

# Proposed Mixed Use Development at 181 James Ruse Drive, Camellia

STATEWIDE PLANNING PTY LTD

Health and Safety Report

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## Proposed Mixed Use Development at 181 James Ruse Drive, Camellia

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### Document history and status

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## Executive Summary

### Background

Statewide Planning seeks to rezone a 6.8 hectare parcel of land located at 181 James Ruse Drive, Camellia from B5 (Business Development) to B4 (Mixed Use) and RE1 (Public Recreation) under Parramatta LEP to facilitate a mixed use development comprising residential apartments, retail/commercial uses and public open space.

Development for the purposes of residential accommodation and retail premises is currently prohibited on land zoned B5 (Business Development). On 5 May 2014, Parramatta City Council requested a gateway determination for Statewide Planning's proposal from the Minister for Planning under Section 56 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). On 8 August 2014, the Minister for Planning determined that Statewide Planning's proposal should proceed subject to eight conditions. On 24 September 2015 an Alteration of Gateway Determination was issued by the Deputy Secretary of Planning Services under Section 56(7) of the EP&A Act. Since the original proposal was submitted an underground petroleum pipeline has been identified as affecting the site (See Figure 3.3).

### Purpose of this report

This Health and Safety Report has been prepared by Jacobs (Australia) Pty Ltd (Jacobs) on behalf of Statewide Planning to satisfy (in part) Condition 1 of the original gateway approval pertaining to the preparation and public exhibition of a report that considers potential land use conflicts with Statewide Planning's proposal, including impacts on the health and safety of future residents and workers (e.g. due to the effects of noise, odour, etc. from surrounding industrial land uses). This report also addresses the Alteration of Gateway Determination Conditions 1, 10 and 11 below:

- “Condition 1: Council is to ensure the following information is placed on public exhibition with the Planning Proposal:
  - an assessment of site contamination and details of proposed remediation;
  - a flood impact assessment, including assessment of external flooding impacts and consideration of the Parramatta City Council Floodplain Risk Management Policy;
  - an acid sulphate soil study that considers the appropriateness of the proposed change of land use given the presence of acid sulphate soils;
  - an analysis which considers the potential loss of employment land;
  - a traffic and transport assessment;
  - a flora and fauna assessment;
  - a report which considers potential land use conflicts, including impacts on the health and safety of future residents and workers (noise, odour, etc) – *this report*.
  - a report which considers the requirement for upgrades to utility infrastructure including energy, water and sewer;
  - an urban design analysis and master plan which provides refinement and justification for the proposed building heights and density; and
  - a report providing details for the future management of the underground contamination containment cells.”
- Condition 10: ...“revise the Health and Safety Report to address the petroleum pipeline and ascertain any health and safety implications for the proposal”.
- Condition 11: ...“revise the Health and Safety Report to address any noise and vibration issues arising from the proximity of the site to the freight rail line”.

## Context of the proposed development site

The proposal site is bounded by the Parramatta River (to the north), the Carlingford Railway Line (to the east), James Ruse Drive (to the west) and existing light to medium industrial development (to the south). Land uses surrounding the proposal typically comprise general and heavy industrial areas (generally located to the east and west of the site, with the Parramatta River, the Carlingford Railway Line and James Ruse Drive providing a small buffer from these land uses), Rosehill Racecourse (located to the south of the site) and the University of Western Sydney (located to the north of the site, on the opposite bank of the Parramatta River).

## Potential conflicting land uses within the study area

The site fronts Parramatta River and existing land uses with the potential to adversely impact on the health and safety of future residents and workers at the proposal site typically comprise industrial facilities and transport infrastructure (e.g. James Ruse Drive and the Carlingford heavy rail line). Potential impacts from these facilities would primarily be due to the generation of noise, vibration and air emissions (dust, odour and gaseous substances) which would have the potential to adversely affect the amenity of the proposal site. Sydney Water owns pipelines adjacent to the boundary (Lot 1 DP 669378) (See Figure 3.2) and there is also a buried high pressure liquid petroleum pipeline adjacent to the eastern boundary within this Lot (See Figure 3.3). This Lot has a 5m wide easement for the Hunter Pipe Line Company Ltd (Caltex is the owner and operator) in DP 499010. The pipeline is for distribution of hydrocarbon products from Kurnell to the Newcastle area,

## Impact of surrounding land uses on the proposed mixed use development

Key impacts associated with existing and potential future land uses and existing infrastructure that have the potential to adversely affect the health and safety of future residents and workers at 181 James Ruse Drive, Camellia would comprise the following:

- Road traffic noise – existing road related noise at the western boundary of the proposal site (i.e. adjacent to James Ruse Drive) currently exceeds the applicable criteria for residential receivers specified in the Environment Protection Authority's *NSW Road Noise Policy* (DECCW 2011). While noise from surrounding industrial land uses is also likely to contribute to ambient noise levels at the proposal site, noise levels predicted for the Veolia Recycling Centre and the Shell Clyde Terminal indicate that road traffic noise is likely to be the dominant contributing noise source at this location. Noise impacts on the proposal are considered to be readily manageable through further consideration of the orientation and layout of the site (e.g. place less sensitive buildings closer to James Ruse Drive) and incorporating building materials (e.g. window glazing) that offer noise reductions.
- Rail Line noise and vibration (passenger and freight trains) from the adjacent rail line. Noise and vibration impacts would need to be considered during the building design to ensure that internal noise levels comply with relevant guidelines.
- Construction noise and vibration during the development of the proposal site – those residential or commercial occupiers who move in at early stages of construction may be exposed to substantial levels of noise from excavation, piling, concreting or other activities that exceed the noise management levels recommended in the Interim Construction Noise Guideline. This impact would be comparable with similar development projects and is anticipated to be readily managed through the application of standard mitigation measures (e.g. adoption of standard construction hours).
- Air emissions from surrounding industrial land uses – a review of EPA monitoring data showed that the region complies with air quality criteria for most airborne substances of concern. The exceptions are particulate matter and ozone, where there are a few days above relevant criteria each year, mostly due to regional issues such as bushfires, dust storms and motor vehicles. There are local sources of odour, particulates and other gaseous emissions in the vicinity of the proposed development. These sources will be licenced to control air pollution. Air emissions from surrounding industrial land uses are not considered to be of such a magnitude that they would significantly adversely impact the health and safety of future residents and workers at the proposal site.

- The Hunter Pipeline Company hydrocarbon pipeline would be managed and protected in accordance with the licence issued by the NSW Ministry of Energy and Utilities. These requirements of the licence would need to be considered during both the design of the development and during construction.

## **Conclusion**

This Health and Safety Report fulfils a statutory requirement so as to enable the exhibition of the planning proposal, including the public exhibition of this report.

This report documents and considers potential land use conflicts between Statewide Planning's proposed mixed use development at 181 James Ruse Drive, Camellia and surrounding industrial land uses located within Camellia and Rydalmere. This Health and Safety Report concludes that, whilst surrounding land uses could have an impact on the amenity of proposal site, their impact would not be of such a magnitude that it would significantly impact on the health and safety of future residents and workers. Potential amenity impacts are anticipated to be readily manageable through design.

## Important note about this report

The sole purpose of this report and the associated services performed by Jacobs is to document and consider potential land use conflicts between a proposed mixed use development at 181 James Ruse Drive, Camellia and surrounding industrial land uses in accordance with the scope of services set out in the contract between Jacobs and the Client. That scope of services, as described in this report, was developed with the Client.

In preparing this report, Jacobs has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

Jacobs derived the data in this report from information sourced from the Client (if any) and/or available in the public domain at the time or times outlined in this report. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. Jacobs has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by Jacobs for use of any part of this report in any other context.

This report has been prepared based on a desktop review of existing land uses, planning strategies and publically available information contained on the NSW Environment Protection Authority's public register under section 308 of the *Protection of the Environment Operations Act 1997*, the Department of Planning and Environment's major project register and Parramatta City Council's My Development Portal. This Health and Safety Report addresses only those effects from conflicting land uses with the potential to adversely impact on the health and safety of future residents and workers at 181 James Ruse Drive, Camellia. While a number of health and safety risks would be associated with the remediation and containment of historic contamination at the site, this report has assumed that such risks would be adequately addressed as part of Statewide Planning's development application

This report has been prepared on behalf of, and for the exclusive use of, Jacobs's Client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.



# 1. Introduction

## 1.1 Background

The Camellia Precinct, located approximately 1.5 kilometres east of the Parramatta Central Business District (CBD) and within the City of Parramatta local government area (LGA), is a strategically important industrial and commercial hub that provides employment across a wide range of industries. The precinct covers an area of approximately 321 hectares and is typically bounded by the Parramatta River (to the north), Duck River (to the east), the M4 Motorway (to the south) and James Ruse Drive (to the west). The general location and extent of the Camellia Precinct is shown in Figure 1.1.

The Camellia Precinct has historically been characterised by light to heavy industrial land uses, a number of which have since vacated the area. The area also contains a number of important recreational areas including the Rosehill Racecourse.

Given the area's strategic value in terms of its location close to Parramatta CBD, access to existing road and rail transport linkages and future redevelopment opportunities, the Camellia Precinct is anticipated to play an important role in supporting growth in Western Sydney over the next 20 years.

In April 2014, Parramatta City Council released the *Camellia: 21<sup>st</sup> Century Business, Industry and Entertainment Precinct Discussion Paper* (Parramatta City Council 2014), which reinforced the precincts strategic importance in supporting growth in Western Sydney and identified opportunities to improve access to, and diversification of, land uses within the area. The discussion paper also contained a Draft Land Use Concept Plan for Camellia Precinct which (amongst other things) proposed to transform former industrial land located to the north of the precinct (generally situated between Grand Avenue and the Parramatta River) to mixed use and business-orientated development. This former industrial land is currently zoned B5 (Business Development) and IN3 (Heavy Industrial) under the *Parramatta Local Environmental Plan 2011* (Parramatta LEP). Relevant to this Health and Safety Report, development for the purposes of residential accommodation and retail premises is prohibited on land zoned B5 (Business Development).

In August 2013, Statewide Planning Pty Ltd (Statewide Planning) submitted a planning proposal to Parramatta City Council which sought to rezone a 6.8 hectare parcel of former industrial land at 181 James Ruse Drive, Camellia from B5 (Business Development) to B4 (Mixed Use) and RE1 (Public Recreation) to facilitate a mixed use development comprising residential apartments, retail/commercial uses and public open space. This planning proposal also sought to increase the applicable building height and floor space ratio controls on that site.

