

Meeting Date: Tuesday 11 April 2017
Location: Council Chambers, Level 1A, 1 Pope Street, Ryde
Time: 5.00pm

NOTICE OF BUSINESS

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1 CONFIRMATION OF MINUTES - Meeting held on 14 March 2017

Report prepared by: Senior Coordinator - Governance

File No.: CLM/17/1/3/2 - BP17/283

REPORT SUMMARY

In accordance with Council's Code of Meeting Practice, a motion or discussion with respect to such minutes shall not be in order except with regard to their accuracy as a true record of the proceedings.

RECOMMENDATION:

That the Minutes of the Planning and Environment Committee 2/17, held on 14 March 2017, be confirmed.

ATTACHMENTS

1 MINUTES - Planning and Environment Committee Meeting - 14 March 2017

ITEM 1 (continued)

ATTACHMENT 1

**Planning and Environment Committee
MINUTES OF MEETING NO. 2/17**

Meeting Date: Tuesday 14 March 2017
Location: Council Chambers, Level 1A, 1 Pope Street, Ryde
Time: 5.00pm

Councillors Present: The Mayor, Councillor Pickering and Councillors Yedelian OAM (Chairperson), Etmekdjian, Laxale, Pendleton and Stott.

Apologies: Nil.

Leave of Absence: Nil.

Absent: Councillors Maggio, Salvestro-Martin and Simon.

Note: The Mayor, Councillor Pickering arrived at the meeting at 5.50pm during consideration of Item 4. He was not present for consideration or voting on Items 1, 2, 3 and 5.

Staff Present: Acting General Manager, Acting Director – City Planning and Development, Acting Director – Customer and Community Services, Acting Manager – City Planning, Acting Manager – Assessment, Senior Coordinator – Development Assessment, Senior Development Engineer, Planning Consultant (Creative Planning Solutions), Governance, Risk and Audit Coordinator and Administration Officer – Councillor Support.

DISCLOSURES OF INTEREST

There were no disclosures of interest.

1 CONFIRMATION OF MINUTES - Meeting held on 14 February 2017

Note: The Mayor, Councillor Pickering was not present for consideration or voting on this Item.

RESOLUTION: (Moved by Councillors Laxale and Stott)

That the Minutes of the Planning and Environment Committee 1/17, held on 14 February 2017, be confirmed.

ITEM 1 (continued)

ATTACHMENT 1

Record of the Voting:

For the Motion: Unanimous

Note: This is now a resolution of Council in accordance with the Committee's delegated powers.

2 84 WARING STREET, MARSFIELD - LOT 9 IN DP225200 Local Development Application for Demolition, and construction of a two-storey, ten (10) room boarding house. LDA2016/0339.

Note: The Mayor, Councillor Pickering was not present for consideration or voting on this Item.

Note: Francis Fung (representing members of the community) and Raymond Fung (representing Marsfield residents) addressed the meeting in relation to this Item.

Note: Two documents with photographs from Raymond Fung were tabled in relation to this Item and a copy is ON FILE.

RECOMMENDATION: (Moved by Councillors Yedelian OAM and Etmekdjian)

That Local Development Application No 2016/0339 be refused for the following reasons:

1. The development is unsatisfactory when assessed against the provisions of Ryde DCP 2014, specifically, in terms of the following provisions:
 - Deep soil area controls
 - Topography and excavation controls
 - Rear setback controls
 - Landscaping controls
 - Visual and acoustic privacy
 - Side/rear fencing
 - Internal building design
 - Clothes drying facilities
 - Lack of detail regarding boarding house management
2. The proposal will have unacceptable impacts on the amenity of adjoining residential properties, in particular due to noise impacts, potential privacy and overlooking impacts and waste disposal arrangements.
3. The development is unsatisfactory in terms of vehicle access. Specifically, safe vehicle access to and from the site often cannot be provided due to cars parked on the street which limits sight distance for drivers entering and leaving the site.

ITEM 1 (continued)

ATTACHMENT 1

4. The proposal is not in the public interest.

Record for the Voting:

For the Motion: Unanimous

Note: This matter will be dealt with at the Council Meeting to be held on **28 MARCH 2017** as substantive changes were made to the published recommendation.

3 45-61 WATERLOO ROAD PLANNING PROPOSAL TO REZONE PART OF THE SITE TO PUBLIC RECREATION

Note: This matter was dealt with later in the Meeting as detailed in these Minutes.

4 SUBMISSION TO DRAFT NORTH DISTRICT PLAN

Note: This matter was dealt with later in the Meeting as detailed in these Minutes.

5 EXHIBITION OF PLANNING PROPOSAL ADJOINING BLENHEIM PARK AND AMENDMENT TO THE INTEGRATED OPEN SPACE PLAN

Note: The Mayor, Councillor Pickering was not present for consideration or voting on this Item.

Note: Paul Azizi (representing Raymond Azizi – Owner) addressed the meeting in relation to this Item.

Note: A Memorandum from the Acting General Manager dated 13 March 2017 was tabled in relation to this Item and a copy is ON FILE.

MOTION: (Moved by Councillors Etmekdjian and Stott)

That Council defer consideration of this matter until the Council meeting on 28 March 2017.

AMENDMENT: (Moved by Councillors Laxale and Pendleton)

- (a) That Council exhibit the amended Planning Proposal for 86 Blenheim Road, 12A and 14 Epping Road as shown in **ATTACHMENT 3** in accordance with the Gateway Determination.
- (b) That Council exhibit the draft amendments to the Integrated Open Space Plan 2012 including updated population projections and new open space in Macquarie Park, as shown in **ATTACHMENT 2**.

ITEM 1 (continued)

ATTACHMENT 1

- (c) That Council endorse the proposed community consultation process for the exhibition of the Planning Proposal for 86 Blenheim Road and 12A and 14 Epping Road, North Ryde, and the amended Integrated Open Space Plan 2012 as outlined in this report.
- (d) That a report be brought back to Council outlining the survey results and submissions received with respect to the public exhibition.

On being put to the Meeting, the voting on the Amendment was two (2) for and three (3) against. The Amendment was **LOST**. The Motion was then put.

Record of the Voting:

For the Amendment: Councillors Laxale and Pendleton

Against the Amendment: Councillors Etmekdjian, Stott and Yedelian OAM

RECOMMENDATION: (Moved by Councillors Etmekdjian and Stott)

That Council defer consideration of this matter until the Council meeting on 28 March 2017.

Record of the Voting:

For the Motion: Councillors Etmekdjian, Stott and Yedelian OAM

Against the Motion: Councillors Laxale and Pendleton

Note: This matter will be dealt with at the Council Meeting to be held on **28 MARCH 2017** as dissenting votes were recorded and substantive changes were made to the published recommendation.

3 45-61 WATERLOO ROAD PLANNING PROPOSAL TO REZONE PART OF THE SITE TO PUBLIC RECREATION

Note: The Mayor, Councillor Pickering was not present for consideration or voting on this Item.

RESOLUTION: (Moved by Councillors Laxale and Pendleton)

(a) That the Council endorse that Ryde LEP 2014, as it relates to 45-61 Waterloo Road Macquarie Park, be amended as follows:

- i. Rezone a 7,000m² portion of the site fronting Waterloo Road from B3 Commercial Core to RE1 Public Recreation;

ITEM 1 (continued)

ATTACHMENT 1

- ii. Amend the maximum floor space ratio (FSR) development standard in order to:
 - remove the FSR limit applying to the new area zoned RE1 Public Recreation; and
 - evenly distribute the park site area and existing split FSRs of 1:1 and 2:1 at a unified rate of 2.26:1 across the land zoned B3 Commercial Core;
 - iii. Amend the maximum height of building development standard to:
 - remove the height limit applying to the new area zoned RE1 Public Recreation; and
 - amend the height controls in the south-west corner of the site to reflect those adjacent and the proposed location of the park;
 - iv. Include the 7,000m² public open space area on the relevant Land Acquisition Reservation Map as "Local Open Space";
 - v. Amend the Macquarie Park Corridor Precinct Incentive Floor Space Ratio Map in order to:
 - remove the FSR limit applying to the new area zoned RE1 Public Recreation; and
 - distribute the existing FSR at a rate of 3.66:1 across the land zoned B3 Commercial Core;
 - Amend the Macquarie Park Corridor Precinct Incentive Height of Buildings Map in order to remove the height limit applying to the new area zoned RE1 Public Recreation.
- (b) That Council adopt and exercise the delegation issued by the Department of Planning and Environment to make the amendments described in the attached report to Ryde Local Environmental Plan 2014.
- (c) That the Council forward Ryde Local Environmental Plan 2014 as amended above, to the Department of Planning and Environment with a request that the Plan be notified on the NSW Legislation website.

