

Visual Impact Assessment



SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

Transitional Part 3A Concept Application

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 **REIDCAMPBELL**

THIS REPORT HAS BEEN COMPILED BY THE FOLLOWING

REID CAMPBELL PERSONNEL:

Managing Director	Richard Campbell
Director	Song Kitcharayothin
Senior Project Professional	Nadia Hamoud

INFORMATION PROVIDED BY OTHERS:

Viewshed Analysis	Hyder Consulting Engineers
Raw Viewpoint Photography	Hyder Consulting Engineers
Lightspill Study Report	Hyder Consulting Engineers
Landscape Planning	Hassell



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REID CAMPBELL

Architecture, Interior Design and Planning
www.reidcampbell.com

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executive summary

Reid Campbell in conjunction with Hyder Consulting Engineers were appointed by SIMTA to undertake a Visual Impact Assessment, including a Light Spill Study of the proposed Moorebank Intermodal Terminal Facility Development.

This report has been compiled in accordance with the Director General's Requirements issued under Section 75F of the *Environmental Planning and Assessment Act 1979* dated 24 December 2010 (Application MP10_0193), specifically responding to the item *Visual and Urban Design* noted under *Key Issues* of the proposal.

This report seeks to identify and evaluate the visual impacts of the project including an analysis of views from key vantage points and proposed management/mitigation measures to address the visual impact of the proposal.

It should be read in conjunction with the Urban Design and Landscape Report which provides a design analysis and justification of the key built form elements of the proposal.

Although a detailed site layout plan is yet to be developed, the Visual Impact Assessment and Light Spill modelling are based on the SIMTA Site Precinct Plan at Figure 1 which describes the likely maximum development envelope of built-form typologies within each Land Use Zone on the site.

Using the siting, setback, height, landscaping and general design principles described in the Urban Design and Landscape Report for all built-form, streetscape, urban and operating elements, a 3-dimensional massing model was generated to inform the likely maximum and realistic visual impact at key view points identified through a digital viewshed analysis.

In addition to the main Intermodal Terminal Facility Development, a Visual Impact Assessment was conducted on the proposed Rail Link connecting the SIMTA site with the Southern Sydney Freight Line (SSFL). Although the detail design of this Rail Link is yet to be determined, a notional model of the rail line within the proposed Rail Corridor (noted on Figure 1) was developed assuming the Rail Link area would be approximately 20m wide of variable width.

Modelling suggests that there will be minimal visual impact due to the proposed Rail Link. It will be visible from some view points, however generally these are in locations where the viewing period is very short (i.e. from a road bridge) and the proposed Rail Link runs adjacent to existing rail infrastructure.

All simulated Rail Link view points fall within a precedent boundary formed by the development of the SSFL.

The Light Spill Study undertaken by Hyder Consulting Engineers examines the potential lighting requirements for the operation of the SIMTA site and investigates through the modelling of a concept lighting design, its compliance with the Australian Standard AS4282 - 1997 *Control of Obtrusive Effects of Outdoor Lighting*.

The light spill modelling shows that the luminous intensity from lighting within the SIMTA site can be easily designed to be below the prescribed maximum value of 500cd (for curfew hours: 11.00pm to 6.00am) at the nearest residences.

An indicative high level cumulative impact assessment of the addition of the Moorebank Intermodal Terminal Company Limited (MICL - previously known as the Moorebank Project Office) and Defence Logistics Transformation Project (DLTP) proposals has been considered, however this is limited in accuracy based on available information of each proposal in the public domain.

The resultant findings of the Visual Impact Assessment and Light Spill Study are:

- that the proposal is consistent with general industry and existing development in close proximity to the site and as such the visual amenity at these locations is generally unchanged;
- modelling suggests that there is highly limited visual impact to residential areas due to distance, existing visual barriers and undulating topography;
- in most instances, it was found that there was either no visual impact or no change to the general overall visual amenity at simulated view locations in residential areas;
- the most prominent views of the proposed development will be at localised site boundary points, however the visual amenity at these locations is likely to be improved through mitigation measures such as significant and intensive landscaping, screening and architectural elements that do not currently exist or shield the current site operations;
- the impact of light spill to residential properties will be well within the required criteria as specified in Australian Standard AS4282 - 1997 *Control of Obtrusive Effects of Outdoor Lighting*; and
- the cumulative impact of the MICL and DLTP proposals may be significant to adjacent communities to these proposals, however may in fact provide a 'visual shield' to the bulk of the SIMTA proposal.

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LEGEND

- SIMTA SITE BOUNDARY
- RAIL CORRIDOR
- PROPOSED RAIL LINK

SCALE BAR



01 introduction

The Sydney Intermodal Terminal Alliance (SIMTA) propose to develop an intermodal terminal facility at the site known as the Defence National Storage and Distribution Centre (DNSDC).

The SIMTA development will provide container freight distribution and warehousing to service Western and south western Sydney industrial areas. The SIMTA site will be linked to the Southern Sydney Freight Line. The Concept Plan proposal comprises the following key components:

- **Rail Link:** the Concept Plan includes a rail link that will connect the SIMTA site with the Southern Sydney Freight Line. The detailed design of the rail infrastructure comprising the rail link will be subject to a further Project Application, however for the purpose of evaluation a notional rail line within the proposed rail corridor area has been included in this report to determine the likely visual impact.
- **Intermodal Terminal:** the on-site terminal facilities including up to 1,200 metres of rail. Freight will arrive by rail and be transported to the warehouse and distribution facilities within the SIMTA site, or be directly loaded on to trucks for transport to warehouses and nearby logistics centres. Exports and empty freight containers will be transported to the facility by truck and then loaded onto rail for transport. It is proposed that the terminal will have capacity for four rail sidings, with areas for container handling and storage and anticipated to have the capacity to handle up to 1 million TEUs per annum.
- **Warehouse and Distribution Facilities:** warehouses with ancillary offices will be constructed to the east of the intermodal terminal. These buildings are proposed to be constructed in stages in response to site servicing availability and market demands. It is expected that warehouses will range in size, depending on tenant needs.
- **Freight Village:** a dedicated area known as the 'Freight Village' zone has been assumed to provide appropriate support services on site. These may include site management and security offices, meeting rooms, driver facilities and convenience retail and business services.

The proposed development will be staged to respond to demand for infrastructure and warehousing facilities, however for the purposes of evaluation, the visual impact study is based on the indicative SIMTA site precinct plan at Figure 1 demonstrating the likely maximum exposure of building and facility frontages and site operating elements based on the typical design principles for elements described in the Urban Design and Landscape report forming part of this application .

This report includes the following:

- a description of the methods used to undertake the visual assessment and the light spill assessment;
- a description of the criteria used to determine the likely level of impact;
- an evaluation of the existing visual character of the surrounding area;
- an evaluation of the visual character of the proposal;
- a description of measures being incorporated into the site planning and landscape design to reduce potential visual impacts;
- an assessment of the visual impact of the proposal focussing on an evaluation of specific views and taking into account measures to reduce the level of visual impact;
- an assessment of the likely impacts of light spill; and
- a high level cumulative impact assessment of adjacent development proposals.