On 5 May 2014, Parramatta City Council requested a gateway determination for Statewide Planning's proposal from the Minister for Planning under Section 56 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

On 8 August 2014, the Minister for Planning determined that Statewide Planning's proposal to rezone land at 181 James Ruse Drive, and to amend the permitted maximum building heights and floor space ratios on that land, should proceed subject to eight conditions. Relevant to this Health and Safety Report, Condition 1 of the gateway approval requires Council to ensure that (amongst other things) a report that considers potential land use conflicts, including impacts on the health and safety of future residents and workers at 181 James Ruse Drive, Camellia (e.g. due to the effects of noise, odour, etc. from surrounding industrial land uses) is placed on public exhibition as part of Statewide Planning's overall planning proposal for the site.

On 24 September 2015 an Alteration of Gateway Determination was issued by the Deputy Secretary of Planning Services, NSW Department Planning and Environment under Section 56(7) of the EP&A Act. Since the original proposal was submitted an underground petroleum pipeline has been identified as affecting the site. It is therefore necessary to identify any potential health and safety risks prior to community consultation.



## **1.2 The proposal**

Statewide Planning seeks to rezone a 6.8 hectare parcel of land located at 181 James Ruse Drive, Camellia from B5 (Business Development) to B4 (Mixed Use) and RE1 (Public Recreation) under Parramatta LEP to facilitate a mixed use development comprising residential apartments, retail/commercial uses and public open space.

Key features of Statewide Planning's preferred design concept for the site comprise the following:

- Residential apartments in towers ranging in height, with the tallest of the towers proposed towards Camellia Station
- Retail and commercial floor space contained in a two storey podium building located adjacent to the towers situated towards the south-west of the site
- car parking spaces
- two parkland areas (central park and foreshore park)
- an internal network of private access roads providing access to the site from James Ruse Drive and visual connection to the river
- a 30 metre wide building setback to the Parramatta River
- containment of contaminated site material within environmental cells located below the proposed new road network.

An indicative plan and elevations for Statewide Planning's preferred design concept for the site are shown in Figures 2.1 to 2.2, while further discussion on the preferred design concept is provided in Chapter 2.

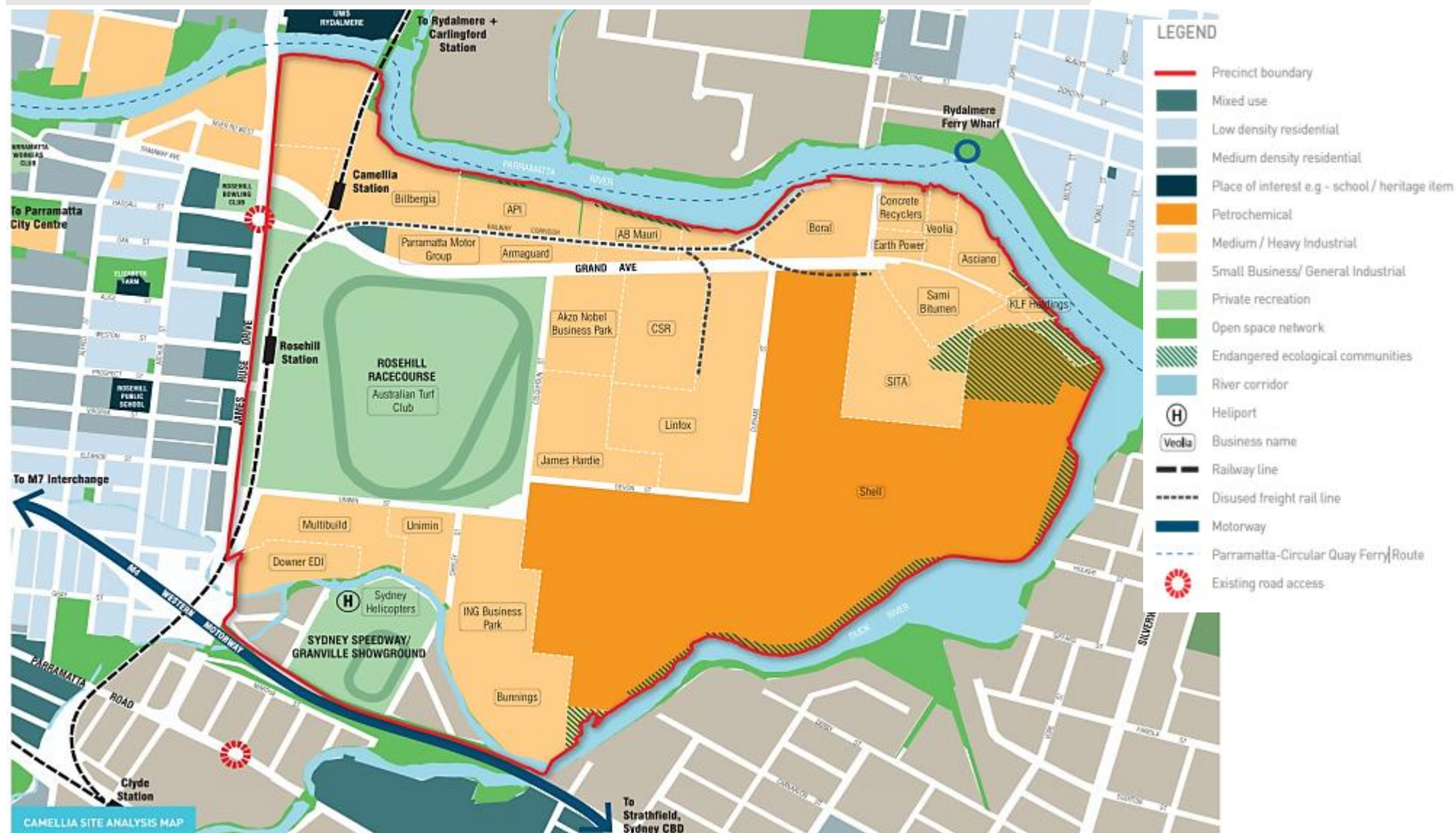
## **1.3 Locality and context of the proposal site**

The proposal site is located at 181 James Ruse Drive, Camellia and comprises a 6.8 hectare parcel of former industrial land located between James Ruse Drive, the Carlingford Railway Line and the Parramatta River. The location of the proposal site is shown in Figure 1.1.

The site was formerly occupied by a range of heavy industrial uses, which include the manufacture of fibrous cement by James Hardie and Company Pty Ltd between 1962 and 1993. The proposal site is currently unoccupied; however, remnant foundations of industrial buildings and hardstand areas remain on site, along with significant volumes of contaminated materials including asbestos, heavy metals and hydrocarbons. The site also contains a mangrove area along the foreshore to the Parramatta River.

The proposal site is bounded by the Parramatta River (to the north), the Carlingford Railway Line (to the east), James Ruse Drive (to the west) and existing light to medium industrial development (to the south). Land uses surrounding the proposal typically comprise general and heavy industrial areas (generally located to the east and west of the site, with the Parramatta River, the Carlingford Railway Line and James Ruse Drive providing a small buffer from these land uses), Rosehill Racecourse (located to the south of the site) and the University of Western Sydney (located to the north of the site, on the opposite bank of the Parramatta River). General land uses surrounding the proposal site are shown in Figure 1.1.

There are various pipeline easements located in a corridor between the proposed site and the Carlingford rail line. These pipelines include a petroleum line which delivers petroleum products to the Hunter region. This pipeline is located underground in a 5m wide easement and is actively managed by Freyssinet Australia Pty Ltd engaged by Hunter Pipeline Company Ltd (Caltex is the owner and operator). The pipeline is licensed under the Pipeline Act 1967 by the NSW Ministry of Energy and Utilities.



Source: Camellia: 21st Century Business, Industry and Entertainment Precinct Discussion Paper (Parramatta City Council 2014).

Figure 1.1 : Location of the proposal site

## **1.4 Terms used in this report**

The following terms have been used in this report for the purposes of defining the scope of this Health and Safety Report:

- The proposal – defined as Statewide Planning's proposed mixed use development comprising residential apartments, retail/commercial uses and public open space, as described in Chapter 2 of this report.
- The proposal site – defined as the 6.8 hectare parcel of former industrial land at 181 James Ruse Drive, Camellia that Statewide Planning proposes to redevelop for the proposal. As shown in Figure 1.1, the proposal site is generally bounded by the Parramatta River (to the north), the Carlingford Railway Line (to the east), James Ruse Drive (to the west) and an existing light to medium industrial development (to the south).
- The study area – the assessment boundary that was considered during preparation of this Health and Safety Report. This boundary generally comprised the Camellia Precinct (as shown in Figure 1.1).

## **1.5 Purpose of this report**

This Health and Safety Report has been prepared by Jacobs (Australia) Pty Ltd (Jacobs) on behalf of Statewide Planning to satisfy (in part) Condition 1 of the gateway approval pertaining to the preparation and public exhibition of a report. It also addresses the conditions of the Alteration of Gateway Determination approved on the 24 September 2015. The report considers potential land use conflicts with Statewide Planning's proposal, including impacts on the health and safety of future residents and workers (e.g. due to the effects of noise, vibration, odour, etc. from surrounding industrial land uses).

## 2. Description of the proposal

Statewide Planning Pty Ltd (Statewide Planning) seeks to rezone a 6.8 hectare parcel of land located at 181 James Ruse Drive, Camellia from B5 (Business Development) to B4 (Mixed Use) and RE1 (Public Recreation) under Parramatta LEP to facilitate a mixed use development comprising residential apartments, retail/commercial uses and public open space. Statewide Planning also propose to increase the building height and floor space ratio controls on the site.

Key features of Statewide Planning's preferred design concept for the site comprise the following:

- Residential apartments in towers ranging in height, with the tallest of the towers proposed towards Camellia Station. The proposed towers along James Ruse Drive would define the edges to the precinct and would create a noise buffer for the development. Building envelopes would be aligned to the proposed new streets with a newly created central park opening up to the north to reinforce the visual connection to the Parramatta River with a proposed open forum.
- retail and commercial floor along new streets and active edges to the new open space
- car parking spaces
- two parkland areas (central park and foreshore park)
- an internal network of private access roads providing access to the site from James Ruse Drive and visual connection to the river
- mid-block pedestrian ways to connect the new north-south streets to provide pedestrian permeability through the site
- a 25 metre wide riparian setback to the Parramatta River
- wide central swale with street trees along new streets and tree planting along James Ruse Drive
- containment of contaminated site material within environmental cells located below the proposed new road network.

