

Urban Design and Landscape Report



SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

Transitional Part 3A Concept Application

JUNE 2013

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contents

executive summary	5
01 introduction	
01.1 Background	7
01.2 Purpose and Aims of Design Principles	8
01.3 Development Vision	9
02 existing site character	
02.1 Context and Scale	10
02.2 Topography and Landform	14
02.3 Existing Land Use and Site Character	16
02.4 Vegetation and Biodiversity	18
02.5 Access and Permeability	20
02.6 View Corridors	22
03 development concept	
03.1 Concept Overview	24
03.2 Access Strategy	26
03.3 Staging	28
04 urban design principles	
04.1 Vision	30
04.2 Landscape	32
04.3 Streetscape	35
04.4 Road Network and Hierarchy	36
04.5 Building Siting and Setbacks	41
04.6 Building Heights	42
04.7 Car Parking	42
04.8 View Corridors	44
04.9 Signage and Lighting	46
04.10 Safety and Security	47
04.11 Water Sensitive Urban Design	48
05 building & estate design principles	
05.1 Building Design	50
05.2 Building Materials and Colours	52
05.3 Typical Distribution Warehouse	54
05.4 Typical Cross-Dock Warehouse	56
05.5 Freight Village	58
06 open space & public domain	
06.1 Vision	60
06.2 Indicative Perspectives	62
appendix A	
Landscape Report (Hassell)	65

figures

Figure 1: SIMTA Indicative Precinct and Land Use Plan	6
Figure 2: Local Context Plan	12
Figure 3: SIMTA Site Scale	13
Figure 4: Topography and Landform	15
Figure 5: Existing Land Use and Site Character	17
Figure 6: Vegetation and Biodiversity	19
Figure 7: Existing Site Access and Permeability	21
Figure 8: Existing View Corridors	23
Figure 9: SIMTA Proposed Access Strategy	27
Figure 10: Indicative Staging Plan	29
Figure 11: Proposed Landscape Structure Plan	33
Figure 12: Road Network 1: Moorebank Avenue Frontage	37
Figure 13: Road Network 2: Estate Road	38
Figure 14: Road Network 3: Internal Road 1	39
Figure 15: Road Network 4: Internal Road 2	40
Figure 16: Proposed Building Heights	43
Figure 17: View Corridors	45
Figure 18: Water Sensitive Urban Design Principles	49
Figure 19: Building Materials and Colours	53
Figure 20: Typical Distribution Warehouse	55
Figure 21: Typical Cross Dock Warehouse	57
Figure 22: Indicative Freight Village Concept	59
Figure 23: Urban Elements	61

executive summary

Reid Campbell were appointed by SIMTA to develop an Urban Design & Landscape Report for 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 following items:

- **General Requirements:** project components, operations and design elements
- **Key Issues:** Visual and Urban Design including a design analysis and justification of the key built form elements of the proposal

The Urban Design and Landscape Report aims to establish a set of indicative design parameters to outline the objectives, performance benchmarks and minimum standards for the future development of the site.

The broad vision for the SIMTA project is to create a high quality Intermodal Terminal Facility with associated warehousing, distribution and support facilities, taking advantage of the sites strategic position and its unique qualities.

The proposal will integrate into surrounding land uses and existing developments through use of considered structures, the existing landform and vegetation to create a facility that is not only a vital infrastructure link, but is also an employment generating, functional and environmentally sustainable amenity that serves the broader community.

Although a detailed site layout plan is yet to be developed, the SIMTA Site Precinct Plan (Figure 1) and the Urban Design Principles outlined in this document aim to ensure a high urban quality whilst maintaining flexibility to accommodate the varying needs of tenants and future market demand as the project evolves. Whilst compliance with controls contained within Local Environment Plans and Development Control Plans is not necessary for development approval to be granted under Part3A of the EP&A Act, we make the general note that the design and planning principles proposed in this report to be applied to the built form are consistent with the current Liverpool Development Control Plan (DCP) 2008.

The SIMTA proposal will be a showcase of industrial architecture and logistics design coupled with leading technology and sustainable initiatives. The built form across the SIMTA site will be accentuated and unified by high quality urban and streetscape elements set around a considered and consistent framework of appropriately proportioned buildings, public domain and extensive landscaping.

The SIMTA proposal will, where possible, incorporate best practice environmentally sustainable design initiatives, including water sensitive urban design, water storage and re-use, native flora and fauna habitat, as well as a range of passive and active measures employed in the design of buildings and logistics operations. Supporting reports to the SIMTA Concept Plan application detail sustainability principles proposed to be employed.

