

12 CENTRAL STATION

Assessment of daytime visual impact



03

03 VIEW NORTHWEST FROM THE CORNER
OF DEVONSHIRE AND CHALMERS STREET

Viewpoint 3: View west from the corner of Devonshire and Chalmers Streets

This view includes the western entry to Central Station and the Devonshire Street Tunnel in the middle ground of the view. The heritage Railway Institute building can be seen to the south (left of view) and station platforms are visible to the north (right of view). The Central Station clock tower, an important visual landmark, is visible and seen within a CBD skyline view. Along the eastern edge of the station the trees of the Plaza Iberoamericana obstruct views to the station platforms. This view would be transformed as the CBD and South East Light Rail project (CSELR) introduces a light rail corridor to Devonshire Street which would cross this view as it passes to the north and along Chalmers Street, where a transport interchange will be constructed adjacent to Central Station.

Construction:

It is likely that there would be glimpses to the temporary pedestrian bridge, rising above the station platforms, in the middle to background of this view. This structure would be partly filtered by trees and seen across the construction works of the CSELR project. It would not obstruct views to the clock tower, which would continue to be seen, rising above the station in the background.

Due to the character of construction works associated with the CSELR project, and intervening plaza trees and station elements, it is not expected that the project would create a noticeable reduction in the visual amenity of this view. As this is a view of local sensitivity the project would result in a **minor adverse visual impact** during construction.

Operation: There would be no project works visible from this location during operation. Therefore the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.

Viewpoint 4: View west from Chalmers Street

This view includes the heavily trafficked Chalmers Street in the foreground of the view. Prince Alfred Park comprises the middle ground and focal point of this view, and there are glimpses to the Sydney Rail yards in the background. This view is indicative of the character of the outlook from residential properties to the eastern side of Chalmers Street. This view is characterised by the mature trees and lawns of Prince Alfred Park and at the Railway Institute building (right of view). The station is largely filtered by this vegetation, and glimpses to the built skyline are visible in the background of the view. To the left of view a landscaped mound hides a pool complex.

Construction: The foreground and middle ground of this view would remain largely unchanged. However, it is likely that within the rail yards the Sydney Rail access bridge would be visible, crossing over the top of existing rail infrastructure. This element would be seen under construction, in the background of this view and filtered through trees within Prince Alfred Park.

Due to the distance, intervening elements and existing visual context of the railyards, it is expected that the project would not create a perceived change in the amenity of this view, which is of local sensitivity, resulting in a **negligible visual impact** during construction.

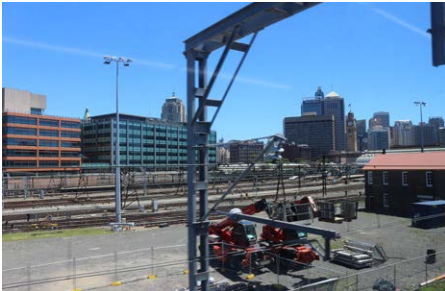
Operation: During the operation the completed Sydney Rail access bridge would be glimpsed in the background of the view. The rail yards would be filtered by vegetation with Prince Alfred Park and seen within the context of existing railyards. It is therefore expected that the project would not create a perceived change in the amenity of views from this location, which has a local visual sensitivity, resulting in a **negligible visual impact** during operation.



04 VIEW WEST FROM CHALMERS STREET

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VIEWS FROM THE RAIL CORRIDOR

Views from the rail corridor

In views from trains approaching Central Station from the south, the highly developed and broad rail corridor dominates the foreground. Elements within this corridor include moving trains, rail track and ballast, catenary structures and overhead lines, rail maintenance facilities and equipment. Numerous arched brick bridges raise and lower tracks to varying levels and obstruct some views within the corridor. Beyond the rail corridor, to the northwest there is a densely urban cityscape and to the southwest, is the leafy parkland of Prince Alfred Park, in Surry Hills.

There are a number of heritage buildings scattered within and surrounding the rail corridor. The focal point of views from approaching trains, however, is the heritage Central Station buildings including the main station building, prominent clocktower and platform canopy structures. A number of other historic buildings can be seen across the corridor, including the Rail Institute building on Chalmers Street, St Andrew's Greek Orthodox Church on Cleveland Street, and Mortuary Station on Regent Street.

Construction: In the vicinity of the Station, the removal of platforms 13, 14 and 15, a number of heritage buildings and vegetation within the corridor, storage of construction material and equipment would be visible from approaching trains. A construction site would be visible at the former location of platforms 13 to 15, enclosed by hoarding and including large plant and equipment. A temporary pedestrian bridge would be seen under construction and in use, elevated above the platform canopy structures, including works on each platform to allow for the construction of supports and stair structures. This temporary bridge would partly obstruct views towards the station platforms and enclose views from the aboveground station platforms.

The Sydney Yards access bridge would be visible, being constructed within the rail corridor to the south of the station

buildings. This would include demolition and construction works that would be seen from most trains travelling to and from the south at ground level. The bridge would be a part of a series of views which create the journey to and from the station and would be seen whilst moving. The bridge would obstruct views within the corridor and to surrounding visual features, including Mortuary Station, St Andrew's Greek Orthodox Church, and the main Central Station building group and clocktower. This element would be seen within a context of bridges, overhead line infrastructure and moving trains.

It is expected that the project would create a noticeable reduction in the amenity of views from trains using this corridor, which is of regional visual sensitivity, resulting in a **moderate adverse visual impact** during construction.

Operation: As a permanent structure, the Sydney yards access bridge would be seen in views from trains as they approach and pass under the bridge. This structure would obstruct some views including glimpsed views to Mortuary Station, St Andrew's Greek Orthodox Church tower, and longer duration views to the main Central Station heritage buildings and clocktower on the southerly approach to the station. From some routes, however, existing bridge structures and level changes obstruct views to these local visual features and would also reduce the visibility of the Sydney yards access bridge.

In views from trains approaching the station from the south, the services building at the southern end of the Metro platform would obstruct views to the station platforms, and from some locations, views to the main Station buildings.

Despite the visual absorption capacity of the rail corridor, due to the large scale of these structures, it is expected that the project would create a noticeable reduction in the amenity of views from the rail corridor. These views are considered in some parts to have a regional visual sensitivity, resulting in a **moderate adverse visual impact** during operation.



EXISTING VIEW ACROSS RAIL CORRIDOR



VIEW ACROSS RAIL CORRIDOR, ARTIST'S IMPRESSION SHOWING SYDNEY YARDS ACCESS BRIDGE

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05

05 VIEW WEST FROM PRINCE ALFRED PARK

Viewpoint 5: View west from Prince Alfred Park

In views from the southwestern corner of Prince Alfred Park, the main Central Station buildings and the clocktower can be seen in the background of this view. This view is glimpsed and framed by trees in the foreground. It is likely that this is a designed view, however, the clocktower blends into the modern backdrop of high-rise CBD buildings, reducing the prominence of this visual feature. There are also a number of intervening elements including the basketball half-court fencing, catenary and overhead lines which obscure this view to the station buildings.

Construction: The temporary pedestrian bridge would be seen being erected and whilst in use, extending across and above the station platforms, obstructing the lower heritage station buildings. Works within the station platform site, including construction of a services building, would also be visible. The western extent of the Sydney Rail access bridge may also be seen, descending to meet the rail yards within the centre of the corridor.

Due to the distance, intervening elements and existing visual context of the railyards, it is expected that the project would not create in a perceived change in the amenity of this view. This view is of regional sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The completed Sydney Rail access bridge would continue to be seen in the background of the view, however, this would be largely visually absorbed into the surrounding rail corridor landscape. At the proposed Metro station platform, there would be a services building rising above the platform level and obstructing views to the station platforms and lower level of the heritage station buildings beyond.

Due to the distance, intervening elements, and retention of the open view to the clocktower, which is the focal point of this view, it is expected that the project would not create a perceived change in the amenity of views from this location. This view has a regional visual sensitivity, resulting in a **negligible visual impact** during operation.

Viewpoint 6: View northeast from Meagher Street

The existing row of terrace houses within the centre of the view have a generally consistent height and building line which creates a sense of enclosure to the street, and a visual edge to this precinct. The built form seen within this view has a heritage character, with the exception of the petrol station (right of view), which creates visual interest within this streetscape.

Construction: The five terrace houses in the centre of the view would be removed, breaking the consistent building line, and opening up views to the rail yards. This gap would align directly with the views from Meagher Street and be framed by the Masonic Temple (centre of view) and petrol station (right of view). The construction site would be created within the footprint of these demolished buildings and surrounded by security fencing. Construction vehicle access would be via Regent Street seen in the centre of the view. The construction of the Sydney Yards access bridge would be seen unobstructed, rising from the level of Regent Street and extending at an elevated level across the Sydney Yards.

These elements would change the character of the view, reducing the visual enclosure of the street and opening up views directly into the rail yards. It is expected that the project would create a considerable reduction in the visual amenity of this view, which is of local sensitivity, resulting in a **moderate adverse visual impact** during construction.

Operation: The Sydney Yards access bridge would continue to be seen unfiltered in the centre, of this view. The character of the view and visual enclosure of the streetscape would not be restored.

It is therefore expected that the project would create a considerable reduction in the amenity of views from this location, which has a local visual sensitivity, resulting in a **moderate adverse visual impact** during operation.



06



06A

06 EXISTING VIEW NORTHEAST FROM MEAGHER STREET

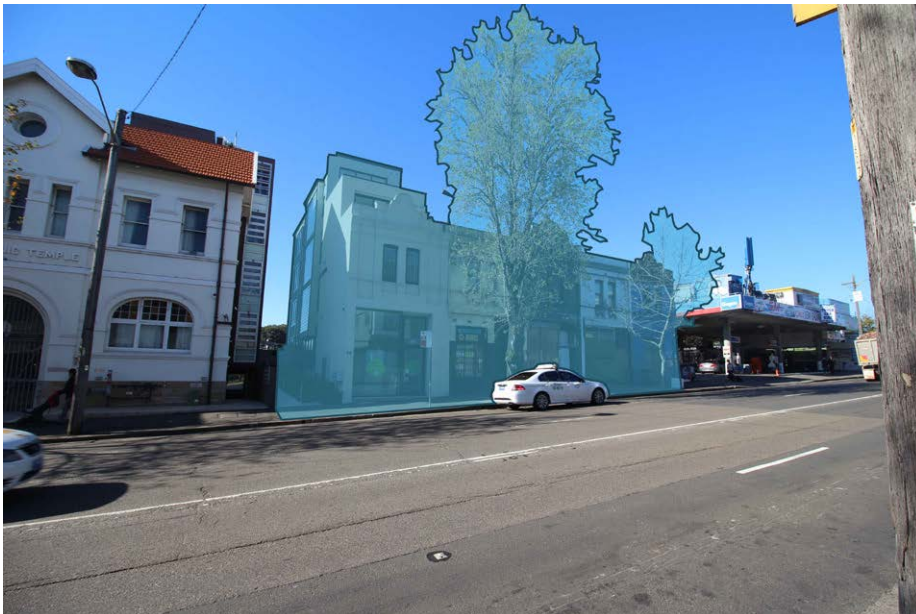
06A INDICATIVE EXTENT OF DEMOLITION

12 CENTRAL STATION

Assessment of daytime visual impact



07



07A

07 EXISTING VIEW SOUTHEAST FROM
REGENT STREET

07A INDICATIVE EXTENT OF DEMOLITION

Viewpoint 7: View southeast from Regent Street

This view across Regent Street shows the Masonic Temple and row of terrace houses aligned generally with a consistent building line and height, and stepping down to a petrol station building, seen beyond. These terraces have a historic character, but are generally run down, with the one closest to the view, being recently renovated. There is a slot view to the Sydney Rail Yards visible between this terrace and the Masonic Temple.

