



General Manager  
Camden Council  
PO Box 183,  
Camden NSW 2570

Attn: Heath James, Strategic Planning Branch

28 May 2019

**Re: Request to Amend Camden Development Control Plan 2011**

Dear Heath,

As you are aware, we act on behalf of SH Camden Lakeside Pty Ltd, being the owners of land at 50D Raby Road, Gledswood Hills (Lot 101 DP 1206855) – more commonly referred to as the residential portions within the Camden Lakeside precinct.

We refer to our meeting of 24 May 2019 in relation to the abovementioned matter. As discussed at our meeting, we understand that our submission to the exhibition of the Draft Camden Development Control Plan 2018 (draft DCP) dated 12 April 2019, is considered beyond the scope of the Housekeeping DCP amendment, and that Council would prefer a separate DCP amendment request be submitted.

In this respect, we write to request an amendment to the Camden DCP 2011. The key objective of this submission is to seek an amendment to the existing 380 dwelling capacity provision under Camden DCP 2011 applying to Camden Lakeside (which is proposed to remain in the draft DCP, currently on exhibition).

This capacity is a remnant of the 2009 rezoning, is inconsistent with contemporary greenfield densities and will require unnecessarily large lots to be delivered on the site. These large lots are not affordable within the context of the south-west market and have the potential to compromise the ongoing delivery of the project and the ability to contribute to the much needed housing supply in the Sydney metropolitan area.

In this context, this submission seeks to increase the capacity of the site to a maximum of 550 dwellings, which will enable the delivery of densities more consistent with those being achieved in the South West Growth Centres precincts, and other Camden Council governed land releases, and will allow the delivery of lots consistent with other greenfield projects in terms of lot sizes and prices.

The submission also identifies that there are a number of figures within Part C11 of the Camden DCP 2011, being the Lakeside site specific provisions, that should be amended to reflect the following:

- The approved entry road location opposite Emerald Hills Boulevard;
- The approved road connection at the south-west corner of the site;
- Water NSW's requirements for a perimeter road adjacent to the Water Supply Canal;
- The correct shape of Precinct 1; and
- The proposed pedestrian/cycleway connection through the Gledswood site is not required.

These concerns are addressed in the attached submission and are supported by the attached documents:

- Attachment 1: Indicative Subdivision Plan illustrating the 380 dwellings
- Attachment 2: Indicative Subdivision Plan illustrating the 380 dwellings, but inclusive of DA No. 2018/969/1 proposal
- Attachment 3: Indicative Subdivision Plan illustrating a proposed yield of 550 dwellings
- Attachment 4: Open Space Analysis prepared by GLN Planning Pty Ltd
- Attachment 5: Traffic Impact Analysis prepared by SCT Traffic Engineers Pty Ltd
- Attachment 6: Infrastructure Analysis prepared by Enspire Solutions
- Attachment 7: Visual Impact Analysis prepared by LFA

Should you wish to discuss any of the above matters, please do not hesitate to contact me on (02) 9380 9911.

Yours sincerely



Michael Baker  
Director

# Submission

## 1.0 Introduction

This submission is a request to amend Part C11 of the Camden DCP 2011, being the Camden Lakeside site specific provisions, to amend the nominated 380 dwelling capacity of the site to 550 dwellings and other minor amendments.

The key concern relates to the provision that identifies the capacity of Camden Lakeside is 380 dwellings. This provision originates from the rezoning of the site in 2009, however such a requirement results in an average lot size considerably larger than the current housing market trends for greenfield urban land subdivisions, with associated implications to housing affordability and housing supply. In this context, this submission seeks to amend the capacity provision of the DCP.

There is also a need to update the existing DCP Figures to better reflect existing development consents and other government department requirements.

## 2.0 The Site

This submission relates to land legally described as Lot 101 DP 1206855 at 50D Raby Road, Gledswood Hills. The land currently forms part of the land more commonly known as Camden Lakeside. The site essentially is six (6) residential zoned precincts set within the surrounding Camden Lakeside golf course, as illustrated in Figure 1.



Figure 1: Camden Lakeside Precinct Layout

Development Consent No. 967/2010 was issued on 14 December 2010 and granted consent to the construction of a new entry road and boundary adjustment within the site. This consent has been activated and construction is imminent.

Development Application No. 2018/969/1 proposes the redevelopment of Precinct 1 and proposes the delivery of 165 dwellings in a mix of residential flat buildings and attached and detached dwelling products. This DA is currently under assessment.

### 3.0 Site Capacity

#### 3.1 Existing Control

Part C11.1 is the Introduction section to the site specific controls for Camden Lakeside. This section of the DCP describes the site, outlines the planning principles and describes the design structure/indicative layout for future development across the site. The last line of this description reads:

*"The capacity of the Camden Lakeside site is 380 dwellings."*

Under the heading *Subdivision Design* within Part C11.1, it is noted that Objective 1 is:

1. *Establish a framework for the provision of a diversity of dwelling types, including options for seniors living, multi dwelling housing and residential flat buildings in Precinct 1.*

Similarly, Control 1 states:

1. *The subdivision pattern for Camden Lakeside shall provide for a diversity of dwelling types (attached and detached) with lot sizes ranging from small lot residential (250m<sup>2</sup> to 450m<sup>2</sup>) to standard lot residential (450m<sup>2</sup> to 850m<sup>2</sup>) and large lot residential (850m<sup>2</sup> +)*

It is evident from these controls, that whilst the Introduction of the DCP describes that the site has a capacity of 380 dwellings, the DCP seeks a mix of both dwelling typologies and lot sizes across the site.

#### 3.2 Background to Control

Camden Lakeside was rezoned in 2009, however the process began in 2004, shortly before the release of Metropolitan Strategy in 2005, which identified the creation of Sydney's South West Growth Centre.

From our review of the Camden Lakeside Local Environmental Study (LES) dated November 2007, the site at the time of the rezoning, was identified as having an important tourism and economic role in the Camden community, with parts of the site considered to have high scenic value, high ecological constraint, but much of the site low ecological value due to the modified nature of the golf course. The primary drivers of which areas may be suitable for development were the need to protect the heritage objectives of the neighbouring Gledswood site and the landscape and visual objectives of the Central Hills area, as it was then known.

In terms of density or yield across the site, the LES does not provide any assistance on the background behind the 380 dwelling cap, or any discussion on densities of dwellings across the site. It appears to be purely based on a masterplan prepared by LFA which identifies that 380 dwellings are achievable, comprising 300 lots and 80 medium density dwellings.

This represents a density of 12 dwellings per hectare.

#### 3.3 Draft DCP Controls

We note that this provision is proposed to be retained under the Draft DCP recently exhibited, retains the existing statement that *"The capacity of the Camden Lakeside site is 380 dwellings"*. However, it is noted that this statement along with the full description of the masterplan has now been moved from the Introduction to Section 2 titled *Subdivision Planning and Design*. Under the heading 2.1 Neighbourhood and Subdivision Design.

#### 3.4 Surrounding Context

Since the commencement of the rezoning process in 2004 and rezoning of the site in 2009, there has been a significant change in the surrounding context. This includes:

- Release of the Turner Road and Oran Park Growth Centre Precincts in 2007. These precincts are subject to minimum 12.5 to 15 dwellings per hectare density requirements for the R1 General Residential zoned land.
- Rezoning of the El Caballo Blanco, Gledswood and East Side Lands site in 2013, which will deliver approximately 860 detached dwellings to the south-east and south-west of the site. The vast majority of this precinct is either currently under development or has already been developed and dwellings have been delivered.
- The Emerald Hills site immediately to the north of Camden Lakeside was rezoned in 2014. This rezoning will ultimately deliver approximately 1200 dwellings and importantly includes the construction of a Neighbourhood Centre on the Raby Road frontage immediately opposite the site. Again, a significant proportion of this site is under construction with a significant number of dwellings already constructed and occupied. This site is subject to a maximum dwelling density of 15 dwellings per hectare.
- The Catherine Fields Part Precinct was rezoned in 2013. This Growth Centre Precinct will deliver approximately 2800 dwellings to the south-west at a predominate density of 15 dwellings per hectare.
- Further to the west in the suburb of Bringelly, the Lowes Creek Maryland Precinct was released for urban development in 2015. The draft Precinct Plan was exhibited in late 2018 and is yet to be finalised. It is noted that a large proportion of the precinct is to be Low Density residential at a range of 15 to 25 dwellings per hectare.
- Endorsement of the rezoning of the site at 190 Raby Road, Gledswood Hills further to the south-east. This rezoning will deliver a further 260 dwellings in a range of lot sizes across land to be zoned R1 General Residential, R2 Low Density Residential and R5 Large Lot Residential. The density of the proposal is approximately 6 dwellings per hectare, but this is largely a function of site constraints.
- Camden LEP 2010 (Amendment No.42) was endorsed by Council on 27 March 2019. This Planning Proposal sought an amendment to the height control applying to part of the Camden Lakeside site to accommodate a seven (7) storey hotel.

It is evident that the context of the Camden Lakeside site has significantly altered since the rezoning of the site back in 2009. Significant urban development has been permitted to occur on all sides of the Camden Lakeside site and through the release of the surrounding Growth Centre precincts. Furthermore, Council have endorsed an amendment to the height controls on the site itself to permit the construction of a seven (7) storey hotel.

It is also evident from these urban releases that there has been a significant shift in the housing densities ranges within the south-west region over the past decade. The low density range has shifted from 12.5 to 15 dwellings per hectare (2007), 10 to 20 dwellings per hectare (2013), 15 dwelling per hectare (2014) to 15 to 25 dwellings per hectare under the draft Lowes Creek Maryland Precinct Plan.

This increase in density within the low density range is indicative of the reduction in the average lot sizes across the precincts over the last decade. The 2018 Lowes Creek Maryland Precinct Plan Discussion Paper identifies that the most popular lot size for the broader south-west region is 250-350m<sup>2</sup>, with smaller lots (225-300m<sup>2</sup>) becoming more common.

### **3.5 Density Analysis**

#### Capacity of 380

As identified above, the current provision identifying the capacity of the Camden Lakeside site at 380 dwellings, represents a density of 12 dwellings per hectare. This is a very low density by both Camden DCP and current urban release area standards given the SEPP (Sydney Region Growth Centres) 2006 and associated Development Control Plans identify that 12.5 – 20 dwellings per hectare is low density.

A further indicator of this is that a yield of 380 across the site represents an average lot size of approximately 537m<sup>2</sup> throughout the six (6) precincts. This is illustrated in the indicative Subdivision Plan

at Attachment 1. However, it is important to note that this does not deliver a mix of housing typologies within Precinct 1 as required by the DCP, nor a mix of lot sizes throughout Precincts 2-6 as required by the DCP.

If a mix of lot sizes and housing typologies is provided across the site as per the requirements of the DCP, as proposed under Development Application No. 2018/969/1 applying to Precinct 1 of Camden Lakeside, the current capacity provision of 380 dwellings will limit the remainder of the site to a further 215 dwellings i.e. within Precincts 2 to 6. The 215 lots within these precincts would have an average lot size of 770m<sup>2</sup>. This is illustrated in the indicative Subdivision Plan at Attachment 2. Development of Precincts 2 to 6 with 215 lots at an average lot size of 770m<sup>2</sup> is not viable within the current market, as the larger lot size results in prices that become unaffordable within the context of the south-west market.

If a range of lot sizes was provided in accordance with the DCP controls, throughout Precincts 2 to 6, there would be a significant proportion of lots above 770m<sup>2</sup>. For every (250m<sup>2</sup> to 450m<sup>2</sup>) lot required to be provided within the remaining precincts, an equal number of larger lots (800m<sup>2</sup> to 1,000m<sup>2</sup>) lots would equally be required to be provided. Such larger lots are contrary to market trends in the south-west and will be unaffordable, compromising competitiveness, sales rates, ongoing delivery of the project, and the ability to contribute to the much-needed residential housing supply in the Sydney metropolitan area

## 4.0 Proposed Amendments

### 4.1 Capacity Increase to 550 dwellings

In view of the constraints of the existing and draft DCP provisions and Council's exhibition of the Draft DCP, we are requesting an amendment to the Camden DCP 2011 to increase the capacity of the site to 550 dwellings. This capacity represents approximately 17 dwellings per hectare across the site, which is still well within with the low density range of 12.5 – 20 dwellings per hectare of the Growth Centres.

Total yield in the ultimate scenario with 550 lots is proposed in Table 1.

Lakeside Precinct	Proposed Development Yield
1	165
2	66
3	32
4	141
5	110
6	36
<b>Total Yield</b>	<b>550</b>

The increase in yield would not require any amendments to the existing Camden LEP 2010 provisions and can be achieved within the existing R1 General Residential zoned land and will comply with the minimum lot size requirements.

