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Planning Proposal

Proposed rezoning of RE2 Private Recreation land to R3 Low Density Residential

Ingleburn Gardens Estate, Bardia

Prepared for: Monarch Investments
March 2020

Printed: 3 March 2020
File Name: 5285N Ingleburn Gardens - Planning Proposal/Reports/5285N.PP.docx
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Client: Monarch Investments
Project Number: 5285N

Document Control

Version	Prepared By	Reviewed By	Issued To	Date
Rev_1, Draft	A. Rijke	W. Gosling	Client	6 November 2019
Rev_2, Final	A. Rijke	W. Gosling	Council	28 February 2020

Contents

1	Introduction	1
1.1	Commission	1
1.2	Purpose of this Statement	1
1.3	Material Relied Upon	1
1.4	Summary of Conclusions and Recommendations	1
2	Background	2
2.1	Previous Development Consents	2
2.2	Meetings with Council	2
3	Site Context	3
3.1	Location	3
3.2	Site Description	4
3.3	Surrounding Development	5
3.4	Proximity to Hume Motorway	8
4	Planning Proposal	9
4.1	Concept Proposal	9
4.1.1	Concept Building Envelopes	10
4.2	Acoustic Impacts	10
4.3	Traffic Impacts	10
5	Matters Required by s. 3.33 of the EP&A Act	11
5.1	Introduction	11
5.2	Part 1 - Objectives or Intended Outcomes (section 3.33(2)(a))	11
5.2.1	Objectives and Outcomes	11
5.2.2	Existing Zone objectives and permissible uses	11
5.3	Part 2 - Explanation of Provisions (section 3.33(2)(b))	12
5.3.1	Proposed Permissibility	12
5.4	Part 3 – Justification (section 3.33(2)(c))	14
5.4.1	Section A – Need for the Planning Proposal	14
5.4.2	Section B – Relationship to Strategic Planning Framework	15
5.4.3	Section C – Environmental, Social and Economic Impact	20
5.4.4	Section D – State and Commonwealth Interests	21
5.5	Part 4 – Mapping (section 3.33(2)(d))	21
5.6	Part 5 - Community Consultation (section 3.33(2)(e))	21
5.7	Part 6 – Project Timeline	22
6	Conclusion	23

Contents

Figures

Figure 1	Site Location	3
Figure 2	Aerial photograph of the site	3
Figure 3	Lots 9 and 10 DP 270983	4
Figure 4	Lot 10 as seen from the edge of the road	5
Figure 5	Lot 9 as seen looking south east	5
Figure 6	Examples of dwellings within Stage 12	6
Figure 7	Community Park	6
Figure 8	Community swimming pool	7
Figure 9	Webber Circuit and bulk earthworks opposite the site	7
Figure 10	Lot 26 which is currently vacant	8
Figure 11	An extract of the concept plan showing the subject allotments in red	9
Figure 12	Existing Zoning map extract	12
Figure 13	Proposed Zoning map extract	13
Figure 14	Existing Building Height map extract	13
Figure 15	Proposed Building Height map extract	14

Tables

Table 1	The proposals consistency with CLEP 2015 objectives for the R3 zone	14
Table 2	The proposals consistency with <i>A Metropolis of Three Cities</i>	15
Table 3	Consistency with Applicable State Environmental Planning Policies	17
Table 4	Compliance with Section 9.1 Directions	17

Appendices

1. Indicative Building Plans
2. Concept Plan
3. Acoustic Report
4. Traffic and Parking Assessment
5. Setbacks to Hume Motorway

1 Introduction

1.1 Commission

DFP has been commissioned by Monarch Investments to prepare a Planning Proposal in respect of the land at Ingleburn Gardens Estate (the site).

The Planning Proposal seeks to rezone two parcels of land currently zoned RE2 Private Recreation to R3 Medium Density Residential pursuant to Campbelltown Local Environmental Plan 2015 (CLEP). The site of the proposed rezoning is a strip of land parallel to the Hume Highway/M5 and opposite residential zoned land in Stage 12 (known as The Meadows) which is currently being developed for residential housing.

1.2 Purpose of this Statement

The purpose of this report is to provide Campbelltown City Council and the Department of Planning Industry and Environment (DPIE) with the necessary information to assess the Planning Proposal and for the Minister to make a Gateway Determination in accordance with section 3.34 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.3 Material Relied Upon

This SEE has been prepared by DFP based on information referred to herein and/or appended to this report and a site inspection undertaken on 2 August 2018.

1.4 Summary of Conclusions and Recommendations

This report concludes that the proposal to rezone the site from RE2 Private Recreation to R3 Medium Density Residential:

- is consistent with the Western City District Plan;
- is consistent with the Campbelltown LSPS;
- is not inconsistent with relevant SEPPs and section 9.1 Directions; and
- will not reduce the useable private open space for The Meadows.

Furthermore, the master plan for the site demonstrates that environmental factors can be adequately addressed and subject to more detailed assessment at the DA stage.

Accordingly, we recommend that Council endorse this Planning Proposal and forward it to the Minister for Gateway Approval.

2 Background

2.1 Previous Development Consents

A community title subdivision scheme was approved by Council on 6 July 2007 to provide for the development of the Ingleburn Gardens Estate. That approval provided for a community title subdivision including the creation of roads and community facilities.

Subsequent to that, it was determined that the Estate would be able to be managed more appropriately if it was separated into precincts. This allowed for development to occur in an orderly and timely manner and allow for subdivision certificates for each sub-stage to be released as required.

Multiple development consents have previously been granted for the development of the Ingleburn Gardens Estate. Stages 1 - 8 of the development are completed and Stages 9, 10 and 11 are now under construction. The development of these stages has been in accordance with a Staged Development consent (which has been amended on several occasions as the development has progressed). The Staged DA Masterplan noted the location of the land subject to this planning proposal is located as a future school site. However, development of the school has not eventuated, and it was therefore proposed to develop the precinct (named the Meadows) for residential purposes and ancillary uses in accordance with the current land use zonings that apply to the site.

On 14 June 2016, Council approved Stage 12 of the development, known as The Meadows. Stage 12 include the creation of an additional 210 community-titled residential lots, a community lot and construction of roads, drainage infrastructure, community facilities and site landscaping.

2.2 Meetings with Council

Monarch Investments and DFP met with Council on 27 September 2018 to discuss the planning proposal. Council raised several points which were to be addressed within the planning proposal including:

- Acoustic Amenity, considering impacts internally and to private open space;
- The interface between new dwellings and those proposed as part of rezoning should be assessed;
- Consideration for buffer treatment to the Hume Highway, including integration and continuity when considering broader Bardia;
- Uplift in yield is to be addressed in terms of physical and social infrastructure;
- Implications to existing resident to be detailed

Following this initial meeting, Monarch Investments and DFP met with Council on site on 31 October 2018. Following this meeting it was discussed that the provision of indicative building floor plans would be helpful to determine whether it would be possible for dwelling houses to be constructed on site with adequate amenity. Indicative floor plans have been prepared and are attached at **Appendix 1**.

3 Site Context

3.1 Location

The Site is located off Ingleburn Gardens Drive, Bardia, within the Ingleburn Gardens Estate (see **Figure 1**). The Ingleburn Gardens Estate is generally bounded by Campbelltown Road to the north, the Hume Highway/South Western Freeway to the east, Ingleburn Military Camp to the west and undeveloped land in Edmondson Park to the south.

A locality plan indicating the location of the site within the Ingleburn Gardens Estate and the surrounding area generally is provided in **Figure 1** below. **Figure 2** is an aerial photo of the site.

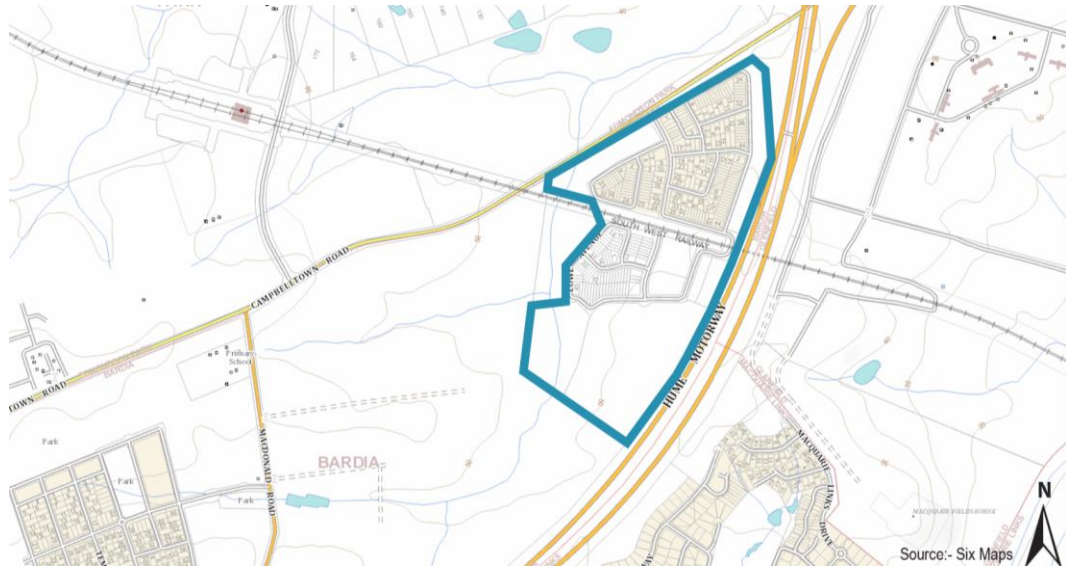


Figure 1 Site Location



Figure 2 Aerial photograph of the site

3 Site Context

3.2 Site Description

The Ingleburn Gardens Estate comprises multiple residential, community and residual lots. The two lots the subject of the planning proposal are legally described as Lots 9 and 10 in Deposited Plan (DP) 270983 (see **Figure 3**).



Figure 3 Lots 9 and 10 DP 270983

These lots are part of Stage 12 of the Ingleburn Gardens Estate which is known as The Meadows. Stage 12 received development consent 14 June 2016 for the subdivision of 210 community title lots and 1 residual lot. The two allotments form part of the residual allotment which was located along the eastern edge of the precinct, adjacent to the Hume Highway/M5.

Lot 9 is approximately 5,600m² and Lot 10 is approximately 2,500m² in area. These allotments are currently subject to bulk earthworks as part of the Stage 12 works and will create a flat building surface (see **Figure 4** and **5** below).

3 Site Context



Figure 4 Lot 10 as seen from the edge of the road



Figure 5 Lot 9 as seen looking south east

3.3 Surrounding Development

The site is located on the southern side of the South West Railway line and to west of the Hume Highway. The existing part of Ingleburn Gardens is located to the north and is in progressive stages of development, with Stages 1-8 complete and Stages 9-11 under construction. Stage 12, known as The Meadows is also currently under construction with roads being construction and several dwellings nearing the end of completion (see **Figure 6**).

3 Site Context



Figure 6 Examples of dwellings within Stage 12

North of Lot 10 is private open green space which comprises a sound deflection mound. This mound was required for dwellings in Stage 12 to provide an acoustic treatment.

East of the site is the Hume Highway/M5. The site is separated from the Hume Highway by a 1.2 metre wire fence, trees and a small mound within the road reserve. At this point the Hume Highway provides four lanes north bound and four lanes south bound separated by a 40 metre wide vegetated median strip.

Between the two allotments is a community centre which contains a community pool, playground, lawn area and amenity shelter (see **Figure 7** and **8**).



Figure 7 Community Park

3 Site Context



Figure 8 Community swimming pool

South of Lot 9 is vegetated screen area to screen the development from view from the Hume Highway. This area does not currently contain trees but is to be planted at the completion of Stage 12.

West of Lot 9 is Road 2 (to be known as Webber Circuit) a local road providing vehicular access to surrounding allotments in Stage 12 (see **Figure 9**). On the opposite side of this Road are residential allotments varying in size from 180m² to 343m².



Figure 9 Webber Circuit and bulk earthworks opposite the site

West of Lot 10 are residential allotments, comprising Lot 2, 3 and 26. The site will be adjacent to the rear boundaries of Lot 2 and 3 which are accessed from Ingleburn Gardens Drive and adjacent to the site boundary of Lot 26, which will be accessed from Webber Circuit (see

3 Site Context

Figure 10). Allotments from Lot 10 will need to be accessed via a shared access handle providing access to Road 2.



Figure 10 Lot 26 which is currently vacant

3.4 Proximity to Hume Motorway

In response to discussions with Council a review of other properties located adjacent to the Hume Motorway, the M7 and the South Western Motorway have been reviewed. **Appendix 5** details the location of existing dwellings in proximity to the motorway.

The site will have dwellings which are between 23.3 to 35.6 metres setback from the rear of the dwelling to the edge of the Hume Motorway. In comparison, there are examples of dwellings being located at minimum 15 metres from the M7 and South Western Motorway (M5), as shown in **Appendix 5**.

Of the examples provided there are four examples of recent developments (numbers 4 to 7) where dwellings are located between 15 and 32 metres from the edge of the major road.

Future dwellings would be consistent with these developments, many of which include acoustic walls along the rear boundary to provide an extra buffer from noise.

4 Planning Proposal

4.1 Concept Proposal

The Planning Proposal seeks to rezone two parcels of land currently zoned RE2 Private Recreation to R3 Medium Density Residential. The concept scheme has been prepared by ACOR Engineers and is provided at **Appendix 2**, an extract of which is provided at **Figure 11** below.



Figure 11 An extract of the concept plan showing the subject allotments in red

It is proposed to subdivide Lot 10 (northern lot) into four residential allotments and one shared access handle providing access to all four allotments. Lot 9 (southern lot) will be subdivided into 23 new allotments, access will be provided from Road 2 (Webbers Circuit).

Lots in the northern block range in depth from 41 to 43 metres and have a width at the front boundary of approximately 9 metres and a rear boundary of approximately 10.5 metres. Lots will be approximately 400m² in size.

Lots in the southern block have a depth of 33 metres. Lot widths are approximately 7.5 metres and have an area of 255m². One lot is however large as it is located on the bend in the block. This lot has a 7.5 metre wide frontage and a 11.75 metre wide rear boundary and has an area of approximately 320m².

Exact lot dimensions and areas will be established in a future DA.

The two allotments that comprise the site are currently zoned for Private Recreation, however there is no proposal to use these areas for specific recreational uses. Residents of the Meadows are provided with the required recreational spaces in the existing playground, park, BBQ area and swimming pool which are high quality and large facilities and further private recreation services would be unnecessary and would result in significant increases to strata rates for existing residents.

The other two allotments of Private Recreation land therefore, would only be lawn areas without any specific landscaping or recreation facilities. The space would unlikely be used when specific and well-designed and functional recreation spaces are located adjacent.

This option allows additional residents to use these facilities which would reduce strata rates for existing residents without putting an undue burden on existing facilities.

4 Planning Proposal

4.1.1 Concept Building Envelopes

Concept plans have been prepared for the proposed lots in order to demonstrate that development can be located on the proposed allotments. The dwellings are attached to either one or two other dwellings and contain private open space in the rear yard.

The indicative building layouts show a one space garage, kitchen, living and dining room, a laundry and a toilet on the ground floor. The first contains four bedrooms, one bathroom and one ensuite. A second sitting area and study nook is also provide on the first floor.

All dwellings contain the same general configuration, with the exception of Dwelling 2 which contains an extra living room on the ground floor and no living space upstairs.

4.2 Acoustic Impacts

It is proposed to install an Acoustic Wall along the rear boundary of the new allotments. The wall is to be a 'AcoustiMax 100' panel wall which was a Rw rating of 28 and a composite density of 15.68kg/m². The wall will be at least 2 metres above the road level and will result in sound reduction of between 15-20db. **Appendix 3** provides details of the Acoustic Wall.

An acoustic report has been prepared by Acoustic Logic and is attached at **Appendix 3**. The report assesses the impact of noise from the Hume Highway to the lots which are proposed to be rezoned. The acoustic report assumes the allotments would be subdivided in accordance with the concept plan and dwellings would be constructed on site.

The report concludes that noise impacts to dwellings can be mitigated through the materials used in the building finishes including the following:

- Additional/thicker glazing;
- External walls being constructed of concrete or masonry and not having external vents;
- External doors being constructed of at least 40mm solid timber with specific seals;
- Additional insulation on the roof/ceiling; and
- Mechanical ventilation being provided so windows can be closed yet rooms can still be ventilated.

The required design features are common in dwelling houses located near significant noise sources and are readily available. In addition, the noise mitigation measures along with the new dwellings are likely to assist in improving acoustic impact for existing dwellings in the street. Further details of how each house achieves the relevant noise mitigation measures will be detailed at DA stage.

4.3 Traffic Impacts

A traffic and parking assessment has been prepared by ptc and is attached at **Appendix 4**. The report assesses the impact the additional 26 residential allotments will have on the existing traffic conditions which is generated by Ingleburn Gardens and is forecast to result from The Meadows development (forecasts must be made as The Meadows development has not yet been completed).

The proposal will result in 7 inbound trips and 29 outbound trips in the AM peak and 27 inbound trips and 7 outbound trips in the PM peak. Further modelling of the anticipated additional traffic volume was then prepared which conclude that the additional traffic generation is not expected to significantly reduce the existing amenity of the Campbelltown Road/Ingleburn Gardens Drive signalised intersection. This intersection is modelled as having a 15 to 28 second per vehicle delay in the AM peak and a less than 14 second per vehicle delay in the PM peak. These findings are considered good operation with acceptable delays and additional capacity.

5 Matters Required by s. 3.33 of the EP&A Act

5.1 Introduction

Section 3.33 of the EP&A Act relates to Planning Proposals and specifically, the matters that are to be addressed in a Planning Proposal. Specifically, section 3.33 states:

- “(1) *Before an environmental planning instrument is made under this Division, the planning proposal authority is required to prepare a document that explains the intended effect of the proposed instrument and sets out the justification for making the proposed instrument (the planning proposal).*
- (2) *The planning proposal is to include the following:*
- (a) *a statement of the objectives or intended outcomes of the proposed instrument,*
 - (b) *an explanation of the provisions that are to be included in the proposed instrument,*
 - (c) *the justification for those objectives, outcomes and provisions and the process for their implementation (including whether the proposed instrument will give effect to the local strategic planning statement of the council of the area and will comply with relevant directions under section 9.1),*
 - (d) *if maps are to be adopted by the proposed instrument, such as maps for proposed land use zones; heritage areas; flood prone land—a version of the maps containing sufficient detail to indicate the substantive effect of the proposed instrument,*
 - (e) *details of the community consultation that is to be undertaken before consideration is given to the making of the proposed instrument.*
- (3) *The Planning Secretary may issue requirements with respect to the preparation of a planning proposal.”*

The following subsections of this Planning Proposal address the requirements of section 3.33 of the EP&A Act.

5.2 Part 1 - Objectives or Intended Outcomes (section 3.33(2)(a))

5.2.1 Objectives and Outcomes

The intended objective or outcome of this Planning Proposal is:

To rezone land currently zoned for Private Recreation purposes to allow the subdivision for medium density housing.

5.2.2 Existing Zone objectives and permissible uses

The Zone Objectives and Land Use Table pursuant to the current version of the RE2 Private Recreation zone are stated as follows:

“1 Objectives of zone

- *To enable land to be used for private open space or recreational purposes.*
- *To provide a range of recreational settings and activities and compatible land uses.*
- *To protect and enhance the natural environment for recreational purposes.*
- *To protect and enhance areas of scenic value and the visual amenity of prominent ridgelines.*
- *To protect bushland, wildlife corridors and natural habitat.*
- *To ensure the preservation and maintenance of environmentally significant and environmentally sensitive land.*

2 Permitted without consent

Nil

5 Matters Required by s 3.33 of the EP&A Act

3 Permitted with consent

Boat launching ramps; Car parks; Community facilities; Eco-tourist facilities; Emergency services facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Information and education facilities; Jetties; Kiosks; Markets; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Restaurants or cafes; Roads; Signage; Small bars; Water recreation structures; Water supply systems

4 Prohibited

Any development not specified in item 2 or 3"

The meanings of words or expression within the above provisions are subject to the definitions in the *Standard Instrument (Local Environmental Plans) Order 2006*.

5.3 Part 2 - Explanation of Provisions (section 3.33(2)(b))

5.3.1 Proposed Permissibility

The proposed outcome will be achieved by amending the following:

Zoning

Rezoning the site from RE2 Private Recreation to R3 Medium Density Residential will allow the site to be developed for residential purposes consistent with adjacent residential allotments.

The area of the rezoning only applies to Lots 9 and 10 of DP270983 and the road adjacent to Lot 9. **Figures 12 and 13** below demonstrate the proposed zoning amendment.

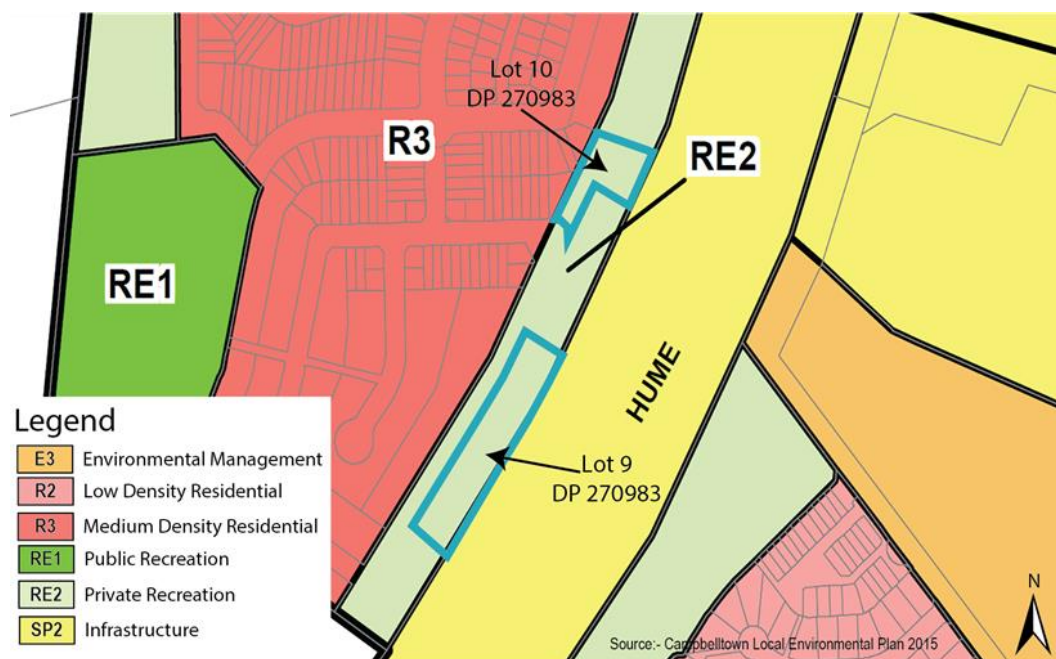


Figure 12 Existing Zoning map extract

5 Matters Required by s 3.33 of the EP&A Act

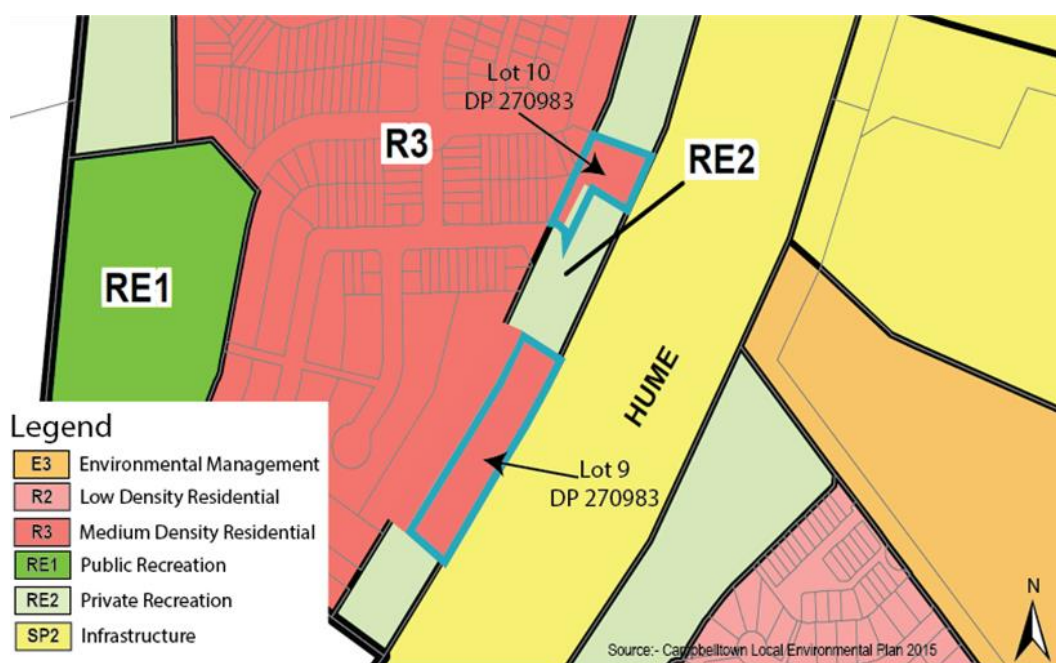


Figure 13 Proposed Zoning map extract

Maximum Building Height

The RE2 portion of the site currently does not have a maximum height limit. It is proposed to apply a 9 metre height limit (expressed in green and the letter J on the Building Height Map). The 9 metre height limit is consistent with other R3 zoned land within Ingleburn Gardens.

Figures 14 and 15 below demonstrate the proposed height map amendment.



Figure 14 Existing Building Height map extract

5 Matters Required by s 3.33 of the EP&A Act

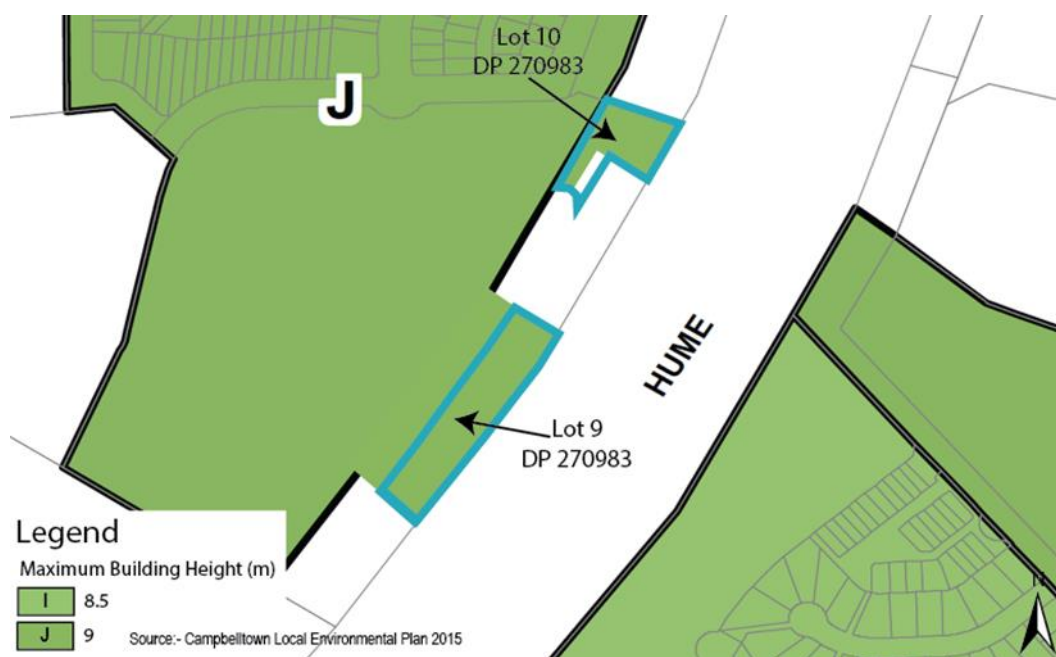


Figure 15 Proposed Building Height map extract

5.4 Part 3 – Justification (section 3.33(2)(c))

5.4.1 Section A – Need for the Planning Proposal

Question 1 – Is the planning proposal a result of any strategic study or report?

The proposal has not been prepared in response to any specific strategic study prepared by Council or any other government authority.

Question 2 – Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

Rezoning the lots is the best option to achieve the subdivision of the site. The proposal is consistent with the objectives of the R3 zone as discussed in the table below:

Table 1 The proposals consistency with CLEP 2015 objectives for the R3 zone	
Objective	Comment
To provide for the housing needs of the community within a medium density residential environment.	The concept plan allows residential lots is in accordance with this objective as it will extend the existing R3 zoning which is currently present north and west of the site. The ongoing sale and demand of other lots and dwellings in the Ingleburn Gardens precinct indicates that the type of housing and lot sizes located in Ingleburn Gardens are meeting the needs of the community.
To provide a variety of housing types within a medium density residential environment.	The proposal will provide the option of various housing typologies as lot sizes proposed in the concept plan vary 255m ² to 400m ² . The various lot sizes will allow for detached dwelling houses and dual occupancies of various sizes.
To enable other land uses that provide facilities or services to meet the day to day needs of residents.	This objective is not relevant as the concept scheme does not include other land uses that provide facilities or services to meet the day to day needs of residents.
To provide for a wide range of housing choices in close proximity to commercial centres, transport hubs and routes.	The proposal will provide new housing options in close proximity to the community centre and a new child care centre within The Meadows development. In addition, the new lots will benefit from the existing commercial recreational and health services located in Ingleburn Gardens.
To enable development for purposes other than residential only if that	This objective is not relevant as the concept plan only proposes residential uses.

5 Matters Required by s 3.33 of the EP&A Act

Table 1 The proposals consistency with CLEP 2015 objectives for the R3 zone

Objective	Comment
development is compatible with the character and scale of the living area.	
To minimise overshadowing and ensure a desired level of solar access to all properties.	A future development application for subdivision and dwelling construction can ensure the development does not result in adverse solar access impacts.

As the surrounding sites are zoned R3 Medium Density Residential it is appropriate to continue the zoning to ensure the precinct has a consistent character.

5.4.2 Section B – Relationship to Strategic Planning Framework

Question 3 – Is the planning proposal consistent with the objectives and actions of the applicable regional, sub-regional or district plan or strategy (including any exhibited draft plans or strategies)?

A *Metropolis of Three Cities* is the key strategic document for the growth of Sydney. The plan was prepared by the Greater Sydney Commission and was released in March 2018, providing a framework for the growth of Sydney over the next 20 years.

The plan is clear in its strategic intent to create cities where residents live within 30 minutes of their jobs, education, health and recreation requirements. The plan identifies three cities which are each able to function independently. This vision for Sydney is set out in four overarching frameworks. Of these four frameworks, liveability directly relates to this planning proposal.

Within the liveability framework the following objectives apply:

Table 2 The proposals consistency with A *Metropolis of Three Cities*

Objective	Proposals Relationship to the objective
7. Communities are healthy, resilient and socially connected	Ingleburn Gardens and The Meadows are master planned communities which have access to private community recreational facilities, including large swimming pools, BBQ areas and playgrounds. The two sites to be rezoned are adjacent to the swimming pool and playground and will be provided with easy access to the recreational facilities which will integrate the residents of these allotments with the other residents of The Meadows.
10. Greater housing supply	The proposal will result in 26 new residential allotments. The provision of new allotments further increases housing supply in the already established Ingleburn Gardens and will provide new dwellings in the sub-precinct of The Meadows without resulting in an oversupply of new dwellings. The Plan identifies a target of 39,850 new dwellings by 2021 in the western city district. The additional 26 allotments will provide a small amount to the overall dwelling target.
11. Housing is more diverse and affordable	The proposal will result in additional housing typical within the Meadows precinct. Housing will comprise 4 bedroom attached dwellings with rear private open space. Future residents will have a choice of housing depending on their needs and budgets and can choose lots and houses accordingly.

The site is located within the Western City District as identified in the *Metropolis of Three Cities* plan. The District Plan identifies more specific strategic direction for the area, providing planning priorities relating to the specific environmental, cultural and economic of the Western City.

The proposal relates directly to Planning Priority W4 which priorities:

“Fostering healthy, creative, culturally rich and socially connected communities”

The new allotments will be well integrated into The Meadows which is currently under construction. Residents will have access to the Meadows recreational and community facilities

5 Matters Required by s 3.33 of the EP&A Act

which is the hub of the community. This will provide future residents with a place which is for the exclusive use of The Meadow residents, providing a clear location for social interaction.

Question 4 – Is the planning proposal consistent with a council’s local strategy or other local strategic plan?

Campbelltown Council have two local strategies which relate to the site. The first is *Campbelltown 2025, Looking Forward*. The strategy was prepared in 2004 and seeks to identify the foundations for a new town plan that will help achieve that desired future character of the LGA.

The proposal is consistent with the strategy and specifically is consistent with Strategic Direction 6.2 which seeks to Grow the Regional City. Part of the direction seeks to grow the population and organise the regional city. The proposal seeks to provide 26 additional residential lots in an existing residential area, supported by existing recreational facilities.