Construction: The five terrace houses in the centre of the view would be removed, creating a gap in the consistent building line, and opening up views to the rail yards and petrol station beyond. The construction site would be seen with site security fencing and vehicle access via Regent Street, in the foreground of the view. The construction of the Sydney Yards access bridge would be seen extending north from Regent Street, rising up and extending at an elevated level across the Sydney Yards.

These elements would change the character of the view, reducing the visual enclosure of the street and opening up views directly into the rail yards. It is therefore expected that the project would create a considerable reduction in the visual amenity of this view, which is of local sensitivity, resulting in a **moderate adverse visual impact** during construction.

Operation: The Sydney Yards access bridge would continue to be seen in the centre, middle ground of this view. The character of the view and visual enclosure of the streetscape would not be restored. Due to the loss of heritage character and scale of the bridge it is expected that the project would create a considerable reduction in the amenity of views from this location, which has a local visual sensitivity, resulting in a **moderate adverse visual impact** during operation.

Viewpoint 8: View south from Regent Street to Mortuary Station

The existing State heritage listed Mortuary Station building can be seen in the middle ground of the view. The station is located on a mound and set within a fenced landscape area. Mature trees and street trees frame the station to the north and south. To the east of the station the overhead lines of the existing rail corridor can be seen, glimpsed through trees and with a background of vegetation at Prince Alfred Park beyond. To the south of the station (right of view) commercial buildings enclose the street and obstruct views to the rail yards.

Construction: There are likely to be some glimpses to the construction of the Sydney Yards access bridge in the background of this view. These elements would rise above the existing overhead lines and above the vegetated backdrop of Prince Alfred Park. Although this change would comprise a small portion of this view, it is expected that the scale and height of the access bridge would contrast with the existing rail corridor character and visually encroach upon the setting of the heritage building.

The project would create a noticeable reduction in the amenity of this view, which has a regional visual sensitivity, resulting in a **moderate adverse visual impact** during construction.

Operation: The Sydney Yards access bridge would continue to be seen in the background of this view. It is therefore expected that the project would create a noticeable reduction in the amenity of views from this location, which has a regional visual sensitivity, resulting in a **moderate adverse visual impact** during operation.



08

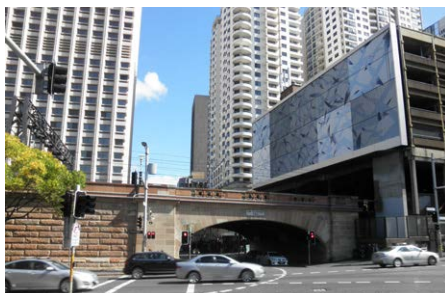


08A

- 08 VIEW SOUTH FROM REGENT STREET TO MORTUARY STATION
- 08A ARTIST'S IMPRESSION SHOWING PROJECT DURING CONSTRUCTION AND OPERATION (50mm FOCAL LENGTH)

12 CENTRAL STATION

Assessment of daytime visual impact



VIEWS ALONG (L-R) EDDY AVENUE, ELIZABETH STREET SOUTH, ELIZABETH STREET NORTH, HAY STREET, HAY STREET TO THE BELMORE SUBSTATION

Views to power upgrade temporary works

The power upgrade would require temporary works within the road corridor east from the northern concourse and along Eddy Avenue, north along Elizabeth Street, and west along Hay Street to the Belmore Substation.

In this area of Eddy Avenue a range of vehicles including service vehicles are seen using the northern concourse railyards access. Views are contained by the arched sandstone rail bridges, which also frame views towards Elizabeth Street.

Views along Elizabeth Street are defined to the west by the sandstone walls of the rail corridor and mature London planetrees. Elizabeth Street is a six lane thoroughfare with multi-storey office and commercial buildings to the east.

The alignment turns west, under a single arched sandstone bridge, into Hay Street. The State heritage listed Belmore Park is located to the south of Hay Street and the existing Belmore Park Substation is discretely integrated into the built form of the city, to the north. Street trees and trees within the park frame views and shade the street.

Construction: Views may include some road and footpath closures to accommodate the temporary trenching works. Existing trees, including those along Elizabeth Street and within Belmore Park, would not be impacted.

It is expected, due to the minor scale of these works, that the project would create a noticeable reduction in the visual amenity of views from these streets and adjacent properties. Views along this route are of local visual sensitivity, resulting in a **minor adverse visual impact** during construction.

Operation: There would be no permanent project elements visible along this route.

Assessment of night time visual impact

The setting of Central Station is considered to be an area of **E4: High district brightness**. It is a brightly lit urban area, with lighting from the heavily trafficked streets, surrounding buildings, transport interchanges and station creating both direct light sources and a general skyglow around the project site.

Construction: It is expected that there would be night works required at this location during construction, including 24 hour deliveries and spoil haulage accompanied by traffic control crews with lit truck mounted crash attenuator vehicles and lighting.

The construction site would be largely contained within the station and not likely to be overlooked by surrounding streets, residential properties or hotels. This lighting would be generally consistent with the brightly lit station area.

Overall, it is expected that at night the project would not create a perceived change in the amenity of views in this area, which would result in a **negligible visual impact** during evening hours.

Operation: Lighting associated with the project would be consistent with the high district brightness environment of the existing station. Therefore, the lighting of the project would not create a perceived change in visual amenity, resulting in a **negligible visual impact** for this area during evening hours.

12 CENTRAL STATION

Summary of impact

Summary of Impact

Landscape impact

During construction there would be a **moderate adverse landscape impact** experienced at the northern concourse due to impact on pedestrian connectivity, legibility of the station entry from the north, and the reduced activation and comfort of the entry plaza created by the loss of retail tenancies, trees and construction activity.

During operation, however, there would be **negligible landscape impact** experienced due to the reinstatement of impacted public realm areas.

Visual impact

There would be a range of visual impact created by the project during construction including **minor** and **moderate adverse visual impact**. These impact are due primarily to the sensitivity of views and the scale of works. In particular, the scale of the new built elements, including the temporary pedestrian bridge between Platforms 1

and 23, and the Sydney Yards access bridge between Regent Street and the Sydney Yards laydown site.

During operations there would be mainly **negligible visual impact** as the temporary bridge would be removed and the station platforms reinstated. However, there would be **moderate adverse visual impact** at Regent Street and from trains within the corridor where the Sydney Yards access bridge would be seen as it and continue to be used for access to the Yards and at the Station as the services building at the southern end of the proposed Metro platform alters views.

At night there would be **negligible visual impact** during construction and operation of the project due to the existing lit context of **E4: High district brightness**.

LEE AND GEORGE STREETS



The following tables summarise the impact of the project.

Landscape Impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	Northern concourse	Regional	Noticeable reduction	Moderate adverse	No perceived change	Negligible

Day time visual impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	View southwest from Eddy Avenue to the northern concourse	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible
2	View north from platform 16	Regional	Noticeable reduction	Moderate adverse	No perceived change	Negligible
3	View northwest from the corner of Devonshire and Chalmers Streets	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible
4	View west from Chalmers Street	Local	No perceived change	Negligible	No perceived change	Negligible
	Views from the rail corridor	Regional	Noticeable reduction	Moderate adverse	Noticeable reduction	Moderate adverse
5	View west from Prince Alfred Park	Regional	No perceived change	Negligible	No perceived change	Negligible
6	View southeast along Regent Street	Local	Considerable reduction	Moderate adverse	Considerable reduction	Moderate adverse
7	View northeast from Meagher Street	Local	Considerable reduction	Moderate adverse	Considerable reduction	Moderate adverse
8	View east across Regent Street to Mortuary Station	Regional	Noticeable reduction	Moderate adverse	Noticeable reduction	Moderate adverse
	Views to power upgrade temporary works	Local	Noticeable reduction	Minor adverse	N/A	N/A

Night time visual impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	Project site	E4: High district brightness	No perceived change	Negligible	No perceived change	Negligible

13 WATERLOO STATION

Existing conditions

The Waterloo Station site is located on one city block bounded by Botany Road to the west, Raglan Street to the north, Cope Street to the east, and Wellington Street to the south.



SITE LOCATION

Planning context

The following review identifies key documents which provide the planning context for the proposed works at Waterloo Station.

Sydney Local Environmental Plan, City of Sydney, 2012

The Waterloo Station site is located within South Sydney local area. The project site and surrounding precinct are located within Zone 10 – Mixed Uses (10, 10(a) and 10(b)) zoning controls.

This assessment will need to consider the objectives for the zone 10 under Part 3, Clause 21 in particular, “to minimise any adverse impact on residential amenity by devising appropriate design assessment criteria and applying specified impact mitigation requirements by the use of development control plans”. And, in relation to Zone 10(b): “to ensure non-residential uses are environmentally compatible with residential uses, and do not adversely affect residential amenity, within the zone”.

The project area includes a heritage site, the Congregational Church, located at number 103-105 Botany Road. The site is also adjacent to several other heritage sites including the Cricketers Arms Hotel (56-58 Botany Road), Former CBC Bank (60 Botany Road), Glenroy Hotel (246-250 Botany Road), Cauliflower Hotel (123 Botany Road), Former Waterloo Pre-school (225-227 Cope Street), and Alexandria Park. This assessment will therefore need to consider the “settings and views” of these heritage items under the Heritage conservation clause (5.10).

The South Sydney Local Environmental Plan 1998, is referenced within the Sydney LEP and applies specifically to this portion of the City. This document includes several Built Environment Design Principles which address issues of streetscape and locality character, scale and design of the project, public domain and preservation of “predominant view lines and vistas enjoyed from parks, reserves, roadways, footpaths and other

areas of the public domain”. (Part 4, Division 4, Clause 28)

These heritage values have been considered in relation to landscape and visual sensitivity in terms of their value to character and the community.

Sydney Development Control Plan, City of Sydney, 2012

The Sydney DCP 2012 sets out the design outcomes and requirements for the treatment of the public domain including public open space, landscaping, heritage, transport and access.

This assessment will consider if any of the proposed development protects views within the public domain, specifically:

- “(1) Buildings are not to impede views from the public domain to highly utilised public places, parks, ... heritage buildings and monuments including public statues, sculptures and art.
- (2) Development is to improve public views to parks, ... heritage buildings and monuments by using buildings to frame views. Low level views of the sky along streets and from locations in parks are to be maintained.” (Clause 3.2.1.2 Public views).

The project will be assessed within the context of these existing DCP guidelines.

