Disturbed terrain often consists of completed disturbed soils where original soils has been removed or buried. Landfill may include soil, rock, building and waste material with a cap of sandy loam.

### *Soil salinity*

The *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a) identified there is a low potential to encounter saline soils at The Bays Station construction site.

### *Acid sulfate soils*

The *Factual Contamination Investigation Report – The Bays, Sydney Metro West, White Bay Site Investigations* (Senverson, 2021) identified that acid sulfate soils were present beneath the fill across The Bays Station construction site. As it is also located on disturbed terrain (refer to Figure 13-18), which are often located on reclaimed land or land subject to dredging or mining, there is the potential presence of acid sulfate soils. These areas are associated with fill and/or alluvium that extends from harbour shores up local drainage lines.

## Contamination

The work carried out under the previous Sydney Metro West planning application would include the investigation and remediation of soil and/or groundwater contamination where required, in accordance with the applicable mitigation measures and conditions of approval. Soil and contaminated groundwater would be removed from the cut and cover station excavation under the previous Sydney Metro West planning application and would remain in-situ in the remainder of the construction site.

Areas of environmental interest (AEI) identified in Chapter 20 of *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a) and *Sydney Metro West Environmental Impact Statement – The Bays to Sydney CBD* (Sydney Metro, 2021a) at The Bays Station construction site and for this proposal are described below. AEIs which were identified in *Sydney Metro West Environmental Impact Statement – The Bays to Sydney CBD* are denoted with a (2) in the list below:

- AEI 2(2) – Former Ampol terminal (located to the north of the construction site along Roberts Street) – low risk of groundwater contamination from known heavy polycyclic aromatic hydrocarbons, petroleum hydrocarbons and per- and poly-fluoroalkyl substances
- AEI 4(2) – (located north-east of the construction site along Roberts Street) – Former Unilever Sulphonation Plant Chemical – low risk of groundwater contamination from heavy metals, polycyclic aromatic hydrocarbons, linear alkylbenzene and linear alkylbenzene sulphonate compounds
- AEI 52 – Mechanical workshop in Roberts Street (located adjacent to the construction site in Robert Street) – low risk of groundwater contamination from hydrocarbons and volatile organic compounds
- AEI 53/AEI 8(2) (within the construction site) – Former White Bay Power Station activities – high risk of soil and groundwater contamination from poly-chlorinated biphenyls, hydrocarbons, heavy metals and asbestos
- AEI 54/AEI 9(2) (within the construction site) – Historical use of potentially contaminated fill – high risk of soil and groundwater contamination from asbestos, hydrocarbons, heavy metals, poly-chlorinated biphenyls
- AEI 55/AEI 11(2) – Historical industrial land use in general surrounding locality – high risk of groundwater contamination from heavy metals, hydrocarbons, volatile organic compounds and per- and poly-fluoroalkyl substances.



Shallow and localised deep excavation for the construction of flood mitigation, active transport upgrade works and construction of a traction substation is required for this proposal in new footprint areas, and therefore some residual soil and groundwater contamination is expected to be encountered.

AEIs rated as moderate risk or above following the completion of the previous Sydney Metro West planning application, are shown on Figure 13-17.

The ingress of contaminated groundwater to subsurface infrastructure associated with the previous Sydney Metro West planning application is expected to be partially or fully mitigated through remediation performed during those works. An additional review of residual contaminant concentrations and rates of inflow will be required for this proposal to determine the requirements for any additional groundwater remediation.

The conceptual site model and risk ranking for the areas of environmental interest at The Bays Station are detailed in Appendix C of Technical Paper 7 (Contamination).



**Figure 13-17 Areas of environmental interest (moderate risk or above) – The Bays Station**

### Groundwater

The work carried out under the previous Sydney Metro West planning application includes the excavation of a tanked cut and cover station box (excavation constructed with an impermeable casing/membrane that minimises groundwater inflows to negligible rates).

The baseline groundwater environment for this proposal is described further in Table 13-27, and shown in Figure 13-18.

**Table 13-27 Groundwater baseline environment – The Bays Station**

| Aspect                      | Description  |
|-----------------------------|--|
| Groundwater levels and flow | As a result of the station excavation work under the previous Sydney Metro West planning application, would reduce the groundwater level within the immediate station level is predicted to reduce to about 26 metres below ground level (Sydney Metro, 2020a) (see Figure 13-18 for groundwater drawdown extent). This groundwater level is expected to remain at the commencement of construction for this proposal. |

| Aspect                                    | Description   |
|---|---|
|   | <p>The predicted groundwater inflow rates to the station box will be about 10.1 litres per second, as presented in Section 5.11 of Technical Paper 7 (Hydrogeology) of the <i>Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD</i> (Sydney Metro, 2020a)). The station box would be tanked, and as such, would reduce the groundwater inflows to the design criteria for maximum allowable seepage rates. Localised groundwater flow is expected to be towards the station box.</p>   |
| Groundwater quality                       | <p>The baseline groundwater quality may be impacted by a change in the groundwater flow direction, towards the station box (which has the potential to induce groundwater seepage). Potential contaminants of concern include heavy metals, hydrocarbons, pesticides, polychlorinated biphenyls and perfluorooctanesulfonic. The potential contamination risk was assessed to be low to high for groundwater, as detailed in in Chapter 20 of the <i>Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD</i> (Sydney Metro, 2020a)).</p> <p>Groundwater level drawdown in the vicinity of saltwater bodies has the potential to cause saltwater to intrude into groundwater systems. There is potential that the saline waters of White Bay could be drawn into the brackish groundwater in the area between the bay and The Bays Station construction site. The potential impacts to sensitive receptors are discussed in Section 5.11.8 of Technical Paper 7 (Hydrogeology) of the <i>Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD</i> (Sydney Metro, 2020a). The groundwater at The Bays Station construction site is considered to be brackish.</p>  |
| Groundwater users                         | <p>No registered bores are within the predicted extent of groundwater drawdown at the commencement of the construction of this proposal. As such, potential impacts to groundwater users are a result of this proposal are not expected and have not been discussed further.</p>  |
| Groundwater dependent ecosystems          | <p>No groundwater dependent ecosystems were identified within the predicted extent of groundwater level drawdown at the commencement of construction works for this proposal. As such, potential impacts to groundwater dependent ecosystems as a result of this proposal are not expected and have not been discussed further.</p>   |
| Surface water and groundwater interaction | <p>The interaction between surface water and groundwater in proximity to The Bays Station is considered limited due to the anthropogenic alteration of the area. The primary interactions include:</p> <ul style="list-style-type: none"> <li>• surface water acting as recharge to underlying groundwater units, where hydraulic gradients and modified environments (e.g. concrete-lined waterways/channels) allow</li> <li>• groundwater discharging to surface water as baseflow, especially in areas of low elevation (where hydraulic gradients and modified environments allow)</li> <li>• induced flow of surface water into groundwater due to the predicted groundwater drawdown resultant from work under the previous Sydney Metro West planning application</li> <li>• the surrounding area is highly urbanised with predominantly impervious surfaces across the catchments prior to the commencement of work for this proposal, which reduces possible surface water infiltration into soils and underlying groundwater.</li> </ul> <p>Groundwater drawdown is expected in proximity to White Bay at the commencement of construction work for this proposal (see Figure 13-18) as a result of work under the previous Sydney Metro West planning application.</p> |



**Figure 13-18 Groundwater baseline environment – The Bays Station**

### 13.10.2 Operational impact assessment

#### Soils

The operation of The Bays Station is not expected to have any further impact on soils, including from saline soils, as there would be no excavation after completion of construction. Acid sulfate soil investigations would be undertaken under the previous Sydney Metro West planning application to assess potential impacts and decide whether an Acid Sulfate Soils Management Plan (ASSMP) is required for operation of this proposal.

#### Contamination

Soil and groundwater contamination where present would be investigated and remediated (where required) during work carried out under the previous Sydney Metro West planning applications or this proposal in accordance with the relevant the mitigation measures and conditions of approval. The Bays Station would be tanked and therefore potentially contaminated groundwater inflows are expected to be negligible. While expected to be limited, any contaminated groundwater inflows would be captured, pumped to the operational water treatment plant at the Clyde stabling and maintenance facility and treated prior to discharge in accordance with the water quality requirements outlined in Section 18.9 (Hydrology and water quality) of this Environmental Impact Statement.

Operation of The Bays Station would include required use and storage of chemicals, oils, or fuels during operation with the exception of the substation. Management measures associated with the use and storage of chemicals during operation would be implemented (refer to Chapter 20 (Synthesis) of this Environmental Impact Statement).

#### Groundwater

Potential impacts to groundwater during operation at The Bays Station are described further in Table 13-28.