02 assessment methods

02.1 visual impact assessment

The following steps were undertaken in the assessment of visual impacts of the proposal.

preliminary viewshed analysis

A viewshed analysis was undertaken for the site in Geographical Information System (ArcGIS - Spatial Analyst Extension) by Hyder Consulting Engineers to provide an initial indication of which parts of the surrounding area could potentially view some part of the site (in its existing form). The three dimensional ground surface data used for this analysis included the natural terrain as well as buildings and major areas of vegetation (see Figures 4 & 6).

site inspection

Hyder Consulting Engineers and Reid Campbell carried out a site inspection to verify the results of the viewshed analysis and to evaluate the existing visual character of the area and specifically identify locations that would potentially be subject to visual impacts from the proposed development. Photographs were taken by Hyder Consulting Engineers from key viewpoints using a GPS Camera for later use in visual simulations of the development.

visualisation of the development

Based on the precinct plan in Figure 1 and the built form and urban design principles in the Urban Design and Landscape report (in particular maximum height and scale), Reid Campbell developed a digital three-dimensional model using AutoDesk REVIT that included the likely components of the development that would potentially be visible beyond the site. Views were generated of the model that matched the camera positions of photographs taken by Hyder Consulting Engineers from the key viewpoints and combined with the photographs to create simulated views of the proposal from each of these key viewpoints.

assessment of visual impact

The visual impact from the key viewpoints was then assessed qualitatively on the basis of the criteria described in Section 3. Views at a variety of distances from the site were considered, however it is noted that the SIMTA site is primarily surrounded by vast amounts of vegetation to the east and the School of Military Engineering to the west currently occupied by the Department of Defence (see Figure 2 & 6) providing an extensive buffer to local residential areas and other existing developments.

The proposed rail connection has also been assessed from key viewpoints identified by Hyder Consulting Engineers on the basis of a notional rail line being constructed within the proposed rail corridor area.

02.2 light spill assessment

A preliminary lighting concept for the proposal was developed by Hyder Consulting Engineers, based on the operational requirements of SIMTA to be compliant with Australian Standard AS4282- 1997, 'Control of Obtrusive Effects of Outdoor Lighting' for the floodlighting system. The light spill was then modelled in using agi32: version 2.02 and Visual lighting design software, provided by light lab international software.

03 assessment criteria

03.1 visual impact assessment criteria

The visual impact of the selected viewpoints in this study have been evaluated on a qualitative basis. The visual impact of the proposal has been assessed using a range of criteria against which the relative importance of each observer location can be described, including: context, setting, site elements, site character, adjacent development, distance to view (foreground, middleground and background), land use, visual prominence of the development, and potential changes to the view setting. For each observer location, these criteria have been addressed under three category headings: 'visual adaptation', 'visual sensitivity' and the resulting 'visual impact'. A comparative description of each category used in the visual impact evaluation process is summarised below:

visual adaptation

Visual adaptation describes any significant changes to the landscape and visual amenity that is likely to occur as a result of the proposed development from a particular view point, including:

- the prominence of the proposed development and its individual components with regard to scale, form, colour and texture in contrast with the surrounding landscape.
- the compatibility of the development within the context of the particular landscape zoning/primary use (such as residential, parklands and other non-industrial related uses) on the basis that integration of the proposed development is likely to incur a higher visual impact in those zones which are inhabited by non-industrial related activity. To this extent, 'compatibility' relates only to the specific viewpoint locations and not the degree to which the development can be seen as described under 'prominence' above.

visual sensitivity

Visual sensitivity refers to the likely duration of views and number of observers from a given viewpoint and is independent of the 'prominence' of the proposed development. In locations where visual amenity has a higher perceived importance, and the duration of views and number of observers is greater than surrounding areas, the resulting visual sensitivity is regarded as being higher.

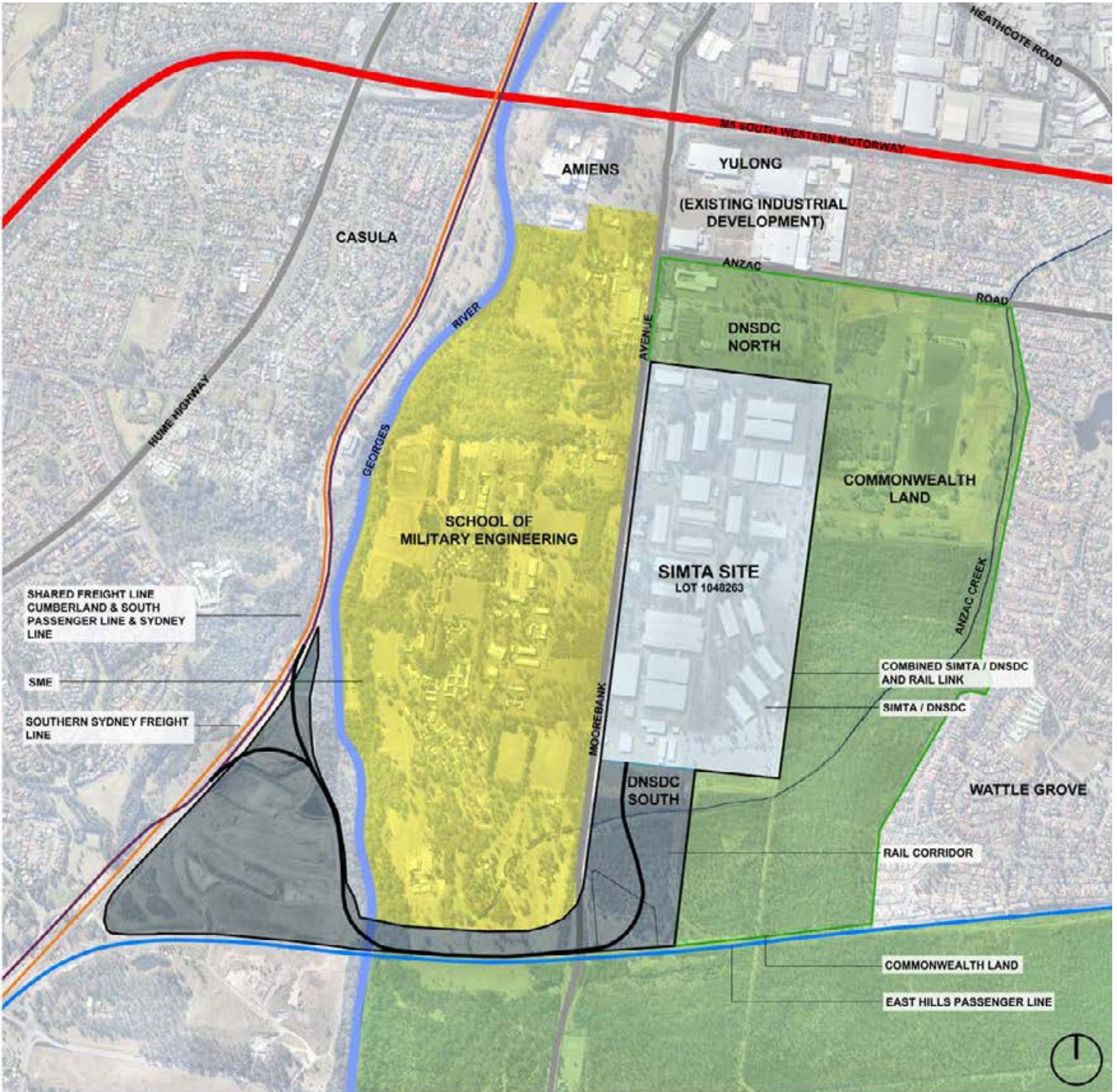
Visual sensitivity is expressed in relative terms in this study with residential areas being of higher visual sensitivity and industrial areas having a lower sensitivity. Other areas of higher sensitivity include roads where, despite a short duration of views, there are large numbers of potential viewers and parks where the duration of views is not particularly long, but where a high degree of importance is placed on visual amenity.

visual impact

The resulting Visual impact is summarised on a qualitative basis against the above criteria.