The DCP also considers urban vegetation to be one of the City’s “most important assets”. Under Clause 3.5.2, the mitigation strategy will need to ensure “tree cover is considered...and provided appropriately” under the clause provisions.

The project is located in close proximity to several heritage items and within local context of heritage areas. In relation to heritage conservation, Clause 3.9.5, Provision 4 (Heritage items) of the DCP:

“Development in the vicinity of a heritage item is to minimise the impact on the setting of the item by:

- (a) providing an adequate area around the

building to allow interpretation of the heritage item;

(b) retaining original or significant landscaping (including plantings with direct links or association with the heritage item);

(d) retaining and respecting significant views to and from the heritage item”.

These requirements have been considered throughout this assessment and in relation to mitigation measures.

Existing environment

The Waterloo Station site comprises one city block bounded by Botany Road to the west, Raglan Street to the north, Cope Street to the east, and Wellington Street to the south. The site has a strong and consistent building line with a dense coverage of medium grain built form including a mix of commercial, residential, light industrial and warehousing.

Botany Road is a wide road lined by some small street trees, and accommodating predominantly large scale factory outlet retail. To the west of the road, the buildings are set back with ‘nose-in’ parking creating a vehicular dominant streetscape. To the east, on the project site, the footpath is narrower and the building line is closer to the roadway. To the south of this block the buildings are of recent construction, whereas to the north of this block, are predominantly historic brick warehouses. Within this block is the Waterloo Congregational Church, a local visual landmark.

Raglan Street is characterised by a row of three storey early 20th century brick buildings with retail frontages and residential accommodation above on the upper levels, creating a small shopping precinct. The built form steps up to six storey modern unit buildings in the north. A number of tall high-rise residential blocks can be seen beyond in the northeast. Leafy streets with mature Brush box trees on the corner of Raglan and Cope Street create visual relief from the intensely urban environment of the project area.

Cope Street has a disjointed overall character with an abrupt change in character from east to west. To the west the project site has a strong building line with medium grain, predominantly late 19th and early 20th century warehouses. These buildings are predominately of red brick construction or masonry and with a mix of pitched, stepped, clerestory and flat roofs. A narrow road verge is fully paved and includes numerous large garage doors and service access ways. Power lines run parallel to the road creating a historic, industrial character.

The eastern side of Cope Street is lined by mature street trees and has a more open, suburban feel. The entire block, and stretching for three blocks in total, is a complex of residential buildings, containing a mix of one, two and three storey brick houses and unit blocks. This complex presents a mixed building line to Cope Street with each building aligned at an angle to create a zig zagging effect, set back from the street and creating large triangles of open space between these buildings and the street. This layout contrasts distinctly from the built form line of the site, to the west of Cope Street.

Similarly Wellington Street has disjointed character. To the north, on the project site, the industrial character continues. However to the south is a row of historic double storey brick terraces with a strong line and continuity to this portion of the street. At the intersection with Botany Road, the Cauliflower Hotel is matched on the north and southwestern corners by similar corner buildings which accentuate this intersection.

The NSW State Government has announced their intentions to undertake a transformative urban renewal project for Waterloo based around the removal of the aging social housing estate. This precinct will be transformed over the next 15-20 years with contemporary, high density, mixed use development.

13 WATERLOO STATION

Assessment of daytime visual impact



LAYOUT DURING OPERATION

Character and components of the project

This summary describes the construction and operation phases of the project.

Construction

The following structures, equipment and activities are likely to be experienced during construction:

- Establishment of a construction site compound including demolition of the following buildings:
 - 3 storey residential and commercial building at 49-51 Botany to 136-134 Raglan Street
 - 4 storey strata residential and retail at 67a Botany Road
 - A mix of 1-2 storey warehouse buildings at 116-168 Cope Street, 63-67, 87-85 and 89-91 Botany Road
 - Waterloo Automotive at 172-174 Cope Street and 129 Wellington Street
 - 2 storey office building at 119 Botany Road
 - 2 storey outlet retail at 107-111 Botany Road
- The heritage listed Congregational Church, located at number 103-105 Botany Road would be retained
- Removal of street trees impacted by the site and for site access including approximately:
 - 2 trees on the Raglan Street
 - 13 trees on Botany Road
 - 3 trees on Wellington Street
- Open trench construction within the existing road reserve along Cope Street, Wellington Street and George Street to the Zetland substation (Approximately 850m) for a power supply upgrade

- A metal clad acoustic enclosure along the length of Cope Street, approximately 6.5m in height to the north and south and rising to 15m in the centre of the block
- Hoardings and site fencing surrounding the remaining area of the site along Botany Road
- Site offices, parking area, amenities, workshops, material and plant storage areas, and water treatment plant
- Cranes and large plant (e.g. excavators)
- Construction vehicle access and movement via Raglan Street and Botany Road
- 2-4 carparks removed on Raglan Street, temporary closure of carparks on Cope and Wellington Streets

The duration of construction works at this location would be approximately 5-6 years.

It is expected that the construction of this site would require spoil haulage and heavy plant deliveries to be undertaken outside of standard working hours.

Operation

The following elements and activities are likely to be experienced during the operation of the project.

- Station entry at the corner of Raglan and Cope Streets
- Services located to the rear of the Congregational Church on Cope Street
- Reinstatement of footpaths impacted by construction on Raglan Street

Sensitivity levels

The following list summarises the landscape and visual sensitivity of the site and main viewing areas across the study area.

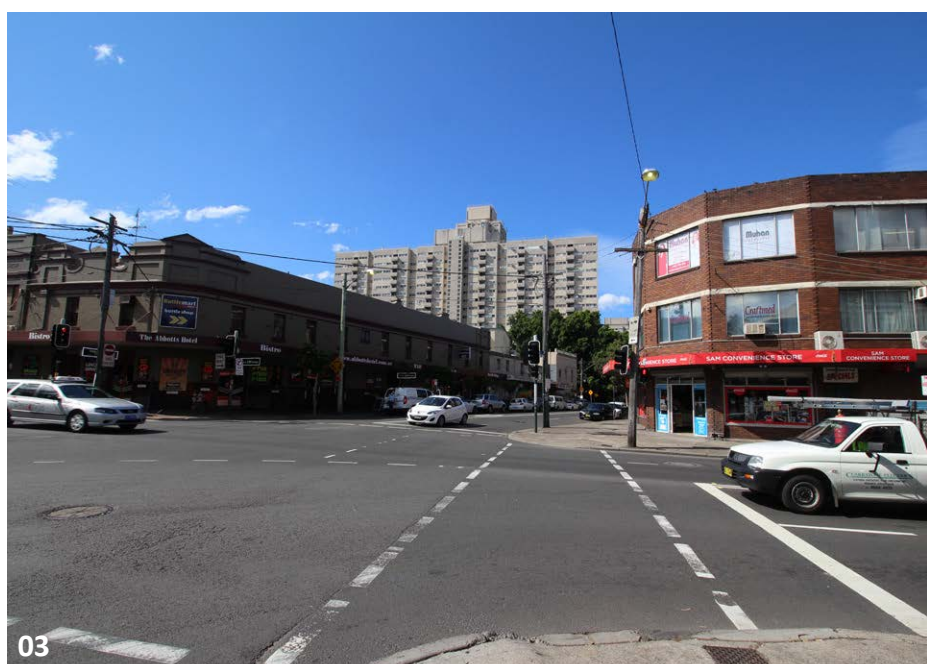
Botany Road and Raglan Street

Botany Road is the main high street through Waterloo and continues to Botany and the airport in the south. The site would therefore be viewed by a large number of vehicles and pedestrians. This precinct is largely mixed use including light industry, commercial and medium density residential. The site contains the local heritage listed Congregational Church which is a local visual landmark and increases the value of streetscape views in this context. The existing buildings developed on Botany Road and Raglan Street create a mixed quality public realm, with awnings and street trees on Raglan Street creating a pedestrian scale streetscape. Botany Road includes a number of service entries, narrow footpaths and an avenue of immature street trees. Raglan Street is a local commercial and retail centre and is valued by local residents.

The landscape and views of Botany Road and Raglan Street are therefore considered to be of **local sensitivity**.

Cope and Wellington Streets

Cope and Wellington Streets include a mix of medium to high density residential areas and mixed commercial and light industry uses. These streets are predominantly used by adjacent residents and workers within the precinct. The existing development on Wellington and Cope Streets create a disjointed and constrained public realm. Views are of mixed quality with service entries and residential properties set back from the street, creating a fragmented streetscape character. The landscape and views of Cope and Wellington Streets are therefore considered to be of **neighbourhood sensitivity**.



- 01 CORNER BOTANY ROAD AND WELLINGTON STREET
- 02 VIEW SOUTH ALONG BOTANY ROAD
- 03 CORNER OF BOTANY ROAD AND COPE STREET

13 WATERLOO STATION

Assessment of landscape impact



Assessment of landscape impact

In the vicinity of the project the following streetscapes have been identified as potentially being impacted by the project:

- Botany Road and Raglan Street commercial precinct, and
- Cope and Wellington Streets.

The following section summarises the impact identified by the assessment and site observations. This includes impact during construction and operation.

- 01 RAGLAN STREET COMMERCIAL PRECINCT
- 02 COPE STREET
- 03 BOTANY ROAD

Botany Road and Raglan Street commercial precinct

Construction: Parts of Botany Road and Raglan Street adjacent to the site would be required during demolition, site establishment and construction vehicle access. This work would include the closure of footpaths during some periods of construction. It is likely that north south (on Botany Road) and east west (on Raglan Street) pedestrian connectivity would be reduced at times and connectivity and legibility in this part of Waterloo may be impacted. Overhead awnings along Raglan Street and a small number of street trees on both streets would be removed, reducing the shade cover and altering the amenity of the street somewhat.

It is expected that there would be a noticeable reduction in the landscape quality of this streetscape which is of local sensitivity. This results in a **minor adverse landscape impact** during construction.

Operation: The functioning of this precinct during operation, however, would be restored as footpaths are reinstated. The functioning of Raglan Street as a local commercial centre would be improved as a station entry attracts pedestrians, and increases the legibility of and connections to public transport network. Future redevelopment of the area (not the subject of this assessment) would be expected to reinstate the active frontages along Raglan Street and extend south along Botany Road.

There would be a noticeable improvement in the landscape quality of these streets which are of local sensitivity. This results in a **minor beneficial landscape impact** during operation.

Cope and Wellington Streets

Construction: Parts of Cope and Wellington Streets may be required during demolition and site establishment. This work may include the closure of footpaths and carparking during some periods of construction. Buildings and a small number of street trees on Wellington Street would be removed, reducing the shade cover and altering the amenity of the street somewhat.

