MENANGLE PARK

PLANNING PROPOSAL
DAHUA GROUP (AUST) PTY LTD

APP CORPORATION PTY LIMITED | NOVEMBER 2018

This report has been prepared and reviewed in accordance with our quality control system. The report is a preliminary draft unless it is signed below.

This report has been prepared by: Diana Khoury (Urban Planner) and Elise Crameri (Principal Planner)

Signature *Signature has been removed* Date

This report has been reviewed by: Elise Crameri (Principal Planner)

Signature *Signature has been removed* Date

APP Corporation
www.app.com.au

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

EXECUTIVE SUMMARY

This planning proposal is submitted to Campbelltown City Council in support of an amendment to Campbelltown Local Environmental Plan 2015 (Campbelltown LEP 2015) on behalf of Dahua Group (Aust) Pty Ltd (Dahua). The land to which the planning proposal relates and site includes all land owned or under the control of Dahua within the Menangle Park Urban Release Area (URA) and six (6) additional properties on the eastern side of Cummins Road owned or under the control of other landowners.

The proposed amendments come about as a result of Dahua's aspirations to re-imagine Menangle Park, to create a better and more resilient place, to cater for a range of different lifestyles, implement best practice planning and urban design, facilitate better investment in infrastructure and to provide additional housing and jobs on the site, that better meet the needs of the market.

The planning proposal is supported by a revised master plan which comprises:

- Approximately 5,250 dwellings (an increase of 1,850 dwellings) in a range of densities, lot sizes and dwelling types to suit first home buyers, families, single person households and key workers;
- The relocation and expansion of the town centre comprising 30,000m^2 of retail/employment Gross Floor Area (GFA) within the northern portion of the site, adjacent to Howes Creek and open space, and close to Spring Farm Parkway;
- The introduction of a new neighbourhood centre adjacent to the new school and open space (approximately 3,500m^2 of retail floor space);
- A revised road and street network to provide better permeability throughout the site including a new 7.6 - 9.6 m wide north-south green active transport link (approximately 1.25ha in total area);
- 134.81 ha of open space comprised of active and passive open space consisting of sporting fields, local parks and pocket parks and riparian corridor network;
- 43.96 ha of land for environmental conservation;
- Community facilities to support the proposed increase to the population; and
- A two (2) ha primary school adjacent to the neighbourhood centre and one (1) ha of open space.

There are sound planning reasons to support an amendment to the planning framework for Menangle Park at this time when investment certainty, housing affordability and land supply are key issues of concern at the national, state and regional level. The successful development of the site and larger Menangle Park URA within which the site is situated will assist the NSW Government in planning for more than 725,000 new homes to meet the envisaged 1.7 million additional people that will be living in Greater Sydney by 2056. It will also provide a range of housing choices to cater for different life stages and different needs of families, a key element that is deficient in the current plan for the area.

The proposed amendment is consistent with the NSW Government's Greater Sydney Region Plan – A Metropolis of Three Cities (March 2018) and Our Greater Sydney 2056 - Western City District Plan (March 2018) through / by:

- the more efficient use of land and infrastructure;
- providing additional housing in the right location, including missing middle product (small lot, villa and townhouses) along with residential apartments and large lot detached housing. This change better responds

to different cultural and socio-economic needs, tenures and price points, and contributes to the projected housing and employment needs of the Greater Macarthur Region (i.e. 34,700 dwellings and 17,000 jobs by 2036).

- ❖ providing an additional 1,850 dwellings, contributing to the minimum 5 year dwelling target of 6,800 dwellings required in Campbelltown LGA and to the Greater Macarthur Region dwelling target of 34,000 envisged by 2036;
- ❖ the creation of a town for people, by:
    - increasing walkable and bicycle access to and within Menangle Park, particularly north-south movements along a new and widened active transport link and improved connections to regional open space (i.e. Australian Botantic Gardens and Nepean River), Spring Farm Parkway and Campbelltown's existing network of open space;
    - providing public services and facilities to meet changing community needs including the introduction of a number of pocket parks (0.3 ha - 2 ha in area) within 400 m of every household;
    - increasing the function and usability of community infrastructure (i.e. co-locating facilities, multi-purpose);
    - creating a community which is healthy, resilient and socially connected;
    - housing the city, by increasing housing supply and providing housing that is more diverse and affordable;
    - creating a city of great places, by increasing access to open space, creating great places that bring people together and providing land for environmental conservation. The revised master plan divides the town into eight (8) precincts or neighbourhoods that will have their own focus and theme, housing type, street type and landscape character (i.e. Botanic Gardens, Glenlee Homestead, Town Centre, Station and Horse Racing, Riverside, Recreation etc). These precincts will assist in fostering a sense of belonging amongst the local community;
- ❖ providing a more connected town with new homes only a 10 minute train, bike or car journey to Campbelltown CBD, and supporting Campbelltown CBD as it is re-imagined and transformed into a 30 minute, modern metropolis and leading centre of health services, medical research and med-tech activity in Greater Macarthur;
- ❖ creating a stronger economy, by increasing the number of jobs within the Menangle Park URA from 5,248 full time equivalent jobs (including 2,200 direct jobs) to 8,047 full time equivalent jobs (including 3,417 direct jobs) and providing better opportunities for investment and business through the provision of up to 30,000m2 of GFA within the proposed town centre and providing a new 3,500m2 GFA neighbourhood centre within the southern portion of the site, co-located with the new school and active open space;
- ❖ Economic modelling indicates the additional household expenditure would support:
- ❖ $120 million in output ($60 million in direct activity).
- ❖ $70 million in contribution to gross regional product ($37 million in direct activity).
- ❖ $35 million in incomes and salaries paid to households.
- ❖ 567 full-time equivalent jobs (including 350 direct employees).
- ❖ valuing green spaces and landscape by:
- ❖ increasing urban tree canopy through the provision of 134.81 ha of connected high quality landscaped active and passive open space, riparian corridor and tree lined streets;
- ❖ protecting waterways through the water sensitive urban design; and
- ❖ setting aside additional land for environmental conservation and protecting scenic and cultural landscapes;
- ❖ an efficient city which uses resources wisely; and
- ❖ a resilient city, which is underpinned by a new structure plan that is dynamic, can respond to the needs and aspirations of people, now and into the future as well as changes in the market.

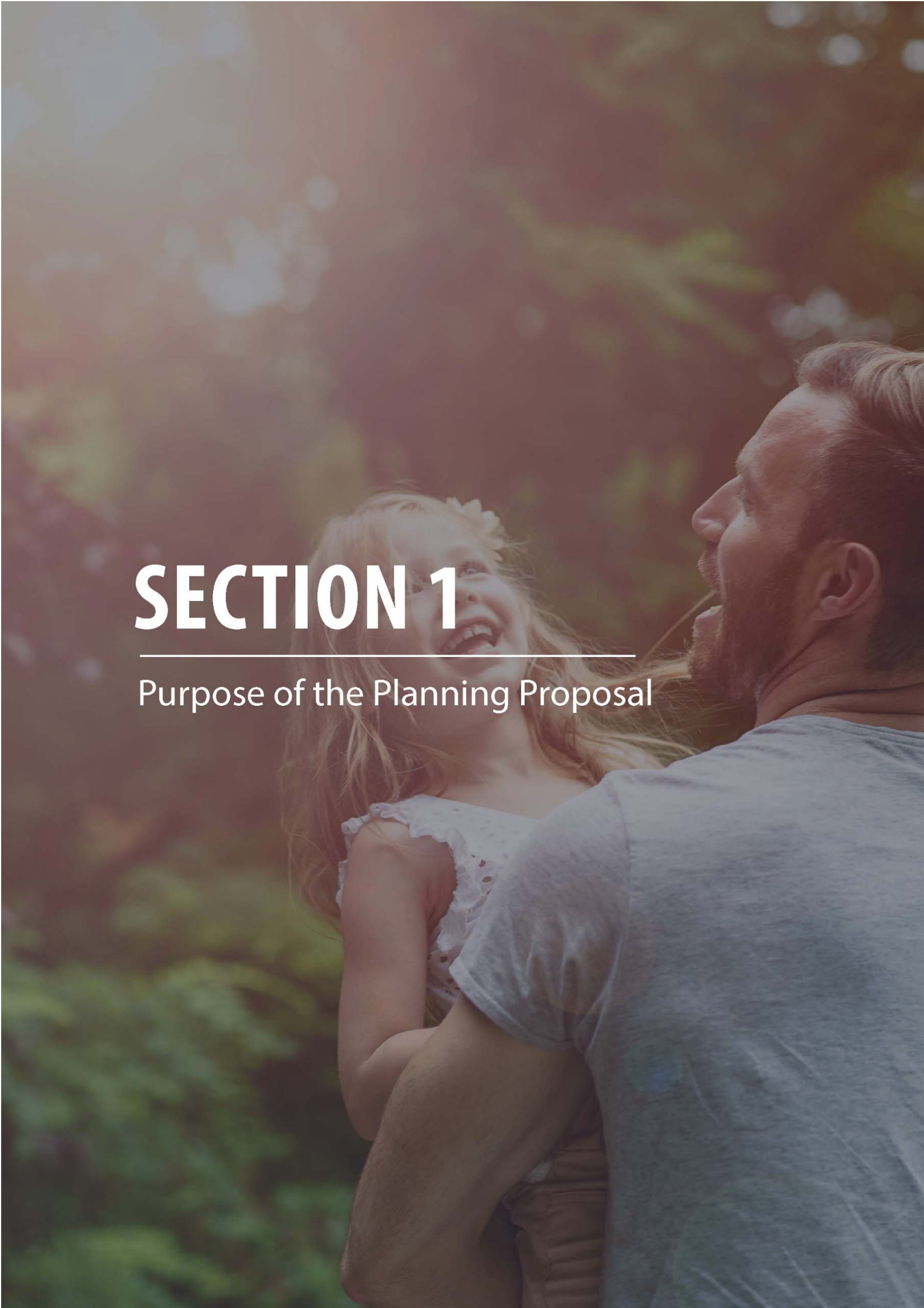
The proposed amendment to the existing planning framework will deliver a range of densities, lot sizes and dwelling types and create a diverse community that is demographically balanced. The variety of housing forms will provide opportunities to respond to changing life cycle, lifestyle and work requirements over time, enabling people to age in place.

The proposal bucks the historic trend of providing lower density development in much of Western Sydney - which increases car dependency. Given that Menangle Park incorporates a variety of employment generating land uses, retail, education, residential, community and sporting facilities, it is expected to facilitate a more self-contained town that provides residential living alongside where people work, or within a 10 minute train, bus or car ride from Campbelltown CBD, shop and play, reducing car usage by reducing the need for people to travel outside of the town to meet their daily needs and services. The site is capable of speedy and well planned development with the first lots ready to be taken up in 2019.

Detailed investigations of site constraints demonstrate that it continues to be relatively free of major physical constraints. The planning proposal presents a holistic and integrated outcome for the site and its integration within the broader Menangle Park URA (within which the site is situated) with regard to biodiversity, water and flooding, European and Aboriginal archaeology, bushfire and other environmental features. The planning proposal demonstrates that the proposed development is satisfactory with respect to:

- transport and traffic;
- biodiversity values;
- servicing of water, waste water and power;
- flood impact, stormwater management and water quality;
- european and indigenous heritage;
- noise;
- bushfire; and
- open space and social infrastructure.

The suitability and capacity of the site for the proposed range and intensity of uses taking into account the site's regional context and environmental, economic and social opportunities and constraints has been addressed and the redevelopment of the site will result in significant benefits for south-west Sydney and its future residents.



SECTION 1

Purpose of the Planning Proposal

1. PURPOSE OF THE PLANNING PROPOSAL

This planning proposal is submitted to Campbelltown City Council (Council) in support of an amendment to Campbelltown Local Environmental Plan 2015 (Campbelltown LEP 2015) on behalf of Dahua Group (Aust) Pty Ltd (Dahua). The planning proposal relates to land within the Menangle Park Urban Release Area (URA) and follows the preparation of preliminary planning proposal that was provided to Council in May 2018.

The Menangle Park URA comprises a total area of 958 hectares (ha), of which 498 ha are owned or under the control of Dahua. The land to which the planning proposal relates and site includes all land owned or under the control of Dahua and six (6) additional properties on the eastern side of Cummins Road owned or under the control of other landowners (refer to Figure 1).

The Menangle Park URA and site was rezoned from rural to urban purposes on 18 November 2017. The previous rezoning sought to accommodate approximately 3,400 residential dwellings, a town centre, a school site, employment land, community facilities and land for public recreation. This planning proposal builds upon the site's previous rezoning and associated structure plan to create a new, sustainable, healthy and high quality residential community that is better aligned with the long-term vision for the Menangle Park URA which seeks to establish a well-connected, vibrant town with jobs close to homes.

The planning proposal is supported by a revised master plan which comprises:

- Approximately 5,250 dwellings (an increase of 1,850 dwellings) in a range of densities, lot sizes and dwelling types to suit first home buyers, families, single person households and key workers – and creating a community that is demographically balanced;
- The relocation and expansion of the town centre comprising 30,000m² of retail/ employment Gross Floor Area (GFA) within the northern portion of the site, adjacent to Howes Creek and open space, and close to Spring Farm Parkway;
- The introduction of a new neighbourhood centre adjacent to the new school and open space (approximately 3,500m² of retail floor space);
- A revised road and street network to provide better permeability throughout the site including a new 7.6 - 9.6 m wide north-south green active transport link (approximately 1.25ha in total area);
- 134.81 ha of open space comprised of active and passive open space consisting of sporting fields, local parks and pocket parks and riparian corridor network;
- 43.96 ha of land for environmental conservation;
- Community facilities to support the proposed increase to the population; and
- A two (2) ha primary school adjacent to the neighbourhood centre and one (1) ha of open space.

This planning proposal is based on plans and information provided by Roberts Day and other supporting technical documents (refer to Table of Contents). It has been prepared in accordance with the Department of Planning and Environment's (the Department) '*A Guide to preparing Planning Proposals (August 2016)*' and will consist of the following parts:

Part 1 – Objectives or intended outcomes of the proposed rezoning and subsequent LEP amendments.

Part 2 – A plain-English explanation of the legislative provisions that would apply to the site under the proposed instrument.

Part 3 – Justification of the proposed amendment including the objectives, outcome and process for implementation. This part will also contain the strategic planning framework, environmental and social impact and identification and discussion of any relevant State or Commonwealth interests.

Part 4 – Mapping to depict the proposed LEP amendments.

Part 5- Community consultation that is to be undertaken in respect of the planning proposal as it progresses through to the Gateway process.

Part 6 – Project timeline of the proposed amendment.

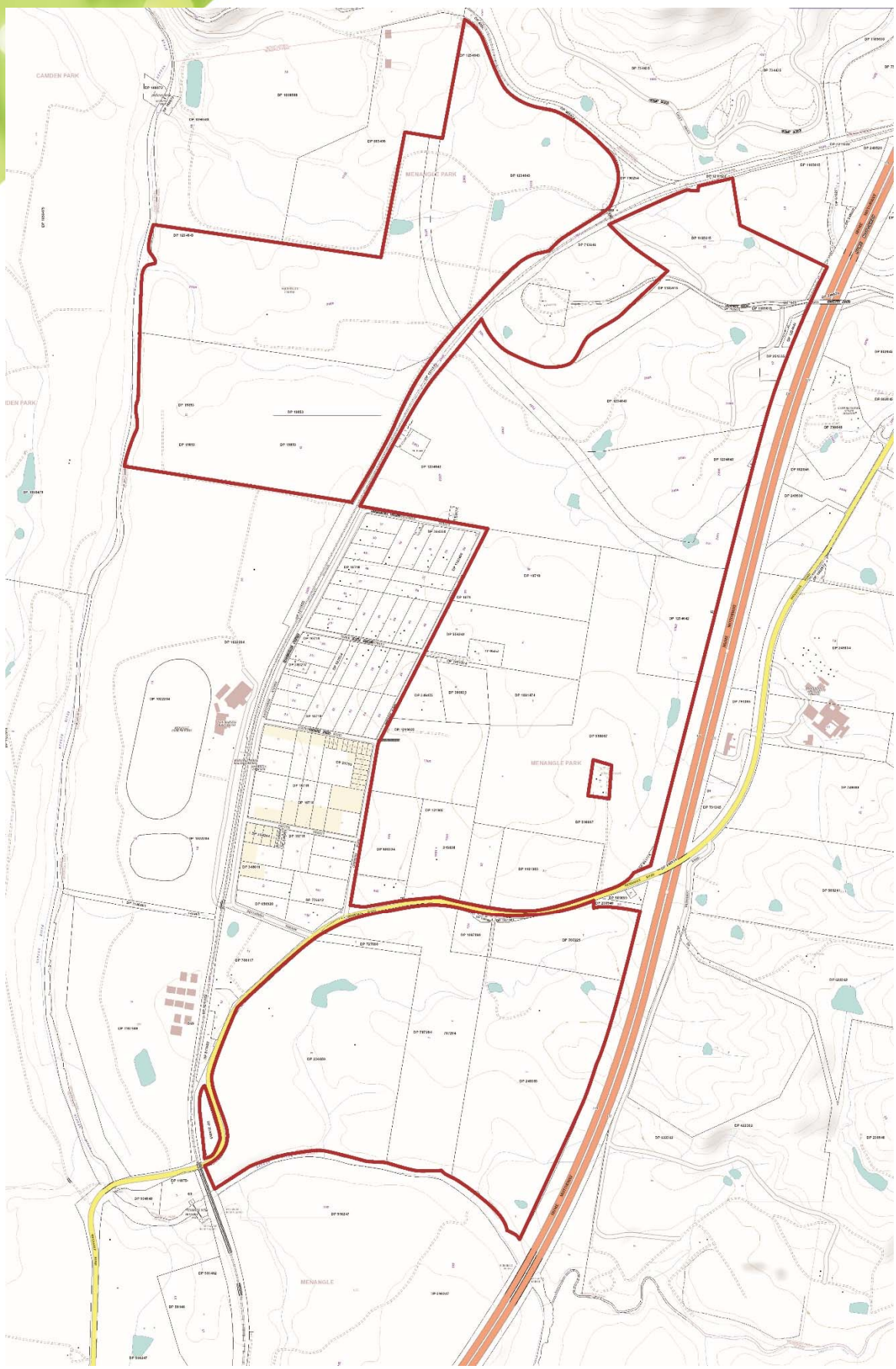


Figure 1 Land to which the planning proposal relates

1.1 STRUCTURE OF THIS REPORT

Volume 1 of the planning proposal is structured as follows:

- Section 2 – Site Analysis
- Section 3 – Master plan
- Section 4 – Proposed LEP Amendment
- Section 5 – Development Control Plan
- Section 6 – Voluntary Planning Agreement/Development Contributions
- Section 7 – Strategic Justification
- Section 8 – Environmental, Social and Economic Impact
- Section 9 – Consideration in accordance with Part 3, Division 3.4 of the *Environmental Planning and Assessment Act 1979*
- Section 10 – Conclusion

Volume 2 contains the contains the appendices which include the technical studies undertaken to inform the proposed land use changes and master plan and its environmental assessment, including ecology, landscape, heritage, engineering (infrastructure, water cycle, flooding), transport, contamination and geotechnical assessments).

1.2 TECHNICAL TEAM

The expert team formed to prepare this planning proposal and supporting revised master plan includes the following consultants (refer to Table 1).

Table 1 Project Team

CONSULTANT	TECHNICAL STUDIES
APP Corporation Pty Ltd	Statutory Planning
Roberts Day	Urban Design Report Vision Document
GTA	Traffic and Transport Assessment
Elton Consulting	Social Impact Assessment
AEC	Economic Impact Assessment
Extent	European Heritage
Kelleher Nightingale Consulting	Aboriginal Heritage
Cumberland Ecology	Ecology
Eco Logical	Bushfire
SMEC	Services and Infrastructure, Water Cycle Management and Flooding
TTM Consulting	Acoustic
Douglas Partners	Contamination
Douglas Partners	Geotechnical
Place Design Group	Landscape and Open Space Character Report

1.3 BACKGROUND

An overview of the relevant background information, consultation with Council and authorities is provided below.

1.3.1 CURRENT DEVELOPMENT APPLICATIONS

Since the rezoning of the Menangle Park URA in November 2017, a number of subdivision and associated works Development Application (DAs) on land owned or under the control of Dahua have been lodged with Council. A summary of these applications is provided in Table 2.

The subdivision DAs are located in the south-eastern portion of the URA, north of Menangle Road, as well as to the south of Menangle Road.

Table 2 provides a summary of these applications

Table 2 Subdivision DAs lodged with Council

DA REFERENCE NO.	DESCRIPTION
DA 3885/2017-SW	Stage 1 – Subdivision of 255 residential lots and 7 super lots including works
DA 292/2018-SW	Stage 2A – Civil works and subdivision into 89 Torrens title allotments
681/2018/DA –SW	Stage 2B – Subdivision into 90 Torrens title allotments and 3 residue allotments
2023/2018/DA-CW	Temporary Sales Office - construction of a temporary sales office on land to the south of the intersection of Cummins and Menangle Road, Menangle Park
2393/2018/DA-CW	Landscaping works and associated civil works – design and construction of two parks (Hill Top Park on the northern side of Menangle Road; and Linear Park along the northern side of Menangle Road and western side of the Hume Highway).
2807/2018/DA-CW	Cummins and Menangle Road Intersection - design and construction of a new four leg roundabout at the intersection of Cummins and Menangle Road
3199/2017/DA-A	Advertising/Signage – construction of eight freestanding pylon signs
3315/2018/DA-DW	Vegetation Management – development of vegetation management on site including removal, proposed offset areas and areas that will be retained.
4057/2018/DA-SW	Stage 3 - Subdivision to create 355 residential lots, within 6 sub stages and works

1.3.2 PRELIMINARY PLANNING PROPOSAL

In May 2018 a preliminary planning proposal for the site was submitted to Council. The purpose of this document was to provide Council with an overview of the proposed amendment, supporting technical studies and a revised structure plan and to seek Council officer's feedback on this document prior to formal lodgement of the planning proposal. This being seen as a way to accelerate the formal assessment of the planning proposal once lodged. Council officer comments on the preliminary planning proposal were provided on 28 August 2018. A workshop was then held with Council, Dahua and key consultants on 21 September 2018 to discuss comments in detail. The planning proposal was subsequently refined following feedback from Council. A copy of the minutes from the workshop and Dahua's response is provided at **Appendix A.**

1.3.3 COUNCILLOR BRIEFING

On 16 October 2018, Dahua and its key consultants briefed the elected Council on the planning proposal. The planning proposal has subsequently been further refined as a result of feedback received during this briefing. In particular, the green active transport link has been widened and information around the ability of all lot sizes proposed to accommodate mature landscaping has been strengthened.

1.3.4 CONSULTATION

In addition to on-going meetings with Council, consultation has been undertaken with the following organisations and community groups, some of which has occurred through technical consultants in informing their assessment/s:

- Department of Planning and Environment;
- NSW Roads and Maritime Services;
- NSW Department of Education and Training;
- NSW Office of Environment and Heritage
- Menangle Park Paceway and Club Menangle;
- Broughton Anglican College;
- The Australian Botanic Gardens;
- Department of Industries; and
- Mine Subsidence Board.

A community information session was held on 17 October 2018 at Club Menangle. The session provided an open forum for stakeholders and neighbouring landowners, to discuss the proposed amendments to the master plan. A total of 24 attendees were present at the information session. Key themes discussed related to the proposed re-location of the school, traffic, open and green space provisions, flooding, design and lot sizes, timing of the Town Centre, general development status as well as staging. Further community consultation will occur as part of the planning proposal exhibition process.

SECTION 2

Site Analysis

2. SITE ANALYSIS

2.1 SITE LOCATION

The site is approximately 5.5km to the south-west of the Campbelltown CBD, 23km south of Liverpool CBD, and 65km south west of Sydney CBD (refer to Figure 1). The site is within the Menangle Park URA which is bound by the Nepean River to the south and west, the Hume Highway (M31) to the east and the Australian Botanic Gardens to the north (refer to Figure 2). The Main Southern Railway Line dissects the Menangle Park URA in a north south direction. The existing land uses comprise predominantly rural and associated uses including horse related activities, residential and rural/residential uses.

Within the Greater Sydney Regional Plan (A Metropolis of three cities), Menangle Park (which includes the site) is identified as part of the Greater Macarthur Growth (GMGA) Land Release Area, alongside Mount Gilead and Wilton. The GMGA is earmarked by the NSW Government to accommodate the growing population of Sydney. Its role is reaffirmed within the Western City District Plan, which recognises its additional capacity for housing supply. Figure 2 depicts the site in the context of the Greater Sydney Region structure plan.

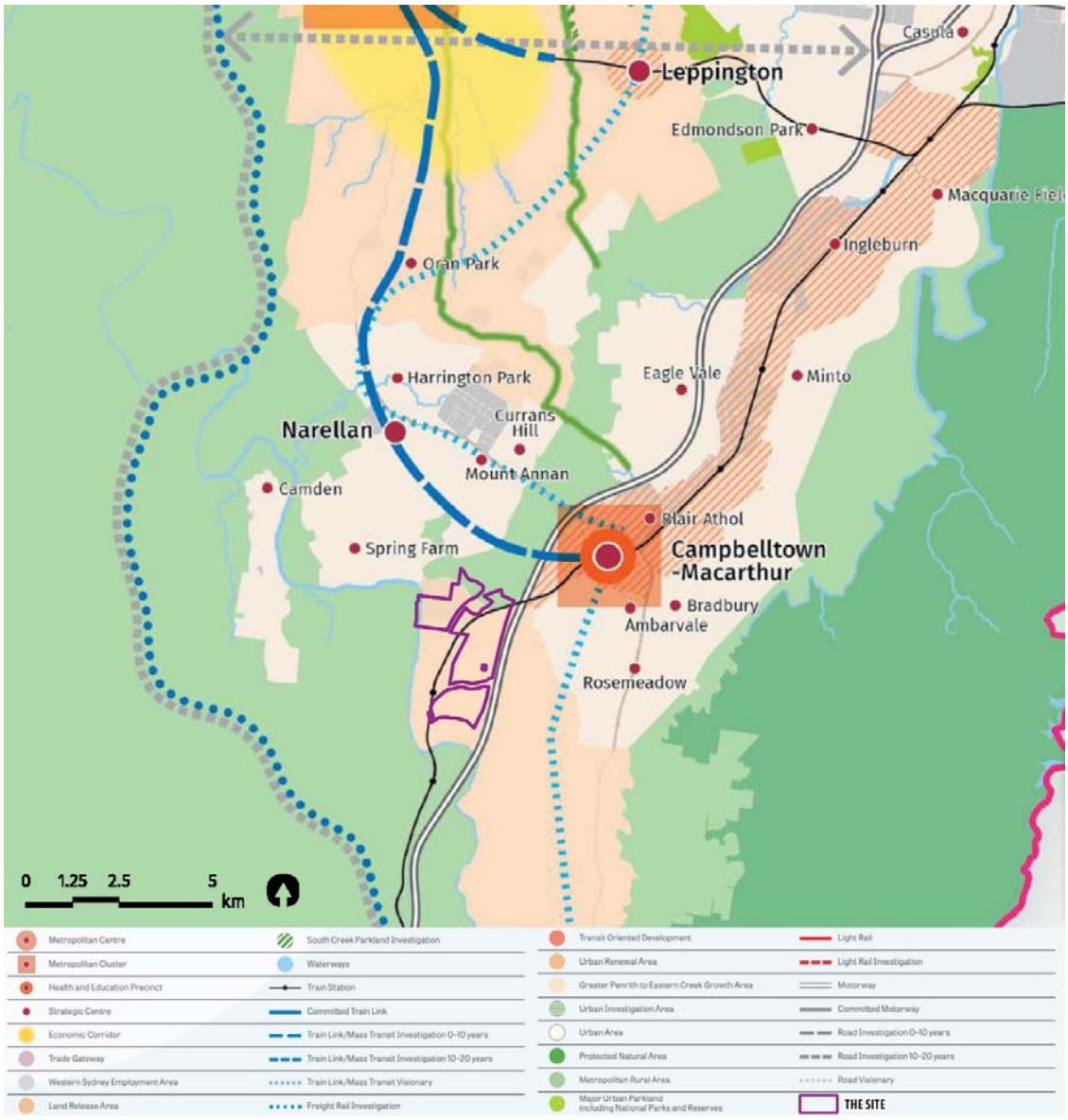


Figure 2 The Site in Relation to the Greater Region Structure Plan

2.2 SURROUNDING DEVELOPMENT

To the north-east of the site is the TransGrid electrical substation. Further north, on the opposite side of the railway is the 416ha Australian Botanic Gardens – a popular attraction for residents and visitors. To the north-west of the site is the Glenlee Precinct (part of), which falls within the Campbelltown LGA. The Glenlee precinct was previously used as a coal washery and reject coal emplacement, and is currently the subject of a planning proposal seeking to redevelop the land for more employment purposes. To the south of the site is the Nepean River. A crushed sandstone quarry is located south of the River.

To the east of the site, on the opposite side of the Hume Highway is rural land. Land to the west of the site, on the opposite side of Cummins Road forms part of the Menangle Park URA and includes the Menangle Park Train Station and Menangle Park Paceway. The rural land between the rail line / Menangle Park Paceway in the west and Cummins Road to the east was rezoned for a mix of low and medium density residential uses and open space.

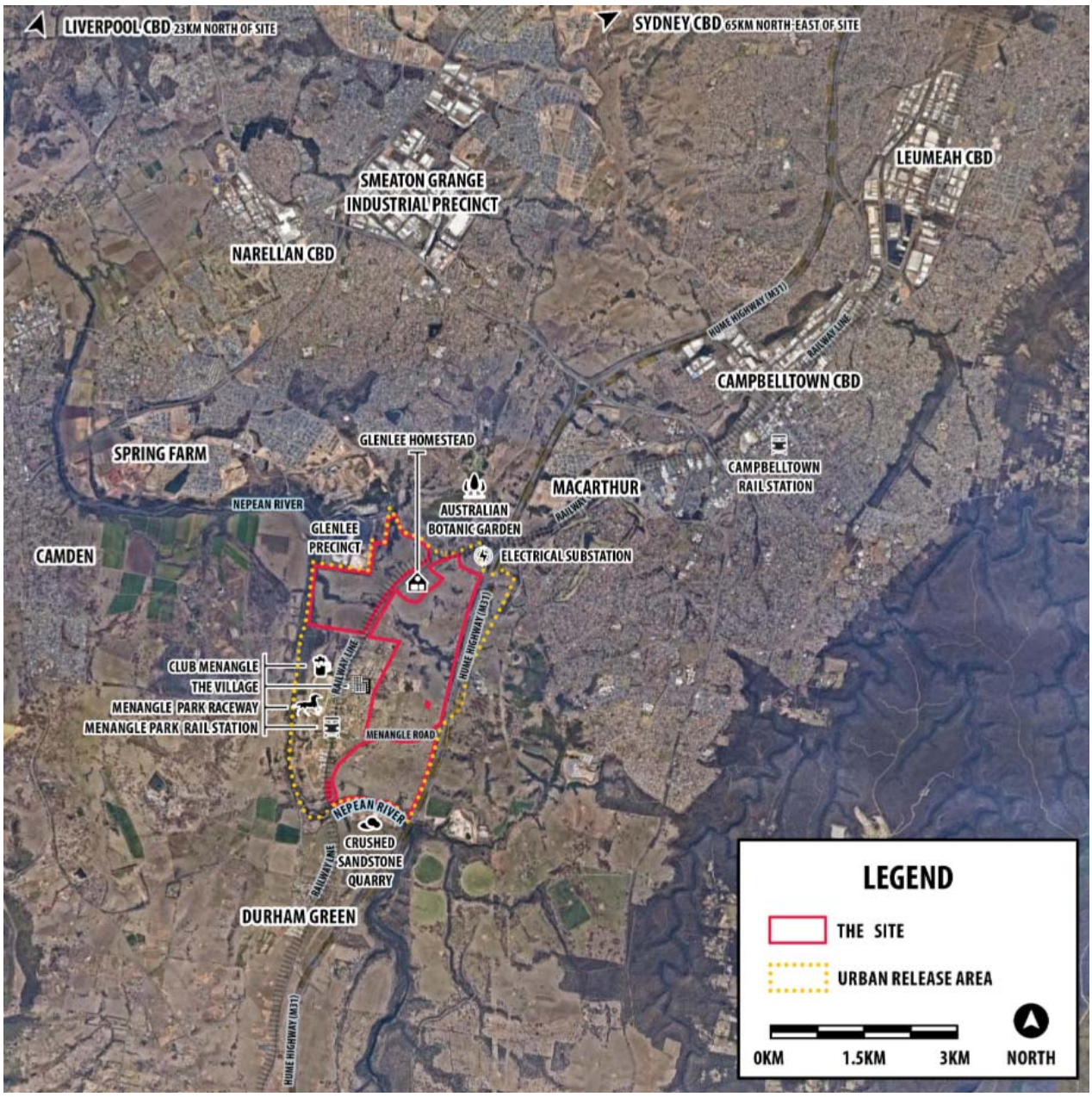


Figure 3 Site Location

2.3 LAND OWNERSHIP AND LEGAL DESCRIPTION

The site is approximately 507 ha, is irregular shaped and comprises 36 allotments. The site's legal description and ownership details are provided in Table 3.

Table 3 Legal Description of the site

LOT:	DEPOSITED PLAN (DP):	OWNER:
3	236059	Dahua Group Sydney 3 Pty Ltd
1	727098	Dahua Group Sydney 3 Pty Ltd
7	787284	Dahua Group Sydney 3 Pty Ltd
1	249393	Dahua Group Sydney 3 Pty Ltd
1	707225	Dahua Group Sydney 3 Pty Ltd
31 & 33	1101983	Dahua Group Sydney 3 Pty Ltd
1	708770	Dahua Group Sydney 3 Pty Ltd
124	1097090	Dahua Group Sydney 3 Pty Ltd
125	1097138	Dahua Group Sydney 3 Pty Ltd
641	600334	Dahua Group Sydney 2 Pty Ltd
1001	1219028	Dahua Group Sydney 2 Pty Ltd
32	1101983	Dahua Group Sydney 2 Pty Ltd
1	598067	Dahua Group Sydney 2 Pty Ltd
11	584016	Dahua Group Sydney 2 Pty Ltd
1000	1219023	Landcom
1	1091474	Landcom
2	554242	Landcom
59	10718	Landcom
D	19853	Landcom
X	378264	Landcom
2	790254	Landcom
2	737485	Landcom
5, 8-9	249530	Landcom
12,15, 17	251335	Landcom
4	628052	Landcom
1	737485	Water Board
1	534114	John Robert Brownlee & Marion Brownlee
1	554242	Troy Barrie Martin & Jason James Young

LOT:	DEPOSITED PLAN (DP):	OWNER:
1	349475	Field Developments Pty Ltd
A	380033	Rogan Property Group Pty Ltd
642	600334	Shirley Lorraine Cocker & Helen Margaret Martin

2.4 EXISTING LAND USES AND DEVELOPMENT

The site is currently used for temporary low intensity farming, primarily grazing land for cattle and horses with a few rural-residential properties on parts of the site. There are two gas wells in the open space / riparian area adjacent to Howes Creek, in the eastern portion of the site. AGL has confirmed that these gas wells are anticipated to cease production in 2022 and following this will be scheduled for rehabilitation.

2.5 TOPOGRAPHY

The site is generally characterised by undulating hills with gentle to moderate slopes to the north, east and south, flattening out towards the centre. Steeper slopes are present along the ridgeline in the north-eastern portion of the site.

2.6 HYDROLOGY

The site is positioned within the Hawkesbury/Nepean catchment. The Nepean River is located along the southern and western boundary of the site and function's as the main surface drainage system on the site. A number of smaller drainage lines and catchments which stem from the main system also provide drainage functions on the site and drain westward towards the Nepean River. Figure 4 depicts the drainage catchments on the site.

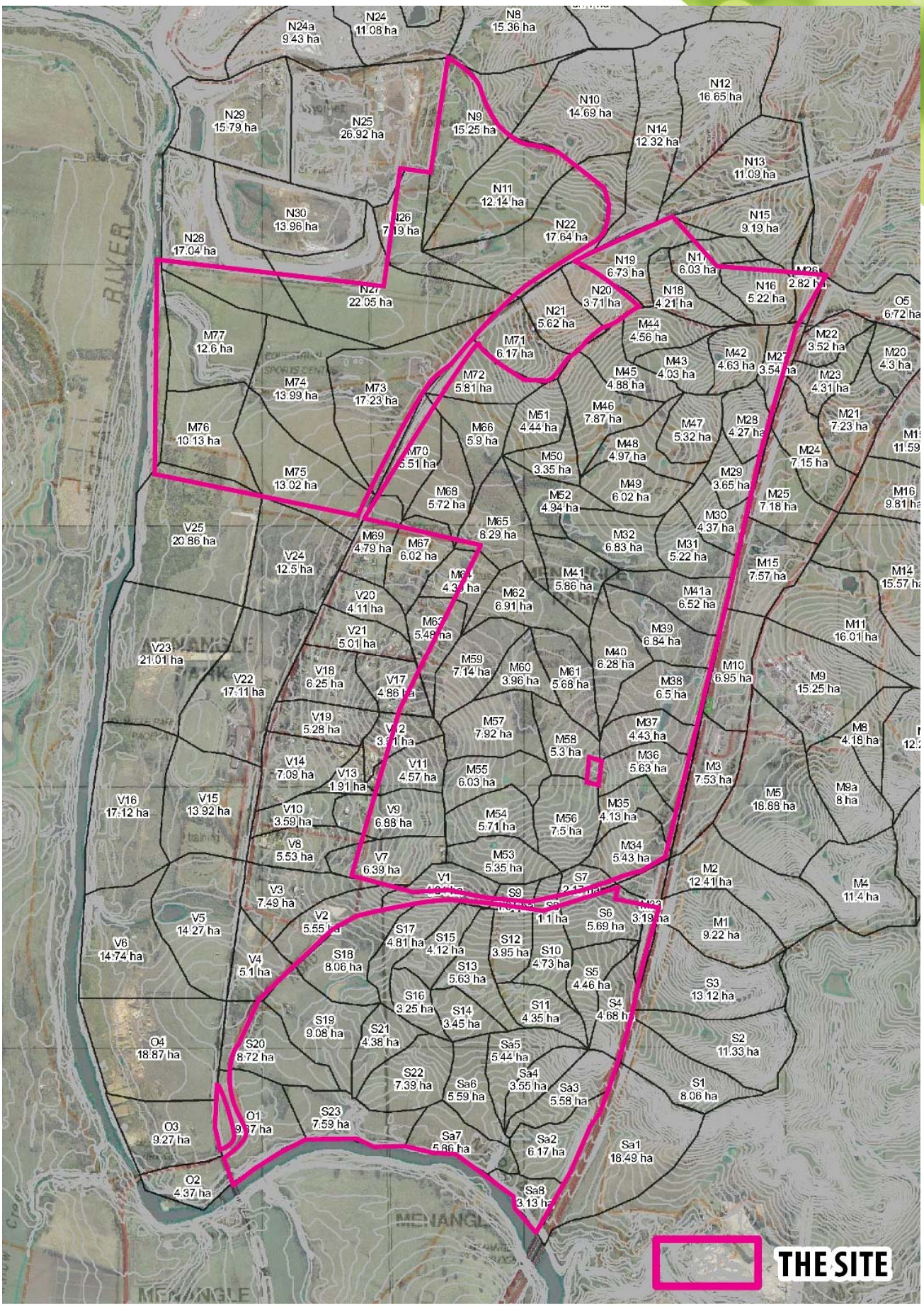


Figure 4 Drainage Catchments on site (GHD, 2010)

2.7 FLOODING

The site is affected by the 1 in 100 ARI flood event (refer to Figure 5). Inundation to the west of the railway line, dominated by the Nepean River, is typically 4-5 metres, exceeding 8 metres in some locations. Inundation to the east of the railway line is typically contained in close proximity to the main creeks and watercourses, although more extensive inundation is predicted upstream of major flow impediments such as the Hume Motorway. Peak 1% AEP floodwater depths along these watercourses are typically less than 1 metre.

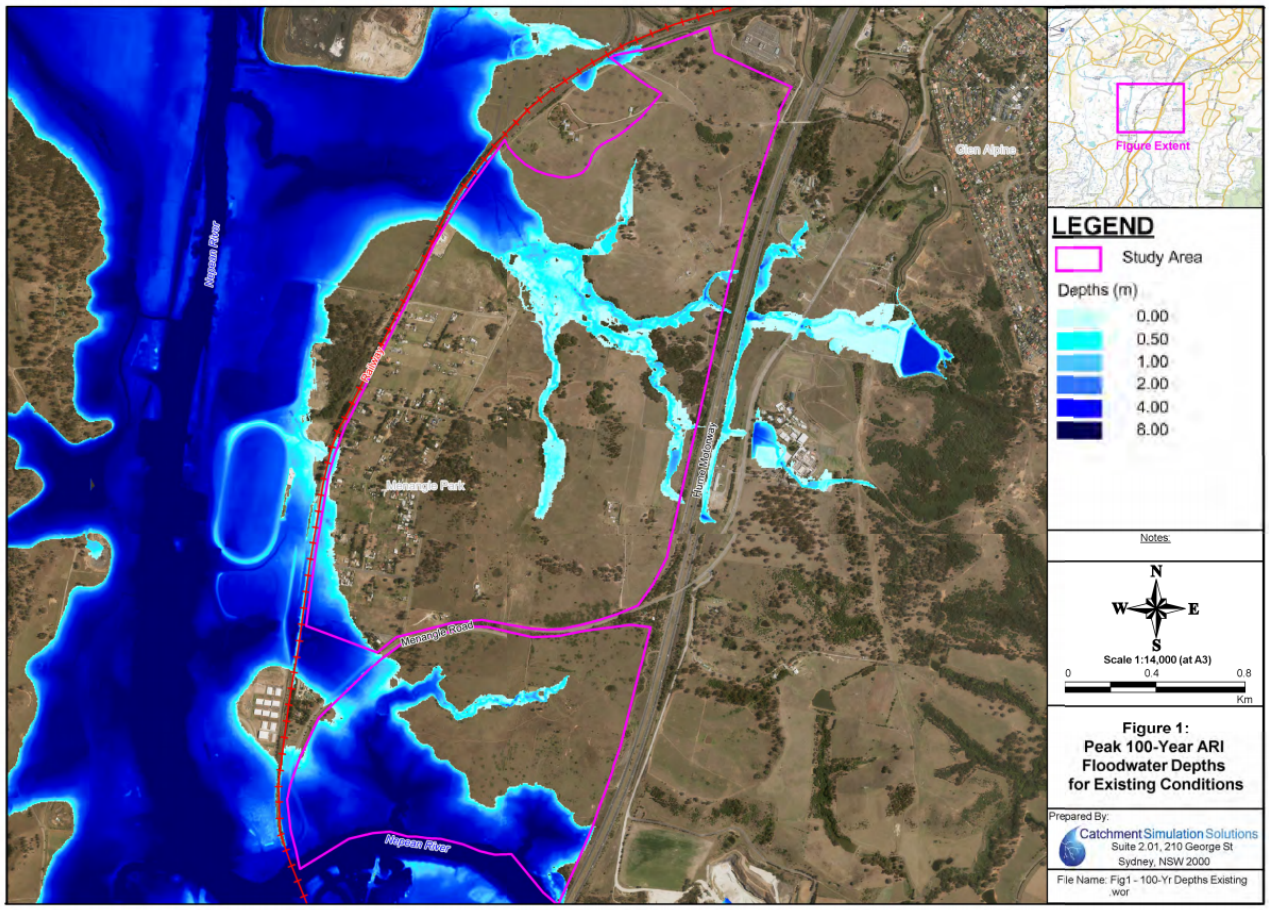


Figure 5 1 Peak 100-Year ARI Floodwater Depths for Existing Conditions (Source: Catchment Simulation Solutions, 2018)

2.8 GEOLOGY

The northern and southern portions of the site are characterised by two main geological units, namely the Bringelly Shale and Ashfield Shale, whilst flat-lying areas in the western portion of the site are dominated by Quaternary "low-level" alluvial deposits of the Nepean River Valley, and tertiary "high-level" alluvial deposits within the central portion of the site.

The Ashfield Shale is typically comprised of siltstone and laminate. Bringelly Shale is overlain by Minchinbury Sandstone which is a fine to medium grained quartz-lithic sandstone. Quaternary alluvial deposits of the Nepean River are mainly derived from weathering of Permian and Triassic bedrock and comprise typically grey-brown, medium grained quartz lithic sandstone which is light grey when fresh.

2.9 CONTAMINATION

Two Preliminary Site Investigation (PSI) were undertaken by Douglas and Partners in relation to the northern and southern portions of the site (refer to reports included at **Appendix B**). A total of 23 Areas of Environmental Concern (AEC) were identified across the site, 21 of which are located within the northern site (refer to Figure 6). These areas are associated with previous land uses activities including coal wash material, fill and stockpiles, former fireworks factory, stockpiles and suspected filling.

A number of potential AECs were identified within the southern portion of the site, however following investigations, only two were deemed as AECs. These AECs are associated with an Asbestos Containing Material (ACM) pipe and soil stockpile (refer to Figure 6).

Both investigations concluded that the potential for contamination constraints on the site and in respect to the proposed development, excluding identified AECs, is low. The AECs will require further investigation upon developing the site.

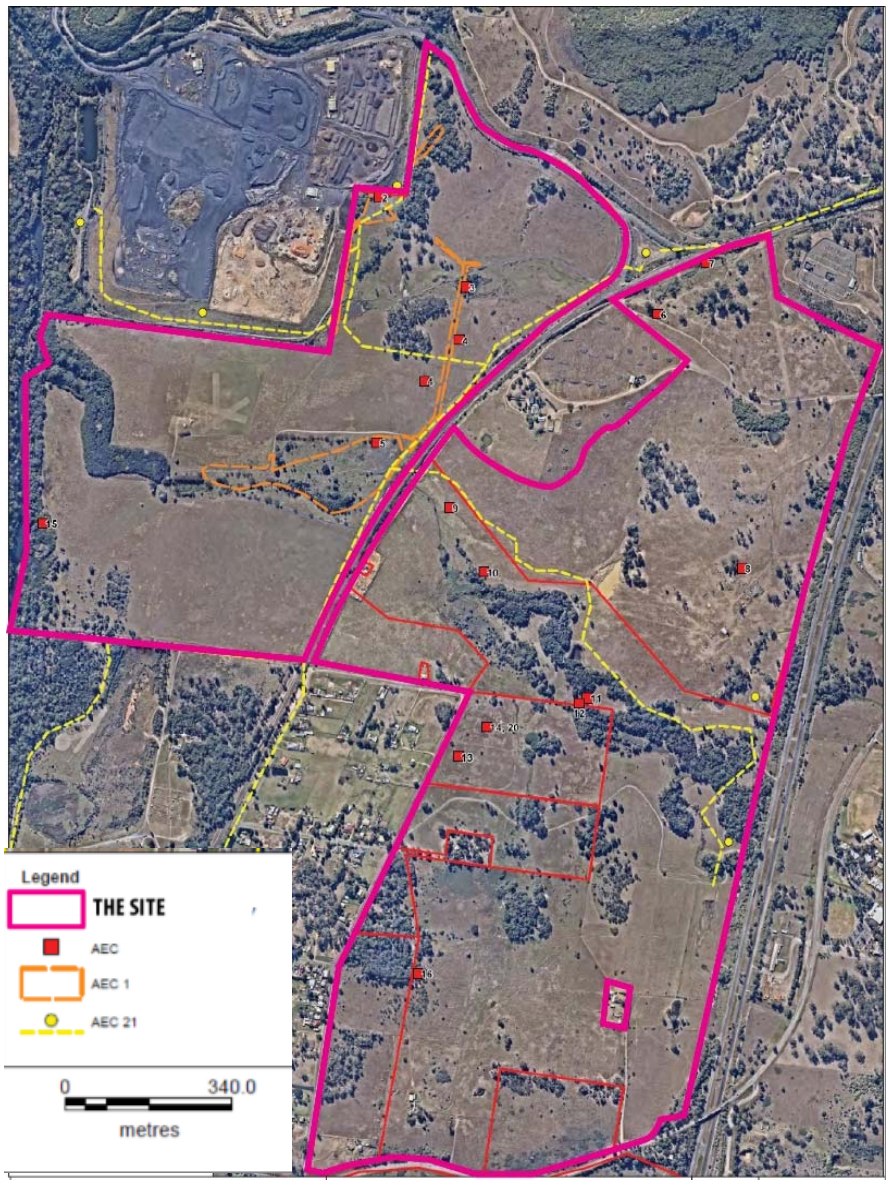


Figure 6 Areas of environmental concern (northern portion of the site)

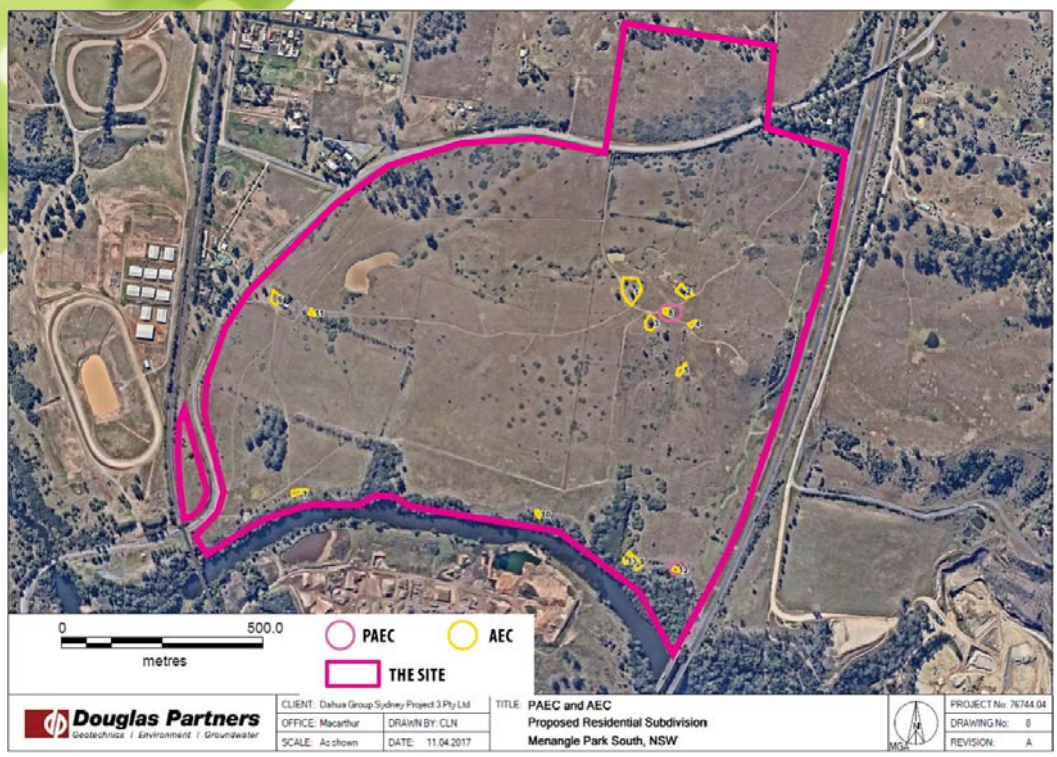


Figure 7 Areas of environmental concern (southern portion of the site)

2.10 HERITAGE

2.10.1 EUROPEAN HERITAGE

The site does not contain any items of local or State heritage significance and is not located within a heritage conservation area. There are a number of local and state heritage items within proximity to the site. These items are identified in Table 4 and illustrated in Figure 8.