An indicative plan and elevations for Statewide Planning's preferred design concept for the site are shown in Figures 2.1 to 2.2.





Source: *Visualisation Report, 181 James Ruse Drive, Camellia* (Stanisic Architects 2015).

Figure 2.1: Indicative plan for the preferred option for the site, showing location proximity to Parramatta River

Image prepared by Doug + Wolf / amended by David Duloy Architectural Illustration



Source: *Visualisation Report: 181 James Ruse Drive, Camellia* (Stanisic Architects 2015).

Figure 2.2 : Indicative elevation for the preferred option for the site

### 3. Analysis of surrounding land uses

#### 3.1 Assessment methodology

The following sections outline the methodology that was used to identify key land uses in the vicinity of the proposal site that have the potential to adversely impact on the health and safety of future residents and workers at 181 James Ruse Drive, Camellia (e.g. due to the effects of noise, odour, etc. from surrounding industrial land uses).

##### 3.1.1 Desktop review of existing land uses and planning strategies

A desktop review of the following resources was undertaken to identify the existing and potential future land uses surrounding the proposal site:

- existing land zoning under the *Parramatta Local Environmental Plan 2011*
- existing aerial photography
- the NSW Environment Protection Authority's public register under section 308 of the *Protection of the Environment Operations Act 1997* (in respect of environment protection licences issued to facilities located in proximity to the proposal; search undertaken on 3 September 2014)
- publically available information on the Department of Planning and Environment's major project register (search undertaken on 3 September 2014)
- development applications listed on Parramatta City Council's My Development Portal (search undertaken on 3 September 2014)
- existing details of infrastructure including pipelines adjacent to the site and rail line use.
- potential future land use changes within the Camellia Precinct, as outlined in Parramatta City Council's *Camellia: 21st Century Business, Industry and Entertainment Precinct Discussion Paper* (Parramatta City Council 2014).

Information gathered from the above resources was used to define the boundary of the study area that was assessed in this Health and Safety Report based on the location of conflicting land uses in the locality and the extent to which these land uses would adversely impact on the health and safety of future residents and workers at 181 James Ruse Drive, Camellia.

##### 3.1.2 Scope of this assessment

This Health and Safety Report addresses only those effects from conflicting land uses and infrastructure with the potential to adversely impact on the health and safety of future residents and workers at 181 James Ruse Drive, Camellia. While a number of health and safety risks would be associated with the remediation and containment of historic contamination at the site, this report has assumed that such risks would be adequately addressed as part of Statewide Planning's development application.

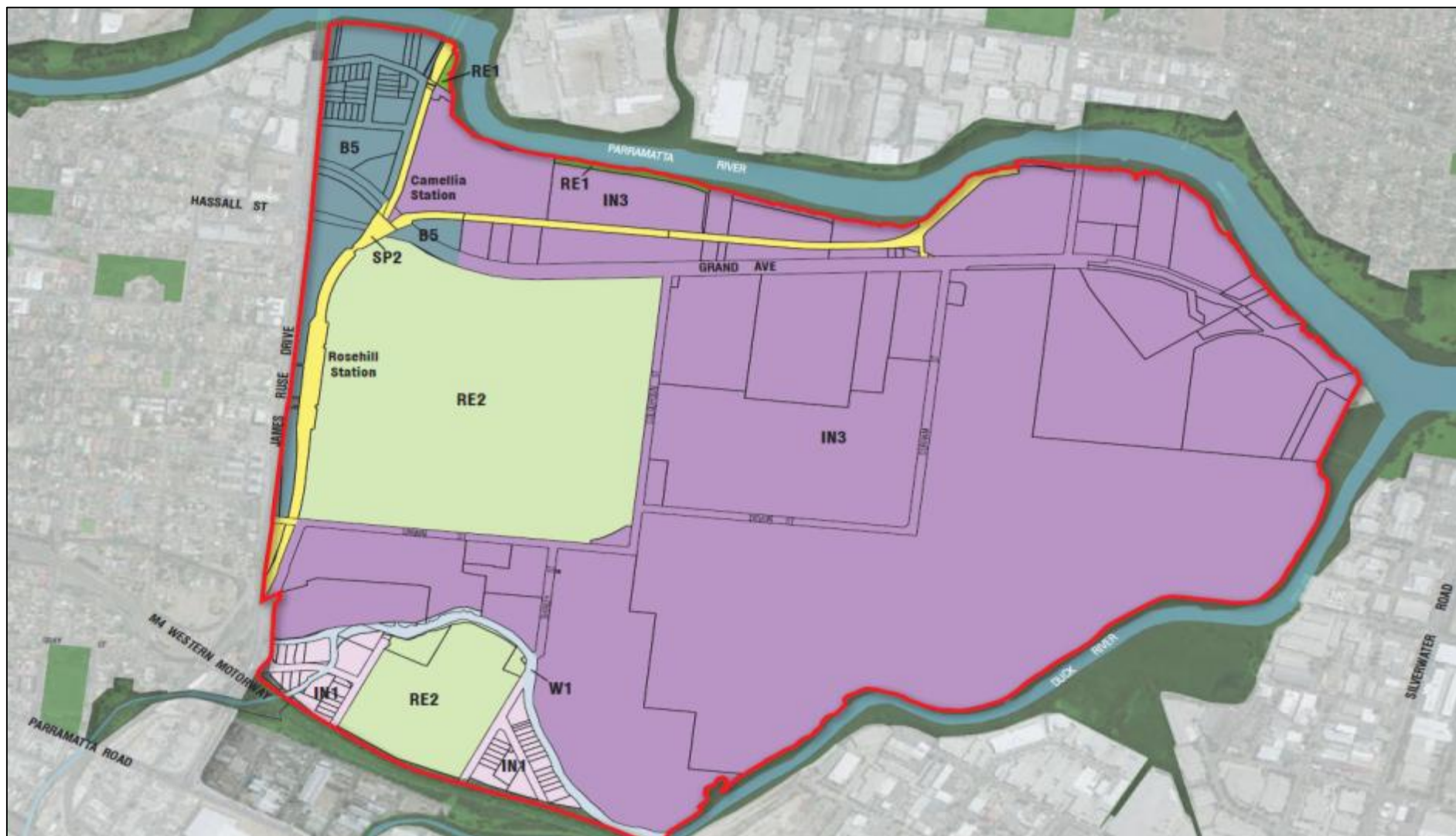
#### 3.2 Description of surrounding land uses

##### 3.2.1 Existing land uses

###### Land zoning under Parramatta LEP

The study area is located entirely within the City of Parramatta local government area (LGA). Development within the City of Parramatta LGA is regulated by the *Parramatta Local Environmental Plan 2011* (Parramatta LEP). LEP zoning for the study area is shown in Figure 3.1. Land situated within the study area was zoned B5 (Business Development), IN1 (General Industrial), IN3 (Heavy Industrial), SP2 (Classified Road), SP2 (Educational Establishment), RE1 (Public Recreation), RE2 (Private Recreation), W2 (Recreational Waterways) and R4 (High Density Residential) under Parramatta LEP.





Source: Camellia: 21st Century Business, Industry and Entertainment Precinct Discussion Paper (Parramatta City Council 2014).

Figure 3.1 : Existing land zoning for the study area

The Alteration of Gateway Determination Condition 1 now allows for the proposed amendment to the Parramatta Local Environmental Plan 2011 as follows:” *rezone the land from B5 Business Development to part B4 Mixed Use and part RE1 Public Recreation, vary the maximum height of buildings for the majority of the site up to 126m, with a maximum height of buildings adjacent to the foreshore up to 28m, and reduce the maximum height of buildings for areas zoned RE1 Public Recreation to zero metres, increase the maximum floor space ratio from 1:5:1 to 5:3:1, vary the existing 30m foreshore building line applying to the land and introduce site specific clauses regarding remediation, site containment cells, satisfactory arrangements and design excellence.*”

### **Key conflicting land uses identified within the locality**

The proposal site is typically bordered by residential areas to the west, mixed businesses to the north, industrial areas to the east and Rosehill Racecourse to the south. Other land uses in the area include business parks and commercial buildings to the west, south and east. The commercial precincts are of mixed use but consist generally of product showrooms, warehouses, and family entertainment and auto workshops. Further east are commercial estates, including a container storage yard and a recycling plant (the latter around 400 metres away) as part of the Rosehill Business Park.

Existing land uses with the potential to adversely impact on the health and safety of future residents and workers at the proposal site typically comprise industrial facilities and transport infrastructure (e.g. James Ruse Drive and the Carlingford heavy rail line) and pipeline infrastructure, such as the petroleum pipeline adjacent to the eastern boundary. Potential impacts from these facilities would primarily be due to the generation of noise, vibration, potential for fire/explosions and air emissions (dust, odour and gaseous substances) which would have the potential to adversely affect the amenity of the proposal site.

From an acoustic perspective, there are several existing land uses in close proximity to the proposal site that generate noise and vibration and may impact upon the amenity of the site. The rail line has intermittent activity; however most influential of these land uses is James Ruse Drive, located immediately to the west of the site, which is a major traffic corridor comprising part of the Cumberland Highway joining the M4 Western Motorway and Victoria Road. Further discussion on the existing noise and vibration environment of the study area is provided in Section 4.1.1.