**Table 13-28 Potential impacts to groundwater during operation – The Bays Station**

| Potential impact                               | Discussion   |
|--|--|
| Groundwater recharge                           | The surface area of impervious surfaces at The Bays Station is not expected to substantially increase due to the operational elements for this proposal, as the construction site and surrounding area prior to commencement of work for this proposal would comprise predominately paved (impervious) surfaces.   |
| Groundwater levels, inflows, and flow patterns | <p>During operation, the tanked cavern would minimise groundwater inflows. The tanking of the station box would promote the long-term recovery of groundwater levels and reduction in drawdown until a new groundwater level is achieved around the station.</p> <p>The influence of the station box on the overall regional flow patterns is expected to be minimal due to the effects of tanking the station box to minimise groundwater seepage. Further groundwater modelling to confirm the impacts and flow patterns would be undertaken in accordance with condition of approval D122 for the <i>Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD</i> (Sydney Metro, 2020a). This groundwater modelling report would be reviewed and updated as required for this proposal.</p>                                       |
| Groundwater quality                            | <p>Groundwater quality impacts during operation are expected to be reduced and limited in comparison to the baseline conditions (refer to Table 13-27). The volume of potentially contaminated groundwater to be managed during the operational phase for this proposal would be less than the volume for construction carried out under the previous Sydney Metro West planning application. This is due to the excavation for the station box being tanked, which would reduce the groundwater drawdown and associated inflow.</p> <p>Any long-term groundwater inflows would be collected, treated at the operational water treatment plant at the Clyde stabling and maintenance facility, and discharged in accordance with the water quality requirements outlined in Section 18.9 (Hydrology and water quality) of this Environmental Impact Statement.</p> |
| Surface water – groundwater interaction        | Groundwater acting as baseflow to surface water features is considered to be a minor component of recharge in the station area. Groundwater baseflow contribution to White Bay would likely be negligible relative to total water body flows/volumes. Additionally, groundwater conditions during the operation of this proposal (and therefore any impacts to the interaction with surface water) in proximity to the station are expected to generally recover to the conditions present prior to the commencement of the work carried out under the previous Sydney Metro West planning application.  |
| Policy compliance                              | The minimal harm criteria in the NSW Aquifer Interference Policy (NSW Department of Primary Industries, 2012) and Water Sharing Plan rules (NSW Department of Industry, 2011) adopted for the work carried out under the previous Sydney Metro West planning applications are expected to be carried through and complied with during the operation of this proposal. Impacts from the alteration of groundwater levels and flow regime are likely to be reduced during operation of this proposal.  |

### 13.10.3 Construction impact assessment

#### Soils

There may be potential temporary minor soil erosion from the exposure of soil to water runoff and wind during excavation works required for this proposal. This would be adequately managed with the implementation of standard erosion and sediment controls.

There is a low potential to disturb saline soils at The Bays Station construction site. Any potential salinity impacts would be managed in accordance with *Book 4 Dryland Salinity: Productive Use of Saline Land and Water* (NSW Department of Environment and Climate Change, 2008b).



There is potential for acid sulfate soils within fill across The Bays Station construction site and within the predicted groundwater drawdown extent during construction. The exposure of acid sulfate soils during construction could result in the release of acid sulfates, which could pollute downstream watercourses. Further investigation of potential acid sulfate soils would be undertaken under the previous Sydney Metro West planning applications. This would be reviewed for this proposal to identify the potential need for further measures to manage acid sulfate soils, if present.

## Contamination

### *Existing contamination*

Earthworks would be required to disturb soils that have been found to contain asbestos waste, which presents a risk to construction workers (AEI 54/AEI 9(2)). Potential soil and groundwater contamination would be managed in accordance with the mitigation measures outlined in Chapter 20 (Synthesis) of this Environmental Impact Statement, which have been developed to be consistent with the conditions of approval for the previous Sydney Metro West planning application.

The Bays Station would be tanked at the commencement of construction of this proposal and therefore potentially contaminated groundwater inflows are expected to be negligible. While expected to be limited, any contaminated groundwater inflows would be captured and treated prior to discharge in accordance with the water quality requirements outlined in Section 18.9 (Hydrology and water quality) of this Environmental Impact Statement.

### *New contamination*

With the exception of the use and storage of chemicals associated with construction activities including for the traction substation (e.g. fuels and oils associated with the operation of plant and equipment), the construction activities associated with this proposal are unlikely to represent a significant source of contamination. Management measures associated with the use and storage of chemicals during construction activities would be implemented (refer to Chapter 20 (Synthesis) of this Environmental Impact Statement).

## Groundwater

Potential impacts to groundwater during construction at The Bays Station are outlined in Table 13-29.

**Table 13-29 Potential impacts to groundwater during construction – The Bays Station**

| Potential impact                               | Discussion   |
|--|--|
| Groundwater recharge                           | Almost all of the surface area within the construction site is expected to be comprised of impervious surfaces at the commencement of this proposal and therefore the net impact on regional groundwater recharge due to the construction work for this proposal is considered negligible.   |
| Groundwater levels, inflows, and flow patterns | <p>The tanked station box would reduce the groundwater inflows and, in turn, promote recovery of groundwater levels around the station box over time until a new groundwater level is achieved around the station.</p> <p>Due the relatively shallow excavation in the areas of additional footprint required for this proposal, this excavation is not predicted to intercept groundwater or result in any groundwater drawdown.</p> <p>The potential impacts from construction of this proposal are expected to be reduced compared to the baseline groundwater water levels, inflows, and flow regime (refer to Table 13-27) due to the effect of the tanked station box.</p> <p>Potential groundwater impacts of this proposal would be managed through the implementation of mitigation measures outlined in the CEMF and Chapter 20 (Synthesis) of this Environmental Impact Statement. This would include the development of a Groundwater Construction Monitoring Program that would be consistent with the requirements of condition of approval C17 for the previous Sydney Metro West planning application.</p> |



| Potential impact                        | Discussion   |
|---|--|
| Groundwater quality                     | <p>The volume of potentially impacted groundwater to be managed during construction of this proposal would be reduced by comparison to the volume predicted during the work carried out under the previous Sydney Metro West planning application, as the station box would be tanked at the commencement of construction for this proposal.</p> <p>Groundwater inflows would be collected, treated at construction water treatment plants, and discharged in accordance with the water quality requirements outlined in Section 18.9 (Hydrology and water quality) of this Environmental Impact Statement.</p> <p>Further groundwater modelling and assessment would be undertaken in accordance with condition of approval D122 for the previous Sydney Metro West planning application. This would be further reviewed and updated as required for this proposal (refer to the mitigation measures in Chapter 20 (Synthesis) of this Environmental Impact Statement).</p> |
| Surface water – groundwater interaction | <p>Groundwater acting as baseflow to surface water features is considered to be a minor component of recharge in the area surrounding The Bays Station. Groundwater baseflow contribution to White Bay would likely be negligible relative to total water body flows/volumes.</p>  |
| Policy compliance                       | <p>The minimal harm criteria in the NSW Aquifer Interference Policy (NSW Department of Primary Industries, 2012) and Water Sharing Plan rules (NSW Department of Industry, 2011) adopted for the work carried out under the previous Sydney Metro West planning applications would be complied with into construction of this proposal. Impacts from the alteration of groundwater levels and flow regime are reduced for construction of this proposal in comparison to the baseline conditions.</p>  |
| Ground movement                         | <p>The potential for ground movement (and therefore potential impacts to buildings and structures) as a result of construction of this proposal would be reduced compared to work carried out under the previous Sydney Metro West planning application, as the previous would include the excavation of the station box. As such, the extent of ground movement is considered to be negligible as a result of construction of this proposal.</p>  |

#### 13.10.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

During construction of this proposal, soils, contamination and groundwater would be managed in accordance with Sydney Metro's CEMF (Appendix F). The CEMF includes soil, contamination and groundwater management objectives and mitigation measures to minimise impacts as relevant to this proposal as a whole.

### 13.11 Flooding

Further details on the flooding assessment, including the approach and methodology, are provided in Technical Paper 8 (Hydrology, flooding and water quality). The legislative context for the assessment is provided in Appendix B (Legislative and policy context).

#### 13.11.1 Baseline environment

The Bays Station would be located on generally flat land with little to no slope around White Bay. The existing site (prior to the work carried out under the previous Sydney Metro West planning applications) has an elevation typically around three to four metres Australian Height Datum (AHD), with some low-lying sections along White Bay and a small section of higher land associated with the Victoria Road embankment in the south-east of the site.

Flood study mapping and the previous Sydney Metro West planning applications identified that The Bays Station site is subject to major overland flooding potential during the one per cent Annual Exceedance Probability (AEP) event and Probably Maximum Flood (PMF) event. There is coastal inundation potential across low-lying portions of the site during the one per cent AEP event. Parts of the site are located within high flood hazard, floodway and flood storage areas.