The second local strategy is the *Campbelltown Centres Structure Plan*, prepared in 2009 which provides mapping identifying key strategic direction for the LGA. In this plan the site is identified as ‘Future Urban’ land. This zoning has since been realised with the development of Ingleburn Gardens. The proposal will provide dwellings on infill sites which are currently unused.

Campbelltown have prepared their draft local strategic planning statement (LSPS) and released it for public exhibition in July 2019. Council’s LSPS states its purpose is to:

- *‘provide a 20-year land use vision for the Campbelltown LGA*
- *outline the characteristics that make our city special*
- *identify shared values to be enhanced or maintained direct how future growth and change will be managed*
- *prioritise changes to planning rules in the LEP and DCP*
- *implement the Region and District Plans as relevant to the Campbelltown LGA*
- *identify where further detailed strategic planning may be needed.’*

The LSPS adopts the four themes of Council’s existing Community Strategic Plan (CSP) as the themes for the LSPS, they are:

- ‘Liveability – A Vibrant, Liveable City;
- Sustainability – A Respected & Protected Natural Environment;
- Productivity – A Thriving, Attractive City; and
- Infrastructure & Collaboration – A Successful City.’

Across each theme, a total of sixteen planning priorities have been established. Within each planning priority, set ‘actions’ are proposed which will provide the basis for achieving the relevant planning priorities.

The relevant priorities from the LSPS are detailed below, with a comment provided as to how these priorities are addressed by this Planning Proposal.

“1. Creating a great place to live, work, play and visit.”

The intent of this priority is to ensure that the Campbelltown community are provided with adequate social and recreational infrastructure. The site is well positioned within The Meadows development and will have access to private recreation facilities, including a playground and swimming pool. The sites will form part of the smaller Meadows community and will have access to the communal facilities, commercial and health services.

By providing new allotments within the existing precinct the future residents will be able to rely upon the internal facilities for part of their recreational needs. This in turn will result in less

5 Matters Required by s 3.33 of the EP&A Act

demand on Council facilities, especially when compared to a development or rezoning which does not have access to such private communal facilities, commercial and health services.

"2. Creating high quality, diverse housing"

Campbelltown LGA is expected to grow from 161,408 to 275,778 people over the next 20 years, representing a 70% increase in the population. This additional population will require approximately 31,250 new dwellings.

The proposal will result in 26 new residential allotments. The provision of new allotments further increases housing supply in the established Ingleburn Gardens and will provide new dwellings in the sub-precinct of The Meadows without resulting in an oversupply of new dwellings.

The proposal will result in additional housing typical within the existing Meadows precinct. Housing will comprise 4 bedroom attached dwellings with rear private open space. Future residents will have a choice of housing depending on their needs and budgets and can choose lots and houses accordingly.

Question 5 – Is the planning proposal consistent with applicable State Environmental Planning Policies?

Table 3 provides an assessment of the Planning Proposal's consistency with relevant State Environmental Planning Policies (SEPPs).

Table 3 Consistency with Applicable State Environmental Planning Policies		
SEPP	Response	Consistent
SEPP No. 55 Remediation of Land	The Site is not known to be contaminated nor has contamination of the site been discovered in the development of the other areas of Ingleburn Gardens or The Meadows. As earthworks have already been undertaken to level the site it is unlikely contamination will be encountered in future subdivision.	Consistent
SEPP (Building Sustainability Index: BASIX) 2004	This is relevant at DA stage where future dwellings will need to demonstrate compliance with the BASIX resource savings goals.	Consistent
SEPP (Infrastructure) 2007	The Planning Proposal will not contain provisions that would be inconsistent with, or hinder the application of the SEPP. This SEPP may apply to future development.	Consistent

Accordingly, the Planning Proposal is considered to be consistent with the relevant applicable SEPPs.

Question 6 – Is the planning proposal consistent with applicable Ministerial Directions (section 9.1 directions)?

Table 4 provides an assessment of the Planning Proposal's compliance with relevant Section 9.1 Directions.

Table 4 Compliance with Section 9.1 Directions	
Direction	Response
1. Employment and Resources	Not Applicable
2. Environment and Heritage	Not Applicable

5 Matters Required by s 3.33 of the EP&A Act

Table 4 Compliance with Section 9.1 Directions

Direction	Response
3. Housing, Infrastructure and Urban Development	
3.1 Residential Zones	
<p>(1) The objectives of this direction are:</p> <ul style="list-style-type: none"> (a) to encourage a variety and choice of housing types to provide for existing and future housing needs, (b) to make efficient use of existing infrastructure and services and ensure that new housing has appropriate access to infrastructure and services, (c) to minimise the impact of residential development on the environment and resource lands. <p>(4) A planning proposal must include provisions that encourage the provision of housing that will:</p> <ul style="list-style-type: none"> (a) broaden the choice of building types and locations available in the housing market, and (b) make more efficient use of existing infrastructure and services, and (c) reduce the consumption of land for housing and associated urban development on the urban fringe, and (d) be of good design. <p>(5) A planning proposal must, in relation to land to which this direction applies:</p> <ul style="list-style-type: none"> (a) 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), and (b) not contain provisions which will reduce the permissible residential density of land. 	<p>The Planning Proposal will allow for the residential subdivision of the site into 26 new lots. Lots will range in sizes and final lot sizes will be determined at DA stage. A range of lot sizes will allow for a range of housing typologies consistent with a low density zoning.</p> <p>The site currently has access to newly constructed infrastructure and services as the site is within a newly established residential community. The site currently has access to all essential services.</p> <p>The site is currently not zoned for environmental or resource purposes and will therefore not adversely impact these lands. The site is within an existing residential area and comprises Private Recreation land which is not used and will therefore not consume any land on the urban fringe that is not currently planned for consumption.</p> <p>The planning proposal seeks to provide a residential density which is consistent with the surrounding residential allotments.</p>
3.4 Integrating Land Use and Transport	
<p>(1) 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:</p> <ul style="list-style-type: none"> (a) improving access to housing, jobs and services by walking, cycling and public transport, and (b) increasing the choice of available transport and reducing dependence on cars, and (c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and (d) supporting the efficient and viable operation of public transport services, and (e) providing for the efficient movement of freight. <p>(4) A planning proposal must locate zones for urban purposes and include provisions that give effect to and are consistent with the aims, objectives and principles of:</p> <ul style="list-style-type: none"> (a) Improving Transport Choice – Guidelines for planning and development (DUAP 2001), and (b) The Right Place for Business and Services – Planning Policy (DUAP 2001). 	<p>The site adjoins existing recreational land, comprising a swimming pool, BBQ area and playground. In addition, the sites will be 200m to 430m from a future childcare centre.</p> <p>Like other residents of Ingleburn Gardens and The Meadows residents will need to cycle or drive to Edmondson Park Station to gain access to public transport options.</p> <p>The proposed residential allotments are located in an existing rezoned urban area.</p>
4. Hazard and Rise	Not Applicable
5. Housing, Infrastructure and Urban Development	Not Applicable

5 Matters Required by s 3.33 of the EP&A Act

Table 4 Compliance with Section 9.1 Directions

Direction	Response
6. Local Plan Making	
6.1 Approval and Referral Requirements	
<p>(1) The objective of this direction is to ensure that LEP provisions encourage the efficient and appropriate assessment of development.</p> <p>(4) A planning proposal must:</p> <ul style="list-style-type: none"> (a) minimise the inclusion of provisions that require the concurrence, consultation or referral of development applications to a Minister or public authority, and (b) not contain provisions requiring concurrence, consultation or referral of a Minister or public authority unless the relevant planning authority has obtained the approval of: <ul style="list-style-type: none"> (i) the appropriate Minister or public authority, and (ii) the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General), prior to undertaking community consultation in satisfaction of section 57 of the Act, and (c) not identify development as designated development unless the relevant planning authority: <ul style="list-style-type: none"> (i) can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the class of development is likely to have a significant impact on the environment, and (ii) has obtained the approval of the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) prior to undertaking community consultation in satisfaction of section 57 of the Act. 	<p>This Planning Proposal does not include any proposed provisions requiring referrals or concurrences, with the exception of referral to the RMS as per Clause 102 of SEPP (Infrastructure).</p> <p>No new provisions requiring concurrence, consultation or referral are proposed in the planning proposal</p>
6.3 Site Specific Provisions	
<p>(1) The objective of this direction is to discourage unnecessarily restrictive site specific planning controls.</p> <p>(4) A planning proposal that will amend another environmental planning instrument in order to allow a particular development proposal to be carried out must either:</p> <ul style="list-style-type: none"> (a) allow that land use to be carried out in the zone the land is situated on, or (b) rezone the site to an existing zone already applying in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone, or (c) allow that land use on the relevant land without imposing any development standards or requirements in addition to those already contained in the principal environmental planning instrument being amended. <p>(5) A planning proposal must not contain or refer to drawings that show details of the development proposal.</p>	<p>This Planning Proposal does not include any proposed site or development specific provisions.</p> <p>It proposes a height limit consistent with the surrounding R3 zone.</p>
7. Local Plan Making	
7.1 Implementation of A Plan for Growing Sydney	
<p>(1) 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.</p> <p>(4) Planning proposals shall be consistent with:</p> <ul style="list-style-type: none"> (a) the NSW Government's A Plan for Growing Sydney published in December 2014. 	<p>A Plan for Growing Sydney has been superseded by A Metropolis of Three Cities and the Western District Plan. As such this direction now relates to the new strategic plans. As discussed in Section 5.4.2 of this report, this Planning Proposal is consistent with these strategic plans.</p>

5 Matters Required by s 3.33 of the EP&A Act

5.4.3 Section C – Environmental, Social and Economic Impact

Question 7 – 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?

The site is currently cleared and subject to bulk earthworks. There is little to no likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal.

Question 8 – Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

Traffic and Parking

Ptc have assessed the likely traffic impacts generated from this proposal, this report is attached at **Appendix 4**.

The proposal will result in 26 new allotments, resulting in 7 inbound trips and 29 outbound trips in the AM peak and 27 inbound trips and 7 outbound trips in the PM peak. Further modelling of the anticipated additional traffic volume was then prepared which concluded that the additional traffic generation is not expected to significantly reduce the existing amenity of the Campbelltown Road/Ingleburn Gardens Drive signalised intersection. This intersection is modelled as having a 15 to 28 second per vehicle delay in the AM peak and a less than 14 second per vehicle delay in the PM peak.

These findings are considered to be a good level of operation with acceptable delays and additional capacity. Further details on car parking and waste collection will be detailed at DA stage.

Acoustic Impacts

Acoustic Impacts have been considered by Acoustic Logic and their assessment is provided at **Appendix 3**. As the site is located adjacent to the Hume Highway it is subject to traffic noise and as a result noise attenuation is required.

The report concludes that noise impacts to dwellings can be managed through the materials used in the building finishes including the following:

- Construction of the noise wall;
- Additional/thicker glazing;
- External walls being constructed of concrete or masonry and not having external vents;
- External doors being constructed of at least 40mm solid timber with specific seals;
- Additional insulation on the roof/ceiling; and
- Mechanical ventilation being provided so windows can be closed yet rooms can still be ventilated.

The required design features are common in dwelling houses located near significant noise sources and are readily available. These features, along with the proposed dwelling, will also assist in providing additional noise protection for existing dwellings in Webber Circuit. Further details of how each house achieves the relevant noise mitigation measures will be detailed at DA stage.

Privacy Impacts

Privacy impacts will generally be addressed in a future DA. As the proposal is for a small amount of residential lots in an area which is surrounded other residential subdivisions there will be no adverse privacy impacts generated by the planning proposal.

5 Matters Required by s 3.33 of the EP&A Act

The new allotments are generally separated from existing allotments by a local road, with the exception of the four northern allotments where the proposed shared driveway is adjacent to three existing allotments. Despite this, dwellings can be designed in order to ensure privacy to the existing allotments is maintained from the driveway.

Question 9 – Has the planning proposal adequately addressed any social and economic effects?

The proposal will increase housing supply in an area which is already in high demand and new lots will be provided with access to all essential services, including access to The Meadows private communal playground, swimming pool and BBQ facilities.

The two allotments that comprise the site are currently zoned for Private Recreation, however there is no proposal to use these areas for specific recreational uses. Residents of the Meadows are provided with the required recreational spaces in the existing playground, park, BBQ area and swimming pool which are high quality and large facilities. Further private recreation services would be unnecessary and an overprovision of facilities and would result in significant increases to strata rates for existing residents.

These two allotments of Private Recreation land would only be lawn areas without any specific landscaping or recreation facilities. The space would unlikely be used when specific and well-designed and functional recreation spaces are located adjacent to the land.

The proposal will have positive safety outcomes, increasing casual surveillance to the existing park. Future dwellings will be designed to provide safety and security for residents, neighbours and the park.

5.4.4 Section D – State and Commonwealth Interests

Question 10 – Is there adequate public infrastructure for the planning proposal?

The proposal will be supported by access to essential services as are currently present in The Meadows. In addition, residents will have access to the local park, which is for exclusive use by residents of The Meadows.

The site is within the catchment of Bardia Public School, the local primary school, 2.4km walking/driving distance from the site. The local high school is Ingleburn High School which is 8.4km from the site.

Question 11 – What are the views of state and Commonwealth public authorities consulted in accordance with the Gateway determination?

This Planning Proposal will require public notification. Relevant government authorities will be notified during the exhibition period.

5.5 Part 4 – Mapping (section 3.33(2)(d))

The following mapping changes are required (note, maps are shown in **Section 5.3.1** above):

- Rezoning the site to R3 Medium Density Residential in accordance with **Figure 13**.
- Change the height limit of the site to 9 metres, represented by the letter 'J' and the colour green in accordance with **Figure 15**.

5.6 Part 5 - Community Consultation (section 3.33(2)(e))

Whilst it is a requirement to undertake statutory consultation relating to a Draft LEP, we are of the opinion that this need not be extensive or prolonged and should not exceed 14 days, although this will be for Council and DPIE to determine.

5 Matters Required by s 3.33 of the EP&A Act

5.7 Part 6 – Project Timeline

The timeline for assessment, consultation and determination of this Planning Proposal will be for Council and DPE to determine however, we consider that it should be possible to expedite this Planning Proposal within the DPIE's suggested timeframe of 6 months.

This section provides an environmental assessment of the proposed development in respect of the relevant matters for consideration under section 4.15(1) of the Environmental Planning and Assessment Act, 1979 (EP&A Act).

6 Conclusion

This Planning Proposal has been prepared on behalf of Monarch Investments and seeks to rezone existing RE2 Private Recreation to R3 Medium Density Residential at Lots 9 and 10 in DP 270983.

This report and accompanying material has been prepared in accordance with section 3.33 of the EP&A Act and relevant Departmental guidance.

The proposal will increase housing supply in an area which is already in high demand and new lots will be provided with access to all essential services, including access to The Meadows private communal playground, swimming pool and BBQ facilities.

The two parcels of land that comprise the site are currently zoned for Private Recreation, however there is no proposal to use these areas for specific recreational uses. Residents of the Meadows are provided with the required recreational spaces in the existing park located between Lots 9 and 10 and further private recreation services would result in significant increases to community association rates for existing residents.

These two allotments of Private Recreation land therefore, would only be lawn areas without any specific landscaping or recreation facilities. The space would unlikely be used when specific and well-designed and functional recreation spaces are located adjacent to the land.

This report concludes that the proposal to rezoning the two allotments to R3 Medium Density Residential:

- is consistent with A Metropolis of Three Cities;
- is consistent with the Western City District Plan;
- is consistent with the draft Campbelltown LSPS;
- is not inconsistent with relevant SEPPs and section 9.1 Directions; and
- will not reduce the useable communal open space for The Meadows.

Accordingly, we recommend that Council endorse this Planning Proposal and forward it to the Minister for Gateway Approval.

- Notes:**
1. Levels shown are approx. and should be verified on site
 2. Figured dimensions are to be taken in preference to scaling
 3. All measurements are in mm unless otherwise stated
 4. Window sizes are nominal only. Final window sizes by builder
 5. Dimensions are to be verified on site by builder before commencement of work
 6. Centre line of downpipes to be 350mm from corner of face brickwork (unless specified on elevation)
 7. Refer to the builders project specification for inclusions
 8. Construction to be in accordance with the Relevant BCA and other relevant Australian standards
 9. All service positions, air conditioning droppers, outlets, return air grills, manholes and bulkheads to be determined on site by supervisor
 10. Termite protection to Australian standards
 11. Brick sill to be greater than 18'
 12. Refer to Basix page for energy requirements
 13. 20mm tolerance to be allowed for frames that are built to the low side of the slab
 14. All upstairs windows with a sill height less than 1700mm to have a max opening width of 125mm or fitted with a screen with secure fittings to comply with BCA
 15. Final AJ's to engineers specifications

Copyright to plans remains at all times with Abeaut design t/a Accurate Design and Drafting.

THESE NOTES MUST BE READ AND UNDERSTOOD BY ALL INVOLVED IN THE PROJECT.

THIS INCLUDES (but is not limited): OWNER, BUILDER, SUBCONTRACTORS, CONSULTANTS, RENOVATORS, OPERATORS, MAINTAINERS, DEMOLISHERS.

1 FALLS, SLIPS, TRIPS

a) WORKING AT HEIGHTS DURING CONSTRUCTION
Wherever possible, components for this building should be prefabricated off-site or at ground level to minimize the risk of workers falling more than two meters. However, construction of this building will require workers to be working at heights where a fall in excess of two meters is possible and injury is likely to result from such a fall. The builder should provide such a barrier wherever a person is required to work in a situation where falling more than two meters is a possibility.

DURING OPERATION OR MAINTENANCE
For houses or other low-rise buildings when scaffolding is appropriate: Cleaning and maintenance of windows, walls, roof or other components of this building will require persons to be situated where a fall from a height in excess of two meters is possible. Where this type of activity is required scaffolding, ladders or trestles should be used in accordance with relevant codes of practice, regulations or legislation. Cleaning and maintenance of windows, walls, roof or other components of this building will require persons to be in situations where a fall from a height in excess of two meters is possible. Where this type of activity is required, scaffolding fall barriers or Personal Protective Equipment (PPE) should be used in accordance with relevant codes of practice, regulations or legislations.

b) SLIPPERY OR UNEVEN SURFACES FLOOR FINISHES Specified
If finishes have been specified by the designer these have been selected to minimize the risk of floors and paved areas becoming slippery when wet or when walked on with wet shoes/feet. Any changes to The specified finished should be made in consultation with the designer, or if this is not practical, surfaces with an equivalent or better slip resistance should be chosen.

FLOOR FINISHES By Owner
If a designer has not been involved in the selection of surface finishes in the pedestrian trafficable areas of this building then surfaces should be selected in accordance with AS HB 197:1999 and AS/NZ 4586:2004.

STEPS, LOOSE OBJECTS AND UNEVEN SURFACES
Due to design restrictions for building, steps and/or ramps are included in the building which may be a hazard to workers carrying objects or otherwise occupied. Steps should be clearly marked with both visual and tactile warning during construction, maintenance, demolition and at all times when the building operates as a workplace. Building owners and occupiers should monitor the pedestrian access ways and in particular access to areas where maintenance is routinely carried out to ensure that surfaces have not moved or cracked so that they become uneven and present a trip hazard. Spills, loose material, stray objects or any other matter that may cause a slip or trip hazard should be cleaned or removed from assess ways. Contractors should be required to maintain a tidy work site during construction, maintenance or demolition to reduce the risk of trips and falls in the workplace. Materials for construction or maintenance should be sorted in designated areas away from access ways and work areas.

2. FALLING OBJECTS

LOOSE MATERIALS OR SMALL OBJECTS
Construction, maintenance or demolition work on or around this building is likely to involve persons working above ground level or above floor levels. Where this occurs one or more of the following measures should be taken to avoid objects falling from the area where the works is being carried out onto persons below.

1. Prevent or restrict access to areas below where the works is being carried out.
2. Provide tie boards to scaffolding or work platforms.
3. Provide protective structure below the work area.
4. Ensure that all persons below the work area have Personal Protective Equipment (PPE)

BUILDING COMPONENTS
During construction, renovation or demolition of this building, parts of the structure including fabricated steelwork, heavy panels and many other components will remain standing prior to or after the support parts are in place. Contractors should ensure that temporary bracing or other required support is in place at all times to avoid a collapse, which may injure persons in the area.

Mechanical lifting of materials and components during construction, maintenance or demolition presents a risk of falling objects. Contractors should ensure that appropriate lifting devices are used, that loads are properly secured and that access to areas below the load is prevented or restricted.

Amendments					
Issue	Changes	Date	Signed/Requested <small>Date of Requested</small>	Drawing Number	
C	Sketch	12-06-19	S.G.	19053	
D	Sketch - 8m front setback	20-06-19	S.G.	19053-3	
E	Triplex	02-10-19	S.G.	19053-4	
F	Lots 401-404 added	16-12-19	S.G.	19053-5	

3. TRAFFIC MANAGEMENT

For building on a major, narrow or steeply sloping road:
Parking of vehicles or loading/unloading of vehicles on this roadway may cause a traffic hazard. During construction, maintenance or demolition of this building designated parking for workers and loading areas should be provided. Trained traffic management personnel should be responsible for the supervision of these areas.

For building where on-site loading/unloading is restricted:
Construction of this building will require loading and unloading of materials on the roadway. Deliveries should be planned to avoid congestion of loading areas and trained traffic management personnel should be used to supervise loading/unloading areas.

For all building:
Busy construction and demolition sites present a risk of collision where deliveries and other traffic are moving within the site. A traffic management plan supervised by trained traffic management personnel should be adopted for the work site.

4. SERVICES

GENERAL
Rapture of services during excavation or other activity creates a variety of risks including release of hazardous materials. Existing services are located on or around the site. Where known, these are identified on the plans but the exact location and extent of services may vary from that indicated. Services should be located using an appropriate service (such as Dial Before You Dig), appropriate excavation practice should be used and, where necessary, specialist contractors should be used.

Locations with underground power lines:
Underground power lines MAY be located near or on this site. These pose a risk of electrocution if struck or approached by lifting devices or other plant and persons working above ground level. Where there is a danger of this occurring power lines should be, where practical, disconnected or relocated. Where this is not practical adequate warning in the form of bright coloured tape or signage should be used or a protective barrier provided.

5. MANUAL TASKS

Components within this design with a mass in excess of 25kg should be lifted by two or more workers or by a mechanical lifting device. Where this is not practical, suppliers or fabricators should be required to limit the component mass. All material packaging, building and maintenance components should clearly show the total mass of packages and where practical all items should be sorted on site in a way which minimizes bending before lifting. Advice should be provided about unsafe lifting methods in areas where lifting may occur. Construction, maintenance and demolition of this building will require the use of portable tools and equipment. These should be fully maintained in accordance with manufacturers specifications and not used when faulty or (in the case of electrical equipment) not carrying a current electrical safety tag. All safety guards or devices should be regularly checked and Personal Protective Equipment should be used in an accordance with the manufacturer's specification.

6. HAZARDOUS SUBSTANCES

ASBESTOS
For alterations to a building constructed prior to: 1990 - It therefore may contain asbestos 1986 - It therefore is likely to contain asbestos
Either in cladding material or in fire retardant insulation material. In either case, the builder should check and, if necessary, take appropriate action before demolishing, cutting, sanding drilling or otherwise disturbing the existing structure.

POWDERED MATERIALS
Many materials used in the construction of this building can cause harm if inhaled in a powder form. Persons working on or in the building during construction, operational maintenance or demolition should ensure food ventilation and wear Personal Protective Equipment including protection against inhalation while using powdered material or when sanding, drilling, cutting or otherwise disturbing or creating powdered material.

TREATED TIMBER
The design of this building may include provision for the inclusion of treated timber within the structure. Dust or fumes f from this material can be harmful. Persons working on or in the building during construction, operational maintenance or demolition should ensure good ventilation and wear Personal Protective Equipment including protection against inhalation of harmful materials when sanding, drilling, cutting or using treated timber in any way that may cause harmful material to be released. Do not burn treated timber.

VOLATILE ORGANIC COMPOUNDS
Man typed of glue, solvents, spray back, paints, vanishes, and some cleaning materials and disinfectants have dangerous emissions. Areas where these are used should be kept well ventilated while the material is being used and for a period after installation. Personal Protective Equipment may also be required. The manufacturer's recommendations for use must be carefully considered at all times.

SYNTHETIC MINERAL FIBRE

Fiberglass, Rockwell, ceramics and other material used for thermal or sound insulation may contain synthetic mineral fiber which may be harmful if inhaled or if it comes in contact with the skin, eyes or other sensitive parts of the body. Personal Protective Equipment including protection against inhalation of harmful materials should be used when installing, removing or working near bulk insulation material.

TIMBER FLOORS

Th9is building may contain timber floors which have an applied finish. Areas where finishes are applied should be kept well ventilated during sanding and application and for a period after installation. Personal Protective Equipment may also be required. The manufacturer's recommendation for use must be carefully considered at all times.

7. CONFINED SPACES

EXCAVATIONS
Construction of this building and some maintenance of the building will require excavation and installation of items within excavation. Where practical, installation should be carried out using methods which do not require workers to enter the excavations. Where this is not practical, adequate support for the excavated area should be provided to prevent a collapse. Warning signs and barriers to prevent accidental or unauthorized access to all excavations should be provided.

ENCLOSED SPACES
For buildings with enclosed spaces where maintenance or other access may be required: Enclosed spaces within this building may be present a risk to persons entering for construction, maintenance or any other purpose. The design documentation calls for warning signs and barriers to unauthorizred access. These should be maintained throughout the life of the building. Where workers are required to enter enclosed spaces, air testing equipment and Personal Protective Equipment should be provided.

SMALL SPACES
For buildings with small spaces where maintenance or other access may be required: some small spaces within this building will require access by construction or maintenance workers. The design documentation calls for warning signs and barriers to unauthorized access. These should be maintained throughout the life of the building. Where workers are required to enter small spaces they should be scheduled so that access is for short periods. Manual lifting and other manual activity should be restricted in small spaces.

8. PUBLIC ACCESS

Public access to construction and demolition sites and to areas under maintenance causes risk to workers and public. Warning signs and secure barriers to unauthorized access should be provided. Where electrical installations, excavations, plant or loose materials are present they should be secure when not gully supervised.

9. OPERATIONAL USE OF BUILDING RESIDENTIAL BUIDLINGS

This building has been designed as a residential building. If it, at a later date, is used or intended to be used as a workplace, the provisions of the Work Health and Safety Act 2011 or subsequent replacement Act should be applied to the new use.

10. OTHER HIGH RISK ACTIVITY

All electrical work should be carried out in accordance with the Code of Practice: Managing Electrical Risks at the Workplace, AS/NZ 3012 and all licensing requirements. All work using Plant should be carried out in accordance with the Code of Practice: Managing Risks of Plant at the Workplace. All work should be carried out in accordance with the Code of Practice: Managing Noise and Preventing Hearing Loss at Work. Due to the history of serious incidents it is recommended that particular care be exercised when undertaking work involving steel construction and concrete placement



Stage 9 Bardia
Lot Number: -
DP Number: UNREG



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Sheet Number	Sheet Name
1	Cover Page
2	Perspective Views
3	Ground Floor Plan
4	First Floor Plan
5	Ground Floor Plan Triplex
6	First Floor Plan Triplex
7	Site Plan

Drawing: Perspective Views		
Scale: 1:100	Date: 16-12-19	
Drawing No: 19053-5	Sheet: 2/5	Issue: F
c - abeaut designs t/a Accurate Design and Drafting 2016		

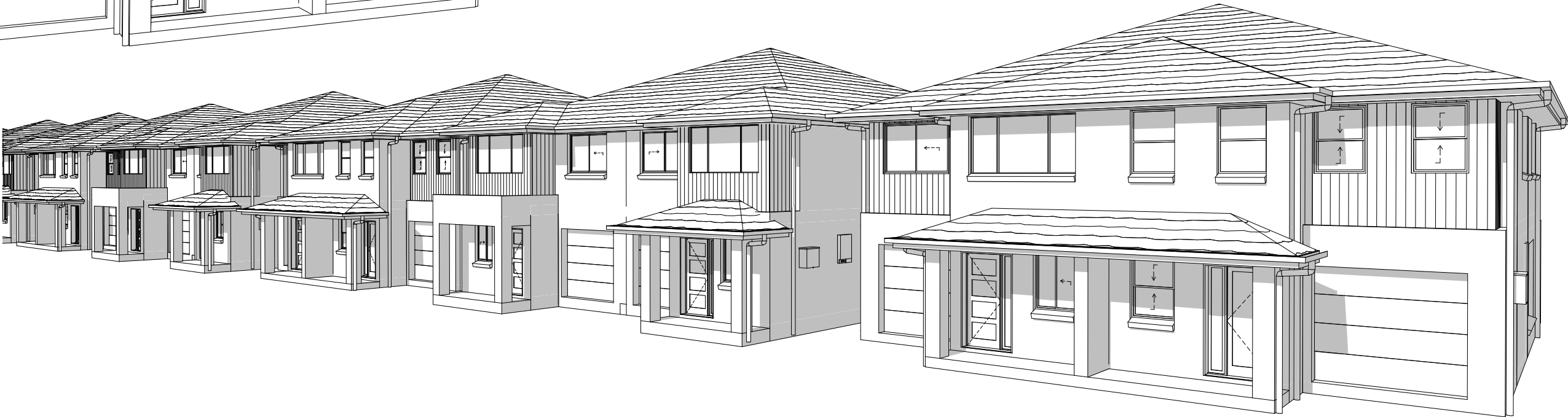


Stage 9 Bardia

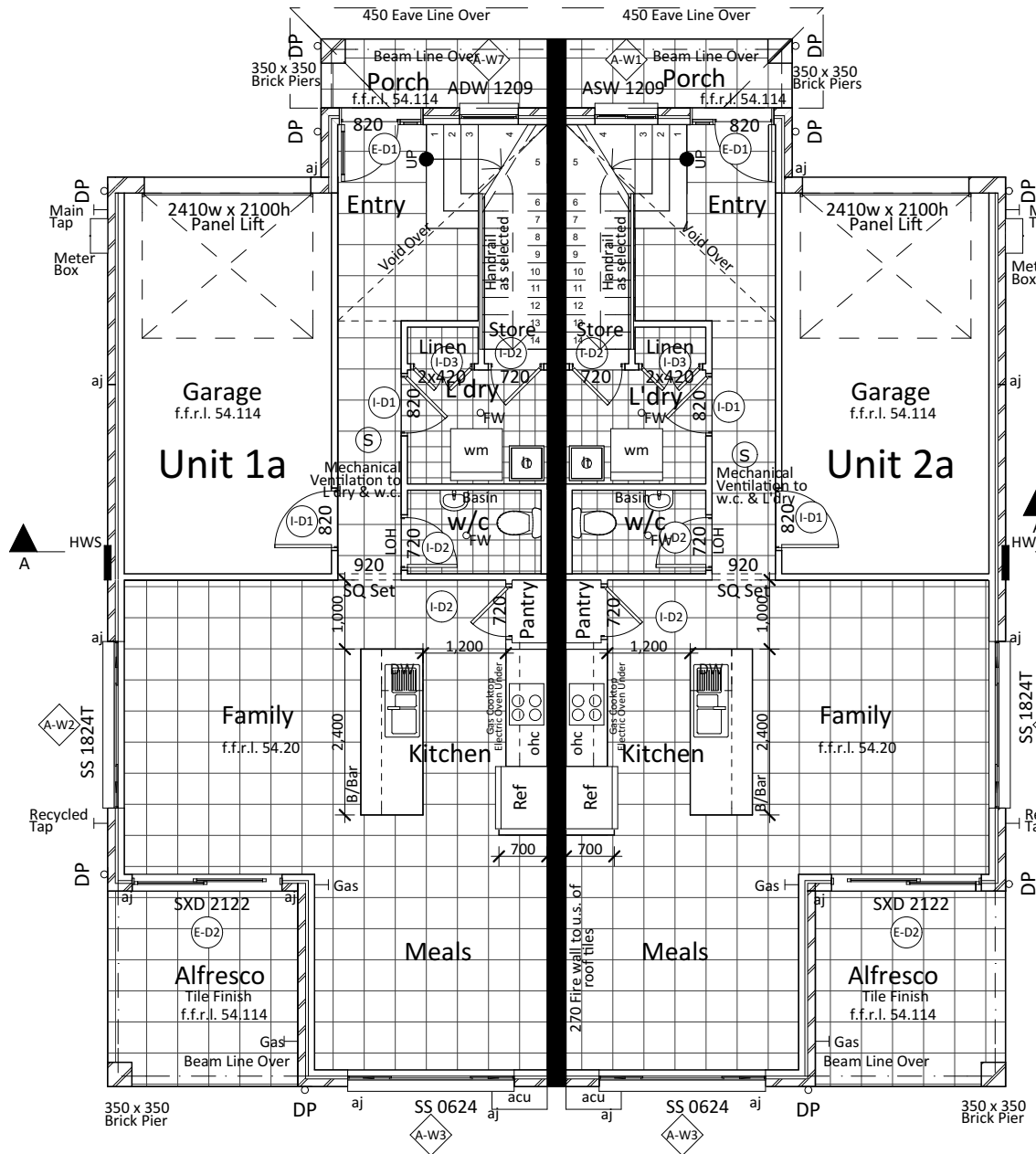
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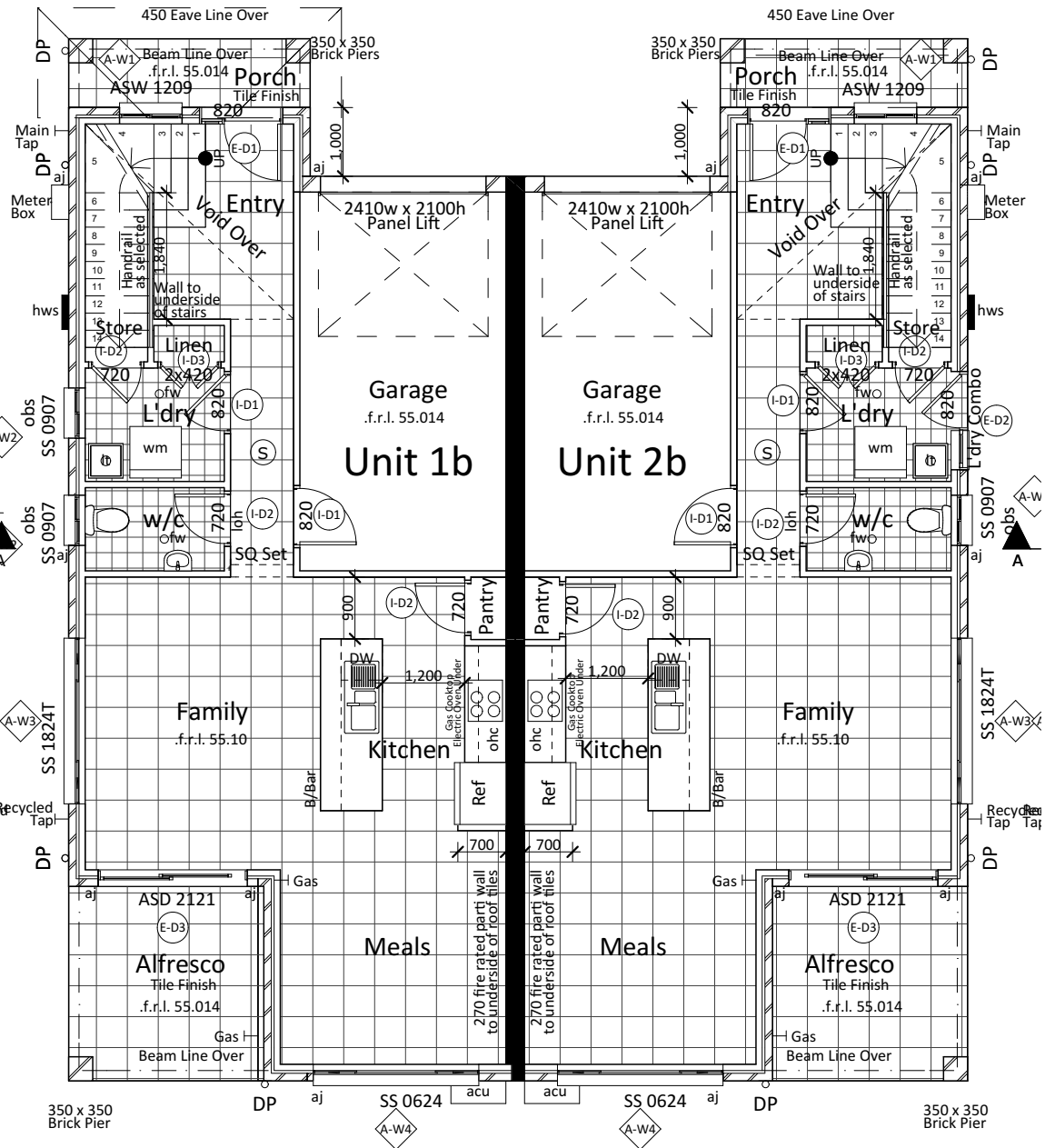