Record for the Voting:

For the Motion: Unanimous

Note: This is now a resolution of Council in accordance with the Committee's delegated powers.

4 SUBMISSION TO DRAFT NORTH DISTRICT PLAN

Note: The Mayor, Councillor Pickering arrived at the meeting at 5.50pm and was present for consideration and voting on this Item.

ITEM 1 (continued)

ATTACHMENT 1

RESOLUTION: (Moved by Councillors Laxale and Etmekdjian)

That Council forward the submission in **ATTACHMENT 1** to the Greater Sydney Commission for consideration subject to reinforcing the following issues:

- (1) that the inequity of housing targets for the North District be reinforced and that City of Ryde Council request that the Greater Sydney Commission reduce the targets for City of Ryde having regard to our delivery of housing across our city and the fact that City of Ryde has two Urban Activation Precincts (UAP's) within our Local Government Area.
- (2) that the submission reinforce Council's commitment to maintaining the commercial core in Macquarie Park and clearly states that there is no support for any increase in residential zoning without the consent of City of Ryde Council.
- (3) That the submission clearly states that Council does not support any change in the commercial zoning within the Wicks Road and Khartoum Road precinct within Macquarie Park and no increase in residential zoning without the consent of City of Ryde Council.

Record for the Voting:

For the Motion: Unanimous

Note: This is now a resolution of Council in accordance with the Committee's delegated powers.

The meeting closed at 5.55pm.

CONFIRMED THIS 11TH DAY OF APRIL 2017.

Chairperson

2 1 LUMSDAINE AVENUE, EAST RYDE. LOT 435 IN DP31253. Development Application for demolition, and construction of a two (2) storey dual occupancy (attached) and strata subdivision. LDA2016/0197.

Report prepared by: Senior Coordinator - Development Assessment

Report approved by: Acting Manager - Assessment; Acting Director - City Planning and Development

File Number: GRP/09/5/6/2 - BP17/306

1. Report Summary

Applicant: M Cubed Design

Owners: Rami Faraj, Rani Faraj, and Shadi Faraj

Date lodged: 3 May 2016 (latest amended plans received 3 January 2017)

This report has been prepared to enable Council's further consideration of a development application (DA) for demolition, and construction of a two-storey dual occupancy (attached) and strata subdivision at 1 Lumsdaine Avenue, East Ryde.

Council at its Ordinary Meeting of 25 October 2016 resolved to defer consideration of this DA to allow for a Mediation to occur between the applicant and the objectors. The key issues of concern to be discussed at the Mediation were to ensure full compliance with the front setback control, and also to improve the privacy of the objectors.

A Mediation Meeting for this DA was held on 12 December 2016 (mediation meeting notes are attached to this report), where the issues of concern regarding privacy impacts on the neighbours, and also front setbacks were discussed.

Amended plans were received from the applicant on 3 January 2017, which include a minimum 6m front setback to Elliott Avenue; amended rear setback to the alfresco areas of both units; details of side and rear fencing (to adjoining properties and to the side boundary adjoining Lumsdaine Avenue); and details of tree planting in the footpath areas of Lumsdaine Avenue. The amended plans also include various amendments to windows that face onto the objector's properties – as discussed in further detail in the body of the report.

However, the amended plans submitted following the Mediation Meeting do not fully adhere to the outcomes agreed at the Mediation Meeting – in particular, to provide a 6m front setback (to Elliott Avenue) the whole building has been moved back by 1m which reduces the rear setback to the northern boundary (adjoining No 3 Lumsdaine Avenue), and as a result, the rear setback of alfresco area has been reduced from 5m to 4m. The agreed outcome of the mediation was that the rear setback was not to be reduced from what was previously shown (ie 5m).

ITEM 2 (continued)

Council's previous resolution in this matter (25 October 2016) stated that if the issues that were the subject of the Mediation were resolved, then the Acting Director City Planning & Development be granted delegation to determine the application. Alternatively, a further report is to be prepared for the Planning & Environment Committee.

These amended plans were re-notified to all neighbours (including those who attended the Mediation Meeting), and a further **3 submissions** of objection were received. This indicates that the Mediation process, and the subsequent submission of amended plans, have not adequately resolved the neighbour's concerns. Therefore, in accordance with Council's previous resolution in this matter, this further report is prepared for the further consideration of the Planning and Environment Committee.

As indicated in the previous report to Planning and Environment Committee, the proposal is generally considered satisfactory for approval subject to conditions. The previous conditions have been updated to reflect the amended plans received following the Mediation process for this DA. Also, additional conditions have been recommended to address the various un-resolved issues of concern raised in the neighbour's submissions following the Mediation Meeting. These are discussed in detail in the body of the report.

Reason for Referral to Planning and Environment Committee: Previously considered by the Committee; issues of concern for neighbours un-resolved despite Mediation process.

Public Submissions:

Original DA: Six (6) submissions of objection received.

Amended Plans (following Mediation): Three (3) further submissions of objection were received.

Clause 4.6 Ryde LEP 2010 objection required? None required.

Value of works: \$499,260

RECOMMENDATION:

- (a) That LDA2016/197 at 1 Lumsdaine Avenue, East Ryde be approved subject to the **ATTACHED** conditions (**Attachment 1**):
- (b) That the persons who made submissions be advised of Council's decision.

ITEM 2 (continued)

ATTACHMENTS

- 1 Draft Conditions of Consent (revised following mediation meeting)
- 2 DCP Compliance Check - Amended Plans
- 3 Mediation Meeting Notes - 12 December 2016
- 4 Previous Report to Planning and Environment Committee - 11 October 2016
- 5 A4 Plans
- 6 A3 Plans - subject to copyright provisions - CIRCULATED UNDER SEPARATE COVER

Report Prepared By:

Chris Young
Senior Coordinator - Development Assessment

Report Approved By:

Vince Galletto
Acting Manager - Assessment

Liz Coad
Acting Director - City Planning and Development

ITEM 2 (continued)

2. Background

The previous report to Planning and Environment Committee 11 October 2016 contains an assessment of the proposal as originally submitted, and details of the background to the development application up until that point in time.

At this meeting, the Planning and Environment Committee considered the previous report, and recommended that consideration of this matter be deferred to Council for determination.

Council at its Ordinary Meeting on 25 October considered this DA, and made the following resolution:

- (a) That Local Development Application No. LDA2016/0197 at 1 Lumsdaine Avenue, East Ryde be deferred for a mediation to be undertaken by the Acting Director – City Strategy and Planning, the applicant and the objectors from 63 and 65 Elliott Street, East Ryde and 3 Lumsdaine Avenue, East Ryde to ensure full compliance with the front setback control and also to improve the privacy of the objectors.*
- (b) That amended plans prepared as a result of the mediation are notified to the local community and Ausgrid for 14 days. If the issues in Part (a) above are satisfactorily resolved the Acting Director – City Strategy and Planning be granted delegation to determine the application. Alternatively a further report is to be prepared for Planning and Environment Committee.*

3. Actions Following Council's Resolution

Mediation Meeting Arrangements

In accordance with Council's resolution, a Mediation Meeting was held on 12 December 2016, attended by Council's Acting Director – City Planning and Development, Acting Manager – Assessment, and Senior Co-ordinator Assessment; the applicants and their representatives; and the neighbours at No 3 Lumsdaine Avenue to the north, No 63 Elliott Avenue to the west and No 65 Elliott Avenue to the east (ie across Lumsdaine Avenue).

Notes from the Mediation Meeting have been prepared and were circulated to the neighbours and the applicant (a copy of the Mediation Meeting Notes are **ATTACHED** to this report).