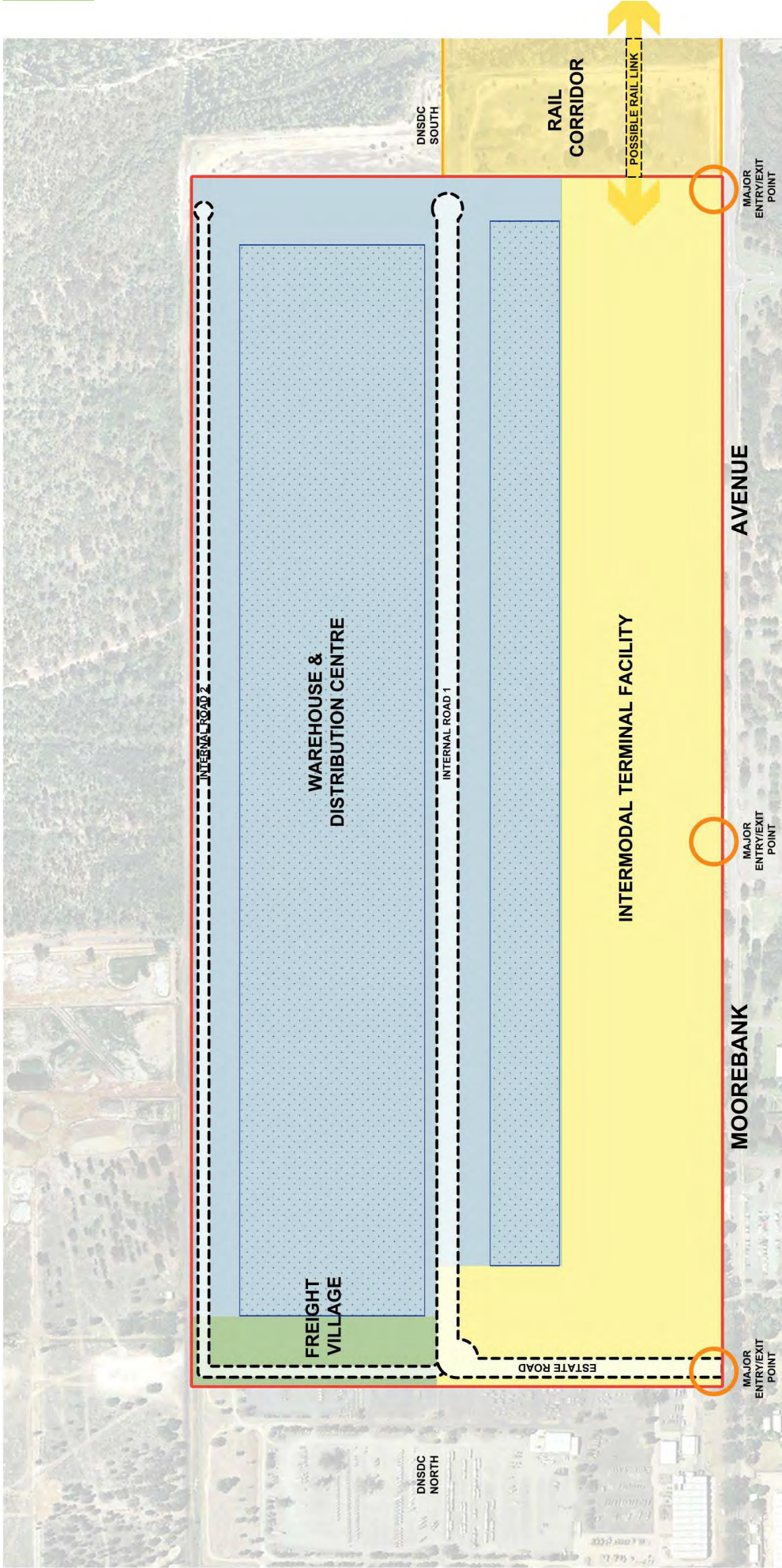


Figure 1 - SIMTA Indicative Precinct and Land Use Plan

01 introduction

01.1 background

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 (see Figure 1):

- **Rail Corridor:** the Concept Plan includes a rail corridor and 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, as such it has been excluded from this report.
- **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.

This Urban Design and Landscape report has been developed to provide a comprehensive built form and landscape analysis of the proposed SIMTA development and to recommend treatments as key components of a strategy plan for the staged development on the site. Whilst compliance with controls contained within Local Environment Plans and Development Control Plans is not necessary for development approval to be granted under Part3A of the EP&A Act, we make the general note that the design and planning principles proposed in this report to be applied to the built form are consistent with the current Liverpool Development Control Plan (DCP) 2008.

The strategy has been structured to assess the existing character of the site, mitigation or enhancement of visual impacts and to maximise the function and visual character of the project.

The core principles guiding the development of the SIMTA Intermodal Terminal Facility are to create:

- a high standard, efficient and sustainable logistics and distribution environment;
- a flexible planning approach to built form and development with efficient traffic and pedestrian movements; and
- a long term focus on expandable scale of built form and operations whilst retaining a strong urban form.

01.2 purpose and aims of design principles

The Urban Design and Landscape Report, in conjunction with other associated documents in the Concept Plan application, aim to provide a set of indicative development design principles to outline the objectives, performance benchmarks and minimum standards for future development of the SIMTA site.

The purpose of the design principles described in this document are to:

- Facilitate an economic and orderly development scenario of the SIMTA site for the purpose of employment generating development, whilst maintaining future flexibility to provide high standards of urban and structural design across each of the integral development components including an Intermodal Terminal, Warehouse and Distribution Facilities, and supporting administration and on-site amenity ('Freight Village');
- Ensure a positive visual, environmental and long term management relationship with adjoining lands and existing developments;
- Ensure high standards and principles of Ecologically/ Environmentally Sustainable Design are integrated into all stages of the development where possible;
- Ensure Water Sensitive Urban Design principles are integrated into the built form and landscape elements of the development;
- Provide a framework that ensures high standards of built form and landscape design are maintained to allow for adequate amenity and interface with public domain areas as the development evolves;
- Provide an efficient, safe and secure internal traffic network between the key development components and appropriate connections to arterial roads;
- Incorporate public transport and pedestrian connectivity both internal and external to the SIMTA site;
- Promote a high standard of water management, including on-site collection and re-use of stormwater and recycled water; and
- Ensure the development of a world class intermodal facility that, where possible, utilises the latest and most sustainable technologies and infrastructure, whilst addressing the future needs of the local area, and greater Sydney's future supply chain demand objectives.

01.3 development vision

The vision for the SIMTA proposal is intended to shape the planning, design and management of the future development, including all components of the Intermodal Terminal Facility described in section 01.1.

The broad vision of the SIMTA proposal is to:

- Develop an Intermodal Terminal Facility that is a vital infrastructure component for Sydney's future economic and productivity growth;
- Develop a Rail Link to achieve infrastructure connectivity between the proposed Intermodal Terminal Facility and the existing Southern Sydney Freight Line (SSFL) through the creation of a well considered and appropriate design within the Rail Corridor zone;
- Develop a high quality employment zone through the urban renewal of a site that has been historically used for similar purposes for warehousing and logistics, incorporating best practice design and environmental measures, and which has a strong integration with surrounding lands and existing development;
- Develop employment generating uses in a way that represents the best development outcome for the site;
- Develop the proposed facilities on the site in a way that creates the most appropriate interface with adjacent industry and the local community;
- Provide a high quality built environment that will attract reputable businesses and high job creation industries;
- Offer a diverse and flexible range of built form and facility solutions to accommodate a unique and dynamic market;
- Create an employment area within a landscape setting that integrates with adjacent naturally vegetated areas that also has a strong urban character and sense of place;
- Integrate the proposed development with existing local industrial areas and other land uses and encourage visual and access links;
- Manage water cycle impact, flood/fill impact and incorporate Water Sensitive Urban Design principles and practices where possible;
- Incorporate best practice environmental planning and design, particularly techniques for conserving the consumption of energy and water in all buildings, ancillary facilities and operating structures, including the control and/or mitigation of noise and emissions;
- Provide public domain and vegetation/ drainage corridors that are interconnected with a high level of well-lit pedestrian and cycle access routes;
- Provides a high level of safety and security to the development as well as the community populating surrounding lands;
- Create a well connected and legible street network;
- Incorporate quality development where businesses enjoy high levels of accessibility and are supported by an attractive public domain and amenity that is both pedestrian friendly and efficient; and
- Encourage the provision of transport links.

02 existing site character

02.1 context and scale

The SIMTA site is approximately 2.5 kilometres to the south of Liverpool City Centre. The site is also located near a number of significant industrial areas, including Moorebank (Yulong and Amiens) and Warwick Farm to the north, Chipping Norton to the north-east, Prestons to the west and Glenfield and Ingleburn to the south-west. The Holsworthy Military Reserve is located to the south on the opposite side of East Hills Passenger Line.

Nearby residential areas include Wattle Grove, Moorebank, Holsworthy and Casula, which are located to the east and north-east. Wattle Grove is within the closest proximity, located approximately 450 metres east of the SIMTA site, while the Casula residential areas is approximately 1km west of the SIMTA site and approximately 400m west of the rail corridor land.

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

The Moorebank Industrial Area is north of the subject site, with the majority situated to the north of the M5 Motorway between Newbridge Road, the Georges River and Anzac Creek. This industrial area comprises approximately 200ha, and supports a range of industrial uses including freight and logistics, heavy and light manufacturing office and business park developments.

The closest passenger railway stations are Casula (approximately 1 kilometre to the west) and Liverpool (approximately 2.7 kilometres to the north). Casula railway station is separated from the SIMTA site by the Georges River and the Department of Defence School of Military Engineering site, and is currently undergoing upgrades as part of the SSFL construction works. Casula railway station is situated on the South and Cumberland railway lines.

