



Australian Government

BUILDING OUR FUTURE



M12 Motorway Environmental Impact Statement

Appendix H Socio-economic, land use
and property working paper

Roads and Maritime Services | October 2019



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Glossary of terms and abbreviations

Term	Meaning
ABS	Australian Bureau of Statistics
AF	Ancillary facility
BSAL	Biophysical Strategic Agricultural Land
CBD	Central business district
CEMP	Construction Environmental Management Plan
Cumulative impacts	Cumulative impacts are compounding environmental and community impacts caused by past, present or reasonably foreseeable future activities.
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings (from EP&A Act)
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
ERP	Estimated Resident Population
Growth Centres SEPP	State Environmental Planning Policy (Sydney Region Growth Centres) 2006
GSRP	Greater Sydney Region Plan – A Metropolis of Three Cities
Impact	Influence or effect exerted by a project or other activity on the natural, built and community environment
JAJV	Jacobs Arcadis Joint Venture
LEP	Local Environmental Plans
LGA	Local government area
LHD	Local Health District
LUIIP	Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan, Stage 1: Initial Precincts
NSW	New South Wales
the Parklands	Western Sydney Parklands
Roads and Maritime	Roads and Maritime Services
SA1	Statistical Area Level 1
SA2	Statistical Area Level 2
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas

Term	Meaning
TfNSW	Transport for New South Wales
Western Sydney Aerotropolis	Previously known as Western Sydney Airport Growth Area (WSAGA)
WSIP	Western Sydney Infrastructure Plan

Executive summary

Background

Roads and Maritime Services (Roads and Maritime) is seeking approval under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to construct and operate the M12 Motorway project to provide direct access between the Western Sydney Airport at Badgerys Creek and Sydney's motorway network (the project). The project has been determined to be a controlled action under Section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act) (EPBC 2018/8286) for significant impact to threatened species and communities (Section 18 and Section 18A of the EPBC Act). As such, the project requires assessment and approval from the Commonwealth Government.

The M12 Motorway would run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for a distance of about 16 kilometres and would be opened to traffic prior to opening of the Western Sydney Airport.

Purpose of this report

This report has been prepared to support the environmental impact statement (EIS) for the M12 Motorway project (the project). The EIS has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) for the project (SSI 9364) and to enable the Minister for Planning and Public Spaces to make a determination on whether the project can proceed. This report presents an assessment of the construction and operational activities for the project that have the potential to impact the socio-economic environment, land use and property.

Overview of potential impacts

The study area has undergone change in recent decades with increased urban development and establishment of urban uses such as urban residential areas towards the northern and eastern parts of the project and rural-residential estates at Mount Vernon, Kemps Creek and Luddenham. This has resulted in the loss of agricultural land and changes to the rural landscape. Changes to the rural landscape are expected to continue as a result of the development of Western Sydney Airport and the Western Sydney Aerotropolis, which will drive further growth in the development of urban uses in the study area and wider region over the coming years.

The project has been designed to minimise direct impact on land use through the siting of the project on land currently used for general rural and grazing uses, where possible. Rural and agricultural properties within or surrounding the project have been identified for future urban uses including commercial, residential, education and open space uses, and the early provision of a key road link with the project would support the orderly transition from existing rural and agricultural uses to future higher intensity urban uses.

The following socio-economic, land use and property impacts have the potential to occur as a result of the project:

- Property acquisition impacts:
 - During construction, temporary leases of land would be required to accommodate ancillary facilities and construction
 - Permanent acquisition of 41 properties
 - Demolition of nine dwellings located on rural and rural--residential properties to be acquired for the project
 - Permanent changes to some access roads, including realignment or closure of some local roads either side of the proposed road corridor. However, access would be maintained to individual properties near the project alignment

- Land use impacts:
 - Most land affected by the project comprises general rural and grazing uses. The corridor traverses land used for intensive agriculture, commercial/industrial uses and resource and waste management uses on smaller properties at Kemps Creek, while at the eastern end, the project mainly traverses recreation land within the Western Sydney Parklands
 - The construction footprint would directly impact about 354 hectares of land, including direct impacts from the siting of construction compounds and ancillary facilities, reduced amenity, and temporary changes to property access
 - The operational footprint would directly impact about 290 hectares of land
 - The study area comprise several areas identified for future growth and development as part of the Western Sydney Aerotropolis, South West Growth Area and Western Sydney Employment Area. The project supports the development of these areas by providing access to the existing road network and the early provision of a key road link with the project would support the orderly transition from existing rural and agricultural uses to future higher intensity urban uses
 - General impacts on existing land uses from the operation of the project are expected to be low. The larger property rural uses surrounding the project would continue to operate in the medium term. Access to existing commercial/industrial, rural living and community uses at Luddenham, Kemps Creek, Mt Vernon and Cecil Park would be maintained through local roads and project interchanges.
- Population and demography impacts
 - During construction, the construction workforce would generally be sourced from across the Greater Sydney region and is not expected to change population and demography in the study area
 - Property acquisition would impact on a small number of dwellings only, and changes would be relatively minor in the context of construction associated with the wider Sydney region in coming years
 - The population of the study area is projected to grow in the future, which would be driven by the development of the Western Sydney Growth Area and Western Sydney Aerotropolis and would be supported by the operation of the project
- Employment impacts
 - During operation, the project would support improved access and connectivity to employment areas in the study area and wider western Sydney region, including the South West Growth Area and Western Sydney Aerotropolis
- Business and industry impacts
 - Acquisition and temporary leases of land for the project would impact on about 10 properties currently used for commercial uses. These include recreation, primary production, and construction businesses, and commercial offices
 - The construction phase may have a positive effect on some local businesses through increased business in response to day-to-day needs of construction workers. This includes local shops and food outlets near construction works such as service stations, cafes and convenience stores at Kemps Creek. Businesses supplying goods and services to construction may also experience benefits from increased construction activities locally. Access would be maintained to Elizabeth Drive and Mamre Road during construction, although potential delays and disruptions may occur for business customers due to roadworks at Elizabeth Drive and Mamre Road. This may lead to increased travel times for customers and possibly deter some people from making some trips or using affected roads
 - Temporary adverse impacts on business amenity may result from construction noise, dust, and traffic at construction compounds and work areas. The effect of this impact would depend on such things as the nature and type of business, but could include impacts on employee productivity, customer interaction, or general business ambience

- During operation, the project would have positive impacts on regional and national business and industry through improved access and connectivity to growth areas in western Sydney and the greater Sydney area. In particular, the project would provide access to the Western Sydney Airport and associated Western Sydney Aerotropolis
- The project would involve the bypass of Kemps Creek urban area, reducing through traffic using Elizabeth Drive and changing access for some customers of businesses at Elizabeth Drive and Mamre Road. Reduced traffic using Elizabeth Drive may reduce levels of trade for some businesses at Elizabeth Drive and Mamre Road, Kemps Creek that currently rely on passing traffic for their customers, for example service stations and some retail shops
- Potential impacts on agricultural uses in the primary study area would be associated with direct impacts from property acquisition and temporary lease of land for construction activities, and changes in access, farming operations and amenity
- Potential impacts on directly affected agricultural uses would generally be associated with loss of productive land, direct impact on farm infrastructure (eg dams), severance or fragmentation of larger agricultural properties, and changes to farm access
- During construction, short-term impacts on rural land and agricultural uses in the study area may be associated with changes to farm infrastructure, changes to access, increased construction traffic, and increased amenity impacts
- Access to agricultural properties would be maintained by the project, however increased traffic noise, light spill from the roadway, and changes to the visual environment may impact on the use and enjoyment of rural properties near the proposed motorway
- Social infrastructure impacts
 - The project would directly impact on about 90 hectares of land within the Western Sydney Parklands, including bushland, walking trails, the Wylde Mountain Bike Trail and associated infrastructure and vehicle access to the International Shooting Centre
 - The Wylde Mountain Bike Trail would be directly impacted by the siting of the project corridor, including the jump run, pump track, kids loop, sections of the three-kilometre, six-kilometre and 12-kilometre trails and associated facilities, including shelters. Roads and Maritime has started consultation with the Western Sydney Parklands Trust about impacts of the project on the Wylde Mountain Bike Trail and proposed mitigation measures. Roads and Maritime is working with the Western Sydney Parklands Trust to design, plan and deliver a replacement trail. The replacement trail would be delivered by Western Sydney Parklands Trust and would be subject to a separate environmental assessment
 - Construction and operation of the project would directly impact existing walking and cycling trails within the Parklands at Cecil Hills, Abbotsbury, and Horsley Park. During construction, access would be maintained for users of these trails, although temporary diversions may be required at some locations. Access trails impacted by the project would be reinstated following construction, although realignments may be required to some trails
 - During construction, impacts on social infrastructure study area may result from changes in local access and traffic disruptions, and amenity impacts
 - During operation, the project would contribute to improved access and connectivity to regional, State and national level community services and facilities within the primary and secondary study areas through improved travel time savings and improved travel time reliability
- Community values
 - During construction, adverse changes to local community values would mainly result from amenity impacts and light spill from night-time construction. This may impact people's use and enjoyment of public infrastructure, discourage people from taking trips, and impact the health and perceptions of road safety of some groups within the surrounding community

- Once operational, potential impacts to community values would mainly be associated with increased traffic noise, light spill, and changes to visual amenity. Overall, the project would have positive impacts on community cohesion by supporting efficient and reliable travel and improved accessibility to employment, education facilities, sport and recreation uses, cultural and leisure facilities, and community support services. This would support improved opportunities for economic benefits, social interaction, and increases in community wellbeing
- The clearing of established vegetation for the project is likely to be a concern for some community members, impacting on values relating to ecology, landscape and scenic amenity. Following construction, areas impacted by construction works that are not required for permanent infrastructure would be rehabilitated, including with new trees and landscaping
- Access and connectivity impacts
 - During construction, impacts on local access and connectivity would generally result from increased construction traffic, temporary changes to road conditions, potential changes to bus services, and changes to pedestrian and cycle access. However, the majority of the project would be constructed away from existing roads and transport networks, helping to minimise potential impacts for transport users
 - Once operational, the project would have long term positive impacts on access and connectivity for local and regional communities, business, and industry through improved regional connections and links to key population and employment growth areas in western Sydney, including the South West Growth Area, Western Sydney Employment Area, Western Sydney Airport and associated Western Sydney Aerotropolis. Operation of the project would also enhance pedestrian and cycle access within the study area, through the inclusion of an off road shared user path, including connections to existing and future shared user path networks.

Summary of environmental management measures

The environmental management measures that would be implemented to mitigate or manage socio-economic, land use and property impacts include:

- Develop and implement a Community Engagement Plan to guide communication and engagement during construction between the project team and stakeholders. This will include consultation with managers of community facilities near the project about potential impacts and proposed management measures
- Provide appropriate compensation for property and business acquisition in accordance with the (NSW) *Land Acquisition (Just Terms Compensation) Act 1991* and the 2016 policy reforms and provide appropriate compensation to Western Sydney Parklands Trust to design, plan and deliver a replacement for the Wylde Mountain Bike Trail in consultation with trail users and bicycle user groups
- Undertake property adjustments, including replacement of farm infrastructure such as fencing and property access prior to construction and in consultation with the property owner
- Consult with local business owners, including owners of agricultural businesses, located close to construction works about the timing, duration and likely impact of construction activities on their business operations, and maintain a business impact register for managing issues arising for individual businesses
- Maintain access to existing businesses throughout the construction of the project, including appropriate signage. Where temporary changes to property access are required, alternate access will be determined in consultation with affected property owners and tenants
- Maintain access for pedestrians and cyclists near construction works, including consideration of pedestrian access needs for elderly people, children and people with disability.

Conclusions

The project would have short-term socio-economic, land use and property impacts during construction. The potential residual impacts that may occur include:

- Short-term changes to traffic and access, including reduced travel speeds, increased delays near construction works and temporary changes to accessibility for pedestrians and cyclists. This may require some motorists, pedestrians or cyclists to travel further to reach their destination. This would be necessary to ensure construction work is carried out safely
- Short-term changes in local amenity for some residents, businesses and visitors near the project, associated with increased noise and dust. Overall, these impacts would be temporary and are expected to be managed to an acceptable level, although, some people may experience ongoing amenity impacts that affect the use and enjoyment of their property.

Once operational, the project would generate long term beneficial impacts for local and regional communities, business and industry. These benefits are realised through improved regional connections and links to key population and employment growth areas in western Sydney, including the Western Sydney Airport and associated Western Sydney Aerotropolis, and South West Growth Area. The project would also integrate with future transport infrastructure, creating strategic links and connections throughout western Sydney and the greater Sydney area and supporting reduced congestion and improved travel times for local and regional communities, business and industry.

At a local level, the project would improve access and connectivity for motorists and other road users to areas and facilities surrounding the project, including Western Sydney Parklands. Elizabeth Road will continue to provide access for local communities at Cecil Park, Mount Vernon and Kemps Creek. Changes to local access for some properties would be required due to the location of the project corridor, requiring realignment or closure of some local roads either side of the corridor.

The identified environmental management measures would generally be effective in mitigating potential socio-economic, land use and property impacts of the project, during both construction and operation to an acceptable level. However, it is expected that some residual impacts would remain following implementation of management measures, including:

- Impacts on community cohesion through disruption to social networks and community relationships associated with property acquisition for the project
- Permanent loss of some land used for agricultural, commercial and residential uses, associated with acquisition of property and change in land use to transport corridor
- Changes in local access and connectivity for residents, businesses and visitors.

1. Introduction

1.1 Background

Roads and Maritime Services (Roads and Maritime) is seeking approval under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to construct and operate the M12 Motorway project to provide direct access between the Western Sydney Airport at Badgerys Creek and Sydney's motorway network (the project). In addition, the project has been determined to be a controlled action under Section 75 of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act) (EPBC 2018/8286) for significant impact to threatened species and communities (Section 18 and Section 18A of the EPBC Act). As such, the project requires assessment and approval from the Commonwealth Government.

The M12 Motorway would run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for a distance of about 16 kilometres and would be opened to traffic prior to opening of the Western Sydney Airport. The project would start about 30 kilometres west of the Sydney central business district (CBD), at its connection with the M7 Motorway. The project traverses the local government areas (LGAs) of Fairfield, Liverpool and Penrith. The suburbs of Cecil Park and Cecil Hills are found to the east of the M12 Motorway, with Luddenham to the west.

The project is predominately located in greenfield areas. The topography in and around the project area comprises rolling hills and small valleys between generally north–south ridge lines. Existing land uses comprise a mix of rural residential, recreational, agricultural, commercial and industrial uses. Residential uses are mainly located at Kemps Creek, Mount Vernon and Cecil Hills. The Western Sydney Parklands are located at the eastern end of the project and includes recreational facilities of local, regional and state significance.

The project is required to support the opening of the Western Sydney Airport by connecting Sydney's motorway network to the airport. The project would also serve and facilitate the growth and development of western Sydney, which is expected to undergo significant development and land use change over the coming decades. The motorway would provide increased road capacity and reduce congestion and travel times in the future and would also improve the movement of freight in and through western Sydney.

The project location is shown in **Figure 1-1** in relation to its regional context.

1.2 Project overview

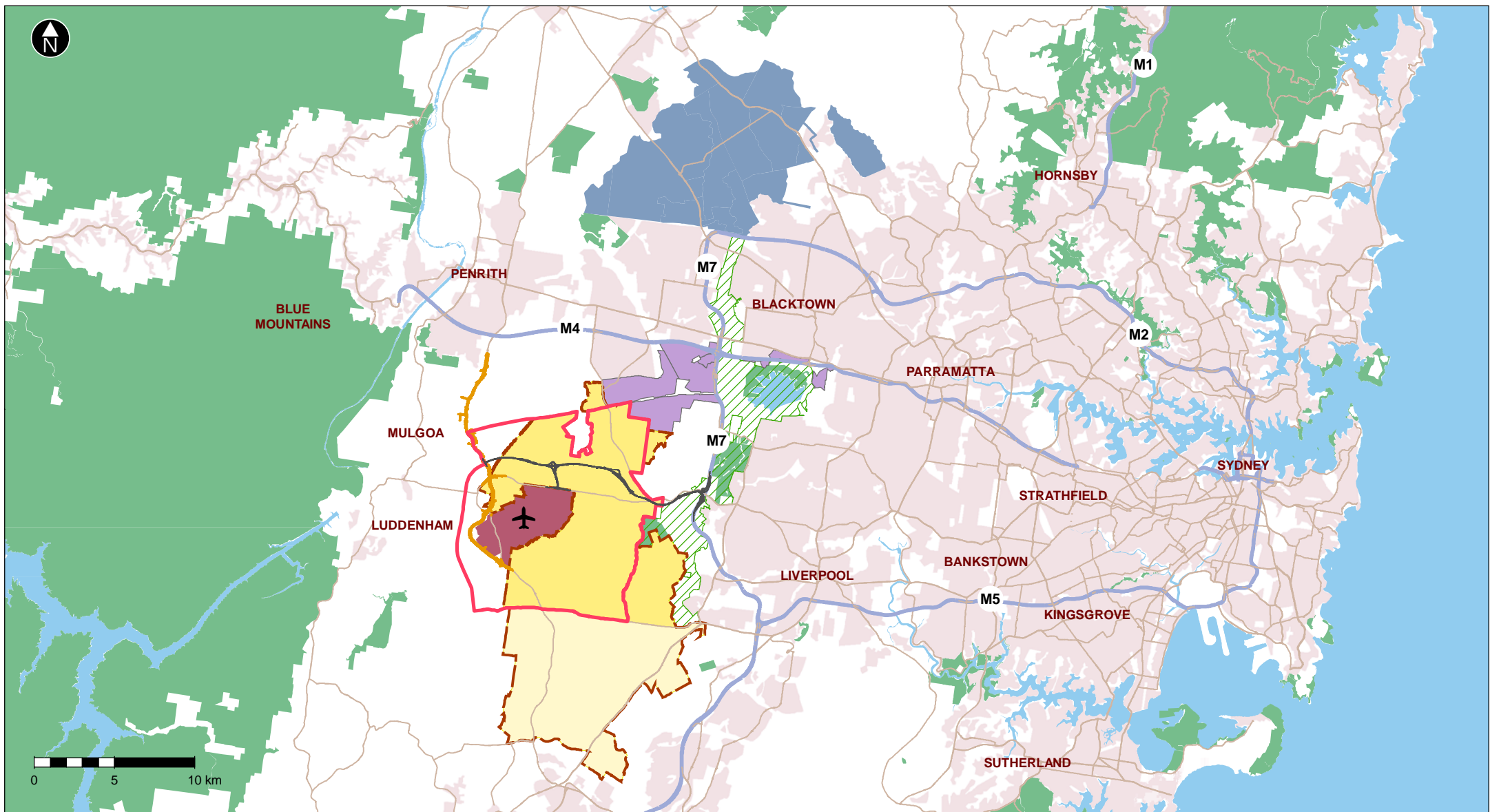
The project would include the following key features:

- A new dual-carriageway motorway between the M7 Motorway and The Northern Road with two lanes in each direction with a central median allowing future expansion to six lanes
- Motorway access via three interchanges/intersections:
 - A motorway-to-motorway interchange at the M7 Motorway and associated works (extending about four kilometres within the existing M7 Motorway corridor)
 - A grade separated interchange referred to as the Western Sydney Airport interchange, including a dual-carriageway four lane airport access road (two lanes in each direction for about 1.5 kilometres) connecting with the Western Sydney Airport Main Access Road
 - A signalised intersection at The Northern Road with provision for grade separation in the future
- Bridge structures across Ropes Creek, Kemps Creek, South Creek, Badgerys Creek and Cosgroves Creek

- Bridge structure across the M12 Motorway into Western Sydney Parklands to maintain access to the existing water tower and mobile telephone/other service towers on the ridgeline in the vicinity of Cecil Hills, to the west of the M7 Motorway
- Bridge structures at interchanges and at Clifton Avenue, Elizabeth Drive, Luddenham Road and other local roads to maintain local access and connectivity
- Inclusion of active transport (pedestrian and cyclist) facilities through provision of pedestrian bridges and an off-road shared user path including connections to existing and future shared user path networks
- Modifications to the local road network, as required, to facilitate connections across and around the M12 Motorway including:
 - Realignment of Elizabeth Drive at the Western Sydney Airport, with Elizabeth Drive bridging over the airport access road and future passenger rail line to the airport
 - A realignment of Clifton Avenue over the M12 Motorway, with associated adjustments to nearby property access
 - Relocation of Salisbury Avenue cul-de-sac, on the southern side of the M12 Motorway
 - Realignment of Wallgrove Road north of its intersection with Elizabeth Drive to accommodate the M7 Motorway northbound entry ramp
- Adjustment, protection or relocation of existing utilities
- Ancillary facilities to support motorway operations, smart motorways operation in the future and the existing M7 Motorway operation, including gantries, electronic signage and ramp metering
- Other roadside furniture including safety barriers, signage and street lighting
- Adjustments of waterways, where required, including Kemps Creek, South Creek and Badgerys Creek
- Permanent water quality management measures including swales and basins
- Establishment and use of temporary ancillary facilities, temporary construction sedimentation basins, access tracks and haul roads during construction
- Permanent and temporary property adjustments and property access refinements as required.

The project overview presented in this document represents the design as described in the EIS. If the project is approved, a further detailed design process would follow, which may include variations to the design described in the EIS. Flexibility has been provided in the design described in the EIS to allow for refinement of the project during detailed design, in response to any submissions received following the exhibition of the EIS, or if opportunities arise to further minimise potential environmental impacts.

The key features of the project are shown on **Figure 1-2**.



- | | | |
|--|--------------------------|-------------------------------------|
| — The project | Western Sydney Parklands | Growth areas |
| Motorways | NPWS estate / reserve | Western Sydney Priority Growth Area |
| Existing main roads | Urban areas | South West Priority Growth Area |
| The Northern Road upgrade (currently under construction) | Main waterbodies | South West Growth Area |
| | | Western Sydney Airport |
| | | Western Sydney Aerotropolis |
| | | Western Sydney Employment Area |
| | | North West Growth Area |

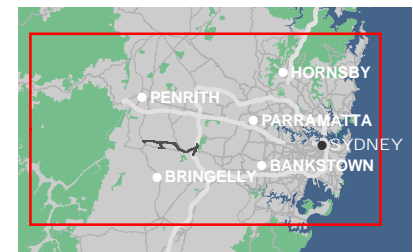
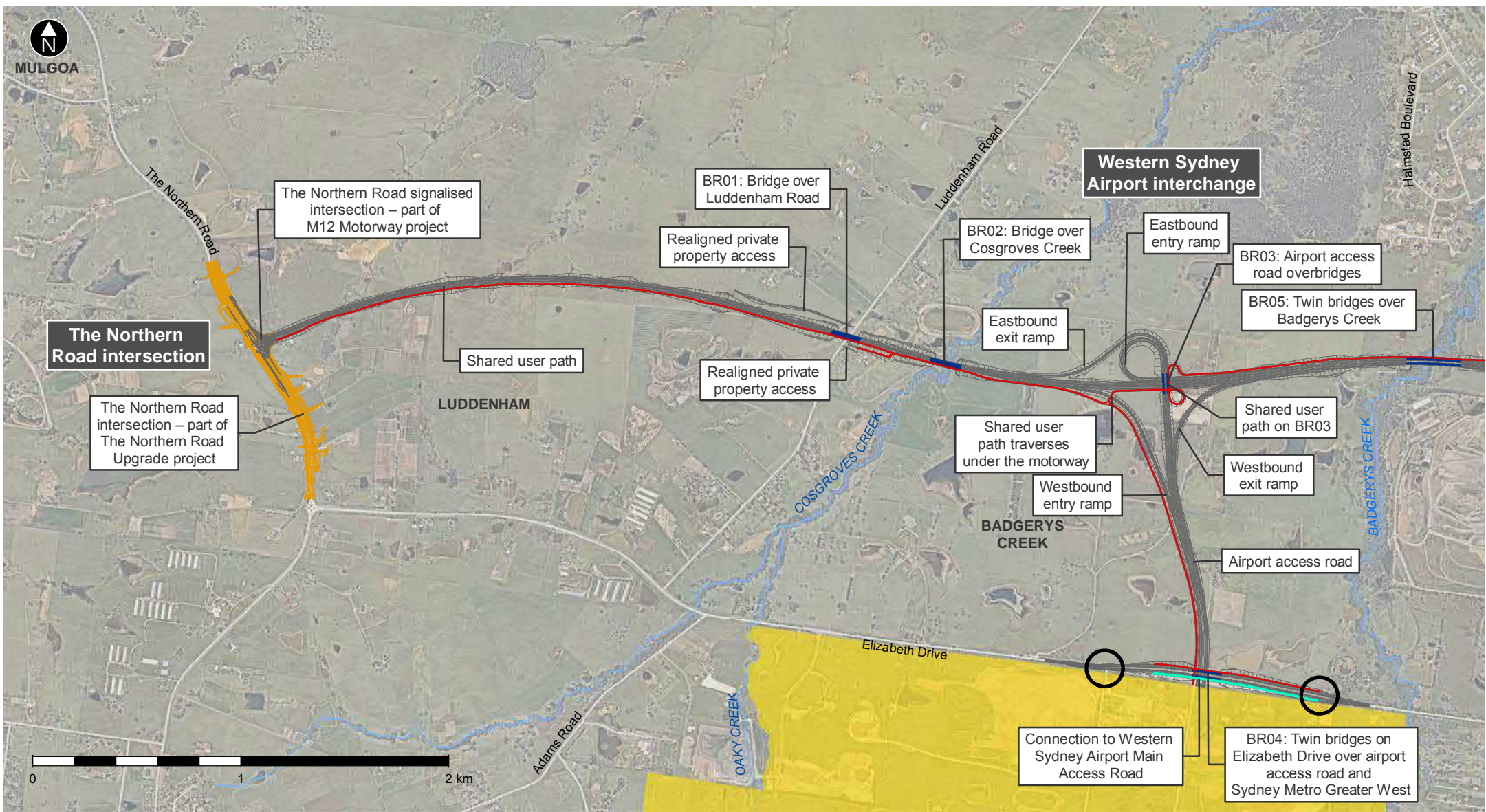
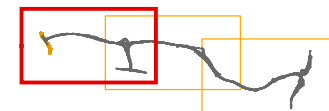


Figure 1-1 Project location (regional context)



- The project
- Part of The Northern Road upgrade project
- Shared user path
- Future shared user path (by others)
- Existing roads
- Waterways
- Bridges
- Potential future intersections (by others)
Note: Locations to be confirmed
- Western Sydney Airport
Note. The roads within this zone are being removed as part of airport construction.



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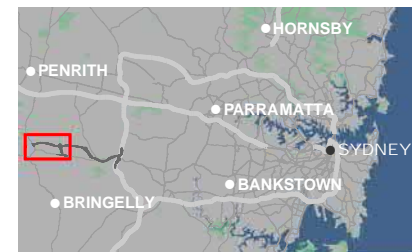
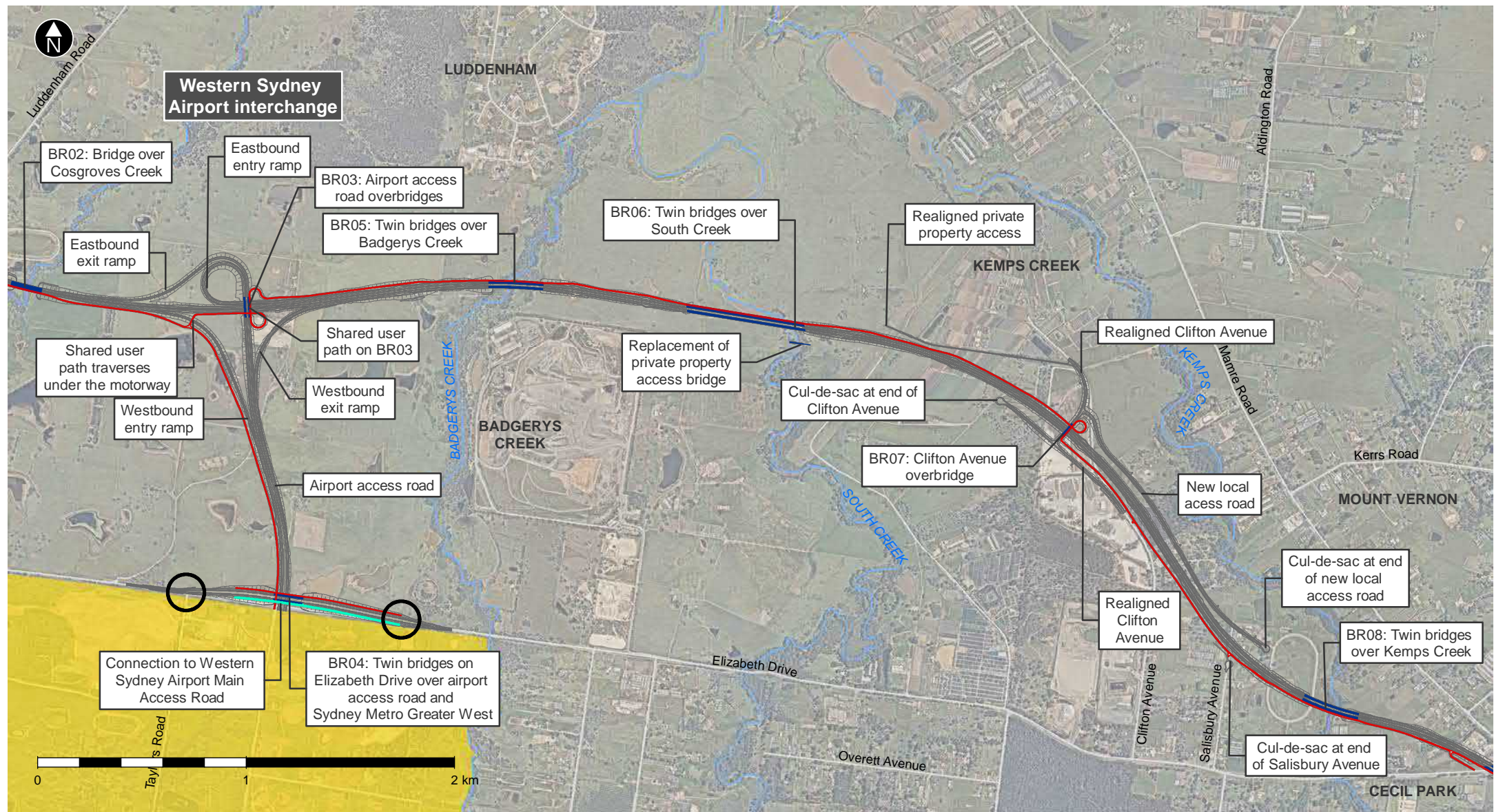
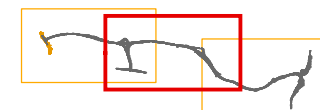


Figure 1-2 Key features of the project



- The project
- Part of The Northern Road upgrade project
- Shared user path
- Future shared user path (by others)
- Existing roads
- Waterways
- Bridges
- Potential future intersections (by others)
Note: Locations to be confirmed
- Western Sydney Airport
Note: The roads within this zone are being removed as part of airport construction.



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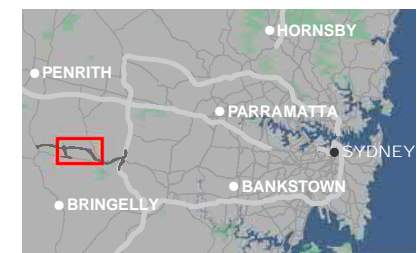


Figure 1-2 Key features of the project

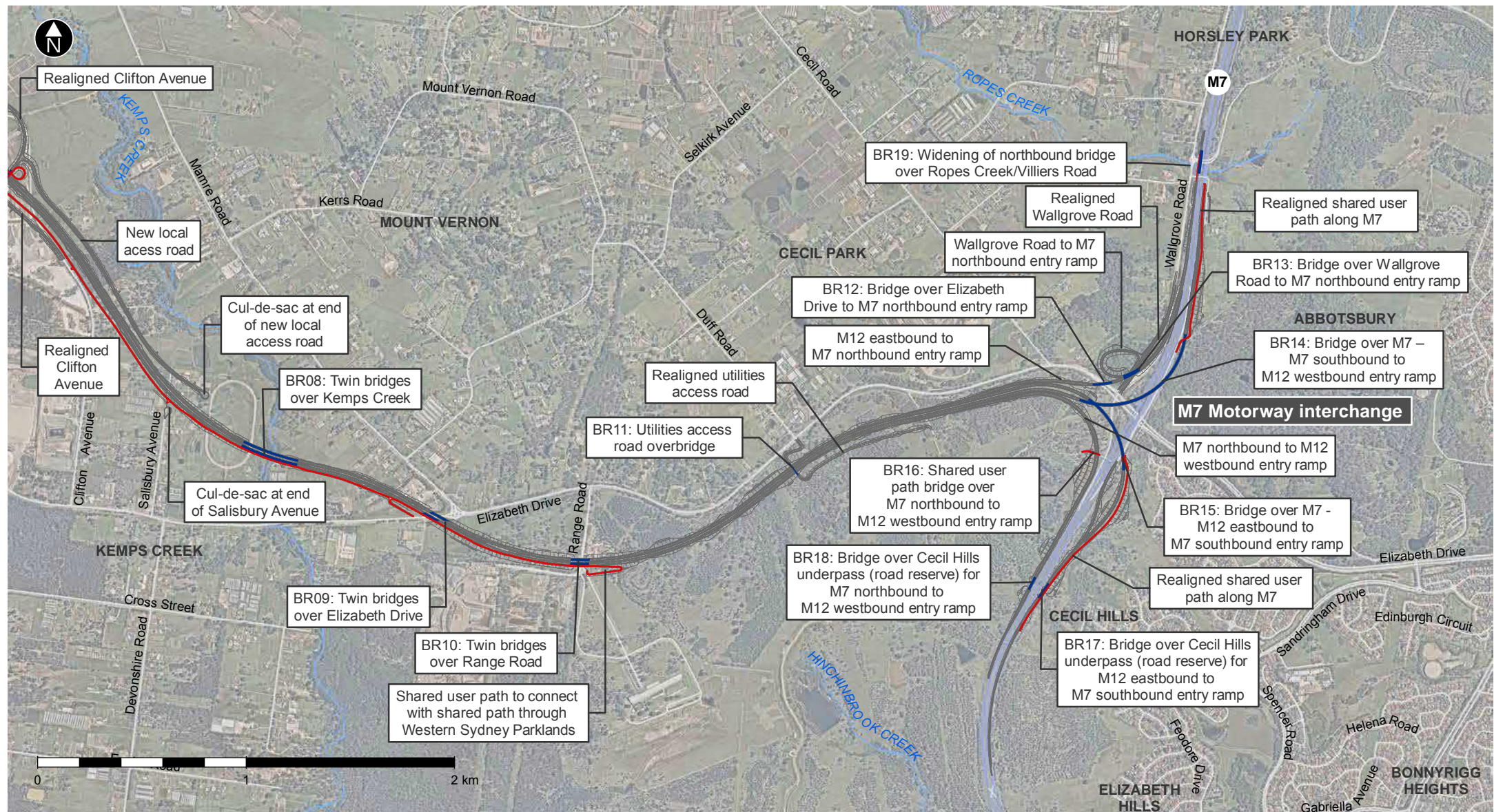
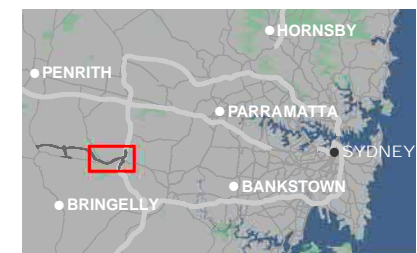
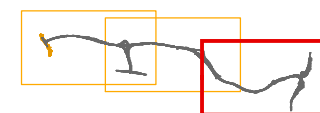


Figure 1-2 Key features of the project



1.3 Purpose and scope of this report

This Socio-Economic, Land Use and Property Assessment Report has been prepared to support the EIS for the M12 Motorway. The EIS has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) for the project (SSI 9364) and to enable the Minister for Planning and Public Spaces to make a determination on whether the project can proceed.

This report assesses potential socio-economic, land use and property benefits and impacts of the project and includes:

- A description of existing conditions and values relating to socio-economic, land use and property relevant to the project
- An assessment of potential impacts on socio-economic conditions, land use and property from the design, construction and operation of the project
- Recommended mitigation and management measures to avoid, manage or mitigate the project's potential socio-economic, land use and property impacts and where possible, enhance its benefits.

1.4 SEARs

On 30 October 2018, the Secretary of the NSW Department of Planning and Environment issued SEARs to Roads and Maritime for the M12 Motorway EIS. The SEARs include the Commonwealth requirements under the EPBC Act. **Table 1-1** lists those requirements relating specifically to the assessment of the project's potential socio-economic, land use and property impacts with a reference to the chapter or section of this report where each requirement is addressed.

Table 1-1 SEARs (Socio-economic land use and property)

Secretary's requirements	Where addressed
9. Socio-economic, Land Use and Property The project minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities. The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure.	
1. The Proponent must assess social and economic impacts in accordance with the current guidelines.	Section 3
2. The Proponent must assess impacts from construction and operation on potentially affected properties, infrastructure, businesses, recreational users and land and water users (for example, the Western Sydney Parklands and Wylde Mountain Bike Trail), including utility operations, property acquisitions/adjustments, access, amenity and relevant statutory rights.	Section 6.1 Section 6.2 Section 6.5 Section 6.6 Section 6.7
3. The Proponent must address the planning objectives for the Western Sydney Airport Growth Area (WSAGA) ¹ .	Section 2.2.1 Section 6.2 Section 3.1.5 of the EIS
4. The Proponent must assess the impacts of the M7/M12 interchange design on fragmentation of the Western Sydney Parklands.	Section 6.7 Section 6.8 Section 6.9

Secretary's requirements	Where addressed
5. The Proponent must assess the impacts to the Wylde Mountain Bike Trail, and consider options for replacing impacted sections, or the entire Wylde Mountain Bike Trail.	Section 5.5 Section 6.7
6. Where the project may impact on significant mineral resources, the proponent must assess the impact of the project on these resources, including: (a) any operating mines, extractive industries or known mineral or petroleum resources; (b) exploration activities in the vicinity of the proposed development; and (c) access for future exploration in the area.	Section 5.2 Section 6.2.3
19. Health and Safety The project avoids or minimises any adverse health impacts arising from the project. The project avoids, to the greatest extent possible, risk to public safety.	
1. The Proponent must assess the potential health impacts of the project, in accordance with the current guidelines.	Section 6.8.3
2. The assessment must: (a) describe the current known health status of the affected population; (b) assess health risks associated with exposure to environmental hazards; (c) assess the effect of the project on other relevant determinants of health such as the level of physical activity and access to social infrastructure; (d) assess opportunities for health improvement; (e) assess the distribution of the health risks and benefits; and (f) discuss how, in the broader social and economic context of the project, the project will minimise negative health impacts while maximising the health benefits.	Section 5.3.7 Section 8.4 of the EIS Section 6.6.3 Section 8.4 of the EIS Section 8.4 of the EIS Section 8.4 of the EIS

¹The Western Sydney Airport Growth Area (WSAGA) is now known as the Western Sydney Aerotropolis and will be referred to as such throughout this report

2. Policy and planning setting

This section provides an overview of policies and strategies relevant to the land use and socio-economic environment. A detailed discussion of strategic planning and policy documents relevant to the project is provided in Chapter 3 of the EIS.

2.1 Australian Government

2.1.1 Smart Cities Plan

The Australian Government's Smart Cities Plan (Department of Infrastructure, Regional Development and Cities, 2018a) sets out a vision for productive and liveable cities that foster innovation, support growth and create jobs. The Smart Cities Plan represents a new framework for city policy at the Federal level and provides a framework for all levels of government to deliver better outcomes for our cities, the people who live in them and all Australians. The Smart Cities Plan outlines the actions for maximising cities' potential through three pillars: Smart Investment, Smart Policy and Smart Technology. Smart Investment relates to:

- Prioritising projects that meet broader economic objectives, ie prioritising infrastructure that improves accessibility, promotes agglomeration economies, and enhances amenity, housing affordability and sustainability
- Treating infrastructure funding as an investment wherever possible
- Getting involved early to ensure rigorous planning and business cases
- Increasing investment.

The project would support the Smart Investment pillar by providing access to Western Sydney Airport, improving the movement of freight in and through western Sydney and serving the Western Sydney Aerotropolis (formerly the Western Sydney Airport Growth Area), South West Growth Area and the Western Sydney Employment Area.

2.1.2 Western Sydney City Deal

The Western Sydney City Deal, signed in March 2018, is a 20-year agreement between the Australian Government, NSW Government, and eight local governments of western Sydney to deliver transformation of Sydney's outer west by creating the Western Parkland City (Department of Infrastructure, Regional Development and Cities, 2018b). The City Deal builds on the Australian Government's \$5.3 billion investment in the Western Sydney Airport to catalyse investment, development and job opportunities. The Western Sydney City Deal includes commitments from all levels of government across six priority domains. Those relevant to the project include:

- Connectivity – connecting the Western City by world-class road, rail, aviation and digital infrastructure
- Jobs for the Future – building on the unique opportunity of the Western Sydney Airport to drive business investment and employment growth
- Liveability and Environment – working together to ensure the Western City is a great place to live, with inclusive and welcoming communities and celebrated natural assets.

The project provides the enabling infrastructure to support connectivity between communities of Sydney and the Western Sydney Aerotropolis and access to employment opportunities of the Western Sydney Aerotropolis and new business and investment opportunities throughout the Western Sydney Aerotropolis precinct.

2.2 New South Wales Government

2.2.1 Greater Sydney Region Plan – A Metropolis of Three Cities

In March 2018, the Greater Sydney Commission released the Greater Sydney Region Plan – A Metropolis of Three Cities (GSRP). The GSRP sets out the NSW Government's vision for Greater Sydney to 2056 and establishes a 20-year plan to manage growth and change (Greater Sydney Commission, 2018a). The vision of the GSRP seeks to transform Greater Sydney into a metropolis of three cities where most residents live within 30 minutes of their jobs, education and health facilities, services and great places.

The project is within the Western Parkland City, which incorporates the existing established centres of Liverpool, Greater Penrith, Campbelltown and Macarthur as well as the proposed Western Sydney Airport and Badgerys Creek areas. The project would directly address and support Objective 20 of the Greater Sydney Regional Plan, which identifies the Western Sydney Aerotropolis and the surrounding business zone as an economic catalyst for the Western Parkland City. The project supports the development of the Western Sydney Aerotropolis by providing access to the existing road network.

The Western City District Plan sets out planning priorities and actions for improving the quality of life for residents in western Sydney. The Western City stretches from Richmond-Windsor and Rouse Hill in the north to Campbelltown-Macarthur in the south.

The project would directly address and support Planning Priority W1, W7 and W8 within the Western City District Plan, by providing infrastructure which aligns with forecast growth and providing transport links that would service employment areas in western Sydney. The objectives for the relevant Planning Priorities are listed out in **Table 2-1**.

Table 2-1 Planning objectives of the Western City District Plan

Objectives	How the project meets objective
W1 – Planning for a city supported by infrastructure	
Objective 1 – Infrastructure supports the three cities	The project would provide the necessary infrastructure to support the Western Parkland City, and would provide connections to other supporting infrastructure
Objective 2 – Infrastructure aligns with forecast growth – growth infrastructure compact	The project is designed to meet the forecast growth of the Western City and surrounds
Objective 3 – Infrastructure adapts to meet future needs	The design of the project allows for incorporation of future infrastructure and allows for the construction of extra traffic lanes to meet future needs
Objective 4 – Infrastructure use is optimised	The project would better serve the fragmented land use patterns across Greater Sydney by supporting efficient transport connections for trips that are not well-served by other transport modes due to uneven or fragmented economic or residential development.
W7 – Establishing the land use and transport structure to deliver a liveable, productive and sustainable Western Parkland City	
Objective 14 – A Metropolis of Three Cities – integrated land use and transport creates walkable and 30-minute cities	The project that will reinforce the metropolis of the cities by providing an efficient east-west link to allow residents to live within 30 minutes of their jobs, education, health facilities and services.
Objective 15 – The Eastern Greater Parramatta and Olympic Peninsula and Western Economic Corridors are better connected and more competitive	The project would deliver a new east-west link to support development opportunities in the Western Economic Corridor arising from the WSA.

Objectives	How the project meets objective
Objective 16 – Freight and logistics network is competitive and efficient	The project would be the primary motorway access to the WSA and its precincts, enabling people to access commercial, passenger and freight precincts by road and providing for the essential airport operations to occur.
Objective 17 – Regional connectivity is enhanced	The project would deliver a key element of the Western City District Plan by offering a new east-west link. The project would have positive impacts on regional and national business and industry through improved access and connectivity to growth areas in western Sydney and the Greater Sydney area.
W8 – Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis	
Objective 20 – Western Sydney Airport and Badgerys Creek Aerotropolis are economic catalysts for Western Parkland City	The project would support and maintain Western Sydney Airport and Western Sydney Aerotropolis as the catalyst for economic growth in western Sydney by providing a high-speed motorway standard access from the Sydney Motorway network at the M7 Motorway and the arterial road network at The Northern Road.
Objective 24 – Economic sectors are targeted for success	The project would contribute to providing access to the Western Sydney Airport and the Western Sydney Aerotropolis as well as the metropolitan centres of Penrith, Liverpool and Campbelltown, allowing access to business opportunities and jobs

Further details of how the project would address the planning objectives of the Western Parkland City are presented in Section 3.1.5 of the EIS.

2.2.2 State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Growth Centres SEPP)

The State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Growth Centres SEPP) and the associated State Environmental Planning Policy (Sydney Region Growth Centres) Amendment (Miscellaneous) 2010 establishes three growth centres as locations for greenfield urban growth, applying general controls designed to prevent inappropriate development until controls to guide development were finalised. These are shown on **Figure 2-1** and include the South West Growth Centre (currently known as the South West Growth Area on the Department of Planning and Environment website), which the project traverses through.

The Growth Centres SEPP provides development controls for the following as relevant to the project:

- Flood prone and major creeks land
- Vegetation.

The project is consistent with the Growth Centres SEPP by delivering a new motorway connection between the M7 Motorway and The Northern Road in Western Sydney, improving connectivity for passengers and freight, proving direct access to the Western Sydney Airport, and connecting new growth areas to the motorway network.

2.2.3 State Environmental Planning Policy (Western Sydney Employment Area) 2009

The Western Sydney Employment Area (see **Figure 2-1**) was established to provide new land for industry and employment, including transport and logistics, warehousing and office space. It comprises about 8,100 hectares and provides land for employment uses, general industrial uses, environmental conservation, flood plain and non-employment uses such as land use buffers. The Western Sydney Employment Area has potential to generate approximately 57,000 jobs to 2046.

The Western Sydney Employment Area is partly located in the Penrith LGA and Fairfield LGA, which form part of the study area for this assessment.

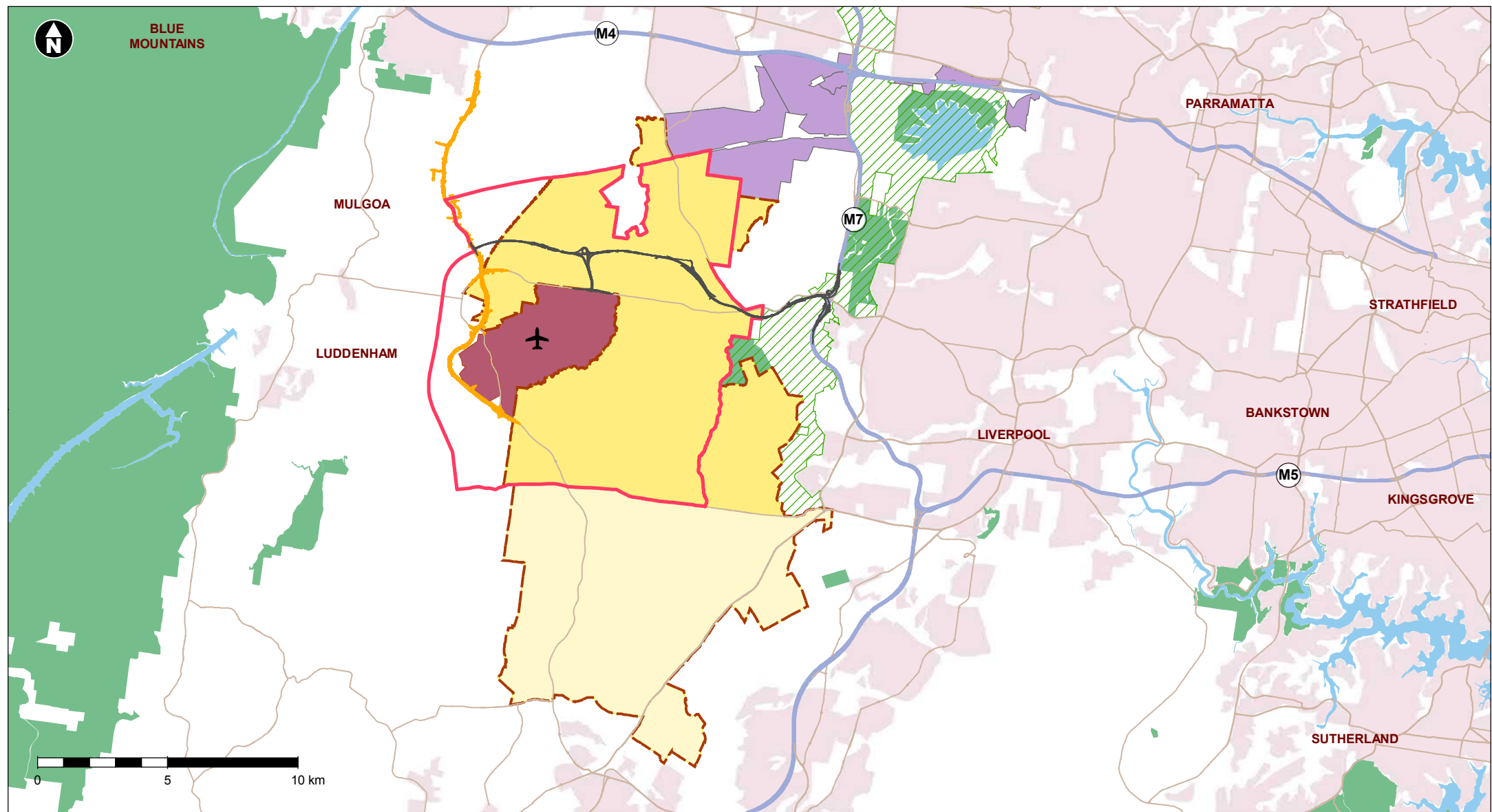
2.2.4 Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan, Stage 1: Initial Precincts

The Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan, Stage 1: Initial Precincts (LUIIP) (NSW Department of Planning and Environment, 2018) applies to the area surrounding the Western Sydney Airport (known as the Western Sydney Aerotropolis). This area overlaps with the Western Sydney Growth Area, defined in **Section 2.2.2** and shown on **Figure 2-2**.

The Western Sydney Aerotropolis covers an area of about 11,200 hectares and is proposed to contribute to 200,000 new jobs for western Sydney over the next 20 years in industries such as aerospace and defence, manufacturing, healthcare, freight and logistics, agribusiness, education and research. The Western Sydney Aerotropolis is also proposed to contribute up to 60,000 new homes and new communities.

The LUIIP identifies the M12 Motorway 'committed transport infrastructure', reflecting its status under Future Transport Strategy 2056. The M12 would facilitate the connection of the Western Sydney Aerotropolis to the rest of the western Sydney area. Proposed land uses surrounding the identified M12 Motorway corridor include flexible employment, non-urban land and mixed flexible employment and urban land to the north, and flexible employment and non-urban land to the south.

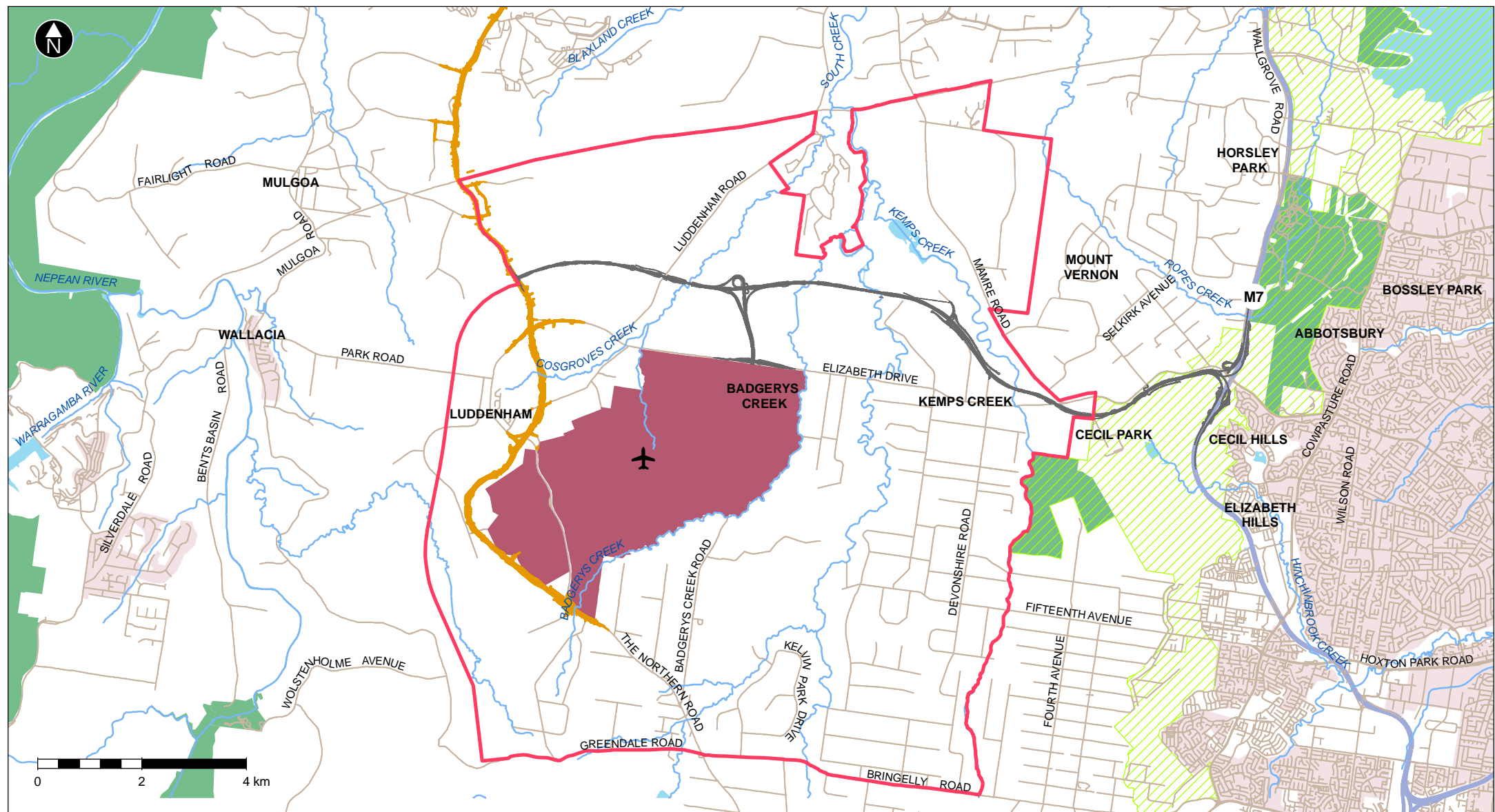
The project has been considered as part of the connectivity framework for the LUIIP as described in **Section 5.2.3**. Further description of the LUIIP is presented in Section 3.1 of the EIS.



- | | | |
|--|--------------------------|-------------------------------------|
| — The project | Western Sydney Parklands | Growth areas |
| The Northern Road upgrade (currently under construction) | NPWS estate / reserve | Western Sydney Priority Growth Area |
| Motorways | Urban areas | South West Priority Growth Area |
| Existing main roads | Main waterbodies | South West Growth Area |
| | | Western Sydney Airport |
| | | Western Sydney Aerotropolis |
| | | Western Sydney Employment Area |



Figure 2-1 Growth Centres SEPP Areas and Western Sydney Employment Area



- | | | | |
|--|---------------------|--------------------------|---|
| — The project | Waterways | Western Sydney Parklands | Western Sydney Aerotropolis |
| The Northern Road upgrade (currently under construction) | Motorways | NPWS estate / reserves | Western Sydney Airport |
| | Existing main roads | Urban areas | Note. The roads within this zone are being removed as part of airport construction. |

Data sources
 Western Sydney Airport - RMS 2016
 Aerotropolis - DPE / INSW 2018

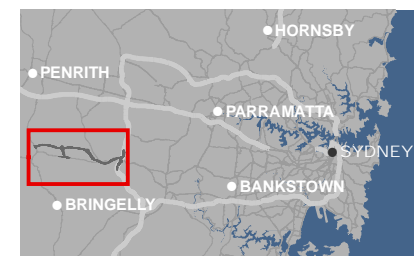


Figure 2-2 Western Sydney Aerotropolis

2.2.5 Western Sydney Parklands Plan of Management 2030

The Western Sydney Parklands Plan of Management 2030 (Plan of Management) provides the strategic management framework for the Western Sydney Parklands and assists the Parklands Trust in determining actions and priorities over the coming years. The Plan of Management was adopted by the Minister for Environment and Heritage on 17 December 2018 under the *Western Sydney Parklands Act 2016* (Western Sydney Parklands Trust, 2018).

The main principle of the Plan of Management that would be supported by the project is 'be accessible to visitors' including attracting local and city-wide visitors travelling via activity, private and public transport.

The State Environmental Planning Policy (Western Sydney Parklands) 2009 provides the statutory planning framework for Parklands development. The Western Sydney Parklands land use framework plan is presented in **Figure 2-3**. It identifies the various activity hubs, linkages, infrastructure, bushland corridor and conservation areas to be planned or delivered over the next 10 years. Land uses near the project include bushland corridors, gazetted conservation areas, sport and structured recreation hub adjacent to the Sydney International Shooting Centre, Wylde Mountain Bike Trail, and current and future parklands tracks (Western Sydney Parklands Trust, 2018).

The Southern Precinct Vision Plan (Western Sydney Parklands Trust, 2017) is part of the overall planning framework for the Western Sydney Parklands and seeks to create unique destinations that enhance park identity, promote active living and wellness, and improve amenity for local residents. Outcome 1 of the Plan aims to preserve the vegetated slopes to Elizabeth Drive and the proposed M12 Motorway as a buffer to adjoining current or future infrastructure. Where practicable, the project has supported and would continue to support this outcome by conserving vegetation to be used as a buffer.

Further information on the Western Sydney Parklands is provided in **Section 5.5**.

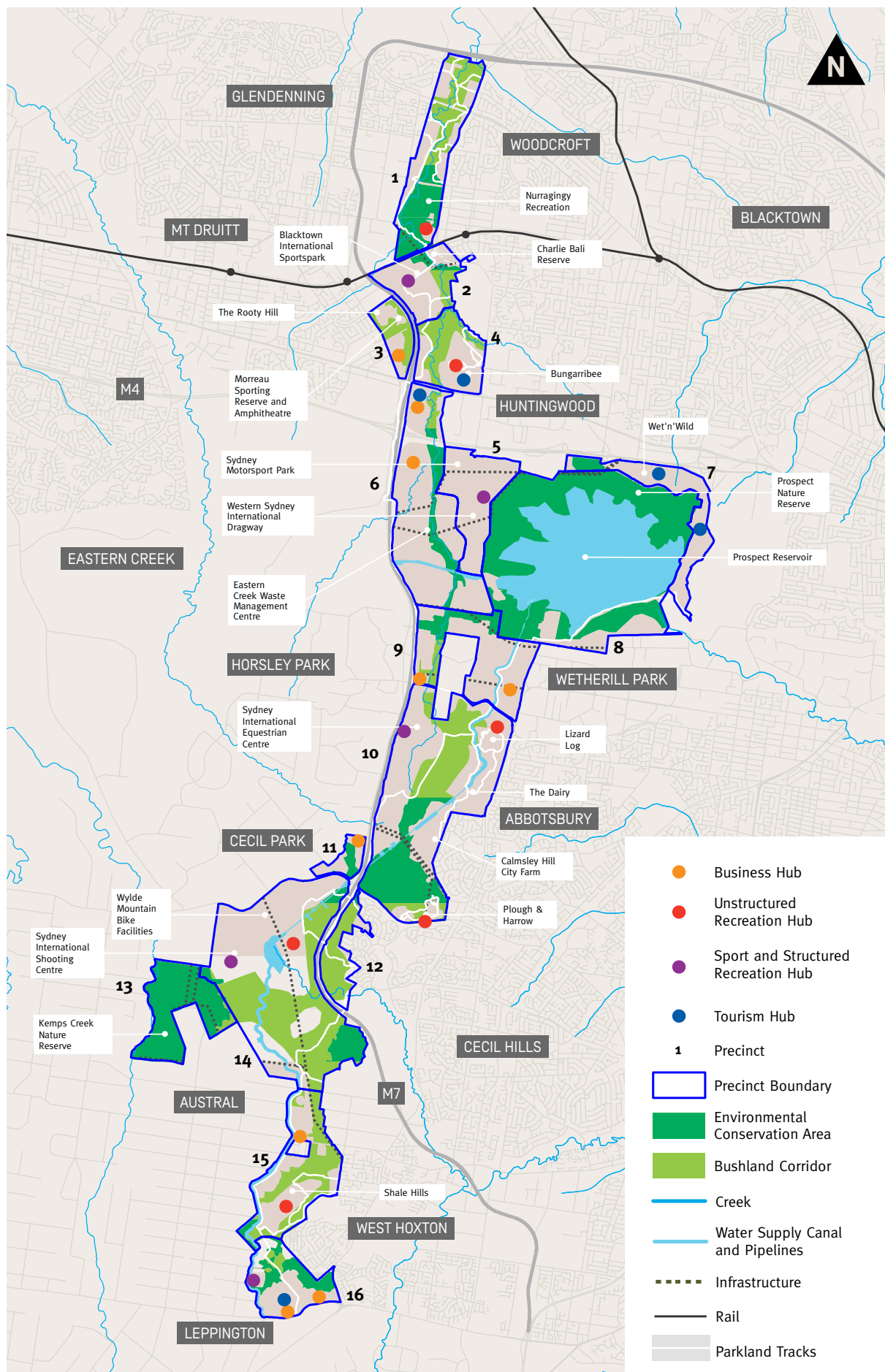
2.2.6 Aboriginal Participation in Construction Policy

The Aboriginal Participation In Construction Policy aims to create opportunities for Aboriginal owned businesses and encourage employment and training through the supply chain of NSW Government contracts. The policy applies to all NSW Government departments, statutory authorities, trusts and other government entities and is mandatory for three categories of construction projects:

- Category 1 – projects nominated by an agency that are primarily directed to one or more Aboriginal communities
- Category 2 – all other construction projects where the estimated value is over \$10 million
- Category 3 – all other construction projects where the estimated value is over \$1 million.

The policy requires that a minimum of 1.5 per cent of project spend must be dedicated to Aboriginal participation, including Aboriginal employment; engagement of Aboriginal owned businesses to provide goods and services to a project; education and training; and engagement and consultation with Aboriginal organisations or businesses.

The project would fall into Category 2. Roads and Maritime would seek to identify and promote Aboriginal participation in the construction phase of the project through requirements in the conditions of approval and the future contracts.



Source: Western Sydney Parklands Trust, 2018

Figure 2-3 Western Sydney Parklands land use framework 2030

2.3 Local government strategies

2.3.1 2016-2026 Fairfield City Plan

The 2016-2026 Fairfield City Plan – Our home, our city, our future (Fairfield Council, 2016) is the Community's Strategic Plan. The Fairfield City Plan outlines five themes to achieve the community's vision, priorities and goals for the next 10 years based on the community's needs and aspirations.