ITEM 2 (continued)

Amended Plans Received 3 January 2017

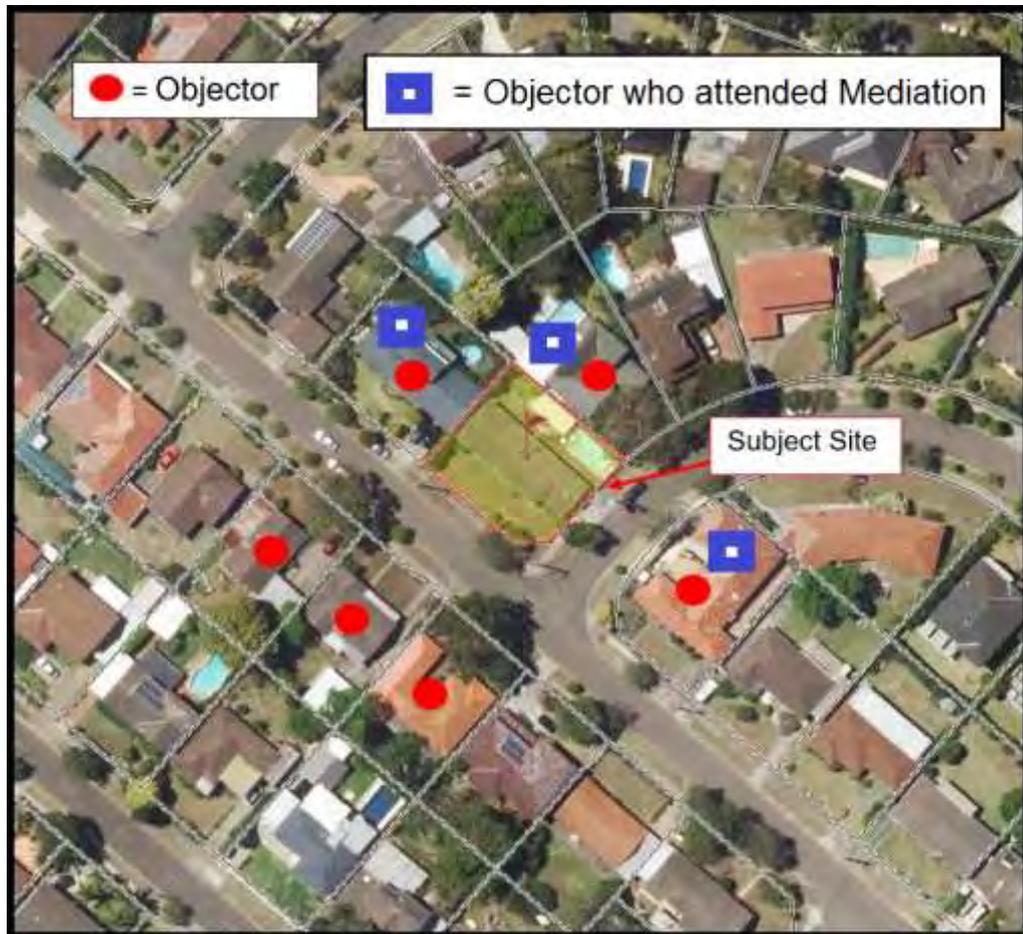
Amended plans were received following the Mediation Meeting on 3 January 2017, which include the following:

- A minimum 6m front setback to Elliott Avenue;
- Amended rear setback to the alfresco areas of both units. The minimum 6m front setback (above) has been achieved by moving the building 1m towards the northern boundary. A 7m rear setback is now proposed to the rear of the building, and a 4m rear setback is now proposed to the alfresco areas;
- Details of side and rear fencing (to adjoining properties and to the side boundary adjoining Lumsdaine Avenue);
- Details of tree planting in the footpath areas of Lumsdaine Avenue.
- The amended plans also include various amendments to windows that face onto the objector's properties – in particular, the previous standard-sized windows on the north-east elevation for dwelling 1 have been replaced with high-light (1.6m high sill-height) windows, and also an additional high-light (1.6m high sill-height) window has been proposed to the south-east elevation of dwelling 1.

Amended Plan Re-Notification Process

These amended plans were re-notified to neighbours for a period from 5 January to 2 February 2017 (note: the standard 14 day period was doubled to 28 days in accordance with Ryde DCP 2014). In response to the amended plan re-notification, a further **three (3) submissions** were received from the same owners of the properties who attended the Mediation Meeting (see air photo below for location of objector's properties).

ITEM 2 (continued)



The amended plans were also referred to Ausgrid (to the email address of the Ausgrid officers who provided comments on the original DA plans), in accordance with Council's resolution. No further submission was received from Ausgrid.

The issues of concern raised by the neighbours are summarised and discussed as follows:

1. Submission from owner of No 65 Elliott Avenue (located to the east, across Lumsdaine Avenue):

A. *Tree Planting in Nature Strip to address Privacy Concerns from first floor balcony.* The neighbour at No 65 Elliott Avenue requested that 2 x 4m high trees (at the time of planting) be provided in order to address privacy impacts from the first floor balcony on the eastern side (bedroom 4 dwelling 2) onto the courtyard and internal living areas of his dwelling. One of the trees was to be planted on the western side of Lumsdaine Avenue next to the balcony, and the other on the eastern side near the neighbour's courtyard area.

ITEM 2 (continued)

The neighbour states that they only agree to the retention of the first floor balcony on the eastern side (bedroom 4 dwelling 2) if the 2 x 4m high trees are planted in the nature strip.

It has since become apparent to the neighbour that it is not possible to plant trees 4m high at the time of planting – and therefore his objection remains to the provision of the first floor balcony.

The neighbour has requested the replacement of the balcony off bedroom 4 dwelling 2, with a window, and also the provision of 2 x 75 litre Waterhousea floribunda trees in the nature strip (one on the western side of the nature strip outside the subject site, the other on the eastern side of the nature strip outside No 65 Elliott Avenue).

Comment: At the Mediation Meeting, the neighbour at No 65 Elliott indicated that he is happy for the retention of the first floor balcony on the eastern side (bedroom 4 dwelling 2), provided that 2 x 4m high trees (at the time of planting) are planted in the nature strip.

The amended plans submitted by the applicant following the Mediation Meeting show the proposed planting of not only two (2) but four (4) trees (two (2) on either side of Lumsdaine Avenue) – being *Angophora bakeri* (Narrow-leaf Apple) and *Tristaniopsis laurina* (Water Gum).

In order to provide clarification to the neighbour in relation to planting of trees in the nature strip, a site meeting was held on 12 January 2017, attended by Council's Senior Co-ordinator – Assessment and Tree Management Officer. At this meeting, the neighbour was advised by Council's Tree Management Officer that it would not be possible to provide 4m high trees (at the time of planting), because the pot size (root ball) would be too large to fit in the footpath nature strip area, and that the amount and depth of excavation required in the footpath would be likely to damage underground services. Council's Tree Management Officer advised that the size of tree planting is generally measured in pot-size (typically 75 litre) – and that a 75 litre pot size (as shown on the amended DA plans) would only be 1.5m to 2m high at the time of planting. A tree of this size would therefore take approximately 5 – 10 years to reach the height of 4m required to provide the privacy screen desired by the neighbour.

Following the Mediation Meeting and the on-site meeting with Council's staff as above, the neighbour has realised that it is not possible to provide 4m high trees (at the time of planting), and so he has repeated his objection to the first floor balcony.

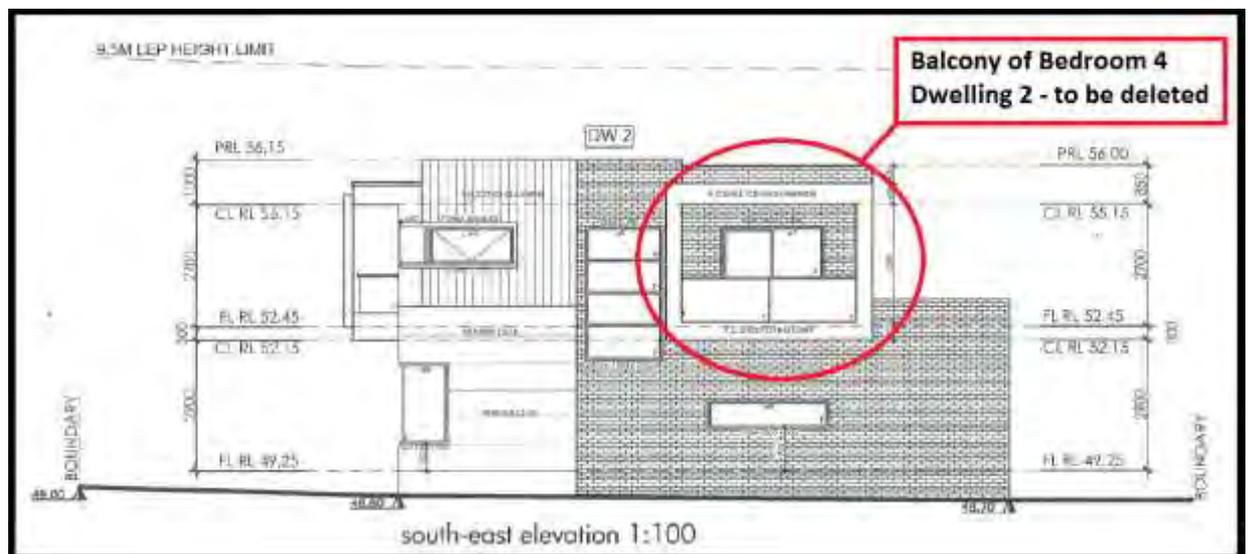
ITEM 2 (continued)