03.2 light spill assessment criteria

Light spill at the edge of the site has been digitally modelled by Hyder Consulting Engineers and is expressed quantitatively in terms of light intensity.



LEGEND

RAIL LINE - SOUTHERN SYDNEY FREIGHT LINE	—	GEORGES RIVER	■	RAIL CORRIDOR	■
RAIL LINE - DEDICATED PASSENGER LINE	—	MOTORWAYS	■	COMBINED SIMTA / DNSDC & RAIL CORRIDOR	■
RAIL LINE - SHARED PASSENGER & FREIGHT LINE	—	MAJOR ROADS & HIGHWAYS	■	COMMONWEALTH LAND	■
SME	■	SIMTA / DNSDC	■	PROPOSED RAIL LINK	—

SCALE BAR



Figure 2 - Visual Character of the Surrounding Area

04 visual character of the surrounding area

The site is currently occupied by the Department of Defence and consists of a number of buildings with the primary uses being large format logistics and warehousing.

The site is surrounded by land owned and occupied by the Department of Defence. This includes the School of Military Engineering (SME) to the west, the Defence National Storage and Distribution Centre (DNSDC) to the north and east, and further Commonwealth of Australia Land to both the east and the south. The outer proximity toward the north includes existing Moorebank industrial developments known as 'Amiens' and 'Yulong'. The residential suburb of Wattle Grove is located to the north-east and east. The Casula residential area is approximately 1km west of the SIMTA site divided by the SME, the Georges River and the Southern Sydney Freight Line (SSFL).

The site is within relatively close proximity to the M5 Motorway, which intersects with Moorebank Avenue approximately 600 metres to the north of the north-east site boundary. Moorebank Avenue runs in a north-south direction and provides a direct connection between the Liverpool City Centre and M5 Motorway on/off ramps to the north and the Glenfield/ Macquarie Fields residential areas to the south.

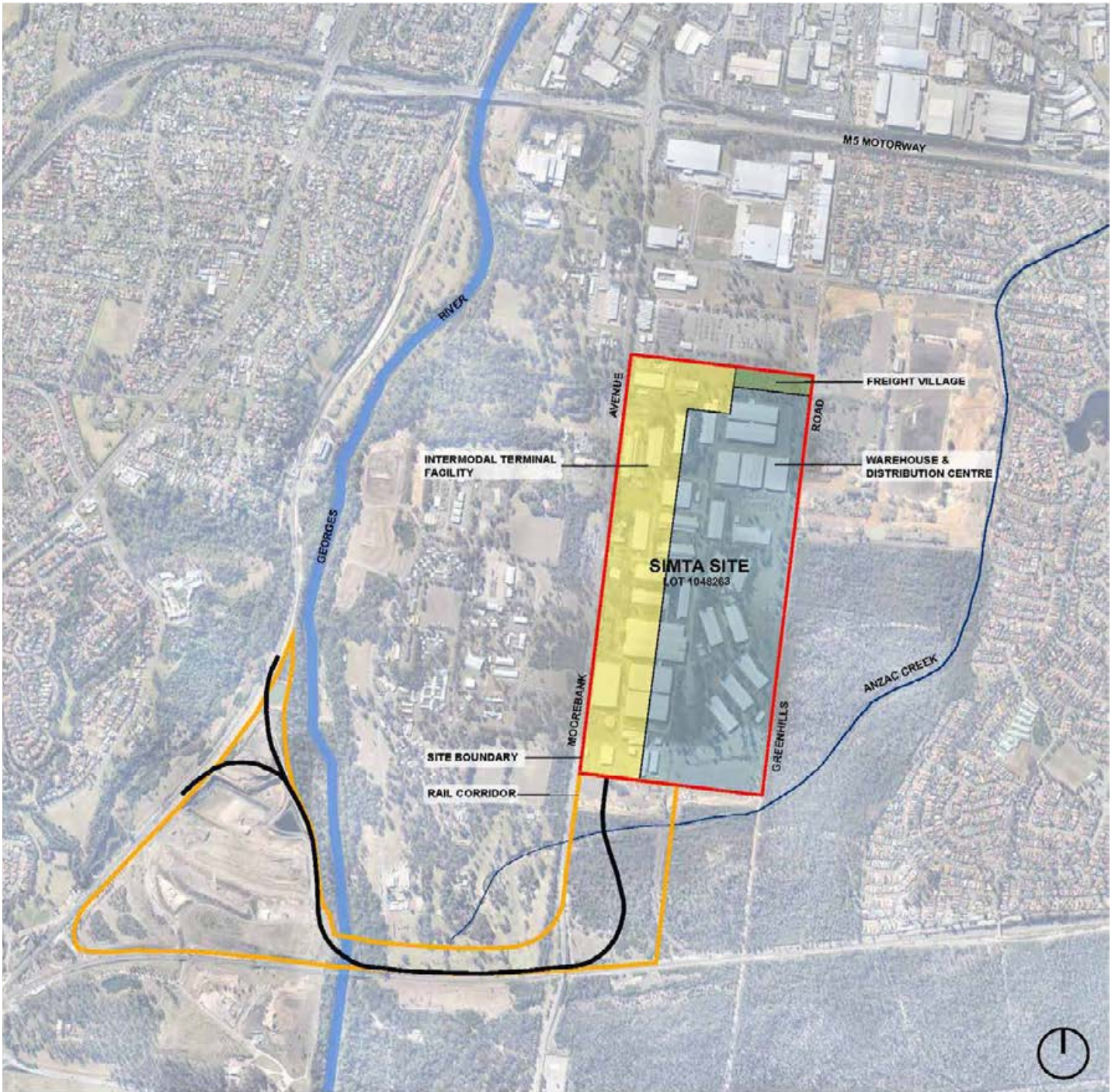
Approximately 1-1.5km west from the site, the SSFL and passenger rail line run in a north-south direction and are bounded by the Casula residential area. To the south of the site, the existing East Hills railway runs in an east-west direction. The proposed rail link corridor will be connected and confined within these areas.

The outer area to the east and north of the site comprises the Wattle Grove residential area (primarily low density), extensive commercial and industrial developments and major motorways.

Surrounding natural elements include:

- Georges River which runs along the western boundary of the School of Military Engineering.
- Anzac Creek which runs along the eastern boundary of the Commonwealth owned land, linking to Chipping Norton Lake and Georges River to the north.
- Existing landscape and vegetation known as the 'Cumberland Plain Woodland' running along approximately one half of the eastern boundary and full length of southern boundary of the site, forming a physical barrier to surrounding areas. This bushland is primarily regenerated vegetation and includes Anzac Creek. The density of the bushland provides significant screening to much of the south and east of the site from surrounding areas.