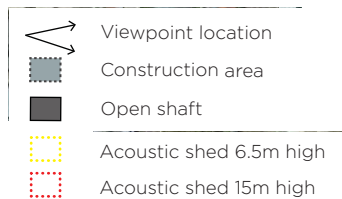
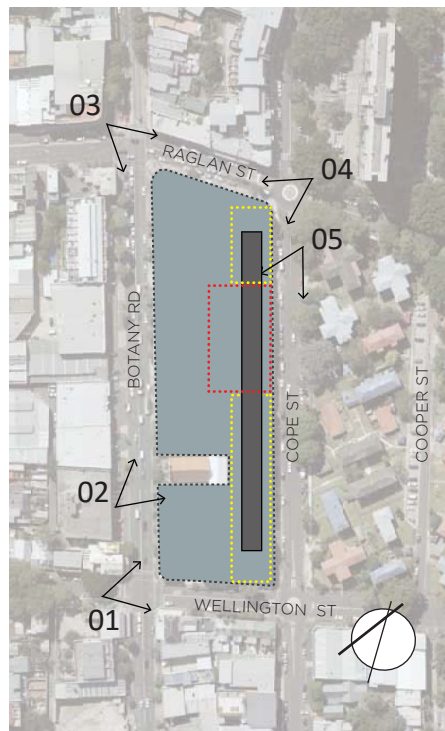
It is expected that there would be a noticeable reduction in the landscape quality of this streetscape which is of neighbourhood sensitivity. This results in **negligible landscape impact** during construction.

Operation: A new station entry would be created on the corner of Raglan and Cope Streets, and footpaths and street trees would be reinstated. The creation of a station entry would improve the legibility, permeability, connectivity and walkability of this precinct.

It is expected that there would be a noticeable improvement in the landscape quality of these streets which are of neighbourhood landscape sensitivity. This results in a **negligible landscape impact** during operation.

13 WATERLOO STATION

Assessment of daytime visual impact



VIEWPOINT LOCATION PLAN

Assessment of daytime visual impact

The following viewpoints were selected as representative of the range of views to the site and the proposed development.

- Viewpoint 1: View east from Wellington Street
- Viewpoint 2: View northeast from Botany Road
- Viewpoint 3: View southeast from the intersection of Botany Road and Raglan Street
- Viewpoint 4: View southwest from the corner of Cope and Raglan Street
- Viewpoint 5: View south from Cope Street

The following sections summarise the daytime visual impact identified in the representative viewpoint assessment and site visit observations.

Viewpoint 1: View east from Wellington Street

This view includes a mix of heritage and mid to late 20th century commercial buildings constructed of masonry and brick, and rising to two storeys. Roof lines vary between finials which emphasise the prominence of these corner buildings, to the rectilinear rooflines of modern commercial buildings. A mix of awnings, street trees and streetscape elements create visual interest at street level. The older heritage corner frontages with awnings in this view contribute to the character of this precinct.

Construction: The removal of the existing office and commercial buildings would be prominent in the centre of this view. The construction site would include boundary hoarding and an acoustic enclosure in the middle to background of the view. Construction traffic would also be seen traveling along Botany Road. Although the character of construction works would be visually absorbed into this urban setting, the loss of the unifying built form of the corner building at this intersection would have an adverse impact. It is therefore expected that the project would create a noticeable reduction in the visual amenity of this view, which is of local visual sensitivity, resulting in a **minor adverse visual impact** during construction.

Operation: It is assumed that future development on the site (not within the scope of this assessment) would reinstate the prominence of the street corner site and be visually compatible with the surrounding urban setting. It is expected that the project would be visually absorbed into the surrounding urban landscape, and not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.



01



01A

01 EXISTING VIEW EAST FROM WELLINGTON STREET

01A INDICATIVE EXTENT OF DEMOLITION

13 WATERLOO STATION

Assessment of daytime visual impact



02



02A

- 02 EXISTING VIEW NORTHEAST FROM BOTANY ROAD
- 02A INDICATIVE EXTENT OF DEMOLITION

Viewpoint 2: View northeast from Botany Road

The focal point of this view is the heritage listed Waterloo Congregational Church. The architecture of this church sits in contrast to the adjacent heritage inspired commercial development to the south (right of view) and historic industrial warehouse (left of view), which is characterised by a brick façade and corrugated iron double clerestory roofline. This view is seen across the wide Botany Road corridor, which is a visually harsh foreground environment. The two to four storey built form creates a strong building line across this view with distant residential high-rise buildings seen above this streetscape. The mix of styles in this view contributes to the character of this precinct.

Construction: The middle ground of this view would change with removal of all existing buildings surrounding the heritage listed Congregational Church. Site boundary hoarding would visually contain the construction site and construction vehicles would be seen moving along Botany Road and entering the site. Noise attenuation enclosures would be seen, set back from Botany Road, and rising to approximately 6.5m to the south of the church (right of view) and to 15m in the north (left of view). These changes would be prominent, comprise a large portion of the view, and have an adverse effect on the setting of the State heritage listed church. It is therefore expected that the project would create a considerable reduction in the visual amenity of this view, which is of local visual sensitivity, resulting in a **moderate adverse visual impact** during construction.

Operation: This view would be transformed as built form is developed as part of a state led urban renewal project (subject to separate design and assessment process). It is expected that the project would not be visible from this location due to this future development. Despite the loss of warehouse character it is expected that the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.

Viewpoint 3: View southeast from the intersection of Botany Road and Raglan Street

The commercial precinct of Raglan Street is seen in the centre, middle ground of this view. This precinct includes a mix of mid to late 20th century buildings constructed of masonry and brick, and rising to two storeys. This includes a three storey brick building which creates a consistent character to the southern side of the block. On the opposite corners, decorative facades with finials emphasise the prominence of these corner buildings. A mix of awnings, street trees, and wide footpaths visually articulate the frontages and create visual interest at street level. The older heritage corner frontages with awnings contribute to the character of this precinct. In the distance, a backdrop of contemporary concrete residential high-rise can be seen. Some scattered street trees visually soften the streetscape in this view.

Construction: The removal of existing buildings would be visually prominent in the middle ground of this view. The site would be contained in site fencing and hoarding, and it is likely that an acoustic enclosure would be seen to the east of the site in the background rising to approximately 6.5m in the north (left of view) and approximately 15m in the south (centre of view). Construction vehicles would be seen traveling along Botany Road and using a site entry in the middle ground of this view. Although the character of construction works would be visually absorbed into this urban setting, the loss of the unifying built form at this intersection would have an adverse effect. It is therefore expected that the project would create a noticeable reduction in the amenity of this view, which is of local visual sensitivity, resulting in a **minor adverse visual impact** during construction.

Operation: The new station building would be visually prominent at street level in the middle ground of the view, at the corner of Raglan and Cope Streets. It is expected that the footpaths and street trees would be reinstated and improved, and that the



03



03A

03 EXISTING VIEW SOUTHEAST FROM THE INTERSECTION OF BOTANY ROAD AND RAGLAN STREET

03A INDICATIVE EXTENT OF DEMOLITION

13 WATERLOO STATION

Assessment of daytime visual impact



04



04A

- 04 EXISTING VIEW SOUTHWEST FROM THE CORNER OF COPE AND RAGLAN STREETS
- 04A ARTIST'S IMPRESSION SHOWING PROJECT DURING OPERATION

surrounding area would be transformed with the state led urban renewal project (not within the scope of this assessment). This would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.

Viewpoint 4: View southwest from the corner of Cope and Raglan streets

The commercial precinct of Raglan Street is seen in the centre, middle ground of this view. This precinct includes a mix of mid to late 20th century buildings constructed of masonry and brick, and rising to two and three storeys. The three storey buildings along the southern side of Raglan Street provide a consistent and cohesive built form. The warehousing along Cope Street, and retail in the centre of view and along the northern side of Raglan Street, have a general consistency in height and are visually unified by the use of brick and masonry construction.

Construction: The focal point of this view would be removed as the existing buildings on the site are demolished. An acoustic enclosure and hoarding would be erected upon the site and comprise much of the middle ground of this view rising to approximately 6.5m. Due to the scale of the works, it is expected that the project would create a noticeable reduction in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: A new station entry would be visible in the centre of this view on the corner of Raglan and Cope Streets. This station entry would be set within a refreshed public realm and it is expected that the Raglan Street commercial centre is reestablished as a part of the urban renewal of this precinct (not within the scope of this assessment). Despite the loss of the existing built form, which has a level of architectural cohesion, the project would reinforce the commercial centre as the focal point of this view, with the station forming a local visual landmark at street level. This would not

create a perceived change in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during operation.

Viewpoint 5: View south from Cope Street

This view includes a mix of mid to late 20th century warehouses constructed of brick and masonry, a mix of wide and narrow frontages, and rising to two storeys. There is a strong consistent building line, and the streetscape includes a series of garage doors and driveways, unfiltered by street trees.

To the east (left of view) mature street trees and landscaped gardens offer some visual softening to this view. This vegetation filters views of the mid-rise brick residential buildings, which are located within gardens, and are visually disconnected from the alignment of Cope Street and the urban form opposite.

Construction: The removal of existing warehouse buildings would be seen prominently in the middle ground of this view. An acoustic enclosure and hoarding would enclose the construction site and comprise much of this view stepping up from 6.5m to 15m in this view. The character of construction works would reinforce the visual contrast with the adjacent, leafy residential area. It is therefore expected that the project would create a noticeable reduction in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: There would be a new station building seen prominently in the foreground of the view. Beyond the station it is expected that the project would not be visible due to redevelopment of the site as a part of a state led urban renewal project (not within the scope of this assessment). Despite the loss of warehouse character it is expected that the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.



05



05A

05 EXISTING VIEW SOUTH FROM COPE STREET

05A INDICATIVE EXTENT OF DEMOLITION

13 WATERLOO STATION

Assessment of daytime visual impact



VIEWS ALONG (L-R) COPE STREET, WELLINGTON STREET, GEORGE STREET, GEORGE STREET AT ZETLAND SUBSTATION

Views to power upgrade temporary works

The power upgrade would require temporary works within the road corridor south from Cope Street, along George Street to the Zetland substation.

Cope and Wellington Streets include a mix of light industrial and residential properties with intermittent street trees. George Street includes two lanes of traffic, parallel parking and a designated cycleway, and is shaded by an avenue of mature and semi-mature street trees along much of its length. The surrounding area comprises of predominantly residential unit complexes of around six storeys.

Construction: Views will include temporary trenching works including possible temporary road, cycleway and footpath closures. The existing trees would be retained.

It is expected that due to the relatively small scale of these works there would be a noticeable reduction in the visual amenity of views from these streets and adjacent properties. This route is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: There would be no permanent project elements visible along this route.

Assessment of night time visual impact

The setting of the Waterloo Station site is considered to be an area of **E3: Medium district brightness**. This is due to its brightly lit urban city location with a mix of commercial and residential uses. Some areas would experience 24 hour activity and there would be lighting from buildings and streets creating both direct light sources and a general skyglow around the project site. This lighting would be more dispersed within the adjacent residential areas.

Construction: It is expected there would be night works required at this location. A large area of the construction site would be covered by noise attenuation enclosures which would enclose the lighting associated with the construction site. However, there would be lighting on the remaining areas of the site as well as 24 hour deliveries and spoil haulage accompanied by traffic control crews with truck lit mounted crash attenuator vehicles and lighting. This would result in the site, as well as adjacent areas extending along Botany Road, being more brightly lit than the existing setting. This lighting would

include both static construction site and task illumination and rotating beacon lights mounted on vehicles.