In the previous report to Planning and Environment Committee, Council officers considered that the provision of a first floor balcony off bedroom 4 dwelling 2 to be acceptable in terms of privacy impacts, largely because of the significant distance (approximately 15m) between that balcony and the neighbour's dwelling/private courtyard area at No 65 Elliott Avenue. Also, the balcony is of a small size, and is located off a bedroom which is not a primary living area of dwelling 2 – so given the small size and the nature of the room to which it is attached, it is not considered that significant privacy impacts will result.

However, the applicant did indicate at the Mediation Meeting that they are prepared to delete the balcony in order to resolve potential privacy issues for the neighbour (at No 65 Elliott). In accordance with this agreement to delete the balcony, the following condition is recommended (see condition 1(a) in the Draft Conditions):

Balcony deletion. *The balcony off bedroom 4 dwelling 2 shall be deleted and replaced with a 1.6m high sill height window (similar to that proposed for bedroom 1 of unit 1).*

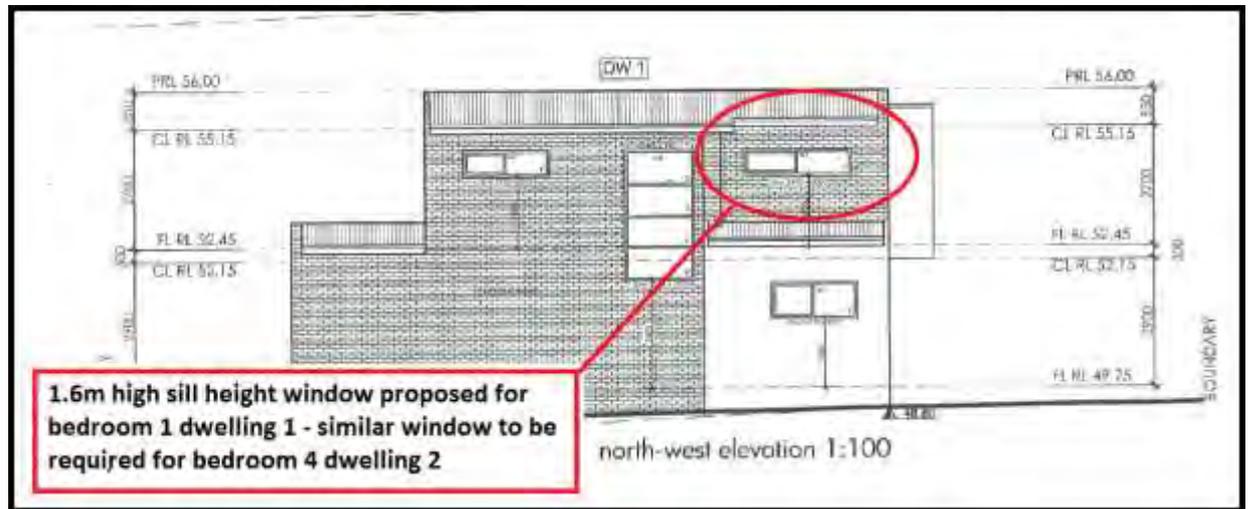
The following diagrams (south-east elevation and north-west elevation) show the proposed balcony as currently shown on the DA plans, and the type of window proposed for bedroom 1 dwelling 1 – which will be the type of window required by the above condition.



South-east elevation – showing location of balcony of Bedroom 4 Dwelling 2 to be deleted.

Source: Applicant's DA plans, marked up.

ITEM 2 (continued)



North-west elevation – showing the type of window to be required as a replacement for the balcony off bedroom 4 dwelling 2

Source: Applicant's DA plans, marked up.

In relation to the neighbour's request for planting of two (2) *Waterhousia floribunda* trees in the nature strip, this is a relatively minor change to the amended plans submitted with the DA (which show 4 x trees to be planted in the nature strip). It is covered by the following condition (and included as condition 1(b) in the Draft Conditions attached).

Tree Planting in Footpath. Two (2) x 75-litre *Waterhousia floribunda* trees shall be planted in the nature strip (one on the western side of the nature strip outside the subject site, the other on the eastern side of the nature strip outside No 65 Elliott Avenue).

2. Submission from owner of No 3 Lumsdaine Avenue (to the north):

The adjoining owner at No 3 Lumsdaine has raised objection to the revised plans on the basis that they do not fully adhere to the outcomes of the Mediation Meeting. The following is a summary of their issues of concern, together with a comment from Council officers.

B. Rear Setbacks. Concern is raised that the rear setbacks have been moved closer to their boundary (north-east boundary) – which is contrary to the outcomes of the Mediation Meeting which stated that the “rear setback (to north-east ie boundary with No 3 Lumsdaine) not to be reduced from existing proposed setback”. The revised plans have the new buildings even closer to the neighbour's property.

ITEM 2 (continued)

Comment: Agreed. The Mediation Meeting notes for this development stated the following (in summary):

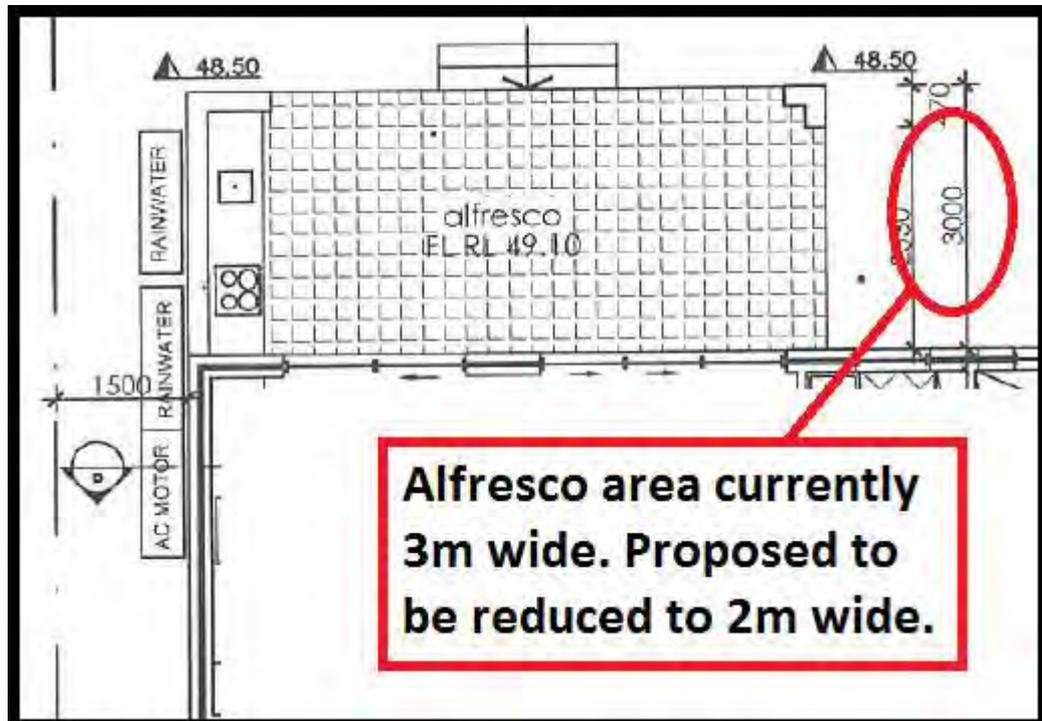
- Minimum 6m setback from Elliott Avenue to all parts of the building including balconies, blade walls or the like;
- Rear setback is not to be reduced from the existing proposed setbacks (which were 5m to the alfresco area in the original DA plans);
- The increased front setback to be achieved through reduction in size of the building footprint and/or reduction in size of rear alfresco/deck area without reducing the current rear setback.