The existing visual character of the site and surrounding area is shown on Figure 2.



LEGEND

- SIMTA SITE BOUNDARY
- RAIL CORRIDOR
- FREIGHT VILLAGE
- WAREHOUSE & DISTRIBUTION CENTRE
- INTERMODAL TERMINAL FACILITY
- PROPOSED RAIL LINK

SCALE BAR



05 visual character of the development

The SIMTA proposal involves the redevelopment of the DNSDC site, with most of the existing structures being demolished or relocated. The existing site character is essentially industrial, consisting of a number of large buildings used for warehouse and distribution purposes. The existing site topography (Figure 4) is generally flat with a low hill located within the middle section of the eastern boundary of the site. The most prominent natural feature located near the site is Anzac Creek lying off the southern boundary. There is existing bushland on both the eastern and southern boundaries of the site.

The SIMTA development will include an extensive internal road network comprising an Estate Road, Internal Road 1 for heavy vehicles, and Internal Road 2 for light vehicles. The proposal assumes the inclusion of the following typical built-form and visible operating elements (Figure 3), which are described in detail in the Urban Design and Landscape report forming part of the Application:

Rail Link: Fundamental to the operation of the SIMTA Moorebank Intermodal Terminal Facility is a rail connection to the SSFL. The exact corridor dimensions and location of the rail spur will be determined in consultation with relevant stakeholders and through the detailed design process for the Stage 1 Project Application, however for the purpose of evaluation a notional rail line within a proposed rail corridor of 20m variable width has been included in this report to determine the likely visual impact.

Intermodal Terminal: The intermodal terminal will be located on the western part of the site, adjacent to Moorebank Avenue. The total terminal area is approximately 244,000m² including the following key elements:

- Four rail sidings of up to approximately 1,200 metres in length within the SIMTA site
- Container hardstand to be used for container sorting and storage (up to 5 containers high or 12.5m)
- Administration offices and ancillary operational facilities (probably of steel and cladding construction approximately 8m high)

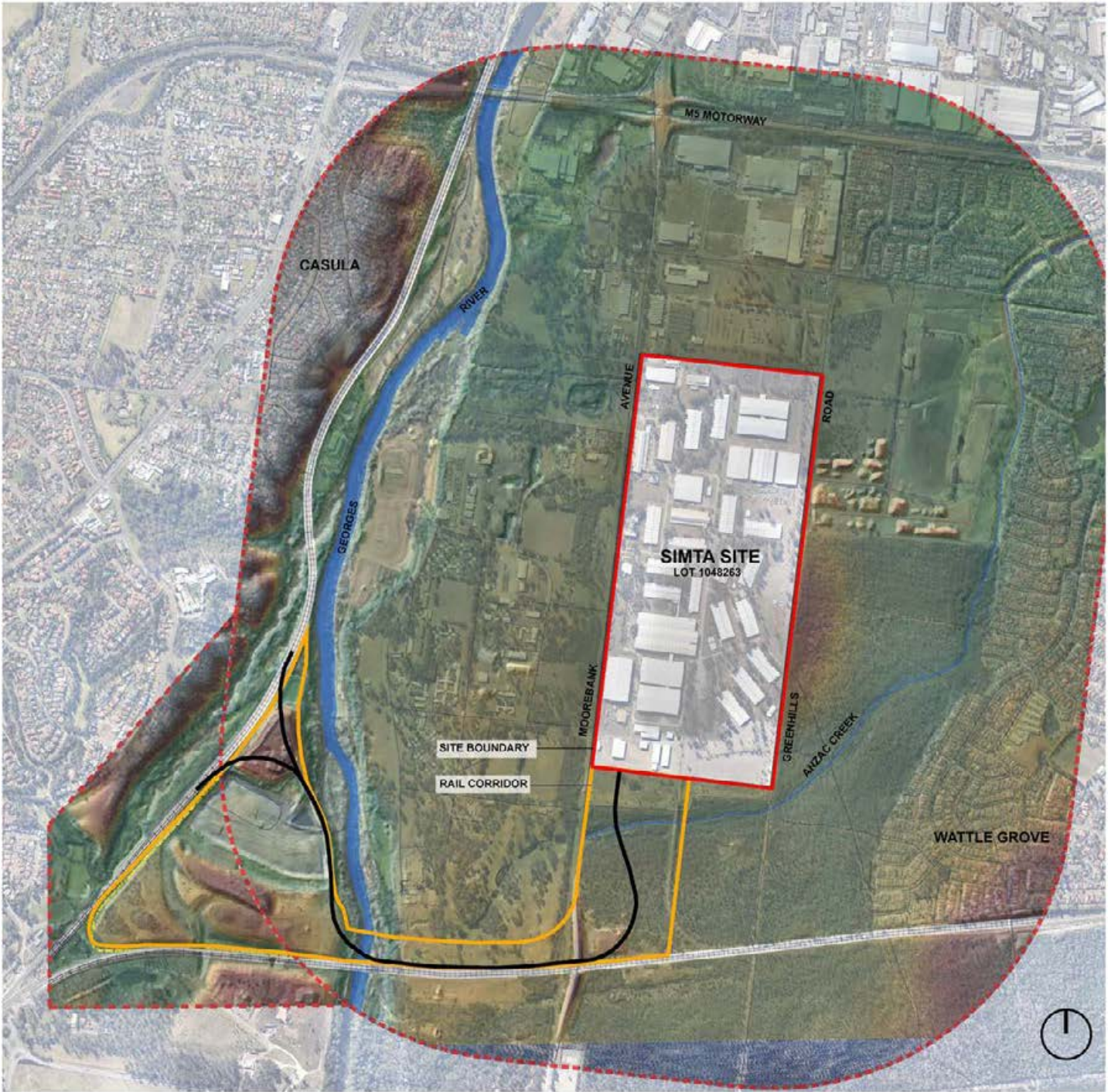
The intermodal terminal is anticipated to operate 24 hours a day, 7 days a week. The terminal will seek to use best practice intermodal facility equipment, wherever possible, which could include:

- Automated and remote operated gantry systems to move containers from rail cars
- Modern container and secondary freight handling equipment
- An operations and control centre, ancillary facilities and amenities
- Container washdown facilities (likely to be of steel construction)
- Diesel and LPG fuel storage tanks (steel construction)

Warehouse and Distribution Facilities: Warehouse and distribution facilities with ancillary offices are to be located on the balance of the SIMTA site to the east of the intermodal terminal. The SIMTA Site Precinct Plan at Figure 1 shows the area in which these warehouses are proposed to be located. The warehouses are likely to be of various sizes of steel (or similar) construction, with a maximum height of 21m. For the purposes of this assessment, it is assumed that warehouses will be of a neutral colour.

Freight Village: The Freight village development will provide amenities and support services within the SIMTA site to meet the needs of employees and visitors to the site.

Lighting: The visualisation carried out for this assessment assumes a light pole height of 40m. Poles would be galvanised steel.