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 6. All upstairs windows with a sill height less than 1700mm to have a max opening width of 125mm or fitted with a screen with secure fittings to comply with BCA
 7. Final AJ's to engineers specifications



NOTE:
181.90sqm Each

Floor Plan
1:100



NOTE:
190.85sqm Each

- Legend:
- ACU - Air Conditioning Unit
 - AJ - Articulation Joint
 - B/Bar - Breakfast Bar
 - D - Dryer
 - DP - Downpipe
 - DW - Dish Washer
 - Ens - Ensuite
 - FW - Floor Waste
 - HWS - Hot Water System
 - LOH - Lift off Hinge
 - LS - Laundry Shoot
 - MH - Man Hole
 - MW - Microwave Oven
 - OBS - Obscure
 - OHC - Over Head Cupboard
 - RHS - Rolled Hollow Steel
 - S - Smoke Detector
 - Shr - Shower
 - TR - Towel Rail
 - Van - Vanity
 - w.i.l. - Walk in Linen
 - w.i.r. - Walk in Robe
 - w.i.p. - Walk in Pantry
 - WM - Washing Machine

Client Approval:

Date:

Client:



Job:

Proposed Development

LOT: - DP: UNREG
Stage 9 Bardia

Drawing:

Ground Floor Plan

Scale:

1:100

Date:

16-12-19

Drawing No:

19053-5

Sheet:

3/5

Issue:

F

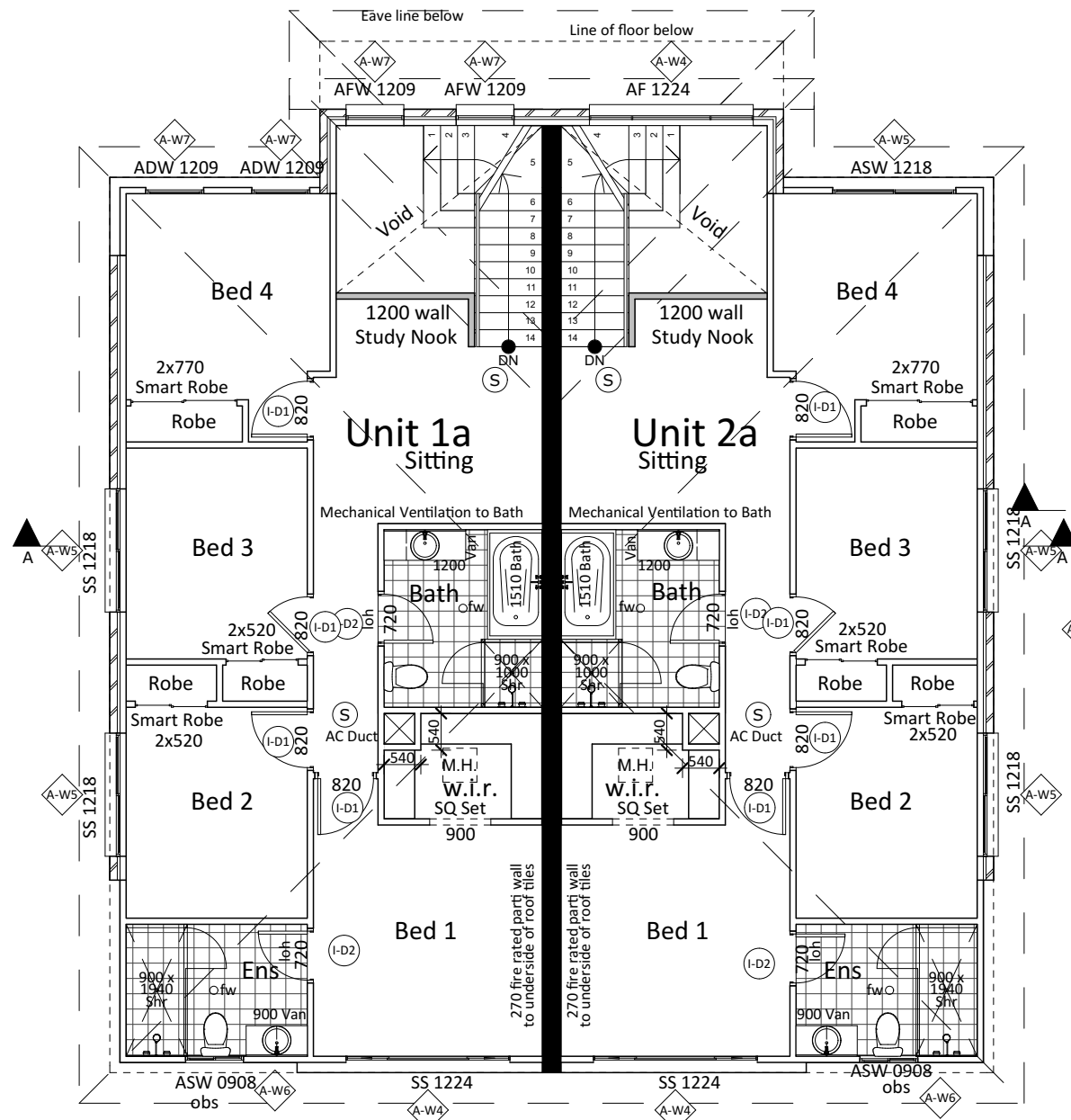
House Design: Custom



accurate
design and drafting

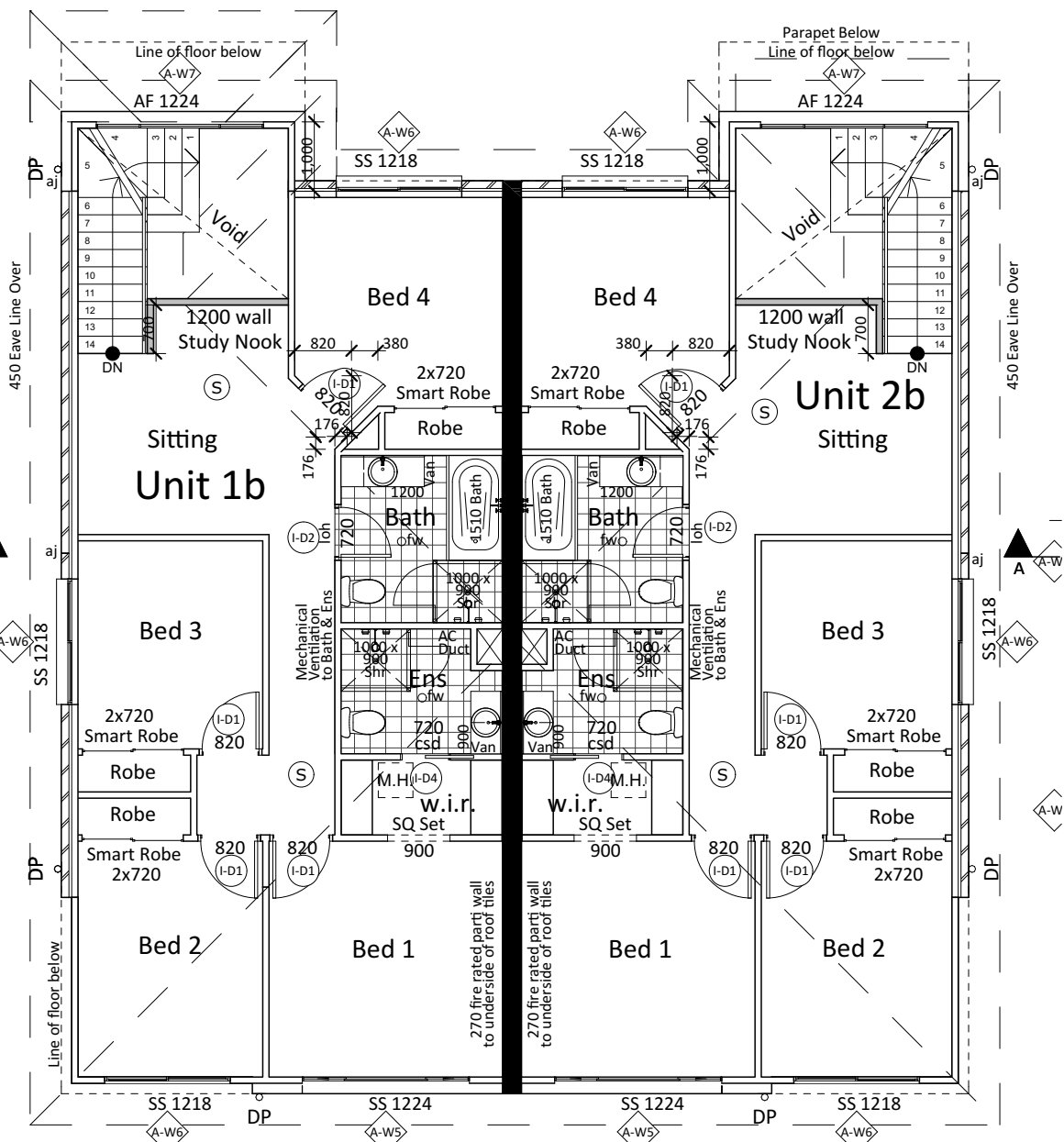
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 7. Final AJ's to engineers specifications



NOTE:
181.90sqm Each

First Floor Plan
1:100



NOTE:
190.85sqm Each

- Legend:
- ACU - Air Conditioning Unit
 - AJ - Articulation Joint
 - B/Bar - Breakfast Bar
 - D - Dryer
 - DP - Downpipe
 - DW - Dish Washer
 - Ens - Ensuite
 - FW - Floor Waste
 - HWS - Hot Water System
 - LOH - Lift off Hinge
 - LS - Laundry Shoot
 - MH - Man Hole
 - MW - Microwave Oven
 - OBS - Obscure
 - OHC - Over Head Cupboard
 - RHS - Rolled Hollow Steel
 - S - Smoke Detector
 - Shr - Shower
 - TR - Towel Rail
 - Van - Vanity
 - w.i.l. - Walk in Linen
 - w.i.r. - Walk in Robe
 - w.i.p. - Walk in Pantry
 - WM - Washing Machine

Client Approval:

Date:

Client:



Job:

Proposed Development

LOT: - DP: UNREG
Stage 9 Bardia

Drawing:

First Floor Plan

Scale:

1:100

Date:

16-12-19

Drawing No:

19053-5

Sheet:

4/5

Issue:

F

House Design: Custom



ccurate

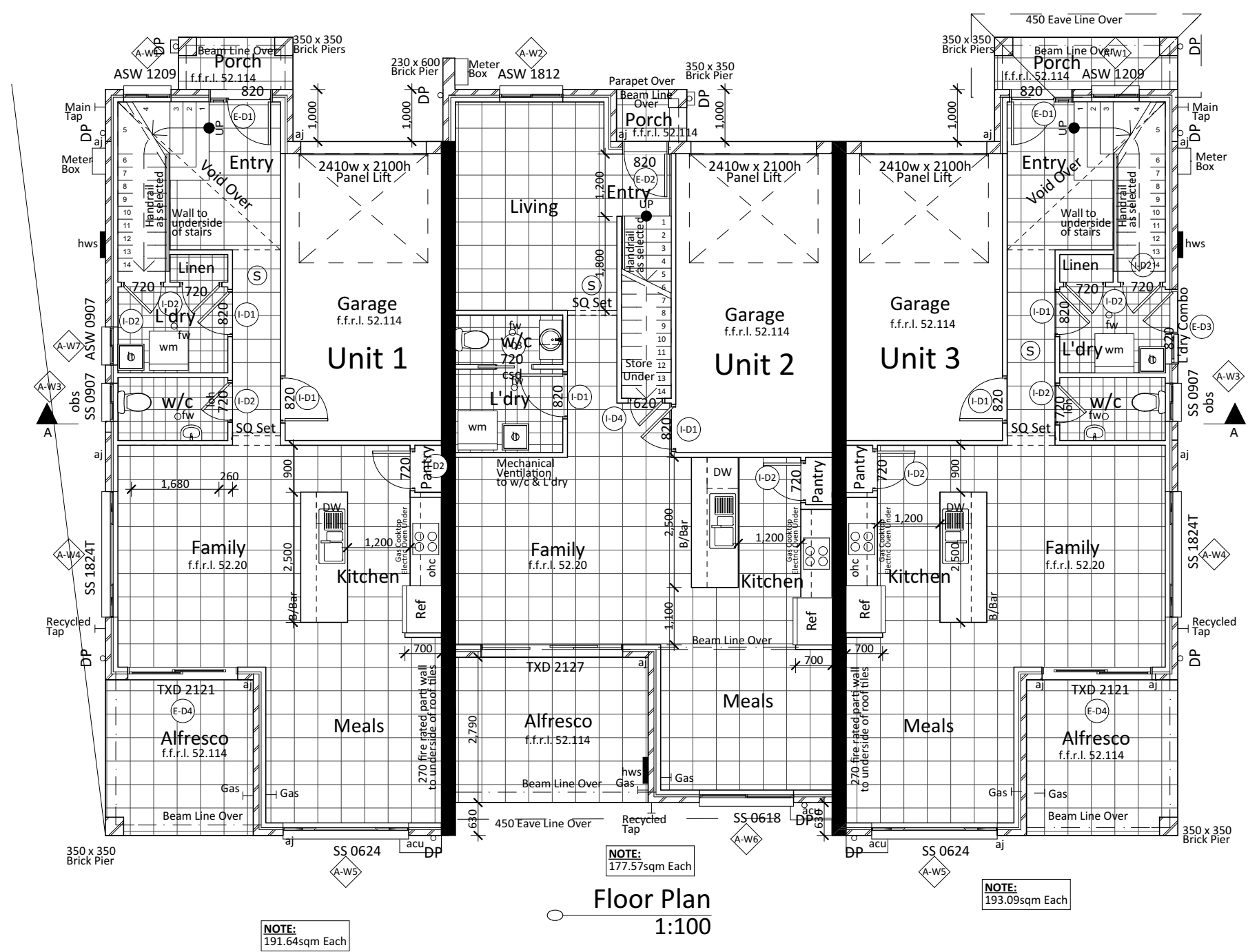
design and drafting

Office: 1a/10 Exchange Parade
Narellan NSW 2567

Phone : 0246472552

Fax : 0246472553

Email: info@accuratedesign.com.au



- Notes:
1. Levels shown are approx and should be verified on site
 2. Figured dimensions are to be taken in preference to scaling
 3. All measurements are in mm unless otherwise stated
 4. Window sizes are nominal only. Final window sizes by builder
 5. Dimensions are to be verified on site by builder before commencement of work.
 6. All upstairs windows with a sill height less than 1700mm to have a max opening width of 125mm or fitted with a screen with secure fittings to comply with BCA
 7. Final AJ's to engineers specifications

Client Approval: _____ Date: _____

Client:  *Dream it. Live it. Love it!*

Job:
Proposed Development

LOT: - DP: UNREG
Stage 9 Bardia

Drawing:
Ground Floor Plan Triplex

Scale: **1:100** Date: **16-12-19**

Drawing No: **19053-5** Sheet: **5/5** Issue: **F**

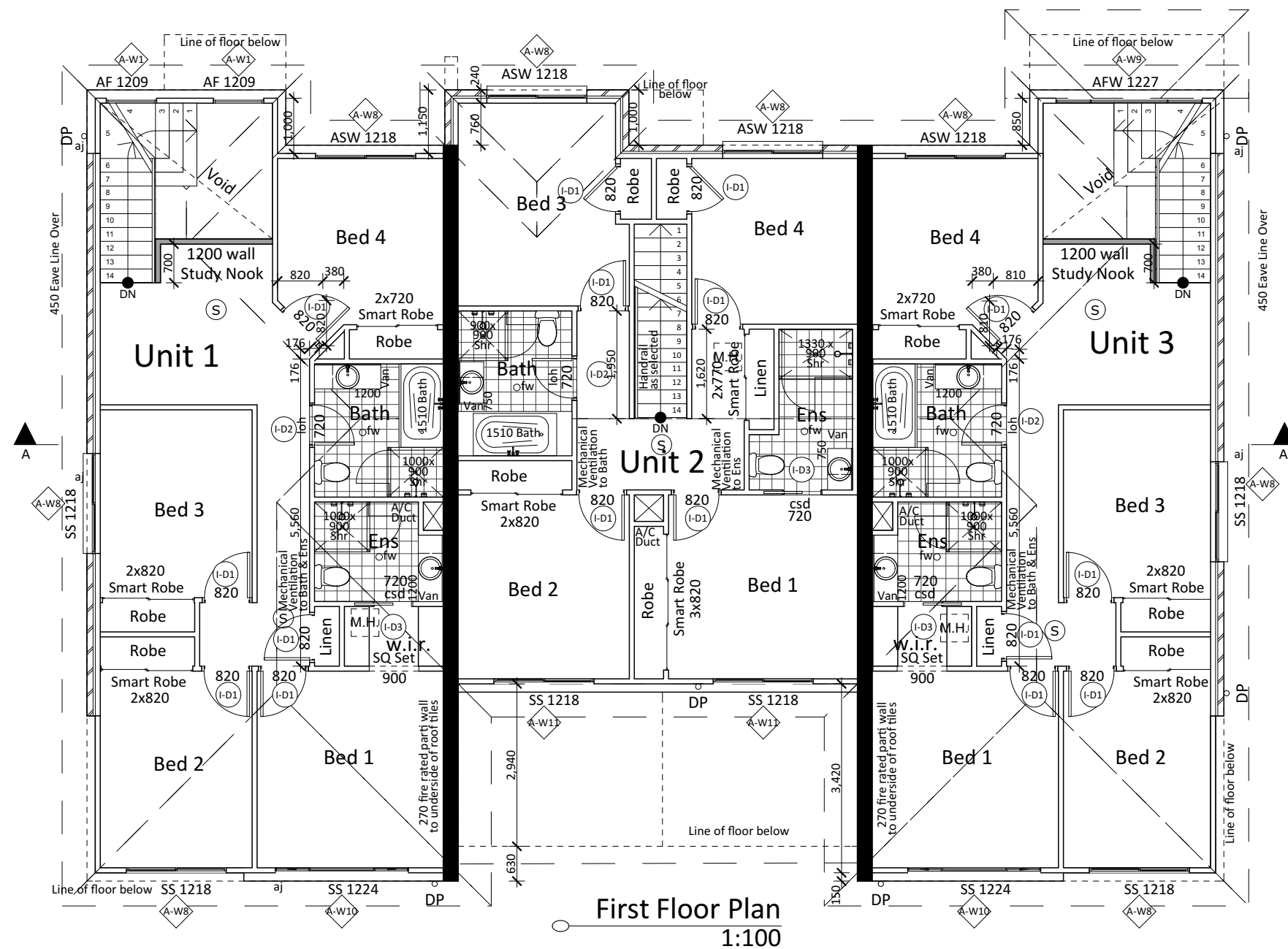
House Design: Custom

- Legend:**
- ACU - Air Conditioning Unit
 - AJ - Articulation Joint
 - B/Bar - Breakfast Bar
 - D - Dryer
 - DP - Downpipe
 - DW - Dish Washer
 - Ens - Ensuite
 - FW - Floor Waste
 - HWS - Hot Water System
 - LOH - Lift off Hinge
 - LS - Laundry Shoot
 - MH - Man Hole
 - MW - Microwave Oven
 - OBS - Obscure
 - OHC - Over Head Cupboard
 - RHS - Rolled Hollow Steel
 - S - Smoke Detector
 - Shr - Shower
 - TR - Towel Rail
 - Van - Vanity
 - w.i.l. - Walk in Linen
 - w.i.r. - Walk in Robe
 - w.i.p. - Walk in Pantry
 - WM - Washing Machine

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Client Approval: _____ Date: _____

Client:  *Dream it. Live it. Love it!*

Job:
Proposed Development

LOT: - DP: UNREG
Stage 9 Bardia


Drawing:
First Floor Plan Triplex

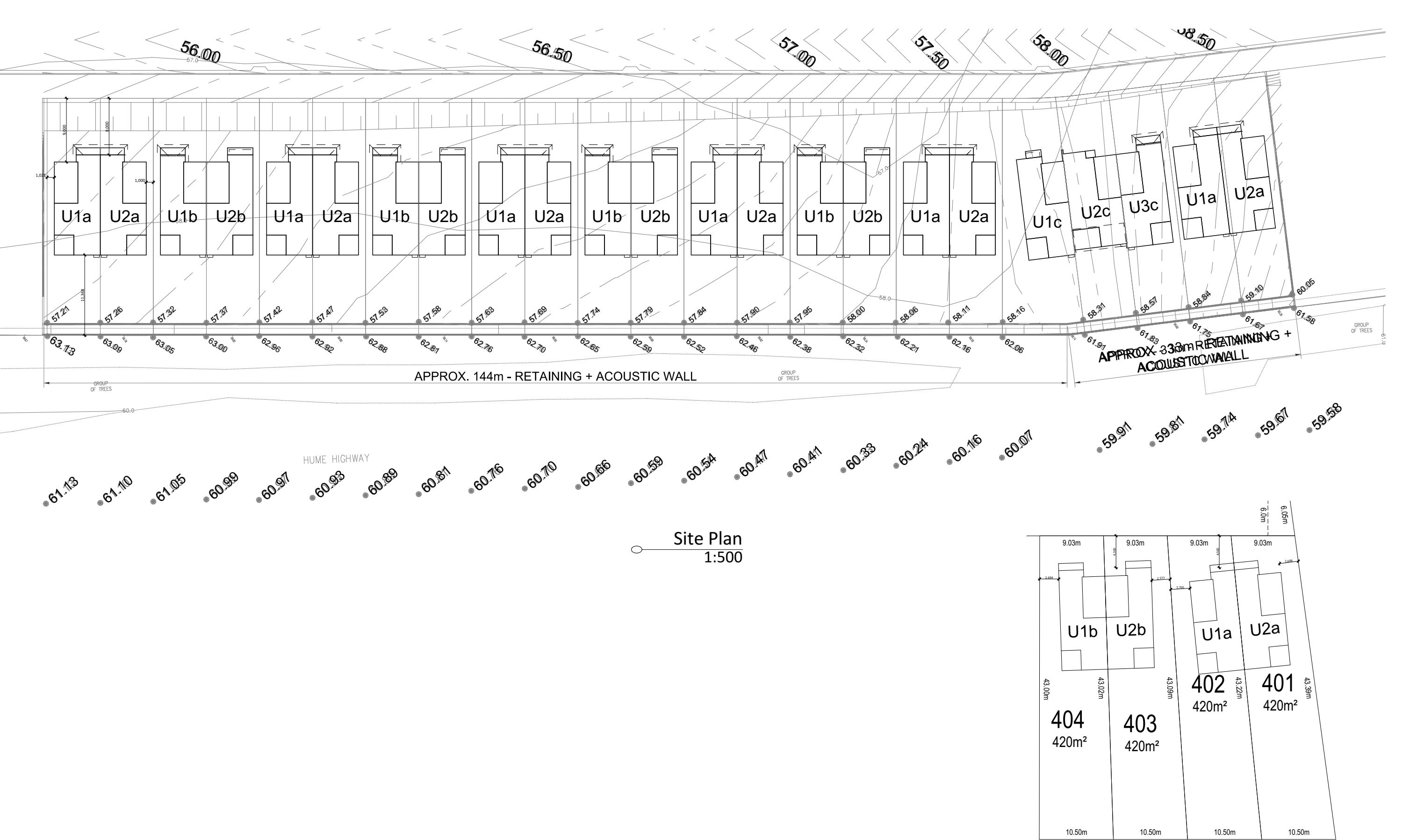
Scale: **1:100** Date: **16-12-19**



Drawing No: **19053-5** Sheet: **6/5** Issue: **F**

House Design: Custom

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<div>CLIENT</div> <div> <i>Dream it. Live it. Love it!</i></div> <div>LOT -, DP UNREG Stage 9 Bardia</div>	<div>JOB:</div> <div>Proposed Development</div>	<div>SCALE:</div> <div>1:500</div>	<div>DATE:</div> <div>16-12-19</div>		<div>House Design: Custom</div>		<div>Notes:</div> <div>1. Levels shown are approx and should be verified on site</div> <div>2. Figured dimensions are to be taken in preference to scaling</div> <div>3. All measurements are in mm unless otherwise stated</div> <div>4. Window sizes are nominal only. Final window sizes by builder</div> <div>5. Dimensions are to be verified on site by builder before commencement of work.</div> <div>6. All upstairs windows with a sill height less than 1700mm to have a max opening width of 125mm or fitted with a screen with secure fittings to comply with BCA</div> <div>7. Final AJ's to engineers specifications</div>	<div> design and drafting Office: 1a/10 Exchange Parade Narellan NSW 2567 Phone : 0246472552 Fax : 0246472553 Email: info@accuratedesign.com.au</div> <div>c - abeaut designs t/a Accurate Design and Drafting 2016</div>
	<div>DRAWING</div> <div>Site Plan</div>	<div>DRAWING No:</div> <div>19053-5</div>	<div>SHEET:</div> <div>7/5</div>	<div>ISSUE:</div> <div>F</div>	<div>Client Approval:</div>	<div>Date:</div>		

Ingleburn Gardens Estate & The Meadows

Masterplan



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Lot 101 and 4, Ingleburn Gardens, Bardia

Noise Impact Assessment

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ABN: 11 068 954 343

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DOCUMENT CONTROL REGISTER

Project Number	20151296.2
Project Name	Lot 101 and 4, Ingleburn Gardens, Bardia
Document Title	Noise Impact Assessment
Document Reference	20151296.2/1112A/R2/KB
Issue Type	Email
Attention To	Jessica Investments Pty Ltd

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
0	20/07/2018	20151296.2/2007A/R0/JS	JS		JS
1	9/12/2019	20151296.2/0912B/R1/KB	KB		GC
2	11/12/2019	20151296.2/1112A/R2/KB	KB		KB

TABLE OF CONTENTS

1	INTRODUCTION	4
2	SITE BACKGROUND	5
3	NOISE DESCRIPTORS	7
4	NOISE INTRUSION ASSESSMENT	7
4.1.1	NSW SEPP Infrastructure (2007)	8
4.2	EXTERNAL NOISE MEASUREMENTS	9
4.2.1	Measurement Location	9
4.2.2	Unattended Measurements	9
4.2.3	Resultant Noise Levels	9
4.3	EVALUATION OF NOISE INTRUSION	10
4.3.1	External Walls	11
4.3.2	External Doors	11
4.3.3	Roof/ ceiling constructions	11
4.4	VENTILATION REQUIREMENTS	12
5	CONCLUSION	13
	APPENDIX 1 – NOISE MONITOR DATA	14

1 INTRODUCTION

Acoustic Logic Consultancy (ALC) have been engaged to conduct an acoustic assessment of traffic noise impacts on the proposed land subdivision as part of the Ingleburn Gardens development, Bardia.

The proposed subdivision is located parallel to the M5 motorway. Noise impacts have been assessed with consideration to the State Environment Planning Policy (SEPP) Infrastructure 2007.

This report is presented as an addendum to the previously submitted Acoustic Logic Consultancy document titled 'Lot 101 and 4, Ingleburn Gardens, Bardia – DA Noise and Vibration Assessment' dated 27 November 2015. Additional unattended noise monitoring has been conducted to assess traffic noise impacts to the proposed new residential lots. Acoustic treatments to mitigate noise impacts from the adjacent M5 motorway have been determined in accordance with the Infrastructure SEPP.

2 SITE BACKGROUND

The Ingleburn Gardens development is located along the M5 motorway, Bardia. The proposed land subdivision is located along the western boundary of the development adjoining the motorway. An acoustic barrier is proposed to run along the boundary between the M5 motorway and the new residential lots. It is proposed that the top of the barrier is a minimum of 2m above the RL of the freeway, approximately 5m above the RL of the lots.