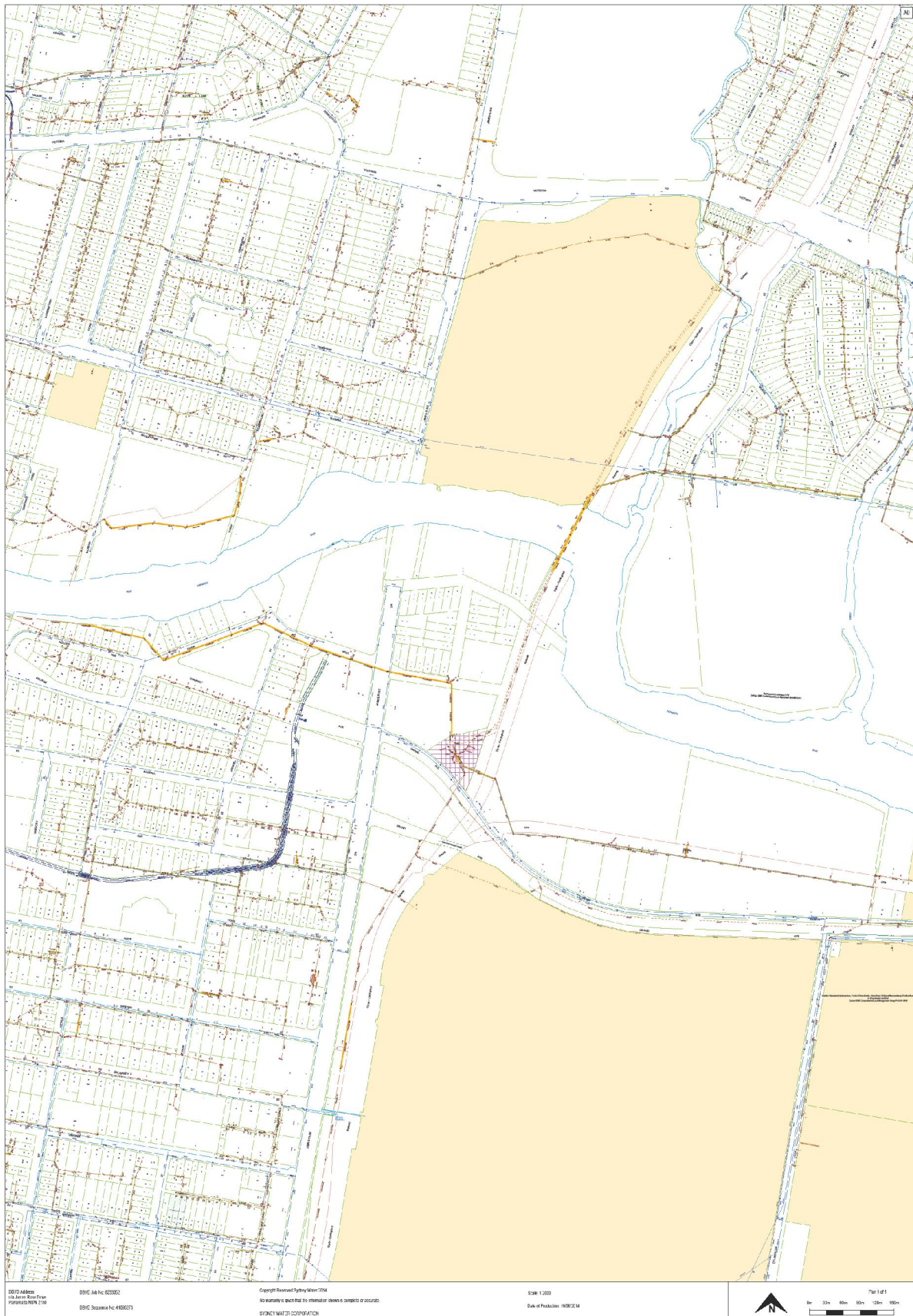
Passenger and freight rail are operational adjacent to the proposed site and noise impacts are further examined in Section 4.1.2.

A search of activities licensed by the EPA under Schedule 1 of the *Protection of the Environment Operations Act 1997* identified 12 facilities located within Camellia and Rydalmere that have the potential to adversely impact on local air quality (due to dust, odour and emissions of gaseous substances). Most of these facilities are located to the east of the proposal site, while those in Rydalmere are located to the north. Further discussion on these facilities is provided in Section 4.2.1.

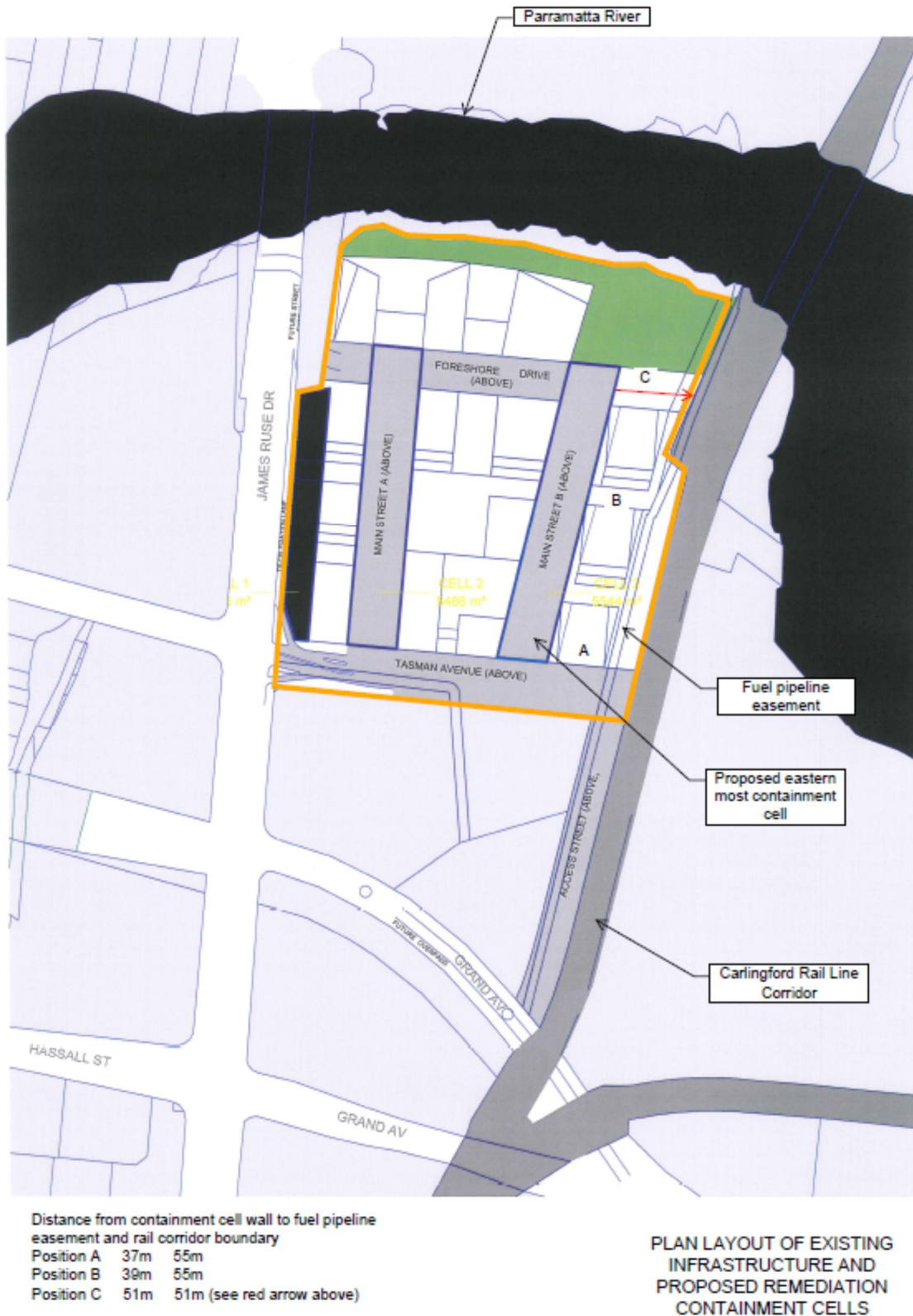
The long industrial use of the Camellia precinct and poor historic management practices have resulted in much of it being contaminated. Substantial filling of the area is believed to have occurred but is largely undocumented, however fill is known to include asbestos wastes and chrome ore processing residues. A Remedial Action Plan is a requirement of the Conditions of Approval to include site specific clauses regarding remediation, site containment cells, satisfactory arrangements and design excellence.

Sydney Water owns pipelines adjacent to the boundary (Lot 1 DP 669378) (See Figure 3.2) and there is also a buried high pressure liquid petroleum pipeline adjacent to the eastern boundary within this Lot. This Lot has a 5m wide easement in favour of the Hunter Pipe Line Company Ltd (Caltex is the owner and operator) in DP 499010. The pipeline is for distribution of hydrocarbon products from Kurnell to the Newcastle area, negating the need for about 45,000 road tankers a year between Sydney and Newcastle. Freyssinet Australia Pty Ltd is contracted to Hunter Pipeline Company to patrol and maintain the Hunter Pipeline Company Multi Products Pipeline, as shown in Figure 3.3 below.





**Figure 3.2 Plan layout of Sydney Water pipelines. Source: Sydney Water**



**Figure 3.3 Plan layout of existing infrastructure (Fuel pipeline easement, containment cell and Carlingford rail corridor). Source: npc Consulting - Alteration of Gateway Determination Submission**

### 3.2.2 Potential future land uses

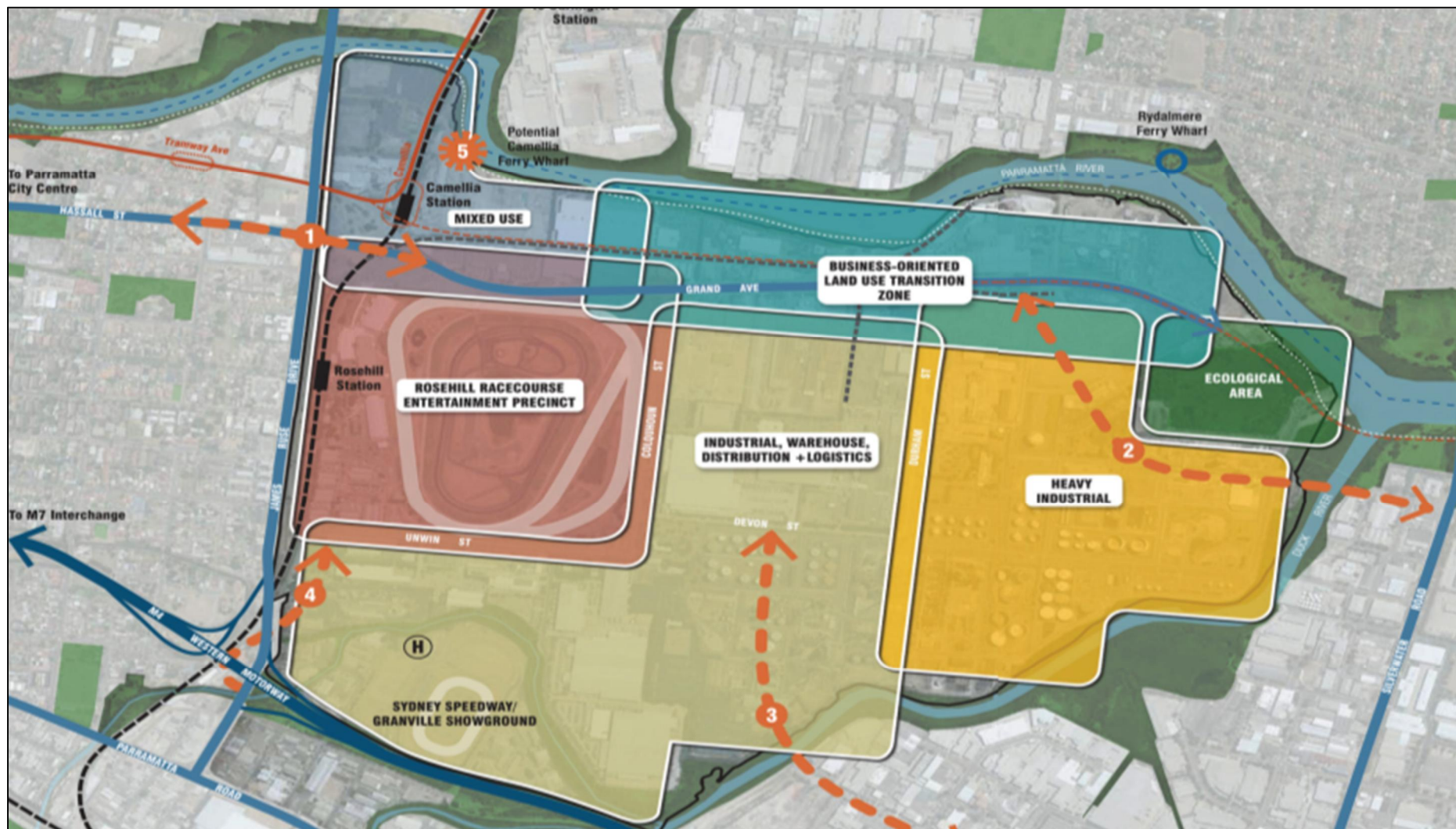
#### Redevelopment of the Camellia Precinct