Local traffic flow and road safety and connected transport systems were identified as two of the top 10 priorities for the community during consultation for the plan. Theme 2 – places and infrastructure – relates to the buildings, facilities, centres, roads and other infrastructure that the community uses to meet their day-to-day and future needs. An accessible and liveable city is identified as a goal for this theme, with a connected public transport and traffic management system a key outcome.

The project is consistent with the strategies identified by the community, including:

- Improving connectivity and integration with major regional centres and local areas
- Improving local traffic flow and road safety
- Ensuring adequate road and transport infrastructure is in place before developments are completed.

2.3.2 Our Home, Liverpool 2027

Our Home, Liverpool 2027 (Liverpool City Council, 2017) is Liverpool City Council's Community Strategic Plan. It outlines a 10-year plan to transform Liverpool into an inclusive place to learn and grow and to become the destination of choice for business, investment, living and recreation. The Community Strategic Plan identifies four directions that form the structure for the community's priorities – *creating connection*, *strengthening and protecting our environment*, *generating opportunity*, and *leading through collaboration*.

Among other things, the *strengthening and protecting our environment* direction identifies the community's desire for improvements to access and safety in public places, while the *generating opportunity* direction identifies the community's desire for improved traffic management. Improved access and connectivity provided by the project would support these directions.

2.3.3 Penrith Community Plan 2017

The Penrith Community Plan 2017 (Penrith City Council, 2017) outlines the strategies to meet the community's aspirations over the next 20 years. The plan focuses on seven community outcomes that reflect the community's goals for Penrith as a place to live, work and visit.

Community outcomes relevant to the project include:

- *We plan for our future growth* – seeks to ensure services, facilities and infrastructure meet the changing needs of the city
- *We can get around the city* – targets the delivery of effective transport options for passengers and freight in the City and wider region, including by providing a safe and efficient road and pathway network, and improved passenger and freight transport connections in the region.

The project supports these strategies by providing a safe and efficient road network that supports future growth and development and improves access and connectivity for passenger and freight transport.

2.3.4 Local planning context

Planning and development within and surrounding the project is guided by the Fairfield Local Environmental Plan (LEP) 2013, Liverpool LEP 2008, and Penrith LEP 2010. The LEPs guide land use and development decisions and manage the way land is used in the LGAs by zoning land, identifying land uses allowed in each zone, and development standards.

3. Assessment methodology

3.1 Overview

This assessment has been developed in accordance with the Roads and Maritime Environmental Impact Assessment Practice Note N05 – Socio-economic assessment and addresses the socio-economic, land use and property matters outlined in the SEARs (see **Table 1-1**). Key steps in this assessment included:

- Scoping the likely range of potential socio-economic, land use and property issues and identifying communities potentially affected by the project's construction and operation
- Describing existing socio-economic, land use and property characteristics, conditions and values in the study area to provide a baseline from which potential impacts and benefits of the project can be assessed
- Identifying, assessing and evaluating potential impacts and benefits to socio-economic values, land use and property from the project's construction and operation
- Identifying measures to avoid, manage or mitigate negative impacts and potential benefits.

3.2 Study area

Primary and secondary study areas were identified for this assessment based on the consideration of those communities that may experience impacts from the location and operation of the project, construction activities and changes to movement patterns for residents, workers and visitors. The primary and secondary study areas are shown in **Figure 3-1**.

The primary study area comprises communities adjoining the project and includes communities likely to experience the greatest impacts from the project's location, construction and operation. The primary study includes the Australian Bureau of Statistics (ABS) Statistical Area Level 2¹ (SA2) geographies of:

- Cecil Hills SA2
- Austral-Greendale SA2
- Horsley Park-Kemps Creek SA2
- Mulgoa-Luddenham-Orchard Hills SA2
- Badgerys Creek SA2.

The secondary study area comprises regional communities that may experience benefits and impacts mainly associated with changes to movement patterns and includes the LGAs of Fairfield, Penrith and Liverpool. The primary study area overlaps with the secondary study area (see **Figure 3-1**).

Potential impacts on communities, business and land use outside of the primary and secondary study areas (eg Greater Sydney) are also considered in this assessment.

¹ SA2s are designed to represent a community that interacts together socially and economically and often reflect one or more related suburbs. The SA2 is the smallest area for the release of many ABS statistics, including estimated resident population. SA2s generally have a population range of 3,000 to 25,000 persons and have an average of about 10,000 persons. SA2s are built up from whole Statistical Areas Level 1 ([http://www.abs.gov.au/websitedbs/d3310114.nsf/home/australian+statistical+geography+standard+\(asgs\)](http://www.abs.gov.au/websitedbs/d3310114.nsf/home/australian+statistical+geography+standard+(asgs))).

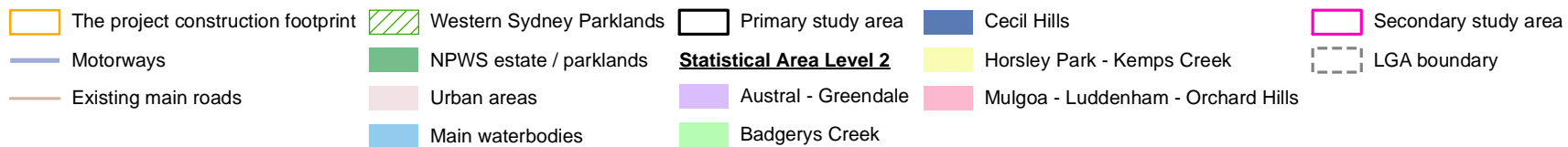
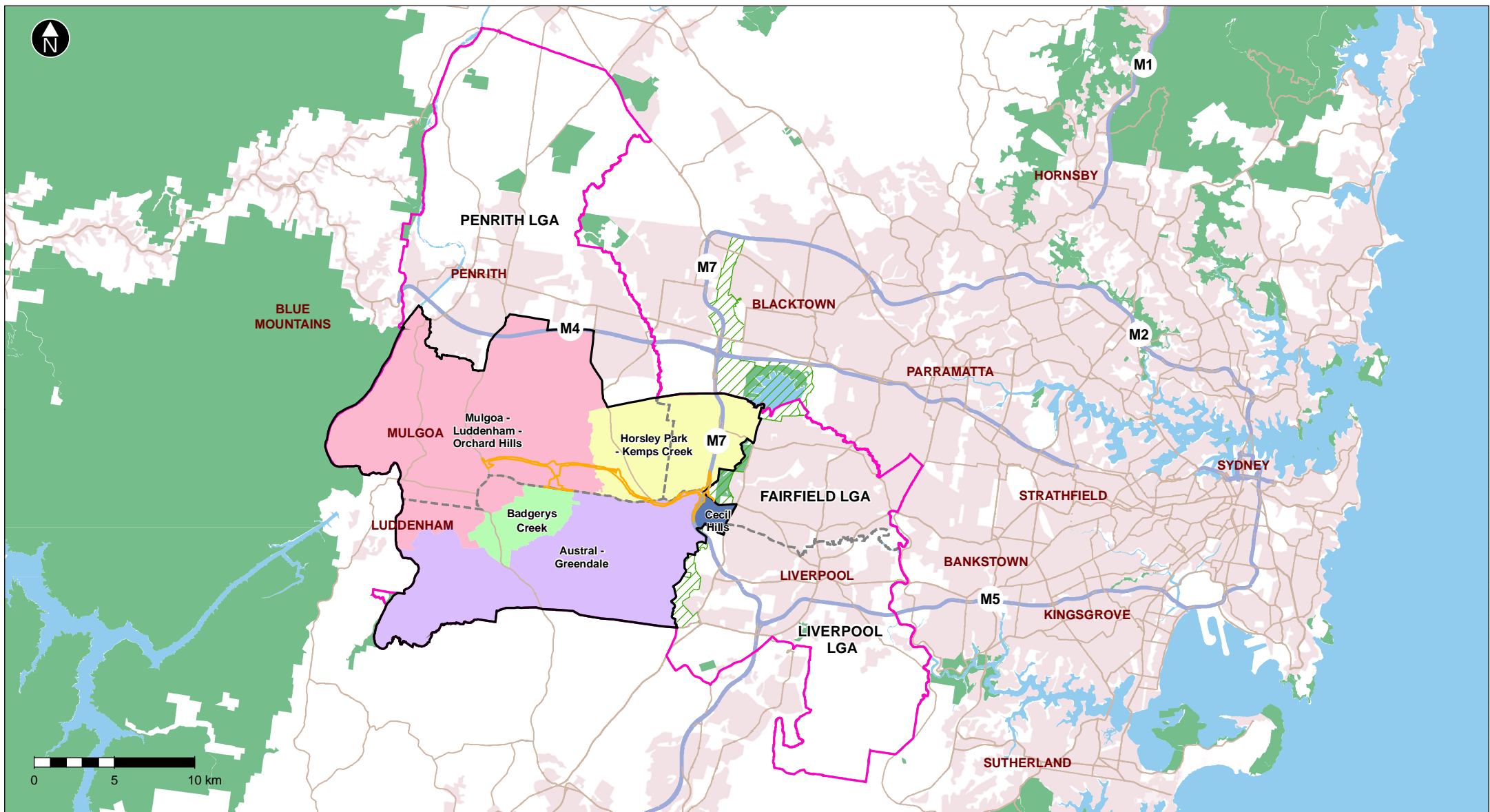


Figure 3-1 Socio-economic assessment study area

A small section of the project is located within the area covered by the Bossley Park-Abbotsbury SA2. The proposed works would mainly be located within the Western Sydney Parklands area next to the M7 Motorway and away from residential communities within the Bossley Park-Abbotsbury SA2. While this SA2 is not included in the primary study area, potential impacts of the project's construction and operation on local businesses, social infrastructure and community values in this SA2 have been considered. This includes potential impacts on the Western Sydney Parklands and its associated infrastructure, amenity and values.

3.3 Scoping of potential impacts

A preliminary review of the project was conducted to scope the likely socio-economic, land use and property impacts of the project to assist in defining the study areas for this assessment and the information to be gathered for the existing baseline. The preliminary review considered:

- The SEARs for the project
- Roads and Maritime's Environmental Impact Assessment Practice Note N05 – Socio-economic assessment
- Social and economic assessments undertaken for other road and transport infrastructure projects in NSW and elsewhere
- Literature relating to existing socio-economic values, land use and property in the study area
- Outcomes of consultation undertaken for the project.

3.4 Existing baseline

The description of existing characteristics, conditions and values comprises both qualitative and quantitative analysis, including review and analysis of:

- State and local government policies and strategies relevant to socio-economic, land use and property
- Existing and future land use, including current land uses, land use zoning, utilities and strategic plans relevant to the primary and secondary study areas
- Population and demographic data for communities in the primary and secondary study areas, including population size and growth, diversity, ABS Socio-economic Index for Areas (SEIFA) index for relative socio-economic disadvantage; and housing and tenure
- Data on employment and income, and information on existing business, industry and agricultural uses
- Information on community health and wellbeing, including health data from NSW Ministry of Health
- Social infrastructure in the primary study area, including education, health and emergency services, recreation uses and transport
- Community values, including those relating to such things as local amenity and character, community cohesion and natural environment.

Population and demographic data is presented for both the primary and secondary study areas, with information on NSW provided as a comparison.

The Badgerys Creek SA2, located south of the project, is identified as the site for the Western Sydney Airport. This area had a population of about 60 people at the 2016 Census. Due to the low population count, limited data from the 2016 Census is available for this area and has not been included in population and demographic data for the primary study area. Potential impacts of the project on the future use of this area have been considered.

Data sources used to inform this assessment, including the description of the existing baseline are listed in **Section 3.8**.

3.5 Impact assessment

The impact assessment considered potential changes to existing socio-economic conditions, land use and property associated with the construction and operation of the project. This includes consideration of direct and indirect impacts and cumulative impacts due to interaction with other projects. The assessment considers potential impacts on:

- Property – including impacts associated with:
 - Property acquisition
 - Temporary lease of land for construction
- Land use and planning – including impacts on:
 - Utilities
 - Residential land use
 - Environmental and recreational land uses
 - Agricultural land uses
- Population and demography
- Local business and industry – including impacts associated with:
 - Acquisition or temporary lease of land used for commercial activities
 - Changes to traffic, access and amenity
- Social infrastructure – including direct and indirect impacts on:
 - Local and regional social infrastructure
 - Social infrastructure within or adjacent to the project
- Community values – including those relating to:
 - Local amenity and character
 - Community cohesion
 - Community safety
 - Environmental values
- Local access and connectivity – including impacts on:
 - Property access
 - Motorists and road users
 - Public transport users
 - Pedestrians and cyclists.

3.6 Evaluation of significance framework

An evaluation matrix was used to evaluate the significance of potential negative socio-economic, land use and property impacts associated with the construction and operation of the project. This was based on the evaluation framework developed by Roads and Maritime as part of the Environmental Impact Assessment Practice Note N05 – Socio-economic assessment.

The significance of identified impacts was determined with consideration of:

- Sensitivity of receptors (ie environmental characteristics, communities, businesses, business clusters, social infrastructure, residences)
- Magnitude of the proposed works.

The sensitivity of receptors refers to the qualities which influence a receptors' vulnerability to changes from the project and/or capacity to adapt. This can be influenced by existing conditions relating to such things as amenity, demographic characteristics, economic activity and types of industry and/or businesses present, connectivity and access, property and land use types and known future changes (eg rezoning), community values and community cohesion. The level of community concern about a project can also influence the sensitivity of receptors. The criteria for determining the sensitivity of receptors is outlined in **Table 3-1**.

Table 3-1 Levels of sensitivity

Sensitivity	Example
Negligible	No vulnerability and able to absorb or adapt to change
Low	Minimal areas of vulnerabilities and a high ability to absorb or adapt to change
Moderate	A number of vulnerabilities but retains some ability to absorb or adapt to change
High	Multiple vulnerabilities and/or very little capacity to absorb or adapt to change

The magnitude of proposed works refers to the scale, duration, intensity and scope of the project, including how it will be constructed and operated. This can be influenced by such things as the geographical area affected, the type, frequency and duration of works; and operational uses and built form. The criteria for determining the magnitude of proposed works is outlined in **Table 3-2**.

Table 3-2 Levels of magnitude

Magnitude	Example
Negligible	No discernible positive or negative changes caused by the impact. Change from the baseline remains within the range commonly experienced by receptors.
Low	A discernible change from baseline conditions. Tendency is that the impact is to a small proportion of receptors over a limited geographical area and mainly within the vicinity of the project. The impact may be short term, or some impacts may extend over the life of the project.
Moderate	A clearly noticeable difference from baseline conditions. Tendency is that the impact is to a small to large proportion of receptors and may be over an area beyond the vicinity of the project. Duration may be short term to medium or some impacts may extend over the life of the project.
High	A change that dominates over existing baseline conditions. The change is widespread or persists over many years or is effectively permanent.

The significance of an identified negative impact is determined by the combination of sensitivity and magnitude compared to the existing baseline condition. In evaluating the level of significance, consideration is given to:

- The range of potential direct and indirect impacts during construction and operation
- Cumulative impacts with other projects.

The matrix for determining the level of significance is outlined in **Table 3-3**.

Table 3-3 Assessing level of significance

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity of receptor	High	High impact	High-moderate	Moderate	Negligible
	Moderate	High-moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

3.7 Impact management

The final step for the assessment involved identifying measures to avoid, minimise or mitigate socio-economic, land use and property impacts arising from the construction and operation of the project.

This assessment draws on mitigation and management measures recommended in other technical studies within the EIS for the project. In addition, relevant management strategies to enhance positive impacts and avoid/minimise negative impacts were developed in consultation with key stakeholders.

3.8 Data sources

3.8.1 Primary and secondary data sources

Data presented in this assessment draws primarily on information from the ABS Census of Population and Housing 2016. Additional land use and socio-economic data and information was also sourced from:

- Australian and NSW government agencies, including the ABS (non-Census data), NSW Department of Planning and Environment, NSW Department of Primary Industries and NSW Health
- Fairfield City Council, Penrith City Council and Liverpool City Council publications, reports, guidelines and websites
- Website and literature reviews
- Surveys of local businesses and shoppers at Elizabeth Drive and Mamre Road (see **Section 3.8.2** and **Annexure A**)
- Outcomes of community and stakeholder consultation undertaken for the project (see **Section 4.1**)
- NSW government mapping and spatial datasets, relating to land use, land use zoning and community facilities
- Outcomes of other technical assessments undertaken for the EIS, including traffic and transport, noise, landscape and visual amenity, and cultural heritage.

3.8.2 Business and shopper surveys

Two separate surveys were conducted to gather information on business activity near the project. These included:

- Survey of local business owners/managers
- Shopper surveys.

Local business surveys

Surveys were conducted to gather information on local businesses potentially impacted by the construction and operation of the project. Individual surveys were carried out on Wednesday 11 April and Thursday 12 April 2018 with owners/managers/employees of businesses located near the project at Elizabeth Drive and Mamre Road. Surveys were undertaken on a weekday to access a range of local and visiting responses. Information gathered related to the type and nature of businesses, business operations, and perceptions of potential benefits and impacts for businesses associated with construction and operation of the project.

About 25 businesses are located near the project at Elizabeth Drive and Mamre Road. Surveys were voluntary and were completed by about 13 businesses, including 12 businesses that completed face-to-face surveys and one business that completed the survey online. Eleven businesses were located at Elizabeth Drive, with two located at Mamre Road. The types of businesses captured included retail, wholesale trade, transport, postal and warehouse businesses.

A copy of the business survey is provided in **Annexure A**. The outcomes of the business surveys are discussed in **Section 5.6.3** and **Section 6.6**.

Shopper surveys

Shopper surveys were undertaken to gather information on customers of local businesses near the project at Elizabeth Drive and Mamre Road. Surveys were conducted on Wednesday 11 April and Thursday 12 April 2018 with shoppers of local businesses to gather information on:

- The purpose of their visit
- Their mode of travel
- Their origin
- Frequency of visits to local businesses.

Surveys were conducted randomly, with 15 shoppers agreeing to provide feedback.

A copy of the shopper survey is provided in **Annexure A**. The outcomes of the shopper surveys are discussed in **Section 5.6.3** and **Section 6.6**.

4. Consultation

Chapter 6 of the EIS provides an overview of community and stakeholder consultation undertaken for the project, along with the key issues raised.

Development of the project has been informed by consultation with the community and stakeholders, including:

- Property owners and residents near the project
- Government stakeholders, including:
 - Local government area councils
 - State and Commonwealth agencies
 - Western Sydney Parklands Trust
 - Local members of parliament (MPs)
- Utility and service providers
- Local Aboriginal Land Councils
- Other industry and stakeholders:
 - Potentially directly affected businesses
 - Community members and groups such as Bicycle NSW
 - Educational facilities
 - Places of worship
 - Emergency services
 - Transport operators.

This socio-economic, land use and property assessment has also been informed by targeted consultation with businesses and shoppers at Kemps Creek and the outcomes of community and stakeholder consultation undertaken by Roads and Maritime for the project, including with the Western Sydney Parklands Trust. Specifically, this has informed the identification of existing features and values important to communities, assessment of potential benefits and impacts of the project, and identification of impact management measures.

4.1 Issues raised during consultation

Consultation was undertaken with community and key stakeholders between July 2015 and early 2018 to inform the development of the project. Key issues raised by the community and stakeholders in submissions related to:

- Cycle paths and connections
- Environmental impacts, including air quality, noise and flora and fauna
- Impacts on properties, property access, and impacts on property values, acquisition and compensation
- Impacts on businesses, including compensation for loss of business and/or direct access
- Impacts on future land uses/plans and access including future connections to Luddenham Road and Mamre Road
- Concerns around traffic congestion
- Impacts on recreational facilities including Western Sydney Parklands and Wylde Mountain Bike Trail (Roads and Maritime, 2018).

After the project corridor route was announced in November 2016 by Roads and Maritime, the Greater Sydney Commission and the Western Sydney Parklands Trust shared their early plans for future land uses in western Sydney including the Western Sydney Parklands. As the identified corridor directly affected those plans, Roads and Maritime investigated changes to the route through the Western Sydney Parklands. As a result, the eastern portion of the M12 Motorway route through the Western Sydney Parklands was moved north to lessen the impacts on the Parklands and maintain the integrity and development potential of the area for future generations.

Roads and Maritime will continue to work with the Western Sydney Parklands Trust to understand the future plans for the parklands to ensure that the design of the M12 Motorway is sympathetic to the parklands and there is connectivity for the parkland users.

5. Existing environment

This section includes a description of the existing socio-economic, land use and property characteristics and features in the primary and secondary study areas to provide a baseline against which the project's impacts can be assessed. It has been informed by the desktop investigations and field surveys undertaken for the project.

5.1 Regional context

5.1.1 Fairfield LGA

Fairfield LGA is located about 32 kilometres south-west of central Sydney and covers an area of about 102 square kilometres. The LGA had an estimated residential population of about 209,107 people in 2017. Over the 10 years to 2017, the LGA's population grew by about 18,453 people or 9.7 per cent, compared to about 13.2 per cent in NSW as a whole over the same period (Commonwealth of Australia, 2018a).

Land uses in the Fairfield LGA are mainly residential with major commercial centres at Fairfield and Cabramatta and large-scale industrial estates at Wetherill Park and Smithfield. The LGA accommodates a range of community services and facilities, including primary and secondary education facilities, Fairfield Hospital and specialist health care services. Cultural, recreational and sporting facilities in the LGA include Fairfield City Museum and Gallery, Fairfield Showgrounds, Fairfield Markets, a wide variety of open space (consisting of parks with children's playgrounds, youth facilities) and sportsgrounds with playing fields and sports courts, and the Western Sydney Parklands. There are also four major business and retail centres and a number of shopping centres.

Fairfield LGA is serviced by a number of major roads including the Western Motorway (M4), Hume Highway, Cumberland Highway, and South Western Motorway (M5). Other key transport routes include the Bankstown, Cumberland and South railway lines and the Liverpool – Parramatta T-way.

5.1.2 Liverpool LGA

Liverpool LGA is located about 27 kilometres west of the Sydney CBD and covers an area of about 305 square kilometres. The LGA had an estimated resident population of about 217,586 people in June 2017. The LGA's population experienced a relatively high rate of growth between 2007 and 2017, increasing by an average of 2.3 per cent annually. This is compared to 1.4 per cent in NSW as a whole (ABS, 2018). The LGA's population is projected to continue to grow at a rate above that NSW as a whole, with the population of the LGA expected to grow to 331,000 people by 2026 (NSW DPE, 2016).

Land uses in the Liverpool LGA comprise rural uses in the western part of the LGA at Greendale, Badgerys Creek, Luddenham and Austral, and urban uses including residential, commercial and industrial uses in the eastern part of the LGA. The Liverpool CBD is the key commercial centre for the region, offering a range of retail, business and commercial uses, with key industrial uses at Chipping Norton, Preston and Moorebank. The Department of Defence Holsworthy Barracks is also located in the Liverpool LGA. The barracks forms part of the Liverpool Military Area, which also comprises the Joint Logistic Unit – East, Luscombe Airfield and Holsworthy Training Area and covers an area of nearly 20,000 hectares (Department of Defence, 2018).

Liverpool LGA accommodates a number of major community services and facilities. This includes state and regional level sport and recreation facilities such as the Western Sydney Parklands, Sydney International Shooting Centre, Eastern Creek International Raceway, Sydney International Equestrian Centre and Warwick Farm Racecourse, major tertiary education facilities and major health care services at Liverpool Hospital.

Liverpool LGA is serviced by a number of major roads including the M5 Motorway, M7 Motorway, the Cumberland Highway and The Northern Road. Other key transport routes include the Bankstown, Cumberland and South railway lines and the Liverpool – Parramatta T-way.

5.1.3 Penrith LGA

Penrith LGA is located about 50 kilometres west of the Sydney CBD and covers an area of about 404 square kilometres. The LGA is bounded by Hawkesbury LGA to the north, Blacktown and Fairfield LGAs to the east, Liverpool and Wollondilly LGAs to the south and Blue Mountains LGA to the west (<http://profile.id.com.au/penrith/about>).

In June 2017, Penrith LGA had an estimated residential population of about 205,043 people. Over the 10 years to 2017, the population of the LGA grew at an average of 1.5 per cent annually, which is similar to the rate of growth for NSW as a whole (Commonwealth of Australia, 2018a). By 2036, the population of the LGA is expected to reach 270,750 people, representing an average annual growth rate of 1.4 per cent between 2016 and 2036. This is above the projected rate of growth for NSW as a whole over the same period (NSW DPE, 2016).

Penrith LGA comprises predominantly rural land uses, with about 80 per cent of the LGA comprising rural and rural-residential uses. Agricultural uses include dairying, poultry farming, hobby farming, orcharding, market gardening and horse breeding. Urban uses in the LGA include mainly residential uses, with some commercial and industrial areas. Major centres include the Penrith City Centre, which is the LGA's primary business and commercial centre, St Marys town centre, and Kingswood centre, which is focused on the Penrith Health and Education Precinct and is developing as a major specialised centre. The Defence Establishment Orchard Hill is located in Penrith LGA. This is used for the storage of munitions as well as weapons training and covers an area of about 1740 hectares (Commonwealth of Australia, 2018b).

Penrith LGA has a number of major education facilities including the University of Western Sydney, the Western Sydney Institute, and TAFE NSW Western Sydney Institute Penrith Campus. Major hospitals include the Nepean Public Hospital and Nepean Private Hospital. Penrith Lakes Regional Park is a key focus of sport, recreation and leisure facilities for local and regional communities, and accommodates a range of local, regional and international level facilities such as the Sydney International Regatta Centre, Penrith Whitewater Stadium and Nepean Aquatic Centre. Penrith Stadium and the Penrith Panthers Leagues Club also provide sporting, recreation and leisure facilities for local and regional communities.

Penrith LGA is serviced by a number of major roads including the M4 Motorway, M7 Motorway, the Great Western Highway and The Northern Road. Other key transport routes include the Western railway line, which connects central Sydney to Emu Plains and further to the Blue Mountains.

5.2 Land use

This section provides an overview of existing land uses in the primary study area. Information is also provided on planned future land use and development areas identified by relevant planning strategies. It has been prepared based on:

- Review of available NSW Government state-wide land use mapping, which was verified based on known land uses, from site inspections, discussion with key stakeholders and property analysis.
- Description of future land uses based on available planning strategies, including the Western City District Plan, Western Sydney Aerotropolis LUIIP and local planning strategies.

5.2.1 Existing land uses

Existing land uses within or surrounding the project are shown on **Figure 5-1** and include:

- Rural and agricultural uses including land used for grazing, intensive horticulture and animal production, and rural residential uses (further discussion on existing agricultural uses is in **Section 5.6.4**)
- Urban land uses including commercial and industrial uses, resource and waste facilities, community uses such as educational facilities and places of worship, recreation and parkland areas, and residential uses
- Environmental areas including conservation areas and watercourses and water infrastructure such as the Sydney Water Canal at Cecil Park
- Roads and transport including existing road corridors.

Generally, existing land uses near the project are characterised by large property rural and grazing land at Luddenham to the west, transitioning to a mix of intensive agriculture (horticulture and animal production) and resources at Kemps Creek, and rural residential, commercial and parkland in Mount Vernon and Cecil Hills in the east. The site of the Western Sydney Airport at Badgerys Creek is located to the south of Elizabeth Drive on land that is currently mainly used for agricultural (grazing) purposes. **Table 5-1** outlines the land use categories and their associated definitions used for this assessment and to inform the assessment of business, property and land use impacts.

Table 5-1 Land use categories

Group	Category	Definition
Environmental areas	Watercourse or water infrastructure	River, creek, stream or artificial incised drainage infrastructure.
	Conservation area	Natural area or rural land that is not grazed.
Rural and agriculture	Grazing	General agricultural grazing uses, including low intensity agricultural uses, with or without dwellings, on large properties, including equine grazing.
	Intensive agriculture	Intensive animal production or horticulture, nursery.
	Rural	General rural uses, including (but not limited to) large property rural living uses, with dwellings and primary production, including equine uses.
	Rural residential	Small lot rural living and small lot primary production uses.
Urban	Residential	General residential, including mixed use communities and suburban residential.
	Commercial/ industrial	Commercial and general industrial and manufacturing use.
	Community	Community facilities, including education facilities and places of worship.
	Recreation	Parkland, public recreation, sport and recreation facilities.
Infrastructure	Roads and transport	Existing public road infrastructure.

Rural and agricultural uses

Rural and agricultural uses are primarily located towards the central and western parts of the primary study area and include:

- General rural uses such as large lot farming and associated rural business and living uses, including at Luddenham and north of the project at Kemps Creek
- Grazing, including livestock and equine grazing (eg horse studs and horse riding facilities) at the eastern end of the project and within the University of Sydney owned McGarvie Smith Farm and Fleurs Farms at Badgerys Creek, which are used for beef cattle grazing
- Intensive agriculture, including intensive animal production, nurseries and horticulture, particularly at Kemps Creek and Mount Vernon
- Rural residential uses, including rural living and smaller farm properties north of the project corridor at Mount Vernon and south of the project corridor at Kemps Creek.

Agriculture and rural uses are the predominant use within and surrounding the project.

Urban land uses

Urban land uses within or surrounding the project are mainly located north and south of the project at Badgerys Creek and Kemps Creek and at Mount Vernon and Cecil Hills. Key urban uses include:

- Commercial and general industrial uses at Elizabeth Drive and Mamre Road, Kemps Creek, and Luddenham Road at Luddenham
- Resource and waste facilities, including at Badgerys Creek, Kemps Creek and Cecil Park
- Residential suburbs at Cecil Hills
- Community uses such as education and places of worship at Kemps Creek and Mount Vernon
- Recreation uses, including formal and informal recreation facilities within the Western Sydney Parklands and Bill Anderson Reserve, Kemps Creek Sporting and Bowling Club and Kemps Creek Baseline Club at Elizabeth Drive, Kemps Creek (refer to **Section 5.5** for further information on sport and recreation uses).

Environmental areas

Key environmental uses within or surrounding the project include:

- Watercourses, including creeks and waterways such as Cosgroves Creek, Badgerys Creek, South Creek, Kemps Creek and Ropes Creek
- Water infrastructure such as the Sydney Water Canal at Cecil Park
- Conservation areas north of the project at Luddenham, including land which forms part of the Cumberland Plain priority conservation lands.

Kemps Creek Nature Reserve is also located south of Elizabeth Drive within the Western Sydney Parklands, while scattered areas of tree and shrub cover are located along creeks and waterways.

A biobank site (ID number 119) is located within the Western Sydney Parklands, near the intersection of Elizabeth Drive and the M7 Motorway. The site covers an area of about 32.2 hectares. A carbon sequestration site is also located within the Western Sydney Parklands south of Elizabeth Drive and east of the Wylde Mountain Bike Trail.

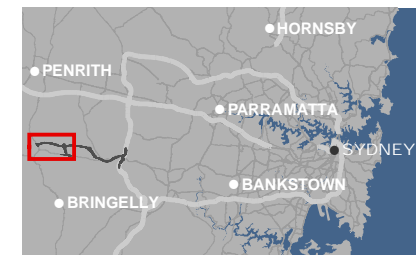
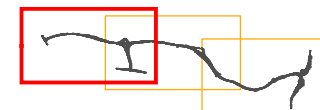
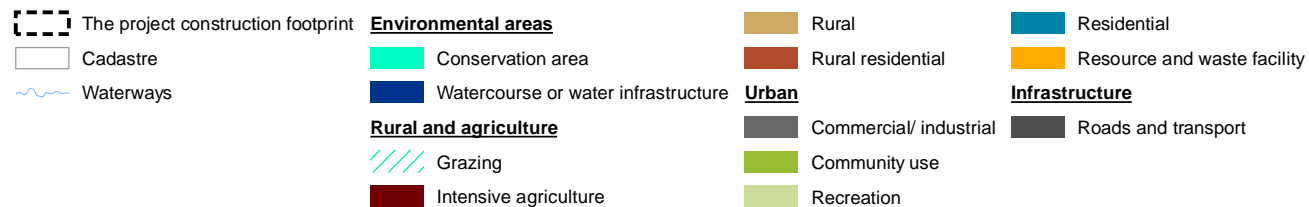


Figure 5-1 Land use within or surrounding the project

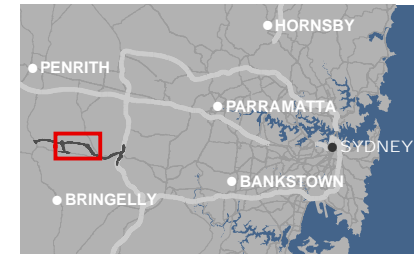
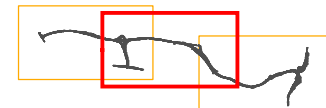
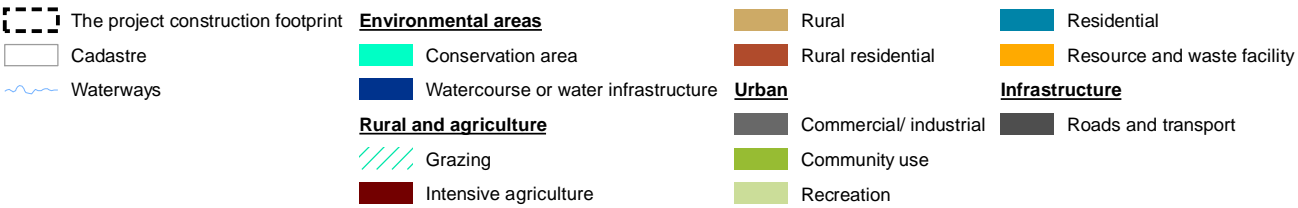
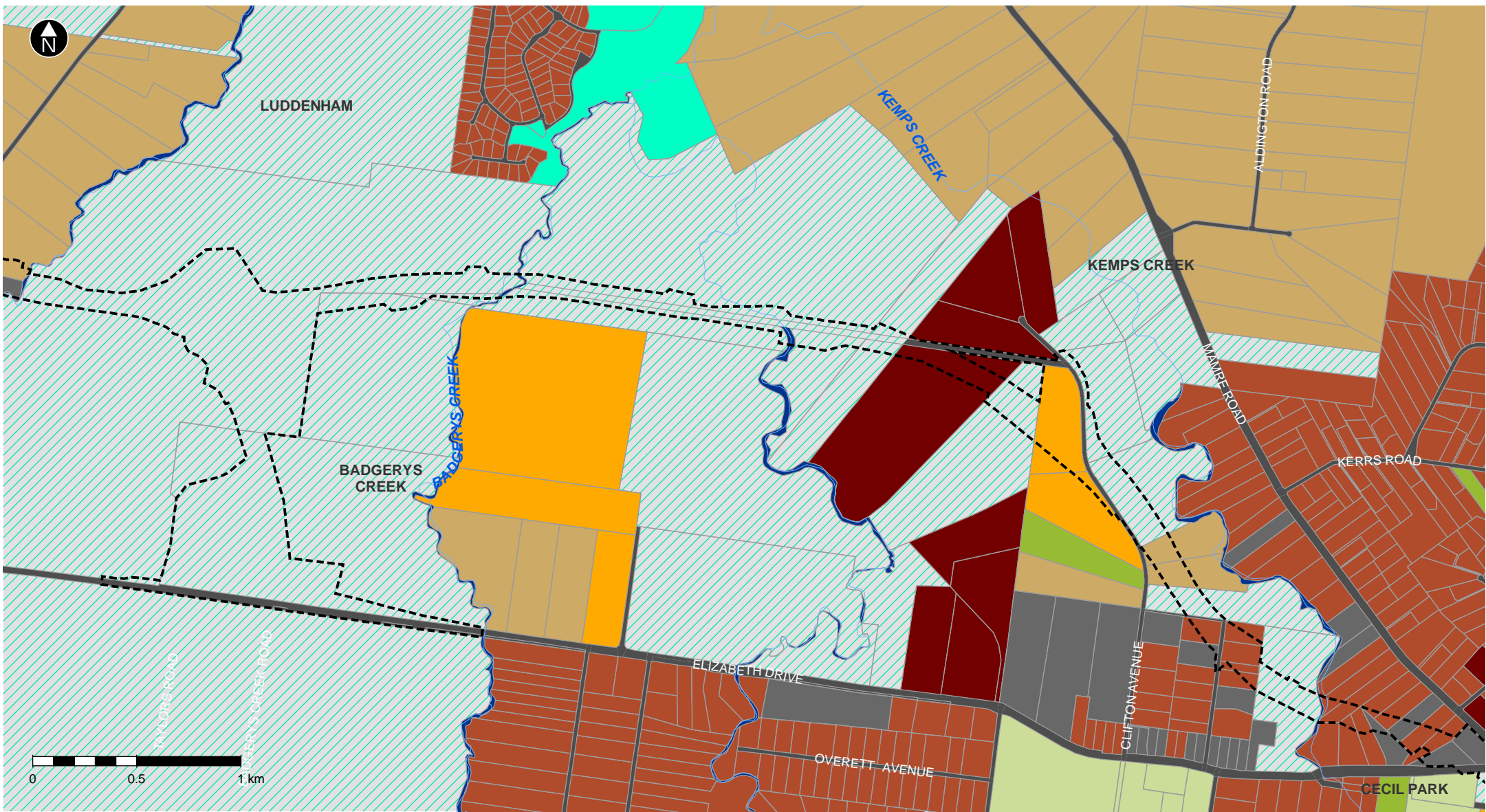
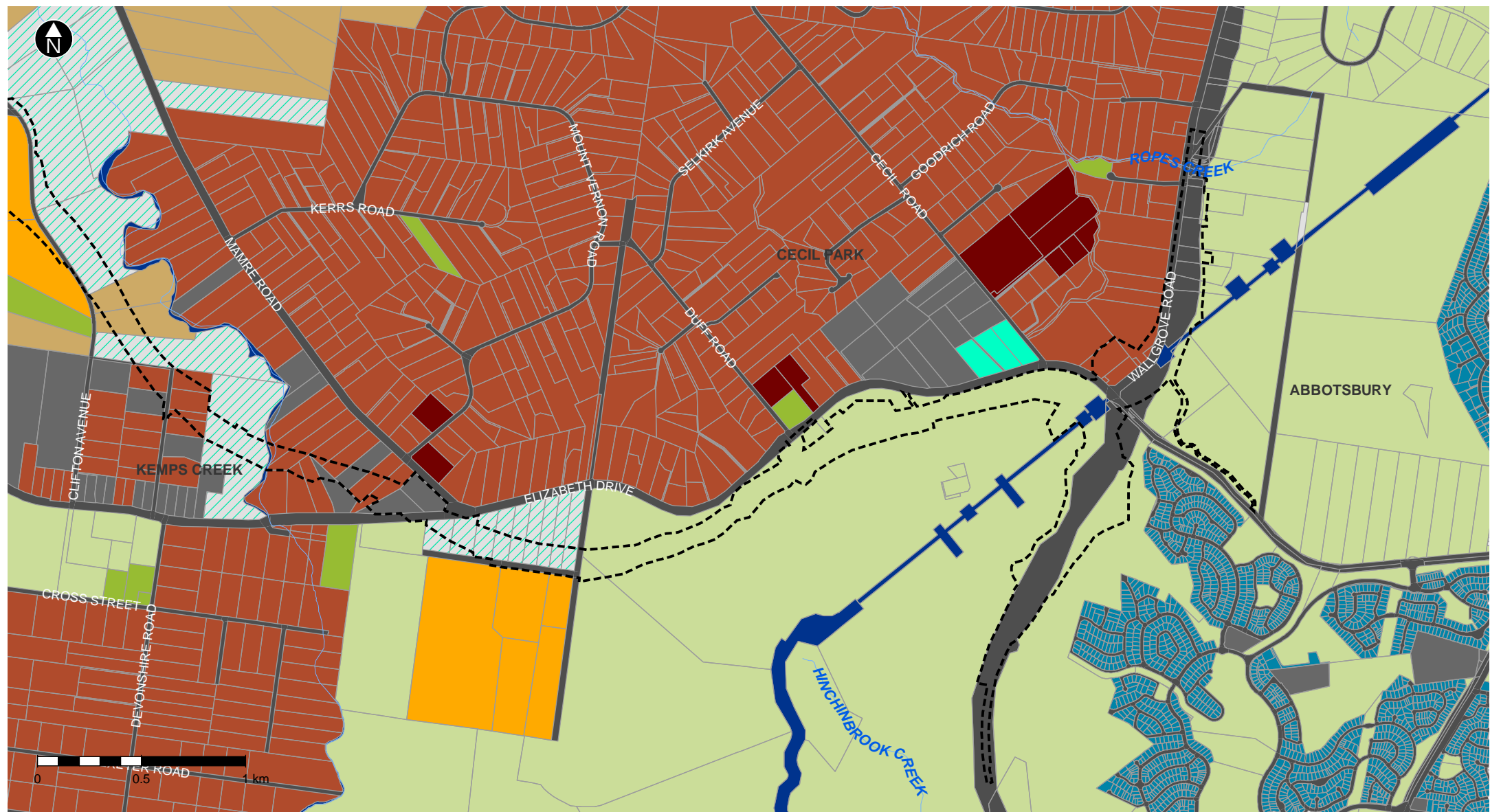


Figure 5-1 Land use within or surrounding the project



- The project construction footprint
- Cadastre
- ~~~~~ Waterways

Environmental areas

- Conservation area
- Watercourse or water infrastructure
- Rural and agriculture
- Grazing
- Intensive agriculture

- Rural
- Rural residential
- Urban
- Commercial/ industrial
- Community use
- Recreation

- Residential
- Resource and waste facility
- Infrastructure
- Roads and transport

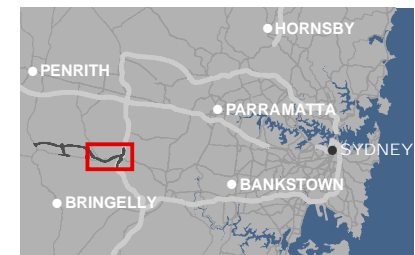
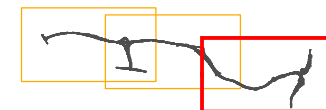


Figure 5-1 Land use within or surrounding the project

Mining and extractive resources

The primary study area includes various mineral and coal titles as shown in **Figure 5-2**. Mineral title EL8429 (expiry date 20 April 2021) held by The Austral Brick Co Pty Ltd, is located at the western end of the project corridor, north and south of Elizabeth Drive. Mineral titles are also associated with quarries, waste management and resource recovery centres, including:

- Clay/shale quarry, operated by Hi-Quality Group, located at Elizabeth Drive, Kemps Creek, south of the project alignment
- Clay quarry, resource recovery centre and landfill, operated by Brandown Pty Ltd, located at Cecil Park, south of the project alignment
- Clay quarry, advanced (resource recovery technology facility, landfill and education centre, operated by SITA, located north of Elizabeth Drive and south of the project alignment (Kemps Creek Resource Recovery Park)
- Clay/shale quarry, operated by Epic Mining Pty Limited, located along Adams Road, Badgerys Creek, south of the project alignment.

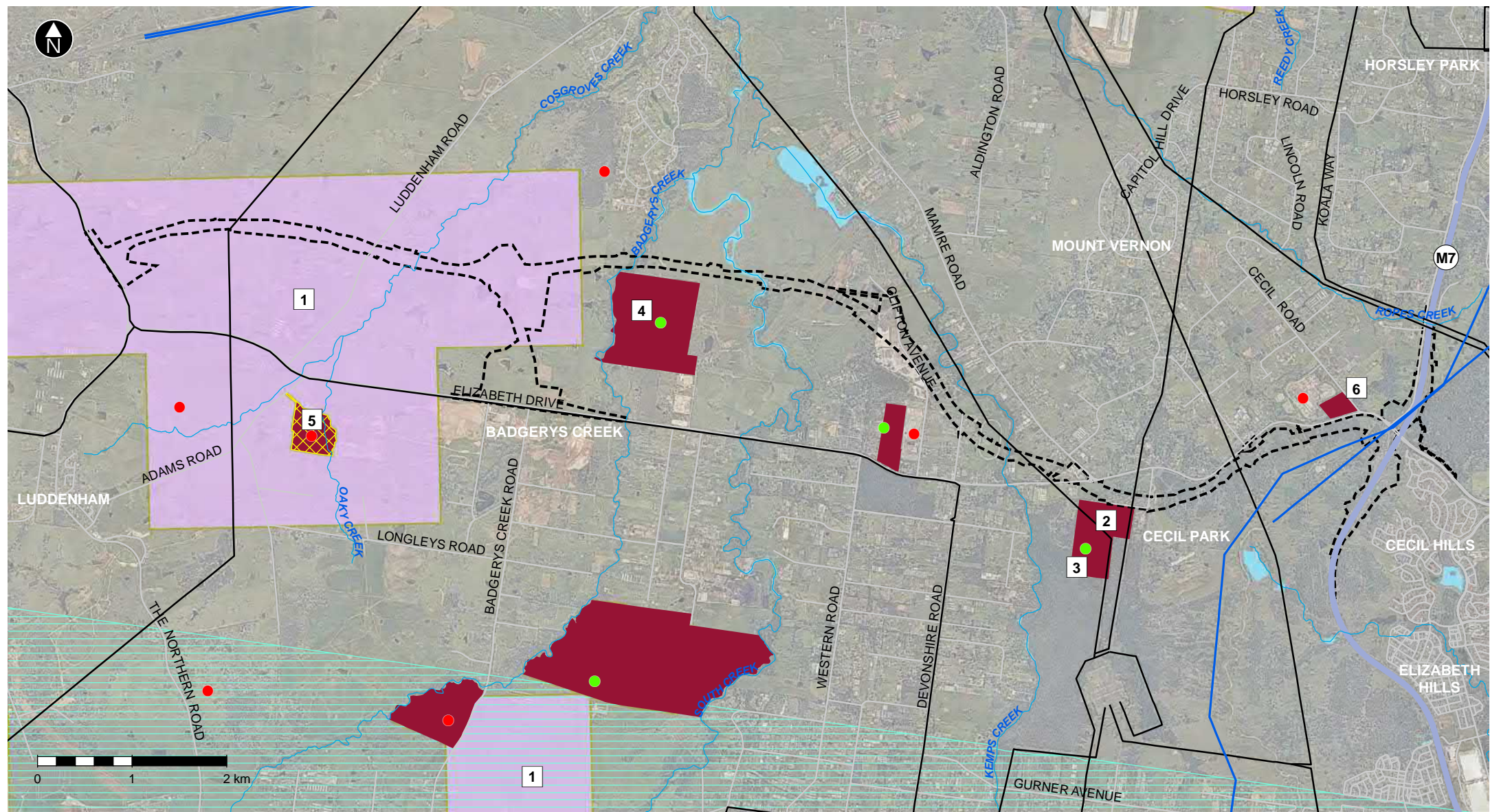
An undeveloped clay resource (Cecil Park Clay Resource) is located at Cecil Road next to the PGH Bricks and Pavers Pty Ltd brickworks and former quarry (CSR Bricks and Roofing), north of Elizabeth Drive in Cecil Park.

Several coal seam gas boreholes exist in the primary study area but have been permanently sealed. Petroleum and mineral (exploratory) drill holes are widespread over the primary study area.

Infrastructure and utilities

The primary study area includes a range of utilities infrastructure including telecommunications, water, electricity, and natural gas. Key utilities include:

- Communications infrastructure located along roads, including The Northern Road, Elizabeth Drive, Mamre Road and a section of the M7 Motorway, north of the project
- Telecommunications towers located at Luddenham Road, Elizabeth Drive, The Northern Road, Mamre Road and Cecil Road
- Airservices Australia Radar at Cecil Park
- Potable and wastewater pipelines located along Elizabeth Drive and other local roads and within the Western Sydney Parklands
- WaterNSW Upper Canal and Warragamba pipelines and water tanks located south of the project within the Western Sydney Parklands
- High voltage electricity transmission networks, including above ground transmission lines along The Northern Road and Elizabeth Drive and within easements running north-south across Elizabeth Drive
- Gas mains along Elizabeth Drive and the M7 Motorway
- Eastern Gas Pipeline and Wilton-Horsley trunk main cross through the Western Sydney Parklands north and south of Elizabeth Drive.



- - - The project construction footprint
 ~~~~~ Waterways  
 — Motorway  
 — Main roads

#### Quarries

● Not operating  
 ● Operating

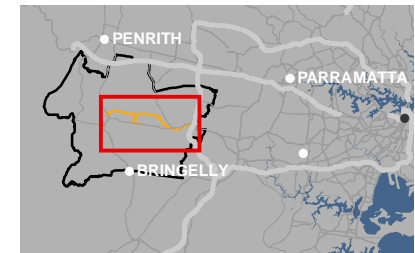
— Electricity transmission lines  
 — Water pipelines

▨ Current mineral application  
 ▨ Current coal title  
 ▨ Current mineral title

#### Mineral resource

▨ Identified Resource

|                                                       |
|-------------------------------------------------------|
| 1 - The Austral Brick Co Pty Ltd Mineral title EL8429 |
| 2 - Hi-Quality Group (Clay/shale quarry)              |
| 3 - Brandown Pty Ltd (Clay quarry)                    |
| 4 - SITA (Clay quarry)                                |
| 5 - Epic Mining Pty Limited (Clay/shale quarry)       |
| 6 - Cecil Park Clay Resource                          |



**Figure 5-2** Mineral and coal titles in the primary study area



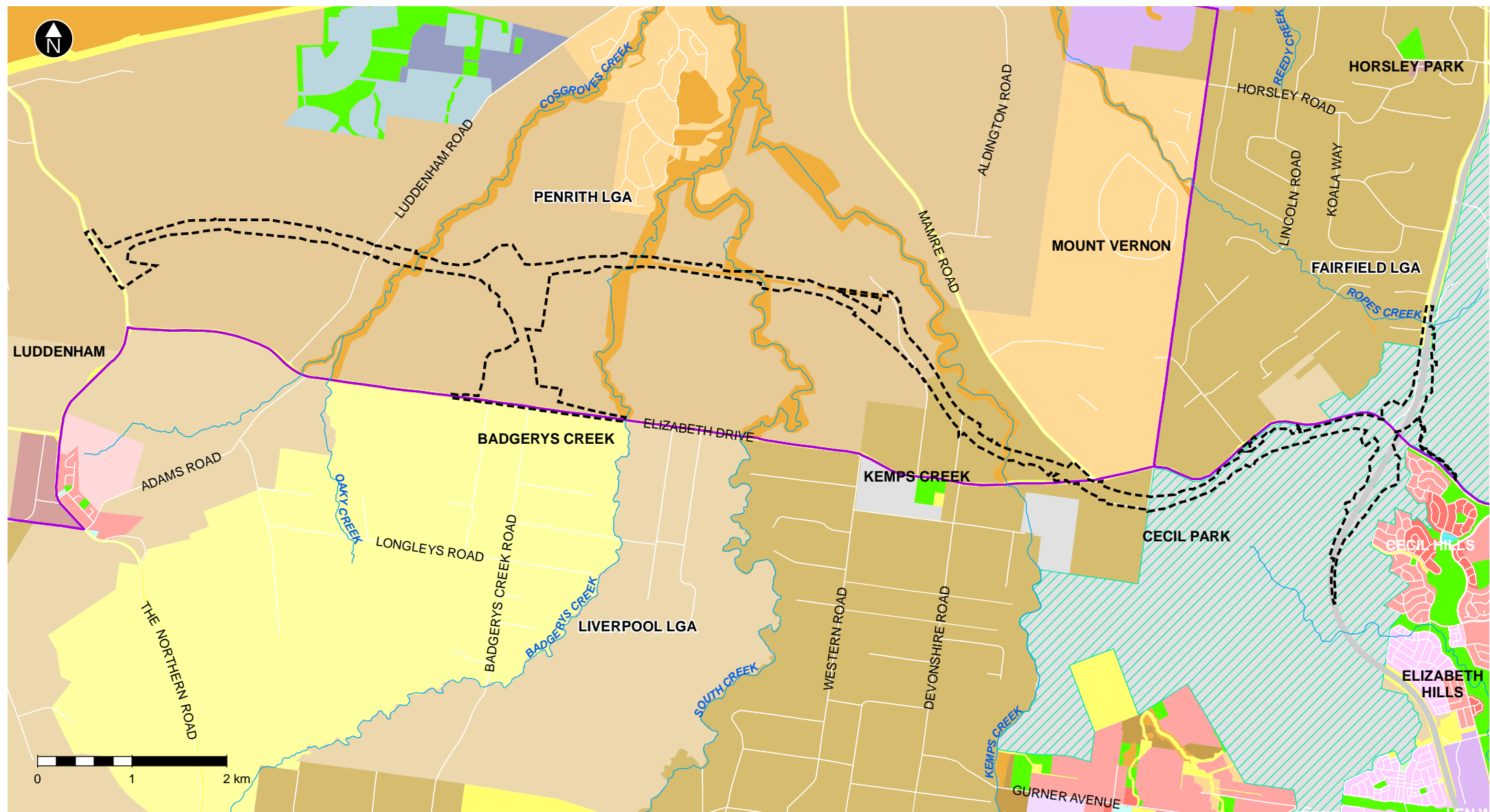
## 5.2.2 Land use zoning

Land use zones provide guidance on the manner that land can be used. Land use zoning within the primary study area mainly comprises rural use zones, residential zones, environmental protection and special purposes (see **Figure 5-3**)

Rural use zones are the predominant land use zone within the primary study area and include:

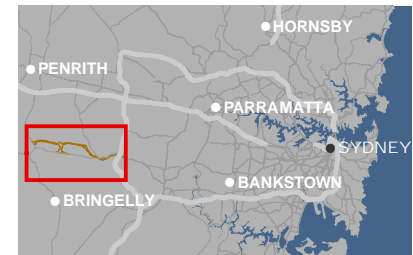
- Rural landscape areas, extending east of The Northern Road to Mount Vernon, north and south of the project alignment (RU2)
- Areas of small lot rural holdings (RU4), south of the project alignment at Kemps Creek and north of the alignment at Cecil Park and Horsley Park
- Primary production areas, mainly located east and west of the Western Sydney Airport site, south of Elizabeth Drive, with a small area also at Cecil Park (RU1).
- Rural residential and residential zones are dispersed through the primary study area and support a mix of rural living and low density residential uses. They include:
  - Large lot, village and low density residential uses at Luddenham village south of the project alignment (R5, RU5 and R2)
  - Environmental living (eg rural residential uses) at Mount Vernon (E4)
  - Low to medium density residential uses at Cecil Hills, east of the project (R2 and R3).
  - Land zoned for environment protection includes:
    - Environmental conservation areas, located mainly along the riparian corridors of Cosgroves Creek, Badgerys Creek and South Creek (E2)
    - Environmental management area at Bill Anderson Park, south of Elizabeth Drive at Kemps Creek (E3).
- Land in the primary study area zoned for special purposes (SP) comprises land identified for social infrastructure, physical infrastructure or corridor protection including:
  - Existing road corridors, including Elizabeth Drive, Mamre Road and The Northern Road (SP2)
  - Electrical substation at Kemps Creek, south of the project (SP2)
  - Educational uses at Cross Street, south of Elizabeth Drive (SP2)
  - Commonwealth activities within the Western Sydney Airport site (SP1).

The eastern part of the primary study area is generally located in the Western Sydney Parklands, which is not zoned under the local environmental plans. Further information on land uses within the parklands is provided in **Section 5.5**. Land zoned for public recreation (RE1) is also located at Kemps Creek (Bill Anderson Park), Cecil Hills, and Luddenham village.



**Figure 5-3** Land use zoning

**Data sources**  
LEPs - Penrith, Liverpool, Fairfield LGA





### 5.2.3 Future land use

The primary and secondary study areas comprise areas identified for future growth and development, including the Western Sydney Aerotropolis and the South West Growth Area (see **Figure 2-1**).

#### *Western Sydney Aerotropolis*

The LUIIP identifies nine precincts based on likely future character and connectivity and outlines future land use proposed within the Western Sydney Aerotropolis. These are shown in **Figure 5-4** and include:

- North Luddenham precinct
- Northern Gateway precinct
- South Creek precinct
- Mamre Road precinct
- Agriculture and Agribusiness precinct
- Aerotropolis Core
- Badgerys Creek precinct
- Kemps Creek precinct
- Rossmore precinct.

The Aerotropolis Core, Northern Gateway and South Creek precincts will be the focus for the next five years, with the remaining precincts developing over time. The LUIIP is the first stage of the structure planning process and all precincts will be subject to more detailed planning before the release and rezoning of land.

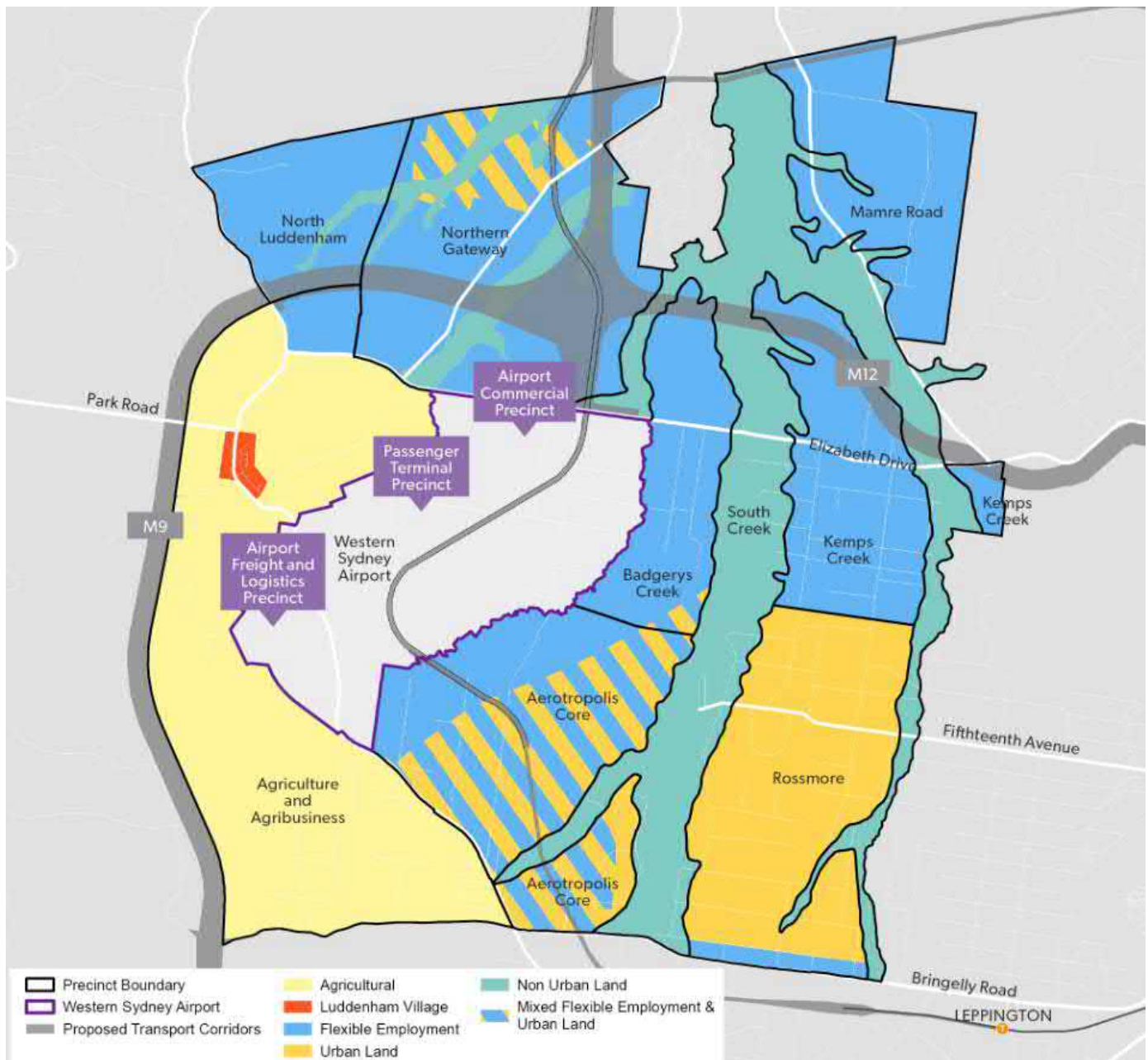
The project would be located within that area covered by the Northern Gateway precinct, the North Luddenham precinct, South Creek precinct and the northern extents of the Badgerys Creek and Kemps Creek precincts. The project has been considered as part of the connectivity framework for the LUIIP.

**Table 5-2** provides an overview of the precincts impacted by the project as described in the LUIIP, while Table 3-3 of the EIS provides an overview of the policy drivers of the plan.

Table 5-2 Western Sydney Aerotropolis precincts

| LUIIP Precinct   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Northern Gateway | <p>The Northern Gateway precinct is identified in the LUIIP as a major airport interface and as a key strategic centre within the Western Economic Corridor, linking the Western Sydney Airport with the Metropolitan Cluster. The M12 and Elizabeth Drive is proposed to connect the precinct to the Western Sydney Airport.</p> <p>Proposed land uses in the precinct include commercial, residential, education and open space within the Sydney Science Park development, and export related activities such as cold storage, food processing and packaging, and agricultural warehousing and logistics. Other land uses such as intensive agribusiness and residential development are also proposed within the precinct, subject to constraints associated with Western Sydney Airport.</p> |
| South Creek      | <p>The South Creek precinct is proposed to form the central green spine of the Aerotropolis. It is proposed to provide an interface to surrounding development through the provision of open space, amenity, recreational and biodiversity values along the South Creek riparian corridor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| North Luddenham  | <p>This precinct is located west of the Northern Gateway precinct and is proposed to be an area focussed on uses such as high technology and research and development associated with food production and processing.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| LUIIP Precinct | Description                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Badgerys Creek | This precinct is proposed to meet the demand for a range of employment generating uses that do not require or benefit from direct access to public transport but would benefit from proximity to airport operations and the new urban centre.                                                                                                                                                                                         |
| Kemps Creek    | The Kemps Creek Precinct is identified in the LUIIP as a new, flexible employment development connected to residential communities in the south, Aerotropolis Core, the Airport and other centres such as Liverpool CBD. The precinct is proposed to accommodate mixed business development such as smaller innovative and creative industries that seek more affordable, out of centre accommodation with accessibility and amenity. |



Source: <https://www.planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Western-Sydney-Aerotropolis/Map>

Figure 5-4 Western Sydney Aerotropolis stage 1 structure plan

## **South West Growth Area and Western Sydney Employment Area**

The planning for the South West Growth Area and the Western Sydney Employment Area (see **Figure 2-1**) is currently at the early stages of investigations. Once complete, this will guide new infrastructure investment, identify new homes and jobs close to transport, and coordinate services in the area.

### **Major approved developments**

A number of sites have been approved in the primary and secondary study areas including:

- Fitzpatrick Industrial Estate, which is a proposed 140 hectare industrial development located at Lenore Drive, Erskine Park. This development is part of the Western Sydney Employment Area
- Eastern Creek Business Hub, which is a greenfield retail and village centre located in the Western Sydney Parklands at Eastern Creek
- Horsley Drive Business Park, which is an industrial, warehousing and distribution facility located within the Western Sydney Parklands, at the corner of The Horsley Drive and Cowpasture Road, Wetherill Park
- Oakdale Industrial Estate, which is a warehouse, distribution and logistics facility located at Kemps Creek
- 327-255 Burley Road, Horsley Park, an industrial subdivision that will create 14 new industrial lots.

## **5.3 Community profile**

This section presents data on population, housing and socio-economic status of communities in the primary and secondary study areas (see **Figure 3-1**). Information is also presented for NSW as a comparison. Population, housing and socio-economic data for each SA2 within the primary study area and each local government area within the secondary study area is also provided in **Annexure B**.

### **5.3.1 Population, size, growth and mobility**

As at 30 June 2017, the primary study area had a total estimated resident population (ERP) of 31,459 people, while the secondary study area had a total ERP of 631,097 people (see **Table 5-3**).

Mulgoa-Luddenham-Orchard Hills SA2 had the largest residential population, with about 33 per cent of the primary study area's population (10,323 people) living in this SA2. Austral-Greendale SA2 had the second largest residential population at 9,165 people, representing about 29 per cent of the primary study area's population. Horsley Park-Kemps Creek had the smallest residential population at 4,678 people, less than 15 per cent of the population in the primary study area.