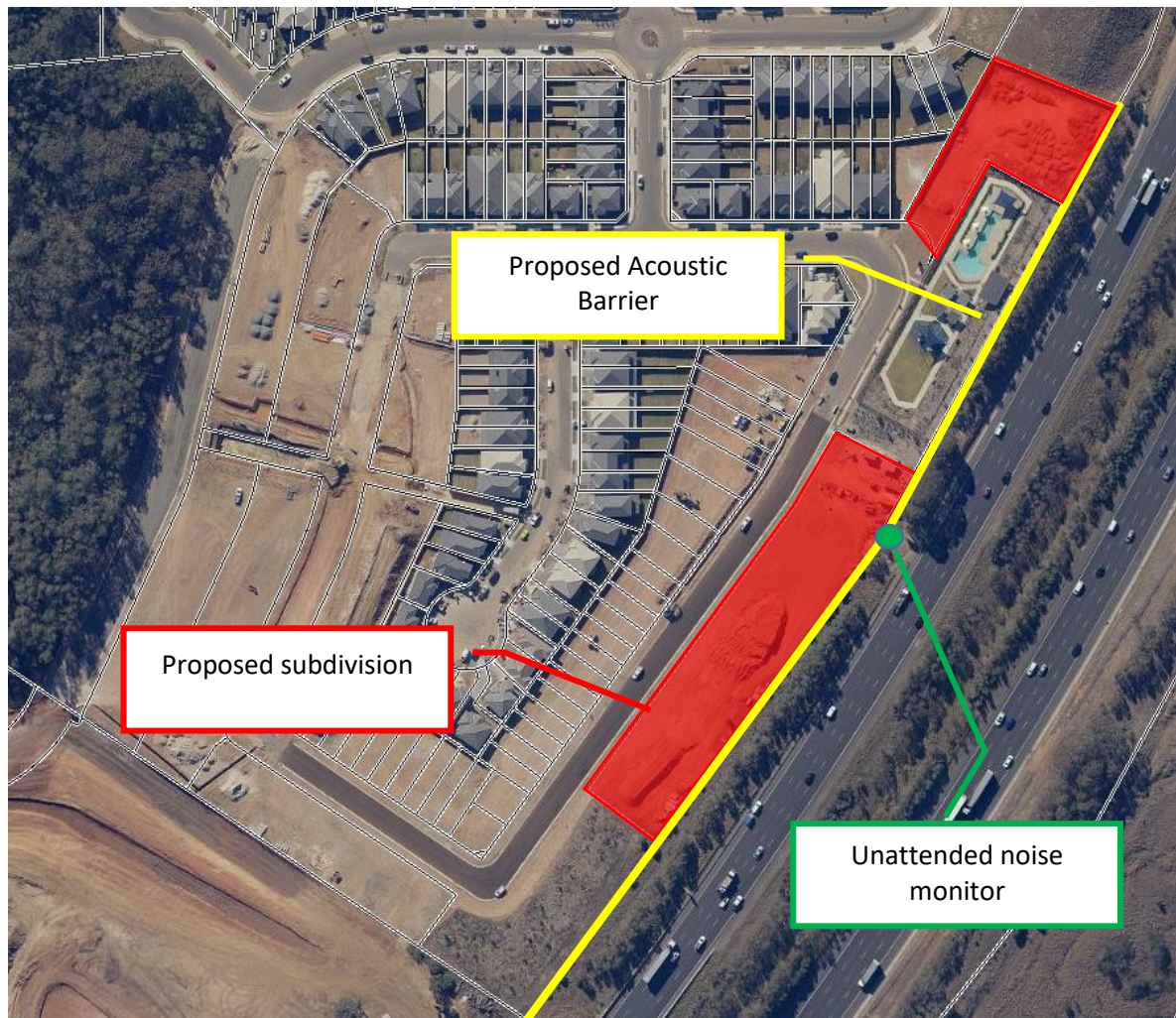
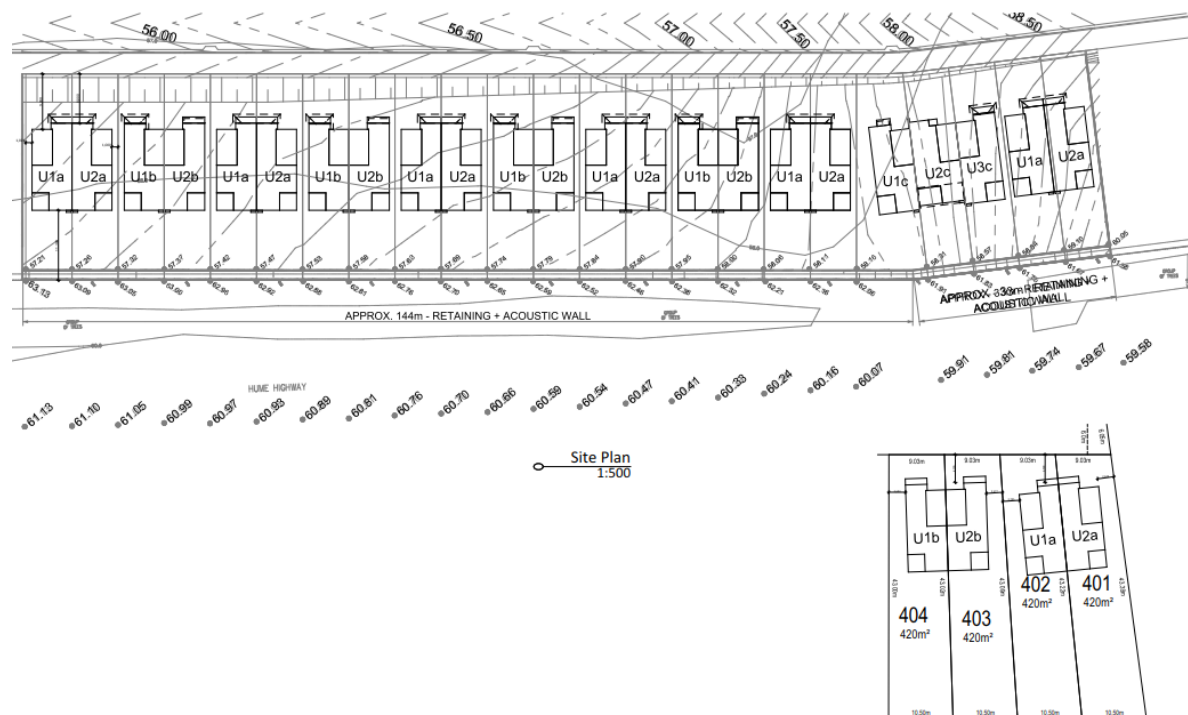


Figure 1: Site Location and Monitoring Positions

The parcel of land is currently zoned RE2 for private recreation. It is proposed to rezone the land (shown in red in Figure 1) to R3 medium density and subdivide into 23 new allotments, see Figure 2 below.



3 NOISE DESCRIPTORS

Traffic noise constantly varies in level, due to fluctuations in traffic speed, vehicle types, road conditions and traffic densities. Accordingly, it is not possible to accurately determine prevailing traffic noise conditions by measuring a single, instantaneous noise level. To accurately determine the effects of traffic noise a 15-20 minute measurement interval is utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters. These parameters are used to measure how much annoyance would be caused by a particular noise source.

In the case of environmental noise three principle measurement parameters are used, namely L_{10} , L_{90} and L_{eq} .

The L_{10} and L_{90} measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The L_{10} parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced at the source.

Conversely, the L_{90} level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The L_{90} parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the L_{90} level.

The L_{eq} parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period. L_{eq} is important in the assessment of traffic noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of traffic noise.

Current practice favours the L_{eq} parameter as a means of measuring traffic noise, whereas the L_{10} parameter has been used in the past and is still incorporated in some codes. For the reasons outlined above, the L_{90} parameter is not used to assess traffic noise intrusion.

4 NOISE INTRUSION ASSESSMENT

Noise intrusion into the site has been assessed for the road noise from the M5 motorway. Acoustic treatment of the proposed subdivision will be designed in order to ensure compliance with the acoustic requirements of the infrastructure SEPP.

4.1.1 NSW SEPP Infrastructure (2007)

The NSW Department of Planning's policy, Development Near Rail Corridors and Busy Roads – Interim Guideline, sets out internal noise level criteria adapted from the State Environmental Planning Policy (Infrastructure) 2007 (the 'Infrastructure SEPP') for developments with the potential to be impacted by traffic or rail noise and vibration.

For rail noise and vibration, the following controls apply:

"87 Impact of rail noise or vibration on non-rail development

- (1) This clause applies to development for any of the following purpose that is on land in or adjacent to a rail corridor and that the consent authority considers is likely to adversely affected by rail noise or vibration:*
 - (a) a building for residential use,*
 - (b) a place of public worship,*
 - (c) a hospital,*
 - (d) an educational establishment or child care centre.*
- (2) Before determining a development application for development to which this clause applies, the consent authority must take into consideration any guidelines that are issued by the Director-General for the purpose of this clause and published in the Gazette.*
- (3) If the development is for the purposes of a building for residential use, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following LAeq levels are not exceed:*
 - (a) in any bedroom in the building – 35 dB(A) at any time between 10.00 pm and 7.00 am,*
 - (b) anywhere else in the building (other than a garage, kitchen, bathroom or hallway) – 40 dB(A) at any time."*

The governing project criteria are presented in Table 1.

Table 1 – Internal Noise Level Criteria

Internal Use	Traffic Noise Level, dB(A) L_{eq} 15 hour	Traffic Noise Level, dB(A) L_{eq} 9 hour
Bedroom	-	35
Living Room	40	40

4.2 EXTERNAL NOISE MEASUREMENTS

As part of this investigation, traffic noise from the M5 motorway has been measured. The results of these measurements will be used to determine the treatments required to reduce noise levels to within the project acoustic objectives.

4.2.1 Measurement Location

Measurements were conducted along the proposed eastern boundary as detailed in Figure 1 above.

4.2.2 Unattended Measurements

Unattended noise measurements were obtained using an Acoustic Research Laboratories Pty Ltd noise logger. The logger was programmed to store 15-minute statistical noise levels throughout the monitoring period. The noises monitors were calibrated at the beginning and the end of the measurement using a Rion NC-73 calibrator. No significant drift was detected. All measurements were taken on A-weighted fast response mode.

The logger was on site from the 24th October 2019 to 1st November 2019. Refer to Appendix 1 for unmanned noise monitoring data.

4.2.3 Resultant Noise Levels

The following table presents the resultant noise levels at the proposed boundary of the development. The noise levels are based on both the attended and unattended noise measurement results conducted by this office.

Table 2 – Measured Existing Environmental Noise Levels

Locations	Traffic Noise Levels	
	Daytime (7am-10pm)	Night-time (10pm- 7am)
Eastern Boundary (Facing M5 Motorway)	73 dB(A)	71 dB(A)
Eastern Building Façade Ground Level (predicted*)	59 dB(A)	57 dB(A)
Eastern Building Façade Top Level (predicted*)	65 dB(A)	63 dB(A)

*prediction of noise levels at the facades take into account the attenuation from the proposed acoustic barrier

4.3 EVALUATION OF NOISE INTRUSION

Internal noise levels will primarily be as a result of noise transfer through the windows and doors and roof, as these are relatively light building elements that offer less resistance to the transmission of sound.

The construction recommendations to attenuate external noise impacts through windows and doors for the proposed residential development are discussed below. The recommendations have been based on the measured level and spectral characteristics of the external noise, the area of building elements exposed to traffic noise, the absorption characteristics of the rooms and the noise reduction performance of the building elements to ensure compliance with the internal noise level criteria.

Calculations were performed taking into account the orientation of windows, barrier effects (where applicable), the total area of glazing, facade transmission loss and the likely room sound absorption characteristics. In this way the likely interior noise levels can be predicted.

Table 3 - Typical Glazing Construction Recommendations

Site	Room	Façade	Glazing requirements
Southern Lots	Bedroom (Level 1)	East	10.38mm laminated
		South / North	6.38mm laminated
		West	5mm float
	Living Room (Ground Floor)	East	10mm float
		South / North	6mm float
		West	5mm float
Northern Lots (Lots 401-404)	Bedroom (Level 1)	North	12.38mm laminated
		East	10.38mm laminated
		South	6.38mm laminated
		West	5mm float
	Living Room (Ground Floor)	North	10.38mm laminated
		East	10mm float
		South	6mm float
		West	5mm float

The glazing thicknesses recommended are those needed to satisfy acoustic requirements and do not take into account other requirements such as structural, safety or other considerations. These additional considerations may require the glazing thickness to be increased beyond the acoustic requirement.

4.3.1 External Walls

External walls composed of concrete or masonry elements will not require upgrading. There should not be vents on the internal skin of external walls. All penetrations in the internal skin of external walls should be acoustically sealed. **Any lightweight constructions will need to be reviewed and assessed at a later stage.**

4.3.2 External Doors

The external doors to the residence will need to be 40mm solid core timber door, with Raven RP10 seals on the top and the sides and Raven RP38 drop seal at the bottom.

4.3.3 Roof/ ceiling constructions

Typical ceiling constructions have been presented in the table below. **Any ceiling constructions will need to be reviewed and assessed at a later stage.**

Penetrations in ceilings (such as for light fittings etc.) must be sealed gap free with a flexible sealant.

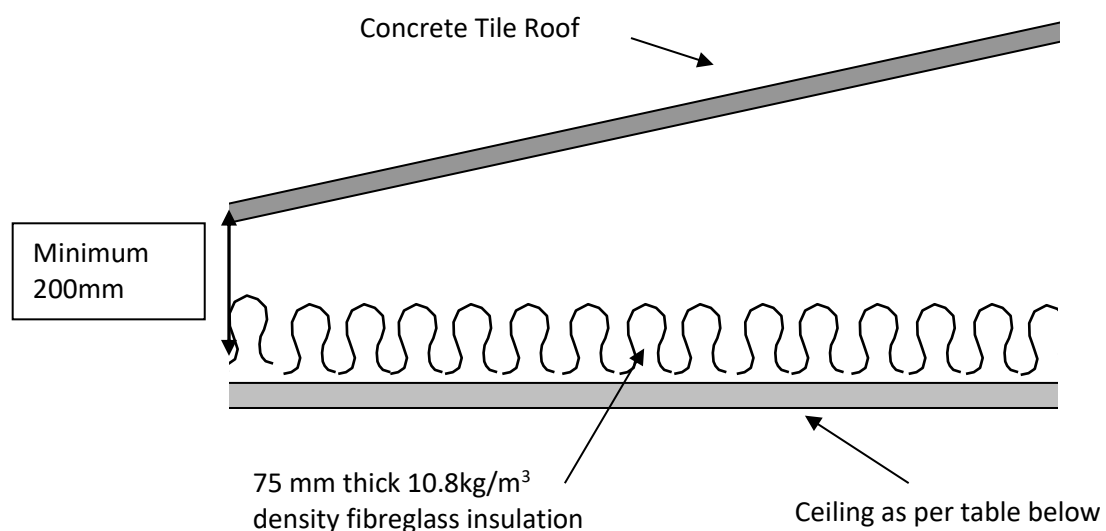


Figure 4: Roof / Ceiling Construction Houses

Table 4– Recommended Ceiling Construction

Room	Ceiling
Living / Lounge / Kitchen	1 x 13mm Plasterboard
Bedrooms	2 x 13mm Plasterboard

Note: Any ceiling constructions will need to be reviewed and assessed at a later stage.

4.4 VENTILATION REQUIREMENTS

The NSW Department of Planning document “Development near Busy Roads and Rail Corridors - Interim Guideline” dictates that:

“If internal noise levels with windows or doors open exceed the criteria by more than 10dB(A), the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also to meet the ventilation requirements of the Building Code of Australia.”

With windows open, the allowable internal noise goal is permitted to be 10dB(A) higher than when the windows are closed (ie – allowable level becomes 50 dB(A) in living rooms and 45 dB(A) in bedrooms at night).

Traffic noise levels on the east, north and south facades will exceed noise levels which would permit windows being open sufficient to satisfy ventilation requirements of the BCA. Alternative means of ventilation may be required.

5 CONCLUSION

This report presents the assessment of traffic noise impacts on the proposed rezoning of the lots currently provided for private recreation to residential use.

Traffic noise modelling has been conducted for the site based on recorded noise levels to determine acoustic treatments in compliance with the State Environmental Planning Policy (Infrastructure) 2007.

Acoustic treatments have been formulated to ensure compliance with the requirements of the SEPP (Infrastructure).

We trust this information is satisfactory. Please contact us should you have any further queries.

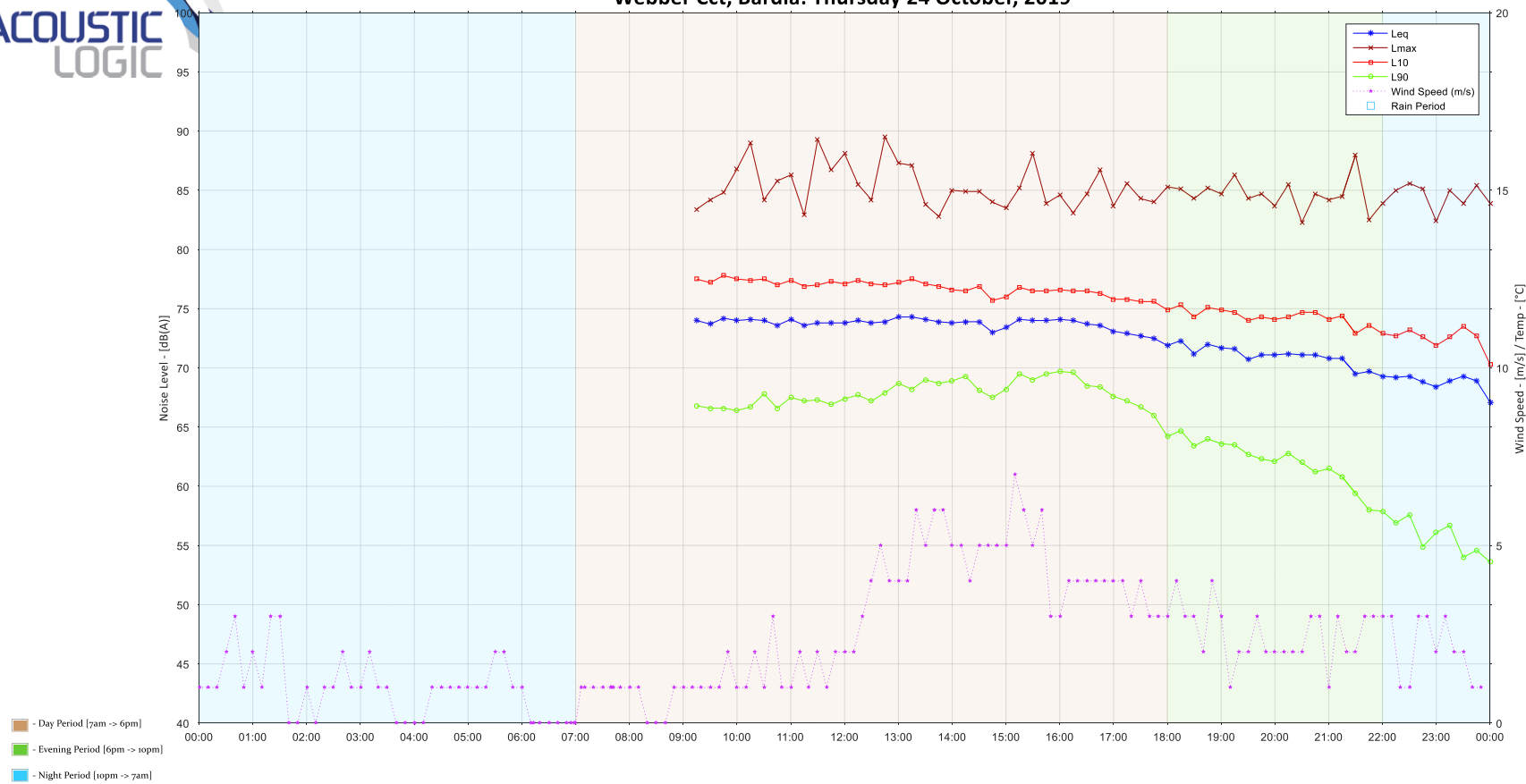
Yours faithfully,

A handwritten signature in black ink, appearing to read 'K Beeston', with a stylized, cursive script.

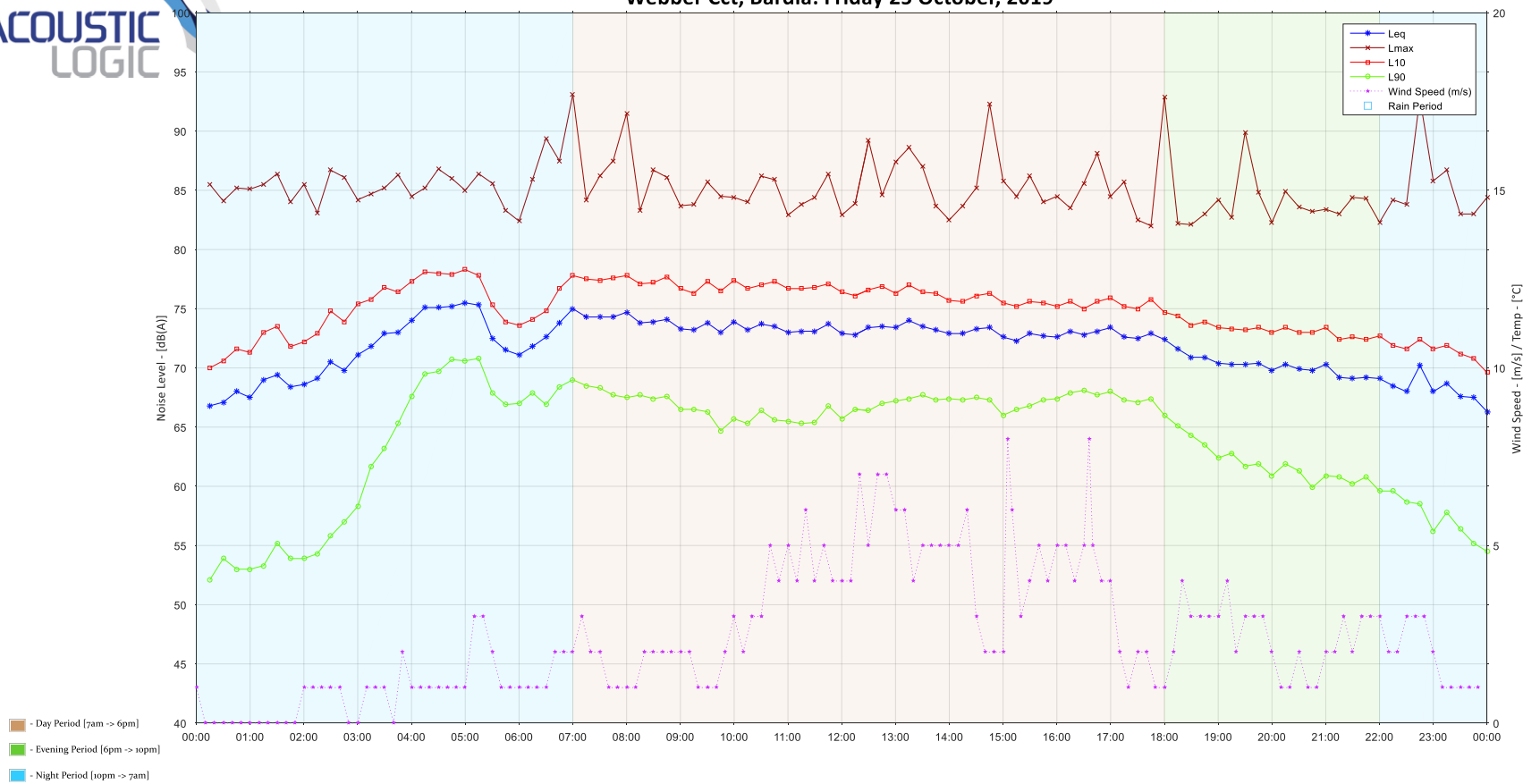
Katherine Beeston
Acoustic Logic Consultancy

APPENDIX 1 – NOISE MONITOR DATA

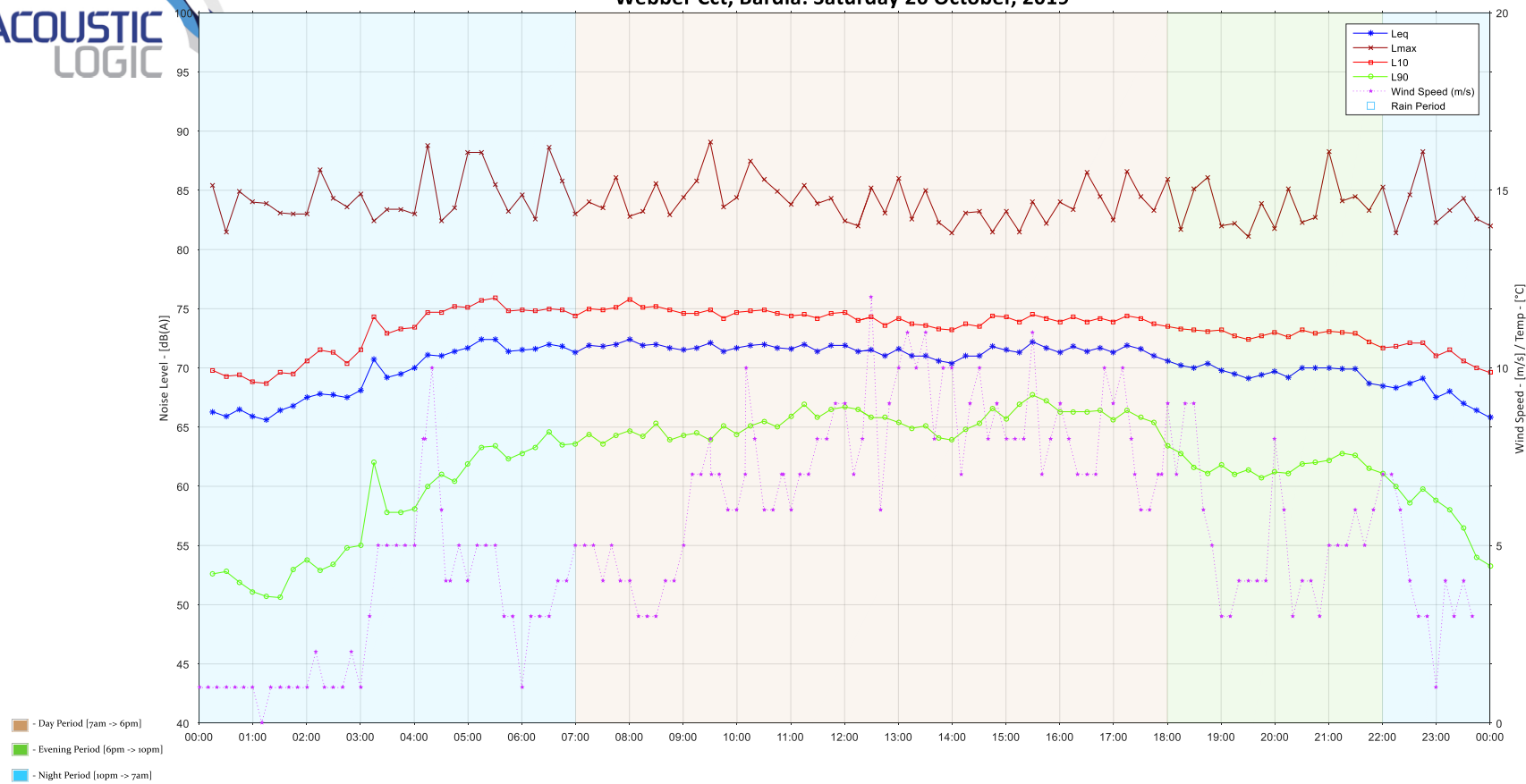
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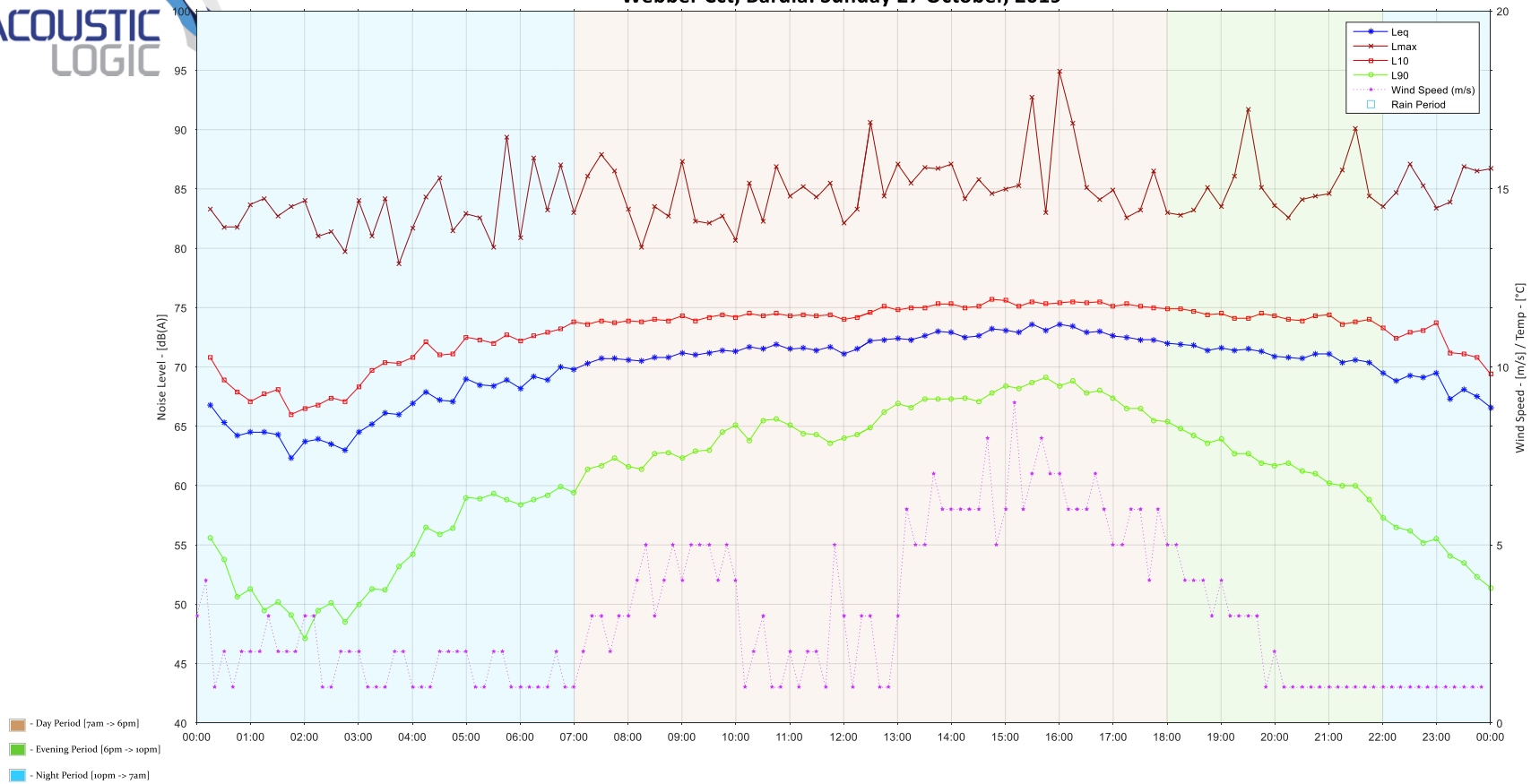
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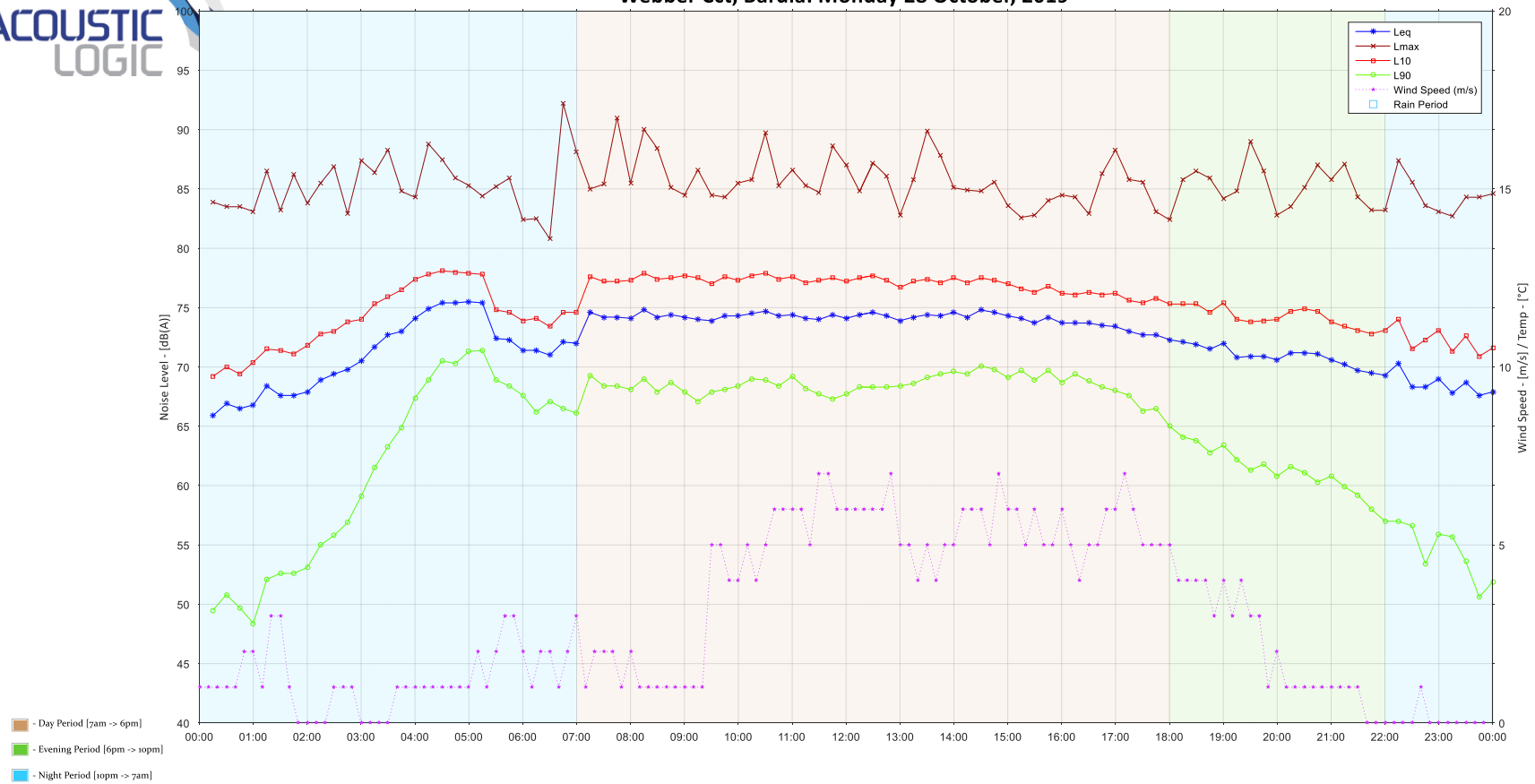
Webber Cct, Bardia: Saturday 26 October, 2019