- SIMTA SITE BOUNDARY
- RAIL CORRIDOR
- ANALYSIS EXTENT
- PROPOSED RAIL LINK

TOPOGRAPHY

	HIGH
	LOW



Figure 4 - Surrounding Topography

06 measures to reduce visual impact

Appropriate measures to reduce the visual impact of the SIMTA development were identified in parallel with the Urban Design and Landscape report. These measures would primarily comprise screen planting in key areas and visual buffers. Further detail can be found in the Urban Design and Landscape report and guidelines. An indicative SIMTA site precinct and landscape plan is shown at Figure 5 which demonstrates potential built form, facility and operations frontages in accordance with the Urban Design and Landscape Report. This Figure 5 is indicative only and provides a representation of potential maximum built-form impact for the purposes of conducting the Visual Assessment.

At the north-east corner of the site, it is anticipated that a 'Freight Village' of support services and conveniences will be constructed which will aid as an architectural screen to the intermodal operations from potentially sensitive views from Anzac Road and beyond.

To mitigate and minimise any visual impacts, a high quality landscape through reinforcement and extension of the surrounding natural context and ecological qualities is proposed. The landscape treatment will visually and physically connect with the existing landscape and vegetation adjacent to the site.

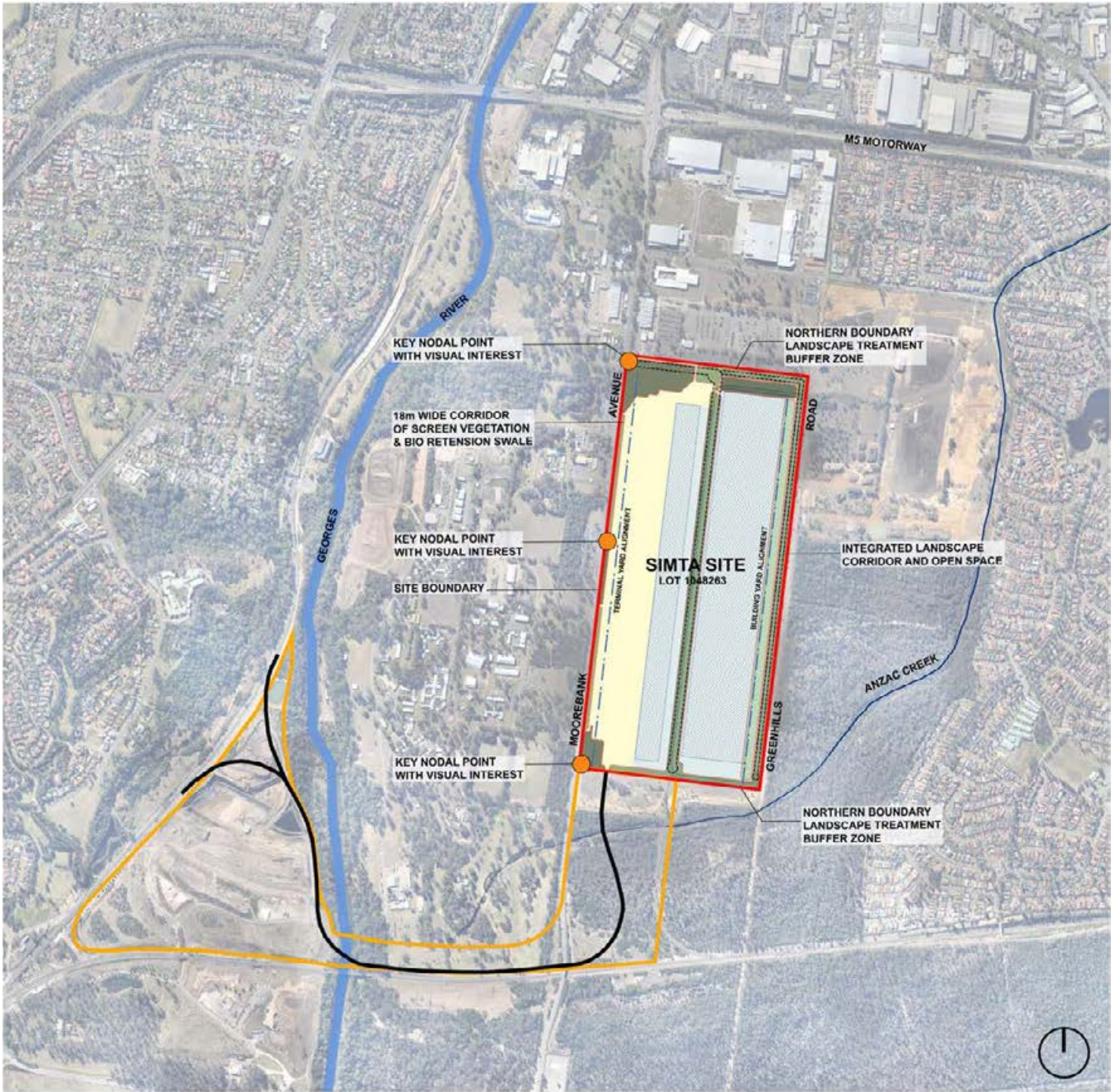
Along the Moorebank Avenue Frontage, an 18m wide corridor of screening vegetation and a bio-retention swale will provide an informal street character. This will be reinforced with randomly selected native tree species with dense tree canopy and lower screen planting.

The key nodal point along Moorebank Avenue is distinguished into 3 locations: an estate access road, middle access point to the intermodal terminal, and a south access point. These access points will include additional features to enhance the arrival experience through the use of a series of selected native plants and recycled materials in built-form to create visual interest.

Along the site boundaries, a "Boundary Treatment" and "Buffer Zone" will incorporate a landscape treatment consistent with existing local species in the area and provide an essential scale of planting to complement the developments built-forms.

At the southern site boundary, a combination of 10m and 20m wide landscape corridors and a bio-retention swale is to be located adjacent to the warehouse distribution facilities and intermodal terminal. At the eastern boundary of the site, a total buffer zone of 13.5m consisting of a 2.5m landscape corridor, a 6m internal light vehicle access road, and a 5m wide bio-retention will provide an adequate visual screen to the warehouse and distribution facility buildings.

Where landscaping is clear of railway lines, planting will consist of tall tree species capable of growing to a height of 20m inter-dispersed with medium height trees, which when mature will form a visually impenetrable barrier. This treatment will mitigate views from surrounding areas, and the existing tree planting along Moorebank Avenue in conjunction with proposed screening and feature walls, will screen a large proportion of potential views from the north-west. Overall, the proposed landscape treatments will result in an improvement in the visual amenity of the entire site and will increase the current level of screening of the site.



LEGEND

- SIMTA SITE BOUNDARY
- RAIL CORRIDOR
- PLANT MIX D
- PROPOSED RAIL LINK

- PLANT MIX A
- PLANT MIX B
- PLANT MIX C

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SCALE BAR



07 visual impact of the development

The visual impact of the development has been assessed by evaluating the views to the development from identified key viewpoints on the basis of the visual impact assessment criteria described in Section 3.