The population of the primary study area grew at an average of 1.7 per cent annually over the 10 years to 2017, increasing to 2.1 per cent annually in more recent years. This was above the average growth rates in the secondary study area and NSW as a whole over the same periods. The high population growth was mainly driven by relatively high growth in Mulgoa-Luddenham-Orchard Hills SA2, particularly in recent years, with this SA2 recording an annual average population growth of about 4.9 per cent between 2007 and 2017, increasing to 7.3 per cent over the five years to 2017.

Table 5-3 Estimated resident population, 2007-2017

| Locality             | As at 30 June |           |           | Average annual change (per cent) |           |
|----------------------|---------------|-----------|-----------|----------------------------------|-----------|
|                      | 2007          | 2012      | 2017      | 2007-2017                        | 2012-2017 |
| Primary study area   | 26,679        | 28,352    | 31,459    | 1.7                              | 2.1       |
| Secondary study area | 538,027       | 577,186   | 631,097   | 1.6                              | 1.8       |
| NSW                  | 6,834,156     | 7,304,244 | 7,861,674 | 1.4                              | 1.5       |

Source: Based on Commonwealth of Australia (2017a), *Estimated resident population, Australia* (Catalogue number 3218.0)

Information on population projections is only available for the secondary study area (see **Table 5-4**). The population of the secondary study area is projected to increase to 828,450 people by 2036. This represents an average annual growth rate of 1.4 per cent between 2016 and 2036, which is above the expected rate of population growth for NSW as a whole. Across the secondary study area, Liverpool LGA is expected to experience the greatest population growth (an average of 2.2 per cent annually), while Fairfield LGA is projected to increase by an average of less than one per cent annually.

Table 5-4 Projected population, 2016-2036

| Locality             | Population |           | Population change (2016-2036) |                                  |
|----------------------|------------|-----------|-------------------------------|----------------------------------|
|                      | 2016       | 2036      | Number                        | Average annual change (per cent) |
| Fairfield LGA        | 206,250    | 226,700   | 20,450                        | 0.5                              |
| Liverpool LGA        | 214,100    | 331,000   | 116,900                       | 2.2                              |
| Penrith LGA          | 205,150    | 270,750   | 65,600                        | 1.4                              |
| Secondary study area | 625,500    | 828,450   | 202,950                       | 1.4                              |
| NSW                  | 7,748,000  | 9,925,550 | 2,177,550                     | 1.2                              |

Source: Based on NSW Government (2016) *New South Wales State and local government area Population Projections: 2016 Final*

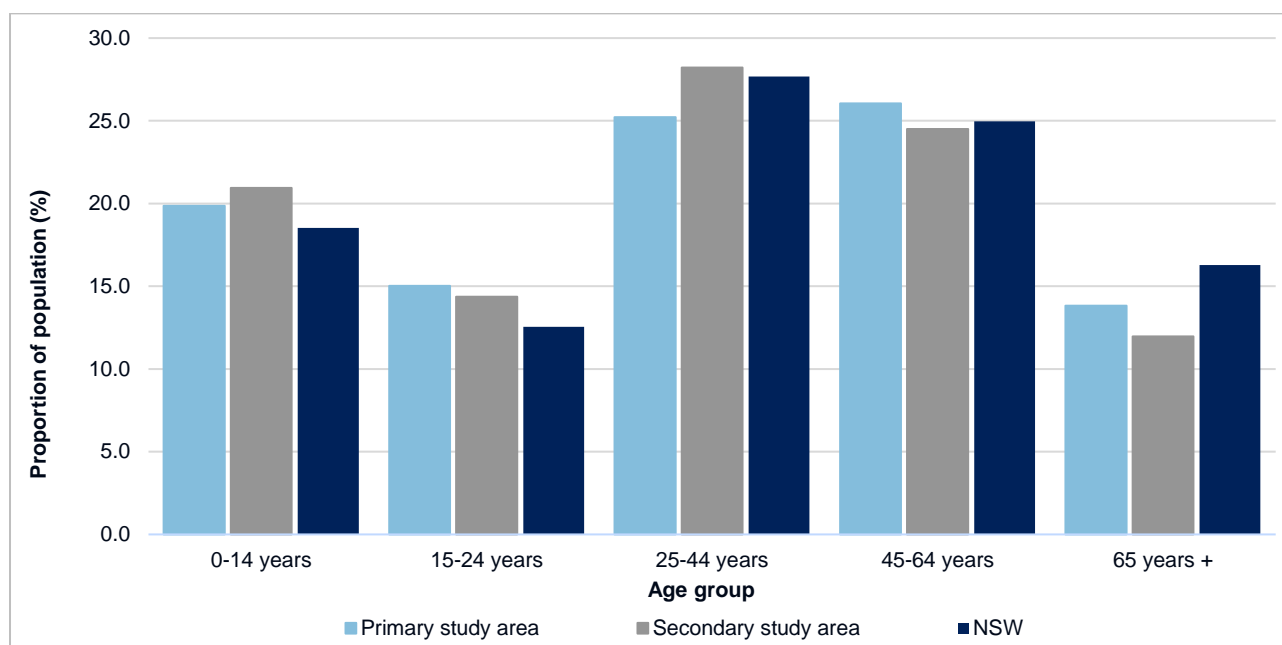
### 5.3.2 Age profile and population mobility

At the 2016 Census, median ages across the primary study area ranged from 35 years to 42 years. This is compared to a median age of 38 years in NSW.

Compared to NSW, the primary study area had higher proportions of children and youths, and lower proportions of older people at the 2016 Census (see **Figure 5-5**). People aged 25-44 years comprised about 51.3 per cent of the primary study area's population, which was below the proportion of people in this age group in both the secondary study area and NSW as a whole (both at about 53 per cent).

The population profile varied across the primary study area. Austral-Greendale SA2 and Horsley Park-Kemps Creek SA2 generally reported higher median ages, lower proportions of children and higher proportions of older people, while Cecil Hills SA2 and Mulgoa-Luddenham-Orchard Hills SA2 recorded higher proportions of children and lower proportions of older people. This may reflect the more rural nature of development in the Austral-Greendale and Horsley Park-Kemps Creek SA2s and more recent urban residential development in Cecil Hills SA2 and parts of Mulgoa-Luddenham-Orchard Hills SA2.





Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Figure 5-5 Age profile, 2016

The primary study area had a relatively stable population, with residents reporting low levels of population mobility at the 2016 Census. Compared to the secondary study area and NSW as a whole, the primary study area had higher proportions of people who had lived at the same address both 12 months and five years prior to the 2016 Census (see **Table 5-5**), possibly reflecting the rural nature of many localities in the primary study area.

Within the primary study area, Mulgoa-Luddenham-Orchard Hills SA2 recorded the highest levels of population mobility, particularly over the five years to the 2016 Census. At the 2016 Census, 47.5 per cent of people in this SA2 reported living at the same address five years prior, well below the average for NSW as a whole (53.8 per cent).

Table 5-5 Population mobility, 2016

| Locality             | Same address 12 months prior to 2016 Census (per cent) | Same address five years prior to 2016 Census (per cent) |
|----------------------|--------------------------------------------------------|---------------------------------------------------------|
| Primary study area   | 82.6                                                   | 62.1                                                    |
| Secondary study area | 80.8                                                   | 59.3                                                    |
| NSW                  | 77.4                                                   | 53.8                                                    |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

### 5.3.3 Cultural diversity

At the time of the 2016 Census, the primary study area recorded similar proportions of people born overseas, higher proportions of people that spoke a language other than English at home, and a higher proportion of people with lower levels of English proficiency compared to NSW as a whole (see **Table 5-6**).

About 34.6 per cent of people in the primary study area reported speaking a language other than English at home, compared to 25.2 per cent in NSW as a whole. The most common languages spoken at home after English were Italian (6.0 per cent), Arabic (4.8 per cent), and Chinese languages (2.9 per cent).

At the 2016 Census, about 5.2 per cent of people in the primary study area reported to not speak English well or at all, compared to 4.5 per cent in NSW as a whole. People with lower levels of English proficiency represent a stakeholder group with particular communication needs and a group that may be more vulnerable to changes from the project due to a lack of understanding or awareness about some impacts. Levels of English proficiency were also low in the secondary study area, with 11.0 per cent of people not speaking English well or at all. This was driven by particularly low rates of English proficiency in the Fairfield LGA, with 21.6 per cent of people not speaking English well or at all.

Within the primary study area, Cecil Hills SA2, Austral-Greendale SA2 and Horsley Park-Kemps Creek SA2 all recorded higher levels of diversity than NSW as a whole. Specifically, these SA2s recorded proportions of people born overseas, who spoke a language other than English and who did not speak English well or at all, above the NSW average.

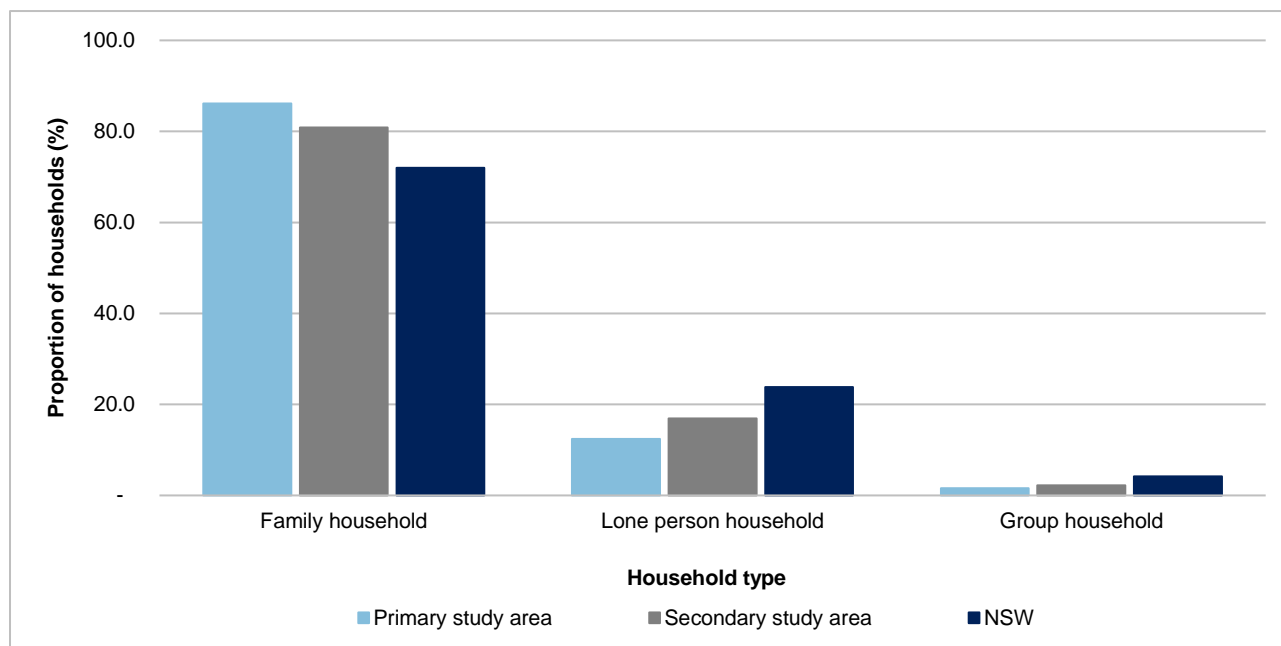
Table 5-6 Cultural diversity, 2016

| Locality             | Aboriginal and/or Torres Strait Islander people (per cent) | People born overseas (per cent) | Speaks language other than English at home (per cent) | Does not speak English well or at all (per cent) |
|----------------------|------------------------------------------------------------|---------------------------------|-------------------------------------------------------|--------------------------------------------------|
| Primary study area   | 1.3                                                        | 34.9                            | 34.6                                                  | 5.2                                              |
| Secondary study area | 2.0                                                        | 45.2                            | 46.7                                                  | 11.0                                             |
| NSW                  | 2.9                                                        | 34.5                            | 25.2                                                  | 4.5                                              |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

### 5.3.4 Households and families

There were about 8,154 households in the primary study area at the time of the 2016 Census. Compared to NSW, the primary study area had high proportions of family households and relatively low proportions of lone person and group households (see **Figure 5-6**).



Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Figure 5-6 Household type, 2016

There were about 7,617 families in the primary study area in 2016 of which, 38.8 per cent comprised young families with children aged under 15 years (see **Table 5-7**). This was similar to the proportion of this family type recorded in NSW as a whole. Compared to NSW, the primary study area had lower proportions of couple only families and higher proportions of families with no children aged under 15 years.

Table 5-7 Family composition, 2016

| Locality             | Couple family with no children (per cent) | Families with children under 15 years (per cent) | Families with no children under 15 years (per cent) | Total families |
|----------------------|-------------------------------------------|--------------------------------------------------|-----------------------------------------------------|----------------|
| Primary study area   | 28.9                                      | 38.8                                             | 31.0                                                | 7617           |
| Secondary study area | 25.6                                      | 42.2                                             | 30.4                                                | 155,168        |
| NSW                  | 36.6                                      | 38.2                                             | 23.5                                                | 1,940,226      |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

## 5.3.5 Housing

### *Dwellings*

There were 8718 dwellings in the primary study area at the time of the 2016 Census, of which about 93.6 per cent were occupied on Census night (see **Table 5-8**). Separate houses were the predominant dwelling type, accounting for about 89.3 per cent of total private dwellings. This was above the proportion of separate houses in both the secondary study area and NSW as a whole and is likely to reflect the rural nature of some localities in the primary study area.

Table 5-8 Dwellings, 2016

| Locality             | Separate house (per cent) | Semi-detached dwelling, etc (per cent) | Flat, unit or apartment (per cent) | Total private dwellings |
|----------------------|---------------------------|----------------------------------------|------------------------------------|-------------------------|
| Primary study area   | 89.3                      | 1.8                                    | 0.7                                | 6350                    |
| Secondary study area | 72.5                      | 11.1                                   | 10.3                               | 57,190                  |
| NSW                  | 59.9                      | 11.0                                   | 18.0                               | 2,604,314               |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

As indicated in **Section 2.2.4**, the Western Sydney Aerotropolis is proposed to contribute to 60,000 new homes for western Sydney over the next 20 years (NSW Department of Planning and Environment, 2018). The Western City District Plan identifies that there will be a demand for an additional 184,500 dwellings over the next 20 years, with these will be provided in land release areas and urban renewal close to existing centres (Greater Sydney Commission, 2018b).

### *Housing cost and tenure*

Compared to NSW as a whole, the primary study area recorded higher levels of owner-occupied houses (ie houses owned outright or owned with a mortgage) and lower levels of houses that were being rented (see **Table 5-9**) at the 2016 Census. Cecil Hills SA2 and Mulgoa-Luddenham-Orchard Hills SA2 reported higher proportions of houses that were owned outright, which may reflect the more rural nature of parts of these SA2s.

The primary study area had relatively high housing costs, recording median weekly rent and monthly mortgage costs above the NSW average. Households in the primary study area were more likely to experience a level of housing stress due to mortgage payments, with a higher proportion of households spending 30 per cent or more of their household income on mortgage payments compared to NSW as a whole.

Table 5-9 Housing tenure and costs, 2016

| Locality             | Owner occupied* (per cent) | Rented (per cent) | Median rental costs (\$/ week) | Median mortgage costs \$/ month) | Rent payments are 30 per cent or greater of household income (per cent) | Mortgage payments are 30 per cent or greater of household income (per cent) |
|----------------------|----------------------------|-------------------|--------------------------------|----------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Primary study area   | 76.2                       | 19.9              | 441                            | 2328                             | 8.0                                                                     | 10.0                                                                        |
| Secondary study area | 64.0                       | 32.3              | 364                            | 1976                             | 14.7                                                                    | 10.3                                                                        |
| NSW                  | 64.5                       | 31.8              | 380                            | 1986                             | 12.9                                                                    | 7.4                                                                         |

Notes: \* includes dwellings owned outright or owned with a mortgage; \*\* Median rental and mortgage costs and rent and mortgage payments for the study areas refers to the average of SA2s (primary study area) and LGAs (secondary study area) Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0); ABS (2013), 2016 Census QuickStats

### 5.3.6 Socio-economic disadvantage

Socio-economic advantage and disadvantage broadly refers to people's access to material and social resources, and their ability to participate in society. A community's level of socio-economic disadvantage may influence their ability to cope with or respond to change.

The ABS SEIFA index of relative socio-economic disadvantage provides a general indication about the economic and social conditions of people and households within an area. It is derived from variables relating to income, education, employment, rent, family, educational attainment and English proficiency. A low score generally indicates relatively greater disadvantage, while a high score indicates a relative lack of disadvantage (ABS, 2018).

**Figure 5-7** shows decile scores for relative disadvantage within the primary study area. Overall, rural communities generally displayed greater levels of relative disadvantage (eg Austral, Kemps Creek, Greendale), while communities in areas such as Cecil Hills, Cecil Park, Luddenham village, and Mount Vernon generally demonstrated lower levels of relative disadvantage.

### 5.3.7 Community health and well-being

#### Core activity need for assistance

ABS data on 'core activity need for assistance' measures the number of people with a profound or severe disability. This population is defined as people who need help or assistance in their day-to-day lives in one or more of the three core activity areas of self-care, mobility or communication due to disability, a long-term health condition or old age. These groups may be more vulnerable to impacts of major projects, such as changes in local access, property acquisition, loss of social and community networks; and changes in local amenity.

At the time of the 2016 Census, the primary study recorded relatively low levels of people needing assistance, with about 5.1 per cent of the primary study area's population reporting they needed assistance with self-care, mobility or communication, compared to 6.6 per cent in the secondary study area and 5.4 per cent in NSW as a whole. Within the primary study area, Austral-Greendale SA2 recorded the highest level of people needing assistance at 6.9 per cent, while Mulgoa-Luddenham-Orchard Hills SA2 recorded the lowest need for assistance.

### Community health status

Information on community health status and health risk factors is collected by the NSW Government at a local health district level. The primary study area is covered by two health districts:

- South Western Sydney Local Health District, which covers the LGAs of Fairfield, Liverpool, Bankstown, Camden, Campbelltown, Wollondilly and Wingecarribee
- Nepean Blue Mountains Local Health District, which covers the LGAs of Blue Mountains, Hawkesbury, Lithgow and Penrith.

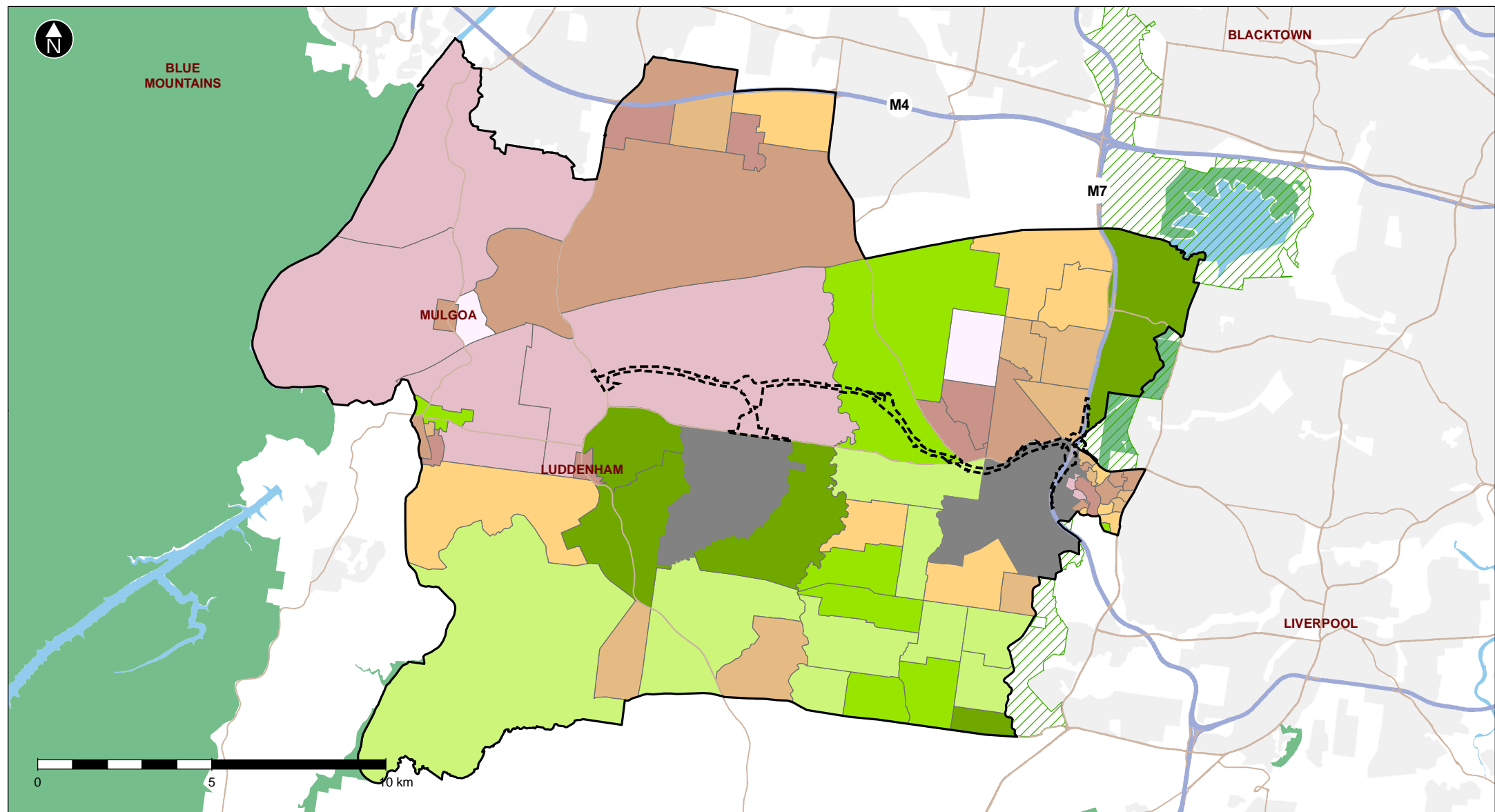
The most recent data on aged pension, disability and sickness benefits for local health districts in NSW is available for 2010 (see **Table 5-10**). Approximately 52,712 people in the Nepean Blue Mountains Local Health District and 156,984 people in the South Western Sydney Local Health District received either the aged pension or disability or sickness benefits in 2010. The proportions of people receiving the aged pension in the local health districts were above the NSW average, with the South Western Sydney Local Health District also reporting proportions of people receiving disability or sickness benefits above the NSW average.

Table 5-10 Aged person and sickness benefits, 2010

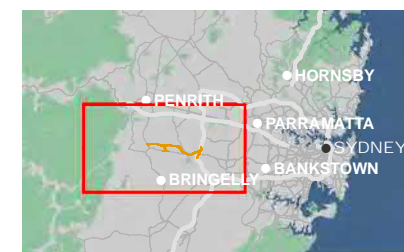
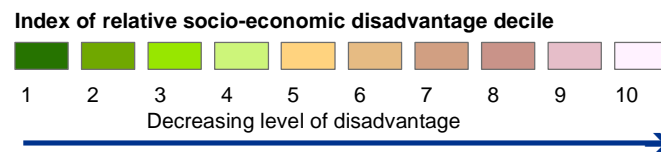
| Indicator                                                     | Nepean Blue Mountains Local Health District | South Western Sydney Local Health District | NSW  |
|---------------------------------------------------------------|---------------------------------------------|--------------------------------------------|------|
| Aged pension (per cent of eligible population)                | 77.7                                        | 82.9                                       | 71.7 |
| Disability/sickness benefit (per cent of eligible population) | 10.0                                        | 13.5                                       | 10.5 |

Source: [http://www.healthstats.nsw.gov.au/Indicator/soc\\_pension\\_lhn/soc\\_pension\\_lhn](http://www.healthstats.nsw.gov.au/Indicator/soc_pension_lhn/soc_pension_lhn)



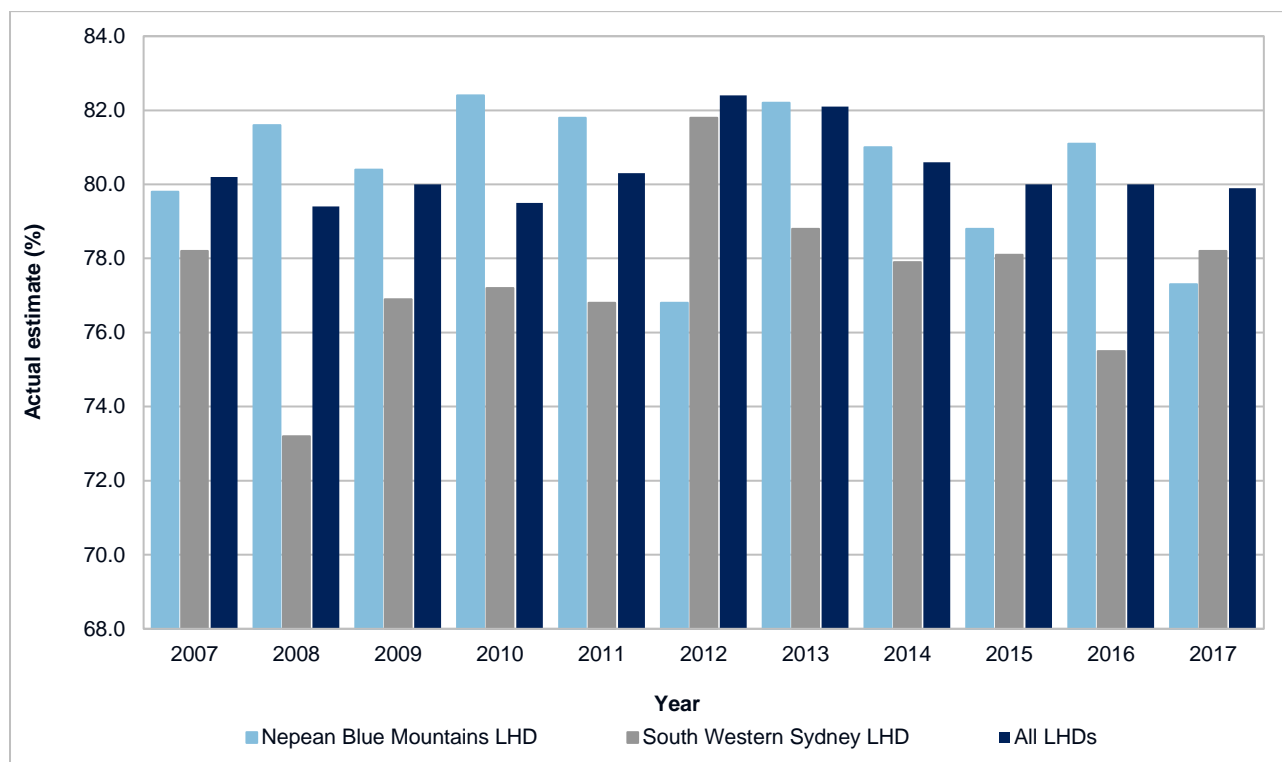


- The project construction footprint
- Motorways
- Existing main roads
- Western Sydney Parklands
- NPWS estate / reserves
- Urban areas



**Figure 5-7** Relative socio-economic disadvantage

**Figure 5-8** shows the estimated percentage of adults aged 16 years or over in the local health districts covering the primary study area, who rated their health as being 'excellent, very good or good'. Between 2007 and 2017, the Nepean Blue Mountains Local Health District generally had higher proportions of adults that rated their health as being 'excellent, very good or good' than NSW as a whole. The proportion of adults in the South Western Sydney Local Health District who reported they were in good health was below the NSW average in every year over the same period.



Notes: Based on persons aged 16 years and over

Source: NSW Ministry of Health, NSW Population Health Survey (SAPHaRI)

Figure 5-8 Excellent, very good or good self-rated health, 2007-2017

## 5.3.8 Income and employment

### Income

The primary study area recorded median personal and household incomes above the NSW average at the 2016 Census. Income levels varied across the primary study area, with higher median incomes driven by very high incomes in Mulgoa-Luddenham-Orchard Hills SA2 (see **Table 5-11**). Austral-Greendale SA2 had a median personal income below the NSW average although household incomes were similar to the NSW average.

Compared to NSW, the primary study area generally had lower proportions of low income households (ie households with a weekly income of less than \$650) and higher proportions of high income households (ie households with a weekly income of \$2000 or more) at the 2016 Census.

Table 5-11 Income levels, 2016

| Locality             | Median total income (\$/week) |           | Weekly household income (per cent) |                       |
|----------------------|-------------------------------|-----------|------------------------------------|-----------------------|
|                      | Personal                      | Household | Low income (<\$650)                | High income (>\$2000) |
| Primary study area   | 700                           | 1948      | 11.4                               | 35.1                  |
| Secondary study area | 594                           | 1493      | 16.8                               | 31.9                  |
| NSW                  | 728                           | 1658      | 17.7                               | 33.6                  |

Notes: \* Average of median incomes for SA2s (primary study area) and LGAs (secondary study area)

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

## Employment

About 14,923 people in the primary study area reported to be either employed or looking for work at the 2016 Census, representing about 62.3 per cent of people aged 15 years or over (see **Table 5-12**). This was above the labour force participation rate for the secondary study area and NSW as a whole. The primary study area had a relatively low rate of unemployment, with 4.6 per cent of the labour force unemployed at the 2016 Census, compared to 6.3 per cent in NSW and 7.7 per cent in the secondary study area.

Table 5-12 Labour force and unemployment, 2016

| Locality             | Labour force | Labour force participation (per cent) | Unemployment (per cent) |
|----------------------|--------------|---------------------------------------|-------------------------|
| Primary study area   | 14,924       | 62.3                                  | 4.6                     |
| Secondary study area | 271,559      | 57.3                                  | 7.7                     |
| NSW                  | 3,605,881    | 59.2                                  | 6.3                     |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

At the 2016 Census, key industries of employment for residents living in the primary study area included:

- Construction (employing 15.7 per cent of the population aged 15 years or over)
- Retail trade (10.0 per cent)
- Manufacturing (7.9 per cent)
- Health care and social assistance (7.9 per cent).

Apart from health care and social assistance, the proportions of people employed in these industries were above the NSW average.

About 561 people in the primary study area recorded that they were employed in agriculture, forestry and fishing at 2016 Census. This represented about 3.9 per cent of the primary study area's population aged 15 years or over, which was nearly double the NSW average (2.1 per cent). There were about 674 people in the primary study area employed in tourism related industries, such as accommodation and food services. This represented about 4.7 per cent of people aged 15 years or over, which was below the proportion of people employed in these industries in NSW and the secondary study area.

As indicated in **Section 2.2.4**, the Western Sydney Aerotropolis is proposed to contribute to 200,000 new jobs for western Sydney over the next 20 years in industries such as aerospace and defence, manufacturing, healthcare, freight and logistics, agribusiness, education and research (NSW Department of Planning and Environment, 2018).

### 5.3.9 Vehicle ownership

Households in the primary study area generally had a high level of private vehicle access, with relatively low proportions of households with one or no motor vehicle, and relatively high proportions of households with two or more motor vehicles (see **Table 5-13**). This is likely to reflect the rural nature of much of the primary study area and lower levels of access to public transport.

Table 5-13 Vehicle ownership, 2016

| Locality             | Households with no motor vehicles (per cent) | Households with one motor vehicle (per cent) | Households with two or more motor vehicles (per cent) |
|----------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------------------|
| Primary study area   | 1.9                                          | 17.2                                         | 77.2                                                  |
| Secondary study area | 8.0                                          | 30.7                                         | 57.5                                                  |
| NSW                  | 9.2                                          | 36.3                                         | 50.8                                                  |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

## 5.4 Community values

Community values include features important to communities for quality of life and wellbeing, including physical elements such as parks, landscapes and pedestrian connectivity and intangible qualities such as sense of place, amenity and community cohesion. Social infrastructure is also highly valued in local communities, as are demographic characteristics and local features.

The identification of community values for this assessment has been informed by the review of existing literature and outcomes of previous community consultation undertaken by Penrith, Fairfield and Liverpool City Councils, observations of key features, and outcomes of consultation undertaken for the project (Roads and Maritime, 2016; Roads and Maritime, 2018).

### 5.4.1 Local amenity, character and sense of place

Local amenity and character in the primary study area is influenced by a range of land uses, including:

- Rural uses, such as grazing and horticulture, at Luddenham, Badgerys Creek, and Kemps Creek, and larger lot rural residential uses at Mount Vernon and Kemps Creek
- Urban residential uses at Cecil Hills
- Recreational and natural areas within Western Sydney Parklands
- Industrial uses, including landfills, resource recovery and quarries at Badgerys Creek and Kemps Creek.

Rural uses at Luddenham, Badgerys Creek, Kemps Creek and Mount Vernon comprise a range of agricultural pursuits including market gardens, dairy, poultry farms, hobby farms, and fruit growing. These activities and rural landscapes contribute to the character and identity of communities in the primary study area and the amenity and lifestyle offered by these uses are valued by local communities.

Western Sydney Parklands also contribute to the amenity, character and identity of the primary study area and are valued by communities across the wider western Sydney region for its natural, landscape, aesthetic, recreational and heritage values. The Parklands was first identified in Sydney's planning documents in 1968 to provide infrastructure and open space for current and future communities in western Sydney. It includes areas of bushland and formal and informal recreation uses, and also supports long term infrastructure such as water storage and electricity easements, and farming, tourism and business uses.



Protecting the Parklands natural environmental values and accessibility of the Parklands to local and city-wide visitors travelling via active, private and public transport are identified as key principles in the draft 2030 Plan of Management (WSPT, 2018).

It is recognised that existing amenity of some locations in the primary study area are currently impacted by traffic on major roads such as Elizabeth Drive, M7 Motorway and The Northern Road and the presence of industrial uses. However, many locations are removed from major roads and predominately rural in nature and are likely to experience higher levels of amenity. Concerns about potential impacts on residential amenity and lifestyle due to traffic on the M12 Motorway and Elizabeth Drive were raised during consultation for the project.

The primary study area has undergone change in recent decades, with increasing urban development and residential and rural-residential estates. These offer residents a range of urban residential uses, as well as access to open space, recreation and conservation areas, although have resulted in the loss of agricultural land and changes to the rural landscape within the primary study area. Changes to the rural landscape are expected to continue as a result of the development of Western Sydney Airport and the Western Sydney Aerotropolis, which will drive further growth in urban development in the primary study area and wider region over the coming years.

The quality of local and regional access and connectivity can also influence local amenity. Community consultation for the Penrith Community Plan 2017 identified traffic flow and congestion, maintenance of local roads and ensuring infrastructure keeps up with growth and the airport as being important issues for community members (Penrith City Council, 2017). Improved traffic management was also identified by the community during development of Liverpool City Council's community strategic plan, *Our Home, Liverpool 2027* (Liverpool City Council, 2017). Local traffic flow was also identified as a local issue during consultation on Fairfield City Council's community strategic plan, *Our home, our city our future, 2016-2026* (Fairfield City Council, 2016).

## 5.4.2 Community cohesion

Community cohesion refers to the connections and relationships between individuals and groups. It is encouraged by the existence of local community facilities, a sense of local identity and opportunities for local participation.

Kemps Creek is a focus of local businesses and community facilities such as schools, sporting clubs, and cultural facilities, which provide local meeting places and support local networks and social cohesion. As described in **Section 5.3.2**, communities in the primary study area also reported relatively low levels of population mobility at the 2016 Census, with longer term residents likely to have a strong sense of belonging, connections and shared networks, which enhances community cohesion.

Western Sydney Parklands also provides important places for social interaction and recreation, contributing to a sense of community for local residents and visitors. The importance of recreational facilities such as the Wylde Mountain Bike Trail as a drawcard for the area and the social and economic benefits provided by this facility was also recognised in consultation undertaken for the project.

It is likely that existing traffic volumes on Elizabeth Drive currently presents a perceived barrier to movement between communities and facilities such as recreation and education facilities north and south of Elizabeth Drive.

### 5.4.3 Community safety

Improved access and safety in public places is important to communities in the primary and secondary study area, with the community strategic plans for Liverpool, Penrith and Fairfield City Councils identifying people being able to travel safely on roads, road safety and improved access and safety in public places as important issues.

The need for a full, safe, separated cycleway linking to existing cycle connections and consideration of safety for cyclists during construction was also raised during consultation for the project.

### 5.4.4 Environmental values

Protection and conservation of the environment, biodiversity and natural assets such as rivers, creeks, and bushland areas, is important to communities in the primary study area, as is protection and respect of the area's heritage values. In particular, protecting rural and natural lands is identified as a community outcome in the Penrith Community Plan 2017 (Penrith City Council, 2017), while protecting Liverpool's natural areas, heritage and character was also identified in Liverpool's community strategic plan (Liverpool City Council, 2017). The importance of the local environment and natural resources in defining the Fairfield LGA and contributing to the community's wellbeing is also identified in Fairfield council's community strategic plan (Fairfield City Council, 2016).

Community concerns around potential impacts on remnant vegetation, including endangered ecological communities and changes in air quality, noise levels and visual amenity were identified during community consultation for the project. The importance of heritage items such as the Upper Canal corridor was also identified.

## 5.5 Social infrastructure

### 5.5.1 Social infrastructure within the study area

The primary and secondary study areas include a range of local, regional and state level community services and infrastructure including sport and recreational facilities, hospitals and health care, education facilities, and cultural and community support facilities. These include:

- Major hospitals including Fairfield Hospital, Nepean public and private hospitals (Penrith), and Liverpool Hospital
- Tertiary education facilities including University of Western Sydney campuses at Kingswood and Werrington, TAFE Western Sydney Institute – Nepean College campuses at Kingswood and Penrith; TAFE South Western Sydney Institute – Liverpool College
- Regional, state and national sport and recreation facilities including Western Sydney Parklands, Sydney International Shooting Centre, Sydney Motorsport Park at Eastern Creek and Sydney International Equestrian Centre; Penrith Lakes Regional Park, which incorporates Sydney International Regatta Centre and Penrith Whitewater Stadium; Nepean Aquatic Centre; Penrith Park; Fairfield Showground; and Chipping Norton Lakes
- Major retail, commercial uses, cultural and community support facilities located in the Fairfield, Penrith and Liverpool CBDs.

The primary study area also includes a range of community facilities and services that principally cater for communities within or surrounding the primary study area. These are mainly focused in localities such as Cecil Hills, Kemps Creek and Luddenham and include schools, sport and recreation facilities, and cultural facilities (eg churches).

Kemps Creek comprises a number of facilities that are accessed from Elizabeth Drive and that cater for communities at Kemps Creek and surrounding suburbs (see **Figure 5-9**). While these facilities are generally located away from the project, there is potential they may experience impacts associated with access changes from construction and operation of the project. They include:

- Kemps Creek Public School (S5) located at Cross Street, which offers primary level education for students in Kindergarten to Year 6 and had an enrolment of 160 students in 2017
- Christadelphian Heritage College Sydney (S6) located at Cross Street, which is a co-educational school catering for students from Kindergarten to Year 12 and with a total enrolment of 222 students in 2017
- Bill Anderson Reserve (S4) located at Elizabeth Drive, which comprises soccer fields and clubroom facilities and is the home of the Kemps Creek United Soccer Club
- International Martial Arts Centre (S7) located at Elizabeth Drive, which offers afternoon and evening classes on weekdays and day-time classes (between 10.00am and 3.00pm) on Saturday.

A number of community facilities are also scattered across the primary study area. While these are also located away from the project footprint (ie in some instances up to about two kilometres) they may be impacted by traffic changes associated with the project's construction or operation. These include:

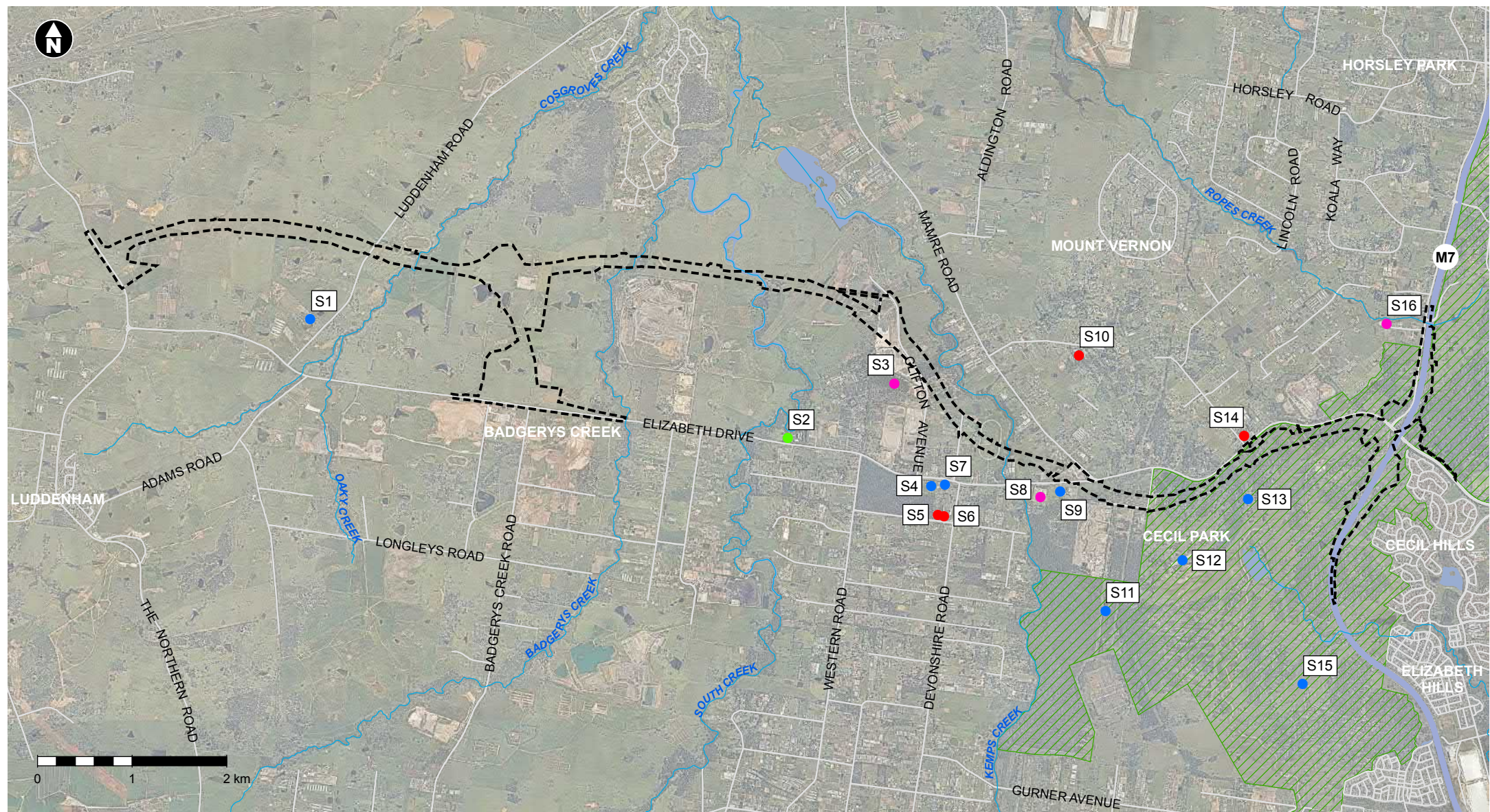
- Model Park (S1) at Luddenham Road, Luddenham
- Animal Welfare League NSW (S2) at Elizabeth Drive, Badgerys Creek
- Do Re Mi Preschool (S10) at Kerrs Road, Mount Vernon,
- Kemps Creek Nature Reserve at Cecil Park (S11).

Community services and facilities located on properties near the project (ie within about 400 metres) are described in **Section 5.5.2**.

### 5.5.2 Social infrastructure near the project

Some community facilities and services are located on properties within about 400 metres of the project. The proximity of these facilities to the project means that there is greater potential for these to experience direct or indirect impacts due to the siting of project infrastructure, construction activities or operation. These are shown in **Figure 5-9** and described in **Table 5-14**.





--- The project construction footprint

- Waterways
- Motorway
- Main roads
- ▨ Western Sydney Parklands

#### Social infrastructure types

- Education
- Sport, recreation and leisure facilities
- Cultural facilities
- Other

| Label Id | Name                                       | Label Id | Name                                  |
|----------|--------------------------------------------|----------|---------------------------------------|
| S1       | Model Park                                 | S9       | Kemps Creek Sporting And Bowling Club |
| S2       | Kemps Creek Animal Shelter                 | S10      | Do Re Mi Pre-School                   |
| S3       | Muhammadi Welfare Association Of Australia | S11      | Kemps Creek Nature Reserve            |
| S4       | Bill Anderson Park                         | S12      | Sydney International Shooting Centre  |
| S5       | Kemps Creek Public School                  | S13      | Wylde Mountain Bike Trail             |
| S6       | Christadelphian Heritage College Sydney    | S14      | Irfan College                         |
| S7       | International Martial Arts Centre          | S15      | Western Sydney Parklands              |
| S8       | Science Of The Soul Study Centre           | S16      | St Peter And Paul Assyrian Church     |



**Figure 5-9** Social infrastructure within about one kilometre from the project



Table 5-14 Social infrastructure within about 400 metres of the project

| Facility (ID*/ name)                     |                                       | Location                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Distance from construction footprint (approx.)**                                                                                                            |
|------------------------------------------|---------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Education facilities                     |                                       |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                             |
| S14                                      | Irfan College                         | Elizabeth Drive, Cecil Park | Irfan College is a co-educational independent Islamic school catering for students in Kindergarten to Year 9. The school currently has over 250 students, with a goal of providing schooling for 300 students from Kindergarten to Year 12<br>( <a href="https://www.irfancollege.nsw.edu.au/about-us.html">https://www.irfancollege.nsw.edu.au/about-us.html</a> ).                                                                                                                                                                                                                     | 20 metres                                                                                                                                                   |
| Sport, recreation and leisure facilities |                                       |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                             |
| S9                                       | Kemps Creek Sporting and Bowling Club | Elizabeth Drive, Cecil Park | Kemps Creek Sporting and Bowling Club comprising two bowling greens and bar and function facilities. The club hosts regular men's and ladies' social bowls on Tuesday and Saturday. The club is open seven days a week from about 9.30am, and provides facilities for dining, private functions (eg weddings), and regular entertainment. The club also hosts a number of sporting clubs including bowls, golf, fishing, and baseball ( <a href="https://kcsb.com.au/">https://kcsb.com.au/</a> ).                                                                                       | 0 metres (construction footprint is located adjacent to this property)                                                                                      |
| S9                                       | Kemps Creek Cougars Baseball Club     | Elizabeth Drive, Cecil Park | The Kemps Creek Cougars Baseball Club home ground is based at the Kemps Creek Sporting and Bowling Club. The baseball field and associated facilities are located next to the Kemps Creek Sporting and Bowling Club. The club caters for junior and senior players, with junior games played on Saturday mornings and Senior games played on Saturday afternoons. The baseball field is also used for junior training on Thursday or Friday afternoons ( <a href="http://www.kempscreekcougars.com/">http://www.kempscreekcougars.com/</a> ).                                            | 0 metres (construction footprint is located adjacent to this property. The baseball fields are about 60 metres from the construction footprint)             |
| S12                                      | Sydney International Shooting Centre  | Range Road, Cecil Park      | The shooting centre is used for various international, national, state and club shooting events and is also available daily for use by licensed shooters. The shooting centre caters for a number of sports shooting disciplines and provides several indoor and outdoor shooting ranges. The venue also includes conference and function facilities. Seventeen resident firearms clubs operate out of the shooting centre. Access to the shooting centre is via Range Road off Elizabeth Drive ( <a href="https://shootingcentre.nsw.gov.au/">https://shootingcentre.nsw.gov.au/</a> ). | 0 metres (property is located within the construction footprint. The building and shooting facilities are about 500 metres from the construction footprint) |
| S13                                      | Wylde Mountain Bike Trail             | Range Road, Cecil Park      | See following discussion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0 metres (note, property is located within the construction footprint)                                                                                      |

| Facility (ID*/ name) |                                            | Location                     | Description                                                                                                                                                                                                                                                                                                                                                                                                      | Distance from construction footprint (approx.)**                       |
|----------------------|--------------------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| S15                  | Western Sydney Parklands                   | Abbotsbury                   | See following discussion                                                                                                                                                                                                                                                                                                                                                                                         | 0 metres (note, property is located within the construction footprint) |
| Cultural facilities  |                                            |                              |                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                        |
| S8                   | Science of the Soul Study Centre           | Elizabeth Drive, Kemps Creek | Registered charitable society with the objective to promote a sense of brotherhood and communal harmony for the betterment of humanity. The study centre is used for meetings and voluntary service. The centre is not used for social events or private ceremonies ( <a href="http://radhasoamiji.weebly.com/centers/international-centers">http://radhasoamiji.weebly.com/centers/international-centers</a> ). | 110 metres                                                             |
| S3                   | Muhammadi Welfare Association of Australia | Clifton Avenue, Kemps Creek  | The association is a non-profit organisation that provides religious and social development. The community centre hosts regular programs on Thursday and Sunday evenings ( <a href="http://www.muhammadiwelfare.org.au/">http://www.muhammadiwelfare.org.au/</a> ).                                                                                                                                              | 70 metres                                                              |
| S16                  | St Peter and Paul Assyrian Church          | Kosovich Place, Cecil Park   | The church is located north of the project. Church services are held weekly on Sunday mornings, Regular services are also held on Wednesday and Friday evenings.                                                                                                                                                                                                                                                 | 400 metres                                                             |

Note: \* ID shown on Figure 5-9; \*\* distance measured from the property boundary to the construction boundary



### Western Sydney Parklands

The Western Sydney Parklands (the Parklands) is located at the eastern end of the project. The Parklands is the largest urban park in Australia, covering about 5280 hectares and stretching 27 kilometres from Quakers Hill in the north to Leppington in the south. The Parklands incorporates a range of formal and informal sport, recreation and leisure uses including playgrounds, picnic facilities, sports facilities, bike tracks, nature trails and entertainment facilities. Major recreational facilities located within the Parklands include the Sydney International Shooting Centre, Sydney International Equestrian Centre and Wylde Mountain Bike Trail.

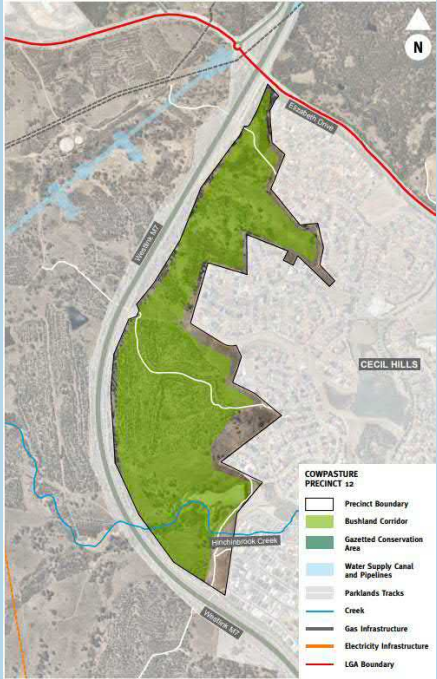
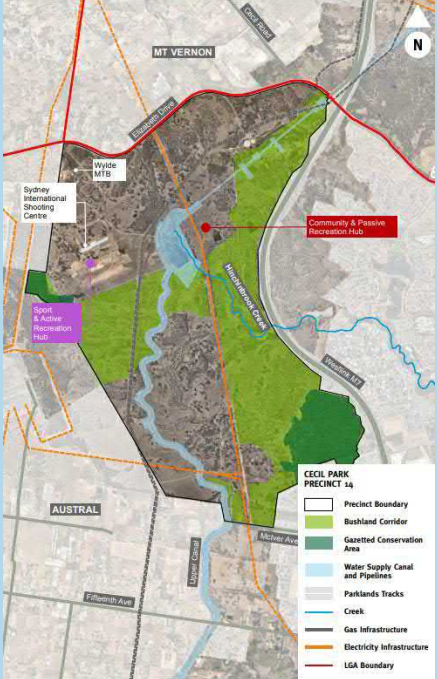
The *State Environmental Planning Policy (Western Sydney Parklands) 2009* provides the statutory framework for the development of the Parklands and the *Parklands Plan 2030* (currently in draft) provides a framework for the operation and development of the Parklands until 2030. The Western Sydney Parklands are managed by the Western Sydney Parklands Trust.

The Parklands land use framework plan identifies the various activity hubs, linkages, infrastructure, bushland corridor, and gazetted conservation areas to be planned or delivered through to 2030 (Western Sydney Parklands Trust, 2018). The project would interact with the Cecil Park, Cowpasture, Cecil Park North and Abbotsbury Precincts of the Western Sydney Parklands. A description of each precinct is provided in **Table 5-15**.

Table 5-15 Western Sydney Parklands Precincts

| Precinct                                                                                                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Abbotsbury Precinct</b></p>          | <p>Abbotsbury Precinct covers about 708 hectares and is a scenic area including areas of Cumberland Plain Woodland, the Sydney International Equestrian Centre, Calmsley Hill City Farm and picnic areas (Plough and Harrow, Lizard Log and The Dairy). A north-south ridgeline with regional views creates two distinct areas in this precinct.</p> <p>The Precinct is proposed to be the centre of major activity for the Parklands offering cultural, recreation, tourism, sport and community uses. Key objectives for the Precinct include:</p> <ul style="list-style-type: none"> <li>• Enhance picnic areas, entertainment venues and play spaces by creating passive and active recreation hubs</li> <li>• Enhance internal connections and legibility between destinations</li> <li>• Protect bushland</li> <li>• Expand recreation and tourism opportunities, including the Sydney International Equestrian Centre</li> <li>• Protect the Upper Canal and water supply quality (Western Sydney Parklands draft Plan of Management 2030).</li> </ul> |
| <p><b>Cecil Park North Precinct</b></p>  | <p>Cecil Park North Precinct covers an area of about 65 hectares. It comprises an area of bushland and rural residential uses isolated from the main Parklands corridor by the M7 Motorway and Elizabeth Drive.</p> <p>The Precinct is proposed to provide for bushland and semi-rural paddocks as interim uses, with potential for future business or tourism uses. The draft Plan of Management recognises that allowance will be made for the project corridor and associated infrastructure, if required.</p> <p>Key objectives identified for the Precinct include:</p> <ul style="list-style-type: none"> <li>• Protect and enhance the natural systems and environmental values</li> <li>• Provide services infrastructure as required</li> <li>• Investigate business and tourism potential on remaining land (Western Sydney Parklands draft Plan of Management 2030).</li> </ul>                                                                                                                                                                    |



| Precinct                                                                                                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Cowpasture Precinct</b></p>   | <p>Cowpasture Precinct covers about 119 hectares and is a hilly backdrop to residential development and a vegetation buffer to the M7 Motorway. The Precinct seeks to be a scenic natural landscape backdrop for neighbouring residential areas and an access point to future recreation facilities at Cecil Park.</p> <p>Key objectives identified in the draft Plan of Management for the Precinct include:</p> <ul style="list-style-type: none"> <li>• Support local passive recreation such as walking and cycling trails</li> <li>• Maintain the existing semi-rural and bushland character</li> <li>• Maintain the bushland corridor within the Parklands (Western Sydney Parklands draft Plan of Management 2030).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>Cecil Park Precinct</b></p>  | <p>Cecil Park Precinct covers an area of about 622 hectares and comprises an expansive area of rolling hills, rural lands and bushland areas and a high point offering views to the Blue Mountains and Metropolitan Sydney. It is a scenic precinct that includes the Wylde Mountain Bike Trail, Sydney International Shooting Centre, and service infrastructure such as the Upper Canal.</p> <p>The Precinct is proposed to be a major recreation, active sports, entertainment and tourism destination, linking to the developing South West Growth Area. The Precinct also provides opportunities for picnic and play, water-based recreation, events, tourism facilities and active sports.</p> <p>Key objectives identified in the draft Plan of Management for the Precinct include:</p> <ul style="list-style-type: none"> <li>• Create a major destination for recreation, sport, entertainment and tourism</li> <li>• Conserve and protect the natural landscape and ecological corridors as a setting for future regional activities</li> <li>• Expand recreation and visitor accommodation opportunities around Wylde Mountain Bike Trail and the Sydney International Shooting Centre</li> <li>• Minimise impacts on the natural and recreational qualities of the Precinct when providing future service infrastructure such as the M12 Motorway corridor</li> <li>• Protect the Upper Canal and water supply quality (Western Sydney Parklands draft Plan of Management 2030).</li> </ul> |

Source: Western Sydney Parklands draft Plan of Management 2030

The Western Sydney Parklands attracted about 4,000,000 visitors during the 2017-2018 financial year. **Table 5-16** outlines the number of visitors to key recreation destinations within the parklands during that year. Plough and Harrow, and Lizard Log located within the Abbotsbury Precinct are popular picnic areas, attracting about 625,478 visitors and 260,148 visitors respectively in 2017-2018. About 41,680 people visited the Sydney International Shooting Centre, while about 68,712 people used the Wylde Mountain Bike Trail (WSPT, undated).



Table 5-16 Western Sydney Parklands visitation, 2017-2018

| Destination                          | Number of visitors                   |
|--------------------------------------|--------------------------------------|
| Sydney International Shooting Centre | 41,680                               |
| Wylde Mountain Bike Trail            | 68,712                               |
| Lizard Log                           | 260,148                              |
| Bike tracks (multiple entry points)  | 263,786                              |
| Bungaribee                           | 407,712 (picnic)<br>140,084 (sports) |
| Plough and Harrow                    | 625,478                              |

Source: data supplied by Western Sydney Parklands Trust

### **Wylde Mountain Bike Trail**

Wylde Mountain Bike Trail is located within the Western Sydney Parklands, with access via Elizabeth Drive and Range Road (see **Figure 5-10**). The trail was opened in 2014 and comprises a purpose-built facility providing a variety of trails for intermediate, competent and advanced mountain bike riders. The trail is used for recreational riders as well as national, state and local mountain bike events, attracting about 68,712 visitors within the 2017-2018 financial year (WSPT, undated).

The Wylde Mountain Bike Trail is open daily and includes a number of trails ranging from three kilometres to 12 kilometres as well as a kids' loop, 'jump run' and 'pump track'. Other facilities such as shelters, viewing areas, bike wash down facilities, parking and amenities are also provided.

A range of comments were raised during consultation for the project relating to the Wylde Mountain Bike Trail. The comments related to:

- The need to maintain access to the trails during construction
- Concerns about impacts of the project alignment on the trail
- The importance of the Wylde Mountain Bike Trail as a drawcard for the area and the economic, health, social and environmental benefits provided by the trail
- Concerns about the impact of the project on 'the best section of the track' and the need for the trail to be enhanced as compensation (Roads and Maritime Services, 2018).

The importance of the Wylde Mountain Bike Trail and walking and cycling tracks was also reflected in consultation undertaken in 2016 for the Southern Parklands Masterplan, with community members identifying they currently visit the Southern Parklands for these activities (Straight Talk, 2017).



Source: <https://www.westernsydeyparklands.com.au/places-to-go/wylde-mtb-trail/>

Figure 5-10 Map of Wylde Mountain Bike Trail

## 5.6 Local business and industry

This section provides an overview of local business and industry in the primary and secondary study areas, including information from the business and shopper surveys undertaken for the project.

### 5.6.1 Businesses within the study area

There were 4,105 registered businesses in the primary study area in June 2017 (see **Table 5-17**). Construction related businesses comprised the largest group, accounting for about 28 per cent of total businesses in the primary study area. This was followed by rental, hiring and real estate services (12.6 per cent) and transport, postal and warehousing (11.8 per cent). Within the wider region, there were 44,169 businesses in the secondary study area in June 2017. Construction, transport, postal and warehousing, and rental, hiring and real estate services also comprised the largest groups of businesses in the secondary study area.

There were 368 registered agriculture, forestry and fishing related businesses in the primary study area in June 2017, representing about nine per cent of total businesses in the primary study area. The primary study area accounted for about 53.7 per cent of agricultural, forestry and fishing businesses in the secondary study area. Austral-Greendale SA2 had the largest number of agriculture, forestry and fishing businesses, with 56.5 per cent of these businesses in the primary study area located in this SA2. Horsley Park-Kemps Creek SA2 had the next largest group of agriculture, forestry and fishing businesses (24.5 per cent).

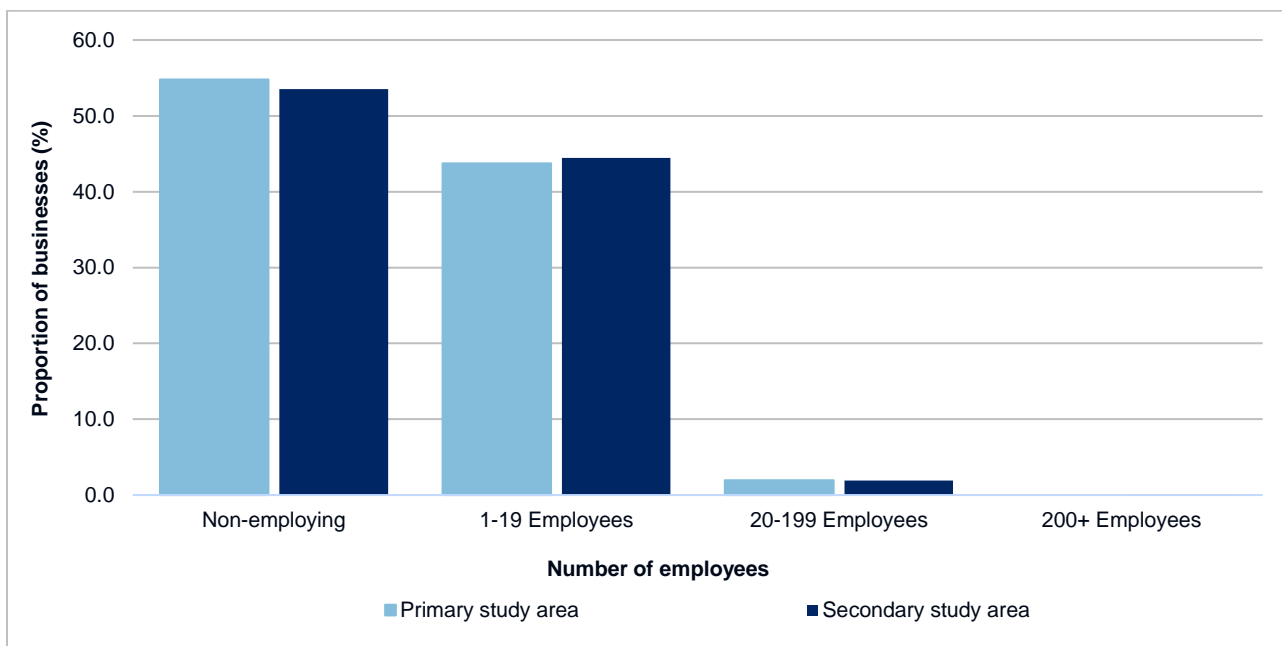
Table 5-17 Business by industry, June 2017

| Industry                                        | Primary study area (per cent) | Secondary study area (per cent) |
|-------------------------------------------------|-------------------------------|---------------------------------|
| Agriculture, forestry and fishing               | 9.0                           | 1.6                             |
| Mining                                          | 0.1                           | 0.1                             |
| Manufacturing                                   | 3.7                           | 5.7                             |
| Electricity, gas, water and waste services      | 0.4                           | 0.4                             |
| Construction                                    | 28.0                          | 24.0                            |
| Wholesale trade                                 | 3.6                           | 4.2                             |
| Retail trade                                    | 4.2                           | 6.5                             |
| Accommodation and food services                 | 2.0                           | 3.3                             |
| Transport, postal and warehousing               | 11.8                          | 12.7                            |
| Information media and telecommunications        | 0.4                           | 0.6                             |
| Financial and insurance services                | 5.7                           | 5.3                             |
| Rental, hiring and real estate services         | 12.6                          | 9.6                             |
| Professional, scientific and technical services | 5.1                           | 7.3                             |
| Administrative and support services             | 3.6                           | 4.6                             |
| Public administration and safety                | 0.9                           | 0.6                             |

| Industry                          | Primary study area (per cent) | Secondary study area (per cent) |
|-----------------------------------|-------------------------------|---------------------------------|
| Education and training            | 0.7                           | 1.1                             |
| Health care and social assistance | 3.0                           | 5.0                             |
| Arts and recreation services      | 0.7                           | 0.8                             |
| Other services                    | 3.7                           | 5.5                             |
| Currently unknown                 | 0.9                           | 1.1                             |
| Total number of businesses        | 4105                          | 44,169                          |

Source: Based on ABS (2018), 8165.0 Counts of Australian Businesses, including entries and exits, Jun 2013 to Jun 2017, released 20 February 2018, Businesses by industry division by Statistical Area Level 2 by Employment size ranges, June 2017 and Businesses by local government area by industry division by employment size ranges, June 2017

About 4044 businesses or 98.5 per cent of businesses in the primary study area, employed less than 20 people in June 2017 (see **Figure 5-11**). Non-employment businesses (ie sole proprietorships and partnerships without employees) comprised the largest group of businesses (54.8 per cent), marginally above the proportion of these businesses in the secondary study area. Eighty-one businesses (2.0 per cent) had between 20 and 199 employees in June 2017, while no businesses employed more than 200 people. There were 21 businesses in the secondary study area that had more than 200 employees in June 2017, representing less than one per cent of total businesses.