Despite the agreed outcomes of the Mediation Meeting, the amended plans have included moving the building back (towards the north-east boundary) by 1m, closer to the adjoining dwelling at No 3 Lumsdaine.

Although the applicant has not submitted a written statement to support the amended plans, they have verbally stated that the rear setbacks still comply with the requirements in the DCP which include a 4m rear setback (which applies in situations where the allotment is wider than it is long, such as the subject site). In this instance, notwithstanding the DCP controls, given that privacy has been raised as a major issue of concern in this development, it is considered that the rear setbacks (measured to the alfresco) should be restored to what was previously shown on the original DA plans (ie minimum 5m to the rear alfresco area).

In order to restore these rear setbacks measured to the alfresco area (and as per the agreed outcome of the Mediation Meeting), it is recommended that the alfresco areas be reduced in width. Currently the alfresco is 3m wide, and it is considered that this could be reduced to 2m without significantly reducing the amenity of this area for the occupants of the subject development. This is shown on the following drawing (extract of ground floor plan):

ITEM 2 (continued)



Extract of ground floor plan showing width of alfresco – currently 3m wide but proposed to be reduced to 2m via a condition of consent, to ensure that the rear setback is maintained at minimum 5m.

Source: Applicant DA plans, marked up.

This is addressed by the following condition (see condition 1(c)):

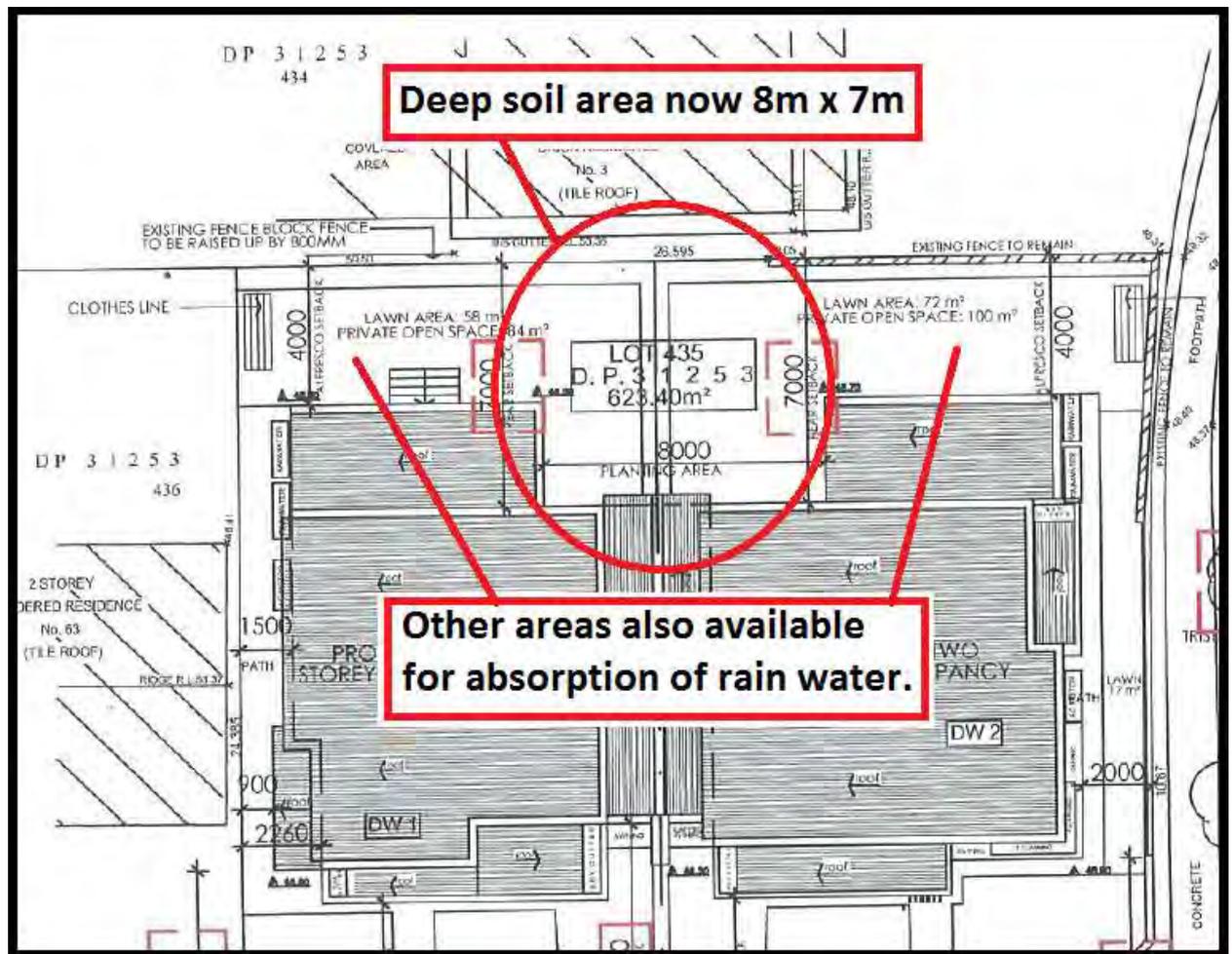
Plan amendment – reduction in width of rear alfresco areas. The width of the rear alfresco areas shall be reduced from 3m to 2m – to ensure a minimum 5m setback of the rear alfresco area when measured from the northern boundary.

C. Deep Soil Areas. The revised plans do not provide the minimum 8m x 8m deep soil area as required by the DCP.

Comment: The amended plans submitted following the Mediation Meeting now provide a 7m rear setback (measured to the rear wall of the dwellings). This results in a non-compliance with the deep soil area requirement in Ryde DCP 2014, which states that an 8m x 8m area must be able to be provided within the rear yard areas.

Although an 8m x 8m area now cannot be provided in the amended plans (proposal provides an 8m x 7m area), the proposal is considered to be acceptable because there are other areas (shown as “lawn area” on the amended plans) which would allow absorption of rain water to reduce stormwater runoff. This is shown in the following drawing (extract of Site Plan).

ITEM 2 (continued)



Extract of DA site plan
Source: Applicant DA plans, marked up.

D. Boundary Fencing. The neighbour at No 3 Lumsdaine Avenue has raised the following issue in relation to the provision of fencing on the boundary with their property.

The revised plans indicate that the common wall near our entertaining area would be increased in height by 800mm. The plans indicate that this increase will be for a length of 6.6m. As the existing slats butt up to a pergola which will be removed we request that the fence height be increased for a length of 8.5m or the complete length of the rear garden for dwelling 1.

As an absolute minimum, the existing slated area of 7.4m should be raised to a height of 2.4m. The plans indicate a range of 2.2m to 2.4m for the final fence height. We request that a specific height of 2.4m be applied and that point work on our side be completed in such a manner which will enable the new raised section to blend with the existing so that when painted it will match.

ITEM 2 (continued)

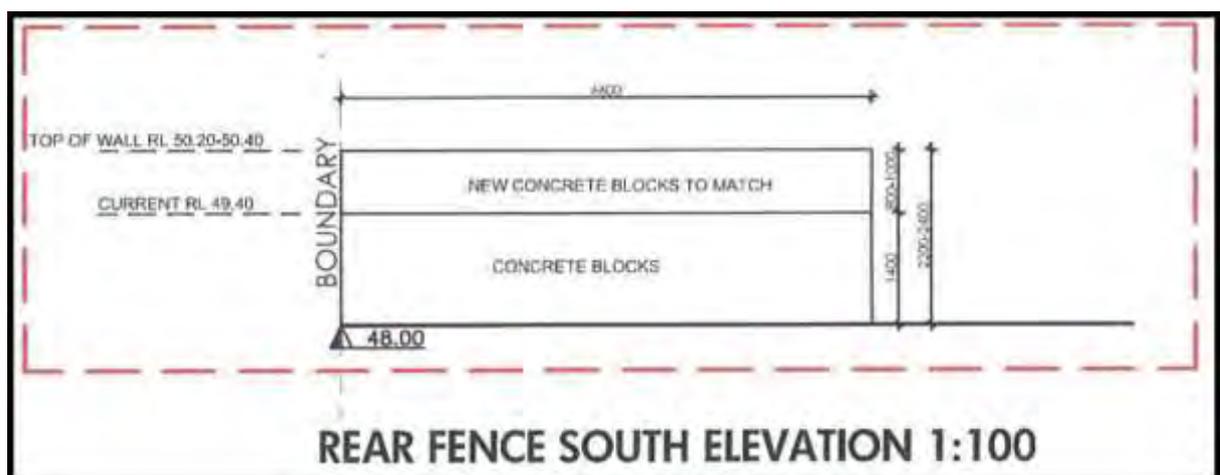
Comment: In terms of Fencing, the outcomes of the Mediation Meeting were:

Fencing details with immediate neighbours (63 Elliott and 3 Lumsdaine) to address privacy concerns (shall be provided), including full details of the height of fencing, type of construction and external materials. Note: Such fencing to be consistent in height at the junction of each of the three properties (ie subject site, 63 Elliott and 3 Lumsdaine);

The neighbour is correct in terms of the notation on the applicant's amended plans showing a 2.2m to 2.4m high fence. Given that the applicant has indicated a willingness to construct the fence to a height of up to 2.4m, it is considered reasonable to clarify that the fence will be 2.4m high in the critical section as requested by the neighbour. Also, given that the neighbour has been specific about the section of fencing where the height of 2.4m is requested, it is recommended that the following condition be imposed (see condition 1(d)), requiring the fence to be 2.4m high along the boundary with No 3 Lumsdaine, with such fencing to be constructed in consultation with the immediate neighbour, and also the finished surface of the fence to be smoothed on both sides of the fence to provide an acceptable appearance when viewed from both sides of the fence:

Boundary fencing. *The boundary fencing with No 3 Lumsdaine Avenue shall be a minimum 2.4m high, and shall be constructed in consultation with the immediate neighbour. The finished surface of the fence to be smoothed on both sides of the fence to provide an acceptable appearance when viewed from both sides of the fence.*

Details of the rear fence are provided in the diagram below (detail of rear fence):



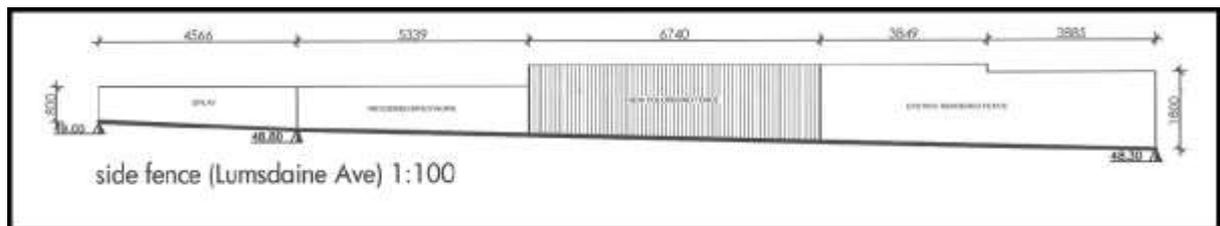
Detail of rear fence (common boundary with 3 Lumsdaine Avenue).
Source: Applicant DA plans.

ITEM 2 (continued)

E. Fencing along Lumsdaine Avenue. *The neighbour at No 3 Lumsdaine Avenue has raised the following issue in relation to fencing along Lumsdaine Avenue.*

Fencing details in the original plans were so small it was not obvious what materials were proposed. The revised plans page 7/15 give clearer details which has the fence constructed of 3 different materials. One section the existing concrete fence (currently the pool fence on Lumsdaine), a section of colorbond and finally 2 sections of rendered brickwork. For visual consistency, we request that the colorbond section be replaced with rendered brickwork so that visually there is consistency with the entire fence facing Lumsdaine Avenue.

Comment: The proposed fencing along Lumsdaine Avenue is proposed to be a combination of the existing (rendered) fence to be retained, together with a new section of colourbond fence, and a new rendered brickwork fence. The proposed fencing is shown in the following diagram (detail of side fence to Lumsdaine Avenue). Also provided is a current photo of the existing fencing to Lumsdaine Avenue:



**Detail of side fencing (facing Lumsdaine Avenue).
Source: Applicant DA plans.**



**Subject site, viewed from Lumsdaine Avenue.
Source: Google Street View.**

ITEM 2 (continued)

In order to ensure consistency of fencing along Lumsdaine Avenue, it is recommended that the fence be constructed entirely of rendered brickwork. This is addressed in the following condition (see condition 1(e)):

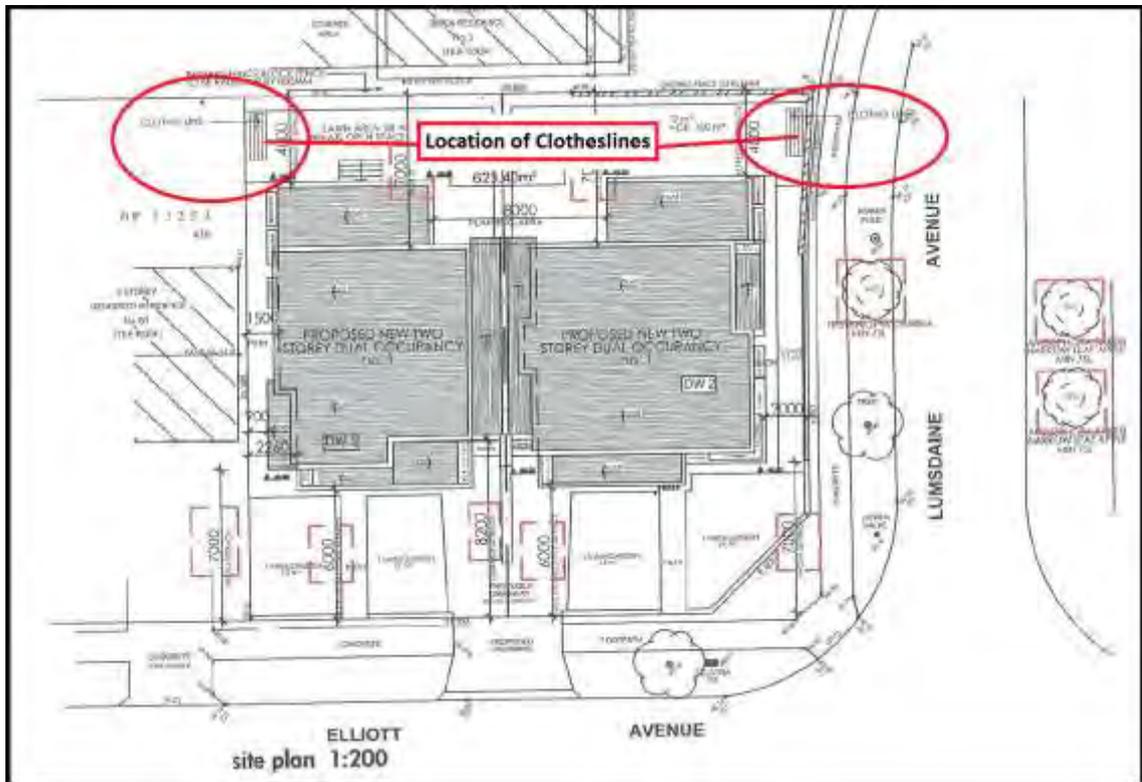
Fencing along Lumsdaine Avenue. *The fencing along Lumsdaine Avenue shall be constructed of rendered brickwork. In this regard the section of fencing shown as proposed colourbond shall be replaced with rendered brickwork to ensure consistency of materials of fencing along Lumsdaine Avenue.*

3. Submission from owner of No 63 Elliott Avenue (to the west):

F. Clothesline. *The neighbour at No 63 Elliott Avenue has noted that the DA plans show that a clothesline (for dwelling 1) is to be located adjacent to their common boundary, and has requested that this clothesline either be relocated to the other side (ie against the internal fence that will divide the two dwellings in this dual occupancy development) or at least constructed to comply with Council's DCP ie 900mm from the boundary and not higher than 2.1m above ground level (existing).*

Comment: The location of the clothesline for each dwelling in the dual occupancy is shown on the DA Site Plan (see below). The proposed clothesline location would have minimal impact on the neighbouring property, and no conditions of consent are warranted in relation to the location or height of the clothesline.

ITEM 2 (continued)



Site Plan showing location of clotheslines.
Source: Applicant DA Plans, marked up.

4. Other Options

None relevant.