To the south of the SIMTA site is an area of land owned by the Commonwealth known as DNSDC South. It is through this land and part of the adjacent School of Military Engineering site to the west that the proposed Rail Corridor site is to accommodate the Rail Link which will connect the Intermodal Terminal to the SSFL.

Other dominant surrounding land uses include the defence land uses which include:

- The School of Military Engineering, on the western side of Moorebank Avenue directly adjacent to the SIMTA Site which is proposed to be relocated.
- The Holsworthy Military Reserve, to the south of the site on the southern side of the East Hills Passenger Railway Line.

- The Commonwealth Residual Land, to the east between the SIMTA site and the Wattle Grove residential area. This land is relatively undeveloped and vegetated, and is the proposed location for the new DNSDC facilities as part of the Defence Logistics Transformation Project (DLTP).
- The Glenfield Waste Disposal facility, being a triangular portion of land to the west of the SIMTA site, bound by the Georges River to the east, the East Hills Passenger Railway Line to the south, and the South and Cumberland Railway Lines to the west. The Glenfield Waste Disposal facility currently falls within the area of land noted as the Rail Corridor to provide a Rail Link between the Intermodal Terminal and the Southern Sydney Freight Line.

Liverpool railway station is separated from the SIMTA site by the M5 Motorway to the north and the Georges River to the west. This interchange station services the South, Cumberland, Bankstown and Inner West railway lines.

The East Hills railway line is to the south of the SIMTA site and also forms the boundary to the proposed Rail Corridor zone. It crosses the Georges River to the south-west and runs through the Glenfield Waste Disposal site before connecting into the South and Cumberland railway line corridor.

The Georges River runs along the western boundary of the School of Military Engineering. Anzac Creek runs along the eastern boundary of the Commonwealth of Australia Land, linking to Chipping Norton Lake and the Georges River to the north (see Figure 2).

The SIMTA site is rectangular in shape with a frontage of approximately 1,382m to Moorebank Avenue, and access to the Southern extension of Greenhills Road, which is an unformed gazetted Crown Road on the site Eastern boundary. The site scale is approximately 0.6 km East/West x 1.38 km North/South (see Figure 3)

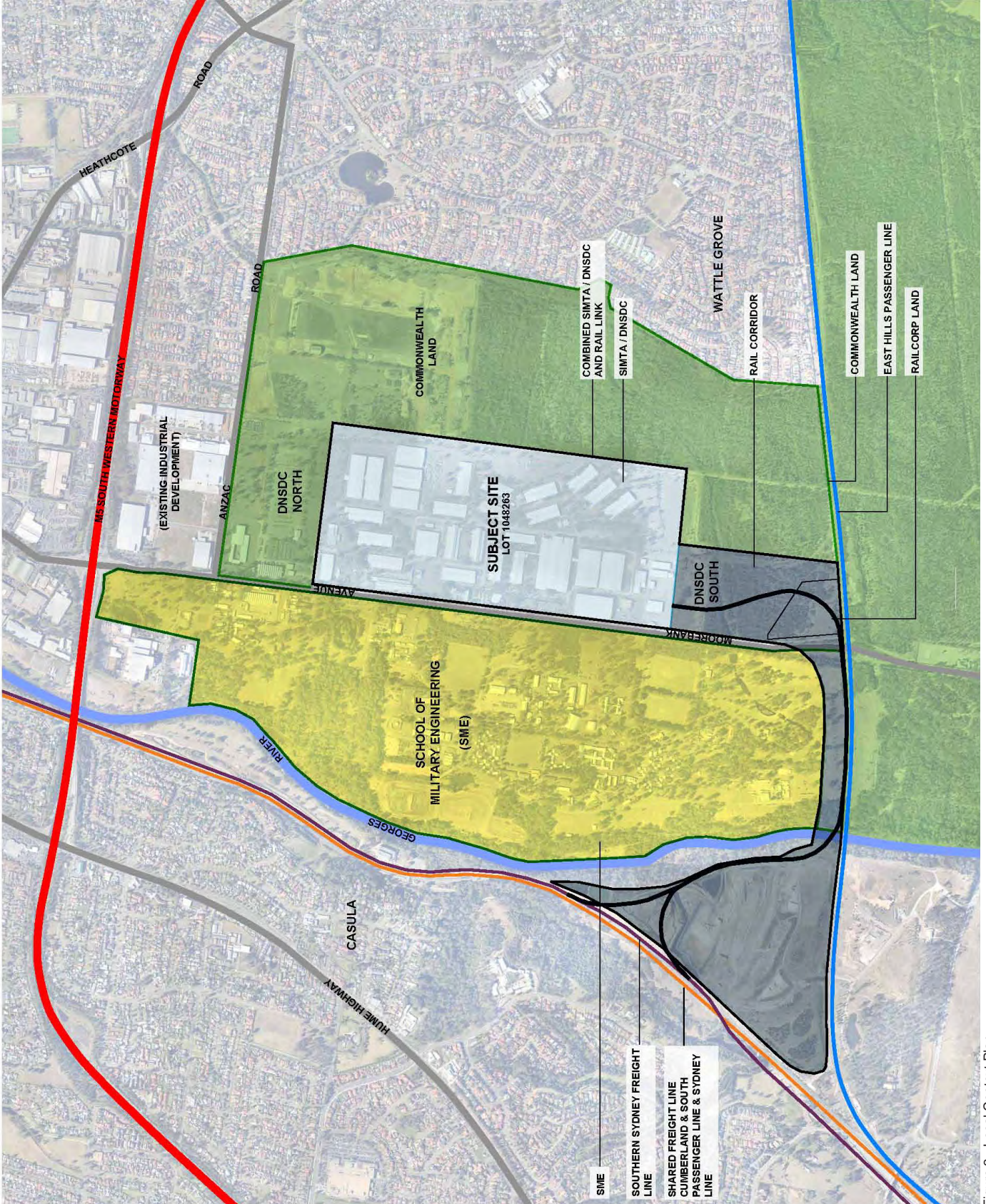
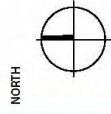
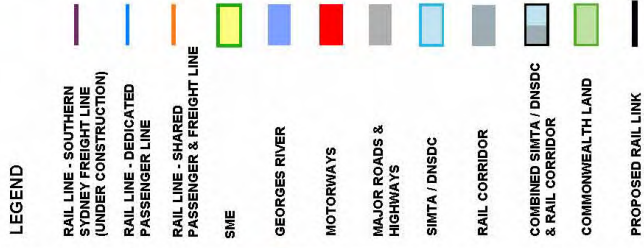


Figure 2 - Local Context Plan

- LEGEND
- RAIL LINE - SOUTHERN SYDNEY FREIGHT LINE (UNDER CONSTRUCTION)
 - RAIL LINE - DEDICATED PASSENGER LINE
 - RAIL LINE - SHARED PASSENGER & FREIGHT LINE
 - GEORGES RIVER
 - MOTORWAYS
 - MAJOR ROADS & HIGHWAYS
 - RAIL CORRIDOR
 - SIMTA SITE BOUNDARY
 - PROPOSED RAIL LINK