It is expected that this lighting would create a noticeable reduction in the amenity of views in this area of E3: Medium district brightness, from surrounding streets and potentially from adjacent residential buildings. It is therefore expected that the project would result in a **minor adverse visual impact** during evening hours.

Operation: The station entry on the corner of Raglan and Cope Streets would be brightly lit 24 hours a day to accommodate station activities and for security after hours. The lighting would be consistent with the surrounding medium district brightness environment. As the site is expected to become more brightly lit with the redevelopment of the site as a part of the proposed state led urban renewal project (not within the scope of this assessment).

Overall, it is expected that the lighting of the project during operation would create no perceived change in the amenity of this area, resulting in a **negligible visual impact** during evening hours.

13 WATERLOO STATION

Summary of impact

Summary of impact

Landscape impact

During construction the project would result in **negligible to minor adverse landscape impact**. These impact are primarily a consequence of the street level effects of construction on pedestrian movement and the reduced shade due to removal of buildings with awnings and street trees.

During operation there would be a **minor beneficial landscape impact** experienced at the site. This would be due to the combined effect of localised footpath improvements, the introduction of a legible public transport node.

Visual impact

There would be a **negligible to minor adverse visual impact** on most views in the vicinity of the project during construction. These impact are primarily derived from the demolition of existing buildings. There would also be a **moderate adverse impact** in views from Botany Road where the setting of the heritage listed church is altered. There

would also be temporary **minor adverse visual impact** experienced during the power upgrade works on Cope, Wellington and George Streets to connect with the Zetland substation.

During operation there would be **negligible visual impact** as the precinct would readily absorb the visual change due to the existing eclectic mix of character and future urban renewal project (subject to separate assessment).

At night the project would result in **minor adverse visual impact** during construction, due to the requirement for vehicle deliveries and haulage at night. During operation, however, there would be a largely **negligible impact** experienced due to the existing area of **E3: Medium district brightness**, and precedent of commercial development.

RAGLAN STREET



The following tables summarise the impact of the project.

Landscape Impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	Botany Road and Raglan Street commercial precinct	Local	Noticeable reduction	Minor adverse	Noticeable improvement	Minor beneficial
2	Cope and Wellington Streets	Neighbourhood	Noticeable reduction	Negligible	Noticeable improvement	Negligible

Day time visual impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	View east from Wellington Street towards Botany Road	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible
2	View northeast from Botany Road	Local	Considerable reduction	Moderate adverse	No perceived change	Negligible
3	View southeast from the Intersection of Botany Road and Raglan Street	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible
4	View southwest from the corner of Cope and Raglan Street	Neighbourhood	Noticeable reduction	Negligible	No perceived change	Negligible
5	View south from Cope Street	Neighbourhood	Noticeable reduction	Negligible	No perceived change	Negligible
	Views to power upgrade temporary works	Neighbourhood	Noticeable reduction	Negligible	N/A	N/A

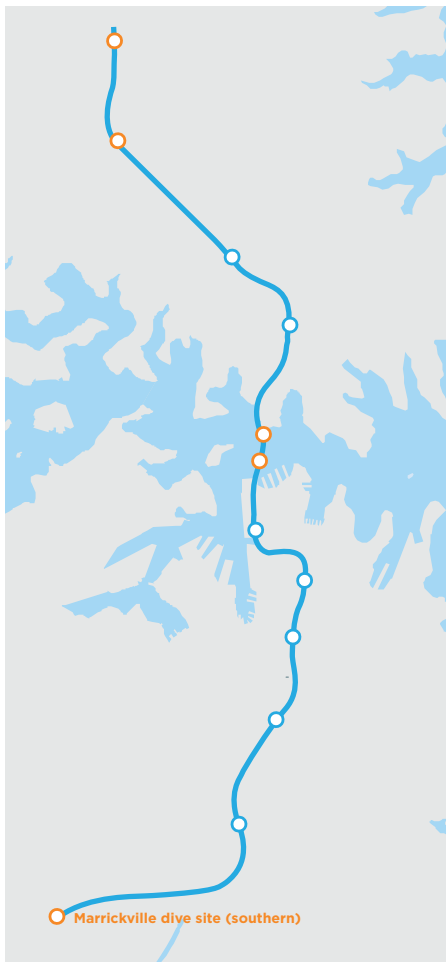
Night time visual impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	Project site	E3: Medium district brightness	Noticeable reduction	Minor adverse	No perceived change	Negligible

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Planning context

The southern dive site is located in Marrickville to the north of Sydenham Station. The site extends to Edinburgh Road in the north, to Sydney Steel Road in the northwest, to the Sydney Water Marrickville flood storage reserve in the southwest, and to the T2, T3 and T4 rail corridor in the southeast.



SITE LOCATION

Planning context

The following review identifies key documents which provide the planning context for the landscape and visual impact assessment of the proposed Marrickville dive site (southern).

Marrickville Local Environmental Plan, Marrickville Council, 2011

This plan aims to “promote a high standard of design in the private and public domain”. Clause 4.3 (Height of buildings) promotes scale and massing of new development that ensures consistency with the “desired future character of an area” but does not specify particular heights for the project site.

The Marrickville dive site (southern) does not contain any heritage items, heritage conservation areas (HCAs), archaeological sites or Aboriginal heritage that are referenced in the LEP. However, the following heritage places are in close proximity to the site, including: the Marrickville Flood storage reserve and brick drain (Sydenham Pit and Drainage Pumping Station 1); Sydenham Railway Station group (formerly Marrickville Railway Station), also on the State Heritage Register; and the Waugh & Josephson industrial buildings (1-7 Unwins Bridge Road).

The Goodsell Estate Heritage Conservation Area 16 is also located in the vicinity of the site. The key qualities of this conservation area include the street layout, street tree plantings, sandstone block kerbs, high urban density, narrow streets and predominantly attached dwellings creating an intimate streetscape quality.

This assessment will therefore need to consider the “settings and views” of these heritage items under the ‘Heritage conservation’ clause (5.10) of the LEP.

The project site is located largely within the Zone IN1 - General Industrial. The objectives of this zone include: “To minimise any adverse effect of industry on other land uses.” To the west of the site the rail corridor is zoned SP2 - Rail Infrastructure Facilities, and to the south of the site the Marrickville

flood storage reserve and drain is zoned SP2 - Stormwater Management Systems. These zones have the objective of: “To prevent development that is not compatible with or that may detract from the provision of infrastructure. There are no objectives specifically relating to urban design or the protection of visual amenity.

To the northeast Camdensville Park is zoned RE1 - Public Recreation. The objectives of this zone include: “To provide a range of recreational settings and activities and compatible land uses. [and] To protect and enhance the natural environment for recreational purposes.”

Marrickville Development Control Plan Marrickville Council, 2011

Part 9 of the DCP divides the Local Government Area into 47 planning precincts. Each precinct has an existing and desired future character to guide development within the area. The project is located in the ‘Sydney Steel Precinct’ (Precinct 43) the details of which were not available at the time of writing.

The DCP defines twelve urban design principles that are “essential for the effective functioning of good public environments”. The DCP states that “all development applications involving substantial external changes that are visible from or effect public space or have significant land use implications must be consistent with the relevant aspects of the 12 urban design principles that make good public environments”.

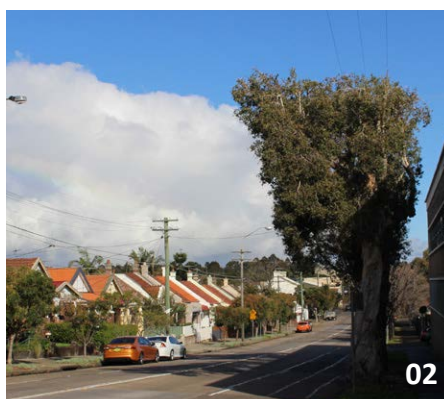
These principles include: structure and connections, accessibility, complementary mix of uses and types, appropriate density, urban form, legibility, activation, fit and adaptable public space, sense of place and character in streetscapes and townscapes, consistency and diversity, continuity and change, sensory pleasure.

These principles will be considered in the landscape and urban design impact assessment of the proposed Marrickville dive site (south) works.

Part 2.6 of the DCP sets out the general provisions for Acoustic and Visual Privacy, which addresses the impact of new developments on the amenity of other land users, particularly residential and other sensitive land uses. A key objective of these provisions is: *“To ensure new development and alterations and additions to existing buildings provide adequate visual ... privacy for the residents and users of surrounding buildings.”* This assessment will need to consider these requirements during both construction and operation.

Marrickville Urban Strategy Marrickville Council, 2007

This Strategy provides a vision and direction to address a range of planning, community, and environmental issues in the Marrickville Local Government area, and has been used to inform the LEP and DCP. The project site is located on ‘Strategic Employment Lands’ near Sydenham (defined as a neighbourhood centre), which is considered to have *“comparatively poor quality streetscapes and public domain”*. Particular opportunities listed in relation to this assessment include the improvement of pedestrian and cycling connections to the rail station.



- 01 RAILWAY CORRIDOR FROM BEDWIN ROAD
- 02 RESIDENTIAL PROPERTIES ON UNWINS BRIDGE ROAD
- 03 VIEWS TO THE CBD SKYLINE FROM BURROWS AVENUE

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Existing environment

Existing environment

The project site is located along the northern side of the Illawarra railway line, northeast of Sydenham Station. The topography of the area is flat and low-lying.

The character of the project area is strongly influenced by its industrial history and transport network including the railway, busy main roads and Kingsford-Smith Airport.

The area includes heritage items dating back to its time as an industrial and manufacturing hub during the 19th and early 20th centuries when activities included: steel works; mills; brick making and pottery. In particular, this includes a local heritage listed brick-lined Marrickville flood storage reserve on the corner of Garden Street and Railway Parade.

The area comprises a mix of residential and industrial buildings reflective of its historical development. Land use within the area is mainly light manufacturing with a mix of tertiary uses such as light industry and urban support services, retail, residential, freight and logistics, and office development.

While the surrounding streets of Sydenham Road and the Princes Highway carry large volumes of traffic, the streets adjacent to the project, including Railway Parade, Shirlow and Garden Streets, are narrow with relatively low traffic numbers. The narrowness of streets and high proportion of built development generally contributes to a lack of street trees within the area. An exception is Sydney Steel Road and Murray Street, which include mature native trees intermittently along one side of the street.

Building heights within this area are predominantly single and double storey industrial buildings, intermixed with some three to four storey commercial and industrial buildings. This building typology includes large footprints and wide service vehicle access and parking.

The industrial buildings of Marrickville provide a canvas for both illegal graffiti and commissioned street art. A number of laneways between Shirlow Street, Lilian Fowler Place and Sydney Steel Road include extensive areas of graffiti and street art. Scattered graffiti can also be found on the warehouses along Railway Parade, along the concrete drainage channels within and to the south of the site, and intermittently on buildings and infrastructure within the site, particularly adjacent to the railway corridor. A Sydney Water commissioned work can also be seen on the Sydenham Drainage Pumping Station directly to the south of the site.