#### 4.1.1 Strategic Context

##### A Metropolis of Three Cities

The Greater Sydney Region Plan, A Metropolis of Three Cities ('the Plan') is the plan prepared by the Greater Sydney Commission to guide the growth, land use and transport patterns of the Sydney Region over the next 40 years. The Plan is built on a vision of three (3) cities where most residents live within 30 minutes of their jobs, education, health facilities and services.

Ten (10) Directions for Greater Sydney establish the aspirations for the region over the next 40 years and are a core component of the vision and a measure of the Plan's performance. These directions are:

- A city supported by infrastructure;
- A collaborative city;
- A city for people;
- Housing the city;
- A city of great places;
- A well-connected city;
- Jobs and skills for the city;
- A city in its landscape;
- An efficient city;
- A resilient city; and
- Implementation.

To meet the needs of a growing and changing population, and to achieve a '30-minute City', the vision seeks to transform Greater Sydney into a metropolis of three cities:

- The Western Parkland City;
- The Central River City; and
- The Eastern Harbour City.

The vision seeks to bring together land use and transport patterns to boost Greater Sydney's liveability, productivity and sustainability by spreading the benefits of growth.

The Camden LGA is located within the area referred to as the Western Parkland City. This City will be based around the delivery of the new international Western Sydney Airport and Badgerys Creek Aerotropolis. It will be a polycentric city capitalising on the established centres of Liverpool, Greater Penrith and Campbelltown-Macarthur. The Camden Lakeside site is centrally located between the proposed Aerotropolis and Campbelltown Macarthur.

The proposed uplift to the Camden Lakeside site is consistent with the policy objectives of the Plan by providing new communities close to centres, neighbourhoods with fine grain fabric and human scale, set within the landscape of the surrounding golf course, promoting healthy lifestyle. Furthermore, with the development of the Emerald Hills Neighbourhood Centre to the north, the increased yield increases the walkable access to the neighbourhood centre.

### Western City District Plan

The Greater Sydney Commission has also released the five (5) District Plans that support the implementation of A Metropolis of Three Cities at the local level.

These 20-year plans are a bridge between regional and local planning. They inform local environmental plans, community strategic plans and the assessment of planning proposals. The District Plans also help Councils to plan and deliver for growth and change, and to align their local planning strategies to place-based outcomes.

The District Plans contain four (4) key themes of infrastructure and collaboration, liveability, productivity and sustainability. Ten directions for Greater Sydney guide the delivery of the themes in a balanced way with planning priorities and actions to achieve results that provide a great quality of life for people in the District.

The Western City District Plan applies to the Camden local government area.

Planning Priority W5 of the Plan is the key planning priority in relation to the development of the Camden Lakeside site and states:

*“Providing housing supply, choice and affordability, with access to jobs, services and public transport”*

Planning Priority W5 has the following two objectives:

Objective 10: *Greater housing supply*

Objective 11: *Housing is more diverse and affordable*

The proposed uplift in the capacity of the Camden Lakeside site is consistent with this Planning Priority and its objectives, as it ensures a greater housing supply being delivered and ensures that more diverse housing and affordable housing is provided. The increase in yield will contribute to the delivery of the 11,800 dwelling housing target for the Camden LGA over the period of 2016 to 2021. The increased yield will deliver the principles of the housing strategies, facilitating a range of housing types and mix of sizes.

#### **4.1.2 Other Considerations**

##### Open Space

An open space analysis of the proposed yield uplift has been undertaken by GLN Planning Pty Ltd (refer to Attachment 4). The analysis identifies that the local open space required for the Lakeside development would be around 6,600m<sup>2</sup>. This could be in the form of 1 or 2 parks, with all open space to be within 400 – 500m walking distance of all dwellings.

The subdivision concept plan at Attachment 3 proposes to deliver approximately 10,360m<sup>2</sup> of open space, readily demonstrating that the quantum of open space required by the proposed yield uplift could be readily achieved on the site. Furthermore, we are advised that Sekisui House is open to discussions with Council on any specific play space features or themes (such as water parks) that can be incorporated into open space areas, based on an assessment of local demands and preferences.

##### Traffic

A Traffic Impact Assessment for the proposed yield uplift has been prepared by SCT Traffic Engineers (refer to Attachment 5). This assessment concludes that the additional yield of 170 dwellings introduces an addition of less than 50 vehicle trips into Camden Valley Way/Raby Road intersection during the peak hours. This is less than 1% increase in the overall volume entering the intersection and therefore, has very minimal impact to the intersection. There is no change in the level of service at this intersection between the base case (380 dwellings) and the additional yield now proposed.

In addition to the above, the report concludes that the additional demand at the intersection of Raby Road/Emerald Hills Drive/Lakeside entry road will have negligible impact to the operational efficiency of this intersection, with the Level of Service remaining the same between the base case (380 dwellings) and a yield of 550 dwellings.

##### Infrastructure

A Stormwater and Infrastructure Services Assessment has been prepared by Enspire Solutions (refer to Attachment 6). This assessment confirms that the proposed additional yield can be appropriately serviced.

##### Visual Impact Assessment

A Visual Impact Assessment (VIA) of the proposed yield uplift has been prepared by LFA (refer to Attachment 7).

The VIA has revisited and made an assessment from, the 16 vantage points identified in the LFA 2006 Landscape and Visual Assessment (prepared for the original rezoning of the Camden Lakeside site), plus two new assessment points within the recent development on the El Caballo Blanco and Gledswood sites.

The VIA makes the following key points in the assessment of the visual impact of the proposed uplift:

- Substantial urban development has occurred in the surrounding area between 2009 and 2018, including major upgrades to Camden Valley Way and Raby Road.
- Views into the Camden Lakeside are experienced predominantly from vehicles travelling south along Camden Valley Way and along Raby Road.
- Views from Vantage Points 1 to 7 are largely obstructed by existing vegetation and as a result of this vegetation and noise mound requirements under the DCP along the western edge of Precinct 2, there will be no discernible difference under the proposed uplift.
- Development within Precinct 1 is likely to be visible from Vantage Points 8 to 12, but given the changing character of Raby Road with urban development to the north, being the residential and retail uses within Emerald Hills, development will be less prominent.
- The proposed uplift in development would either not affect or would not be discernible from the remaining vantage points.

The assessment concludes that the proposal will not result in a substantive change to visual impacts given that the identified zoned residential development pockets remain constant, building height controls will be maintained and built form will reflect detached and terrace housing apart from Precinct 1 which includes low rise apartments.

The changes reflect in large part the reduction in residential lot size over the 2009- 2018 period and the subsequent increase in dwelling density in surrounding areas consistent with the urbanisation of the South West and the implementation of the Growth Centres.

## **4.2 Required DCP Figure Amendments**

The current DCP Figures within Part C11 of the Camden DCP 2011 need to be updated to reflect current approvals and associated issues. The required amendment are listed under each Figure heading.

### **4.2.1 Figure C60: Camden Lakeside Masterplan**

The following amendments are required to Figure C60 and have been highlighted on an extract of the Figure:

- Amend Raby Road entry location to reflect existing Development Consent No. 967/2010. This consent approved the first 250m of the entry road and has been activated and construction of the road is imminent;
- Amend Road connection to Gledswood Development to reflect existing approved subdivision on the Gledswood site and the road connection provision at the south-west corner of the site;
- Amend shape of Precinct 1 to reflect the residential zoned land;
- Amend internal road layout of precincts 4 and 5 to reflect Water NSW's requirements for perimeter road adjacent to the Water Supply Canal, such that it is consistent with the provisions contained within Part C12.9 which relates to the adjoining El Caballo land where it fronts the Canal.



**4.2.2 Figure C61: Camden Lakeside Indicative Road Structure**

- Amend Raby Road entry location to reflect Development Consent No. 967/2010;
- Amend Road connection to Gledswood Development;
- Amend shape of Precinct 1 to reflect the residential zoned land;
- Amend internal road layout of precincts 4 and 5 to reflect Water NSW's requirements for perimeter road adjacent to the Water Supply Canal.

**4.2.3 Figure C62: Pedestrian and Cycle Network**

- Amend proposed dual use path connection into the northern boundary of the Gledswood Homestead site. The current DCP identifies a dual use path being delivered across the adjoining Gledswood Homestead site to the south. This connection is reliant on the delivery of a dual use path across land which is outside of our client's control and is a mix of golf course and the heritage homestead land and cannot be achieved. Pedestrian and bicycle connection through to the former El Caballo Blanco site to the south will be delivered along the connector road (spine

road) through the Lakeside site which will connect to Providence Drive. Figure C62 should be amended to reflect this;

- Amend Raby Road entry location to reflect Development Consent No. 967/2010;
- Amend Road connection to Gledswood Development;
- Amend shape of Precinct 1 to reflect the residential zoned land;
- Amend internal road layout of precincts 4 and 5 to reflect Water NSW's requirements for perimeter road adjacent to the Water Supply Canal.

#### **4.2.4 Figure C63: Camden Lakeside Indicative Bus Route**

- Amend Raby Road entry location to reflect Development Consent No. 967/2010;
- Amend Road connection to Gledswood Development. This is particularly important for the bus route diagram;
- Amend internal road layout of precincts 4 and 5 to reflect Water NSW's requirements for perimeter road adjacent to the Water Supply Canal.

#### **4.2.5 Figure C64: Indicative Open Space Network**

- Amend Raby Road entry location to reflect Development Consent No. 967/2010;
- Amend Road connection through to existing Gledswood Development;
- Amend internal road layout of precincts 4 and 5 to reflect Water NSW's requirements for perimeter road adjacent to the Water Supply Canal.

## **5.0 Conclusion**

The primary purpose of this submission is to seek an amendment to the existing 380 dwelling capacity provision under Camden DCP 2011 applying to Camden Lakeside site (which is proposed to remain in the draft DCP, recently exhibited).

This capacity is a remnant of the 2009 rezoning, is inconsistent with contemporary greenfield densities and will require unnecessarily large lots to be delivered on the site. These large lots are not affordable within the context of the south-west market and have the potential to compromise the ongoing delivery of the project and the ability to contribute to the much needed housing supply in the Sydney metropolitan area.

In this context, this submission seeks to increase the capacity of the site to a maximum of 550 dwellings, which will enable the delivery of densities more consistent with those being achieved in the South West Growth Centres precincts, and other Camden Council governed land releases, and will allow the delivery of lots consistent with other greenfield projects in terms of lot sizes and prices.