5. Conclusion

The proposal has been assessed using the heads of consideration listed in Section 79C of the Environmental Planning & Assessment Act 1979 as outlined in the previous report to Planning & Environment Committee.

Following Council's resolution of 25 October 2016, a Mediation Meeting has been conducted in relation to this development. Many of the issues of concern have been resolved as a result of the Mediation Meeting, however some of the issues (eg privacy impacts) remain un-resolved, and also the amended plans submitted following the Mediation Meeting have raised additional issues because they did not fully adhere to the outcomes agreed at the Mediation Meeting.

Accordingly this DA is presented back to the Planning and Environment Committee for consideration and determination. Approval is recommended subject to the conditions to address concerns raised in the neighbour's submissions.

ITEM 2 (continued)

ATTACHMENT 1

DRAFT CONDITIONS OF CONSENT – UPDATED 15 MARCH 2017
1 LUMSDAINE STREET EAST RYDE
LDA2016/197

GENERAL

The following conditions of consent included in this Part identify the requirements, terms and limitations imposed on this development.

1. **Approved Plans/Documents.** Except where otherwise provided in this consent, the development is to be carried out strictly in accordance with the following plans (stamped approved by Council) and support documents:

Document Description	Date	Plan No/Reference
<i>Architectural plans and documents prepared by Champion Homes</i>		
Site Plan	19/12/2016	Sheet 2/15
Ground Floor Plan	19/12/2016	Sheet 3/15
1 st Floor Plan	19/12/2016	Sheet 4/15
Roof Plan	19/12/2016	Sheet 5/15
South-west elevation North-west elevation Front fence (Elliot Avenue)	19/12/2016	Sheet 6/15
North-east elevation South-east elevation Side fence (Lumsdaine Avenue)	19/12/2016	Sheet 7/15
South-east elevation North-west elevation Rear fence elevation	19/12/2016	Sheet 8/15
Typical Section a-a Rear fence south elevation	19/12/2016	Sheet 9/15
Erosion, Soil & Sediment Control Plan Construction Site Management Plan Site Works Plan	19/12/2016	Sheet 10/15
Demolition Plan	19/12/2016	Sheet 11/15
Proposed Subdivision Plan	19/12/2016	Sheet 12/15
Landscape Plan	19/12/2016	Sheet 13/15
<i>Specialist reports and documents</i>		
Drainage Concept Plan & Details	27/04/2015	Sheet 1 of 1, Revision A Prepared by KD Stormwater Pty Ltd.

ITEM 2 (continued)

ATTACHMENT 1

Prior to the issue of a **Construction Certificate**, the following amendments shall be made (as marked in red on the approved plans):

- (a) **Balcony deletion.** The balcony off bedroom 4 dwelling 2 shall be deleted and replaced with a 1.6m high sill height window (similar to that proposed for bedroom 1 of unit 1).
- (b) **Tree Planting in Footpath.** Two (2) x 75-litre *Waterhousia floribunda* trees shall be planted in the nature strip (one on the western side of the nature strip outside the subject site, the other on the eastern side of the nature strip outside No 65 Elliott Ave).
- (c) **Plan amendment – reduction in width of rear alfresco areas.** The width of the rear alfresco areas shall be reduced from 3m to 2m – to ensure a minimum 5m setback of the rear alfresco area when measured from the northern boundary.
- (d) **Boundary fencing.** The boundary fencing with No 3 Lumsdaine Ave shall be a minimum 2.4m high, and shall be constructed in consultation with the immediate neighbour. The finished surface of the fence to be smoothed on both sides of the fence to provide an acceptable appearance when viewed from both sides of the fence.
- (e) **Fencing along Lumsdaine Ave.** The fencing along Lumsdaine Ave shall be constructed of rendered brickwork. In this regard the section of fencing shown as proposed colourbond shall be replaced with rendered brickwork to ensure consistency of materials of fencing along Lumsdaine Ave.

The Development must be carried out in accordance with the amended plans approved under this condition.

2. **Building Code of Australia.** All building works approved by this consent must be carried out in accordance with the requirements of the Building Code of Australia.
3. **BASIX.** Compliance with all commitments listed in BASIX Certificate(s) numbered 717590S & 717584S dated 5 April 2016.
4. **Support for neighbouring buildings.** If the development involves excavation that extends below the base of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the person's own expense:

ITEM 2 (continued)

ATTACHMENT 1

- (a) Protect and support the adjoining premises from possible damage from the excavation, and
- (b) Where necessary, underpin the adjoining premises to prevent any such damage, in accordance with relevant Australian Standards.

Protection of Adjoining and Public Land

5. **Hours of work.** Building activities (including demolition) may only be carried out between 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No building activities are to be carried out at any time on a Sunday or a public holiday.
6. **Hoardings.**
 - (a) A hoarding or fence must be erected between the work site and any adjoining public place.
 - (b) Any hoarding, fence or awning erected pursuant this consent is to be removed when the work has been completed.
7. **Illumination of public place.** Any public place affected by works must be kept lit between sunset and sunrise if it is likely to be hazardous to persons in the public place.
8. **Development to be within site boundaries.** The development must be constructed wholly within the boundaries of the premises. No portion of the proposed structure shall encroach onto the adjoining properties. Gates must be installed so they do not open onto any footpath.
9. **Public space.** The public way must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances, without prior approval from Council.
10. **Public Utilities.** Compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, RTA, Council etc) in relation to any connections, works, repairs, relocation, replacements and/or adjustments to public infrastructure or services affected by the development.
11. **Roads Act.** Any works performed in, on or over a public road pursuant to this consent must be carried out in accordance with this consent and with the Road Opening Permit issued by Council as required under section 139 of the Roads Act 1993.

ITEM 2 (continued)

ATTACHMENT 1

Engineering Conditions

- 12. Design and Construction Standards.** All engineering plans and work shall be carried out in accordance with the relevant Australian Standard *and City of Ryde Development Control Plan 2014 Section 8* except as amended by other conditions.
- 13. Service Alterations.** All mains, services, poles, etc., which require alteration shall be altered at the applicant's expense.
- 14. Restoration.** Public areas must be maintained in a safe condition at all times. Restoration of disturbed road and footway areas for the purpose of connection to public utilities will be carried out by Council following submission of a permit application and payment of appropriate fees. Repairs of damage to any public stormwater drainage facility will be carried out by Council following receipt of payment. Restoration of any disused gutter crossings will be carried out by Council following receipt of the relevant payment.
- 15. Road Activity Permits.** To carry out work in, on or over a public road, the Consent of Council is required as per the Roads Act 1993. Prior to issue of a Construction Certificate and commencement of any work, permits for the following activities, as required and as specified in the form "*Road Activity Permits Checklist*" (available from Councils website) are to be obtained and copies submitted to Council with the *Notice of Intention to Commence Work*.
- a) Road Use Permit - The applicant shall obtain a Road Use Permit where any area of the public road or footpath is to be occupied as construction workspace, other than activities covered by a Road Opening Permit or if a Work Zone Permit is not obtained. The permit does not grant exemption from parking regulations.
 - b) Work Zone Permit - The applicant shall obtain a Work Zone Permit where it is proposed to reserve an area of road pavement for the parking of vehicles associated with a construction site. Separate application is required with a Traffic Management Plan for standing of construction vehicles in a trafficable lane. A Roads and Maritime Services Work Zone Permit shall be obtained for State Roads.

ITEM 2 (continued)

ATTACHMENT 1

- c) Road Opening Permit - The applicant shall apply for a road-opening permit and pay the required fee where a new pipeline is to be constructed within or across the road pavement or footpath. Additional road opening permits and fees are required where there are connections to public utility services (e.g. telephone, telecommunications, electricity, sewer, water or gas) within the road reserve. No opening of the road or footpath surface shall be carried out without this permit being obtained and a copy kept on the site.
- d) Elevated Tower, Crane or Concrete Pump Permit - The applicant shall obtain an Elevated Tower, Crane or Concrete Pump Permit where any of these items of plant are placed on Council's roads or footpaths. This permit is in addition to either a Road Use Permit or a Work Zone Permit.
- e) Crane Airspace Permit - The applicant shall obtain a Crane Over Airspace Permit where a crane on private land is operating in the air space of a Council road or footpath. Approval from the Roads and Maritime Services for works on or near State Roads is required prior to lodgement of an application with Council. A separate application for a Work Zone Permit is required for any construction vehicles or plant on the adjoining road or footpath associated with use of the crane.
- f) Hoarding Permit - The applicant shall obtain a Hoarding Permit and pay the required fee where erection of protective hoarding along the street frontage of the property is required. The fee payable is for a minimum period of 6 months and should the period is extended an adjustment of the fee will be made on completion of the works. The site must be fenced to a minimum height of 1.8 metres prior to the commencement of construction and throughout demolition and/or excavation and must comply with WorkCover (New South Wales) requirements.
- g) Skip Bin on Nature Strip - The applicant shall obtain approval and pay the required fee to place a Skip Bin on the nature strip where it is not practical to locate the bin on private property. No permit will be issued to place skips within the carriageway of any public road.