To the south, the land use between the railway and Unwins Bridge Road generally consists of large scale light industrial, including the Sydney Trains Sydenham Network Base, constructed in 2013. The character abruptly changes into low density residential to the south of Unwins Bridge Road, including mostly 19th and early 20th century single storey brick terraces, cottages and houses lining the narrow and dense grid street pattern, interspersed with low-rise industrial development and parkland.

Sydenham station (formerly Marrickville Railway Station) is located approximately 500m southwest of the project. Constructed predominantly during the late 19th and early 20th century, the station is of State historical significance, containing several Victorian buildings and structures with unique architectural detailing.

Character and components of the project

This summary describes the construction and operation phases of the project.

Construction phase

The following structures, equipment and activities are likely to be experienced during construction:

- Establishment of a construction site compound including demolition of the all buildings within the site boundary
- Removal of vegetation within the project site footprint including mature trees between the drainage canal and the rail corridor
- Removal of street trees impacted by the site and for site access including approximately:
 - 1 tree on Murray Road
 - 8 trees on Edinburgh Road
 - 4 trees on Edgeware Road
- Open trench construction within the existing road reserve along Edinburgh Road, Lord Street, John Street (under the railway corridor), Council Street, May Street and Princes Highway (Approximately 850m) for a power supply upgrade
- Hoarding, concrete barriers and site fencing, site offices, amenities, workshops, material and plant storage areas, water treatment plant, laydown area, segment storage and dive works facility area
- Car parking area

- Mobile cranes, excavators, concrete pumps, piling rigs and other construction equipment
- Launch and support two tunnel boring machines for the major tunnelling works
- Metal clad acoustic enclosure (approximately 15m in height)
- Concrete and Grout storage silos (approximately 15m in height)
- Shed for manufacture of pre-cast concrete tunnel lining segments and segment storage yard (approximately 15m in height)
- Oversize deliveries for TBM launch and support works
- Construction vehicle access and movement via Bedwin, Edinburgh and Sydney Steel Roads, and Murray Street

The duration of the works in this location would be approximately 7-8 years. The last two years would be testing and commissioning which would contain less visible construction activity.

It is expected that this site would require spoil haulage to be undertaken outside of standard working hours.

Operation phase

The following elements and activities are likely to be experienced during operation:

- Services facility including traction substation and a water treatment plant
- 400 metre dive structure and tunnel portal south of Bedwin Road Bridge
- Throw structures and site exclusion fencing around the perimeter of rail corridor
- Sydney Water stormwater channel enclosed under Metro line infrastructure.

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Sensitivity levels

Sensitivity levels

The following list summarises the landscape and visual sensitivity of the site and main viewing areas across the study area.

Sydenham Station

Sydenham station functions as a suburban railway station and is therefore used by concentrations of local residents; it provides an important transport hub for the local community. It is also a State heritage listed item, increasing its sensitivity as a visual feature within the local area. The landscape and views from Sydenham Station are therefore considered to be of **local sensitivity**.

Marrickville flood storage reserve

The Marrickville flood storage reserve (Sydenham pit and drainage pumping station) includes a constructed, brick-lined waterbody and pumping station building. It has a State heritage listing and is an important landscape feature within this area, however, its function is utilitarian and it does not attract use by the public. This reserve provides some visual interest but does not feature prominently in views. The landscape of this feature and views in the vicinity are therefore considered to be of **local sensitivity**.

Industrial areas of Sydenham and Marrickville

The predominantly industrial areas that surround the rail corridor to the northwest provide a working setting for users. The visual and landscape amenity of this area is not particularly valued by users, therefore, the landscape of this area and views from this location are considered to be of **neighbourhood sensitivity**.

Industrial areas of Sydenham and Marrickville - Street Art precinct

The industrial buildings of Marrickville provide a canvas for both illegal graffiti and commissioned street art. A precinct has emerged in the laneways between Shirlow Street, Lilian Fowler Place and Sydney Steel Road. 'Let it Shine' a commissioned work on the Sydenham Drainage Pumping Station by Sid Tapier. Other known street artists including 'Phibs' and 'Jumbo' have produced works in this precinct, some of which have been painted over by subsequent artists. The colourful and dynamic nature of this precinct creates an interesting and ever changing landscape. This area is identified on the Marrickville Council's Perfect Match program, Walking, Cycling, Bus and Photography Tour program, most recently held in August of 2015. The visual and landscape amenity of this area is valued for its artistic merit, and opportunities for the installation of legal street art. Therefore, the landscape of this area and views from this location are considered to be of **local sensitivity**.

Rail corridor

The rail corridor in this area connects the localities of Sydenham and St Peters, and trains using this corridor attract large concentrations of commuters from across the city. The experience of traveling along the rail corridor includes open and filtered views to surrounding industrial areas and rail related infrastructure. This landscape, and views from it, are valued by the community as an important route into the city. The landscape and views of the rail corridor therefore have **local sensitivity**.

Unwins Bridge Road

Unwins Bridge Road is a local collector road, providing access to adjacent residential areas. The visual and landscape amenity of this area is valued by the local communities who use it. The landscape of this area and views from this location are considered to be of **neighbourhood sensitivity**.

Camdenville Park

Camdenville Park, St Peters, is a local park within the Goodsell Estate Heritage Conservation Area (CP16, Marrickville LEP). It includes a sportsground, playground and green open space. It is used by local residents and provides an important recreational and sporting area for the local community. The landscape of this area and views from this location are considered to be of **local sensitivity**.



- 01 MARRICKVILLE FLOOD STORAGE RESERVE
- 02 'LET IT SHINE' BY SID TAPIER ON THE SYDNEY WATER PUMPING STATION
- 03 GRAFFITI WITHIN THE SITE
- 04 GRAFFITI ON THE SYDNEY WATER CONCRETE LINED DRAIN
- 05 VIEW NORTHEAST FROM TRAINS ON THE RAIL CORRIDOR

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Assessment of landscape impact



NORTHEASTERN BOUNDARY OF THE MARRICKVILLE FLOOD STORAGE RESERVE

Assessment of landscape impact

In the vicinity of the project, the following landscapes and urban places have been identified as potentially being impacted by the project:

- Marrickville flood storage reserve, and
- Industrial areas of Sydenham and Marrickville - Street Art precinct.

The following section summarises the impact identified by the assessment and site observations. This includes impact during construction and operation.

Marrickville flood storage reserve

Construction: Although there would be no direct impact on this reserve, the visual context would be altered as the warehouses, which are located directly to the northeast, are removed. These warehouses have a varied roofline and reinforce the industrial and heritage character of the reserve.

It is expected that there would be a noticeable reduction in the landscape quality of this reserve which is of local sensitivity. This results in a **minor adverse landscape impact** during construction.

Operation: The functioning of this precinct be restored as this site is returned to light industrial use. Therefore the project would not result in a perceived change in the landscape quality of the Marrickville flood storage reserve, which is of local sensitivity, resulting in a **negligible landscape impact** during operation.

Industrial areas of Sydenham and Marrickville - Street Art precinct

Construction: There would be a direct impact on the walls available for street art with the removal of the buildings within the site.

The nature of street art is that it is regularly changing and evolving, and it is expected that the remaining areas of the precinct would continue to be used. There are no direct impact on commissioned artworks, however there would be a reduction in the available wall space. It is therefore expected that there would be a noticeable reduction in the landscape quality of this precinct which is of local sensitivity. This results in a **minor adverse landscape impact** during construction.

Operation: It is likely that during operations new opportunities for street art would emerge as the light industrial landuse is reestablished in this area. It is therefore expected that there would not be a perceived change in the landscape quality of this precinct which is of local sensitivity, resulting in a **negligible landscape impact** during operation.



01



02

- 01 FOOTPATH BETWEEN SYDNEY STEEL LANE AND LILIAN FOWLER PLACE
- 02 GRAFFITI AND STREET ART ON THE FOOTPATH BETWEEN SYDNEY STEEL LANE AND SHIRLOW STREET

14 MARRICKVILLE DIVE SITE (SOUTHERN)

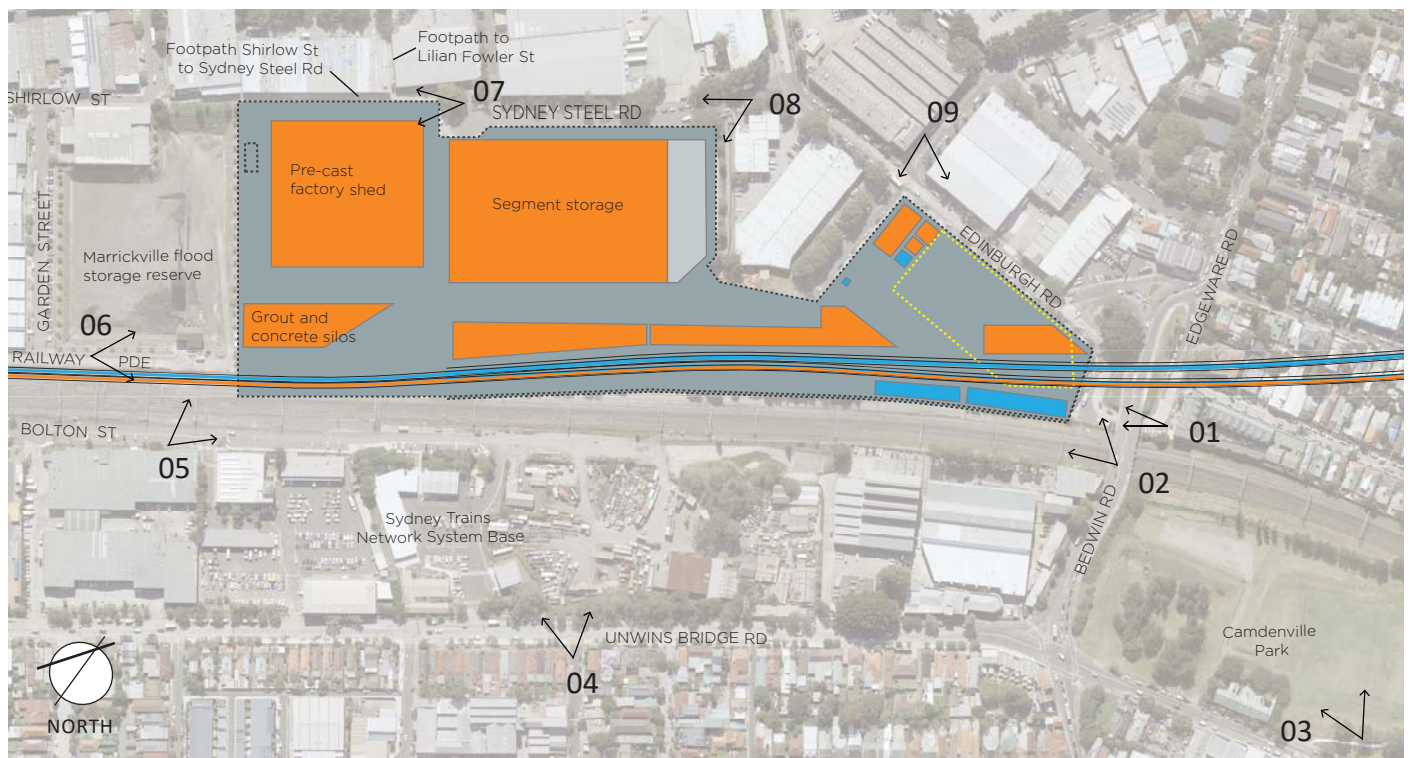
Assessment of daytime visual impact

Assessment of daytime visual impact

The following viewpoints were selected as representative of the range of views to the site and the project:

- Viewpoint 1: View west from Edgeware Road
- Viewpoint 2: View west from the Bedwin Road Bridge
- Viewpoint 3: View west from Camdenville Park
- Viewpoint 4: View northwest from Unwins Bridge Road
- Viewpoint 5: View north along Bolton Street
- Viewpoint 6: View northeast along Railway Parade
- Viewpoint 7: View southwest from Sydney Steel Road
- Viewpoint 8: View southwest from Sydney Steel Road
- Viewpoint 9: View southeast from the corner of Murray Street and Edinburgh Road
- Views from the rail corridor

The following section summarises the impact identified by the assessment and site observations. This includes impact during construction and operation.