**Attachment 1: Indicative Subdivision Plan illustrating the 380 dwellings**

# Attachment 1: Indicative Subdivision Plan illustrating the 380 dwellings



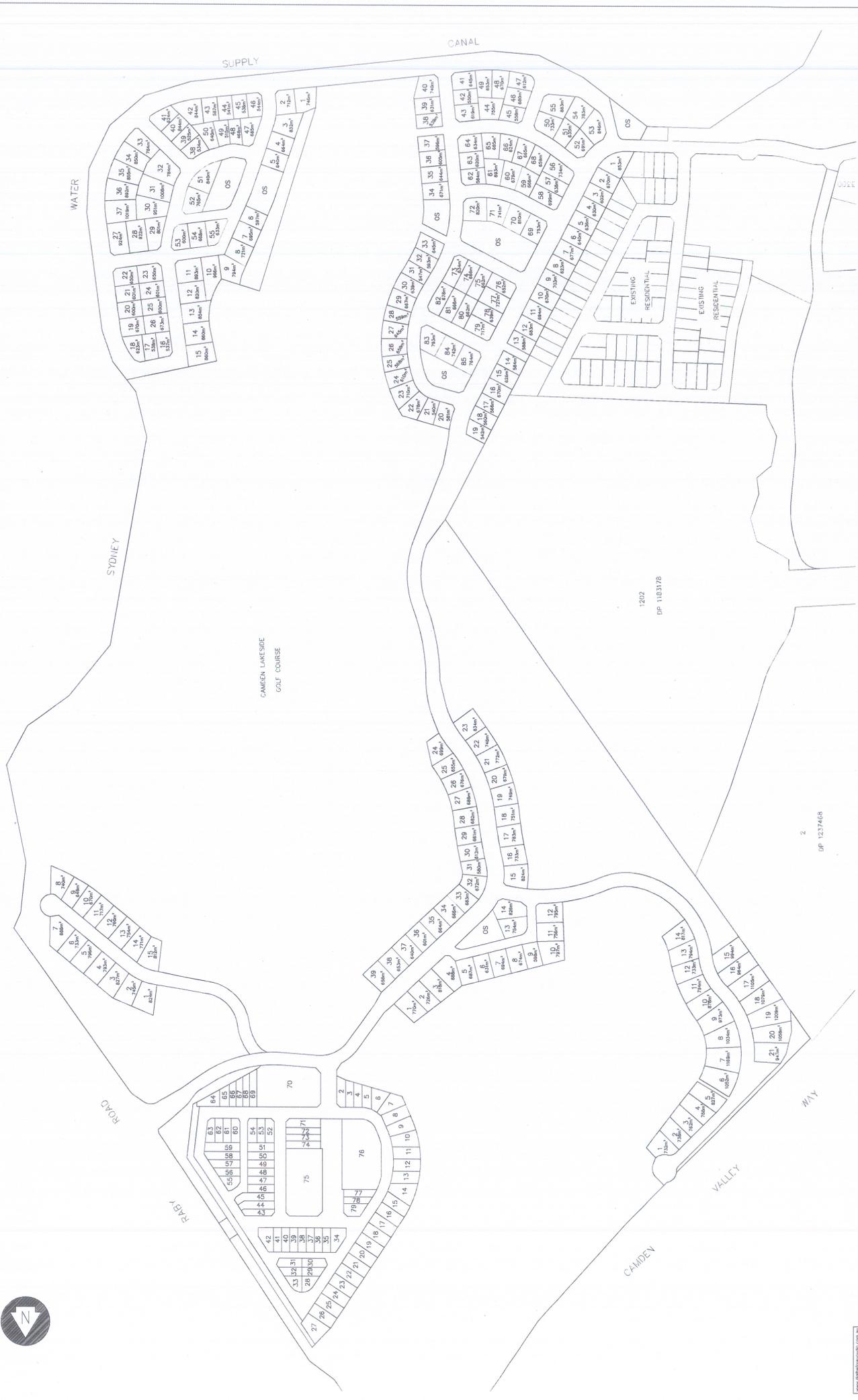
FOR DISCUSSION PURPOSES ONLY

		<b>YSCO GEOMATICS</b> LAND SURVEYING & ENGINEERING 2011, 111 WILSON ROAD, WILSON, QLD 4111. PH: 07 5500 1111. FAX: 07 5500 1112 www.ysco.com.au		<b>PLAN SHOWING PROPOSED SUBDIVISION OF LOT 101 AND LOT 101 IN DP206955 CAMDEN LGA</b>	
DATE	REVISION	DRAWN	CHECKED	SCALE	REFERENCE
		2019		1:1000	7005/5018



**Attachment 2: Indicative Subdivision Plan illustrating the 380 dwellings, but inclusive of DA No. 2018/969/1 proposal**

**Attachment 2: Indicative Subdivision Plan illustrating the 380 dwellings, but inclusive of DA No. 2018/969/1 proposal**



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 ENVIRONMENTAL PLANNING & DESIGN

1202  
 DP 1183178

1202  
 DP 1237468

DATE: REVISION: 31

PLAN SHOWING PROPOSED SUBDIVISION OF LOT 101 IN DP 1206655 AND LOT 101 IN DP 1206655  
 CAMDEN LGA

DRAWN: 1 MAR 2019  
 CHECKED: 9 JUL 2019  
 DATE: 7 DEC 2019  
 REFERENCE: 70052/901

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**Attachment 3: Indicative Subdivision Plan illustrating a proposed yield of 550 dwellings**



**Attachment 4: Open Space Analysis prepared by GLN  
Planning Pty Ltd**

10 April 2019

Our Ref: GLN11042\_Camden Lakeside Local Open Space Advice

Michael Baker  
SJB Planning

By email: [mbaker@sjb.com.au](mailto:mbaker@sjb.com.au)

Dear Michael,

**RE: CAMDEN LAKESIDE LOCAL OPEN SPACE REQUIREMENTS**

I refer to your request for our advice on the local open space land requirements for the Sekisui House Camden Lakeside development.

GLN Planning understand that SH Camden Lakeside are seeking to increase the residential yield within the existing residential zoned portions of the Camden Lakeside site to a total of 550 dwellings. In this regard, this advice on the open space requirements is based on the following development yield:

	Separate Houses	Apartments	Total Dwellings
2018 Development Scheme	460	90	550

**Anticipated Population**

Local open space requirements and benchmarks for new greenfield developments are often based on the anticipated population.

The Lakeside site is subject to the Camden Contributions Plan 2011 (**CP 2011**). Residential dwellings approved under that plan are assumed to have average occupancy rates of 3.1 persons per separate house, and 2 persons per ‘multi dwelling housing’ dwelling (which we assume includes apartments). Applying these rates to the proposed split of separate house and apartments results in an estimated population of 1,606 persons on the Lakeside site.

We have checked this assumption against 2016 Census occupancy data for surrounding urban release area developments. The following areas, which in 2016 were predominantly comprised of detached dwellings, had an overall occupancy rate of 3.17 persons per dwelling:

	SA1 Identifier	Persons per dwelling
<b>Oran Park</b>	1150620	3.27
	1150630	3.14
	1150627	3.12

	SA1 Identifier	Persons per dwelling
<b>Willowdale (Camden LGA portion)</b>	1150616	3.19
<b>Gregory Hills and Gledswood Hills</b>	1150633	3.03
	1150625	3.22
	1150624	3.23
	<b>Average</b>	<b>3.17</b>

If an occupancy rate of say 3.2 was applied to the separate houses, that better reflects what has been occurring in the growth areas near Lakeside, instead of 3.1 that is assumed in CP 2011, then the estimated population of Lakeside would be 1,652 persons.

### Local open space benchmarks

In this advice we reviewed the local open space requirements of the CP 2011 standard of 0.4ha / 1,000 persons. It is however relevant to compare this standard with other benchmarks which have emerged in recent release area open space assessments and open space policy documents.

Document	Minimum local open space standard	Outcomes (where included or proposed to be included in a contributions plan)	If applied to Lakeside the local open space requirement would be:
<b>(a) Camden Contributions Plan 2011</b>	1 local park minimum size of 0.2ha within 500m - 700m of walking distance of all dwellings 0.4ha per 1,000 persons		6,608 square metres in potentially up to 3 parks
<b>(b) Camden Growth Areas Contributions Plan (Leppington North Precinct) 2017</b>	1 local park minimum size of 0.2ha to 0.5ha within 400m – 500m walking distance of all dwellings	3 local parks comprising 4.35ha for 4,816 population results in 1 park for every 1,605 persons & 0.9ha / 1,000 persons	14,868 square metres in 1 park
<b>(c) Camden Growth Areas Contributions Plan (Leppington Precinct) 2017</b>	1 local park minimum size of 0.2ha to 0.5ha within 400m – 500m walking distance of all dwellings	18 local parks comprising 22.46ha for 26,000 population results in 1 park for every 1,440 persons & 0.86ha / 1,000 persons	14,207 square metres in 1 park
<b>(d) Demographic and Social Infrastructure Assessment Lowes</b>	No specific requirements for local open space; only active and passive	19 passive parks (which includes district parks) comprising 26.54ha for	20,154 square metres in 1-2 parks

Document	Minimum local open space standard	Outcomes (where included or proposed to be included in a contributions plan)	If applied to Lakeside the local open space requirement would be:
<b>Creek Maryland Precinct 2018</b>		21,700 population results in  1 park for every 1,142 persons & 1.22ha / 1,000 persons	
<b>(e) Camden Recreation Demand Study 2014</b>	1 local park within a minimum size of 0.3ha within 500m – 800m of all residences		3,000 square metres in 1 park
<b>(f) Draft Open Space for Recreation Guide (NSW Government Architect's Office) 2018</b>	Minimum outcomes for greenfield developments: 1 local park minimum size of 0.4ha within 500m of all residences  1 park for every 2,500 persons or 0.2ha / 1,000 persons		4,000 square metres in 1 park

## Analysis and conclusion

The benchmarks in (d) above can be disregarded because the precinct plan has not yet been determined and the standard does not discriminate between local and district parks.

Benchmarks (b) and (c) would have more relevance if the Lakeside development was not designed around the recreation and visual amenity of a golf course (we understand that the Lakeside development will be interwoven amongst a golf course). For these reasons we think these two benchmarks are not appropriate to determine the local open space requirement.

CP 2011 (i.e. (a)) still applies to the land and we think the Council is more likely to support the minimum local open space standards in that document given that:

- The Camden Recreation Demand Study did not consider local open space requirements in any detail and was more focused on recreation space
- The Government Architect's standards (i.e. (f)) are currently in discussion draft form.

Despite the current CP 2011 requirements, we think that Council would favour parks that are larger than the cited minimum 0.2ha.

As a result, we recommend that the local open space provided for the Lakeside development be 1 park of around 6,600 square metres, or 2 parks each with a minimum area of 3,300 square metres. All open space is to be within 400 - 500m walking distance of all dwellings.



**Attachment 5: Traffic Impact Analysis prepared by SCT Traffic Engineers Pty Ltd**

6<sup>th</sup> April 2019

Sahand Farooji  
 Project Manager – Sekisui House  
 Ground Floor, 68 Waterloo Road  
 Macquarie Park NSW 2113

## Proposed Lakeside Precinct residential capacity increase from 380 to 550 dwellings – Traffic Impact Assessment

### Introduction

This letter outlines the assessment undertaken for the consideration of a potential increase of residential capacity of Lakeside Precinct from 380 (as previously approved and documented in the Camden DCP) to 550 dwellings.

This letter provides a Traffic Impact Assessment that considers the potential impacts of the 380 dwellings (as a base case) with a possible increase of 170 dwellings which overall comprises of the following:

- 275 detached dwellings;
- 185 semi-detached dwellings; and
- 90 apartments.

### Site context

The Hermitage is a large scale urban development site set in a locality that is undergoing significant urban growth and change. Rural and semi-rural land uses in the area are currently giving way to urban redevelopment. The Hermitage comprises of 3 distinct precincts referred to as Turner Road, El Caballo Blanco/Gledswood (ECB/G) and Camden Lakeside.

The Camden Lakeside residential subdivision provides for residential uses set amongst the golf course, clubhouse facilities. The Camden Lakeside Master Plan (Camden Development Control Plan (DCP), Part C: Residential Subdivision, 2011) comprises of five precincts and is shown in **Figure 1**.

**Figure 1 – Location of Proposed Subdivision**



Source: Camden DCP, Part C: Residential Subdivision

Camden Lakeside is bounded by Raby Road to the north and Camden Valley Way to the west. Emerald Hills Estate is located immediately to the north, and the ECB/G Precinct is located to the south. The main access to

Camden Lakeside Precinct is provided from Raby Road via an entry road that connects with the rest of the Lakeside Precinct, the ECB/G Precinct and the Hermitage Precinct.

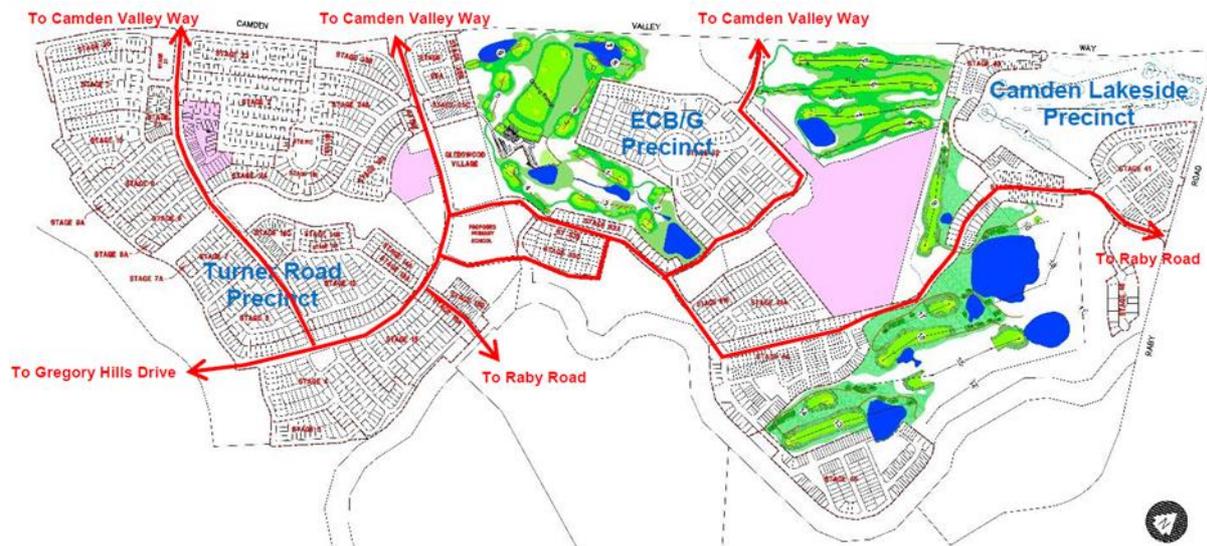
The DCP also identifies the capacity of Lakeside Precinct to be approximately 380 dwellings.