Flood modelling for this proposal has determined that The Bays Station site is affected by flood depths of around 0.4 metres to the west of the station box during the five per cent AEP (with climate change) and one per cent AEP (with climate change) event. In the PMF event this increases to 1.6 metres. There is also ponding of flood water from a local catchment within the site that is captured at the south of the station box. This leads to flooding depth of up to 0.8 metres in the five per cent AEP (with climate change) and one per cent AEP (with climate change) flood events and up to 1.5 metres in the PMF.

Flood depths within the White Bay Power Station area are up to 0.8 and 1.2 metres in the five per cent AEP (with climate change) and one per cent AEP (with climate change) flood events, respectively. This increases to 2.3 metres in the PMF event.

On Robert Street at the north of the site, the maximum flood depth on the northern side of the road is 0.6 metres, 1.1 metres and 2.2 metres for the five per cent AEP (with climate change), one per cent AEP (with climate change) and PMF events, respectively.

Flood hazard in the five per cent AEP (with climate change) and one per cent AEP (with climate change) events are generally low, with some small, localised ponding with greater depth having a moderate hazard around White Bay Power Station and on Robert Street to the north.

In the PMF event, there are localised areas of high hazard on the site, particularly near the site access from Robert Street. There is also high hazard on the roads at the east of the site on Sommerville Road.

Low-lying parts of the site are at two metres AHD, which is expected to be affected by coastal inundation, assuming an elevated one per cent AEP flood event ocean level of 1.45 metres AHD (Office of Environment and Heritage, 2015) for the one per cent AEP flood event plus 0.66 metres allowance for wind and wave effects. Higher parts of the station site are sufficiently elevated and are not considered to be exposed to coastal inundation.

The station box and crossover cavern at The Bays Station will have been excavated as part of the work carried out under the previous Sydney Metro West planning applications.

The previous Sydney Metro West planning application identified that flood levels, duration of inundation and flood hazard were not anticipated to increase at The Bays Station construction site. Potential flooding impacts identified for The Bays Station construction site under the previous Sydney Metro West planning application included:

- potential inundation of the construction site and ingress of floodwaters into the station excavation during the one per cent AEP event and the PMF event (although the station excavation would be protected from these events)
- potential flooding impacts to Robert Street and surrounding areas from the obstruction of existing flow paths through the construction site. Flow paths may be obstructed by works to raise and regrade the construction site.

### 13.11.2 Operational impact assessment

The flood protection level for The Bays Station is driven by the one per cent AEP (with climate change) event (plus 0.3 metres freeboard), which is 4.19 metres AHD. The existing surface levels at the station entrance for The Bays Station is about four metres AHD which is below the flood protection level. Mitigation measures would be required to protect The Bays Station from the flood protection level.

Operational flood impact criteria established for this proposal are described in Section 3.1.4 of Technical Paper 8 (Hydrology, flooding and water quality). An assessment of potential flooding impacts at The Bays Station is provided in Table 13-30 and shown in Figure 13-19. The operational flooding assessment considers the flooding extent for the one per cent AEP (with climate change) and PMF events. The five per cent AEP (with climate change) is also considered in Technical Paper 8 (Hydrology, flooding and water quality). Figures showing the modelling for a range of flooding events are provided in Appendix B and C of Technical Paper 8 (Hydrology, flooding and water quality).

This proposal includes the introduction of trunk drainage infrastructure between Robert Street and White Bay, adjacent to the White Bay Power Station that would reduce the flood depth of up to around 0.5 metres south of the White Bay Power Station and up to around 0.10 metres and 0.1 metres on Robert Street in the one per cent AEP (with climate change) and five per cent AEP (with climate change) events respectively.

The proposed station design and realignment of the existing Port Access Road would reduce flood levels by up to around 0.35 metres on Robert Street in the PMF event.

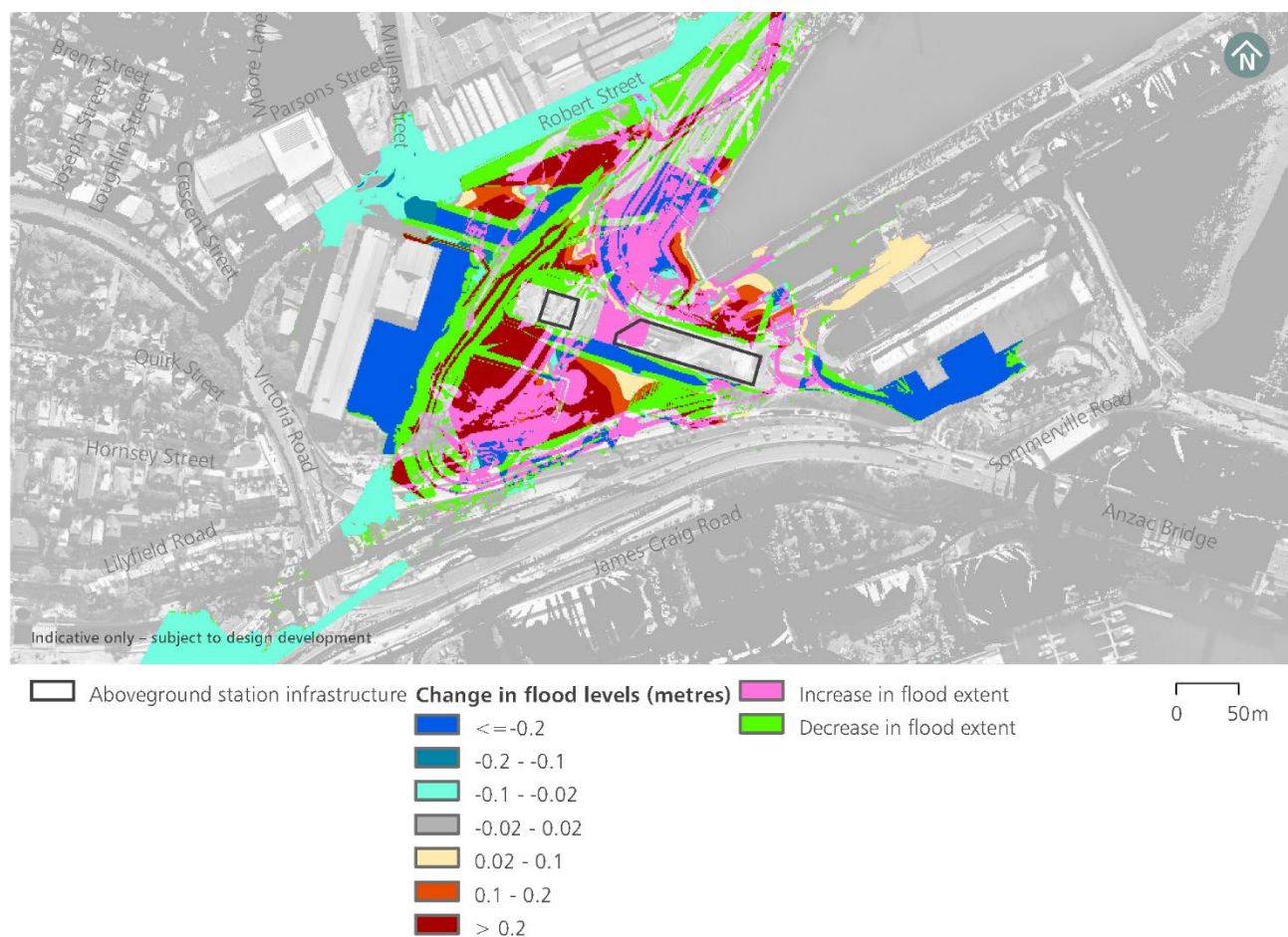
Once addressed, any remaining impacts outside of the site would be addressed in accordance with the mitigation measures for this proposal in consultation with the NSW Department of Planning and Environment and the *Bays West Place Strategy* (NSW Department of Planning, Industry and Environment, 2021a) (refer to 13.11.4). With the implementation of these measures, this proposal would not cause any local nuisance flooding or drainage issues.

Potential impacts during operation of this proposal at The Bays Station are generally expected to be minor in all flooding events. Mitigation measures to manage potential impacts are outlined in Section 13.11.4.