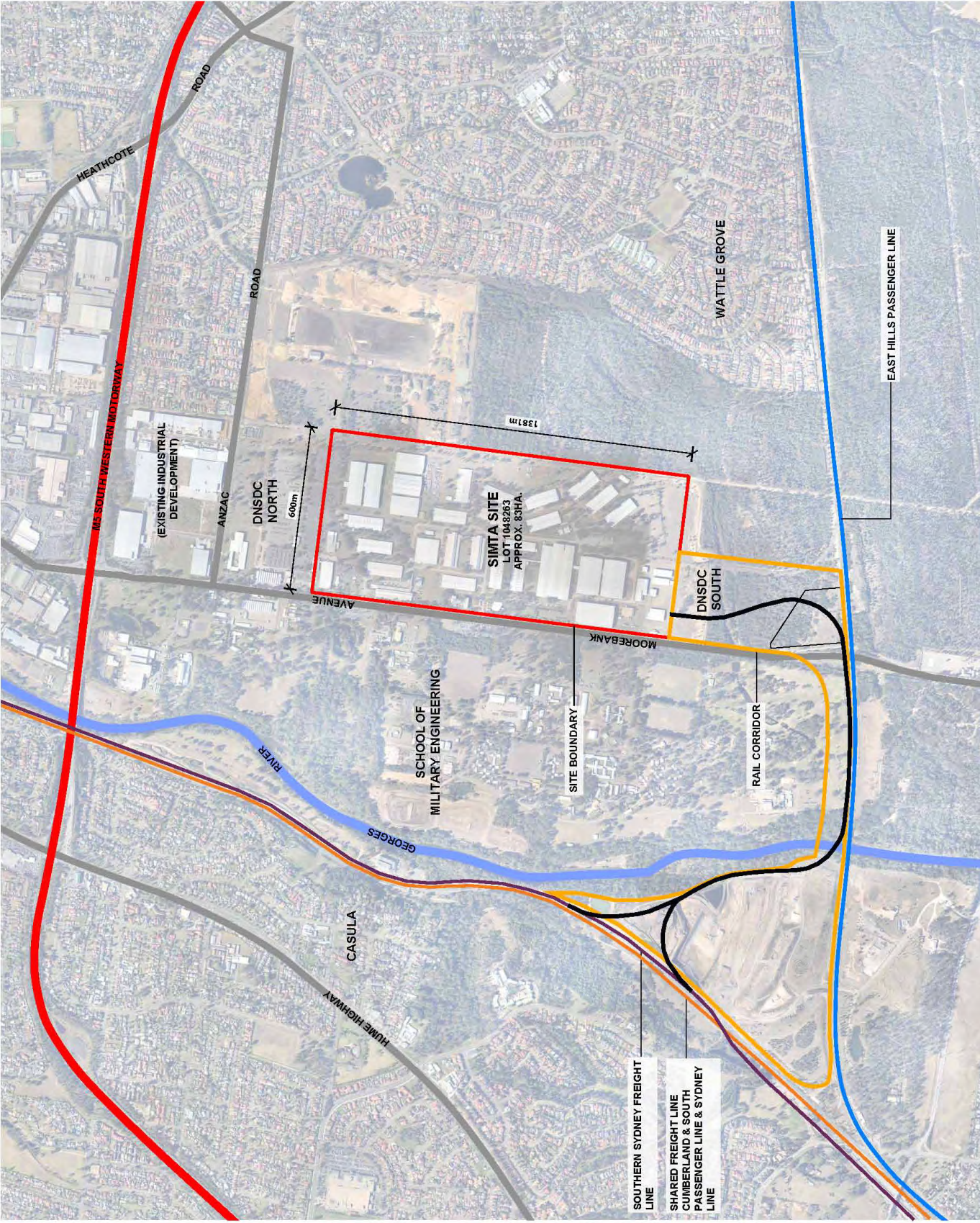
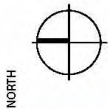


Figure 3 - SIMTA Site Scale

02.2 topography and landform

The SIMTA site topography can be described as being generally flat, including the areas currently leased and operated by the Department of Defence as part of the Defence National Storage and Distribution Centre (DNSDC).

The site has been subjected to substantial development over the years, and considerable changes have been made to the natural landscape. Consequently the SIMTA site is a mixture of residual soils and filled materials, with undisturbed areas retaining some residual topsoil.

Along the Moorebank Avenue frontage the topography varies from RL 14m to 16m. There is a low hill at the middle of the Eastern portion of the site along the Greenhills Road frontage (unformed gazetted Crown Road), where the land rises from approximately RL 14m at each end to a localised peak of RL 22m approximately midway along the length (see Figure 4).

The most prominent natural features in close proximity to the site include Anzac Creek external to the Southern Boundary, and a portion of bushland external to the Southern and Eastern site boundaries.

There is an existing stormwater discharge point on Moorebank Avenue, and another two discharge points on the Eastern site boundary.

The rail corridor is located to the south and south-west of the SIMTA site and is within the catchment of Anzac Creek, a small tributary of the Georges River. The proposed rail link to the SIMTA site potentially joining the existing Southern Sydney Freight Line (SSFL) to the SIMTA site will need to cross both Anzac Creek and Georges River.

The riparian setback for Anzac Creek, as specified by the NSW Office of Water (NOW) is 30 metres. The riparian corridor for the Georges River is yet to be determined with NOW, however, based on the NOW guidelines the recommended setback is likely to be between 30- 50 metres. This is further detailed in the Riparian Assessment by Hyder Consulting Engineers forming part of this application.



Figure 4 - Topography and Landform

02.3 existing land use and site character

The site is currently occupied by the Department of Defence and is commonly known as the Defence National Storage and Distribution Centre site (DNSDC).

Current operational activities on the site can be generally described to include warehousing and logistics operations, vehicle and equipment hardstand, as well as some container storage serviced by an internal road network.

Existing improvements comprise approximately 66 low-rise buildings with a total floor area of approximately 238,000sqm, including warehouses and administrative offices.

A single access point services the site from Moorebank Avenue, however there are a number of operational points along the Moorebank Avenue frontage which are opened for specific tasks.

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 (see Figure 5).

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).

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 line 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; and
- 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.