### Local network connectivity

**Figure 2** shows the accessibility and connectivity of the local road network within the Lakeside Precinct to the wider state road network. The proposed development, Camden Lakeside Precinct is located closest to Raby Road / Emerald Hills access road / Stage 41 access road intersection. This intersection is one of six access points to the wider road network including Camden Valley Way, Raby Road and Gregory Hills Drive.

The Raby Road / Emerald Hills access road / Stage 41 access road intersection is intended to be the most direct access from the strategic road network of Camden Valley Way and Raby Road. Alternatively, future residents can access the Lakeside Precinct from Gregory Hills Drive and Camden Valley Way via the internal local road network shown on **Figure 2**. Residents in Lakeside Precinct will also use the internal road network to access the Gledswood Village located at The Hermitage Way in the Turner Road Precinct for local commercial, civic and retail services.

**Figure 2 – Access and local street network**



Source: Camden DCP, Part C: Residential Subdivision

### Trip generation

The RMS's Guide to Traffic Generating Developments was used to calculate trips generated by the proposed development yields shown in **Table 1**.

**Table 1 – Vehicular trip generation for development scenarios**

Land uses	Proposed yield	Peak hour	RMS trip rate (trips per dwelling)	Peak hour trip generation
Dwelling Houses	275	AM	0.95	261
		PM	0.99	272
Large Units/Town Houses	185	AM	0.95	176
		PM	0.99	183
Apartments	90	AM	0.95	59
		PM	0.99	59
<b>Total</b>			<b>AM</b>	<b>496</b>
			<b>PM</b>	<b>514</b>

Source: RMS Guide to Traffic Generating Developments Updated Traffic Surveys, April 2013

Due to the site locations dependency to private vehicle use, higher vehicular trip rates in the RMS guideline were used.

Based on the above trip rates and the ratio of increase yield for the additional 170 dwellings, the potential residential uplift is expected to generate an additional 150 trips in AM peak and 160 in PM peak.

### Traffic distribution

The following distribution assumptions were made for distribution of the trip generation (similar to previous traffic assessment completed for The Hermitage):

- AM Peak: 70% Out, 30% In;
- PM Peak: 35% Out, 65% In;
- 100% of traffic generated by Precinct 1 in the northern end of the Camden Lakeside Precinct will be using the Raby Road / Emerald Hill access road / Stage 41 access road intersection (regardless of the travel directions) as shown in **Figure 2**;
- 65% of traffic generated by the other Precincts of Lakeside are assumed to travel northbound via the Raby Road / Emerald Hill access road / Stage 41 access road intersection northbound and 35% will travel southbound through the local network and utilise alternate access/egresses south of the sites (including traffic generated to access Gledswood Village);
- Of the traffic expected to travel north from Raby Road, 30% will use Camden Valley Way and 70% will use the M31; and
- Of the traffic expected to travel along Camden Valley Way, 50% will travel north and 50% travel south. This is consistent with the recent assessment completed for ECB Access Road Intersection Review (February 2019) as as more employment opportunities are available to the west of the ECB Precinct (including Leppington and the Western Sydney Airport) and south of the ECB Precinct (including Oran Park, Narellan, Campbelltown and the Greater Macarthur Growth Area).

### Traffic growth

The Emerald Hills Residential Development Traffic Assessment (Cardno, May 2013) obtained the EMME/2 model network Zone Data and flow outputs for years 2011, 2016, 2021, 2026, 2031, 2036 (for peak periods 7.00-9.00AM and 4.00-6.00PM). The report utilised the AM and PM peak period EMME/2 model intersection turning movements for years 2026 and 2036 for Camden Valley Way / Raby Road. However, it should be noted that the traffic forecasts extracted from EMME/2 model exceeds realistic volumes on the approaches to Camden Valley Way.

According to HCM, the maximum service flow rate (pc/h/ln) for an 80km/h multi-lane highway is 2,000 pcus per lane per hour. Camden Valley Way is a dual carriageway, therefore at full capacity the maximum service flow rate theoretically speaking is 4,000. Upstream on all approaches are constrained by signalised intersections and as result will reduce the number of vehicles able to enter the departure lane. This will be relative to the amount of green time and lane utilisation for each movement accessing Camden Valley Way for the segment of the approach on Camden Valley Way / Raby Road.

A cycle time of 150 seconds is assumed for the upstream signals due to the high volumes and a deduction of 60 seconds has been assumed based on the above considerations for the departure green-time on Camden Valley Way. Therefore, the volumes on each approach for Camden Valley Way/Raby Road will receive 90 seconds of green-time upstream out of the 150 seconds. Reducing the hourly Maximum service flow rate by the actual throughput (60%), will result in 2,400 (pc/h/ln).

### Sidra model calibrations

The 2036 forecast traffic volumes were extracted from Appendix B Sidra outputs of the Emerald Hills Residential Development traffic assessment. The volumes include the cumulative background traffic growth on the wider road network as a result of development in the wider South West Priority Growth Area as well as local traffic generation of Emerald Hills and approved developments in The Hermitage. This model was redeveloped as the base case to assess the net increase in traffic and impacts associated with the potential uplift of 170 residential dwellings in Lakeside Precinct.

The traffic volumes used to represent traffic generated by The Hermitage including Lakeside Precinct on all relevant approaches and movements have been replaced with the current residential capacity traffic generation by The Hermitage development including Lakeside Precinct.

The 2036 SIDRA model layouts have been updated to the current built layout of the intersections which was verified through the latest available Google Street View. Measurements were taken through google aerial and cross referenced with the street view for accuracy.

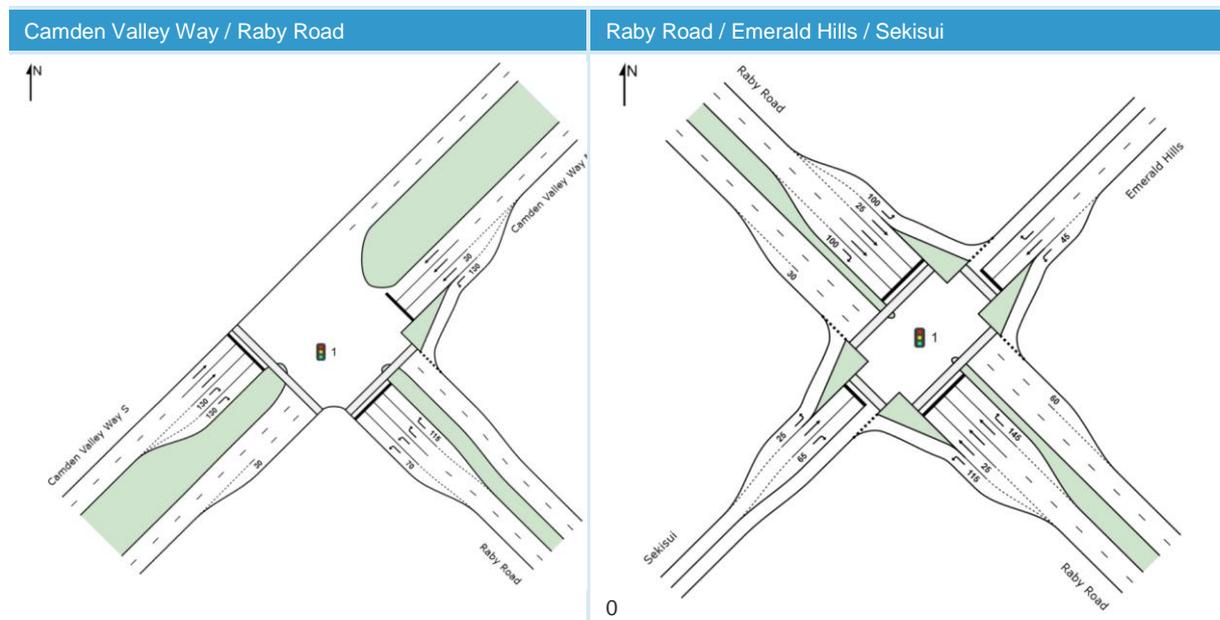
The SIDRA model has been calibrated with the following to reflect realistic conditions:

- The 'signal coordination' function was increased to level 5 for through traffic along Camden Valley Way to take into account vehicle platooning as a result of adjoining signalised junctions. Similarly, the function was increased to level 4 for turning traffic movements along Raby Road.
- To take into account the congested conditions and driver behaviour during congested periods the 'gap acceptance' factors were slightly reduced for right turn traffic on Camden Valley Way (critical gap 4 seconds and follow-up headway 2 seconds).
- To take into account the consistent and congested traffic flow conditions experienced during the peak hour periods the 'peak flow factor' applied was 100%.

### Sidra model layouts

The SIDRA layouts adopted for this assessment is displayed in **Table 2**.

**Table 2 – SIDRA intersection layout summary**



Source: SCT Consulting, March 2019.

### Intersection performance

The 2036 intersection performances are summarised in **Table 3**.

**Table 3 – Intersection performance 2036**

Intersection	Scenario	Demand Flows	Degree of Saturation (DOS)	Average Delay(s)	Level of Service (LoS)	95% Back of Queue (m)
Raby Road / Emerald Hills access road / Stage 41 access road	AM Peak Base Case (incl. 380 dwellings)	3,778	0.913	34.6	LOS C	292
	AM Peak with 550 dwellings	3,895	0.914	34.1	LOS C	274
	PM Peak Base Case (incl. 380 dwellings)	3,661	0.834	32.3	LOS C	266
	PM Peak with 550 dwelling	3,782	0.843	32.7	LOS C	266

Intersection	Scenario	Demand Flows	Degree of Saturation (DOS)	Average Delay(s)	Level of Service (LoS)	95% Back of Queue (m)
Camden Valley Way / Raby Road	AM Peak Base Case (incl. 380 dwellings)	7,289	1.137	95	LOS F	1,050
	AM Peak with 550 dwellings	7,326	1.143	95.6	LOS F	1,050
	AM Peak Base Case (incl. 380 dwellings) – traffic cap on CVW	5,975	0.886	27.1	LOS B	295
	AM Peak with 550 dwellings – traffic cap on CVW	5,997	0.910	27.2	LOS B	300
	PM Peak Base Case (incl. 380 dwellings)	7,270	1.441	204.7	LOS F	2,060
	PM Peak with 550 dwellings	7,310	1.441	206.9	LOS F	2,060
	PM Peak Base Case (incl. 380 dwellings) – traffic cap on CVW	6,367	1.152	87.8	LOS F	997
	PM Peak with 550 dwellings – traffic cap on CVW	6,402	1.153	89.9	LOS F	1,029

Source: SCT Consulting, March 2019

\*Level of Service (LoS) measured as per the RTA Guide to Traffic Generating Developments method.

#### Traffic impacts - Raby Road / Emerald Hills access road / Stage 41 access road

As seen from **Table 7**, the Raby Road / Emerald Hills access road / Stage 41 access road intersection is forecast to perform at LoS C in the base case where Lakeside Precinct has 380 residential dwellings.

The proposed additional 170 residential dwellings in Lakeside Precinct are expected to generate an additional 150 trips in AM peak and 160 in PM peak. An assessment of the Raby Road / Emerald Hills access road / Stage 41 access road intersection with and without the additional 170 residential dwellings resulted in a LoS C, which is satisfactory.

The additional 170 residential dwellings are also expected to generate additional traffic on Stage 41 access road. Despite the expected increase, the Stage 41 access road south of Raby Road is expected to carry under 600 vehicles per hour in both directions. This is well within the capacity of a two-lane local road.

#### Traffic impacts – Camden Valley Way / Raby Road

The additional yield of 170 dwellings introduces an addition of less than 50 vehicle trips into Camden Valley Way / Raby Road intersection during the peak hours. This is less than 1% increase in the overall volume entering the intersection and therefore, has very minimal impact to the intersection.

As seen from **Table 7**, there is no change in the LoS at this intersection between the base case (380 dwellings) and the additional yield now proposed.

If you have any questions regarding the above please do not hesitate to contact me at your convenience.

Kind regards,

A handwritten signature in black ink that reads "Andy Yung".