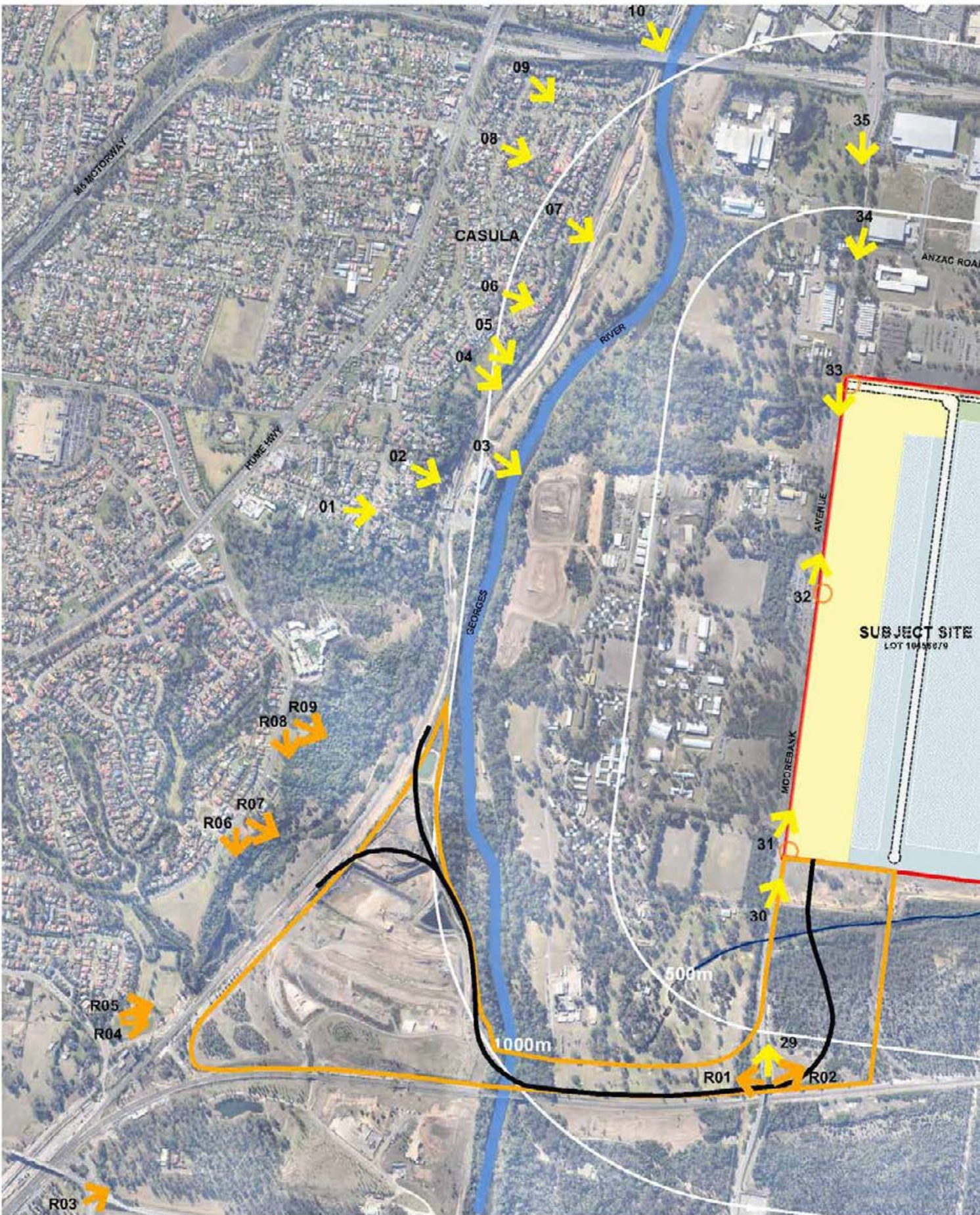
The extensive native bushland areas, Department of Defence facilities on neighbouring lands, and the general pattern of industrial type development surrounding the site screen the development from much of the greater sensitive surrounding areas - primarily residential.

Potential views do occur along viewing corridors created by streets bounding the site (Moorebank Avenue and Anzac Road), and where topography provides some elevation above potential obstructions to views.

The identified view points are all within 2km of the site. The digital viewshed analysis by Hyder Consulting Engineers does not suggest that any significant more distant views of the development exist.

This section of the report assesses the visual impact from individual key viewpoints identified through the digital viewshed analysis during daylight hours at which it is assumed would be consistent with peak operations.

Night time visual impacts are discussed in Section 8 as part of the light spill assessment undertaken by Hyder Consulting Engineers. There would also be potential visual impacts during the construction of the proposal. These are discussed at the end of this section.



18 Figure 6 - View Locations



LEGEND

- SIMTA SITE BOUNDARY
- RAIL CORRIDOR
- VIEW POINTS - TO SIMTA SITE
- VIEW POINTS - TO RAIL LINK
- PROPOSED RAIL LINK

view locations



SCALE BAR





Existing View



Simulated View

view 01

Viewing Location	West of site, Corner of Casula Rd and Canberra Avenue, Casula
Visual Adaptation	
Approximate Viewing Distance	1,500m to site boundary (approx.)
Prominence of the Development	<p>This view location has been taken from a suburban street within the Casula residential area. It lies west of the proposed development on the corner of Casula Road leading into Canberra Avenue.</p> <p>The view corridor is looking east towards the SIMTA site. Although it is elevated above the SIMTA site, the view corridor is shielded by existing mature and relatively dense vegetation as well as one and two storey residential dwellings.</p> <p>There is no evidence to suggest that the proposed development would be visible from this view location.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises one and two storey residential dwellings with established high and low lying mature street vegetation lining either side of the street.</p> <p>There are trees in the foreground as well as large trees behind the residential dwellings that are highly prominent.</p>
Visual Sensitivity	<p>Being a residential area the visual sensitivity will be relatively high. Several houses within the area will be subject to minimal views of the development, however the prominence of the proposed development within these views will be low. Most views will be of short duration therefore the visual amenity will be relatively unchanged.</p>
Visual Impact	<p>There will be limited or no visibility from this viewpoint East across the Georges River to the proposed development.</p> <p>The visual amenity will be unchanged within this view corridor as the landscape amenity will remain unaffected, therefore there will be no visual impact.</p>



Existing View



Simulated View

view 02

Viewing Location	West of site, Rushton Place, Casula
Visual Adaptation	
Approximate Viewing Distance	1,300m to site boundary (approx.)
Prominence of the Development	<p>This view location is from Rushton Place looking toward an existing rail station and powerhouse. Beyond this lies Georges River and the proposed development which is heavily obscured by background vegetation.</p> <p>The pedestrian rail bridge and railway are the most prominent features in the foreground of this viewpoint. Casula Powerhouse is partially visible to the left of the overpass.</p> <p>The proposed development will not be visible from this location. The viewpoint is at a slightly higher elevation than that of the site, although the vegetation in the background completely screens the proposed development.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises of Casula Railway station in the foreground. Directly beyond the railway station is Casula Powerhouse. The background dominated by large Cumberland plain woodland trees. This large vegetation screens the industrial and infrastructure zoned land beyond as well as the proposed development further beyond.</p> <p>The existing landscape is highly compatible with proposed additional industrial development.</p>
Visual Sensitivity	Due to the views of Casula train station and Casula Powerhouse, as well as the large expanse of industrial zoned land in front of the proposed development, the visual sensitivity from the location will be relatively low.
Visual Impact	Existing built elements in the foreground dominate this view corridor. There will be little or no visibility of the proposed development from this viewpoint, which in any case will be compatible with foreground structures. There will be no visual impact at this location.