Source: Based on ABS (2018), 8165.0 Counts of Australian Businesses, including entries and exits, Jun 2013 to Jun 2017, released 20 February 2018, Businesses by industry division by Statistical Area Level 2 by Employment size ranges, June 2017 and Businesses by local government area by industry division by employment size ranges, June 2017

Figure 5-11 Business size – employees, June 2017



## 5.6.2 Local businesses near the project

A desktop review of aerial photography, internet searches and previous investigations undertaken for the project (Aurecon, 2016) was undertaken to identify local businesses near the project, which identified 52 businesses located near the project. These are shown in **Figure 5-12** and listed in **Annexure C**.

### ***Businesses within one kilometre***

Some businesses at Luddenham, Badgerys Creek, Kemps Creek and Mount Vernon located away from the project (ie up to about one kilometre) may experience impacts associated with access changes from construction and operation of the project. They comprise businesses that serve the needs of local and regional communities, as well as those that offer goods and services to customers across the greater Sydney areas, NSW and interstate, including:

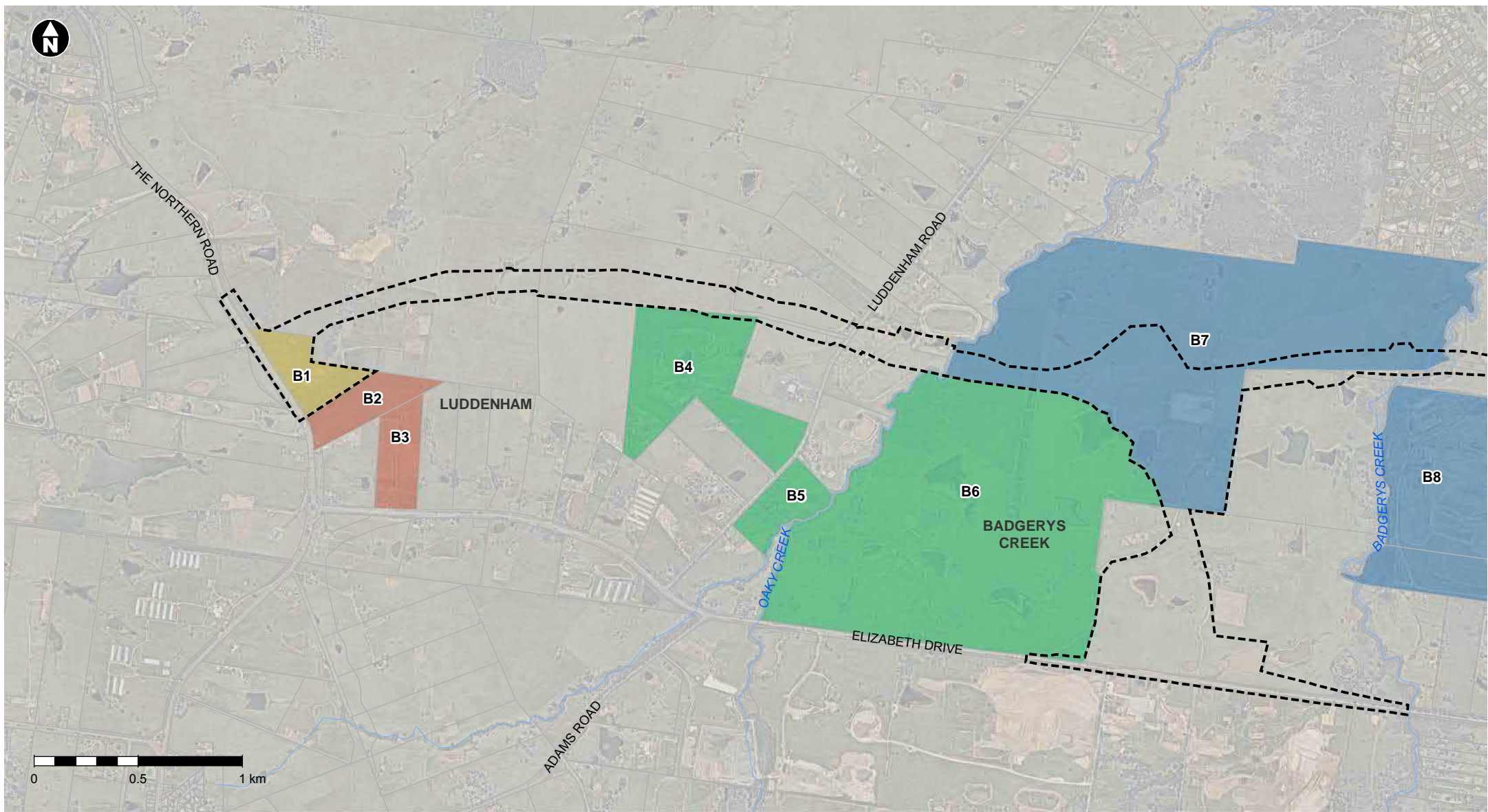
- Retailers that provide goods and services to support surrounding agricultural and rural uses, for example farm machinery and farm supplies
- Grocery, food and general retailers that provide goods and services to support local communities, including general store, post-office, hardware and liquor store
- Service stations, including at Elizabeth Drive and Mamre Road
- Service providers such as automotive repairs
- Businesses offering sport and recreation services such as horse-riding lessons and horse agistment services
- Resource and waste facilities
- Agricultural and agricultural related businesses, including egg farms, plant nurseries and food processing
- Manufacturing services.

**Figure 5-12** shows the location and types of businesses in areas within one kilometre of the project. A list of these businesses is provided in **Annexure C**.

### ***Businesses within 400 metres***

39 businesses were readily identified within about 400 metres of the construction footprint. The proximity of these businesses to the project means that there is potential for these to experience direct or indirect impacts due to the siting of project infrastructure, construction activities or operation.

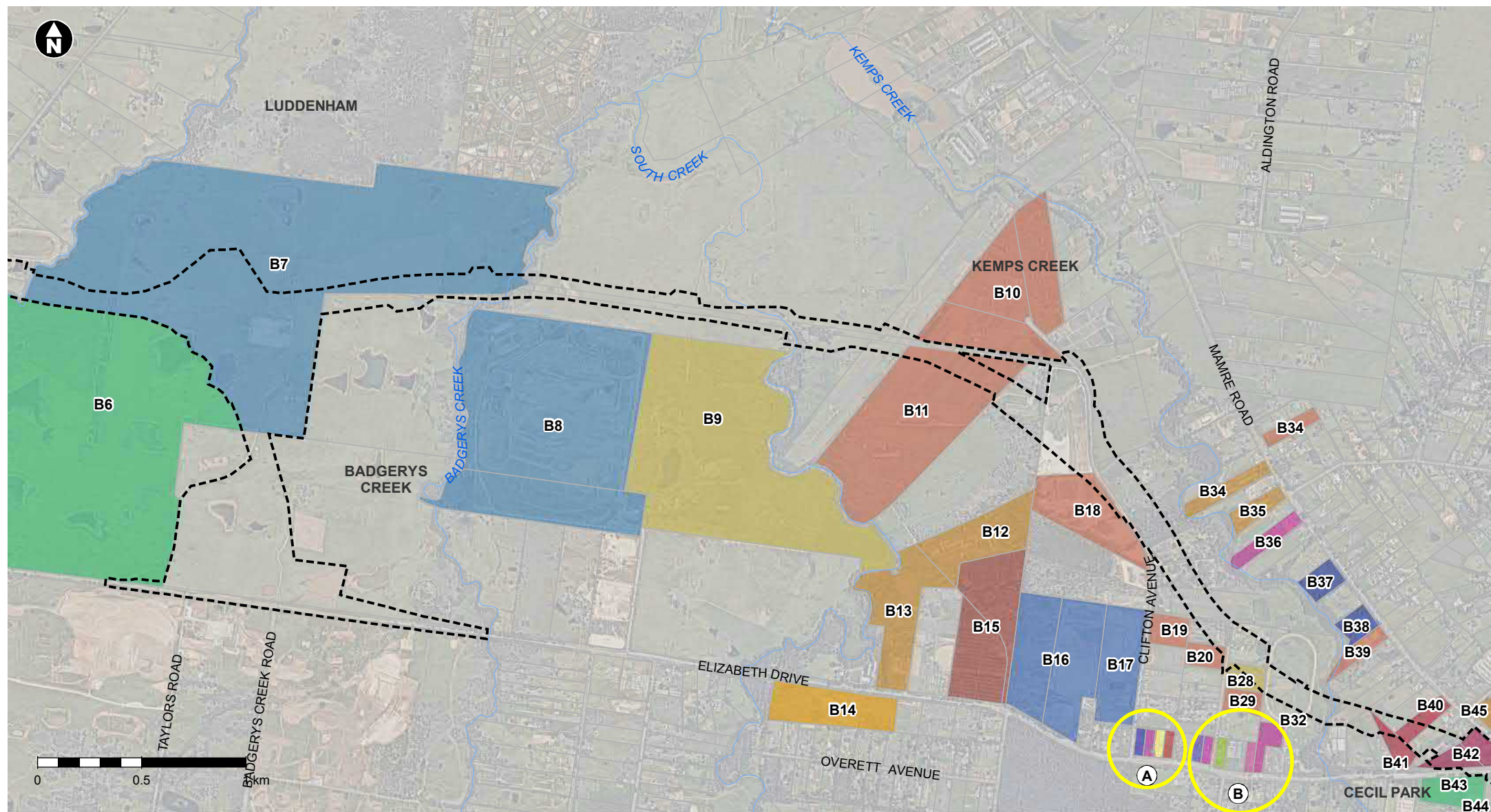
The location of businesses near the project are shown on **Figure 5-12** and information on businesses within 400 metres of the project is provided in **Table 5-18**. A list of these businesses is provided in **Annexure C**.



**Figure 5-12** Businesses within about one kilometre of the project







The project construction footprint Waterways

#### Postal services

Postal services

#### Agriculture

Agriculture – horticulture  
 Agriculture – nursery  
 Agriculture – poultry farming  
 Agriculture – other livestock farming

#### Sport and recreation

Sport and recreation

#### Construction services

Construction services  
 Construction services and waste and resource recovery

#### Industrial/manufacturing

Industrial – manufacturing

#### Manufacturing – fruit and vegetable processing

Manufacturing – fruit and vegetable processing

#### Quarrying, waste management and/or resource recovery

Quarrying and resource recovery  
 Quarrying, waste management and/or resource recovery

#### Retail

Restaurant, café, takeaway food services

Retail – farm and garden supplies

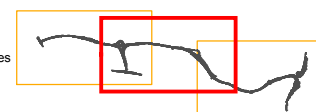
Retail – food retailing (grocery/ convenience)

Retail – fuel retailing

Retail – hardware, building and garden supplies

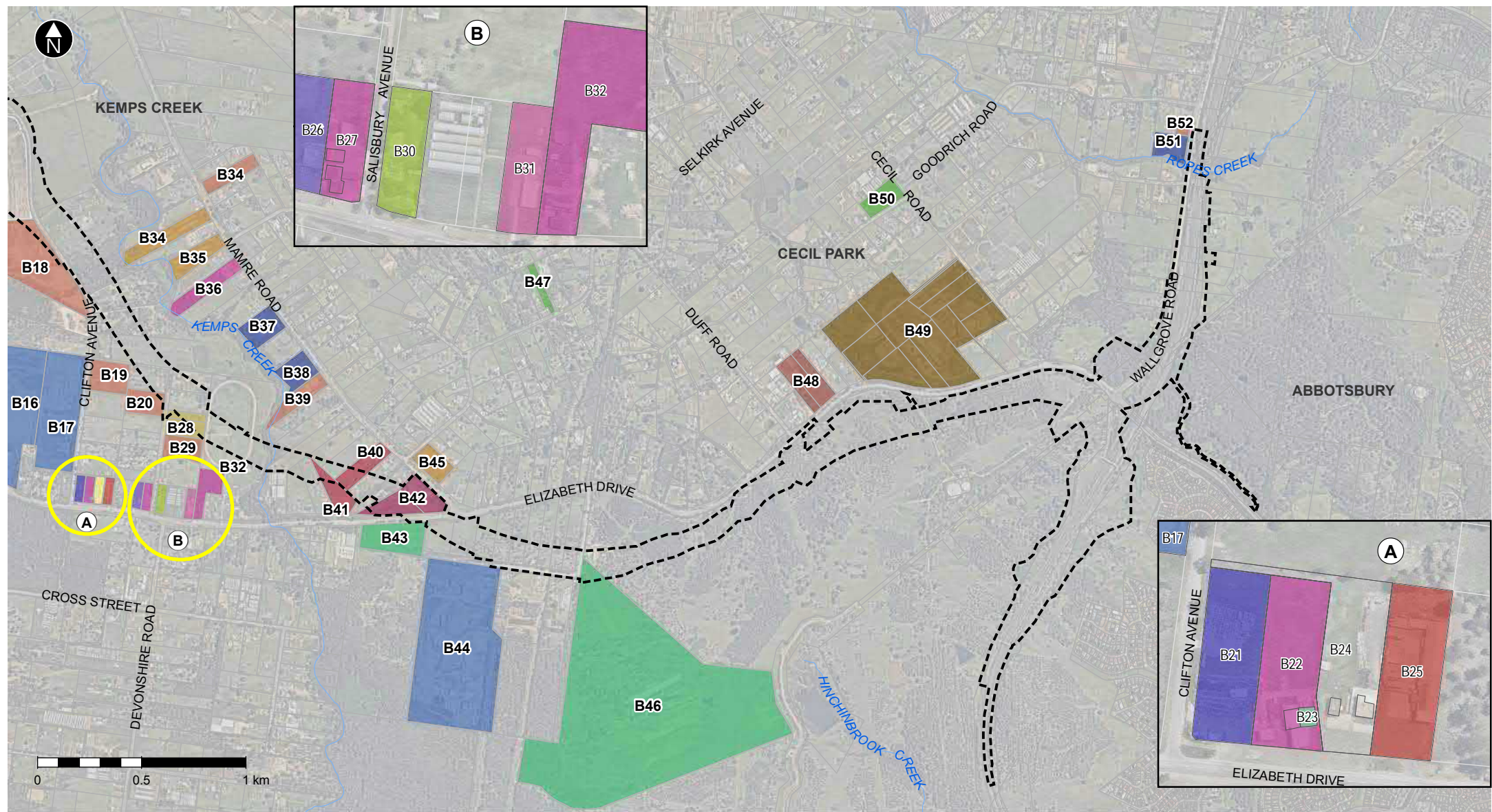
Retail – houseware retailing

Retail – machinery and equipment



**Figure 5-12** Businesses within about one kilometre of the project





The project construction footprint Waterways

#### Postal services

Postal services

#### Agriculture

Agriculture – horticulture

Agriculture – nursery

Agriculture – poultry farming

Agriculture – other livestock farming

#### Sport and recreation

Sport and recreation

#### Construction services

Construction services

Construction services and waste and resource recovery

#### Home based business

Home based business

#### Industrial/ manufacturing

Manufacturing – clay brick manufacturing

#### Manufacturing – fruit and vegetable processing

Manufacturing – fruit and vegetable processing

#### Quarrying, waste management and/or resource recovery

Quarrying and resource recovery

#### Retail

Restaurant, café, takeaway food services

Retail – farm and garden supplies

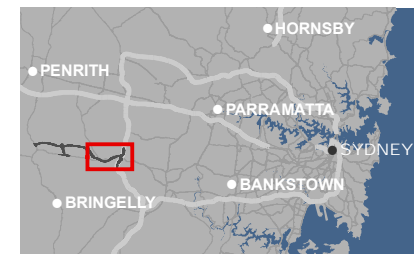
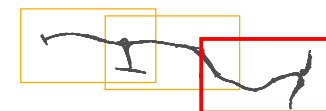
Retail – food retailing (grocery/ convenience)

Retail – fuel retailing

Retail – hardware, building and garden supplies

Retail – houseware retailing

Retail – machinery and equipment



**Figure 5-12** Businesses within about one kilometre of the project



Table 5-18 Businesses within about 400 metres of the project

| Business ID* | Business                                    | Business type                                       | Address           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               | Distance from construction footprint (approx.)**                       |
|--------------|---------------------------------------------|-----------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Luddenham    |                                             |                                                     |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                        |
| B1           | The Honey Shed                              | Agriculture – other livestock farming and retailing | The Northern Road | Comprises honey production and retail outlet. The business is visited by a number of international and domestic tourists, including about 2-4 tour buses each month. Access is provided to The Northern Road.                                                                                                                                                                                                                                             | Property is within the construction footprint                          |
| B2           | Farm                                        | Intensive agriculture – horticulture                | The Northern Road | Irrigated vegetables and herbs.                                                                                                                                                                                                                                                                                                                                                                                                                           | 0 metres (construction footprint is located adjacent to this property) |
| B3           | Farm                                        | Intensive agriculture – horticulture                | Elizabeth Drive   | Irrigated vegetables and herbs.                                                                                                                                                                                                                                                                                                                                                                                                                           | 190 metres                                                             |
| B4           | Luddenham Raceway, Go Karting and Paintball | Sport and recreation                                | Luddenham Road    | Luddenham raceway comprises an outdoor go karting track, outdoor paintball and motorsport park along with a visitor and conference centre. The facility is open daily within opening times varying between 9.00am on weekends and 10.00am weekdays, and closing times varying daily between 5.00pm and 9.00pm. The facility hosts individuals, groups and corporate events ( <a href="https://luddenhamraceway.com/">https://luddenhamraceway.com/</a> ). | 0 metres (construction footprint is located adjacent to this property) |
| Kemps Creek  |                                             |                                                     |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                        |
| B7           | Quarry use (Ron Medich property quarry)     | Resource and waste facility                         | Elizabeth Drive   | Informal quarry and resource recovery facility.                                                                                                                                                                                                                                                                                                                                                                                                           | Property is within the construction footprint                          |

| Business ID* | Business                                    | Business type                           | Address         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Distance from construction footprint (approx.)** |
|--------------|---------------------------------------------|-----------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| B8           | Elizabeth Drive Landfill facility           | Resource and waste facility             | Elizabeth Drive | <p>The Elizabeth Drive landfill is within the Suez Kemps Creek Resource Recovery Park, which also includes an advanced resource recovery technology facility and education centre. The landfill accepts general solid waste (ie non-putrescible waste) and industrial waste and is one of few sites in the Sydney basin that receive construction and demolition waste.</p> <p>Suez is proposing to expand the landfill to increase the height by up to 15 metres, although this would be within the currently approved footprint (<a href="https://www.suez.com.au/en-AU/who-we-are/suez-in-australia-and-new-zealand/our-locations/waste-management-kemps-creek">https://www.suez.com.au/en-AU/who-we-are/suez-in-australia-and-new-zealand/our-locations/waste-management-kemps-creek</a>).</p> | 105 metres                                       |
| B9           | Kingsfield Stud                             | Agriculture – other livestock farming   | Elizabeth Drive | Kingsfield Stud trains and breeds stock and quarter horses and cattle dogs. The stud offers agistment services, horse training, and working cattle clinics and training. The stud also hosts regular team sporting events and annual campdraft competitions ( <a href="https://kingsfieldstud.weebly.com/">https://kingsfieldstud.weebly.com/</a> ).                                                                                                                                                                                                                                                                                                                                                                                                                                               | 35 metres                                        |
| B10          | J & M Vella Farm Fresh                      | Intensive agriculture – horticulture    | Clifton Avenue  | Irrigated vegetables and herbs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Property is within the construction footprint    |
| B11          | Farm                                        | Intensive agriculture – horticulture    | Clifton Avenue) | Irrigated vegetables and herbs (on land proposed to be developed for the Elizabeth Enterprise Precinct)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Property is within the construction footprint    |
| B12          | Ash and Sons Eggs                           | Intensive agriculture – poultry farming | Elizabeth Drive | Egg producer supplying retail, restaurants, cafes and food services. The business manages every process, including rearing chicks, milling feed, packaging and distribution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 190 metres                                       |
| B16          | Hi-Quality Group Kemps Creek Central Quarry | Resource and waste facility             | Elizabeth Drive | Resource recovery and recycling facility.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 320 metres                                       |
| B17          | Wanless Waste Management                    | Resource and waste facility             | Clifton Avenue  | Waste processing and recycling facility.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 160 metres                                       |
| B18          | TreeServe                                   | Resource and waste facility             | Clifton Avenue  | Green waste recycling facility and depot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Property is within the construction footprint    |

| Business ID* | Business                           | Business type                              | Address          | Description                                                                                                                                                                                                                                                                                                                                                                               | Distance from construction footprint (approx.)**                                             |
|--------------|------------------------------------|--------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| B19          | Farm                               | Agribusiness – horticulture                | Clifton Avenue   | Irrigated vegetables and herbs.                                                                                                                                                                                                                                                                                                                                                           | 15 metres                                                                                    |
| B20          | Farm                               | Intensive agriculture – horticulture       | Salisbury Avenue | Irrigated vegetables and herbs.                                                                                                                                                                                                                                                                                                                                                           | Property is within the construction footprint                                                |
| B25          | Mitre 10 Kemps Creek               | Retail – hardware                          | Elizabeth Drive  | Hardware store catering for retail and trade customers. The store has been operating in this location for more than 20 years and mainly services people working and living locally and passing trade. The store is open Monday to Saturday.                                                                                                                                               | 365 metres                                                                                   |
| B26          | Nando's Meat Market                | Retail – supermarket and grocery store     | Elizabeth Drive  | The business provides meat, groceries, fruit and vegetables to retail customers living and working in the local area and passing trade. The business also attracts customers from the wider region. The business has been operating at the site for more than 20 years and employs 6-10 people. The store is generally open 7am to 6.30pm, Monday to Saturday and on Sundays as required. | 365 metres (the building is located about 435 metres from the construction footprint)        |
| B28          | Bara Lodge                         | Agriculture – horse training and agistment |                  | Training facility for harness racing horses.                                                                                                                                                                                                                                                                                                                                              | Property is within the construction footprint                                                |
| B29          | Farm                               | Intensive agriculture – horticulture       | Salisbury Avenue | Irrigated vegetables and herbs.                                                                                                                                                                                                                                                                                                                                                           | 0 metres (construction footprint is located adjacent to property boundary)                   |
| B30          | Badgerys Creek Mowers              | Retail – other                             | Elizabeth Drive  | Retail supplier and repairer of lawn mowers and gardening equipment. The business has been operating for about 30 years.                                                                                                                                                                                                                                                                  | 300 metres (the retail building is located about 370 metres from the construction footprint) |
| B31          | Evergreen Farm and Garden Supplies | Retail – other                             | Elizabeth Drive  | Provides farming, gardening and agricultural supplies                                                                                                                                                                                                                                                                                                                                     | 230 metres (the retail building is located about 350 metres from the construction footprint) |

| Business ID* | Business                           | Business type                                          | Address         | Description                                                                                                                                                                                                                                                                                                                                                                                         | Distance from construction footprint (approx.)**                                                                                                           |
|--------------|------------------------------------|--------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B32          | Caltex Kemps Creek and IGA X-press | Retail – fuel retailing/ supermarket and grocery store | Elizabeth Drive | Service station and convenience supermarket catering for local communities and passing motorists. The store is open seven days per week from about 4am to 10pm (6am to 8pm on Sunday).                                                                                                                                                                                                              | 95 metres (the area used for the service station (and associated supermarket) and bottle shop is located about 310 metres from the construction footprint) |
| B34          | Agriculture                        | Intensive agriculture – poultry farming                | Mamre Road      | Poultry farm                                                                                                                                                                                                                                                                                                                                                                                        | 85 metres (sheds are located approximately 280 metres from the construction corridor)                                                                      |
| B35          | Agriculture                        | Intensive agriculture – poultry farming                | Mamre Road      | Poultry farm                                                                                                                                                                                                                                                                                                                                                                                        | 260 metres                                                                                                                                                 |
| B36          | Caltex Star Mart Kemps Creek       | Retail – fuel retailing                                | Mamre Road      | Service station offering fuel and general convenience retailing, which is open 24 hours. Provides refuelling facilities for trucks.                                                                                                                                                                                                                                                                 | 160 metres (the area used for the service station is located about 475 metres from the construction footprint)                                             |
| B37          | Top Class Fruit Supply             | Manufacturing – fruit and vegetable processing         | Mamre Road      | Wholesale supplier of fresh fruit and vegetables to markets and major supermarkets (eg Coles and Woolworths). The facility is used for packing and distribution of produce. The business has been operating at the site for 11-20 years and employs between 11 and 20 people.                                                                                                                       | 350 metres                                                                                                                                                 |
| B38          | Barden Produce                     | Manufacturing – fruit and vegetable processing         | Mamre Road      | Vegetable processing and distribution facility, which processes and ships more than 50 produce lines on a daily basis to customers around Australia. The facility also offers a packing and distribution service to partners that do not have a physical presence in NSW ( <a href="https://www.bardenproduce.com.au/company/index.html">https://www.bardenproduce.com.au/company/index.html</a> ). | 240 metres                                                                                                                                                 |



| Business ID* | Business                                      | Business type                        | Address                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Distance from construction footprint (approx.)**                                      |
|--------------|-----------------------------------------------|--------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| B39          | Agriculture                                   | Intensive agriculture – horticulture |                                | Irrigated and shade house grown vegetables and herbs                                                                                                                                                                                                                                                                                                                                                                                                                                               | 50 metres (shade houses are approximately 275 metres from the construction footprint) |
| B40          | Western Safety Fences                         | Construction services                | Mamre Road                     | Fencing contractor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Property is within the construction footprint                                         |
| B41          | Vac Group Australia                           | Construction services                | Elizabeth Drive                | The business provides vacuum excavation, utility locating, soil disposal and soil removal services to the construction industry. The company services clients in metropolitan areas and remote and regional locations ( <a href="https://www.vacgroup.com.au/">https://www.vacgroup.com.au/</a> ).                                                                                                                                                                                                 | Property is within the construction footprint                                         |
| B42          | Hi-Quality Group Head Office                  | Resource and waste facility          | Elizabeth Drive and Mamre Road | The business provides integrated natural resource and recycled product supplies. The company is a major shareholder of the Brandon waste recycling facility at Kemps Creek. The site at Kemps Creek comprises the company's head office along with the transport division, maintenance workshop and landscaping yard ( <a href="http://www.hiquality.com.au/">http://www.hiquality.com.au/</a> ).                                                                                                  | Property is within the construction footprint                                         |
| B43          | Kemps Creek Sporting and Bowling Club         | Sport and recreation                 | Elizabeth Drive                | Kemps Creek Sporting and Bowling Club comprising two bowling greens and bar and function facilities. The club hosts regular men's and ladies' social bowls on Tuesday and Saturday. The club is open seven days a week from about 9.30am, and provides facilities for dining, private functions (eg weddings), and regular entertainment. The club also hosts a number of sporting clubs including bowls, golf, fishing, and baseball ( <a href="https://kcsb.com.au/">https://kcsb.com.au/</a> ). | 0 metres (construction footprint is located adjacent to this property)                |
| B44          | Brandown Quarry, Waste and Recycling Services | Resource and waste facility          | Elizabeth Drive                | Privately owned and operated resource recovery centre, general solid waste (non-putrescible) landfill and quarry. The recycling facility processes construction and demolition waste to generate a range of useable recycled products. The facility is open Monday to Saturday from 6.00am until 4.30pm-5.30pm ( <a href="http://www.brandown.com.au/">http://www.brandown.com.au/</a> ).                                                                                                          | 0 metres (construction footprint is located adjacent to this property)                |

| Business ID* | Business                                     | Business type                                        | Address           | Description                                                                                          | Distance from construction footprint (approx.)**                                                                                          |
|--------------|----------------------------------------------|------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| B45          | The Big Chook Farm                           | Intensive agriculture – poultry farming and retailer | Mount Vernon Road | Egg producer and retailer, open seven days a week.                                                   | 40 metres (the buildings are located about 95 metres from the construction footprint)                                                     |
| Cecil Park   |                                              |                                                      |                   |                                                                                                      |                                                                                                                                           |
| B46          | Sydney International Shooting Centre         | Sport and recreation                                 | Range Road        | Refer to section 5.5.2                                                                               | Property is within the construction footprint (the building and shooting facilities are about 500 metres from the construction footprint) |
| B48          | Walls Nursery                                | Retail – other                                       | Duff Road         | Wholesale plant nursery and producer of potted plants, supplying florists throughout Sydney and NSW. | 170 metres                                                                                                                                |
| B49          | PGH Bricks & Pavers (CSR Bricks and Roofing) | Manufacturing – clay brick manufacturing             | Cecil Road        | Brick manufacturing facility                                                                         | 35 metres                                                                                                                                 |
| B51          | Fresh Produce Pty Ltd                        | Manufacturing – fruit and vegetable processing       | Wallgrove Road    | Fresh produce supplier.                                                                              | 0 metres (construction footprint is located adjacent to this property)                                                                    |
| B52          | Sydney Bean Sprouts                          | Intensive agriculture – horticulture                 | Wallgrove Road    | Producer of a variety of bean sprouts and other food products.                                       | 0 metres (construction footprint is located adjacent to this property)                                                                    |

Note: \*shown on Figure 5-12; \* distance measured from the property boundary to the construction boundary

### 5.6.3 Local businesses at Kemps Creek

Kemps Creek includes a number of businesses that cater for surrounding communities, workers and passing traffic. These include businesses with frontages to Elizabeth Drive and Mamre Road. While these businesses are generally located away from the project alignment, there is potential for these facilities to experience impacts associated with access changes from construction and operation of the project.

As described in **Section 3.8.2**, business and shopper surveys were carried out at Elizabeth Drive and Mamre Road, Kemps Creek to gather information on business operations and business owner perceptions about potential project impacts.

The following provides an overview of business operations for the surveyed businesses. Feedback received on project impacts and benefits is provided in **Section 6.6**.

- Business type:
  - Nine businesses were related to retail trade (eg hardware, service station, supermarket/grocer, café/restaurant), with other businesses surveyed including agricultural related businesses (one); manufacturing (one); wholesale trade (three); transport, postal and warehousing (two); and arts and recreation (eg sporting club and karate) (two).
- Duration of operation in current location:
  - Eight businesses (62 per cent) had been operating in their location for more than 20 years, with one business operating between 11-20 years. Two businesses operated in their location between 3-5 years and 6-10 years.
- Number of employees:
  - The number of employees varied between businesses. Three businesses surveyed had 2-5 employees, with a further three employing 6-10 people. Two businesses each had 11-20 people and 21-50 people, while one business indicated they had 60 employees.
- Customer base:
  - Eleven businesses indicated part of their trade included people working and living locally, and three businesses indicated that part of their trade was from visitors/tourists to the area. Two businesses indicated that a portion of their customers were from surrounding areas such as Penrith, Leppington, Liverpool and St Clair, while seven businesses reported that some of their trade was from passing customers.
  - The customer bases of other businesses included major supermarkets (eg Coles and Woolworths) and customers requiring bulk haulage and quarry products.
- Reliance of businesses on passing trade
  - Estimates of business owners of their reliance on passing trade varied, with five businesses indicating that less than 25 per cent of their business was generated from passing trade. Three businesses at Elizabeth Drive (retail and auto services) indicated that about 25-50 per cent of their business was from passing trade, while a further three businesses at Elizabeth Drive (service station, retail and farm) also indicated that passing trade accounted from between 50-75 per cent of their business.
- Opening hours:
  - All businesses surveyed indicated that they were open Monday to Friday. Eleven businesses surveyed reported to be open on Saturday and six businesses on Sunday, including the Kemps Creek Sport and Bowling Club and retail businesses including service stations, supermarket and strawberry farm.

The following summarises feedback received from the shopper survey about existing shopping arrangements:

- Thirteen of the 15 shoppers surveyed indicated that their main purpose for visiting the area was for eating/drinking out, with many attending Kemps Creek Sporting and Bowling Club. Two people who were visiting the area for eating/drinking out also indicated they visited the service station. Other reasons for visiting businesses at Kemps Creek included food/grocery shopping (two).
- The majority of shoppers surveyed reported to live in suburbs within Western Sydney. Eleven different postcodes were identified by shoppers, with two shoppers each indicating they lived in postcode 2747 (eg Cambridge Gardens, Cambridge Park, Kingswood, Werrington); 2750 (eg Emu Heights, Jamisontown, Penrith, South Penrith); 2168 (eg Ashcroft, Busby, Green Valley, Sadlier); and 2759 (eg Erskine Park, St Clair).
- Eight shoppers surveyed reported to be travelling from home, while seven indicated they travelled from work.
- All shoppers surveyed travelled to businesses in the area by car. Of the shoppers surveyed, 13 of the 15 indicated that they had planned their stop prior to departing, with two indicating that they were passing through.
- Five shoppers surveyed indicated they visited their destination daily, with three indicating they visited weekly. Six shoppers surveyed reported to visit their destination monthly.
- Nearly half of shoppers surveyed indicated they visited businesses at Kemps Creek because it was easy to drive to, with four shoppers each indicating that ease of parking and closeness to home were other reasons. Three indicated they travelled to businesses at Kemps Creek for a particular product or service. Other reasons for choosing businesses in Kemps Creek were convenience, close to work, meeting a friend and quality of service and product.
- Most shoppers consulted for this assessment suggested that less traffic would improve their enjoyment of the area due to a reduction in traffic noise and easier access. In particular, reduced congestion and trucks were identified as a positive by a number of people. Three people indicated that traffic has no impact on their enjoyment of the area.

Feedback received on project impacts is provided in **Section 6.6**.

## 5.6.4 Agricultural uses and agribusinesses

### *Agricultural uses*

The distribution of agricultural land uses within or surrounding the project are shown in **Figure 5-1**. Land used for grazing is mainly located at the western end of the project alignment at Luddenham and Badgerys Creek, with pockets of grazing land also at Mount Vernon and Austral.

Horticultural uses such as vegetable farms are scattered across the primary study area, with clusters of horticultural uses to the north and south of the project at Kemps Creek and Luddenham. Areas of intensive animal production are also scattered across the primary study area and include horse breeding, training and agistment; and poultry farms. There are no areas of land used for cropping near the project alignment, with cropping land mainly located south of the Western Sydney Airport site. A number of dams are located on rural properties across the primary study area that provide water sources for crop irrigation and/or livestock.

The University of Sydney **McGarvie Smith Farm and Fleurs Farms** (refer to **Figure 6-5**) are located in the primary study area and comprise about 344 hectares of land used grazing for 'beef cattle fattening enterprises' and have limited use by teaching and research staff.



The NSW Government has mapped land at a state/regional scale to identify areas of Biophysical Strategic Agricultural Land (BSAL) across NSW. BSAL comprises land with high quality soil and water resources capable of sustaining high levels of productivity. BSAL land has been identified in the Mulgoa-Luddenham-Orchard Hills and Austral-Greendale SA2s west of The Northern Road. BSAL land has also been mapped along the Nepean River, northwest of the project alignment (DPE 2018b). The project would not impact on any land identified as BSAL, as identified by the NSW Department of Planning and Environment.

### **Agribusiness**

There were about 192 agricultural businesses in the primary study area in 2015-2016, of which about 53 businesses were farming livestock and 139 businesses were farming crops. More than half of agricultural businesses in the primary study area (52.3 per cent) were located in Badgerys Creek-Greendale SA2. Twenty-seven per cent of agricultural businesses in the primary study area were located in Mulgoa-Luddenham-Orchard Hills SA2, while 20.7 per cent were in Horsley Park-Kemps Creek SA2.

Vegetable farms comprised the largest number of agricultural businesses in the primary study area. In 2015-2016, there were about 109 vegetable farms (about 56.8 per cent of agricultural businesses) in the primary study area, with key crops including tomatoes, lettuce, capsicum, cabbage, beans and broccoli. Two dairy farms are located in the primary study area, within Badgerys Creek-Greendale SA2 and Mulgoa-Luddenham-Orchard Hills SA2.

Total agricultural output in the primary study area was around \$127 million in 2015, representing about one per cent of total agricultural output in NSW as a whole. In terms of value, meat poultry was the largest commodity produced in the primary study area in 2015-2016. Other important commodities included vegetables, eggs, and nurseries, cut flowers and cultivated turf.

Agricultural businesses within or surrounding the project are outlined in **Section 5.6.2**. Further detail about agricultural businesses in the primary study area generally is provided in **Annexure D**.

## **5.7 Transport and access**

The primary and secondary study areas are serviced by a range of transport infrastructure and facilities, including major roads, public transport and active transport. This section provides a summary of transport and access in the primary and secondary study areas. Further information is also provided in Section 7.2 of the EIS and the M12 Motorway Traffic and Transport Working Paper.

### **5.7.1 Roads and freight network**

The primary and secondary study areas are serviced by local and regional roads that provide access for private, public and freight traffic. Key roads servicing the primary study area include:

- Elizabeth Drive
  - East-west route connecting The Northern Road at Luddenham with the Westlink M7 Motorway at Cecil Hills and the Hume Highway at Liverpool
  - Provides regional access for communities, business and industry between western Sydney and the Sydney CBD and local access for communities at Cecil Park, Kemps Creek, and Luddenham
- The Northern Road
  - Connects Richmond Road and South Windsor in the north with Camden Valley Way at Narellan in the south
  - Provides regional connections for communities across western Sydney and local access to residential, rural and commercial properties

- Westlink M7
  - Forms part of Sydney orbital motorway network linking the M5 Motorway at Prestons, the M4 Motorway at Eastern Creek and M2 Motorway at Baulkham Hills
- Luddenham Road
  - Connects Elizabeth Drive at Luddenham to Mamre Road at St Clair
  - Provides local access to residential, rural and commercial properties
- Badgerys Creek Road
  - A north-south corridor connecting The Northern Road at Bringelly with Elizabeth Drive at Badgerys Creek
  - Provides local access to rural properties
- Mamre Road
  - Connects Elizabeth Drive at Kemps Creek to the Western Motorway (M4) at Oxley Park
  - Provides access for urban, rural and industrial uses.

The primary study area is also serviced by local roads that provide access for local communities and businesses to the regional road network and access to rural, residential and commercial properties.

The M7 Motorway and M4 Motorway are designated national freight routes and provide continuous routes for freight vehicles that access major industrial areas within western Sydney and the greater Sydney area, or that pass through as part of longer regional journeys. Within the primary study area, a number of roads are approved routes for B-doubles, including Elizabeth Drive, The Northern Road, Mamre Road, Badgerys Creek Road, Bringelly Road, Devonshire Road and Erskine Park Road.

There is no formal on-street parking along major roads such as Elizabeth Drive and Mamre Road, with parking mainly comprising off-street parking for individual businesses.

Further information on the existing road network and freight routes is provided in Section 7.2 of the EIS and the M12 Motorway Traffic and Transport Working Paper.

## 5.7.2 Public transport

The primary study area is serviced by a number of public transport bus routes that provide access for communities to local and regional employment, services and facilities (see **Figure 5-13**). The main bus routes near the project include:

- Route 789, which connects Penrith to Luddenham via The Northern Road
- Route 801, which connects Badgerys Creek, Kemps Creek, Cecil Park and Liverpool via Elizabeth Drive and local roads including Badgerys Creek Road, Lawson Road and Martin Road at Badgerys Creek, and Western Road and Devonshire Road at Kemps Creek
- Route 813 which connects Bonnyrigg, Mount Vernon, Horsley Park and Fairfield via Elizabeth Drive, Mamre Road and local roads such as Cecil Road and Duff Road at Cecil Park and Mount Vernon Road at Mount Vernon.

School bus routes also operate in the primary study area connecting schools within the primary and secondary study areas. School bus route s149/s150 provides access between Yagoona Station and Christadelphian Heritage College Sydney at Kemps Creek, using roads near the project such as Cecil Road, Duff Road, Mount Vernon Road, Mamre Road and Elizabeth Drive. The Northern Road is also used to provide school bus access for Glenmore Park High School, Penrith High School and Penrith Public School.

A number of bus stops, catering for both school bus services and Sydney bus network services, are located near the project corridor at:

- Elizabeth Drive and Mamre Road at Cecil Hills and Mount Vernon
- Badgerys Creek Drive and Elizabeth Drive at Badgerys Creek
- Elizabeth Drive and The Northern Road at Luddenham.

Further information on public transport services and facilities near the project is in Section 7.2 of the EIS and the M12 Motorway Traffic and Transport Working Paper.

### 5.7.3 Active transport

Existing pedestrian and cycling infrastructure within the primary study area reflects the area's predominately rural nature and lower population densities. The majority of existing pedestrian and cycling facilities are located within the Western Sydney Parklands, with these generally catering for recreational use. An off-road cycleway is located adjacent to the M7 Motorway with ramps at Elizabeth Drive, providing connection to the regional path along Elizabeth Drive to the Liverpool town centre. A pedestrian and cycle bridge over the M7 Motorway is also located south of Elizabeth Drive providing connection to the Western Sydney Parklands. There are currently no footpaths or cycleways along Elizabeth Drive west of the M7 Motorway.

A shared pedestrian and cycle path is proposed to be provided between Narellan and the M4 Motorway as part of the upgrade of The Northern Road. Further information on existing active transport networks in the primary study area is provided in Section 7.2 of the EIS and the M12 Motorway Traffic and Transport Working Paper.

### 5.7.4 Travel to work

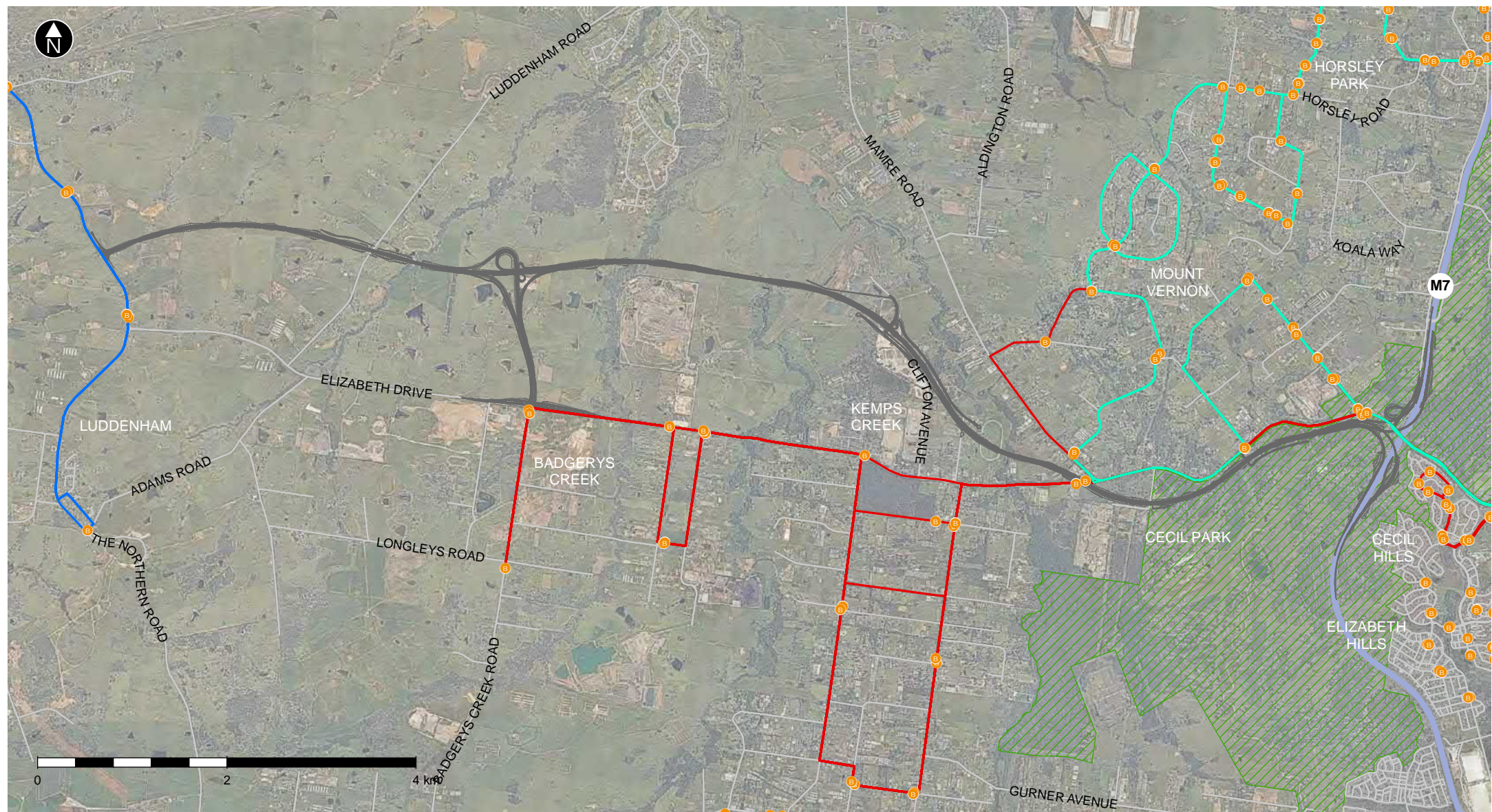
**Table 5-19** presents information on travel by residents in the primary study area at the 2016 Census. Car travel was the predominant mode of travel to work for residents in the primary study area, with about 72.3 per cent of residents aged 15 years or over using the car for all or part of their journey to work. This was above the proportion of people who used this mode of travel in NSW. Within the primary study area, Cecil Hills SA2 had the highest proportion of residents who used a car for their travel to work (80.3 per cent).

About 1.1 per cent of residents in the primary study area aged 15 years or over used the bus for all or part of their journey to work. This was well below the proportion of residents who used the bus in NSW (6.2 per cent) and is likely to reflect the limited public transport access in parts of the primary study area. Cecil Hills SA2 had the largest proportion of people who travelled to work by bus (2.7 per cent), although this was below the average for NSW.

About 2.0 per cent of people in the primary study area aged 15 years or over walked or cycled to work. This is compared to 3.9 per cent in NSW and is likely to reflect the more rural nature of many parts of the primary study area and distance to employment centres.

At the 2016 Census, 7.3 per cent of people in the primary study area worked from home, which was above the proportion of people who worked from home in the secondary study area and NSW. This was mainly driven by high proportions of people in the Austral-Greendale SA2 who worked at home, possibly reflecting the number of farming properties in this SA2.





**Figure 5-13** Public transport in the primary study area



Table 5-19 Travel to work, 2016

| Mode of transport           | Primary study area (per cent) | Secondary study area (per cent) | NSW (per cent) |
|-----------------------------|-------------------------------|---------------------------------|----------------|
| One method:                 |                               |                                 |                |
| Train                       | 2.5                           | 6.6                             | 7.5            |
| Bus                         | 0.6                           | 1.3                             | 4.0            |
| Ferry                       | 0.0                           | 0.0                             | 0.2            |
| Tram (includes light rail)  | 0.0                           | 0.0                             | 0.1            |
| Taxi                        | 0.0                           | 0.1                             | 0.2            |
| Car, as driver              | 65.4                          | 65.3                            | 57.8           |
| Car, as passenger           | 4.4                           | 5.5                             | 4.3            |
| Truck                       | 4.3                           | 1.6                             | 1.0            |
| Motorbike/scooter           | 0.2                           | 0.3                             | 0.6            |
| Bicycle                     | 0.1                           | 0.2                             | 0.7            |
| Other                       | 0.6                           | 0.4                             | 0.6            |
| Walked only                 | 2.0                           | 1.7                             | 3.9            |
| Total one method            | 80.2                          | 83.1                            | 80.7           |
| Two methods                 |                               |                                 |                |
| Train and one other method  | 2.8                           | 4.4                             | 3.3            |
| Bus and one other method    | 0.1                           | 0.2                             | 0.4            |
| Other two methods           | 0.7                           | 0.6                             | 0.6            |
| Three methods               |                               |                                 |                |
| Train and two other methods | 0.4                           | 0.6                             | 0.4            |
| Bus and two other methods   | 0.0                           | 0.0                             | 0.0            |
| Other three methods         | 0.0                           | 0.0                             | 0.0            |
| Worked at home              | 7.2                           | 2.8                             | 4.8            |
| Did not got to work         | 7.2                           | 7.1                             | 8.7            |
| Method of travel not stated | 1.4                           | 1.1                             | 1.0            |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

## 6. Assessment of potential impacts

This section assesses potential socio-economic, land use and property impacts associated with the construction and operation of the project.

### 6.1 Property impacts

#### 6.1.1 Directly affected properties

Property acquisition for the project would directly impact 41 properties. About 36 properties would be partially acquired with five properties fully acquired. Temporary leases of land would also be required to accommodate ancillary construction facilities (see **Table 6-1** and **Figure 6-1** for properties to be acquired or temporarily leased). Land owned by Roads and Maritime would also be directly impacted by the project.

Land to be acquired for the project includes privately owned land and land owned by NSW Government agencies. Ownership of land directly affected by the project is shown in **Table 6-1** and includes:

- 36 properties are privately owned, including 13 properties that are owned by a company
- Two properties held in public ownership, including land within Western Sydney Parklands and land owned by WaterNSW

Two properties previously held in private ownership are now owned by Roads and Maritime.

One property is currently in Commonwealth ownership (Property ID 41). The process to transfer this property to the NSW State Government has commenced and will likely be owned by Roads and Maritime at the time of project approval. For the purposes of this EIS and addressing requirements related to impact to Commonwealth land under the *Environment Protection and Biodiversity Conservation Act 1999*, this land is considered to already be in state ownership. Construction of the project would not commence until the land is actually under state ownership.

Most land affected by the project comprises rural land, including land used for grazing, intensive animal production, and horticulture. Other directly affected properties include:

- Land within the Western Sydney Parklands at Cecil Hills, managed by the Western Sydney Parklands Trust
- Commercial and business uses at Badgerys Creek, Kemps Creek and Cecil Park.

Acquisitions for the project would be undertaken by Roads and Maritime in accordance with the provisions of the NSW *Land Acquisition (Just Terms Compensation) Act 1991* and the Land Acquisition Reform 2016 process (<https://www.propertyacquisition.nsw.gov.au/>). The Act provides the basis for an appropriate valuation process and the fair assessment of compensation.

Where properties are only partly affected by the project, Roads and Maritime would generally undertake a partial acquisition of the directly affected portion. In some instances, Roads and Maritime would give consideration to total acquisition (dual offer) or acquisition of any residual parcels created by the location and design of the project. This would provide affected property owners with a level of flexibility or choice during the property acquisition process in relation to property decisions. For example, some property owners may want to retain residual parcels for future use. Roads and Maritime would continue to consult with land owners through the detailed design about these land parcels. Total acquisition offers may be triggered in instances where:

- Residual land is not developable
- Roads and Maritime is unable to provide access to the residual land
- The project directly impacts and requires removal of the main residence on the property
- Roads and Maritime receives a request from the land owner.

Partial acquisition of rural properties may require the demolition or relocation of infrastructure such as fencing, dams, sheds and other directly affected structures prior to construction. This would be undertaken in consultation with the property owner. Partial acquisition of land may also result in severance or fragmentation of some rural properties, particularly larger land holdings comprising a number of lots. Potential impacts on access and viability of land uses was identified during community consultation undertaken for the project. Access to residual property parcels would be maintained via existing local roads or new service roads constructed as part of the project. Further discussion about potential impacts on directly affected rural properties is provided in **Section 6.6.3**.

Roads and Maritime has started consultation with potentially affected property owners regarding the acquisition process and potential adjustments required to properties for the project. Consultation will continue during the detailed design and construction phases of the project.

Impacts of property acquisition on land use, businesses and social infrastructure are discussed in **Section 6.2**, **Section 6.6** and **Section 6.6.3** respectively.

During construction, temporary leases of land would also be required to accommodate ancillary construction facilities such as worksites, compounds and laydown areas. Properties subject to temporary leases generally include those affected by partial acquisition. Properties likely to be affected by temporary lease are summarised in **Table 6-1** and shown on **Figure 6-1** and include areas of rural land, commercial uses and land within the Western Sydney Parklands.

Use of, and access to, land subject to temporary lease arrangements would be disrupted during the construction period. Following construction, these areas would be reinstated to pre-construction use, including the reinstatement of any affected infrastructure such as fencing, as agreed with the property owner. Further discussion about impacts on temporary use of rural land and land accommodating social infrastructure are discussed in **Section 6.2** and **Section 6.6.3**, respectively. Impact on the temporary use of commercial properties are discussed in **Section 6.6**.

Table 6-1 Summary of properties to be acquired or leased

| ID * | Lot (lot or section/ DP) | Ownership                                 | Existing land use**                                                                                   | Total property area (hectares) | Proportion of property within operational footprint (per cent) | Proportion of property within construction footprint (hectares/ per cent) | Infrastructure affected (eg dwellings, sheds, farm dams, shade houses)                               |
|------|--------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 1    | 1/DP200435               | Private                                   | Agriculture (The Honey Shed), home based business (transport company), utilities (mobile phone tower) | 10.4                           | 3.2<br>(30.4%)                                                 | 10.4<br>(100%)                                                            | Dwelling(s), internal roads/ tracks                                                                  |
| 2    | 1/DP1240402              | Private (company)                         | Rural                                                                                                 | 315.2                          | 13.5<br>(4.3%)                                                 | 13.5<br>(4.3%)                                                            | -                                                                                                    |
| 3    | 26/DP604586, 1/DP228498  | Private                                   | Agriculture – grazing                                                                                 | 48.3                           | 16.1<br>(33.3%)                                                | 16.1<br>(33.3%)                                                           | -                                                                                                    |
| 4    | 25/DP604586              | Private                                   | Agriculture – grazing                                                                                 | 12.8                           | 4.7<br>(36.4%)                                                 | 4.7<br>(36.4%)                                                            | Farm dams (two)                                                                                      |
| 5    | 2/DP529885               | Private (company)                         | Commercial (Luddenham Raceway)                                                                        | 37.8                           | 0.5<br>(1.4%)                                                  | 0.5<br>(1.4%)                                                             | Olive trees                                                                                          |
| 6    | 1/DP235124               | Private (now owned by Roads and Maritime) | Commercial (former Karingal Training Stables – no longer operating)                                   | 17.6                           | 5.2<br>(29.8%)                                                 | 5.6<br>(32.1%)                                                            | Sheds, horse paddocks/stables, farm dams, training facilities, training track, internal roads/tracks |
| 7    | 35/DP211842              | Private                                   | Agriculture – intensive animal husbandry (horses)                                                     | 11.3                           | 1.0<br>(8.7%)                                                  | 1.6<br>(14.2%)                                                            | Farm dams                                                                                            |



| ID * | Lot (lot or section/ DP)                                                  | Ownership         | Existing land use**                                                                      | Total property area (hectares) | Proportion of property within operational footprint (per cent) | Proportion of property within construction footprint (hectares/ per cent) | Infrastructure affected (eg dwellings, sheds, farm dams, shade houses) |
|------|---------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 8    | 101/DP848215                                                              | Private (company) | Agriculture – grazing, commercial (quarrying, waste management and/or resource recovery) | 343.4                          | 47.2 (13.7%)                                                   | 60.6 (17.6%)                                                              | Farm dams, quarry, farm dams (two), internal roads/tracks              |
| 9    | 63/DP1087838, 62/DP1087838, 3/DP164242, 1/DP74574, 21/DP258414, 1/DP88836 | Private           | Rural land – The University of Sydney farms                                              | 343.9                          | 30.9 (9.0%)                                                    | 58.8 (17.1%)                                                              |                                                                        |
| 10   | 2/DP88836                                                                 | Private (company) | Model aircraft airstrip/ rural land, commercial (radio testing)                          | 25.3                           | 1.6 (6.2%)                                                     | 1.6 (6.2%)                                                                |                                                                        |
| 11   | 55/DP734584                                                               | Private           | Agriculture – horticulture                                                               | 10.1                           | 0.04 (0.4%)                                                    | 0.05 (0.5%)                                                               |                                                                        |
| 12   | 1/DP587135, 2/DP587135, 7/DP812284                                        | Private (company) | Agriculture – horticulture, grazing (identified for future urban development)            | 88.1                           | 10.8 (12.2%)                                                   | 10.8 (12.2%)                                                              | Horticultural gardens, internal roads                                  |
| 13   | 47/DP734584                                                               | Private (company) | Rural land                                                                               | 10.7                           | 6.1 (56.8%)                                                    | 9.1 (84.9%)                                                               | -                                                                      |
| 14   | 3/DP812284                                                                | Private (company) | Recycling facility, commercial (TreeServe)                                               | 12.8                           | 0.8 (6.3%)                                                     | 0.8 (6.3%)                                                                | -                                                                      |
| 15   | 6/DP812284                                                                | Private           | Agriculture – grazing                                                                    | 16.3                           | 6.4 (39.1%)                                                    | 6.4 (39.1%)                                                               | Sheds, internal roads/tracks                                           |
| 16   | 5/DP812284                                                                | Private           | Wrecked caryard                                                                          | 6.1                            | 1.7 (27.5%)                                                    | 1.7 (27.5%)                                                               | -                                                                      |

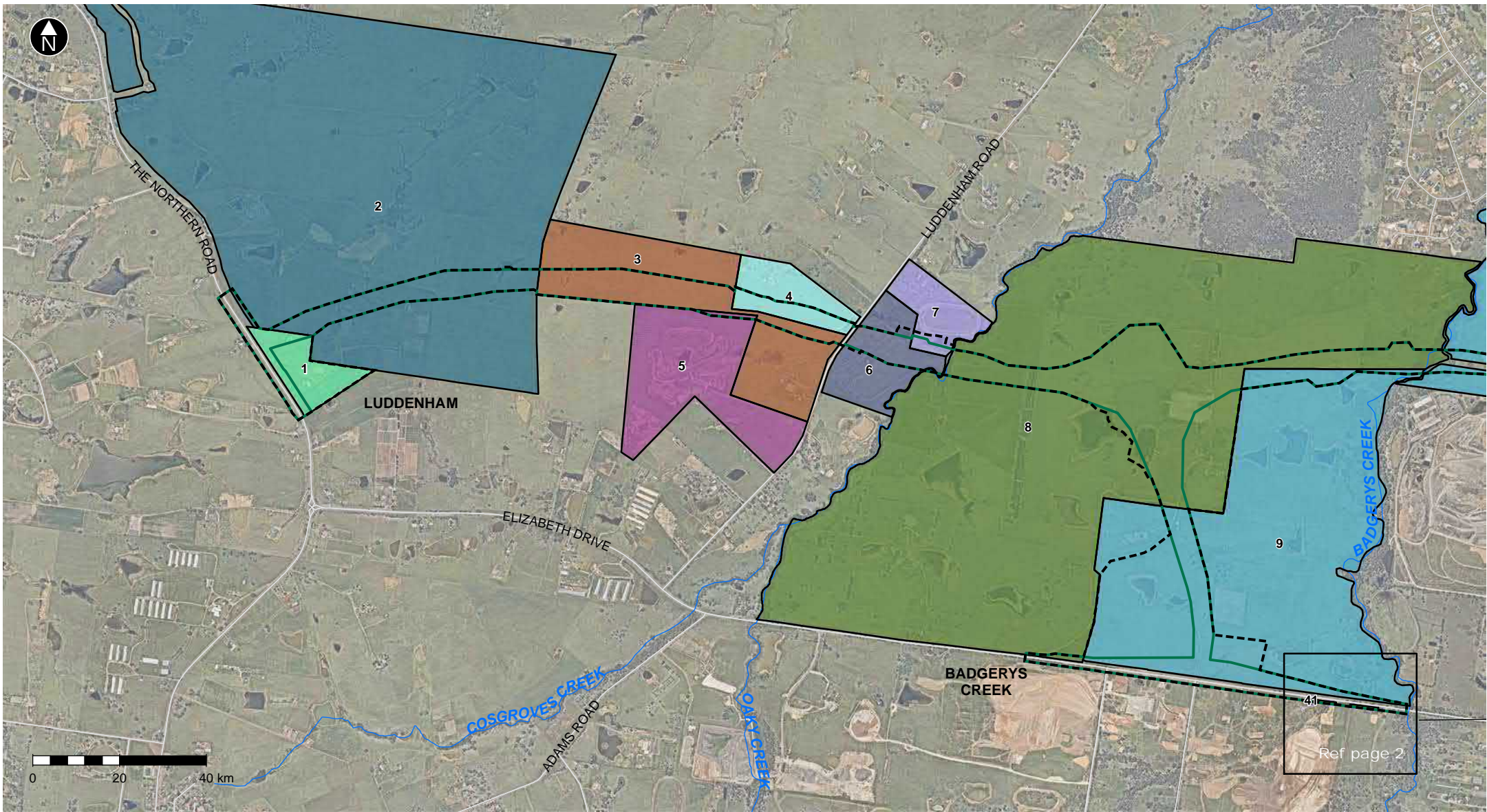
| ID * | Lot (lot or section/ DP) | Ownership                                 | Existing land use**                               | Total property area (hectares) | Proportion of property within operational footprint (per cent) | Proportion of property within construction footprint (hectares/ per cent) | Infrastructure affected (eg dwellings, sheds, farm dams, shade houses) |
|------|--------------------------|-------------------------------------------|---------------------------------------------------|--------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 17   | 4/DP812284               | Private                                   | Rural land                                        | 5.7                            | 1.8<br>(30.9%)                                                 | 1.8<br>(30.9%)                                                            | -                                                                      |
| 18   | 41/DP734584              | Private                                   | Agriculture – horticulture                        | 13.1                           | 2.2<br>(17.1%)                                                 | 2.2<br>(17.1%)                                                            | Horticultural gardens, shed                                            |
| 19   | 1/DP981721               | Private                                   | Rural residential                                 | 2.1                            | 1.3<br>(60.6%)                                                 | 1.3<br>(60.6%)                                                            | Dwelling, sheds                                                        |
| 20   | 1/DP981720               | Private                                   | Agriculture – horticulture                        | 2.1                            | 0.19<br>(9.0%)                                                 | 0.19<br>(9.0%)                                                            | Shade houses, farm dam                                                 |
| 21   | 1/DP736951               | Private                                   | Commercial (horse training)                       | 1.9                            | 1.1<br>(56.8%)                                                 | 1.1<br>(56.8%)                                                            | Dwellings (two), sheds/ stables, horse paddocks                        |
| 22   | 2/DP736951               | Private                                   | Rural residential                                 | 1.9                            | 1.9<br>(100.0%)                                                | 1.9<br>(100.0%)                                                           | Dwelling, sheds, horse paddocks                                        |
| 23   | B/DP416720, 39/A/DP2566  | Private                                   | Commercial (horse training facility – Bara Lodge) | 2.2                            | 1.0<br>(45.4%)                                                 | 1.0<br>(45.4%)                                                            | Horse paddocks, shed, internal roads/tracks                            |
| 24   | B/DP102214               | Private (now owned by Roads and Maritime) |                                                   | 18.8                           | 4.0<br>(21.5%)                                                 | 4.0<br>(21.5%)                                                            | Training track, farm dam, internal roads/tracks                        |
| 25   | 29/DP30265               | Private (company)                         | Commercial (Vac Group Australia)                  | 2.4                            | 0.3<br>(12.4%)                                                 | 0.3<br>(12.4%)                                                            | -                                                                      |
| 26   | 8/DP737052               | Private                                   | Residential                                       | 2.1                            | 0.8<br>(35.9%)                                                 | 0.8<br>(35.9%)                                                            | -                                                                      |

| ID * | Lot (lot or section/ DP) | Ownership         | Existing land use**                       | Total property area (hectares) | Proportion of property within operational footprint (per cent) | Proportion of property within construction footprint (hectares/ per cent) | Infrastructure affected (eg dwellings, sheds, farm dams, shade houses) |
|------|--------------------------|-------------------|-------------------------------------------|--------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| 27   | 7/DP737052               | Private (company) | Commercial                                | 2.1                            | 0.5 (22.7%)                                                    | 0.5 (22.7%)                                                               | -                                                                      |
| 28   | 17/DP30265               | Private           | Rural residential                         | 2.9                            | 0.02 (0.6%)                                                    | 0.02 (0.6%)                                                               | -                                                                      |
| 29   | 18/DP30265               | Private           | Rural residential                         | 3.1                            | 0.5 (15.0%)                                                    | 0.5 (15.0%)                                                               | -                                                                      |
| 30   | 19/DP30265               | Private           | Rural residential                         | 3.2                            | 1.0 (31.7%)                                                    | 1.0 (31.7%)                                                               | -                                                                      |
| 31   | 20/DP30265               | Private (company) | Rural residential                         | 2.3                            | 0.2 (7.6%)                                                     | 0.2 (7.6%)                                                                | -                                                                      |
| 32   | 21/DP30265               | Private           | Rural residential                         | 2.3                            | 0.6 (23.9%)                                                    | 0.6 (23.9%)                                                               | -                                                                      |
| 33   | 22/DP30265               | Private (company) | Commercial                                | 2.3                            | 0.9 (40.6%)                                                    | 0.9 (40.6%)                                                               | Hardstand                                                              |
| 34   | 23/DP30265               | Private (company) | Commercial – Western Safety Fences        | 2.3                            | 1.3 (55.2%)                                                    | 1.3 (55.2%)                                                               | -                                                                      |
| 35   | 24/DP30265               | Private           | Rural residential                         | 2.0                            | 0.8 (39.9%)                                                    | 0.8 (39.9%)                                                               | Shed                                                                   |
| 36   | 26/DP30265, 25/DP30265   | Private           | Commercial (Hi-Quality Group Head Office) | 4.2                            | 2.2 (51.6%)                                                    | 2.2 (51.6%)                                                               | Shed, office, hardstand                                                |