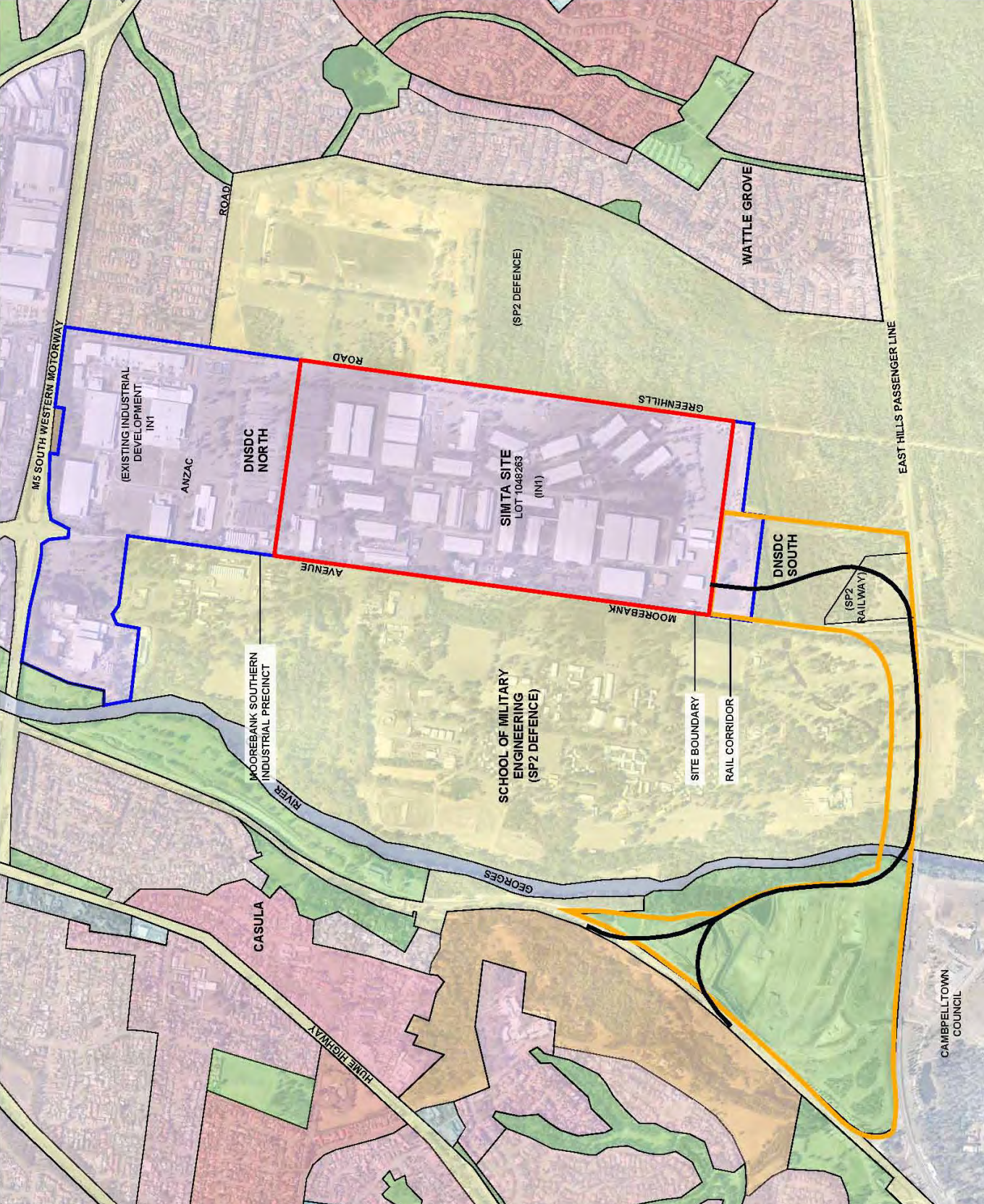
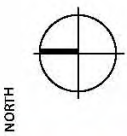
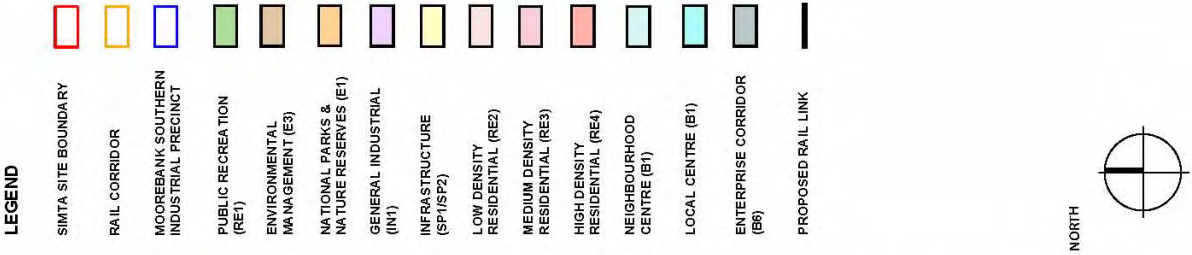


Figure 5 - Existing Land Use and Site Character

02.4 vegetation and biodiversity

In its undeveloped state circa 1930, the SIMTA site appeared to be vegetated with a mosaic of low vegetation types, possibly including woodland and dense healthy shrubland, with some clearing in the east and numerous tracks intersecting the site and lands to the east and south.

Due to its industrial history, almost all the natural vegetation has been largely cleared from the SIMTA site with the exception of what appears to be an increase in growth of trees and shrubs in the south of the site, particularly along the constructed drainage channels and adjoining areas to the south and west (see Figure 6).

The flora and fauna assessment carried out as part of this Concept Plan Application has identified that the SIMTA site is considered to be of limited conservation significance and ecological impacts within the site are likely to be low.

This Urban Design and Landscape Report has been produced with regard to proposed new development on the SIMTA site and, as such does not comment on the proposed Rail Corridor area and Rail Link which is described in detail in the accompanying Flora and Fauna report, and *Technical Note 6 - Strategic Rail Capacity Analysis* produced by Hyder Consulting Engineers.



Figure 6 - Vegetation and Biodiversity

02.5 access and permeability

A single access point services the site from Moorebank Avenue, however there are a number of operational points along the Moorebank Avenue frontage which are opened for specific tasks (see Figure 7).

These access points lead to an internal road network which connects the existing DNSDC facilities and hardstand on site and is principally asphalted.

Access at each entry is via secure gatehouse/checkpoint and the site has a perimeter security fence forming an impermeable barrier to all vehicular and pedestrian access not holding necessary security clearance credentials.

There is no access to the site via Greenhills Road which is an unformed gazetted Crown Road Reserve.

There is an existing disused railway line entering the SIMTA site at the Southern boundary however this has been de-commissioned and is not a viable access point and is contained by the perimeter security fence.



02.6 view corridors

There are a number of existing view corridors looking toward the SIMTA site currently occupied by the Department of Defence as the Defence National Storage and Distribution Centre (DNSDC) (see Figure 8).

The prominence of these views are strongest passing along the direct frontage at Moorebank Avenue, and to some extent from further distances where there is currently minimal visual impairment across cleared or unobstructed land.

Views from further surrounding residential areas generally have minimal or no views due to the significant viewing distance, undulated topography and landform, or shielding by other existing structures and vegetation.

A detailed analysis of the potential visual impacts of the SIMTA proposal is included in this application and provides a further and more extensive analysis of views from around the site.

Due to secure and confidential nature of activities on the site, existing internal view corridors are not able to be addressed, however this is not considered materially relevant to the proposal.