**Andy Yung**

Director

[andy.yung@sctconsulting.com.au](mailto:andy.yung@sctconsulting.com.au)

[0468 862 482](tel:0468862482)

[sctconsulting.com.au](http://sctconsulting.com.au)

Bay 9, 9 Middlemiss Street, North Sydney, 2060



**Attachment 6: Infrastructure Analysis prepared by Enspire Solutions**

ENSPIRE SOLUTIONS  
ABN 71 624 801 690

29 March 2019

ENGINEERING  
LAND DEVELOPMENT  
PROJECT MANAGEMENT

205 / 275 Alfred Street North  
North Sydney  
NSW 2060  
Australia

**Sahand Farooji**  
**Project Manager**  
**SH Camden Valley Pty Limited**  
Ground Floor  
68 Waterloo Road  
Macquarie Park NSW 2113

By email: [Sahand.Farooji@sekisuihouse.com.au](mailto:Sahand.Farooji@sekisuihouse.com.au)

Dear Sahand,

**RE: LAKESIDE RESIDENTIAL DEVELOPMENT UPLIFT  
PROPOSAL – STORMWATER AND INFRASTRUCTURE  
SERVICES ASSESSMENT**

The Lakeside residential development precinct forms part of the overall El Caballo Blanco and Camden Lakeside development, located in Gledswood Hills in Sydney's south-west. The existing development site has been rezoned for residential development, under a mixture of R1 General Residential and RE1 Public Recreation. At the time of the rezoning, the anticipated development yields for the Lakeside precinct was 380 residential dwellings, of a mixture of low and medium density housing types, along with various open space areas to support the new community.

Enspire has been engaged by Sekisui House (SH Camden Valley) to undertake a Stormwater and Infrastructure Services Assessment for the proposed revised development yield for the Lakeside precinct. This letter report summarises the provisions for stormwater drainage, electrical, sewer, potable water, gas and telecommunications utilities to service the site and summarises the current status of utilities and anticipated servicing requirements to meet the needs of the development.

This report has been prepared to support a planning proposal to Camden Council to increase the approved development yields for the Lakeside precinct.

The revised development yield proposed for the Lakeside development is 550 residential dwellings, which represents an overall increase in yield of 170 dwellings. A breakdown of the proposed yields for each Precinct is summarised in **Table 1** over the page.

**Table 1 – Lakeside Development Yields – Revised**

Lakeside Precinct	Proposed Development Yield
Precinct 41	165
Precinct 42	66
Precinct 43	32
Precinct 44	141
Precinct 45	110
Precinct 46	36
<b>Total</b>	<b>550</b>

The services investigations confirm the proposed additional development at the site can be serviced in the following ways.

## Electrical Services

### Lead-in Infrastructure

Endeavour Energy confirmed following preliminary analysis that the proposed additional development can be serviced by connecting to Endeavour Energy's network through either the Narellan Zone Substation or the South Leppington Zone Substation, by extending existing 11kV feeders located nearby.

Given the current zoning for the Lakeside development and the initial development yield of 380 lots, Endeavour Energy has already considered the servicing of the Lakeside development in its network planning. Endeavour Energy has an existing proposal to install two 11kV feeders from the South Leppington Zone Substation to supply the vicinity of the Lakeside development area in the next two years, following an upgrade to South Leppington Zone Substation.

To ensure supply is available to service the additional proposed development at Lakeside, Sekisui House will need to continue to liaise with Endeavour Energy regarding the staging and timing of development works for the Lakeside development. Endeavour has noted in their advice provided as part of the Technical Review undertaken in August 2018 (enclosed) that until the new Endeavour Energy proposed feeders are commissioned from South Leppington Zone Substation, limited supply may be available to service the additional development yields proposed, given surrounding developments being serviced in the vicinity.

### Internal Reticulation

The HV reticulation network within the Lakeside development will be constructed by the developer.

An application to connect to Endeavour Energy's network needs to be lodged, in reply Endeavour Energy will issue a design brief outlining the requirements to service the proposed development stage.

It is our understanding that the additional development yield proposed of 170 residential lots will be able to be serviced with electrical services.

## Wastewater Services

### Lead-in Infrastructure

The Lakeside development falls within the catchment of the Sewage Pumping Station – SPS 1197 – located at the corner of Raby Road and Camden Valley Way, within the Emerald Hills Estate development.

The existing development at the Lakeside development is currently serviced by an existing sewer main which runs through the property and connects the existing Precincts 41 – 45 to SPS 1197. The existing sewer main ranges in size between 225dia and 375dia, increasing in diameter as required based on the masterplan flow schedule.

The existing trunk main was constructed in 2017 based on a masterplan flow schedule prepared by RMA Infrastructure to determine the necessary sizing of the sewer main. Based on a review of the masterplan flow schedule prepare for the Lakeside development, there is spare capacity available in the trunk sewer main which connects the Lakeside precincts to service the additional 170 proposed development lots with additional spare capacity still available.

### Internal Reticulation

A gravity sewer network will service the undulating site and proposed subdivision. Branches running of the trunk main will service each of the Precincts within Lakeside. Site regrading and changing depth of sewer will assist the design of the gravity sewer to ensure each Precinct can drain to the trunk sewer main.

A Section 73 Certificate application to Sydney Water will be necessary. Sydney Water will issue a Notice of Requirements and a Developers Works Deed to outline the servicing requirements for the proposed development.

It is our understanding that the additional development yield proposed of 170 residential lots will be able to be serviced with wastewater services.

## Potable Water Services

### Lead-in Infrastructure

The closest water supply zones to the Lakeside development are the Leppington Elevated Water Supply Zone (WSZ), Leppington Surface WSZ and Currans Hills WSZ. The El Caballo Blanco and Lakeside development areas are to be serviced by Leppington Surface WSZ which will be connected via a reliability link to Currans Hill WSZ.

The existing development at Lakeside will be serviced by a potable water main which will connect Precincts 41 – 45 to the Leppington Surface WSZ. The potable water main will range in size between 200dia and 250dia, increasing in diameter as required based on the masterplan requirements. The trunk water main route will connect to the broader Sydney Water network at Camden Valley Way and Raby Road.

Supply of potable water to service the additional development within Lakeside can be made available from the Sydney Water network, with redundancy available in the surrounding areas through cross connections between Leppington Elevated WSZ, Leppington Surface WSZ and Currans Hill WSZ.

## Internal Reticulation

Standard water reticulation can adequately service the site, the watermain sizes are likely to be 150mm and 200mm diameter mains.

A Section 73 Certificate application to Sydney Water will be necessary. Sydney Water will issue a Notice of Requirements and a Developers Works Deed to outline the servicing requirements for the proposed development.

It is our understanding that the additional development yield proposed of 170 residential lots will be able to be serviced with potable water services.

## Telecommunications

The site is currently serviced by OptiComm with an optic fibre communications service.

OptiComm will extend the optic fibre backhaul to each of the Precincts within the Lakeside development and sufficient capacity is available in the network to service the proposed additional development.

## Gas

The site is currently serviced by Jemena with natural gas.

Jemena have confirmed they would install new internal gas reticulation to service the proposed development under their current servicing policies. An application to Jemena for a gas connection is required. In reply, Jemena will issue a Gas Supply Offer confirming the requirements to service the proposed development.

## Stormwater/WSUD

The proposed stormwater management includes the provision of a pit and pipe network catering for the 20% AEP event. Treatable flows from proposed lots and roads within each Precinct shall drain to proposed water quality basins within the golf course.

Initial modelling indicates the total developed flow at the Camden Valley Way control point does not exceed the flow as determined in the Cardno Forbes Rigby Flood Assessment dated 2008. As such, On-site Detention for each precinct is not proposed, except for Precinct 41 (Precinct 1 as denoted in figure C60 of the Camden Council Development Control Plan 2011).

A Flood Assessment undertaken by Calibre indicates peak flows from the development Precincts has no adverse impact at the Camden Valley Way control point due to times of concentrations from each of the catchment areas.

Although the uplift results in an increase in dwellings, the overall developable area and the percentage of impervious area per hectare does not increase. The uplift does not introduce additional road infrastructure to service the proposed lots.

On this basis, the proposed uplift does not increase stormwater infrastructure requirements.



Prepared: Friday, 29 March 2019  
Prepared by: Lauren Connors  
Reference: 180032-Lakeside Infrastructure Services Assessment

Sincerely

A handwritten signature in blue ink that reads "lauren connors".

Lauren Connors  
Associate | Senior Project Manager  
**For Enspire**  
lauren.connors@enspiresolutions.com.au  
+61 409 326 360

Enc.

ENL3078 – Technical Review Reply\_ECB and Lakeside Developments from Endeavour Energy  
CASE143097WW Masterplan Flow Schedule prepared by RMA Infrastructure

16 August 2018

**Endeavour Energy Ref: ENL3078 – 2014/02306/001**

SH Camden Valley Pty Ltd  
68 Waterloo Rd  
MACQUARIE PARK  
NSW 2113

**Attention: Sahand Farooji**

**ENL3078 – Technical Review | Lot 101 DP 1206855 and Lot 2 DP 1206855, 900 Camden Valley Way, GLEDSWOOD HILLS**

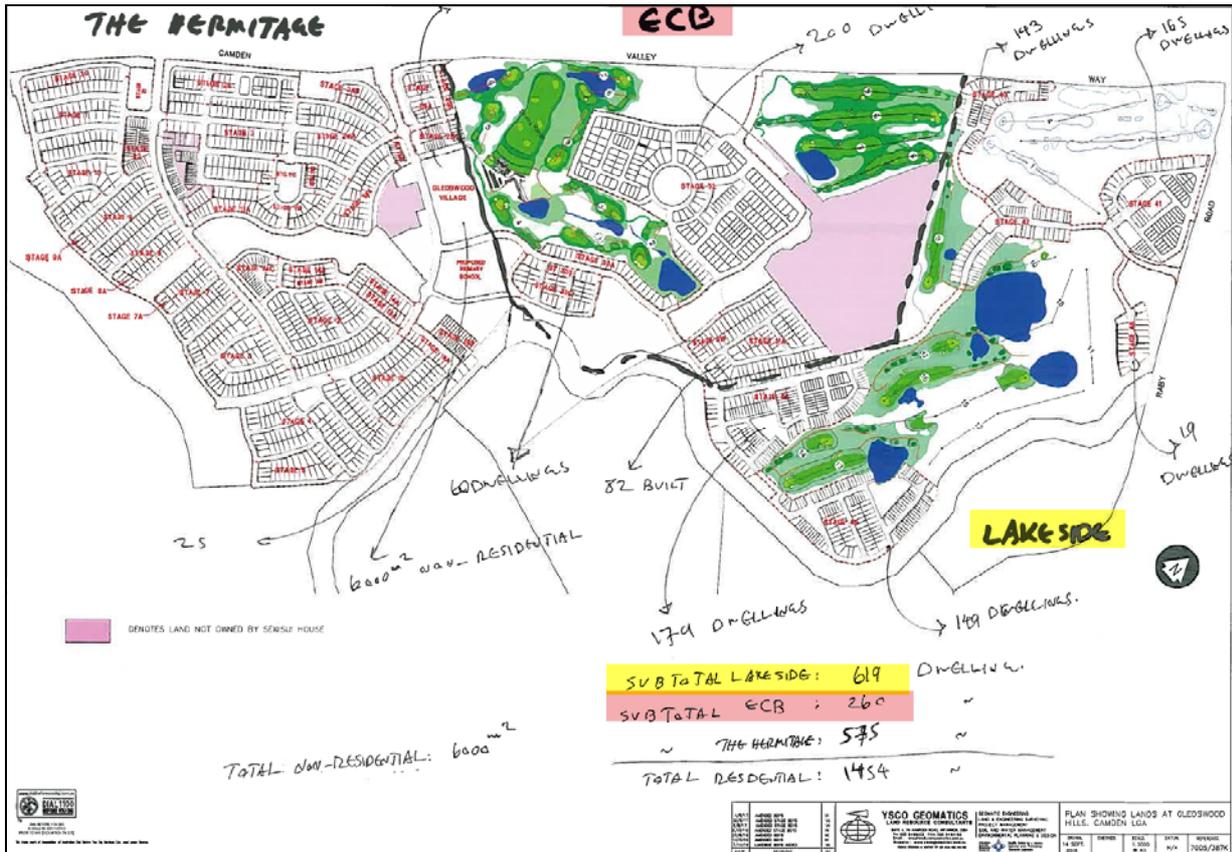
Dear Sahand,

Thank you for your enquiry regarding the proposed ECB and Lakeside residential development at the above address. This enquiry has been registered under our reference numbers – ENL3078. Please quote this number for all future correspondence.