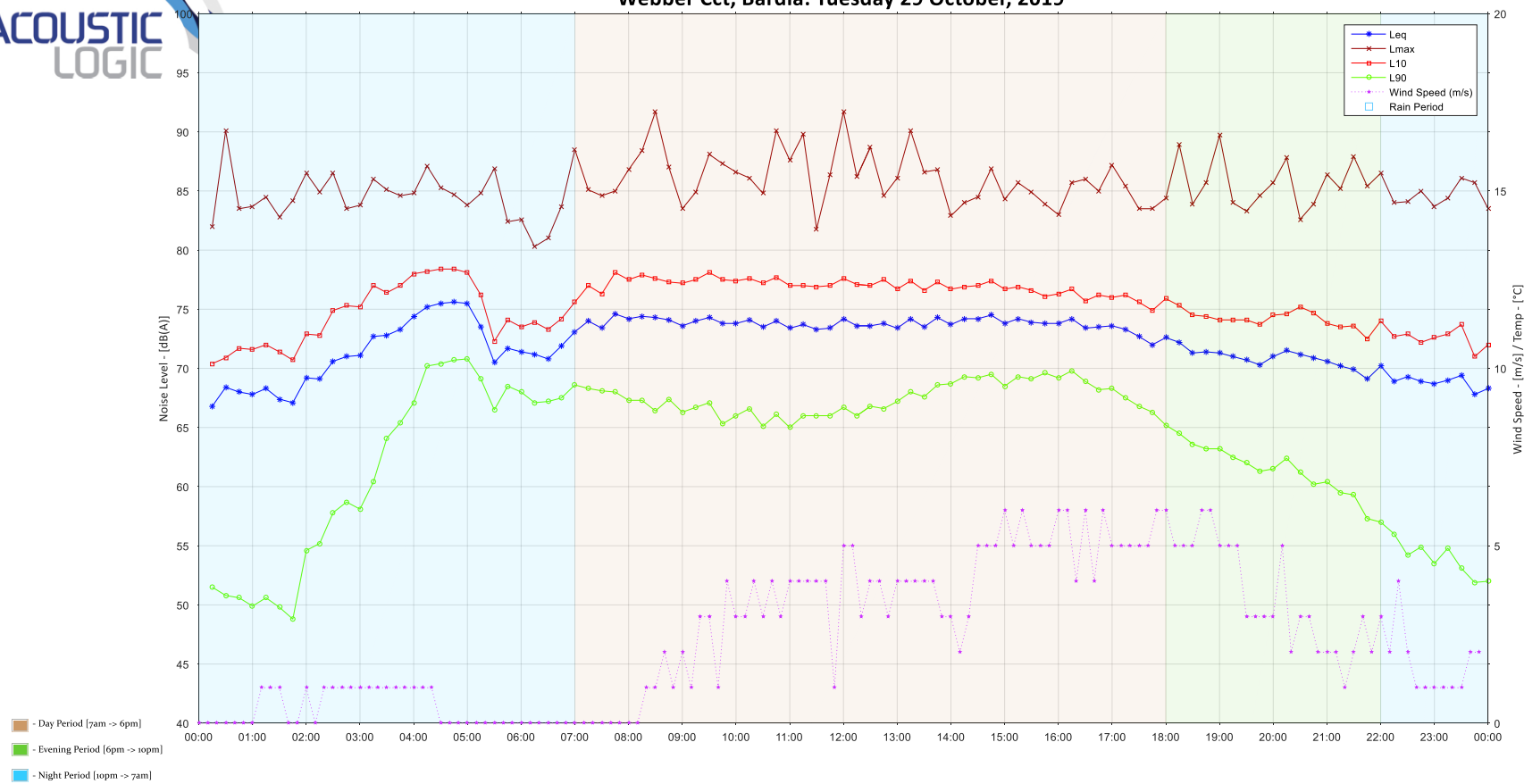
Webber Cct, Bardia: Sunday 27 October, 2019



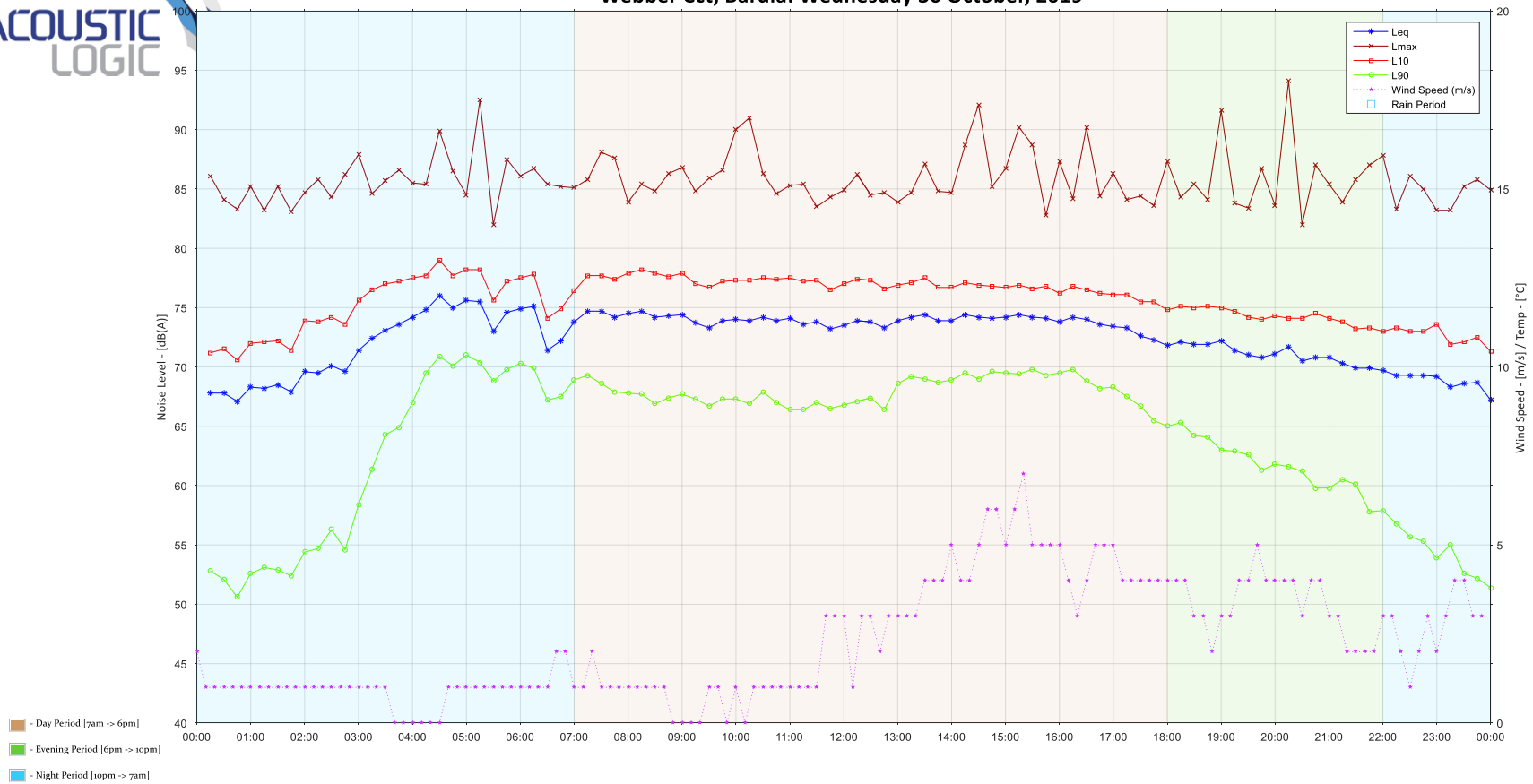
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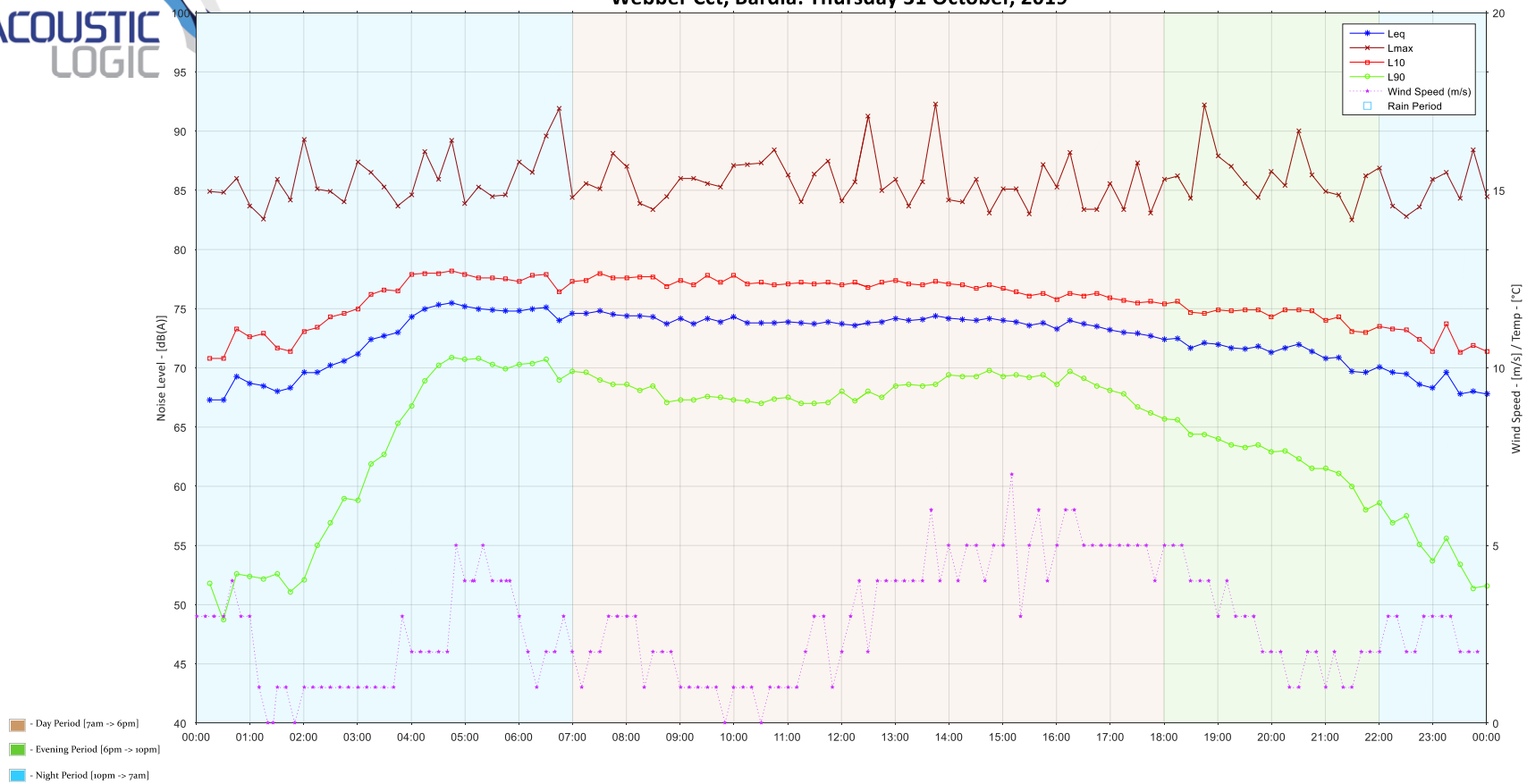
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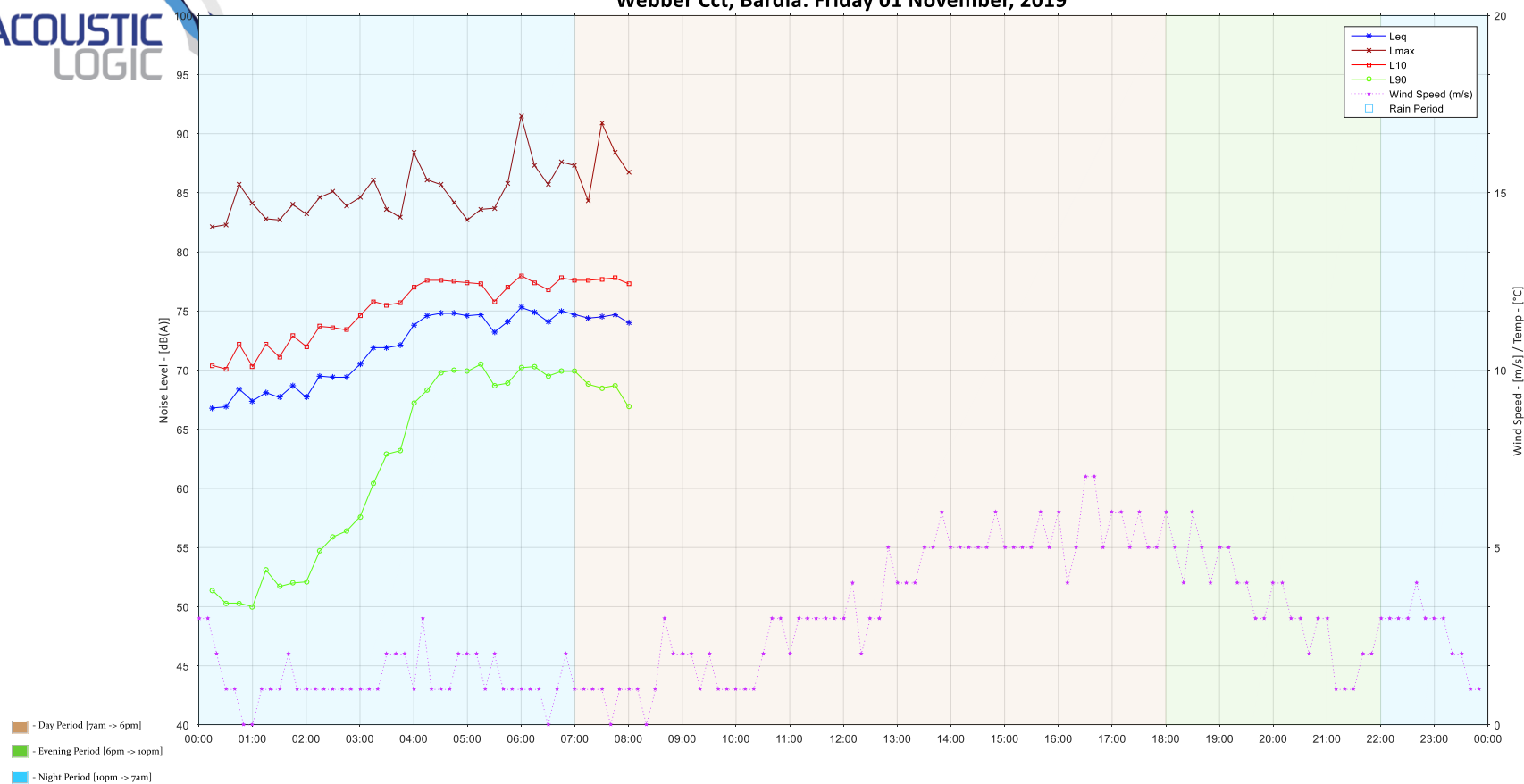
Webber Cct, Bardia: Wednesday 30 October, 2019



Webber Cct, Bardia: Thursday 31 October, 2019



Webber Cct, Bardia: Friday 01 November, 2019



18th June 2019

Dax McBurney,

Director of Development and Construction
Monarch Investments Group and Construction

Ref# 91023001NH

Dear Dax,

RE: Noise Walls – The Meadows, Bardia, NSW

Modular Walls has proposed the use of our widely used AcoustiMax100 panel for the noise attenuation requirements on this project.

This system is used right across Australia by commercial customers and roadway authorities for this exact purpose. It also provides a very aesthetically pleasing finish for both the road side, as well as the residential development.



This wall has an Rw rating of 28 (National Acoustic Laboratory Certified) and a composite density of 15.68 kg/m2, which is in line with noise wall guidelines for developments.

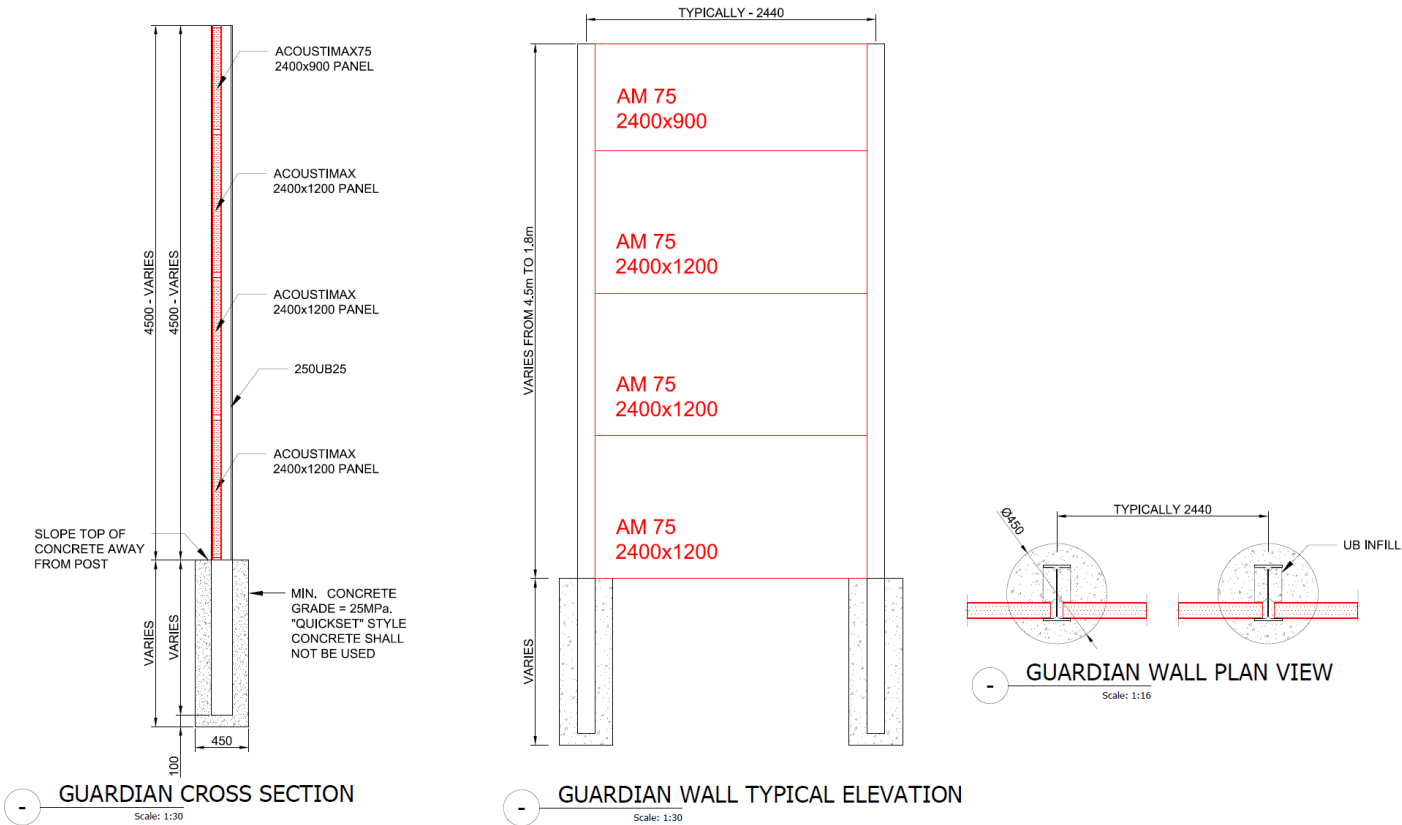
The height selected to allow a purposeful level of sound attenuation is indicated on the elevation drawings below which took into consideration the proposed cut and the road levels.

The noise wall is to be at least 2.0m above the road level to capture wheel and road noise from semi-trailers and cars. The homes being slightly lower will also be of benefit.

A sound reduction of around a 15- 20db is expected, which is ~ a fourfold audible reduction in laymen’s terms. This will be signification reduction in noise for the residents.

AcoustiMax Technical Specifications

	AcoustiMax75	AcoustiMax100
Outer skin	Cementitious skin	Cementitious skin
Panel core	EPS	EPS
Available lengths (mm)	2400, 3000	2400, 3000,4200
Available heights (mm)	600, 900, 1200	600, 900, 1200
Thickness (mm)	75	100
Density	15.49 kg/m ²	15.68 kg/m ²
Soil retention	see TerraFirm specification sheet	see TerraFirm specification sheet
Rw	25	28
Compatible wall systems	VogueWall & EstateWall	GuardianWall



Should any further information be required, please don't hesitate to contact us at any time.

Regards



Nick Holden
Founder and Director of Innovation

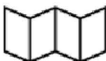
P: 0417 414441

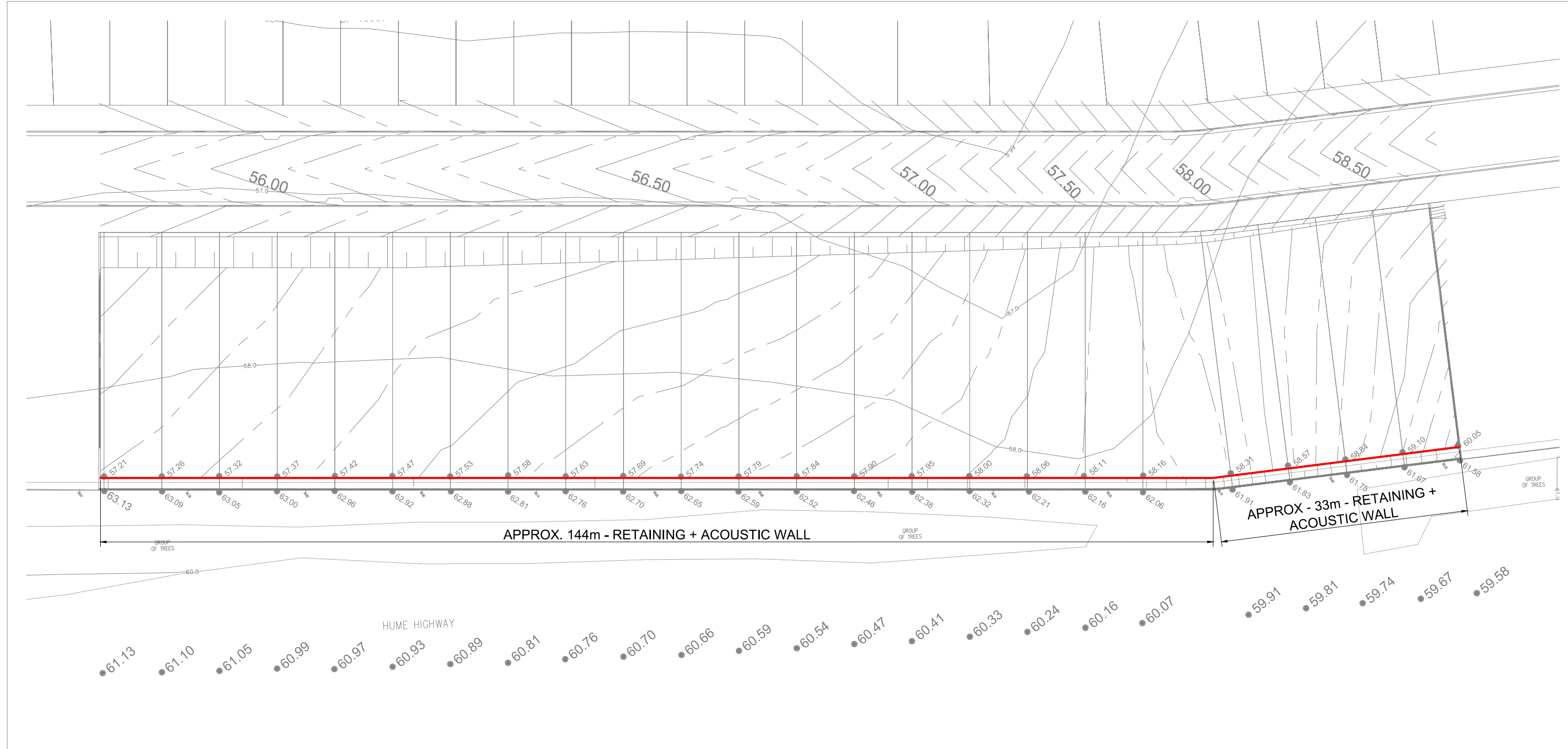
E: nick@modularwalls.com.au





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	Rev.	Amendment Detail	EDITED BY:	CHECKED BY:		Date:	THE MEADOWS @ BARDIA		DRAWN BY:	CHECKED BY:
	A	INITIAL ISSUE	CH	SS		26/02/19			CH	SS
									Date: 26/02/2019	
							Drawing Title		Drawing Number:	Rev:
							WALL LOCATION		MW-L-01	A



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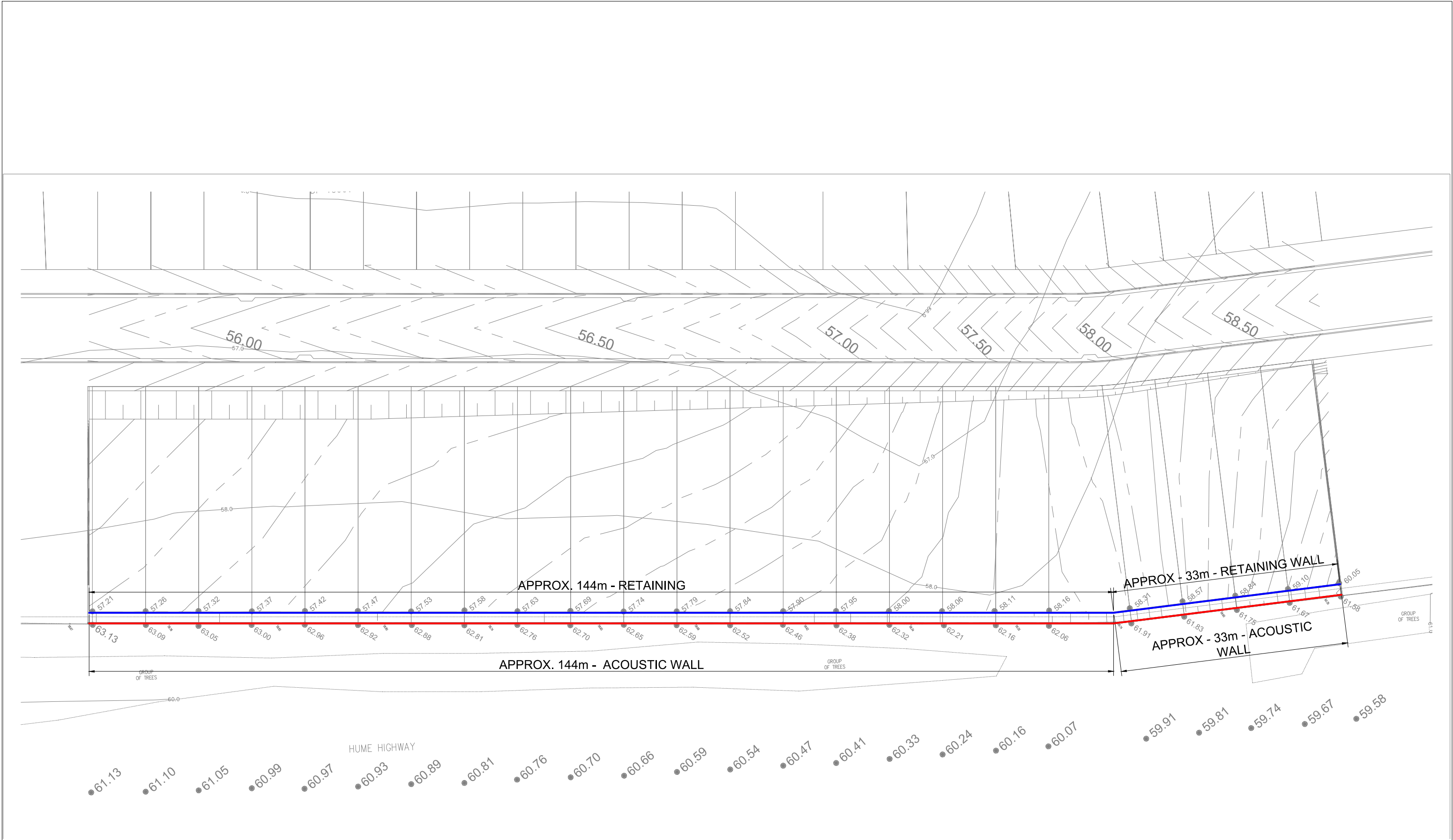
AMENDMENT REGISTER				
Rev.	Amendment Detail	EDITED BY:	CHECKED BY:	Date:
A	INITIAL ISSUE	CH	SS	26/02/19



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www.modularwalls.com.au
email: info@modularwalls.com.au
Ph: 02 9540 6666 Fax:02 9540 6667
ABN: 73 168 303 071

Project #	THE MEADOWS @ BARDIA		
Drawing Title	WALL SECTION - OPTION 1		


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Date:	26/02/2019		
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A	INITIAL ISSUE	CH	SS	26/02/19



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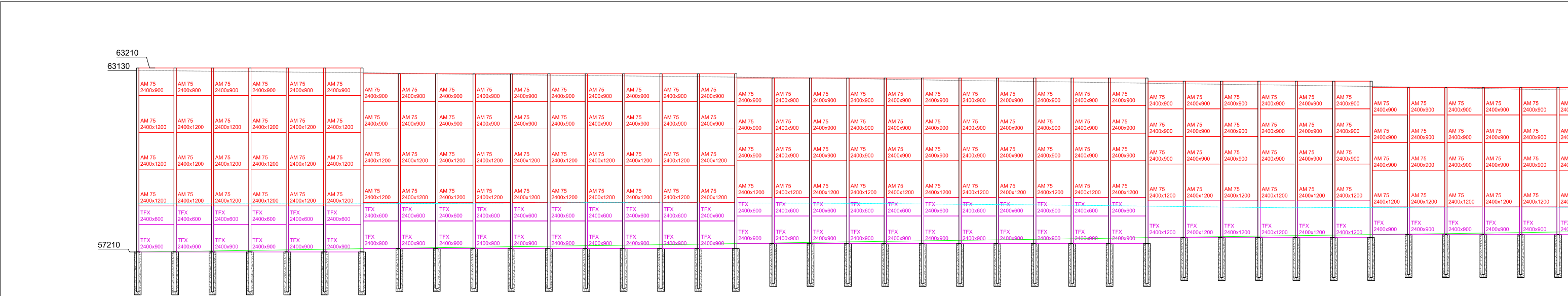
THE MEADOWS @ BARDIA