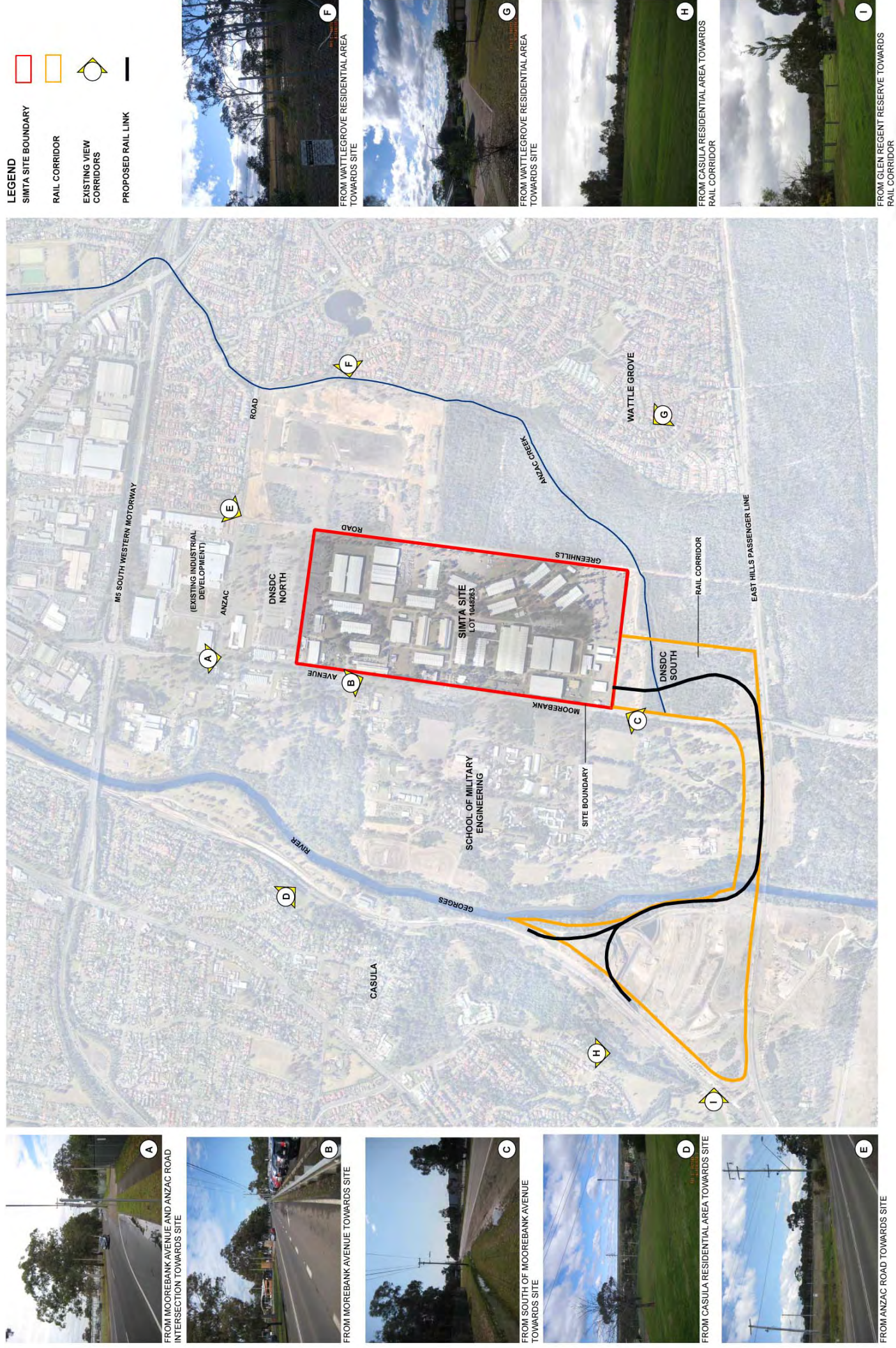


Figure 8 - Existing View Corridors

03 development concept

03.1 concept overview

The SIMTA proposal involves the redevelopment of the DNSDC site, with most of the existing structures being demolished or relocated.

Although a detailed site layout plan is yet to be created, a Land Use Plan has been developed to prescribe the types of development that will be formed on the site.

A site precinct plan has been overlayed onto the Land Use plan to indicate a notional built form footprint for development within each Land Use zone, taking into consideration relevant sitings and setbacks for building typologies further described in this report (see Figure 1).

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 operating elements, which are described in Section 5 of this report:

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); and
- A control tower may be considered as part of the terminal to safely monitor activities (approximately 30m 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); and
- Diesel and LPG fuel storage tanks (steel construction).

Warehouse and Distribution Facilities: Approximately 300,000sqm of 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 warehouse 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.

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. It is anticipated that facilities within the Freight Village will comprise of approximately 8,000sqm of built area.

Open Space and Public Domain: High quality public open spaces and public domain areas will be provided in and around prominent internal developments on the site.

Rail Link: Fundamental to the operation of the SIMTA Moorebank Intermodal Terminal Facility is a rail connection to the SSFL. It is anticipated that the Rail Link will be approximately 20m wide (variable width) running through the rail corridor, however 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. As such, the Rail Link does not form part of the Urban Design and Landscape Report.

These primary built form and operating zones will be integrated together in a cohesive manner by addressing the following supporting urban issues:

Accessibility: Well defined roadways and pathways for vehicles, pedestrians and cyclists will be designed for safe and comfortable movement, whilst providing clear and legible internal connectivity.

Streetscape: Defined streetscape and urban elements will provide visual character, themeing and a sense of place throughout the development.

Landscaping: The landscape design will create a strong uniform identity throughout the development through the reinforcement and extension of the surrounding natural context and ecological qualities. It will create clear entry markers, enhance vistas, and reinforce the hierarchy of roads within the site.

Signage and Lighting: Signage and lighting will be utilised throughout the development to enhance the quality and experience of the occupants and users, particularly with regard to open space, public domain and general amenity. Signage will complement the design style and streetscape to create a unique identity and sense of place.

Safety and Security: Measures will be implemented to ensure a high level of safety and security at all times, to the development, its occupants, and the community populating surrounding lands.

03.2 access strategy

The SIMTA site has a frontage onto Moorebank Avenue. The eastern boundary abuts Greenhills Road, which is unformed in front of the site. Moorebank Avenue is owned by the Department of Defence and will provide the primary access points to and from the site (see Figure 9).