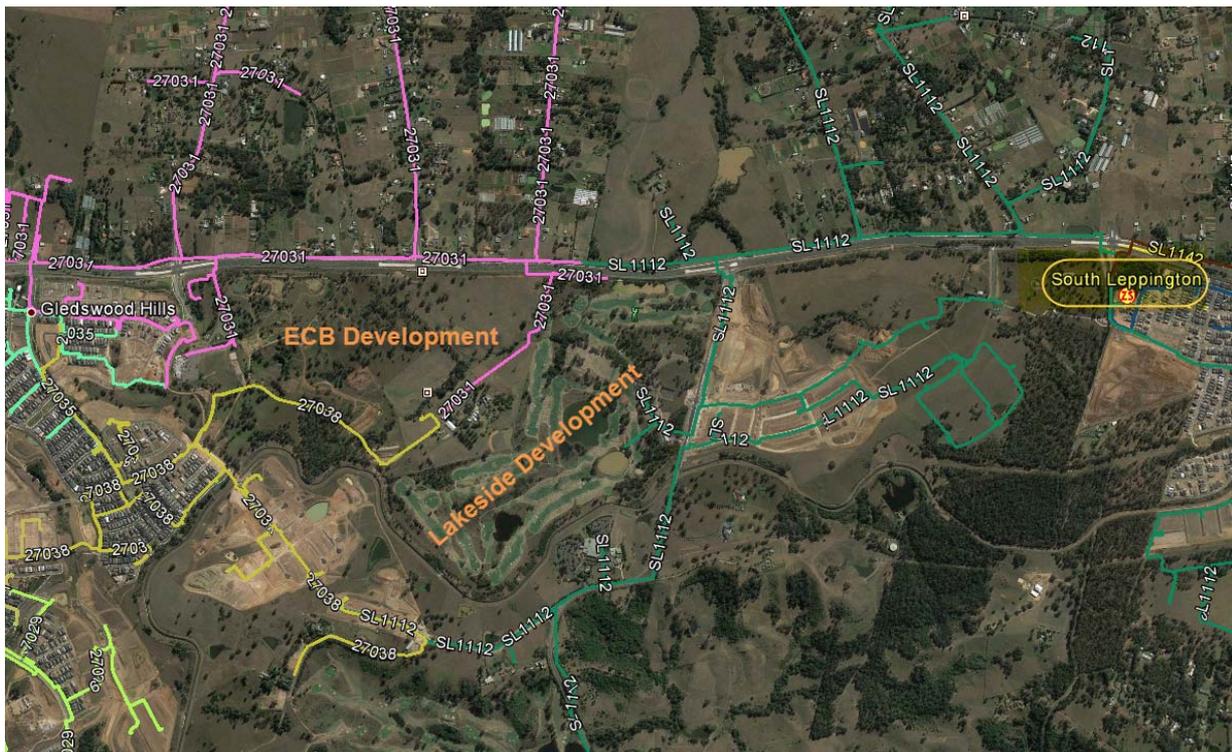
Endeavour Energy acknowledges that proposed residential developments will yield 879 lots in total, 26 lots in ECB development and 619 lots in Lakeside development respectively. The developer is expecting to yield 300-400 lots per year; however the development commencement date and development staging plans are not yet determined at this early stage.



## Concept Layout Plan of Proposed ECB and Lakeside Developments



Preliminary analysis indicates that at present Narellan ZS and South Leppington ZS should be able to supply the ultimate development of both Lakeside and ECB via extension of existing nearby 11kV feeders. Depending on staging interim measures may be required if permanent network is not available from these zone substations.



Currently Endeavour Energy (EE) has already proposed to install two 11kV feeders from South ZS to supply the vicinity of Lakeside development areas in next two years at the time South Leppington ZS has been upgraded.

It is very important that the developer has to advise EE the staging proposals for Lakeside as other arrangements may need to be made by the developer. Until the new EE proposed feeders are commissioned, higher reliance may be required on existing feeders SL1132 Emerald Hills Blvd and SL1212 George Road however these alternate feeders are intended to supply other development fronts in the Emerald Hills Estate and Leppington Precinct.

In order to program this connection, I recommend you to submit an application for Residential Subdivision and engage the services of a Level 3 ASP to prepare and provide an electrical design to Endeavour Energy in the form of a Proposed Method of Supply. This activity is customer funded contestable work and you will need to pay for it.

A list of the Accredited Service Providers is available at the NSW Trade and Investment website: <http://www.energy.nsw.gov.au/electricity/network-connections/contestable> or can be obtained via phone 13 77 88.

**Hope this assists for the meantime and this advice provided is in response to an enquiry only and does not constitute a formal method of supply.** An application must be submitted and subsequent designs have been certified or approvals granted will Endeavour Energy reserve capacity on the network.

Should you have any questions regarding this response to your request for technical review, please contact me.

Yours faithfully,

*David HO*

**David Ho**  
Contestable Works Project Manager  
**Network Connections**

☎ Direct: (02) 9853 7901 | ✉ Email: [david.ho@endeavourenergy.com.au](mailto:david.ho@endeavourenergy.com.au)

FLOW SCHEDULE

CHANGE	Station	Flow	Rate	Rate	Rate
A	0	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
B	320	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
C	484	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
D	823	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
E	1294	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0

CHANGE	Station	Flow	Rate	Rate	Rate
A	0	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
B	320	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
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		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
D	823	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
E	1294	RESIDENTIAL 20 LOTS @ 3 EP/LOT @ 0.25% CONTRIBUTING EP=40	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0
		MIN GRADE	Q <sub>1</sub> = 15.0	Q <sub>2</sub> = 15.0	Q <sub>3</sub> = 15.0

NOTE:  
This section of contributing catchment has been included for  
think network design purposes only. This area drains to the  
proposed SPS 1197 which has been designed to service a  
site which will require further investigation to determine if any  
unaccounted space capacity is available at SPS 1197



LEGEND

- RESIDENTIAL
  - MIXED USE
  - EDUCATIONAL INSTITUTIONS
  - OPEN SPACE (RESERVE)
  - PARK
  - GOLF COURSE
  - CLUB
- 
- MAJOR CATCHMENT BOUNDARY
  - MINOR CATCHMENT BOUNDARY
  - PROPOSED SEWER

\*\* DENOTES LOTS CALCULATED USING FORMULA IN CODE OF AUSTRALIA - 1984/02 - 2002/2 EP/LOT WATER LOT SIZE 400/EP/LOT 45/EP/LOT

**WORK AS CONSTRUCTED CERTIFICATION**

DATE: 14/03/2017

CONTRACTOR: W.A.C. FREYBARD

ENGINEER: **STEWART WATER CORPORATION**

Case No. 1430397MMW | SPT 2 OF 8 SPTS

FOR DETAILS OF SERVICES SEE SHEET 1



**Attachment 7: Visual Impact Analysis prepared by LFA**



11 April 2019

## **Camden Lakeside – Visual Impact Assessment of proposed development of up to 550 dwellings**

### **INTRODUCTION**

LFA has been retained by SJB and Sekisui House to prepare a report on the visual impacts associated with a proposed residential yield increase within the defined residential land use zones located on the Camden Lakeside site. The purpose of this report is to support a submission to Council on the Draft DCP with particular focus on development capacity. It is understood that separate studies relating to traffic and infrastructure impacts have also been conducted.

LFA was responsible for preparing the Landscape and Visual Assessment for the site in 2006 which identified areas of potential residential development that would have minimal visual impact. The report was submitted to Camden Council and influenced the rezoning process and the subsequent DCP.

LFA prepared the Camden Lakeside DCP submission in 2009, including the associated graphics, which identified a series of potential residential development pockets that minimised the visual impacts from surrounding areas and major roads but also reflected the need to maintain an operational golf course.

This report revisits the vantage points identified in the 2006 study and reviews the changes that have occurred in adjacent sites as well as the changes that have taken place with significant major upgrading of Camden Valley Way and Raby Road.

The report also explores the changes in lot size in recent times and importance of comprehensive landscape packages including tree retention, street trees and other landscape elements. These changes are reflected in the developed precincts within The Hermitage development.

## BACKGROUND

The site was zoned for residential use in 2009 and site specific DCP provisions were adopted by Council. The residential zones in Lot 1 DP1206855 total some 33ha and are located as a series of precincts adjoining a reconfigured Camden Lakeside Golf Course as shown in Figure 1.

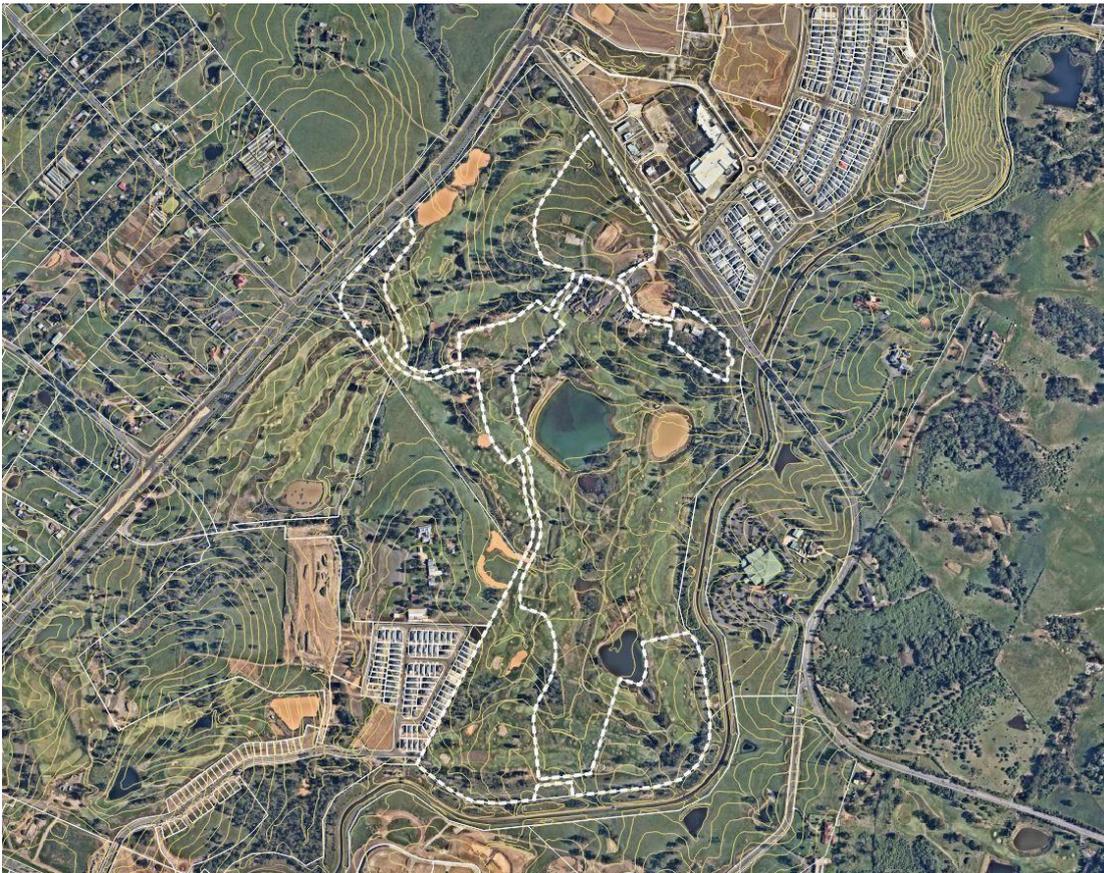


Figure 1 – Subject Site (white broken outline) in air photo with 2m contours

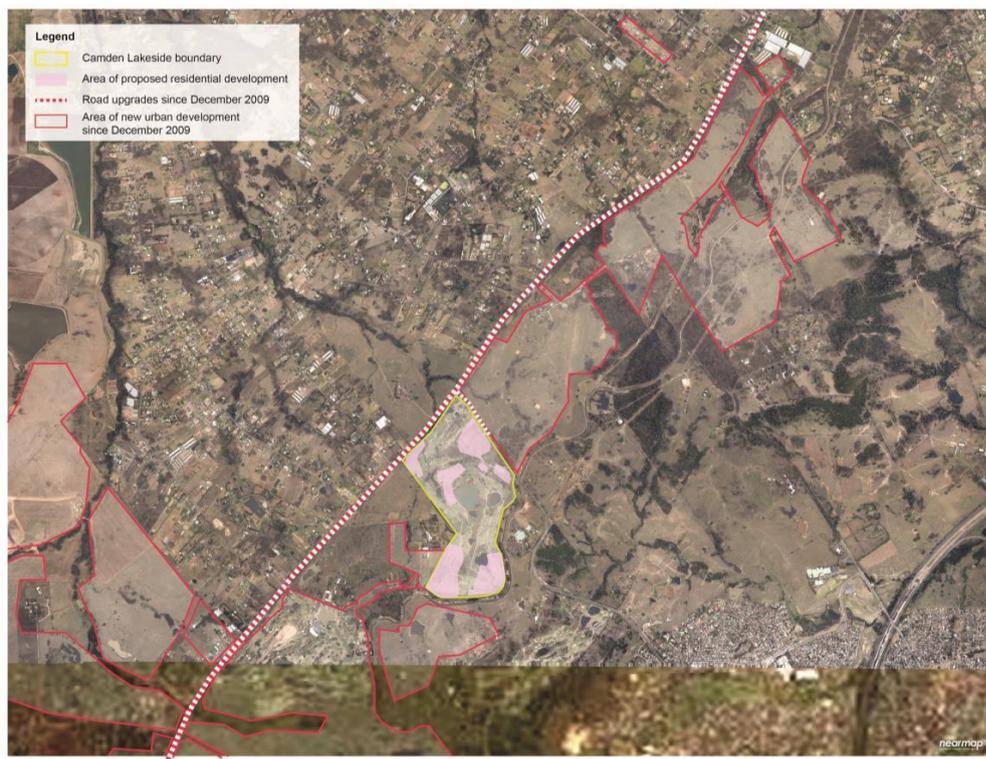
## VISUAL IMPACT ASSESSMENT

Substantial urban development has occurred in the surrounding area between 2009 and 2018 as shown in Figures 2 and 3 respectively.