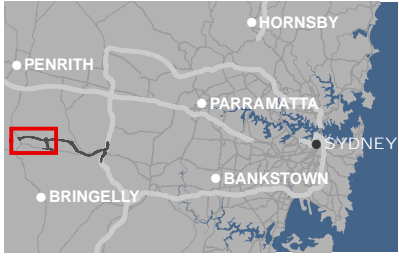
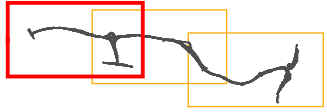
| ID * | Lot (lot or section/ DP)                                                                                                                                               | Ownership | Existing land use**          | Total property area (hectares) | Proportion of property within operational footprint (per cent) | Proportion of property within construction footprint (hectares/ per cent) | Infrastructure affected (eg dwellings, sheds, farm dams, shade houses)                              |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------|--------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 37   | 9/DP1054778, 8/DP1054778, 7/DP1054778, 6/DP1054778, 5/DP1054778, 4/DP1054778, 3/DP1054778, 2/DP1054778, 1/DP1054778                                                    | Private   | Agriculture – grazing        | 18.9                           | 8.3<br>(43.7%)                                                 | 8.3<br>(43.7%)                                                            | -                                                                                                   |
| 38   | 3/DP1087825, 1/DP875790, 2/DP922940, 28/DP654786, 1/DP308358, 6/DP629798, 5/DP629798, 1/DP1041390, 2/DP1041390, 10/DP1021940, 11/DP1021940, 12/DP1021940, 14/DP1021940 | Public    | Western Sydney Parklands     | 773.3                          | 45.9<br>(5.9%)                                                 | 52.4<br>(6.8%)                                                            | Wylde Mountain Bike Trail and other recreation uses, International Shooting Centre, vegetated areas |
| 39   | 21/DP1109551, 26/DP1109551, 22/DP1109551                                                                                                                               | Public    | Water NSW                    | 9.5                            | 2.0<br>(20.9%)                                                 | 2.0<br>(20.9%)                                                            | -                                                                                                   |
| 40   | 13/DP1021940                                                                                                                                                           | Private   | Rural                        | 10.7                           | 0.2<br>(2.1%)                                                  | 0.2<br>(2.1%)                                                             | Orchard trees                                                                                       |
| 41   | 2/DP1230172, 1/DP129674, 2/DP996420, 1/DP996420                                                                                                                        | Public*** | Elizabeth Drive road reserve | 0.3                            | 0.3<br>(99.7%)                                                 | 0.3<br>(99.7%)                                                            | -                                                                                                   |

Note: \* Refer to Figure 6-1 for location \*\*Based on review of GIS dataset and aerial photography; \*\*\*Transfer of Commonwealth land to Roads and Maritime currently ongoing



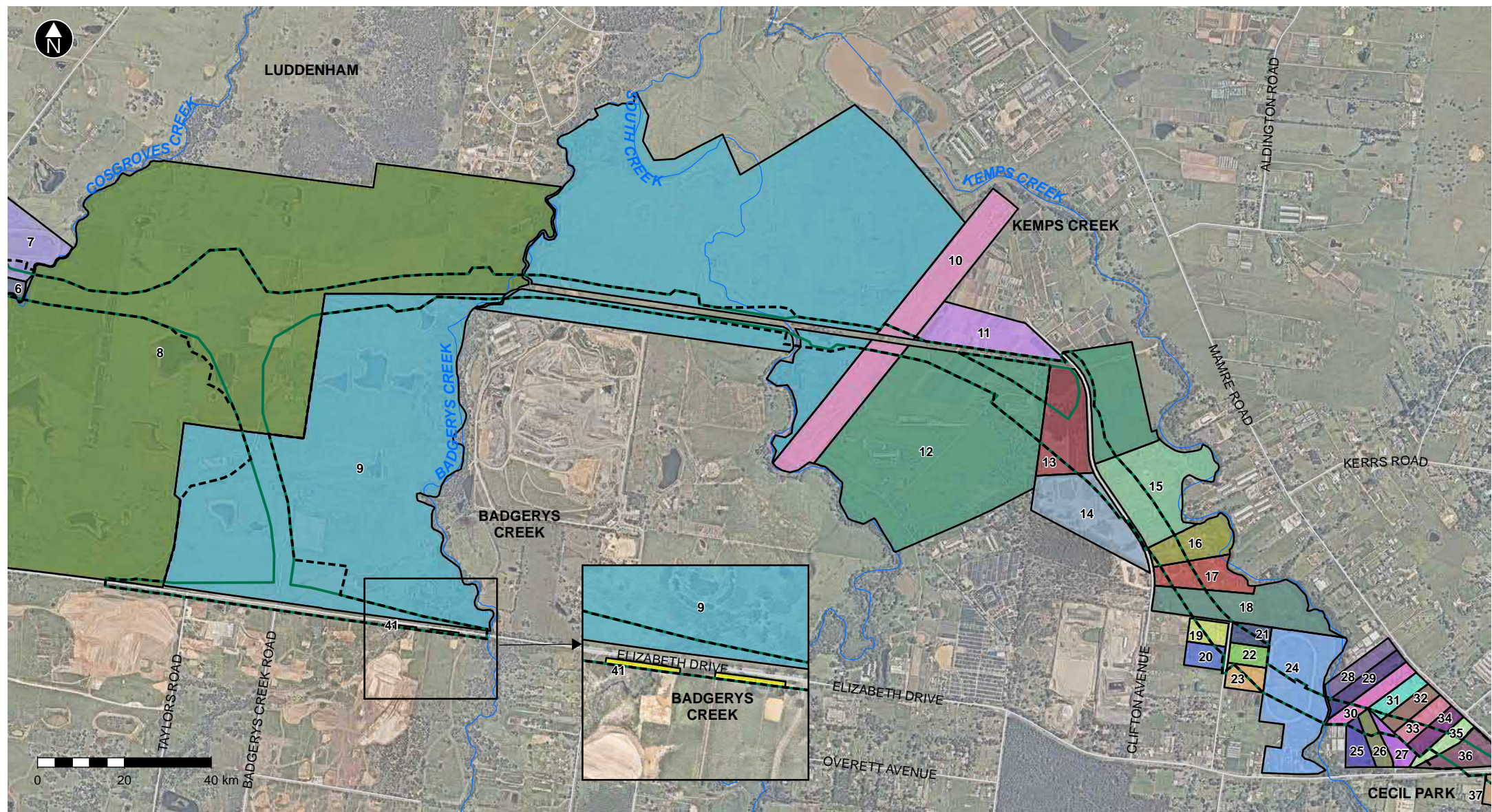


[Dashed line] The project construction footprint    [Solid line] Affected properties  
 [Green line] The project operational footprint    **Note: Different colours have been used for each affected property for ease of identification**  
 [Blue line] Waterways



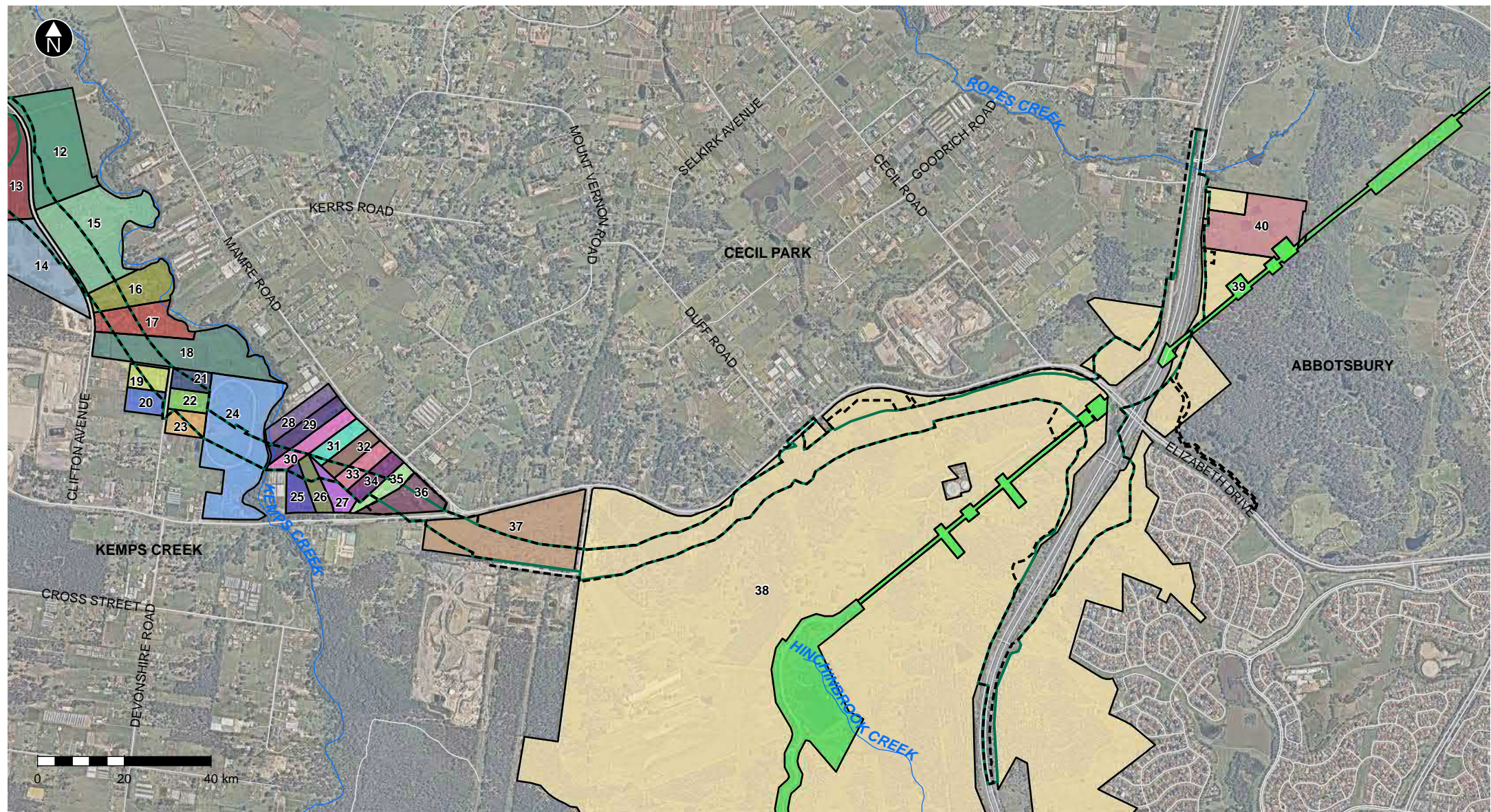
**Figure 6-1** Properties within construction and operation footprints



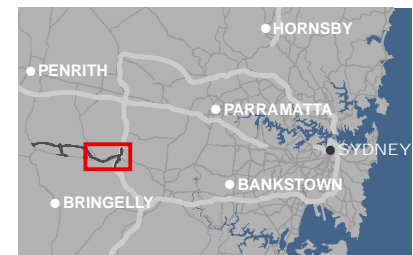
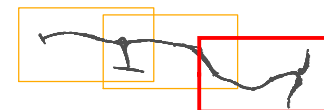


**Figure 6-1** Properties within construction and operation footprints





[Dashed line] The project construction footprint    [Solid line] Affected properties  
 [Green line] The project operational footprint    **Note: Different colours have been used for each affected property for ease of identification**  
 [Blue line] Waterways



**Figure 6-1** Properties within construction and operation footprints



## 6.1.2 Impact of property acquisition

The project would require the demolition of nine dwellings located on rural and rural-residential properties to be acquired for the project. Prior to construction, these dwellings would be demolished, requiring residents to relocate.

As indicated in **Section 6.1.1**, property acquisition for the project would be undertaken in accordance with the provisions of the NSW *Land Acquisition (Just Terms Compensation) Act 1991* and the Land Acquisition Reform 2016 process. This process would include compensation for costs associated with relocation (eg legal, financial, and moving expenses) as well as compensation for disadvantage resulting from relocation based on factors such as the length of time the person has resided in the property, inconvenience likely to be suffered because of their removal from the property, and the period after acquisition the person has been allowed to remain in possession of the property.

The relocation of residents due to acquisition has potential to impact on community cohesion through disruption to social networks and community relationships, if residents are required to move away from existing social and support networks. These impacts generally have the greatest effect on groups such as the elderly, people with disability, longer term residents and people on lower incomes who are often more reliant on personal and community networks and who may not have access to the economic resources to respond to changes from the project.

As indicated in **Section 5.3**, some rural communities within the Horsley Park-Kemps Creek SA2, which include a number of residential properties to be partially or wholly acquired for the project, are characterised by older populations, relatively low levels of population mobility and proportions of people needing assistance above the NSW average. These communities also reported greater levels of relative disadvantage at the 2016 Census, potentially making them more vulnerable to impacts associated with disruptions to social networks.

It is also likely that some properties impacted by property acquisition have been held in the same family over several generations, particularly rural or farming properties. The owners of these properties are likely to have increased emotional attachment to their farms and the local area. As such, impacts associated with property acquisition and relocation may be felt more acutely, due to the associated loss of family heritage. The specific needs of affected property owners would be considered during the property acquisition process.

Given the relatively small number of dwellings required to be demolished for the project, impacts on social networks and community relationships within the wider primary study area from relocation of residents are expected to be minor, although will be important to affected individuals. Disruption to social and community networks in the primary study area is also being driven by acquisition of properties for the Western Sydney Airport as well as future urban development. Further discussion on potential cumulative impacts is included in **Section 6.10**.

Property acquisition for the project may also impact on owners and employees of local businesses and users of social infrastructure. These impacts are described in **Section 6.6** and **Section 6.6.3** respectively.

Some residents, business owners and employees facing changes such as relocation may experience stress and anxiety about these changes, potentially impacting on individuals' health, wellbeing and quality of life. Further discussion about potential impacts on health and wellbeing is provided in **Section 6.8.3**.



### 6.1.3 Other property impacts

Access would be maintained to individual properties near the project alignment, including at Elizabeth Drive, Mamre Road, Clifton Avenue and The Northern Road. Some permanent changes would be required to some access roads, including realignment or closure of some local roads either side of the proposed road corridor. This may change access routes for some property owners and visitors potentially increasing travel distances to individual properties. Further discussion about potential impacts from changes to local access and connectivity is provided in **Section 6.10**.

Permanent adjustments would be required to some private properties for the project, including adjustments to fencing and farm infrastructure including farm dams, sheds, and shade houses, due to partial property acquisition. The project design, including evaluation of route options (described in Section 4.2 of the EIS), has sought to minimise any impact of severance on farming operations as far as practicable. Any adjustments to properties required for the project would be undertaken in consultation with the property owner. Partial property acquisition may also result in severance or fragmentation of some rural properties, potentially isolating some parts of rural properties and impacting on the efficiency of property management and farming operations. Further discussion about potential impacts on agricultural properties, including farm infrastructure, is discussed in **Section 6.6.3**.

Potential impacts may occur for properties near the project due to changes in local amenity related to visual impacts, increased traffic noise and changes to air quality. Concerns about noise impacts associated with the project's construction and operation were identified during consultation for the project along with the need to minimise noise and visual intrusion through the use of landscape design and appropriate road surface. It is not anticipated that any property's potable water access would be impacted. Further discussion about potential impacts on local amenity is provided in **Section 6.8.1**.

## 6.2 Land use impacts

This section assesses potential impacts of the project's construction and operation on existing land uses, land use zoning and future development areas within the study area.

### 6.2.1 Existing land use

As indicated in **Section 5.2.1**, the predominant land use character of the primary study area is a mix of rural, grazing, intensive agriculture and rural residential, with pockets of resource and waste facilities, and commercial/industrial uses. Higher density residential land uses are being developed to the east of the project (east of the M7 Motorway) in Cecil Hills and beyond.

The project has been designed to minimise direct impact on land use through the siting of the project on land currently used for general rural and grazing uses, where possible. The corridor traverses land used for intensive agriculture, commercial/industrial uses and resource and waste management uses on smaller properties at Kemps Creek, while at the eastern end, the project mainly traverses recreation land within the Western Sydney Parklands.

The following provides an overview of land uses within the construction and operation footprints. Discussion of potential impacts on specific land uses is provided in **Section 6.6** (business and commercial uses), **Section 6.6.3** (agricultural uses), and **Section 6.7** (social infrastructure).

## Construction

During construction, potential impacts on existing land use would mainly relate to:

- Direct impacts on land use from the siting of construction compounds and ancillary facilities, including locations at Luddenham, Badgerys Creek, Kemps Creek, and Cecil Park
- Reduced amenity for some land uses surrounding construction compounds and construction works, due to noise and dust from construction activities and increased construction traffic
- Temporary changes to property access near to construction works, due to changes in traffic conditions.

The area of land within the construction footprint for the project is summarised in **Table 6-2**, based on the land use categories identified in **Section 5.2.1**.

Table 6-2 Summary of land uses within the construction footprint

| Land use*                           | Land use in the construction footprint (hectares) |
|-------------------------------------|---------------------------------------------------|
| <b>Rural and agricultural uses</b>  | <b>223.9</b>                                      |
| Grazing                             | 168.1                                             |
| Intensive agriculture               | 15.0                                              |
| Rural                               | 25.8                                              |
| Rural residential                   | 15.0                                              |
| <b>Environmental areas</b>          | <b>3.0</b>                                        |
| Watercourse or water infrastructure | 3.0                                               |
| <b>Urban</b>                        | <b>72.8</b>                                       |
| Commercial/ industrial              | 11.8                                              |
| Resource and waste facility         | 9.9                                               |
| Recreation use                      | 51.1                                              |
| <b>Infrastructure</b>               | <b>54.6</b>                                       |
| Roads and transport                 | 54.6                                              |
| <b>Total</b>                        | <b>354.2</b>                                      |

Source: Based on JAJV and Roads and Maritime analysis of existing land uses

The construction footprint would directly impact about 354.19 hectares of land, of which the predominant land uses are rural and agricultural uses, including land used for grazing, intensive agriculture, and rural residential uses.

Land classified as rural and agricultural uses accounts for about 63 per cent of land within the construction footprint (223.9 hectares). This mainly includes land used for grazing purposes (168.1 hectares) on large property holdings, including within the University of Sydney owned McGarvie Smith Farm and Fleurs Farms at Badgerys Creek used for beef cattle grazing. About 25.77 hectares of land within the construction footprint comprises general rural uses such as large property rural living uses, and 15 hectares of land comprises intensive agricultural uses, including intensive animal production and horticultural uses. Further discussion about potential impacts on agricultural uses is in **Section 6.6.3**.

About 20 per cent of land within the construction footprint (72.8 hectares) comprises urban uses, which mainly includes land used for recreation within the Western Sydney Parklands. Potential impacts on

recreation uses within the Western Sydney Parklands are described in **Section 6.7.1**. About 54.6 hectares of land within the construction footprint comprises existing road and transport uses.

Overall, potential impacts on land uses within the study area are generally expected to be low, given the project mainly passes through rural areas used for grazing. Potential impacts on the amenity of land uses near to construction activities and construction traffic impacts are described in **Section 6.8.1** and **Section 6.9.1** respectively.

## Operation

The operation footprint would directly impact about 290.53 hectares of land, including land that would be acquired for the road corridor, local access roads and drainage and ancillary infrastructure. Land uses within the operation footprint are summarised in **Table 6-3** and include a mix of land used for primary production, environmental uses, urban development and infrastructure.

Table 6-3 Summary of land uses within the operation footprint

| Land use*                           | Land use in the operation footprint (hectares) |
|-------------------------------------|------------------------------------------------|
| <b>Rural and agricultural uses</b>  | <b>174.4</b>                                   |
| Grazing                             | 126.5                                          |
| Intensive agriculture               | 7.8                                            |
| Rural                               | 25.2                                           |
| Rural residential                   | 15.0                                           |
| <b>Environmental areas</b>          | <b>2.8</b>                                     |
| Watercourse or water infrastructure | 2.8                                            |
| <b>Urban</b>                        | <b>60.2</b>                                    |
| Commercial/ industrial              | 9.5                                            |
| Resource and waste facility         | 6.9                                            |
| Recreation use                      | 43.8                                           |
| <b>Infrastructure</b>               | <b>53.2</b>                                    |
| Roads and transport                 | 53.2                                           |
| <b>Total</b>                        | <b>290.5</b>                                   |

Source: Based on JAJV and Roads and Maritime analysis of existing land uses

Land classified as rural and agricultural uses comprises the largest area of land directly impacted by the operation footprint, comprising about 60 per cent of land within the operation footprint (174.4 hectares). This mainly comprises land used for grazing (126.5 hectares) on large property holdings, including within the University of Sydney McGarvie Smith Farm and Fleurs Farms.

Other rural and agricultural uses within the operation footprint include:

- About 25.2 hectares of general rural uses
- About 15 hectares of land identified for rural residential uses
- About 7.8 hectares of land used for intensive agriculture, including land at Luddenham used for orchard fruit trees and horticulture land at Kemps Creek (irrigated vegetables and herbs).

Further information on potential impacts on agricultural uses, including farm dams and land within the University of Sydney McGarvie Smith Farm/ Fleurs Farms is in **Section 6.6.3**.

Urban uses comprise about 60.2 hectares of land within the operation footprint (20.7 per cent) and include commercial/industrial uses, resource and waste facilities, and recreation uses. Recreation uses comprise more than two thirds of urban uses within the operation footprint and mainly includes land within the Western Sydney Parklands. Further discussion about potential impacts on land within the Western Sydney Parklands is in **Section 6.7.1**.

Environmental areas within the operation footprint include land within water ways and riparian areas of watercourses of South Creek, Cosgrove Creek and Kemps Creek and water infrastructure, such as the Sydney Water canal system at Cecil Park. Further discussion about potential impacts on waterways is provided in Section 7.9 of the EIS.

Overall, general impacts on existing land uses from the operation of the project are expected to be low. The larger property rural uses surrounding the project are generally able to cater for the project and would continue to operate. Access to existing commercial/industrial, rural living and community uses at Luddenham, Kemps Creek, Mt Vernon and Cecil Park would be maintained through local roads and project interchanges.

The early provision of a key road link with the project would also support the orderly transition from existing rural and agricultural uses to future higher intensity urban uses. Further discussion about impacts of the project on future land uses is in **Section 6.2.5**.

## 6.2.2 Environmental areas

About 2.8 hectares of land within the operation footprint for the project comprises rivers or creeks, including Badgerys Creek, South Creek and Kemps Creek (see **Table 6-3**). The project would bridge these waterways, although some clearing of existing vegetation would be required within the affected land. The project would also require the clearing of bushland areas within the Western Sydney Parklands. Further discussion about potential impacts of the project's construction and operation on waterways and biodiversity values is provided in Section 7.9 and Section 7.1 of the EIS respectively.

About 2.79 hectares of land within the Western Sydney Parklands biobank site (ID number 119) would be within the project construction footprint, representing about 9 per cent of the total biobank site. Roads and Maritime has started engaging with the Western Sydney Parklands Trust about potential impacts on the biobank site and offset requirements. The operation footprint would also impact land within a carbon sequestration site near Elizabeth Drive. Consultation would be undertaken with Western Sydney Parklands Trust regarding a new area within the Parklands that has a similar carbon sink.

## 6.2.3 Resource and waste facilities

As indicated in **Table 6-2** and **Table 6-3**, about 9.9 hectares of land within the construction footprint and 6.6 hectares of land within the operation footprint is identified as having resource and waste facility uses through desktop analysis. This includes land used for a tree depot and green waste recycling facility at Clifton Avenue. As presented in **Table 6-5**, about 0.8 hectares (about 6.3 per cent) of this property would be required for the project construction and operational footprints and the existing local access to Clifton Avenue that would be realigned as part of the project. This would not directly impact facilities such as the office and weighbridge. It would, however, reduce the area used for laydown and green waste recycling activities. It is expected that the business would be able to continue to operate at the site.

During construction, temporary reductions in amenity may result from increased dust, noise and traffic associated with construction activities. Environmental and traffic management measures would be implemented during construction to minimise impacts on amenity for workers.



The project would be located on land subject to a current exploration licence (EL8429). EL8429 comprises about 127.31 square kilometres, in which exploration activities for clay and shale minerals are currently carried out. The project would impact about 0.9 per cent of the total licence area (about 1.15 square kilometres of EL8429). It is noted that an EL829 is an exploration licence, which does not permit mining and does not guarantee that a mining lease is granted. According to NSW Resources and Geosciences (n.d. a), only a very small percentage of land that is subject to exploration licences are granted mining rights. In addition, EL8429 is set to expire on 20 April 2021. If the exploration licence is renewed, the land subject to exploration would generally be reduced by 50 per cent (NSW Resources and Geoscience n.d. b). Considering this, and given that less than one per cent of the exploration licence area would be impacted by the project, it is anticipated that the project would not have a major impact on EL8429.

An undeveloped clay resource (Cecil Park Clay Resource) is also located at Cecil Road, north of Elizabeth Drive in Cecil Park, although this would not be impacted by the construction of the project. All other identified mineral resources are located outside the construction footprint and would not be impacted by the project (see **Figure 5-2**).

Further discussion of potential impacts on the business operations of these uses is provided in **Section 6.6**.

## 6.2.4 Infrastructure and utilities

### Construction

The project would affect some utilities and services in the primary study area, including electricity transmission lines, communications infrastructure, and water and gas pipelines. These services would be modified, protected or relocated as part of the project's construction, in consultation with the relevant service provider to minimise any service disruptions. A summary of potential impacts on existing utilities is provided in **Table 6-4**.

Table 6-4 Summary of utility impacts

| Service provider | Utility                                      | Summary of impact                                                                                                                                                                                                                      |
|------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jemena           | Wilton to Horsley trunk main (gas)           | The project would cross the trunk main at four locations. Protection would be provided where required, to minimise potential settlement impacts.                                                                                       |
|                  | Eastern Gas Pipeline                         | The project would cross the pipeline at four locations. Protection would be provided where required to minimise potential settlement impacts. This would be confirmed in consultation with Jemena.                                     |
|                  | Gas main                                     | The project would impact an existing gas main near Wallgrove Road, requiring relocation within a new utility trench. These works would be undertaken in consultation with Jemena.                                                      |
| Endeavour Energy | Overhead power lines                         | A range of overhead power lines, including the major transmission lines at Elizabeth Drive, are impacted the project corridor, local road changes and drainage infrastructure. Access to these transmission lines would be maintained. |
| Transgrid        | Transmission towers                          | The project would not affect the three Transgrid transmission towers at the western end of the project alignment, Elizabeth Drive and Mamre Road intersection and within the Western Sydney Parklands.                                 |
| Telstra          | Fibre optic cables, conduits and connections | Existing fibre optic assets would generally be protected, with any relocation to be undertaken in consultation with Telstra.                                                                                                           |

| Service provider            | Utility                                   | Summary of impact                                                                                                                                                                                                                                       |
|-----------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sydney Water                | Water main                                | The project corridor would impact on three inlet and outlet pipelines to the Cecil Hills reservoir located within the Western Sydney Parklands requiring the relocation of these pipelines. This would be undertaken in consultation with Sydney Water. |
| Sydney Motorway Corporation | M7 Westlink Intelligent Transport Network | The project interchange with the M7 Motorway will require the relocation of cables associated with the M7 Westlink Intelligent Transport Network. This would be undertaken in consultation with M7 Westlink and the Sydney Motorway Corporation.        |

The project alignment would also require local access changes to major utilities located in the Western Sydney Parklands, including the Cecil Hills water reservoir and radio and mobile communications towers. Access to these facilities would be maintained via a new access overpass at the intersection of Elizabeth Drive and Duff Road.

### Operation

Operation of the project is not expected to impact on infrastructure and utilities in the primary study area.

## 6.2.5 Future land uses

The primary and secondary study areas comprise several areas identified for future growth and development as part of the Western Sydney Aerotropolis.

### Construction

The project is being planned to be constructed at the same time as the Western Sydney Airport and will be operational at the start of airport operations. During construction, potential impacts on the Western Sydney Aerotropolis would mainly be associated with increased traffic due to construction vehicle movements and are expected to be minor.

Investigations for the Western Sydney Aerotropolis and the Western Sydney Growth Area are currently underway and the timing of construction for various developments is still to be confirmed. The construction phase of the project is not expected to significantly impact on land uses proposed in the Western Sydney Aerotropolis and Western Sydney Growth Area given these land uses are generally dependent on the completion of the project to provide access to these future growth areas. It is expected that the construction of the project would be completed prior to most developments in the area. Construction of the project is not expected to impact construction or operational activities associated with the growth area.

Potential impacts of the project's construction on other developments in the area are expected to be minor and would mainly be associated with construction traffic changes. Further assessment of potential cumulative impacts is in **Section 6.10**.

### Operation

Enhanced transport connections for communities, business and industry provided by the project's operation would have a positive impact on development areas in western Sydney, supporting future employment and urban land uses surrounding the project corridor. Improved accessibility provided by the project will support development areas within the LUIP precincts to commence developing into new urban places in conjunction with the Western Sydney Airport. One of the central objectives of the project is to provide sufficient road capacity to meet traffic demand generated by the planned western Sydney urban development (refer to Chapter 3 of the EIS).

As indicated in **Section 5.2.2**, the project is within the area covered by the Northern Gateway precinct, the North Luddenham precinct, South Creek precinct and the northern extents of Badgerys Creek and Kemps Creek precincts. The project is an integral part of the Western Sydney Aerotropolis, enabling proposed land use changes by supporting connection of the Western Sydney Aerotropolis to the Western Sydney Airport and wider western Sydney area. The Western Sydney Aerotropolis LUIP identifies an indicative transport corridor for the project.

The project would impact positively on the Western Sydney Aerotropolis by allowing more efficient and safer access to this growth area, as well as the South West Growth Area and the Western Sydney Employment Area. A key aim of the growth areas is to locate homes and jobs close to transport services. The project will be an important part of the transport network needed to keep the community connected to Greater Sydney. Safer and more efficient access provided by the project would also impact positively on other developments outside of the growth areas in the study areas.

As indicated in **Section 5.2.2**, a number of major development sites have been approved in the primary and secondary study area. The project would not directly impact on these sites in relation to their development capacity. Once operational, the project would have benefits for these development sites associated with improved access and connectivity.

## 6.3 Water use impacts

### 6.3.1 Construction

As described in Section 7.9 of the EIS, potable water supplies or water from sediment basins would be used during construction to meet construction water demands. Construction water sources would be confirmed during detailed design but are likely to include a combination of potable mains supply and recycled water, drawn from sources internal and external to the construction footprint. This would potentially include the farm dams listed in **Table 6-1**. However, the total volume of water to be used is relatively low and would have a minor impact on environmental water availability and flows.

A water reuse strategy would be developed for both construction and operational phases of the project to reduce reliance on potable water. This strategy would be prepared during the detailed design stage and implemented throughout construction. The strategy would outline the construction and operational water requirements and potential water sources to supply the water demand in consultation with Sydney Water. Alternative water supply options to potable water will be investigated, with the aim of reusing water using recycled water where feasible. This management measure (SWH03) is provided in Appendix M of the EIS.

Consultation with affected property owners and business managers would be undertaken during detailed design to inform any changes to these farm dams.

The construction of the project includes utility works as described in Section 5.20 of the EIS. As noted in **Section 5.2.1**, potable pipelines are located along Elizabeth Drive and other local roads and within the Western Sydney Parklands. Some water pipelines may be protected and/or relocated as listed in Table 5-10 of the EIS. The project's design would be further refined during detailed design with the aim of minimising impacts on existing utilities and services, in consultation with utility owners and/or providers of services where feasible and reasonable. It is, therefore, not anticipated that the project would have any impacts to potable water access during construction.

As described in Appendix M of the EIS, a range of environmental management measures would be implemented during the detailed design and construction phases of the project to minimise impacts on water quality. As a result, the project is expected to have minimal impacts on existing water quality and environmental values during the construction phase, however additional monitoring would be undertaken to confirm if the implementation of these environmental management measures is effective.

Further, there is not expected to be any extraction of water from local waterways for construction of the project and, as a result, it is not anticipated that the volume of water being extracted from local waterways would be impacted.

No construction machinery or structures would be placed in waterways that would cease or block flow. Temporary creek crossing and work platforms may be required at some watercourses, however, for the construction of haul roads, temporary construction access tracks and bridge pier and abutments. Temporary working platforms would be designed to facilitate water flow and allow fish passage. The project is, therefore, not anticipated to impact on environmental flows.

Construction may result in changes to localised flow paths along minor drainage lines leading to increased scour and erosion potential. These changes also have the potential to modify/redirect flows to farm dams (eg either increase or decrease flows) and impact their embankments (eg increases in the frequency and rate of flow surcharging their spillways). Conversely, a reduction in flow associated with inter-catchment transfer of flow can also result in detrimental environmental effects. These impacts are discussed further in **Section 6.3.2** and impacts from altered drainage would be further investigated during detailed design. Some market gardens or other water users within the vicinity of the project may have water access licences to access water from the waterways discussed in Appendix M of the EIS. Although the project is not expected to extract water from local waterways, construction activities have the potential to impact flow rates, volumes and flow paths within waterways and drainage lines.

During construction, all runoff and localised flows within the construction footprint would be controlled by erosion and sediment control measures, such as temporary sediment basins, temporary drainage and sediment fencing. Further, with the implementation of management measures in **Section 8** and those listed in **Appendix M** of the EIS, potential impacts to surface water quality during construction would be minor and manageable. The project is, therefore, not anticipated to have a major impact on these water users.

### 6.3.2 Operation

The operation of the project would not alter the existing potable water pipelines within the study area. It is not anticipated that any property's potable water access would be impacted during operation.

The project could increase the imperviousness of the catchment, which would lead to increased stormwater runoff. An increase in the catchment area could also occur which would also increase the peak flow rates and volume of runoff to the minor drainage lines. An increase in flows could result in additional water supply and more frequent overtopping of some farm dams, and potentially increase the risk of flooding, scour and erosion. Conversely, a decrease in flow due to changed flow paths could result in a reduced water supply to some farm dams. As discussed in **Appendix M** of the EIS, with the implementation of recommended management measures, the impacts of increased peak flow rates and volume on land and infrastructure downstream would be minimal. During the project's detailed design, further modelling would be carried out to verify the project's impacts on minor drainage lines and to confirm the mitigation strategies.

Some market gardens or other water users within the vicinity of the project may have water access licences to access water from waterways that may be impacted by the project. Although the project is not expected to extract water from local waterways, operation would increase road runoff volumes and/or velocity and potential changes to flow rates, volumes and flow paths within waterways and drainage lines (as discussed above). With the implementation of management measures in **Section 8** and those listed in Appendix M of the EIS, potential impacts to surface water quality and hydrology is considered to be minor and manageable.

In addition, the design of the project includes operational water quality basins at sensitive receiving environments which are expected to contribute to the improvement of water quality in these locations over time and monitoring to confirm the effectiveness of environmental management measures. Therefore the project is not anticipated to have a major impact on these water users.



## 6.4 Population and demography

Project related factors affecting population and demography generally relate to the acquisition of residential properties. Population and demography changes in the study area are also affected by external factors such as land use changes and urban development.

### 6.4.1 Construction

During construction, the construction workforce would generally be sourced from across the Greater Sydney region and is not expected to change population and demography in the primary study area. Further, any potential changes would be relatively minor in the context of construction associated with broader investment and development planned to occur in the wider Sydney region in coming years.

### 6.4.2 Operation

Property acquisition for the project would impact on a small number of dwellings only. While the relocation of residents associated with the acquisition of properties may result in minor changes to populations of local areas, these changes would represent a very small proportion of the primary study area's population and would not change the population and demography of the primary study area.

As indicated in **Section 5.3.1**, the population of the secondary study area is projected to grow to about 202,950 people by 2036, an increase of about 32.4 per cent from 2016. This growth is expected to be driven by the development of the South West Growth Area and Western Sydney Aerotropolis and would be supported by the operation of the project.

## 6.5 Employment impacts

The M12 Motorway is being delivered as part of the Western Sydney Infrastructure Plan (WSIP). It is estimated that the WSIP would create about 4,000 direct and indirect jobs over its (approximate) 10-year duration (Roads and Maritime, 2017).

### 6.5.1 Construction

During the construction phase, the project would have beneficial impacts on employment through the creation of direct employment opportunities, including jobs in construction, professional and administrative services, and technical and trade services such as plant and machinery operators, transport and skilled labour. The size and composition of the construction workforce is expected to vary over the construction period, depending on the construction activities being undertaken and proposed construction schedule, although it is estimated that the total workforce would peak between about 600 and 800 workers, or an average of about 400 workers per year over the three-year construction period, excluding part-time, off-site workers and delivery truck drivers.

These benefits would be realised across the Greater Sydney region and may support improved incomes for some individuals. Construction of the project would also have indirect employment benefits through the generation of indirect jobs in local, regional and national businesses and industries that support the construction phase, for example suppliers of construction materials and equipment, and transport operators.

The project's construction phase is likely to provide benefits for groups such as young people, unemployed and Aboriginal people. In particular, the project's construction would provide training opportunities and apprenticeships, allowing young people and others to gain skills in the construction industry, while the implementation of the NSW Government's Aboriginal Participation in Construction policy would also provide employment and training opportunities for Aboriginal people. This would support improved social and economic outcomes for individuals, through skills development, income, and enhanced opportunities for future employment.

## 6.5.2 Operation

During operation, the project would support improved access and connectivity to employment areas in the primary study area and wider western Sydney region, including South West Growth Area and Western Sydney Aerotropolis. In particular, the project would contribute to enhanced road linkages within the western Sydney region, reducing commuting times for the region's growing resident and worker populations, as well as business and industry.

Some loss of local employment may result from the acquisition of commercial and rural properties, particularly if businesses choose to cease operations due to property acquisition. This may result in loss of income for affected employees and business owners. Potential impacts on employment due to the relocation of businesses to alternate sites, are likely to be dependent on the businesses' new location (ie if alternate premises are found locally or elsewhere) and individual circumstances of employees, for example increased commuting distances and times, and ability of individual employees to travel to the new business location. Further discussion about potential employment impacts on individual businesses is provided in **Section 6.6.1**.

## 6.6 Business and industry impacts

### 6.6.1 Directly affected businesses

Potential acquisition and temporary leases of land for the project would impact on about 10 properties currently used for commercial uses, including agribusinesses. These include:

- Recreation based businesses such as Luddenham Raceway and Sydney International Shooting Centre
- Primary production businesses, including vegetable growers and intensive animal keeping
- Construction related businesses such as Vac Group Australia, and Western Safety Fences
- Commercial offices for Hi-Quality Group.

A summary of potential impacts on businesses affected by acquisition or temporary lease is outlined in **Table 6-5** (see **Figure 5-12** for the location of businesses). Discussion of potential impacts on businesses in the wider area surrounding the project is provided in **Section 6.6.2**. Further discussion about potential impacts on agricultural uses is provided in **Section 6.6.3**.

Table 6-5 Summary of impacts on directly affected businesses

| Business    |                                                                            | Summary of impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B1          | The Honey Shed                                                             | <p>The Honey Shed is located on a portion of a larger agricultural property used for livestock grazing and horticulture, and that also includes a dwelling. Previous consultation undertaken in 2016 for The Northern Road project indicates that the business has been operating at this location for about 10 years and employs between two and five people (Jacobs, 2017).</p> <p>Construction of the road would require the permanent acquisition of about 3.2 hectares of land from the property accommodating The Honey Shed. This property has also been identified for use as construction ancillary facility AF1, which would impact on the whole property (10.4 hectares).</p> <p>The use of the whole property during construction would require the business to temporarily relocate and/or cease operations for the duration of construction. After construction, the business could be reinstated on the residual land outside of the operation footprint.</p> <p>There is potential for the shed facilities used for The Honey Shed to be excluded from the construction ancillary facility, which would provide the opportunity for the business to continue operating during construction and avoiding potential impacts associated with the relocation or closure of the business.</p> <p>Should the business remain during construction, temporary impacts may result for staff and customers of The Honey Shed from increased dust, noise and traffic from construction activities, although this is expected to be appropriately managed with the implementation of environmental management measures.</p> |
| B4          | Luddenham Raceway, Go Karting and Paintball                                | <p>The project would require the partial strip acquisition of about 0.5 hectares of land along the northern boundary of the property.</p> <p>The affected land is located away from raceway, go karting and paintball facilities on land currently used for olive trees and open rural space and is not expected to impact on the ongoing operation of the business.</p> <p>During construction, temporary impacts may result for staff and customers of the raceway from increase dust, noise and traffic from construction activities, although this is expected to be appropriately managed with the implementation of environmental management measures.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| B7          | Quarry, waste management and resource recovery facility (Lot 101/DP848215) | <p>Construction of the airport interchange allowing connection to the airport access road would require the partial acquisition of land within this property. This would impact on land currently used for quarry, waste management and resource recovery facilities. This facility would need to cease operations prior to construction. This site has been identified for future urban development.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| B10/<br>B11 | J & M Vella Farm Fresh                                                     | <p>The strip acquisition of a small area of land (less than 0.04 hectares) would be required for the construction of a new access road. This is located along an existing access track next to land used for growing vegetables and is not expected to directly impact on growing areas.</p> <p>The project would require the partial strip acquisition of land along the northern boundary of a property currently leased by J &amp; M Vella Farm Fresh (B11). This would result in the loss of an additional 10.8 hectares of land used for horticultural growing areas. While this would represent about 40 per cent of the growing area on this property, it is part of a larger horticultural area on the adjoining property. This property has also been identified for future urban development.</p> <p>During construction, potential reduced amenity may be experienced from workers and residents of this property due to increased dust, noise and traffic from construction activities. Potential disruptions to farming operations may also result from local access changes and increased construction traffic associated with construction of the realigned Clifton Avenue and new access roads.</p>                                                                                                                                                                                                                                                                                                                                                                                                             |

| Business |                                      | Summary of impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                      | <p>Dust from construction activities also has potential to cause impacts on ecological area, including growing areas, although the implementation of dust mitigation measures are expected to assist in ensuring potential impacts are manageable. Further information on air quality impacts is provided in Section 8.2 of the EIS.</p> <p>Environmental and traffic management measures would be implemented during construction to minimise potential impacts on local amenity and farming operations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| B18      | TreeServe                            | <p>Acquisition of about 0.8 hectares (6.3 per cent) of this property would be required for the road corridor and local access to Clifton Avenue. This would not directly impact facilities such as office and weighbridge but would reduce the area used for laydown and green waste recycling activities. It is expected that the business could continue to operate at the site.</p> <p>During construction, temporary reductions in amenity may result from increase dust, noise and traffic from construction activities. Environmental and traffic management measures would be implemented during construction to minimise impacts on amenity for workers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| B20      | Farm (Salisbury Avenue)              | <p>The project would require the acquisition of a small area of land (about 0.19 hectares) within this horticultural property for the main project alignment. This represents about 9 per cent of this property and would potentially impact on a dam and a small number of shade house structures. Reconfiguration of the dam would be required prior to construction to maintain security of water supply for longer term horticultural operations. While the impact on the shade house structures may result in a small loss of land available for growing, this is not expected to impact on the wider horticultural operations.</p> <p>During construction, potential reduced amenity may be experienced from workers and residents of this property due to increased dust, noise and traffic from construction activities. Potential disruptions to farming operations may also result from local access changes and increased construction traffic associated with construction works with road traffic changes at Salisbury Avenue.</p> <p>Dust from construction activities also has potential to cause impacts on ecological area, including growing areas, although the implementation of dust mitigation measures are expected to assist in ensuring potential impacts are manageable. Further information on air quality impacts is provided in Section 8.2 of the EIS.</p> <p>Environmental and traffic management measures would be implemented during construction to minimise potential impacts on local amenity and farming operations.</p> |
| B28      | Bara Lodge (horse training facility) | <p>Acquisition of about one hectare (45.4 per cent) of this property would be required for the main project corridor and construction of a new roundabout at Salisbury Avenue. This would result in the total loss of about five horse paddocks and would require reconfiguration of about five horse paddocks that are partly impacted, from a total of about 14 paddocks. While there is potential that the business could continue to operate at the site with the dwelling and stables outside of the construction and operation footprints, considerable changes would be required to business operations to account for the reduced area available for horse paddocks. The training track on the adjoining property (now owned by Roads and Maritime) would also be impacted by the main project corridor. Roads and Maritime will continue to consult with the owner of this property to discuss the impact to their business and possible management measures.</p> <p>During construction, temporary reductions in amenity may result from increase dust, noise and traffic from construction activities. Environmental and traffic management measures would be implemented during construction to minimise impacts on residential amenity and potential impacts on animals and horse training facilities.</p>                                                                                                                                                                                                                                       |



| Business |                                      | Summary of impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B40      | Western Safety Fences                | <p>The project would require partial acquisition of about 1.3 hectares (55.2 per cent) accommodating Western Safety Fences. The impacted land includes areas used for storage of plant and equipment and open space and is not expected to impact on the ongoing business operations. During operation of the project, access to the business would be maintained from Mamre Road.</p> <p>During construction, temporary impacts may result for staff and customers from increase dust, noise and traffic from construction activities, although this is expected to be appropriately managed with the implementation of environmental management measures.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| B41      | Vac Group Australia                  | <p>The project would require partial acquisition of about 0.3 hectares (12.4 per cent) of the property accommodating Vac Group Australia for the road corridor. The impacted land is located in the northern portion of the property away from business infrastructure including offices, car parking, work sheds and equipment storage areas, and is not expected to impact on the ongoing business operations.</p> <p>During operation of the project, access to the business would be maintained from Elizabeth Drive. As indicated in <b>Section 5.6</b>, the business provides construction services to clients across Sydney and regional NSW and local access changes at Elizabeth Drive is not expected to impact on ongoing business operations.</p> <p>During construction, temporary impacts may result for staff and customers from increase dust, noise and traffic from construction activities, although this is expected to be appropriately managed with the implementation of environmental management measures.</p>                                                                                                                                                                            |
| B42      | Hi-Quality Group Head Office         | <p>The siting of the project corridor would result in the total acquisition of land accommodating the head office of the Hi-Quality Group at the corner of Mamre Road and Elizabeth Drive. The head office supports the Hi-Quality Groups operations across western Sydney, regional NSW, Victoria and the Australian Capital Territory.</p> <p>Business functions located at the property (eg administration, operations support functions and business operations) would be required to relocate to alternate premises prior to construction, potentially resulting in temporary disruptions to business operations, including re-establishment costs.</p> <p>The business currently employs about 60 people at the site and has been operating at the site for more than 25 years. Roads and Maritime are currently consulting with the business owner to support the relocation of the business prior to the land being required for the project. This would help to minimise potential impacts on employment associated with relocating the head office, although potential impacts on individual employees may be dependent on individual circumstances such as their transport access to the new site.</p> |
| B46      | Sydney International Shooting Centre | <p>The operation footprint for the project is located at the entrance to the shooting centre property and away from the main shooting facilities. While changes to the road access are required at the entrance to the shooting centre, this is not expected to impact on operation or functioning of businesses located within the centre.</p> <p>During construction, access would be maintained to the shooting centre, although temporary disruptions for staff and visitors may result from local access changes to Range Road and the shooting centre's access road, and increased construction traffic supporting the construction of the main project alignment. Impacts on amenity for staff and visitors to the centre associated with increased construction dust, noise and traffic are expected to be minor given the distance between the main construction works and facilities.</p> <p>Environmental and traffic management measures would be implemented during construction to minimise potential impacts on local amenity and operation of the shooting centre.</p>                                                                                                                            |

## 6.6.2 Impacts on businesses in the primary study area

As indicated in **Section 5.6.2** there are a number of businesses at Luddenham, Badgerys Creek, Kemps Creek and Mount Vernon that may experience impacts from the construction and operation of the project. The location and type of businesses identified within one kilometre of the project are shown on **Figure 5-12**. This section assesses the potential impact of the project's operation and construction on businesses surrounding the project, including those in and around Kemps Creek.

### **Construction**

During construction, potential impacts on local businesses in the primary study area may result from:

- Increased expenditure by construction workers on local goods and services
- Changes in local access to businesses, and traffic disruptions and delays due to construction activities
- Increased noise, dust and construction traffic, impacting on business amenity.

The construction phase may have a positive effect on some local businesses through increased business in response to day-to-day needs of construction workers. This includes local shops and food outlets near construction works such as service stations, cafes and convenience stores at Kemps Creek. Businesses supplying goods and services to construction may also experience benefits from increased construction activities locally.

Maintaining access to Elizabeth Drive and properties during construction was identified as important by businesses during consultation for this assessment. Access to businesses near the project, including at Elizabeth Drive and Mamre Road, would be maintained during construction. Where temporary changes are required (eg for the construction of the bridge over Elizabeth Drive), these would be determined in consultation with individual business to ensure that potential impacts are appropriately managed. Access would be maintained to Elizabeth Drive and Mamre Road, although potential delays and disruptions may occur for business customers due to roadworks at Elizabeth Drive and Mamre Road. This may lead to increased travel times for customers and possibly deter some people from making some trips or using affected roads.

Most businesses at Kemps Creek surveyed for the project indicated that the construction phase would have a neutral effect on their business, including on business turnover, business viability, passing trade and customer and employee access. One retail business suggested that the construction phase would generally have significant positive impacts on their business, particularly in relation to business turnover and viability, passing trade and customer access. Another retail business indicated that the construction phase would have a significantly negative impact on their business operations. Customer and employee access were considered to be the main areas of negative impacts for local businesses at Kemps Creek during the construction phase.

Temporary adverse impacts on business amenity may result from construction noise, dust, and traffic at construction compounds and work areas. The effect of this impact would depend on such things as the nature and type of business, but could include impacts on employee productivity, customer interaction, or general business ambience. Local amenity changes are likely to have the greatest impact on businesses that include outdoor dining and retail areas.

Kemps Creek Sports and Bowling Club is located next to construction works for the main project corridor and the construction compound at Elizabeth Drive (AF5). Noise, dust and construction traffic may adversely impact business amenity and the use and enjoyment of this business by customers and staff, particularly of outdoor entertainment areas such as bowling greens and dining areas. The club also provides facilities, including outdoor garden areas, for private functions such as weddings. Reduced amenity may deter some customers from using the facility, including for private functions. Access to the sports club would be maintained during construction, although temporary access changes may be required. Ongoing consultation with managers of the sports club would be undertaken during construction to help manage potential construction impacts on the club's business operations, particularly during any major events held at the club. Further discussion about potential impacts on the clubs' recreational values is in **Section 6.6.3**.

A detailed assessment of potential impacts associated with construction traffic changes and impacts affecting local business amenity is provided in the traffic, noise, and air quality working papers. Ongoing consultation with business owners and managers during construction would also be undertaken to assist in managing potential impacts. Environmental and traffic management measures would be implemented during construction to assist in managing potential impacts on businesses near to construction works.

## **Operation**

During operation, the project would have positive impacts on regional and national business and industry through improved access and connectivity to growth areas in western Sydney and the greater Sydney area. In particular, the project would provide access to the Western Sydney Airport and associated Western Sydney Aerotropolis, catering for future transport needs and creating high capacity traffic and freight links to service future growth of western Sydney and the South West Growth Area.

Locally, the project would improve road safety and accessibility, supporting general improvements to local business and industry in the primary study area. The project would involve the bypass of Kemps Creek urban area, reducing through traffic using Elizabeth Drive and changing access for some customers of businesses at Elizabeth Drive and Mamre Road. At the eastern end of the project, access to Kemps Creek would be maintained via the existing entry and exit ramps between the M7 Motorway and Elizabeth Drive. From the west, access would be maintained via The Northern Road and Elizabeth Drive. Motorists would, therefore still be able to travel to and from Kemps Creek.

Reduced traffic using Elizabeth Drive may reduce levels of trade for some businesses at Elizabeth Drive and Mamre Road, Kemps Creek that currently rely on passing traffic for their customers, for example service stations and some retail shops. As indicated in Section 5.6.3, six businesses surveyed at Elizabeth Drive indicated that between 25 per cent and 75 per cent of their business was from passing trade. Overall, businesses surveyed at Kemps Creek for this assessment indicated that the project would have a neutral effect on their business operations in relation to turnover, passing trade and customer and employee access. One business reported that customers would come anyway and another indicated that business customers generally result from 'advertising and word of mouth' rather than passing trade. Businesses surveyed for this assessment that felt most at risk from a reduction in traffic included auto repairs and a grocery store. One retail business indicated they believed the project's operation would have a significantly positive impact on their business operations in relation to turnover, passing trade and customer access. Shoppers surveyed for this assessment also indicated that a reduction in traffic would have positive impacts on their enjoyment of the area, particular due to less noise and easier access. In addition, a majority of shoppers indicated that they did not pass through Elizabeth Drive.

Ensuring local communities and business customers are aware of changes regional access will be important in minimising potential business impacts associated with access changes to Elizabeth Drive and Mamre Road, particularly during the initial operational phase. This may include measures such as the use of appropriate road signage or advertising by the businesses (eg through business websites or other publications) prior to and following the start of access changes. It is likely that any potential impacts on businesses associated with changes in customer access would reduce over time with regional population and employment growth and as customers and local and regional communities become familiar with the new access arrangements.

Some businesses near to the project may experience changes to business amenity from changes in traffic noise and visual values. Overall, businesses surveyed for this assessment suggested that the project's operations would have a neutral effect on the business environment, with one indicating negative impacts. These impacts and possible management measures are discussed in the noise, visual amenity and urban design and landscape working papers.

### 6.6.3 Agricultural uses and agribusinesses

Potential impacts on agricultural uses in the primary study area would be associated with direct impacts from property acquisition and temporary lease of land for construction activities, and changes in access, farming operations and amenity.

As indicated in **Section 5.4.1**, the primary study area has undergone change in recent decades, with increasing urban development and residential and rural-residential estates and changes to the rural landscape are expected to continue as a result of the development of Western Sydney Airport and the Western Sydney Aerotropolis. Many rural and agricultural properties within or near to the project have been identified for future urban development and the early provision of a key road link with the project would support the orderly transition from existing rural and agricultural uses to future higher intensity urban uses.

#### *Directly affected agricultural uses*

The project has been designed and sited to minimise potential impacts on agricultural properties where possible. The operation footprint for the project would directly impact on 17 properties used for rural or agricultural activities, including land used for grazing, intensive animal production and horticulture production. Discussion about potential impacts on specific properties accommodating agricultural businesses are described in **Table 6-5**.

Potential impacts on directly affected agricultural uses would generally be associated with:

- Loss of productive land, including land used for grazing, intensive animal production and horticulture production
- Direct impact on farm infrastructure such as dams, irrigation, fencing, sheds and storage areas, and other facilities, resulting in the loss of this infrastructure or the requirement for this infrastructure to be relocated
- Severance or fragmentation of larger agricultural properties, potentially isolating some parts of agricultural properties and impacting on the efficiency of farm management, and farming operations associated with the movement of livestock and/ or farm machinery and equipment
- Changes to the movement of farm equipment and livestock, including between different areas of farming properties
- Changes to farm access, including for vehicles transporting produce or delivering farming equipment and supplies.

The project would not impact on any land identified as BSAL, as identified by the NSW Department of Planning and Environment.

Where partial acquisition of agricultural properties occurs, farm infrastructure such as fencing, dams, sheds and other structures, within the operation footprint would need to be demolished or relocated prior to construction in consultation with affected property owners. As indicated in **Table 6-1**:

- About seven properties have dams that would be impacted by the operation footprint, including some properties that have multiple dams
- About 10 properties have sheds that are located within the operation footprint, which would need to be demolished or relocated prior to construction
- The operation footprint would directly impact infrastructure such as horse stables, paddocks and training facilities located on six properties, including properties that have been identified for total and partial acquisition
- About 12 properties impacted by the operation footprint would require changes to internal access roads/tracks
- The operation footprint would impact horticultural gardens, shade houses and orchard trees on about five properties.



Vehicle access to agricultural properties partially impacted by the project would be maintained, although temporary changes may be required to facilitate construction. This may increase the distances some workers and transport operators need to travel to access the property, although this is not expected to impact on business operations. Consultation would be undertaken with agricultural property owners to inform the detailed design about adjustments required to such things as fencing, farm infrastructure, vehicle access and relocation of impacted structures and dams. The relocation of affected infrastructure prior to construction would help to minimise potential impacts of the project on the ongoing operation of affected rural and agricultural properties.

During construction, short-term impacts on agricultural uses would be associated with the location of construction compounds, temporarily disrupting the use, operation and access to rural land and impacting on farm infrastructure. As indicated in **Table 6-1**, two properties have dams that are located within a proposed construction compound while one rural property has a dwelling located within the construction compound. The construction compound would also impact on horticultural gardens located on one property at the western end of the project alignment. Farm infrastructure impacted by the project would be relocated as required in consultation with affected property owners. While this would help to minimise potential impacts on farming operations, use of some facilities may be temporarily disrupted during the construction phase, potentially resulting in temporary impacts and requiring temporary changes to some farm operations.

Following construction, land occupied by construction works but not required for the ongoing operation of the project would be rehabilitated and restored to their existing land use, including any affected infrastructure such as fencing, or as otherwise agreed with the landowner where properties are leased for the construction period

Potential severance impacts, or fragmentation of larger rural properties, is most likely to occur in sections of the project west of Kemps Creek. Where possible, severance impacts have been minimised by locating the project boundary on or near property boundaries. The main locations where the corridor would result in severance of agricultural properties include Luddenham (Lot 1/109697), Badgerys Creek (Lot 101/DP848215, University of Sydney land) and a horse training facility at Kemps Creek (Lot B/102214).

The project would maintain access to isolated lots as presented in **Figure 6-2** to **Figure 6-4** through:

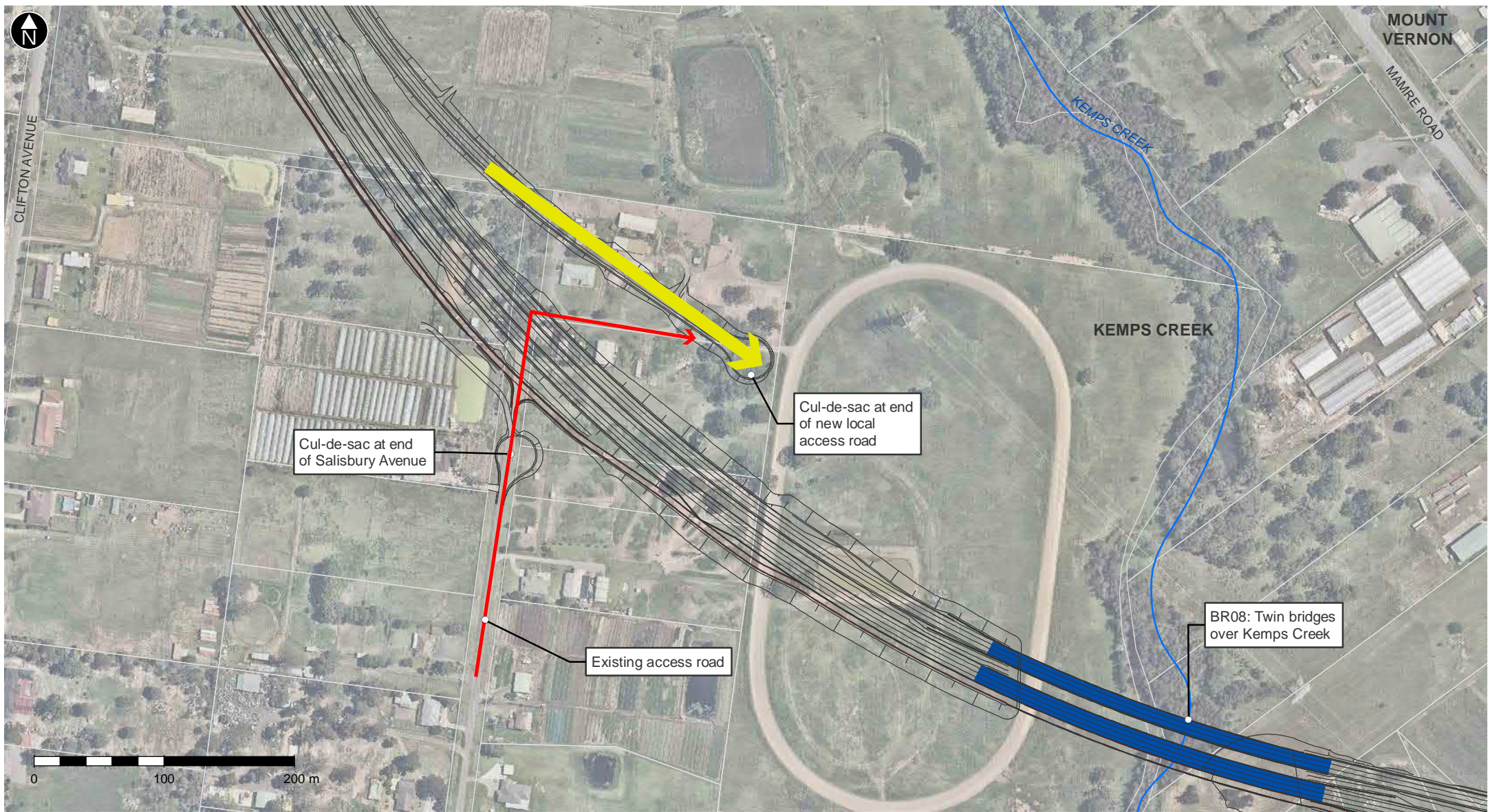
- New property access for the northern part of Lot B/102214, from the new service road proposed to be constructed on the northern side of the M12 Motorway between Clifton Avenue and Kemps Creek
- An access beneath the proposed M12 Motorway bridge over Cosgroves Creek within Lot 101/DP848215 connecting land within the property located north and south of the project corridor
- Construction of a replacement (private access) bridge over South Creek to connect University of Sydney properties north and south of the project corridor.