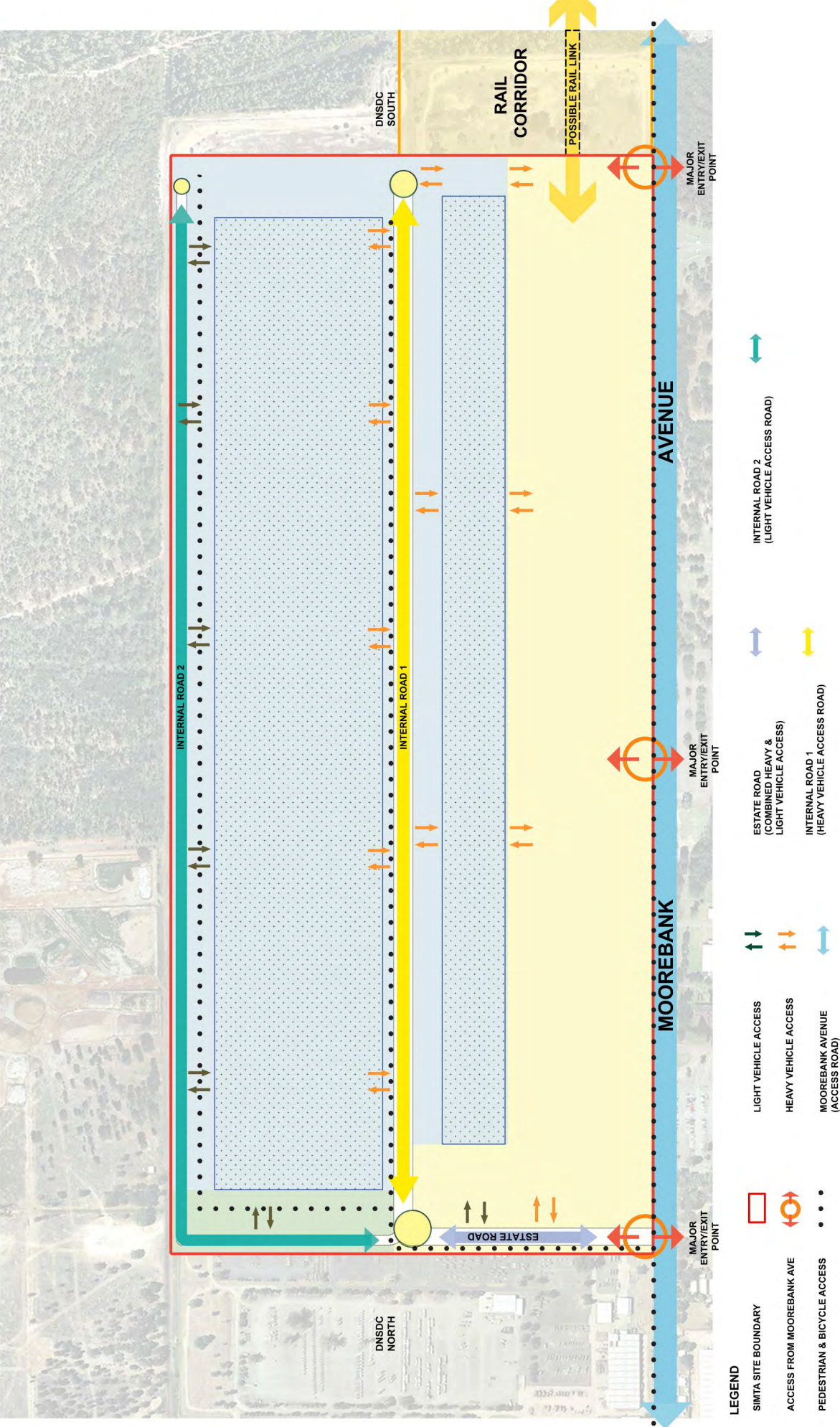
Moorebank Avenue consists of one through lane in each direction with auxiliary turning lanes at key intersections. There are signalised junctions at the two main access roads to the DNSDC facility. One of these junctions is located at the northern end of the site and the other is located approximately midway along the site.

Two signalised junctions are proposed to be maintained although the locations may be adjusted slightly to align with the access arrangements to be determined when a detailed site layout is considered following this application.

It is envisaged that the following access strategy will be proposed:

- The Northern access point on Moorebank Avenue will be the key site access. A new signal is proposed with full access permitting all movements;
- The Southern entrance off Moorebank Avenue will provide left turn entry for articulated vehicles collecting containers from the intermodal terminal zone. This access may also be used by Terminal operations staff to access an administration facility at the Southern end of the terminal zone if constructed in this location. Subject to further detailed planning of the site, this access point may also be proposed to be used as a major vehicle exit, or as a second access for emergency purposes;
- The existing central access point on Moorebank Avenue will be retained primarily during the initial proposed development stages. This access may also be used for residual DNSDC activity on the site if required. The existing signal will provide full access permitting all movements; and
- Access to buildings and facilities constructed in and around the SIMTA site will be via the internal road network described in detail in Section 4 of this report.

The main access points into the SIMTA site are proposed to comply with emergency services requirements.



03.3 staging

An indicative staging program for the SIMTA proposal is described in detail in the body of the Concept Plan application. However, the potential staging of the proposed development can be summarised as follows which will include the preparation of requisite Project Applications as and when required (see Figure 10):

Stage 1: works will comprise the construction of a rail link between the SIMTA site and the Southern Sydney Freight Line. In addition, hardstand will be established for container storage, as well as construction of a freight loading and circulation area. A control tower and maintenance shed may also be constructed.

In addition to the rail infrastructure, the Stage 1 may include construction of some warehousing, however the volume of the warehousing facilities delivered at Stage 1 will be dependent upon market demand. It is possible that some warehousing identified as Stage 2 warehousing may be brought forward to meet demand.

Stage 1 works will also include construction of ancillary support services including:

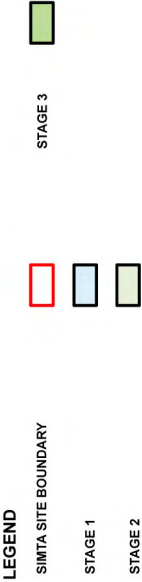
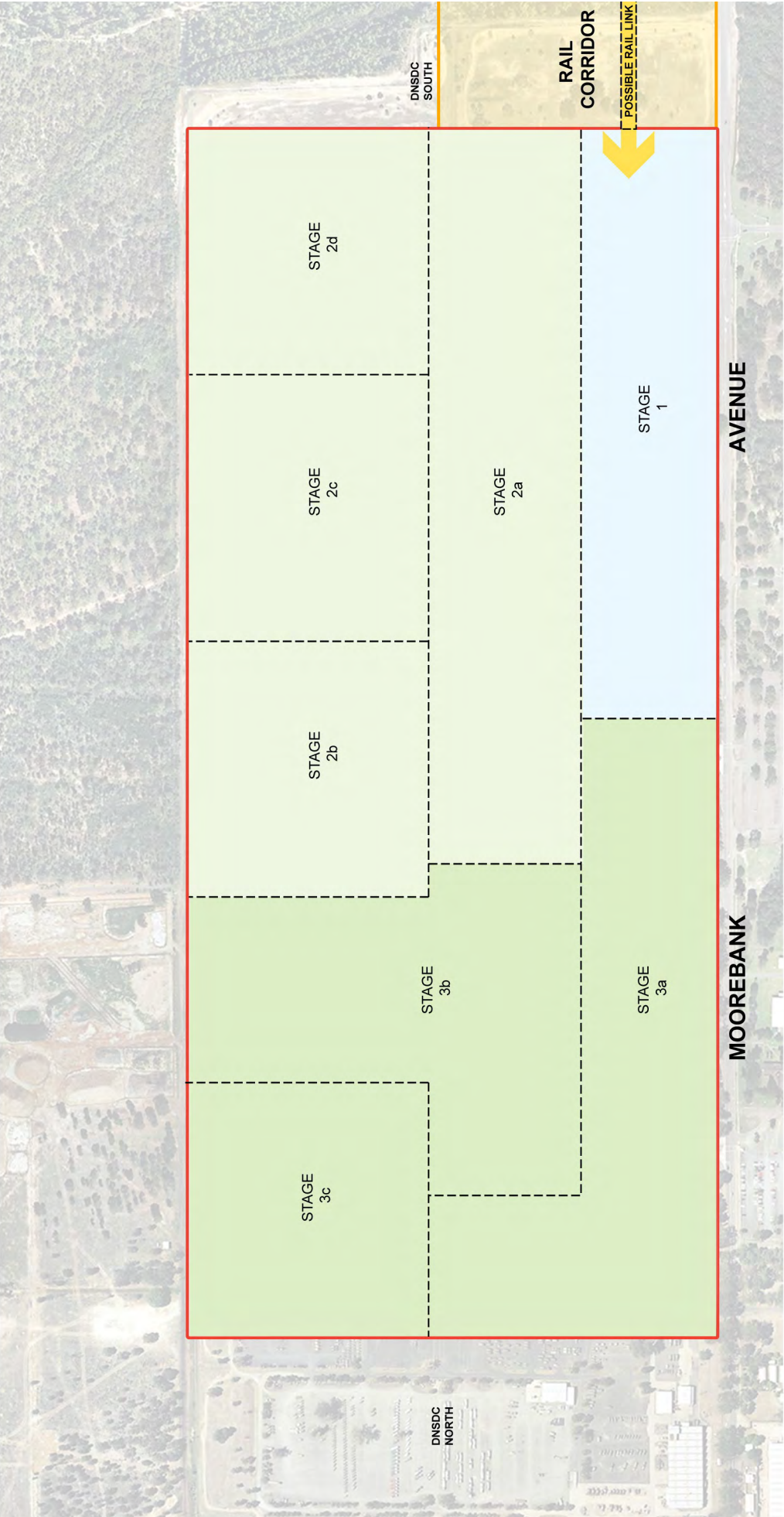
- On-site utility services including an on-site substation, and telecommunications;
- Loading docks;
- Circulation roads to support any warehousing facilities;
- Landscaping along Moorebank Avenue for the full length of the SIMTA frontage;
- Stormwater management systems; and
- Civil works to bench the warehousing floorplates.