Table 4 Heritage Items within the vicinity of the site

ITEM	LISTING	LOCATION/DISTANCE FROM THE SITE (APPROX. METRES)
Menangle House Outbuildings	Local - Campbelltown LEP 2015	100 m to the south west of the site
Menangle Park Paceway	Local - Campbelltown LEP 2015	Immediately adjoins the rural lands within the north-west of the site
The Pines	Local - Campbelltown LEP 2015	70 metres to the south-west of the site
Riverview	Local - Campbelltown LEP 2015	Immediately adjoins the south-east of the site (south of Menangle Road)
Menangle Weir	Local - Campbelltown LEP 2015	150 metres to the south of the site
Menangle Landscape Conservation Area	Local – Wollondilly LEP 2011	150 metres to the south of the site

ITEM	LISTING	LOCATION/DISTANCE FROM THE SITE (APPROX. METRES)
Glenlee Outbuildings	State – State Heritage Register	Immediately adjoins the north-east boundary of the site (on the eastern side of the railway line)
Menangle Rail Bridge	State – State Heritage Register	Immediately adjoins the southern boundary of the site and extends over the Nepean River
Sugarloaf Farm	State – State Heritage Register	300 metres to the east of the site
Upper Canal System	State– State Heritage Register	250 metres to the north east of the site
Camden Park Estate	State – State Heritage Register	Adjoins the rural lands/employment lands within the site to the north-west.

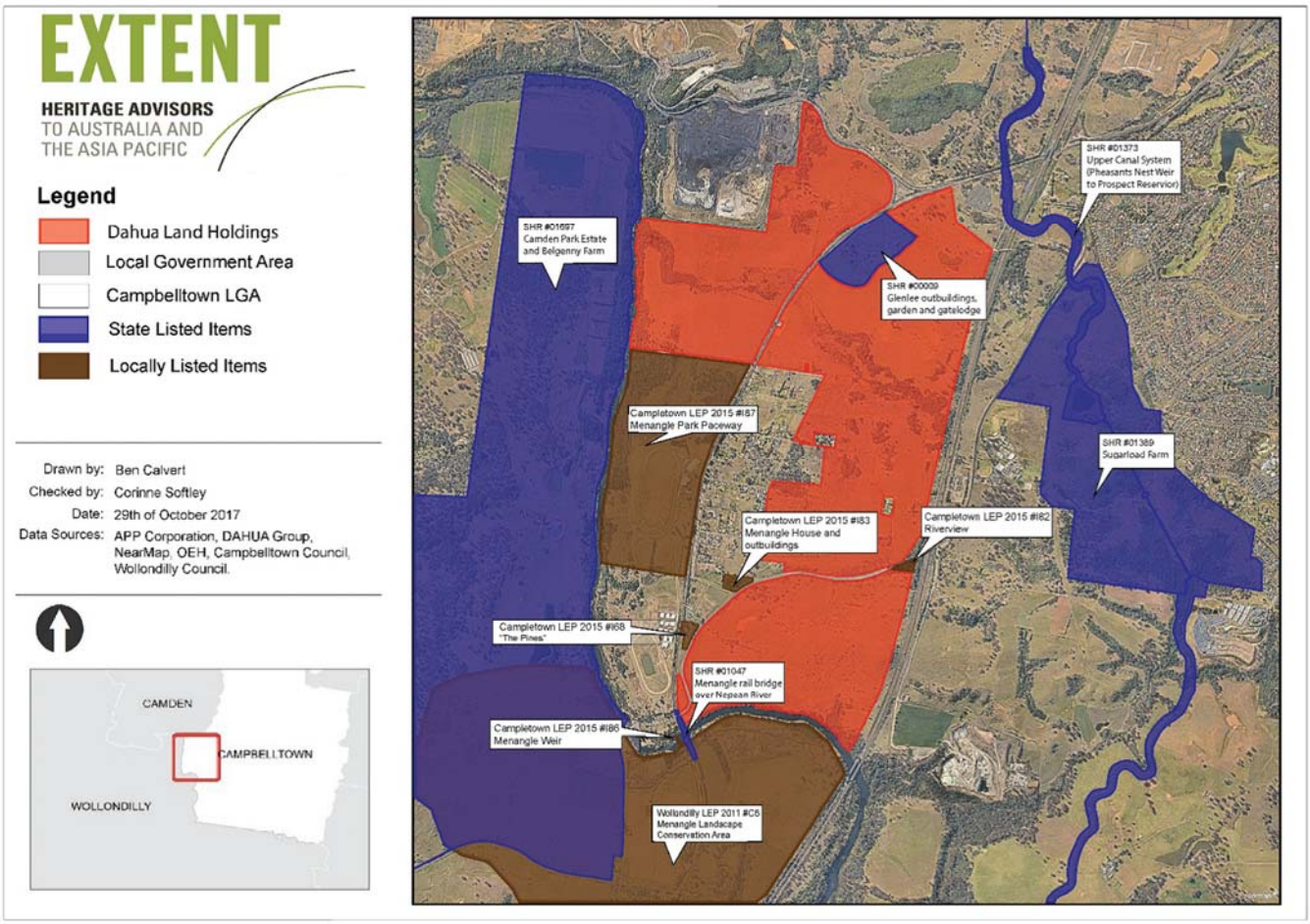


Figure 8 Heritage Items in the vicinity of the site

A previous European assessment of the Menangle Park URA, which included the site, was undertaken by Casey & Lowe in 2010 to support the previous rezoning. This assessment identified two potential built heritage items on the site, namely:

- The cattle pens, ramps and dairy bails to the north of the site on Lot 52 in DP 1105615.
- Two silo structures, estimated to have been constructed in the 1930s within the south of the site on Lot 1 in DP 249393 and Lot 3 Menangle Road, Menangle Park.

In relation to the cattle pens, ramps and dairy bails, the assessment concluded that these structures were in poor condition and contributed little towards the understanding of the history of the area. In relation to the two silos, a condition assessment undertaken by SMEC in April 2018 found these structures to be in a poor condition and unsafe to retain (refer to condition assessment report included at **Appendix C**).

2.10.2 EUROPEAN ARCHAEOLOGICAL HERITAGE

A European Archaeological Heritage assessment of the site was undertaken by Extent (refer to **Appendix D**). The assessment found the site to have low-medium archaeological potential (refer to Figure 9). Site's with low-medium archaeological potential are not considered to contain relics and as such testing and monitoring prior to or in conjunction with redevelopment work is not required. Areas of high archaeological potential are outside of the site and include Glenlee House, Menangle House, Riverview, The Pines and Upper Canal System.

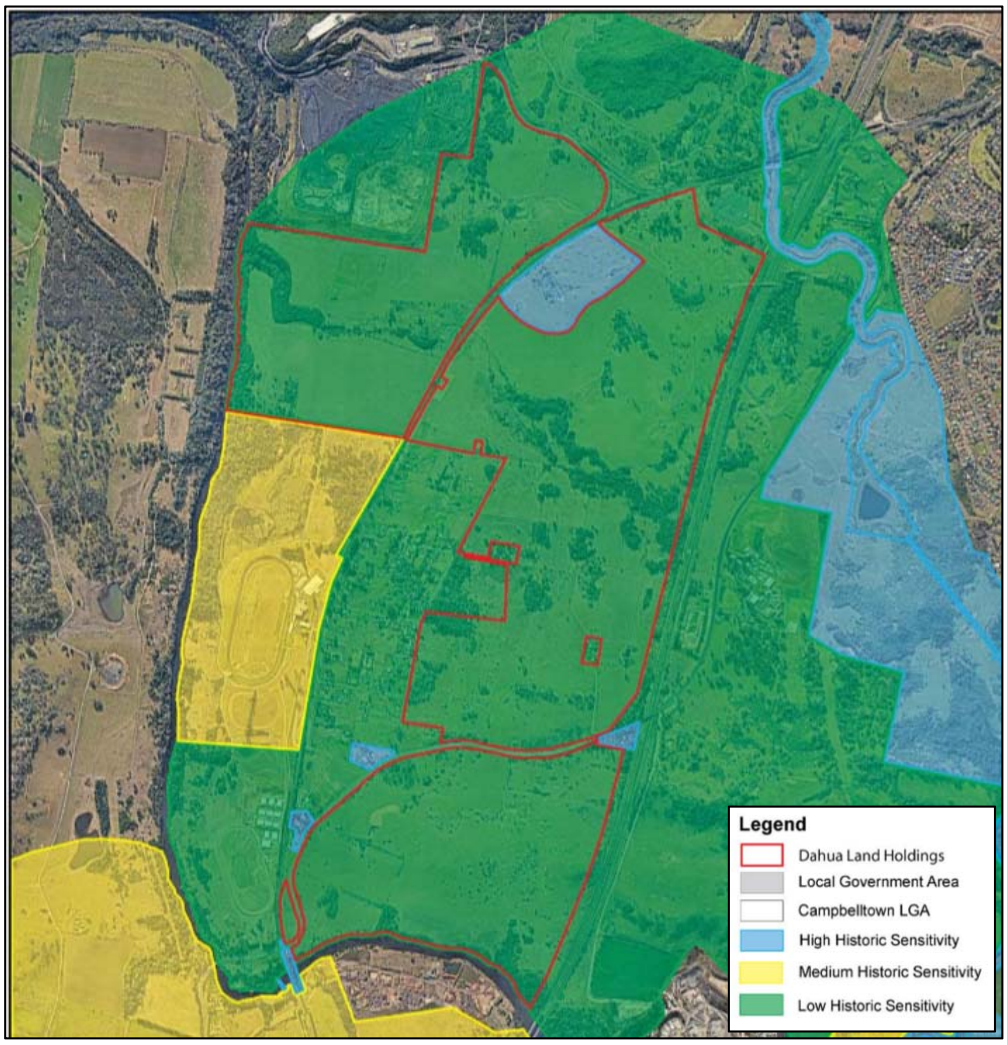


Figure 9 European Archaeological Heritage in relation to the site

2.10.3 ABORIGINAL CULTURAL HERITAGE

An Aboriginal Heritage Assessment was undertaken by Kelleher Nightingale, a copy of which is provided at **Appendix E**. Twenty eight (28) Aboriginal archaeological sites were identified within the Menangle Park URA, of which 24 are on the site. The sites are generally located on riparian and rural land (refer to Figure 10). Any impacted Aboriginal archaeological sites will require an Aboriginal Heritage Impact Permit (AHIP) under section 90 of the National Parks and Wildlife Act 1974 prior to any impact. Beyond the AHIP process, Kelleher Nightingale have concluded that the sites would not preclude the redevelopment of the site or Menangle Park URA.

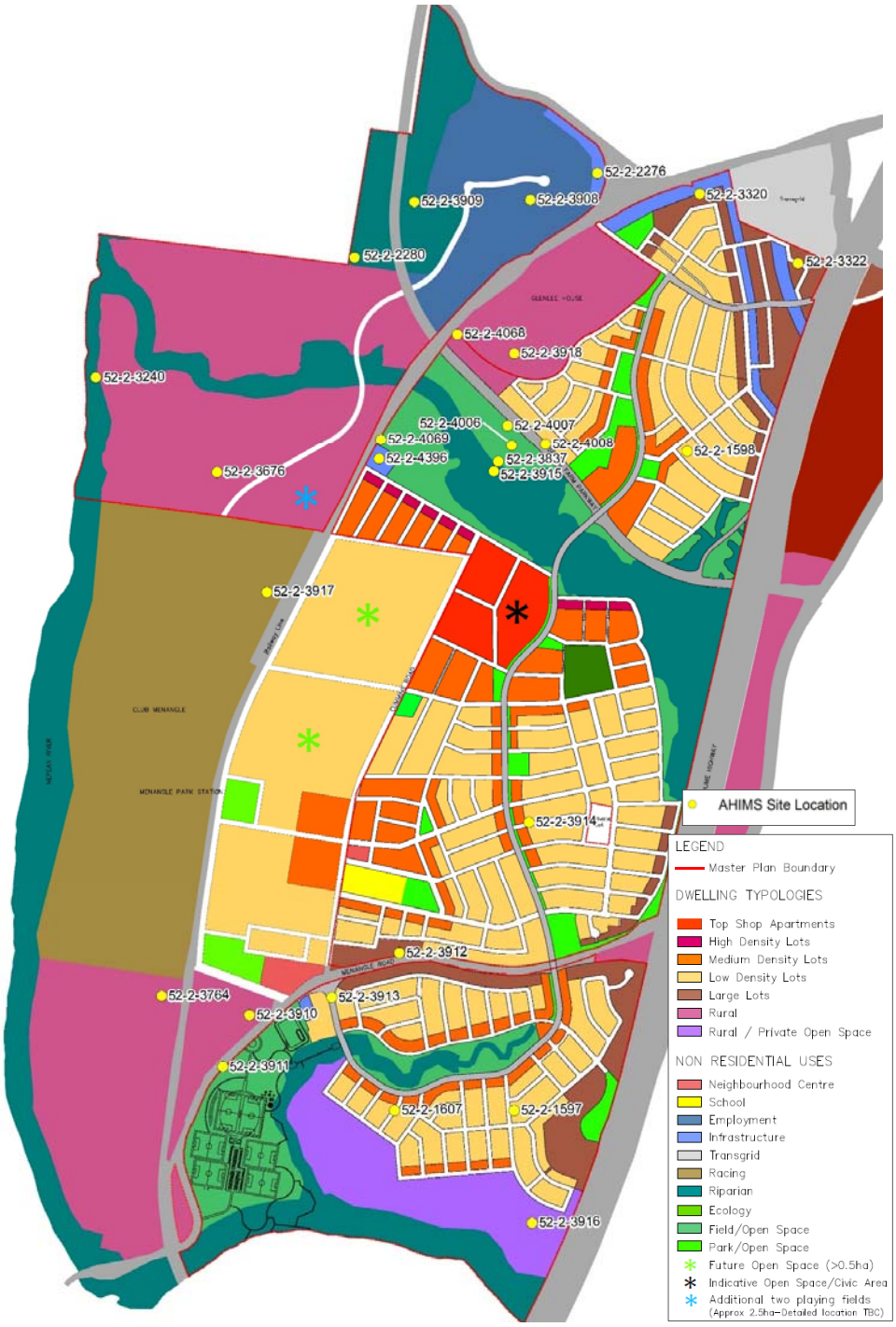


Figure 10 Aboriginal Archaeological sites within the site

2.11 ECOLOGICAL CHARACTERISTICS AND VALUES

The site has a history of agricultural use and has been largely cleared as a result. The site consists of grazing land, scattered trees, farm dams and fragmented patches of native vegetation. An ecology assessment for a larger study area, within which the site forms part of, has been prepared by Cumberland Ecology. The study area as defined in the Cumberland Ecology reports includes additional land to the east and west of the site – areas which are outside of the and to which this planning proposal relates. The key ecological characteristics and values of the site are identified below.

2.11.1 THREATENED ECOLOGICAL COMMUNITIES (TECS)

Ten (10) locally-defined vegetation communities have been identified within the site:

- River Oak Riparian Woodland;
- Acacia Regrowth;
- Exotic vegetation and cleared land;
- Shale Plains Woodland conform to Cumberland Plains Woodland in the Sydney Basin Bioregion (CEEC);
- Shale Hills Woodland conform to Cumberland Plains Woodland in the Sydney Basin Bioregion (CEEC);
- Shale Hills Woodland Derived Native Grassland conform to Cumberland Woodland (CEEC);
- Elderslie Banksia Scrub Forest in the Sydney Basin Bioregion (CEEC);
- River-flat Eucalypt Forest conform to River-flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (EEC); and
- Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (EEC).

Of these seven (7) are listed as threatened ecological communities under the *Threatened Species Conservation Act 1995* (TSC). None of the vegetation communities are listed in the *Environmental Protection Biodiversity Conservation Act 1999* (EPBC Act).

Figure 11 illustrates the vegetation communities within the site and broader study area. Table 5 provides a brief description of these communities as they occur on the site.

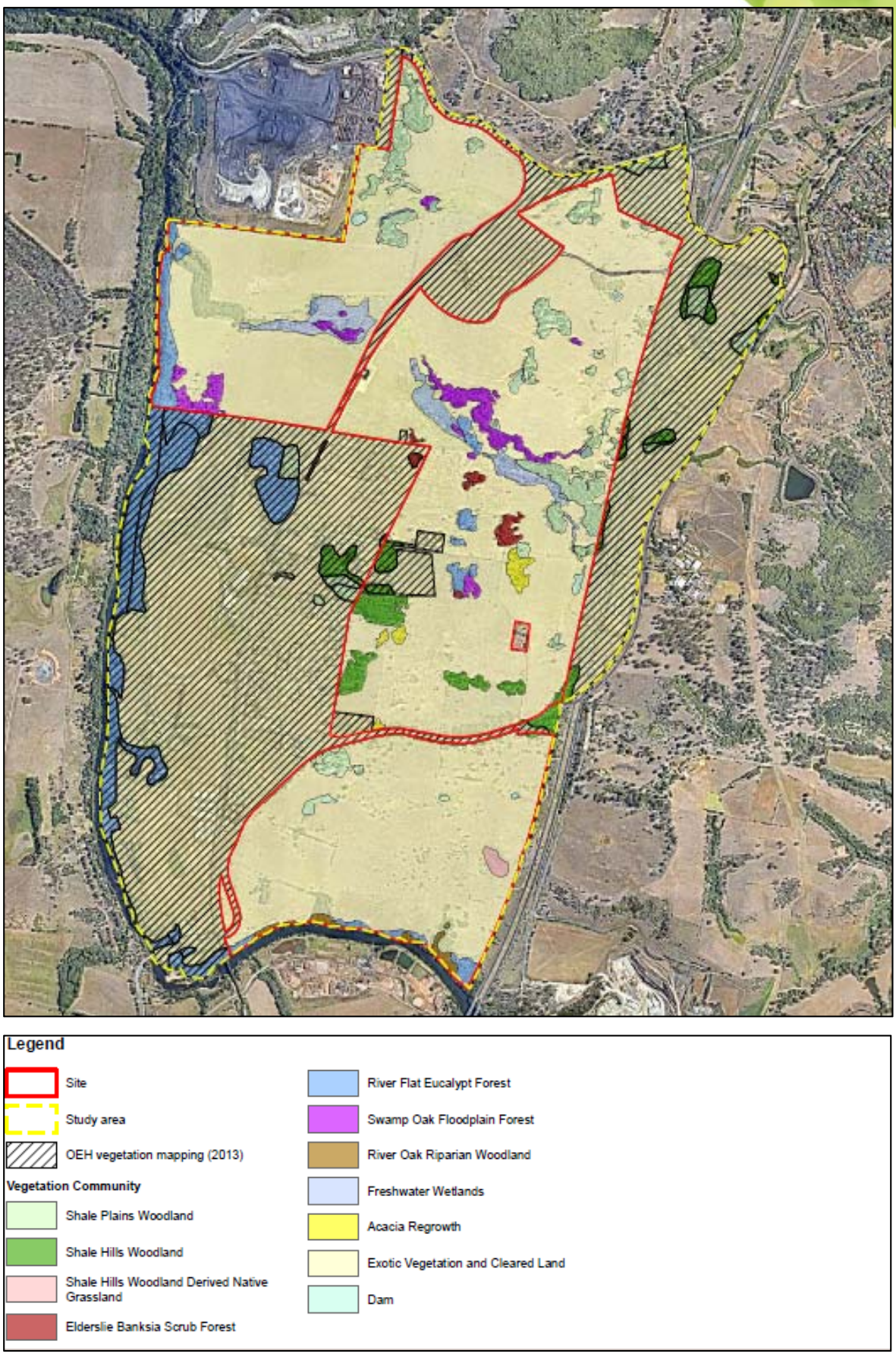


Figure 11 *Vegetation communities in relation to the site*

Table 5 Threatened Ecological Communities on the site.

THREATENED ECOLOGICAL COMMUNITY	DESCRIPTION
Shale Plains Woodland (SPW)	SPW is present in small isolated patches of woodland surrounded by exotic vegetation (23.29ha ha) and medium sized patches of woodland, with limited connectivity to adjacent areas of native vegetation. It is classified as a CEEC under the TSC Act.
Shale Hills Woodland	Shale Hills Woodland occurs in isolated patches of woodland comprising 17.32 ha and offers little connectivity to native vegetation off-site. It is classified as a CEEC under the TSC Act.
Shale Hills Woodland Derived Native Grassland	Shale Hills Woodland derived native grassland comprises 1.02 ha and occurs as an isolated patch surrounded by exotic grasslands. It is classified as a CEEC under the TSC Act.
Elderslie Banksia Scrub Forest	Elderslie Banksia Scrub Forest occurs in isolated small patches comprising 2.7 ha. It is predominately surrounded by previously cleared lands and is classified as a CEEC under the TSC Act.
River-flat Eucalypt Forest	River-flat Eucalypt Forest occurs in isolated patches of woodland comprising 53.07 ha. It is classified as an EEC under the TSC Act.
Swamp Oak Floodplain Forest	Swamp Oak Floodplain Forest occurs in areas adjacent to riparian corridors and comprises 10.05 ha.

2.11.2 THREATENED SPECIES AND POPULATION

Threatened Flora

No threatened flora species listed under the TSC Act or the EBPC Act were recorded within the site, nor are they considered as highly likely to occur within areas of the site zoned for future development. The majority of vegetation in which may provide suitable habitat for threatened flora is located within riparian areas.

Threatened Fauna

Twenty (20) threatened species listed under the TSC Act and/or the EPBC Act have either been recorded within the study area or are considered to have the potential to occur on the site. The majority of the threatened fauna recorded/likely to occur on the site are highly mobile and are presumed to be utilising the scattered habitat present as part of a broader range. Despite threatened species being recorded in areas for future development, the most suitable habitat for these species is considered to be within the largest patches of woodland contained within the riparian areas of the site including Howes Creek and the Nepean River Corridor.

Threatened fauna species which have been recorded within the study area or have the potential to occur on the site are:

- Black-necked Stork (*Ephippiorhynchus asiaticus*) (TSC Act: Endangered; EPBC Act: not listed);
- Varied Sittella (*Daphoenositta chrysoptera*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Dusky Woodswallow (*Artamus cyanopterus cyanopterus*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Brown Treecreeper (eastern subspecies) (*Climacteris picumnus victoriae*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Little Eagle (*Hieraaetus morphnoides*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Rufous Fantail (*Rhipidura rufifrons*) (TSC Act: not listed; EPBC Act: Migratory)
- Powerful Owl (*Ninox strenua*) (TSC Act: Vulnerable; EPBC Act: not listed);
- White-bellied Sea-Eagle (*Haliaeetus leucogaster*) (TSC Act: Vulnerable; EPBC Act: Marine);
- Grey-headed Flying-fox (*Pteropus poliocephalus*) (TSC Act: Vulnerable; EPBC Act: Vulnerable);
- Eastern Cave Bat (*Vespadelus troughtoni*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Eastern False Pipistrelle (*Falsistrellus tasmaniensis*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Eastern Freetail-bat (*Mormopterus norfolkensis*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Greater Broad-nosed Bat (*Scoteanax rueppellii*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Little Bentwing-Bat (*Miniopterus australis*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Southern Myotis (*Myotis macropus*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Diamond Firetail (*Stagonopleura guttata*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Yellow-bellied Sheathtail-bat (*Saccolaimus flaviventris*) (TSC Act: Vulnerable; EPBC Act: not listed);
- Large-eared Pied Bat (*Chalinolobus dwyeri*) (TSC Act: Vulnerable; EPBC Act: Vulnerable); and
- Cumberland Plain Land Snail (*Meridolum corneovirens*) (TSC Act: Endangered; EPBC Act: not listed).

Based on the ecological characteristics of the site described above, majority of the site is considered to have little to no ecological constraint given that majority of the site has been cleared, and is low to moderate in areas where isolated patches occur. Areas of high value are located within riparian corridors within Howes Creek and to the south along the Nepean River. Figure 12 identifies the ecological constraint in relation to the site.

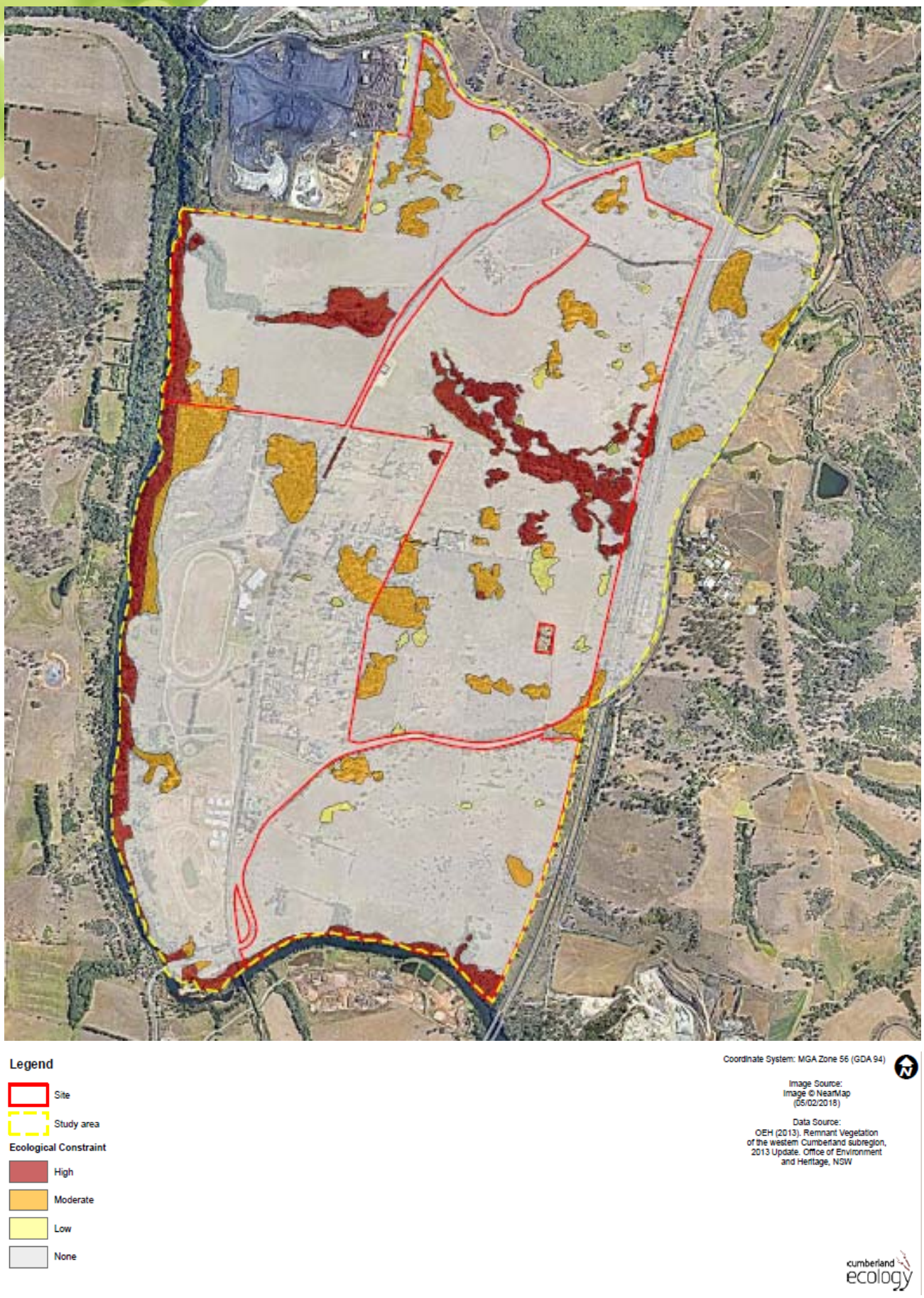


Figure 12 Ecological Constraints in relation to the site

2.12 BUSHFIRE ASSESSMENT

The site comprises bushfire prone land, namely 'Vegetation Category 1' on the northern side of the riparian corridor along Howes Creek and the Nepean River, 'Vegetation Category 2' within the northern portion of the site and 'Vegetation buffer' surrounding the 'Vegetation Category 1' land (refer to Figure 13).

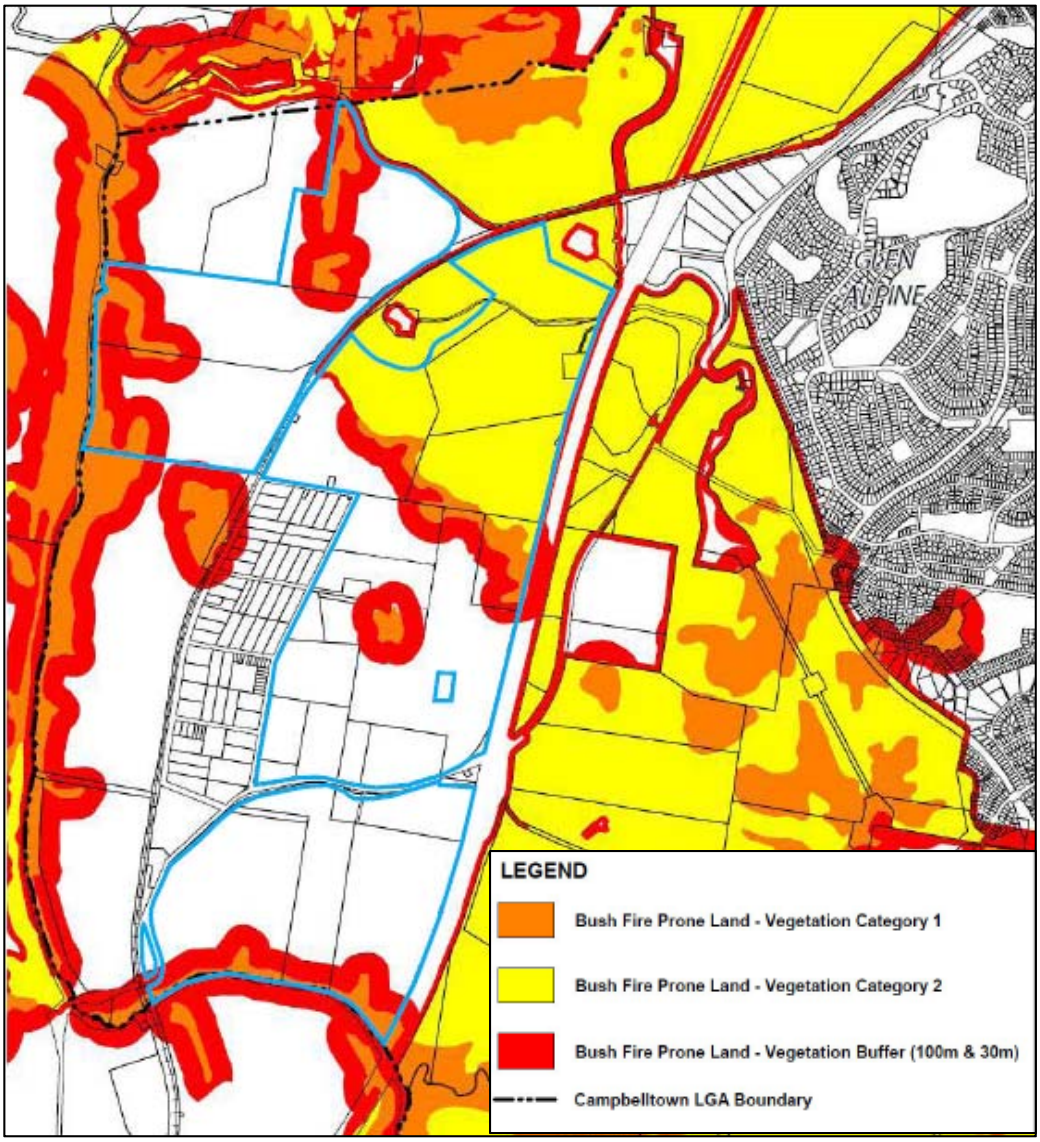


Figure 13 Bushfire prone land

.

2.13 ACCESS AND TRANSPORT

2.13.1 EXISTING ROAD NETWORK

The existing road network consists of two main roads including:

- Menangle Road – a north-south road linking Campbelltown to the north and Maldon to the south. Menangle Road is classified as a state road north of Nepean River, and a regional road south of Nepean River. Menangle Road dissects through the south of the site and runs in an east-west direction with one lane in each direction. It has a posted speed limit of 80 km/h (refer to Figure 14).

- Hume Motorway (M31) – located along the eastern boundary of the site and provides a key north-south connection from the Southern Highlands to Campbelltown and beyond. Hume Highway comprises of a dual carriageway with two lanes in each direction and is accessible from on and off-ramps from Narellan Road, approximately 5km north of Menangle Park.

Other strategic road links surrounding the site include:

- Glenlee Road – located approximately 1.5km north of the site, and provides access from Menangle Road to Glenlee, and access to Glenlee Homestead and Macarthur substation.
- Cummins Road – forms a T-intersection with Menangle Road west of the site, and primarily provides access to the local residential area. Cummins Road is aligned in a north-south direction.
- Beersheba Parade (formerly known as Racecourse Avenue) – provides access to the local residential area, Menangle Park Railway station and Club Menangle. Beersheba Parade is aligned in a east-west direction.
- Key intersections surrounding the site include:
- Cummins Road/Menangle Road;
- Beersheba Parade/Menangle Road;
- Glenlee Road/Menangle Road;
- Menangle Road/Glen Alpine Road; and
- Menangle Road/Ghilchrist Drive.

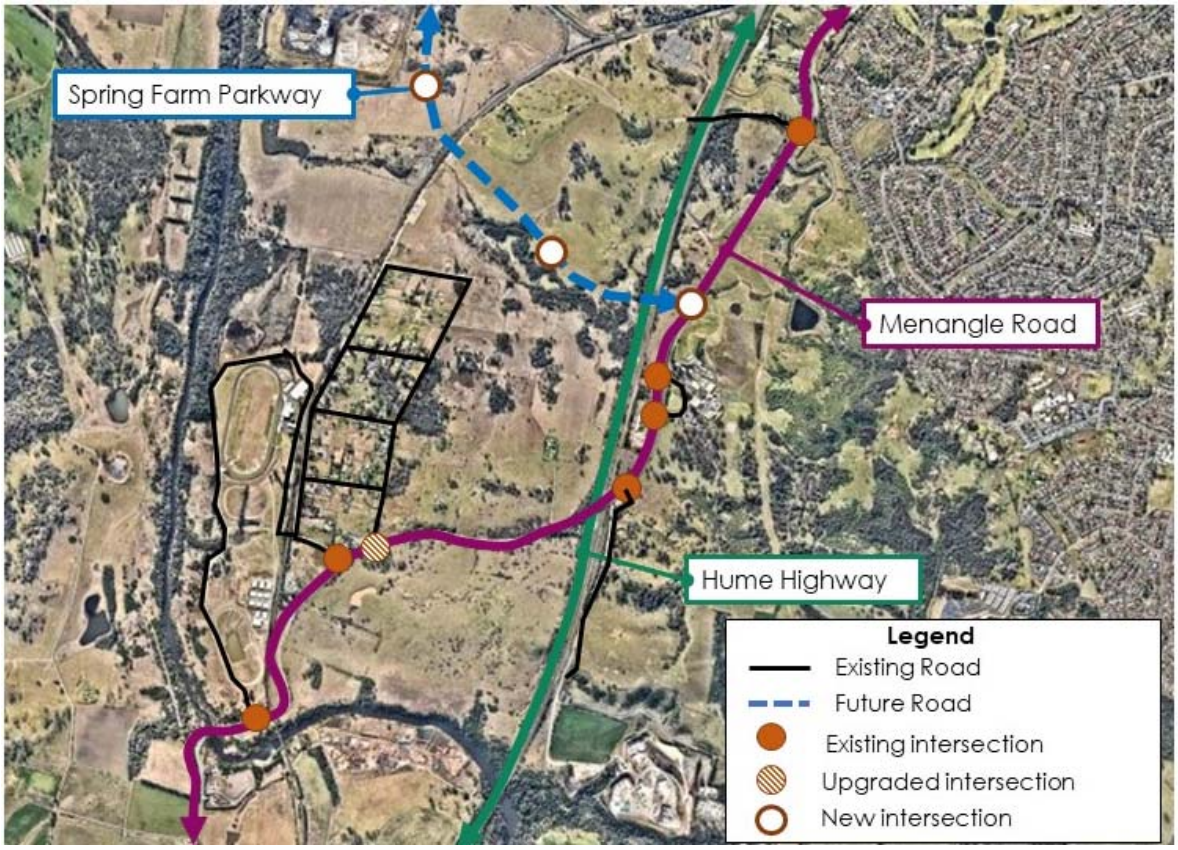


Figure 14 Existing Road Network

2.13.2 FUTURE ROAD NETWORK

A number of other road upgrades are outlined in the Great Macarthur Land Use and Infrastructure Analysis (2015), including:

- Upgrade of Menangle Road to four lanes of traffic (two traffic lanes in each direction) from Beersheba Parade to Gilchrist Drive; and
- Spring Farm Parkway. Spring Farm Parkway will function as a primary arterial road, and will provide key access to the Hume Motorway for Menangle Park.
  - Stage 1 - Menangle Park to Menangle Road –2.5 km eastern section of Spring Farm Parkway will connect Menangle Park to the M31 Hume Motorway and Menangle Road. The project includes an interchange with the M31 Hume Motorway with north facing ramps and provision for future south facing ramps. Stage 1 has been identified as a fast track project under the Housing Affordability Fund (HAF) program, which would provide critical road infrastructure within the Menangle Park / Mount Gilead URA to support housing development. Funding will also be provided by developer contribution. Construction will be completed, subject to approval and funding.
  - Stage 2 - Spring Farm Parkway from Liz Kernohan Drive. Roads and Maritime is undertaking field investigations and developing a strategic design to ensure this important transport corridor is preserved. The next phase of this stage is subject to funding being allocated.

2.13.3 PUBLIC TRANSPORT

Menangle Park Train Station is approximately 400m to the west of the site, and is serviced by the Southern Highlands line which runs between Moss Vale and Campbelltown. Train service frequencies are typically 30 minutes to Southern Highlands (Moss Vale) during the AM peak and hourly for other periods. Hourly train services are generally provided between Menangle Park and Campbelltown.

Electrification of the rail line ceases to the south of Macarthur Station, where services to Menangle Park station are provided by diesel trains on the Southern Highland Line. The NSW Government's Greater Macarthur Land Use and Infrastructure Analysis (2015) identifies the Southern Highland Line for rail electrification investigation as part of the Greater Macarthur vision to 2036.

Local bus services include the Sydney Buses 889 route between Menangle and Campbelltown. Bus stops for the Sydney Buses 889 route are located at Menangle Park railway station and along Cummins Road, approximately 100m south of Station Road (refer to Figure 15).

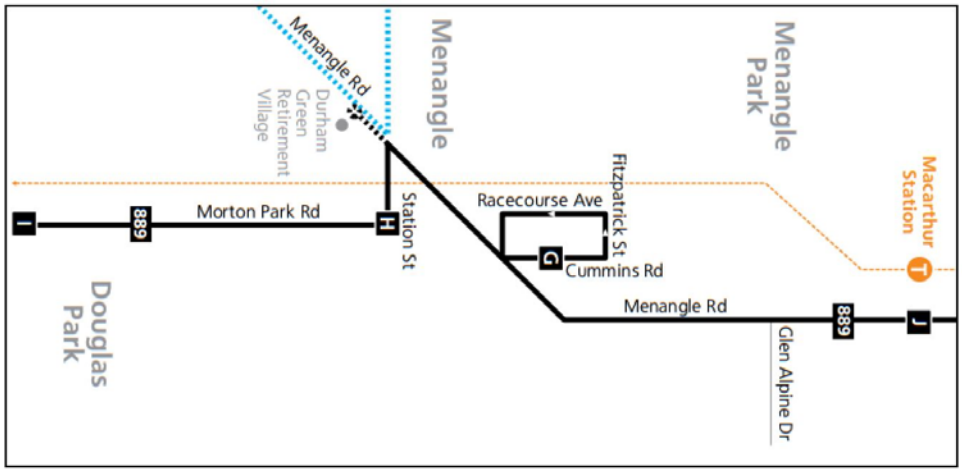


Figure 15 Existing bus network map

2.13.4 PEDESTRIAN AND CYCLING

There is currently limited pedestrian or cycling infrastructure within and around the site and broader area, mainly due to the nature of land uses in the vicinity and the limited demand for such facilities at present. No footpaths are provided on Cummins Road or Menangle Road.

2.14 COMMUNITY AND SOCIAL INFRASTRUCTURE

Consistent with the site's current rural use, there is no existing social infrastructure on the site. There is also little in the way of existing social infrastructure in the surrounding area at present.

COMMUNITY FACILITIES

There are very few community meeting spaces around the Menangle Park area, which is relative to the current population size. The closest community meeting space to the site is the Glen Alpine Community Hall, located approximately 3.9km north-west of the site. Other community facilities in proximity to the site include the Campbelltown Civic Hall, approximately 7km from the site.

LIBRARY AND CULTURAL FACILITIES

The closest cultural facility to the site is the Campbelltown Steam and Machinery Museum, a volunteer organisation preserving historic machinery, approximately 1.8km from the site. Other library and cultural facilities in proximity to the site include the Western Sydney University Library (located within Western Sydney University), HJ Daley Library, Campbelltown Arts Centre and the Old Town Hall Theatre. These facilities are located less than 6km from the site.

MEDICAL FACILITIES

Current residents of Menangle Park rely on community health and hospital services provided in the Campbelltown CBD, which already experiences high volumes of demand from the existing community. The existing health facilities in Campbelltown include the following:

- Campbelltown Private Hospital (private hospital with 92 beds);
- Campbelltown Hospital (public hospital with between 200-500 beds and an emergency department);
- Macarthur General Practice (open Monday-Sunday);
- Campbelltown Medical and Dental Centre (open 7 days a week)

EMERGENCY SERVICES

The closest emergency services in proximity to the site include:

- Menangle Park Fire Station;
- Menangle Rural Fire Brigade;
- Campbelltown Police Station; and
- Fire and Rescue NSW Rosemeadow Fire Station.
- There is currently an existing high demand for additional State Emergency Services (SES) facilities in Menangle Park and the surrounding areas.

SHOPPING CENTRES

Macarthur Square and Marketfair are mid-large scale neighbourhood shopping centres located approximately 5km north east from the site in the Campbelltown CBD. Key fresh food retail offerings include Coles, Woolworths, and Campbelltown Country Fresh. A wide range of dining, fast food, retail and social services are provided within the shopping centres.

CHILDCARE FACILITIES

No childcare facilities are provided on the site. There are eighteen childcare centres within 15km of the site. These include: Bellbirds Learning Centre (52 approved places), Englorie Park Child Care (CFK Childcare) (69 approved places), Amber Cottage Early Learning Centre (40 approved places), Namut Early Learning Centre (44 approved places), Little Learning School Ambarvale (86 approved places), and Kidz Ink Long Day Care Centre (59 approved places)). The existing childcare centres in the wider area are likely to have capacity to accommodate the growing population.

PRIMARY SCHOOLS AND OUT OF SCHOOLS HOURS CARE

The site is located in the northern end of the primary school catchment of Douglas Park Public School, located approximately 14km south of the site. Enrolments at Douglas Park Public School have recently been increasing, and have short-term capacity to accept additional enrolments until the delivery of the proposed primary school under the approved or future master plan. In 2017, the school had a total enrolment of 164 students.

Existing primary schools in the wider area include Thomas Acres Public School, Bradbury Public School, Mount Annan Public School, Narellan Vale Public School, Douglas Park Public School, Cawdor Public School, Mawarra Public School, Spring Farm Public School and Camden South Public School.

Various out of school hours and vacation care services are provided in the wider area including:

- Broughton Anglican College OSCH (90 approved places);
- YMCA Ambervale (45 approved places);
- Campbelltown City Outside School Hours Care (60 approved places);
- Adventure Based Learning Experience – St Clare's Catholic Primary School (114 approved places); and
- Fidgety Frogs Early Learning Centre – Douglas Park Public School (30 approved places).

Any increase in population within Menangle Park will likely place pressure on existing out of school hours and vacation care services.

SECONDARY SCHOOL EDUCATION

The site is located in the north western part of the secondary school catchment of Ambarvale High School, located approximately 7.1km west of the site. Enrolments at Ambarvale High School have recently been fluctuating, and currently have some capacity for additional enrolments. In 2017, the school had a total enrolment of 743 students.

Existing secondary schools in the wider area include Thomas Reddall High School, John Therry Catholic, Ambarvale High School, Mount Annan High School, Magdalene Catholic High school, Elizabeth Mcarthur High School, Elderslie High School and Camden High School.

Two combined education schools (Kindergarten – Year 12) are provided in proximity to the site, including Broughton Anglican College and Mount Annan Christian College.

TERTIARY EDUCATION

The site is located in proximity to three tertiary education facilities, including Western Sydney University (Campbelltown Campus), South East Training Services (SETS), and TAFE SWSi Campbelltown College. 6% of people are studying at a tertiary level in the Campbelltown LGA, compared to 8% across the Greater Sydney Region.

Additional tertiary education needs will be delivered through the existing university and vocational education providers in the area. Some vocational education providers may choose to locate in the town centre based on demand.

OTHER

Two other educational facilities are provided in the wider area for special purposes. Mary Brooksbank School is a government learning facility for kindergarten to year 12, located approximately 6.3km from the site. The Camden Park Environmental Education Centre is a learning facility catering school visits for all ages, located approximately 10.3km from the site.

OPEN SPACE AND RECREATION

The Nepean River Reserve is a 2.99 ha and adjoins the site to the south. Howes Creek and its associated riparian areas traverses through the northern portion of the site. In addition to these reserves, the site has access to a number of other informal passive recreation areas including:

- Braeside Reserve;
- Glen Alpine Reserve;
- Heritage Park;
- Abington Reserve; and
- Koshigaya Park.

These informal recreation areas provide various functions such as walking and cycling paths, picnic and BBQ amenities, green local parks and play equipment structures. The Australian Botanic Gardens to the north of the site is another informal recreation facility that provides a number of facilities including BBQ and picnic facilities, shelters, and walking tracks. In addition to the above areas, a range of formal active recreation facilities are located in proximity to the site and include:

- Glen Alpine Tennis Centre (4 tennis courts);
- Gilchrist Oval (Baseball facility and BBQ);
- Ambarvale Sports Complex (Cricket pitch, multiple soccer fields, walk and cycle path);
- Ambarvale Recreational Centre (Squash, racquetball courts, swimming pool, dance studio and floor gymnastics); and
- Bradbury Oval (1 turf pitch, 2 synthetic pitches, 2 basketball courts and 2 rugby fields).

2.15 EXISTING PLANNING FRAMEWORK

2.15.1 ZONING AND DEVELOPMENT STANDARDS

Campbelltown LEP 2015 is the principal environmental planning instrument applying to the site. In accordance with Campbelltown LEP 2015, the site is zoned part:

- R2 Low Density Residential;
- R3 Medium Density Residential;
- R5 Large Lot Residential;
- RE1 Public Recreation;
- RE2 Private Recreation; and

B2 Local Centre (refer to Figure 16)

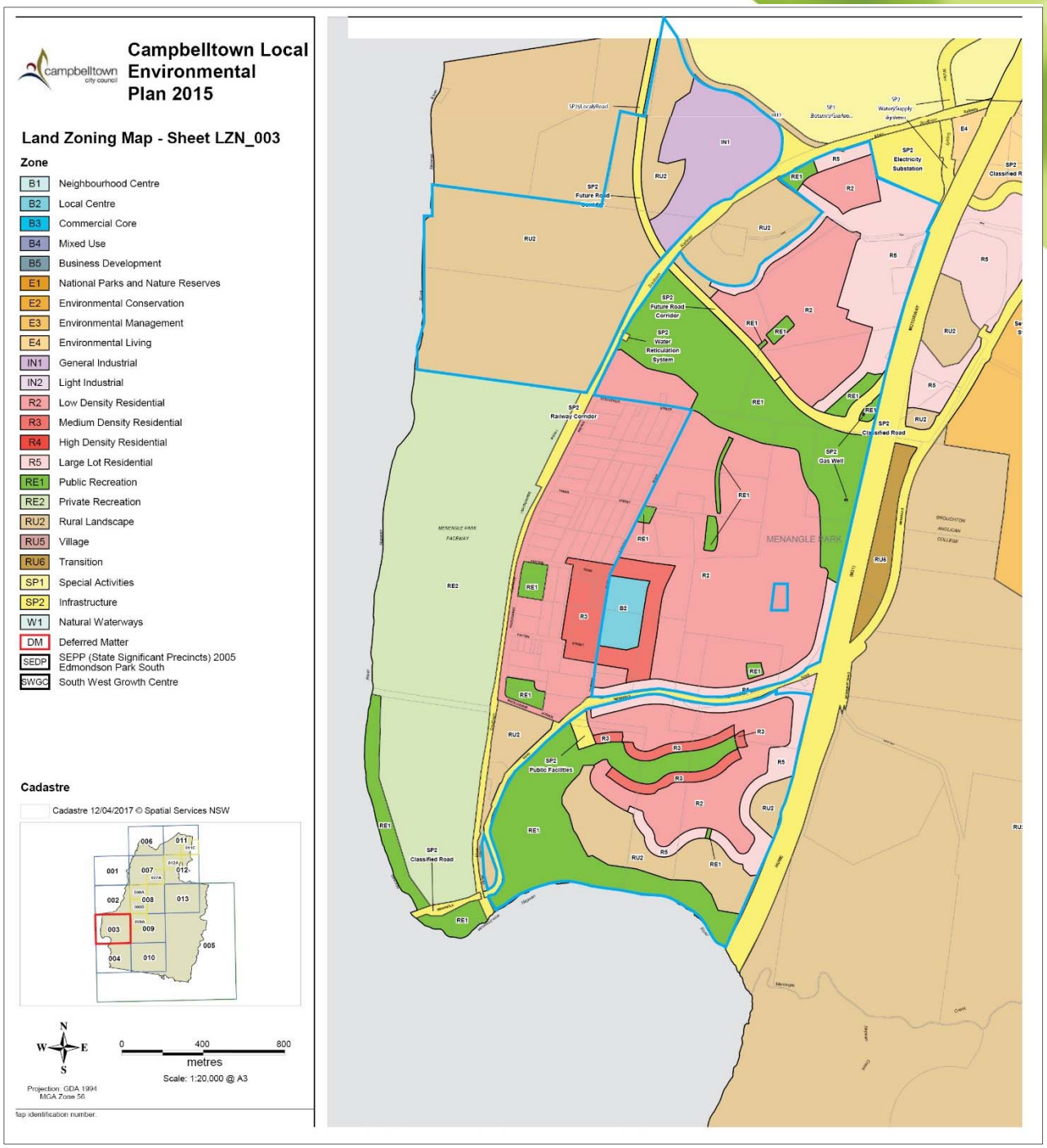


Figure 16 Current Zoning Map

The key development standards applying to the site are summarised in Table 6.

Table 6 Key Development Standards

ZONING	MAXIMUM HEIGHT OF BUILDINGS	MAXIMUM FSR	MINIMUM LOT SIZE	DUAL OCCUPANCY MINIMUM LOT SIZE
R2 Low Density Residential	8.5 m	0.55:1	400m²	700m²
R3 Low Density Residential	8.5 m	0.55:1	300m²	N/A

ZONING	MAXIMUM HEIGHT OF BUILDINGS	MAXIMUM FSR	MINIMUM LOT SIZE	DUAL OCCUPANCY MINIMUM LOT SIZE
R5 Large Lot Residential	8.5 m	0.55:1	950m² – 2,000m²	950m² – 2,000m²
B2 Local Centre	15 m	-	-	-

The maximum height of buildings, FSR, minimum lot size and minimum dual occupancy lot size are provided in Figures 17-20.