Drawing Title

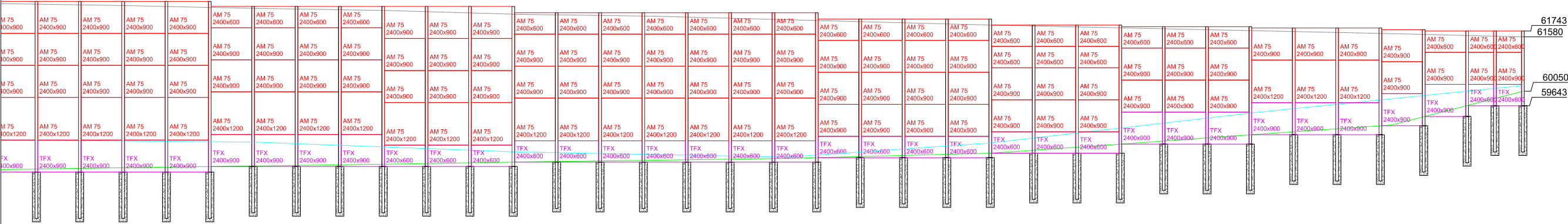
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Project #

THE MEADOWS @ BARDIA

Drawing Title

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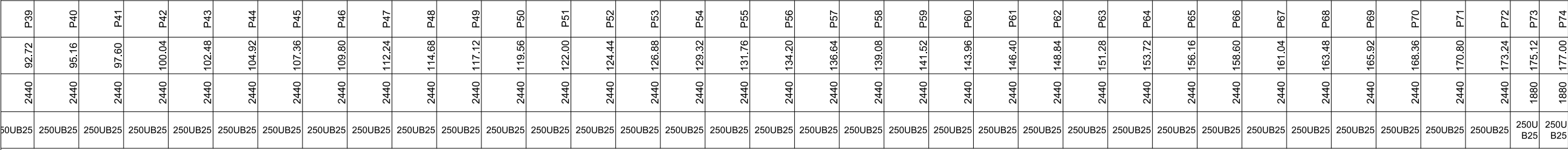
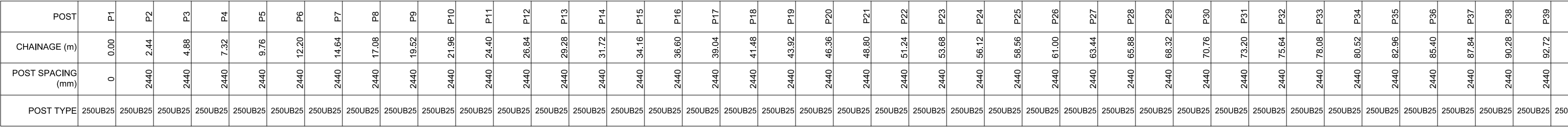
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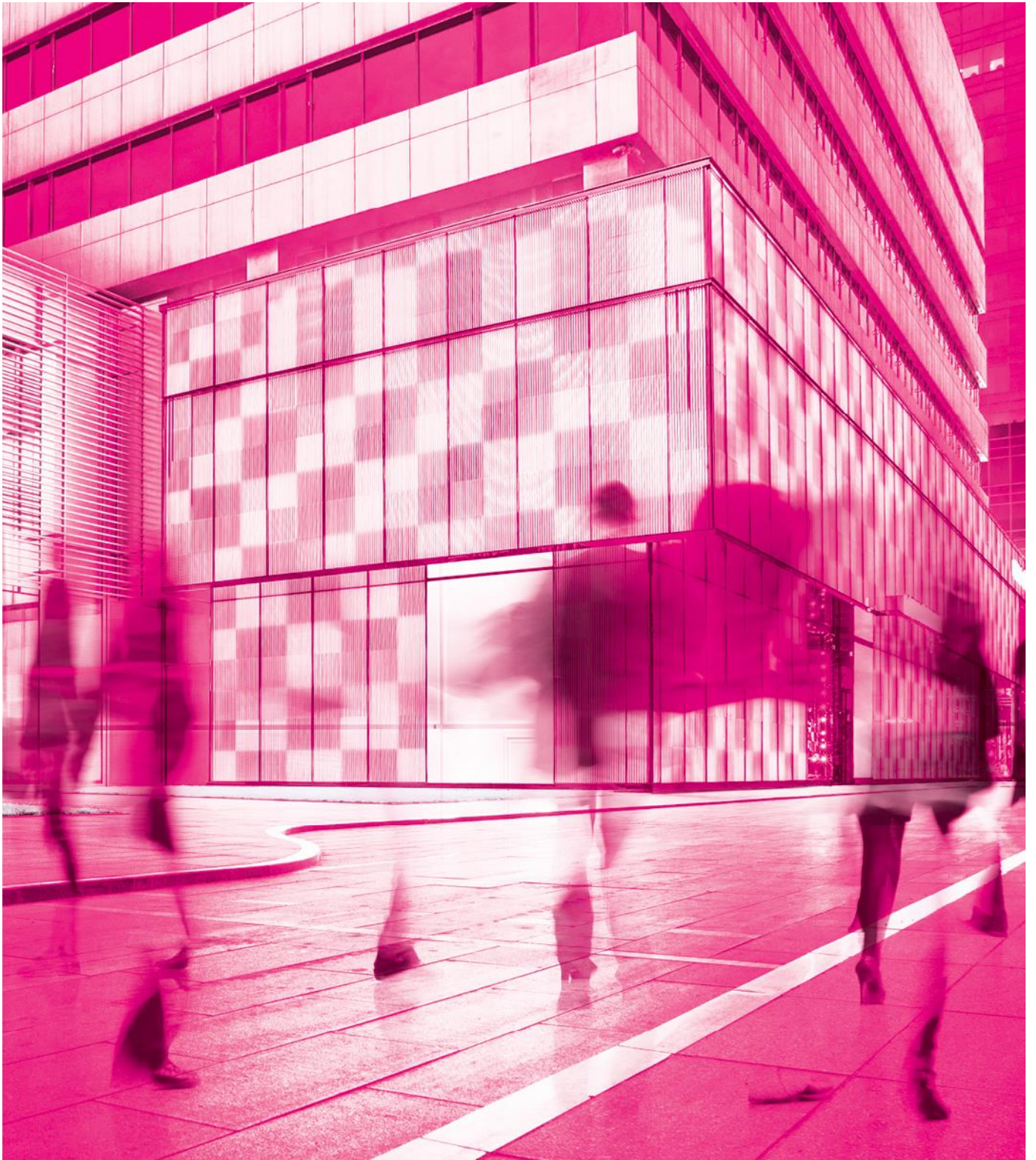
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traffic impact assessment;

The Meadows, Bardia

For Monarch Investment Group
14 August 2018

**parking;
traffic;
civil design;
communication;
ptc.**

Document Control

The Meadows, Bardia, Traffic impact assessment

Issue	Date	Issue Details	Author	Reviewed	For the attention of
1	09/08/2018	Draft report	EY	AU	Alicia Conlon (DFP Planning)
2	14/08/2018	Final report	EY	AU	Alicia Conlon (DFP Planning)
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Contents

1.	Introduction	3
1.1	Project Summary	3
1.2	Purpose of this Report	4
2.	The Development	5
2.1	Site Context	5
2.2	Proposed Development	7
3.	Existing Transport Facilities	8
3.1	Road Hierarchy	8
3.1	Public Transport	10
3.1.1	Trains	10
3.2	Active Transport	11
3.2.1	Cycling	11
3.2.2	Walking	11
4.	Traffic Impact Assessment	12
4.1	Traffic Generation	12
4.2	Base Model	13
4.3	Trip Distribution	14
4.4	Intersection Modelling	15
5.	Parking Provision	17
5.1	Planning Policy Requirements	17
5.2	Car Parking Requirements	17
6.	Access Assessment	18
6.1	Vehicular Access	18
6.2	Emergency Vehicle Access	18
6.3	Waste Collection	18
7.	Conclusion	19
Attachment 1	Proposed Rezoning Overview	20
Attachment 2	SIDRA Movement Summary	22
	Figure 1: Site Location	3
	Figure 2: Surrounding Zoning (Source: Campbelltown LEP 2015, Sheet 11)	5
	Figure 3: Site Aerial View	6
	Figure 4: Development Proposal	7
	Figure 5: Road Hierarchy	8
	Figure 6: Campbelltown Road	9
	Figure 7: Ingleburn Gardens Drive	9
	Figure 8: 400m and 800m Walkable Catchment Map	10
	Figure 9: Local bicycle network (Source: Google Maps)	11
	Figure 10: Median Island with Pedestrian Crossing Facility	11
	Figure 11: Morning and Evening Peak Hour Traffic Survey Results (08/10/2015)	13
	Figure 12: Development Traffic Morning and Evening Peak Hour (as per 2016 report)	13
	Figure 13: Development Traffic Morning and Evening Peak Hour (additional 26 dwellings)	14
	Figure 14: Proposed Vehicular Access	18

Table 1: Proposed Traffic Generation	12
Table 2: Traffic Distribution (as per surveys on 08/10/2015)	14
Table 3: Level of Service Criteria	15
Table 4: SIDRA Modelling Results for Campbelltown Road / Ingleburn Gardens Drive (pre and post-development)	15
Table 5: Car Parking Provision Requirements as per the <i>Edmondson Park Smart Growth DCP</i>	17

1. Introduction

1.1 Project Summary

ptc. has been engaged by Monarch Investments Pty Ltd c/o DFP Planning Pty Ltd, to prepare an assessment of the parking and traffic considerations associated with the proposed rezoning of land zoned RE2 Private Recreation to R3 Medium Density Residential in Lots 9 and 10 of DP270983 within The Meadows, Bardia.

The proposed rezoning of the land is to accommodate the potential development of 27 residential lots. The SIDRA traffic model previously prepared by ptc. (previously Parking and Traffic Consultants) for The Meadows has been updated with the additional forecast traffic generation from these 27 residential lots and is presented in this report.

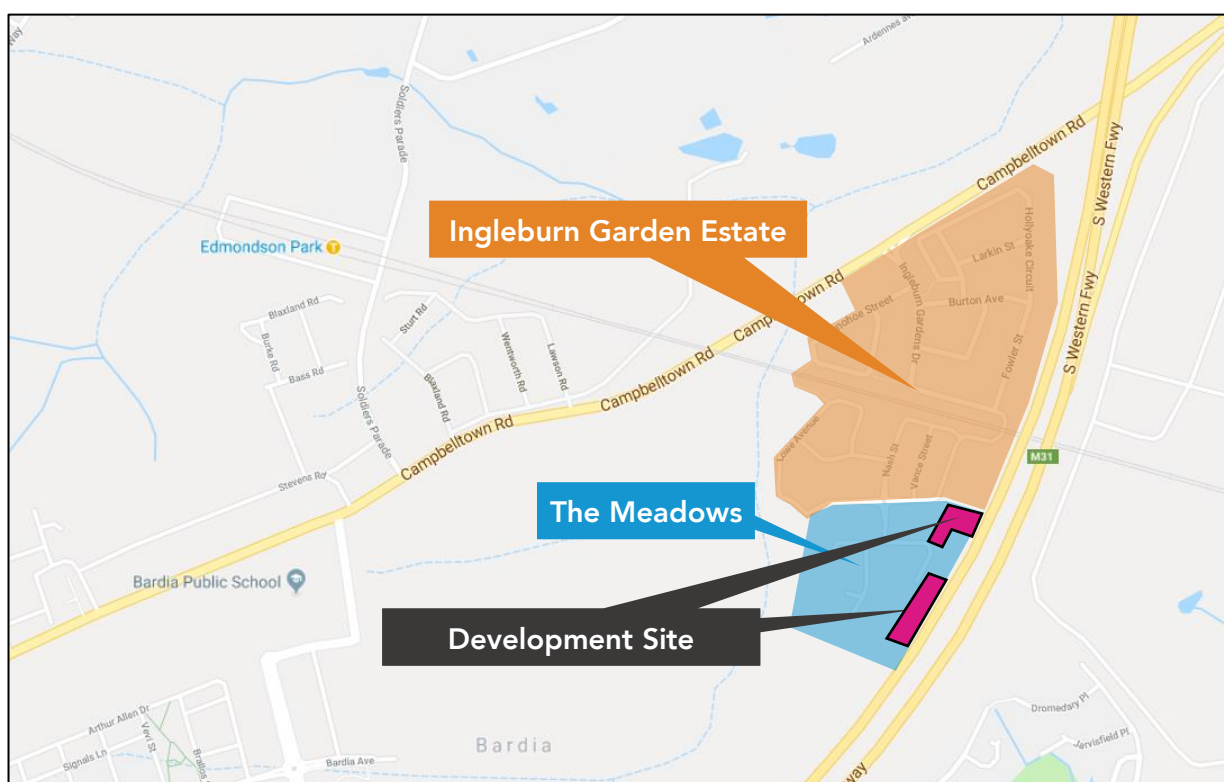


Figure 1: Site Location

1.2 Purpose of this Report

This report presents the following considerations in relation to the Traffic and Parking assessment of the Proposal:

Section 2	A description of the proposal,
Section 3	A description of the road network serving the development property,
Section 4	Determination of the traffic activity associated with the development proposal, and the adequacy of the surrounding road network,
Section 5	Assessment of the proposed parking provision in the context of the relevant planning control requirements,
Section 6	Access Assessment, and
Section 7	Summary

2. The Development

2.1 Site Context

The site is located in the suburb of Ingleburn, which is approximately 45 km South West of the Sydney CBD and is within the Campbelltown City Council LGA. The site is located on the western side of the Hume Motorway and south of the South West Rail Link corridor between Glenfield and Leppington. The proposed rezoning comprises Lots 9 and 10 of DP270983 and lies within The Meadows, Bardia development which extends from the Ingleburn Gardens development.

Access to The Meadows is provided via Ingleburn Gardens Drive, a central spine road which runs through the Ingleburn Garden Estate into The Meadows (see Figure 1). The signalised intersection, Campbelltown Road, Ingleburn Gardens Drive is the sole connection to the rest of the Sydney road network.

The surrounding land use of the site is presented in Figure 2 and an aerial view of the site is provided in Figure 3.

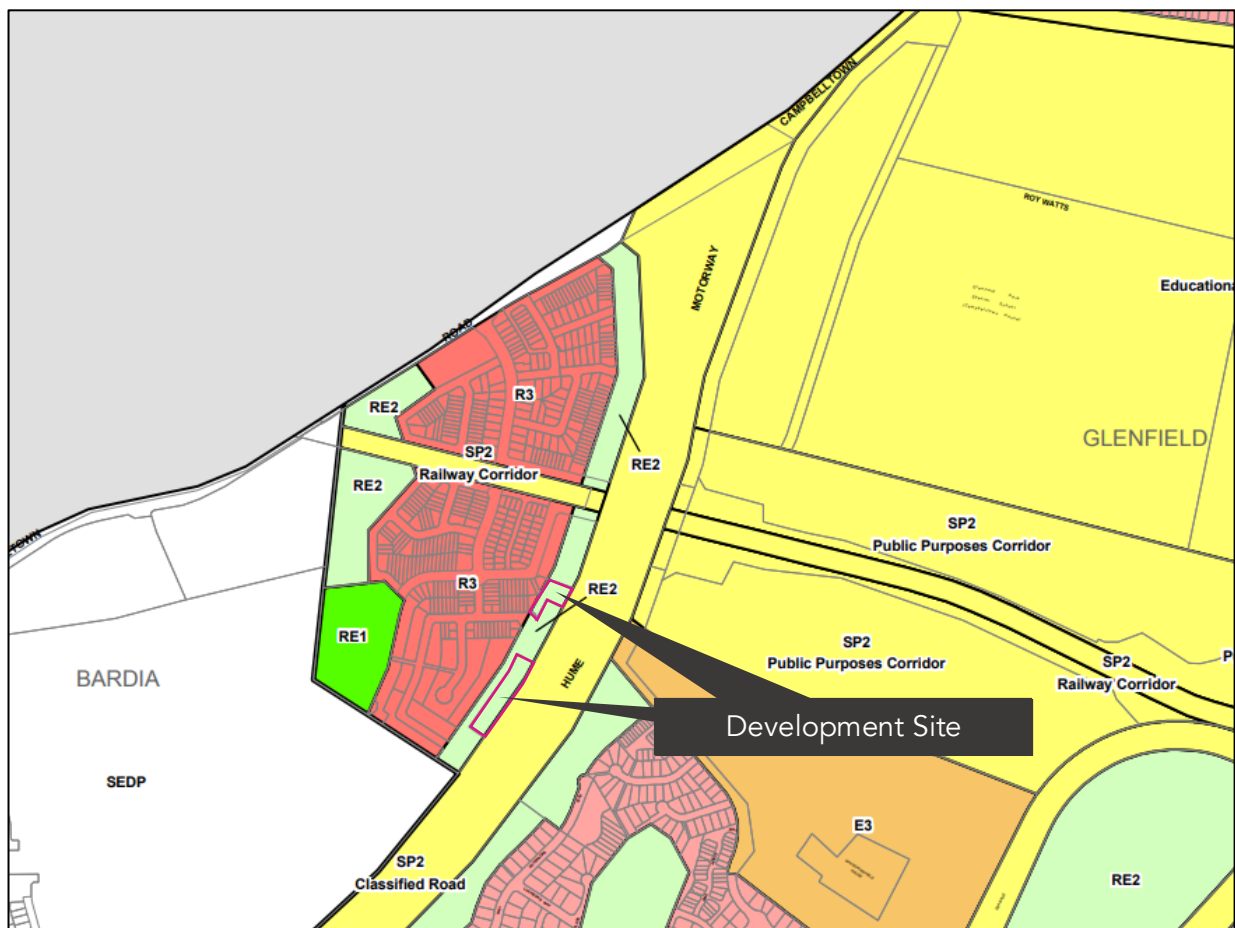


Figure 2: Surrounding Zoning (Source: Campbelltown LEP 2015, Sheet 11)



Figure 3: Site Aerial View

2.2 Proposed Development

The proposal is the rezoning of land currently zoned RE2 Private Recreation to R3 Medium Density Residential in Lots 9 and 10 of DP270983 within The Meadows (see Figure 3). The total area of the proposed rezoned land is 8,100m².

This proposed rezoning is to accommodate the potential development of 27 residential lots. Access to these lots will utilise the Webber Circuit which is currently under construction. This connects to the existing internal road network of Ingleburn Gardens Estate and The Meadows, and to the greater Sydney road network via the signalised intersection, Campbelltown Road/Ingleburn Gardens Drive. One of the lots in Lot 10 will be an access handle¹, providing access to the other 4 lots in Lot 10. Therefore, the proposed increase in yield is 26 dwellings – these will be primarily two storey dwellings with a couple of single storey dwellings, in line with the existing developments within the surrounding area.

Details of the overall layout and the proposed rezoning and presented in Figure 4 and Attachment 1 in the drawings prepared by Monarch Investment Group.

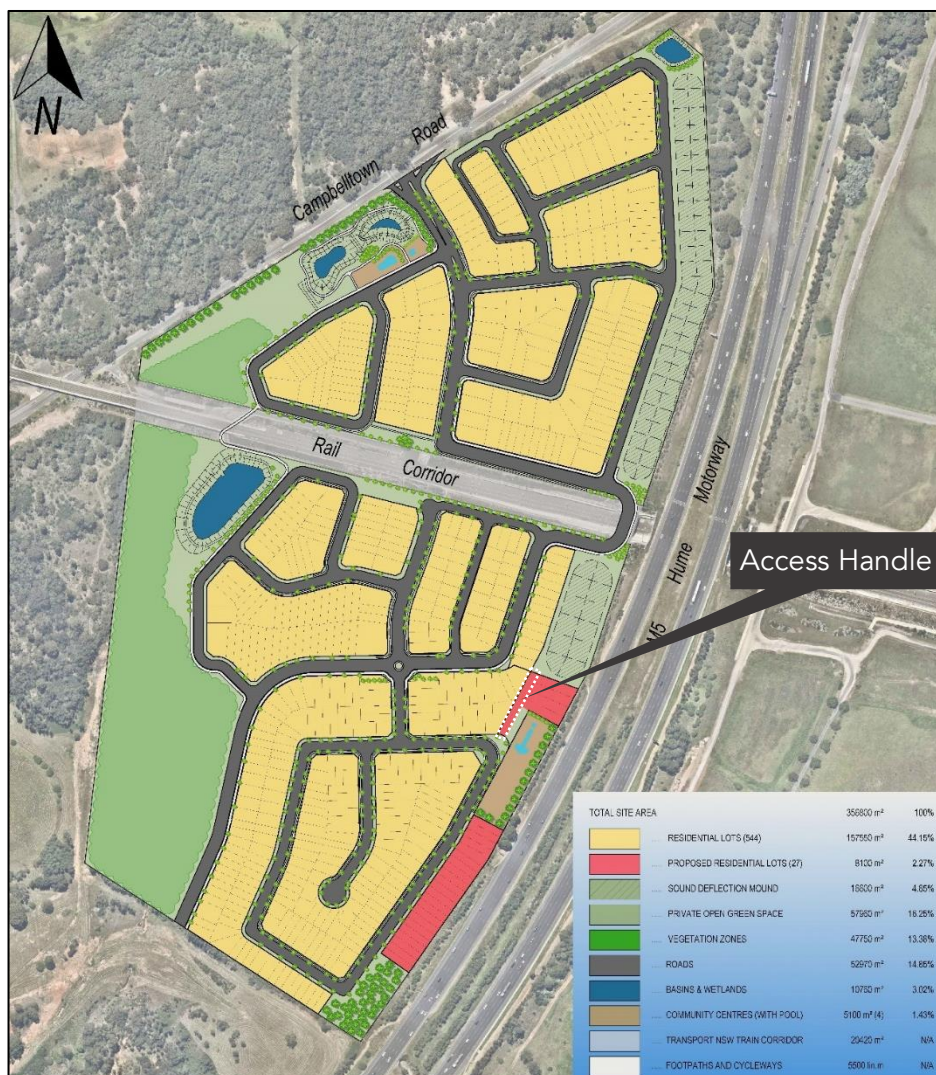


Figure 4: Development Proposal

¹ Land on which an access driveway or access corridor is situated, providing vehicular, pedestrian, or services access from the street

3. Existing Transport Facilities

3.1 Road Hierarchy

The site is located in the suburb of Ingleburn and the development is serviced by Campbelltown Road. The road network servicing the area comprises a number of State Roads, making the site easily accessible from different regions. The road network in this area also comprises local streets providing direct access to the surrounding retail, commercial and residential land uses.



Figure 5: Road Hierarchy

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

- | | |
|----------------|--|
| State Roads | - Freeways and Primary Arterials (RMS Managed) |
| Regional Roads | - Secondary or Sub Arterials (Council Managed, partly funded by the State) |
| Local Roads | - Collector and Local Access Roads (Council Managed) |

The road network servicing the site includes:

Campbelltown Road

Road Classification	State Road
Alignment	East – West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	12m
Speed Limit	80 km/h
School Zone	No
Parking Controls	No Parking
Forms Site Frontage	No



Figure 6: Campbelltown Road

Ingleburn Gardens Drive

Road Classification	Local Road
Alignment	Varies
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	12m
Speed Limit	50 km/h
School Zone	No
Parking Controls	Unrestricted
Forms Site Frontage	No



Figure 7: Ingleburn Gardens Drive

3.1 Public Transport

The locality has been assessed in the context of available forms of public transport that may be utilised by prospective residents and visitors. When defining accessibility, reference is made to the NSW Planning Guidelines for Walking and Cycling (2004) (the Cycling and Walking Guide), where a distance of 400-800m is recommended as a comfortable walkable catchment to access public transport and local amenities. The document also suggests a distance of 1,500m as a suitable catchment for cycling.

Figure 8 illustrates the walkable 400m and 800m catchments from the development site. As indicated by the figure, there are no public transport options within a comfortable walking distance of the site. The closest train station, Edmondson Park Station, is 1.3km away (straight-line distance) / 2.4km away (vehicular route). There is also no pedestrian infrastructure on Campbelltown Road.

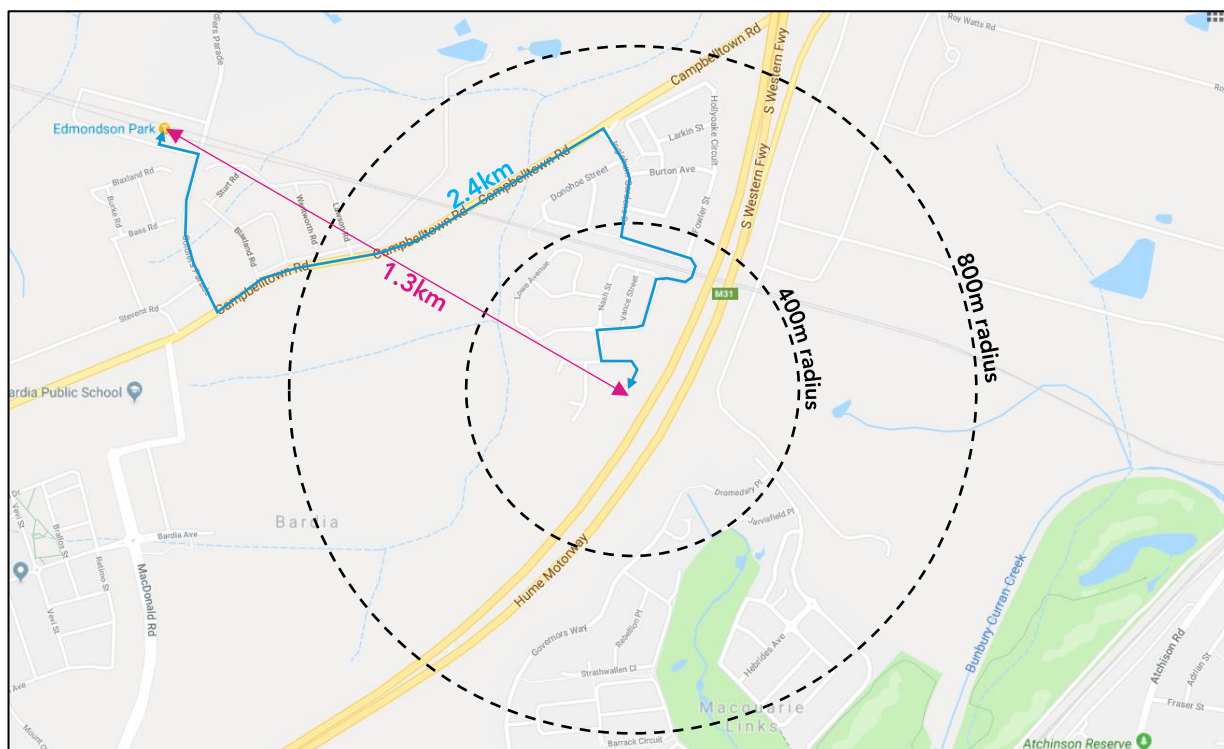


Figure 8: 400m and 800m Walkable Catchment Map

3.1.1 Trains

Edmondson Park Station is located approximately a 2.4km drive from the site. The provision of a commuter car park for approximately 315 vehicles, and cycle racks and lockers, makes the station accessible for commuters utilising a mix of travel modes.

The station serves the T2 Inner West & Leppington Line and T5 Cumberland Line. The T2 line operates frequent services, with trains every 3-10 minutes during Mon-Fri peak hours and up to every 15-20 minutes outside of peak hours and during weekends. The T5 line operates every 30 minutes from Mon-Sun.

3.2 Active Transport

3.2.1 Cycling

Cycling infrastructure is well developed near the site. Within the Estate, road widths are generous and facilitate shared cycling and vehicular traffic. There are also dedicated cycle lanes on Campbelltown Road and on the Hume Motorway/South Western Freeway, providing accessibility to Edmondson Park Train Station and the greater Edmondson Park suburb.

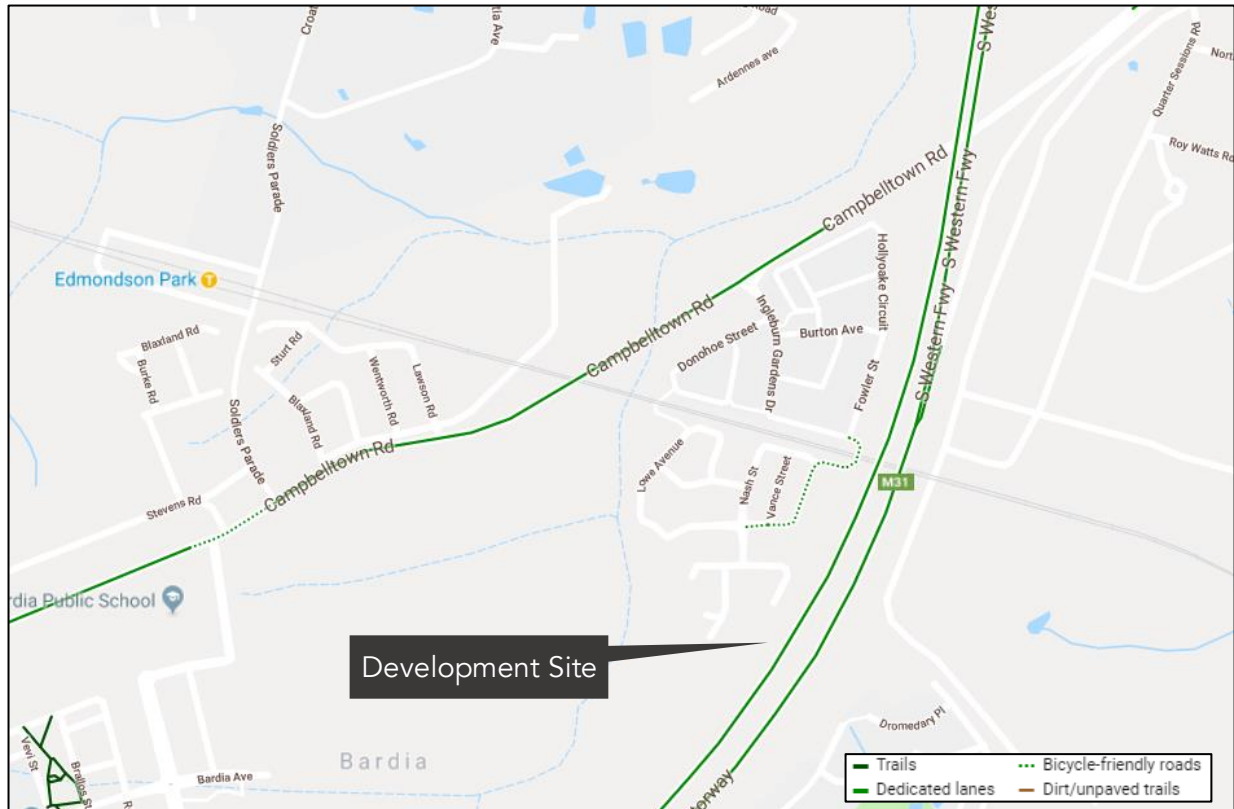


Figure 9: Local bicycle network (Source: Google Maps)

3.2.2 Walking

There is a moderate level of pedestrian amenity within Ingleburn Gardens Estate with provision of footpaths and ramps on most streets within the Estate. The level of pedestrian facilities is in line with similar developments of a residential nature, although there are few dedicated pedestrian crossing areas.



Figure 10: Median Island with Pedestrian Crossing Facility

4. Traffic Impact Assessment

4.1 Traffic Generation

The traffic generation of the proposed development has been established with reference to the *RMS Guide to Traffic Generating Developments*, which presents the traffic generation rates for a number of land uses. The Guide was last updated in October 2002 and is largely based on surveys undertaken during the nineties.

RMS is currently updating the Guide to include more recent data and revised land use traffic generation rates, however as an interim measure RMS has recently published a Technical Direction titled *TDT 2013/04a – Guide to Traffic Generating Developments – Updated Traffic Surveys*, which provides preliminary updated traffic generation rates for a number of land-uses including residential development.

The proposed residential rezoning is anticipated to accommodate low-density development and the updated traffic surveys provide the following traffic generation rates:

- Weekday average morning peak vehicle trips: 0.99 per dwelling (maximum 1.39)
- Weekday average evening peak vehicle trips: 0.95 per dwelling (maximum 1.32)

To present a robust assessment of the traffic activity associated with the proposal, the maximum rate recommended by the RMS Technical Direction is adopted. This is due to poor public transport infrastructure within a comfortable walking distance, therefore the large majority of trips will be private vehicle-based.

The proposal involves rezoning land to accommodate the potential development of 27 residential lots. **ptc.** prepared a report for the previous proposal involving land subdivision in the Ingleburn Gardens Estate to create 212 residential dwellings (*PTC Parking & Traffic Assessment - Ingleburn Gardens 02-03-16*). As part of the previous traffic assessment, another 60 undeveloped lots were incorporated into the assessment to provide a robust approach. The survey data and traffic modelling from the previous report is adopted as the base model for this report.

The traffic associated with the proposal has been calculated with reference to the maximum figures detailed above and the results are summarised in Table 1.