**Table 13-30 Potential flooding impacts for the modelled one per cent AEP and PMF flood events – The Bays Station**

| Potential impact                                | Description   |
|---|---|
| Change in peak flooding levels                  | <ul style="list-style-type: none"> <li>during the one per cent AEP event, the following potential impacts are predicted to occur: <ul style="list-style-type: none"> <li>changes in flood level within the site boundary associated with levelling of areas of the site as part of this proposal. This would result in both newly flooded areas and areas that were previously flooded but are now flood free in these flood events</li> <li>the overland flow through the site and proposed drainage infrastructure would result in a substantial reduction in flood depth to the south of the White Bay Power Station of up to around 0.5 metres. The overland flow path and additional drainage would also reduce flood levels on Robert Street by about 0.1 metres</li> </ul> </li> <li>during the PMF event, the realignment of the Port Access Road and station design would result in reductions in flood level across much of the site as it can more freely drain to White Bay. The realigned Port Access Road would also result in reduced flood levels on Robert Street of up to about 0.35 metres.</li> </ul> |
| Change in flood extent                          | <ul style="list-style-type: none"> <li>both increases and decreases in flood extents are predicted across the site in the one per cent AEP and PMF events. This is shown in Figure 13-19 for the one per cent AEP event.</li> </ul>   |
| Compatibility with the flood hazard of the land | <ul style="list-style-type: none"> <li>the site would be predominantly low flood hazard up to the one per cent AEP event, with higher flood hazard areas associated with deep water ponding around White Bay Power Station and overland flow through the site. On Robert Street, the level of flood hazard would limit access and evacuation from the site, consistent with the baseline conditions</li> <li>generally, the proposal reduces flood hazard within the site except for the major flow path for the catchment which traverses the site, with some minor reductions in areas outside of the proposal.</li> <li>during the PMF event, there would be additional areas around the proposed station with up to moderate hazard and the overland flow through the site would increase to high flood hazard. Most of Robert Street would be high flood hazard and would not be accessible to vehicles</li> <li>the station would provide shelter in place arrangements during hazardous flooding.</li> </ul>   |
| Change in duration of inundation                | <ul style="list-style-type: none"> <li>change in duration of inundation in all flood events would be negligible.</li> </ul>   |
| Potential property impacts                      | <ul style="list-style-type: none"> <li>there would be no newly flood-affected private properties as a result of this proposal.</li> </ul>   |
| Consistency with floodplain risk management     | <ul style="list-style-type: none"> <li>flood modelling results are generally consistent with the Leichhardt Floodplain Risk Management Study and Plan (Cardno, 2017) noting the hazard categorisation used in the plan is consistent with the NSW Floodplain Development Manual (NSW Government, 2005) rather than Australian Rainfall and Runoff Guidelines 2019</li> </ul>  |

| Potential impact  | Description  |
|---|--|
|   | <ul style="list-style-type: none"> <li>The Leichhardt Floodplain Risk Management Study (Cardno, 2017) identifies proposed flood modification works which would involve duplication of existing drainage running under Robert Street that discharges to White Bay. Inner West Council would be consulted so that work at The Bays Station is coordinated with these proposed flood modification works.</li> </ul> |
| Potential impacts to critical infrastructure and emergency management arrangements for flooding | <ul style="list-style-type: none"> <li>no potential flooding impacts to the major road or rail transport routes identified in the South West Metropolitan Emergency Management Plan (South West Metropolitan Regional Emergency Management Committee, 2017) would occur as a result of this proposal.</li> </ul>   |
| Potential social and economic costs from flooding impacts                                       | <ul style="list-style-type: none"> <li>given the generally low flood affectation at The Bays Station and the expected low impact on flood behaviour on surrounding properties and infrastructure as a result of this proposal, the potential social and economic costs from flooding impacts are considered low.</li> </ul>  |



**Figure 13-19 Potential change in flood levels (one per cent AEP event) – The Bays Station**



### 13.11.3 Construction impact assessment

The duration of construction at The Bays Station construction site would be about five years (see Figure 13-8). In general, the potential construction phase flood risks would be a continuation of the potential flooding risks associated with the previous Sydney Metro West planning applications, including work in the additional footprint areas. That is:

- direct intense rainfall onto the site may cause nuisance flooding and drainage issues
- continued potential interruption of overland flow paths from temporary construction site infrastructure (i.e. noise barriers, acoustic sheds, retaining walls) and/or modifications to landforms (i.e. placement of fill materials, stockpiles) resulting in flooding impacts to surrounding streets such as Robert Street
- continued increase in runoff volumes following rainfall events due to an increase in impervious surfaces (i.e. construction site)
- the potential interruption or diversion of existing flood routes away from the location of bunding or spoil within construction sites, resulting in a reduction of flood storage and an increased flood risk to adjacent (for example along Robert Street and surrounding areas)
- disruption of street kerb and gutter at construction site vehicle entry locations which may result in localised ponding
- potential blocking of drainage networks through increased sedimentation of surface water
- inundation of properties and the construction site and flow of water into excavation areas (for this proposal, this would be additional minor excavation to construct flood mitigation work, trunk utilities and the traction substation).

The CEMF (Appendix F) requires the preparation of a Soil and Water Management Plan that would include consideration of surface water and flooding measures and progressive erosion and sediment control plans to manage potential impacts.

Localised changes to overland flows are limited in their scale to the immediate vicinity of the construction site, and due to the temporary nature of the impacts are considered minor. With the implementation of the mitigation and management measures, there would be negligible differences in flood storage volumes surrounding The Bays Station construction site. Work at the construction site is not expected to increase flood levels, duration of inundation or flood hazard associated with neighbouring buildings and properties.

The CEMF (Appendix F) requires the preparation of a Soil and Water Management Plan that would include consideration of surface water and flooding measures and progressive erosion and sediment control plans to management potential impacts.

Potential hazard to people and vehicles accessing the site would need to be managed through the CEMF in rare and extreme flood events.

#### Compatibility of construction sites with flood conditions

The previous Sydney Metro West planning application identified that The Bays construction site is compatible with flood conditions. Flood depths and hazard are generally low on the site in up to the one per cent AEP flood event. Flood depths and hazard are generally low to moderate in the additional footprint required for this proposal. Mitigation measures would be implemented to manage flood risk due to overland flooding and combined coastal inundation events.

#### Consistency with floodplain risk management plans

A review of the Leichhardt Floodplain Risk Management Plan (Cardno, 2017) did not identify any conflicts or inconsistencies with flood hazard categorisation for this proposal.

The Leichhardt Floodplain Risk Management Study (Cardno, 2017) identifies proposed flood modification works which would involve duplication of existing drainage running under Robert Street that discharges to White Bay. Inner West Council would be consulted prior to construction so that construction work at The Bays Station construction site is coordinated with these proposed flood modification works.

The management measures presented in this plan are not inconsistent with the mitigation measures presented in Section 13.11.4.

#### Potential impacts to emergency management arrangements for flooding

No major road or rail transport routes identified in the Sydney Metropolitan Regional Emergency Management Plan Area (NSW Government, 2017) would be impacted by flood flows from The Bays Station construction site.



### Potential social and economic costs from flooding impacts

Similar to the operations phase, potential social and economic costs from flooding impacts during construction at The Bays as a result of this proposal are considered low given the generally low flood hazard within the site during the five per cent AEP and one per cent AEP events (both with climate change) and the expected minor impact on flood behaviour on surrounding properties and infrastructure. The CEMF (Appendix F) requires the preparation of a Soil and Water Management Plan that would include consideration of surface water and flooding measures and progressive erosion and sediment control plans to manage potential impacts.

#### 13.11.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

Potential flood risks during construction of this proposal would be managed in accordance with Sydney Metro's CEMF (Appendix F). The CEMF includes flooding management objectives and mitigation measures to minimise impacts as relevant to this proposal as a whole.

Specific mitigation measures proposed for The Bays Station in relation to flooding are provided in Table 13-31.

**Table 13-31 Flooding mitigation measures – The Bays Station**

| Ref             | Impact/issue               | Proposed mitigation measure   | Timing       |
|-----------------|----------------------------|---|--------------|
| <b>Flooding</b> |                            |   |              |
| EIS-HF4         | Flooding behaviour impacts | Detailed construction planning for The Bays Station construction site would aim to minimise potential impacts on flood behaviour, along the north-western side of the site adjacent to low-lying property, to minimise reduction in floodplain storage and blockage to local overland flow paths. | Construction |

### 13.12 Social impacts

Further details on the social impact assessment, including the approach and methodology, are provided in Technical Paper 9 (Social impacts). A discussion of potential broader proposal-wide and regional social impacts (both benefits and disbenefits) are provided in Chapter 18 (Proposal-wide) of this Environmental Impact Statement.

#### 13.12.1 Baseline environment

The characteristics of the communities within the social locality is described as the social baseline. The social baseline has been analysed by considering the human, social, economic, physical, and natural capital present around the Westmead metro station.

Statistical analysis of the social baseline has been carried out by considering the primary geographical areas of interest as defined by the Australian Bureau of Statistics (ABS). These areas of interest have been termed as:

- **the proximal area:** Statistical Area level 1 (SA1s) have been chosen as the closest approximation of each of the localities along the corridor
- **suburb:** Statistical Area level 2 (SA2s) have been chosen to prepare community profiles for this proposal corridor
- **region:** The Greater Sydney area has been chosen to assist with the assessment of the broader social impacts. It has also been used for comparative purposes.

A summary of each type of community capitals related to The Bays Station is discussed in Table 13-32. This summary considers the proximal area of analysis only. A discussion of potential broader corridor-wide and regional social impacts (both benefits and disbenefits) is provided in Chapter 18 (Proposal-wide) of this Environmental Impact Statement.