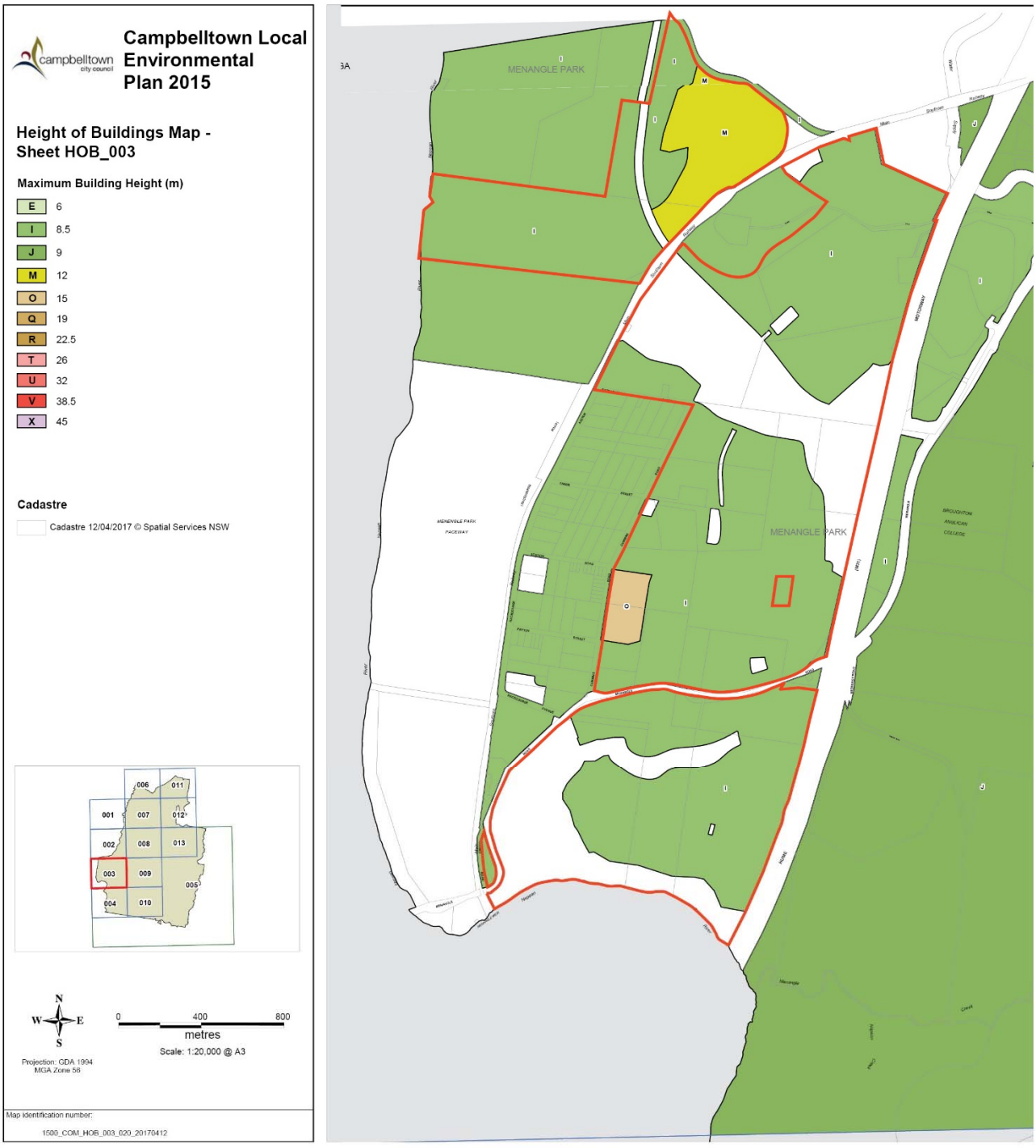


Figure 17 Existing Height of Building (HOB) controls in relation to the site

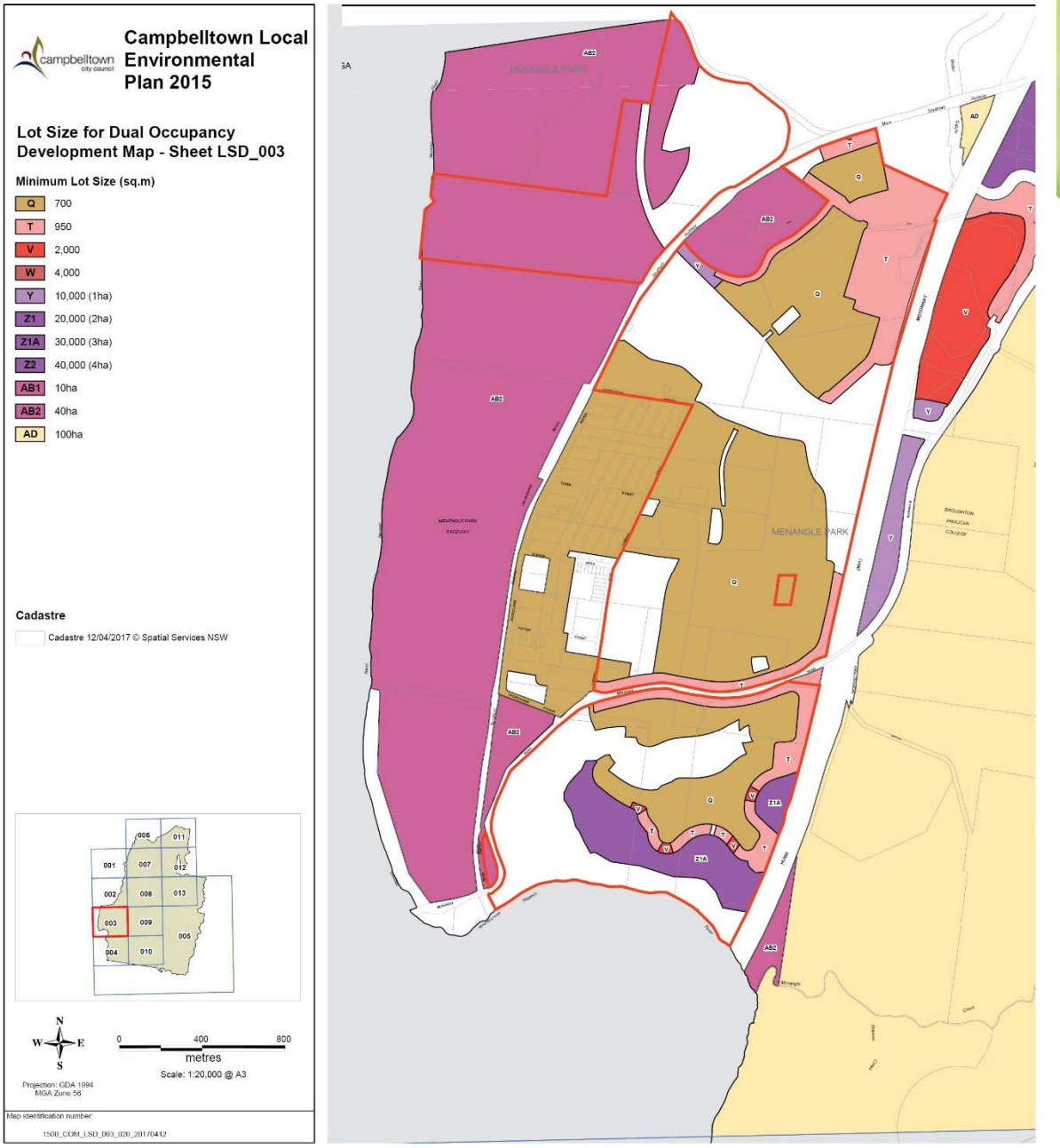


Figure 18 Existing Lot Size for Dual Occupancy Development controls in relation to the site

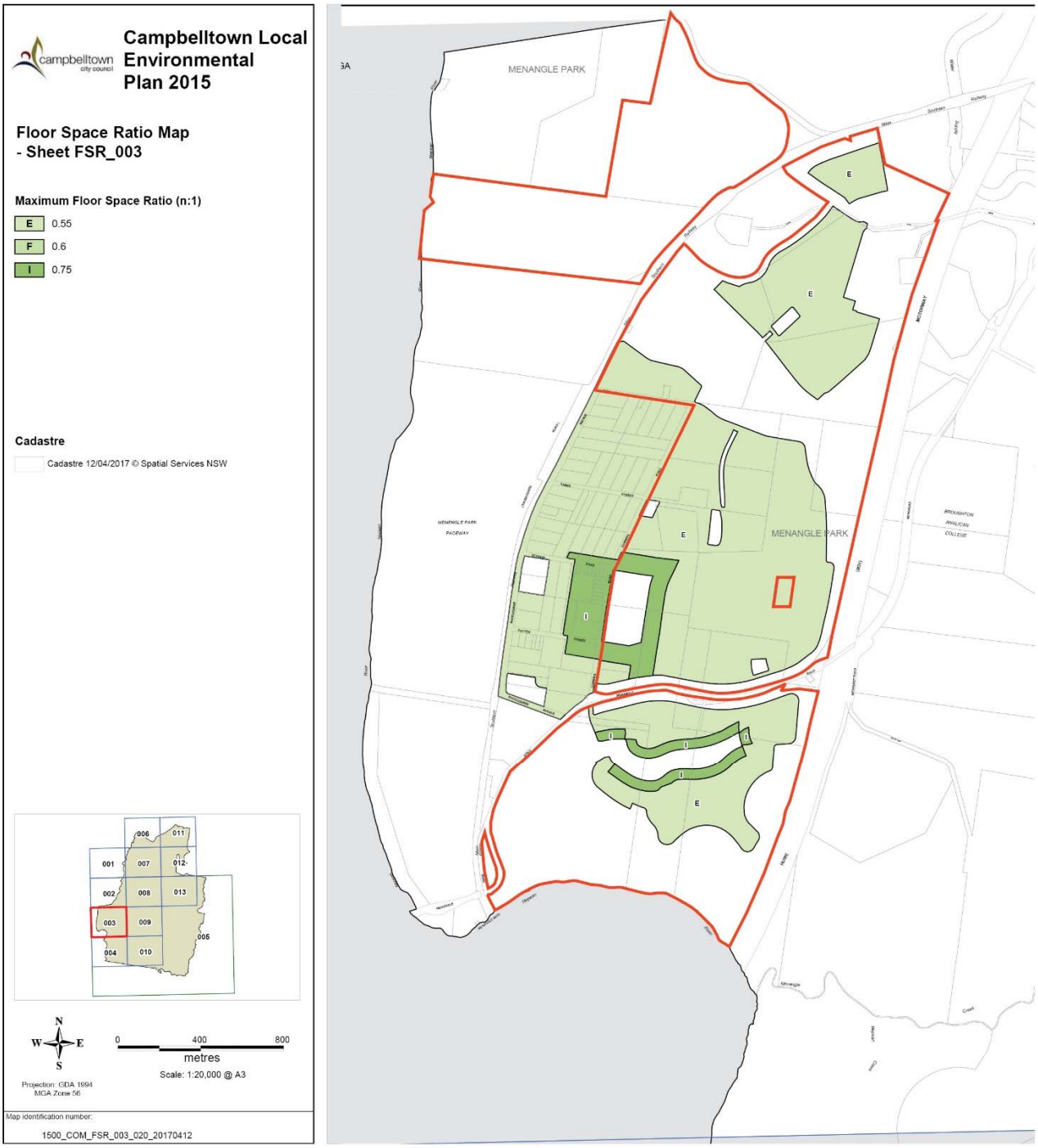


Figure 19 *Existing Floor Space Ratio (FSR) controls in relation to the site*

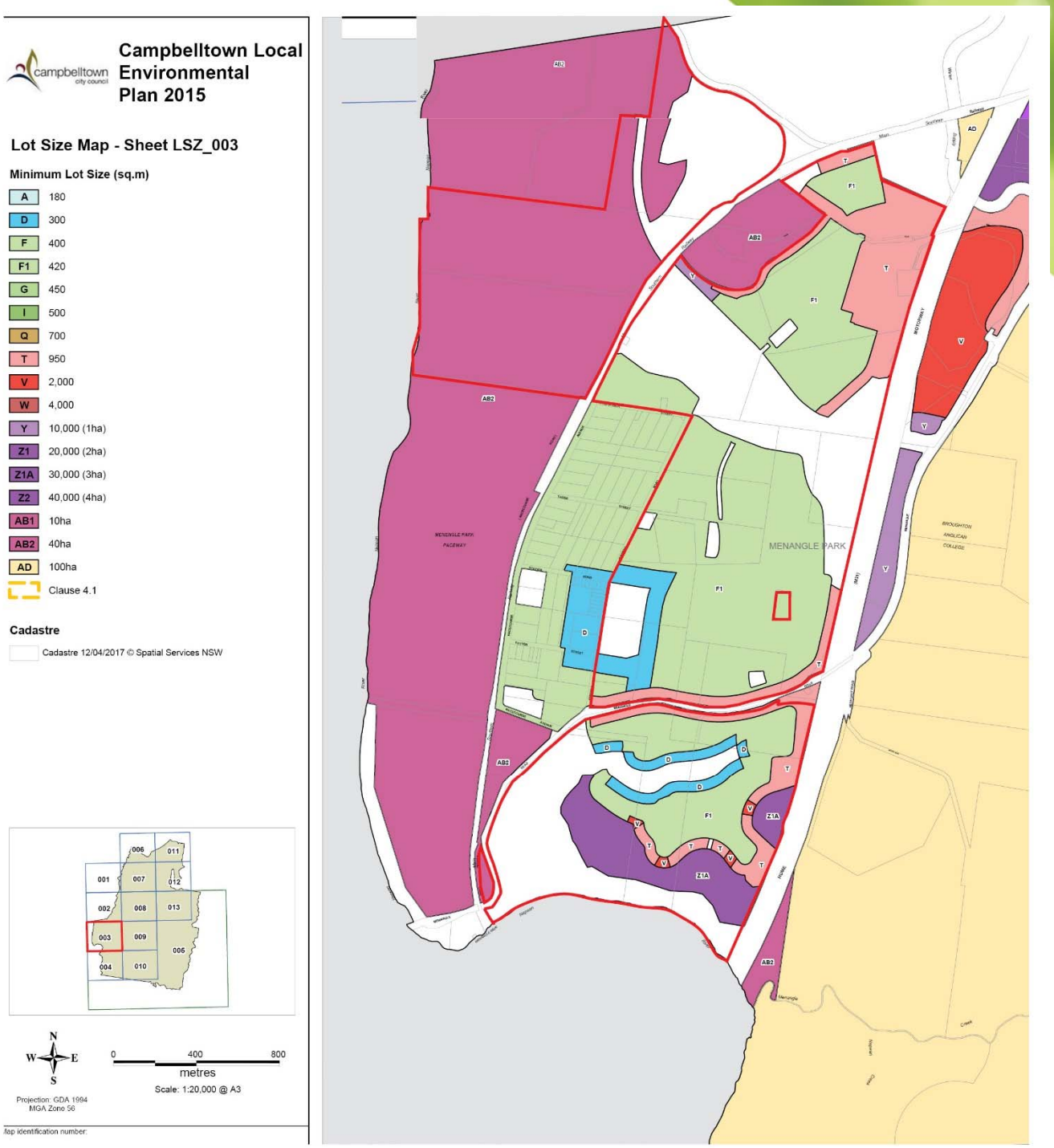


Figure 20 Existing Minimum Lot Size controls in relation to the site

SECTION 3

The Vision

3. THE VISION

The following vision has been translated through the revised master plan, development controls, future development applications and in Dahua's benchmarks in developing the site.

Menangle Park is a new town positioned at the junction of Hume Highway, Spring Farm Parkway and Menangle Road, less than 10 minutes southwest of Campbelltown CBD. Focused around health (live, work and play), nature and connectivity. It features spacious urban parks, a network of pathways and green links, that draws families out of their homes and places of work, into and around the new town, experiencing nature, the Nepean River, the vibrant town centre - delivering its character and soul. The new town centre positioned adjacent to the Spring Farm Parkway and supporting neighbourhood centre to the south will provide the necessary retail, personal and community services required to support a community of around 5,250 homes, 560 workers, contributing $800 million to the local economy. It will provide valuable support to Campbelltown CBD as it is re-imagined and transformed into a modern metropolis and leading centre of health services, medical research and med-tech activity.

A healthy town for all members of the community, Menangle Park promotes physical activity and walkable environments, social cohesion, and community safety and security to support people's well-being. The living offer at Menangle Park, will raise the quality of life for future residents by providing multiple housing choices to create a diverse community that is demographically balanced and responsive to the needs and aspirations of local people, now and into the future, inviting innovative use and habitation, interaction, productivity and enjoyment.

Menangle Park Town exists in balance with nature, supporting comfortable living and the natural benefits of air, sun, light and views of the area affords, passive recreation along riparian corridors and the protection of the natural environment.

Menangle Park Town will be a new unique destination for South West Sydney. It will offer a range of retail and commercial uses, recreational offerings, and provide employment opportunities. Along with Club Menangle, the Australian Botantic Gardens and the Nepean River, Menangle Park will draw visitors to the region, a further catalyst for investment and growth in Greater Macarthur.

Menangle Park will be the Greater Macarthur's contemporary place to live, visit, play and work.

SECTION 4

Revised Master Plan

4. REVISED MASTER PLAN

4.1 INTRODUCTION

The revised master plan for the site has been prepared by Roberts Day to demonstrate the capability of the site to accommodate the vision and to guide future planning (refer to Figure 24). It responds to the site's unique opportunities and constraints, identifies the parameters and outcomes for future development and describes key elements of the environmental strategies that are proposed.

The site is to be developed in stages over an approximately 10 year period. The urban structure of the master plan provides sufficient scope and flexibility to respond to future changes in planning and open space, transport infrastructure, market demand, lifestyle and demography.

The master plan has also been designed for energy and resource efficiency, flexibility in the use of property, public spaces and service infrastructure. Detailed planning and design for urban development will be addressed as part of on-going future applications for subdivision, open space and infrastructure works that will be submitted to Council as part of a staged process over time.

An urban design report prepared by Roberts Day is included at **Appendix F**.

In summary, the revised master plan comprises:

- Approximately 5,250 dwellings (an increase of 1,850 dwellings located on Dahua owned / controlled land) in a range of densities, lot sizes and dwelling types;
- A new town centre comprising 30,000m² of retail / employment gross floor area within the northern portion of the site, adjacent to Howes Creek and open space, and close to Spring Farm Parkway;
- A new neighbourhood centre adjacent to the new school and open space (approximately 3,500m² of retail floor space);
- A revised road and street network to provide better permeability throughout the site including a new 7.6 - 9.6 m wide north-south green active transport link (approximately 1.25ha in total area);
- 134.81 ha of public open space comprised of active and passive open space consisting of sporting fields, local parks and pocket parks and riparian corridor network;
- 43.96 ha of land for environmental conservation;
- Community facilities to support the proposed increase to the population; and
- A 2 ha primary school adjacent to the neighbourhood centre and 1 ha of open space.

Figure 21 Illustrative Master Plan

4.2 URBAN DESIGN CONCEPT

Key features of the revised master plan are:

- A framework that better responds to the site topography of ridge lines and other nature features to create a strong underlying connecting landscape structure;
- Optimisation of the Spring Farm Parkway extension;
- Development of a higher order road hierarchy that provides for flexibility of development of various land uses including creation of a green north-south collector road, a key structural which delivers distinct characters, land use types and density;
- A local street network that delivers engaging and active streets that promotes permeable connections and accessibility, trip containment, walking, cycling;
- A larger main street town centre, relocated closer to Spring Farm Parkway, and adjacent to open space and the existing natural creek corridor and areas of high amenity and integrated via strong pedestrian and cycle linkages to the balance of the development. The Town Centre will be the key built identity and focal point for the whole of the Menangle Park community;
- A second smaller neighbourhood centre within the southern portion of the site and adjacent to the new school site and active open space, serving the day to day needs of local residents;
- Delivery of a sustainable community in terms of employment, environmental outcomes, integrated land use and transport planning;
- Capitalisation on existing views and creation of new views and vistas, particularly to adjacent heritage items. Significant green space has been located on important high points and roads have been aligned to maintain important views and vistas, allowing natural amenities to be enjoyed and celebrated.
- Optimisation of solar orientation to maximise energy efficiency;
- A range of densities and dwelling types providing housing choice to satisfy the needs of a wide spectrum of households, at different life stages and from varying socio-economic circumstances and lifestyle preferences;
- Walking and cycling networks including a new north-south green active transport link through the centre of the site, designed to provide for workers, students and residents linking key amenities within the site (town centre, school, open space, neighbourhood centre and residential precincts) and linking up to regional networks;
- Provision of an extensive passive and active open space and landscape / vegetation network that shapes an identity and character responsive to the topography of the site and integrates a livable, robust network of parks, reserves, corridors and streetscapes; and
- Use of water bodies, performing both an aesthetic and functional (water sensitive urban design) purpose, as a contributing element of the public domain.

4.3 LAND USES AND DISTRIBUTION

4.3.1 TOWN CENTRE AND EMPLOYMENT

The core and heart of Menangle Park will be the town centre. The town centre is located to the south of Howes Creek and Spring Farm Parkway. The new town centre will comprise an urban square, wide range of retail, commercial, entertainment, civic recreation, residential and employment land uses including approximately 30,000m² of floor space (supermarkets, speciality food stores, and restaurants, personal and household retail) and community uses. It will provide accommodation for residents, workers, visitor's and will help activate Menangle Park during evenings and weekends, thereby making it a safe place, and creating a sense of vibrancy and liveliness in the area. The higher density housing types (residential flat buildings, shop top housing and small lot multi-unit housing) will be concentrated in and around the town centre and in areas of high visual and landscape amenity. This will maximise access to services and

help strengthen the customer base for local businesses and allow more increased active travel. Combined with high quality civic spaces, it will help to make Menangle Park Town an attractive place to live, work and visit.

The future town centre and urban square will be carefully designed to allow it to grow as development within Menangle Park grows, but also to ensure that its early stages will adapt to a centre that supports its ultimate growth range in 4-8 years' time. The proposed amendments to the Menangle Park Development Control Plan (DCP) will include provisions in relation to the design of the town centre.

In addition to the town centre, a new local neighbourhood centre is proposed within the southern portion of the site, adjacent to the proposed school. The local neighbourhood centre will be delivered as part of the initial stages of the development to assist in place creation and to provide for the local day to day convenience retail needs of future workers and residents.

The existing 24 ha employment area comprising 180,000m² of gross floor area within the northern most portion of the site is not proposed to change.

4.3.2 RESIDENTIAL USES

Menangle Park will provide a mix of housing types ranging from residential flat buildings, through to traditional single lot residential dwellings, missing middle product, to provide housing diversity and choice to meet the needs of future residents and workers.

The revised master plan identifies eight (8) new precincts within the Menangle Park URA, based on existing and future place characteristics (refer to Figure 22). These character areas define features such as housing typologies, street sections, land uses and landscaping. The eight new character areas are:

1. Botanic Gardens
2. Glenlee Homestead
3. Riparian interface
4. Town Centre
5. Ridgeline
6. Station and Horse Racing
7. Recreation
8. Riverside

Higher density housing types will be concentrated closer to the town centre and adjoining open space areas and will have a building heights of 6-8 storeys and 4-6 storeys, respectively. While the medium and lower density housing types will be located on the fringes and more topographical sensitive areas, and will have a maximum building heights of 2-3 storeys.

An indicative mix of housing may include:

- 400 apartments
- 550 townhouses / small lot (missing middle product, 125m²- 200m²)
- 4,300 detached dwellings (200m² to 950m²)

The actual dwelling mix and yield for each dwelling type will be determined as part of future detailed applications for each stage. The master plan specifically does not pre-determine the number of dwellings or mix within each future stage. Dwelling mix is subject to change over the significant time period for implementation of the development as market requirements change. Figure 23 below shows the indicative location of dwelling typologies.

It is proposed to amend the Menangle Park DCP to introduce the abovementioned 'character areas' which apply to the whole Menangle URA. Each character area will identify the desired future character controls, design principles for the type of dwellings envisaged within each area, the maximum yield for each character area and location criteria

for different dwellings types (i.e. smaller lot housing in areas with high amenity, close to neighbourhood centre, large lot housing in sensitive areas). The density assumptions used to inform dwelling numbers will be provided to Council under a separate cover.

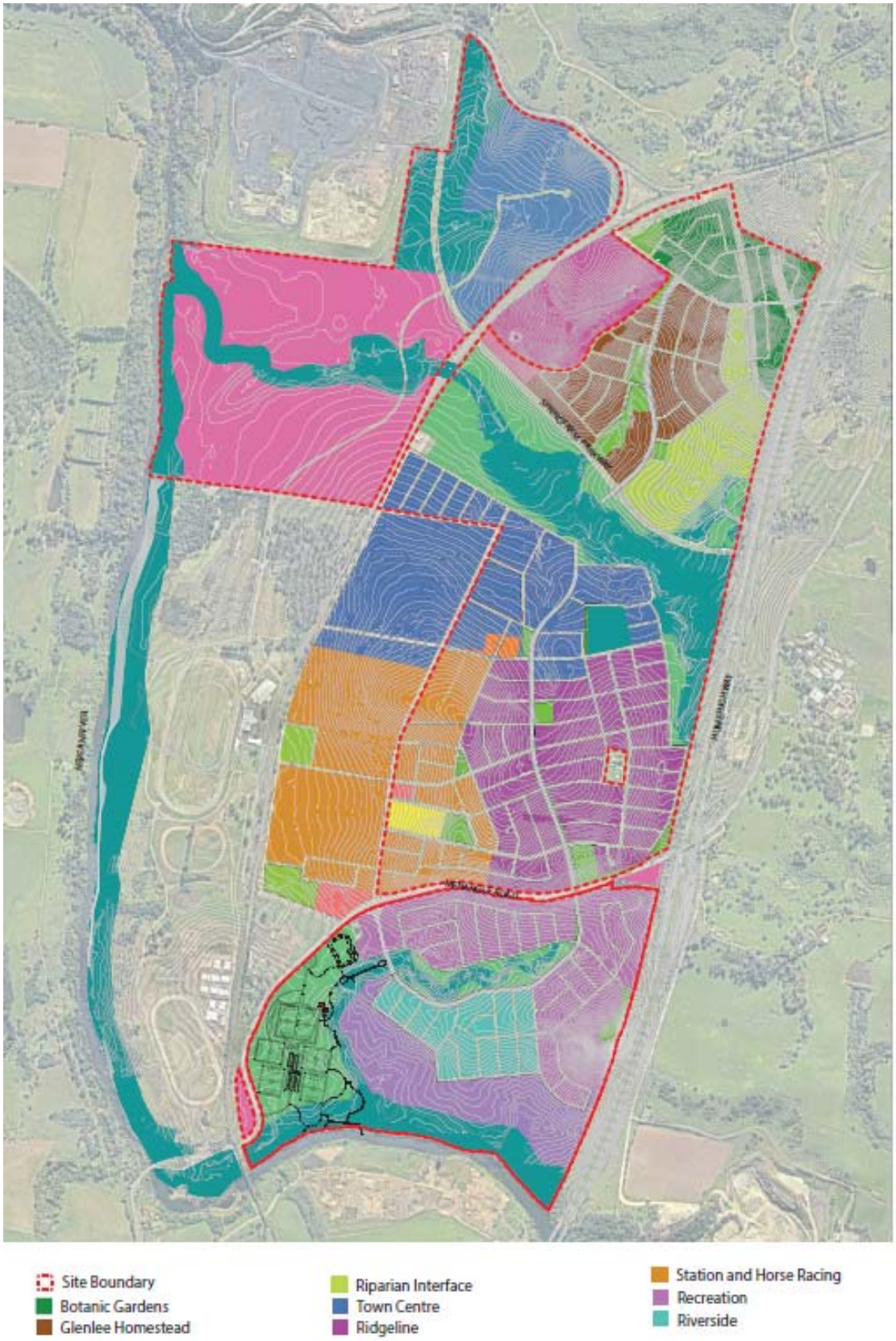


Figure 22 Proposed Character Precincts

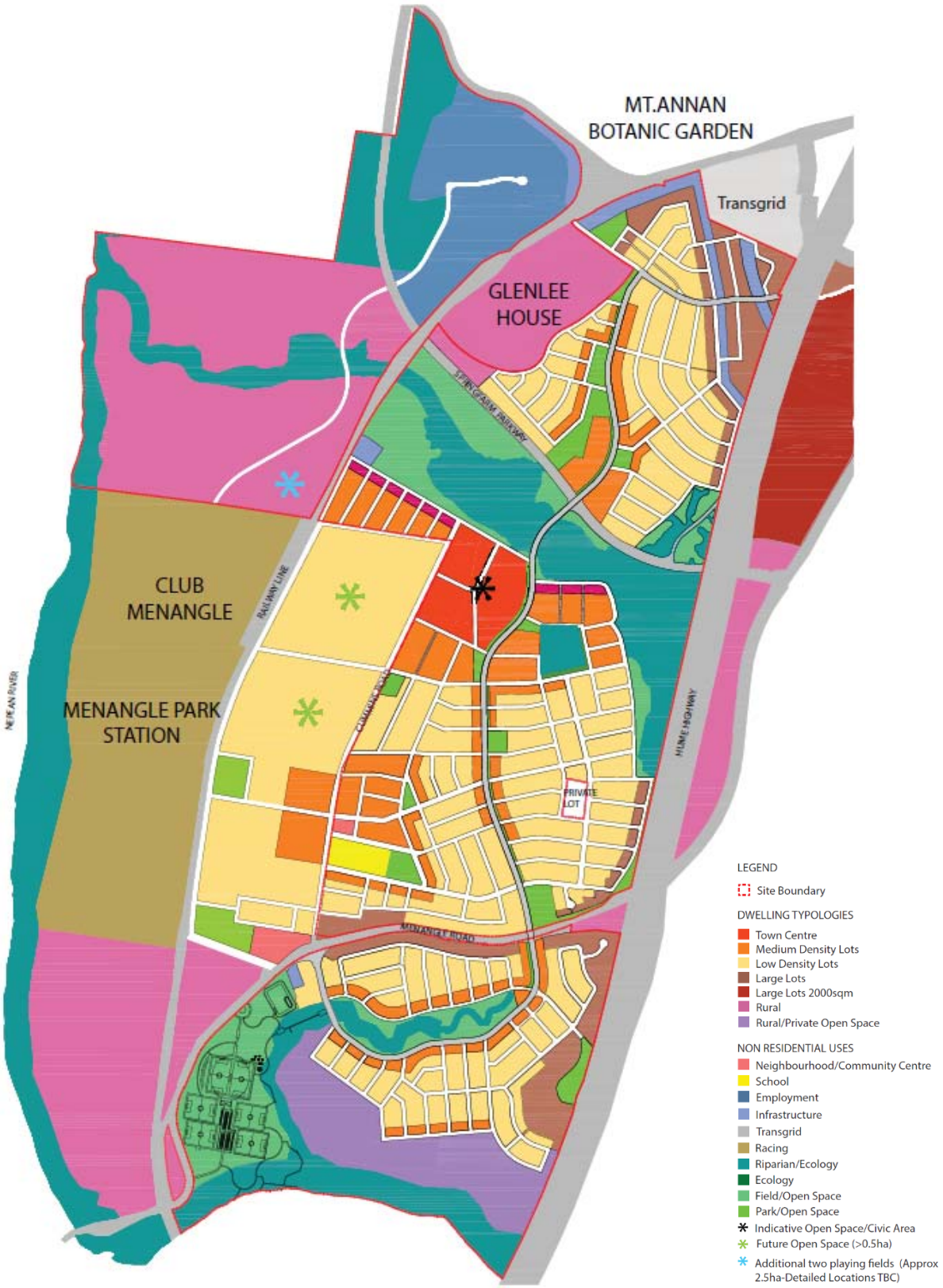


Figure 23 The Master Plan

4.3.3 EDUCATION

The new 2 ha primary school site is located within the southern portion of the site, adjacent to the new neighbourhood centre and 1 ha area of active open space (refer to Figure 24). The Department of Education has confirmed a 2 ha primary school site adjoining open space is appropriate.

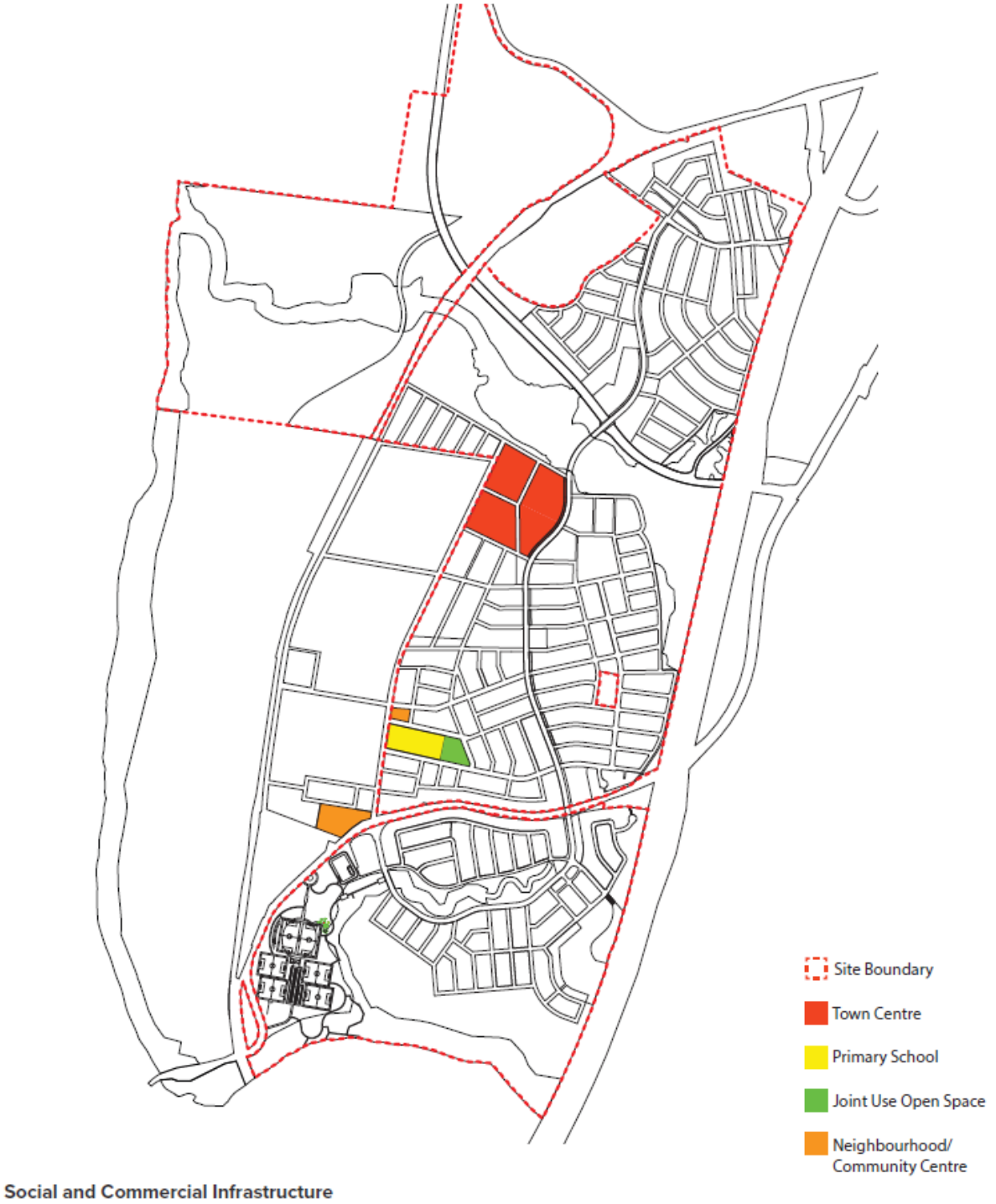


Figure 24 Proposed social and community infrastructure

4.3.4 OPEN SPACE, RECREATION AND PUBLIC DOMAIN

The revised master plan provides for approximately 134.81 ha of public open space in the form of local and district parks, sporting fields, and natural open space areas. A breakdown of the proposed public open space is provided in Table 7. The proposed open space hierarchy is included in Figure 25.

Table 7 Proposed Public Open Space

OPEN SPACE TYPE	QUANTUM	NET SIZE (HA)
Informal/passive open space		
Local parks	9 areas	6.4
District parks	3 large areas 4 small areas	16.9
Subtotal	12 parks	23.3
Formal/active open space		
Multipurpose sports hub (organised sport)	1 large area	17.26
Active recreation space (fields	1 small area	2.5
Subtotal	2 sports hubs	19.76
Total informal and formal		43.06
Natural open space types		
Riparian land	Through site	85.11
Local parks with drainage function	3 areas	2.93
Ecology	1 area	2.46
Green 'spine'	5 areas	1.25
Subtotal		91.75
GRAND TOTAL		134.81

A Landscape and Open Space Character Report prepared by Place Design Group is included at **Appendix G**.

Figure 25 Proposed Open Space Hierarchy

The landscape and open space vision for site is to:

- Deliver a benchmark landscape and public domain outcome within a progressive master-planned community.
- Establish holistic and fully integrated approach to the landscape master plan that relates closely to the urban design principles and layout.
- Create 8 distinctive landscape character areas across the development in conjunction with the urban design and built form strategy for the site.

- Provide a memorable experience for residents and visitors, building on a strong identity for the site and the creation of a significant sense of place.
- Create a living and working environment that promotes health, well-being, active living and sociability;
- Respond to past and existing land use, existing topography and existing landscape character including the river, adjacent botanic gardens and agricultural land.
- Optimise access and connectivity to all public open spaces, with a focus on walkability and cycle network
- Develop maintenance and management strategies in consultation with Council to ensure high quality public domain outcomes for many years after handover.
- Increase biodiversity and leverage close relationships between Council and the Mount Annan Botanic Garden.
- Maximise opportunities for pedestrian/cyclists interaction and environmental learning which will enhance sense of identity and integrity of community.
- Increase urban tree canopy through the provision of connected high quality landscaped active and passive open space, riparian corridor and tree lined streets;

Figure 26 Natural recreation areas (source: PDG, 2018)

Figure 27 Informal recreation areas – parks and play spaces (source: PDG, 2018)

Figure 28 Formal recreation (source: PDG, 2018)

4.4 VEHICULAR ACCESS AND STREET NETWORK

Vehicular access to the site is provided by two arterial roads, namely Menangle Road and the future Spring Farm Parkway. Access to the future residential areas is via intersections along these two arterial roads including connections via Cummins Road and the proposed north-south collector road.

The internal road network and streets respond to the site's topography and gradients (refer to Figure 29). The previous north-south collector road has been realigned to provide for a green active transport link along this road. The north-south collector road will be serviced by a number of sub-collector roads and major local roads which will in turn distribute traffic to the local street network for residential access. Additional minor accesses to the precinct would be provided at the existing accesses of Beersheba Parade and Glenlee Road.

The proposed road and street types are detailed in Table 8.

Streets within the site are an important feature of the public domain, connecting people and providing the opportunity to create a memorable landscape setting for the community. They are a major component of the public domain and will influence the quality of life of the future Menangle Park community.

For streets, the key landscape principles include the following:

- create a clear landscape hierarchy and character of major and local streets;
- provide a high quality landscape continuously along each street to reinforce the overall landscape vision;
- create a comfortable, safe, pedestrian friendly, shady avenue streets;
- create a strong visual avenue tree planting; and
- provide a sustainable ground plane of native grasses and groundcover planting where possible.

The proposed street tree planting for the site is contained within the Open Space and Landscape Strategy prepared by Place Design Group and included at **Appendix G**.

Detailed cross-sections of proposed roads / streets are provided in Figures 30-34.

Table 8 Proposed Road / Street Types

ROAD TYPE	VERGE / FOOTPATH	GREEN SPINE	PARKING	ROAD CARRIAGEWAY	TOTAL WIDTH
Green Spine Collector North South Link (2 lanes)	3.9m (1.5m path) (proposed on one side)	Location 1 = 12.5m Location 4 = 14.5m	4.6m	7m	Location 1 = 28m Location 4 = 30m
Green Spine Collector – North South Link (4 Lanes)	3.9m (1.5m path) (proposed on one side)	Location 2 = 10.5 Location 3 = 12.1 Location 5 = 12.1	n/a**	14m	Location 2 = 28.4m Location 3 = 30m Location 5 = 30m
Collector Road	3.9m (including 1.5m path) 4.9m (including 3m share way)	n/a**	4.6m	11.6m	20.4m
Ridge-top Road	4.9m (including 1.5m path)	n/a**	4.6m	9.6m	19.4m

ROAD TYPE	VERGE / FOOTPATH	GREEN SPINE	PARKING	ROAD CARRIAGEWAY	TOTAL WIDTH
	(proposed on both sides)				
Sub Collector Road	3.9m (including 1.5m path) (proposed on both sides)	n/a**	4.6m	9.6m	17.4m
Local/Minor Road	3.6m (including 1.2m path) (proposed on both sides)	n/a**	n/a**	7.6m	14.8m

*No dedicated parking lanes on parkway collector near the town centre.

*Parking will be permitted on local roads however there is no dedicated parking lane proposed.

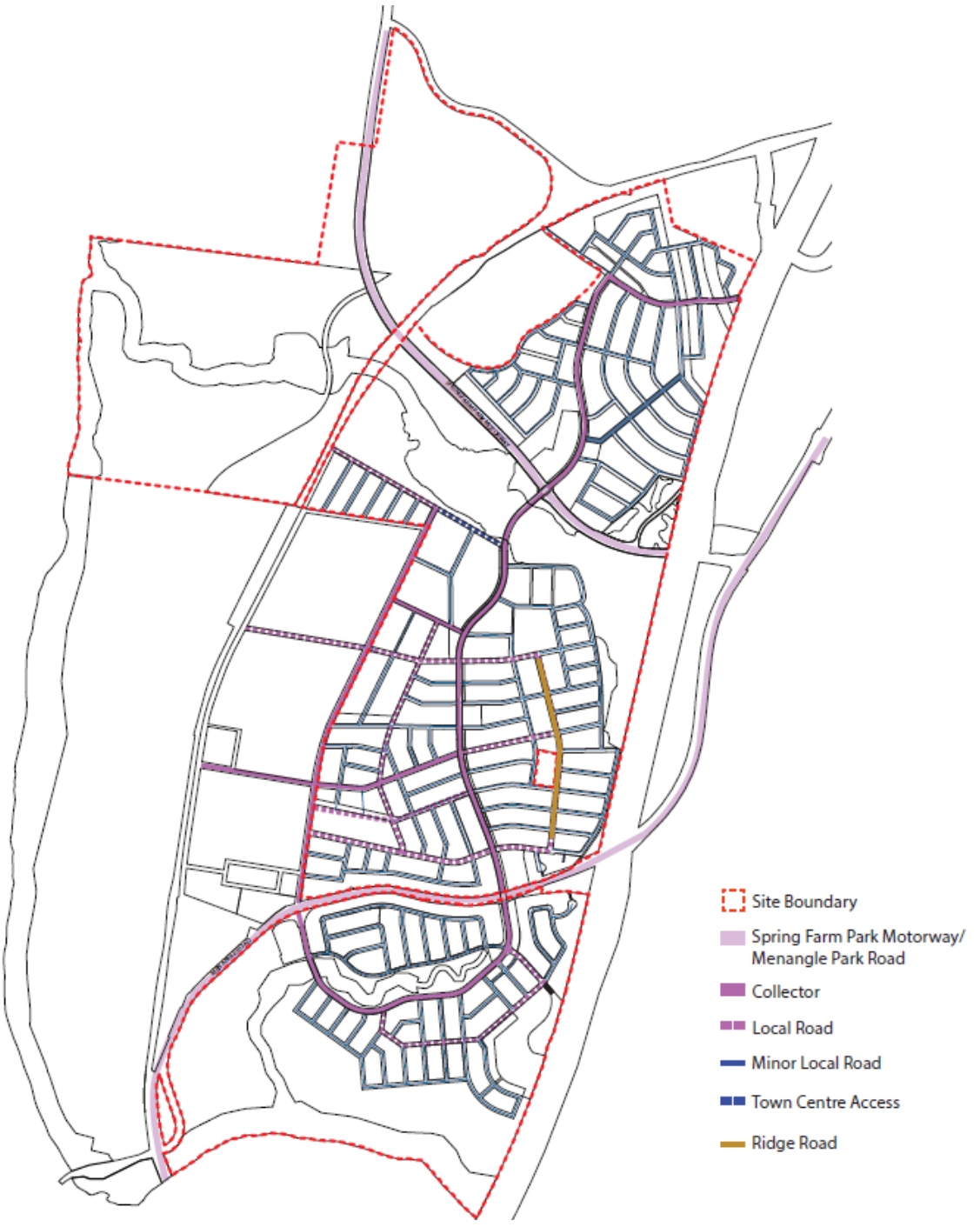
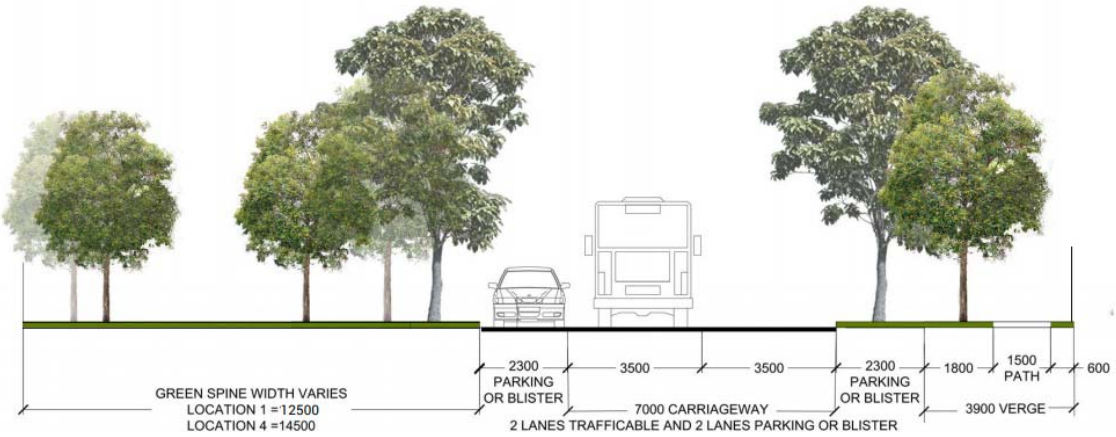
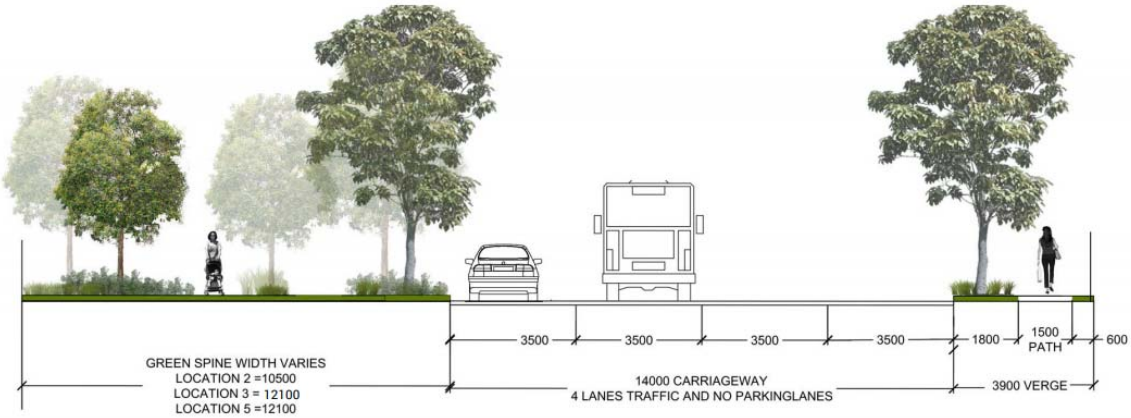


Figure 29 Proposed Road and Street Hierarchy

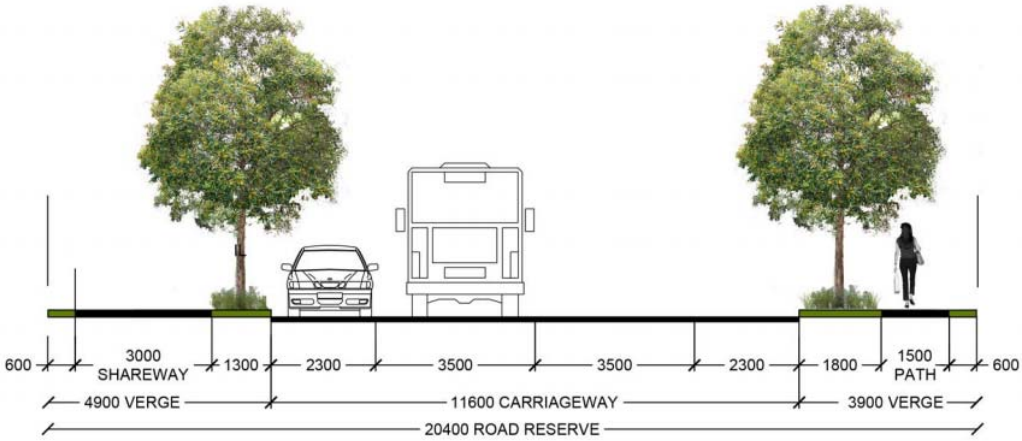


Green Spine - North South Link (2 traffic lanes and 2 parking lanes with planting blisters)



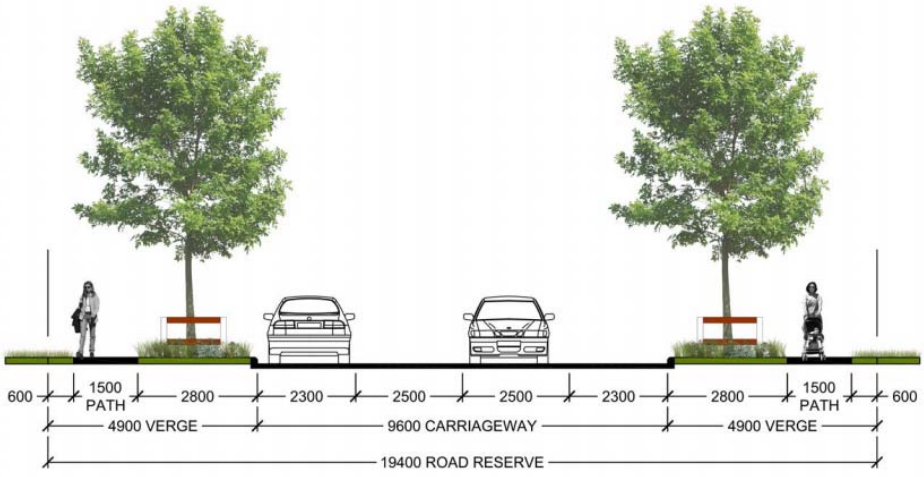
Green Spine - North South Link (4 traffic lanes)

Figure 30 Green Spine – North South Collector



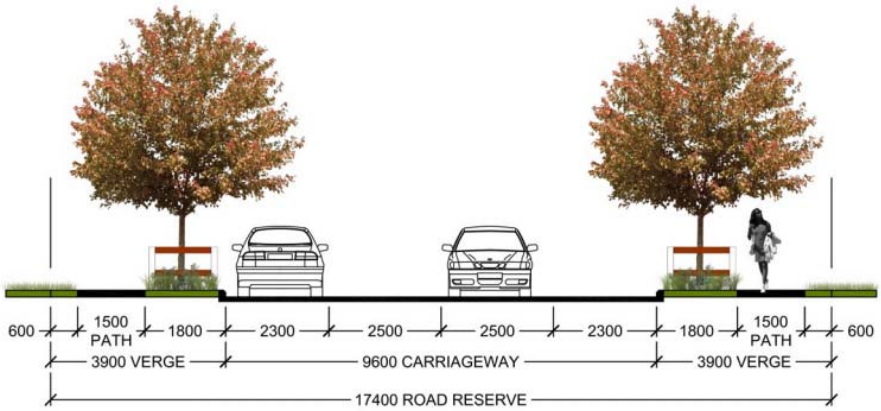
Collector road (20.4m)

Figure 31 Collector Road Cross Section



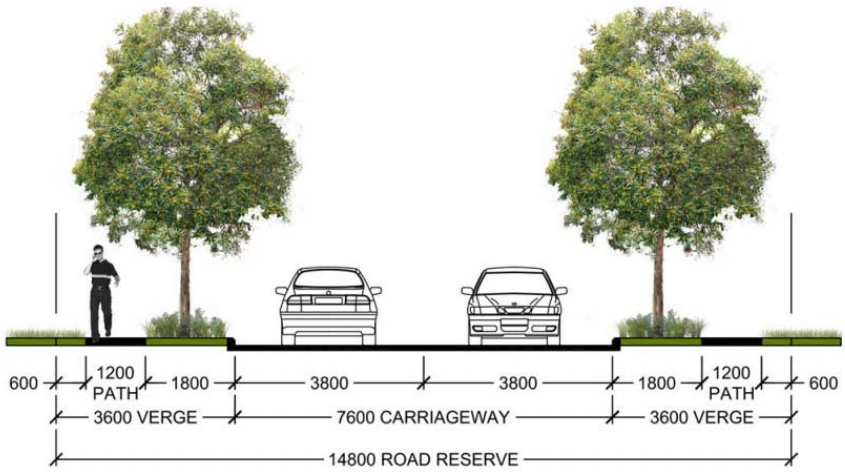
Ridge-top road (19.4m)

Figure 32 Ridge Top Road Cross Section



Sub collector road (17.4m)

Figure 33 Sub-Collector Road Cross Section



Local/minor road (14.8m)

Figure 34 Local / Minor Road Cross Section

Interim access to the site is envisaged to be undertaken in a number of phases. The phase and indicative timing of vehicular access to the site is anticipated to be as follows:

1. Access via Menangle Road and Cummins Road intersection (2020).
2. Access via a new intersection of North-South Collector Road and Menangle Road (2021) in addition to Cummins Road.
3. Access via a new intersection of north-south collector road and Spring Farm Parkway – Assuming Spring Farm Parkway Stage 1 is completed.
4. Access to employment lands via a new intersection with Spring Farm Parkway (2026) – Assumes Spring Farm Parkway Stage 2 is completed (refer to Figure 35).