In addition to urban development, major road upgrades have occurred along Camden Valley Way and Raby Road between Camden Valley Way and Emerald Hills Boulevard. Development of a retail centre opposite the site along Raby Road has significantly altered the visual character experienced when travelling along the Raby Road.

There are also a number of planning proposals currently being considered including:

- 190 Raby Road - adjacent to the water supply canal south of the subject site to accommodate approximately 260 dwellings on higher elevation terrain adjacent to the Camden-Campbelltown Local Government Area boundary. The proposal was recommended by Council for gazettal in December 2018 subject to a VPA being executed.
- 50E Raby Road (Camden Lakeside Hotel) - adjacent to subject site and within the same site-specific DCP area, proposing to amend the maximum building height to 22m for use as a hotel. A Gateway determination has been received and Camden Council is proceeding with the rezoning process.



Development Areas December 2018 - Airphoto December 2009

2019-5970-SA-02  
02 April 2019  Scale: NTS

Camden Lakeside  
draft DCP Submission

Figure 2 – Camden Lakeside December 2009 air photo



Development Areas December 2018

Camden Lakeside  
draft DCP Submission

2019-5970-SA-01  
02 April 2019  Scale: NTS

Figure 3 – New urban development in vicinity of Camden Lakeside since December 2009 on December 2018 air photo

The Camden DCP adopted in 2011 identified potential residential development zones on the Camden Lakeside site (Figure C60) consistent with those proposed as part of the draft DCP Figure 6-1 (refer Figure 4).



Figure 4 – Camden Lakeside DCP Precincts (Camden draft DCP Figure 6-1) with Sekisui House indicative staging (Black dashed line)

## VISUAL ASSESSMENT VANTAGE POINT REVIEW

The sixteen vantage points identified in the LFA 2006 Landscape and Visual Assessment were revisited on the 28 March 2019 as part of this assessment. Two vantage points (yellow dots) from within recent development on El Caballo Blanco and Gledswood Precinct were also examined.



Figure 5 -Map of Vantage Points and outline of subject site (red outline) and residential development areas (pink)

### Vantage Points 1-7 Camden Valley Way

Views into the Camden Lakeside site are experienced predominately from vehicles travelling south along Camden Valley Way and along Raby Road. It is noted a path on the northern side of Camden Valley Way and at the intersection of Raby Road may allow pedestrians views towards the site.



Figure 6 – Vantage Point 1 – View from vehicle approaching intersection of Camden Valley Way and Raby Road.



Figure 7 – Vantage Point 2 – View from vehicle on Camden Valley Way.

The proposed development areas on the site cannot be seen from Vantage Points 1 and 2 due to existing trees and mounding adjacent to Camden Valley Way.

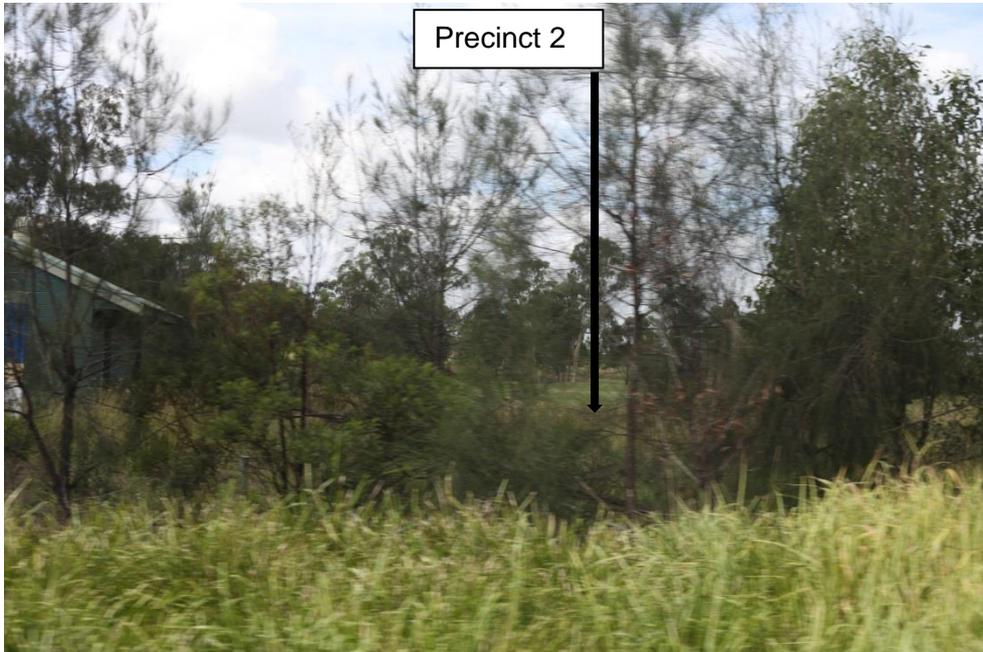


Figure 8 – Vantage Point 3 – View from vehicle on Camden Valley Way adjacent to 1025 Camden Valley Way.

Some of the vegetation in the views from Camden Valley Way is within the Camden Valley Way road reservation. Development within Precinct 2 is not anticipated to be discernible from Vantage Point 3 as a result of this.

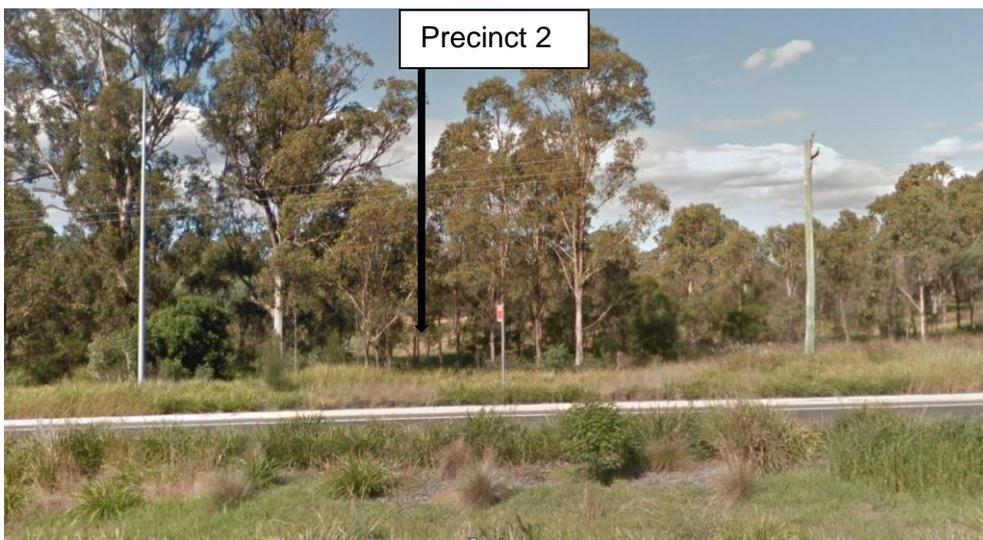


Figure 9 – Vantage Point 4 – View from vehicle on Camden Valley Way.

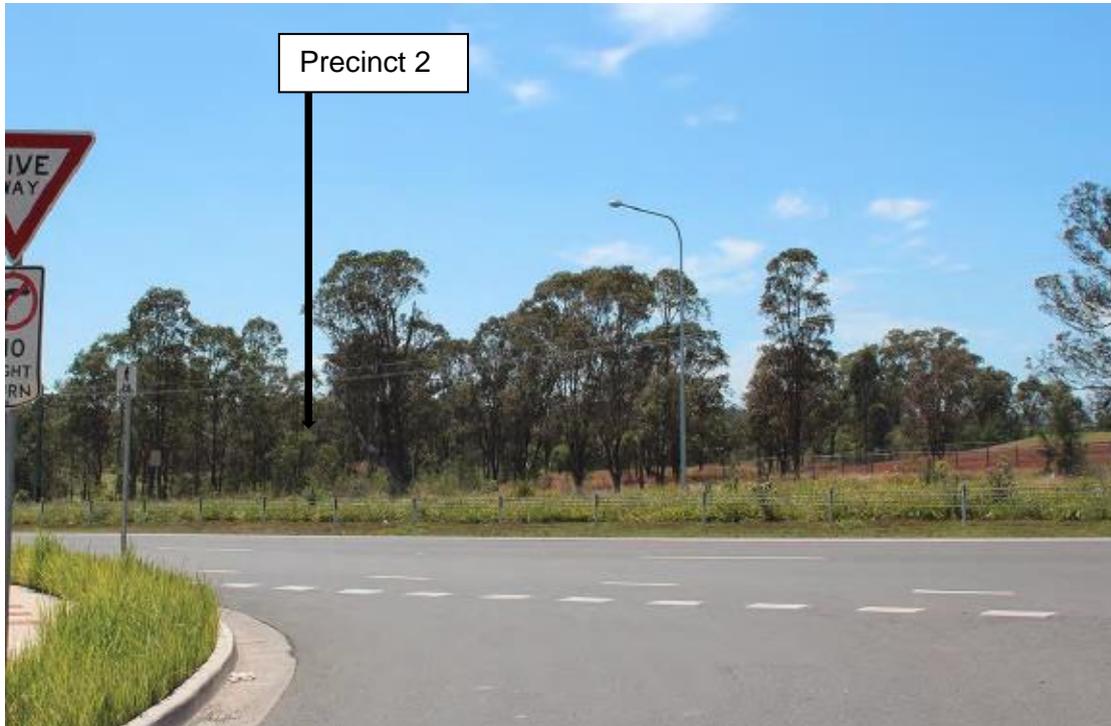


Figure 10 – Vantage Point 5 – View from intersection of Camden Valley Way and Deepfields Road.

Development impacts associated with the proposed increase of five dwellings compared to the DCP anticipated development in Precinct 2 (refer Table 1) are not anticipated to be discernible from Vantage Points 4 and 5. The DCP provides specific provisions in relation to this edge, including an acoustic mound, will reduce the visibility of development in the precinct.

The site could not be seen from Vantage Points 6 and 7 due to vegetation and topographic obstructions.

#### **Vantage Points 8-12 - Raby Road**

Development in Precinct 1 is likely to be visible from Vantage Points 8-11. It is unlikely to be seen from Vantage Point 12 due to distance and trees obstructing the angle of view. Figure 15 shows the character of Raby Road including the residential and retail uses in Emerald Hills (eastern side of Raby Road).



Figure 11 – Vantage Point 8 – Raby Road.



Figure 12 – Vantage Point 9 – Raby Road.



Figure 13 – Vantage Point 10 – Raby Road.