Existing View



Simulated View

view 03

Viewing Location	West of site, adjacent to Casula Powerhouse
Visual Adaptation	
Approximate Viewing Distance	1,000m to site boundary (approx.)
Prominence of the Development	<p>This view location looks directly from the Western bank of the Georges River towards the proposed development. Both sides of the river are of lower elevation than the site.</p> <p>The development will be screened by large amounts of mature vegetation in the foreground, as well as industrial and infrastructure zoned land with existing buildings and vegetation in the background.</p>
Landscape Compatibility	<p>In the foreground is Georges River. Along the river bank are large trees and vegetation which partially screen the landscape beyond.</p> <p>Directly beyond this is a large expanse of industrial and infrastructure zoned land. This land consists of open fields, existing buildings, and large amounts of existing vegetation.</p> <p>The proposed development is highly compatible with the existing landscape. This is due to the similar land use of both the industrial and infrastructure zoned land in the middle ground, and that of the proposed development.</p>
Visual Sensitivity	<p>The industrial land use beyond Georges River (Moorebank Southern Industrial precinct) creates a low visual sensitivity. Most of the views from this area will be from a location directly adjacent to Casula Powerhouse (also an industrial facility) hence creating an even lower visual sensitivity.</p>
Visual Impact	<p>There is no visibility of the proposed development from this view location.</p> <p>Natural elements dominate the view corridor to undeveloped industrial zoned land beyond Georges River leading to the proposed development site.</p> <p>There will be no visual impact.</p>



Existing View



Simulated View

view 04

Viewing Location	West of site, Carrol Park, Casula
Visual Adaptation	
Approximate Viewing Distance	1,200m to site boundary (approx.)
Prominence of the Development	<p>This view location is taken from a highly elevated point at Casual Park East looking down toward the Georges River and proposed SIMTA development site beyond.</p> <p>The proposed development will not be highly prominent from this location. The viewpoint is higher in elevation than that of the site with the ridgeline of some warehousing (mainly within the southern half of the site) slightly visible above the existing tree line.</p> <p>The majority of the development will be obscured by existing industrial development, infrastructure zoned land-use beyond along with existing vegetation.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises a rail line and powerhouse (Casula Powerhouse) in the foreground and an expanse of industrial and infrastructure zoned land-use beyond along with existing vegetation.</p> <p>The existing landscape is highly compatible with the proposed additional development. Therefore there will be little to no alteration within the landscape amenity.</p>
Visual Sensitivity	<p>Being a residential area the visual sensitivity will be relatively high. Several houses within the area and users of the park land will be subject to minimal views of the development, however the prominence of the proposed development within these views will be low. Most views will be of short duration therefore the visual amenity will be relatively unchanged.</p>
Visual Impact	<p>There will be limited visibility from this viewpoint east across the Georges river to the proposed development. The existing landscape amenity will have little to no change therefore suggesting that there will be relatively low to no visual impact.</p>



Existing View



Simulated View

view 05

Viewing Location	West of site, Carrol Park, Casula
Visual Adaptation	
Approximate Viewing Distance	1,200m to site boundary (approx.)
Prominence of the Development	<p>The proposed development, similar to the previous viewpoint will be only slightly visible from this location. The viewpoint is higher in elevation than that of the site with the ridgeline of some warehousing slightly visible above the existing tree line.</p> <p>The majority of the development will be obscured by existing industrial development, infrastructure and vegetation.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises a rail line and powerhouse (Casula Powerhouse) in the foreground and an expanse of industrial and infrastructure zoned land-use beyond along with existing vegetation.</p> <p>The existing landscape is highly compatible with the proposed additional development. Therefore there will be little to no alteration within the landscape amenity.</p>
Visual Sensitivity	<p>Being a residential area the visual sensitivity will be relatively high. Several houses within the area will be subject to minimal views of the development, however the prominence of the proposed development within these views will be low.</p> <p>Most views will be of short duration therefore the visual amenity will be relatively unchanged.</p>
Visual Impact	<p>There will be limited visibility from this viewpoint east across the Georges River to the proposed development.</p> <p>The existing landscape amenity will have little to no change therefore suggesting that there will be relatively low to no visual impact.</p>



Existing View



Simulated View

view 06

Viewing Location	West of site, Buckland Road, Casula
Visual Adaptation	
Approximate Viewing Distance	1,200m to site boundary (approx.)
Prominence of the Development	<p>This view location along Buckland Road is slightly elevated, however modelling suggests that the proposed SIMTA development will not be visible from this location.</p> <p>One and two storey residential dwellings are more prominent in the foreground of this moderately vegetated streetscape.</p> <p>Further east lies dense bushland which obscures a direct line of sight toward the proposed development.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises of residential dwellings. It is a residential zoned area.</p> <p>There are some trees in the foreground as well as large trees behind the residential dwellings that screen the proposed development.</p>
Visual Sensitivity	<p>Being a residential area the visual sensitivity will be relatively high. There are some expansive views from this area. The large amounts of vegetation in the background effectively screen the proposed development.</p>
Visual Impact	<p>There will be no change to the visual amenity at this location, therefore this will result in no visual impact.</p>



Existing View



Simulated View

view 07

Viewing Location	North-west of site, adjacent to St Andrews Boulevard, Casula
Visual Adaptation	
Approximate Viewing Distance	1,000m to site boundary (approx.)
Prominence of the Development	<p>This view location adjacent to St Andrews Boulevard is looking toward the proposed SIMTA development site. There is a highly vegetated area obscuring any direct view of the site.</p> <p>The proposed development will not be visible from this location.</p> <p>The Southern Sydney Freight Line in the foreground runs within close proximity to Georges River and is the more prominent built feature in this view corridor.</p> <p>The entire development will be screened by the large amounts of existing vegetation in the background.</p>
Landscape Compatibility	In the foreground is a railway line with its associated power lines above. Directly beyond is Georges River. On the other side of the Georges River is a large expanse of industrial and infrastructure zoned land that is currently heavily vegetated. This vegetation completely screens the proposed development.
Visual Sensitivity	<p>The visual sensitivity in this location will be low to moderate.</p> <p>The view location is from a residential zoned area. Although the railway line in the foreground lowers the visual sensitivity.</p>
Visual Impact	The development will not be visible from this location. Therefore there will be no visual impact.