Timing of the construction of these accesses would be planned to ensure access is maintained during construction, helping to minimise potential severance impacts on the operation of these properties.

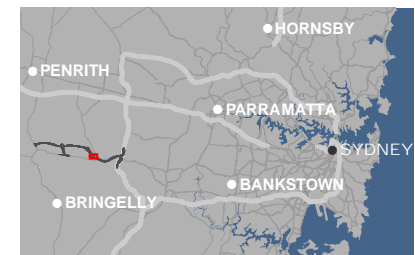
Further discussion about potential impacts on agribusinesses associated with changes to farm infrastructure is provided in **Section 6.6**.

### The University of Sydney Farms

The operation footprint for the project would directly impact about 30.9 hectares of land within The University of Sydney Fleurs Farms and McGarvie Smith Farm. This represents about 9.0 per cent of land within this property. As indicated in **Section 5.5**, the farms are mainly used for grazing and have limited use by teaching and research staff (University of Sydney, 2018).

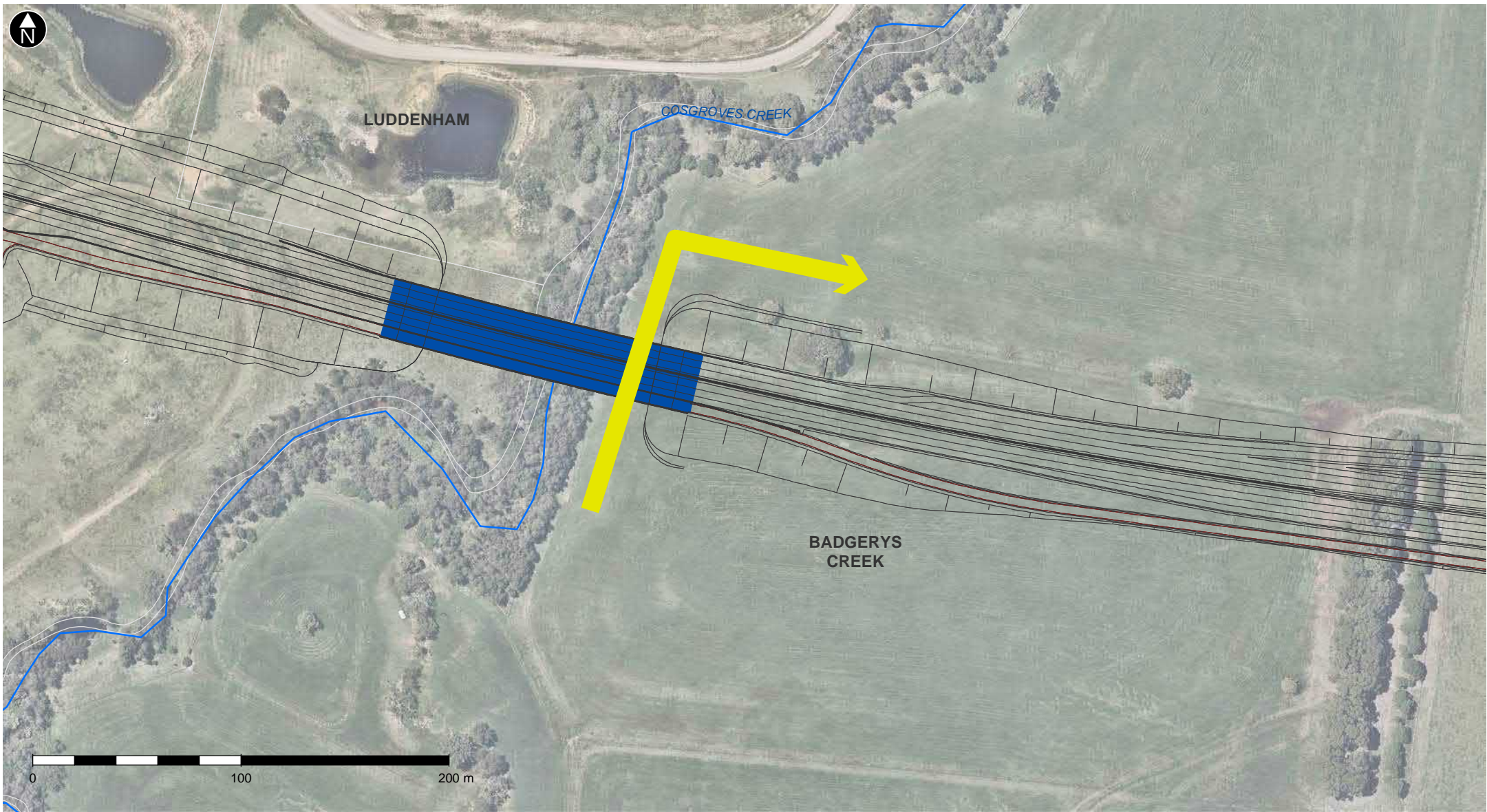


- The project
- ~ Waterways
- Bridges
- ➔ Proposed access routes

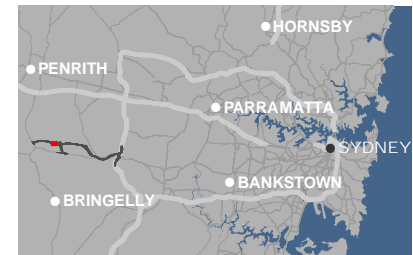


**Figure 6-2** Access to Lot B/102214



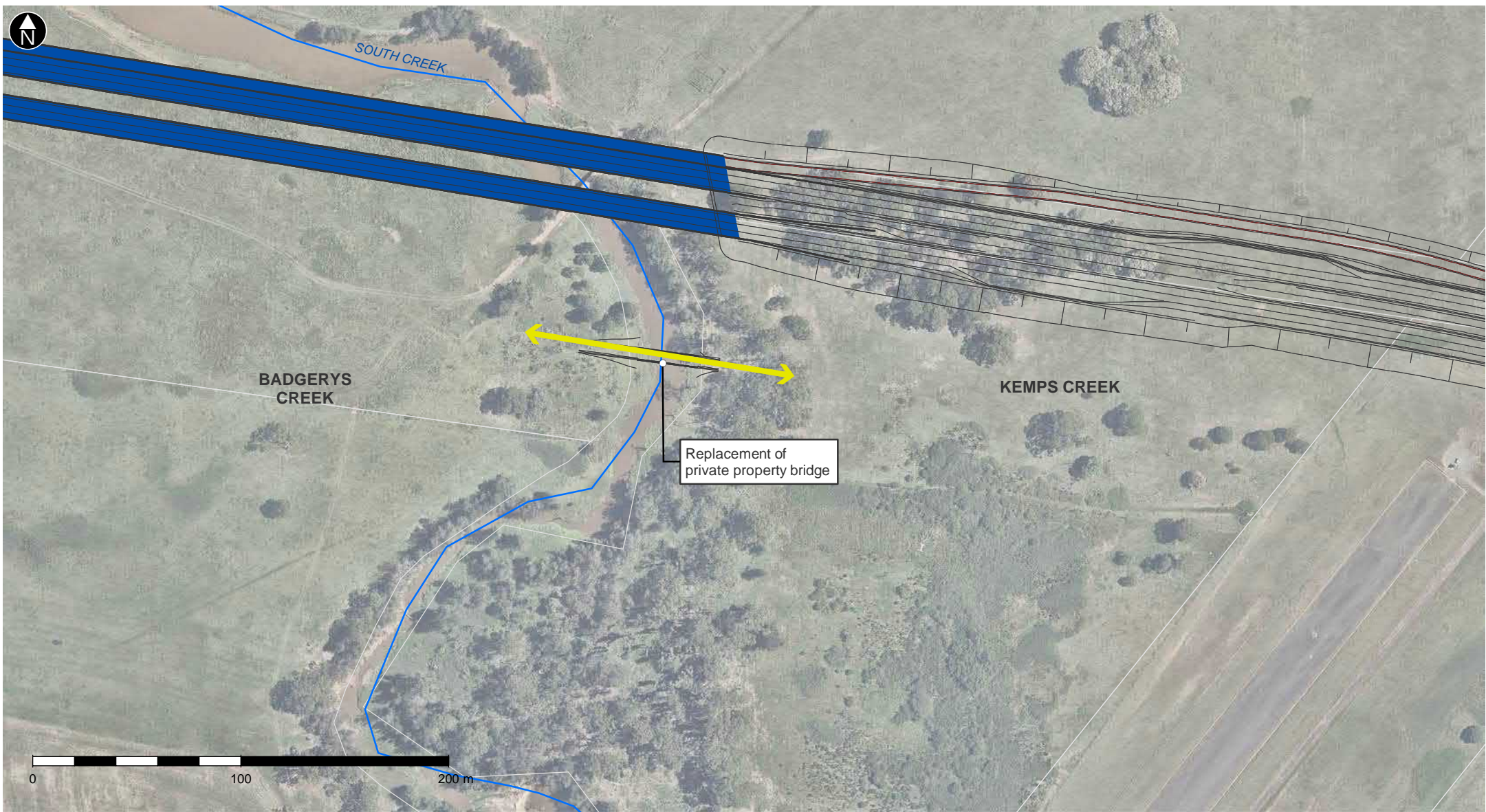


- The project
- ~ Waterways
- Bridges
- ➔ Proposed access routes

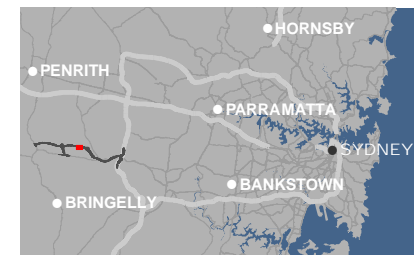
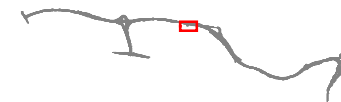


**Figure 6-3** Access to Lot 101/DP848215





- The project
- ~ Waterways
- Bridges
- ➡ Proposed access routes



**Figure 6-4** Replacement access bridge over South Creek



The property accommodating the University of Sydney Fleurs Farms and McGarvie Smith Farm comprises a number of lots. The location of the project corridor would result in segregation of three smaller lots (ie 3/DP164242, 1/DP74574, 1/DP88836), which are partially within and partially on the southern side of the operational footprint, from the larger portion of the farm on the northern side of the operational footprint (Lot 21/DP258414), resulting in local access changes to Lot 1/DP74574 and potentially impacting on the operation of beef cattle fattening activities. A replacement bridge would be provided across South Creek as part of the project allowing access to be maintained to Lot 1/DP74574 (see **Figure 6-5**).

The Elizabeth Drive connection would impact on rural land, including three farm dams within McGarvie Smith Farm and result in the fragmentation of the property either side of the project corridor. Access would be maintained to these portions of land from Elizabeth Drive.

### ***Impacts on agricultural uses in the primary study area***

#### **Construction impacts**

During construction, short-term impacts on rural land and agricultural uses in the primary study area may be associated with:

- Changes to farm infrastructure near to the construction footprint, such as fencing and internal roads
- Changes in local access to rural properties, and traffic delays and disruptions due to construction activities
- Increased construction traffic and movement of construction vehicles within the construction footprint, increasing the risk of the spread of weeds and pests between properties
- Increased noise, dust and construction traffic, temporarily impacting the amenity of agricultural properties near the project.

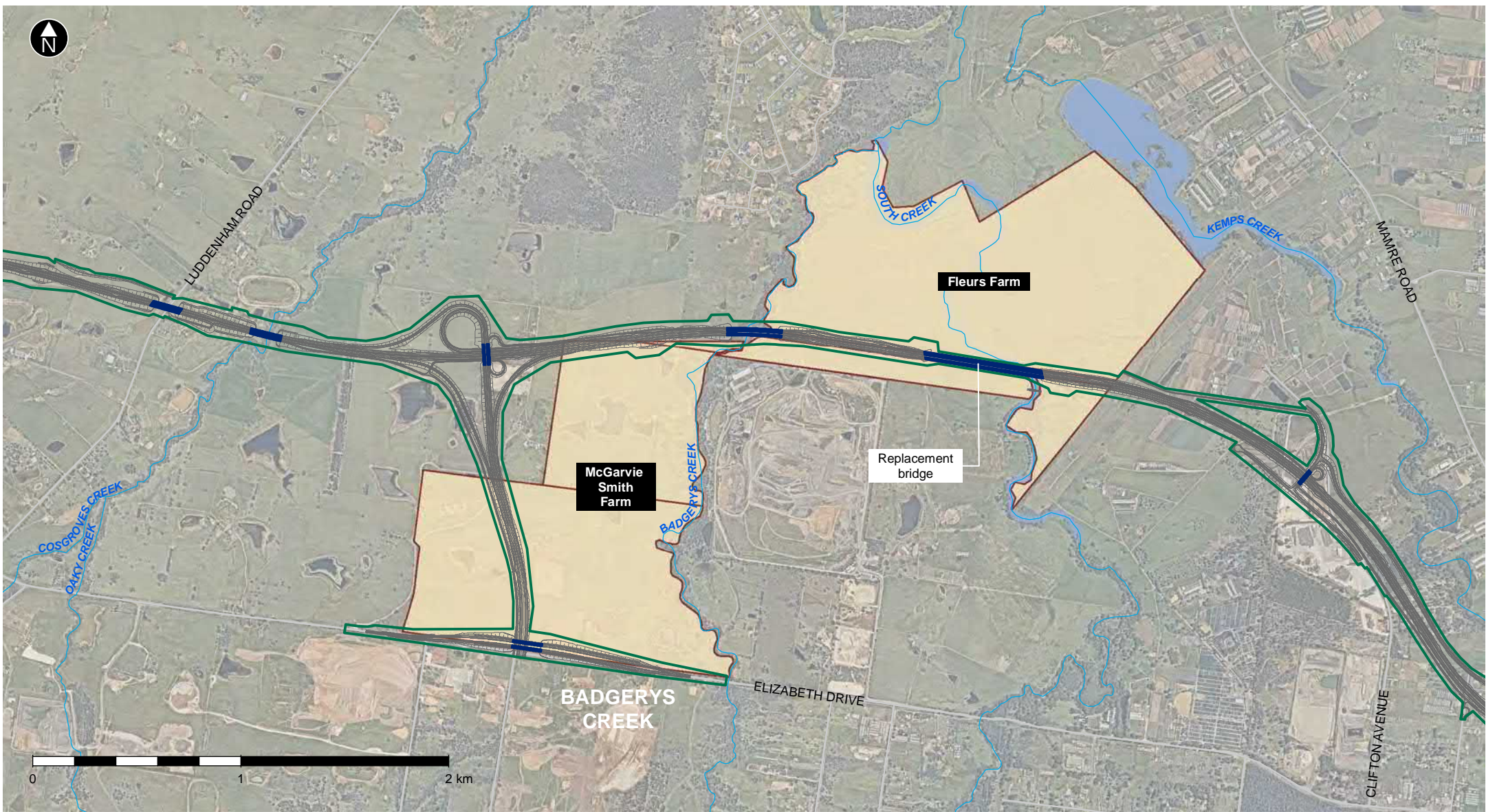
Access to rural properties near the project would be maintained during construction. Where temporary changes are required, these would be determined in consultation with individual property owners to ensure that potential impacts are appropriately managed. This includes short-term changes that may impact on access and movement of farm equipment, machinery and livestock between internal property areas or to other properties. A detailed assessment of potential impacts associated with traffic and transport changes during construction is provided in the M12 Motorway Traffic and Transport Working Paper.

As discussed in **Section 6.3.2** some market gardens or other water users within the vicinity of the project may have licences to access water from waterways that may be impacted by the project. Although the project is not expected to extract water from local waterways, operation would increase road runoff volumes and/or velocity and potential changes to flow rates, volumes and flow paths. With the implementation of the management measures in Section 8 and those listed in Appendix M of the EIS, potential impacts to surface water quality and hydrology is considered to be minor and manageable.

There are five registered groundwater bores within the study area which are used for irrigation, stock and domestic, water supply or commercial/industrial (see Section 7.10.3 of the EIS). As described in **Section 6.3.2**, the impacts to these water supplies would be minimal and managed by a range of environmental management measures

As described in **Section 6.3.2**, water from the farm dams listed in **Table 6-1** may be used for construction works.

Environmental management measures and procedures would be established to minimise the risk of spreading weeds and pests between rural properties. With appropriate measures, potential impacts on rural properties are not expected to be significant. Further information on these measures is provided in the biodiversity assessment report prepared for the project.



- The project
- ▭ The project operational footprint
- ▭ Bridges
- ~ Waterways
- ▭ The University of Sydney Farms



**Figure 6-5** Operational impact on The University of Sydney Farms



Increased noise, dust and construction traffic may result in short-term changes to local amenity at some agricultural properties near to construction works. These impacts are discussed in detail in **Section 6.8.1**. Detailed assessment of noise, dust and construction traffic impacts is also provided in the respective Working Papers.

### Operational impacts

At a regional level, the project would have positive impacts on rural land uses and industries through improved access and connectivity, including to freight links and regional growth areas.

Access to agricultural properties would be maintained by the project, although access refinements would be required for some properties due to intersection changes, and realignment or truncation of local roads. Further information about potential changes to access for specific agricultural businesses is provided in **Table 6-7**, while potential access changes within the study area generally are discussed in **Section 6.9.2**.

Increased traffic noise, light spill from the roadway, and changes to the visual environment may impact on the use and enjoyment of rural properties near the proposed motorway. This may particularly impact the night-time amenity given the existing relatively low night-time noise and light environment. Further discussion about possible amenity related impacts is provided in **Section 6.8.2**.

## 6.7 Social infrastructure

### 6.7.1 Directly affected social infrastructure

#### *Western Sydney Parklands*

The project would directly impact on about 90 hectares of land within the Western Sydney Parklands, including bushland, walking trails, the Wylde Mountain Bike Trail and associated infrastructure and vehicle access to the International Shooting Centre. As indicated in **Section 5.5.2**, the Western Sydney Parklands attracted about 4,000,000 visitors during the 2017-2018 financial year, with the Wylde Mountain Bike Trail receiving about 68,712 visitors and the Sydney International Shooting Centre receiving a further 41,680 visitors.

Land within the operation footprint would become transport infrastructure and would no longer be available for recreational uses. While this would result in the loss of recreational uses within the operation footprint, it is generally not expected to impact on the operation or functioning of facilities within the wider Western Sydney Parklands.

Where possible, the project corridor has been located near to Elizabeth Drive and the M7 Motorway, helping to minimise fragmentation of the parkland, although the location of the corridor would result in the isolation of small areas of land along Elizabeth Drive near the intersection of Range Road, which accommodates trails for the Wylde Mountain Bike Trail, and Duff Road.

In addition to riding trails associated with Wylde Mountain Bike Trail, construction and operation of the project would directly impact existing walking and cycling trails within the Parklands at Cecil Hills, Abbotsbury, and Horsley Park. During construction, access would be maintained for users of these trails, although temporary diversions may be required at some locations. Access trails impacted by the project would be reinstated following construction, although realignments may be required to some trails. Potential impacts on pedestrian and walking tracks within the Western Sydney Parklands are summarised in **Table 6-6**.

Further discussion about potential impacts on pedestrian and cycle access elsewhere is provided in **Section 6.9**. Potential impacts on the Parklands environmental values and uses are described in **Section 6.8.4**.

Table 6-6 Summary of impacts on walking and cycling tracks at Western Sydney Parklands

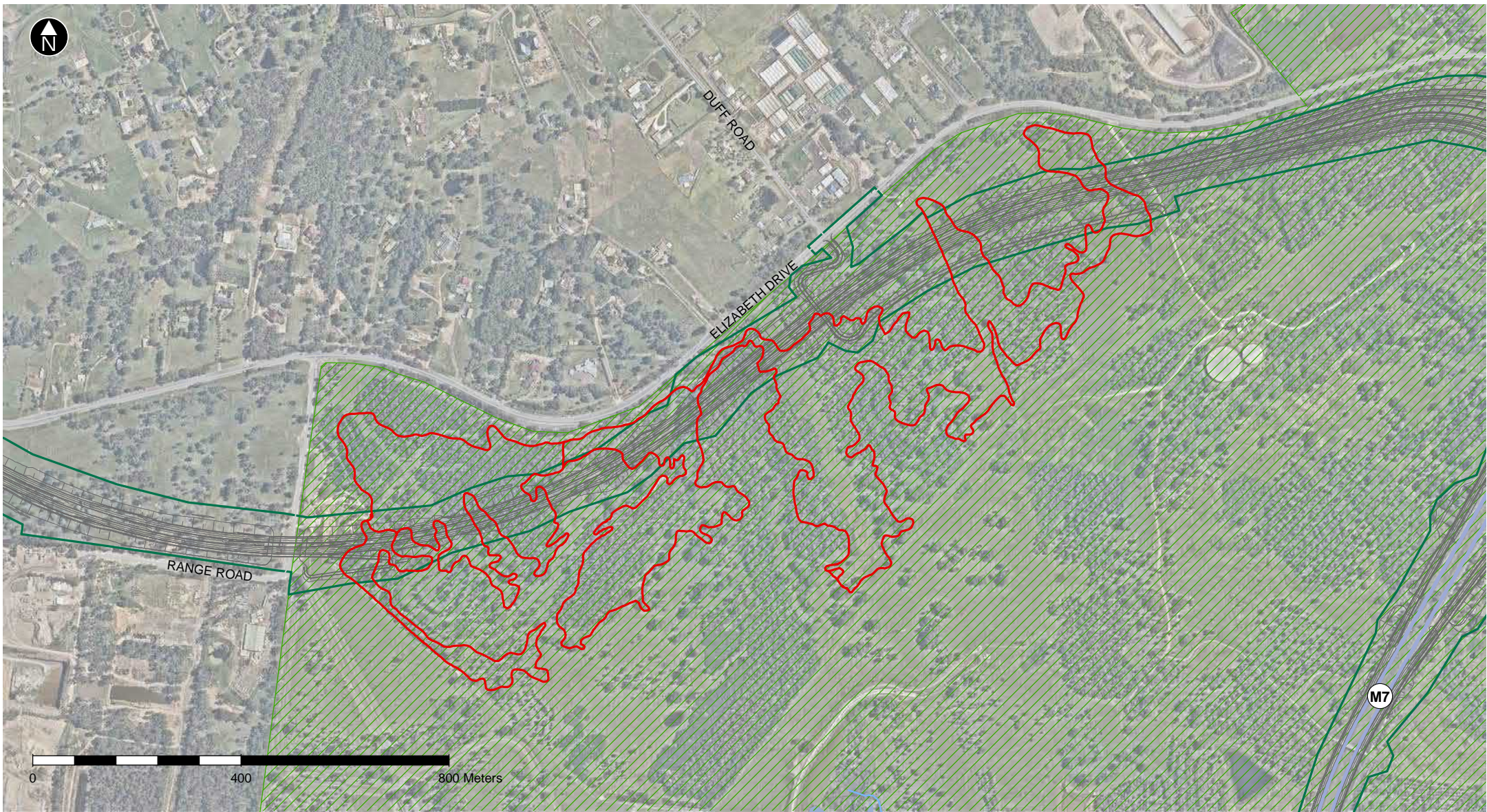
| Walking/cycling track             | Summary of potential impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cecil Hills Walking Track         | <p>A section of this track would be directly impacted by the operation footprint for the project corridor. Specifically, the project would impact on a section of the track connecting to the Jaquetta Close overpass of the M7 Motorway.</p> <p>During construction, temporary disruptions would occur to the access track west of the M7 Motorway during construction of the northbound on-ramp from the M7 Motorway, although access would be maintained for users through temporary diversions. This access would be reinstated following construction, minimising any ongoing impacts.</p> <p>The construction compound AF7 would be located next to the walking track within the Parklands. Potential disruption to local amenity from construction activities and presence of construction activities may impact on the use and enjoyment of the track and perceptions of safety for some users, potentially deterring some people from using this facility during the construction phase. Environmental and traffic management measures would be implemented during construction to manage potential impacts on Parklands users.</p> |
| Jaquetta Close pedestrian pathway | <p>The operation footprint would directly impact on about a 150-metre section of pathway east of the M7 Motorway connecting to the Jaquetta Close overpass. Temporary disruptions would occur to this pedestrian pathway during construction of the southbound off-ramp to the M7 Motorway, although temporary diversions would be implemented to maintain access for users. This access would be reinstated following construction, minimising any ongoing impacts.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Elizabeth Drive Shared Path       | <p>During construction, a section of the Elizabeth Drive Shared Path would be used to provide construction access for construction of the M7 Motorway southbound off-ramp. Access would be maintained for pedestrians and cyclists, although an increase in construction vehicles using this path may temporarily reduce perceptions of safety for some users. Traffic management measures would be implemented to maintain safety for pedestrians and cyclist.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| M7 Shared Path                    | <p>The M7 southbound off-ramp and northbound on-ramp would directly impact on sections of the M7 shared path at Horsley Park and Cecil Hills, requiring realignment and reconstruction of these sections.</p> <p>During construction, access would be maintained for users of the shared path, although temporary diversions would be required at some locations. Potential disruptions to local amenity from construction activities, presence of construction activities and increased construction traffic may also impact on the use and enjoyment of the shared path and perceptions of safety for some users. This may deter some people from using this facility during the construction phase. Environmental and traffic management measures would be implemented during construction to manage potential impacts on path users.</p> <p>Following completion of the realigned path, ongoing impacts are not expected.</p>                                                                                                                                                                                                            |

### Wylde Mountain Bike Trail

The Wylde Mountain Bike Trail would be directly impacted by the siting of the project corridor, including the jump run, pump track, kids loop, sections of the three-kilometre, six-kilometre and 12-kilometre trails and associated facilities, including shelters. The extent of the trail impacted by the project is shown on **Figure 6-6**.

The project would result in the permanent loss of facilities and sections of trails within the operation footprint, requiring the redesign and relocation of these facilities. As described in **Section 5.5.1**, the trail is an important attraction within the Western Sydney Parklands and disruption to these facilities and sections of trails has potential to impact on recreational riders and disrupt national, state and local mountain bike events.





- The project
- Wylde MTB trail
- Western Sydney Parklands
- The project operational footprint

**Figure 6-6** Extent of direct impact on Wylde Mountain Bike Trail



Roads and Maritime is carrying out consultation with the Western Sydney Parklands Trust about impacts of the project on the Wylde Mountain Bike Trail and proposed mitigation measures. The consultation included consideration of options to redesign and relocate the Wylde Mountain Bike Trail, including:

- Option 1 – Roads and Maritime to redesign and relocate the trail as part of the project
- Option 2 – Western Sydney Parklands Trust to redesign and relocate the trail with Roads and Maritime support.

Option 2 was selected as the preferred option as the Trust would be best placed to deliver the replacement trail. This is due to the Trust's knowledge of the Parklands and its user base, its experience in delivering similar infrastructure and its role as the ultimate asset manager.

Roads and Maritime is continuing to work with the Western Sydney Parklands Trust and Bicycle NSW to design, plan and deliver a replacement trail (see **Figure 6-7**) that integrates with existing facilities and future plans for the parklands, helping to minimise long-term impacts for users of the mountain bike facility. Planning and delivery of the replacement trail would be undertaken in consultation with trail users and bicycle user groups to help minimise potential impacts on users. The replacement of the trail would be subject to a separate environmental assessment undertaken by Western Sydney Parklands Trust.

Redesign and relocation of the Wylde Mountain Bike Trail would occur before the start of construction allowing access to the trails and other facilities to be maintained during construction and helping to reduce disruptions for users.

### Sydney International Shooting Centre

The operation footprint for the project would directly impact on the road access to the Sydney International Shooting Centre. Access to the shooting centre would be maintained, although minor adjustments may be required to the road. This is not expected to impact on the general operation of the shooting centre.

During construction, vehicle access to the shooting centre would be maintained, although temporary delays or disruptions may result from works at Range Road. While this may cause inconvenience for some users of the centre, it is not expected to impact on its use for various shooting events or daily use by licensed shooters.

## 6.7.2 Impacts on social infrastructure in the study area

The primary and secondary study areas include local and regional level social infrastructure that may be impacted by the project's construction and operation.

### Construction

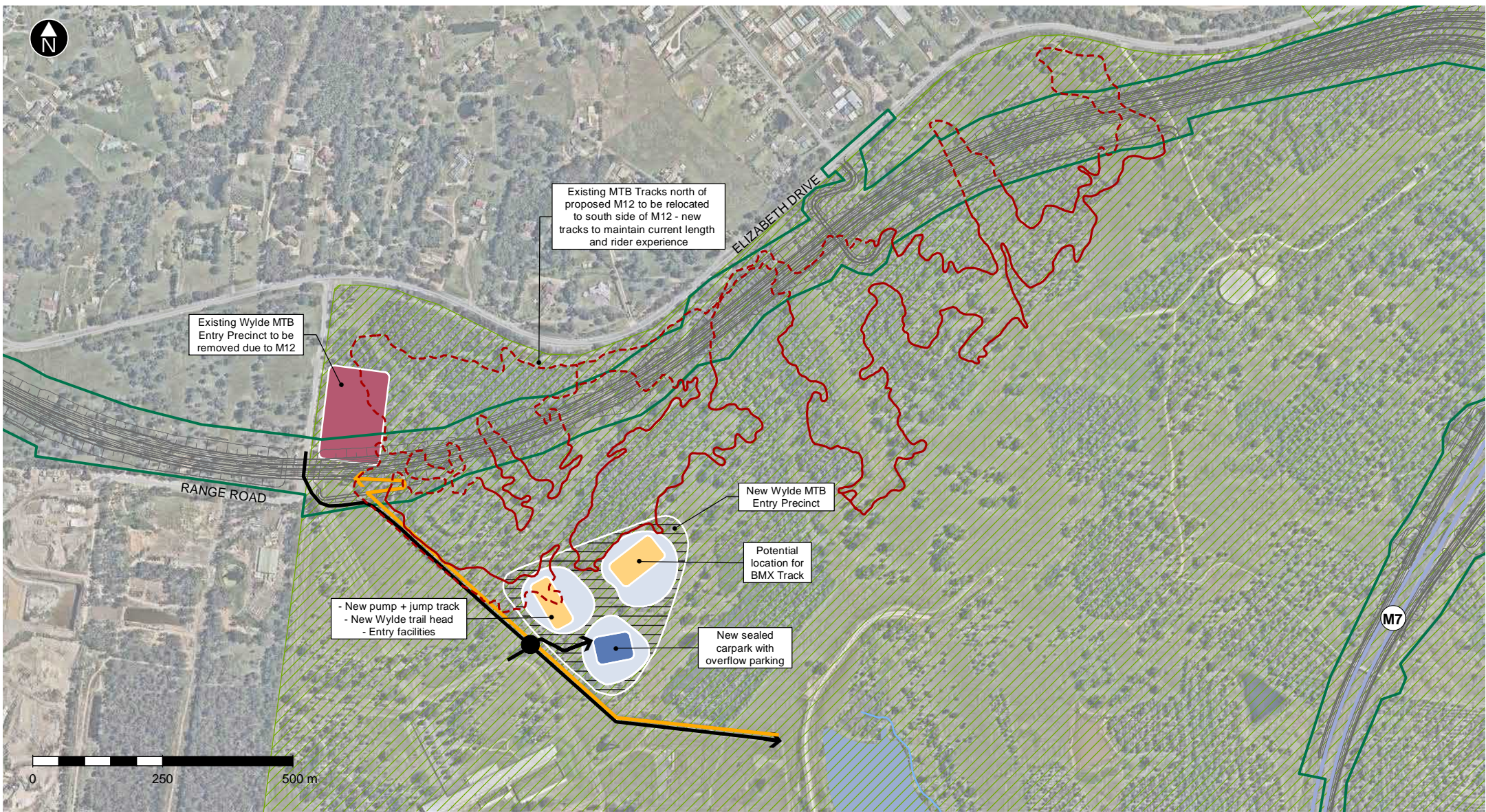
During construction, impacts on social infrastructure in the primary study area may result from:

- Increased noise, dust and construction traffic, impacting on amenity for users and workers of some community services and facilities
- Changes in local access and traffic disruptions and delays due to construction activities.

Adverse changes to local amenity and delays and disruptions for users of social infrastructure due to road access changes during construction is most likely to affect social infrastructure located closest to construction activities. However, it is recognised that changes to local road access may also cause disruption for users of social infrastructure located further from the project, for example schools, sport and recreation facilities and churches at Kemps Creek and Cecil Park

As indicated in **Section 5.5**, social infrastructure at Kemps Creek is generally located away from the project, including construction worksites. Potential amenity impacts associated with noise and dust from construction activities are not expected at these facilities given their distance from the main construction works.





- |                                     |                                          |                                            |
|-------------------------------------|------------------------------------------|--------------------------------------------|
| — The project                       | --- Wylde MTB trails to be removed       | ■ New sealed carpark with overflow parking |
| ▭ The project operational footprint | — Wylde MTB trails to be retained        | ■ Pump + Jumptrack + Facilities            |
| ▨ Western Sydney Parklands          | ➡ Proposed cycleways and walkways        | ▭ New Wylde MTB Entry Precinct             |
|                                     | ➡ Proposed Western Sydney Parklands road | ● Entry threshold                          |



**Figure 6-7** Proposed new Wylde MTB Trail location



Access changes and increased construction traffic at Elizabeth Drive has potential to cause temporary delays and disruptions for users of social infrastructure at Kemps Creek. Temporary traffic delays and disruptions may occur during school drop off and pick up times for some students attending Kemps Creek Public School and Christadelphian Heritage College Sydney, particularly from suburbs east of Mamre Road. Delays may also occur for some school bus routes servicing Christadelphian Heritage College Sydney that use Elizabeth Road and Mamre Road due to road works associated with the project. While these impacts may inconvenience some users of these facilities, this is not expected to impact on the overall use of these facilities.

Potential impacts on specific social infrastructure within or near to the project construction works are summarised in **Table 6-7** (see **Figure 5-9** for the location of these facilities), while further discussion about impacts of construction on local amenity and access and connectivity is provided in **Section 6.8.1** and **Section 6.9**. Detailed assessment of noise, dust and construction traffic impacts is also provided in the respective Working Papers.

Table 6-7 Summary of construction impacts on social infrastructure near the project

| Facility |                                       | Summary of potential construction impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S16      | St Peter and Paul Assyrian Church     | The church is located west of the M7 Motorway at Cecil Park. During construction, temporary delays and disruptions may result from local access changes at Wallgrove Road due to construction of the M7 Motorway northbound on-ramp and realignment of Wallgrove Road. These changes are likely to have the greatest impacts for people accessing the church from Elizabeth Drive. Traffic management measures would be implemented to assist in managing delays and disruptions for road users in this area. Potential amenity impacts associated with increased noise and dust from construction activities are not expected given the distance of this church from the main construction works.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| S14      | Irfan College                         | <p>Irfan College is located near to construction works for the access across the project corridor at Duff Road to the utilities access road within the Western Sydney Parklands. A construction compound would also be established near the college south of Elizabeth Drive.</p> <p>During construction, students, teachers and visitors to the school may experience temporary reductions in in amenity due to noise, dust and traffic from construction activities. These impacts are likely to have the greatest effect on outdoor teaching and recreation areas and may disrupt the use of these areas during construction activities that generate high noise or dust levels. Increased dust from construction activities also has potential to influence community perceptions relating to health and wellbeing, particularly for children using outdoor recreation and play areas.</p> <p>An increase in construction traffic and heavy vehicles using Elizabeth Drive near the college may result in temporary traffic delays and disruptions for students and teachers and present possible safety risks for students, potentially impacting on community perceptions about student safety. These impacts are most likely to occur during school drop-off and pick-up times.</p> <p>Environmental and traffic management measures would be implemented during construction, which would assist in managing potential impacts on the college. Consultation would also be undertaken with the school community to assist in managing construction impacts.</p> |
| S9       | Kemps Creek Sporting and Bowling Club | <p>Kemps Creek Sports and Bowling Club is located next to construction works for the main project corridor and the construction compound at Elizabeth Drive (AF5). A discussion of potential impact on business functions within the sports club is provided in Section 6.6.</p> <p>Noise, dust and construction traffic may impact on amenity of the sports club, specifically the bowling greens located on the northern side of the building near to Elizabeth Drive, potentially impacting on the use and enjoyment of these facilities. As described in <b>Table 5-14</b>, the sporting club hosts regular men's and ladies' social bowls competitions on Tuesday and Saturday. There is potential for temporary disruptions to these competitions to occur, particularly if they coincide with construction activities that cause high levels of noise and dust.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



| Facility |                                            | Summary of potential construction impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                            | <p>Increased dust from construction activities has potential to impact on the health and wellbeing of some groups that may be more sensitive to changes in air quality, for example children, elderly and people who suffer from asthma or other respiratory conditions. This is likely to be important for construction activities near to Kemps Creek Sports and Bowling Club, due to the older population that typically participate in the game.</p> <p>Access to the sports club would be maintained during construction, although temporary access changes may be required. There is potential for a small number of car parking spaces within the car park for the sports club to be temporarily affected by construction of the bridge over Elizabeth Drive. The temporary loss of these spaces is not expected to cause a parking shortage given the size of the club's car park. These car parks would be reinstated following construction of the bridge.</p> <p>Ongoing consultation with managers of the sports club would be undertaken during construction to help manage potential construction impacts on use of the bowling greens and other recreational facilities.</p> |
| S9       | Kemps Creek Cougars Baseball Club          | <p>The baseball club is located next to the Kemps Creek Sports and Bowling Club near to construction works for the main project corridor and construction compound at Elizabeth Drive (AF5).</p> <p>During construction, temporary impacts on amenity may occur for users of the baseball field due to increased construction noise, dust and traffic. This may impact on the use of the ground for some events, particularly if they coincide with noise and dust intensive construction activities.</p> <p>Increased dust from construction activities also has potential to influence community perceptions relating to health and wellbeing for some users of the baseball field, particularly as this facility is used by children. An increase in construction traffic and movement of heavy vehicles also has potential to influence perceptions of safety for children using the baseball field. Environmental and traffic management measures would be implemented to minimise potential disruptions and maintain safety for users of the baseball field.</p>                                                                                                                      |
| S8       | Science of the Soul Study Centre           | <p>This facility is located at Elizabeth Drive near to the construction compound (AF5). During construction, temporary disruptions may occur for users of this facility due to local road changes at Elizabeth Drive and Mamre Road, including an increase in construction traffic. Increased noise and dust from construction works also has potential to reduce amenity at the centre, particularly of outdoor areas, impacting on the use and enjoyment for visitors to the centre. Environmental and traffic management measures would be implemented to assist in managing potential impacts on users of this facility.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| S3       | Muhammadi Welfare Association of Australia | <p>The Muhammadi Welfare Association is located near to construction works for the main corridor alignment at Clifton Avenue, Kemps Creek. During construction, increased noise and dust from construction works has potential to reduce amenity at the centre, particularly of outdoor areas, impacting on the use and enjoyment for visitors.</p> <p>Access to the facility would be maintained from Clifton Avenue via Elizabeth Drive. Temporary delays and disruptions for some visitors accessing the facility may result from local access changes and increased construction traffic at Elizabeth Drive. Environmental and traffic management measures would be implemented to assist in managing potential impacts on users of this facility.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Operation

During operation, the project would contribute to improved access and connectivity to regional, State and national level community services and facilities within the primary and secondary study areas through improved travel time savings and improved travel time reliability. This includes regional level community services and facilities, such as:

- Education uses such as the University of Western Sydney, TAFE Western Sydney Institute
- Major medical and health care facilities, including hospitals and facilities at the Nepean Hospital campus
- Regional open space, sport and recreational uses, at Western Sydney Parklands and within central Penrith
- The Western Sydney Airport
- Community support services and service organisations.

This would have long-term beneficial impacts for local communities as well as communities across the broader western Sydney region.

Operation of the project has potential to impact on users of social infrastructure located within or near the project through changes in local access and amenity. The project would involve the bypass of Kemps Creek and nearby suburbs. Access to properties within or near the project corridor containing social infrastructure would be maintained during operation, although some permanent changes to local access may be required for some users due to the bypass of Elizabeth Drive; changes to local road access; and intersection changes. While this may change access routes for users of some social infrastructure near the project at Kemps Creek, Luddenham, Badgerys Creek, Mount Vernon and Cecil Park, this is not expected to impact on the overall use of these facilities.

Potential impacts on specific social infrastructure from the operation of the project are summarised in **Table 6-8** (see **Figure 5-9** for the location of these facilities), while further discussion about impacts on local amenity and access and connectivity is provided in **Section 6.8.1** and **Section 6.9**.

Table 6-8 Summary of operational impacts on social infrastructure near the project

| Facility |                                       | Summary of potential operational impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S16      | St Peter and Paul Assyrian Church     | During operation, access to the church would be maintained from Elizabeth Drive and Wallgrove Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| S14      | Irfan College                         | During operation, access to Irfan College would be maintained via the intersection of Elizabeth Drive and Duff Road.<br>The reduction of traffic on Elizabeth Drive and movement of the through road corridor away from the college has potential to enhance amenity at the school through a reduction in traffic noise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| S9       | Kemps Creek Sporting and Bowling Club | Potential impacts of the project's operation on Kemps Creek Sports and Bowling Club would mainly be associated with changes in amenity of the sports club due to increased traffic noise from the realigned corridor and changes to visual amenity from the construction of a bridge structure over Elizabeth Drive. While the sports club is currently subject to traffic noise from Elizabeth Drive, increased traffic using the project and changes in elevation have potential to increase traffic noise impacts.<br>During operation, access to the sports club would be maintained from Elizabeth Drive. A reduction in through traffic using Elizabeth Drive, including heavy vehicles, is likely to have a positive impact on access for users of the sports club, with improved safety and easier access identified as factors in enhancing shoppers' enjoyment of the area. |

| Facility |                                            | Summary of potential operational impacts                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S9       | Kemps Creek Cougars Baseball Club          | Operation of the project is not expected to impact on amenity of this facility due to its distance from the project alignment. Access to the centre would be maintained via Elizabeth Drive. Proposed local access changes are not expected to impact on the use of this facility. A reduction in through traffic using Elizabeth Drive, including heavy vehicles, is likely to have a positive impact on access for users of this facility, and helping to enhance perceptions of safety for users. |
| S8       | Science of the Soul Study Centre           | Operation of the project is not expected to impact on amenity of this facility due to its distance from the project alignment. Access to the centre would be maintained via Elizabeth Drive. Proposed local access changes are not expected to impact on the use of this facility.                                                                                                                                                                                                                   |
| S3       | Muhammadi Welfare Association of Australia | During operation, potential impacts on this facility would mainly be associated with changes in amenity due to the relocation of the main through road closer to this facility. Particular, increased traffic noise and changes to the visual environment due to the introduction of project infrastructure, has potential to impact on the use and enjoyment of this facility for some people.<br><br>Local access to the facility would be maintained via Clifton Avenue and Elizabeth Drive.      |

## 6.8 Community values

Construction and operation of the project has potential to impact on community values relating to local amenity and character, community cohesion, health and safety and natural environment.

### 6.8.1 Local amenity and character

#### **Construction**

During construction, adverse changes to local amenity and character for communities and areas near to construction works and construction compounds would mainly result from:

- Noise, vibration, dust and traffic from construction activities
- Changes in visual amenity due to the removal of established vegetation and presence of construction works and infrastructure
- Light spill from night-time construction works.

Communities likely to experience the greatest changes to local amenity from construction activities include:

- Residential communities at Cecil Hills, from construction of the M7 southbound on-ramp
- Rural residential and community uses along Elizabeth Drive at Mount Vernon and Cecil Park, due to construction of the project alignment south of Elizabeth Drive and construction activities associated with the construction compound AF6
- Rural residential, business, community and rural uses at Kemps Creek closest to construction activities within the project corridor and construction compound (AF5)
- Rural and rural residential uses along Luddenham Road, due to construction works within the project corridor.

Users of Western Sydney Parklands are also likely to experience changes in amenity from construction activities associated with the project alignment within the Parklands and the connection to the M7 Motorway. Further discussion about potential impacts of the project's construction on users and facilities within the Western Sydney Parklands is provided in **Section 6.7.1**.

Changes to local amenity resulting from increased noise and dust from construction activities may temporarily impact on individuals' use and enjoyment of homes, businesses and community facilities, particularly within outdoor areas.

While most construction activities would be undertaken during standard day-time hours, some works may need to be undertaken at night to minimise potential impacts on regional road networks, for example works near major roads such as the M7 Motorway, Elizabeth Drive and The Northern Road. Noise and light spill from these works have potential to change night-time amenity at residential properties closest to these works. Further discussion about construction noise and dust impacts is provided in Section 7.7 and Section 8.2 of the EIS.

The presence of construction activities and construction infrastructure may also impact on visual amenity for some people, through changes to existing views and rural landscapes. These impacts are discussed in detail in Section 7.3 of the EIS.

Environmental management measures and procedures would be established to help manage potential amenity impacts on communities near to construction works. Possible management measures are discussed in the noise and air quality working papers.

### **Operation**

Potential impacts on local amenity and character from the operation of the project would mainly be associated with:

- Increased traffic noise for communities along the alignment
- Light spill from the project corridor
- Changes to visual amenity from the introduction of new infrastructure.

Changes to amenity from the project's operation may impact on the use and enjoyment of properties along the project alignment and change the rural character and views from some properties. These impacts are likely to have the greatest effect on rural communities at the western end of the project corridor including at Badgerys Creek and Luddenham, that are currently removed from major roads. In particular, traffic noise and light spill from the roadway may impact on the night-time amenity for residents due to the relatively low night-time noise and light environment that currently exists in these areas.

As indicated in **Section 5.4.1**, the primary study area has undergone change in recent decades with increased urban development. Change in the rural character of the primary study area is likely to continue over time as a result of the development of the Western Sydney Airport, Western Sydney Aerotropolis and growth areas. Potential impacts on local amenity and character from the project are likely to reduce over time as further urban development occurs.

Once operational, the project would reduce through traffic, including heavy vehicles, on Elizabeth Drive and through Kemp Creek, impacting positively on local amenity and character. This was raised as a benefit of the project during consultation with local shoppers for this assessment.

Further assessment of potential impacts of the project's operation on noise and visual amenity is provided in Section 7.7 and Section 7.3 of the EIS.

## **6.8.2 Community cohesion**

### **Construction**

As indicated in **Section 5.4.2**, the study area includes a number of local businesses and community facilities that provide local meeting places and support local networks and social cohesion, for example schools, sporting clubs and facilities within Western Sydney Parklands.



During construction, increased noise and dust from construction activities has potential to reduce the amenity of meeting places near to construction works (eg Kemps Creek Sporting and Bowling Club, facilities within Western Sydney Parklands) and cause temporary disruptions to facilities such as Wylde Mountain Bike Trail. This may temporarily impact people's use and enjoyment of these places, and possibly deter some people from using these facilities.

Delays and disruptions associated with changes to local road access near to construction activities and temporary changes to public transport facilities may also discourage some people from making some trips. These changes may impact on some people's participation in local activities and temporarily impact on community interaction.

### **Operation**

Overall, the project would have positive impacts on community cohesion by supporting efficient and reliable travel and improved accessibility to work, business and leisure activities in the primary study area and broader western Sydney region, helping to facilitate social interactions and economic transactions within the primary study area and wider western Sydney region.

Where access on major routes is constrained, people avoid making trips that have unacceptable travel times. Reduced travel times supported by the project are also likely to make some trips more attractive, helping to facilitating community interaction and providing benefits for community cohesion.

## **6.8.3 Community health and well-being**

### **Construction**

During construction, noise, light spill and dust from construction activities has potential to impact on the health and wellbeing of some residents closest to construction works. This impact is most likely to occur where night-time work results in sleep disturbance over extended periods of time or where construction activities create extended periods of high noise or dust levels.

The potential for dust from construction activities to impact on health of some population groups who may be more sensitive to changes in air quality (eg children, elderly, people who suffer from asthma or other respiratory conditions) is likely to be a concern for some communities near to construction works. This is more likely to be relevant for construction works near to sport and recreation facilities at Kemps Creek (eg bowling and baseball facilities) and dwellings at Kemps Creek and Cecil Hills. Dust management measures will be implemented at construction sites, which are expected to effectively manage potential impacts associated with construction dust. Further assessment of potential health impacts of construction dust and associated management measures is provided in Section 8.2 of the EIS.

An increase in construction traffic and heavy vehicles on roads within the primary study area and changes to local traffic and access during construction may impact on community perceptions relating to road safety. Construction traffic management measures would be implemented to maintain safety for pedestrians, cyclists and road users near to construction works and on haulage routes. Pedestrian access would be maintained near construction works although temporary changes would be required to some pathways in order to maintain safety of pedestrians. Further discussion about potential construction traffic impacts is provided in the M12 Motorway Traffic and Transport Working Paper.

## Operation

The project would provide more efficient connections for communities in the primary and secondary study areas and greater Sydney region to employment, education facilities, sport and recreation uses, cultural and leisure facilities, and community support services. This would support:

- Improved long term economic opportunities through improved access to education and employment opportunities
- Enhanced opportunities for social interaction, by making some trips more attractive and encouraging people to take trips they may have otherwise avoided
- Opportunities to increase community wellbeing through improved access to recreation and leisure facilities, including within Western Sydney Parklands.

As indicated in **Section 5.4.3**, road safety and safety in public places is important to local and regional communities. The provision of a controlled access motorway would help to improve traffic safety for road users. The reduction in through traffic using Elizabeth Drive would also have beneficial impacts on safety for surrounding communities. This was identified as a benefit of the project during consultation with local shoppers for this assessment.

The inclusion of an off road shared user path as part of the project would also support safer and easier access for pedestrians and cyclists. The importance of this link was also identified through consultation undertaken for the project. The provision of safer and enhanced pedestrian and cycling accessibility and connectivity is likely to encourage increased walking and cycling, helping to increase general levels of physical activity and impacting positively on community health outcomes.

## 6.8.4 Natural environment

### Construction

The project would require the removal of some established vegetation in construction areas and construction compounds along the project corridor, including within the Western Sydney Parklands and within creek corridors. As indicated in **Section 5.4.4**, the protection and conservation of the environment, biodiversity and natural assessments, including bushland areas is important to community in the primary and secondary study areas, with community concerns around potential impacts on remnant vegetation identified during consultation for the project.

The clearing of established vegetation for the project is likely to be a concern for some community members, impacting on values relating to ecology, landscape and scenic amenity. Following construction, areas impacted by construction works that are not required for permanent infrastructure would be rehabilitated, including with new trees and landscaping.

Potential impacts of the project's construction on conservation and biodiversity values are described in the M12 Motorway Biodiversity Assessment Report.

### Operation

Potential impacts of the project's operation on natural features such as creeks and bushland areas may be a concern for some community members. Permanent stormwater detention basins would be established along the project corridor to capture and treat stormwater runoff prior to it being released to the environment, helping to reduce risks to water quality in creeks and waterways.

## 6.9 Access and connectivity

The project has potential to change access and connectivity at a regional, local and property level. This section assesses potential impacts of the project's construction and operation on access and connectivity. A detailed description of the project's impacts on traffic and transport is provided in the M12 Motorway Traffic and Transport Working Paper.

### 6.9.1 Construction

During construction, impacts on local access and connectivity would generally result from:

- Increased construction traffic on roads within the primary study area, including heavy vehicles used to deliver materials and equipment, and construction worker vehicles
- Temporary changes to road conditions near to construction works, including reductions in speed limits, temporary traffic lane closures, and temporary diversions and access changes
- Potential changes to bus services, including from changes to road conditions and the temporary relocation of some bus stops near to construction works for safety
- Changes to pedestrian and cycle access near to construction works.

The majority of the project would be constructed away from existing roads and transport networks, helping to minimise potential impacts for transport users. Increased construction traffic and changes to road conditions near the project have potential to cause temporary delays and disruptions for road users and present potential road safety risks for motorists, pedestrians and cyclists. The use of roads including Elizabeth Drive and Mamre Road by construction traffic is also likely to impact on traffic congestion, resulting in temporary delays for motorists and other road users. These impacts would be managed through the implementation of traffic management measures for each construction worksite.

Potential impacts for bus users would mainly be associated with delays to bus services due to changed road conditions and increased congestion and temporary relocation of bus stops, used for school bus services and Sydney bus network services. A number of bus stops are located within the primary study area that may be impacted by construction activities, including:

- Near the Duff Road and Elizabeth Drive intersection, potentially impacted by construction works for the upgrade of and associated access over the M12 corridor
- At the intersection of Mamre Road and Elizabeth Drive, potentially impacted works associated with the construction compound (AF5) and construction works for the project alignment, including over Elizabeth Drive
- On Badgerys Creek Road, immediately south of Elizabeth Drive, potentially impacted by construction works for the project connection to Elizabeth Drive and Badgerys Creek Road, including overpass of Elizabeth Drive
- At The Northern Road, north of Elizabeth Drive, potentially impacted by works for project connection to The Northern Road.

Where bus stops are required to be relocated, some bus users may be required to walk further to access bus services. This is expected to particularly impact people with mobility difficulties, including people with disability, elder people and children, and may deter some people from access bus services. Temporary bus stops would be located as close as practicable to the existing stops, while maintaining safety for bus users, which would help to minimise potential impacts on bus users.

As indicated in **Section 5.7.2**, some school bus routes servicing schools in the primary study area use Elizabeth Drive and Mamre Road for part of their route. During construction, potential impacts on school bus routes would include delays due to temporary changes to road condition, and possible safety risks for students and changes to perceptions of safety for children, due to increased construction traffic and construction works near to school bus stops.

Existing pedestrian and cycle access near the project mainly include pedestrian and cycle trails and shared paths located within the Western Sydney Parklands. These facilities would be directly impacted by the siting of project infrastructure and construction works. Access to these facilities would be maintained for trail users, although temporary diversions may be required at some locations. Further discussion about potential impacts on individual trails is provided in **Section 6.7.1**.

Access to private properties near to construction works would be maintained during the construction phase, although temporary changes may be required at some properties, particularly at Kemps Creek. Where temporary changes are required, suitable access arrangements would be implemented in consultation with affected property owners.

Construction of the project is not expected to impact on-street parking. Potential impacts of the project's construction on private off-street parking would mainly be associated with Kemps Creek Sporting and Bowling Club (see **Section 6.6**).

During construction, traffic management measures would be implemented near to construction activities maintain safety for road users, including pedestrians and cyclists.

## 6.9.2 Operation

Once operational, the project would have long term positive impacts on access and connectivity for local and regional communities, business, and industry through improved regional connections and links to key population and employment growth areas in western Sydney, including the South West Growth Area, Western Sydney Airport and associated Western Sydney Aerotropolis. One of the project objectives is to provide sufficient road capacity to meet traffic demand generated by the planned western Sydney urban development.

The project objectives include providing a road which supports and integrates with the broader transport network and supporting the provision of an integrated regional and local public transport system. The project would integrate with future transport infrastructure, creating strategic links and connections throughout western Sydney and the greater Sydney area. In particular, the project would link to the planned upgrade of The Northern Road and have provision for connection to the future Outer Sydney Orbital. The project would also connect to the Western Sydney Airport, with an objective of the project to provide a high standard connection to the airport with capacity to meet future freight and passenger needs.

Increased road capacity provided by the project would also support reduced congestion and improved travel times in the future for communities, business and industry, while the provision of a controlled access motorway would help to improve traffic safety for road users.

At a local level, the project would improve access and connectivity for motorists and other road users to areas and facilities surrounding the project, including Western Sydney Parklands. Elizabeth Road will continue to provide access for local communities at Cecil Park, Mount Vernon and Kemps Creek.

The location of the project corridor would impact on some local roads near the project, requiring permanent changes, including realignment or closure of some local roads either side of the proposed road corridor. Access would be maintained through the provision of new access roads, although these changes may require some motorists to travel further distances to access properties, businesses and other facilities near the project and surrounding area. The two locations likely to experience changes to travel distances include:

- Water and telecommunications infrastructure within the Western Sydney Parklands at Cecil Hills
- Rural properties northeast of the project corridor at Kemps Creek.

The location of the project corridor would require the closure of the existing access track to water and telecommunications infrastructure at Cecil Hills. Access to these facilities would be maintained via a new access at the intersection of Duff Road and Elizabeth Drive and access over the project corridor.



This would increase travel distances to this facility by about 800 metres. Given public access is restricted to the current access, this is not expected to have any impacts on local access and connectivity.

Salisbury Avenue at Kemps Creek would be closed on the southern side of the project corridor, disrupting access to existing rural properties northeast of the corridor. Access to these properties would be maintained via a new connection over the project corridor at Clifton Avenue, although this would require motorists to travel up to about three kilometres further to access some properties in this area, increasing travel time. Elsewhere, access to properties would be maintained via realignment of existing local roads and provision of new access roads and is generally not expected to impact on travel distances to these properties.

Operation of the project would also enhance pedestrian and cycle access within the primary study area, through the inclusion of an off road shared user path, including connections to existing and future shared user path networks. Further discussion about potential impacts of the project's operation on pedestrian and cycle networks is provided in the M12 Motorway Traffic and Transport Working Paper.

## 6.10 Cumulative impacts

Where activities that would be associated with the project take place at the same time as other nearby projects which also have the potential to affect the socio-economic environment, land use and property, there is the potential for cumulative impacts to occur. Cumulative socio-economic, land use and property impacts were reviewed by considering the impacts predicted in publicly available environmental impact assessments for nearby approved projects.

Projects that may contribute to cumulative impacts along with the project are listed in **Table 6-9**. The table identifies the relevance of each project to the M12 Motorway project in terms of spatial and temporal considerations.

Table 6-9 Projects considered as part of the cumulative socio-economic, land use and property impact assessment

| Project                | Status                        | Relevance to the M12 Motorway project                                                                                                        | Potential for cumulative impacts                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Western Sydney Airport | Approved (under construction) | <p>Project is expected to have concurrent/ consecutive construction and operation</p> <p>Project is adjacent and has adjoining footprint</p> | <p>Possible during construction</p> <p>Possible during operation</p> | <p>The Australian Government is currently constructing the Western Sydney Airport on the 1780-hectare Commonwealth-owned land at Badgerys Creek. The airport will service both domestic and international markets and development will be staged in response to ongoing growth in aviation demand. Stage 1 includes the establishment of the following to provide operational capacity for about 10 million passengers per year and freight traffic:</p> <ul style="list-style-type: none"> <li>• A single 3,700 metre runway in the north-western portion of the site</li> <li>• A terminal</li> <li>• Other support facilities</li> <li>• Foundation for further expansion.</li> </ul> <p>It is anticipated that the demand in relation to this airport will reach about 82 million passengers a year by 2063. To cater for this, a second parallel runway will be constructed at a later stage.</p> <p>Construction of Western Sydney Airport is under way and the airport is set to open in 2026. Construction of the project is expected to commence in quarter 1, 2022 and conclude in 2025. Construction of the Western Sydney Airport and the project will therefore overlap and have the potential to cause cumulative impacts.</p> <p>The EIS for the Western Sydney Airport was placed on display in October 2015 and finalised on 15 September 2016 with a Revised Draft Airport Plan. The assessment found that the airport would result in some adverse impacts on the environment and community, particularly in relation to the following:</p> <ul style="list-style-type: none"> <li>• Air quality</li> <li>• Biodiversity</li> <li>• Health</li> <li>• Noise</li> <li>• Water quality.</li> </ul> <p>Mitigation measures were proposed to reduce these potential impacts during construction. The Western Sydney Airport and the project would be operational at the same time.</p> |

| Project                   | Status           | Relevance to the M12 Motorway project                                                                                             | Potential for cumulative impacts                                | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Sydney Metro Greater West | Not yet approved | <p>Project is expected to have concurrent construction and operation</p> <p>Project is adjacent and has overlapping footprint</p> | <p>Possible during construction</p> <p>Nil during operation</p> | <p>TfNSW recently identified recommended corridors for a rail option to provide a major transport link between the North West Growth Area, Western Sydney Airport, and the South West and Greater MacArthur Growth Area. This rail option would connect the existing Main South Line (T8) near Macarthur Station to the existing Main Western Line (T1) near St Marys Station, via the Western Sydney Airport.</p> <p>The Sydney Metro Greater West project will have:</p> <ul style="list-style-type: none"> <li>• Stations at Western Sydney Airport and the Western Sydney Aerotropolis</li> <li>• A station at St Marys, interchanging with the existing station and connecting customers with the rest of Sydney's rail system</li> <li>• Fully-automated driverless trains with fast, frequent services.</li> </ul> <p>This railway servicing the new Western Sydney Airport will be developed and delivered by Sydney Metro. It is referred to as the Sydney Metro Greater West. Planning for this project is currently underway and subject to separate environmental assessment and approval. As such, environmental assessment results are not yet available.</p> <p>Construction timeframes for the Sydney Metro Greater West are likely to occur at the same time the construction of the project. The early and enabling works, as well as the civil construction works for both projects would be carried out at the same time.</p> <p>The Australian and NSW governments have a shared objective of having the Sydney Metro Greater West and the project operational in 2026 when the Western Sydney Airport is scheduled to open. The Sydney Metro Greater West and the project would be operational at the same time.</p> |

| Project                                                                                                                                                                            | Status                            | Relevance to the M12 Motorway project                                                                                             | Potential for cumulative impacts                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <p>The Northern Road Upgrade</p> <ul style="list-style-type: none"> <li>Stage 5 (Littlefields Road to Glenmore Park)</li> <li>Stage 6 (Littlefields Road to Eaton Road)</li> </ul> | Approved (construction commenced) | <p>Project is expected to have concurrent construction and operation</p> <p>Project is adjacent and has overlapping footprint</p> | <p>Possible during construction</p> <p>Possible during operation</p> | <p>An upgrade of the Northern Road was approved in May 2018 as part of the Western Sydney Infrastructure Plan. The upgrade will improve the capacity of the existing road and create about eight kilometres of new road between Mersey Road, Bringelly and just south of the existing Elizabeth Drive, Luddenham to realign the section of The Northern Road that currently runs through the Western Sydney Airport site. Once the upgrade is complete, The Northern Road will connect the project and the M4 Western Motorway, and improve connectivity with the Western Sydney Airport (Roads and Maritime Services, 2017).</p> <p>The upgrade is being carried out in six stages:</p> <ul style="list-style-type: none"> <li>Stage 1 – between The Old Northern Road, Narellan and Peter Brock Drive, Oran Park</li> <li>Completed</li> <li>Stage 2 – between Peter Brock Drive, Oran Park and Mersey Road, Bringelly</li> <li>Under construction</li> <li>Stage 3 – between Glenmore Parkway, Glenmore Park and Jamison Road, South Penrith</li> <li>Under construction</li> <li>Stage 4 – between Mersey Road, Bringelly and Eaton Road, Luddenham</li> <li>Under construction</li> <li>Stage 5 – between Littlefields Road, Luddenham and Glenmore Parkway, Glenmore Park</li> <li>Construction to start early 2019</li> <li>Stage 6 – between Eaton Road, Luddenham and Littlefields Road, Luddenham</li> <li>Construction to start mid-2019.</li> </ul> <p>Stages 1 through 4 of The Northern Road upgrade will be completed by the time construction of the project commences. Stage 4 of The Northern Road upgrade is the closest to the project. The construction for Stage 5 is scheduled for early 2019 to end of 2022. The construction for Stage 6 is scheduled for mid-2019 to end of 2020.</p> <p>Construction activities associated with Stage 5 and 6 may overlap with the project construction. The Northern Road Upgrade and the project would be operational at the same time.</p> |



| Project                                                                                                                                                                                                                 | Status           | Relevance to the M12 Motorway project                                                                                                                                               | Potential for cumulative impacts                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <p>Other existing road network upgrades and potential road projects, including:</p> <ul style="list-style-type: none"> <li>Elizabeth Drive Upgrade</li> <li>Mamre Road Upgrade</li> <li>Outer Sydney Orbital</li> </ul> | Not yet approved | <p>Projects have the potential for overlapping construction</p> <p>Projects are expected to have concurrent operation</p> <p>Project is adjacent and has overlapping footprints</p> | <p>Possible during construction</p> <p>Possible during operation</p> | <p>There are a number of other planned and potential road upgrade projects in the western Sydney area that may contribute to cumulative groundwater impacts. These potential projects include:</p> <ul style="list-style-type: none"> <li>Elizabeth Drive upgrade – Roads and Maritime has started site investigations, including preliminary engineering, preliminary/strategic designs, environmental field investigations, and strategic modelling. These investigations are expected to be completed by mid-2019</li> <li>Mamre Road upgrade – the NSW Government has started early planning for a future upgrade of a 10 kilometre section of Mamre Road, between the M4 Motorway and Kerrs Road to support economic and residential growth in the area</li> <li>Outer Sydney Orbital – a future north-south motorway and freight rail line in Sydney's West to support the growth of western Sydney and the distribution of freight across Sydney and regional NSW (Roads and Maritime, 2018b). While the Outer Sydney Orbital is in early stages of planning, it would provide connections to the Western Sydney Airport.</li> </ul> <p>These projects are currently at varying stages of planning and no design or environmental assessment information is currently publicly available.</p> <p>The timing for construction of the above projects has not yet been announced. However, there is potential for overlaps in construction timing between the project and some of these road upgrade works which are in the vicinity of the project.</p> <p>These projects and the M12 Motorway project would be operational in the longer term.</p> |

| Project                                                                                                                                                                                       | Status                                      | Relevance to the M12 Motorway project                                                                                                                                                                                                                                                | Potential for cumulative impacts                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <p>Major land releases, including:</p> <ul style="list-style-type: none"> <li>Western Sydney Aerotropolis</li> <li>South West Growth Area</li> <li>Western Sydney Employment Area.</li> </ul> | <p>Future strategic government project.</p> | <p>Projects have the potential for overlapping construction</p> <p>Projects are expected to have concurrent operation</p> <p>The Aerotropolis and the Western Sydney Growth Area have overlapping footprints</p> <p>The Sydney Employment Area is in the vicinity of the project</p> | <p>Possible during construction</p> <p>Possible during operation</p> | <p>Western Sydney is the focus of a number of plans and policies to promote changes in land use and to increase employment opportunities, in particular within the following defined areas:</p> <ul style="list-style-type: none"> <li>Western Sydney Aerotropolis – The area surrounding the Western Sydney Airport that was previously known as the Western Sydney Airport Growth Area. The Aerotropolis would establish a new high-skill jobs hub across aerospace and defence, manufacturing, healthcare, freight and logistics, agribusiness, education and research industries, and is expected to contribute to establishing 200,000 new jobs for Western Sydney (DPE, 2018).</li> <li>South West Growth Area – The broader area south-east of the Western Sydney Aerotropolis. This will guide new infrastructure investment, identify new homes and jobs close to transport, and coordinate services in the area. The NSW Government is currently at the early stages of investigations.</li> <li>Western Sydney Employment Area – The area north-east of the Western Sydney Growth Area. Established by the NSW Government to be a new employment space, providing opportunities for local people to work closer to home.</li> </ul> <p>Preliminary investigations and consultation is underway for each area. The land within the areas above will be developed by individual developers at varying timeframes. Each will be subject to their own environmental assessments, based on the scale and potential impact of each project. There are currently no defined plans available for the individual developments within these growth areas.</p> <p>The project would traverse the South West Growth Area and service the Western Sydney Aerotropolis, and indirectly, the Western Sydney Employment Area. The project would serve and facilitate the growth by providing increased road capacity and reducing congestion and travel times in the area.</p> <p>The timing for the construction of developments within the above-mentioned growth areas has not yet been announced. There are potential of overlaps in construction timing between some developments and the project. The projects associated with these growth areas and the M12 Motorway project would likely be operational in the longer term.</p> |

Interaction with the projects listed in **Table 6-9** may change the social, land use and property impacts or benefits of the project. During construction, potential cumulative impacts may be associated with:

- Prolonged duration of construction impacts, resulting in:
  - Extended periods of traffic disruptions for motorists, public transport users, pedestrians and cyclists, and commercial vehicle movements
  - Extended periods of impacts on communities in the primary study area, associated with increased noise, dust and traffic, leading to construction fatigue
- Increase in construction traffic, associated with haulage of materials, plant and equipment for the various construction projects, impacting on community perceptions of safety
- Increased demand for construction workers, providing benefits for local workers.