**Table 13-32 Community capitals summary – The Bays Station**

| Capital         | Summary  |
|-----------------|--|
| <b>Human</b>    | <p>The Bays locality had a similar age profile to Five Dock, with around 55 per cent of the population over the age of 34. The Bays locality had the largest overall share of persons aged 35 to 49 years across all localities.</p> <p>In 2016, 21.7 per cent of all residents of The Bays locality were attending an educational institution, including preschool, infants/primary and secondary school, university, TAFE or other educational facilities. Of the residents attending an educational institution, the majority were attending primary or secondary school and 26 per cent were attending university or other tertiary institutions.</p>  |
| <b>Social</b>   | <p>The Bays locality had the highest share of residents speaking English only at home (86 per cent), well above the share of the other localities, or the Greater Sydney average (62 per cent).</p> <p>Stability of residence in The Bays locality was also relatively high, with 45 per cent of residents in the same address as 2011 and 77 per cent in the same address as in 2015.</p> <p>The Bays locality has the highest rate of volunteering across the corridor at 21.6 per cent.</p> <p>The share of couple family with children's households was 31 per cent, slightly higher than the average across the corridor (29.8 per cent).</p>   |
| <b>Economic</b> | <p>Overall, households within The Bays locality were among the most advantaged compared to all the other localities, with over half of the households earned above \$2,500 per week, the highest of all localities.</p> <p>56 per cent of households were either owned outright or owned with a mortgage, of which 57.2 per cent were making repayments in the highest quartile of greater than \$2518 per month.</p> <p>Weekly rents were also relatively high compared to other localities, with 83.6 per cent of households paying greater than \$443 per week.</p> <p>The Bays locality also had the lowest unemployment levels across all localities at 3 per cent of the eligible working age population. Unemployment levels are calculated based on those of eligible age (between the ages of 16 and 65), who are not engaged in secondary education and who are able to work. The locality also had the highest labour force participation (81.8 per cent). 71.8 per cent of the labour force worked full time.</p> <p>The occupations and industries of employment was reflective of the younger professionals in the area, with 65 per cent either employed as Professionals or Managers. The dominant industry of employment was professional, scientific and technical services (18.6 per cent).</p> |
| <b>Physical</b> | <p>Within The Bays locality, the dwelling type of profile differed noticeably from the other localities. Many dwellings were semi-detached, row or terrace houses or townhouses, which accounted for 51.7 per cent of all dwelling types. This share was well above all the share in the corridor.</p> <p>The average household size was slightly lower at 2.2 persons per household, below Greater Sydney average of 2.8.</p> <p>To travel to work, residents of The Bays locality tended to rely on cars (37.5 per cent) or train or bus (25.5 per cent). In total, a much lower share of residents used active transport to get to work compared the Sydney CBD locality and the Pyrmont locality, however the Bays did have the highest percentage of those riding to work (2.8 per cent), indicative of its locality to the Sydney CBD and larger central working hubs.</p> <p>The Darling Harbour recreational precinct is located nearby, as is Anzac Bridge, and the man-made parklands at the WestConnex M4-M5 Link, Easton Park, Jubilee Park and Federal Park.</p>  |
| <b>Natural</b>  | <p>Rozelle Bay, Jones Bay, White Bay are all located in close proximity to The Bays Station.</p>   |

### 13.12.2 Operational impact assessment

Social impacts would be experienced at different geographies or spatial extents. A large proportion of operational social impacts associated with The Bays Station would be felt at a regional and a suburb level; however, some would be experienced at a proximal level. This section focuses on the operational impacts at the proximal level, while a region- and suburb-based analysis, including potential beneficial social impacts, is provided in Chapter 18 (Proposal-wide) of this Environmental Impact Statement.

An assessment of the potential social impacts, both positive (benefits) and negative (disbenefits), of the operation of The Bays Station is outlined in Table 13-33.

The identified potential impacts are presented in Table 13-33 are unmitigated and would be appropriately managed through the implementation of the OCCS and the mitigation measures outlined in Section 13.12.4, and through the performance outcomes detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. Sydney Metro would also develop a Community Benefit Plan to guide the development of community benefit initiatives (by Principal Contractors).

A residual impact rating has been assigned to each pre-mitigated impact in Table 13-33 to quantify the impacts after mitigation measures have been applied.

**Table 13-33 Summary of operational social impacts – The Bays Station**

| Pre mitigation impact  | Social impact category   | Impact type | Residual impact rating |
|--|--|-------------|------------------------|
| <p>Increased access to jobs, businesses, education, services, and social facilities improving social cohesion and social health for the whole community.</p> <p>It is almost certain that The Bays Station would provide increased accessibility to and from the area for a large group of people.</p>   | <p>Health and wellbeing</p> <p>Way of life</p> <p>Accessibility</p> <p>Livelihoods</p> | Positive    | Very high              |
| <p>Social amenity and placemaking benefits, including improvements to the aesthetic value of the area by creating attractive and active public spaces that reflect the existing or desired future scale and character of local areas.</p> <p>The new station building would be set within a broad new area of public domain, including new high-quality pavements, furniture, trees and gardens. Due to the generous provision of public domain, including cycle and pedestrian facilities, there would be improved accessibility, legibility and amenity.</p>     | Surroundings   | Positive    | High                   |
| Change in community character due to permanent changes to improve local visual character.  | Community  | Positive    | High                   |
| <p>Potential decline in social amenity and ability to experience surroundings in the way the community have done in the past to due to operational noise for sensitive receivers to the north of the site on Mansfield Street in Rozelle, and to the west on Lilyfield Road and Hornsey Street, Rozelle.</p> <p>Given the generous offset distances and existing high noise environment, Technical Paper 3 (Operational noise and vibration) predicts that the noise emissions from the station are predicted to comply with the environmental noise criteria.</p> | Way of life  | Negative    | Low                    |
| <p>Potential decline in how people experience their living environments due to changes to the visual landscape and views from new surface infrastructure.</p> <p>Technical Paper 6 (Landscape and visual amenity) found that overall there would be a considerable improvement in amenity and negligible change to the visual amenity of the area at night.</p>  | Way of life  | Negative    | Low                    |

Overall, the assessment found that the operation of The Bays Station would support the renewal and development of The Bays and provide access to the established areas of Balmain and Rozelle, including for those with vulnerabilities. The Bays Station would also provide the opportunity for social amenity and placemaking benefits and improvements to the aesthetic value of the area by creating an attractive and active public space that are reflecting the existing or desired future scale and character of local areas.

There could be some residual negative social impacts with respect to noise and visual impact; however, these would be managed to an acceptable level through the mitigation measures as identified in Chapter 20 (Synthesis) of this Environmental Impact Statement.

### 13.12.3 Construction impact assessment

Construction activities would be carried out within the same construction sites required for the work carried out under the previous Sydney Metro West planning application. Anticipated construction impacts are expected to be similar and would be a continuation of those from work carried out under the previous Sydney Metro West planning application. During this proposal, local amenity impacts such as noise, vibration, and air quality would reduce compared to the work carried out under the previous Sydney Metro West planning application due to the nature of the construction activities for this proposal.

An assessment of the potential social impacts of constructing this proposal at The Bays Station are outlined in Table 13-34.

The potential impacts presented in Table 13-34 are unmitigated and would be appropriately managed through the implementation of the mitigation measures outlined in Section 13.12.4 and through the performance outcomes detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. Sydney Metro would also develop a Community Benefit Plan to guide the development of community benefit initiatives (by Principal Contractors).

A residual impact rating has been assigned to each pre-mitigated impact to quantify the impacts after these mitigation measures have been applied.

**Table 13-34 Summary of construction social impacts – The Bays Station**

| Pre mitigation impact  | Social impact category     | Impact type | Residual impact rating |
|--|----------------------------|-------------|------------------------|
| Continued reduction in amenity in local area due to the expansion of the existing construction site and associated impacts on noise, traffic, parking, air quality and vibration, noting this site is largely located in a non-residential locality.   | Way of life<br>Livelihoods | Negative    | Medium                 |
| Continued changes to community character and sense of place associated with visual changes and the proximity to the heritage listed former White Bay Power Station.  | Community<br>Culture       | Negative    | Low                    |
| Continued changes to the way of life for people working, or accessing services near the construction site, noting this is primarily an industrial area, primarily due to transport network modifications, including the permanent realignment of the Port Access Road, construction of new precinct street and associated footpaths, and interchange facilities on the Port Access Road. | Accessibility              | Negative    | Low                    |
| Potential wellbeing impacts associated with ongoing construction activity for those people sensitive to noise and vibration.   | Health and wellbeing       | Negative    | Low                    |

The assessment indicates that the social impacts of this proposal would effectively represent a continuation of the impacts identified for the work carried out under the previous Sydney Metro West planning applications, though generally at a lower level of intensity and extent. Residual negative impacts would be largely related to community, culture, health and wellbeing, and accessibility, and would be temporary and short term in nature. These impacts would be managed to an acceptable level through proven mitigation measures as identified in Chapter 20 (Synthesis) of this Environmental Impact Statement.