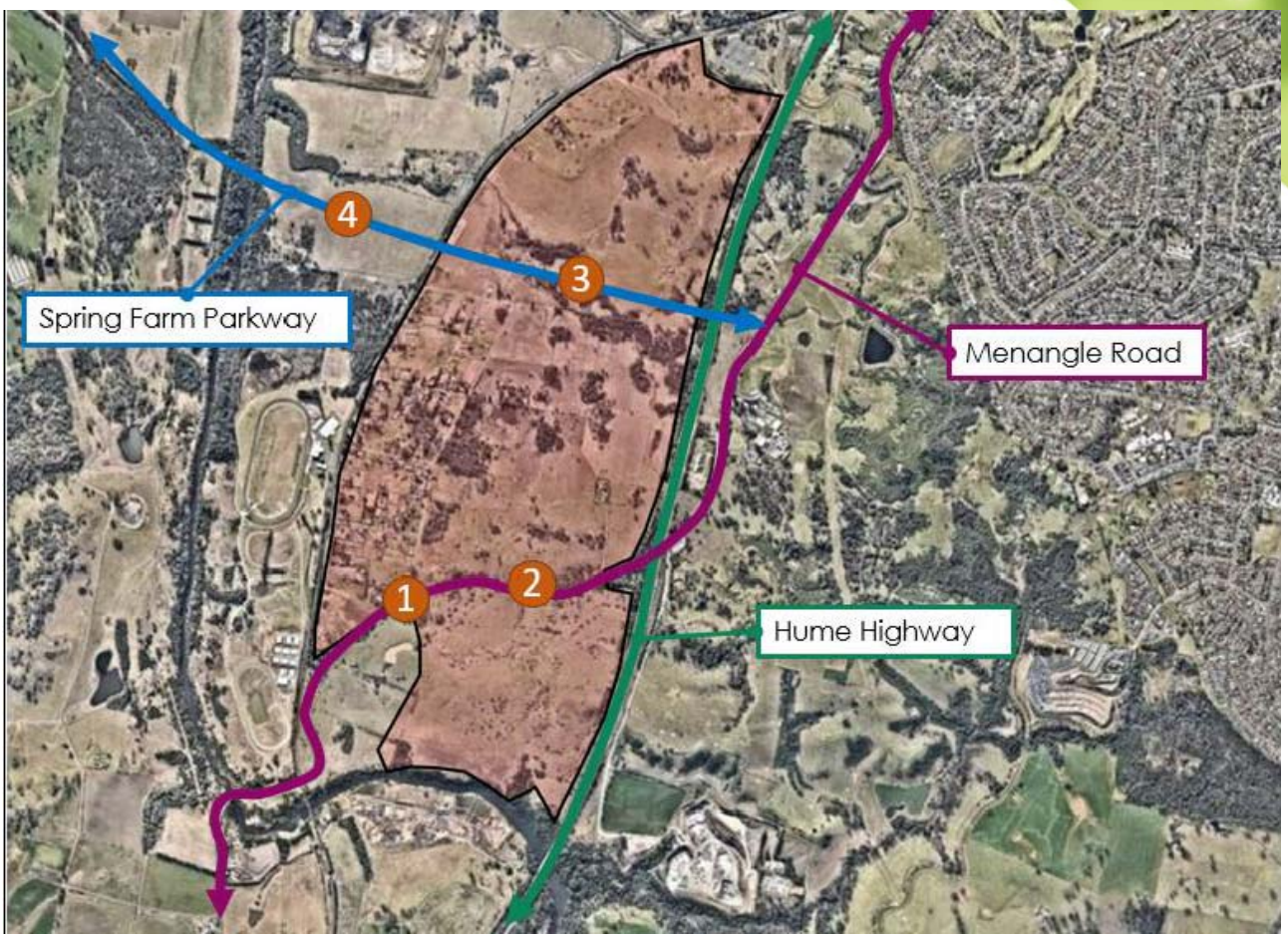


Figure 35 Proposed Staged Access Strategy

4.5 PUBLIC TRANSPORT

Two bus routes have been considered within the site (refer to Figure 36). The first route would largely follow the existing Sydney Buses 889 route which connects Menangle, Menangle Park Railway Station, the proposed Town Centre and Campbelltown. A second option includes a connection to Narellan and beyond (i.e. Western Sydney Employment Area and the Aerotropolis) as well as the retail, employment and light industry lands immediately west of Glenlee House. Those routes would also connect to key existing and future train stations, including Menangle Park Station, Macarthur-Campbelltown Station and the future Narellan Station. Services to the Campbelltown interchange will also provide a connection for residents to other buses and the wider public transport network. It is proposed that in the southbound direction, buses would turn left at the Beersheba Parade/ Menangle Road intersection and use the roundabout at Cummins Road/ Menangle Road to turn back south on Menangle Road.

This proposed bus routes would be refined in conjunction with Transport for NSW and the local bus operator(s) at a later stage, in response to both more detailed planning for the broader bus network strategy and patronage demand. The internal road network includes a network of bus-capable roads to provide flexibility in route options.

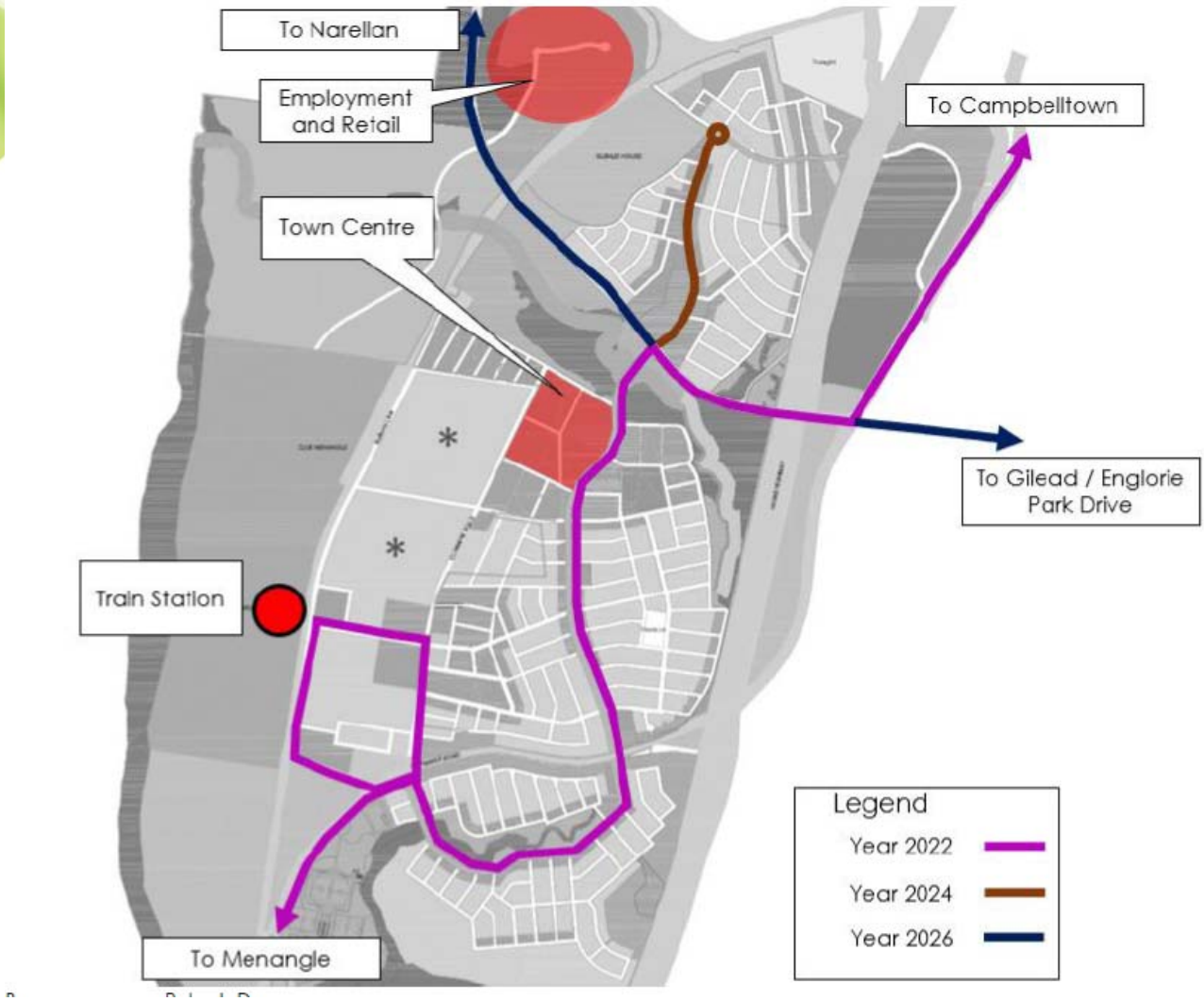


Figure 36 Indicative Bus Routes

4.6 PEDESTRIAN AND CYCLE NETWORK

Connectivity throughout the site, the broader Menangle Park URA and beyond and the open space network is one of the key principles that underpin the urban structure of the site. A network of pedestrian and cycle paths is proposed within open space and riparian corridors and along the street network providing high levels of connectivity within and between character precincts and linking both the town and neighbourhood centres. The proposed cycle and pedestrian network is shown in Figure 37.

The revised master plan envisages:

- safe and well-connected cycle and pedestrian networks will be established as a healthy option for the residents and workers, promoting walkability;
- a reduction in the focus of car travel and subsequent reduced travel times for residents and workers;
- major cycle commuter routes including the 23.1 km north-south active transport link with shared cycling and walking paths; and
- major pedestrian connectors to the Nepean River, Botanic Gardens with generous walkways and activated frontages.

Figure 37 Proposed pedestrian and cycle network

4.7 WATER CYCLE AND FLOOD MANAGEMENT

The proposed water cycle and flood management strategy focuses on mitigating the impacts of the development on the total water cycle and maximising the environmental, social and economic benefits achievable by utilising responsible and sustainable stormwater management practices. The objectives of the strategy are as follows:

- Water quality treatment for stormwater runoff for the 3 month ARI storm targeting:
  - 55% reduction in mean annual load for Total Nitrogen (TN)
  - 70% reduction in mean annual load for Total Phosphorous (TP)
  - 85% reduction in mean annual load for Total Suspended Solids (TSS)
- Management of flows in natural creeklines to achieve a Stream Erosion Index (SEI) of between 1 and 2 by managing the 1 in 1.5 year ARI peak discharge (as per industry practice the 2 year ARI has been adopted instead of the 1.5 year ARI).

4.7.1 WATER SENSITIVE URBAN DESIGN (WSUD)

Key opportunities for WSUD in the revised master plan include:

- a reduction in footprint of the WSUD devices through using bio-retention systems and proprietary devices instead of wetlands;
- integrating WSUD devices into the riparian corridors and complimenting them with innovative landscape solutions;
- amalgamating multiple water quality solutions with larger devices to optimise existing areas of open space adjacent the riparian corridors;
- where sandy deposits occur infiltration of treated runoff may be considered; and
- where flood detention basins occur, water quality treatment areas can be co-located within the detention basin to reduce WSUD infrastructure area requirements.

These opportunities are consistent with the approved Menangle Park WSUD Strategy (AECOM, June 2010). The proposed strategy to ensure there are no detrimental impacts to water quality is shown in Figure 38. All WSUD and detention basins will be raised to ensure they are free from mainstream flooding during the 100-year event and they will safely manage local 100-year flood flows. The proposal will result in some modifications to the existing drainage catchments. The final catchments boundaries will ultimately be determined during the detailed design of the precinct, however, the proposed strategy assumes that the catchments are generally consistent with the existing catchments as shown in Figure 38.

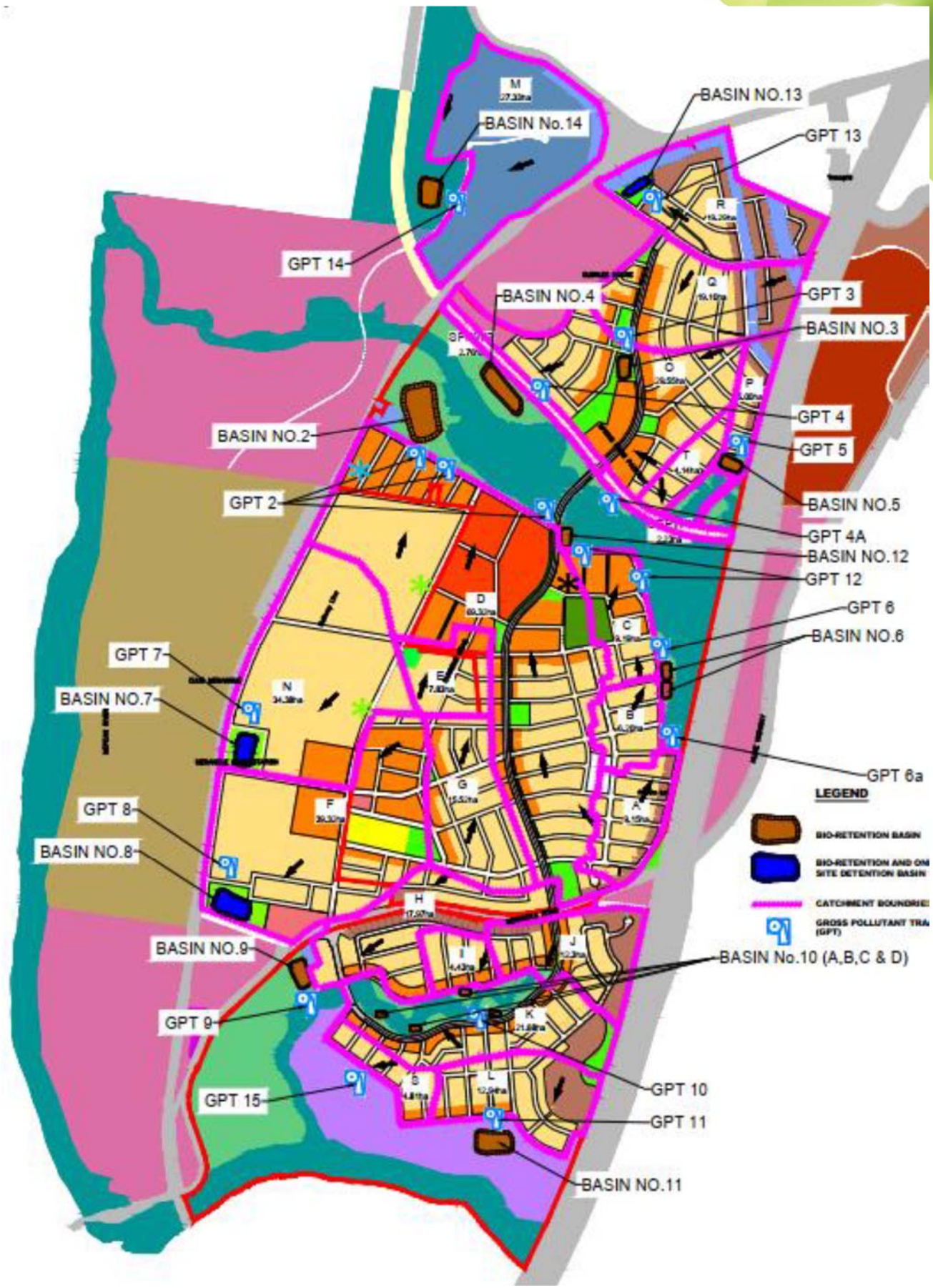


Figure 38 Proposed WSUD Strategy

The Spring Farm Parkway (SFPW) will be designed and constructed by the RMS separate to the precinct development. The management of the stormwater that drains from SFPW has been discussed with the RMS and is considered in the strategy for this precinct. Following discussions with RMS, SFPW water is treated separately to subdivision water.

4.7.2 PROPOSED DETENTION STRATEGY

The detention strategy for the proposal remains consistent with the strategy as approved in the 2017 rezoning of the Menangle Precinct (GHD, November 2011). The original rezoning process considered two detention strategies during the rezoning process. Landcom and Campbelltown Council reviewed the strategy and identified that due to the unique alternative location of the precinct with regards to the proximity to the Nepean River there were opportunities to meet the stormwater storage solutions. The alternative drainage design (GHD, November 2011) suggested removing eight detention basins and redirecting those funds into environmental works such as creek stabilisation. The result was an improved environmental outcome for the precinct and reduced maintenance costs for Council, whilst not resulting in significant increases of peak flows from local catchments reaching the Nepean River.

The current detention strategy builds on the approved detention strategy by maintaining the same number of detention basins and their locations. These have been adjusted in size to accommodate the revised master plan. The results remain generally consistent with those approved under the 2017 rezoning strategy (GHD, November 2011) (refer to detailed discussion in section 9.7 of this report).

The proposed detention basins will be designed holistically within open space and / or be fully integrated into the parkland settings. The design approach will:

- Introduce planting design that reflects the riparian nature of the development and delivers native animal habitat for additional wildlife biodiversity.
- Introduce footbridges with lookouts, informal paths with seating areas and playful elements such as stepping stones and logs around basin edges and water bodies for additional passive recreation value.
- Provide active recreation along footpaths adjacent to detention basins with integrated facilities such as seating areas and fitness equipment.

4.7.3 PROPOSED FLOODING STRATEGY

Catchment Simulation Solution were engaged to review the flood modelling prepared by GHD (November 2011; May 2010) and analyse any flood impacts of the revised master plan. Additional filling is required in some areas of the masterplan to remove the risk of flooding on developable lots, these include:

- The edge roads along Howes Creek lifted to 0.5 m above the 100-year storm, removing small tributaries north and south of Howes Creek;
- The southern bend of Beersheba Parade and future lots adjacent require filling 0.5m above the 100 Year storm event;
- The southern portion of the masterplan adjacent the Nepean River to be filled above the major storm event of the Nepean River; and
- Rural and employment lands on the western side of the railway.

Filling will also be required within the floodplain to protect future sporting fields and amenities. Final levels will be determined during detailed design stage. Indicative levels are shown in Figure 39. It is noted that Council generally requires playing fields to be elevated above the 20% ARI event, with synthetic fields to be elevated above the 5% ARI event. The impacts to flood levels as a result of filling land to be developed above the 100 Year ARI levels remains generally within the precinct boundaries and remains consistent with the approved strategy. Some additional work will need to be undertaken to ensure that the playing fields south of Menangle Road can be lifted above the 5 Year and 20 Year ARI events.

Figure 39 Indicative Playing Field Levels

SECTION 5

Proposed LEP Amendment

5. PROPOSED LEP AMENDMENT

5.1 LAND TO WHICH THE LEP AMENDMENT WILL APPLY

A draft Land Application Map is provided in Figure 40. The draft Land Application Map illustrates the land that is to be included in the LEP amendment.

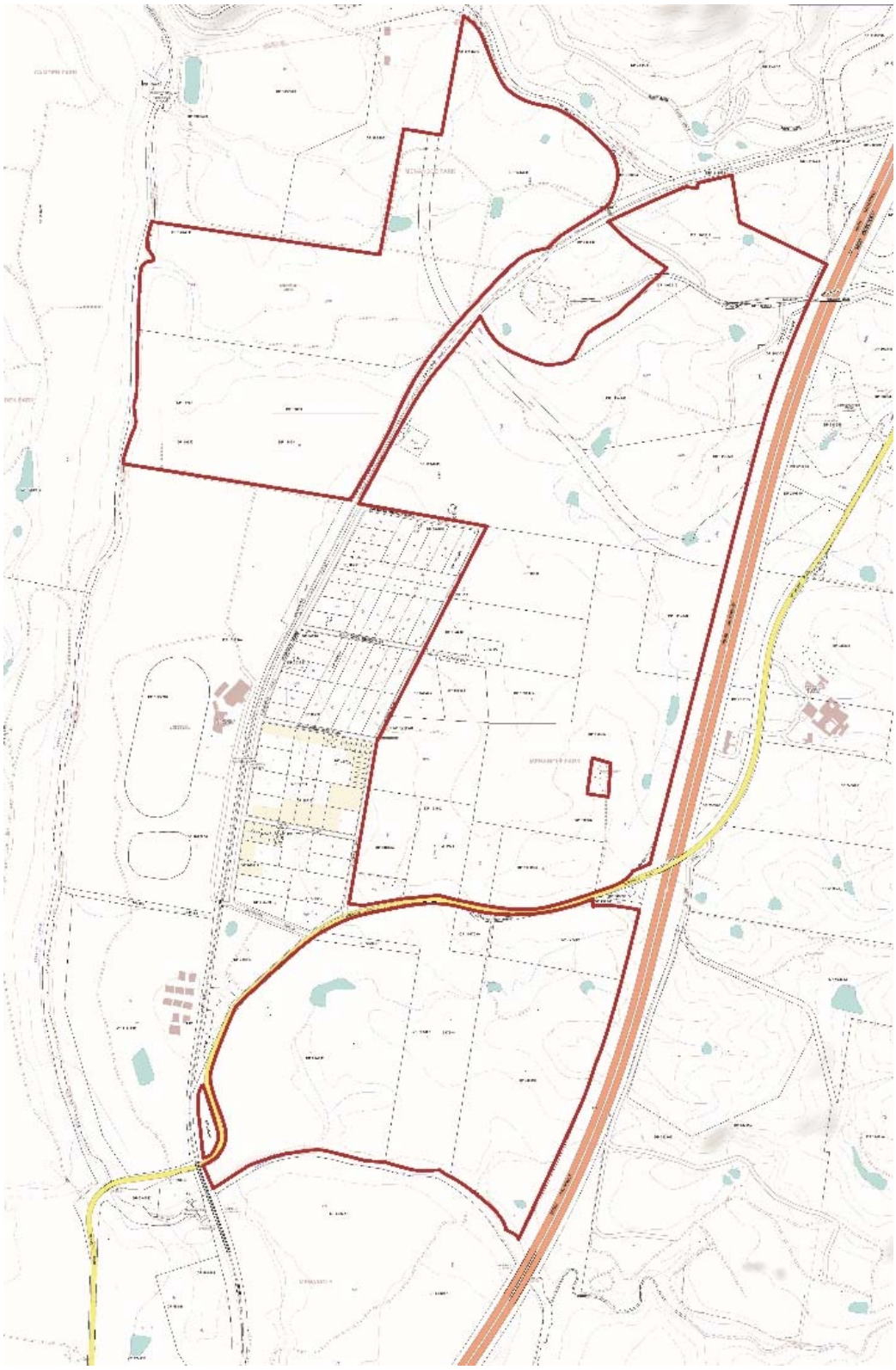


Figure 40 Draft Land Application Map

5.2 PROPOSED LAND USE ZONES

The planning proposal generally involves realigning the boundaries of existing zones within the site to reflect the revised master plan. No change to the land use tables as currently drafted in Campbelltown LEP 2015 are proposed. A description and explanation of the proposed land use zones is provided in Table 9.

Table 9 Draft Land Use Zoning

ZONING	JUSTIFICATION
B1 Neighbourhood Centre	It is proposed to apply the B1 Neighbourhood Centre zone to the neighbourhood centre within the southern portion of the site. This zone allows for small-scale convenience retail premises ('neighbourhood shops'), 'business premises,' 'medical centres' and community uses that serve the day-to-day needs of residents in easy walking distance.
B2 Local Centre	The re-located town centre is proposed to be zoned B2 Local Centre, consistent with the zoning of the town centre in the previous planning proposal. This zoning continues to provide a range of retail, business, entertainment and community uses that will support the needs and desires of the local community. The size of the B2 Local Centre has increased in size to accommodate the 30,000m² of floor space. The retention of the B2 Local Centre has previously been accepted by Council and the Department as an appropriate zone.
R4 High Density Residential	A linear area of R4 High Density Residential zoning is proposed along the southern side of the Howes Creek Riparian Corridor, adjacent to the town centre. The R4 High Density zone allows for higher density living including residential flat buildings within walking distance to the town centre and the services and facilities that will be provided within it. The introduction of an R4 High Density Residential zone within the site results in Council and the local community having a high degree of certainty over the location of residential flat buildings within the site. Best practice urban design and planning links amenity to housing density and diversity as it will be supported by high levels of access, quality open space, employment opportunities and the convenience of local services and shops for daily needs.
R3 Medium Density Residential	It is proposed to apply the R3 Medium Density Zone along the proposed green active transport link, surrounding the town centre and neighbourhood centre in the southern portion of the site where a variety of medium density accommodation is proposed to be established and where other residential uses (including typically higher or lower density uses) and other land uses that provide facilities or services to meet the day to day needs of residents could also be permitted. The proposed R3 Medium Density zone provides a good level of flexibility also allows for a limited amount of non-residential uses, to meet the day to day needs of residents. This is considered appropriate in that non-residential uses outside of a local centre can make improvements to the liveability of a neighbourhood (i.e. a local neighbourhood shop or café, or child care centre can become important meeting places for the local community). No change to the existing R3 Medium Density zoning for land on the western side of Cummins Road is proposed. This land falls outside of the land to which the planning proposal relates.
R2 Low Density Residential	It is proposed to apply the R2 Low Density Residential zone to the majority of the remaining residential areas of the site, consistent with the majority of the site's current zoning. Similar to the existing LEP controls, this will be the predominant zoning throughout Menangle Park and will deliver predominantly detached housing.

ZONING	JUSTIFICATION
R5 Large Lot Residential	It is proposed to expand the land to which the current R5 Large Lot zone applies to include land to the south of Menangle Road. The RU2 Rural Landscape zone is for rural land used for commercial primary production that is compatible with ecological or scenic landscape qualities that have been conserved. The R5 Large Lot Residential zone is intended to cater for development that provides for residential housing in a rural setting, consistent with the re-imagined vision for this part of the site and Menangle Park. Lot sizes will be varied within this zone depending on topography, native vegetation characteristics and surrounding uses. This land is not intended to be used for commercial primary production. The R5 Large Lot zone is considered the most appropriate zone. The amended DCP will detail design principles for this land, which will be required to be addressed as part of any future subdivision application relating to this land.
RU2 Rural Landscape	It is proposed to retain the RU2 Rural Landscape zone for land on within the north-west corner of the site.
IN1 General Industrial	No change to those parts of the site currently zoned IN1 General Industrial are proposed.
RE1 Public Recreation	The additional areas of public open space are proposed to be zoned RE1 Public Recreation, consistent with the previous rezoning and enabling the delivery of quality open space for the use and enjoyment of the local community. This includes the 2.5 ha of additional public open space within the north-west portion of the site.
SP2 Infrastructure	With the exception of the previous 'public facility' / community centre on the southern side of Menangle Park which is proposed to be rezoned part R5 Large Lot and part R2 Low Density, no change to those parts of the site currently zoned SP2 Infrastructure is proposed. It is proposed to apply the SP2 Infrastructure zone to within the northern most portion of the site.

A draft zoning plan is included in Figure 41 and **Appendix H**.

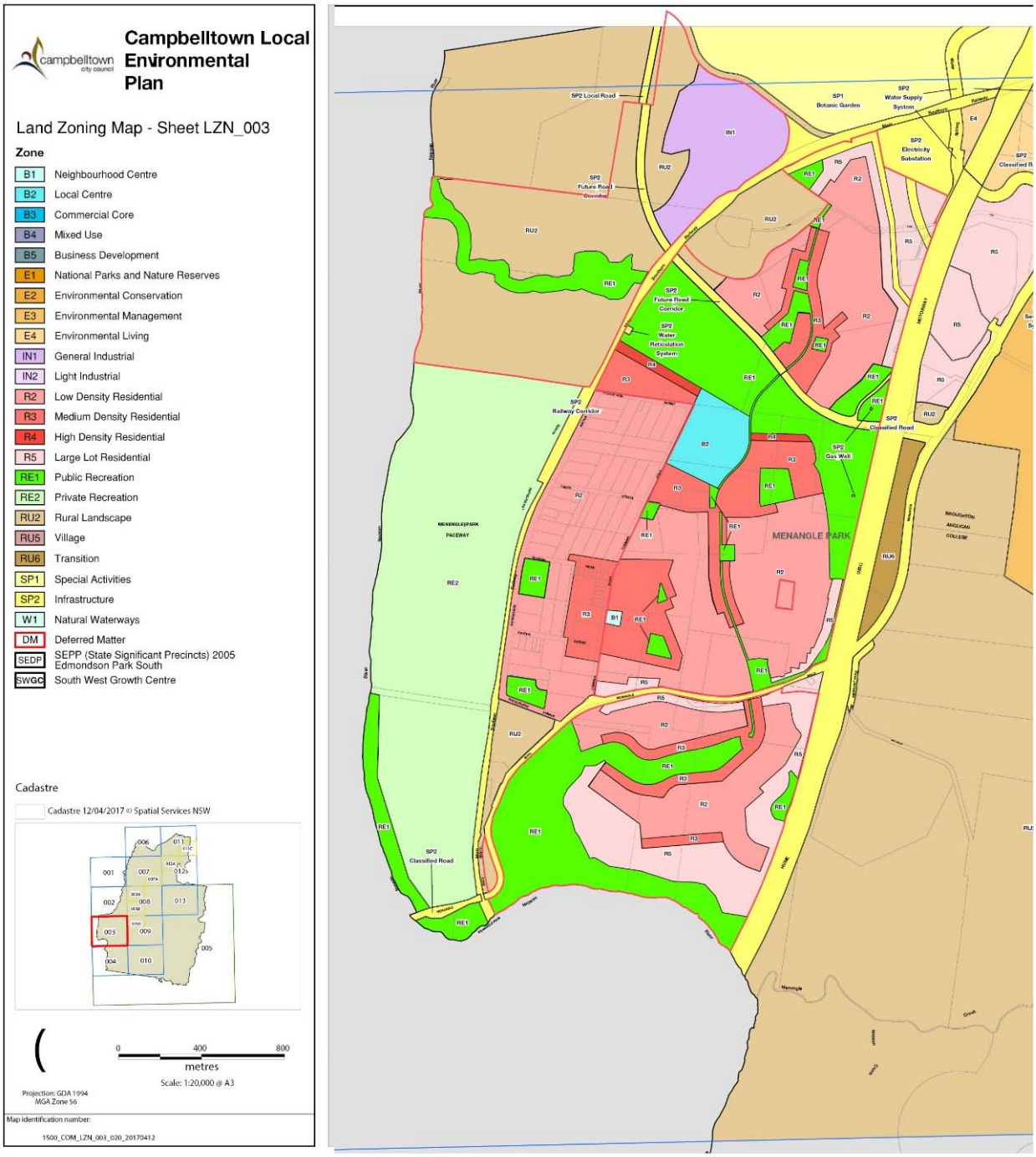


Figure 41 Draft Land Use Zoning map

5.3 PRINCIPAL DEVELOPMENT STANDARDS

It is intended that the LEP Amendment will contain principal development standards for minimum lot sizes and maximum height of buildings for residential development in the R2 Low Density Residential, R3 Medium Density Residential and R4 High Density Residential land use zones.

5.3.1 MINIMUM LOT SIZES

For the purposes of subdivision on the site, the draft Minimum Lot Size Map establishes minimum lot sizes of:

- 300m² in the R2 Low Density Residential, R3 Medium Density Residential and R4 High Density Residential land use zones; and
- 750m² and 2,000m² on land within the R5 Large Lot zone.

A draft Minimum Lot Size Map is included in Figure 42 and **Appendix H**.

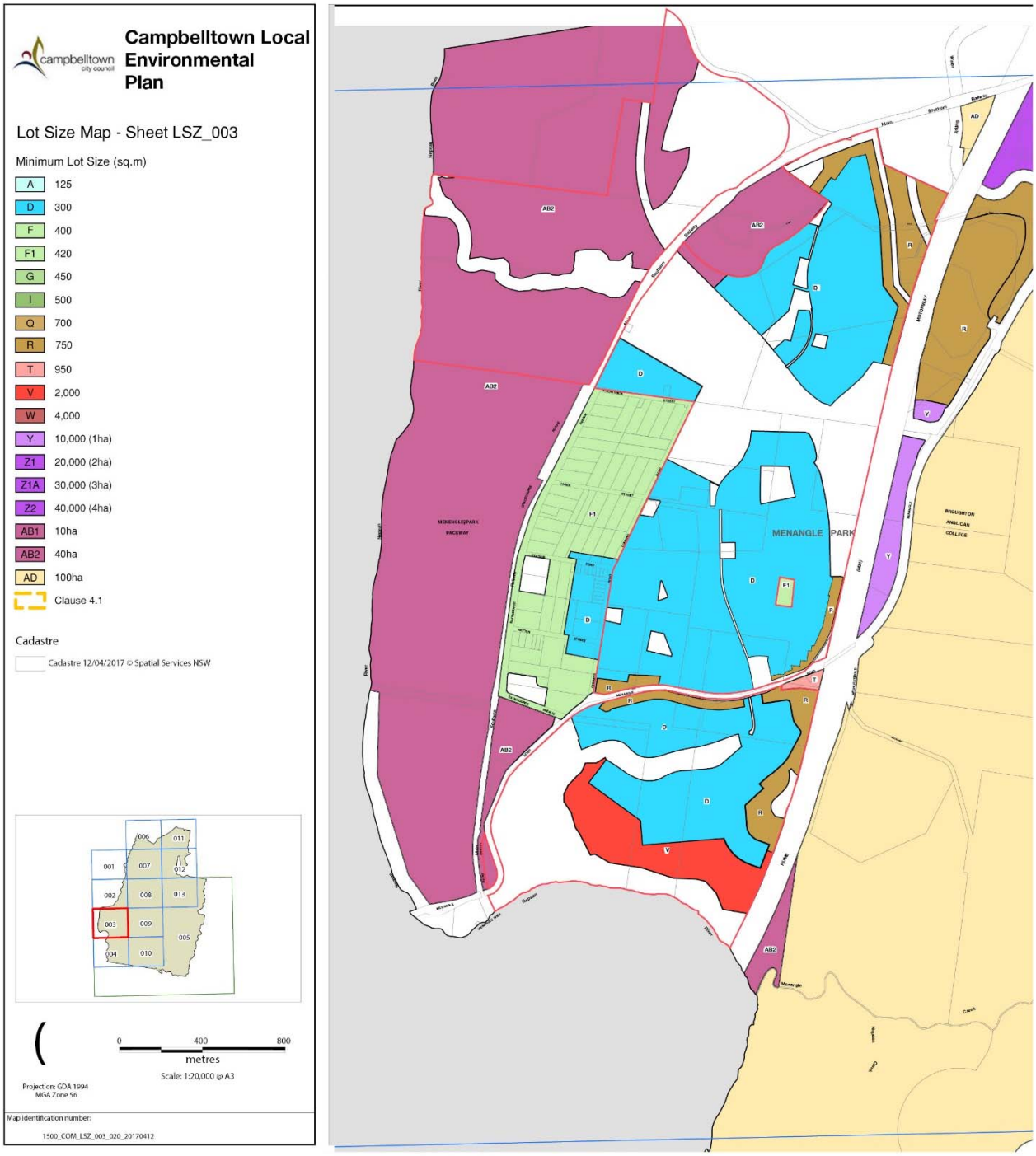


Figure 42 Draft Minimum Lot Size Map

To facilitate and encourage the provision of a range of dwelling types within the site it is proposed to establish minimum lot sizes for certain types of residential development in accordance with Table 10:

Table 10 Dwelling Type Minimum allotment size

DWELLING TYPE	MINIMUM LOT SIZE
Dwelling houses	200m²
Semi-detached dwellings	200m²
Dual occupancy	500m²
Secondary dwellings	250m²
Attached dwellings	125m²
Multi-dwelling housing	1,500m²
Residential Flat Buildings	1,500m²

It is proposed that the LEP Amendment include a special provision to this effect as follows:

4.1H Minimum allotment sizes for residential development identified on certain land within the Menangle Park Urban Release Area

(1) This clause applies to land within Area 1 on the Urban Release Area Map.

(2) The objectives of this clause are as follows:

- *(a) to establish minimum allotment sizes for residential development on certain land within the Menangle Park Urban Release Area,*
- *(b) to ensure that residential development has adequate usable areas for buildings and open space, and*
- *(c) to facilitate and encourage the efficient use of land for the purpose of a range of residential accommodation (including dwelling houses on small lots).*

(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development is consistent with the objectives of this clause.

(4) Despite clauses 4.1, 4.1B and 4.1C, development consent must not be granted for a purpose shown in Column 1 of the following Table unless the area of the lot is as specified opposite in Column 2:

Column 1	***Column 2***
Dwelling houses	*200m²*
Semi-detached dwellings	*200m²*
Dual occupancy	*500m²*
Secondary dwellings	*250m²*
Attached dwellings	*125m²*
Multi-dwelling housing	*1,500m²*
Residential Flat Buildings	*1,500m²*

The proposal to establish minimum lot sizes for different types of residential dwellings within the proposed residential zones is consistent with the minimum lot size controls established for other urban release and growth areas. No minimum lot size is proposed for the B2 Local Centre zone. The draft Lot Size for Dual Occupancy Development Map is provided in Figure 43 and **Appendix H**.

The proposed lot sizes will provide sufficient flexibility to respond to changes in the market and housing needs over a 10+ year period and address design issues should they arise during the detailed design phase or provide sufficient market flexibility to encourage higher density housing more broadly throughout the site.

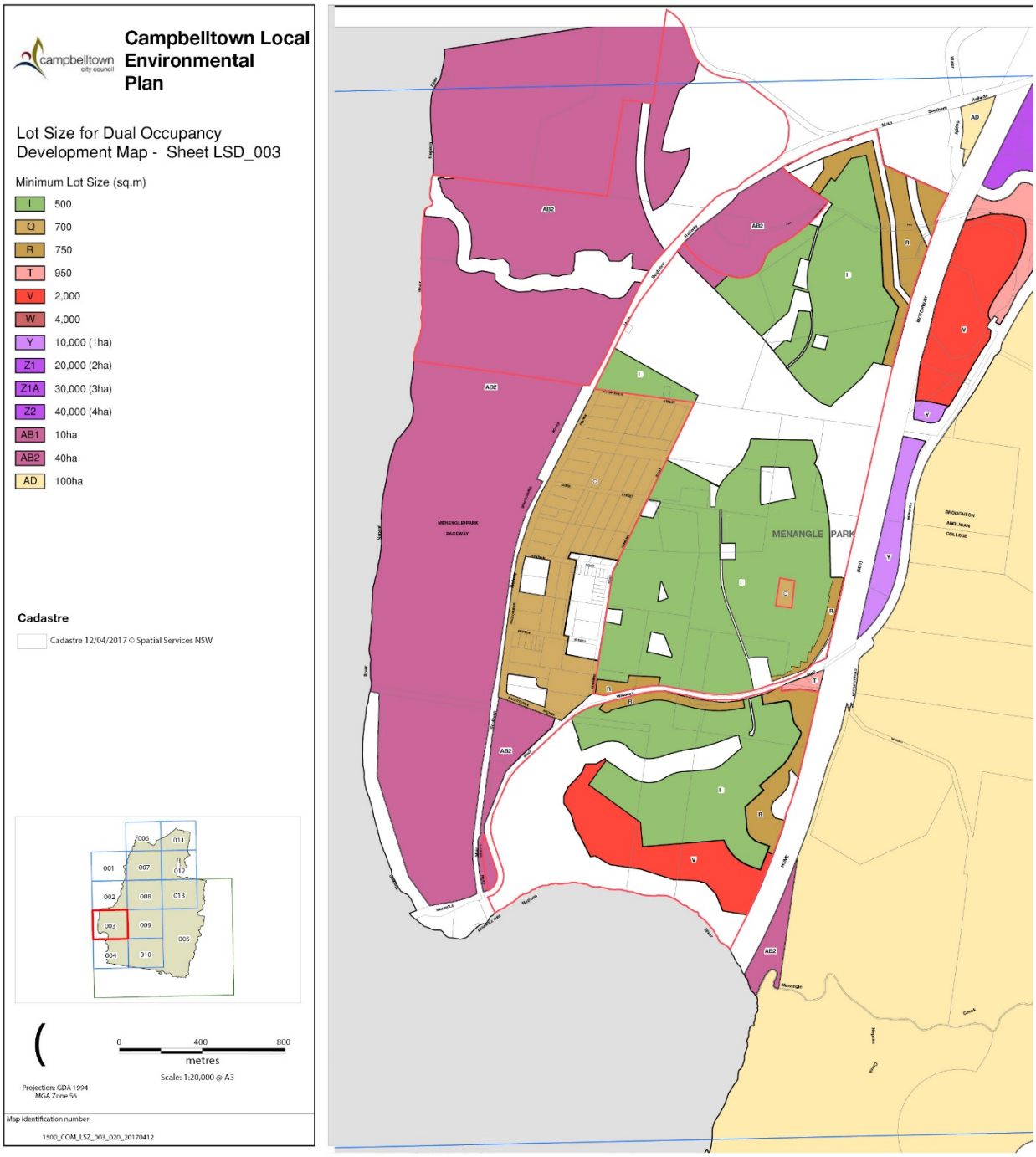


Figure 43 Draft Lot Size for Dual Occupancy Development Map

5.3.2 HEIGHT OF BUILDINGS

The following height of buildings are proposed:

ZONE	MAXIMUM HEIGHT (STOREYS)	MAXIMUM HEIGHT OF BUILDINGS (M)
B2 Local Centre	6-8 storeys	24 m
R4 High Density Residential	4-6 storeys	18 m
R3 Medium Density Residential	3-4 storeys	12 m
R2 Low Density Residential	1-2 storeys	10 m
R5 Large Lot	1-2 storeys	8.5 m

A draft Height of Buildings Map is included in Figure 44 and **Appendix H**.

It is noted that under Campbelltown LEP 2015, building heights within the Campbelltown CBD range from 32 and 38.5 m (10 to 13 storeys) with 45 m (15 storeys) adjacent to the railway. The maximum height of the future town centre within the existing master plan and building height map is 15 m (5 storeys). Under the revised master plan, the height of the town centre is proposed to range from 18 – 24 m (6-8 storeys). The proposed height of the town centre will not compete in terms of urban design with Campbelltown CBD which contains taller and more clustered buildings in a significantly larger area. The proposed heights within the town centre are commensurate with the height of other town centres such as Edmondson Park (24 m +), Box Hill North (20 m), Rouse Hill (6+ storeys), Oran Park and Wilton South East.

As required by the existing Menangle Park DCP, a master plan is to be prepared for the town centre. This will include a detailed street pattern, key pedestrian and cycle linkages, land uses and built form parameters including building height such as where taller building forms are proposed to be located. The town centre will not comprise all 8 storey buildings. The master plan for the town centre and character area statements for each area will provide more direction in relation to how heights are proposed to be distributed across the site.

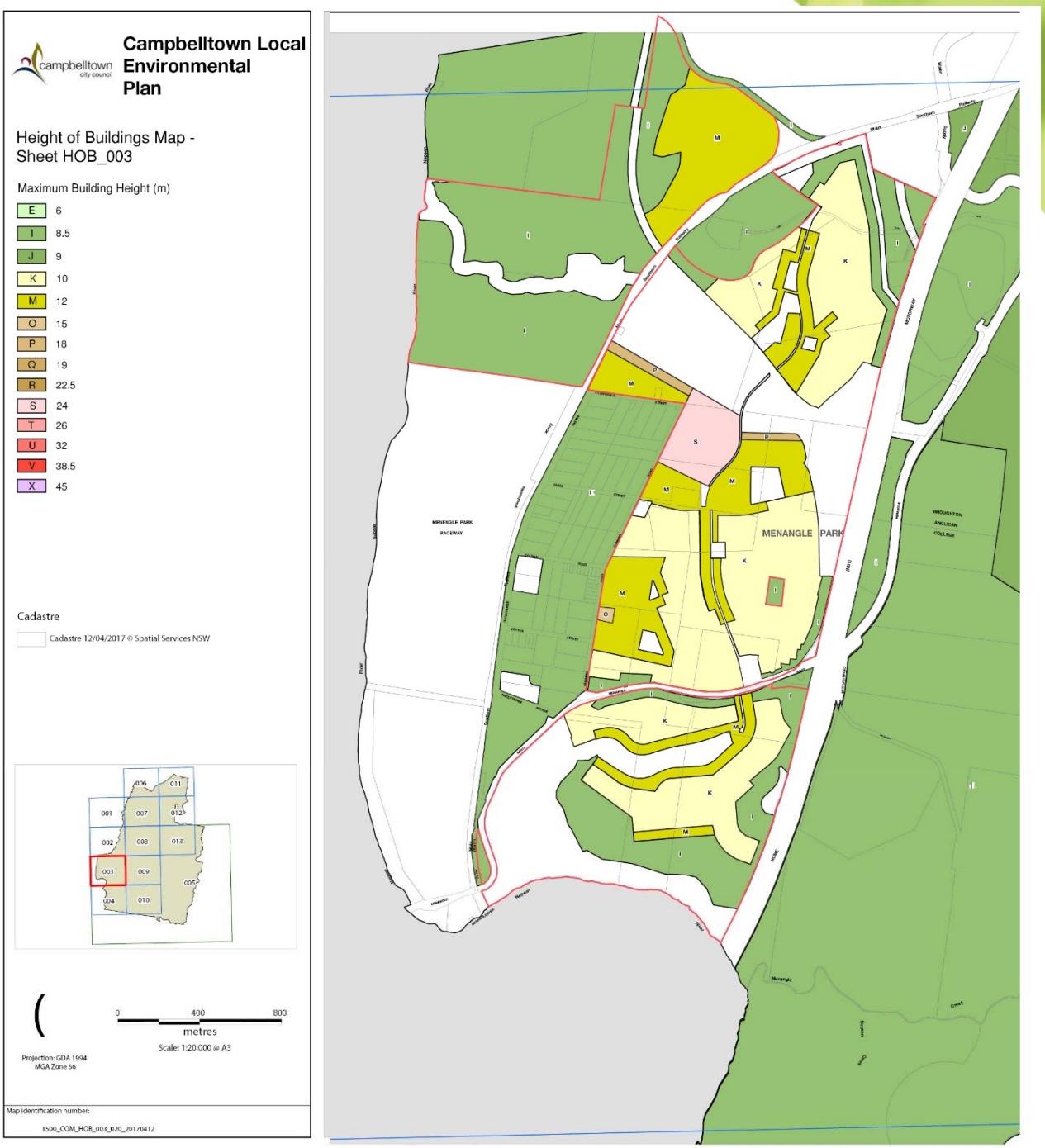


Figure 44 Draft Height of Buildings Map

5.3.3 FLOOR SPACE RATIO

It is not proposed to set a maximum FSR for any building on any land within the site (refer to Figure 45). Development envisaged within the site will require a combination of controls to achieve public and private domain outcomes, and different building uses and development types need quite different FSRs. A better alternative to appropriately deal with bulk and scale is use of building footprint limits, minimum landscaped area, maximum site coverage, solar access controls and minimum boundary setbacks. These matters will be appropriately dealt with in the revised Menangle Park DCP. A draft FSR Map is provided in **Appendix H**.

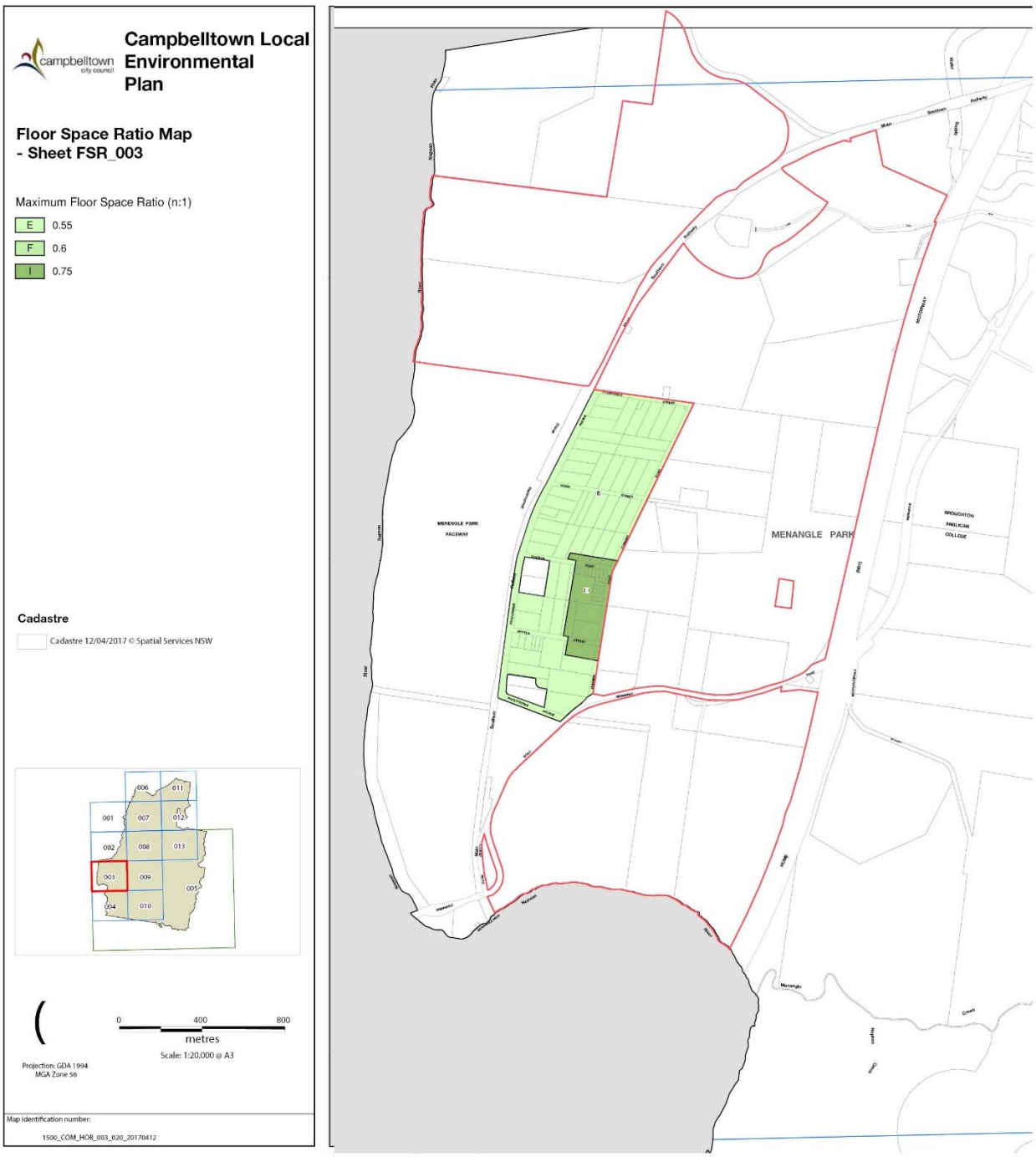


Figure 45 Draft FSR Map

5.3.4 DENSITY

As discussed in section 4.3.2, the planning proposal does not seek approval for a maximum number of dwellings on the site or an indicative housing mix and specifically does not pre-determine the number of dwellings or mix within each stage of the development. Dwelling mix is subject to change over the significant time period for implementation of the development as market requirements change. The actual dwelling mix and yield for each dwelling type will be determined as part of future detailed applications for each development stage.