VIEWPOINT LOCATION PLAN

KEY

- Viewpoint location
- ▭ Acoustic enclosure
- ▭ Construction area
- ▭ Construction activity

Viewpoint 1: View west from Edgeware Road

This represents views from the ground floor level of adjacent 2-3 storey residential properties. The site is visible in the background of the view, seen across Edgeware Road and framed through the bridge underpass. The site is characterised by large warehouse buildings and includes graffiti on the warehouses and bridge abutments in the middle ground of the view. In the foreground is the two lane Edgeware Road and an informal area of parking. Some vegetation filters the edge of this view between the rail corridor and viewer.

Construction: The existing warehousing would be replaced with the project construction site. This would include the 15m high acoustic enclosure, which would be visible in the middle ground of the view, seen through the bridge. The character of construction works would generally be absorbed into the surrounding setting of industrial development. It is expected that the project would create a noticeable reduction in the visual amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The construction site would be replaced with the Metro dive structure which would be seen as a more open industrial character landscape, with throw screens and security fencing on the site boundary, filtering views to the broader existing industrial landscape beyond the project site. Despite this change in use and form it is expected that the project would be visually absorbed into the character of the surrounding industrial area and railway corridor and not create a perceived change in the amenity of this view. This would result in a **negligible visual impact** during operation.



01



01A

- 01 EXISTING VIEW WEST FROM EDGEWARE ROAD
- 01A INDICATIVE EXTENT OF DEMOLITION

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Assessment of daytime
visual impact



02



02A

02 EXISTING VIEW WEST FROM THE BEDWIN ROAD BRIDGE

02A ARTIST'S IMPRESSION SHOWING THE PROJECT DURING CONSTRUCTION

Viewpoint 2: View west from the Bedwin Road Bridge

This view includes a predominantly industrial landscape with large warehouse buildings adjacent to a wide rail corridor. This view includes graffiti covered walls and some vegetation which softens the boundary between the rail and warehousing.

Construction: The existing warehousing would be replaced with the project construction site. Although the project construction site is likely to be more visually prominent in this view, and varied in form, the character of construction works would be visually absorbed into the surrounding setting of light industrial development. It is therefore expected that the project would create no perceived change in the visual amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The construction site would be replaced with the Metro dive structure and additional track, creating a wider rail corridor. Views would be opened up to the industrial development beyond the project site, to the west of Edinburgh Road. Despite this change in use and form, it is expected that the project would be visually absorbed into the surrounding industrial and railway corridor landscape, and not create a perceived change in the amenity of this view. This would result in a **negligible visual impact** during operation.

Viewpoint 3: View west from Camdensville Park

This view is located within the Goodsell Estate Heritage Conservation Area (CA16, Marrickville LEP) and is characterised by open space with mature trees and wide open grassed fields. The project site is visible in the background of this view, glimpsed over the Bedwin Road Bridge, which forms the southern edge to the park and view.

Construction: A small portion of this view would change as the existing warehousing is replaced with the project construction site. There would also be construction related

traffic using the Bedwin Road Bridge, seen in the background of this view. Despite these minor changes the project would not create a perceived change in the amenity of this view, which is of local visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The construction site would be replaced with the Metro dive structure, so that it would not rise above the Bedwin Road Bridge in views from this location. It is therefore expected that the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.

Viewpoint 4: View northwest from Unwins Bridge Road

This view towards the site is representative of views from the residential area of St Peters to the southwest of Unwins Bridge Road. In this view existing site safety fencing with mesh screening obstructs views into the existing Sydney Trains Network System Base, which sits at a lower level than Unwins Bridge Road and the adjacent residential area are elevated above the rail corridor and site. The upper portion of warehouses on the site can be seen in the background of the view, over this fence, and filtered by an avenue of mature street trees.

Construction: A small portion of this view would change with the project construction site located in the background of the view. It is likely that the acoustic enclosures and tall equipment used on the site would be visible, however, this would be seen at a distance and the site works would be visually absorbed into the surrounding industrial landscape. Therefore, it is expected that the project would create no perceived change in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The construction site would be restored to its former use as light industry with an expanded rail corridor that is not visible. It is therefore expected that the



03



04

- 03 VIEW WEST FROM CAMDENVILLE PARK
- 04 VIEW NORTHWEST FROM UNWINS BRIDGE ROAD

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Assessment of daytime
visual impact



05



05A

05 EXISTING VIEW NORTH FROM BOLTON STREET

05A INDICATIVE EXTENT OF DEMOLITION

project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.

Viewpoint 5: View north from Bolton Street

This view is from an area of light industrial development adjacent to the rail corridor to the north of Sydenham Station. This view is characterised by the surface commuter car park in the foreground and wide rail corridor with overhead lines and support structures. Beyond the rail is a landscape of industrial warehouses. The site can be seen and is currently characterised by industrial warehouses. Some trees can be seen on the site to the northwest of the rail corridor.

Construction: The warehousing and vegetation seen on the site would be removed and replaced with sheds of a similar scale and character to accommodate the precast concrete manufacture plant, as well as grout and concrete silos. There would also be views to construction of the dive structure, TBM launch and support works including acoustic enclosures. This construction activity would be seen in the context of existing light industrial warehousing and would be visually absorbed into this setting.

Although the project would comprise a large area of the background of this view, there would not be a perceived change in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The construction site would be replaced with the Metro dive structure, and additional track, creating a wider rail corridor in the background of the view. In the middle ground the construction site would be returned to light industrial landuses. This change would be visually absorbed into the character of the surrounding light industrial and railway corridor landscape. This change would not have a perceived effect on the amenity of this view, resulting in a **negligible visual impact** during operation.

Viewpoint 6: View northeast along Railway Parade

This view, oriented along Railway Parade, is bound to the east (right of view) by the railway corridor with overhead lines and support structures. The heritage listed Marrickville flood storage reserve and brick-lined pit is visible to the northwest (left of view), filtered through black palisade security fencing. The Sydney Water pumping station, decorated in street art, can be seen in the centre of the view.

Vegetation and industrial warehouses on the site can be seen in the background of the view, extending west from the rail corridor. Although large scale buildings, there is a varied roofline, which creates interest in this view.

Construction: A large portion of the background of this view would change as much of the visible warehousing and trees would be removed. There would be a large shed established for precast segment manufacture and silos seen along the southwestern boundary of the site.

This construction activity would have a scale similar to the surrounding warehousing built form, which has a high visual absorption capacity. It is expected, however, that the project would create a noticeable reduction in the amenity of this view, which is of neighbourhood sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The visible area of the site to the northwest (left of view) would be returned to its former use for light industry. In the centre of the view, however, it is likely that the widened rail corridor and dive structure would be seen in the background. Due to the consistency of the project with the surrounding rail corridor and industrial landscape, it is expected that the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.



06



06A

06 EXISTING VIEW NORTHEAST ALONG RAILWAY TERRACE

06A INDICATIVE EXTENT OF DEMOLITION

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Assessment of daytime
visual impact



07



07A

07 EXISTING VIEW SOUTHWEST FROM
SYDNEY STEEL ROAD

07A INDICATIVE EXTENT OF DEMOLITION

Viewpoint 7: View southwest from Sydney Steel Road

In the centre and to the southeast (left of view) large warehouses, with a varied roofline and large doors, dominate this view. The street has a light industrial character with working vehicles, equipment, large skip bins and chainwire security fencing visible.

To the south (right of view) these large warehouses frame a pedestrian footpath which is aligned away from the view. The warehouses create a canvas for both graffiti and the work of street artists. The street art is regularly changing and evolving, attracting the eye along this narrow and brightly coloured corridor.

Construction: The warehouses in the centre of this view, and comprising much of the foreground, would be removed and replaced with sheds of a similar scale and character to accommodate the precast concrete manufacture plant. The street art and graffiti, visible on the warehouse in the centre of view, would be removed. However, the visual enclosure of this pedestrian lane would be reinstated.

It is expected that the character of the project works would be generally consistent with the current character of the site and therefore the project would not create a perceived change in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: In this view the construction site would be restored to its former use as light industry. It is therefore expected that the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.

Viewpoint 8: View southwest from the Sydney Steel Road

This view is softened by trees to the west of Sydney Steel Road and a tree lined concrete drain, which can be seen in the middle ground of this view. Filtered by these trees, in the centre of the view, are large warehouses located within the project site. The street has a light industrial character with working vehicles, equipment and chainwire security fencing visible.

Construction: The warehouses in the centre of this view would be removed and replaced with sheds of a similar scale and character to accommodate the precast concrete manufacture plant and segment storage. The site would be enclosed by security fencing and vehicular access would be seen via Sydney Steel Road. Trees within the street and along the drain would filter and visually soften these elements.

It is expected that the character of the project works would be generally consistent with the current character of the site. Therefore the project would not create a perceived change in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The construction site would be restored to its former use as light industry. It is therefore expected that the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.



08 VIEW SOUTHWEST FROM SYDNEY STEEL ROAD

08

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Assessment of daytime
visual impact



09



09A

- 09 EXISTING VIEW SOUTHEAST FROM THE CORNER OF MURRAY STREET AND EDINBURGH ROAD
- 09A INDICATIVE EXTENT OF DEMOLITION

Viewpoint 9: View southeast from the corner of Murray Street and Edinburgh Road

This view includes a predominantly industrial landscape with large brick warehouse buildings. Although this view and the site do not include any heritage items, the age of this warehousing, brick construction and level of detail in the treatment of the facades give this view a historic character. The footprint of these buildings is large with wide roads, narrow footpaths and without street trees, resulting in a highly urbanised view.