### 13.12.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

During construction of this proposal, social impacts would be managed in accordance with Sydney Metro's CEMF (Appendix F). The CEMF includes social impact management objectives and mitigation measures to minimise impacts as relevant to this proposal as a whole

The OCCS (Appendix C) also specifies that a Community Communication Strategy would be prepared and implemented during construction which would define the location specific measures to be implemented to minimise impacts on people during construction.

Design refinements that have occurred to avoid or minimise social impacts, and to respond to stakeholder feedback are provided in Technical Paper 9 (Social impacts). Monitoring commitments during the operation and construction of this proposal, including adaptive management measures, are provided in Technical Paper 9 (Social impacts).

## 13.13 Local business impacts

The approach and methodology for the local business assessment are provided in Chapter 4 (Methodology) of this Environmental Impact Statement. The legislative context for the assessment is provided in Appendix B (Legislative and policy context).

### 13.13.1 Baseline environment

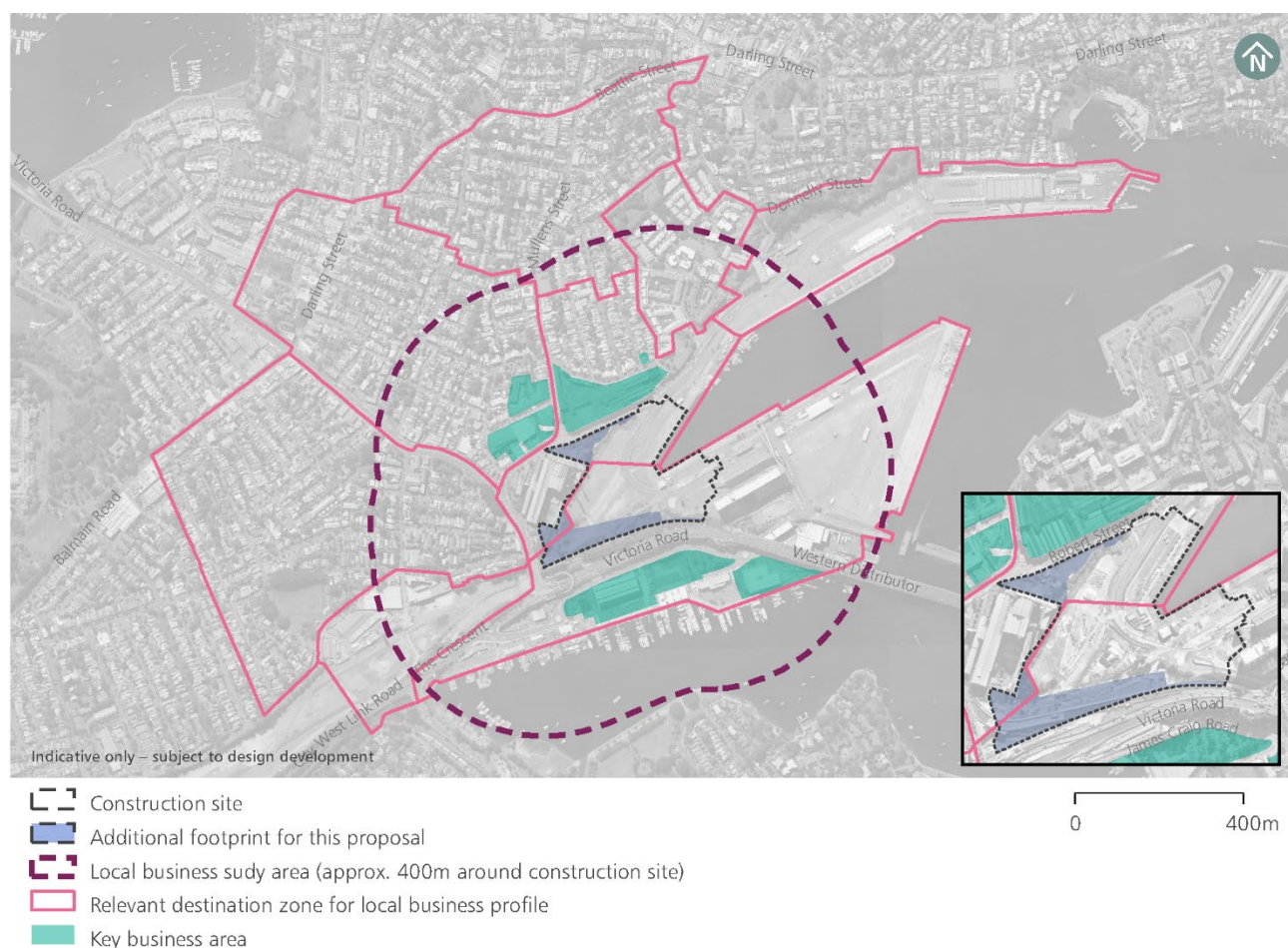
The Bays Station construction site will be established during the work carried out under the previous Sydney Metro West planning application. This included a description of the existing environment as it relates to this local business impact assessment, based on the ABS Census 2016 data. As updated census data is not yet available, the existing environment remains consistent as described by Chapter 16 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a).

To verify this a desktop gap analysis was carried out with respect to any new data available and the specific scope of this proposal. The baseline environment is summarised in the sections below and more detail is provided in Chapter 16 of the *Sydney Metro West Environmental Impact Statement - Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020a).

#### Local business profile

The Bays Station local business study area is largely consistent with that considered in Chapter 16 of the *Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD* (Sydney Metro, 2020). This proposal would require an additional area of land for a traction substation and precinct works). Due to the additional footprint required for this proposal, the 400-metre zone for consideration of local businesses has been expanded accordingly (refer to Figure 13-20).





**Figure 13-20 Local business study area – The Bays Station**

Business areas around The Bays Station are mostly dominated by the Glebe Island and White Bay Port but also include industrial areas adjoining the port, and retail and commercial areas along Victoria Road and Darling Street. The White Bay Cruise Terminal is located within the port area. The Port Access Road leading to the terminal has been realigned by work under the determined *The Bays road relocation works Review of Environmental Factors* (Sydney Metro, 2020b). Access will be maintained during the construction and operation of this proposal. To the north businesses generally comprise urban services and light industries within the existing warehouse buildings along Robert Street and Mullens Street, Rozelle.

Table 13-35 identifies the types of existing businesses within the local business impacts study area.

**Table 13-35 Businesses within the local business impacts study area – The Bays Station**

| Impact area                            | Types of businesses                             | Approximate number of businesses |
|--|---|----------------------------------|
| Within 100 metres of the site          | Commercial, retail, wholesale, industrial, port | 20 to 30                         |
| Between 100 and 400 metres of the site | Commercial, retail, wholesale, industrial, port | 20 to 30                         |

## Employment

At the 2016 Census, about 3,280 people were employed within the 'destination zones' relevant to The Bays Station local business impacts study area. Destination zones are the spatial unit used to code 'place of work' by the Australian Bureau of Statistics. Employment within the local business study area was highly concentrated in business services, which accounted for around 32.5 per cent of all jobs, followed by household services at 25.9 per cent of all jobs. These types of businesses are primarily destination businesses and less reliant on passing trade. The local business impacts study area also includes goods production and goods distribution businesses which do not rely on passing trade.

At an industry level, employment tended to be diverse with no single industry being dominant in The Bays Station local business impacts study area. Professional, scientific and technical services (12.8 per cent), and construction (10.7 per cent) made up the most represented industries.

### Travel patterns

At the 2016 Census, workers within the area were highly dependent on cars to get to and from work, with 64.6 per cent of residents using a car (as driver). This suggests businesses are dependent on good access to the road network to access labour markets within the region. The Bays Station local business impacts study area is highly accessible by road including via the major arterial roads of Anzac Bridge and Victoria Road. The Rozelle Bay light rail stop is located around 650 metres to the south-west of The Bays Station. There are also frequent and regular bus services. Public transport via bus and train represented 9.9 per cent and 8.9 per cent of all journey to work commutes respectively.

Since the 2016 Census, it is likely that the share of workers working from home in the local business study area has increased, with this trend likely to be accelerated in a post-COVID-19 environment.

### 13.13.2 Operational impact assessment

A qualitative assessment of the potential indirect operational changes to local businesses at The Bays Station is provided in Table 13-36. There are no direct impacts anticipated for local businesses during operation. Potential opportunities for local businesses during operation are also provided in Table 13-36.