As outlined in Section 1.1, Parramatta City Council released the *Camellia: 21st Century Business, Industry and Entertainment Precinct Discussion Paper* (Parramatta City Council 2014) in April 2014 which identified opportunities to improve access to, and diversification of, land uses within the Camellia Precinct and outlined a Draft Land Use Concept Plan for Camellia Precinct. The Draft Land Use Concept Plan for Camellia Precinct is shown in Figure 3.2.

Relevant to this Health and Safety Report, the Draft Land Use Concept Plan indicates that the former industrial land located to the north of the Camellia Precinct, generally situated between Grand Avenue and the Parramatta River, could be redeveloped as mixed use and business-orientated development. This former industrial land is currently zoned B5 (Business Development) and IN3 (Heavy Industrial) under the Parramatta Local Environmental Plan 2011 (Parramatta LEP).

A review of currently permissible developments within land zoned B4 (Mixed Use) and B5 (Business Development) under Parramatta LEP indicates that (amongst other things) intensive industrial activities are not permitted on such land. Therefore, the adoption of the Draft Land Use Concept Plan for Camellia Precinct is likely to reduce the potential for conflicting land uses to be developed adjacent to Statewide Planning's proposed mix use development in the future.





Source: Camellia: 21st Century Business, Industry and Entertainment Precinct Discussion Paper (Parramatta City Council 2014).

Figure 3.3 : Existing land zoning for the study area

## Other proposed and approved developments

A search of publically available information on the Department of Planning and Environment's major project register (search undertaken on 2 October 2015) identified eight other major project developments that have either been proposed or approved within the study area.

The closest proposed developments comprise the WestConnex M4 Widening, Camellia (Veolia) Waste Recycling and Rosehill Water Recycling Scheme projects, which are located approximately 1.4 kilometres south and 1.7 kilometres east of the proposal site, respectively. None of the identified proposed or approved developments are considered likely to adversely affect the health and safety of future residents and workers at the proposal site as they are typically located at a sufficient distance away from the site.

No proposed or approved development applications with the potential to impact on the health and safety of future residents and workers at 181 James Ruse Drive, Camellia were identified during a search of Parramatta City Council's My Development Portal.

Table 3.1 : Other proposed and approved developments within the study area

Development	Location	Proposed works	Project status	Impact on Statewide Planning's proposal
WestConnex M4 Widening	M4 Motorway	Widen and upgrade approximately 7.5 kilometres of the M4 Motorway between Pitt Street, Parramatta and Homebush Bay Drive, Homebush.  Construction of a new two lane viaduct between Church Street, Parramatta and Wentworth Street, Granville (on the southern side of the existing viaduct structure).  Construction of a new bridge/viaduct over Duck River at Auburn.	Proposed	Minimal
Clyde Terminal Conversion Project	9 Devon Street, Rosehill	Conversion of part of the existing Clyde Refinery assets to receive, store, blend and distribute finished products. Demolition of existing processing units.	Approved	Minimal
Camellia Waste Recycling Project	37 Grand Avenue, Camellia	Establishment of a general solid waste (non-putrescible) material recycling facility and associated infrastructure.	Proposed	Minimal
Clyde Waste Terminal – Permanently Increase Waste Acceptance	Clyde Waste Transfer Terminal, located off Parramatta Road	Permanently increase the waste acceptance rate at the Clyde Terminal to 500,000 tonnes per annum.	Approved	Minimal
Clyde Waste Transfer Terminal	Parramatta Road	Forced Ventilation System; Changes in the odour control system of the terminal	Approved	Minimal
Shell Clyde	Durham St, Rosehill	Removal and replacement of degraded equipment within the Fluidised Catalytic Cracking Unit.	Approved	Minimal



Development	Location	Proposed works	Project status	Impact on Statewide Planning's proposal
Shell Clyde Refinery,	Rosehill	Modification to the approved hydrodesulphurisation unit to enable demolition of redundant components	Approved	Minimal
Rosehill Recycled Water Scheme	Various Rosehill	Construction and operation of: - reverse osmosis water recycling plant at Fairfield with peak output of 20ML/day of recycled water. Secondary effluent water to be sourced from the Liverpool to Ashfield Pipeline; - 20 kilometres of underground reticulation network to supply recycled water to customers; and two storage reservoirs with pumping stations along the main line. Modifications 1-4.	Approved	Minimal

Note: Information presented is based on a search of publically available information on the Department of Planning and Environment's major project register (search undertaken on 2 October 2015).

### 3.3 Summary of identified key land use constraints

Existing land uses with the potential to adversely impact on the health and safety of future residents and workers at the proposal site typically comprise industrial facilities and transport infrastructure and pipelines (e.g. James Ruse Drive, Carlingford heavy rail line and petroleum pipeline). Potential impacts from these facilities would primarily be due to the generation of noise, vibration and air emissions (dust, odour and gaseous substances, potential explosion/fire) which would have the potential to adversely affect the amenity of the proposal site. As such, these impacts will form the focus of the Health and Safety assessment documented in Chapter 4.

## 4. Health and safety assessment of the proposed mix use development

### 4.1 Noise and vibration

#### 4.1.1 Existing environment

From an acoustic perspective, there are several existing land uses in close proximity to the proposed mixed use development site with the potential to impact upon the amenity of the site. The most influential of these land uses is James Ruse Drive, which is located immediately to the west of the site. Other roads in the study area that also have an influence on background noise levels at the site include Grand Avenue North, Grand Avenue and River Road West.

A high level noise assessment for Statewide Planning's proposed mix use development was completed by Vipac (2012). This assessment identified that existing road related noise at the western boundary of the proposal site (ie adjacent to James Ruse Drive) was substantial, with noise levels far exceeding the assessment criteria specified in the Environment Protection Authority's *NSW Road Noise Policy* (DECCW 2011). A summary of the noise levels measured at the western boundary of the proposal site (completed as part of the Vipac's (2012) assessment) is provided in Table 4.1.

Background noise monitoring undertaken at other locations around the proposal site indicated that day time  $L_{Aeq15\text{ minute}}$  background noise levels range between 57-58 dB(A) at the southern and eastern boundaries of the site, while night time noise levels range between 55 dB(A) (measured at the southern site boundary) and 73 dB(A) (measured at the western site boundary). Noise levels at these locations were noted as being dominated by road traffic noise and the general 'urban hum' of nearby industrial facilities.

Table 4.1 : Existing traffic noise levels at the proposal site

Noise monitoring location	Measured noise levels (dB(A))		Road traffic noise assessment criteria for residential land uses (redeveloped roads) (dB(A))	
	Day (7am-10pm) $L_{Aeq\ 15\text{ hour}}$	Night (10pm-7am) $L_{Aeq\ 15\text{ hour}}$	Day (7am-10pm) $L_{Aeq\ 15\text{ hour}}$	Night (10pm-7am) $L_{Aeq\ 15\text{ hour}}$
James Ruse Drive (western site boundary)	75.9	72.6	60	55

Source: Vipac (2012).

Other land uses in the area that have the potential to influence existing noise levels at the site include the Carlingford heavy rail line (located immediately to the east) and business parks, industrial facilities and commercial buildings (located to the east, west and south).

The surrounding commercial precincts are characterised by mixed use developments which generally consist of product showrooms, warehouses, and family entertainment and auto workshops. The Rosehill Business Park is located further to the east and comprises commercial estates, including a container storage yard and a recycling plant (the latter of which is located approximately 400 metres from the proposal site).

A summary of identified industrial facilities within 2 kilometres of the proposed site is provided in Table 4.2 along with each facilities respective activity type and separation distance from the site. While noise emissions and operating hours for a handful of these facilities are restricted by Environmental Protection Licences, the majority are not restricted and most facilities operate over 24 hours and 7 days a week.

The contribution of existing rail traffic and industrial noise to the overall recorded road traffic noise levels was not reported by Vipac (2012); however, a recent Environmental Impact Statement for the Veolia Recycling Centre (CH2MHill 2013) predicted that noise levels from this facility (which is located approximately 1.7 kilometres from the proposal site) would reach around 40 dB(A) at the nearest receivers (located 200 metres from the site), while noise levels from one of the largest operating facilities in nearby Rosehill, the Shell Clyde Terminal, was predicted to be around 30 dB(A) at the proposal site (AECOM 2013). Although these predictions are not sufficient in being able to determine specific industrial noise contributions to ambient noise levels at the proposal site, they do indicate that road traffic noise is likely to be dominant and industrial noise audible.

Maximum noise events during night time hours that may lead to sleep disturbance impacts are likely to be infrequent, being generated by random industrial noise events and heavy vehicles on local roads and James Ruse Drive, in particular during exhaust braking and acceleration.