Table 1: Proposed Traffic Generation

Land Use	Number of dwellings	Weekday AM Peak		Weekday PM Peak	
		Rate (trips/dwelling)	Total Trips (veh/hour)	Rate (trips/dwelling)	Total Trips (veh/hour)
Previously assessed dwelling houses	272	1.39	378	1.32	359
Proposed residential lots	26 ²	1.39	36	1.32	34

The projected peak hour generation of traffic activity associated with the proposed 26 residential dwellings is 36 vehicular trips during the AM peak and 34 vehicular trips during the PM peak. It is assumed that during the AM peak, 20% of trips will be inbound and 80% will be outbound. The opposite is adopted for the PM peak.

² One of the lots will be an access handle, hence there will be 26 dwellings rather than 27

Thus, as part of this proposal, there are expected to be an additional 7 inbound / 29 outbound trips during the AM peak and 27 inbound / 7 outbound trips during the PM peak.

4.2 Base Model

As discussed in the previous section, the base model for this assessment has been derived from ptc.'s previous assessment of the Ingleburn Gardens Estate and forecast traffic generation from the development of 272 dwelling houses. As part of this previous assessment, survey data was collected for the signalised intersection, Campbelltown Road and Ingleburn Garden Drive, on Thursday 8 October 2015. Typically, survey data is limited to two years old, however, given the low traffic generation of this proposal (36 trips during the AM peak and 34 during the PM peak – 2.4% and 2.3% of the total post-development projected traffic volumes, respectively), the use of data 3 years old is considered relevant.

The peak hour intersection survey results from the previous assessment are presented in Figure 11, and the previous assessment's post-development results are presented in Figure 12.

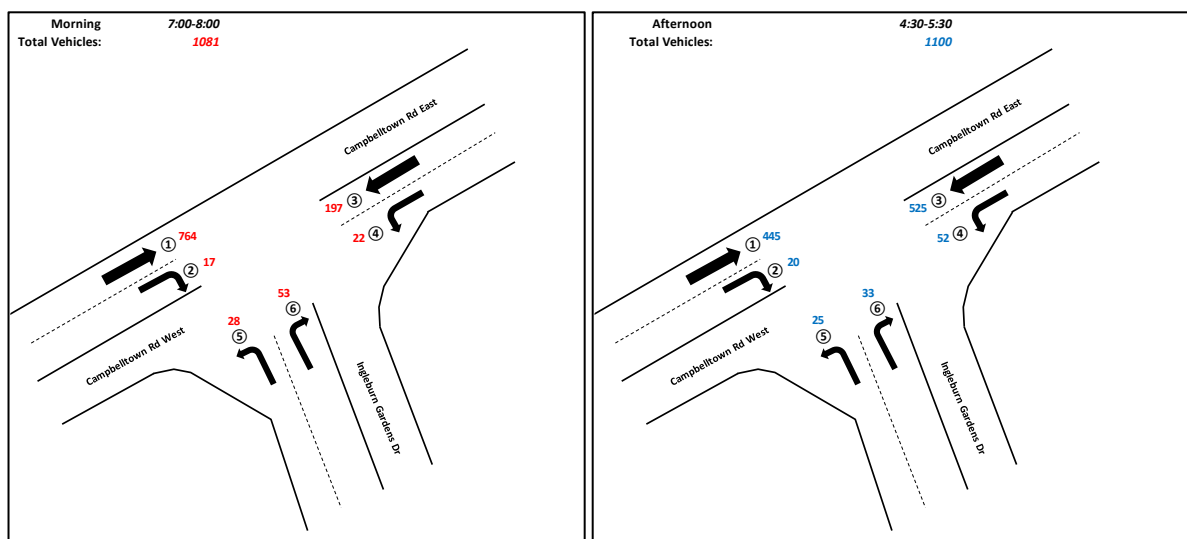


Figure 11: Morning and Evening Peak Hour Traffic Survey Results (08/10/2015)

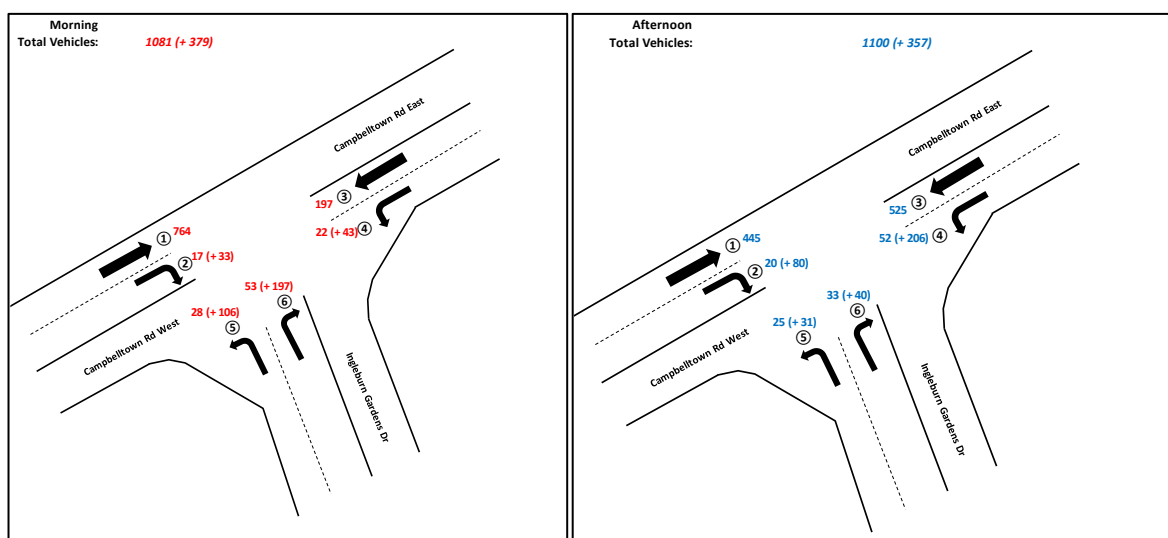


Figure 12: Development Traffic Morning and Evening Peak Hour (as per 2016 report)

4.3 Trip Distribution

To distribute the traffic activity associated with the proposal at the Campbelltown Road / Ingleburn Gardens Drive intersection, an identical approach to the previous report is undertaken whereby the forecast turning proportions are derived from the turning proportions observed during the peak periods in the traffic survey.

From the surveys, the following turning proportions have been observed and are summarised in Table 2:

Table 2: Traffic Distribution (as per surveys on 08/10/2015)

Time Period	From	To	Number of vehicles	Proportion
AM Peak	Ingleburn Gardens Drive	Campbelltown Road (west)	28	$28 / (28+53) = 35\%$
	Ingleburn Gardens Drive	Campbelltown Road (east)	53	$53 / (28+53) = 65\%$
	Campbelltown Road (west)	Ingleburn Gardens Drive	17	$17 / (17+22) = 44\%$
	Campbelltown Road (east)	Ingleburn Gardens Drive	22	$22 / (17+22) = 56\%$
PM Peak	Ingleburn Gardens Drive	Campbelltown Road (west)	14	$14 / (14+22) = 43\%$
	Ingleburn Gardens Drive	Campbelltown Road (east)	22	$22 / (14+22) = 57\%$
	Campbelltown Road (west)	Ingleburn Gardens Drive	20	$20 / (20+52) = 35\%$
	Campbelltown Road (east)	Ingleburn Gardens Drive	52	$52 / (20+52) = 65\%$

This results in the traffic distribution as illustrated in Figure 13. The base numbers include the surveyed volumes and the development traffic volumes determined in the 2016 Traffic Impact Assessment (i.e. the numbers expressed in Figure 12). The additional traffic generation as a result of the proposed 26 dwellings is indicated in the figure by the numbers in the brackets.

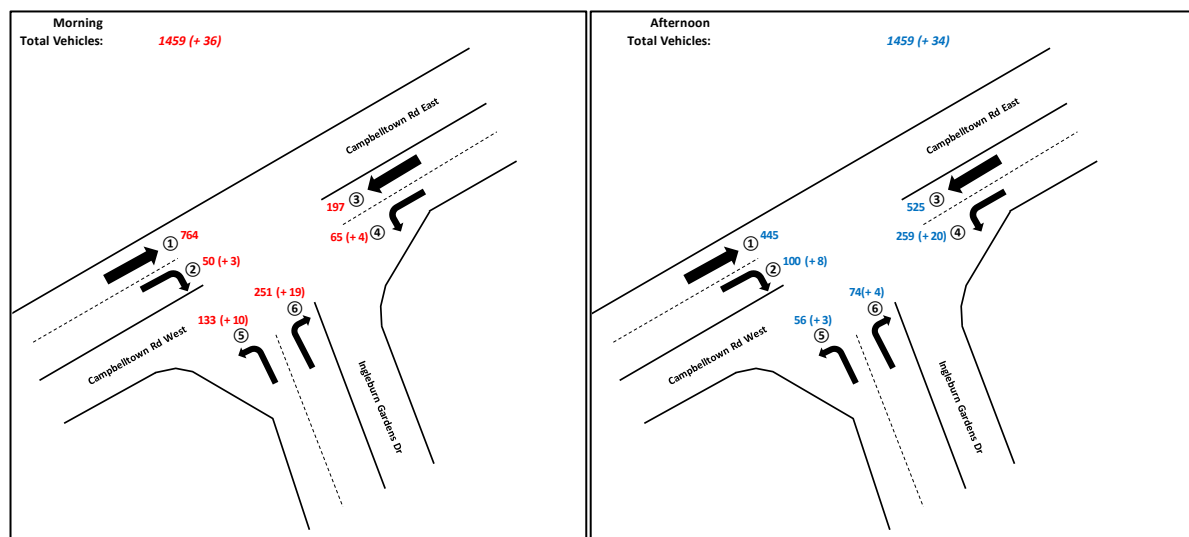


Figure 13: Development Traffic Morning and Evening Peak Hour (additional 26 dwellings)

4.4 Intersection Modelling

In order to determine the future performance of the Campbelltown Road / Ingleburn Gardens Drive intersection, an assessment has been undertaken using the SIDRA modelling software, which presents a range of performance indicators (Level of Service, Average Delay, etc.).

Typically, there are four performance indicators used to summarise the performance of an intersection, being:

- **Level of Service (LoS)** – This is a categorization of average delay, intended for simple reference. The RMS adopts the following bands:
- **Average Delay** – The average delay encountered by all vehicles passing through the intersection. It is often important to review the average delay of each approach as a side road could have a long delay time, while the large free flowing major traffic will provide an overall low average delay.
- **Degree of Saturation** – The total usage of the intersection expressed as a factor of 1 with 1 representing 100% use/saturation. (e.g. 0.8=80% saturation)
- **95% Queue lengths (Q95)** – is defined to be the queue length in metres that has only a 5-percent probability of being exceeded during the analysis time period. It transforms the average delay into measurable distance units.

Table 3: Level of Service Criteria

Level of Service	Average Delay (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	<14	Good operation	
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity. At signals, incidents would cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Extra capacity required	Extreme delay, major treatment required

A summary of the SIDRA modelling results is presented in Table 4:

Table 4: SIDRA Modelling Results for Campbelltown Road / Ingleburn Gardens Drive (pre and post-development)

Time	Model	Level of Service	Average Delay (s)	Degree of Saturation (v/c)	95% Queue Length (veh)
AM Peak	2015 Survey	A	9.5	0.762	14.0
	2016 Report	A	13.2	0.823	15.6
	2018 Update	B	14.7	0.838	17.6
PM Peak	2015 Survey	A	9.6	0.720	9.6
	2016 Report	A	8.2	0.523	8.2
	2018 Update	A	8.3	0.523	7.0

As indicated by the traffic modelling results, the proposed increase of 27 lots/26 dwellings results in a very minor influence upon the Campbelltown Road / Ingleburn Gardens Drive intersection. In the AM peak the Level of Service (LoS) increases from an A to a B, continuing to present an acceptable level of performance. The average delay increases by 1.5 sec, the degree of saturation by 1.5%, and the 95th percentile queue length by 2 vehicles. In the PM peak, the LoS remains at a LoS A, the average delay increases by 0.1 sec, the degree of saturation remains constant and the 95th percentile queue length decreases by 1.2 vehicles. This can be attributed to the traffic volumes being more efficiently served by the signal phases and timings.

Therefore, the proposed development is anticipated to sufficiently accommodated within the existing road network without any significant influences upon the local traffic performance.

5. Parking Provision

5.1 Planning Policy Requirements

Typically, parking requirements are established with reference to the local planning controls i.e. Development Control Plan (DCP) and Local Environmental Plan (LEP). In regard to the proposed subdivision of the site, Campbelltown City Council has developed the *Edmondson Park Smart Growth DCP*, adopted in 2007 and incorporated as Part 6, Volume 2 of *Campbelltown (Sustainable City) DCP*.

Section 2.8 Transport Development Standard D6.2 specifies that:

“Car parking shall be provided for residential dwelling developments at the following minimum rates.”

Table 5: Car Parking Provision Requirements as per the *Edmondson Park Smart Growth DCP*

Number of Bedrooms per Dwelling	Car Parking Spaces per dwelling
Bedsitter or 1 bedroom	0.75
2 bedroom	1
3 or more bedrooms	1.5
Visitor spaces	0.2

Notes:

* Visitor spaces are required for all multiunit dwelling developments in addition to resident spaces. These may be provided on-site, on-street, or a combination of both. On street parking shall be unallocated and available to the public.

* Car parking calculations are to be rounded up.

5.2 Car Parking Requirements

The proposal is still at an early stage, seeking the rezoning of land to accommodate the potential development of 27 residential lots. As the proposal develops, a detailed parking assessment statement of the parking provision including compliance with the relevant applicable standards (i.e. AS2890 suite) should be prepared and submitted to Council during the development application (DA) stage.

6. Access Assessment

6.1 Vehicular Access

The proposed lots will be accessed via Webber Circuit, which is currently under construction as part of The Meadows development. This Circuit links to the rest of the internal road network providing access to and throughout The Meadows and Ingleburn Gardens Estate.



Figure 14: Proposed Vehicular Access

Access to the external road network will be via Ingleburn Gardens Drive, leading to the existing signalised intersection of Ingleburn Gardens Drive and Campbelltown Road. This intersection was constructed as part of the previous development of Ingleburn Gardens Estate.

6.2 Emergency Vehicle Access

Emergency vehicles will be able to access the site via Ingleburn Gardens Drive. The geometry of internal roadway will be designed to accommodate vehicles up to a Heavy Rigid Vehicle (HRV 12.5m long) which is represents the design envelope that includes emergency vehicles including fire appliances. The proposed rezoning will not affect existing emergency vehicle access and the emergency vehicle access for the proposed 27 lots will be the same as for the remainder of The Meadows.

6.3 Waste Collection

Waste collection is proposed to be similar to the existing developments in the area, with the option of Council collection or private collection. As discussed, the roadways have been designed to accommodate vehicles up to an HRV, thus encompassing refuse collection vehicles which are typically smaller than an HRV.

7. Conclusion

ptc. has been engaged by Monarch Investments Pty. Ltd. to provide a traffic and parking assessment to accompany the proposal to Campbelltown City Council to rezone land currently zoned RE2 Private Recreation to R3 Medium Density Residential in The Meadows, Bardia. This is to accommodate the potential development of 27 residential lots accommodating 26 two-storey/one-storey dwellings (and one access handle).

An update of the traffic modelling, previously completed for 212 residential lots (The Meadows, Bardia) and 60 undeveloped lots, has been undertaken to incorporate the additional forecast traffic generation from the potential 26 dwellings. These 26 dwellings are anticipated to generate 7 inbound trips and 29 outbound trips in the AM peak and 27 inbound trips and 7 outbound trips in the PM peak. Based on the updated SIDRA traffic modelling and assessment of the internal road network (Ingleburn Gardens Drive), this additional traffic generation is not expected to significantly reduce the existing amenity of the Campbelltown Road/Ingleburn Gardens Drive signalised intersection, with the intersection operating at a LoS B in the AM peak and LoS A in the PM peak.

The access arrangements i.e. proposed internal road arrangement and connection to the external road network indicates that the site will be safely accessible by all users including emergency vehicles and refuse collection vehicles.

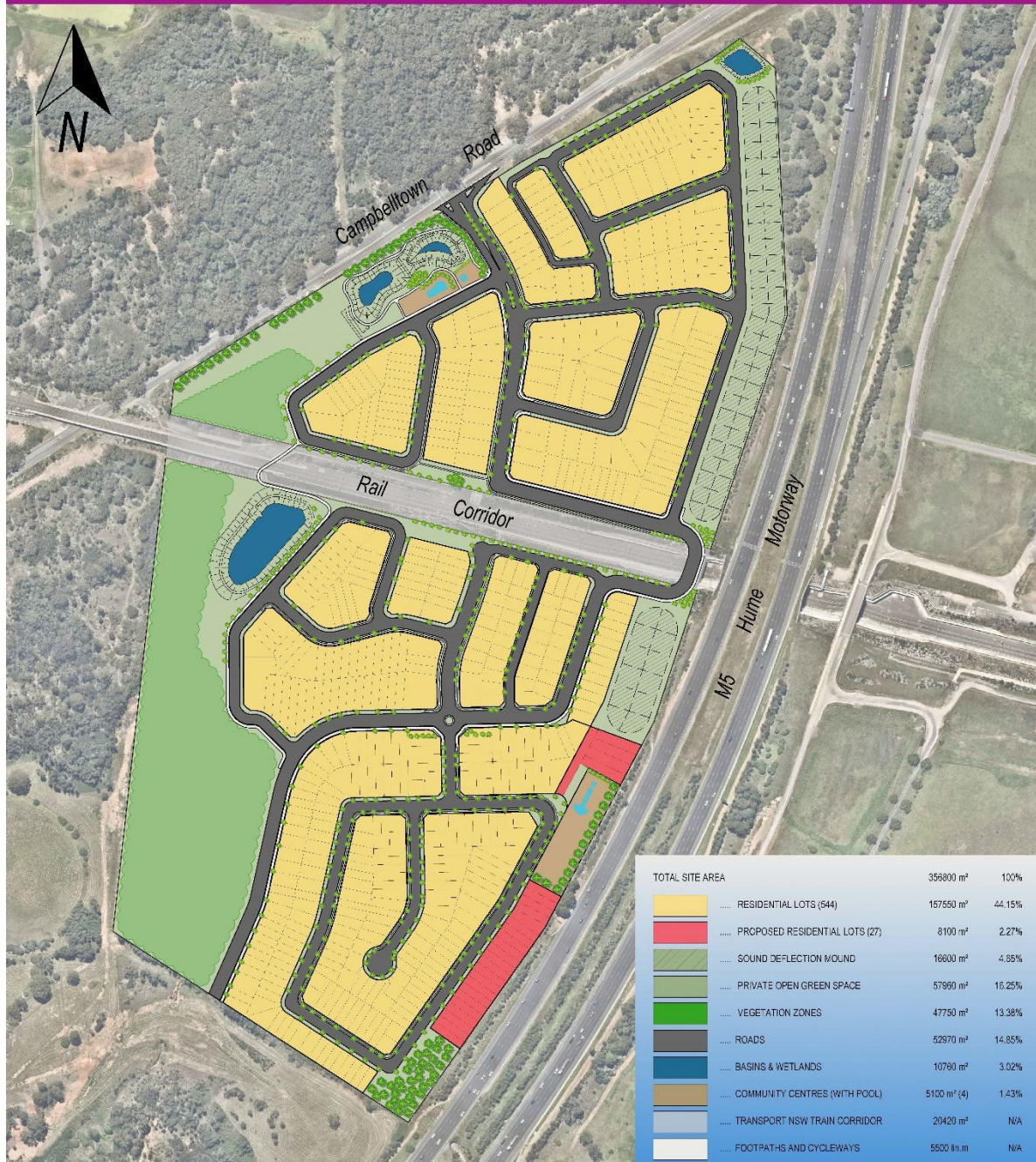
In light of the above, the proposed development is endorsed in the context of parking and traffic.

Attachment 1 Proposed Rezoning Overview

Ingleburn Gardens Estate & The Meadows

Masterplan

MONARCH'S
THE MEADOWS
BARDIA



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MONARCH
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Attachment 2 SIDRA Movement Summary

MOVEMENT SUMMARY



Site: 1 [Ingleburn Rd | Campbelltown Rd - AM - SURVEY]

Survey Data from 8 Oct 2015

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Deg. HV %	Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Ingelburns Garden Dr (S)												
21	L2	29	0.0	0.029	5.9	LOS A	0.1	0.8	0.37	0.58	0.37	53.3
23	R2	56	0.0	0.203	21.9	LOS B	1.0	7.2	0.91	0.73	0.91	43.1
Approach		85	0.0	0.203	16.4	LOS B	1.0	7.2	0.72	0.68	0.72	46.2
NorthEast: Campbelltown Rd (NE)												
24	L2	23	0.0	0.019	8.3	LOS A	0.1	0.5	0.31	0.65	0.31	54.1
25	T1	207	0.0	0.196	5.0	LOS A	2.1	14.5	0.53	0.44	0.53	72.2
Approach		231	0.0	0.196	5.3	LOS A	2.1	14.5	0.51	0.46	0.51	69.8
SouthWest: Campbelltown Rd (SW)												
31	T1	804	0.0	0.762	9.9	LOS A	14.0	98.2	0.83	0.80	0.94	65.7
32	R2	18	0.0	0.027	12.3	LOS A	0.2	1.3	0.52	0.68	0.52	50.2
Approach		822	0.0	0.762	10.0	LOS A	14.0	98.2	0.83	0.80	0.93	65.3
All Vehicles		1138	0.0	0.762	9.5	LOS A	14.0	98.2	0.75	0.72	0.83	64.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P5	SouthEast Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68
P6	NorthEast Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
P8	SouthWest Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		158	12.7	LOS B			0.79	0.79

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: 1 [Ingleburn Rd | Campbelltown Rd - AM - BASE (2016 model)]

Base Model (survey plus previously assessed 272 dwellings)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Deg. HV %	Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Ingelburns Garden Dr (S)												
21	L2	141	0.0	0.136	6.0	LOS A	0.6	4.4	0.40	0.62	0.40	53.2
23	R2	263	0.0	0.823	27.1	LOS B	6.1	42.6	1.00	1.04	1.47	40.5
Approach		404	0.0	0.823	19.8	LOS B	6.1	42.6	0.79	0.89	1.10	44.2
NorthEast: Campbelltown Rd (NE)												
24	L2	68	0.0	0.058	8.4	LOS A	0.2	1.6	0.33	0.66	0.33	54.1
25	T1	207	0.0	0.206	5.5	LOS A	2.2	15.4	0.56	0.47	0.56	71.3
Approach		276	0.0	0.206	6.2	LOS A	2.2	15.4	0.50	0.51	0.50	66.1
SouthWest: Campbelltown Rd (SW)												
31	T1	804	0.0	0.798	12.3	LOS A	15.6	109.3	0.88	0.88	1.05	63.1
32	R2	53	0.0	0.082	13.1	LOS A	0.6	4.0	0.57	0.71	0.57	49.7
Approach		857	0.0	0.798	12.3	LOS A	15.6	109.3	0.86	0.87	1.02	62.0
All Vehicles		1537	0.0	0.823	13.2	LOS A	15.6	109.3	0.78	0.81	0.95	56.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P5	SouthEast Full Crossing	53	9.8	LOS A	0.0	0.0	0.70	0.70
P6	NorthEast Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
P8	SouthWest Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		158	12.9	LOS B			0.80	0.80

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: 1 [Ingleburn Rd | Campbelltown Rd - AM - DEVELOPMENT (2018 model)]

Development Model (additional 26 dwellings)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Deg. HV %	Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Ingelburns Garden Dr (S)												
21	L2	151	0.0	0.143	6.1	LOS A	0.7	4.7	0.41	0.62	0.41	53.2
23	R2	284	0.0	0.777	24.9	LOS B	6.2	43.6	1.00	0.97	1.32	41.6
Approach		435	0.0	0.777	18.4	LOS B	6.2	43.6	0.79	0.85	1.00	45.0
NorthEast: Campbelltown Rd (NE)												
24	L2	73	0.0	0.061	8.4	LOS A	0.2	1.6	0.33	0.67	0.33	54.1
25	T1	207	0.0	0.216	6.2	LOS A	2.3	16.2	0.59	0.49	0.59	70.5
Approach		280	0.0	0.216	6.7	LOS A	2.3	16.2	0.52	0.53	0.52	65.3
SouthWest: Campbelltown Rd (SW)												
31	T1	804	0.0	0.838	15.5	LOS B	17.6	123.0	0.92	0.96	1.19	59.7
32	R2	56	0.0	0.091	13.7	LOS A	0.6	4.5	0.60	0.72	0.60	49.2
Approach		860	0.0	0.838	15.4	LOS B	17.6	123.0	0.90	0.94	1.15	58.9
All Vehicles		1575	0.0	0.838	14.7	LOS B	17.6	123.0	0.81	0.85	1.00	55.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P5	SouthEast Full Crossing	53	10.5	LOS B	0.0	0.0	0.73	0.73
P6	NorthEast Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
P8	SouthWest Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		158	13.2	LOS B			0.81	0.81

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: 1 [Ingleburn Rd | Campbelltown Rd - PM - SURVEY]

Survey Data from 8 Oct 2015

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Deg. HV %	Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Ingelburns Garden Dr (S)												
21	L2	26	0.0	0.037	8.5	LOS A	0.2	1.3	0.66	0.64	0.66	51.4
23	R2	35	0.0	0.095	15.9	LOS B	0.4	3.1	0.84	0.70	0.84	46.4
Approach		61	0.0	0.095	12.7	LOS A	0.4	3.1	0.77	0.67	0.77	48.4
NorthEast: Campbelltown Rd (NE)												
24	L2	55	0.0	0.047	8.7	LOS A	0.2	1.2	0.43	0.67	0.43	53.7
25	T1	553	0.0	0.720	10.1	LOS A	7.9	55.3	0.90	0.84	1.05	65.5
Approach		607	0.0	0.720	10.0	LOS A	7.9	55.3	0.86	0.82	0.99	64.2
SouthWest: Campbelltown Rd (SW)												
31	T1	468	0.0	0.610	8.3	LOS A	5.8	40.9	0.84	0.74	0.87	67.7
32	R2	21	0.0	0.069	18.9	LOS B	0.3	2.0	0.87	0.69	0.87	46.0
Approach		489	0.0	0.610	8.8	LOS A	5.8	40.9	0.85	0.73	0.87	66.3
All Vehicles		1158	0.0	0.720	9.6	LOS A	7.9	55.3	0.85	0.78	0.93	64.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P5	SouthEast Full Crossing	53	9.6	LOS A	0.0	0.0	0.80	0.80
P6	NorthEast Full Crossing	53	9.6	LOS A	0.0	0.0	0.80	0.80
P8	SouthWest Full Crossing	53	9.6	LOS A	0.0	0.0	0.80	0.80
All Pedestrians		158	9.6	LOS A			0.80	0.80

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: 1 [Ingleburn Rd | Campbelltown Rd - PM - BASE (2016 model)]

Base Model (survey plus previously assessed 272 dwellings)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Deg. Satn HV % v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Ingelburns Garden Dr (S)											
21	L2	59	0.0 0.078	7.5	LOS A	0.4	2.9	0.52	0.63	0.52	52.2
23	R2	77	0.0 0.280	22.2	LOS B	1.4	10.1	0.92	0.74	0.92	42.9
Approach		136	0.0 0.280	15.8	LOS B	1.4	10.1	0.75	0.70	0.75	46.5
NorthEast: Campbelltown Rd (NE)											
24	L2	272	0.0 0.240	9.0	LOS A	1.3	9.1	0.44	0.71	0.44	53.7
25	T1	553	0.0 0.523	6.3	LOS A	7.0	48.9	0.68	0.59	0.68	70.3
Approach		824	0.0 0.523	7.2	LOS A	7.0	48.9	0.60	0.63	0.60	63.8
SouthWest: Campbelltown Rd (SW)											
31	T1	468	0.0 0.444	5.9	LOS A	5.6	39.0	0.64	0.55	0.64	70.8
32	R2	105	0.0 0.254	16.6	LOS B	1.5	10.6	0.73	0.76	0.73	47.4
Approach		574	0.0 0.444	7.9	LOS A	5.6	39.0	0.65	0.59	0.65	65.0
All Vehicles		1534	0.0 0.523	8.2	LOS A	7.0	48.9	0.63	0.62	0.63	62.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P5	SouthEast Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68
P6	NorthEast Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
P8	SouthWest Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		158	12.7	LOS B			0.79	0.79

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: Z:\PCI - PROJECT WORK FILES\NSW\Monarch Investments- Ingleburn Gardens Estate\Analysis\180806 - ptc. - Ingleburn Rd Campbelltown Rd.sip8

MOVEMENT SUMMARY



Site: 1 [Ingleburn Rd | Campbelltown Rd - PM - DEVELOPMENT (2018 model)]

Development Model (additional 26 dwellings)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Deg. HV %	Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Ingelburns Garden Dr (S)												
21	L2	62	0.0	0.082	7.5	LOS A	0.4	3.0	0.52	0.64	0.52	52.2
23	R2	82	0.0	0.299	22.2	LOS B	1.5	10.8	0.93	0.75	0.93	42.9
Approach		144	0.0	0.299	15.9	LOS B	1.5	10.8	0.75	0.70	0.75	46.5
NorthEast: Campbelltown Rd (NE)												
24	L2	294	0.0	0.262	9.0	LOS A	1.4	10.0	0.45	0.71	0.45	53.6
25	T1	553	0.0	0.523	6.3	LOS A	7.0	48.9	0.68	0.59	0.68	70.3
Approach		846	0.0	0.523	7.2	LOS A	7.0	48.9	0.60	0.63	0.60	63.4
SouthWest: Campbelltown Rd (SW)												
31	T1	468	0.0	0.444	5.9	LOS A	5.6	39.0	0.64	0.55	0.64	70.8
32	R2	113	0.0	0.272	16.7	LOS B	1.6	11.4	0.73	0.76	0.73	47.3
Approach		581	0.0	0.444	8.0	LOS A	5.6	39.0	0.65	0.59	0.65	64.6
All Vehicles		1572	0.0	0.523	8.3	LOS A	7.0	48.9	0.63	0.63	0.63	61.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

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P5	SouthEast Full Crossing	53	9.1	LOS A	0.0	0.0	0.68	0.68
P6	NorthEast Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
P8	SouthWest Full Crossing	53	14.5	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		158	12.7	LOS B			0.79	0.79

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Setbacks to the Hume Highway



Drawing Prepared by:
DFP Planning Pty Ltd
PO BOX 230,
Pennant Hills, 1715

02 9980 6933
www.dfplanning.com.au

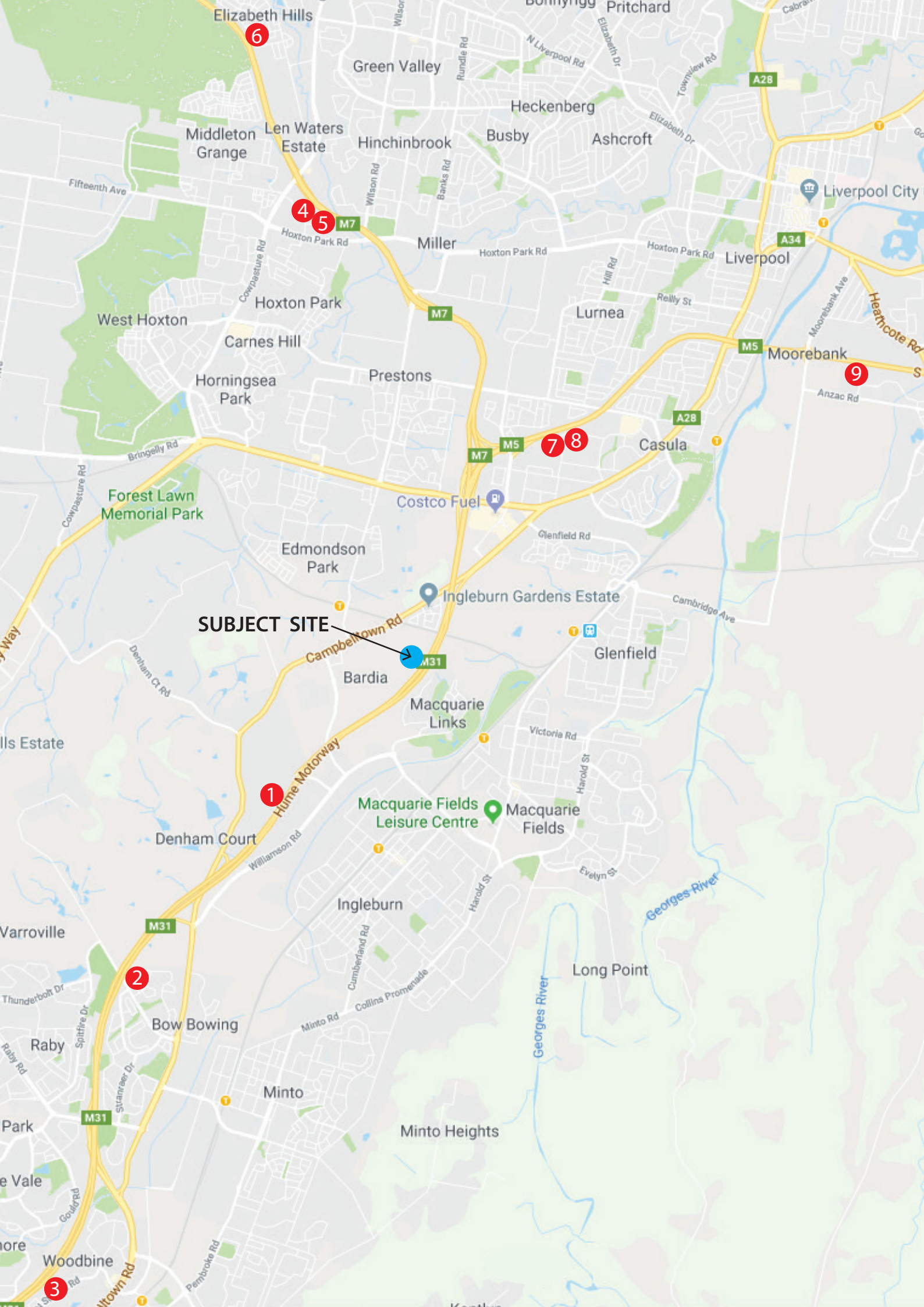
Client:
Monarch Investments
Suite 12
33 Ryde Road
Pymble, NSW 2073

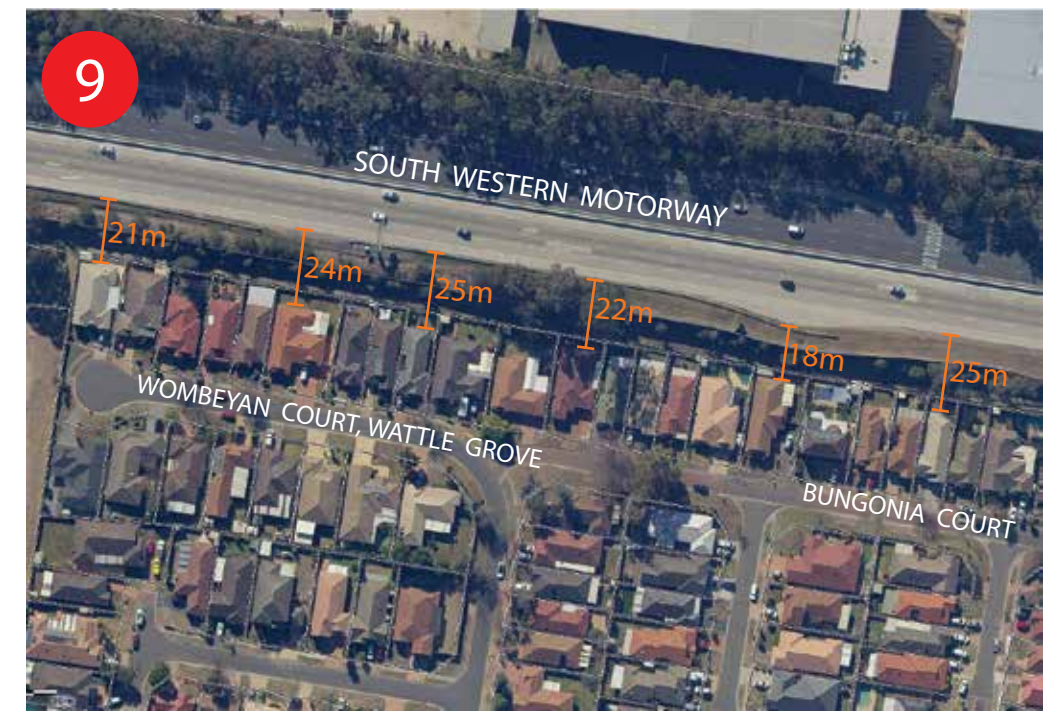


Title:
**Setback Distances to
Hume Highway**

At:
Lot 9 and 10, DP 270983
and surrounding sites

Date: 11/12/19
P. No: 5285N
Rev: A
Drawn: A.R





28 April 2020

TfNSW Reference: SYD20/00252/01

Council Reference: 634/020/E-PP

The General Manager
Campbelltown City Council
PO Box 57
CAMPBELLTOWN NSW 2560

Attention: Alex Saprun

PLANNING PROPOSAL FOR TWO RESIDUAL LOTS – THE MEADOWS, BARDIA

Dear Sir/Madam

Reference is made to Council's correspondence dated 2 April 2020, regarding the abovementioned application which was referred to Transport for NSW (TfNSW) for comment.