A new metro station at The Bays is a vital component of the Bays West Place Strategy and would provide access to an area not currently serviced by the existing suburban rail network. Increased accessibility would support revitalisation of the area and encourage further business investment which otherwise may not be realised. It would also improve connectivity to existing commercial centres, such as Parramatta CBD and Sydney CBD, providing greater opportunities for employment and economic growth within the precinct and across the corridor due to increased public transport access for workers and customers to the area.

Additionally, Sydney Metro West would provide for an activated public domain surrounding the station and associated street frontages, which would clearly interface with surrounding areas, supporting opportunities for a vibrant public domain across the wider precinct. This would further encourage business investment which otherwise may not be realised.

**Table 13-36 Local business impacts during operation – The Bays Station**

| Potential impact operation   | Risk assessment |                   |
|--|-----------------|-------------------|
|  | Likelihood      | Significance      |
| <b>Potential opportunities</b>   |                 |                   |
| <b>Increased passing trade for businesses</b><br>Some businesses located around The Bays Station (such as along Robert Street and James Craig Road) may benefit from an increase in passing trade from customers accessing the station, although existing businesses in close proximity at The Bays Station are considered to be destination businesses and therefore are not heavily reliant on passing trade.  | Possible        | Slight positive   |
| <b>Improved accessibility</b><br>Some businesses may experience increased accessibility (both those reliant on passing trade and destination businesses, e.g. those that are visited by appointment) bringing in new customers who previously could not easily access the area.  | Likely          | Large positive    |
| <b>Improved amenity related benefits</b><br>Improved amenity (such as visual impacts and urban design) around The Bays Station would make the area a more attractive place. This could contribute to improved customer experiences for a range of business types throughout the area and increased foot traffic for those businesses reliant on passing trade. However, the majority of businesses in close proximity to The Bays Station are destination businesses and not heavily reliant on passing trade. | Likely          | Moderate positive |

| Potential impact operation  | Risk assessment |                   |
|---|-----------------|-------------------|
|   | Likelihood      | Significance      |
| <b>Potential indirect impacts</b>   |                 |                   |
| <p><b>Impacts on accessibility</b><br/>Some businesses may experience reduced accessibility due to altered traffic, access and parking conditions. Road networks around the port are highly constrained, so permanent changes to access and traffic conditions (for example due to introduction of interchange facilities) could impact customers access or the ability of businesses to efficiently receive deliveries and service vehicles.</p> <p>Access to the White Bay Cruise Terminal would be maintained at all times throughout operation.</p> <p>To accommodate the proposed road network changes on Robert Street east of Mullens Street, parking spaces would reduce from 124 to approximately 52, partially reducing accessibility to businesses in this area. Some existing alternative on-street parking would be available nearby.</p> <p>The current gated one-way link road providing outbound movements from the Port Access Road onto Robert Street near 48-50 Robert Street would be removed as part of this proposal. Any required outbound access for port/cruise terminal traffic to Robert Street would be accommodated via the new precinct street intersection with Robert Street. The proposed Robert Street / new precinct street intersection would be located at the access of 48-50 Robert Street. The access would be maintained however a safety assessment would be carried out. An adequate sight distance should be provided in response to the higher traffic activity anticipated at the vicinity of the access.</p> | Likely          | Moderate negative |

### 13.13.3 Construction impact assessment

A qualitative assessment of potential indirect construction impacts to local businesses at The Bays Station construction site is provided in Table 13-37. There are no direct impacts anticipated for local businesses during construction. Potential opportunities for local businesses during construction are also provided in Table 13-37.

This proposal requires additional land for a traction substation. There are no businesses located within this minor additional area of land and therefore no direct impacts to businesses would occur for this proposal. Property is assessed in Chapter 18 (Proposal-wide) of this Environmental Impact Statement.

Additionally, anticipated construction impacts are expected to be similar and would be a continuation of those from the work carried out under the previous Sydney Metro West planning applications. During this proposal, local amenity impacts such as noise, vibration, and air quality would reduce compared to those during the work carried out under preceding Sydney Metro West planning applications, due to the nature of this proposal's activities.

**Table 13-37 Local business impacts during construction – The Bays Station**

| Potential impact construction  | Risk assessment |                 |
|--|-----------------|-----------------|
|  | Likelihood      | Significance    |
| <b>Potential opportunities</b>   |                 |                 |
| <p><b>Continued increase in passing trade from workforce</b><br/>Businesses within The Bays local study area are considered unlikely to benefit from construction workers at the site, except for some nearby food and beverage outlets along Victoria Road and Darling Street. This benefit could continue from the previous Sydney Metro West planning applications.</p> | Unlikely        | Slight positive |

| Potential impact construction   | Risk assessment      |                   |
|---|----------------------|-------------------|
|   | Likelihood           | Significance      |
| <b>Potential indirect impacts</b>   |                      |                   |
| <p><b>Continued temporary traffic congestion and increased travel times</b></p> <p>Some businesses surrounding the construction site may have experienced impacts associated with traffic congestion and increased travel times under the previous Sydney Metro West planning applications.</p> <p>Impacts on businesses during construction of this proposal as a result of traffic delays and congestion may continue to result in delayed or hindered access to workplaces or servicing areas, as well as impacts on travel times and efficiency of deliveries.</p> <p>Road networks around the port are highly constrained, so temporary increases in traffic congestion and travel times, as well as road closures (for example to permanently realign the Port Access Road intersection with Robert Street and construct new precinct interchange facilities), could continue to affect the ability of businesses to efficiently receive deliveries and service vehicles. Additionally, given the proposed construction vehicle routes, some businesses would be more likely to be impacted (such as those along James Craig Road or Robert Street).</p> <p>It is also expected that a high proportion of customers would access businesses within the vicinity of The Bays Station by car, meaning temporary increases in traffic congestion and travel times could continue to impact businesses trade.</p> | Likely               | Moderate negative |
| <p><b>Impacts on parking</b></p> <p>Some parking spaces along Robert Street would be temporarily removed for short periods during construction work for the new Robert Street / new precinct street intersection and associated line marking. Impacts are anticipated to be minor given the short-term removal of these parking spaces for road work and availability of alternative on-street parking nearby.</p>  | Rare                 | Neutral           |
| <p><b>Continued temporary reduced local amenity</b></p> <p>Continued temporary reduced amenity from noise, vibration, dust and visual impacts from construction works as a result of this proposal is unlikely to result in lower customer experience for surrounding businesses at The Bays Station.</p> <p>Nearby businesses are primarily industrial and destination businesses and already experience comparatively lower amenity levels from surrounding industrial premises and port related activities.</p>  | Unlikely             | Slight negative   |
| <p><b>Temporary loss of power and utilities</b></p> <p>Unplanned power and utility interruptions could result in business impacts during interruptions. Given most utility works would be completed under the previous Sydney Metro West planning applications, any substantial impact from unplanned power and utility interruptions is very unlikely.</p>   | Almost unprecedented | Slight negative   |

#### 13.13.4 Management and mitigation measures

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.



During construction of this proposal, local business impacts would be managed in accordance with Sydney Metro's CEMF (Appendix F).

The OCCS (Appendix C) also specifies that a Community Communication Strategy would be prepared and implemented during construction and include requirements related to small business engagement. The Community Communication Strategy would define the location specific measures to be implemented to minimise impacts on individual businesses during construction, taking into account the commercial character of the locality, its general trading profile (daily and annually), and information gained from the business profiling.

## 13.14 Biodiversity

The approach and methodology for the biodiversity assessment are provided in Chapter 4 (Methodology) of this Environmental Impact Statement. The legislative context for the assessment is provided in Appendix B (Legislative and policy context).

### 13.14.1 Baseline environment

#### Site context

The area immediately surrounding The Bays Station is highly urbanised, with a history of clearing and development over the past 200 years. This includes the earlier use of the area for industrial and commercial land uses. The area is relatively flat, with a landform generally draining towards the Darling Harbour to the east.

The nearest area of native vegetation is on the approaches to Anzac Bridge, about 150 metres to the east, the majority of which is revegetation as part of the construction of the bridge in the late 1990s.