Where construction timeframes for projects occur sequentially, there is potential for disturbance and disruptions for local communities (eg construction noise, dust, traffic delays and disruptions) to occur over extended periods, potentially resulting in construction fatigue for some community members. In relation to construction for the M12 Motorway project, this is likely to be experienced by communities at the western end of the project due to current impacts associated with construction works for the upgrade of The Northern Road and more generally in the primary study area from the construction of the Western Sydney Airport.

As discussed in **Section 5.2**, urban development, including residential and industrial developments and acquisition of land for the Western Sydney Airport, has resulted in the gradual loss of land available over time for agricultural purposes. Many rural and agricultural properties within or near to the project have also been identified for future urban development. The project's provision of a key road link would support and help to facilitate the orderly transition from existing rural and agricultural uses to future higher intensity urban uses. The acquisition of rural land for the project is also likely to further diminish the availability of land for agriculture in the primary and secondary study areas and potentially impact on community values associated with rural landscapes. However, the contribution of the project to this loss of agricultural land is relatively minor compared to other developments proposed in the primary and secondary study areas. Additional discussion regarding loss of rural and agricultural land and changes to land uses in Western Sydney is presented in **Section 8.7**.

Development of the Western Sydney Airport and the Western Sydney Aerotropolis is also likely to result in changes to the types of businesses and the business environment at Kemps Creek over time. New urban development in the surrounding area is also likely to stimulate economic activity that currently does not exist in the project, both during the construction phase of the development and in the longer term. This is likely to off-set any potential impacts on businesses at Kemps Creek associated with the bypass of Kemps Creek and changes in passing trade at Elizabeth Drive and Mamre Road.

During operation, potential cumulative impacts would be associated with improved travel benefits for regional communities, business and industry, including freight, associated with the completion of the project and the nearby upgrade of other transport projects such as The Northern Road.

Mitigation measures would be implemented for each project to manage the impacts of the individual projects. Coordination between the various projects in the planning of major works and possible disruptions, if possible, would assist in minimising potential cumulative impacts (see Section 8.7 (cumulative impacts) of the EIS).

## 7. Evaluation of significance

**Table 7-1** summarises potential socio-economic, land use and property impacts of the project's design, construction and operation. The level of impact significance is also provided based on the evaluation framework outlined in **Section 3.6**. This considers:

- The sensitivity of receptors (ie communities, businesses, business clusters, social infrastructure, residences)
- Magnitude of the proposed works.

**Table 7-1** presents the level of impact significance without mitigation and with the mitigation and management measures. Further detail on proposed mitigation measures is provided in **Chapter 8**.



Table 7-1 Summary of socio-economic, land use and property benefits and impacts

| Element            | Summary of Impact                                                                                               | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                                | Impact significance (with mitigation) |           |              |
|--------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                    |                                                                                                                 | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                                    | Sensitivity                           | Magnitude | Significance |
|                    | Directly affected properties (within the operation footprint)                                                   |                                          |           |              |                                                                                                                                                                                                                                                    |                                       |           |              |
| Property impacts   | Acquisition of private property                                                                                 | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"><li>Provide appropriate compensation in accordance with NSW Land Acquisition (Just Terms Compensation) Act and Land Acquisition Reform 2016 process</li></ul>                                                    | Low                                   | Low       | Low          |
| Community cohesion | Disruption to social networks and relationships due to relocation of residents affected by property acquisition | Low                                      | Low       | Low          | <ul style="list-style-type: none"><li>No mitigation required</li></ul>                                                                                                                                                                             | Low                                   | Low       | Low          |
| Land use impacts   | Direct impact on land use within the operation footprint                                                        | Mod                                      | Low       | Low          | <ul style="list-style-type: none"><li>Minimise the extent of area impacted by the project footprint, where possible</li></ul>                                                                                                                      | Low                                   | Low       | Low          |
|                    | Loss of land used for environmental purposes                                                                    | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"><li>Minimise the extent of area impacted by the project footprint, where possible</li></ul>                                                                                                                      | Low                                   | Low       | Low          |
|                    | Direct impact on land used for Western Sydney Parklands Biobank site and carbon sink                            | High                                     | Mod       | High-mod     | <ul style="list-style-type: none"><li>Identify and establish new offset sites for biobank and carbon sink in consultation with Western Sydney Parklands Trust</li></ul>                                                                            | High                                  | Low       | Mod          |
|                    | Loss of land used for agricultural purposes                                                                     | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"><li>Minimise the extent of area impacted by the project footprint, where possible</li></ul>                                                                                                                      | Low                                   | Low       | Low          |
|                    | Impact on rural infrastructure from partial acquisition of land (eg fencing, sheds, dams)                       | Low                                      | Mod       | Mod-low      | <ul style="list-style-type: none"><li>Minimise extent of project footprint and/or impact on infrastructure, where possible</li><li>Relocation and/or reconstruction of affected infrastructure</li><li>Consultation with property owners</li></ul> | Low                                   | Low       | Low          |

| Element                   | Summary of Impact                                                                         | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                                                                                                                    | Impact significance (with mitigation) |           |              |
|---------------------------|-------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                           |                                                                                           | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                                                                                                                        | Sensitivity                           | Magnitude | Significance |
|                           | Severance and/or fragmentation of some rural properties                                   | Low                                      | Mod       | Mod-low      | <ul style="list-style-type: none"> <li>Establishment of new access roads/ bridge crossings connecting to residual land</li> </ul>                                                                                                                                                                                                      | Low                                   | Low       | Low          |
|                           | Direct impact on infrastructure and utilities within the operation footprint              | High                                     | Mod       | High-mod     | <ul style="list-style-type: none"> <li>Modification, protection or relocation of affected utilities in consultation with service providers</li> </ul>                                                                                                                                                                                  | High                                  | Low       | Mod          |
| Population and demography | Population and demography changes associated with property acquisition                    | Neg                                      | Neg       | Neg          | <ul style="list-style-type: none"> <li>No mitigation required</li> </ul>                                                                                                                                                                                                                                                               | Neg                                   | Neg       | Neg          |
| Employment                | Loss of local employment due to the acquisition of commercial and agricultural businesses | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"> <li>Provide appropriate compensation in accordance with NSW Land Acquisition (Just Terms Compensation) Act and Land Acquisition Reform 2016 process</li> <li>Consultation with affected business owners and provide support as required in identifying alternative commercial properties</li> </ul> | Low                                   | Low       | Low          |
| Business impacts          | Total acquisition of commercial properties within the operation footprint                 | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"> <li>Provide appropriate compensation in accordance with NSW Land Acquisition (Just Terms Compensation) Act and Land Acquisition Reform 2016 process</li> </ul>                                                                                                                                      | Low                                   | Low       | Low          |
|                           | Partial acquisition of commercial properties within the operation footprint               | Low                                      | Low       | Low          | <ul style="list-style-type: none"> <li>Minimise the extent of the project footprint and/or impact on commercial properties</li> <li>Provide appropriate compensation in accordance with NSW Land Acquisition (Just Terms Compensation) Act and Land Acquisition Reform 2016 process</li> </ul>                                         | Low                                   | Neg       | Neg          |

| Element                  | Summary of Impact                                                                          | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                                                                            | Impact significance (with mitigation) |           |              |
|--------------------------|--------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                          |                                                                                            | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                                                                                | Sensitivity                           | Magnitude | Significance |
| Western Sydney Parklands | Loss of recreational land at Western Sydney Parklands within the operation footprint       | High                                     | Low       | Mod          | <ul style="list-style-type: none"> <li>Minimise extent of area impacted by the operation footprint</li> </ul>                                                                                                                                                                                  | High                                  | Low       | Mod          |
|                          | Impact on Wylde Mountain Bike Trail due to the location of the project corridor            | High                                     | High      | High         | <ul style="list-style-type: none"> <li>Redesign and relocation of the Wylde Mountain Bike Trail by Western Sydney Parklands Trust</li> </ul>                                                                                                                                                   | High                                  | Low       | Mod          |
|                          | Fragmentation of land within Western Sydney Parklands                                      | High                                     | Mod       | High-mod     | <ul style="list-style-type: none"> <li>Mitigated in the planning phase</li> </ul>                                                                                                                                                                                                              | High                                  | Mod       | High-mod     |
|                          | Impact on access to Sydney International Shooting Centre                                   | High                                     | Low       | Mod          | <ul style="list-style-type: none"> <li>Maintain access to the shooting centre through modification of the existing access</li> </ul>                                                                                                                                                           | High                                  | Neg       | Neg          |
|                          | Direct impacts on walking and cycling tracks due to the siting of the operation footprint  | High                                     | Mod       | High-mod     | <ul style="list-style-type: none"> <li>Reinstate/realign affected walking and cycling tracks as part of the project</li> </ul>                                                                                                                                                                 | High                                  | Low       | Mod          |
| University of Sydney     | Direct impact on land within The University of Sydney Fleurs Farms and McGarvie Smith Farm | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"> <li>Minimise the extent of the project footprint and/or impact on commercial properties</li> <li>Provide appropriate compensation in accordance with NSW Land Acquisition (Just Terms Compensation) Act and Land Acquisition Reform 2016 process</li> </ul> | Low                                   | Low       | Low          |
|                          | Fragmentation of land with The University of Sydney Fleurs Farms and McGarvie Smith Farm   | Low                                      | Mod       | Mod-low      | <ul style="list-style-type: none"> <li>Establishment of new access roads/ bridge crossings connecting to residual land</li> </ul>                                                                                                                                                              | Low                                   | Low       | Low          |

| Element            | Summary of Impact                                                                                                        | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                                                                                                                                                          | Impact significance (with mitigation) |           |              |
|--------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                    |                                                                                                                          | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                                                                                                                                                              | Sensitivity                           | Magnitude | Significance |
| Construction phase |                                                                                                                          |                                          |           |              |                                                                                                                                                                                                                                                                                                                                                                              |                                       |           |              |
| Property impact    | Temporary lease of land for construction works                                                                           | Mod                                      | Low       | Low          | <ul style="list-style-type: none"><li>Provide appropriate compensation for lease of land</li></ul>                                                                                                                                                                                                                                                                           | Low                                   | Low       | Low          |
| Land use           | Temporary disruption to land uses impacted by construction compounds                                                     | Mod                                      | Low       | Low          | <ul style="list-style-type: none"><li>Minimise the extent of area impacted by the construction footprint, where possible</li><li>Provide appropriate compensation for lease of land</li><li>Reinstatement and rehabilitation of land following construction</li></ul>                                                                                                        | Low                                   | Low       | Low          |
|                    | Temporary impact on agricultural uses associated with the location of the construction compounds                         | Low                                      | Low       | Low          | <ul style="list-style-type: none"><li>Minimise the extent of area impacted by the construction footprint, where possible</li><li>Provide appropriate compensation for lease of land</li><li>Reinstatement and rehabilitation of land following construction</li></ul>                                                                                                        | Low                                   | Low       | Low          |
|                    | Temporary impact on agricultural infrastructure (eg dams, fencing, sheds, etc) from the siting of construction compounds | Low                                      | Mod       | Mod-low      | <ul style="list-style-type: none"><li>Minimise the extent of area impacted by the construction footprint, where possible</li><li>Temporary/ permanent relocation and/or reconstruction of affected infrastructure, as agreed with affected property owners</li><li>Consultation with property owners</li><li>Reinstatement of infrastructure temporarily relocated</li></ul> | Low                                   | Low       | Low          |



| Element                   | Summary of Impact                                                                                                                             | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                | Impact significance (with mitigation) |           |              |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                           |                                                                                                                                               | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                    | Sensitivity                           | Magnitude | Significance |
|                           | Increased risk of the spread of weeds and pests between properties due to the movement of vehicles                                            | Low                                      | Low       | Low          | <ul style="list-style-type: none"> <li>Implementation of environmental management measures and procedures</li> </ul>                                                                               | Low                                   | Low       | Low          |
| Population and demography | Temporary changes due to influx of construction workers                                                                                       | Neg                                      | Neg       | Neg          | <ul style="list-style-type: none"> <li>No mitigation required</li> </ul>                                                                                                                           | Neg                                   | Neg       | Neg          |
| Business impacts          | Impacts on business amenity                                                                                                                   | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Implementation of environmental and traffic management measures</li> <li>Consultation with affected businesses during construction</li> </ul>               | Mod                                   | Low       | Mod-low      |
|                           | Impacts of construction dust on horticultural businesses                                                                                      | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"> <li>Implementation of dust mitigation measures</li> <li>Consultation with horticultural businesses near to construction works</li> </ul>                        | Low                                   | Low       | Low          |
|                           | Impacts on business activities of Kemp Creek Sports and Bowling Club due to the proximity to construction works (eg weddings, outdoor dining) | Mod                                      | High      | High-mod     | <ul style="list-style-type: none"> <li>Implementation of environmental and traffic management measures</li> <li>Consultation with manager of sports club during construction</li> </ul>            | Mod                                   | Mod       | Mod          |
| Social infrastructure     | Increased noise, dust and construction traffic impacting on amenity for users and workers of social infrastructure                            | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Implementation of environmental and traffic management measures</li> <li>Consultation with managers of social infrastructure during construction</li> </ul> | Mod                                   | Low       | Mod-low      |

| Element          | Summary of Impact                                                                                                                              | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                                             | Impact significance (with mitigation) |           |              |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                  |                                                                                                                                                | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                                                 | Sensitivity                           | Magnitude | Significance |
|                  | Impact on access to social infrastructure due to changes in local access and traffic disruptions                                               | Mod                                      | Mod       | Mod-low      | <ul style="list-style-type: none"> <li>Maintain access to social infrastructure near the project</li> <li>Implement construction traffic management measures</li> </ul>                                                                                         | Mod                                   | Low       | Mod-low      |
|                  | Impact on sport and recreation facilities at Kemp Creek Sports and Bowling Club due to the proximity to construction works (eg bowling greens) | Mod                                      | High      | High-mod     | <ul style="list-style-type: none"> <li>Implementation of environmental and traffic management measures</li> <li>Consultation with managers of sports club during construction</li> </ul>                                                                        | Mod                                   | Mod       | Mod          |
| Community values | Changes to local amenity                                                                                                                       | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Implementation of environmental and traffic management measures</li> <li>Consultation with affected communities during construction</li> </ul>                                                                           | Mod                                   | Low       | Mod-low      |
|                  | Changes in night-time amenity impacting on health and wellbeing                                                                                | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Minimise extent and duration of night-time works, where possible</li> <li>Implementation of environmental and traffic management measures</li> <li>Consultation with affected communities during construction</li> </ul> | Mod                                   | Low       | Mod-low      |
|                  | Potential impacts on health due to increase in construction dust                                                                               | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"> <li>Implementation of dust mitigation measures</li> <li>Consultation with local communities about activities that may generate high dust levels</li> </ul>                                                                   | Mod                                   | Neg       | Neg          |
|                  | Impacts on community perceptions relating to road safety                                                                                       | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"> <li>Implementation of traffic management measures</li> <li>Notification of local communities and motorist about traffic changes</li> </ul>                                                                                   | Mod                                   | Neg       | Neg          |

| Element                 | Summary of Impact                                                                                                         | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                                 | Impact significance (with mitigation) |           |              |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                         |                                                                                                                           | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                                     | Sensitivity                           | Magnitude | Significance |
|                         | Removal of established vegetation within the construction areas                                                           | High                                     | Mod       | High-mod     | <ul style="list-style-type: none"> <li>Minimise extent of clearing</li> <li>Establishment of replacement planting following construction</li> </ul>                                                                                                 | High                                  | Low       | Mod          |
| Access and connectivity | Temporary changes to property access near to construction works                                                           | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Maintain access to properties during construction</li> <li>Consultation with affected property owners to confirm temporary access arrangements, where required</li> </ul>                                    | Mod                                   | Low       | Mod-low      |
|                         | Use of local roads by construction traffic resulting in increased congestion, delays and disruptions                      | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Implementation of traffic management measures</li> <li>Notification of local communities and motorist about traffic changes</li> </ul>                                                                       | Mod                                   | Low       | Mod-low      |
|                         | Delays and disruptions to bus users due to road changes and temporary relocation of bus stops                             | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Minimising number of changes to bus stops and locating temporary bus stops as close as possible to existing stops</li> <li>Notification of local communities and bus users about proposed changes</li> </ul> | Mod                                   | Low       | Mod-low      |
|                         | Changes to pedestrian and cycle paths                                                                                     | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Maintain access during construction</li> <li>Implementation of traffic management measures</li> <li>Notification of local communities and users of local paths about proposed changes</li> </ul>             | Mod                                   | Low       | Mod-low      |
| Cumulative impacts      | Extended/ increased disruption or disturbance for local communities due to concurrent or subsequent construction projects | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Engagement with other project proponents to coordinate construction activities, where possible, to minimise impacts</li> </ul>                                                                               | Mod                                   | Low       | Mod-low      |

| Element               | Summary of Impact                                                                     | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                                                                                               | Impact significance (with mitigation) |           |              |
|-----------------------|---------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                       |                                                                                       | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                                                                                                   | Sensitivity                           | Magnitude | Significance |
| Operational phase     |                                                                                       |                                          |           |              |                                                                                                                                                                                                                                                                                                                   |                                       |           |              |
| Property impact       | Permanent changes to property access due to closure of local roads                    | Low                                      | Mod       | Mod-Low      | <ul style="list-style-type: none"><li>Maintain property access through adjustments to existing access and/or establishment of new access roads/ bridge crossings connecting to residual land</li><li>Consultation with affected property owners about proposed access changes</li></ul>                           | Low                                   | Low       | Low          |
| Business impacts      | Impacts on businesses due to the bypass of Kemps Creek                                | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"><li>Communication to local communities and business customers about local access changes</li><li>Provide support to business owners to communicate with their customers (eg timely provision of information about proposed access changes)</li></ul>                            | Low                                   | Low       | Low          |
|                       | Impacts on business amenity from project operations (eg traffic noise, visual values) | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"><li>Implementation of noise mitigation measures in project design as identified through noise assessment</li></ul>                                                                                                                                                              | Low                                   | Low       | Low          |
| Social infrastructure | Changes in access to social infrastructure due to the bypass of Kemps Creek           | Mod                                      | Low       | Mod-low      | <ul style="list-style-type: none"><li>Communication to local communities and social infrastructure users about local access changes</li><li>Provide support to managers of social infrastructure to communicate with their customers (eg timely provision of information about proposed access changes)</li></ul> | Low                                   | Low       | Low          |
|                       | Changes in amenity for Kemps Creek Sports and Bowling Club                            | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"><li>Implementation of noise mitigation measures in project design as identified through noise assessment</li></ul>                                                                                                                                                              | Mod                                   | Low       | Mod-low      |



| Element                 | Summary of Impact                                                                 | Impact significance (without mitigation) |           |              | Management measures                                                                                                                                                                                                                           | Impact significance (with mitigation) |           |              |
|-------------------------|-----------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------|--------------|
|                         |                                                                                   | Sensitivity                              | Magnitude | Significance |                                                                                                                                                                                                                                               | Sensitivity                           | Magnitude | Significance |
| Community values        | Changes in amenity due to increased traffic noise and light spill                 | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Implementation of noise mitigation measures in project design as identified through noise assessment</li> <li>Design of lighting to minimise potential for light spill into adjoining areas</li> </ul> | Mod                                   | Low       | Mod-low      |
|                         | Changes to visual amenity                                                         | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Incorporation of urban design measures into the project design, including landscaping</li> </ul>                                                                                                       | Mod                                   | Low       | Mod-low      |
|                         | Community concerns about impacts on natural features such as creeks and waterways | High                                     | Mod       | High-mod     | <ul style="list-style-type: none"> <li>Incorporation of management measures into the design (eg detention basins)</li> </ul>                                                                                                                  | High                                  | Low       | Mod          |
| Access and connectivity | Changes to local access due to road closures                                      | Mod                                      | Mod       | Mod          | <ul style="list-style-type: none"> <li>Maintain access through establishment of new access roads/ bridge crossings</li> <li>Notification of affected communities about proposed changes</li> </ul>                                            | Mod                                   | Low       | Mod-low      |

## 8. Environmental management measures

This section provides an overview of the measures to manage socio-economic, land use and property impacts of the project's construction and operation. It provides an overview of the broad objectives for management of socio-economic, land use and property impacts, as well as key strategies for addressing various issues.

### 8.1 Expected environmental outcomes

Project-specific environmental management measures have been developed with the aim of minimising or mitigating, as far as practical, potential socio-economic, land use and property impacts of the project's construction and operation.

Broadly, the expected environmental outcomes of the environmental management measures are to avoid or minimise impacts on communities, businesses and social infrastructure from the construction and operation of the project. Broad outcomes that would be achieved through:

- Implementation of environmental management measures, for example noise and dust mitigation, and traffic management strategies
- Early and ongoing consultation and communication to ensure local and regional communities, businesses, transport users and managers of community facilities are informed about the project's construction and operation
- Relocation of affected farm infrastructure prior to construction and in consultation with affected property owners.

### 8.2 Expected effectiveness

Roads and Maritime have experience in managing potential impacts on local and regional communities and businesses as a result of road developments of a similar scale and scope to this project. As such, the environmental management measures outlined in **Table 8-1** are expected to be effective.

A Construction Environmental Management Plan (CEMP) will be prepared prior to construction to address the requirements of the project approvals, the environmental management measures outlined in the EIS and all applicable legislation.

Audits and reporting on the effectiveness of environmental management measures is generally carried out to show compliance with management plans and other relevant approvals and would be outlined in detail in the CEMP prepared for the project.

### 8.3 Socio-economic environmental management measures

Recommended measures to mitigate or manage socio-economic, land use and property impacts generated during the construction and operation of the project are summarised in **Table 8-1**.

Table 8-1 Summary of environmental management measures

| Impact                | Ref   | Environmental management measures                                                                                                                                                                                                                                                                                                                                                                   | Responsibility                  | Timing                                     |
|-----------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------|
| Property acquisition  | SLP01 | Areas of land leased for the purposes of construction will be reinstated at the end of the lease to at least equivalent standard in consultation with the landowner.                                                                                                                                                                                                                                | Contractor                      | During construction                        |
|                       | SLP02 | All partial and full acquisitions and associated property adjustments will be undertaken in accordance with the requirements of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> and the Land acquisition reform 2016 in consultation with landowners. This will include the provision of monetary compensation determined in accordance with the provisions of the Act.              | Roads and Maritime              | Prior to construction                      |
|                       | SLP03 | A Personal Manager – Acquisition (PMA) will be appointed to assist land owners and residents who may be affected by acquisition requirements for the project. The PMA will provide ongoing support for relocated persons, including dispute resolution and counselling, and provision of contact information for relevant services.                                                                 | Roads and Maritime              | Detailed design                            |
|                       | SLP04 | Property adjustments including replacement of farm infrastructure such as fencing and property access will be relocated prior to works that impact the property and in consultation with property owners/ business managers.                                                                                                                                                                        | Contractor / Roads and Maritime | Prior to construction, during construction |
| Utility impacts       | SLP05 | The project will be designed with the aim of minimising impacts on existing utilities and services, in consultation with utility owners and/or providers of services where feasible and reasonable.                                                                                                                                                                                                 | Contractor / Roads and Maritime | Detailed design                            |
|                       | SLP06 | Utility owners and/or providers of services will be identified and consulted with prior to works commencing, to determine the requirements for access to, protection of, or relocation of services. Disruption to services will be minimised. Disruption to existing services will be minimised where feasible and local residents and businesses will be notified prior to any planned disruption. | Contractor                      | Prior to construction                      |
| Agricultural land use | SLP07 | Construction activities will be planned to minimise disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable (e.g. stock access, access to farm dams, etc) unless otherwise agreed by the landowner.                                                                                                                                       | Contractor                      | Prior to construction                      |

| Impact                          | Ref   | Environmental management measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Responsibility                  | Timing                                        |
|---------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------|
| Social infrastructure           | SLP08 | Adjustments to facilities in Western Sydney Parklands (eg walking and cycling trails and Sydney International Shooting Centre access) will be undertaken in consultation with the Western Sydney Parklands Trust.                                                                                                                                                                                                                                                                                                                                                                                                                    | Roads and Maritime / Contractor | Prior to construction and during construction |
|                                 | SLP09 | Roads and Maritime will continue to work with Western Sydney Parklands Trust to support their delivery of a replacement for the Wylde Mountain Bike Trail by Western Sydney Parklands Trust.                                                                                                                                                                                                                                                                                                                                                                                                                                         | Roads and Maritime              | Prior to construction                         |
| Impacts to community facilities | SLP10 | <p>Ongoing consultation regarding management of potential impacts will be undertaken in accordance with the Community Communication Strategy with the following community facilities:</p> <ul style="list-style-type: none"> <li>• Kemps Creek Sporting and Bowling Club</li> <li>• Kemps Creek Cougars Baseball Club</li> <li>• Science of the Soul Study Centre</li> <li>• Muhammadi Welfare Association of Australia</li> <li>• Schools such as Kemps Creek Public School and Christadelphian Heritage College, and Irfan College</li> <li>• Western Sydney Parklands</li> <li>• Sydney International Shooting Centre.</li> </ul> | Roads and Maritime / Contractor | Prior to construction and during construction |
| Construction fatigue            | SLP11 | Construction fatigue would be managed in accordance with the Construction Fatigue Protocol to be prepared for the project as part of the Community Communication Strategy.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Roads and Maritime / Contractor | Prior to construction and during construction |
| Impacts to businesses           | SLP12 | On-going consultation will be undertaken with local business owners that may be impacted during construction (including owners of agricultural businesses) in accordance with the Community Communication Strategy for the project.                                                                                                                                                                                                                                                                                                                                                                                                  | Contractor / Roads and Maritime | Prior to construction and during Construction |
|                                 | SLP13 | A business impact register will be established and maintained for the duration of construction to identify and manage specific impacts on individual businesses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Contractor                      | Prior to construction and during construction |



## 9. Conclusions

This working paper assesses potential socio-economic, land use and property impacts associated with the construction and operation of the M12 Motorway (the project).

The project is located within western Sydney and connects the M7 Motorway at Cecil Hills with The Northern Road at Luddenham, and Elizabeth Drive at Badgerys Creek. Existing land uses within the primary study area comprise a mix of rural and agricultural uses, recreation uses within Western Sydney Parklands, commercial, industrial and residential land uses. The site of the Western Sydney Airport at Badgerys Creek is located to the south of Elizabeth Drive on land that is currently mainly used for agricultural purposes.

The primary study area has a residential population of about 31,459 people in June 2017. The main residential areas near the project corridor include rural residential communities at Kemps Creek and Mount Vernon, and urban residential uses at Cecil Hills. The primary study area and surrounding region comprises areas identified for future growth and development, including the Western Sydney Aerotropolis and South West Growth Area. This will drive growth in population and employment and changes in land use within the primary and secondary study areas.

Once operational, the project would have long term beneficial impacts for local and regional communities, business and industry through improved regional connections and links to key population and employment growth areas in western Sydney, including the Western Sydney Airport and associated Western Sydney Aerotropolis, and South West Growth Area. The project would also integrate with future transport infrastructure, creating strategic links and connections throughout western Sydney and the greater Sydney area and supporting reduced congestion and improved travel times for local and regional communities, business and industry. The provision of a controlled access motorway would help to improve traffic safety for road users.

At a local level, the project would improve access and connectivity for motorists and other road users to areas and facilities surrounding the project, including Western Sydney Parklands. Elizabeth Road will continue to provide access for local communities at Cecil Park, Mount Vernon and Kemps Creek. Changes to local access for some properties would be required due to the location of the project corridor, requiring realignment or closure of some local roads either side of the corridor.

The environmental management measures identified in **Section 8** would generally be effective in mitigation potential socio-economic, land use and property impacts of the project, during both construction and operation to an acceptable level. However, it is expected that some residual impacts would remain following implementation of management measures. A summary of these residual impacts is presented below, including reasoning as to why avoidance or mitigation of these impacts would not be achieved.

### 9.1 Construction

Potential residual impacts that may occur during construction include:

- Short-term changes to traffic and access, including reduced travel speeds, increased delays near construction works and temporary changes to accessibility for pedestrians and cyclists. This may require some motorists, pedestrians or cyclists to travel further to reach their destination. This would be necessary to ensure construction work is carried out safely.
- Short-term changes in local amenity for some residents, businesses and visitors near the project, associated with increased noise and dust. Overall, these impacts would be temporary and are expected to be managed to an acceptable level, although, some people may experience ongoing amenity impacts that affect the use and enjoyment of their property.

## 9.2 Operation

Potential residual impacts that may occur during the project's operation may include:

- Impacts on community cohesion through disruption to social networks and community relationships. This impact would be associated with property acquisition for the project and would mainly relate to individuals who are required to move away from the area. It is not expected to impact on levels of community cohesion in the overall socio-economic study area
- Permanent loss of some land used for agricultural, commercial and residential uses, associated with acquisition of property and change in land use to transport corridor. This would be necessary due to the design of the project and is not expected to be significant in the context of the region
- Changes in local access and connectivity for residents, businesses and visitors. These changes may require some motorists to travel further to access residential properties, businesses and other facilities near the project and within surrounding areas. This would be necessary due to the design of the project.

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# Annexure A

Business survey forms and survey outcomes



April 2018

Dear Business Owner/Manager

**The M12 Motorway environmental impact assessment – Business Survey**

Roads and Maritime Services propose to build the M12 Motorway to provide the main access between Western Sydney Airport and Sydney's motorway network. The M12 Motorway would run east-west between the Westlink M7 Motorway, Cecil Hills and The Northern Road, Luddenham, a distance of around 16 kilometres (the project).

The Jacobs-Arcadis Joint Venture (JAJV) has been engaged by Roads and Maritime to develop a concept design for the project, and to investigate environmental impacts. This includes a detailed socio-economic assessment, which will assess the potential impact of the project on local businesses and communities.

This survey aims to gather information on local businesses in the study area. Your participation is important to help the project team better understand the business environment and assess the potential impact of the project's construction and operation on businesses.

The survey should take about 10-15 minutes to complete. A member of the JAJV project team can help you to complete the survey or you can complete it online at: <https://www.surveymonkey.com/r/8CLTPVR>.

Information from the survey will be presented in the socio-economic assessment report. No names or details will be made publicly available in order to ensure anonymity.

If you would like information about the project, please contact the Roads and Maritime project team on:

- Phone: 1800 703 457 (toll free).
- Email: [wsip@rms.nsw.gov.au](mailto:wsip@rms.nsw.gov.au).
- Mail: M12 Motorway, Roads and Maritime Services, PO Box 973, Parramatta NSW 2124.

Thank you for your participation.

Yours sincerely

Deanne Forrest

Project Manager, M12 Motorway  
Roads and Maritime Services

# M12 Motorway – Business Survey

Good morning/afternoon, my name is \_\_\_\_\_ and I'm from Jacobs. I am visiting on behalf of Roads and Maritime Services. Roads and Maritime is currently planning to build the M12 Motorway to provide the main access between Western Sydney Airport and Sydney's motorway network. Jacobs is undertaking an investigation of issues which influence the businesses located near the project.

Business name (optional):

Business address (optional):

Contact details (optional):

## Survey questions

### Question 1: Are you aware of the M12 Motorway project?

|                          |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Yes

No

### Question 2: Where is your business located?

|                          |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Elizabeth Drive, Kemps Creek

Mamre Road, Kemps Creek

Other (please specify)

### Question 3: Which of the following industries best describes your business?

|                          |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
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| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Agriculture, forestry and fishing

Mining

Manufacturing

Electricity, gas, water and waste services

Construction

Wholesale trade

Retail trade

Accommodation and food services

Transport, postal and warehousing

Information, media and telecommunications

Financial and insurance services

Rental, hiring and real estate services

Professional, scientific and technical services

Administrative and support services

Public administration and safety

Education and training

Health care and social assistance

Arts and recreation services

Other (please specify)

### Question 4: What is the nature of your business?

|                          |
|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Agricultural business – crop growing

Agricultural business – poultry farming

Agricultural business – livestock farming

|                          |                                                                                           |       |
|--------------------------|-------------------------------------------------------------------------------------------|-------|
| <input type="checkbox"/> | Agricultural business – other (please describe)                                           | _____ |
| <input type="checkbox"/> | Manufacturing – food products                                                             |       |
| <input type="checkbox"/> | Manufacturing – metal products                                                            |       |
| <input type="checkbox"/> | Manufacturing – machinery and equipment                                                   |       |
| <input type="checkbox"/> | Manufacturing – other (please describe)                                                   | _____ |
| <input type="checkbox"/> | Construction – building construction                                                      |       |
| <input type="checkbox"/> | Construction – construction services                                                      |       |
| <input type="checkbox"/> | Construction – other (please describe)                                                    | _____ |
| <input type="checkbox"/> | Wholesaling – building products                                                           |       |
| <input type="checkbox"/> | Wholesaling – machinery and equipment                                                     |       |
| <input type="checkbox"/> | Wholesaling – other (please describe)                                                     | _____ |
| <input type="checkbox"/> | Service station                                                                           |       |
| <input type="checkbox"/> | Supermarket/grocery store/food store                                                      |       |
| <input type="checkbox"/> | Retail – hardware, building, garden supplies                                              |       |
| <input type="checkbox"/> | Retail – household/electrical goods                                                       |       |
| <input type="checkbox"/> | Retail – other (please describe)                                                          | _____ |
| <input type="checkbox"/> | Take-away                                                                                 |       |
| <input type="checkbox"/> | Café/restaurant                                                                           |       |
| <input type="checkbox"/> | Pub/club/tavern                                                                           |       |
| <input type="checkbox"/> | Machinery/equipment hire                                                                  |       |
| <input type="checkbox"/> | Repair and maintenance (for example, crash repair, mechanic, machinery/ equipment repair) |       |
| <input type="checkbox"/> | Personal services (for example, hairdresser)                                              |       |
| <input type="checkbox"/> | Other (please describe)                                                                   | _____ |

**Question 5: How long has your business been operating in its current location?**

|                          |                     |                          |                                     |
|--------------------------|---------------------|--------------------------|-------------------------------------|
| <input type="checkbox"/> | Less than 12 months | <input type="checkbox"/> | 6-10 years                          |
| <input type="checkbox"/> | 1-2 years           | <input type="checkbox"/> | 11-20 years                         |
| <input type="checkbox"/> | 3-5 years           | <input type="checkbox"/> | More than 20 years (please specify) |

**Question 6: How many people does your business employ (including yourself)?**

|                          |             |                          |                                      |
|--------------------------|-------------|--------------------------|--------------------------------------|
| <input type="checkbox"/> | One         | <input type="checkbox"/> | 11-20 people                         |
| <input type="checkbox"/> | 2-5 people  | <input type="checkbox"/> | 21-50 people                         |
| <input type="checkbox"/> | 6-10 people | <input type="checkbox"/> | More than 50 people (please specify) |

**Question 7: Who are your primary customers?**

|                          |                               |
|--------------------------|-------------------------------|
| <input type="checkbox"/> | Persons working/living local  |
| <input type="checkbox"/> | Passing trade from the street |
| <input type="checkbox"/> | Visitors/tourism              |
| <input type="checkbox"/> | Other (please describe)       |



**Question 8: How much of your business is generated from passing trade?**

|                          |               |
|--------------------------|---------------|
| <input type="checkbox"/> | Less than 25% |
| <input type="checkbox"/> | 25 to 50%     |
| <input type="checkbox"/> | 50 to 75%     |
| <input type="checkbox"/> | More than 75% |
| <input type="checkbox"/> | Unsure        |

**Question 9: What are your main trading days?**

|                          |           |
|--------------------------|-----------|
| <input type="checkbox"/> | Monday    |
| <input type="checkbox"/> | Tuesday   |
| <input type="checkbox"/> | Wednesday |
| <input type="checkbox"/> | Thursday  |
| <input type="checkbox"/> | Friday    |
| <input type="checkbox"/> | Saturday  |
| <input type="checkbox"/> | Sunday    |

**Question 10: What are your general operating times?**

|                              | Weekdays                 | Saturday                 | Sunday                   |
|------------------------------|--------------------------|--------------------------|--------------------------|
| Opening times                |                          |                          |                          |
| Before 5:00am                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5:00am to 6:30am             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7:00am to 9:30am             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10:00am to 12:00pm           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Closing times                |                          |                          |                          |
| 12:00pm to 3:30pm            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4:00pm to 6:30pm             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7:00pm to 9:30pm             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10:00pm to 12:00am           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (please specify) ..... |                          |                          |                          |

**Question 11: What impacts do you think the project may have on your business during the construction phase?**

|                                       | Significantly positive | Positive             | Neutral              | Negative             | Significantly negative | Not sure             |
|---------------------------------------|------------------------|----------------------|----------------------|----------------------|------------------------|----------------------|
| Business turnover                     | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Business visibility                   | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Passing trade                         | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Customer access                       | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Customer parking                      | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Employee access                       | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Employee parking                      | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Disturbance or disruption – noise     | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Disturbance or disruption – vibration | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Disturbance or disruption – dust      | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Vehicle access                        | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Other (please specify)                |                        |                      |                      |                      |                        |                      |

**Question 12: What impacts do you think the project may have on your business during the operational phase?**

|                                       | Significantly positive | Positive             | Neutral              | Negative             | Significantly negative | Not sure             |
|---------------------------------------|------------------------|----------------------|----------------------|----------------------|------------------------|----------------------|
| Business turnover                     | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Business visibility                   | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Passing trade                         | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Customer access                       | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Customer parking                      | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Employee access                       | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Employee parking                      | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Disturbance or disruption – noise     | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Disturbance or disruption – vibration | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Disturbance or disruption – dust      | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Vehicle access                        | <input type="text"/>   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>   | <input type="text"/> |
| Other (please specify)                |                        |                      |                      |                      |                        |                      |

**Question 13: What measures do you think could be put in place to maximise benefits/minimise impacts of the project?**

**Construction:** .....

**Operation:** .....

**Question 14: Are there any other matters that should be considered as part of this assessment?**

# M12 Motorway – Shopper Survey

Good morning/afternoon, my name is \_\_\_\_\_ and I'm from Jacobs. I am visiting on behalf of Roads and Maritime Services. Roads and Maritime is currently planning to build the M12 Motorway to provide the main access between Western Sydney Airport and Sydney's motorway network. Jacobs is undertaking an investigation of issues which influence the businesses located near the project. I'm wondering if I could have a few minutes of your time to answer some questions about your visit today?

Date:

Time:

Location:

## Survey questions

**Question 1: What is the purpose of your visit today? (may select more than one option)**

|                          |                                                |
|--------------------------|------------------------------------------------|
| <input type="checkbox"/> | Food/grocery shopping                          |
| <input type="checkbox"/> | Household, garden or electrical goods shopping |
| <input type="checkbox"/> | Petrol/service station                         |
| <input type="checkbox"/> | Personal business                              |
| <input type="checkbox"/> | Eating/drinking out                            |
| <input type="checkbox"/> | Accessing a service for business (ie delivery) |
| <input type="checkbox"/> | Repair and maintenance                         |
| <input type="checkbox"/> | Travelling through area                        |
| <input type="checkbox"/> | Visiting friend/s and/or relative/s            |
| <input type="checkbox"/> | Tourism                                        |
| <input type="checkbox"/> | Other (please specify)                         |

**Question 2: Where do you live?**

Postcode: .....

**Question 3: Where did you travel today?**

|                          |                        |
|--------------------------|------------------------|
| <input type="checkbox"/> | Home                   |
| <input type="checkbox"/> | Work                   |
| <input type="checkbox"/> | Other (please specify) |

**Question 4: Was your stop planned prior to your departure or was it spontaneous when passing through?**

|                          |             |
|--------------------------|-------------|
| <input type="checkbox"/> | Planned     |
| <input type="checkbox"/> | Spontaneous |

**Question 5: How did you travel here today?**

|                          |                               |
|--------------------------|-------------------------------|
| <input type="checkbox"/> | Car                           |
| <input type="checkbox"/> | On foot                       |
| <input type="checkbox"/> | Public transport (bus, train) |
| <input type="checkbox"/> | Other (please specify)        |



**Question 6: How frequently do you visit businesses in the area?**

|  |
|--|
|  |
|  |
|  |

Daily  
Weekly  
Monthly

|  |
|--|
|  |
|  |
|  |

More than once a year  
Once a year  
Less than once a year

**Question 7: Why did you choose to visit this location, as opposed to another location?**

|  |
|--|
|  |
|  |
|  |
|  |
|  |
|  |

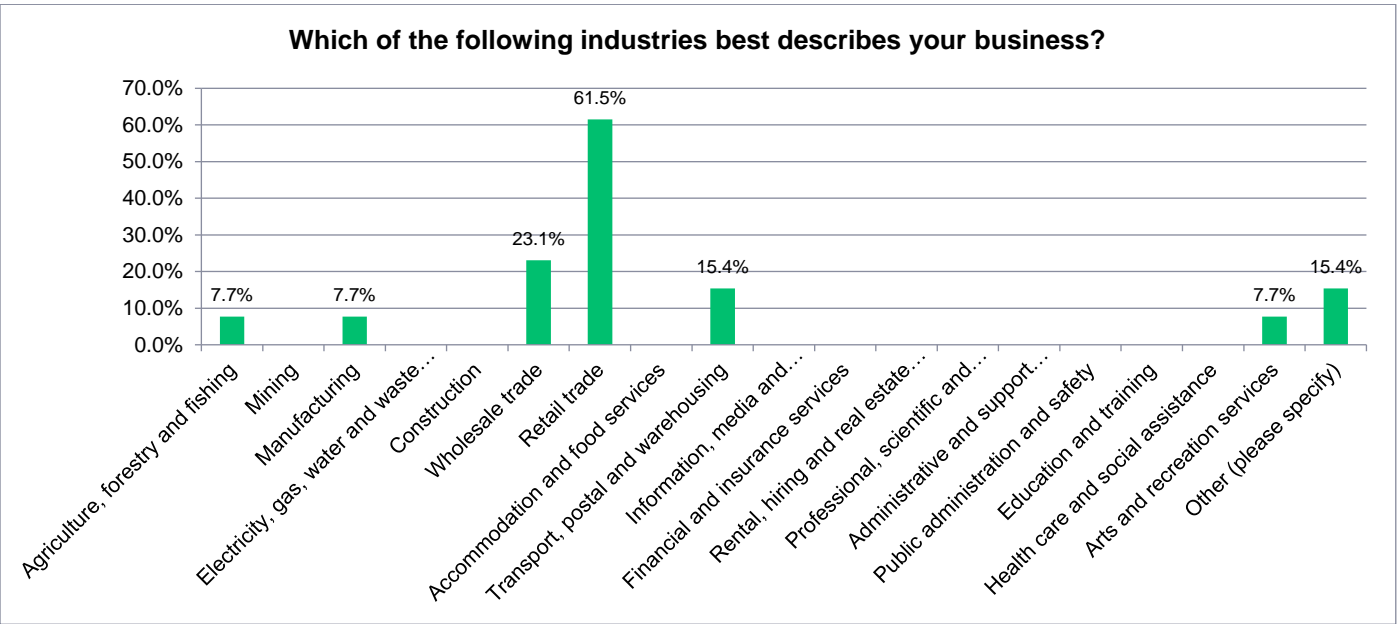
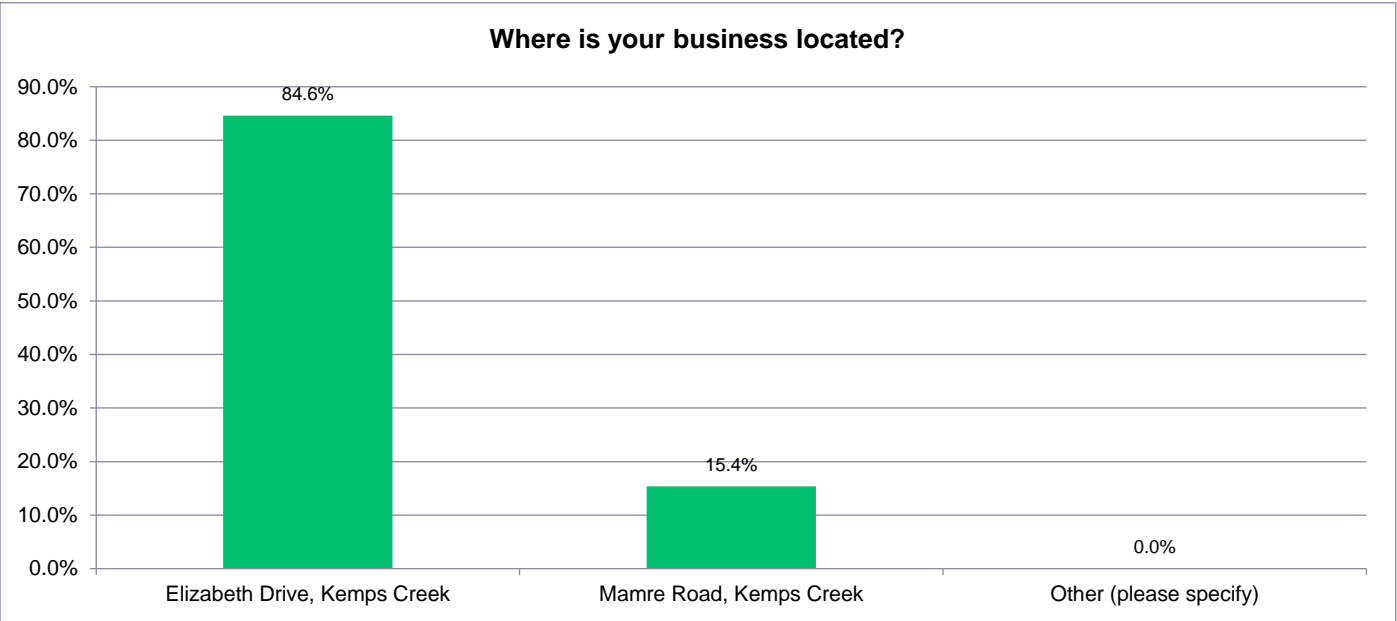
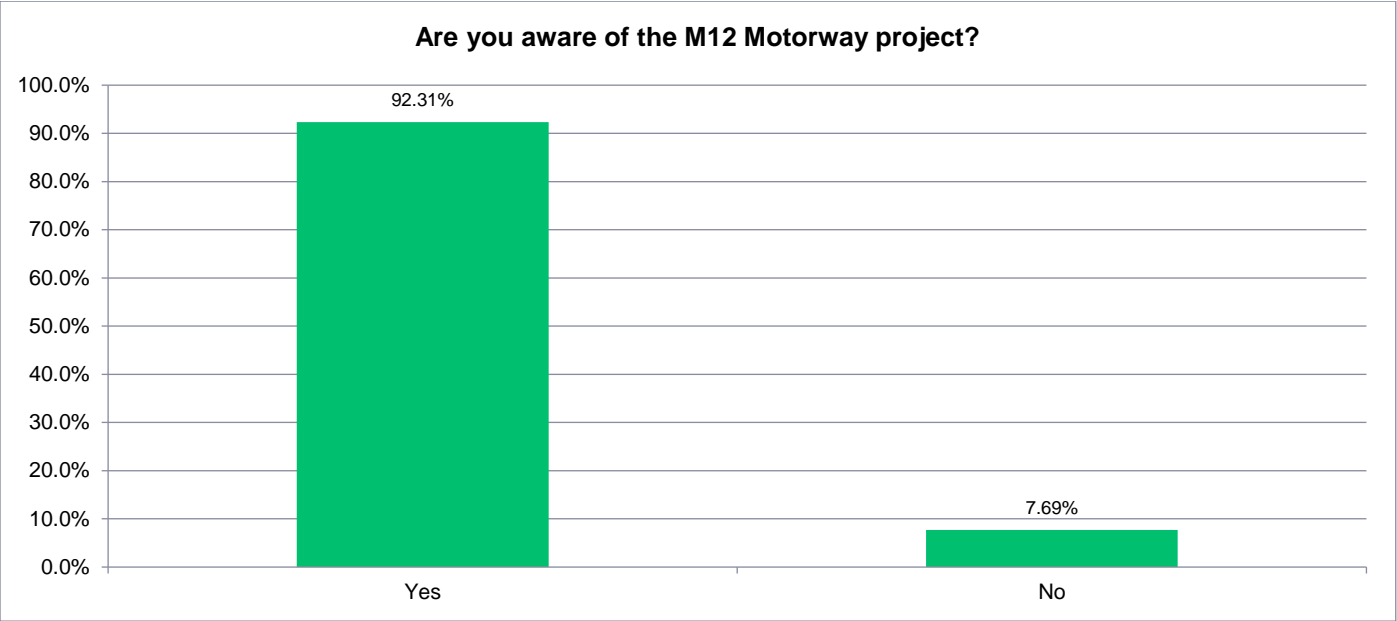
Close to home  
Easy to drive to  
For a particular product/service  
Easy to park  
Easy to walk to  
Other (please specify)

**Question 8: What impact does traffic have on your enjoyment of the area? (may select more than one option from 2 to 5)**

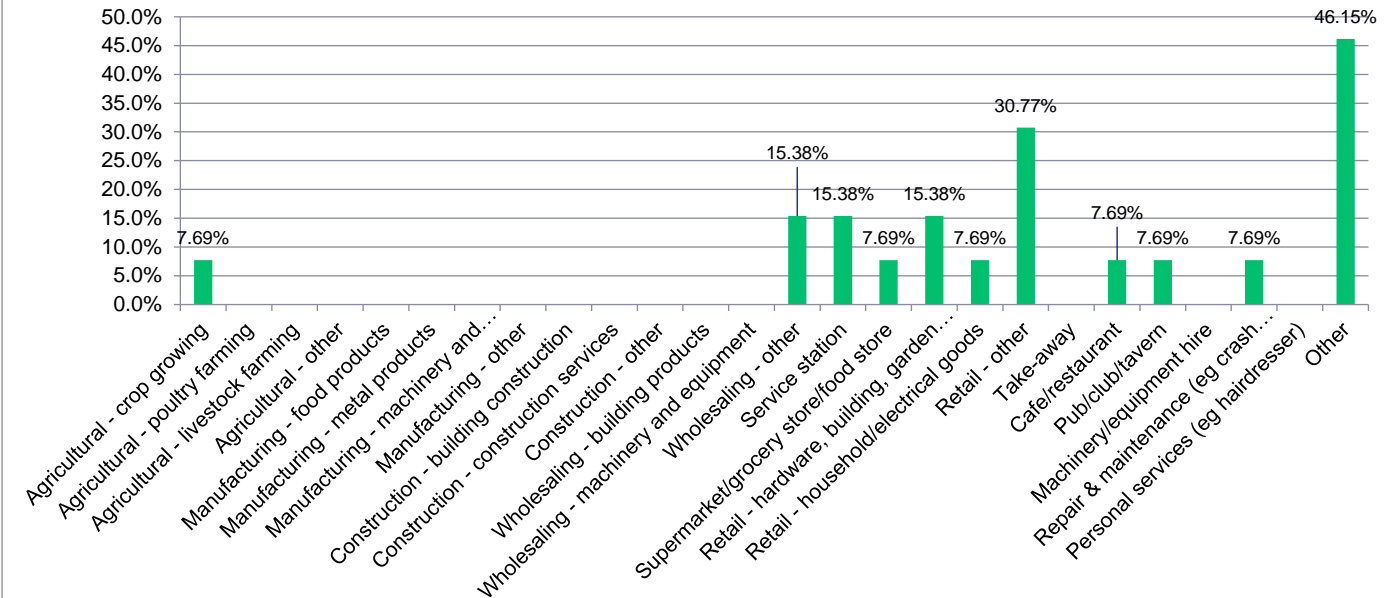
|  |
|--|
|  |
|  |
|  |
|  |
|  |
|  |
|  |

No impact  
It would be better with less traffic (due to less noise)  
It would be better with less traffic (due to easier access)  
It would be better with less traffic (other, please specify)  
.....  
It would be better with less traffic  
It would be better with more traffic  
Other (please specify)

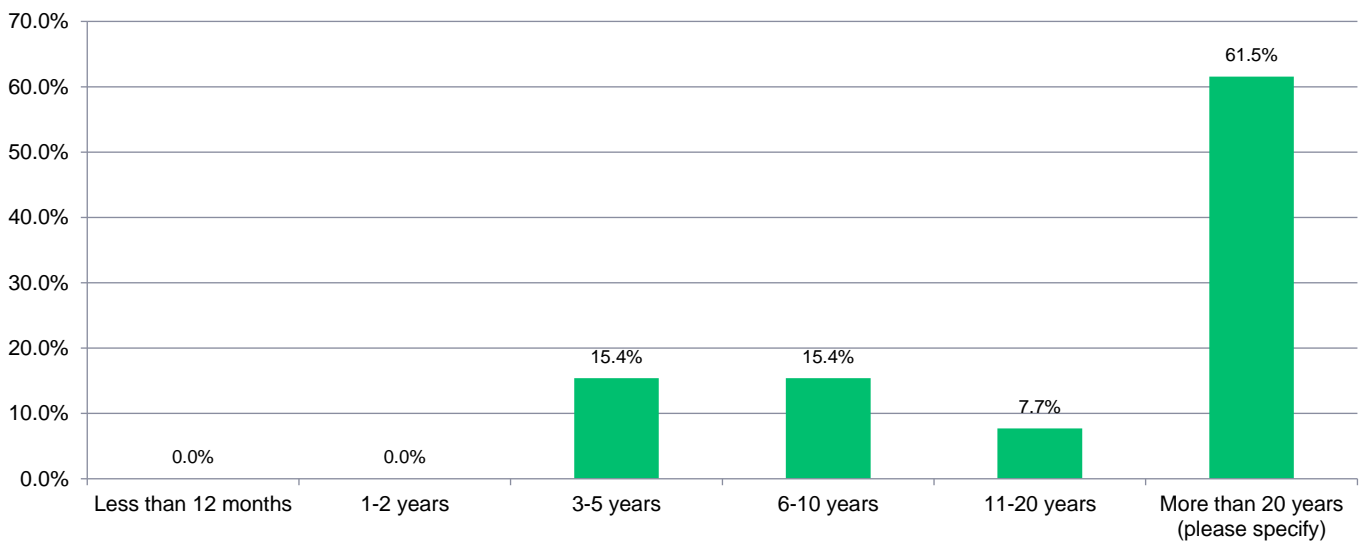
# Business survey results



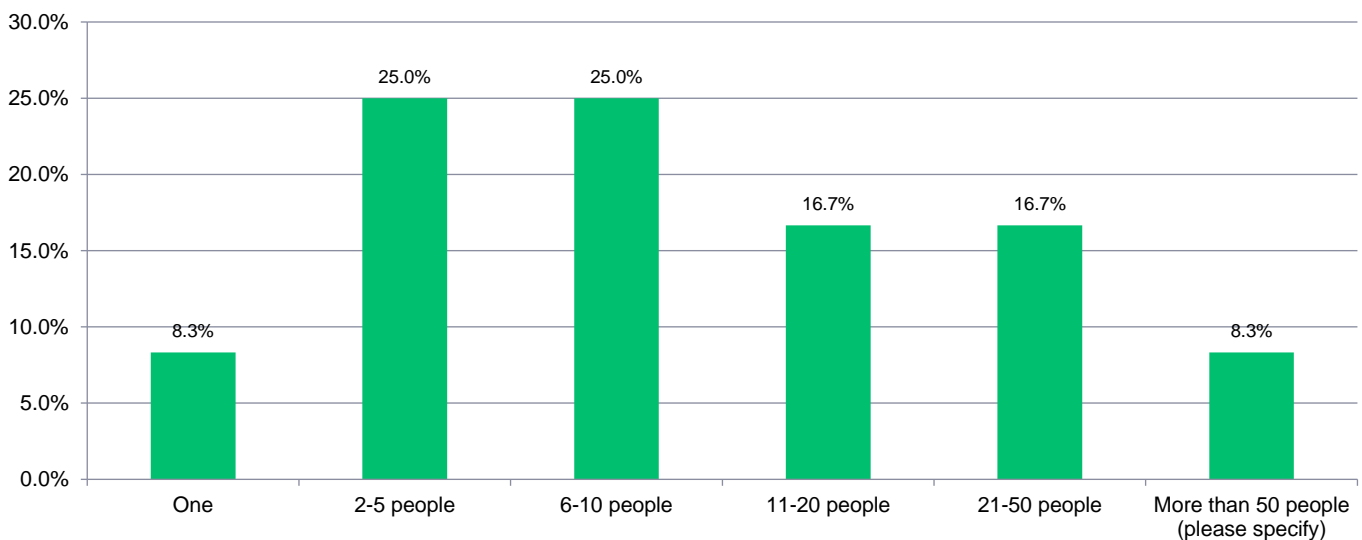
### What is the nature of your business?



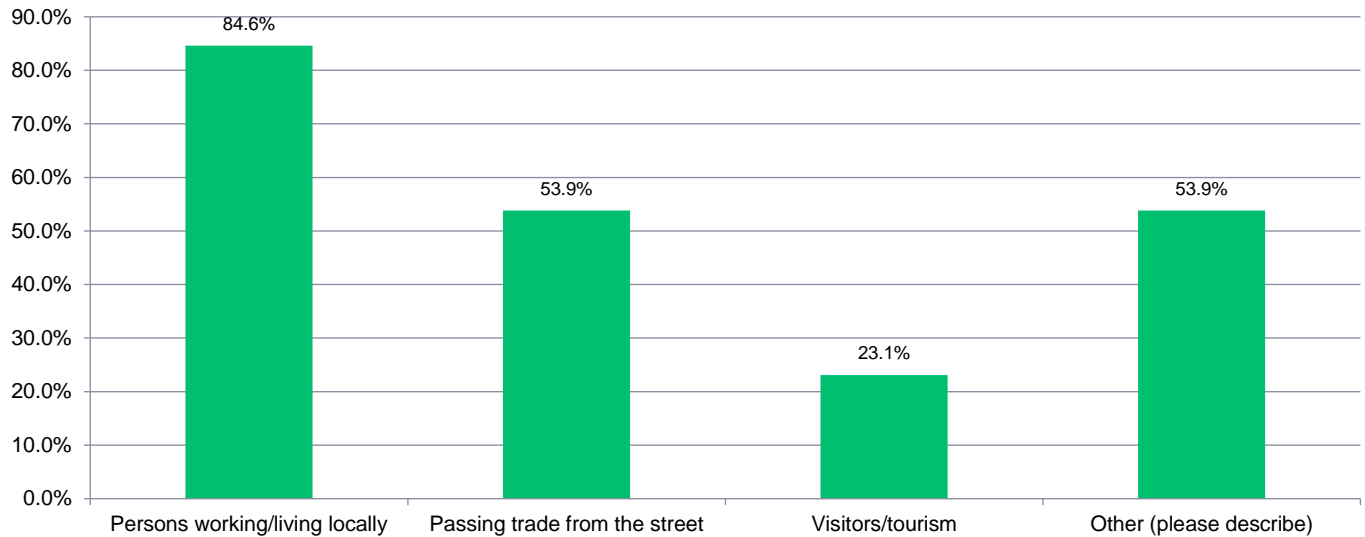
### How long has your business been operating in its current location?