Each future residential stage will contain a range of lot sizes and a variety of housing types. The mix of housing forms to be provided within the site aim to encourage population diversity and help create a socially balanced and stable

community. The development will provide housing choice to satisfy the needs of a wide spectrum of households, at differing life cycle stages and with varying socio-economic circumstances and lifestyle preferences.

The community and servicing infrastructure identified in this planning proposal is based on a maximum yield of 5,250 dwellings, of which 1,850 are to be accommodated on land owned and / or under the control of Dahua. It is proposed to control density (yield) and where it is to be generally located within the Menangle Park URA through the introduction of desired future character statements (i.e. written text and supporting maps) for precincts within the Menangle Park DCP. As part of all future subdivision applications, a development control will be included in the revised DCP requiring an applicant will be required to address how the proposed subdivision design is consistent with the desired character statements for each precinct.

These character area statements will identify the desired future character for the area in terms of land use, street pattern, subdivision, density (i.e. maximum yield) and building typology. They will also set out the key features of the particular character area which may require a particular design response including desired streetscape and neighbourhood character as well as guidance on the appropriate built form, housing types, building alignments, landscape and sustainability response.

It is also proposed to provide controls which limit the run of a particular housing type, in particular small lot housing and attached dwellings, so as to prevent the whole or significant portion of a street being subdivided and developed for one particular type of housing. In this way a true mix housing types can be achieved in a particular area.

It is also proposed to amend the existing Menangle Park DCP to contain provisions which require the following:

- Subdivision of land creating lots less than 180m² shall include a dwelling design as part of the subdivision development application. The dwelling design is to be included on the S88B Instrument attached to the lot.
- Subdivision of land (other than large super lot subdivision) that creates lots less than 300m² and greater than or equal to 180m² must be accompanied by a Building Siting and Envelope Plan (BSEP). The BSEP is to illustrate how the design principles and controls have been incorporated in to the proposed subdivision.

Key controls to be included within the amended DCP for Menangle Park are described in section 6 of this report.

5.3.5 LAND RESERVATION AND ACQUISITION

The proposed LEP Amendment proposes to reserve land exclusively for a public purpose. Land to be included on the Land Reservation Acquisition Map is shown at Figure 46 and **Appendix H**.

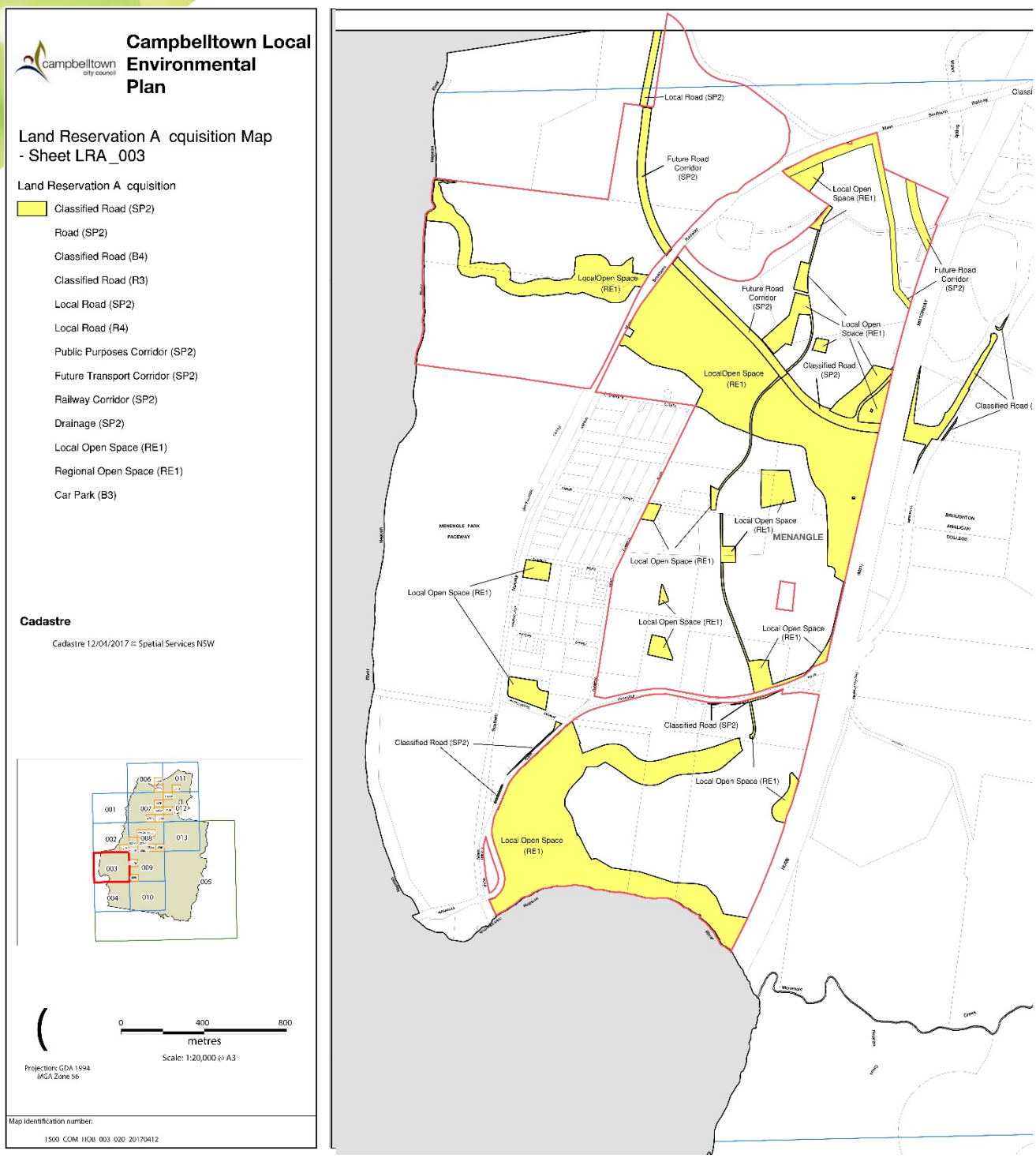


Figure 46 Draft Land Acquisition Map

SECTION 6

Development Control

6. DEVELOPMENT CONTROL

It is proposed to amend Part 8 – Menangle Park of Campbelltown (Sustainable City) DCP to include, but not limited to, the following:

- Desired outcomes for particular elements of the revised master plan including:
  - Town centre
  - Housing
  - Transport and accessibility
  - Community
  - Social
  - Open space
  - Heritage
  - Sustainability
- List detailed subdivision application requirements.
- Introduce controls in relation to where secondary dwellings can be located.
- Introduce detailed controls for all residential types envisaged within the site and Menangle Park URA.
- Strengthen requirement to prepare a master plan for the proposed town centre and expand the elements to be addressed within it.

It is proposed that in the event of any inconsistency between the site specific section of the DCP that relates to Menangle Park and any other sections of Council's DCP, the provisions of Part 8 as proposed to be amended, shall prevail only to the extent of the inconsistency.

Key controls to be incorporated in the proposed DCP amendment are outlined below.

6.1 FUTURE CHARACTER PRECINCTS

A number of precincts have been identified within Menangle Park. These precincts reflect the desired future character for the area in terms of land use, street pattern, subdivision, density and building typology. Key features that may require a particular design response, including desired streetscape and neighbourhood character (look and feel of an area) are identified. In addition, there are guidelines as to the appropriate built form, approximate dwelling yield, housing types, building alignments, landscape and sustainability response.

The proposed precincts are

- Botanic Gardens
- Glenlee Homestead
- Riparian Interface
- Town Centre
- Ridgeline
- Station and Horse Racing
- Recreation
- Riverside

BOTANIC GARDENS PRECINCT

The Botanic Gardens Precinct is located in the northernmost precinct of Menangle Park, between the Glenlee precinct and the Mount Annan Botanic Gardens. This precinct is the gateway to the Botanic Gardens where residents and visitors can learn and gather as a community whilst enjoying Australian flora. Located, at the northern terminus of the Green Spine, approximately 520 residents (160 -190 dwellings) will reside in this exclusive village precinct enjoying the landscape amenity and recreation opportunities from the adjoining Botanic Gardens and the proposed 8,000m² local park.

The precinct will largely comprise detached, or manor homes, with deep setbacks and open yards with the opportunity to introduce smaller lots to provide diversity across the Precinct. However, the delivery of compact homes must prioritise sustainable siting and construction with minimal earthworks and consistent contribution to street character.

Distinct areas within the precinct such as the easement corridors, basin park and linear park will be paired with the gardens in Mount Annan including the Big Idea Garden, Conifer arboretum, Wattle garden, Woodland Garden, Woodland Picnic Area and the Mallee Eucalypt Arboretum.

The Botanic Garden Precinct will be developed according to the following design principles:

DESIGN LAYOUT	The street network will be organic responding to the steep topography in a sensitive and natural manner. The steep topography will inform the size of lots. The landscape design will reflect the elevated position of the precinct and the preservation of views.
HEIGHTS	❖ Generally 1- 2 storey with generous front setbacks. ❖ 3 storey elements may occur on the low side of steep lots and/ or in the form of attics to optimise views.
DENSITY	❖ Large lots should be located along the Glenlee Homestead interface. ❖ Relatively small lots can be introduced to transition towards the Riparian Interface Precinct.
PRIVATE DOMAIN INTERFACE	❖ Permeable fencing and/ or open yards further will emphasise the deep, landscaped front setbacks. ❖ Hedges are encouraged to delineate side yards and private open space.
OPEN SPACE AND LANDSCAPE	❖ The open space should reflect the key features of the Mount Annan gardens such as post and rail fencing, native vegetation and formal, axial paths and planting patterns. ❖ Distinctive vegetation patterns with specimen trees at junctions and key corners will replicate the character of the gardens in an urban setting. ❖ A palette of predominantly flowering understorey and trees, will replicate the seasonal character of the 'Connections Garden. ❖ Distinctive native street tree palette with wider verges will allow for trees with a dense broad canopy.
ARCHITECTURE	❖ Homes that respond to steep topography, such as pole home, drop- beam and/ or integrated retaining wall construction and design are encouraged. ❖ Noise attenuation measures associated with the mitigation of the Hume Highway will be required including building siting, construction and private landscape design.

GLENLEE HOMESTEAD PRECINCT

This Precinct celebrates the heritage listed Glenlee Homestead and will introduce a modern character interpretation through a combination of built form and landscape character. The rural cultural landscape includes elements of Aboriginal heritage significance, association with early influential European settlers and an exceptional composition of the architecture and landscape. Whilst predominantly residential in nature, the open space system and regional connections are key considerations in the design and residential address strategy. Ultimately, the precinct will be home to approximately 1,400 residents (420- 480 dwellings) supported by more than 3 ha of open space and bound to the east by the Green Spine.

A perimeter edge road adjoining the Glenlee interface will facilitate future access opportunities to Glenlee Homestead whilst providing a physical buffer to the heritage item. The streetscape configuration includes a footpath on the residential side only, to minimise the impact on Glenlee Homestead.

The landscape around the Homestead is of strong aesthetic value and provides an opportunity to preserve the links to the former pastoral and agricultural uses of the estate. There are also significant opportunities to interpret the lifestyle and culture of the Dharawal people, through sculptural interpretation, signage and painting, plus the possible display of associated artefacts.

The Glenlee Homestead precinct will be developed according to the following design principles:

DESIGN LAYOUT	The street are designed to be perpendicular to Glenlee House in order to: ❖ Celebrate and champion the site by providing visual connectivity. ❖ Introduce visual breaks in the development. ❖ Minimise earthworks by running streets perpendicular to slope.
HEIGHTS	❖ Generally 1- 2 storey with the opportunity for 3 storey elements occurring on the low side of steep lots and/ or in the form of attics to optimise views but minimising impact on views to Glenlee Homestead.
DENSITY	❖ Large lots should be located along the Glenlee Homestead interface. ❖ Relatively small lots will be introduced to transition towards the Riparian Interface Precinct and fronting local open spaces. ❖ Generally, a variety of lot sizes and frontages widths will occur within a single street promoting visual interest and community lifestyle diversity.
PRIVATE DOMAIN INTERFACE	❖ Open yards and deep front setbacks will be a dominant feature, consistent with the adjoining Botanic Gardens Precinct, and reflective of the open, expansive Homestead property. ❖ Wrap around verandas that can operate as outdoor rooms are promoted through deep articulation allowances, consistent with homestead architecture. ❖ Along the Green Spine to the south, approaching the Town Centre, front setbacks are minimal, and urban, before transitioning to a more generous width to the north as the land becomes steeper in proximity the Homestead entrance.
OPEN SPACE AND LANDSCAPE	❖ Small green spaces adjoin Glenlee Homestead: - The northern pocket celebrates the heritage visual axis. - The two southern parks facilities storm water management, views and passive open space to support a band of density within close proximity to the Town Centre.

	- All three spaces will include heritage plaques and interpretive signage as part of a site-wide heritage and art trail. ❖ Front articulation controls along the green spaces will promote activation and passive surveillance including low front fencing/courtyard walls combined with encouraged elevated ground floors. ❖ Reintroduce cultural plantings throughout open spaces in the precinct including Monterey Pine, Pinus radiata and Robinia hedge rows. ❖ Reintroduce of landmark Bunya Pines within open spaces and at key locations across the Glenlee precinct within Menangle Park.
ARCHITECTURE	❖ Reference key architectural elements Glenlee House including corrugated iron, timber cladding and brickwork. ❖ Noise attenuation measures associated with the mitigation of Spring Farm Parkway will be required including building siting, construction and private landscape design.

RIPARIAN INTERFACE PRECINCT

This precinct immediately adjoins the riparian corridor to the south separated by, and benefitting from, the Spring Farm Parkway. This precinct is characterised by the vegetation communities and native habitats found naturally along Howes Creek. The riparian corridor connects the community with healthy, natural recreation opportunities.

Approximately 540 residents (160- 200 dwellings) within a slightly lower density environment than the Town Centre precinct will benefit from close proximity to natural amenity and daily conveniences. This is the most diverse of the precincts delivering larger lots on slope, through to medium density product along the centrally located Green Spine and local parks. Key worker and affordable housing can be accommodated near the convergence of Spring Farm Parkway and the Green Spine.

A diverse mix of passive and active recreation spaces include district level play areas, walking and cycling trails and places to observe nature. Bridges, walkways and lookouts connect the areas of amenity whilst controlling access to water bodies, ensuring preservation of the natural environment.

This precinct provides critical north/south connectivity for pedestrians and cyclists. The Green Spine and Spring Farm Parkway park to riparian underpass create safe, attractive movement corridors celebrating the natural feature of this precinct. A commitment to best practice riparian corridor management will see the implementation of a vegetated buffer to protect, restore and maintain ecological functions.

The Riparian Interface Precinct will be developed according to the following design principles:

Design Layout	❖ Streets are characterised by native trees (Eucalypts and Melalucas) and will run perpendicular to the riparian corridor, maximising connectivity to the highest amenity areas. ❖ There will be no private driveway access along Spring Farm Parkway.
Heights	❖ Generally 1- 2 storeys with the opportunity for 3 storey multi- unit and terraces housing approaching the Town Centre and adjoining the Green Spine.
Density	❖ Large lots will be located in the sloping areas to the north between the Botanic Gardens and Glenlee Homestead precincts. ❖ Small lots will be dispersed throughout the southern portion of the precinct on flatter land, fronting riparian areas and attached to the Green Spine active local park.
Private Domain Interface	❖ Front setbacks are less than the precincts to the north, highlighting the transition towards the more urban character of the Town Centre to the south. ❖ Courtyard walls will front the Green Spine and permeable fencing will be located along local park interfaces contributing to overall legibility. ❖ Dwellings interfacing with the 3,700m² active local park will contribute to a strong sense of enclosure around the park. Houses in this location are 2- 3 storeys and must provide address and surveillance to the senior play space whilst balancing privacy and noise issues through landscape and building siting.
Open Space And Landscape	❖ Revegetate a minimum 10m beyond the riparian corridor providing layers of vegetation including groundcovers, understorey and canopy. ❖ Provide active interfaces with riparian zones including bridges, walkways and footpath networks, ensuring the natural assets are fully leveraged. ❖ Integrate large areas of stormwater management (WSUD) with swathes of grasses and sedges to enhance the natural character.

Architecture	❖ A public, private and communal palette of 'raw' materials such as timber, stone and steel will promote simplicity and enhance the natural character whilst referencing the rural farming history. ❖ Noise attenuation measures associated with the mitigation of Spring Farm Parkway and the Hume Highway will be required including building siting, construction and private landscape design.

TOWN CENTRE PRECINCT

Leveraging off the proximate Spring Farm Parkway extension and located at the convergence of the nature corridor and Green Spine, the Town Centre precinct occupies the entire southern edge of the riparian corridor. This precinct is built around a centrally located Town Centre that embraces and celebrates the surrounding riparian corridor and will be a destination for retail, commercial and lifestyle activities. The Town Centre is approximately 9.8 ha and is designed as a main street-centre with approximately 30,000m² of non-residential floor space supported by shop-top housing. The balance of the precinct provides high and medium density housing in the form of apartments, multi-unit dwellings, terraces and small to medium detached dwellings transitioning towards adjoining precincts.

The Town Centre is designed to prioritise the pedestrian experience and to encourage walking, community gathering and interaction with the riparian corridor. In addition to the mixed use offering, this precinct will provide urban living opportunities for approximately 3,600 residents (1,000- 1,500 dwellings).

Whilst heights and building typologies will vary, there will be attractive and consistent pedestrian streetscape environment achieved by maintaining a 2-3 story datum line. Higher densities must be collocated with public benefit with residents having access to high levels of amenity within walking distance of their homes. Flexible open spaces foster 'community spirit' by providing opportunities for both formal and informal engagement.

The proposed character of this area will be integrated into a varied urban setting that includes plaza's, squares, shade elements, green walls, and urban WSUD measures. The proximity of the Town Centre to the Mount Annan Botanic Gardens further reinforces the opportunity to introduce botanic references into the landscape.

The Town Centre Precinct will be developed according to the following design principles:

DESIGN LAYOUT	❖ A north facing continuous riparian promenade will be a feature of Menangle Park providing an eat street and park front apartments and terraces contributing to an active edge condition. Formal paths, board-walks and viewing platforms will provide physical and visual connectivity into the natural heart of Menangle Park.
HEIGHTS	❖ Maximum heights within the Town Centre will be 6-7storeys with a 2-3 storey pedestrian streetscape experience. ❖ The 2-3 storey datum line will give human scale to the ground plane. This can be delivered as a podium with upper level setbacks for shop top housing, strata and/ or freehold terraces.
DENSITY	❖ Medium density housing will be located adjacent the Green Spine, local and conservation parks and along the periphery of the riparian corridor and support the higher density, mixed use centre.
PRIVATE DOMAIN INTERFACE	❖ Where direct park frontage exists, 3 storey terraces, generous shared paths and reduced front setbacks are encouraged. ❖ Residential front setbacks are generally minimal contributing to a sense of enclosure and urbanity. ❖ Front setbacks along the Main Street and Promenade will be sufficient to accommodate outdoor dining, street trees, awnings and street furniture. ❖ Low courtyard walls define residential front yards with a narrow strip of ground cover between the wall and footpath contributing to privacy and softening the hardscape interface.

	❖ Mixed use articulation elements into front setbacks may include shopfronts, awnings, posted verandas and outdoor dining. ❖ Reduced front planting setbacks are offset by deciduous tree planting every 3 on-street parking spaces, and within the Green Spine and medians wherever possible. Awnings supplement the tree cover and generous tree wells and planter zones will ensure that the urban plaza has sufficient soft-scape to contribute to urban cooling and encourage outdoor gathering.
OPEN SPACE AND LANDSCAPE	❖ Street trees should be provided on all new streets to provide light and shade, contributing to walkability, tree canopy and urban cooling targets within the public domain. ❖ Formal Boulevards and non-native tree planting will be juxtaposed against native environments.
ARCHITECTURE	❖ Large floorplate/ big box retail uses and basement car parking or surface parking must be sleeved with actives ground floor frontages. ❖ Built form should create gateway moments, visual termination points and positive voids that provide community benefit and contribute to the identity of Menangle Park. ❖ Noise attenuation measures associated with the mitigation of the railway line will be required including building siting, construction and private landscape design.

RIDGELINE PRECINCT

Ridgeline Precinct is located immediately north of the Menangle Road entry. The prominent hill-top location creates the identity of a 'village within a landscape setting' in harmony with nature.

The entry road for the early stages of Menangle Park has a rural character to create a strong identity and arrival experience further enhanced by the 1.5 ha gateway entry park.

A site responsive, connected network of streets including a ridge road and local streets will increase permeability and walkability for approximately 2,700 residents (800- 1000 dwellings) An integrated street and lot design will minimise cut-and -fill and utilise the site's topology. The main community street is located along the ridge with wide verges to facilitate larger tree planting, further emphasising the high point and re- establishing a treed skyline. An improved public realm along the eastern edge of this precinct, including pedestrian and cycle paths, will form part of a comprehensive network over time connecting people with the area's natural assets.

Housing choice will be provided with a diversity of lot types compliant with Council's controls. The building siting and construction will focus on being sympathetic to the natural topography, celebrating the ridgeline, minimising cut and fill and prioritising the pedestrian experience.

The Ridgeline Precinct will be developed according to the following design principles:

DESIGN LAYOUT	❖ The main design feature of the precinct is the ridge top road, which includes an increased verge width to promote larger tree planting to celebrate the ridge top location. ❖ The hilltop park located at the highpoint will preserve important views.
HEIGHTS	❖ Generally 1- 2 storeys traditional detached homes.
DENSITY	❖ The largest lots will be located on the north eastern edge of the precinct, separated from Menangle Road and the Hume highway, by an adjoining linear riparian park.
PRIVATE DOMAIN INTERFACE	❖ Mid-range setbacks sufficient for 2 trees in the front and rear yard with permeable fencing or an open yard treatment.
OPEN SPACE AND LANDSCAPE	❖ Provide varied recreation experiences with play equipment that offers elevated lookouts and vantage points that appreciate significant district views.
ARCHITECTURE	❖ Civic architecture and then future sales office will provide high quality bespoke entry statements, public artworks and shade structures integrated with formal landscape design and planting that reflects aboriginal and cultural heritage.


14

STATION AND HORSE RACING PRECINCT

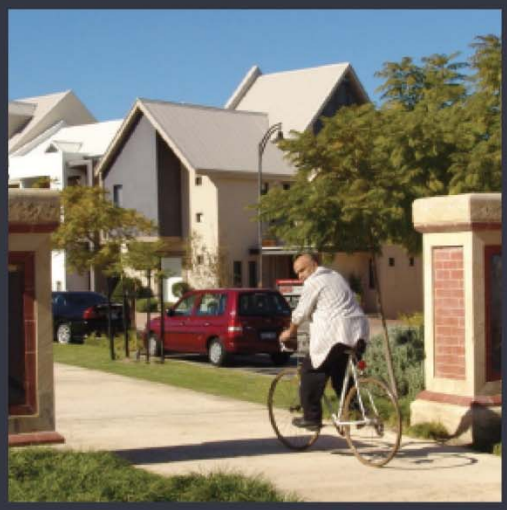
To the east of Club Menangle, the Station and Horse Racing precinct will be high quality, sustainable and civic focused, leveraging off Menangle Park's strong links to horse racing and multi modal access opportunities. When the precinct is complete, it will include a 2 ha primary school adjacent to open space and a 3,500m² neighbourhood centre that will serve the needs of people who live or work in the surrounding area, becoming an important meeting place for the local community.

The land owned by Dahua will accommodate approximately 620 residents (180- 220 dwellings). There may be opportunities for the sharing of the proposed 10,000m² landscaped park to the east of the school by a range of users including sporting groups and the general community.

Consistent with Menangle Park's vision for a walkable community, a safe, equitable and attractive thoroughfare network will be provided. Key existing streets will be maintained as an historic place reference, contributing to overall legibility and celebration of the past. These connections will be supported by a permeable network of local streets that includes pedestrian and cycle paths and high quality street trees that provide shade and will further enhance the use, enjoyment and character of streets, encouraging high levels of pedestrian and cycle activity. The public and private domain interface will reference the equestrian character and create an immersive and complimentary landscape and built form environment. There are opportunities for medium density lifestyle options due to the proximity to, and amenity of, the neighbourhood centre, bus stops and neighbourhood parks. As a modern extension of the Village, medium density housing provides the opportunity for downsizing and for existing residents to age in place. Introducing rear lanes with medium density development will enhance the pedestrian environment through continuous, uninterrupted footpaths, enable more trees, more frequently, and reduce setbacks creating intimate streets with inherent passive surveillance.

The Station and Horse Racing Precinct will be developed according to the following design principles:

DESIGN LAYOUT	❖ Walkable pedestrian-friendly environment with generous footpaths. ❖ The Neighbourhood Centre will be boutique scale, tourism, destination centre with the majority of visitors arriving by train, on foot or bicycle.
HEIGHTS	❖ Up to 4 storeys with civic spaces to be the focus for activities in the precinct. ❖ The predominant housing types will be detached housing of 1-2 storeys.
DENSITY	❖ Higher density housing around the Neighbourhood Centre, parks and new school. ❖ Housing diversity and mix will support choice, affordability and adaptability. ❖ A variety of lot sizes will encourage a housing mix that will assist with the creation of dynamic and diverse streetscapes.
PRIVATE DOMAIN INTERFACE	❖ Fronting uses (uses that face onto the public domain) are required for all parcels overlooking open space / parks, enhancing security and passive surveillance.
OPEN SPACE AND LANDSCAPE	❖ Formal street tree planting. ❖ Imaginative interpretive public domain design will draw on the precinct's physical attributes and historical use for racing for design themes (fencing, urban furniture, public art, tree grills, lighting, materials and finishes). ❖ Opportunities for multi- purpose community spaces and shared facilities will be optimized.
ARCHITECTURE	❖ Mixed use development is to be a key element of the Neighbourhood Centre.



RECREATION PRECINCT

To the south of Menangle Road and encircling around the southern riparian corridor, the Recreation precinct will provide equitable opportunity to live high amenity, natural setting with active and passive recreation opportunities. Leveraging off Club Menangle's club expansion plan, 17.8 ha of regional sporting fields are easily accessed from Menangle Road and will contribute to the broader network of riparian walking trails and the Nepean River trails.

When fully developed, this precinct it will have approximately 1,550 residents (480-530 dwellings), the Menangle Park major sports hub, district level criterium bike track and community BBQ and play structures. The provision of these high-end sporting facilities will be the catalyst for the creation of a talented and healthy new community and generate a variety of socio-economic benefits to the region. A key destination and feature of the precinct is the prominent hlll top park. This will be a destination for residents and visitors, with district views and art and interpretive signage celebrating the former agricultural uses of the site.

The Menangle Park Green Spine provides a strong eastern entry into the precinct. The Green Spine directly links into the riparian corridor and ultimately to the Nepean River. The Green Spine and riparian corridor connect to the hilltop park, Menangle Park's highest point. Generally, streets are oriented towards the riparian corridor.

The walkability of the precinct is further enhanced by an attractive, comfortable and diverse streetscape and landscape experience. Native planting will complement the riparian setting, whilst canopy street trees will provide much needed urban cooling. Generous front setbacks and single driveways on small lots will create space and soil volumes for mature shade trees.

As this area is visible from the hilltop park destination, special attention will be paid to delivering quality built form outcomes that respond to slope as well as roofscape character Housing diversity and distribution across the precinct will enable all residents, irrespective of age, family structure or socio economic position to enjoy park frontage, within a recreation precinct or large lot living.

The Recreation Precinct will be developed according to the following design principles:

DESIGN LAYOUT	❖ This precinct will be walkable and pedestrian-friendly with generous footpaths linking into nature trails, hillside paths and recreation areas. ❖ Retention of the site's highest point as a hilltop park celebrates the key landscape element of the site and ensures the retention of panoramic views.
HEIGHTS	❖ The predominant housing types will be detached housing of 1-2 storeys.
DENSITY	❖ Housing diversity and mix will support choice, affordability and adaptability. ❖ Large lots will be located on the northern and eastern edge of the precinct, fronting Menangle Road and climbing the sloping areas up to the hilltop park. ❖ Small lots will be dispersed throughout the precinct, and within a single street, to achieve visual interest, promote walkability and to distribute affordability and high amenity lifestyle and price- point opportunities. ❖ Higher density housing around the Green Spine will contribute to Menangle Park- wide legibility, walkability and amenity and create a gateway threshold for the southern precincts.
PRIVATE DOMAIN INTERFACE	❖ Fronting uses (uses that face onto the public domain) are required for all houses overlooking open space / parks, enhancing security and passive surveillance.

	❖ Setbacks will be provide for 1- 2 trees in the front and rear yard with permeable fencing or an open yard treatment.
OPEN SPACE AND LANDSCAPE	❖ Interpretive signage, art and fitness trails will draw on the precinct's future recreation identity and celebrate the agricultural history whilst also linking a range of open spaces. ❖ There will be a hierarchy of open spaces that maximise access and interaction with the natural river and riparian corridor such as streetscapes running toward riparian corridors. ❖ Biodiversity in streetscapes will include verges with native plant mixes for visual effect and developing new wildlife communities. ❖ A distinctive native street tree palette with wider verges will allow for trees with a dense broad canopy. ❖ Formal street tree planting and front setbacks will facilitate canopy trees within the private lot.
ARCHITECTURE	❖ Opportunities for multi- purpose community spaces and shared facilities associated with the sporting fields will be optimised. ❖ Noise attenuation measures associated with the mitigation of Menangle Road will be required including building siting, construction and private landscape design.

RIVERSIDE

Situated on the northern bank of the Nepean River, the Riverside precinct enjoys almost 1 kilometre of direct river frontage. In order to celebrate and optimise the unique relationship with the Nepean River, the design of this precinct prioritises access, views, activation and use of the riverfront. The relationship to, and expression of, water will inform the built from and landscape character of the Riverside precinct.

Ultimately, the precinct will be home to approximately 1,000 residents (300- 350 dwellings). This is one of the few locations along the Nepean River with residential development and activation opportunities. Active travel will play a key role within this precinct as it is only 10 km or a 30 minute cycle ride to existing Nepean River cycleway and cycle parking. Opportunities to interact with the river will be explored with a focus on healthy recreation activities such as rowing, kayaking, swimming, cycling and walking.

The street and path layout establishes a connected, permeable access network. Local flora and fauna found along the banks of the Nepean River will provide a character that is reflective of the natural environment. WSUD will be visible in the streetscape design.

A diversity of housing is provided with dwellings benefitting from large areas of private open space/rural land adjacent to the river and more traditional housing further north. The natural landscape will be retained within private stewardship lots wherever possible. Open yards and permeable front fencing will create a character of pavilions set in the landscape.

The Riverside Precinct will be developed according to the following design principles:

DESIGN LAYOUT	❖ Public paths to provide access from the formal street network to the north through the rural lands and to the Nepean River.
HEIGHTS	❖ The predominant housing types will be 1- 2 storey rural style housing.
DENSITY	❖ Large rural lots will provide a sensitive buffer between the Nepean River and traditional housing. ❖ Smaller lots will be accommodated in the northern portion of the precinct closer to Menangle Road and the multi modal Green Spine.
PRIVATE DOMAIN INTERFACE	❖ Mid-range setbacks, consistent with the Recreation precinct and, sufficient for 1- 2 trees in the front and rear yard with permeable fencing or an open yard treatment. ❖ A generous articulation zone will promote deep verandas as outdoor rooms. ❖ Houses must address the Nepean River and paths promoting activations, safety and security.

OPEN SPACE AND LANDSCAPE	❖ Provide active interfaces with the Nepean River and riparian zones including bridges, walkways and footpath networks, ensuring optimization of the the natural assets. ❖ Integrate large areas of stormwater management (WSUD) with swathes of grasses and sedges to enhance the natural character.
ARCHITECTURE	❖ A palette of 'raw' materials such as timber, stone and steel will ensure a simplistic architectural style and enhance the natural landscape whilst referencing the historic rural uses.

6.2 DETAILED RESIDENTIAL SUBDIVISION DESIGN

OBJECTIVES

1. To ensure that development on smaller lots is undertaken in a coordinated manner.
2. To encourage a walkable urban street network.
3. To ensure that all residential lots achieve an appropriate level of amenity.

CONTROLS

Applications for land subdivision for residential lots are to be consistent with the design principles and controls set out in Table 11.

Subdivision of land creating residential lots less than 180m² shall include a dwelling design as part of the subdivision development application. The dwelling design is to be included on the S88B instrument attached to the lot.

Subdivision of land (other than large super lot subdivision) that creates lots less than 300m² and greater than or equal to 180m² must be accompanied by a Building Siting and Envelope Plan (BSEP). The BSEP is to illustrate how the design principles and controls have been incorporated in to the proposed subdivision.

Table 11 Subdivision Design Principles and Controls

ELEMENT:	DESIGN PRINCIPLES AND CONTROLS:	REQUIREMENTS FOR BSEP:
Character Areas	1. Subdivision design is to be consistent with desired Character Precincts.	❖ N/A
Density	2. Subdivision design is to facilitate achievement of dwelling yield within relevant precinct character statement.	❖ Nominate the minimum yield required of any 'super-lots'.
Street Block & Orientation	3. Subdivision design is to: – promote a legible and permeable street hierarchy, – encourage walking and cycling to and from the Town Centre – respond to the natural site topography to minimise cut and fill, – seek to retain of significant existing trees wherever possible, – maximise the number of lots in areas with the greatest amenity, and – orientates streets to link to public open spaces. 4. Subdivision design and lot configuration for lots fronting streets is to demonstrate: – suitable orientation to provide street address, activation and surveillance, – suitable access arrangements, – adequate setback arrangements, and – appropriate acoustic amenity. 5. Street blocks in Small Lot Housing Areas are to be finer grain than Standard Lot Areas with greater use of laneways and secondary streets. Street	❖ N/A

ELEMENT:	DESIGN PRINCIPLES AND CONTROLS:	REQUIREMENTS FOR BSEP:
	block lengths should be a maximum of 250m. 6. Street block / subdivision design is optimise solar orientation, taking into account other factors such as open space location, views, topography. Optimise the number of east west oriented lots in small lot housing areas. 7. Optimise the number of lots addressing open space and riparian areas. 8. Avoid, where possible, lots with back faces to open space and / or main roads. 9. Use laneways to provide rear loaded access to for the majority of small lot housing. Laneways designed as share ways. Design, dimensions and materials promote a slow speed driving environment distinctively different from a street (i.e. no footpaths, no pole signage). 10. Parking signage only located at entry or exit of laneways. 11. Garbage collection is to be via a laneway or secondary streets.	
Lot Configuration	12. Lot configuration is to: – be generally regular in geometry, and – minimise the use of battle-axe lots unless required to lots with access denied frontages. 13. Lot depths for mid block lots are to generally be between 20m and 35m depending on orientation and garage location. 14. Lot depths for small lot housing on corners and / or facing laneways, secondary streets are typically 15 - 20m. 15. The minimum lot width is: – 4.5m for attached dwellings, and – 6m for semi-attached dwellings, and – 8m for dwelling houses. 16. In small lot housing areas, continuous long runs of front loaded, narrow (i.e. less than 10m) lots are to be avoided.	❖ N/A
Driveways	17. For lots less than 8m in width (as measured at the front building line), vehicular access is to be provided from a rear laneway or secondary street. 18. Planting and walls adjacent to driveways must not block lines of sight for pedestrians, cyclists and vehicles.	❖ Nominate locations of driveway crossovers
Garages	19. In small lot housing areas, avoid long, continuous runs of garages fronting laneways (i.e. break up	❖ Nominate garage locations

ELEMENT:	DESIGN PRINCIPLES AND CONTROLS:	REQUIREMENTS FOR BSEP:
	through pairing etc). 20. Double garages are prohibited where greater than 60% of the façade frontage.	
Corner Lots	21. Corner lots to be configured to allow dwelling to address both streets. 22. Corner splays should be minimised and provided only where required for sightlines and on a case by case basis.	❖ Identify corners where lots less than 200m² are proposed ❖ Identify corners where any special built form and or fencing requirements are preferred
Built Form	23. Subdivision design in small lot housing areas to reinforce urban characteristics.	❖ Nominate any specific street setbacks and zero lot line locations ❖ Nominate any specific building heights conditions such as required 2 storey sites and the preferred location for 3 storey built form
Fencing	24. Fencing should not detract from the streetscape or adversely impact on residential amenity. 25. Maximum fence height should be calculated cumulatively based on retaining wall plus fence height.	❖ Nominate extent of high (1.8m) fencing on corner lots ❖ Nominate any lots that require special fencing conditions for the purposes of streetscape, amenity, privacy, solar access etc
Residential Amenity	26. Principal private open space to be located to take advantage of solar access and can be site on the ground or at upper level outdoor areas adjoining habitable rooms.	❖ Nominate the location of Principal Private Open Space (PPOS) ❖ Shadow diagrams / 3D block model may be required to illustrate solar access to PPOS
Slope	27. Subdivision design is to minimise cut and fill generally.	❖ Nominate finished levels, land form and benching
Building on the Boundary	28. Retaining walls to generally be undertaken as part of subdivision works.	❖ Identify and detail all ❖ floor slab retaining walls or drop edge beams within 1metre of boundary ❖ Nominate maintenance easements
Utility Services	29. Minimise impact of services on building envelope.	❖ Nominate location of services and any utility easements

ELEMENT:	DESIGN PRINCIPLES AND CONTROLS:	REQUIREMENTS FOR BSEP:
Secondary Dwellings and Studios Apartments	30. Laneways are to be provided with suitable level of passive surveillance.	❖ Nominate minimum locations of secondary dwellings and /or studios

6.3 RESIDENTIAL DWELLINGS

OBJECTIVES

- ❖ Accommodate around 5,250 dwellings within Menangle Park.
- ❖ Provide a range of housing styles to satisfy all lifestyle and affordability options in each character area.
- ❖ To control the location of secondary dwellings.

CONTROLS

1. A variation to the indicative dwelling yield for Menangle Park may be granted, if Council is satisfied that the proposal will have an acceptable environmental impacts and:
   - Council is satisfied there is adequate infrastructure to support additional dwellings and lots; and / or
   - Council is satisfied that satisfactory arrangements have been made for the provision of infrastructure to support additional dwellings/lots.

6.4 TOWN CENTRE

OBJECTIVES

- ❖ Create a vibrant, mixed use centre that provides a range of retail, business, residential and community uses to serve the needs of the people who live and work in Menangle Park.
- ❖ Ensure that the detailed design of the town centre is undertaken in a coordinated manner in order to achieve a high quality urban design outcome.
- ❖ Ensure a high standard of public domain and pedestrian amenity.
- ❖ Encourage high quality, high density mixed use development within close proximity to public transport and business centres, which is innovative and responsive to the site's environmental characteristics and setting.
- ❖ Ensure a high level of amenity for the occupants of mixed use development within the Town Centre.

CONTROLS

1. A master plan is to be prepared for the town centre. The master plan should specify the following:
   - A range of retail, commercial, entertainment, recreation and community uses.
   - Concentrate small retail uses along and fronting key streets/plazas.
   - Co-locate uses and facilities to maximise the efficient use of space.
   - Active uses at ground floor are required, in the core of the town centre, in particular, fronting the main street, open space.
   - Consider the needs of health and aged care providers, facilities for young people, civic and emergency services within the town centre.

- Provide uses that promote an active town centre.
- The street layout is to emphasise sight lines to local landscape features, parks, places of key cultural significance, civic buildings and public open space.
- A range of building heights with a transition to surrounding residential areas.
- A range of higher density housing, including apartments, terraces, multi-unit housing and small lot housing.
- All large format retail premises and decked parking areas, visible from prominent public areas, are to be sleaved with active uses. Blank walls visible from the public domain are to be limited.
- High amenity pedestrian streetscapes are to be provided through the town centre.
- Create a main street characterised by pedestrian-friendly local traffic.
- Ensure effective pedestrian and cycle connections, minimising walking distances.
- Bicycle parking shall be provided in appropriate numbers in the town centre.

6.5 RESIDENTIAL CONTROLS

A mix of housing types that range from residential flat buildings to large lot residential dwellings are to be provided within Menangle Park to facilitate housing diversity and choice and meet the requirements of people with different housing needs. Generally, higher residential densities (small lot, medium and high density) are to be located in the vicinity of the town centre and in areas with high visual or landscape amenity and proximity to facilities. Low residential development is to be located along ridges and steeper slopes.

OBJECTIVES

- Promote housing choice/variety/ affordability.
- Encourage quality-designed dwelling houses that make a positive contribution to the streetscape and amenity of the neighbourhood.
- Provide higher density dwellings on collector roads and bus routes, around parks and close to community facilities.
- Provide definition of the public domain by ensuring development addresses the streets and open spaces
- Provide the opportunity for rental accommodation for single occupants.
- Provide casual surveillance over rear access lanes.

CONTROLS

The indicative residential design controls including building heights, principal front and side setbacks, garage front setbacks, and principal private open space for a mix of dwelling types, are provided in the figures below.

Proposed controls for 900m² lots

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
2 storey max	Setbacks defined by Key Feature and/or character areas	1.5m behind front façade	3-6m	6m x 6m courtyard located adjoining habitable room

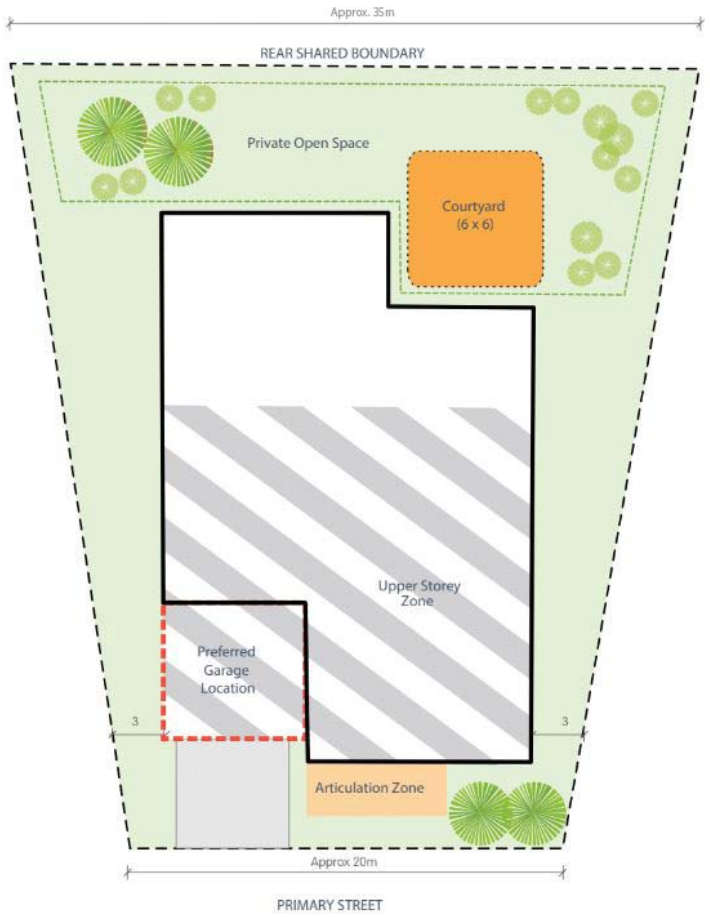


Figure 47 Indicative Design Control Guidance for Lots 900m²+

Proposed controls for 650m² + lots

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
2 storey max	Setbacks defined by Key Feature and/or character areas	1.5m behind front façade	3m	6m x 6m courtyard located adjoining habitable room

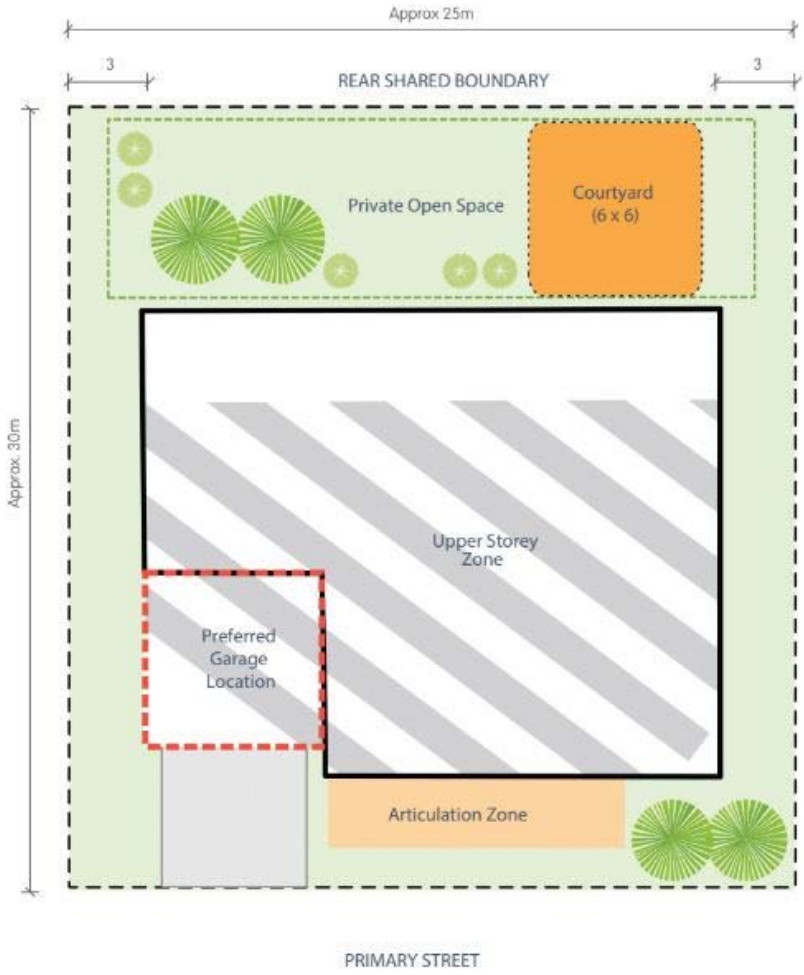


Figure 48 Indicative Design Control Guidance for Lots 650m²+

Proposed controls for 550-650m² lots

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
2 storey max	Setbacks defined by Key Feature and/or character areas	1.5m behind front façade	1.5m	6m x 6m courtyard located adjoining habitable room

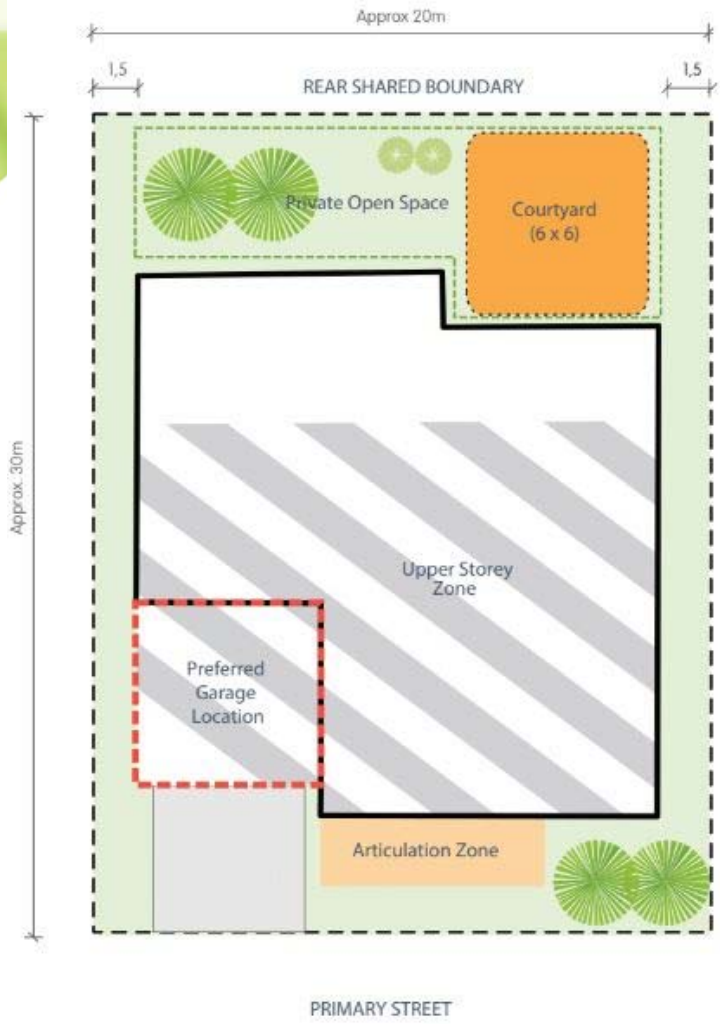


Figure 49 Indicative Design Control Guidance for Lots 550-650m²

Proposed controls for 450-550m² lots

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
2 storey max	Setbacks defined by Key Feature and/or character areas	1.5m behind front façade	1.5m	6m x 6m courtyard located adjoining habitable room

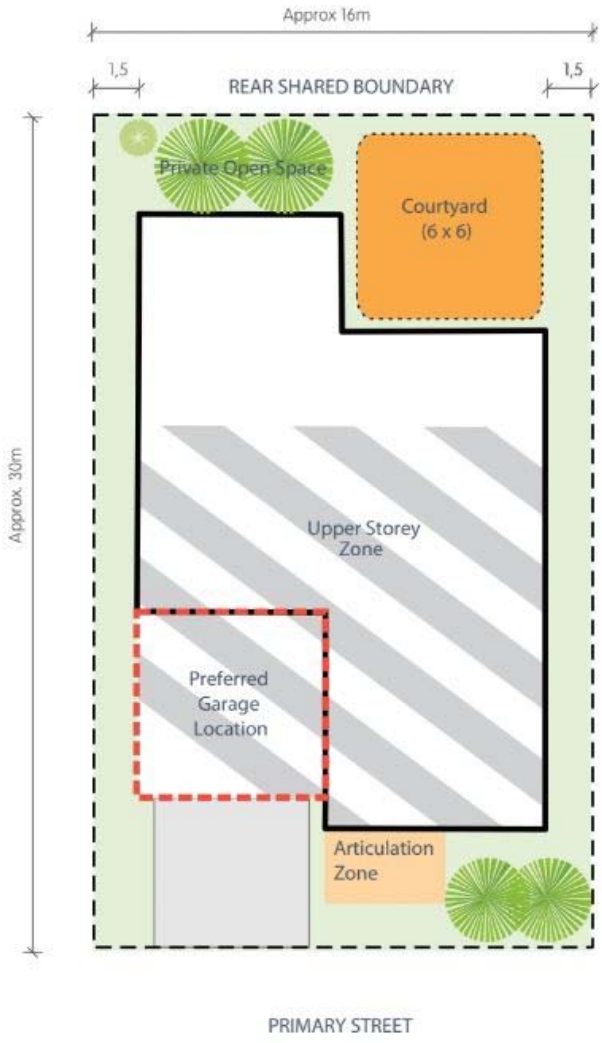


Figure 50 Indicative Design Control Guidance for Lots 450-550m²

Proposed controls for 350-450m² lots

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
2 storey max	Setbacks defined by Key Feature and/or character areas	1.5m behind front façade	0.9m	4m x 6m courtyard located adjoining habitable room