Table 4.2 : Summary of identified existing industrial land uses in the vicinity of the proposal site

Facility operator	Facility address	Distance from the proposal site (metres)	Activity type undertaken at the facility
Downer Edi Works Pty Ltd	12 Grand Avenue Camellia	1600	Recovery of general waste
The Shell Company Of Australia Limited	Durham Street Camellia	1500	Non-thermal treatment of hazardous and other waste
James Hardie Australia Pty Ltd	10 Colquhoun Street Rosehill	1200	Cement or lime handling Concrete works Crushing, grinding or separating
CSR Building Products Limited	10 Grand Ave Rosehill	1000	Concrete works
Boral Australian Gypsum Limited	3 Thackeray Street Camellia	1300	Crushing, grinding or separating
Veolia Environmental Services (Australia) Pty Ltd	37 Grand Ave Camellia	400	Non-thermal treatment of hazardous and other waste Waste storage
Lyondellbasell Australia Pty Ltd	Durham Street Rosehill	1300	Chemical storage waste generation Plastic resins production
Concrete Recyclers (Group) Pty Limited	14 Thackeray Street Camellia	1600	Recovery of general waste Waste storage - other types of waste
Rheem Australia Pty Limited	55 Brodie Street Rydalmere	400	Metal processing Metal waste generation
Hunter Douglas Limited	338 Victoria Road Rydalmere	1200	Metal waste generation Printing, packaging and visual communications waste generation
Earthpower Technologies Sydney Pty. Ltd.	35 Grand Avenue Camellia	1600	Composting Generation of electrical power Recovery of general waste
Australian Pharmaceuticals Industries Ltd	11 Grand Avenue Camellia	500	Waste storage
Sami Bitumen Technologies Pty Ltd	12 Grand Avenue Camellia	1800	Petrochemical production
Polytrade Pty Ltd	32 South Street Rydalmere	1200	Recovery of general waste

#### 4.1.2 Potential impacts of surrounding land uses on the proposed mix use development

##### Applicable noise and vibration criteria

Noise and vibration criteria for sensitive land uses are documented in the following guidelines:

- Development near rail corridors and busy roads - Interim Guideline (Department of Planning 2008)
- Road Noise Policy (RNP) (DECCW 2011)
- Rail Infrastructure Noise Guideline (EPA 2013)
- Industrial Noise Policy (EPA 2000)
- Interim Construction Noise Guideline (DECC 2009)
- Australian Standard 2107:2000 *Acoustics – Recommended design sound levels and reverberation times for building interiors*
- State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)
- Assessing vibration: A technical guideline (DEC 2006).

The Development near rail corridors and busy roads - Interim Guideline is the most relevant of the above documents for developing an understanding of the potential noise impact of surrounding land uses on Statewide Planning's proposed mix use development.

Given the range of land uses proposed as part of Statewide Planning's mix use development (e.g. residential, retail, commercial), the sensitivity of the site to noise and vibration generated from surrounding land uses is likely to vary considerably.

##### Noise impacts on the mixed use development

As indicated in Table 4.1, existing road traffic noise from James Ruse Drive exceed the applicable noise criteria specified in the *NSW Road Noise Policy* (DECCW 2011) for residential receivers. These exceedances occur during both the day time and night time periods. Noise from James Ruse Drive currently represents an 'acute' level of impact on the western boundary of the proposal site. Additionally the use of air brakes by heavy vehicles may contribute to infrequent sleep disturbance impacts.

Road noise levels towards the southern, northern and eastern boundaries of the proposal site are likely to comply with the applicable day time noise criteria specified in the *NSW Road Noise Policy* due to either the absence of roadways located adjacent to that boundary of the site or the lower volumes of traffic travelling along adjacent roads. However, measured  $L_{Aeq, 15 \text{ minute}}$  noise levels at the southern and eastern boundaries of the site indicate that night time noise levels would potentially exceed acceptable levels for urban dwellings.

While noise levels at the site are likely to be influenced by train movements on the Carlingford rail line, rail noise is not anticipated to exceed the applicable criteria specified in the Rail Infrastructure Noise Guideline given the low volume of rail traffic currently operating on this section of track. Horn use and any shunting / bunching / stretching type activities on the freight line, in addition to heavy acceleration may generate sleep disturbance impacts for receivers in the vicinity of the rail line.

While existing noise levels at the proposal site have been observed to be influenced by surrounding industrial land uses (Vipac 2012), noise levels predicted for the Veolia Recycling Centre (40 dB(A) at the nearest receivers located 200 metres from the site; CH2MHill 2013) and the Shell Clyde Terminal (around 30 dB(A) at the proposal site; AECOM 2013) indicate that road traffic noise is likely to be dominant at the proposal site, with industrial noise also being audible at this location.

## Construction noise impacts on the mixed use development

During construction of the mixed use site, those residential or commercial occupiers who move in at early stages of construction may be exposed to substantial levels of noise from excavation, piling, concreting or other activities that exceed the noise management levels recommended in the Interim Construction Noise Guideline. However, a high background noise level would reduce the perception of construction noise by sensitive receivers relative to other noise sources such as traffic.

Where the applicable construction noise and vibration assessment criteria are exceeded, the amenity of the mixed use site would be reduced. Potential impacts range from interruption of quiet activities, difficulty in communication, hearing and concentration and disturbance of sleep patterns. These issues can lead to reduced health and wellbeing of residents as well as a financial burden on commercial land uses.

## Ability to manage noise impacts through design

Adequate planning in the design and construction of the mixed use site would address noise as a substantial design objective including the size, layout, orientation and position of each land use as well as selection of construction materials for wall, window, door and roofing to reduce noise through external facades to levels in line with those recommended in AS 2107:2000 *Acoustics – Recommended design sound levels and reverberation times for building interiors*. The recommended design sound levels specified in AS2107:2000 *Acoustics – Recommended design sound levels and reverberation times for building interiors* are summarised in Table 4.2. The planning proposal process also enables the Master Plan and the Development Control Plan (DCP) to contain relevant planning controls that address these design considerations.

While existing noise levels have been shown to exceed acceptable criteria for external areas, careful consideration during the planning stages of the project can achieve noise levels within each residence and commercial/retail occupancy that satisfy the recommended design sound levels specified in AS2107:2000 *Acoustics – Recommended design sound levels and reverberation times for building interiors*.

Table 4.3 : Recommended design sound levels for different areas of occupancy in buildings (AS2107:2000)

Type of occupancy/activity	Recommended design sound level ( $L_{Aeq}$ dB(A))	
	Satisfactory	Maximum
<b>Houses and apartments near major roads</b>		
Living areas	35	45
Sleeping areas	30	40
Work areas	35	45
Apartment common areas	45	55
<b>Shop buildings</b>		
Department store main floor	50	55
Department store upper floor	45	50
Enclosed car parks	55	65
Show rooms	45	50
Small retail stores	45	50
Specialty shop (where detailed discussion is necessary in transactions)	40	45
Supermarkets	50	55
Shopping malls	45	55
<b>Office buildings</b>		
Board and conference rooms	30	40

Type of occupancy/activity	Recommended design sound level (L <sub>Aeq</sub> dB(A))	
	Satisfactory	Maximum
Cafeterias	45	50
Call centres	40	50
Computer rooms	45	50
Design offices	40	45
General office areas	40	40
Private offices	35	40
Public spaces	40	50
Reception areas	40	45
<b>Health buildings</b>		
Consulting rooms	40	45
Dental clinics	40	45
Laboratories	45	50
Pharmacies	45	50
Waiting rooms, reception areas	40	50
<b>Educational buildings</b>		
Teaching spaces (primary schools)	35	45

*State Environmental Planning Policy (Infrastructure) 2007* supports the recommended noise levels given in AS2107:2000 for controlling impacts at residential premises. Where proposed premises are on land adjacent to the road corridor of a road with high traffic volumes (around 40000 vehicles per day), the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following L<sub>Aeq</sub> levels are not exceeded:

- in any bedroom in the building – 35 dB(A) at any time between 10 pm and 7 am
- anywhere else in the building (other than a garage, kitchen, bathroom or hallway) – 40 dB(A) at any time.

Further discussion on recommended safeguards and management measures for the proposed mix use development are provided in Section 4.1.3.

## Vibration impacts

Vibration levels required to cause structural damage to buildings, particularly of modern construction, are substantially greater than those that people consider acceptable. Hence human comfort criteria outlined in the guideline *Assessing vibration: A technical guideline* DEC (2006) would be the controlling criteria for the development.

Vibration generating activities within the vicinity of the mixed use development might include road and rail traffic. Other operational sources of vibration have not been identified. Based on typical levels of vibration from these sources, assuming relatively well maintained road and rail/rolling stock, impacts on sensitive receivers are not likely to exceed the human comfort criteria at the nearest receivers.

Similar to construction noise, vibration generated during construction may cause adverse reaction to those residents and businesses that move in prior to completion of the works.

#### 4.1.3 Recommended safeguards and management measures

With the proposed mixed use site still in the design stage, many options for the management of road and rail noise remain reasonable and feasible. During detailed design, additional analysis of noise impacts on various buildings and façades should be undertaken to make sure implemented recommendations are optimised. The recommended safeguards and management measures detailed below need to be carried through as provisions to the Master Plan and Development Control Plan (the Master Plan and DCP need to be amended accordingly). The following safeguards and management measures are recommended where practicable.

##### Orientation and layout

- Setbacks can provide good reductions in noise between source and receiver. However, on the proposed site, setbacks may not be practical considering the value of land lost to this option. If landscaping, or common outdoor areas are proposed, the setbacks these would provide could achieve noise reduction along the western boundary.
- Place less sensitive buildings such as commercial offices or car parks closer to James Ruse Drive
- Utilise less sensitive structures such as car parks, shed, and walls as screening for more sensitive buildings. Lower storeys may benefit from noise barriers that can also achieve privacy and security goals. Barriers should be constructed of materials with architectural merit and mass no less than around 12 kg/m<sup>2</sup> including 150mm masonry, 100 mm concrete (dense or light), 8-12mm poly carbonate and 15mm acrylic.
- Orientate more sensitive buildings to minimise the total façade area facing James Ruse Drive and the rail corridor
- Within buildings, place non-sensitive spaces such as hallways, storage rooms, bathrooms, kitchens and laundries on the noise-affected side of the building, providing doors to seal these rooms off to the rest of the building.

##### Building construction materials

- External facades – standard concrete tilt-up panels or 190mm masonry block work with internal 13mm plasterboard lining should be sufficient for noise affected facades.
- External glazing should provide sufficient noise reduction to meet internal noise goals. These requirements will vary with façade and storey and Vipac (2012) provided indicative glazing requirements based on preliminary modelling. Examples are summarised in Table 4.3 and can be applied following detailed design modelling.
- External glass doors should be of similar acoustic properties as the windows depending on the façade. Doors and windows should be the sealable type (eg press fit) with appropriate acoustic seals.