### How many people does your business employ (including yourself)?



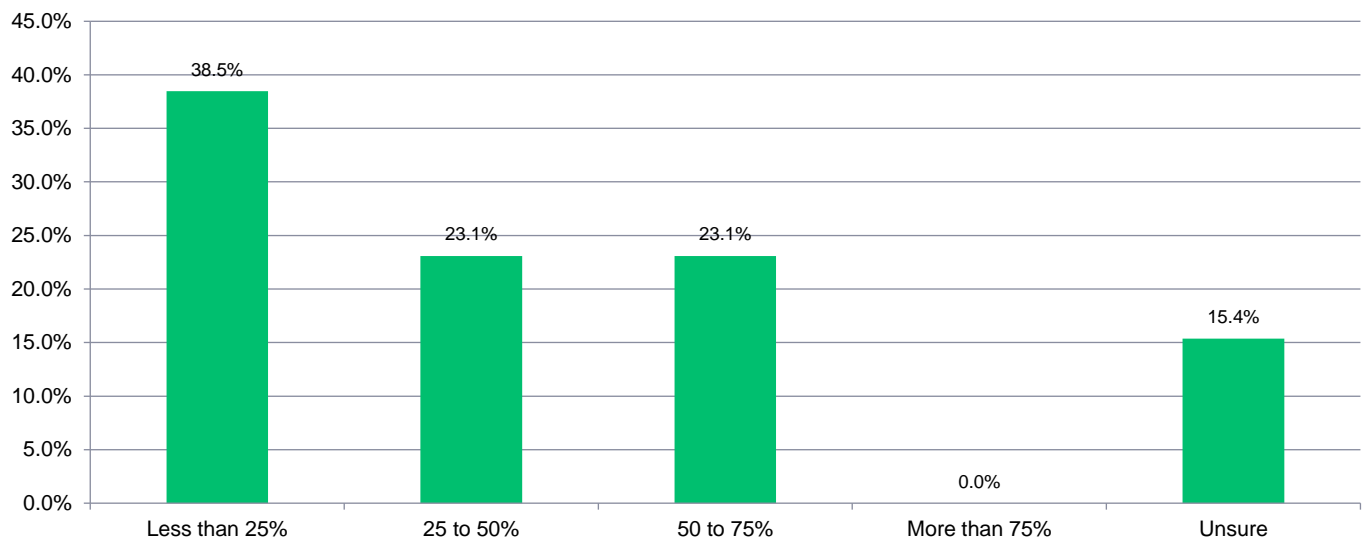
### Who are your primary customers?



#### Other (please describe)

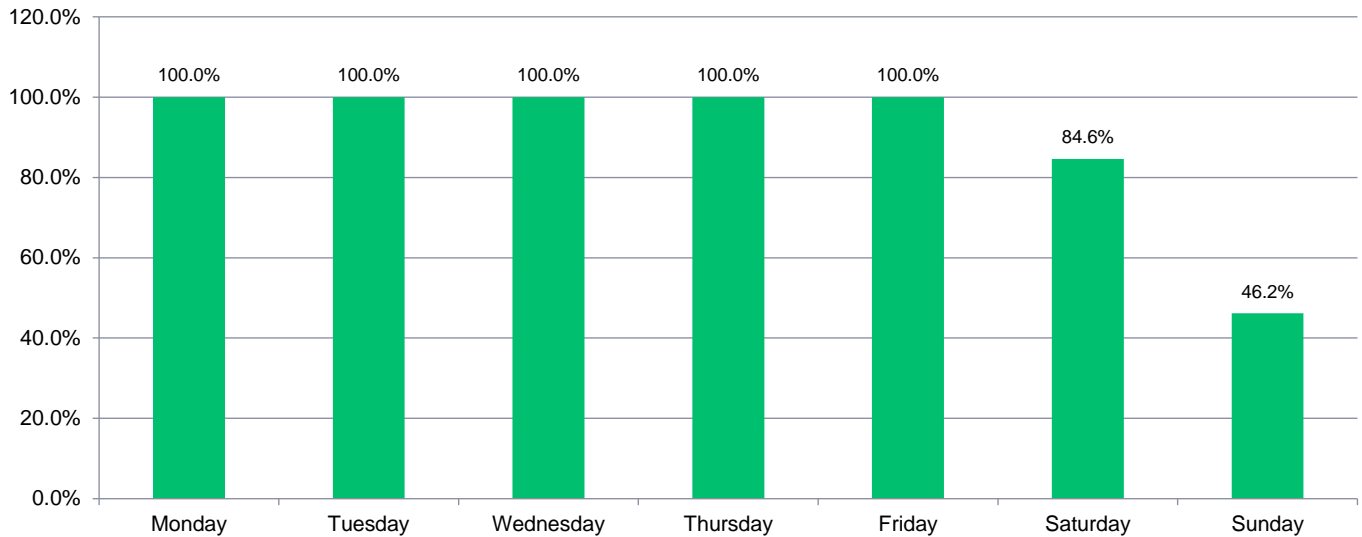
- Wholesale. Only 10% is local retail customers
- As well as other nearby suburbs including Penrith, Leppington, St Claire
- Markets and Stores (Woolworths/Coles)
- Regular clientele from Liverpool and St Claire
- Truck Drivers
- People travel from all over to come to the butchers

### How much of your business is generated from passing trade?





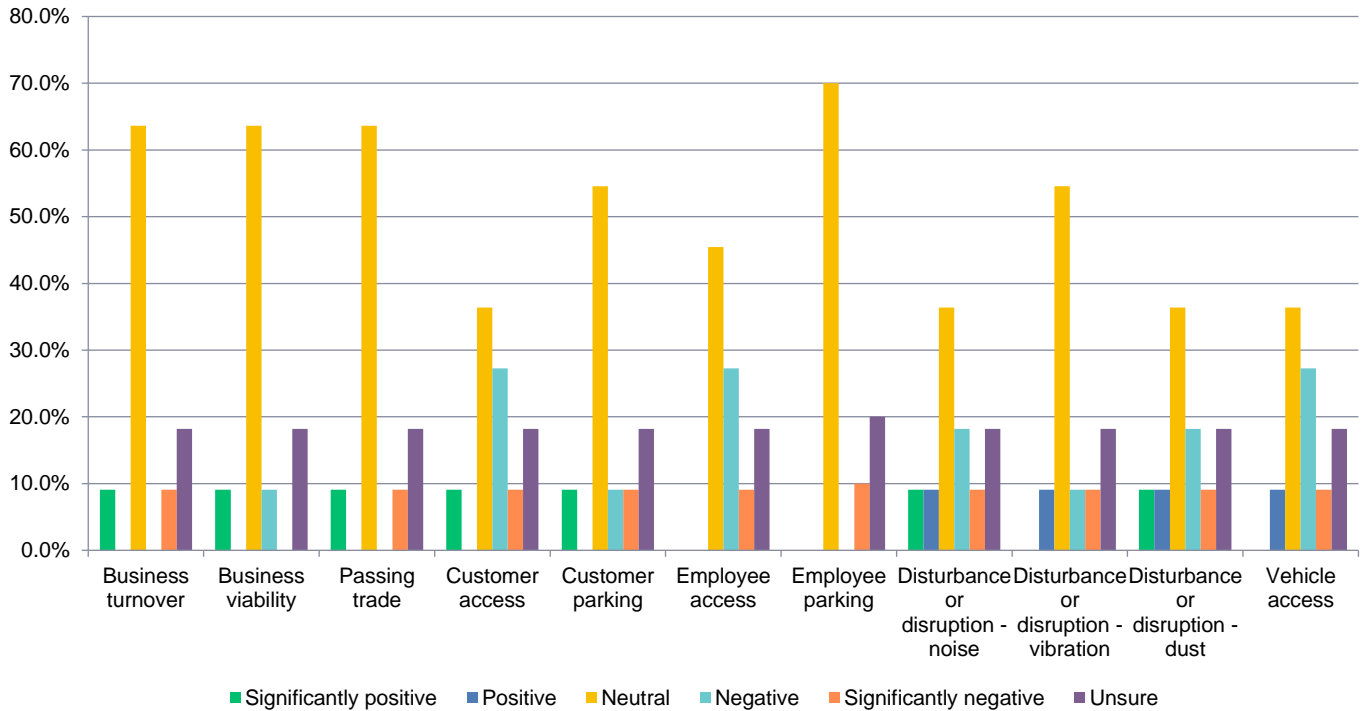
### What are your main trading days?



### What are your general operating hours (opening times)?

- 5am-2am, Monday to Saturday
- 6am-5.30pm
- Weekdays, 7am-6.30pm; Saturdays, 7am-3.30pm
- 9am-5pm (retail), 6am-2pm (wholesale)
- 9.30-5pm
- 9am-5pm
- 5am-2pm; 4pm-12am (Monday-Saturday)
- 7am-12am Monday-Friday; 7am-12am Saturday-Sunday
- 4pm-9pm with school sessions during the day
- 7am-6pm
- 7am-6.30pm Monday-Saturday; open on Sunday for specific orders
- 9am-6pm
- 4am-10pm weekdays; 6am-9pm Saturday and Sunday

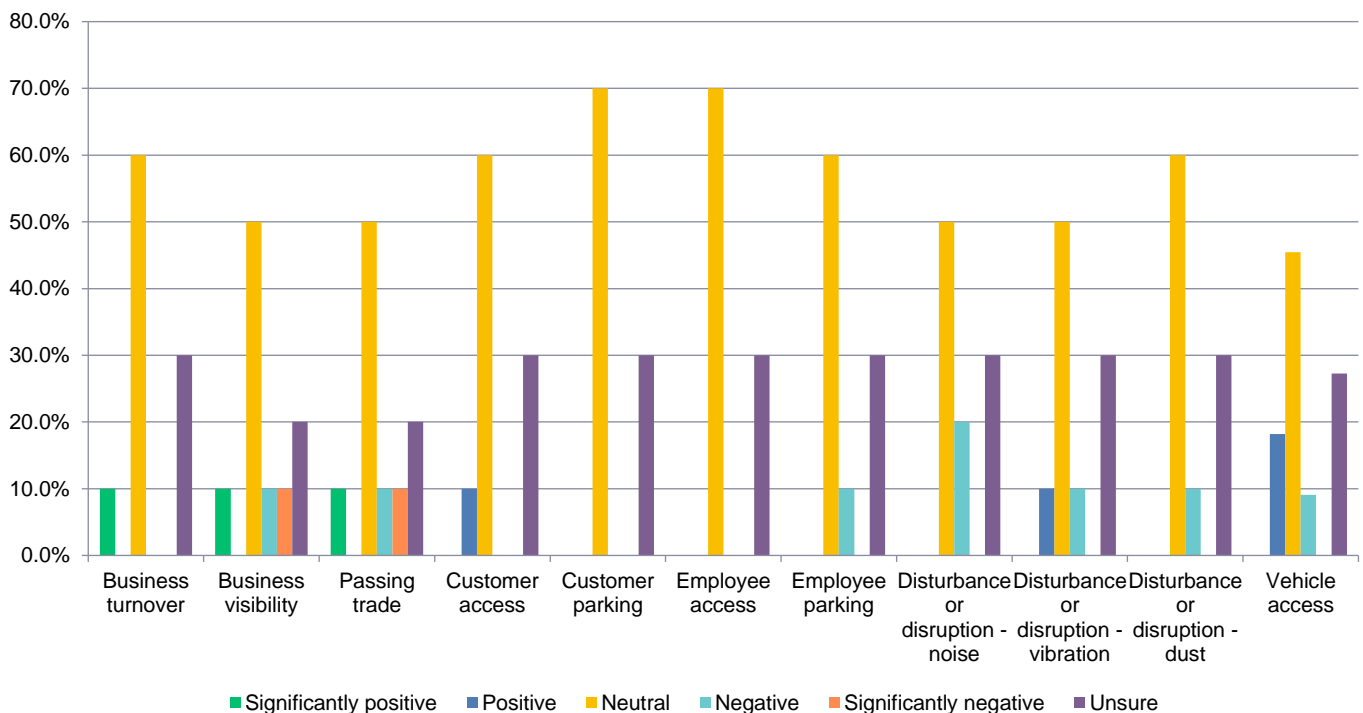
### What impacts do you think the project may have on your business during the construction phase?



#### Other (please describe)

- We are required to move locations due to the M12 construction. Impacts will be reflected by our being here.
- Unknown because the construction impacts and road closures are currently unknown
- Impacts from Sydney competition

### What impacts do you think the project may have on your business during the operational phase?



#### Other (please describe)

- We are required to move locations due to the M12 construction. We will not be here.
- People who come to this area are going to come here anyway
- Depends on whether there is an exit. May lose passing trade if they use the M12.
- Advertising and word of mouth brings in business, not worried about lack of passing trade. The M12 will have a positive impact as less traffic will use Elizabeth Drive. Safer.
- Depends on what happens to Elizabeth Drive
- If the M12 is not a toll road – people will use and divert traffic. If the M12 is a toll road people will continue to use Elizabeth Drive.

#### What measures do you think could be put in place to maximise benefits/minimise impacts of the project during construction?

- The time of business operations is not affected by construction times. Maintaining access to property.
- Maintain access to Elizabeth Drive
- Access to property is maintained. Construction hours work around busy periods. Night works
- Manage noise impacts

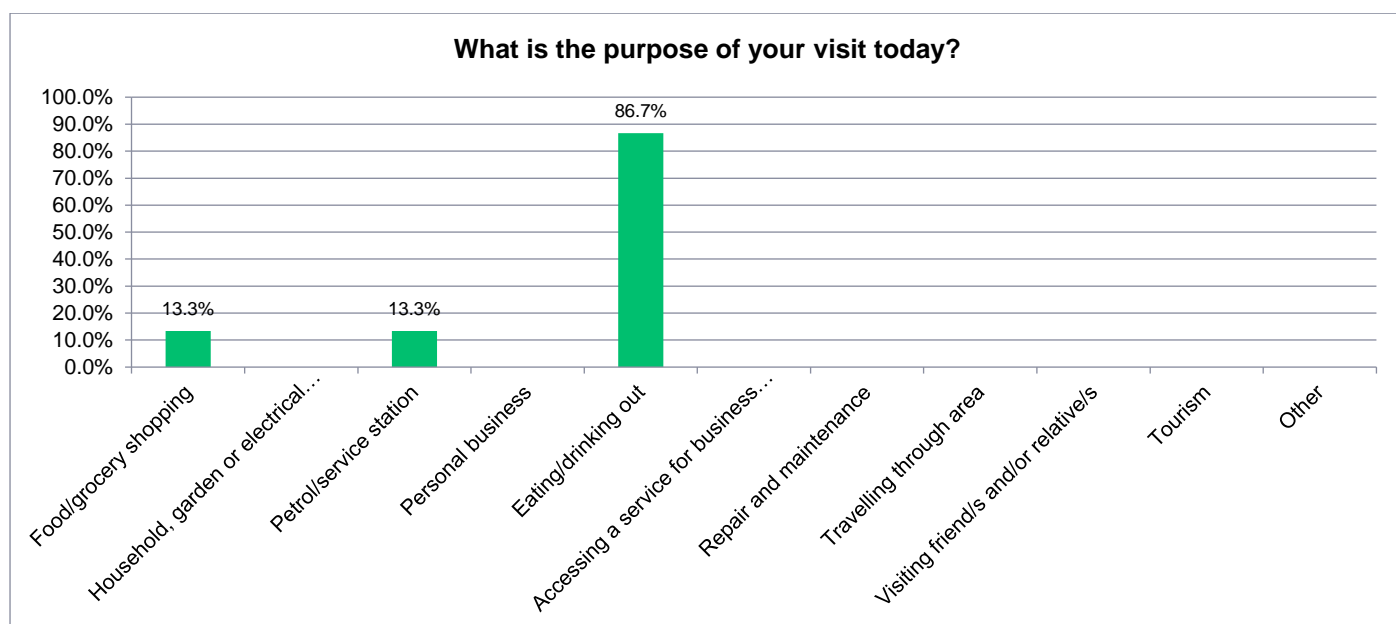
#### What measures do you think could be put in place to maximise benefits/minimise impacts of the project during operation?

- Entry/access via Elizabeth Drive
- Signage

#### Are there any other matters that should be considered as part of this assessment?

- Current owner has run the business for 3-5 years. Business has been in operation longer than this.
- The M12 will be good for business – more people from different suburbs
- Business has zero passing trade
- None at this point
- Street lights would be beneficial in the area. People will still come as we advertise a lot. Access to the property will be improved by less traffic on Elizabeth Drive. Traffic lights at busy intersections would stop road accidents (a lot of accidents on Elizabeth Drive)
- Concern about increased traffic during construction of Sydney Airport (cumulative impacts of the M12 with other projects). Established local business with local regulars who stop in on their way to and from work (Elizabeth Drive is the main road going to Penrith). Busiest times are weekends and afterschool drop off/pick up. They sell produce from other farmers in the area. Likes that they don't have to go to market

# Shopper survey results

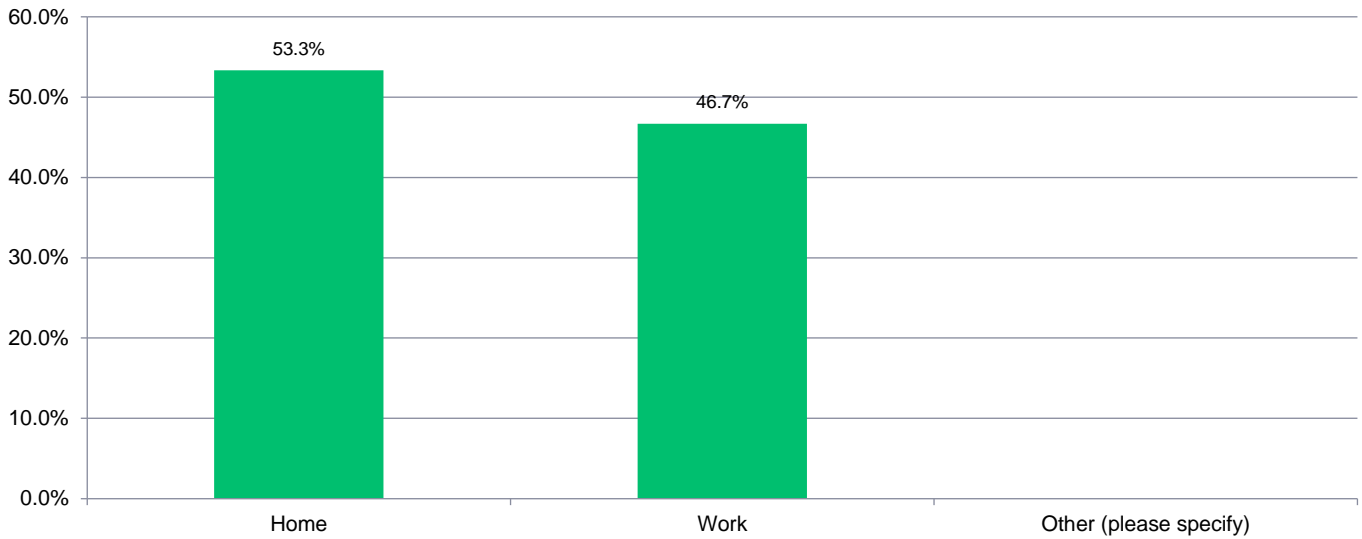


| Where do you live (postcode) |                                                                                                                                                                                                                                         |                       |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Postcode                     | Localities*                                                                                                                                                                                                                             | Number of respondents |
| 2160                         | Merrylands, Merrylands West                                                                                                                                                                                                             | 1                     |
| 2168                         | Ashcroft, Cartwright, Busby, Heckenberg, Green Valley, Sadleir, Miller, Hinchinbrook                                                                                                                                                    | 2                     |
| 2173                         | Holsworthy, Wattle Grove                                                                                                                                                                                                                | 1                     |
| 2178                         | Mount Vernon, Kemps Creek, Cecil Park                                                                                                                                                                                                   | 1                     |
| 2179                         | Leppington, Austral                                                                                                                                                                                                                     | 1                     |
| 2570                         | Camden Park, Camden, Brownlow Hill, Bickley Vale, Belimbla Park, Kirkham, Grasmere, Glenmore, Ellis Lane, Elderslie, Cobbitty, Cawdor, Camden South, The Oaks, Theresa Park, Orangeville, Spring Farm, Oakdale, Oran Park, Mount Hunter | 1                     |
| 2745                         | Mulgoa, Luddenham, Wallacia, Regentville, Greendale, Glenmore Park                                                                                                                                                                      | 1                     |
| 2750                         | South Penrith, Penrith South, Penrith, Penrith Plaza, Jamisontown, Leonay, Emu Heights, Emu Plains                                                                                                                                      | 2                     |
| 2759                         | Erskine Park, St Clair                                                                                                                                                                                                                  | 2                     |
| 2760                         | Oxley Park, North St Marys, St Marys, Ropes Crossing, Colyton, St Marys East, St Marys South                                                                                                                                            | 1                     |

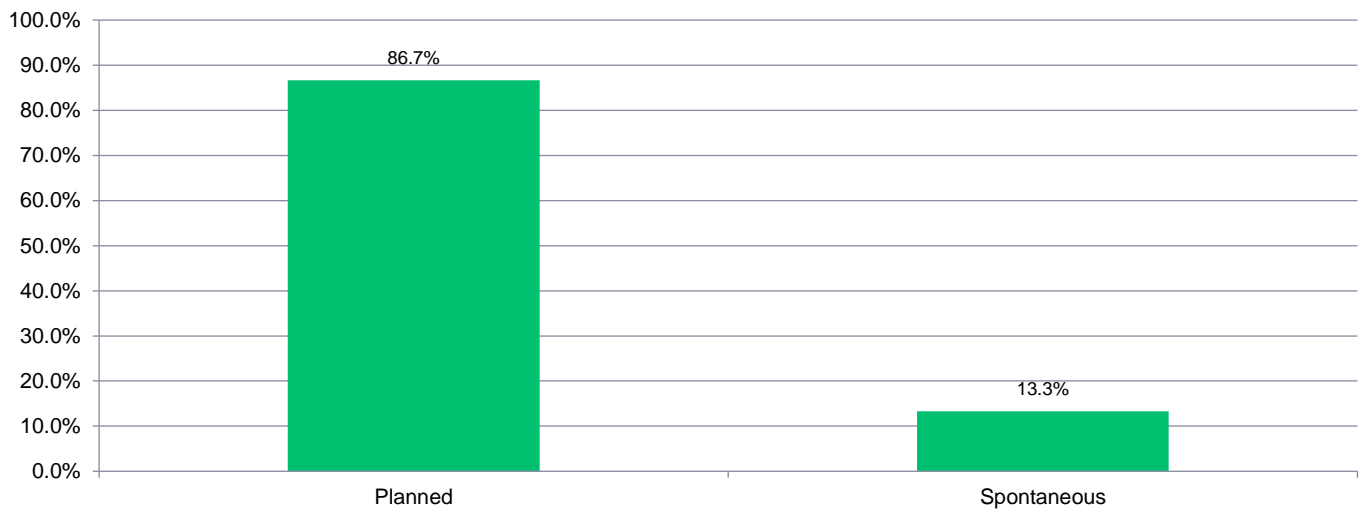
Source: Australia Post (<https://auspost.com.au/postcode>)



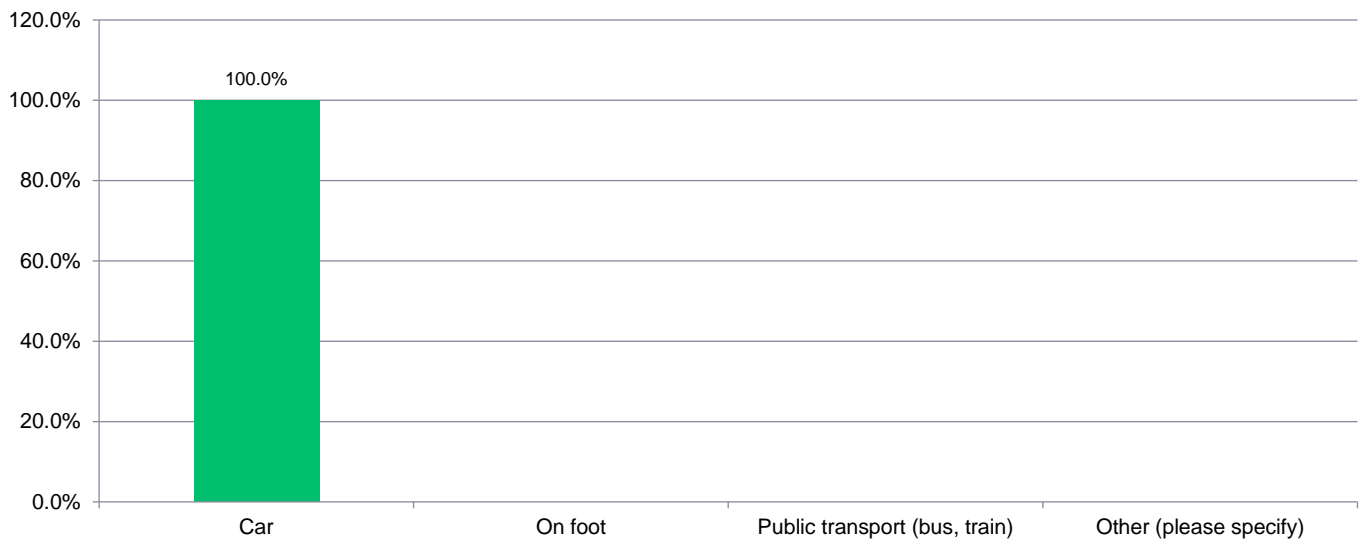
### Where did you travel from today?



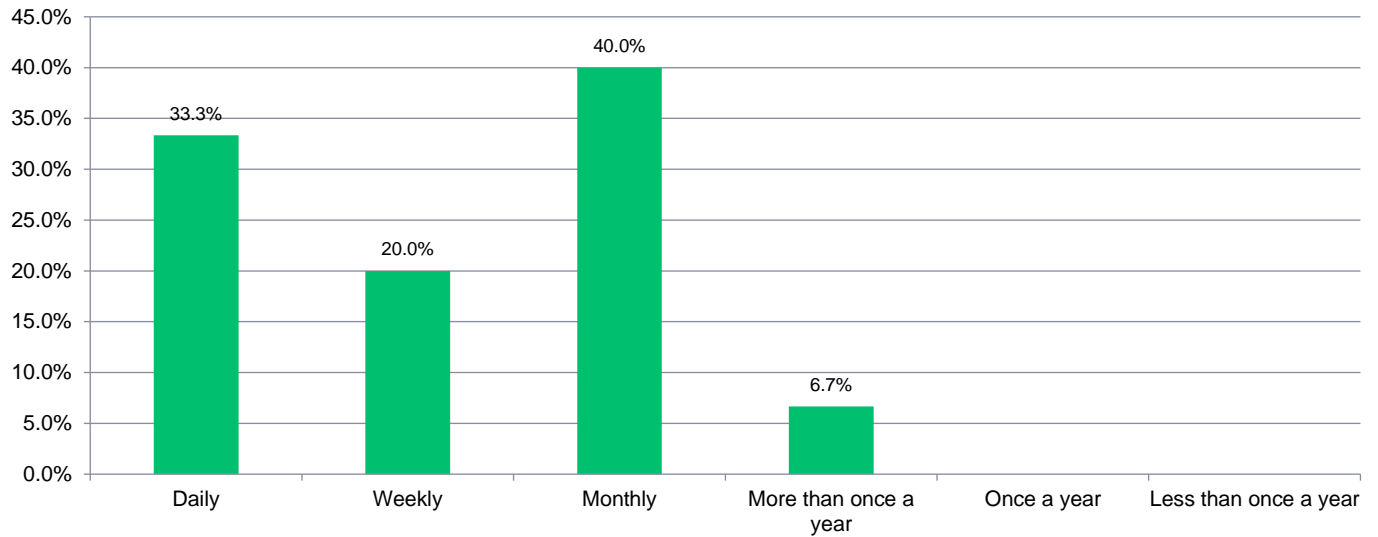
### Was your stop planned prior to your departure or was it spontaneous when passing through?



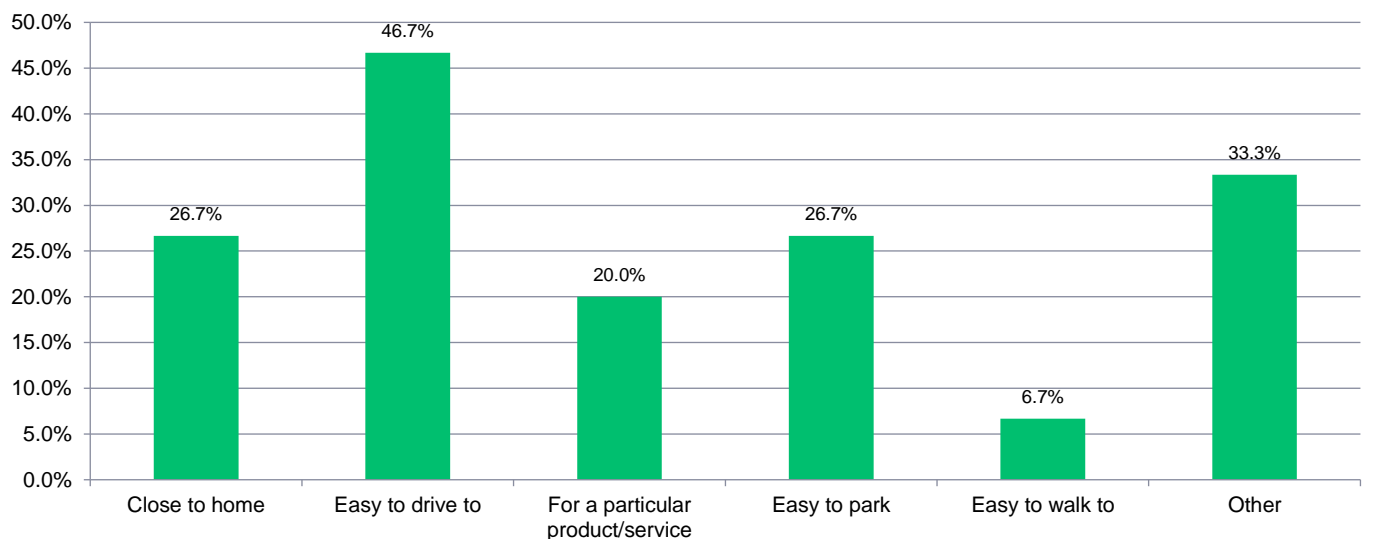
### How did you travel here today?



**How frequently do you visit businesses in the area?**



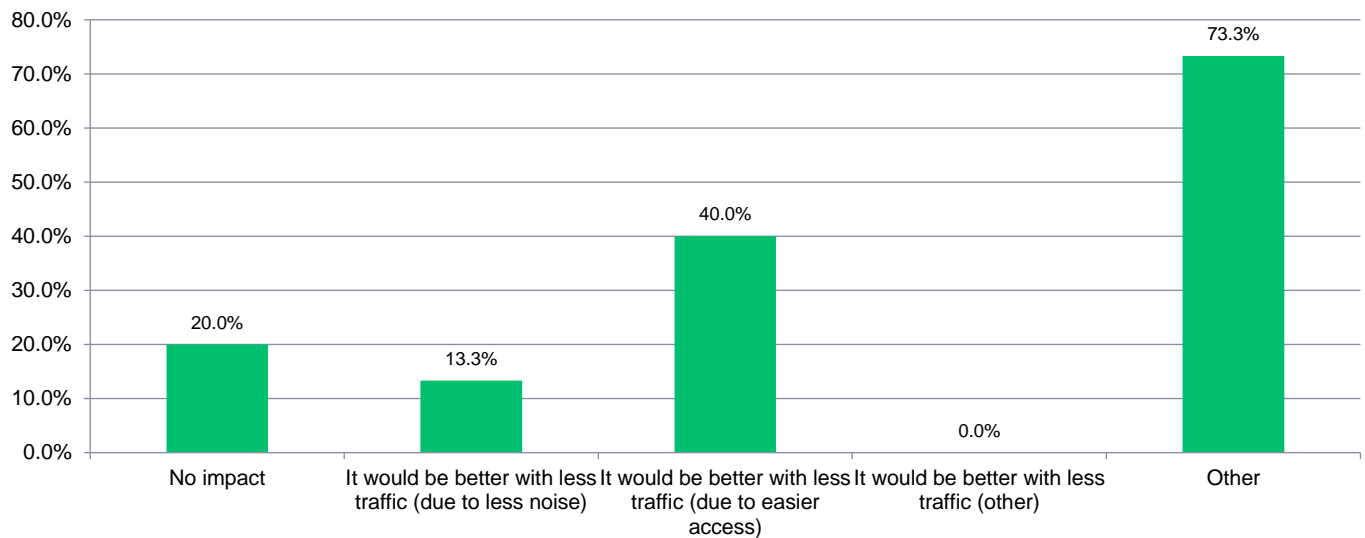
**Why did you choose to visit this location, as opposed to another location?**



**Other (please specify)**

- Close to work
- Good coffee and service
- Convenient
- Meeting a friend

### What impact does traffic have on your enjoyment of the area?



#### Other (please specify)

- Better with less traffic generally (congestion and trucks)
- It would be better with less traffic generally
- It would be better with less trucks

#### Other comments

- Safety concerns with truck and freight traffic
- Less traffic is always positive
- Hardly any traffic

# Annexure B

## Population and demography

Table B-1 Estimated resident population, 2007-2017

| Locality                       | As at 30 June |           |           | Average annual change (per cent) |           |
|--------------------------------|---------------|-----------|-----------|----------------------------------|-----------|
|                                | 2007          | 2012      | 2017      | 2007-2017                        | 2012-2017 |
| Cecil Hills                    | 7164          | 7216      | 7293      | 0.2                              | 0.2       |
| Austral-Greendale              | 8845          | 9297      | 9165      | 0.4                              | -0.3      |
| Horsley Park-Kemps Creek       | 4286          | 4588      | 4678      | 0.9                              | 0.4       |
| Mulgoa-Luddenham-Orchard Hills | 6384          | 7251      | 10,323    | 4.9                              | 7.3       |
| Primary study area             | 26,679        | 28,352    | 31,459    | 1.7                              | 2.1       |
| Fairfield LGA                  | 187,872       | 198,106   | 208,468   | 1.0                              | 1.0       |
| Liverpool LGA                  | 172,875       | 191,799   | 217,586   | 2.3                              | 2.6       |
| Penrith LGA                    | 177,280       | 187,281   | 205,043   | 1.5                              | 1.8       |
| Secondary study area           | 538,027       | 577,186   | 631,097   | 1.6                              | 1.8       |
| NSW                            | 6,834,156     | 7,304,244 | 7,861,674 | 1.4                              | 1.5       |

Source: Based on Commonwealth of Australia (2017a), Estimated resident population, Australia (Catalogue number 3218.0)

Table B-2 Age profile, 2016

| Locality                       | 0-14 years | 15-24 years | 25-44 years | 45-64 years | 65 years or over | Total     |
|--------------------------------|------------|-------------|-------------|-------------|------------------|-----------|
| Cecil Hills                    | 20.5       | 17.3        | 25.1        | 28.9        | 8.3              | 7017      |
| Austral-Greendale              | 18.6       | 15.1        | 23.0        | 25.7        | 17.6             | 8911      |
| Horsley Park-Kemps Creek       | 17.1       | 15.2        | 22.9        | 26.1        | 18.5             | 4422      |
| Mulgoa-Luddenham-Orchard Hills | 21.8       | 13.2        | 28.4        | 24.2        | 12.2             | 9543      |
| Primary study area             | 19.9       | 15.0        | 25.2        | 26.0        | 13.8             | 29,893    |
| Fairfield LGA                  | 19.1       | 14.8        | 26.1        | 26.2        | 13.8             | 198,817   |
| Liverpool LGA                  | 22.7       | 14.4        | 29.1        | 23.4        | 10.4             | 204,326   |
| Penrith LGA                    | 21.1       | 13.9        | 29.5        | 24.0        | 11.7             | 196,066   |
| Secondary study area           | 20.9       | 14.4        | 28.2        | 24.5        | 12.0             | 599,209   |
| NSW                            | 18.5       | 12.5        | 27.7        | 25.0        | 16.3             | 7,480,228 |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)



Table B-3 Population mobility, 2016

| Locality                       | Same address 12 months prior to 2016 Census | Same address five years prior to 2016 Census |
|--------------------------------|---------------------------------------------|----------------------------------------------|
| Cecil Hills                    | 86.5                                        | 70.7                                         |
| Austral-Greendale              | 82.8                                        | 67.5                                         |
| Horsley Park-Kemps Creek       | 83.9                                        | 68.5                                         |
| Mulgoa-Luddenham-Orchard Hills | 78.9                                        | 47.5                                         |
| Primary study area             | 82.6                                        | 62.1                                         |
| Fairfield LGA                  | 83.3                                        | 64.0                                         |
| Liverpool LGA                  | 80.0                                        | 56.9                                         |
| Penrith LGA                    | 79.0                                        | 56.9                                         |
| Secondary study area           | 80.8                                        | 59.3                                         |
| NSW                            | 77.4                                        | 53.8                                         |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Table B-4 Cultural diversity, 2016 (per cent)

| Locality                       | Aboriginal and/or Torres Strait Islander people | People born overseas | Speaks language other than English at home | Does not speak English well or at all |
|--------------------------------|-------------------------------------------------|----------------------|--------------------------------------------|---------------------------------------|
| Cecil Hills                    | 0.2                                             | 41.6                 | 56.3                                       | 8.1                                   |
| Austral-Greendale              | 1.7                                             | 25.9                 | 35.4                                       | 7.2                                   |
| Horsley Park-Kemps Creek       | 1.1                                             | 26.4                 | 37.9                                       | 5.1                                   |
| Mulgoa-Luddenham-Orchard Hills | 1.8                                             | 18.3                 | 16.4                                       | 1.2                                   |
| Primary study area             | 1.3                                             | 27.3                 | 34.6                                       | 5.2                                   |
| Fairfield LGA                  | 0.7                                             | 53.9                 | 70.8                                       | 21.6                                  |
| Liverpool LGA                  | 1.5                                             | 40.8                 | 51.9                                       | 9.4                                   |
| Penrith LGA                    | 3.9                                             | 21.6                 | 16.9                                       | 1.9                                   |
| Secondary study area           | 2.0                                             | 38.9                 | 46.7                                       | 11.0                                  |
| NSW                            | 2.9                                             | 27.7                 | 25.2                                       | 4.5                                   |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Table B-5 Family composition, 2016

| Locality                       | Couple family with no children (per cent) | Families with children under 15 years (per cent) | Families with no children under 15 years (per cent) | Total families |
|--------------------------------|-------------------------------------------|--------------------------------------------------|-----------------------------------------------------|----------------|
| Cecil Hills                    | 19.9                                      | 41.8                                             | 37.3                                                | 1797           |
| Austral-Greendale              | 31.9                                      | 34.5                                             | 31.7                                                | 2180           |
| Horsley Park-Kemps Creek       | 31.4                                      | 32.1                                             | 35.3                                                | 1109           |
| Mulgoa-Luddenham-Orchard Hills | 31.5                                      | 43.3                                             | 24.1                                                | 2531           |
| Primary study area             | 28.9                                      | 38.8                                             | 31.0                                                | 7617           |
| Fairfield LGA                  | 23.3                                      | 38.9                                             | 35.5                                                | 51,368         |
| Liverpool LGA                  | 23.2                                      | 45.8                                             | 29.4                                                | 51,746         |
| Penrith LGA                    | 30.3                                      | 41.8                                             | 26.3                                                | 52,054         |
| Secondary study area           | 25.6                                      | 42.2                                             | 30.4                                                | 155,168        |
| NSW                            | 36.6                                      | 38.2                                             | 23.5                                                | 1,940,226      |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Table B-6 Dwellings, 2016

| Locality                       | Separate house (per cent) | Semi-detached dwelling, etc (per cent) | Flat, unit or apartment (per cent) | Occupancy rate (per cent) | Total private dwellings |
|--------------------------------|---------------------------|----------------------------------------|------------------------------------|---------------------------|-------------------------|
| Cecil Hills                    | 92.4                      | 4.6                                    | -                                  | 96.9                      | 1867                    |
| Austral-Greendale              | 88.7                      | 0.4                                    | 0.2                                | 92.4                      | 2638                    |
| Horsley Park-Kemps Creek       | 92.1                      | -                                      | 0.4                                | 93.8                      | 1239                    |
| Mulgoa-Luddenham-Orchard Hills | 86.7                      | 2.0                                    | 1.6                                | 92.5                      | 2974                    |
| Primary study area             | 89.3                      | 1.8                                    | 0.7                                | 93.6                      | 8718                    |
| Fairfield LGA                  | 68.3                      | 12.2                                   | 13.0                               | 94.8                      | 60,349                  |
| Liverpool LGA                  | 71.9                      | 10.0                                   | 12.6                               | 95.2                      | 61,741                  |
| Penrith LGA                    | 76.7                      | 11.1                                   | 5.7                                | 94.1                      | 67,638                  |
| Secondary study area           | 72.5                      | 11.1                                   | 10.3                               | 94.7                      | 189,728                 |
| NSW                            | 59.9                      | 11.0                                   | 18.0                               | 90.1                      | 2,889,057               |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Table B-7 Housing tenure and costs, 2016

| Locality                       | Owner occupied* (per cent) | Rented (per cent) | Median rental costs (\$/ week) | Median mortgage costs \$/ month) | Rent payments are 30 per cent or greater of household income (per cent) | Mortgage payments are 30 per cent or greater of household income (per cent) |
|--------------------------------|----------------------------|-------------------|--------------------------------|----------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Cecil Hills                    | 83.7                       | 14.0              | 500                            | 2167                             | 6.2                                                                     | 13.9                                                                        |
| Austral-Greendale              | 65.7                       | 28.4              | 390                            | 2167                             | 12.9                                                                    | 6.7                                                                         |
| Horsley Park-Kemps Creek       | 81.3                       | 15.7              | 370                            | 2500                             | 5.2                                                                     | 9                                                                           |
| Mulgoa-Luddenham-Orchard Hills | 78.7                       | 17.7              | 480                            | 2500                             | 5.9                                                                     | 10.8                                                                        |
| Primary study area             | 76.2                       | 19.9              | 441                            | 2328                             | 8.0                                                                     | 10.0                                                                        |
| Fairfield LGA                  | 60.9                       | 34.9              | 350                            | 1800                             | 18.1                                                                    | 9.5                                                                         |
| Liverpool LGA                  | 64.1                       | 32.0              | 370                            | 2123                             | 14.5                                                                    | 12.2                                                                        |
| Penrith LGA                    | 66.7                       | 30.2              | 370                            | 2000                             | 11.9                                                                    | 9.2                                                                         |
| Secondary study area           | 64.0                       | 32.3              | 364                            | 1976                             | 14.7                                                                    | 10.3                                                                        |
| NSW                            | 64.5                       | 31.8              | 380                            | 1986                             | 12.9                                                                    | 7.4                                                                         |

Notes: \* includes dwellings owned outright or owned with a mortgage; \*\* Median rental and mortgage costs and rent and mortgage payments for the study area

refers to the average of SA2s in the study area

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0); ABS (2013), 2016 Census QuickStats

Table B-8 Income, 2016

| Locality                       | Median total income (\$/week) |           | Weekly family income (per cent) |                       |
|--------------------------------|-------------------------------|-----------|---------------------------------|-----------------------|
|                                | Personal                      | Household | Low income (<\$650)             | High income (>\$3000) |
| Cecil Hills                    | 672                           | 2137      | 6.8                             | 24.2                  |
| Austral-Greendale              | 565                           | 1472      | 11.7                            | 14.8                  |
| Horsley Park-Kemps Creek       | 678                           | 1976      | 9.6                             | 24.7                  |
| Mulgoa-Luddenham-Orchard Hills | 836                           | 2235      | 5.9                             | 27.9                  |
| Primary study area             | 700                           | 1948      | 8.3                             | 22.8                  |
| Fairfield LGA                  | 439                           | 1222      | 16.7                            | 9.5                   |
| Liverpool LGA                  | 584                           | 1550      | 11.4                            | 14.9                  |

| Locality             | Median total income (\$/week) |           | Weekly family income (per cent) |                       |
|----------------------|-------------------------------|-----------|---------------------------------|-----------------------|
|                      | Personal                      | Household | Low income (<\$650)             | High income (>\$3000) |
| Penrith LGA          | 728                           | 1658      | 8.1                             | 16.3                  |
| Secondary study area | 594                           | 1493      | 12.0                            | 13.6                  |
| NSW                  | 664                           | 1486      | 9.5                             | 19.5                  |

Notes: \* Average of median incomes for SA2s in the study area

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Table B-9 Labour force, 2016

| Locality                       | Labour force | Labour force participation (per cent) | Unemployment (per cent) |
|--------------------------------|--------------|---------------------------------------|-------------------------|
| Cecil Hills                    | 3558         | 63.8                                  | 5.7                     |
| Austral-Greendale              | 4063         | 56.0                                  | 5.2                     |
| Horsley Park-Kemps Creek       | 2134         | 58.2                                  | 3.7                     |
| Mulgoa-Luddenham-Orchard Hills | 5169         | 69.3                                  | 3.8                     |
| Primary study area             | 14,924       | 62.3                                  | 4.6                     |
| Fairfield LGA                  | 80,326       | 49.9                                  | 10.5                    |
| Liverpool LGA                  | 90,669       | 57.4                                  | 7.5                     |
| Penrith LGA                    | 100,604      | 65.0                                  | 5.7                     |
| Secondary study area           | 271,599      | 57.3                                  | 7.7                     |
| NSW                            | 3,605,881    | 59.2                                  | 6.3                     |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

Table B-10 Vehicle ownership, 2016 (per cent)

| Locality                       | Households with no motor vehicles | Households with one motor vehicle | Households with two or more motor vehicles |
|--------------------------------|-----------------------------------|-----------------------------------|--------------------------------------------|
| Cecil Hills                    | 1.8                               | 17.0                              | 79.4                                       |
| Austral-Greendale              | 2.7                               | 19.5                              | 72.2                                       |
| Horsley Park-Kemps Creek       | 2.1                               | 13.8                              | 80.6                                       |
| Mulgoa-Luddenham-Orchard Hills | 1.3                               | 16.8                              | 78.8                                       |
| Primary study area             | 1.9                               | 17.2                              | 77.2                                       |
| Fairfield LGA                  | 10.4                              | 32.4                              | 53.1                                       |
| Liverpool LGA                  | 7.7                               | 28.8                              | 59.5                                       |
| Penrith LGA                    | 6.1                               | 30.9                              | 59.5                                       |



| Locality             | Households with no motor vehicles | Households with one motor vehicle | Households with two or more motor vehicles |
|----------------------|-----------------------------------|-----------------------------------|--------------------------------------------|
| Secondary study area | 8.0                               | 30.7                              | 57.5                                       |
| NSW                  | 9.2                               | 36.3                              | 50.8                                       |

Source: Based on ABS (2017a), 2016 Census of Population and Housing, Basic Community Profile (Catalogue number 2001.0)

# Annexure C

## Businesses within about one kilometre of the project

| Business ID | Business name                                 | Business type                                      |
|-------------|-----------------------------------------------|----------------------------------------------------|
| B1          | The Honey Shed                                | Agriculture – other livestock farming              |
| B2          | Agriculture                                   | Agriculture – horticulture                         |
| B3          | Agriculture                                   | Agriculture – horticulture                         |
| B4          | Luddenham Raceway                             | Sport and recreation                               |
| B5          | Luddenham Lodge Horse Riding                  | Sport and recreation                               |
| B6          | Sydney Horse Riding Centre                    | Sport and recreation                               |
| B7          | Industrial use (Ron Medich Properties Quarry) | Resource and waste facility                        |
| B8          | SUEZ Kemps Creek Resource Recovery Park       | Resource and waste facility                        |
| B9          | Kingsfield Stud                               | Agriculture – other livestock farming (horse stud) |
| B10         | Agribusiness (J & M Vella Farm Fresh)         | Agriculture – horticulture                         |
| B11         | Agriculture                                   | Agriculture – horticulture                         |
| B12         | Agribusiness (Ash and Sons Eggs)              | Agriculture – poultry farming                      |
| B13         | Agribusiness (The Egg Basket)                 | Agriculture – poultry farming                      |
| B14         | Roloduct Spiral Tubing Group                  | Industrial – manufacturing                         |
| B15         | Andreasens Green Wholesale Nursery            | Agriculture – nursery                              |
| B16         | Hi-quality group - Kemps Creek Central Quarry | Resource and waste facility                        |
| B17         | Wanless Waste Management                      | Resource and waste facility                        |
| B18         | TreeServe                                     | Resource and waste facility                        |
| B19         | Agriculture                                   | Agriculture – horticulture                         |
| B20         | Agriculture                                   | Agriculture – horticulture                         |
| B21         | Ha Pottery                                    | Retail – houseware retailing                       |
| B22         | United Petroleum service station              | Retail – fuel retailing                            |
| B23         | Mick's Coffee House                           | Restaurant, café, takeaway food services           |
| B24         | Australia Post/ Newsagency                    | Postal services                                    |
| B25         | Mitre 10 Kemps Creek                          | Retail – hardware, building and garden supplies    |
| B26         | Nando's Meat Market                           | Retail – food retailing (grocery/ convenience)     |
| B27         | BP Kemps Creek service station                | Retail – fuel retailing                            |
| B28         | Bara Lodge                                    | Horse training and agistment                       |

| Business ID | Business name                                      | Business type                                                  |
|-------------|----------------------------------------------------|----------------------------------------------------------------|
| B29         | Agriculture                                        | Agriculture – horticulture                                     |
| B30         | Badgerys Creek Mowers                              | Retail – machinery and equipment                               |
| B31         | Evergreen Farm and Garden Supplies                 | Retail – farm and garden supplies                              |
| B32         | Caltex service station and IGA X-press Kemps Creek | Retail – fuel retailing/ food retailing (grocery/ convenience) |
| B33         | Agriculture                                        | Agriculture – horticulture                                     |
| B34         | Agriculture                                        | Agriculture – poultry farming                                  |
| B35         | Agriculture                                        | Agriculture – poultry farming                                  |
| B36         | Caltex Kemps Creek service station                 | Retail – fuel retailing                                        |
| B37         | Top Class Fruit Supply                             | Manufacturing – fruit and vegetable processing                 |
| B38         | Barden Produce                                     | Manufacturing – fruit and vegetable processing                 |
| B39         | Agriculture                                        | Agriculture – horticulture                                     |
| B40         | Western Safety Fences                              | Construction services                                          |
| B41         | VAC Group Australia                                | Construction services                                          |
| B42         | Hi-Quality Group Head Office                       | Construction services and waste and resource recovery          |
| B43         | Kemps Creek Bowling and Sports Club                | Sport and recreation                                           |
| B44         | Brandown Quarry                                    | Quarrying and resource recovery                                |
| B45         | The Big Chook                                      | Agriculture – poultry farming                                  |
| B46         | Sydney International Shooting Centre               | Sport and recreation                                           |
| B47         | Blessed Beginnings                                 | Home based business                                            |
| B48         | Walls Nursery                                      | Agriculture – nursery                                          |
| B49         | PGH Bricks and Pavers                              | Manufacturing – clay brick manufacturing                       |
| B50         | Formula One Fork Lifts                             | Home based business                                            |
| B51         | Fresh Produce Pty Ltd                              | Manufacturing – fruit and vegetable processing                 |
| B52         | Sydney Bean Sprouts                                | Agriculture – horticulture                                     |

# Annexure D

## Agricultural commodities



Table D-1 Agricultural commodities, 2015-2016

| Agricultural commodity                              | Badgerys Creek – Greendale* |                       | Horsley Park-Kemps Creek |                       | Mulgoa-Luddenham-Orchard Hills |                       | Study area  |                       | NSW          |                       |
|-----------------------------------------------------|-----------------------------|-----------------------|--------------------------|-----------------------|--------------------------------|-----------------------|-------------|-----------------------|--------------|-----------------------|
|                                                     | Estimate                    | No. of ag. businesses | Estimate                 | No. of ag. businesses | Estimate                       | No. of ag. businesses | Estimate    | No. of ag. businesses | Estimate     | No. of ag. businesses |
| Livestock                                           |                             |                       |                          |                       |                                |                       |             |                       |              |                       |
| Meat cattle (No.)                                   | 49.2                        | 7.7                   | 83.8                     | 2.2                   | 362.0                          | 7.3                   | 495.0       | 17.2                  | 4,674,552.8  | 15,445.3              |
| Dairy cattle (No.)                                  | 3,398.0                     | 1.0                   | 0.0                      | 0.0                   | 200.0                          | 1.0                   | 3,598.0     | 2.0                   | 323,147.6    | 1,074.9               |
| Chickens for eggs (No.)                             | 57,680.3                    | 1.2                   | 0.0                      | 0.0                   | 0.0                            | 0.0                   | 57,680.3    | 1.2                   | 818,924.2    | 74.6                  |
| Poultry for meat (incl chicken, duck, turkey) (No.) | 1,826,953.6                 | 15.2                  | 358,771.6                | 4.6                   | 175,565.0                      | 1.0                   | 2,361,290.3 | 5.6                   | 30,107,903.0 | 182.8                 |
| Pigs (No.)                                          | 0.0                         | 0.0                   | 1,750.0                  | 1.0                   | 0.0                            | 0.0                   | 1,750.0     | 1.0                   | 488,251.6    | 432.8                 |
| Sheep and lambs (No.)                               | 20.8                        | 1.2                   | 29.2                     | 2.2                   | 0.0                            | 0.0                   | 50.0        | 3.3                   | 25,968,194.0 | 11,658.0              |
| Beehives (No.)                                      | 0.0                         | 0.0                   | 0.0                      | 0.0                   | 540.6                          | 1.4                   | 540.6       | 1.4                   | 61,541.9     | 240.5                 |
| All other livestock (No.)                           | 94.6                        | 1.4                   | 10.0                     | 1.0                   | 104.5                          | 3.6                   | 209.1       | 6.0                   | 61,483.1     | 3,616.3               |
| Total livestock/<br>livestock businesses**          | 1,888,196.5                 | 27.6                  | 360,644.7                | 10.9                  | 176,772.0                      | 14.3                  | 2,425,613.2 | 52.8                  | 69,074,246.6 | 33,498.2              |

| Agricultural commodity                                                              | Badgerys Creek – Greendale* |                       | Horsley Park-Kemps Creek |                       | Mulgoa-Luddenham-Orchard Hills |                       | Study area |                       | NSW         |                       |
|-------------------------------------------------------------------------------------|-----------------------------|-----------------------|--------------------------|-----------------------|--------------------------------|-----------------------|------------|-----------------------|-------------|-----------------------|
|                                                                                     | Estimate                    | No. of ag. businesses | Estimate                 | No. of ag. businesses | Estimate                       | No. of ag. businesses | Estimate   | No. of ag. businesses | Estimate    | No. of ag. businesses |
| Cropping                                                                            |                             |                       |                          |                       |                                |                       |            |                       |             |                       |
| Hay and silage – pasture (incl lucerne), cereal and other crops cut for silage (ha) | 397.0                       | 1.0                   | 0.0                      | 0.0                   | 14.1                           | 1.4                   | 411.1      | 2.4                   | 69,193.3    | 1,303.9               |
| Broadacre crops – cereal crops (ha)                                                 | 167.0                       | 1.0                   | 0.0                      | 0.0                   | 21.2                           | 2.8                   | 188.2      | 3.8                   | 4,625,908.8 | 16,761.1              |
| Broadacre crops – non-cereal crops (ha)                                             | 0.3                         | 1.3                   | 1.4                      | 1.4                   | 0.0                            | 0.0                   | 1.7        | 2.7                   | 1,421,643.6 | 5,673.6               |
| Broadacre crops – All other crops (ha)                                              | 1.3                         | 1.3                   | 0.0                      | 0.0                   | 0.0                            | 0.0                   | 1.3        | 1.3                   | 42,206.3    | 132.1                 |
| Fruit and nuts (excl grapes) (ha)                                                   | 1.9                         | 3.5                   | 5.9                      | 2.6                   | 28.8                           | 5.1                   | 36.6       | 11.2                  | 37,460.6    | 1,526.5               |
| Nurseries cut flowers or cultivated turf (ha)                                       | 19.6                        | 6.8                   | 20.5                     | 10.8                  | 2.5                            | 1.1                   | 42.7       | 18.7                  | 3,800.6     | 603.9                 |
| Vegetables for human consumption (ha)                                               | 187.1                       | 70.3                  | 165.8                    | 29.1                  | 38.3                           | 9.5                   | 391.2      | 108.9                 | 13,186.6    | 854.0                 |

| Agricultural commodity                                                                | Badgerys Creek – Greendale* |                       | Horsley Park-Kemps Creek |                       | Mulgoa-Luddenham-Orchard Hills |                       | Study area |                       | NSW         |                       |
|---------------------------------------------------------------------------------------|-----------------------------|-----------------------|--------------------------|-----------------------|--------------------------------|-----------------------|------------|-----------------------|-------------|-----------------------|
|                                                                                       | Estimate                    | No. of ag. businesses | Estimate                 | No. of ag. businesses | Estimate                       | No. of ag. businesses | Estimate   | No. of ag. businesses | Estimate    | No. of ag. businesses |
| Total crops (incl broadacre, hay, silage and horticulture) (ha)/cropping businesses** | 774.2                       | 81.8                  | 192.3                    | 42.4                  | 105.0                          | 14.3                  | 1,071.5    | 138.6                 | 6,374,089.1 | 15,009.4              |

Notes: \* The Badgerys Creek-Greendale SA2 (127011505) defined in the 2011 Census and used in the 2015-2016 Agricultural Census was redefined as the Austral-Greendale SA2 (127011505) in the 2016 Census; The Green Valley – Cecil Hills SA2 (127011507) defined in the 2011 Census was redefined as the Cecil Hills (127011593), Green Valley (127011594) and Hinchinbrook (127011595) SA2's in the 2016 Census and was therefore not included in the table as it would cover a larger area than the Cecil Hills SA2.

Note \*\* includes other livestock/ crops and businesses not in the categories listed.

Source: Commonwealth of Australia (2017a), *Agricultural Commodities, Australia 2015-16* (Catalogue number 7121.0)

Table D-2 Value of agricultural production, 2015-2016

| Agricultural commodity     | Badgerys Creek – Greendale*              |                                                  | Horsley Park-Kemps Creek                 |                                                  | Mulgoa-Luddenham-Orchard Hills           |                                                  | Study Area                               |                                                  | NSW                                      |
|----------------------------|------------------------------------------|--------------------------------------------------|------------------------------------------|--------------------------------------------------|------------------------------------------|--------------------------------------------------|------------------------------------------|--------------------------------------------------|------------------------------------------|
|                            | Value of agricultural production (\$) ** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$) ** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$) ** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$) ** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$) ** |
| Livestock                  |                                          |                                                  |                                          |                                                  |                                          |                                                  |                                          |                                                  |                                          |
| Livestock products – wool  | 756.5                                    | 0.0                                              | 1,064.9                                  | 0.0                                              | 0.0                                      | 0.0                                              | 1,821.4                                  | 0.0                                              | 946,095,761.9                            |
| Livestock products – milk  | 7,132,214.4                              | 1.2                                              | 0.0                                      | 0.0                                              | 0.0                                      | 0.0                                              | 7,132,214.4                              | 1.2                                              | 593,688,398.9                            |
| Livestock products – eggs  | 1,644,306.4                              | 0.6                                              | 13,134,913.6                             | 5.1                                              | 632,425.5                                | 0.2                                              | 15,411,645.5                             | 6.0                                              | 258,149,403.0                            |
| Livestock products – Total | 8,777,277.3                              | 0.5                                              | 13,135,978.5                             | 0.7                                              | 632,425.5                                | 0.0                                              | 22,545,681.3                             | 1.3                                              | 1,797,933,564.0                          |

| Agricultural commodity                                        | Badgerys Creek – Greendale*             |                                                  | Horsley Park-Kemps Creek                |                                                  | Mulgoa-Luddenham-Orchard Hills          |                                                  | Study Area                              |                                                  | NSW                                     |
|---------------------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|
|                                                               | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** |
| Livestock slaughtered and other disposals – sheep and lambs   | 0.8                                     | 0.0                                              | 406.7                                   | 0.0                                              | 0.0                                     | 0.0                                              | 407.5                                   | 0.0                                              | 734,532,680.8                           |
| Livestock slaughtered and other disposals – cattle and calves | 1,758,250.8                             | 0.1                                              | 42,762.7                                | 0.0                                              | 287,051.2                               | 0.0                                              | 2,088,064.7                             | 0.1                                              | 2,561,879,380.0                         |
| Livestock slaughtered and other disposals – goats             | 0.0                                     | 0.0                                              | 299.8                                   | 0.0                                              | 0.0                                     | 0.0                                              | 299.8                                   | 0.0                                              | 6,927,303.5                             |
| Livestock slaughtered and other disposals – pigs              | 0.0                                     | 0.0                                              | 761,128.6                               | 0.4                                              | 0.0                                     | 0.0                                              | 761,128.6                               | 0.4                                              | 212,355,587.2                           |
| Livestock slaughtered and other disposals – poultry           | 48,008,476.5                            | 5.5                                              | 9,771,953.7                             | 1.1                                              | 4,480,419.5                             | 0.5                                              | 62,260,849.7                            | 7.1                                              | 874,990,665.4                           |
| Livestock slaughtered and other disposals – total             | 49,766,728                              | 1.1                                              | 10,576,551.5                            | 0.2                                              | 4,767,470.7                             | 0.1                                              | 65,110,750.2                            | 1.5                                              | 4,390,685,617                           |
| Cropping                                                      |                                         |                                                  |                                         |                                                  |                                         |                                                  |                                         |                                                  |                                         |
| Broadacre crops –                                             | 523.368                                 | 0.0                                              | Not provided                            | n/a                                              | 7381.2                                  | 0.0                                              | 530,749.2                               | 0.0                                              | 3,022,761,889.4                         |



| Agricultural commodity                   | Badgerys Creek – Greendale*             |                                                  | Horsley Park-Kemps Creek                |                                                  | Mulgoa-Luddenham-Orchard Hills          |                                                  | Study Area                              |                                                  | NSW                                     |
|------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------------------------|
|                                          | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** | Proportion of agricultural production in NSW (%) | Value of agricultural production (\$)** |
| cereal crops                             |                                         |                                                  |                                         |                                                  |                                         |                                                  |                                         |                                                  |                                         |
| Broadacre crops – non-cereal crops       | 216.3                                   | 0.0                                              | Not provided                            | n/a                                              | 0.0                                     | 0.0                                              | 216.3                                   | 0.0                                              | 1,991,966,568.4                         |
| Broadacre crops – All other crops        | 284.4                                   | 0.0                                              | Not provided                            | n/a                                              | 0.0                                     | 0.0                                              | 284.4                                   | 0.0                                              | 8,990,218.1                             |
| Fruit and nuts (excl grapes)             | 138,125.6                               | 0.0                                              | 281,908.8                               | 0.0                                              | 1,455,058.2                             | 0.2                                              | 1,875,092.7                             | 0.3                                              | 613,971,115.4                           |
| Nurseries cut flowers or cultivated turf | 3,398,762.2                             | 1.1                                              | 6,829,671.4                             | 2.3                                              | 309,557.3                               | 0.1                                              | 10,537,990.8                            | 3.5                                              | 300,056,870.2                           |
| Vegetables for human consumption         | 20,576,332.7                            | 4.9                                              | 4,882,143.4                             | 1.2                                              | 1,431,631.4                             | 0.3                                              | 26,890,107.5                            | 6.4                                              | 419,918,982.4                           |
| Total value of crops                     | 24,637,089.1                            | 0.4                                              | 11,993,723.6                            | 0.2                                              | 3,203,628.2                             | 0.0                                              | 39,834,440.9                            | 0.6                                              | 6,897,226,723                           |
| Total agriculture                        | 83,181,094.4                            | 0.6                                              | 35,706,253.6                            | 0.3                                              | 8,603,524.4                             | 0.1                                              | 127,490,872.4                           | 1.0                                              | 13,085,845,904                          |

Notes: \* The Badgerys Creek-Greendale SA2 (127011505) defined in the 2011 Census and used in the 2015-2016 Agricultural Census was redefined as the Austral-Greendale SA2 (127011505) in the 2016 Census; The Green Valley – Cecil Hills SA2 (127011507) defined in the 2011 Census was redefined as the Cecil Hills (127011593), Green Valley (127011594) and Hinchinbrook (127011595) SA2's in the 2016 Census and was therefore not included in the table as it would cover a larger area than the Cecil Hills SA2.

Note \*\* Indicates gross value. The gross value estimates are derived by the multiplication of price and quantity estimates of agricultural commodities.

Source: Commonwealth of Australia (2017b), Value of Agricultural Commodities Produced, Australia 2015-16 (Catalogue number 7503.0) Land tenure



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