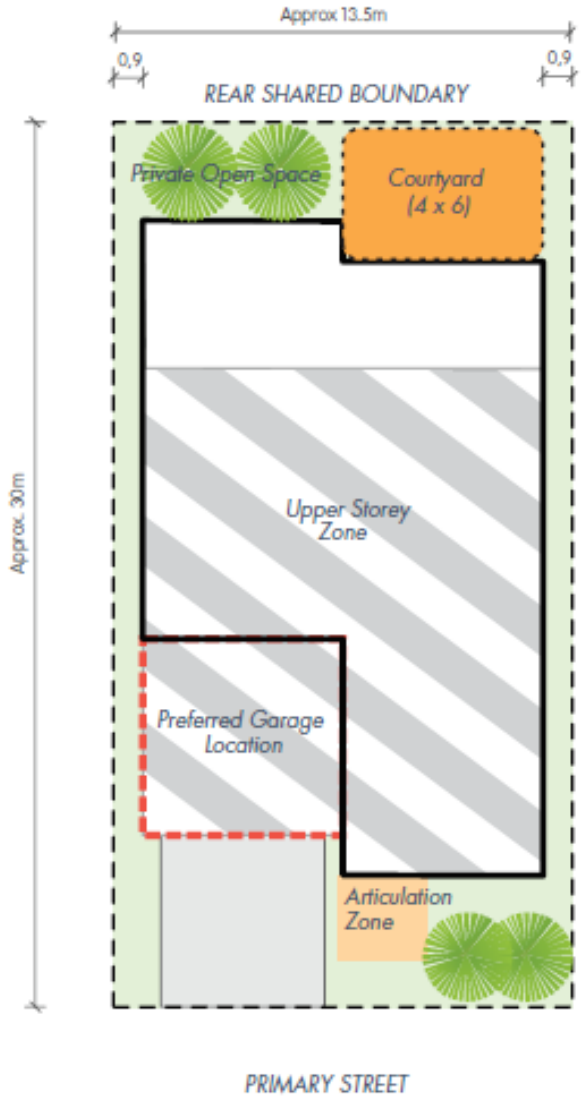


Figure 51 Indicative Design Control Guidance for Lots 350-450m²

Proposed controls for 300-350m²				
Building Height	**Principle Front Setback, Encroachments and Private Frontage**	**Garage Front Setback**	**Principle Side Setback**	**Principal Private Open Space**
2 storey max plus attic	Setbacks defined by Key Feature and/or character areas	Front Loaded - 1.5m behind front façade Rear Loaded – 0-1m from the rear lane	Zero lot line / 0.9m	4m x 6m courtyard located adjoining habitable room

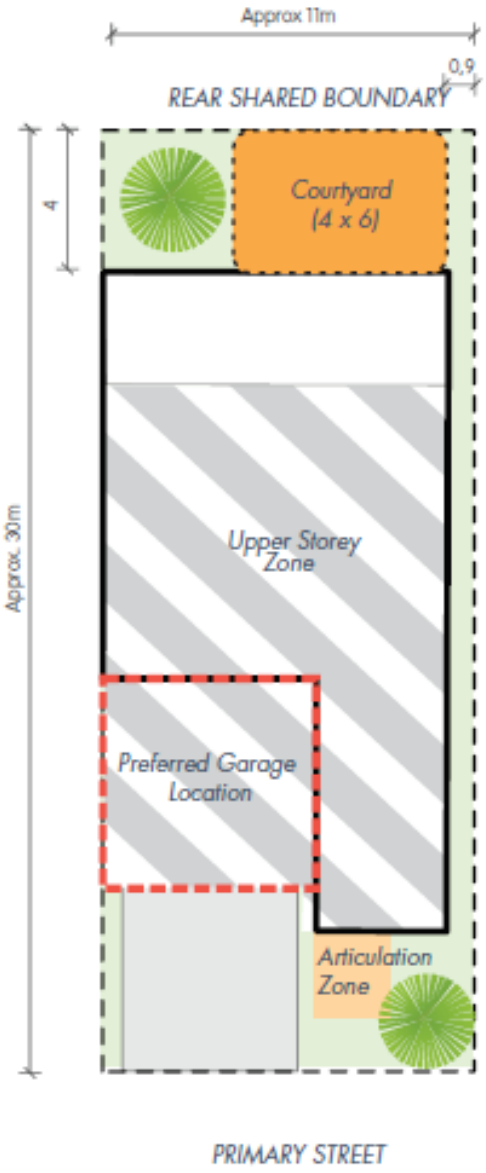


Figure 52 Indicative Design Control Guidance for Lots 300-350m²

Proposed controls for 300m² lots

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
3 storey max	Setbacks defined by Key Feature and/or character areas	Front Loaded - 1.5m behind front façade Rear Loaded – 0-1m from the rear lane	Zero lot line / 1.5m	4m x 6m courtyard located adjoining habitable room

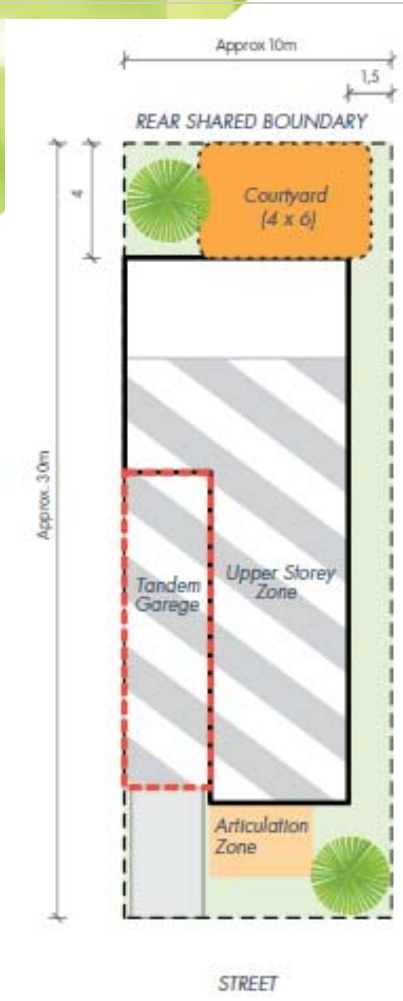


Figure 53 Indicative Design Control Guidance for Lots 300m2

Proposed controls for 250m² lots

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
3 storey max	Setbacks defined by Key Feature and/or character areas	Front Loaded - 1.5m behind front façade Rear Loaded – 0-1m from the rear lane	Zero lot line / 1.5m	4m x 6m courtyard located adjoining habitable room

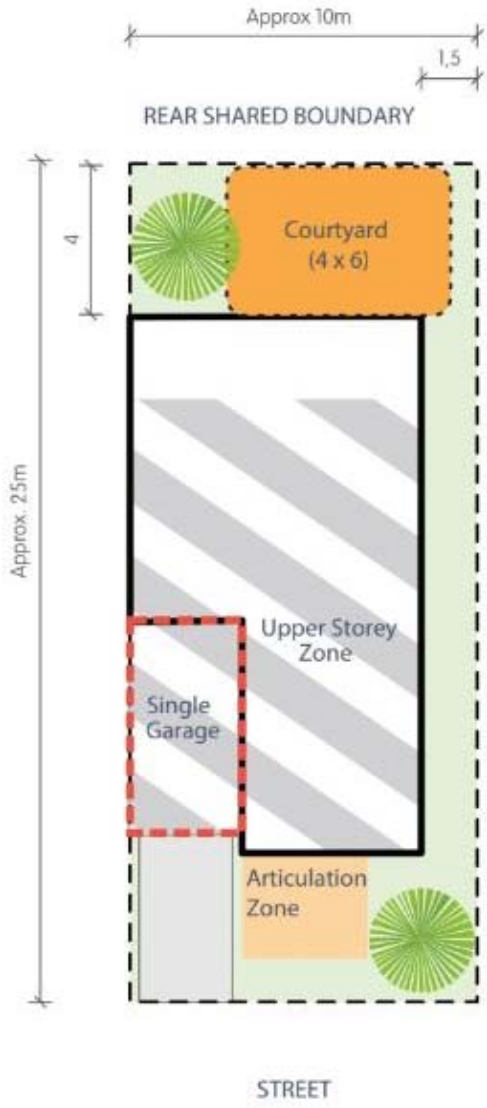


Figure 54 Indicative Design Control Guidance for Lots 250m²

Proposed controls for terrace outside of the Town Centre

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
3 storey max	Setbacks defined by Key Feature and/or character areas	Rear Loaded – 0-1m from the rear lane	Zero lot line	4m x 4m courtyard located adjoining habitable room

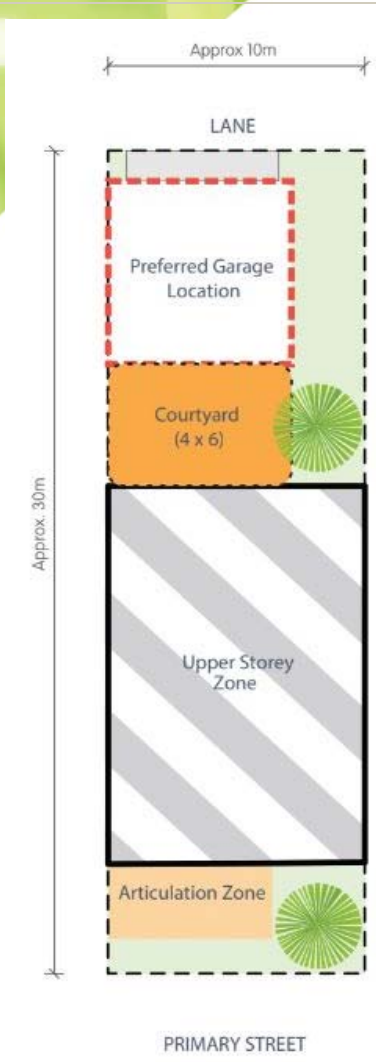


Figure 55 Indicative Design Control Guidance for Terraces Outside Town Centre

Proposed controls for Town Centre Terrace

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
3 storey max	Setbacks defined by Key Feature and/or character areas	Rear Loaded – 0-1m from the rear lane	Zero lot line	4m x 4m courtyard located adjoining habitable room

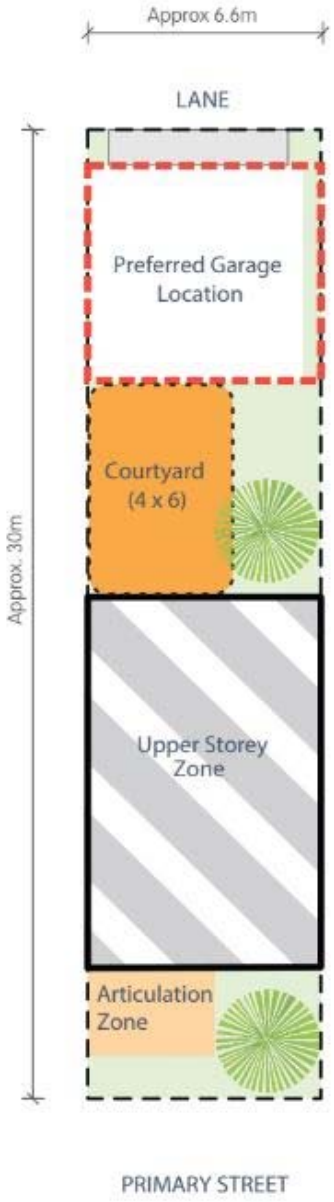


Figure 56 Indicative Design Control Guidance for Town Centre Terraces

Proposed controls for multi-unit apartments

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
4 storey max	Setbacks defined by Key Feature and/or character areas	Front Loaded - 1.5m behind front façade Rear Loaded – 0-1m from the rear lane	4.5m to primary and secondary streets/setbacks to adjoining development as per Apartment Design Guide	As per Apartment Design Guide

Figure 57 Indicative Design Control Guidance for multi-unit apartments

Proposed controls for Shop Top Apartment

Building Height	Principle Front Setback, Encroachments and Private Frontage	Garage Front Setback	Principle Side Setback	Principal Private Open Space
7 storey max	Setbacks defined by Key Feature and/or character areas	Basement parking entry via side street and/or 1m behind front façade	Zero to primary and secondary streets/setbacks to adjoining development as per Apartment Design Guide	As per Apartment Design Guide

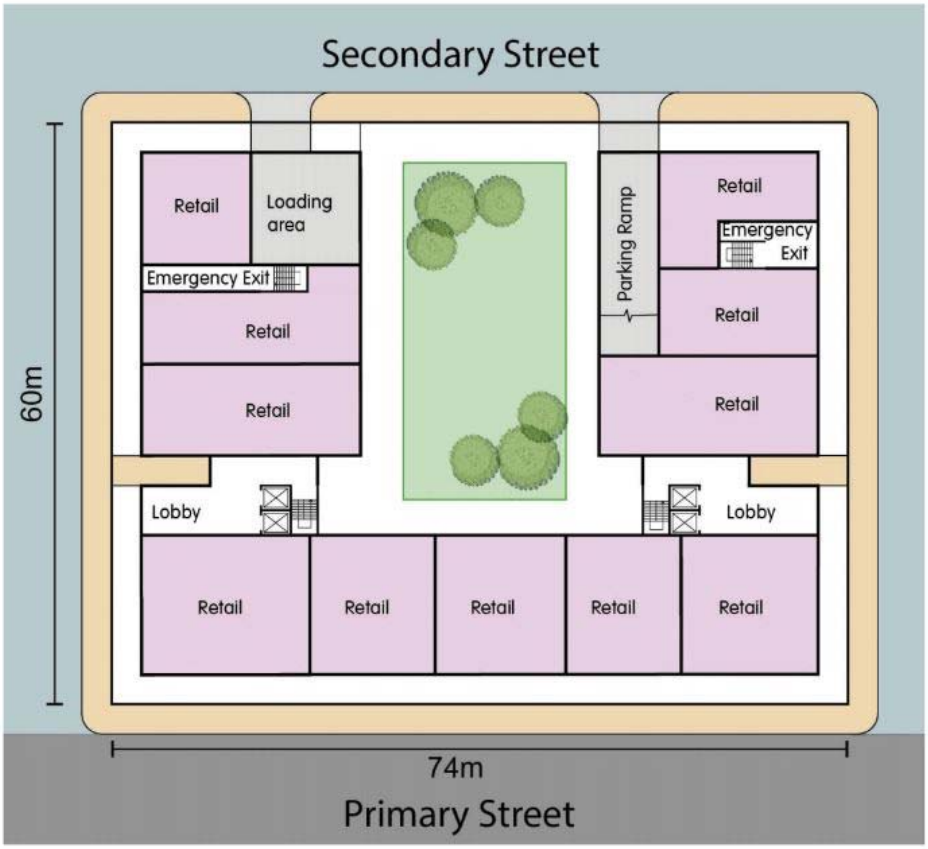
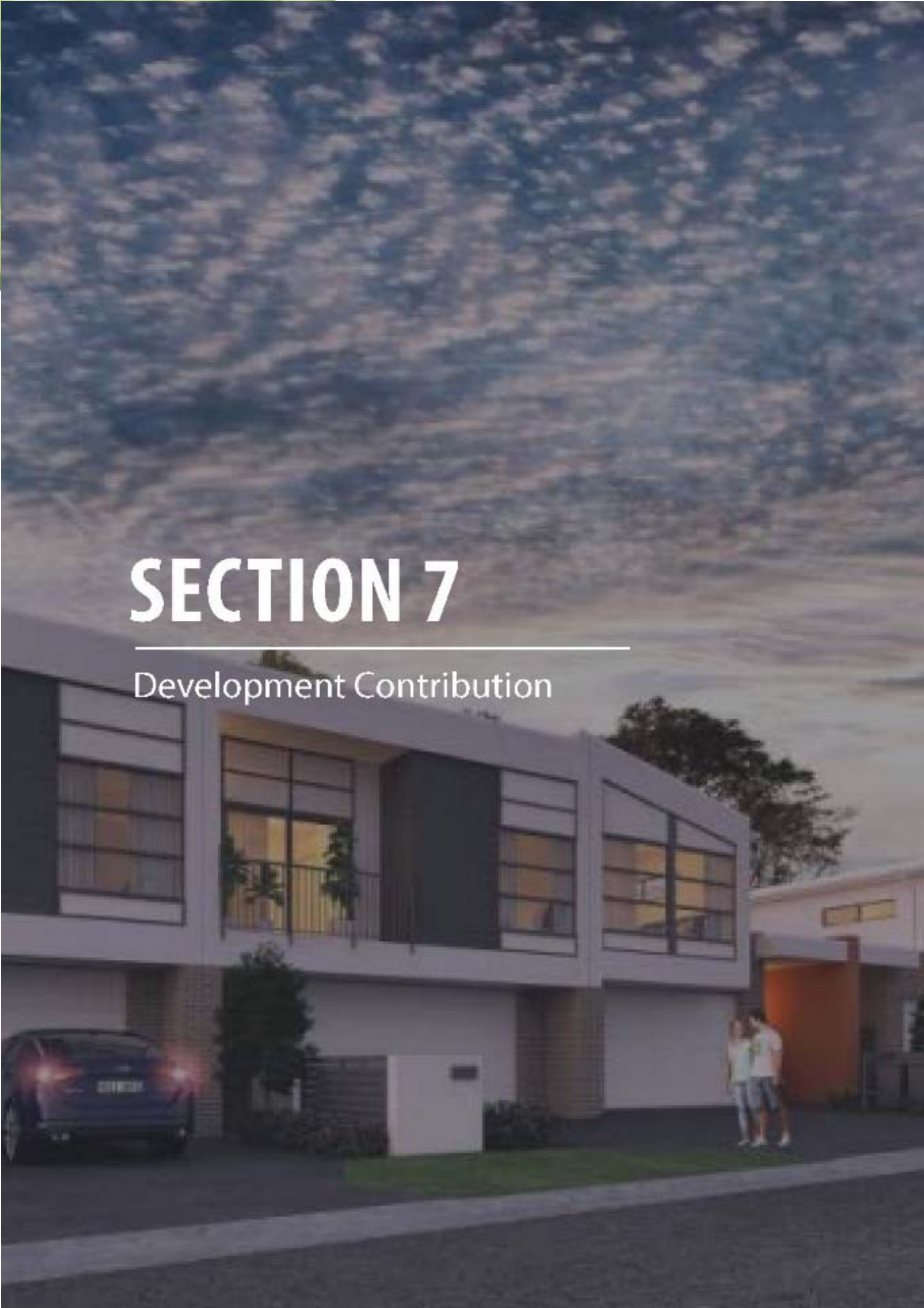


Figure 58 Indicative Retail Ground Floor Plan



SECTION 7

Development Contribution

7. DEVELOPMENT CONTRIBUTIONS

The Department is in the process of preparing a Special Infrastructure Contribution (SIC) plan for the South West Growth Area. It is anticipated that the future SIC will fund the delivery of the following key infrastructure necessary to support the growing population, as identified in the Greater Macarthur Land Release Land Use and Infrastructure Analysis (2015, p. 33):

- Road and rail:
  - Spring Farm Link Road: 4-lane arterial road from Spring Farm to Appin Road in southern Rosemeadow including new access ramps to the Hume Highway.
  - Appin Road Upgrade: Upgrade from 2-lane arterial to 4-lane arterial between Rosemeadow and the southern extent of the precinct.
  - Menangle Road Upgrade: Upgrade from 2-lane arterial to 4-lane arterial between Macarthur and Douglas Park.
  - Hume Highway Upgrade: Upgrade between Picton and Raby Roads.
  - Bus Priority Corridor: Construction of Bus Priority Corridor and corridor protection for future extension.
  - Southern Highlands Rail Line: Investigate feasibility of electrification of the rail line to Menangle Park.
- Electrical, water and sewer network upgrades;
- New and improved education, emergency and health services; and
- New and improved open space.

The timely delivery of these crucial infrastructure upgrades will ensure that residents of new development areas will have equitable access to employment, services, entertainment and recreation.

The Menangle Park Contributions Plan (March 2018) is currently seeking contributions towards the local infrastructure including open space and recreation, community facilities, trunk drainage and water quality, traffic and transport and plan administration. A summary of the rates, as at the 2017 CPI adjusted rate is provided in Table 12 below.

Table 12 Menangle Park Contributions Plan

DEVELOPMENT TYPE	CONTRIBUTION RATE ($)
Town Centre Unit	$21,602 per lot
Small lot (300-419m²)	$30,497 per lot
Standard lot (420-599m²)	$30,497 per lot
Standard lot (600-949m²)	$44,474 per lot
Traditional lot (950-1,999m²)	$44,474 per lot
Large lot (2,000+ m²)	$44,474 per lot
1-bedroom dwelling	$21,602 per lot
2-bedroom dwelling	$30,497 per lot
3+ bedroom dwelling	$44,474 per lot
Retail/commercial	$52,624 per 100m²

SECTION 8

Strategic Justification

8. STRATEGIC JUSTIFICATION

The strategic justification for the rezoning of the site from rural to urban purposes has already been established with the site being rezoned in November 2017. Since this time, the NSW Government's *Greater Sydney Region Plan – A Metropolis of Three Cities* (March 2018) and *Our Greater Sydney 2056 - Western City District Plan* (March 2018) has been released. These plans set the strategic direction for future growth in Sydney focusing on placing housing, jobs, infrastructure and services within easier reach of more residents, no matter where they live, making suburbs more liveable by preserving heritage and local character as part of the growth process; and making our cities more sustainable by protecting our natural environment and open spaces.

The relationship of this planning proposal to relevant local strategies/frameworks, regional plans and NSW Government priorities has been considered. The following section provides evidence that this planning proposal is consistent with the strategic directives including housing, biodiversity, healthy communities and livable city outcomes set out within these strategies/plans.

This planning proposal's consistency with relevant State Environmental Planning Policies (SEPPs) and the Section 9.1 Ministerial Directions is also considered within this section.

8.1 NSW GOVERNMENT PREMIER'S PRIORITIES

There are currently 12 priorities being actioned by the NSW Government that work towards improving NSW and creating a better state. One of these priorities relates to the provision of housing with an aim to create more than 150,000 new jobs by 2019 and making housing more affordable. The NSW Government acknowledges that increasing the supply of housing will be required to accommodate future growth, and will put downward pressure on prices to improve affordability. In supporting housing supply the government has established housing targets in addition to record allocations towards the housing acceleration fund to build the infrastructure required to support growth.

This planning proposal is consistent with this state priority as it is seeking to adopt planning controls and development standards that will enable the delivery of housing that is proposed to be serviced by road and active transport infrastructure. The proposal seeks to provide approximately 1,850 dwellings and will directly contribute to local and broader region housing targets.

8.2 GREATER SYDNEY REGIONAL PLAN – A METROPOLIS OF THREE CITIES (2018)

The Greater Sydney Regional Plan (the Plan) was prepared by the Department in March 2018 and is the strategic planning framework setting the long term vision for broader Sydney's anticipated growth. The plan is based on the vision of three cities including the Western Parkland City (which includes the Menangle Park URA), the Central River City and the Eastern Harbour City. Together these cities aim to achieve the broader vision for Sydney.

By 2056, the population of Greater Sydney is expected to increase by an additional 1.7 million people and by 2036, it is estimated that an additional 725,000 homes will be required to support this growth. In meeting housing targets, the Plan is very much built on the concept of a '30-minute city' whereby residents live within 30 minutes of their jobs, education, services and great places, integrating land use and infrastructure to promote liveability, productivity and sustainability.

The proposal is consistent with the Western Parkland City vision in that the site is within Greater Macarthur and identified as a new community, provides jobs close to homes, and homes close to jobs, provides housing diversity, additional open space and land for future environmental conservation.

Ten strategic directives underpin the Plan. This planning proposal is consistent with the following:

- **Infrastructure supporting developments -** The planning proposal will deliver an additional 1,850 dwellings within Menangle Park. The proposal will facilitate housing that is aligned with the required infrastructure. The revised master plan is a more efficient use of land and infrastructure;
- **Increased use of public resources such as open space and community facilities** – The planning proposal delivers open space in locations where its use will be maximised and enjoyed by the future community. The proposal provides public services and facilities to meet changing community needs including the introduction of a number of pocket parks within 400 m of every household as well as increasing the function and usability of community infrastructure through co-locating facilities and maximising opportunities for multi-purpose use (e.g. co-location of the neighbourhood centre, school and open space and opportunities for shared use of spaces).
- **Giving people housing choices** – the proposal provides additional housing in the right location, including missing middle product (small lot, villa and townhouses) along with residential apartments and large lot detached housing. This change better responds to different cultural and socio-economic needs, tenures and price points, and contributes to the projected housing and employment needs of the Greater Macarthur Region (i.e. 34,700 dwellings and 17,000 jobs by 2036). The proposal will an additional 1,850 dwellings, contributing to the minimum 5 year dwelling target of 6,800 dwellings required in Campbelltown LGA and to the Greater Macarthur Region dwelling target of 34,000 envisged by 2036. The planning proposal will contribute to meeting overall dwelling targets for the Greater Sydney region, providing a range of lot sizes including compact traditional lots, traditional dwelling lots and larger lot residential lots. The proposal facilitates housing diversity and choice, and will meet the requirements of people with different housing needs and lifecycles. Based on the socio-economic demographic including household structure, stability (i.e. long term residents) and income, as well as surrounding patterns of development it is evident that the area warrants the need for a diversity of smaller lot product. Given that mix of dwellings is relatively homogenous at present (i.e. 99% comprise single detached dwellings) the increase in mix will enable people to 'age in place' within this area.
- **A city for people** – this is achieved on the site by:
  - Respecting the site's natural features and scenic qualities, celebrating key view corridors through specific location of open space on high points and ridges and street layout. The master plan sets out the framework to create a place where people will want to live. The proposed areas of open space and tree lined streets, in particular the proposed active transport link, will be inviting places, places where the local community will meet, and will provide for a range of recreational experiences.
  - Increasing walkable and bicycle access to and within Menangle Park, particularly north-south movements along a new and widened active transport link and improved connections to regional open space (i.e. Australian Botantic Gardens and Nepean River), Spring Farm Parkway and Campbelltown's existing network of open space;
  - Providing public services and facilities to meet changing community needs including the introduction of a number of pocket parks within 400 m of every household;
  - Increasing the function and usability of community infrastructure (i.e. co-locating facilities, multi-purpose);
  - Creating a community which is healthy, resilient and socially connected;
  - Housing the city, by increasing housing supply and providing housing that is more diverse and affordable;

- **Creating a city of great places** - by increasing access to open space, creating great places that bring people together and providing land for environmental conservation. The revised master plan divides the town into eight (8) precincts or neighbourhoods that will have their own focus and theme, housing type, street type and landscape character (i.e. Botanic Gardens, Glenlee Homestead, Town Centre, Station and Horse Racing, Riverside, Recreation). These precincts will assist in fostering a sense of belonging amongst the local community;
- **A well connected city** - providing a more connected town with new homes only a 10 minute train, bike or car journey to Campbelltown CBD, and supporting Campbelltown CBD as it is re-imagined and transformed into a 30 minute, modern metropolis and leading centre of health services, medical research and med-tech activity in Greater Macarthur;
- **Creating the conditions for a stronger economy** - by increasing the number of jobs within the Menangle Park URA from 5,248 full time equivalent jobs (including 2,200 direct jobs) to 8,047 full time equivalent jobs (including 3,417 direct jobs) and providing better opportunities for investment and business through the provision of up to 30,000m² of GFA within the proposed town centre and providing a new 3,500m² GFA neighbourhood centre within the southern portion of the site, co-located with the new school and active open space;
- **A city in its landscape** - valuing green spaces and landscape by:
  - increasing urban tree canopy through the provision of 134.81 ha of connected high quality landscaped active and passive open space, riparian corridor and tree lined streets;
  - protecting waterways through the water sensitive urban design; and
  - setting aside additional land for environmental conservation and protecting scenic and cultural landscapes;
- **An efficient city** which uses resources wisely; and
- **A resilient city**, which is underpinned by a revised master plan that is dynamic, can respond to the needs and aspirations of people, now and into the future as well as changes in the market.

8.3 WESTERN CITY DISTRICT PLAN

In support of the delivery of the Plan, the 'District Plans' have been prepared to provide a 20 year implementation plan. By 2021, the Western City District will be required to deliver 39,850 dwellings and a further 146,650 by 2036. This statistic is reflective of the demographic change being anticipated including an increase in ageing populations, couples with children and single person households. Housing targets have been established throughout the Western City District Plan, with a five year housing target of 6,800 dwellings by 2021 set for Campbelltown LGA. It is a direction of the plan for Council's to continue establishing targets beyond this period.

Within the Western City District Plan, the Menangle Park URA, within which the site is situated, is identified as forming part of the Greater Macarthur Growth Area. The proposal is aligned with the planning priorities within the Western City District Plan including:

- Providing services and social infrastructure to meet people's changing needs;
- Fostering healthy, creative and culturally rich and socially connected communities;
- Providing additional housing, choice and affordability, with access to jobs, services and public transport;
- Growing and strengthening Greater Macarthur and Campbelltown CBD as a metropolitan cluster;
- Providing a range of additional employment opportunities on site including retail and commercial, non-retail and industrial employment;

- Increasing the quality, useability and quantum of public open space in the Menangle Park URA and protecting and enhancing the site's scenic and cultural landscapes by setting aside approximately 43 ha of land for future environmental conservation;
- Increasing urban tree canopy through the provision of tree lined streets, provision of landscaped open space and prescribing lot sizes and development controls which require mature tree planting within front and rear yards; and
- Implementing WSUD and asset protection zones to manage the impact of natural hazards and climate change on the site.

The site is not constrained by infrastructure and can be serviced efficiently and in a timely manner, it is in single ownership and / or control and is able to deliver the diversity of housing will play a key role in achieving the outcomes sought in the plan. The outstanding location and amenity of the site lends itself to residential development and will make a significant contribution to the housing stock of South Western Sydney.

8.4 GREATER MACARTHUR LAND RELEASE INVESTIGATION AREA (2015)

The Greater Macarthur Investigation Area identified in the former A Plan for Growing Sydney comprises an area of approximately 17,600 ha and is located approximately 70km south-west of the Sydney CBD. The area spreads across the Campbelltown and Wollondilly Local Government Areas and extends from Menangle Park in the north, Appin in the East, Wilton in the south and Maldon to the south west. Since the release of the land release analysis in 2015, the Menangle Park URA was rezoned for urban purposes. The land use analysis recognises the important of Spring Farm Link Road to support development in Menangle Park and Gilead areas, the potential to extend the Southern Rail Line either at Macarthur, Menangle Park or Menangle and the importance of Menangle Park and Mount Gilead and Wilton to contribute to the 34,700 homes in the region to meet housing demand over the next 20 years. The planning proposal remains consistent with the land use analysis and future vision for Menangle Park.

8.5 LOCAL STRATEGIES

CAMPBELLTOWN 2027 – COMMUNITY STRATEGIC PLAN

The community strategic plan is Campbelltown's highest level strategic planning document. The community strategic plan acknowledges that Campbelltown has a new emerging role to play in the growth and development of metropolitan Sydney. It is a priority urban growth area as well as one of four strategic city centres identified for Greater Western Sydney. The community strategic plan rests on four main outcomes including:

- *Outcome 1:* A vibrant, liveable city – providing lifestyle opportunity, creativity and vibrant communities. A city that is designed for people with access to quality housing, services and amenity.
- *Outcome 2:* A respected and protected natural environment – built on embracing natural surrounds, promoting sustainability and treatment of natural assets, bushlands and waterways with respect. As well as the protection of biodiversity conservation and visual landscape.
- *Outcome 3:* A thriving, attractive city – encouraging and supporting the development of the local economy through business innovation and growth.
- *Outcome 4*: A successful city – built on being connected, providing a balance between built form and open space, and planning for strategic transport networks.

The proposal is consistent with the community strategic plan in that it:

- Provides for high quality landscape treatments throughout the site;
- Respond to the site's natural contours, allowing residential development to sit lightly in the landscape;
- Facilitates the opportunity to provide homes for contemporary lifestyles, design and living through the character of houses and shared architectural features;

- Distributes residential densities and types across the site to match site opportunities and constraints and maximise walking and cycling;
- Provides strong pedestrian and cycling connections within and to the estate, that are safe for crossing and inviting for recreational use;
- Create green streets, including a new 23.1 km green active transport link, that provide shade, reduces the urban heat island effect, and creates visual interest throughout the seasons;
- Maximise views from dwellings and along streets to neighbourhood parks and adjoining bushland;
- Fosters a sustainable living environment; and
- Create a sense of community not just within the development, but within the rest of Menangle Park.

8.6 RE-IMAGINING CAMPBELLTOWN CBD – SYDNEY'S SOUTHERN GATEWAY (JULY 2018)

Adopted in July 2018 this vision sets out the foundations for the re-imagining of Campbelltown CBD, in acknowledgement of the key strategic centre's position as a metropolitan cluster city, servicing the broader Macarthur region and boasting existing connections to major rail, road and community infrastructure. A key goal of the vision is to bring to life the 30-minute city – reducing the need for long commutes to work through the creation of a CBD precinct that delivers health, education, retail, food and entertainment services and employment to the people of Campbelltown City and the wider Macarthur region.

The proposal to provide a more connected town centre with new homes only a 10 minute train, bike or car journey from Campbelltown CBD and will support Campbelltown CBD as it is re-imagined and transformed into a 30 minute, modern metropolis and leading centre of health services, medical research and med-tech activity in Greater Macarthur. The successful redevelopment of the site and broader Menangle Park URA will assist in realising this vision by supporting the region's higher order metropolitan CBD, providing improved linkages (vehicle, bus, bike and pedestrian access) within the site and broader area. Whilst the proposed town centre will cater to most of residents' daily convenience and some weekly shopping needs, residents will still be required to travel to centres such as Campbelltown and Narellan for higher level shopping needs. The proposal would therefore contribute to strengthening the viability of these centres. The increased population catchment that will ensue as a result of the proposed development will ultimately result in increased economic activity directly within Menangle Park and the broader Campbelltown LGA including Campbelltown CBD.

8.7 STATE ENVIRONMENTAL PLANNING POLICIES

SEPP 19 – BUSHLAND IN URBAN AREAS

SEPP 19 aims to protect bushland in urban areas identified in Schedule 1 of the SEPP. Campbelltown is listed in Schedule 1 and therefore a Plan of Management is to be developed where bushland is zoned or reserved for public open space purposes. The planning proposal aims to maintain as much existing high quality native vegetation as possible by including such areas within the riparian or open space. As discussed in Section 9, DA 3315/2018/DA-DW for vegetation management including removal has been submitted to Council. Approximately 22.17 ha of native vegetation is proposed to be removed to enable urban development to proceed. An offsetting strategy has been prepared by Cumberland Ecology to address this issue.

SREP 20 - HAWKESBURY-NEPEAN RIVER (NO 2 – 1997)

Sydney Regional Environmental Plan No. 20 – Hawkesbury – Nepean River applies to the site. SREP 20 aims to "protect the environment of the Hawkesbury-Nepean river system by ensuring the impacts of future land uses are considered in a regional context". The site is within close proximity to the Hawkesbury-Nepean River system and includes a section of Howes Creek, which is a tributary of this system.

The REP has the following general planning considerations that are relevant to the proposal:

- to protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context;
- whether there are any feasible alternatives to the development;
- the relationship between the different impacts of the development and the environment, and how these impacts will be addressed.

One of the other general planning considerations of the REP is to take into consideration the strategies listed in the Action Plan for the Hawkesbury-Nepean Environmental Planning Strategy. In relation to specific policies and recommended strategies, the following are considered relevant to the proposal:

- Total Catchment Management – this policy provides that total catchment management is to be integrated with environmental planning for the catchment.
- Environmentally Sensitive Areas – this policy provides that the environmental quality of environmentally sensitive areas must be protected and enhanced through careful control of land use changes and through management and remediation of existing uses. The site has not been identified in the REP as an environmentally sensitive area.
- Water Quality - this policy provides that future development must sustain the goals of primary contact recreation and aquatic ecosystem protection in the river system. The proposed development adopts suitable environmental controls and principles, such as best practice sewerage and stormwater management and erosion and sedimentation controls (refer to section 9 and **Appendix I**).
- Water Quantity - this policy provides that aquatic ecosystems must not be adversely affected by development which changes the flow characteristics of surface or groundwater in the catchment. The proposed development will achieve the recommended strategies (refer to section 9 and **Appendix I**).
- Flora and Fauna - this policy provides that the ecological processes of the catchment must be managed so that the diversity of flora and fauna communities, species and genetics is conserved and enhanced. The impact of the proposal on flora and fauna on the site is discussed in section 9 and **Appendix J**. The proposal will not have result in a significant adverse environmental impact in relation to flora and fauna.

SEPP 44 – KOALA HABITAT PROTECTION

Campbelltown is identified as a local government area with the potential for providing koala habitat. This Policy aims to encourage the proper conservation and management of areas that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline. Any lands that contain primary and/or secondary Koala feed trees may constitute Potential Koala Habitat or Core Koala Habitat. Any areas identified as Core Koala Habitat must have a plan of management prepared for the land in accordance with the SEPP.

A Comprehensive Koala Plan of Management (CKPoM) (Phillips 2016) has been prepared for the Campbelltown LGA. The CKPoM identifies vegetation along the Nepean River as 'habitat linkage areas' which are considered provide important movement corridors for the species. Additional areas of the study area have been mapped as preferred koala habitat under the CKPoM. All areas within the study area mapped as 'habitat linkage areas' in the CKPoM are proposed to be retained.

A DA for vegetation management with part of the site has recently been submitted to Council. This application was accompanied by a Species Impact Statement prepared by Cumberland Ecology (September 2018). It proposes to remove some small areas mapped as preferred habitat that contain the preferred food tree *Eucalyptus tereticornis* (Forest Red Gum) however, all areas are comprised of small isolated patches with no connectivity to other areas of core habitat or habitat linkage areas. With consideration of the habitat to be removed, along with no previous records of the species within the study area (including recent surveys by Cumberland Ecology), the vegetation to be removed is not considered to comprise Core Koala Habitat and therefore a plan of management is not required.

Although areas of vegetation proposed to be removed are mapped as preferred habitat under the CKPoM, the vegetation is unlikely to be utilised by the species due to its isolation and lack of connectivity to areas of potential habitat. All previous records are to the east of the Hume Motorway, which forms a barrier for the species to access the study area and/or site.

As the proposed works are unlikely to impact on a local population of the Koala, no further assessment of the species is required to be undertaken.

SEPP NO.55 – REMEDIATION OF LAND

In accordance with clause 6 of SEPP 55, a planning authority is to consider whether the land to which a planning proposal relates is contaminated and if the land is contaminated, the planning authority is satisfied that the land is suitable in its contaminated state or will be suitable after remediation for the purposes for which the land is proposed to be used.

Preliminary Site Investigations of the site was undertaken by JBS&G (NSW & WA) Pty Ltd (refer to report included at **Appendix K**). The preliminary site investigation concluded that the potential for widespread contamination across the site was low and the potential areas of 'environmental concern' identified as part of the preliminary investigation would not prevent planning and development of the land for the proposed uses. The PSI report recommends that a detailed site investigation be completed to assess the extent of contamination prior to future detailed development.

SEPP 65 – DESIGN QUALITY OF RESIDENTIAL FLAT DEVELOPMENT

SEPP 65 applies to all new residential flat buildings across the state. The planning proposal envisages the site would accommodate residential flat buildings. The detailed design of future residential flat buildings will be subject to the provisions of SEPP 65 and the Apartment Design Code as part of the development application process. The master plan has been prepared with regard to the 10 'design quality principles' set out in SEPP 65 including context, density, resource, energy and water efficiency, landscape, safety and amenity.

SEPP (INFRASTRUCTURE) 2007

The aim of this Policy is to facilitate the effective delivery of infrastructure across the State. Future DAs within the site will be required to take into consideration the provisions of this SEPP.

SEPP (BASIX) 2004

The overall aim of this policy is to encourage sustainable residential development through establishing targets for thermal comfort, energy and water use. DAs for all future residential development will need to comply with the targets established under BASIX.

SEPP (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004

The aim of this policy is to encourage the provision of housing which increase the supply and diversity of residencies that meets the needs of seniors or people with a disability. The planning proposal does not preclude the provision of housing for seniors and people with a disability.

SEPP MINING, PETROLEUM PRODUCTION AND EXTRACTIVE INDUSTRIES 2007

The aims of this policy are to support petroleum production and extractive industries to provide and manage development of mineral, petroleum and extractive material resources for promoting the social and economic welfare of the State. The site was rezoned for urban purposes in November 2017.

SEPP EXEMPT AND COMPLY

The aims of this Policy are to provide exempt and complying development codes that have State-wide application. The planning proposal is not inconsistent with this SEPP which would apply to future development.

8.8 SECTION 9.1 MINISTERIAL DIRECTIONS

DIRECTION 1.1: BUSINESS AND INDUSTRIAL ZONES

The objectives of this direction are to encourage employment growth in suitable locations, protect employment land in business and industrial zones, and support the viability of identified strategic centres. The planning proposal does not propose any change to the existing employment area within the north-west portion of the site. The proposal increases the quantum of retail and commercial uses on the site, through a larger town centre and new neighbourhood centre, thereby encouraging employment growth in the site and the Menangle Park URA. The site continues to provide a suitable balance of retail and business uses.

DIRECTION 1.2 RURAL ZONES

The objectives of this direction is to protect the agricultural production value of rural land. The site was rezoned from rural to urban purposes in November 2017. The site and broader Menangle URA and already recognised within the Greater Sydney Regional Plan – A Metropolis of three cities, the Western City District Plan, and the Greater Macarthur Land Use Implementation and Infrastructure Plan (2015) for future urban uses and housing.

DIRECTION 1.3 MINING, PETROLEUM PRODUCTION

The purpose of this direction is to ensure that any future extraction of State or regionally significant reserves of coal, other mineral, petroleum and extractive materials are not compromised by inappropriate development. The site was zoned for urban purposes in November 2017. Correspondence received by Department as part of the site's previous rezoning confirmed that mining of coal resources beneath Menangle Park should be restricted to enable urban development to occur at the scale and form necessary to make that development viable. This was because of the importance of the Menangle Park URA contribution to land supply in the Sydney Metropolitan Region.

DIRECTION 1.5 – RURAL LANDS

The objectives of this direction are to protect the agricultural production value of rural land and facilitate the orderly and economic development of rural lands for rural and related purposes. This direction applies to all planning proposals to which State Environmental Planning Policy (Rural Lands) 2008 (Rural Lands SEPP) applies. The site and broader Menangle URA and already recognised in the within the Greater Sydney Regional Plan – A Metropolis of three cities, the Western City District Plan, and the Greater Macarthur Land Use Implementation and Infrastructure Plan (2015) for future urban uses and housing.

DIRECTION 2.3 - HERITAGE CONSERVATION

This direction applies to the conservation of heritage items, areas, objects and places of environmental heritage significance and indigenous heritage significance. Whilst the site does not contain any heritage items, a number of local and stage heritage items are located within the vicinity of the site. In relation to Aboriginal Heritage, twenty three potential Aboriginal Archaeological sites were identified throughout the site. An assessment of the proposal's impact

on European heritage has been undertaken by Extent Heritage, and Aboriginal heritage undertaken by Kelleher Nightingale (refer to **Appendices D** and **E**).

In respect to European Heritage, the assessment determined that it is unlikely that the proposed development will pose any significant impact on heritage in relation to:

- Views and settings given its low density nature and that much of the landscape setting around each item will be retained as open space;
- Remaining historic items on the site including the former Thomas Vardy Estate Silos as they are in poor condition and are considered unfeasible to retain;
- Archaeology, as the site is identified as only having a low-medium archaeological potential.

In relation to Aboriginal Heritage, given that the site has already be rezoned for urban purposes, and that the revised masterplan does not seek any significant changes on areas identified as aboriginal archaeological significance, the proposed development will not cause any additional harm. An Aboriginal Heritage Impact Permit (AHIP) is currently being prepared by Kelleher Nightingale on behalf of Dahua, for the whole site, and will be submitted to Council under a separate cover.

A detailed assessment on heritage is provided in section 9 of this report.

DIRECTION 3.1: RESIDENTIAL ZONES

This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed residential zone (including the alteration of any existing residential zone boundary) any other zone in which significant residential development is permitted or proposed to be permitted. In accordance with this direction, a planning proposal must include provisions that encourage the provision of housing that will:

- broaden the choice of building types and locations available in the housing market, and
- make more efficient use of existing infrastructure and services, and
- reduce the consumption of land for housing and associated urban development on the urban fringe, and
- be of good design.

A planning proposal must also contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it). The planning proposal will deliver a range of densities, lot sizes and dwelling types and create a diverse community that is demographically balanced. As demonstrated in section 9, the proposal does not result in any significant adverse environmental impacts and can be adequately serviced.

DIRECTION 3.3: HOME OCCUPATIONS

The objective of this direction is to encourage the carrying out of low-impact small businesses in dwelling houses. 'Home occupations' are permissible without consent in all residential zones (i.e. R2 – low density, R3 – medium density, R4 – high density) and centre zones (i.e. B1 – neighbourhood centre and B2 – local centre) in accordance with Campbelltown LEP 2015. The planning proposal does not propose to amend the land use tables in respect of 'home occupations'.

DIRECTION 3.4: INTEGRATING LAND USE AND TRANSPORT

The objective of this direction is to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:

- improving access to housing, jobs and services by walking, cycling and public transport, and
- increasing the choice of available transport and reducing dependence on cars, and

- reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and
- supporting the efficient and viable operation of public transport services, and
- providing for the efficient movement of freight.

The planning proposal is consistent with relevant guidance documents in that the site can be suitably serviced by existing and planned future road infrastructure and transport services. It is expected that future capital works for road improvements within the vicinity of the site will arise as a result of redevelopment of the site. Majority of these internal road costs will be borne by Dahua.

Given that the site and broader Menangle Park URA incorporates employment generating land uses, education, and residential uses it is expected to facilitate a self-contained specialised centre that aims to provide residents living alongside to where they work, shop and play. As demonstrated in the revised master plan, the site could encourage future residents to utilise walking and cycling modes of transport to access community or retail uses from their residences, recreation facilities in the locality or to use public transport links.

DIRECTION 4.1 ACID SULFATE SOILS

The objective of this direction is to avoid significant adverse environmental impacts from the use of land that has a probability of containing acid sulfate soils. A review of the NSW Natural Resource Atlas (NRA 2013) indicated that there are no known occurrences of acid sulphate soils on the site. The Local Environmental Study (LES) prepared for the previous rezoning of the URA (including the site), also identified that the site revealed no potential for or actual acid sulphate soil material.

DIRECTION 4.3: FLOOD PRONE LAND

The objectives of this direction are:

- to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005, and
- to ensure that the provisions of an LEP on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land.

The planning proposal is supported by a Water Cycle and Flood Management Strategy prepared by SMEC and Catchment Simulation Solutions (refer to **Appendix I**). The aim of the strategy was to identify the stormwater and flood management issues to be considered in the future development of the site and to identify flood impacts, an appropriate evacuation strategy, appropriate options and locations for the control of the quantity and quality of stormwater leaving the site. As demonstrated in section 9, the proposal will not result in significant flood impacts to other properties, is not likely to result in a substantially increased requirement for government spending on flood mitigation measures, infrastructure or services. The planning proposal is not inconsistent with this direction.

DIRECTION 4.4 PLANNING FOR BUSHFIRE PROTECTION

The objectives of this direction are:

- to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and
- to encourage sound management of bush fire prone areas.

This direction applies when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land. A Bushfire Assessment has been undertaken by Ecological Australia (refer to assessment included in **Appendix L**). The assessment has made recommendations in relation to Asset Protection Zones (APZs) and these have been incorporated into the design of the master plan. The Rural Fire Services' Planning for Bushfire Protection 2006 have been taken into consideration in the planning proposal. Future development

controls will include appropriate building design specifications and nomination of suitable building materials to address bushfire safety considerations.

DIRECTION 6.3: SITE SPECIFIC PROVISIONS

The objective of this direction is to discourage unnecessarily restrictive site specific planning controls. The planning proposal adopts land use zones and uses drawn from Campbelltown LEP 2015 and specifies permissible and prohibited uses which represent as far as practical a role over of the current planning controls. It also makes provision to accommodate additional permitted residential uses on the site consistent with this direction

DIRECTION 7.1: IMPLEMENTATION OF 'A PLAN FOR GROWING SYDNEY'

The objective of this direction is to give legal effect to the planning principles, directions and priorities for subregions, strategic centres and transport gateways contained in A Plan for Growing Sydney. The planning proposal is consistent with A Plan for Growing Sydney, as it will deliver an additional 1,850 dwellings comprised of diverse housing product enabling people to 'age in place'. It will also provide a more connected town with new homes only a 10 minute train, bike or car journey to Campbelltown CBD, increased access to open space and recreational facilities, and additional employment opportunities on site. The planning proposal will generate approximately 2,700 Full Time Equivalent (FTE) jobs, including 1,200 directly related to activity on the site. Further detail on its consistency with the Sydney Regional Plan is contained in Section 8.2.

DIRECTION 7.2: IMPLEMENTATION OF GREATER MACARTHUR LAND RELEASE INVESTIGATION

The objective of this direction is to ensure development within the Greater Macarthur Land Release Investigation Area is consistent with the Greater Macarthur Land Release Preliminary Strategy and Action Plan (the Preliminary Strategy). The planning proposal is consistent with the Preliminary Strategy, providing an additional 1,850 dwellings, contributing to the minimum 5 year dwelling target of 6,800 dwellings required in Campbelltown LGA and to the Greater Macarthur Region dwelling target of 34,000 envisaged by 2036. The proposal also seeks to provide a new town centre comprising 30,000m² of retail /employment gross floor area consistent with the plan.

DIRECTION 7.2: IMPLEMENTATION OF GLENFIELD TO MACARTHUR URBAN RENEWAL CORRIDOR

The objective of this direction is to ensure development within the precincts between Glenfield and Macarthur is consistent with the plans for these precincts. The planning proposal, pertaining to land adjoining the urban renewal corridor, will not inhibit the implementation of the Glenfield to Macarthur strategy.

SECTION 9

Environmental, Social and Economic Impacts

9. ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACTS

This section addresses the environmental assessment of the planning proposal in respect to the relevant matters for consideration under section 3.3 of the EP&A Act. The environmental assessment draws upon the site analysis, which justifies the configuration of the proposed development and the land use zones proposed. The following factors have been considered in this section:

- Flora and fauna;
- Traffic and transport;
- Heritage;
- Social Infrastructure;
- Contamination;
- Acoustic;
- Water Cycle Management;
- Flood Management;
- Economic Impact; and
- Services and Utilities.

FLORA AND FAUNA ASSESSMENT

A Biodiversity Assessment prepared by Cumberland Ecology is included at **Appendix J**. The assessment:

- Describes and maps the vegetation communities within the study area;
- Identifies the fauna habitats occurring within the study area;
- Identifies any threatened species, populations and/ ecological communities (as listed under the TSC Act and/or EPBC Act) existing within the study area;
- Calculates the extent of vegetation removal and retention based on the proposal;
- Identifies areas of low, moderate and high ecological constraints, including identification of areas where development may be increased as a result of the review of ecological constraints; and
- Discusses the requirement to undertake further ecological impact assessments for future development along with the future offsetting requirements/options.

The assessment has assumed a 'worst case' scenario where all areas of the site that are zoned for development under the proposal (i.e. not zoned as riparian or ecology) have been assumed to be entirely cleared. This is unlikely to be the case as areas of vegetation will likely be retained, especially in areas outside of the site that have been previously developed.

Existing vegetation communities and their conservation status, threatened species and populations are detailed in the site analysis at section 2.11 of this report. Vegetation within the site has been largely cleared as a result of historical agricultural practices. Fragmented areas of native vegetation are scattered throughout the site, most of which has been substantially modified due to grazing and/or other agricultural land practices. Areas of native vegetation are primarily present within or adjacent to riparian corridors, as isolated patches of woodland or as grassland bounded by exotic dominated agricultural lands. Patches of scattered mature remnant eucalypt trees are also present throughout the study area, all of which have significantly modified understoreys.

Key ecological constraints identified include:

- The presence of TECs, including Cumberland Plain Woodland, Elderslie Banksia Scrub Forest, River-flat Eucalypt Forest, Swamp Oak Floodplain Forest and Freshwater Wetlands;

- Known habitat for 16 threatened fauna species;
- Potential habitat for four threatened fauna species; and
- Fauna habitat features, such as hollow-bearing trees and farm dams suitable for use by threatened fauna species.

Potential impacts of the planning proposal

Any future development of the site will require some land clearance that has the potential to directly and indirectly impact biodiversity values on the site. Potential impacts of development associated with the proposal include:

- Removal of native vegetation;
- Removal of fauna habitat features such as hollow-bearing trees, coarse woody debris, and blossom-producing trees and shrubs;
- Removal of potential habitat for threatened flora and fauna species;
- Modification of microhabitats through edge effects;
- Modification of habitat connectivity;
- Runoff, sedimentation and erosion;
- Weed invasion; and
- Injury or mortality to fauna species.