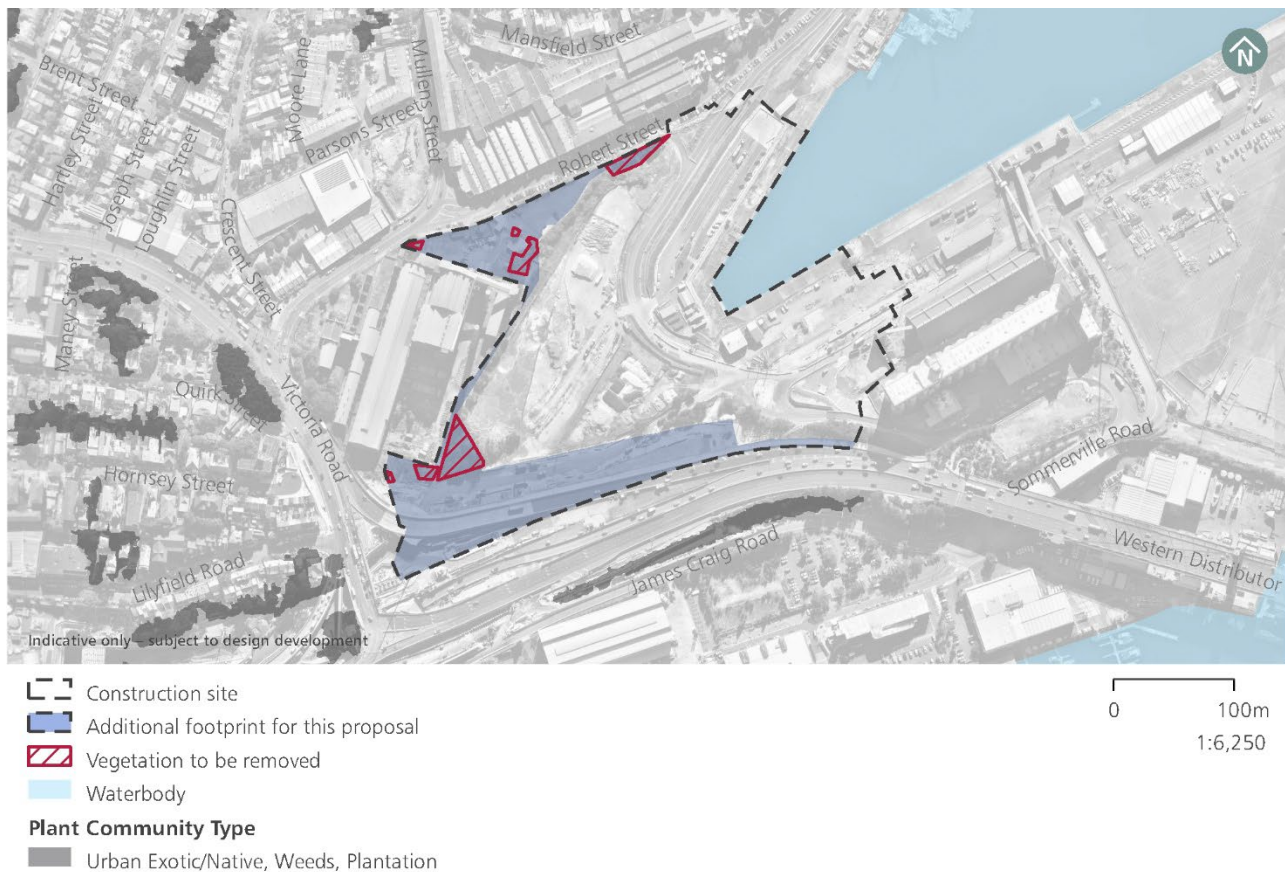
#### Vegetation characteristics

Vegetation in the area surrounding The Bays Station is limited to opportunistic weed species. No remnant native vegetation is present. The Bays Station construction site is occupied predominantly by vacant concrete pads, car parks, road infrastructure and some small buildings with vegetation limited to weed colonisation of vacant areas. All vegetation within the construction site will be removed by the work carried out under the previous Sydney Metro West planning application.

Two additional footprint areas of urban/exotic vegetation would be included outside of The Bays Station construction site established under the previous Sydney Metro West planning application (refer to Figure 13-21). These areas are part of the former White Bay Power Station grounds and include paved or gravel areas and isolated vegetation.

The areas of additional footprint at this location include a small area of regenerated exotic and native vegetation to the south of the former White Bay Power Station, as well as a small area to the north-east of the same building. Vegetation within this area is a mixture of landscaping vegetation and naturally propagated native and exotic vegetation. This includes *Casuarina glauca*, Lantana (*Lantana camara*), Castor Oil Plant (*Ricinus communis*), Date palm (*Phoenix dactylifera*), Wandering jew (*Tradescantia fluminensis*), Fountain grass (*Cenchrus setaceus*), Camphor laurel (*Cinnamomum camphora*), Poplar (*Populus alba*) and Brush box (*Lophostemon confertus*). Vegetation in this area has been recently subject to disturbance and partial clearance associated with the construction of the WestConnex M4-M5 Link. Vegetation in proximity to the construction site for this proposal consists of isolated landscape plantings and street trees and would not be affected by this proposal.





**Figure 13-21 Vegetation – The Bays Station**

### Native vegetation

There is no remnant native vegetation present within The Bays Station construction site, including the additional footprint for this proposal.

### Threatened ecological communities

There are no threatened ecological community present within The Bays Station construction site, including the additional footprint for this proposal.

### Groundwater dependent ecosystems

There are no groundwater dependant ecosystems present within The Bays Station construction site, including the additional footprint for this proposal.

### Threatened flora species

There are no threatened flora species present within The Bays Station construction site, including the additional footprint for this proposal.

### Threatened fauna species

The Bays Station construction site will be subject to disturbance (including clearing and demolition of existing structures) under the previous Sydney Metro West planning application. As such, at the commencement of work associated with this proposal no roosting habitat would be present for microbats.

All additional footprint areas associated with this proposal were assessed for threatened fauna habitat, including microbat habitat within structures proposed to be removed. No habitat or any individuals were identified during the inspection undertaken for this assessment. As such, no potential impacts to microbats are anticipated and impacts have not been assessed further.

### Migratory species

There is no habitat associated with migratory species present within The Bays Station construction site, including the additional footprint for this proposal.

## Aquatic ecology

There is no aquatic habitat present within The Bays Station construction site, including the additional footprint for this proposal.

### 13.14.2 Operational impact assessment

#### Direct impacts

Direct impacts related to the operation of The Bays Station would be limited to the disruption of fauna due to noise, light and human activity. As the majority of activity would be underground at this location, impacts would only include those associated with surface activities such as people moving in and out of the station, additional street-level lighting and the increased movement of private vehicles, buses and taxis. In the context of the locality including substantial residential and retail development, as well as movements associated with the existing station, these impacts would be minor.

#### Indirect impacts

Indirect impacts associated with the operation of The Bays Station would be limited to the management of stormwater runoff and its impacts to local waterways. This may include changes in the quantity and quality of stormwater runoff leaving the operational station precinct, resulting in subsequent impacts to nearby aquatic systems such as White Bay and Jones Bay, and Sydney Harbour more generally. Potential biodiversity impacts associated with such changes include temporary or permanent inundation of wetland habitat, changes in water chemistry affecting sensitive breeding habitat (e.g. pH changes affecting amphibian breeding and foraging habitat) and changes in turbidity affecting the overall health and productivity of aquatic plants and animals.

This proposal is located within an area that is already highly urbanised and the existing stormwater systems are likely to already be contributing to the impacts described above. Despite this, this proposal would seek to manage operational stormwater effectively and manage the quantity and quality of water leaving the additional footprint for this proposal (refer to Chapter 18 (Proposal-wide) of this Environmental Impact Statement).

### 13.14.3 Construction impact assessment

#### Direct impacts

As outlined in Section 13.14.1, construction activities associated with The Bays Station would take place within The Bays Station construction site established under the previous Sydney Metro West planning application, and in the additional footprint areas for this proposal. Vegetation within these additional footprint areas would be removed. As identified in Section 13.14.1, this vegetation consists of landscape plantings and naturally propagated weeds or common urban-adapted native species. As such, impacts to biodiversity arising from this removal are anticipated to be minimal.

Construction of The Bays Station would also result in disruption to fauna due to noise, light and human activity. In the context of the highly urbanised local context including a mixed commercial and residential area, the impact of this direct disturbance is not anticipated to be significant.

#### Indirect impacts

Potential impacts on water quality and aquatic habitat within the White Bay immediately adjacent to this proposal could arise from mobilised sediment and contaminants in stormwater runoff, accidental leaks and spills of contaminants associated with construction activities. Implementation of standard sediment and spill controls would minimise the risk of negative aquatic habitat impacts on White Bay from this proposal. As such, direct impacts to water quality are not anticipated to be significant.

The mobilisation of sediment and contaminants from the construction site would be managed through the implementation of mitigation measures outlined in Appendix F (Construction Environmental Management Framework). Potential water quality impacts would be managed through the measures included in Chapter 18 (Proposal-wide) of this Environmental Impact Statement. As such the potential for indirect downstream biodiversity impacts is expected to be low.

#### **13.14.4 Management and mitigation measures**

Environmental management for this proposal would be undertaken through the environmental management approach as detailed in Chapter 20 (Synthesis) of this Environmental Impact Statement. This includes operational mitigation measures (where relevant) and performance outcomes for the operation and construction of this proposal.

During construction of this proposal, biodiversity would be managed in accordance with Sydney Metro's CEMF (Appendix F). The CEMF includes biodiversity management objectives and mitigation measures to minimise impacts as relevant to this proposal as a whole.