Table 4.4 : Approximate glazing types for desired noise reduction

Noise reduction required, dB	Window types
21-23	4mm glass
24-27	6mm glass
28-31	6.38mm laminated glass
31-65	10.38mm laminated glass
36-40	6.38mm laminated glass / 25mm air gap / 10.38mm laminated glass
41-45	6.38mm laminated glass / 100mm air gap / 3.38mm laminated glass

Where residents open windows to allow ventilation, a 10dB(A) allowance over the design noise goals is typically accepted. In addition, around 10 dB(A) of noise reduction is typically estimated across the façade. Therefore, when windows are opened, a total external noise level of 55 dB(A) (35 + 10 + 10) for bedrooms and 60 dB(A) (40 + 10 + 10) is acceptable. Where external levels exceed these values, potentially on the western boundary, alternative means of ventilation should be provided so that the occupant can leave windows closed if desired whilst meeting minimum ventilation requirements of the Building Code of Australia.



## 4.2 Air quality

### 4.2.1 Existing environment

Air quality is typically quantified by the concentrations of air pollutants in the ambient air, where an air pollutant is a substance that is known to cause health, nuisance and/or environmental effects. Such pollutants may include dust, odour and/or toxic substances.

The Environment Protection Authority (EPA) has set air quality criteria for many air pollutants (DEC 2005), mainly for the protection of human health. To measure compliance with the air quality criteria, the NSW Office of Environment and Heritage (OEH) has established a network of monitoring stations across the State.

The closest OEH monitoring station to Camellia is located at Chullora, approximately eight kilometres to the south. In terms of air pollutants, this station measures concentrations of:

- Carbon monoxide (CO)
- Nitrogen dioxide (NO<sub>2</sub>)
- Ozone (O<sub>3</sub>)
- Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)
- Sulphur dioxide (SO<sub>2</sub>)

From OEH data collected between 2011 and 2013, the air quality (in the broader region) demonstrates ongoing compliance with CO, NO<sub>2</sub> and SO<sub>2</sub> criteria. However, there are exceedances of O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> criteria from time to time. This outcome is consistent with the analysis from the EPA's *NSW State of the Environment 2012* (EPA 2012) where ozone and particulate matter concentrations are of ongoing focus. Most of the exceedances are driven largely by regional issues such as bushfires, dust storms and motor vehicle use in the Sydney basin. The regional air quality is relevant to the Camellia site, but there are also local factors such as specific industries or sources.

The proposal site is bordered by residential areas to the west, mixed businesses to the north and industrial to the east and north. Rosehill Racecourse is to the south.

A search of activities licensed by the EPA under Schedule 1 of the *Protection of the Environment Operations Act 1997* identified 12 facilities within Camellia and Rydalmere with the potential to impact on local air quality. These facilities are listed in Table 4.4. Most of these facilities are located to the east of the proposed site, while those in Rydalmere are located to the north. It can be seen from this information that dust, odour and gaseous substances are the main potential air quality issues.

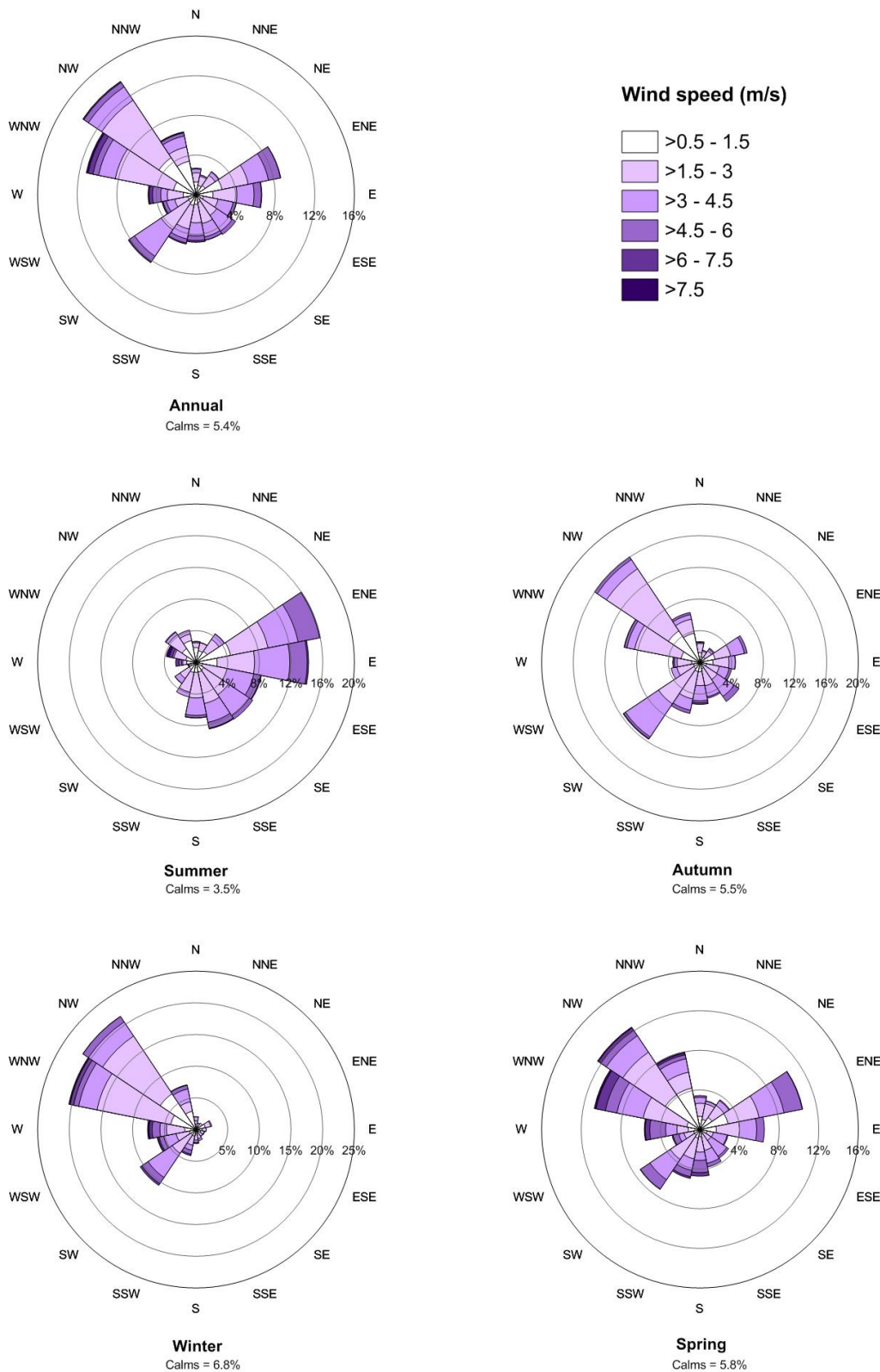
Table 4.5 : EPA licenced facilities in Camellia and Rydalmere

Facility/organisation name <sup>1</sup>	Premises address	Activities	Potential air quality issue
Downer	12 Grand Avenue, Camellia 2142 (500 m from development site)	Recovery of general waste Waste storage - other types of waste	Odour
Clyde Terminal	Durham Street, Camellia 2142 (1.4 km from development site)	Non-thermal treatment of hazardous and other waste Petroleum products storage	Gaseous substances, odour
Boral Australian Gypsum	3 Thackeray Street, Camellia 2142 (1.7 km from development site)	Crushing, grinding or separating	Dust
Collex Treatment Plant	37 Grand Avenue, Camellia 2142 (1.8 km from development site)	Non-thermal treatment of hazardous and other waste Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	Gaseous substances, odour

Facility/organisation name <sup>1</sup>	Premises address	Activities	Potential air quality issue
Concrete Recyclers (Group) Pty Ltd	14 Thackeray Street, Camellia 2142 (1.7 m from development site)	Recovery of general waste Waste storage - other types of waste	Dust
Earthpower Biomass Facility	35 Grand Avenue, Camellia 2142 (1.8 m from development site)	Composting Generation of electrical power otherwise than from coal, diesel or gas Recovery of general waste	Odour
Australian Pharmaceuticals Industries Ltd	11 Grand Avenue, Camellia 2142 (500 m from development site)	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	Gaseous substances
Sami Pty Ltd	12 Grand Avenue, Camellia 2142 (500 m from development site)	Chemical production waste generation Chemical storage waste generation Petrochemical production Petroleum products storage	Gaseous substances
KLF Holdings Pty Ltd	16 Grand Avenue, Camellia 2142 (2 km from development site)	Non-thermal treatment of general waste Waste storage - other types of waste	Odour, dust
Rheem Australia Pty Ltd	55 Brodie Street, Rydalmere 2116 (700 m from development site)	Metal processing Metal waste generation	Dust, odour
Hunter Douglas Ltd	33 Victoria Road Rydalmere 2116 (1.4 km from development site)	Metal waste generation Printing, packaging and visual communications waste generation	Dust, odour
Polytrade Pty Ltd	32 South Street Rydalmere 2116 (1.3 km from development site)	Recover of general waste Waste storage – other types of waste	Dust, odour

Note 1: Search of activities licensed by the EPA under Schedule 1 of the *Protection of the Environment Operations Act 1997* was undertaken on 6 March 2014.

Meteorological conditions are important for determining the direction and rate at which emissions from a source will disperse. Figure 4.1 shows the annual and seasonal wind patterns at Camellia (Holmes Air Sciences 2005). From these data, the most common winds are from the northwest. These winds are generally favourable for the proposed development since it will be upwind of the key industries for most of the time. There are very few winds from the north (that is, in the direction of industries at Rydalmere).



Source: Holmes Air Sciences (2005).

Figure 4.1 : Annual and seasonal wind-roses for Camellia (2001)

#### **4.2.2 Potential impacts of surrounding land uses on the proposed mix use development**

Various existing developments and industries have been identified in the vicinity of the proposed site. While the key potential air quality issues are dust, odour, and gaseous emissions, the potential impacts on the proposed development are likely to be minimal. This is because of the favourable meteorological conditions. It is also relevant to note that licenced industries are usually required to control air pollution, though it may be acceptable for impacts to be higher in areas zoned industrial than in areas zoned residential or business development.