Tables 13 and 14 provide a summary of the areas of each vegetation community to be removed and retained under the proposal, along with the total percentage of each community to be removed for the study area and site, respectively. Figure 59 identifies the areas of each vegetation community to be retained under the proposal. For the purposes of this assessment Cumberland Ecology have assumed a 'worst case' scenario where all vegetation not identified as 'retained' or 'riparian' within Figure 59 is assumed to be removed by future development.

Impacts on the study area

The proposal will facilitate the removal of up to 57.25 ha of native vegetation within the study area assuming that all areas with potential for development are entirely cleared (refer to Table 13). Approximately 64.39 ha of native vegetation will be retained. An additional 688.02 ha of exotic vegetation and cleared land will be removed. These areas offer minimal ecological value and are unlikely to require offsetting.

The native vegetation communities to be most impacted within the study area under the proposal are Shale Hills Woodland, Shale Hills Woodland Derived Native Grassland and Acacia Regrowth as the entire occurrence of these communities within the study area will be removed. All other native vegetation communities will have at least 47% of their total occurrence within study area retained.

Table 13 Vegetation to be removed and retained within the study area under the proposal (Table 4.1 in Biodiversity Assessment)

Vegetation Community	TSC Act Status	EPBC Act Status	Total Area (ha)	Area Removed (ha)*	Area Retained (ha)	% Removed within the site
Shale Plains Woodland	CEEC	-	30.03	15.88	14.15	53%
Shale Hills Woodland	CEEC	-	17.5	17.5	0.00	100%
Shale Hills Woodland Derived Native Grassland	CEEC	-	1.02	1.02	0.00	100%
Elderslie Banksia Scrub Forest	CEEC	-	2.7	1.41	1.29	52%
River Flat Eucalypt Forest	EEC	-	44.43	14.25	30.18	32%
Swamp Oak Floodplain Forest	EEC	-	10.05	4.15	5.89	41%
Freshwater Wetlands	EEC	-	11.13	0.53	10.60	5%
River Oak Riparian Woodland	-	-	2.33	0.05	2.28	2%
Acacia Regrowth	-	-	2.45	2.45	0.00	100%
Other Vegetation						
Dam	-	-	2.98	1.11	1.88	37%
Exotic Vegetation and Cleared Land	-	-	766.82	688.02	78.80	90%
Total			**891.43**	**746.37**	**145.06**	**84%**

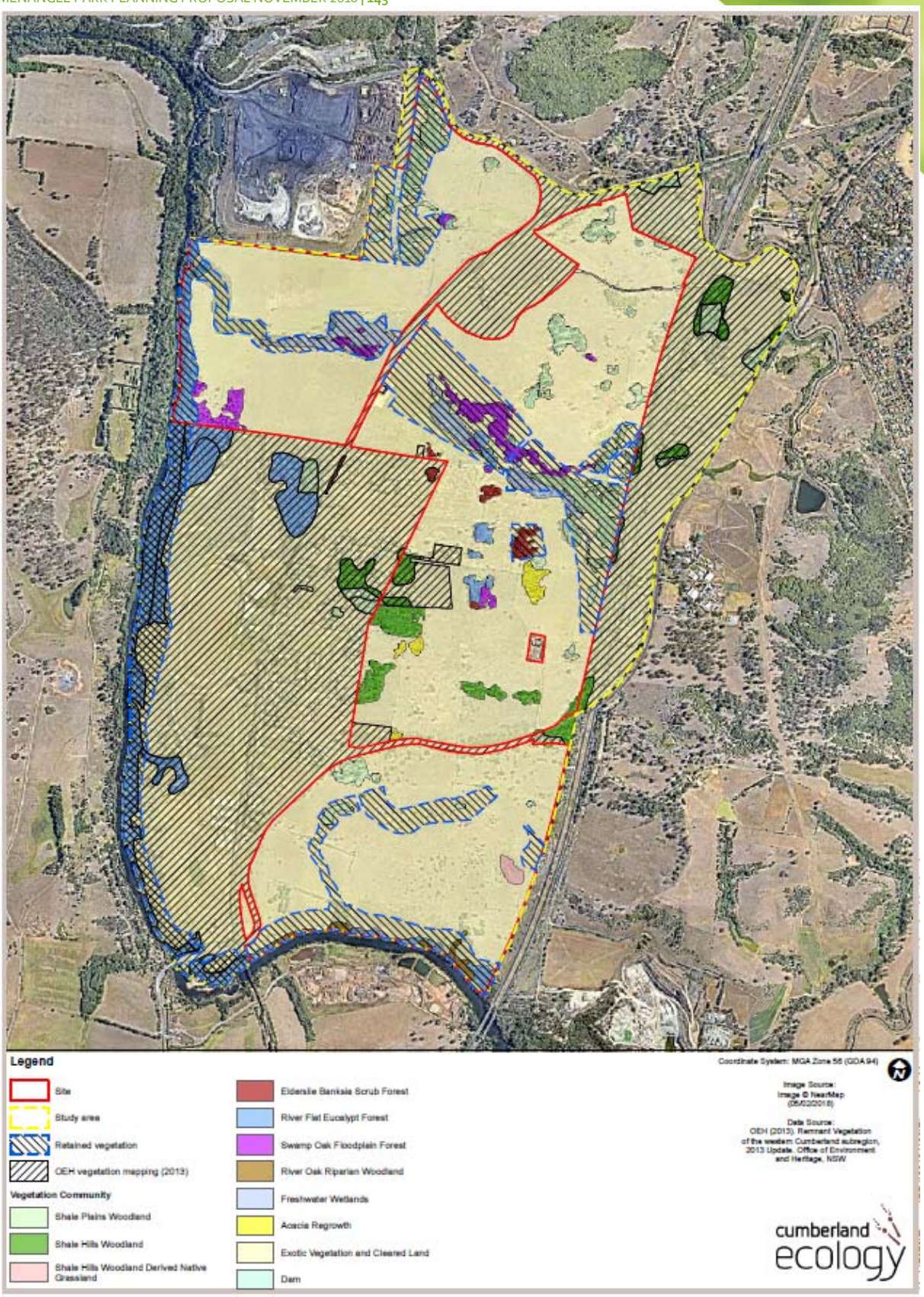


Figure 59 Vegetation Communities to be retained within the study area

Impacts on the site

The proposal will facilitate the removal of up to 29.32 ha of native vegetation on the site, assuming that all areas with potential for development are entirely cleared (refer to Table 14). Approximately 43.96 ha of native vegetation will be retained (refer to Figure 59). An additional 374.48 ha of exotic vegetation and cleared land will be removed; however, these areas offer minimal ecological value and are unlikely to require offsetting. The native vegetation communities within the site to be most impacted under the proposal are Shale Hills Woodland, Shale Hills Woodland Derived Native Grassland and Acacia Regrowth as the entire occurrence of these communities within the site will be removed. All other native vegetation communities will have at least 59% of their total occurrence within study area retained.

Table 14 Vegetation to be retained or removed within the site.

Vegetation Community	TSC Act Status	EPBC Act Status	Total Area (ha)	Area Removed (ha)*	Area Retained (ha)	% Removed within the site
Shale Plains Woodland	CEEC	-	23.29	9.14	14.15	39%
Shale Hills Woodland	CEEC	-	9.18	9.18	0.00	100%
Shale Hills Woodland Derived Native Grassland	CEEC	-	1.02	1.02	0.00	100%
Elderslie Banksia Scrub Forest	CEEC	-	2.16	0.87	1.29	40%
River Flat Eucalypt Forest	EEC	-	11.67	1.92	9.75	17%
Swamp Oak Floodplain Forest	EEC	-	10.05	4.15	5.89	41%
Freshwater Wetlands	EEC	-	11.13	0.53	10.60	5%
River Oak Riparian Woodland	-	-	2.33	0.05	2.28	2%
Acacia Regrowth	-	-	2.45	2.45	0.00	100%
Other Vegetation						
Dam	-	-	2.98	1.11	1.88	37%
Exotic Vegetation and Cleared Land	-	-	439.93	374.48	65.45	85%
Total			**516.19**	**404.91**	**111.28**	**78%**

The native vegetation communities within the site that are anticipated to be mostly impacted includes the Shale Hills Woodland, Shale Hills Woodland Derived Native Grassland and Acacia Regrowth. However, this is only because the entire occurrence of these communities is contained within the site, whereas other native vegetation communities will have at least 59% of their total occurrence within the wider area (URA) retained.

Areas of native vegetation to be retained are mainly located within riparian areas (and are where largest patches of native vegetation within the site exist) that are proposed to be retained as natural open space areas. These areas are typically in better condition than areas proposed to be removed, and provide connectivity functions to other areas of habitat. The large patch of Elderslie Banksia Scrub Forest on the site will also be retained, along with areas immediately adjacent to this patch which can potentially be regenerated to adequately offset impacts to smaller patches of the community to be removed.

Threatened Fauna and Flora

No threatened flora species were detected during recent or previous surveys of the study area and none are considered as highly likely to occur within areas of the study area that are zoned for future development. Therefore, future development within the study area under the proposal is unlikely to have a significant impact on any threatened flora species. Furthermore, the majority of vegetation that may provide suitable habitat for threatened flora is within riparian areas, most of which will be retained under the proposal.

Twenty (20) threatened species listed under the TSC Act and/or the EPBC Act have either been recorded within the study area or are considered to have the potential to occur. The majority of the threatened fauna either recorded or considered to have the potential to occur are highly mobile and are likely utilising the scattered habitat present as part of a broader range. Although threatened species have been recorded in areas susceptible to clearing in the future under the proposal, the most suitable habitat for all of these species is considered to be within the largest patches of woodland contained within the riparian areas of the study area. As the majority of these areas will be retained under the proposal, future development is unlikely to have a significant impact on any of the threatened species known to occur or that are considered to have the potential to occur within the study area.

As outlined in section 1.3.1, Dahua has previously lodged several DAs within the site that are currently being assessed under the TSC Act. All previously submitted DAs have included a number of compensatory measures to offset residual impacts of future development. Compensatory measures proposed as part of the previously lodged DAs are described in detail below. These measures could also be utilised for any future DAs submitted prior to 24 November 2018. It is expected that any previously submitted or future DAs lodged prior to 24 November 2018 that have significant impacts on TECs may require concurrent approval from OEH. The Vegetation Management DA (and supporting Species Impact Statement) 3315/2018/DA-DW submitted to Council in September 2018, will ensure all of the site can progress under the TSC Act, including DA's lodged after 24 November.

Compensatory Measures

A number of compensatory measures have been proposed to offset the residual impacts of DAs previously lodged by Dahua within the study area. The current strategy for compensatory measures proposed for Dahua-owned areas of the site include:

- Establishment of Biodiversity Stewardship Sites (BSS) managed under a Biodiversity Stewardship Agreement (BSA) under the BC Act;
- Purchase and retirement of ecosystem credits; and
- Revegetation/rehabilitation works.

Establishment of Biodiversity Stewardship Sites

In order to offset impacts to native vegetation, biodiversity stewardship sites will be established within areas of retained vegetation within the site. Biodiversity stewardship sites are conservation areas established under the NSW BC Act. It is expected that all proposed biodiversity stewardship sites will be created as per the requirements of the BC Act. These sites will result in the generation of ecosystem credits that can then be retired. Biodiversity stewardship sites will be contained within the riparian areas within the centre and northwest corner of the Menangle Park URA (refer to Figure 6o). These areas of retained habitat include some of the largest and best condition vegetation, which also provides connectivity to offsite habitat.

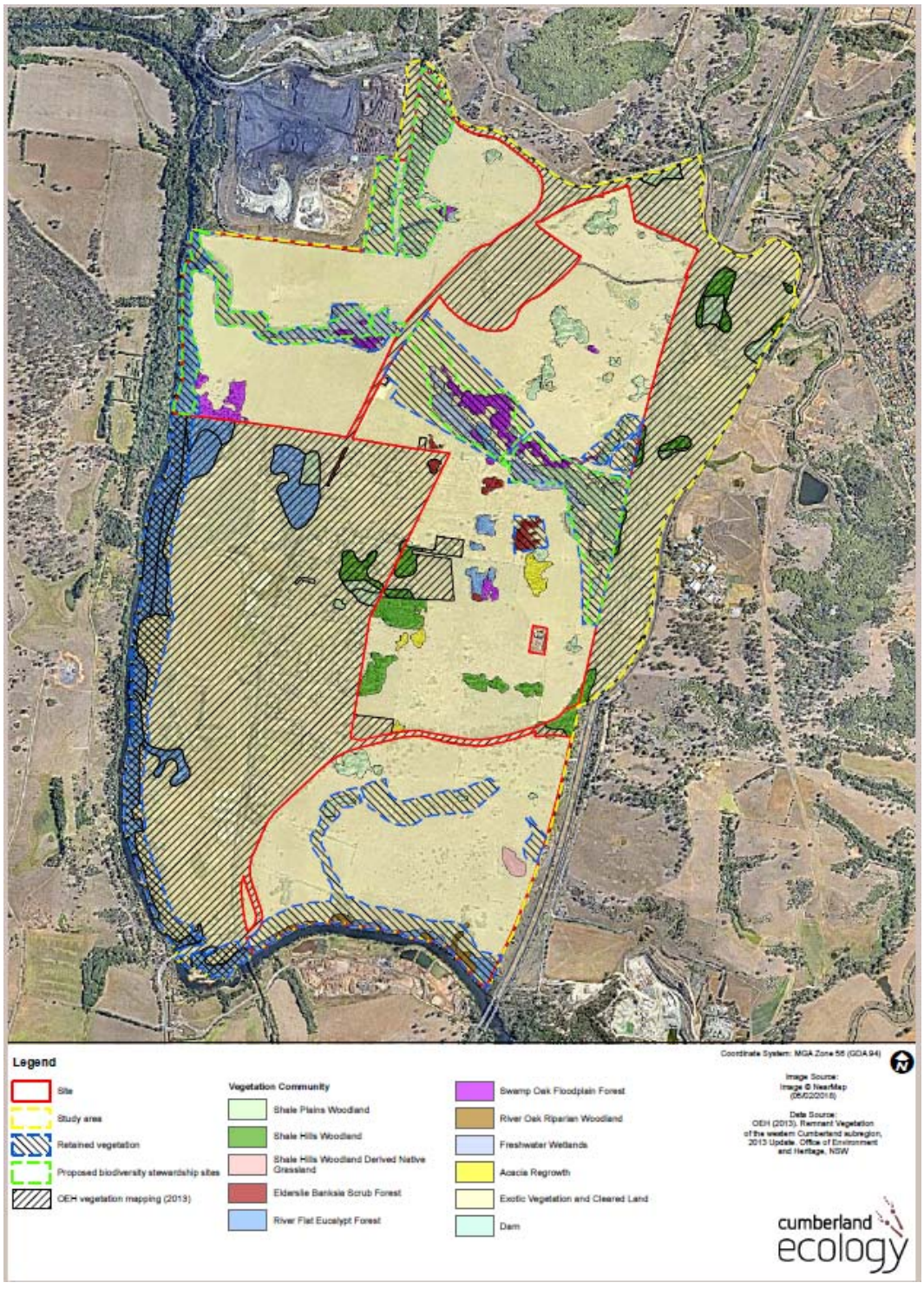


Figure 6o Locations of proposed biodiversity stewardship sites

Purchase and Retirement of Biodiversity Credits

In 2018, a BioBanking Assessment was undertaken by Cumberland Ecology (2018b) to support a DA for the majority of Dahua-owned land within the site. The purpose of the BioBanking Assessment was to determine the credit liability of the DA with consideration of the proposed impacts and offset areas. The BioBanking identified shortfalls of credits for Shale Hills Woodland and Elderslie Banksia Scrub Forest. Dahua has signed a contract for the purchase of all required Shale Hills Woodland credits as identified in the BioBanking Assessment. No credits for Elderslie Banksia Scrub Forest are currently available on the credit market.

Revegetation/Rehabilitation Works

Vegetation communities to be impacted within the study area that do not currently have credits available (e.g. Elderslie Banksia Scrub Forest) on the credit market may be offset through revegetation/rehabilitation works within retained areas of the study area. Revegetation/rehabilitation works are proposed to be undertaken for the largest patch of Elderslie Banksia Scrub present within the site (refer to Figure 60) which will result in no net-loss of the community within the site as 2.16 ha the community will be revegetated. The details of the revegetation/rehabilitation works are detailed in the vegetation management DA (Council ref. 3315/2018/DA-DW) currently being assessed by Council. This option of revegetation/rehabilitation to offset impacts on native vegetation is only available to DAs that are assessed under the TSC Act and will require approval from Council. The specific details of any such works will need to be included in the ecological assessment for DAs within the study area.

Although the proposal will result in impacts on TECs, these areas are primarily comprised of small isolated patches that are exposed to a high degree of edge effects and are degraded. The proposed measures to compensate / offset include the establishment of biodiversity stewardship sites, the purchase and retirement of ecosystem credits, payment into the Biodiversity Conservation Trust and/or revegetation/rehabilitation works (if DAs being assessed under the TSC Act).

Approximately 64.39 ha of native vegetation will be retained within the study area, consisting of Shale Plains Woodland (14.15 ha), Elderslie Banksia Scrub Forest (1.29 ha), River-flat Eucalypt Forest (30.18 ha), Swamp Oak Floodplain Forest (5.89 ha) and Freshwater Wetlands (10.60 ha).

Approximately 43.96 ha of native vegetation will be retained within the site, consisting of Shale Plains Woodland (14.15 ha), Elderslie Banksia Scrub Forest (1.29 ha), River-flat Eucalypt Forest (9.75 ha), Swamp Oak Floodplain Forest (5.89 ha) and Freshwater Wetlands (10.60 ha).

Areas of native vegetation to be retained are primarily within riparian areas that consist of the largest patches of native vegetation within the study area and site. These areas are typically in better condition than areas to be removed and also provide connectivity to other areas of habitat. Additionally, the largest patch of Elderslie Banksia Scrub Forest within the study area will be retained, along with areas immediately adjacent to this patch that are proposed to managed and regenerated to adequately offset impacts to smaller patches of the community proposed to be removed.

In addition to the native vegetation to be removed/retained, large areas of exotic vegetation and cleared land and artificial dams will removed. The removal of such areas are unlikely to have a significant impact on the biodiversity values of the study area or greater locality as they are unlikely to offer important habitat for any threatened species considered to occur in the locality.

The proposal will remove suitable habitat for threatened species previously recorded within the study area or that are considered to have the potential to occur within the study area; however, the habitat to be removed primarily consists of small isolated patches that are exposed to a high degree of edge effects. The most suitable habitat for threatened species within the study area is considered to be within the larger tracts of vegetation

contained within the riparian areas that are to be largely retained under the proposal. As such, future development within the study area under the proposal is considered unlikely to have a significant impact on any threatened species predicted to occur with the study area based on the survey and database data collected to date.

With consideration of the above, it is expected that potential impacts to the biodiversity values of the study area as a result of future development under the proposal can be adequately offset for through the implementation of appropriate compensation measures as required under either the TSC Act or BC Act. The planning proposal will not result in a significant adverse impact on flora and fauna.

9.1 TRAFFIC AND TRANSPORT

A Traffic Impact Assessment, prepared by GTA Consultants is included at **Appendix M**. The traffic impact assessment has considered the following:

- Existing transport conditions surrounding the site;
- Strategic planning context and existing policies;
- Traffic generating characteristics of the Menangle Park URA;
- Transport impact of the planning proposal on the surrounding road network; and
- Transport infrastructure improvements required to support the planning proposal.

The assessment considers the full development of the site to 2026. Key conclusions from the assessment include the following:

- The proposal would generate approximately 1,600 more trips when compared to the previous Transport Management Assessment Plan (TMAP) (AECOM, 2010), noting that the previous TMAP is based on a lower average trip rate per dwelling.
- Future mid-block traffic assessment based on the future conditions of Menangle Road and Spring Farm Parkway suggest that they will continue to operate at a satisfactory level in the AM and PM peak periods.
- SIDRA intersection modelling at key intersections including Menangle Road/North-South, Collector Road, Menangle Road/Cummins Road and Spring Farm Parkway/North-South Collector Road are expected to operate at acceptable levels of service.
- The north-south collector road is recognised as a key internal link passing through the centre of the site and town centre and its design can accommodate the required traffic volumes.

9.1.1 Input Assumptions

In undertaking the traffic impact assessment, the following key assumptions were used:

- Consideration of 'Menangle Road/Cummins Road', 'Menangle Road/North-South Collector Road' and 'Spring Farm Parkway/North-South Collector Road' as key roads, providing major access to the site and direct access to the broader URA.
- Road upgrades including Menangle Road to four lanes (two lanes each way) from Beersheba Parade to Gilchrist Drive, and the construction/completion of Spring Farm Parkway Stage 1 and 2 (however noting that the funding and timing of these projects is yet to be confirmed).
- Future mode share for residents will primarily remain the same, assuming the existing mode share patterns. Journey to Work (JTW) data has been compared with Household Travel Survey (HTS) data, with the aim to incorporate other purpose trips such as school trips in the AM peak and trips to the local centre/social activities in the PM Peak into future mode share for residents. Vehicle occupancy rates for other purpose trips were adjusted as having higher rates than JTW.

- Background growth and trip generation rates include growth rates for other release areas in the region. These rates have been the subject of previous discussion with Roads and Maritime Services (RMS). Table 12 provides the weekday peak trip generation rates used.
- Consideration of characteristic trip types for traffic generation as appropriate, including primary trips, link-diverted trips, non-link diverted trips as well as internal and external trips (refer to section 6.3.2 of the traffic impact assessment included at **Appendix M**).

Table 15 Weekday Peak Trip Generation Rates (Source: GTA, 2018)

Land Use	Area/dwellings (1)	Traffic generation rate (Vehicle-trips)		Source
		AM	PM	
Residential Use				
Low density residential (<30 dwellings/ha)	3630 dwellings (5)	0.95	0.99	TDT 2013/04a (average metropolitan Sydney for site peak) Roads and Maritime recommendation
Medium density residential (30-60 dwellings/ha)	820 dwellings[5]	0.65	0.65	Guide to Traffic Generating Developments (2002) – highest range First-principles trip generation and mode share
High density residential (>60 dwellings/ha)	800 dwellings[5]	0.5	0.5	First-principles trip generation and mode share
Retail Use				
Town Centre	22,500 m² GLFA[2]	4 per 100 m² GFLA[3]	6 per 100 m² GFLA	TDT 2013/04a
Neighbourhood Centre	22,500 m² GLFA[2]	6.66 per 100 m² GFLA [3]	10 per 100 m² GFLA	TDT 2013/04a Roads and Maritime recommendation
Community and Recreation				
School	1,000 students	0.89 per student	0.67 per student	GTA Database
Sports field	4	3 per field	30 per field	GTA Database
Employment Lands				
Industrial and business park	180,000 m² GFA	0.58 per 100 100 m² GFA	0.58 per 100 100 m² GFA	TDT 2013/04a (average)
Bulky goods and warehouse	Maximum 15,000 m² GFA[4]	0 trips as opening hours	1.31 per 100 m² GFA	TDT 2013/04a (average)

Land Use	Area/dwellings (1)	Traffic generation rate (Vehicle-trips)		Source
		AM outside of AM peak period	PM	
Hardware and building supply	Maximum 15,000 m² GFA[4]	2.05 per 100 m² GFA	2.85 per 100 m² GFA	TDT 2013/04a (average)

[1] includes all land within Menangle Park URA (including land owned by Dahua and land owned by other parties)

[2] based on a 75 per cent ratio for GFA to GLFA

[3] based on a two-thirds ratio for morning to evening peak hour generation

[4] preferred land use scenario only includes 180,000 m² of business park, with no large format retail use. However, a maximum of 30,000 m^2 of large format retail use (15,000 m2 of bulky foods/warehouse retail and 15,000 m² of hardware and building supply) were maintained in the traffic assessment and represent a worst case scenario

[5] following the density definition, high density dwellings would incorporate small terrace/ townhouse product on subject 200m² lots and medium density would include townhouses and small lot detached dwellings

Community and recreational facilities, including the primary school and sporting fields are expected to be used by the local community. As such, these facilities would generate predominantly internal trips only. Internal trips generated by community and recreational uses are already accounted for in the internal trips generated by the residents. To avoid double counting, community and recreational uses have not been included in traffic generation calculations.

9.1.2 Generated Traffic

The proposal is expected to generate up to approximately 6,000 external vehicle movements on the regional road network within the weekday AM and PM peak, in addition to 700 internal vehicle movements and generating approximately 1,600 more trips than the previous traffic assessment undertaken to support the previous rezoning. It is noted that the previous TMAP was based on a lower average trip rate per dwelling (i.e. 0.73 per dwelling). The trip generation rates used as part of this assessment are considered more appropriate and realistic for the site, as they include the growth rates for other release areas within the region. Table 16 provides a breakdown of the traffic generated.

Table 16 Traffic generation summary

Land Use	AM Peak			PM Peak		
	Total	Internal	External	Total	Internal	External
Residential	4,583	687	3,895	4,775	713	4,041
Town Centre (retail)(1)	630	-	630	945	-	945
Employment lands (1)	1,216	-	1,216	1,355	-	1,355
Total Trips generated	6,429	687	5,741	7,055	713	6342

9.1.3 Trip Distribution and Assignment

The distribution and assignment of this traffic would be influenced by several factors including but not limited to the distribution of dwellings within the site, configuration and connectivity of the arterial road network such as Hume Motorway and Spring Farm Parkway as well as the location of the local centre, school and employment. Figure 61-63 depict the anticipated distributions across the site based on each land use.

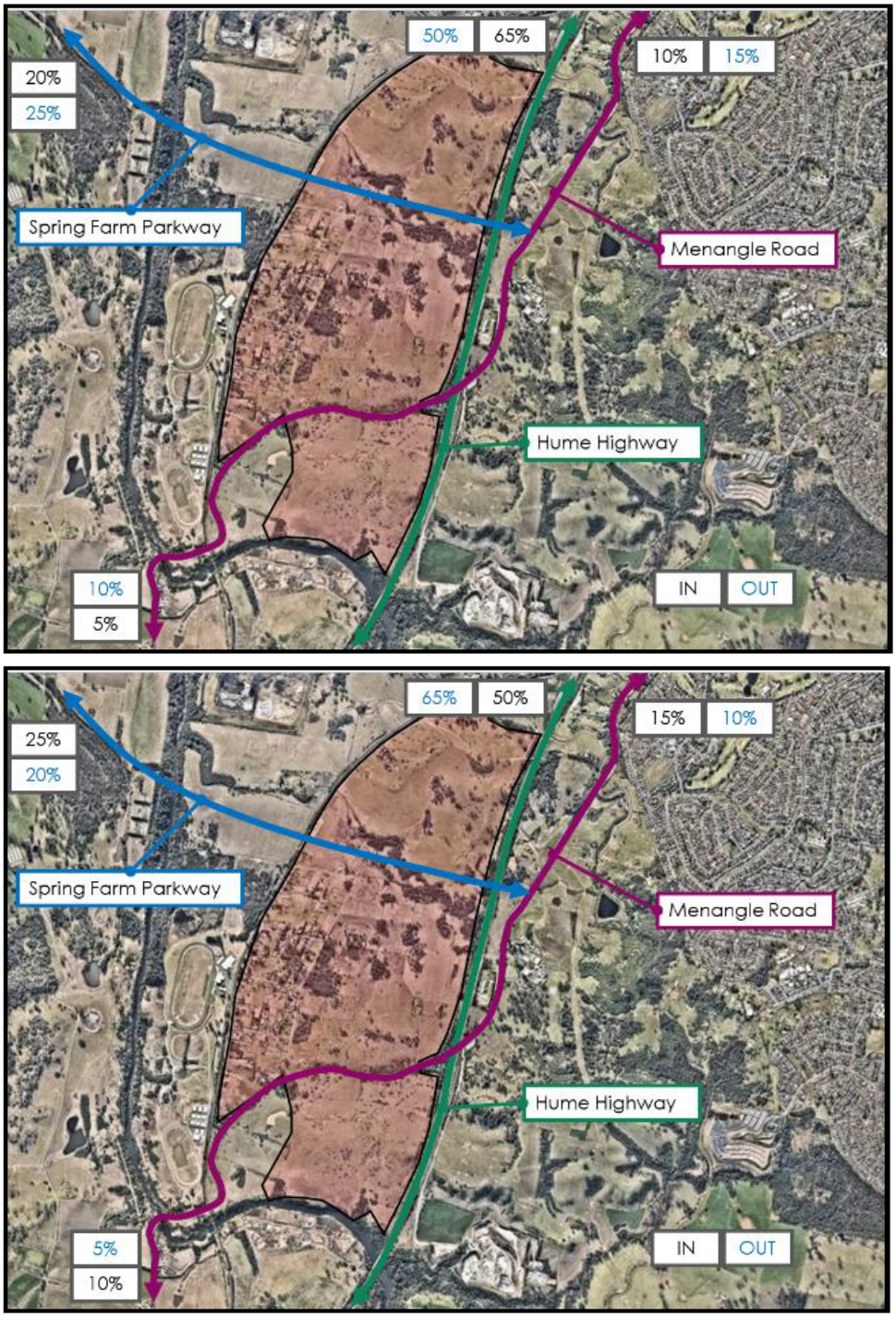


Figure 61 AM (top) and PM (bottom) peak residential distribution

Figure 62 Town Centre and Commercial Distribution

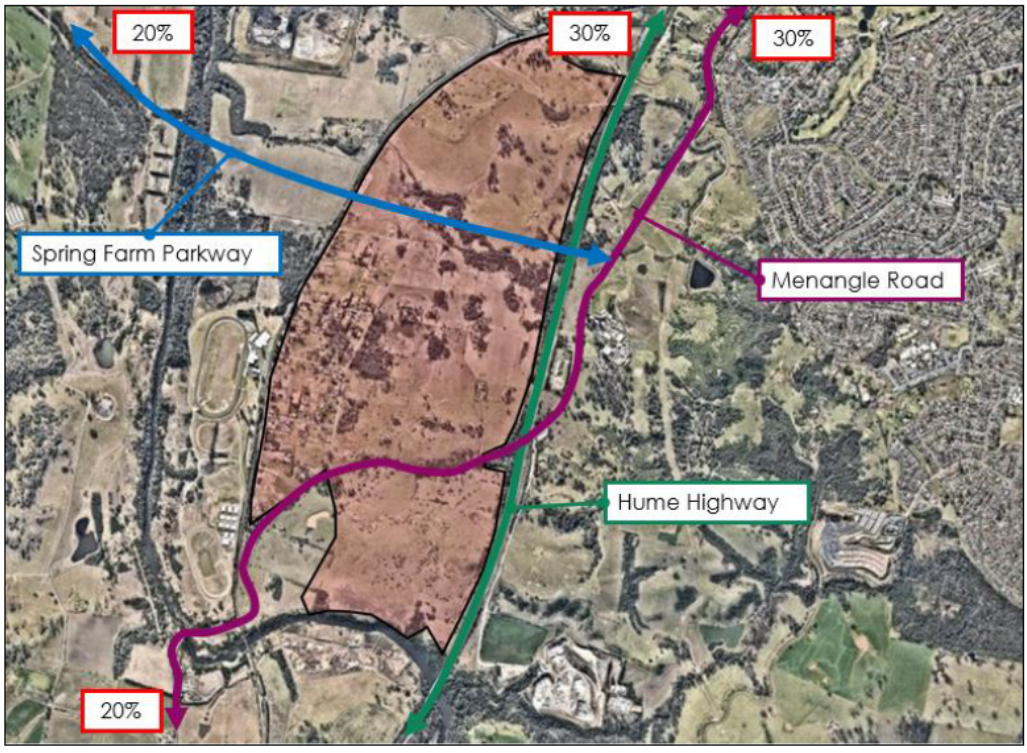


Figure 63 Employment Lands Distribution.

9.1.4 Background Traffic

Future background traffic volumes for Menangle Road and Spring Farm Parkway in 2026 were estimated based on the TMAP and on information provided by Roads and Maritime. For the purposes of this assessment, the assumptions include the following:

- 3.5% per annum background traffic growth rate for Menangle Road.
- ~ 30% of the Menangle Road background traffic would transfer to the completed Spring Farm Parkway considering that currently trips originating from Camden use Menangle Road to bypass the congested Narellan Road.
- Traffic volumes on Spring Farm Parkway as stated in the previous TMAP (AECOM, 2010).

The background traffic will account for traffic generated by developments south of Menangle Park, including Wilton. It is expected that only a small proportion of trips would use Menangle Road, considering that Wilton has access to the Hume Highway from Picton Road.

9.1.5 Future Mid-Block Traffic

An assessment of the mid-block traffic performance was undertaken for Menangle Road and Spring Farm Parkway to consider the impact of traffic based on the future conditions of Menangle Road (i.e. four lane conversion/two lanes each way) and Spring Farm Parkway (Stage 1 and 2 completion).

A mid-block capacity of 1,200 passenger cars per hour/lane was adopted (based on its current state and capacity providing uninterrupted flow conditions), resulting in a total of 2,400 hypothetical capacity per direction. In accordance with the relevant RMS criteria, an assessment of the post-development weekday peak hour traffic volumes (criteria peak hour) for locations was conducted. As shown in Table 18, Menangle Road will continue to operate at a satisfactory level of service C in both the AM and PM peaks. Spring Farm Parkway will also operate at an acceptable level of service D in the AM and PM peaks (refer to Table 18).

Table 17 Post-development mid-block level of service

Road	Direction	Theoretical Capacity per direction (passenger cars per hour)	Weekday AM peak hour traffic volume (Per direction)	VCR	Level of Service	Weekday PM peak hour traffic volume (Per direction)	VCR	Level of Service
Menangle Road - South of Beersheba Parade (south of Menangle Park URA)	South of Beersheba Parade (south of Menangle Park URA)	2,400	1,498	0.62	C	1,373	0.57	C
Menangle Road - Between Cummins Road and North-South Collector Road (within Menangle Park URA).	Between Cummins Road and North-South Collector Road (within Menangle Park URA)	2,400	1,524	0.64	C	1,307	0.54	C
Menangle Road - Between NorthSouth Collector Road and Spring Farm Parkway (within Menangle Park URA	Between North-South Collector Road and Spring Farm Parkway (within Menangle Park URA)	2,400	1,674	0.70	C	1,54	0.63	C
Menangle Road - North of Spring Farm Parkway (north of Menangle Park URA)	North of Spring Farm Parkway (north of Menangle Park URA)	2,400	1,336	0.56	C	1,136	0.47	C
Spring Farm Parkway - From Hume Motorway to Narellan	From Hume Motorway to Narellan	2,400	1,975	0.82	D	1,799	0.75	D

9.1.6 SIDRA Intersection Modelling

Future intersection performance was assessed based on full development of the site (to 2026) for the following three key access points/intersections. These intersections were modified to respond to the revised master plan and higher traffic generation rates, and proposed arrangements:

- Menangle Road/North-South Collector Road.
- Menangle Road/Cummins Road.
- Spring Farm Parkway/North-South Collector Road.

Based on the modelling, the key intersections are expected to operate at acceptable levels of service D or better, during both AM and PM peaks however also suggest that the Menangle Road/north-south collector and Spring Farm Parkway/north-south collector intersection is expected to be at or near capacity. Table 18 illustrates the operation of these intersections based on the modelling.

Table 18 Intersection operation summary

Intersection	Peak Period	Degree of Saturation	Average delay (seconds)	95th percentile queue (metres)	Level of Service
1. Menangle Road/North-South Collector Road	AM	0.941	39	316	C
	PM	0.81	26	182	B
2. Menangle Road/Cummins Road(1)	AM	0.60	16	40	B
	PM	0.80	19	92	B
3. Spring Farm Parkway/North-South Collector Road	AM	0.93	48	323	D
	PM	0.96	43	259	D

(1) Worst movement reported for roundabouts

Other intersections including Spring Farm Parkway/Hume Motorway Ramps, Spring Farm Parkway/Menangle Road, Menangle Road/Glen Alpine Drive and Menangle Road/Gilchrist Drive are expected to be impacted by the development, however have not been modelled as part of this assessment on the assumption that they are being adequately assessed/designed as part of a regional/corridor studies including detailed modelling for the Greater Macarthur Investigation Area. Future detailed mesoscopic modelling for the precinct and wider Greater Macarthur area will provide a more detailed assessment of the network operation.

Where traffic demand approaches capacity, it is expected that drivers will redistribute across the road network to account for the increase in expected delays. The north-south collector road will provide the key internal link passing through the centre of the site and town centre, in addition to providing a connection to Spring Farm Parkway. Based on the expected volumes, the north-south collector road is proposed to provide four lanes of traffic (two lanes in each direction). All other roads within the site are only required to provide one lane per direction i.e. two lanes in total.

The planning proposal has acceptable traffic and transport impacts.

9.2 EUROPEAN HERITAGE

The site does not contain any items of local or State heritage significance and is not located within a heritage conservation area. A heritage assessment prepared by Extent Heritage is included at **Appendix D**. The assessment concludes that the revised master plan and planning proposal will have minimal to no impact on any heritage item in respect to views and settings, built heritage and potential archaeological heritage.

Potential impacts on surrounding heritage items

There are a number of heritage items within proximity to the site. Extent Heritage have considered the revised master plan and the potential visual impacts on these items. The conclusions of this assessment are that the proposal will have a negligible impact on surrounding heritage items the following reasons:

- Most of the surrounding heritage items are heavily screened by vegetation, in particular Riverview, Menangle House and The Pines.
- Much of the landscape setting around each item will be retained as open space. This is particularly the case for Glenlee House which retains its current boundary and extensive garden setting.
- Development around heritage items will be 'low density' and therefore will not result in any adverse visual impact.
- Given the scale and distribution of the proposed development, views north towards Glenlee House from the proposed town centre will be largely retained.
- Whilst the site will no longer be clearly visible from Fitzpatrick Street, the same views will be afforded within the proposed town centre.

Vardy Estate Silos

Whilst the heritage assessment undertaken by Extent Heritage recognises the importance of the silos as evidence of dairying practices in the 1930s, an assessment of their condition and possible retention was undertaken by SMEC in April 2018. The assessment concluded that the structures were in poor condition and unsafe to retain. This is due to concrete spalling, corroding reinforcement, and failed roof timbers, displaced roof and wall cladding and terminate infestation. Substantial works and costs would be required to reinstate the structures to a safe condition.

A report to Council on 14 August 2018 regarding the silos, considered both Extent Heritage and SMEC's advice in relation to the structures. Whilst the report recognises the significance of the silos locally, the opportunity for the adaptive reuse of the structures is considered to have low feasibility. This was on the basis that they are not structurally sound, are not capable of being transported given their poor condition, may contain contaminates given the time in which they were constructed and they are situated on land zoned for residential purposes which may require rezoning and acquisition by Council for a public use if preserved in place.

Options to record, interpret or reuse parts of the silos and cattle pens, ramps and dairy balls will be considered as part of future detailed applications.

Potential archaeological heritage

The site is identified as having 'low-medium' archaeological potential. Any future development on the site as a result of a development application will be required to 'proceed with caution' and in the event remains are discovered, appropriate management in accordance with the *Heritage Act 1977* carried out.

9.3 ABORIGINAL HERITAGE

An Aboriginal Heritage Assessment was undertaken by Kelleher Nightingale and is contained at **Appendix E**. As identified in this report, twenty four (24) Aboriginal archaeological sites have been identified on the site, most of which occur on riparian and rural land that is not proposed to be rezoned or developed for urban purposes. As such, no impact is anticipated within these areas.

Aboriginal archaeological sites located throughout the remaining areas of the site are located on land that have already been zoned for urban purposes. An AHIP is currently being prepared for the whole site. Beyond the AHIP process, Kelleher Nightingale have concluded that these aboriginal archaeological site are not considered to be a hindrance to the site.

9.4 SOCIAL INFRASTRUCTURE

A Social Infrastructure needs assessment was conducted by Elton Consulting in May 2018, and an addendum to that report in respect to open space provided in November 2018 (refer to reports included in **Appendix N**). The purpose of the social needs assessment was to identify any new or expanded social infrastructure facilities and open space that would be required to support the revised master plan and additional population, as well as recommendations on how to address the demand.

An estimated future population of 16,300 people based on a dwelling yield of 5,250 dwellings was used to inform the assessment. The social infrastructure assessment concluded that the resulting population will:

- Consist of more diverse age, cultural and household demographic characteristics arising from a higher mix of dwelling types
- Increase demand for, and utilisation of, local level social and recreational infrastructure proposed on the site
- Contribute to increased pressure on, and cumulative demand for, district and regional level social and recreation infrastructure in the areas surrounding the site.

Infrastructure requirements as a result of the proposed population, are largely associated with community meeting and activity spaces, education provision (secondary, primary, early childhood) that accounts for the location of the development and proximity to existing education infrastructure; and access to fresh food options, primary health care and social services will be needed as well as additional demand on Emergency Services.

The infrastructure requirements as a result of the increased population and response to these requirements is summarised in Table 19

Table 19 Infrastructure requirements in relation to the proposed development (excluding open space)

Type of Social Infrastructure	Potential Recommended Requirements	Planning Proposal Response
Community meeting and activity spaces	• One Community centre (minimum 1,000s up to around 1,300m²) co-located near neighbourhood retail and primary school on min 0.4ha site. • Additional library and cultural space (minimum 500 m²) as part of the recommended community centre OR contributions to augment existing or new off-site library and cultural facilities • Development of a place-making and public art strategy	The community centre and potential library location is a matter to be further investigated with Council, as it is likely that the preferred location will emerge during the detailed design stage. Amendments to the contribution plan and/or planning agreements will also be investigated as part of this matter. Public art and wayfinding is being considered as part of landscape and open space design, and identifies that spaces can be significantly enriched by public art strategies to reflect local heritage, cultural values and the communities' aspirations. A number of the open spaces throughout the precinct, are proposed to incorporate public art and interpretation (See **Appendix N**).
Education provision (Secondary, Primary, Early childhood) that accounts for the location of the development and proximity to existing education infrastructure	• One government Primary School (minimum 2ha site) including an Out of School Hours Care centre located adjacent to recreational open space in neighbourhood retail centre • Additional demand generated for tertiary and secondary education provision to rely on availability of existing facilities in the surrounding area • At least five centre based long day care and early education facilities (private sector provision)	The revised master plan seeks to provide a 2ha primary school on site and is co-located with 1ha of open space. This has been developed in consultation with the Department of Education. The school is proposed to be located near the re-located neighbourhood centre and provide convenient access to the local community. It is anticipated that some of the demand for child care services can be provided through existing child care centres in proximity to the site (as identified in section 2.18). Nonetheless, the proposed zoning's on the site provide for child care centres for e.g. centre based child care within the town centre, neighbourhood centre and residential zones, as well

Type of Social Infrastructure	Potential Recommended Requirements	Planning Proposal Response
		as home-based child care centres within R2 and R3 zones. As market demand emerges, these uses can be provided by the private sector.
Residents should have access to fresh food options. Primary health care and social services will be needed. Additional demand on Emergency Services.	• Additional opportunity for fresh food retail in neighbourhood retail centre. • Additional demand for local GP's and nurses, private medical practices in commercial space town centre (private sector provision) • Opportunity for an integrated primary health care centre space to be located in Menangle Park town centre (location in South West Growth Centre is yet to be finalised by NSW Health) • Access to social support services through outreach services at the proposed community centre • Rural Fire Services station (minimum 2,000m² site) with potential for co-location with State Emergency Services or to allow for future Fire and Rescue service if required	As discussed in section 8.10 (EIA) there is scope for supermarket/boutique fresh operations to be provided within the neighbourhood centre, in addition to non-retail uses such as health/medical centre facilities or social support services. These sorts of uses will form part of the future detailed design phase and align with market demand. Moreover, such uses may potentially also be considered as part of future developer contributions to either augment existing off-site facilities, or contribute towards new facilities yet to be determined. Previous consultation with the Rural Fire Service (RFS), Fire and Rescue NSW (FRNSW) and Campbelltown City Council (Council) identified that the co-location of a RFS and FRNSW facility is likely to be inappropriate for the site context. Nonetheless, this is a matter for consideration at the broader planning level.

Open Space

The open space and recreation assessment submitted to Council as part of the preliminary planning proposal was based on a total formal and informal open space provision of 41 ha made up of:

- 23.8ha informal open space; and
- 17.26ha formal open space.

It was assessed that based on a total projected population of 16,300 people, this total provision of 2.5ha/1,000 people would be sufficient to support open space and recreation needs, particularly as a significant amount of natural open space (riparian) is available onsite which has substantial open space value. In response to the feedback provided by Council, an additional 2.5 ha of formal open space is proposed to be provided within the northern portion of the site to the west of the railway line. The 2.5 ha is of sufficient size to allow for the delivery of two small sports fields suitable for junior sports or small format football/futsal. In addition, a new area of open space is proposed within the town centre, the details of which to be confirmed with Council as part of the preparation of a master plan for the town centre as required by the Menangle Park DCP. This space is likely to be a landscaped 'pocket park' of 0.25ha to allow workers and visitors to rest and enjoy green space during lunch breaks or while accessing retail and other services.

These additions have led to a total revised open space provision of 43.06ha made up of:

- 23.3ha informal open space; and
- 19.76ha formal open space.

Based on an unchanged forecast population of 16,300 people, the total provision of formal and informal open space now equates to 2.6ha/1,000 people.

The open space strategy for the site provides a total provision of 134.81 ha of public open space on site, of which 43.06 ha is comprised of unencumbered formal and informal space. The open space break-down is as follows:

- 23.3ha of informal open space including local and district parks;
- 19.76ha of informal open space including formal and active open space; and
- 91.75ha of natural open space including riparian land, ecology, green spine link.

A complete breakdown is provided in Table 20.

Table 20 Proposed Public Open Space

Open space type	Quantum	Net size (ha)
Informal/passive open space		
Local parks	9 areas	6.4
District parks	3 large areas 4 small areas	16.9
Subtotal	12 parks	23.3
Formal/active open space		
Multipurpose sports hub (organised sport)	1 large area	17.26
Active recreation space (fields	1 small area	2.5
Subtotal	2 sports hubs	19.76
Total informal and formal		43.06

Open space type	Quantum	Net size (ha)
Natural open space types		
Riparian land	Through site	85.11
Local parks with drainage function	3 areas	2.93
Ecology	1 area	2.46
Green 'spine'	5 areas	1.25
Subtotal		91.75
GRAND TOTAL		134.81

Whilst the spatial provision is less than the prescribed 2.83ha/1000 people industry standard, the revised master plan has based itself on the recent advice issued by the Government Architect Office (GAO) on open space and recreation (August, 2018). The advice suggests that the current industry standard does not always prove to be effective without high levels of quality control, and may often work against opportunities for multiple use and innovative open space/recreation solutions. In the case of the site and broader Menangle Park URA, a number of performance base measures (based off the GAO Guidelines) including accessibility and connectivity, distribution, size, quantity and quality, and diversity have been considered in justifying an acceptable departure from the prescribed spatial standards.

The proposed open space provision is considered acceptable in that:

- All residents will be able to access a variety of natural, formal and informal open space areas within walking distance to their homes i.e. all residents will be within a 400m radius of a local park and less than 2 km from a district park.
- The green active transport link provides for several functional areas of green park spaces that are additional to the existing informal and formal open space. As the green active transport link runs through the centre of the site, it will facilitate active transport access between open spaces across the site.
- Whilst drainage functions are not counted as part of open space, they can provide informal green space value provided they are integrated into the landscape well. This can be accounted for in cases where some local parks may fall short of the minimum recommended size.
- The three major district parks are well above the minimum recommended size and are adjacent to very large areas of riparian corridor which will contribute to user's experience of a much larger open green space area.
- All local and district parks are considered to be sufficiently sized to provide a wide variety of activity options including large playgrounds, half courts, skate parks etc.
- Where district parks are adjacent to areas of riparian land they are likely to encourage unstructured activities such as walking and cycling.
- Whilst small active recreation space is below the minimum recommended size, the proposed multipurpose sports hub to the south is well above the minimum recommended size. This is considered appropriate as it is likely the smaller field will provide a useful recreation space for juniors or small format sports like five-a-side football, while the larger sports hub can provide for organised older age group competition sport.
- The multi-purpose sports hub will provide a mixed-use precinct providing for a number of sporting codes namely fields, courts and competition cycling. This aligns with best practice which prefers co-location of uses to activate these areas and facilitate higher utilisation and viability.

- It is recommended that offsite contributions be made towards a district level aquatic facility to be provided in a location to be determined by Council which the residents of Menangle Park would be able to utilise within 30 minutes by public transport or car.
- The large amount of natural open space should be highly valued when viewed in the context of the site, as it provides a significant key asset to the site.

Overall, the open space strategy applied to the revised master plan looks beyond the spatial industry standards. Rather it seeks to promote the quality of the open space and range of recreation opportunities provided on the site. Whilst the open space on the site may fall short of the industry standard, it is considered that the value of the open space and recreational uses measured against the GAOs performance indicators will satisfy the needs of the future population. As such, the open space approach provided as part of the revised master plan is considered acceptable.

9.5 CONTAMINATION

Preliminary Site Investigation (PSI) were undertaken by Douglas and Partner's in relation to the north (i.e. land north of Menangle Road) and south (i.e. land South of Menangle Road) of Menangle Park (refer to **Appendix K**). The purpose of the PSI's were to identify any data gaps relating to the contamination status of the site through review of previous environmental assessment, undertake intrusive works sampling and analysis to the identified gaps, and provide recommendations in making the site suitable for the proposed development.

As discussed, a total of twenty-three (23) Areas of Environmental Concern (AECs) were identified across the site, twenty one (21) of which are located within the north. The AECs are a result of previous land uses and land management processes including coal wash-type filling on the site surface, stockpiles containing construction and demolition materials, historical filling, gas wells and gathering lines, Anthropogenic materials, soil metal and Asbestos Containing Materials (ACM) in burial pits in the former fireworks site. The preliminary investigations recommend supplementary site investigations / remediation works be undertaken.

With the exception of the AECs, the potential for contamination constraints on the site in respect to the proposed development is low. Any future development of the site will be subject to further detailed environmental investigations and these matters addressed as part of future a development application/s. The site can be made suitable for the proposed uses, as accepted by Council and the Department as part of the previous rezoning.

9.6 ACOUSTIC

An acoustic assessment prepared by TTM Acoustics is provided at **Appendix O**. The assessment considers the impact of noise (road, rail, surrounding industrial uses) on future residential development. The proposed master plan was tested against the relevant noise criteria including the existing Menangle Park DCP, NSW Road Noise Policy, the NSW Rail Infrastructure Noise Guideline and NSW SEPP Infrastructure.

The main noise intrusion occurring on the site is a result of road traffic from the Hume Highway and Menangle Road. The South Highlands Rail line also causes noise intrusion however, is considered to be of minimal impact as the effects are greater during the day, and only small pockets of residential development near the railway line will be at risk of noise. A noise prediction model was developed across a 10 year horizon and particular parameters used including traffic volumes and growth rates through to 2028, road speed limits, and the standard reference measurements (i.e. façade receiver heights and façade correction).

The conclusions of this assessment are as follows:

- Residential areas located adjacent to the Hume Motorway and Menangle Road exceed the NSW Road Noise Policy day and night time criteria.
- Residential areas located adjacent to the Southern Highlands line exceeds the NSW Rail Infrastructure Noise Guideline Criteria however, impacts are higher during the day.
- The implementation of an acoustic barrier as a noise mitigation measure is considered unfeasible and impractical.
- Acoustic design of the future dwellings affected by high road traffic or rail noise is required.
- Mechanical ventilation may be required for future dwellings to meet the internal acoustic targets.

The application of a six (6) metre high acoustic barrier was investigated in mitigating noise impacts on the site whilst considering other factors such as practicality and feasibility. A noise prediction model was prepared to compare the result of the acoustic wall, however, the effectiveness of the acoustic barrier did not prove to provide significant benefits when compared against the environmental, economic and social benefits. In order for the acoustic barrier to be effective, it would need be designed adjacent to the Hume Motorway and within 5 metres of the closest lane of the highway.