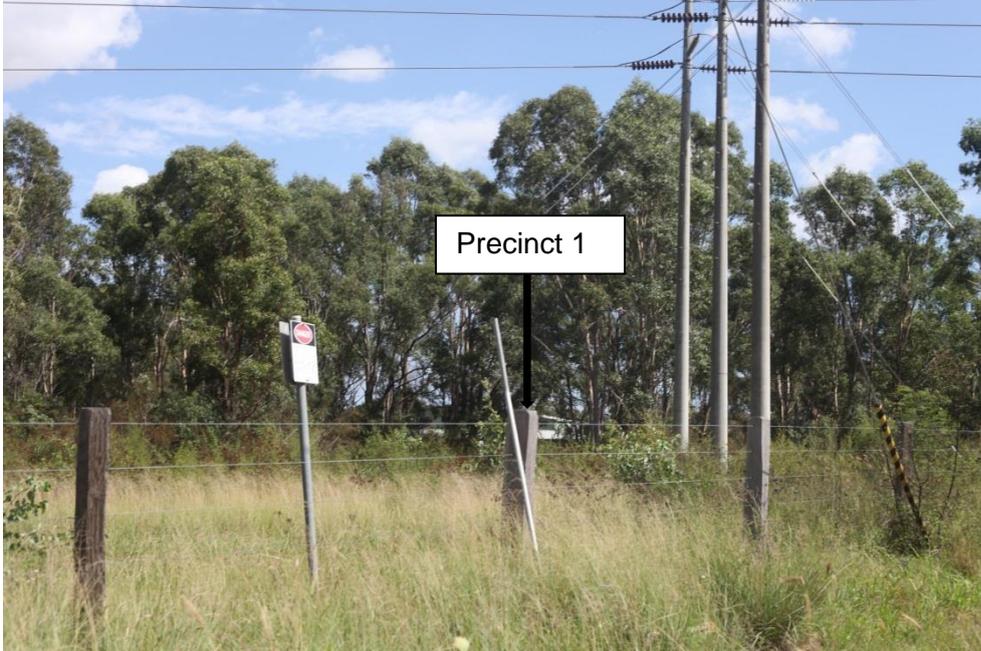


Figure 14 – Vantage Point 11 – Eastern corner of Camden Lakeside from Raby Road.



Figure 15 – View north along Raby Road near Vantage Point 11.



Figure 16 – Vantage Point 12.

### Vantage Point 13 Raby Road



Figure 17 – View from Raby Road west at Vantage Point 13.

Urban development is already visible either side of the defined residential development precincts on the Camden Lakeside site from these vantage points. The proposed increase in dwellings within Precincts 4 and 5 above that foreshadowed in the DCP is not anticipated to be discernible from this vantage point given distance and obstructions.

### Vantage Points 14-16 Gledswood Homestead

Vantage Point 14 was not assessed as the view west from Gledswood Homestead is away from the site.

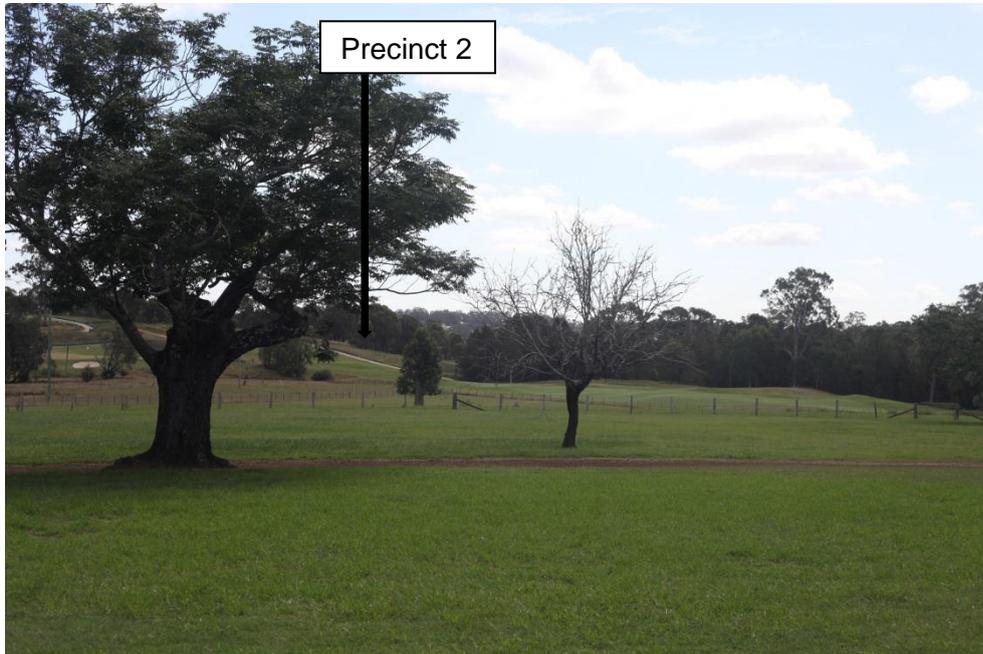


Figure 18 – View from Vantage Point 15 towards DCP Precinct 2.

Precinct 2 is in the distance from vantage point 15 and trees in the foreground and mid-ground partially obstruct views to the precinct. The proposed increase of five dwellings within Precinct 2 is not anticipated to be discernible from this vantage point.



Figure 19 – View from Vantage Point 16 to east.

Views through golf course from vantage point 16 are generally anticipated to be unaffected other than an access road connecting Precincts 3 and 4. Trees in the foreground (grounds of Gledswood Homestead) block visibility to Precincts 3 and 4.

#### **Additional vantage point – view from Bluestone Ave to the east**

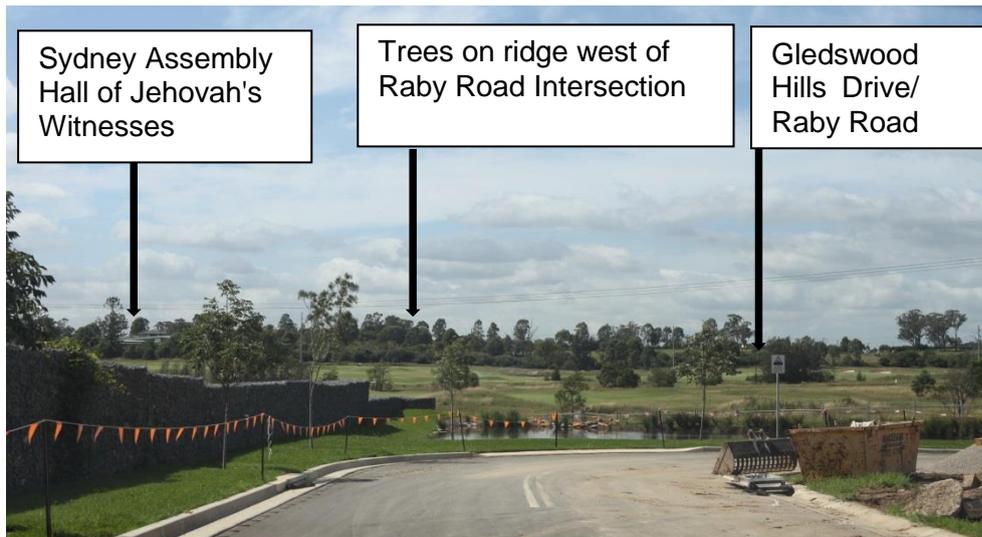


Figure 20 – View from Bluestone Ave to the east.

The mid-ground of this view contains proposed development Precincts 4 and 5. The main features of this view are the stormwater management feature in the foreground, golf course in the mid-ground and trees on the ridgeline in the distance.

Due to the change in level from Bluestone Ave to the subject site, it is anticipated that the tops of trees located on the ridge west of Raby Road would be visible from this vantage point after development of Precincts 4 and 5.

Whilst this view will change, the change is foreshadowed by the existing pattern of permissible residential development in the DCP and is not anticipated to be discernible. The impact of new built form should be mitigated with tree planting along streets and on lots where possible.

### Additional vantage point – view from Providence Drive to the east



Figure 21 – View from end of Providence Drive to the east.

Providence Drive is proposed to continue into the site to connect Precincts 4 and 5 with other areas of The Hermitage development. Until recently a view from this site was not available.

Whilst this view will change, the change is foreshadowed by the existing permissible extent of development. The impact of new built form should be mitigated with tree planting along streets and on lots where possible.



## CONSIDERATIONS FOR ASSESSING CHANGES TO VISUAL IMPACT

There were approximately 19,340 new allotments of less than 2,000m<sup>2</sup> created or modified in the Camden Local Government Area between 2010 and 2018. This represented a 156% increase in the number of lots of less than 2,000m<sup>2</sup> in the preceding period.

Between 2016 and mid-2018 in Camden LGA the most frequent lot size created was 375m<sup>2</sup> and the median lot size was 471m<sup>2</sup> for new or modified lots less than 2,000m<sup>2</sup>. Single residential allotments in the Turner Road precinct development of The Hermitage created before May 2018 averaged 483m<sup>2</sup>.

As a result of the smaller lot size trend in Camden and Greater Sydney generally, the community perception of development in the locality is understood to have changed since Camden Lakeside was rezoned.

Perceptual consequences associated with smaller lots may include built forms appearing closer together, less opportunities for on-lot trees and, in some cases, dwellings closer to streets. These issues can be addressed by urban design measures including the development of well designed house and land packages, detailed verge design, together with sensitive onsite and street landscaping.

The Hermitage at Gledswood Hills (by Sekisui House) is an example of a high quality local development with dwellings ranging from townhouses to freestanding homes on lots from 175m<sup>2</sup> (Figure 22). The Hermitage development is supported by sensitive landscaping, retention of existing vegetation and provision of well-designed open space. The development of Camden Lakeside Precinct is being undertaken by the same developer, Sekisui House.



Figure 22 – Townhouses and ‘standard’ housing development at The Hermitage



## PRECINCT CAPACITY REVIEW AND VISUAL IMPACT

The following statement is included under the Neighbourhood subdivision and design section of the Camden Lakeside Schedule of the Camden DCP:

*“The capacity of the Camden Lakeside site is 380 dwellings.”*

In LFA’s issue of the Draft DCP to Camden Council on 7 July 2009 there was a similar statement under a section titled “design structure”:

*“The indicative capacity of the Camden Lakeside site is in the order of 380-440 dwellings.”*

This was supported by a draft subdivision pattern which allowed for residential development in all five precincts together with the potential for residential flat buildings and supporting recreation facilities in Precinct 1. The subdivision pattern was reflected in the DCP.

It is now proposed to accommodate 550 dwellings within the residentially zoned land on the Camden Lakeside site. There are no proposed changes to development standards, building heights or LEP provisions.

Based on the total area of the development precincts of around 33.5ha, and assuming a 40% land take for roads and open space, the average lot size for the indicative DCP capacity of 380 lots would be in the order of 537m<sup>2</sup> compared with an average lot size of 381m<sup>2</sup> with a dwelling yield of 550 lots.

These figures compare favourably with the most frequent lot size (375m<sup>2</sup>) produced in Camden LGA between 2016 and mid-2018.

The proposed changes on a precinct-by-precinct basis are set out below:

DCP (Sekisui House Staging Precinct)	Lots/dwellings identified in DCP Figures	Proposed number of dwellings	Comment
Precinct 1 (Stage 41)	20 + the development area adjacent to club house taken to be 60 dwellings based on 380 total capacity	165	Increase of 85 dwellings
Precinct 1 (Stage 46)	18	36	Increase of 18 lots
Precinct 2 (Stage 43)	27	32	Increase of 5 lots
Precinct 3 (Stage 42)	45	66	Increase of 21 lots
Precinct 4 (Stage 44)	108	141	Increase of 33 lots
Precinct 5 (Stage 45)	102	110	Increase of 8 lots
<b>Total</b>	<b>380</b>	<b>550</b>	<b>Increase of 170 dwellings</b>

**Table 1** – Comparison of Dwellings anticipated in DCP and proposed by DCP precinct

As previously indicated, the visual impacts stemming from the proposed increase in the number dwellings in Precincts 2-5 are not anticipated to be discernible. Building mass is not anticipated to be increased by an increase in the number of dwellings.

Accommodating more dwellings on a given area of land within a defined building height envelope will not result in a substantive change to visual impacts.

The proposed increase in dwellings within DCP Precinct 1 (which encompasses Stages 41 and 46 with a total of 201 dwellings) reflects the introduction of low-rise apartments as well as individual dwellings. The total is still substantially less than that permissible under the DCP density provisions.

The character of the proposed residential development of DCP Precinct 1 needs to be considered in the context of both the recent commercial and residential development on the northern side of Raby Road and the seven-storey hotel (adjacent to the existing Camden Lakeside Clubhouse) which is understood to have been supported in principle by Council. Visual impacts associated with the proposed Precinct 1 residential development will be further diminished by the linear landscape buffer (land zoned E2 and RE2) located between Precinct 1 and Raby Road (refer Figure 23).



Figure 23 – Precinct 1 Context



## **SUMMARY OF FINDINGS**

The proposal to accommodate 550 dwellings at Camden Lakeside Precincts 1-5 will not result in a substantive change to visual impacts given that the identified zoned residential development pockets remain constant, building height controls will be maintained and built form will reflect detached and terrace housing, apart from Precinct 1 which includes low-rise apartments.

The changes reflect in large part the reduction in residential lot size over the 2009-2018 period and the subsequent increase in dwelling density in surrounding areas consistent with the urbanisation of the South West and the implementation of the Growth Centres strategy.

It will be important to ensure that street landscaping, internal parks and proposed landscaping measures form an integral part of the development implementation process for Camden Lakeside.