Stage 2: works are anticipated to commence in response to market demand, and accordingly may be sub-staged. The Stage 2 works are likely to comprise the construction of the following warehousing and distribution facilities and ancillary support services:

- The central portion of the Intermodal Terminal Warehousing and Distribution Facilities;
- The south-eastern portion of the Large Format Warehousing and Distribution Facilities;
- Loading docks;
- Staff parking;
- Circulation roads to service the facilities;
- Landscaping treatments within the development areas;
- Stormwater management systems; and
- Civil works to bench the warehousing floorplates.

Stage 3: works are anticipated to comprise development of the balance of the SIMTA proposal. This is likely to include:

- Intermodal Terminal extension to 1,200 metres in length;
- Intermodal Terminal Warehouse and Distribution Facilities at the south and north of the site;
- Large Format Warehouse and Distribution Facilities in the north-east corner of the site;
- Ancillary Terminal Facilities referred to as the 'Freight Village' zone; and
- Construction of all remaining ancillary support services including to the site.



04 urban design principles

04.1 vision

The proposed SIMTA Intermodal Terminal Facility development will not only provide vital infrastructure and employment growth, it will be a premier business logistics centre, providing the Moorebank business area with a unique identity through urban renewal.

The revitalisation process will see the proposal become an integrated component within the existing landscape and becoming a significant feature in terms of local and community identity and connectivity to the greater Sydney and Liverpool areas.

The design for the site will aim to improve the existing landscape and be sensitive to existing environmental qualities. The urban design principles conveyed in this section are proposed to ensure that the unique aspects of the site and surrounding areas are reflected in the development design solution.

The character of the built form elements has evolved as a response to the site realities. Opportunities to include the sites history and engage with its impressive scale will create an urban language well suited to the ethos of efficiency and scale of the logistics and warehousing environment.

The urban design principles have been formed around a set of core values which can be summarised as:

Responsive: The design will be both responsive and sympathetic to the form, colours and textures of the natural and cultural character of the existing landscape. The SIMTA development will integrate with and improve the existing site character to form a high performance and quality development.

Community: The development will include a provision for suitable and sufficient amenity which may be accessible by both the occupants and the public. This improved local amenity will incorporate landscaping, open and public spaces, water sensitive urban design and environmental features, creating a 'sense of place' and conveying a feeling of community.

Considerate: Landscape and urban treatments will be considerate of the need to provide visual and acoustic shielding in the form of vegetation, landform and structures. A positive visual, environmental and management relationship with adjoining lands will be reinforced.

Connectivity: A suite of design instruments will connect the various SIMTA site precincts, including well defined landscaping, entry statements, newly constructed landforms and streetscape elements, signage, street furniture and other built elements.

Identity: The urban design and landscape form will express the character of the development and communicate a strong and unique identity that complements the surrounding land uses.

Adaptability: A high quality urban design standard will be adopted which is both adaptable and flexible in each key component, including the Intermodal Terminal, Warehouse and Distribution Facilities and the Freight Village to ensure longevity, maintained value and ability to suit the needs of future generations, for its stakeholders, occupants and the community.

Sustainability: Ecologically sustainable development principles will be incorporated into all facets of the proposal where practical and possible. Water sensitive urban design will be integrated into the built and landscaped elements of the development, and on-site collection and re-use of stormwater and recycled water will be considered.

Movement: The urban design will support an internal vehicular and pedestrian traffic network that will be both safe and efficient, and may incorporate an integrated public or on-site transport system as well as pedestrian and cycle connections throughout the development and to surrounding areas.

04.2 landscape

This landscape section of the Urban Design Principles has been provided by Hassell and should be read in conjunction with the detailed Landscape Design Report at Appendix A.

vision

The development seeks to recognise the natural attributes of the locality and looks to integrate and imitate these qualities into a strong design theme that is reinforced in every aspect of the developments open space areas, by way of:

- strong use of endemic species;
- consistent site wide tree canopy;
- native understorey plantings;
- low maintenance approach to the public domain;
- local material context to landscape surface treatment and finishes, and an; and
- underlying natural landscape character throughout the development.

Reinforcement and extension of the surrounding natural context and ecological qualities will ensure the creation of a high quality landscape that will add environmental and aesthetic value and provide an inherent identity to the development.

The development endeavours to visually and physically connect with the existing landscape and natural vegetation adjacent to the site, through complimentary use of key tree species and understorey screen plantings.

The development will draw upon the sites local assets and will:

- aim to create a distinctive and attractive natural environment;
- introduce a strong native planting theme appropriate to the local setting and existing vegetation;
- provide road verges for street tree plantings;
- provide an informal streetscape character by randomly planted groups of selected native tree species;
- consist of high quality robust landscape materials that complement the setting;
- utilise selected native plant material to accentuate and articulate selected spaces, entries and focal points;
- provide a strong and consistent texture and colour of materials and planting;
- preserve the natural and 'random' character of the existing landscape setting;
- encourage opportunity for engagement by the site users with the natural environment; and
- provide an aesthetically pleasing and safe environment for workers and visitors alike.