TTM Acoustics have put forward a more practical and feasible approach to manage acoustic impacts for affected properties on the site. This includes is provisions with the Menangle Park DCP to in relation to lot orientation, external and internal space planning for future dwellings, the location of private open space and mechanical acoustic treatments. This recommendation is proposed to be included in the amended DCP for Menangle Park. Detailed acoustics assessment will be required to accompany future DAs in areas along the Hume Highway and Menangle Road.

9.7 WATER CYCLE MANAGEMENT

A Water Cycle Management Report prepared by SMEC is included in **Appendix I**. The report builds upon documents prepared for the original rezoning, namely:

- Menangle Park WSUD Strategy Report' by AECOM (2010)
- Menangle Park LES – Local Flooding and Storm Quantity Management (Detention) by GHD (2010); and
- 'Report for Menangle Park – Review of Drainage Options' by GHD (2011).

In summary:

- The proposed basins in the revised master plan are generally located in the same locations and catchments consistent with the previous water management strategy approved for the site.
- The size of the basins have been adjusted to account for additional density, however the number and location of detention and WSUD basins will remain the same as the previous strategy.
- The impacts to flood levels as a result of filling land to be developed above the 100 year ARI levels remains generally within the precinct boundaries and remains consistent with the approved strategy.
- Further detailed design will need to be undertaken to ensure that the playing fields south of Menangle Road can be lifted above the 5 Year and 20 Year ARI events, however – with appropriate compensatory storage this will be achievable.
- The proposed WSUD strategy can meet the pollution reduction stretch targets as identified in Table 21, though minor adjustments to WSUD infrastructure and implementation of recommended devices.

Table 21 Stormwater Quantity and Quality objectives

Element	Objective
Water Quantity	Management of flows in natural creek lines to achieve a Stream Erosion Index (SEI) of between 1 and 2 by managing the 1 in 1.5 year ARI peak discharge (as per industry practice the 2 year ARI has been adopted instead of the 1.5 year ARI)
Water Quality for stormwater runoff for the 3 month ARI storm	85%, 70% and 55% reduction in TSS, TP and TN loads respectively for new development will apply

Stormwater Quantity Assessment

The proposed detention basin strategy for the revised master plan maintains the same number of basins and locations as the previous strategy adopted for the site. However, all basins are proposed to be increased in size in order to accommodate the revised master plan densities and road layout, in addition to being raised to ensure they are free from/can safely manage 100-year mainstream flooding events. Readjusting the size of the basins is required to ensure storm quantity results remain consistent with the results under the previous approved strategy prepared by GHD in 2011.

In assessing the hydrological impacts of the proposed strategy, a RAFTS model was undertaken. Peak flows modelled indicate that all catchment locations will have a decrease in peak flow during the 2 year and 100 year ARI apart from the Menangle Park South Catchment. This is due to the increase in catchment area and because it has primarily been designed to undertake water quality functions rather than detention functions. Consistent with the approved detention strategy, some localised increases in peak flows continue to occur near the Nepean River, however this is associated with offsetting basin construction costs with environmental creek restoration works. No impact will be seen in the river and downstream from the increase in flows.

Stormwater Quality Assessment

MUSIC modelling was undertaken to demonstrate that the water cycle management strategy proposed can achieve the prescribed target percentages required for the reduction in post-development pollutants, as well as a Steam Erosion Index (SEI) as set out in Table 22.

As detailed in this report, the stormwater treatment strategy on site will accommodate a range of stormwater treatment elements (to be integrated with landscape areas throughout the site) in meeting the pollution reduction stretch targets. The strategy of co-locating bio-retention basins with detention basins will optimise the footprint required for drainage infrastructure. Gross Pollutant Traps proposed throughout the site will assist in the removal of gross pollutants and course sediment prior to stormwater reaching bio-retention systems. The MUSIC modelling results identify that proposed stormwater treatments will achieve the targets adopted for the site, in addition to the SEI targets.

Table 22 Treatment Targets and proposed stormwater treatment results (MUSIC result)

TREATMENT	TARGET	HOWES CREEK CATCHMENT	CATCHMENT M	CATCHMENT N/F	MENANGLE SOUTH CATCHMENT	CATCHMENT L
TSS % Reduction	85%	92%	92%	91%	94%	93%
TP (%) Reduction	70%	73%	75%	71%	78%	76%
TN (%) Reduction	55%	67%	66%	68%	70%	68%
Stream Erosion Index	1.0-2.0	The combination of maintaining the 2 year ARI discharge to existing levels combined with the treatment of water through WSUD devices will limit the SEI to between 1 & 2. SEI calculations will need to be shown during detailed design in the Development Application process.				

The RAFTS and MUSIC modelling demonstrate that adequate storm water quantity and effective storm water quality can be achieved on the site. The resizing and raising of basins has similar results to the original strategy approved, and the treatment train provided on site, substantially exceeding the prescribed treatment targets.

9.8 FLOOD MANAGEMENT

Catchment Simulation Solution were engaged by SMEC to provide a flood assessment and TUFLOW modelling in relation to the revised master plan and layout (a copy of this assessment is included in **Appendix I**). The modelling undertaken was based on the original flood model prepared by GHD for the original rezoning and adjusted as required to ensure accurate representation of flood behaviour across the site and wider area.

In assessing the revised master plan the following was incorporated into the revised TUFLOW flood model and tested simulating the 100-year ARI flood:

- Additional filling on developable land between Hume Motorway and the Railway Line to elevate the land above the peak level of the 1 in 100 ARI;
- Elevation of roadways within the master plan above the peak level of the 1 in 100 ARI;
- The Spring Farm Parkway embankment including the interchange/ramps at the Hume Motorway and Menangle Road; and
- The proposed detention and water quality basins within the terrain representation.

The updated model was used to simulate the 100-year ARI flood for "post-development" conditions. The outcome of modelling the revised master plan layout was that the proposed changes will not cause significant increases in peak 100-year flood levels on land located outside of the release area. There are some minor increases located east of the Hume Motorway as a result of the new ramps required for the Spring Farm Parkway interchange. It is anticipated that these increases can be mitigated by providing some compensatory storage upstream of the ramps and some more detailed flood modelling during the detailed design process.

Localised increases in flood levels can be accommodated by additional filling within the precinct to ensure minimum freeboards are met. The majority of the precinct is located above the PMF (probable maximum flood) however some of the lower lying areas will be inundated and people will be required to evacuate during these

rare events. Major roadways generally grade up and away from the major waterways and will serve as evacuation routes.

Filling within the floodplain will also be required to protect future sporting fields and amenities, however has not been considered as part of this assessment. Final levels will be determined during the detailed design stage, with the intent for playing fields to be elevated above the 20% ARI and synthetic fields above the 5% ARI, as per Council's requirement.

The modelling determined that the revised master plan will generate some increases (albeit minor) and decreases in flood levels, as well as change in flood extent (See Figure 33). The filling proposed will prevent inundation across habitable areas of the release area and internal roadways and it is predicted that the reduction in flood extents will displace some floodwater resulting in localised impacts. However these impacts are only considered minor (approx. 0.24metres) and could be accommodated by additional filling to ensure minimum freeboards are met.

Minor flood level increases located east of the Hume Motorway due to the new ramps are also anticipated at approximately 0.5metres, however is not considered to pose an adverse impact on any existing buildings or structures. Flood storage considerations as part of future detailed design of the ramps can assist in mitigating this impact.

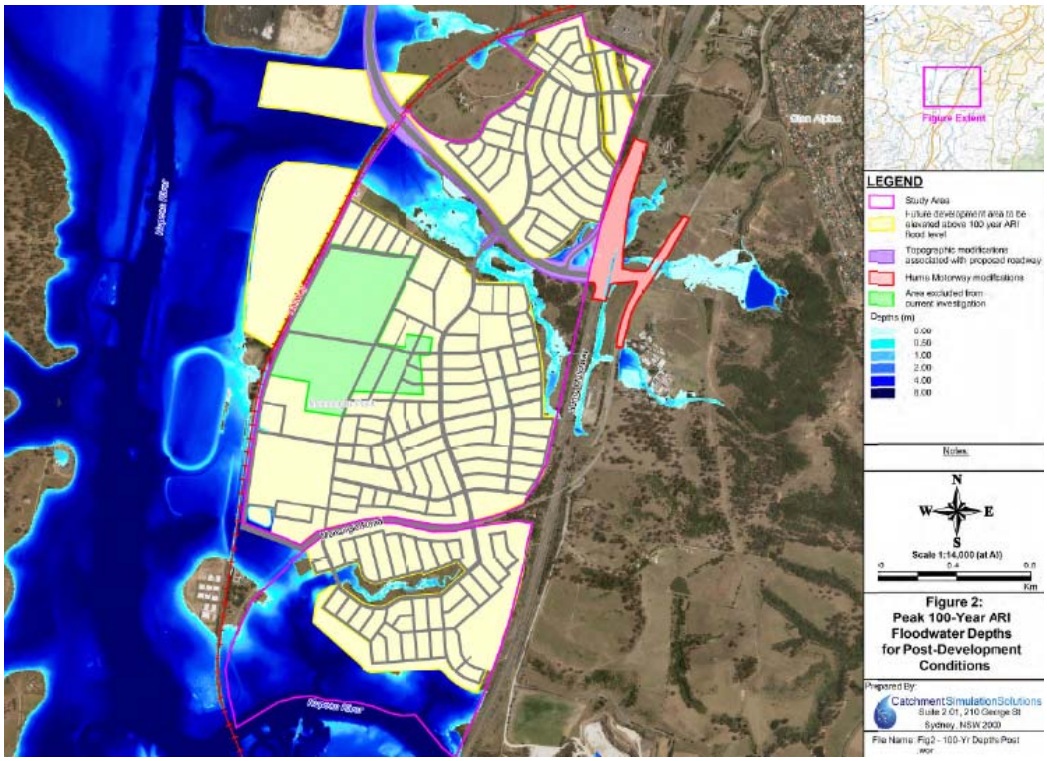


Figure 64 Peak 100-Year ARI floodwater depths for post-development conditions

The assessment concluded that majority of the precinct is located above the Probable Maximum Flood (PMF) however some of the lower lying areas will be subject to inundation, and residents/people required to evacuate during these rare events. A preliminary review of a potential evacuation strategy concluded that major roadways that generally grade up and away from the major waterways will be able to serve as evacuation routes.

However alternative measures such as refuge on elevated land may also be considered to ensure minimal risk to life. Flood evacuation will form part of future detailed civil design for the site and wider area.

9.9 ECONOMIC IMPACT ASSESSMENT

An Economic Impact Assessment (EIA) was undertaken by AEC to consider the appropriateness of the proposed master plan and to assess its economic impacts (a copy of the assessment is included in **Appendix P**). For the purposes of the assessment, the proposal's impact on the site and broader area has been undertaken as the potential impact of the proposal may extend beyond the boundaries of the master plan and/or land to which the planning proposal relates.

Key benefits

The key economic impacts of the revised master plan and planning proposal are significant:

- An additional 1,850 dwellings of a diversity of format and size, thereby catering to different household and lifecycle needs. A diversified housing product offer on the site results in wider market appeal, addressing need at a broader level than envisaged by the original master plan. A more diverse future community within the Menangle Park URA has positive impacts on supporting the viability not only of the centres proposed within Menangle Park but also of higher order centres such as Campbelltown CBD, Macarthur and Narellan. The range of housing opportunities envisaged to be provided on the site is vast - providing potential for apartments, terraces/townhouses, small lot housing, regular detached dwellings and larger rural/residential allotments.
- Additional economic activity generated on the site supporting:
  - more than $800m in output (including nearly $400 million in direct activity);
  - more than $400m contribution to gross regional product (including nearly $180 million in direct activity);
  - around $200m in incomes and salaries paid to households; and
  - approximately 2,700 full-time equivalent jobs including1,200 directly related to activity on the site.
- Additional economic activity generated during the construction period.
- The 1,850 additional households would accommodate and support economic activity not just on the site but in the broader Campbelltown LGA. Whilst the town centre and neighbourhood centre proposed will cater to most of residents' daily convenience needs and some weekly shopping needs, future residents and workers will be required to travel to centres such as Campbelltown and Narellan for comparison shopping and thereby strengthening the viability of these centres,
- Economic modelling indicates the additional household expenditure would support:
  - $120 million in output ($60 million in direct activity).
  - $70 million in contribution to gross regional product ($37 million in direct activity).
  - $35 million in incomes and salaries paid to households.
  - 567 full-time equivalent jobs (including 350 direct employees).

Suitability of the neighbourhood and town centre

Other than in inner city areas, the majority of patronage to centres is generally car-based. Locating the proposed town centre close to Spring Farm Parkway would ensure the first full-line supermarket and other early retailers are accorded the greatest opportunity to achieve their highest sustainable level and be able to open at

the earliest date. Over time, as additional facilities consolidate within the town centre they will collectively create the greatest strength of destination and retailing. Overall, viability and strength of the town centre is underpinned by the building of a critical mass of retailers, directly influencing the level of resultant economic activity when operational, consequently leading to greater employment outcomes.

In assessing the demand for retail employment uses within Menangle Park, the assessed sought to investigate the proposed non-residential/commercial floor spaces (based off the Greater Macarthur Land Use & Infrastructure Analysis (2015). The Greater Macarthur Strategy suggests a local centre comprised of approximately 20,000 m² to 30,000 m² of employment GFA. THE EIA adopted the Australian Retail Floor space Provision of 2.2 m^2, although is considered to be a conservative approach as it is unlikely that all the retail needs of local residents will be catered for locally within Menangle Park.

The EIA considers that demand for on-site retail floor space demand within Menangle Park will require 5,248 m² by 2021 increasing to 31,084 m² by 2041. As such, it is affirmed that a local centre of up to 30,000 m² including a retail component of 25,000 m² can be supportable after 2031. Upon the first stages of development, a centre of approximately 8,000 m² is likely to be supportable around 2022/23. In relation to the neighbourhood centre, a smaller facility of up to 3,000 m² would be supportable and could include an anchor supermarket/boutique fresh operation, up to 1,000 m² of speciality shops, as well as non-retail uses such as child care centre, medical centre facilities to contribute towards driving customer flow to the site.

The proposed location and integration of the neighbourhood centre with a future primary school provides additional retail choice to future residents in the south portion of the site. Additionally, the attraction of Club Menangle and associated facilities will leverage this new neighbourhood centre, drawing greater visitation to the area by providing visitors the opportunity to linger and patronise the shops therein. These are all positive economic impacts for Campbelltown.

Density and Diversification of Housing

The additional supply of 1,850 dwellings on site and provision of diverse lot product will drive a number of economic benefits. By providing greater diversity of housing stock, this will result in wider market appeal within Campbelltown, attract a range of buyers to the site, and will better address current housing needs and demand than the previous structure plan. Through greater housing choice, residential stability will be encouraged and enable people to 'age in place' and will assist with the enduring issue of housing affordability, whilst providing options for upgraders and downsizers seeking a more maintenance friendly, lifestyle-oriented product. These are both objectives of the greater Sydney regional plan and Western City District Plan.

The increased population catchment that will ensue as a result of the proposed development will ultimately result in increased economic activity directly within Menangle Park and the broader Campbelltown LGA. The increased population will contribute to the viability of the proposed neighbourhood centre, local centre on site, and surrounding higher order centres including Campbelltown CBD and Narellan.

9.10 MARKET ASSESSMENT

A Market Assessment has been prepared by Colleen Coyne Property Research (a copy of which is included in **Appendix P**. Key conclusions of this assessment are:

- Population projections indicate that newly developing areas in Camden and Campbelltown LGAs will attract high proportions of young families, while the Campbelltown-Macarthur Regional City Centre will have a high proportion of those aged 25-29 years.
- Analysis of the 2016 Census data indicates that the Greater Macarthur region has attracted migration from the north and east. This included the Liverpool, Canterbury-Bankstown and Fairfield LGAs and, for Camden LGA, Blacktown, Penrith, Cumberland and Parramatta LGAs.
- Despite high levels of migration from Campbelltown LGA to Camden and Wollondilly LGAs, from 2011 to 2016, Campbelltown LGA attracted 1,380 persons from Camden LGA and 662 persons from Wollondilly LGA.
- The majority of households who moved to the newly developing areas were either couple family with children or couple family without children households. The southern part of Park Central, with the highest proportion of apartments, was dominated by couple family without children (36.9%) and lone person households (24.0%). Mature aged and older households were most notable in the Macarthur Heights, Park Central-Macarthur Gardens and One Minto localities, and the Wollondilly and Camden LGAs.
- Now that the Sydney market has peaked, it seems likely the market correction for the new house and land market in the Greater Macarthur region will be characterised by lower take-up rates, but not a sharp fall in prices. This enhances the requirement for a flexible and dynamic approach to the product mix at Menangle Park, that provides a greater diversity of dwelling types and hence a wider range of prices.
- In a market characterised by rising prices, developers have maintained sales activity <$400,000 by increasing the proportions of lots <450 m^2. In the selected estates during 2015/17, there were 37% of courtyard lots of 450<550 m^2 and 10% of standard lots of 550<650 m^2. Almost half of the sales were of lots <450 m^2, including 11% of lots <350 m^2.
- Affordability is a key feature of many of the Greater Macarthur region estates, especially the urban renewal estates and those at Spring Farm.
- First home buyers often choose more affordable lots <450 m2s, while upgrade buyers may choose somewhat larger 500 m^2 lots. Buyers downsizing from acreage properties may chose 800 m^2 lots.
- The Menangle Park estate will be entering a competitive market. It is however considered that Menangle Park will benefit from the Spring Farm Parkway, with Stage Two proposed to provide a direct link with the Camden Bypass and The Northern Road, so that it becomes associated with the Camden LOA. Compared with the proposed Mount Gilead estate on Appin Road, it has the capacity to align with the higher socio-economic status of the Menangle Park corridor, associated with the Campbelltown-Macarthur Regional City Centre, as well as the upmarket Glen Alpine and Macarthur Heights localities.
- Typically the mix of buyer types for terrace style products has been investors, with more emphasis over recent months on first home buyers. Terraces with rear-lane studios are suited to intergenerational families, or those with older children at home, as well as investors seeking a dual-rental property.
- The majority of apartment projects reviewed in the Campbelltown-Macarthur Regional City Centre were dominated by two bedroom units. One bedroom units rent for less and have a reduced demand, so they have a lower appeal for investors. There is a small market from older downsizers for three bedroom apartments, with a preference for ground floor apartments.

- It is anticipated that the majority of buyers at Menangle Park will be couple families with children or couple families about to commence the child-bearing part of their lifecycle. In the southern part of Campbelltown LOA, over recent years, the main estates available to such buyers have been the urban renewal estates at One Minto, Newbrook and Hillcroft (attractive because of their affordability) or the ore upmarket Macarthur Heights. It is considered that Menangle Park should seek to position itself in the market between these extremes.
- In order to attract Campbelltown LGA buyers who might otherwise have relocated to Camden LGA estates, and to draw buyers from Camden and Wollondilly LGAs and from elsewhere in the Greater Sydney region, it is considered that in its marketing, Menangle Park needs to emphasise the following attributes:
  - its proximity, within a five-kilometre radius, to the Campbelltown-Macarthur Regional City Centre, with its retail, hospital, University, public transport and employment facilities;
  - the accessibility benefits of the future Spring Farm Parkway; and
  - the status conferred by Menangle Park's heritage and equestrian associations (notably Glenlee House and the Club Menangle Harness Racing facility).
- There is widespread evidence that the smaller lot types <450 m^2 and <350 m^2 have been accepted by the market, especially where there are existing or proposed high levels of amenity nearby. Such amenities include riparian corridors, sporting fields, schools and town centre facilities.
- It is considered that the Dahua Group needs to prioritise making a success of the Town Centre precinct, specifically the proposed Stage One retail component. This is expected to be completed at the same time as access is provided to the Spring Farm Parkway and Hume Highway ramps. The amenity of the Town Centre will provide the catalyst for the associated higher density dwellings in the form of the proposed terraces and apartments.
- While the majority of buyers at Menangle Park are likely to be young couples and families, the more diverse product mix in the current Masterplan on the Dahua Group's landholdings means that there will be greater housing choice. This is expected to result in a more di verse range of buyer types. This wider appeal will also assist in providing a range of price points and in maximising absorption levels.
- First home buyers will relocate over long distances to achieve affordability. At Menangle Park, the availability of public transport will enable such buyer to continue to commute to higher paid work outside of Campbelltown LGA, including in the Sydney Central Business District.
- The proximity of the Campbelltown-Macarthur Regional City Centre suggests there may be an opportunity to attract people moving from overseas, either returning to Australia or new migrants. The proportion of older buyers across the Menangle Park project may be relatively low, except perhaps for those downsizing from acreage properties.
- Terrace products are expected to attract a wide range of purchasers, including couple families with children, professional couples without children, one parent families and empty nester couples and singles. Some 40% of terrace products might be purchased by investors.
- The majority of apartment residents at Menangle Park will be one and two person households, and only around 20% families with children. While the three bedroom apartments may attract older couples downsizing and one parent families, these household types may also prefer some of the detached or terrace houses. It is likely some 60% of apartments would be sold to investors, as the amenity is expected to support the investment.

- The mix of product types in the Menangle Park Masterplan (within Dahua land holdings) is generally considered to be appropriate. Dahua will need to work closely with builders to ensure suitable end products are delivered to buyers.
- In order to enhance affordability, some detached houses should have three bedrooms, rather than the traditional four bedroom houses found in most new estates. These products may also appeal to one parent families, who may include divorcees with children still at home. This aspect can to some extent be encouraged by varying lot sizes for the detached dwellings.
- The town centre is envisaged as a mixed-use precinct around a destination retail/entertainment area, adjoining the riparian corridor just south of the Spring Farm Parkway. This is considered to be a superior location for the Town Centre than its previous location on Cummins Road, just north of Menangle Road.
- The town centre's currently proposed location is in keeping with a trend over recent years of developers recognising the importance of attracting trade from passing motorists and visitors to supplement expenditure by local residents. The mix of services and retail outlets is expected to provide greater amenity than would otherwise occur, supporting demand for the higher density products proposed.
- Current demographics suggest that terraces are expected to be more suited to a range of buyers and to achieve higher prices than apartments. It is however noted that apartments provide greater affordability and housing choice.
- It is considered that terraces should represent approximately 15% to 20% of the Dahua Group's proposed products and apartments approximately 10%. This mix should also maximise the net population density of the Town Centre and neighbourhood centre, given the likely higher occupancy rates of terraces, compared with apartments.
- While this mix is currently recommended, it is noted that as the area develops and demographics change, future market demand may change.
- In summary, the market dynamics and demographics of the southern part of Campbelltown LGA and the wider region indicate that the Dahua Group's land holdings at Menangle Park will support demand for a diverse range of dwelling types and price points. The introduction of medium and higher density products is expected to enhance affordability, as well as cater for various household types.
- Smaller lot sizes and dwelling types are supported by the proposed amenity in the Menangle Park Masterplan, particularly in the Town Centre, as well as the regional infrastructure (notably the extension of the Spring Farm Parkway) and proximity to the Campbelltown-Macarthur Regional City Centre.
- Over the lifetime of the Menangle Park development, market conditions can be expected to change. It will be important to adopt a flexible approach to implementation of the Masterplan in order to be responsive to changing market dynamics and demographics.

Economic Impact Assessment

Economic impacts of the base and proposal case were assessed using AEC's proprietary Input-Output (IO) model utilising indicators such as Output, Gross Product, Income and Employment, and is undertaken for the operational (I.e. post completion) and construction phases of the cases.

The key *net* economic impacts resulting from the proposal case includes the following:

- Economic activity generated on the site supporting:
- More than $800 million in output (including nearly $400 million in direct activity)
- More than $400 million contribution to Gross Regional Product (including near $180 million in direct activity)

- Approximately $200 million in incomes and salaries paid tot households
- Approximately 2,700 Full Time Equivalent (FTE) jobs, including 1,200 directly related to activity on the site.
- Economic activity generated during the construction period is accordingly greater than if developed under the Base Case

It is anticipated that the proposal would result in a *net increase* in economic activity, when compared to what would be expected to be supported in the base case.

The assessment also identified that the additional households proposed (i.e. 1,850) would provide more support for economic activity in the broader Campbelltown LGA with key beneficiaries including retails centres at Campbelltown CBD/Macarthur and employment precinct such as Ingleburn. Whilst the new centres at Menangle Park will cater to most of residents' daily convenience and some weekly shopping needs, they will still be required to travel to centres such as Campbelltown and Narellan for higher level shopping needs. This proposal would therefore contribute to strengthening the viability of these centres.

The EIA supports the introduction of a new local centre close to Spring Farm Parkway, as it will promote sustainability of the town centre. By locating the local centre further north of the site, it will enable a full-line supermarket and early retailers a significant opportunity for viability and for retailers to open at an earlier date. In addition, the proposed re-location of the neighbourhood centre close to Club Menangle, will enable the centre to leverage off this attraction whilst supporting local residents.

The following section details the findings of the economic impacts based on AEC's comparison of the base case, proposal 1 (P1) and proposal 2 (P2) during phases of operation and construction, as well as house hold expenditure.

Operational Phase

Upon completion of the development, the site is anticipated to generate ongoing economic/operational activity through direct turnover generated by retail, commercial and industrial operational activities. When compared to the base case, the proposal envisages a larger population base which would inevitably support greater levels of economic activity on the site, and the broader Campbelltown LGA. Table 23 below provides a comparison of the economic activity impacts across all cases, throughout the operational phase.

Construction Phase

Generally, construction activity draws in resources to areas. Whilst the impacts of construction are temporary and will cease upon construction completion, the proposal case (under both scenarios) will significantly contribute to the economic activity and impacts as it will require additional resources throughout the construction phase when compared to the base case. Table 24 below provides a comparison of the economic activity impacts across all cases throughout the construction phase.

Household Expenditure

Household expenditure is a direct result of the net increase in dwellings and population. In assessing household expenditure as a result of the proposed development, AEC identified the proportion of weekly household incomes spent across expenditure items based on the ABS Household Expenditure Survey (ABS, 2017c). This data was then applied to the average weekly household incomes in Campbelltown LGA and annualised. When compared with the base case of 3,400 dwelling, the additional dwellings on the site (i.e. 1,850) and increased population catchment would inevitably generate greater household expenditure and positive economic impacts on the site and local economy. Major beneficiaries would include retail trade (GRP of $20.7 million per year),

ownership of dwellings ($14.8 million) and financial and insurance services ($5.2 Million) Table 23 below provides the household expenditure impacts based on the net residential dwellings.

Table 23 Household expenditure

IMPACT	OUTPUT ($M)	GROSS REGIONAL PRODUCT ($M)	INCOMES ($M)	EMPLOYMENT (FTES)
Direct	$60.9	$37.5	$19.7	350
Type I Flow-On	$18.3	$8.7	$4.8	60
Type II Flow-On	$41.4	$24.2	$10.6	157
Total	$120.6	$70.3	$35.1	567

Table 24 Comparison of cases during the operational phase

IMPACT	OUTPUT ($M)			GROSS REGIONAL PRODUCT ($M)			INCOME ($M)			EMPLOYMENT (FTES)		
	Base	P1	P2	Base	P1	P2	Base	P1	P2	Base	P1	P2
Direct	$748.5	$1,133.0	$1,137.5	$333.6	$505.4	$508.6	$166.7	$252.9	$255.5	2,200	3,405	3,417
Type I Flow-On	$436.3	$657.8	$659.5	$190.5	$287.0	$288.0	$102.7	$154.6	$155.2	1,321	1,988	1,996
Type II Flow-On	$454.8	$687.8	$693.3	$265.4	$401.4	$404.7	$116.7	$176.5	$178.0	1,728	2,613	2,634
Total	$1,639.6	$2,478.6	$2,490.4	$789.5	$1,193.9	$1,201.2	$386.1	$584.0	$588.7	5,248	8,006	8,047

Table 25 Comparison of cases during the construction phase

IMPACT	OUTPUT ($M)		GROSS REGIONAL PRODUCT ($)		INCOME ($)		EMPLOYMENT (FTES)	
	Base	P1/P2	Base	P1/P2	Base	P1/P2	Base	P1/P2
Direct	$1,107.0	$1,515.4	$276.8	$377.9	$ 135.8	$185.4	2,295	3,142
Type I Flow-On	$945.5	$1,295.2	$398.8	$546.3	$240.6	$329.4	3,026	4,145
Type II Flow-On	$701.3	$960.3	$409.3	$560.5	$180.0	$246.5	2,664	3,648
Total	$2,753.7	$3,770.9	$1084.9	$1,484.6	$556.3	$761.3	7,985	10,936

9.11 SERVICES AND UTILITIES

A service infrastructure report prepared by SMEC is included at **Appendix R**. The report outlines the current strategy for developing infrastructure to support the proposed master plan, an indicative alignment and location of trunk lead-in reticulation for all utilities as well as identify additional infrastructure required to service the revised master plan. A summary of the following services is provided below:

- Sewer reticulation
- Potable water reticulation
- Electrical reticulation
- Telecommunications
- Gas reticulation

It is noted that Sydney Water is currently in the process of investigating sewer and water infrastructure options to service the broader Menangle Park URA. A preferred servicing concept and draft options report in due in the first quarter of 2019, and will need to be considered as part of future detailed plans for the site. Notwithstanding this, the current strategy for the site is as follows:

Sewer Reticulation

The site is not currently serviced by a sewerage system, aside from the existing village which is serviced by on-site sewerage systems. Sydney Water has identified two packages that are in the process of delivery and design:

- *Package 1 – Sewer Pumping Station (SP1185)*

  The first stage of wastewater infrastructure that provides a pumping station north of Fitzpatrick Road has recently been completed and is ready for operation. This infrastructure can service approximately 700 dwellings. The rising main from this pumping station extends to the north and connects to the Glenfield STP. This pumping station has the capacity to be upgraded (by adding additional pumps) as required by demand as new stages in the site's northern catchment are developed.

- *Package 2 – Anticipated delivery late 2020 (To be confirmed)*

  The second stage of development will align with the development of the southern catchment of the site. This package will include:

  - Sewage Pumping Station (SP1186) – south of Menangle Road; and
  - 1.9km rising main between SP1186 to SP1185

Figure 65 identifies the proposed indicative trunk wastewater system for the site.

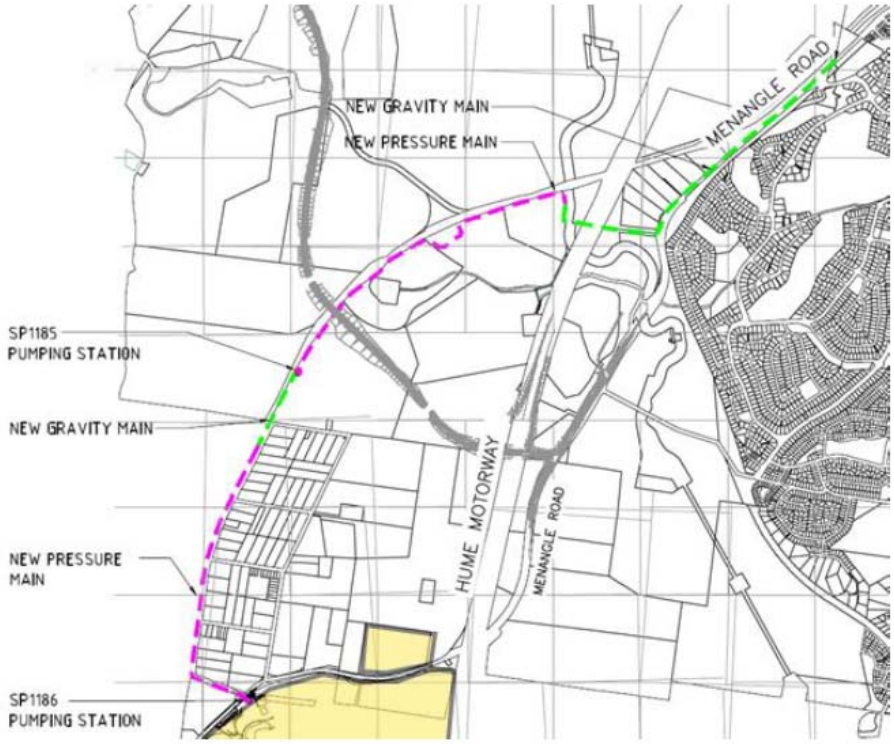


Figure 65 Indicative trunk wastewater system for Menangle Park

Potable water

The Macarthur Water Filtration Plant currently services Menangle Park, and has the capacity to service a further 700 lots within Menangle Park. Sydney Water also has another package servicing the broader Menangle Park area identified within their growth servicing plan (July 2014 – June 2019).

- *Package 2 – Critical delivery timeframe 2020:*

The Campbelltown South Water System will be extended to service the release area and capacity to cater for 6000 lots. The scope of works to support this include:

- 2.4km lead-in water main (DN375 – to be confirmed) adjacent to the Hume Motorway
- 810m lead-in main - distribution main (DN315)

Other locations for potable water lead-in infrastructure is being investigated as part of the broader Sydney Water investigation for the site including an alternative route along Menangle Road.

Electricity

A 330kv transmission line traverses the north-east corner of Menangle Park, in addition to two (2) 66kv lines. Existing overhead poles supplying power to Menangle Park has the capacity to service an additional 600 lots, and it is proposed that connections are made to the existing overhead poles to support the first two stages of the development. A second package to extend the connection includes:

- Package 2 – Proposed Zone Substation

Endeavour Energy is undertaking to a 66 kV feeder to service a zone substation to be located in the north west of the site. See Figure 37. Endeavour energy has commenced the planning approval process to carry out the substation. Dahua has also been in discussion with Endeavour Energy, and has committed to undertaking the bulk earthworks and construction of access for the substation. In the interim, a temporary zone substation will be provided at the beginning of 2019 and the planned substation constructed by 2020 and can service the remainder of the site.

Telecommunications

NBN has been installed to the existing Menangle Park area and can be extended to service this release area.

Natural Gas

Gas lines currently surrounding the site include the Sydney Moomba main natural gas pipeline runs through the northeast of the site. AGL also have a dual gas gathering well located in the north west of the site as well as a gathering line that runs along the western side of the Main Southern Railway. However, there is currently no existing gas reticulation network available in Menangle Park. The master plan can potentially be serviced through the construction of a 5.4km of lead-in gas main from Kellicar Road, along Menangle Road (entering the site either at Spring Farm Parkway or Cummins Road). Gas is considered to be a 'non-essential' service, and its provision on the site will be subject to a commercial decision by Jemena.

SECTION 10

Considerations in Accordance with the NSW Government's *Guide to Preparing Planning Proposals*

10. CONSIDERATIONS IN ACCORDANCE WITH THE NSW GOVERNMENT'S *GUIDE TO PREPARING PLANNING PROPOSALS*

The considerations to be assessed when preparing a planning proposal as set out in the NSW Government's Planning Proposal – A Guide to Preparing Planning Proposals (August 2018) are addressed in Table 26 below.

Table 26 Planning Proposal – A Guide to Preparing Planning Proposals (August 2018)

PROVISION	RESPONSE
Part 1 Objectives or intended outcomes	To amend Campbelltown LEP 2015 to enable the redevelopment of 507 ha site within the Menangle Park URA for a mixed new community, comprising: ❖ 5,250 dwellings (an increase of 1,850 dwellings); ❖ The relocation and expansion of a comprising 30,000m² of retail / employment gross floor area; ❖ A new neighbourhood centre (approximately 3,500m² of employment floor space); ❖ A revised road and street network to provide better permeability throughout the site; ❖ Sporting fields and parks; ❖ Integrated passive recreation area within a riparian corridor network; ❖ Land for environmental conservation; ❖ Community facilities to support the proposed increase to the population; and ❖ A primary school. The proposal involves amending the site's existing zoning boundaries and changes to development standards including building height, minimum lot size and FSR.
Part 2 Explanation of provisions	A detailed explanation of the proposed amendment is provided in Chapter 5 of this report, including identification of the following: ❖ Land to which the LEP amendment will apply; ❖ Proposed land use zones and justification for amendments; ❖ Amendments to principal development standards including minimum lot size, height of buildings, FSR and the provision of a site specific local provision relevant to the land to which the planning proposal applies; ❖ Density; and ❖ Land reservation and acquisition. Draft LEP maps are provided in Chapter 5 of this report.
Part 3 Justification	
Section A - Need for the planning proposal	

PROVISION	RESPONSE
Is the planning proposal a result of any strategic study or report?	The site was rezoned from rural to urban purposes in November 2017. It is situated within the Menangle Park URA, which forms part of the Greater Macarthur Growth Area. The proposed amendment has arisen as a result of the release of the NSW Government's Greater Sydney Region Plan – A Metropolis of Three Cities and the Greater Sydney 2056 – Western City District Plan (2018) which acknowledge the role of the Menangle Park URA as a significant contributor to provide more homes close to jobs.
Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?	Campbelltown LEP 2015 is the principal environmental planning instrument applying to the site. The Campbelltown LEP 2015 was prepared in accordance with the (Standard Instrument) and was gazetted on 5 October 2012. It is considered that a stand-alone planning proposal is the best means of achieving the objective and intended outcome for the site.
Section B – Relationship to Strategic Planning Framework	
Is the planning proposal consistent with the objective and actions of the applicable regional, sub-regional or district plan or strategy?	The planning proposal is consistent with the NSW Government's Greater Sydney Region Plan – A Metropolis of Three Cities and the Greater Sydney 2056 – Western City District Plan (2018). A detailed assessment of the proposal in relation to local and State strategic policies is provided in section 8.
Is the planning proposal consistent with Council's local strategy or other local strategic plan?	The planning proposal is consistent with the NSW Government's Greater Sydney Region Plan – A Metropolis of Three Cities and the Greater Sydney 2056 – Western City District Plan (2018). A detailed assessment of the proposal in relation to local strategic policies including Campbelltown 2027 – Community Strategic Plan and Re-imagining Campbelltown CBD – Sydney's Southern Gateway is provided in section 8 of this report.
Is the planning proposal consistent with applicable State Environmental Planning Policies?	A detailed discussion of the planning proposal in relation to relevant State Environmental Planning Policies is provided in section 8 of this report. These include: SEPP 19 – Bushland in Urban Areas SREP 20 – Hawkesbury-Nepean River SEPP 44 – Koala Habitat Protection SEPP 55 – Remediation of Land SEPP 65 – Design Quality of Residential Flat Development SEPP (Infrastructure) 2007 SEPP (BASIX) 2004 SEPP (Housing for Seniors or People with a Disability) 2004 SEPP Mining, Petroleum Production and Extractive Industries 2007 SEPP Exempt and Complying.
Is the planning proposal consistent with applicable Ministerial Directions (s.117 Directions)?	The planning proposal is generally consistent with the Section 9.1 Ministerial Directions (formerly referred to as s.117 Directions). A detailed discussion of the planning proposal in relation to its consistency is provided in section 8 of this report.

PROVISION	RESPONSE
Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?	A detailed discussion of the proposals impact of threatened species is provided in section 9 of this report. The proposal will facilitate the removal of up to approximately 57.25 ha of native vegetation from the study area. This includes the clearing of the following seven TECs listed under the TSC Act: Shale Plains Woodland (15.88 ha), Shale Hills Woodland (17.50 ha), Shale Hills Woodland (derived native grassland) (1.02 ha), Elderslie Banksia Scrub Forest (1.41 ha), River-flat Eucalypt Forest (14.25 ha), Swamp Oak Floodplain Forest (4.15 ha) and Freshwater Wetlands (0.53 ha). In relation to the site, the proposal will facilitate the removal of up to approximately 29.32 ha of native vegetation. This includes the clearing of the following seven TECs listed under the TSC Act: Shale Plains Woodland (9.14 ha), Shale Hills Woodland (9.18 ha), Shale Hills Woodland (derived native grassland) (1.02 ha), Elderslie Banksia Scrub Forest (0.87 ha), River-flat Eucalypt Forest (1.92 ha), Swamp Oak Floodplain Forest (4.15 ha) and Freshwater Wetlands (0.53 ha). Although the proposal will result in impacts on TECs listed above, such areas are primarily comprised of small isolated patches that are exposed to a high degree of edge effects and are degraded. Nevertheless, it is expected that impacts to TECs will require compensation/offsetting measures. Such measures may include the establishment of BSSs, the purchase and retirement of ecosystem credits, payment into the Biodiversity Conservation Trust and/or revegetation/rehabilitation works (only applicable to DAs being assessed under the TSC Act). Approximately 64.39 ha of native vegetation will be retained within the study area. This includes the following TECs: Shale Plains Woodland (14.15 ha), Elderslie Banksia Scrub Forest (1.29 ha), River-flat Eucalypt Forest (30.18 ha), Swamp Oak Floodplain Forest (5.89 ha) and Freshwater Wetlands (10.60 ha). Approximately 43.96 ha of native vegetation will be retained within the site. This includes the following TECs: Shale Plains Woodland (14.15 ha), Elderslie Banksia Scrub Forest (1.29 ha), River-flat Eucalypt Forest (9.75 ha), Swamp Oak Floodplain Forest (5.89 ha) and Freshwater Wetlands (10.60 ha). Areas of native vegetation to be retained are primarily within riparian areas that consist of the largest patches of native vegetation within the study area and site. These areas are typically in better condition than areas to be removed and also provide connectivity to other areas of habitat. Additionally, the largest patch of Elderslie Banksia Scrub Forest within the study area will be retained, along with areas immediately adjacent to this patch that are proposed to managed and regenerated to adequately offset impacts to smaller patches of the community proposed to be removed. In addition to the native vegetation to be removed/retained, large areas of exotic vegetation and cleared Land (most of which has been previously cleared) and artificial dams will removed. The removal of such areas are unlikely to have a significant impact on the biodiversity values of the study area or greater

PROVISION	RESPONSE
	locality as they are unlikely to offer important habitat for any threatened species considered to occur in the locality. The proposal will remove suitable habitat for threatened species previously recorded within the study area or that are considered to have the potential to occur within the study area; however, the habitat to be removed primarily consists of small isolated patches that are exposed to a high degree of edge effects. The most suitable habitat for threatened species within the study area is considered to be within the larger tracts of vegetation contained within the riparian areas that are to be largely retained under the proposal. As such, future development within the study area under the proposal is considered unlikely to have a significant impact on any threatened species predicted to occur with the study area based on the survey and database data collected to date. With consideration of the above, it is expected that potential impacts to the biodiversity values of the study area as a result of future development under the proposal can be adequately offset for through the implementation of appropriate compensation measures as required under either the TSC Act or BC Act. These compensatory measures include: ❖ Establishment of Biodiversity Stewardship Sites (BSS) managed under a Biodiversity Stewardship Agreement (BSA) under the BC Act; ❖ Purchase and retirement of ecosystem credits; and ❖ Revegetation /rehabilitation works.
Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?	An environmental assessment of the planning proposal in relation to the following factors has been considered: ❖ Ecology ❖ Traffic and Transport ❖ European Heritage ❖ Aboriginal Heritage ❖ Social Infrastructure ❖ Contamination ❖ Acoustic ❖ Water Cycle Management and Flooding ❖ Economic assessment ❖ Services and Utilities In summary the planning proposal does not result in any significant environmental effects (refer to detailed discussion in section 9 of this report).
Has the planning proposal adequately addressed any social and economic effects?	The planning proposal has a number of positive social and economic effects, namely: **Social Impacts** ❖ delivery of additional 1,850 residential dwellings in South West Sydney, in close proximity to jobs, open space and transport; ❖ provision of housing diversity for a full range of household types and lifestyle preferences;

PROVISION	RESPONSE
	❖ creation of an environment that provides access to public and private spaces and promotes healthy lifestyles, facilitating a vibrant, robust, sustainable community; ❖ public benefits including additional public open space, sporting grounds, community centre; and ❖ Provision of physical and social infrastructure to the site. **Economic Impacts** ❖ Provision of retail floor space including supermarket and retail specialty in a new town and neighbourhood centre; ❖ Retail centre in close proximity to higher density residential; ❖ Economic activity generated on the site supporting: - More than $800 million in output (including nearly $400 million in direct activity) - More than $400 million contribution to Gross Regional Product (including near $180 million in direct activity) - Approximately $200 million in incomes and salaries paid tot households - Approximately 2,700 Full Time Equivalent (FTE) jobs, including 1,200 directly related to activity on the site. ❖ Increase employment opportunities during the roll out and construction phase; ❖ increase the demand for local employment opportunities from the additional 1,850 households located with the Menangle Park URA; and ❖ During construction and once completed generate additional economic activity both locally and outside of the area.
Is there adequate public infrastructure for the project?	There is adequate public infrastructure to support the planning proposal. A detailed discussion in relation to public infrastructure is provided in section 9 and the Infrastructure Services Assessment, prepared by SMEC and included at **Appendix R**. An assessment of the proposal in relation to required social infrastructure and open space, traffic and transport upgrades is detailed in this report, respectively and **Appendices N** and **M**, respectively.
What are the views of State and Commonwealth public authorities consulted in accordance with the Gateway Determination?	Consultation with the following authorities and agencies has been undertaken: ❖ Sydney Water ❖ Department of Planning and Environment; ❖ NSW Roads and Maritime Services; ❖ NSW Department of Education and Training; ❖ NSW Office of Environment and Heritage ❖ Menangle Park Paceway and Club Menangle; ❖ Broughton Anglican College; ❖ The Australian Botanic Gardens; ❖ Department of Industries; and

PROVISION	RESPONSE
	❖ Mine Subsidence Board. ❖ Further consultation with State and Commonwealth agencies will be undertaken in accordance with s.3.34 of the EP&A Act.

SECTION 11

Conclusion

CONCLUSION

The planning proposal presented in this report has been prepared to support an amendment to Campbelltown LEP 2015 on behalf of Dahua. The land to which the planning proposal relates and site includes all land owned or under the control of Dahua within the Menangle Park Urban Release Area (URA) and six (6) additional properties on the eastern side of Cummins Road owned or under the control of other landowners.

The proposed amendments come about as a result of Dahua's aspirations to re-imagine Menangle Park, to create a better and more resilient place, to cater for a range of different lifestyles, implement best practice planning and urban design, facilitate better investment in infrastructure and to provide additional housing and jobs on the site, that better meet the needs of the market.

The planning proposal is supported by a revised master plan which comprises:

- Approximately 5,250 dwellings (an increase of 1,850 dwellings) in a range of densities, lot sizes and dwelling types to suit first home buyers, families, single person households and key workers;
- A new town centre comprising 30,000m^2 of retail / employment gross floor area within the northern portion of the site, adjacent to Howes Creek and open space, and close to Spring Farm Parkway;
- The introduction of a new neighbourhood centre adjacent to the new school and open space (approximately 3,500m^2 of retail floor space);
- A revised road and street network to provide better permeability throughout the site including a new 7.6 - 9.6 m wide north-south green active transport link (approximately 1.25ha in total area);
- 134.81 ha of open space comprised of active and passive open space consisting of sporting fields, local parks and pocket parks and riparian corridor network;
- 43.96 ha of land for environmental conservation;
- Community facilities to support the proposed increase to the population; and
- A two (2) ha primary school adjacent to the neighbourhood centre and one (1) ha of open space.

There are sound planning reasons to support the proposed rezoning of the site, particularly when investment certainty, housing affordability and land supply are key issues of concern at every level of government. The project is consistent with and will assist in the delivery of key outcomes of the Metropolis of Three Cities, the Western City District Plan and the Greater Macarthur Land Release Investigation Preliminary Strategy and Action Plan by contributing to the supply to market of appropriately located land to sustainably accommodate the projected housing and employment needs of the region's population.

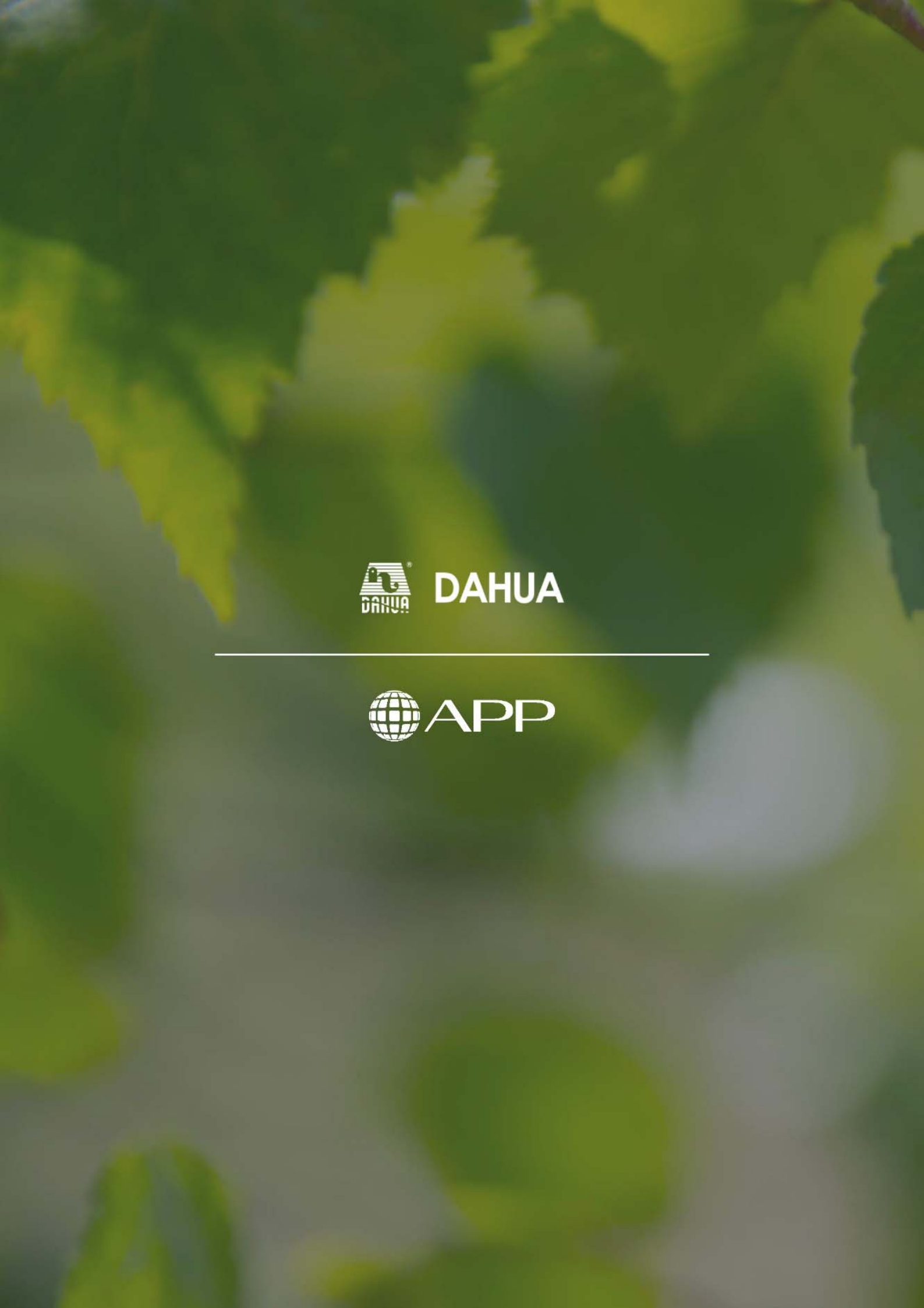
The planning proposal will deliver a range of densities, lot sizes and dwelling types and create a diverse community that is demographically balanced. The variety of housing forms will provide opportunities to respond to changing life cycle, lifestyle and work requirements over time, enabling people to age in place.

As demonstrated throughout the planning proposal, the proposed development will not result in any significant adverse environmental, social or economic impact. Environmental impacts with respect to flora and fauna, transport and accessibility, bushfire, contamination, social and community impacts, utility servicing, and European and indigenous heritage are demonstrated to be appropriately managed.

The planning proposal outlines a biodiversity strategy that will secure the conservation of selected native vegetation on the site, provides a commitment to undertake re-vegetation and improvement works of retained areas of native vegetation though the preparation and implementation of vegetation management plans (which have already being submitted to Council) as well as the establishment of biodiversity stewardship sites and the purchase and retirement of ecosystem credits.

The planning proposal is considered worthy of Council's support.

APPENDICES


DAHUA
APP