TfNSW has reviewed the submitted application and raises no objection to the application. TfNSW requests that the following conditions are incorporated into any consent issued by Council:

1. The subject property abuts a Declared Freeway (Hume Motorway) as shown by blue colour on attached Aerial 'X' & 'Y'. Access is denied across this boundary.
2. Any new buildings or structures (including proposed sound wall), together with any improvements integral to the future use of the site are to be wholly within the freehold property (unlimited height or depth), along the Hume Motorway Boundary.
3. Any Detailed design plans and hydraulic calculations of any changes to the TfNSW's stormwater drainage system are to be submitted to TfNSW for approval, prior to the commencement of any works. Documents should be submitted to Development.Sydney@rms.nsw.gov.au
A plan checking fee will be payable and a performance bond may be required before TfNSW approval is issued.

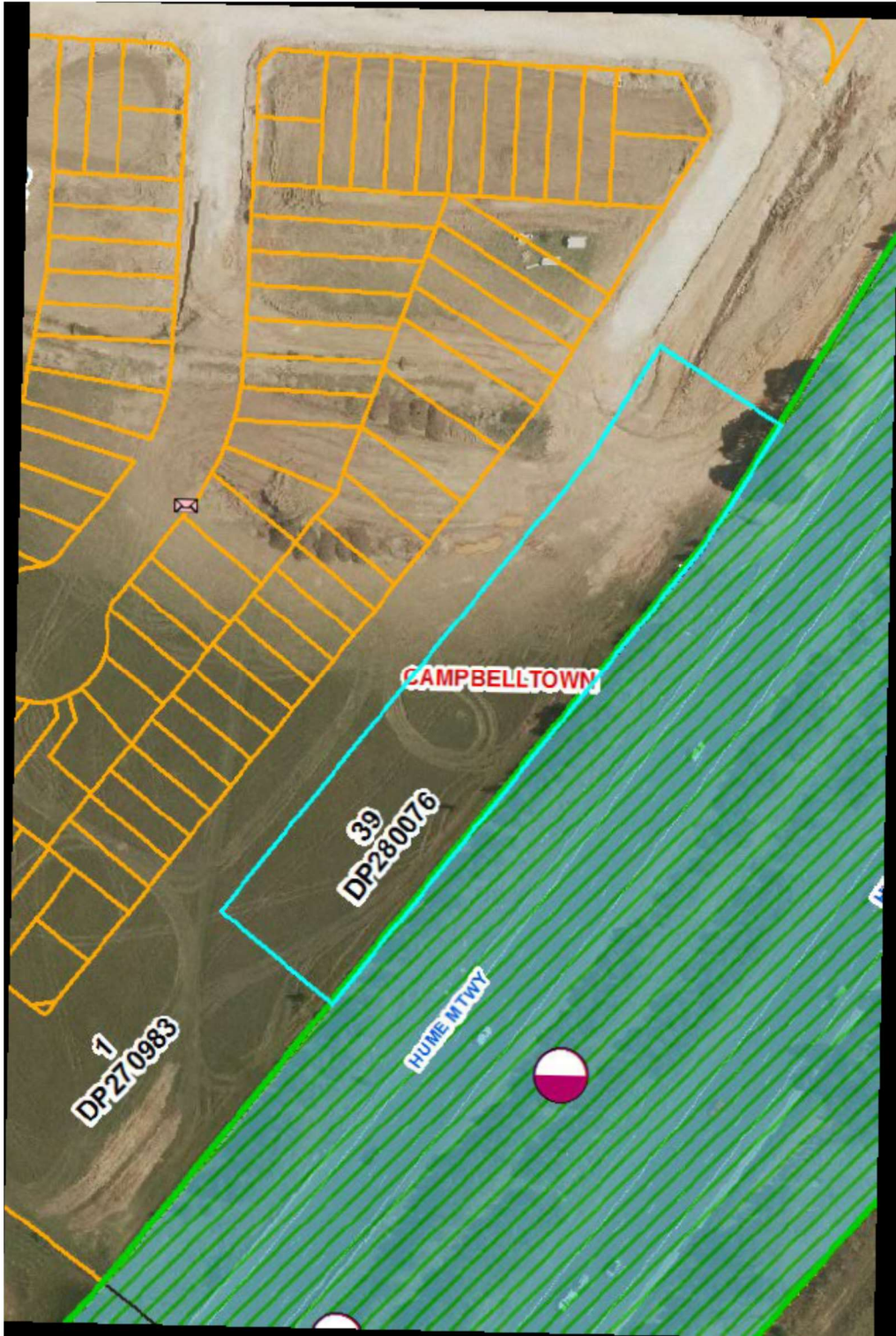
If you have any further questions, Sandra Grimes, Development Assessment Officer, would be pleased to take your call on (02) 9563 8651 or please email development.sydney@rms.nsw.gov.au. I hope this has been of assistance.

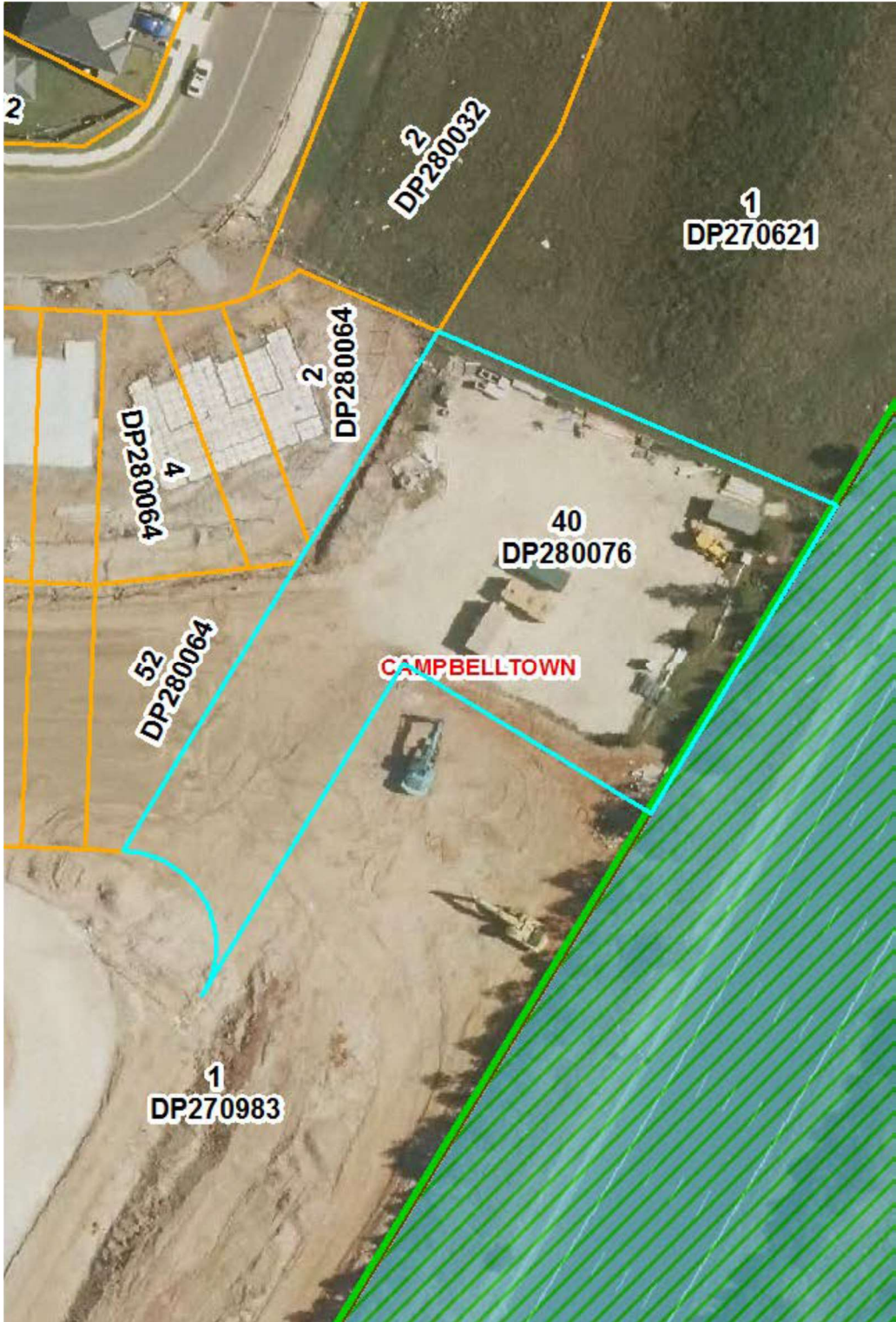
Yours sincerely



Pahee Rathan
Senior Land Use Assessment Coordinator

'X'







planning consultants

21 September 2020
Our Ref: 5285N.4PS

Campbelltown City Council
PO Box 57
Campbelltown
NSW 2560

Dear Sir/Madam

Re: 634/2020/E-PP Proposed Rezoning of RE2 Private Recreation Land to R3 Medium Density Residential – The Meadows, Bardia

DFP Planning has been commissioned on behalf of Jessica Investments Pty Ltd to respond to the Campbelltown Local Planning Panel's recommendations dated 22 July 2020 in respect of the Planning Proposal referred to above.

1.0 Background

On 3 March 2020, DFP Planning, on behalf of Jessica Investments Pty Ltd, lodged a Planning Proposal in respect of the land referred to as Stage 12 of the Meadows (the site). The Planning Proposal sought to amend Campbelltown Local Environmental Plan 2015 (CLEP) as it relates to Lot 39 and Lot 40 in DP 280076 to rezone both lots from RE2 Private Recreation to R3 Medium Density Residential.

On 22 July 2020, the Planning Proposal was considered by Campbelltown Local Planning Panel, who provided the following recommendations to amend the planning proposal as submitted:

- a) *Lot 39 to be zoned residential. Any future residential development on Lot 39 should consider amenity, open space, noise and other considerations within the DCP to improve future urban design outcomes. The residential concepts provided with the current Planning Proposal do not achieve these desired urban design outcomes.*
- b) *Lot 40 to the north of the established community facility should remain zoned RE2 and be incorporated as a pocket park or similar and/or incorporated into the community facility / community scheme as a public benefit for the existing and additional residents. The embellishment of this space should also be linked to any approved proposal.*
- c) *The rezoning of Lot 39 to residential requires, based on the applicant's documentation, the erection of an acoustic wall between the site and the M31 Motorway and the construction of the wall within a screened landscaped setting should be a requirement linked to any rezoning of the land. Landscaping associated with the acoustic wall would constitute a public benefit to the residents of the development as well as when viewed from the adjacent motorway. Assurance is required that the acoustic wall will be built in order to benefit the community.*
- d) *The existing housing to the west of Lot 39 should also receive a public benefit from the future development by way of improved acoustic amenity and landscaping,*

inclusive of street trees on both sides of the street and bollards to address illegal dumping.

- e) *The bushland lot zoned RE1 Public Recreation is not suited for active or passive recreation purposes and should not be considered as providing this function in any determination concerning the merits of the proposal.*

4. *The Panel recommends to the Council that it considers negotiating a Planning Agreement with the applicant in order to deliver the public benefits identified above.*

2.0 Amended Proposal

In response to the Panel's recommendations, the applicant is seeking to modify the Planning Proposal as follows:

- Rezoning of Lot 39 DP 280076 from RE2 Private Recreation to R3 Medium Density Residential to provide for approximately 22 residential lots.
- Lot 40 DP 280076 to retain the RE2 Private Recreation zoning and to be developed into a pocket park (**Figure 1**). A masterplan has been provided at **Attachment 1**.
- Lot 40 to be added to the Community Title lot (Lot 1 DP270983) for the estate to provide amenity benefits for all residents of The Meadows.

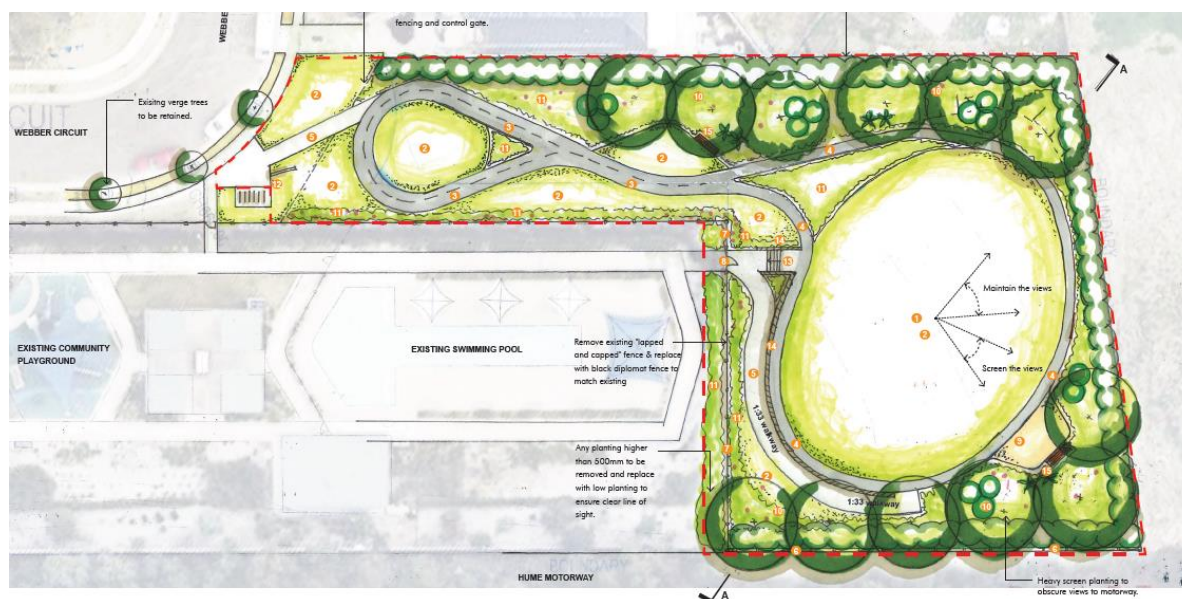


Figure 1 Concept Plan for Pocket Park

3.0 Response to Planning Panel's Recommendations

3.1 Future Residential Development on Lot 39

The Panel has indicated that the residential concepts provided with the Planning Proposal do not achieve the desired urban design outcomes with regard to amenity, open space, noise and other considerations within the DCP.

The residential subdivision of Lot 39 and subsequent residential development will be subject to a Development Application (DA) to Campbelltown City Council where residential amenity will be assessed against the development controls within Campbelltown Local Environment Plan (LEP) 2015 and Campbelltown (Sustainable City) Development Control Plan (DCP) 2015. Consistency with the desired urban design outcomes controls of the LEP and DCP will be addressed during assessment of the subdivision DA.

It is considered that the amenity of future residents on lots created as a result of the subdivision of Lot 39 are capable of being managed.

3.2 Development of a Pocket Park on Lot 40

A masterplan for the pocket park on Lot 40 has been prepared at **Attachment 1**. As indicated in **Figure 1** above, the park includes the following mix of passive and active recreation facilities:

- Multi-purpose open gather/ kick-about space;
- Open turf area;
- A mixture of one-way (1 metre wide) and two-way (2 metres wide) bike tracks;
- Concrete footpaths (with a maximum fall of 1:33);
- Acoustic wall – 3.5 metres in height;
- 1.8 metre tubular steel fence (Diplomat, to match existing pool fence);
- Automatic self-closing swing gate to pool enclosure;
- Open gravel area;
- Dense landscape planting buffer to provide privacy screening adjacent to acoustic fence;
- Low planting to ensure passive surveillance and open views;
- Concrete stairs to provide accessibility between pool and multipurpose gathering space;
- Low retaining & seating wall; and
- Bench seats.

It is proposed to add Lot 40 to the Community Title of The Meadows to ensure the embellished open space provides amenity benefit for all residents in the estate.

3.3 Acoustic Wall

As detailed in the Planning Proposal, an acoustic wall is proposed from the northern corner of Lot 40 DP 280076 to the southern corner of Lot 1 DP270983 as indicated in **Figure 2**, to provide acoustic amenity to residents of the future subdivision of Lot 39 and improved acoustic amenity to existing residents of The Meadows. Landscaping is proposed along the acoustic wall for screening purposes (**Figure 3**).



Figure 2 Proposed location for installation of acoustic wall



Figure 3 Landscaping along the acoustic wall

The acoustic wall proposed is the AcoustiMax 100 at 3.5 metres in height, as detailed in the Planning Proposal. Product data provided with the Planning Proposal states that when installed to a height of at least 2 metres above road level, the acoustic fence will result in a sound reduction of 15-20dB, which is a fourfold audible reduction in laymen's terms. Given that the proposed acoustic fence will be installed at a height of 3.5 metres, this is considered to be a conservative estimate for the reduction of road noise.

Figure 4 indicates the existing environmental noise levels (measured as part of the Acoustic Report submitted with the Planning Proposal) and the impact the acoustic wall is predicted to have on acoustic amenity.

Locations	Traffic Noise Levels	
	Daytime (7am-10pm)	Night-time (10pm- 7am)
Eastern Boundary (Facing M5 Motorway)	73 dB(A)	71 dB(A)
Eastern Building Façade Ground Level (predicted*)	59 dB(A)	57 dB(A)
Eastern Building Façade Top Level (predicted*)	65 dB(A)	63 dB(A)

*prediction of noise levels at the facades take into account the attenuation from the proposed acoustic barrier

Figure 4 Acoustic mitigation outcomes of acoustic wall

Further acoustic mitigation measures will be required in the construction of housing within Lot 39 to achieve the internal noise level criteria of 35dB(A) $L_{eq\ 9\ hour}$ in the bedrooms and 40dB(A) $L_{eq\ 9\ hour}$ in the living room. These measures are detailed in the Acoustic Report prepared by Acoustic Logic (submitted with the Planning Proposal) and can be imposed as a restriction as

to user under Section 88B of the Conveyancing Act 1919 as part of the application for subdivision of Lot 39.

3.4 Amenity benefits to existing housing to the west of Lot 39

The residential subdivision of Lot 39 will address illegal dumping in this area by way of access control, territorial reinforcement, and natural surveillance. The residential subdivision will resolve this issue and therefore bollards will not be required. Street trees are proposed along both sides of the road in the masterplan.

In addition, existing residents will benefit from the acoustic wall and the development of the pocket park by way of reduced road noise and improved outdoor passive and active recreation opportunities.

3.5 Bushland block to the south of Lot 39

The Local Planning Panel indicated that the bushland block to the south of Lot 39 should not be considered as providing active or passive recreation functions when considering the amenity merits of the proposal. This area is already part of the Community Title lot. Consideration of this space for recreation is not required to meet the desired amenity outcomes for residents, and this area does not form part of the Planning Proposal.

4.0 Mechanism for implementation

In order to address the amenity benefits for residents, the DA for the subdivision of Lot 39 will include the following details:

- Acoustic wall along the boundary with the Hume Highway;
- Landscape planting along the acoustic wall;
- Construction of the pocket park on Lot 40, generally in line with the Masterplan at **Attachment 1**; and
- Inclusion of Lot 40 as part of the Community lot.

The undertaking of these works can be linked to the approval of a residential subdivision application on Lot 39 and the application to amend the Community Title lot. These works can be conditioned in such a manner that the subdivision certificates cannot be issued until such time as these works are completed. This is considered to be a more efficient mechanism for the purposes of achieving the desired amenity outcomes for residents of The Meadows and a Planning Agreement is not necessary.

5.0 Conclusion

The applicant has responded to the recommendations of the Campbelltown Local Planning Panel and has modified the Planning Proposal to create a Pocket Park on Lot 40. The Community Title for The Meadows will be modified to include Lot 40 as part of the Community Lot. Therefore, the park will be provided for the benefit of all residents. The Panel indicated their in-principal support of rezoning Lot 39 from RE2 Private Recreation to R3 Medium Density Residential subject to this change.

The Planning Proposal indicates that a 3.5 metre high acoustic wall will be installed along the site boundary with the Hume Highway (from the northern corner of Lot 40 DP 280076 to the southern corner of Lot 1 DP270983) to improve acoustic amenity (15-20dB reduction in existing acoustic conditions).

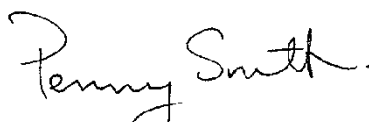
This wall will not only provide an acoustic amenity benefit for future residents of lots created as a result of the subdivision of Lot 39, it will also have acoustic benefits for all residents of The

Meadows. The installation of this wall can be required as a condition of the DA for the subdivision of Lot 39.

It is considered that the amended Planning Proposal will provide a superior social and amenity outcome for all residents of The Meadows through the provision of the pocket park and acoustic wall. The residential subdivision of Lot 39 will improve natural surveillance and territorial reinforcement in this location, which will resolve the illegal dumping issue.

Accordingly, we recommend that Council endorse the amended Planning Proposal and forward it to the Minister for Gateway Approval.

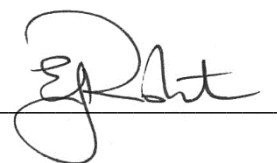
Yours faithfully
DFP PLANNING PTY LTD

A handwritten signature in black ink that reads 'Penny Smith'.

PENNY SMITH
PRINCIPAL PLANNER

psmith@dfpplanning.com.au

Reviewed: _____

A handwritten signature in black ink, appearing to be 'E. R. Hart', written over a horizontal line.

Attachment 1: Masterplan for Pocket Park



planning consultants

ATTACHMENT I

Pocket Park Landscape Sketch Concept

Pocket Park, The Meadows Bardia
144 Webber Circuit, Bardia

Campbelltown LGA

September 2020



Project Ref: 43-20

Revision B



OPEN TURF AREA FOR COMMUNITY GATHERING/
MULTI-PURPOSE OPEN SPACE



OUTDOOR "KICK-A-BOUT" SPACE



LEARN TO RIDE



JUNIOR BIKE TRACK



KEY

1 Multi-purpose open gathering / kick-a-bout space

2 Open Turf area

3 Two-way bike track - 2m

4 One-way bike track - 1m

5 Concrete footpath

6 Acoustic wall - 3.5 meters

7 1.8 m height diplomat fence to match existing & compliant with pool fence regulation

8 Automatic self-closing swing gate

9 Open gravel area

10 Dense planting landscape buffer to provide privacy screening and reduce the noise

11 Low planting to ensure passive surveillance and open views

12 Retain existing bike rack and billboard

13 Concrete stairs to provide accessibility to multi-purpose gathering space

14 Low retaining & seating wall - 500mm max

15 Bench seat

- 1** Multi-purpose open gathering / kick-a-bout space
- 2** Open Turf area
- 3** Two-way bike track - 2m
- 4** One-way bike track - 1m
- 5** Concrete footpath
- 6** Acoustic wall - 3.5 meters
- 7** 1.8 m height diplomat fence to match existing & compliant with pool fence regulation
- 8** Automatic self-closing swing gate
- 9** Open gravel area
- 10** Dense planting landscape buffer to provide privacy screening and reduce the noise
- 11** Low planting to ensure passive surveillance and open views
- 12** Retain existing bike rack and billboard
- 13** Concrete stairs to provide accessibility to multi-purpose gathering space
- 14** Low retaining & seating wall - 500mm max
- 15** Bench seat

KEY

- 1** Multi-purpose open gathering / kick-a-bout space
- 2** Open Turf area
- 3** Two-way bike track - 2m
- 4** One-way bike track - 1m
- 5** Concrete footpath
- 6** Acoustic wall - 3.5 meters
- 7** 1.8 m height diplomat fence to match existing & compliant with pool fence regulation
- 8** Automatic self-closing swing gate
- 9** Open gravel area
- 10** Dense planting landscape buffer to provide privacy screening and reduce the noise
- 11** Low planting to ensure passive surveillance and open views
- 12** Retain existing bike rack and billboard
- 13** Concrete stairs to provide accessibility to multi-purpose gathering space
- 14** Low retaining & seating wall - 500mm max
- 15** Bench seat

HUME MOTORWAY

✓ A

Landscape Concept
Scale: 1:300 at A3

Pocket Park, The Meadows Bardia Landscape Concept Sketch Plan

Client:



Project No:
Drawn:
Scale:
Revision:
Date:

43-20
LZ
1:300 @ A3
B
10.09.20



distinctive

Material Palette



Concrete footpath- Broom finish
to match existing



Concrete - Black oxide finish



Turf - Kikuyu



Stabilised gravel



Steel edge



Sandstone dimension block wall



Line marking on bike track



1.8m diplomat style fencing



Timber bench seat
to match existing

Trees



Acer x fremanii "Jeffersred "



Cupaniopsis anaarcadioides



Jacaranda mimosifolia



Magnolia grandiflora 'Little Gem'



Pyrus calleryana 'Capital'



Waterhousia floribunda

Shrubs



Acmena smithii 'Minor'



Buxus microphylla 'Japonica'



Grevillea banksii 'Alba'



Raphiolepis 'Oriental Pearl'



Strelitzia juncea



Westringia fruticosa 'Grey Box'

Groundcovers



Gazania 'Silver Leaf'



Lomandra longifolia 'Tanika'



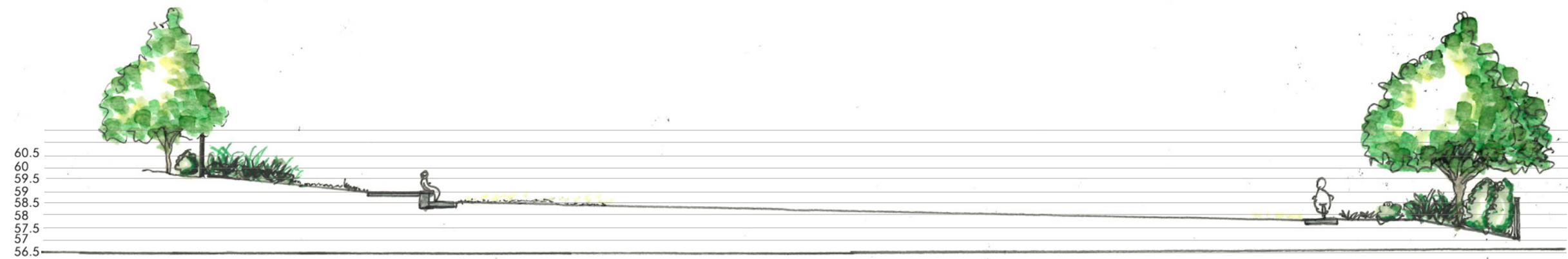
Myoporum parvifolium



Senecio serpens

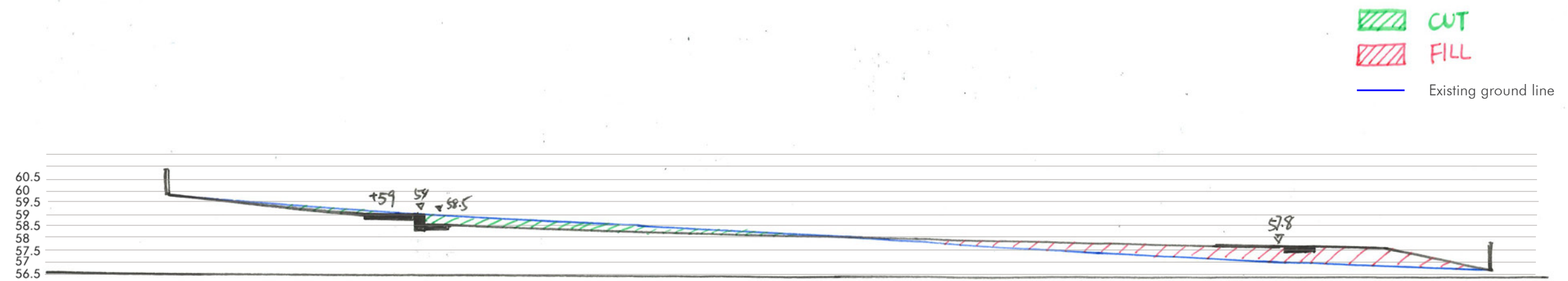


Trachelospermum Jasminoides



Landscape section AA

Scale: 1:200 @A3



Cut & fill section AA

Scale: 1:200 @A3