Existing View



Simulated View

view 08

Viewing Location	North-West of site, Westchester Avenue, Casula
Visual Adaptation	
Approximate Viewing Distance	1,300m to site boundary (approx.)
Prominence of the Development	<p>This view location is located along the lower point of Westchester Avenue looking up at a crest (approx. 50m) toward the site.</p> <p>The proposed development will not be visible from this location.</p> <p>Due to the lay of the land (the road slopes up to a crest) nothing beyond 100m (approx.) is visible.</p> <p>The view corridor includes a street lined with high trees and one and two storey residential dwellings.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises of residential dwellings with mature vegetation of varying scale lining either side of the street.</p> <p>The proposed development is not compatible with the existing landscape as there is no industrial related elements which appear in this view corridor.</p>
Visual Sensitivity	<p>Being a residential area the visual sensitivity will be relatively high. Most of the views from this area will be of a limited depth, and due to the lay of the land the proposed development will not be visible. Therefore the visual amenity will be unchanged.</p>
Visual Impact	<p>There will be no change to the visual amenity at this location; therefore this will result in no visual impact.</p>



Existing View



Simulated View

view 09

Viewing Location	North-west of site, Phoenix Crescent, Casula
Visual Adaptation	
Approximate Viewing Distance	1,400m to site boundary (approx.)
Prominence of the Development	<p>This view location is taken looking South-East down Phoenix Crescent approximately 400m to the street end. There is no indication that the proposed development will be at all visible from this location.</p> <p>Existing industrial buildings situated within reasonable proximity to the site are marginally visible within this view corridor.</p> <p>The streetscape is lined with large scaled vegetation and one and two storey residential dwellings which would obscure any view toward the SIMTA site.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises of residential dwellings. The road is highly vegetated on either side.</p> <p>In the background is some heavy vegetation and some glimpses of existing buildings on industrial zoned land which is directly adjacent to the proposed development.</p> <p>The proposed development will not be compatible with this location.</p>
Visual Sensitivity	<p>Although this is a residential area, the visual sensitivity will be moderate. Most of the views from this area currently see glimpses of existing industrial facilities on the site adjacent to the proposed development. This lowers the visual sensitivity from this location. The residential dwellings in the foreground and the vegetation and existing buildings in the background completely screen the proposed development. Therefore the visual amenity will be unchanged.</p>
Visual Impact	There will be no change to the visual amenity at this location, therefore this will result in no visual impact.



Existing View



Simulated View

view 10

Viewing Location	North-West of site, Corner of Congressional Drive and Lakewood Crescent, Casula
Visual Adaptation	
Approximate Viewing Distance	1,400m to site boundary (approx.)
Prominence of the Development	<p>The proposed development will not be visible from this location.</p> <p>The entire development will be screened by the residential dwellings in the foreground, and the industrial facilities in the background.</p>
Landscape Compatibility	<p>The existing landscape in the immediate area is residential. Beyond this is the M5 Motorway. In the background are existing large industrial facilities that are highly visible from this viewpoint. Further industrial elements in this landscape would potentially detract from its amenity but would not be entirely incompatible.</p>
Visual Sensitivity	<p>Although this is a residential area, the visual sensitivity will be moderate. Most of the views from this area currently include the industrial facilities on the site adjacent to the proposed development. This lowers the visual sensitivity from this location.</p> <p>The residential dwellings in the foreground and the industrial facilities in the background completely screen the proposed development. Therefore the visual amenity will be unchanged.</p>
Visual Impact	<p>There will be no change to the visual amenity at this location, therefore this will result in no visual impact.</p>



Existing View



Simulated View

view 11

Viewing Location	North of site, Adjacent to Greenhills Avenue, Moorebank
Visual Adaptation	
Approximate Viewing Distance	1,400m to site boundary (approx.)
Prominence of the Development	<p>The proposed development will not be visible from this location.</p> <p>The entire development will be screened by the carpark in the foreground, and the large amounts of vegetation in the background.</p>
Landscape Compatibility	<p>The foreground consists of a carpark for an industrial facility. The surrounding area is zoned for industrial uses and is surrounded by large industrial facilities. Directly beyond the industrial facilities is the M5 Motorway. Along both sides of the motorway there are large trees which partially screen the industrial buildings beyond.</p> <p>The proposed development is further beyond these industrial buildings.</p> <p>The addition of new industrial elements to this landscape would be very compatible with this landscape.</p>
Visual Sensitivity	<p>The industrial land-use suggests a low visual sensitivity in this location.</p> <p>The proposed development will not be visible from this location, hence the visual amenity will be unchanged.</p>
Visual Impact	There will be no change to the visual amenity at this location, therefore this will result in no visual impact.



Existing View



Simulated View

view 12

Viewing Location	North-East of site, Wombeyan Court
Visual Adaptation	
Approximate Viewing Distance	1,000m to site boundary (approx.)
Prominence of the Development	<p>The proposed development will not be visible from this location.</p> <p>The entire development will be screened by the existing vegetation and the residential dwellings.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises of residential dwellings. There are trees in the foreground as well as large trees behind the residential dwellings.</p> <p>The addition of the proposed industrial facility is not compatible with this area. The proposed development is not visible from this location therefore there would be no impact to the existing landscape amenity.</p>
Visual Sensitivity	<p>Being a residential area the visual sensitivity will be relatively high.</p> <p>Most of the views from this area will be of a limited depth, and the residential dwellings and vegetation completely screen the proposed development. Therefore the visual amenity will be unchanged.</p>
Visual Impact	There will be no change to the visual amenity at this location, therefore this will result in no visual impact.



Existing View



Simulated View

view 13

Viewing Location	North-East of site, Corner of Bundara Court and Warrego Court
Visual Adaptation	
Approximate Viewing Distance	1,200m to site boundary (approx.)
Prominence of the Development	<p>The proposed development will not be visible from this location.</p> <p>The entire development will be screened by the existing vegetation and the residential dwellings.</p>
Landscape Compatibility	<p>The existing landscape from this location comprises of residential dwellings. There are trees in the foreground as well as large trees behind the residential dwellings.</p> <p>The addition of the proposed industrial facility is not compatible with this area. The proposed development is not visible from this location therefore there would be no impact to the existing landscape amenity.</p>
Visual Sensitivity	<p>Being a residential area the visual sensitivity will be relatively high.</p> <p>Most of the views from this area will be of a limited depth, and both residential dwellings and vegetation would completely screen the proposed development. Therefore the visual amenity will be unchanged.</p>
Visual Impact	There will be no change to the visual amenity at this location, therefore this will result in no visual impact.



Existing View



Simulated View

view 14

Viewing Location	North of site, Corner of Yulong Close and Anzac Road
Visual Adaptation	
Approximate Viewing Distance	500m to site boundary (approx.)
Prominence of the Development	<p>There is a relatively unobstructed view from the corner of Anzac Rd and Yulong Close to the northern half of the proposed development.</p> <p>The warehousing and distribution facilities will be highly prominent but will not alter the existing visual amenity which has heavy industrialised elements within it.</p> <p>There may be intermittent views of automated gantry cranes servicing the proposed intermodal terminal as these may move in and out of sight lines at this viewing location.</p>
Landscape Compatibility	<p>The addition of any new industrial development within this viewpoint will have little to no impact on the existing landscape amenity. There is little existing vegetation and the existing industrial elements sitting within the boundary of the proposed development are highly visible.</p> <p>It is proposed that there will be an extensive landscape treatment and buffer zone along the northern boundary which will help reduce any change to the existing landscape amenity and prominence of the development.</p>
Visual Sensitivity	<p>The industrial land-use at this location creates a low visual sensitivity (Moorebank Southern Industrial precinct).</p> <p>Most views from within this area looking south towards the proposed development will be from existing industrial areas or from commuters travelling along Anzac Road.</p>
Visual Impact	<p>The proposed development would be highly prominent at this location from Anzac Road looking South onto the site.</p> <p>There is little to no visual sensitivity from this viewpoint as the viewpoint is within an already established industrial zone. Therefore there will be a low visual impact from this viewpoint.</p>