Part 5.4 of the *Protection of the Environment Operations Act 1997* addresses air pollution. More specifically, Section 128 states:

The occupier of any premises must not carry on any activity, or operate any plant, in or on the premises in such a manner as to cause or permit the emission at any point specified in or determined in accordance with the regulations of air impurities in excess of:

(a) the standard of concentration and the rate, or

(b) the standard of concentration or the rate.

In regards to odour, Section 129 states:

The occupier of any premises at which scheduled activities are carried on under the authority conferred by a licence must not cause or permit the emission of any offensive odour from the premises to which the licence applies.

In addition, the meteorological conditions in the area show that the prevailing winds are from the northwest. This means that the development would be upwind of the industrial areas for most of the time, thereby minimising conflicts, in terms of potential air quality issues.

Of the facilities listed in Table 4.4, KLF is the only facility to have had been issued with a requirement for a pollution study and reduction program (relating to 'infrastructure to reduce noise and dust'). This was requirement was added to the licence in 2012. Dust impacts due to KLF activities would be minimal as this facility is in the order of two kilometres from the site.

#### **4.2.3 Recommended safeguards and management measures**

A review of EPA monitoring data showed that the region complies with air quality criteria for most airborne substances of concern. The exceptions are particulate matter and ozone, where there are a few days above relevant criteria each year, mostly due to regional issues such as bushfires, dust storms and motor vehicles. There are local sources of odour, particulates and other gaseous emissions in the vicinity of the proposed development. These sources will be licenced to control air pollution.

Nevertheless, designing the development with recognition of these local sources of air pollution would help to minimise potential air quality issues (such as complaints). Such recognition might be by way of maximising the distance between the developments and surrounding industries as far as possible, and locating air conditioner intakes on the roof.

### **4.3 Hazards and risks**

#### **4.3.1 Existing environment**

Existing land uses and infrastructure identified to present potential health and safety hazards/risks for future residents and workers occupying the proposal site are summarised in Table 4.5, along with an assessment of the potential hazard/risk implications of each land use and infrastructure on the proposal site. Generally, these land uses comprise a diverse range of industrial facilities which include manufacturing and chemical processing facilities, cement manufacturing, pharmaceuticals and petrochemical refining.

The Risk Assessment Report prepared by NPC in April 2015 for the Department of Planning and Environment comprises part of the supporting information to the planning proposal's exhibition material.

Table 4.6 : Summary of identified existing industrial land uses and infrastructure in the vicinity of the proposal site and their associated hazards/risk implications

Facility or Infrastructure operator	Facility address	Distance from the proposal site (metres)	Activity type undertaken at the facility	Hazard/risk implication for the proposal site
Downer Edi Works Pty Ltd	12 Grand Avenue Camellia	1600	Recovery of general waste	Insignificant
The Shell Company Of Australia Limited	Durham Street Camellia	1500	Non-thermal treatment of hazardous and other waste	Insignificant
James Hardie Australia Pty Ltd	10 Colquhoun Street Rosehill	1200	Cement or lime handling Concrete works Crushing, grinding or separating	Insignificant
CSR Building Products Limited	10 Grand Ave Rosehill	1000	Concrete works	Insignificant
Boral Australian Gypsum Limited	3 Thackeray Street Camellia	1300	Crushing, grinding or separating	Insignificant
Veolia Environmental Services (Australia) Pty Ltd	37 Grand Ave Camellia	400	Non-thermal treatment of hazardous and other waste Waste storage	Insignificant
Lyondellbasell Australia Pty Ltd	Durham Street Rosehill	1300	Chemical storage waste generation Plastic resins production	Insignificant
Concrete Recyclers (Group) Pty Limited	14 Thackeray Street Camellia	1600	Recovery of general waste Waste storage - other types of waste	Insignificant
Rheem Australia Pty Limited	55 Brodie Street Rydalmere	400	Metal processing Metal waste generation	Insignificant
Hunter Douglas Limited	338 Victoria Road Rydalmere	1200	Metal waste generation Printing, packaging and visual communications waste generation	Insignificant
Earthpower Technologies Sydney Pty. Ltd.	35 Grand Avenue Camellia	1600	Composting Generation of electrical power Recovery of general waste	Insignificant
Australian Pharmaceuticals Industries Ltd	11 Grand Avenue Camellia	500	Waste storage	Insignificant
Sami Bitumen Technologies Pty Ltd	12 Grand Avenue Camellia	1800	Petrochemical production	The risk of catastrophic failures of large LP Gas vessels is deemed low, and the large distance from Project B5 gives an overall risk rating of low.

Facility or Infrastructure operator	Facility address	Distance from the proposal site (metres)	Activity type undertaken at the facility	Hazard/risk implication for the proposal site
Polytrade Pty Ltd	32 South Street Rydalmere	1200	Recovery of general waste	Insignificant
Hunter Pipeline Company Ltd (Caltex) maintained by Freyssinet Australia Pty Ltd	Adjacent to 181 James Ruse Drive, Camellia (Eastern Boundary) DP 499010	5m Easement	Distribution of liquid Hydrocarbon products to the Newcastle area	Low
Metropolitan Water Sewerage and Drainage Board (Sydney Water Corporation)	Adjacent to 181 James Ruse Drive, Camellia (Eastern Boundary) Lot1 DP669378	5m Easement	Water pipelines	Insignificant

#### 4.3.2 Potential impacts of surrounding land uses on the proposed mix use development

Hazardous industries are regulated through NSW Department of Planning and Environment guidelines, including *State Environmental Planning Policy 33 – Hazardous and Offensive Development*. Generally, industrial developments must comply with land use safety controls specified by the Department of Planning and Environment, which include an individual fatality risk criterion of one risk in a million, per year at the nearest residential area, and 50 risks in a million per year for industrial areas. As outlined in Table 4.5, the majority of the industrial facilities surrounding the proposal site are considered to present an insignificant hazard/risk to the health and safety of future residents and workers at the proposal site.

Noting that most of the industries within the Camellia Precinct are not Major Hazards facilities as defined under WorkCover NSW (with the exception of the Shell refinery and Caltex petroleum pipeline), it is anticipated that the impact from the Camellia Industrial precinct will be currently compliant with the NSW Department of Planning and Environment Criteria for Hazardous Industry, and there is unlikely to be restrictions on development density, on hazard or risk grounds, at the proposal site.

As stated in the Parramatta LEP 2011 DP&E Planning Team Report “*The site contains approximately 78,893 cubic metres of contaminated soils, having been occupied for a range of industrial purposes including James Hardie operations from 1962 to 1993.*” *The site is identified on the list of NSW contaminated sites notified by the EPA. Most of the site has a bitumen/cement surface acting as a sealed cap to prevent exposure of the contaminated materials.*

Hunter Pipeline Company hydrocarbon pipeline requirements would be in accordance with the licence issued by the NSW Ministry of Energy and Utilities. The office will provide support to ensure safety is not compromised and a number of conditions are required to be met in accordance with this licence.

#### 4.3.3 Recommended safeguards and management measures

The current proposal is not anticipated to impact the 5m easement allowed for the buried Sydney Water and Caltex hydrocarbon pipeline. Work Method Statements/Job Safety Environmental Analysis and Toolbox Talks should be provided to construction staff prior to site mobilisation. This would ensure the 5m easement is nominated a ‘No Go Zone’, therefore eliminating the risk of fire or explosion from potential direct impact by construction plant on the buried infrastructure. Construction methodologies for aspects of the development in close proximity to the pipeline would be reviewed to ensure that they would not cause indirect impacts to the pipeline (eg from vibration). Alternative construction methodologies would be used where the risk of indirect impacts are unacceptable. Consultation would be undertaken with the pipeline owners and operators during design and construction to ensure that any risks to pipeline are identified and mitigated.

The proposal provides a key community and environmental benefit in facilitating the remediation of a heavily contaminated site. A Site Audit Statement was prepared by Environmental Strategies Pty Ltd dated 30 September 2013, that certifies the site, if remediated in accordance with the nominated Remedial Action Plan, can be made suitable for residential use. A Remediation Action Plan (RAP) has been prepared and has received 'in principle support from the EPA indicating that the site may be suitably remediated prior to residential use. The Remediation Action Plan safeguards and management measures are to be reviewed in conjunction with this report.

Although remediation and redevelopment may require the removal of the heritage listed mangrove area (depending final outcomes of the RAP for the foreshore area) and vegetation on the site, this is essential to ensure thorough remediation. The mangroves and the site would be replanted as part of the site redevelopment.

The full extent of potential environmental impacts is unknown, as the suitability of the site with regards to flooding and acid sulphate soils has not been determined. DP&E have highlighted that additional studies are required to address these issues along with the long-term management of the proposed environmental containment cells.

No other safeguards or management measures would be required to manage hazards and risks associated with surrounding industrial facilities. These facilities are assumed to currently be compliant with the NSW Department of Planning and Environment Criteria for Hazardous Industry and, therefore, potential hazards and risks would already be satisfactorily managed by the operators of the surrounding industrial facilities.



## 5. Conclusion

This Health and Safety Report documents and considers potential land use conflicts between Statewide Planning's proposed mixed use development at 181 James Ruse Drive, Camellia and surrounding industrial land uses and infrastructure located within Camellia and Rydalmere. The objective of this report was to identify and assess (pursuant to satisfying Condition 1 of the Gateway approval and Conditions 10 and 11 of the Alteration to Gateway Determination) the potential health and safety impacts that could arise for future residents and workers at the proposal site due to the effects of potentially conflicting land uses and infrastructure. This Health and Safety Report concludes that, whilst surrounding land uses and infrastructure could have an impact on the amenity of proposal site, their impact would not be of such a magnitude that it would significantly impact on the health and safety of future residents and workers. Potential amenity impacts are anticipated to be readily manageable through design. The recommended safeguards and management measures need to be carried through as provisions to the Master Plan and Development Control Plan (the Master Plan and DCP need to be amended accordingly).

## 6. References

- Department of Environment and Climate Change 2009, *Interim Construction Noise Guidelines*.
- Department of Environment and Conservation 2006, *Assessing Vibration: A Technical Guideline*.
- Department of Environment, Climate Change and Water (DECCW) 2011, *NSW Road Noise Policy*.
- Environment Protection Authority 2000, *Industrial Noise Policy*.
- Environment Protection Authority 2013, *Rail Infrastructure Noise Guideline*.
- NPC 2015, Risk Assessment Report, Prepared for Department of Planning & Environment
- Parramatta City Council 2014, *Camellia: 21st Century Business, Industry and Entertainment Precinct Discussion Paper, Version 1*.