Construction: The warehouse in the centre of the view would be demolished and replaced with the construction site. The character of this view would be altered as the sense of visual enclosure and the consistency of building typology would be lost. An acoustic enclosure would be seen in the background of the view, rising to 15m. Construction related traffic would be seen on Edinburgh Road, and turning into Murray Street at the roundabout in the middle ground of the view. Although this change would alter the character of the view somewhat, the character of construction works would be visually absorbed into the setting of light industrial and warehousing. It is therefore expected that the project would create a noticeable reduction in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: The construction site would be replaced with the Metro dive structure. It is likely that in this view the rail lines would be in cut and that they would not be visible. The site would include throw structures and security fencing around the perimeter of the dive structure, adjacent to the existing roadway. Views across the site, however, may include the existing at grade rail corridor, the Bedwin Road Bridge and Waugh and Josephson industrial buildings (heritage listed) in the background. Despite this change in use and form, it is expected that the project would be visually absorbed into the character of the surrounding industrial and railway corridor landscape. Overall, the

project would result in a noticeable reduction in the amenity of this view, which is of neighbourhood sensitivity, and a **negligible visual impact** during operation.

Views from the rail corridor

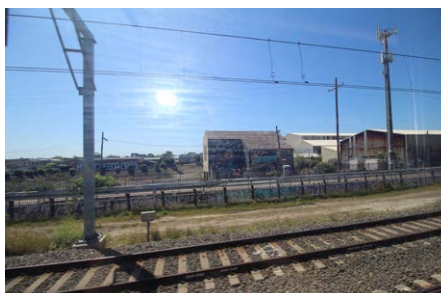
Views north and southbound from the rail corridor include a largely industrial landscape, with some localised filtering through vegetation alongside the corridor.

Construction: The removal of vegetation alongside the rail corridor would open up views to the site. Within the site there would be unobstructed views to the construction site including TBM support works, spoil storage, acoustic enclosures, workshops, site offices, and silos.

It is expected that due to the scale of these works the project would create a noticeable reduction in the visual amenity of views from trains using this corridor, which are of local visual sensitivity, resulting in a **minor adverse visual impact** during construction.

Operation: There would be an intensification of rail activity seen on the corridor, including the new Metro line and dive structure. Beyond the widened rail corridor, the remainder of the site would return to light industrial uses and be consistent in character with the existing view.

It is expected that the project would not create a perceived change in the amenity of this view, resulting in a **negligible visual impact** during operation.



VIEWS FROM THE RAIL CORRIDOR

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Assessment of daytime visual impact



Views to power upgrade temporary works

The power upgrade would require temporary works within the road corridor north from Edinburgh Road, under Bedwin Road and across Railway Parade, along Lord Street, west along John Street, under the rail corridor to Council Street, north along May Street and west along the Princes Highway.

Views in this area Edinburgh Road and Bedwin Road have a predominantly industrial character. Mature fig trees, located at the corner of Edinburgh Road and Railway Parade, create a local visual feature.



Lord Street is a residential street with some two to three storey apartments in the south and mainly historic character duplexes and terraces. Small street trees, front gardens and decorative rooflines create visual interest. At the corner of Lord and John Street the end of the northern terrace house is painted with a community mural, and views to the adjacent railway corridor are obstructed by a group of mature trees.

In views along Council Street the rail corridor is more prominent with a chainwire fence and entry gate. Predominantly two storey terraces are located opposite Camdeville Park. May Street is a wide vehicular corridor and includes a mix of higher density residential, commercial and light industrial buildings and intermittent street trees.



The Princes Highway is a wide road corridor, with views into Sydney Park and the visually prominent heritage listed brick chimneys and kilns of the former Austral brick works.

Construction: Views may include some road and footpath closures to accommodate the temporary trenching works. The existing trees would be retained, particularly adjacent to the rail corridor at John Street.



VIEWS ALONG (L-R) LORD STREET, JOHN STREET, COUNCIL STREET, MAY STREET, PRINCES HIGHWAY

It is expected, due to the scale of these works, that the project would create a noticeable reduction in the visual amenity of views from these streets and adjacent properties. Views along this route are of neighbourhood visual sensitivity, resulting in a **negligible visual impact** during construction.

Operation: There would be no permanent project elements visible along this route.

Assessment of night time visual impact

The setting of the Marrickville dive site (southern) is considered to be an area of **E3: Medium district brightness**. This is due to the moderately lit industrial buildings and streets, lit trains using the adjacent railway corridor, and surrounding densely urban areas. The site includes both direct light sources and a general skyglow.

Construction: It is likely that there would be night works required at this location during construction, including 24 hour spoil haulage. Much of the night works would be contained within the acoustic enclosure and warehouses, however, remaining areas of the site would include security, vehicle and task lighting. This would result in the site, as well as adjacent areas being more brightly lit than the existing setting.

It is not expected that this lighting would create a perceived change in the amenity of views, resulting in a **negligible visual impact** during evening hours.

Operation: The dive structure would be only moderately lit at night due to train headlights and security on associated services buildings. This lighting would be relatively contained by the walls of the dive structure as the trains approach the tunnel entrance in the vicinity of Edgeware Road. This lighting would be generally consistent with the surrounding medium district brightness environment.

It is expected that during operation the lighting of the project would not create a perceived change in visual amenity, resulting in a **negligible visual impact** during evening hours.

14 MARRICKVILLE DIVE SITE (SOUTHERN)

Summary of impact

Summary of impact

Landscape impact

There would be a **minor adverse landscape impact** on the Marrickville Flood Storage Reserve during construction. Although there would be no direct impact on the reserve, the loss of warehousing that is located directly adjacent would alter the landscape character of its setting. There would also be a **minor adverse landscape impact** on the street art precinct within the industrial areas of Marrickville during construction due to the removal of industrial buildings which include graffiti.

During operation there are expected to be **negligible** landscape impact as the site would be returned to light industrial use.

Visual impact

As a result of the project there would be mainly **negligible visual impact** during both construction and operation. This is primarily due to the consistency in character between the existing light industrial landscape and the proposed construction site works and operational site features, as well as the relatively low sensitivity of surrounding viewing locations. Similarly the temporary work required for power upgrades would

create a negligible visual impact during construction due to the small scale and neighbourhood sensitivity of the proposed alignment.

During construction there would be temporary **minor adverse visual impact** experienced during the power upgrade works on Lord, John, Council May Streets and the Princes Highway to Sydney Park.

During both construction and operation there would be a **minor adverse visual impact** on views from the rail corridor due to the scale and increased sensitivity of these views which are seen by large number of viewers.

Similarly, at night there is expected to be a **negligible visual impact** during construction and operation. This is due to the relatively low sensitivity of surrounding viewing areas and absorption of the change into the surrounding **E3: Medium District Brightness** area. Although this activity would potentially create a slight reduction in the amenity of these views, the overall impact is not substantial.

VIEW WEST OVER THE SYDNEY TRAINS NETWORK SYSTEM BASE



The following tables summarise the impact of the project.

Landscape impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	Marrickville Flood Storage	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible
2	Industrial areas of Sydenham and Marrickville - Street Art precinct	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible

Day time visual impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	View west from Edgeware Road	Neighbourhood	Noticeable reduction	Negligible	No perceived change	Negligible
2	View west from the Bedwin Road Bridge	Neighbourhood	No perceived change	Negligible	No perceived change	Negligible
3	View west from Camdenville Park	Local	No perceived change	Negligible	No perceived change	Negligible
4	View northwest from Unwins Bridge Road	Neighbourhood	No perceived change	Negligible	No perceived change	Negligible
5	View north from Bolton Street	Neighbourhood	No perceived change	Negligible	No perceived change	Negligible
6	View northeast along Railway Parade	Neighbourhood	Noticeable reduction	Negligible	No perceived change	Negligible
7	View southwest from Sydney Steel Road	Neighbourhood	No perceived change	Negligible	No perceived change	Negligible
8	View southwest from the Sydney Steel Road	Neighbourhood	No perceived change	Negligible	No perceived change	Negligible
9	View southeast from the corner of Murray Street and Edinburgh Road	Neighbourhood	Noticeable reduction	Negligible	Noticeable reduction	Negligible
	Views from the rail corridor	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible
	Views to power upgrade temporary works	Neighbourhood	Noticeable reduction	Negligible	N/A	N/A

Night time visual impact

No	Location	Sensitivity	Construction		Operations	
			Modification	Impact	Modification	Impact
1	Project site	E3: Medium district brightness	No perceived change	Negligible	No perceived change	Negligible

15 MITIGATION MEASURES

This section addresses the mitigation measures developed to avoid, reduce and manage the identified potential adverse operational and construction landscape and visual impact. Mitigation measures would ultimately form part of the Operational Environmental Management Plan and Construction Environmental Management Plan

ID	Mitigation measure	Applicable Location (s) ¹
	Operation	
LV1	Where feasible and reasonable, the elements within construction sites would be located to minimise visual impact, for example materials and machinery would be stored behind fencing.	All except metro rail tunnels
LV2	Existing trees to be retained would be protected prior to the commencement of construction in accordance with Australian Standard <i>AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties</i> .	All except metro rail tunnels
LV3	Lighting of construction sites would be oriented to minimise glare and light spill impact on adjacent receivers.	All except metro rail tunnels
LV4	Visual mitigation would be implemented as soon as feasible and reasonable after the commencement of construction, and remain for the duration of the construction period.	All except metro rail tunnels
LV5	Opportunities for the retention and protection of existing street trees would be identified during detailed construction planning.	All except metro rail tunnels
LV6	The design and maintenance of construction site hoardings would aim to minimise visual amenity and landscape character impact, including the prompt removal of graffiti. Public art opportunities would be considered.	All except metro rail tunnels
LV7	The selection of materials and colours for acoustic enclosures would aim to minimise their visual prominence.	CDS, CN, VC, BN, MP, PS, WS, MDS
LV8	TBM retrieval works at the Blues Point temporary site would be timed to avoid key harbour viewing events.	BP`
LV9	Benching would be used where feasible and reasonable at Blues Point temporary site to minimise visual amenity impact.	BP

ID	Mitigation measure	Applicable Location (s) ¹
	Operation	
LV10	Cut off and direct light fittings (or similar technologies) would be used to minimise glare and light spill onto private property.	CDS, AS, MDS
LV11	Where feasible and reasonable, vegetation would be provided to screen and visually integrate sites with the surrounding area.	CDS, AS, MDS
LV12	Identify and implement appropriate landscape treatments for Frank Channon Walk.	STW, CDS
LV13	The architectural treatment of Artarmon substation would minimise visual amenity and landscape character impact.	AS,
LV14	The Harbour Cycles sculpture at North Sydney would be reinstated at a location determined in consultation with North Sydney Council.	VC
LV15	The P&O Fountain at 55 Hunter St would be reinstated at a location determined in consultation with City of Sydney Council.	MP
LV16	Opportunities would be investigated to provide a permanent wall for street art at Marrickville dive site in consultation with Marrickville Council.	MDS
LV17	Noise walls would be transparent where they are augmenting existing transparent noise barriers.	STW

¹ STW: Surface track works; CDS: Chatswood dive site; AS: Artarmon substation; CN: Crows Nest Station; VC: Victoria Cross Station; BP: Blues Point temporary site; GI: Ground improvement works; BN: Barangaroo Station; MP: Martin Place Station; PS: Pitt Street Station; CS: Central Station; WS: Waterloo Station; MDS: Marrickville dive site; Tunnel: Tunnel not related to other sites (e.g. TBM works).

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