DEMOLITION CONDITIONS

The following conditions are imposed to ensure compliance with relevant legislation and Australian Standards, and to ensure that the amenity of the neighbourhood is protected.

A Construction Certificate is not required for Demolition.

ITEM 2 (continued)

ATTACHMENT 1

16. Provision of contact details/neighbour notification. At least 7 days before any demolition work commences:

- (a) Council must be notified of the following particulars:
 - (i) The name, address, telephone contact details and licence number of the person responsible for carrying out the work; and
 - (ii) The date the work is due to commence and the expected completion date
- (b) A written notice must be placed in the letter box of each property identified in the attached locality plan advising of the date the work is due to commence.

17. Compliance with Australian Standards. All demolition work is to be carried out in accordance with the requirements of the relevant Australian Standard(s).

18. Excavation

- (a) All excavations and backfilling associated with the development must be executed safely, properly guarded and protected to prevent the activities from being dangerous to life or property and, in accordance with the design of a structural engineer.
- (b) A Demolition Work Method Statement must be prepared by a licensed demolisher who is registered with the Work Cover Authority, in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version. The applicant must provide a copy of the Statement to Council prior to commencement of demolition work.

19. Asbestos. Where asbestos is present during demolition work, the work must be carried out in accordance with the guidelines for asbestos work published by WorkCover New South Wales.

20. Asbestos – disposal. All asbestos wastes must be disposed of at a landfill facility licensed by the New South Wales Environmental Protection Authority to receive that waste. Copies of the disposal dockets must be retained by the person performing the work for at least 3 years and be submitted to Council on request.

21. Waste management plan. Demolition material must be managed in accordance with the approved waste management plan.

ITEM 2 (continued)

ATTACHMENT 1

22. Disposal of demolition waste. All demolition waste must be transported to a facility or place that can lawfully be used as a waste facility for those wastes.

PRIOR TO CONSTRUCTION CERTIFICATE

A Construction Certificate must be obtained from a Principal Certifying Authority to carry out the relevant building works approved under this consent. All conditions in this Section of the consent must be complied with before a Construction Certificate can be issued.

Council Officers can provide these services and further information can be obtained from Council's Customer Service Centre on 9952 8222.

Unless an alternative approval authority is specified (eg Council or government agency), the Principal Certifying Authority is responsible for determining compliance with the conditions in this Section of the consent.

Details of compliance with the conditions, including plans, supporting documents or other written evidence must be submitted to the Principal Certifying Authority.

23. Section 94. A monetary contribution for the services in Column A and for the amount in Column B shall be made to Council as follows:

A – Contribution Type	B – Contribution Amount
Community & Cultural Facilities	\$4,227.74
Open Space & Recreation Facilities	\$10,407.85
Civic & Urban Improvements	\$3,539.91
Roads & Traffic Management Facilities	\$482.86
Cycleways	\$301.62
Stormwater Management Facilities	\$958.70
Plan Administration	\$81.32
The total contribution is	\$20,000.00

These are contributions under the provisions of Section 94 of the Environmental Planning and Assessment Act, 1979 as specified in Section 94 Development Contributions Plan 2007 Interim Update (2014), effective from 10 December 2014.

The above amounts are current at the date of this consent, and are subject to **quarterly** adjustment for inflation on the basis of the contribution rates that are applicable at time of payment. Such adjustment for inflation is by reference to the Consumer Price Index published by the Australian Bureau of Statistics (Catalogue No 5206.0) – and may result in contribution amounts that differ from those shown above.

ITEM 2 (continued)

ATTACHMENT 1

The contribution must be paid **prior to the issue of any Construction Certificate**. Payment may be by EFTPOS (debit card only), CASH or a BANK CHEQUE made payable to the **City of Ryde**. Personal or company cheques will not be accepted.

A copy of the Section 94 Development Contributions Plan may be inspected at the Ryde Planning and Business Centre, 1 Pope Street Ryde (corner Pope and Devlin Streets, within Top Ryde City Shopping Centre) or on Council's website <http://www.ryde.nsw.gov.au>.

24. **Compliance with Australian Standards.** The development is required to be carried out in accordance with all relevant Australian Standards. Details demonstrating compliance with the relevant Australian Standard are to be submitted to the Principal Certifying Authority prior to the issue of the **Construction Certificate**.
25. **Structural Certification.** The applicant must engage a qualified practising structural engineer to provide structural certification in accordance with relevant BCA requirements prior to the release of the **Construction Certificate**.
26. **Security deposit.** The Council must be provided with security for the purposes of section 80A(6) of the *Environmental Planning and Assessment Act 1979* in a sum determined by reference to Council's Management Plan prior to the release of the **Construction Certificate**.
27. **Fees.** The following fees must be paid to Council in accordance with Council's Management Plan prior to the release of the **Construction Certificate**:
 - (a) Infrastructure Restoration and Administration Fee
 - (b) Enforcement Levy
28. **Alignment Levels.** The applicant is to apply to Council, pay the required fee, and have issued site specific alignment levels by Council prior to the issue of the **Construction Certificate**.
29. **Long Service Levy.** Documentary evidence of payment of the Long Service Levy under Section 34 of the Building and Construction Industry Long Service Payments Act 1986 is to be submitted to the Principal Certifying Authority prior to the issuing of the **Construction Certificate**.

ITEM 2 (continued)

ATTACHMENT 1

30. **Sydney Water Tap in™**. The approved plans must be submitted to the Sydney Water Tap in™ on-line service to determine whether the development will affect any Sydney Water sewer or water main, stormwater drains and/or easement, and if further requirements need to be met.

The Sydney Water Sydney Water Tap in™ service provides 24/7 access to a range of services, including:

- building plan approvals
- connection and disconnection approvals
- diagrams
- trade waste approvals
- pressure information
- water meter installations
- pressure boosting and pump approvals
- changes to an existing service or asset, eg relocating or moving an asset.

Sydney Water's Tap in™ online service is available at:
<https://www.sydneywater.com.au/SW/plumbing-building-developing/building/sydney-water-tap-in/index.htm>

31. **Reflectivity of materials**. Roofing and other external materials must be of low glare and reflectivity. Details of finished external surface materials, including colours and texture must be provided to the Principal Certifying Authority prior to the release of the **Construction Certificate**.

32. **Acoustic amenity/privacy**. The operating noise level of air conditioners, swimming pool pumps and other mechanical services must not exceed the background noise level by more than 5dB(A). Details of any proposed air-conditioning are to be submitted and approved by the Principal Certifying Authority prior to the issue of a Construction Certificate

33. **Fencing**. Fencing is to be in accordance with Council's Development Control Plan and details of compliance are to be provided in the plans for the **Construction Certificate**.

34. **Boundary Levels**. The levels of the street alignment shall be obtained from Council. These levels shall be incorporated into the design of the internal driveway, carparking areas, landscaping and stormwater drainage plans and must be obtained prior to the issue of the construction certificate.

ITEM 2 (continued)

ATTACHMENT 1

35. Public Utilities. Compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, RMS, Council etc) in relation to any connections, works, repairs, relocation, replacements and/or adjustments to public infrastructure or services affected by the development. In particular, the development shall comply with the following requirements of Ausgrid:

1. The development should comply with the clearance requirements as specified in Section 13 of Ausgrid's Network Standard NS220.
2. The horizontal clearance between the existing 11 kV overhead mains and those parts of any structure of the building accessible to person should be greater than 4m (with the consideration of blow out).
3. The vertical clearance between existing 11 kV overhead main and those parts of any structure of the building accessible to person should be greater than 4.5m.
4. If there is any openable or fixed windows or glass block work or similar irrespective of fire rating, they are not permitted within 3 metres in any direction of the existing transformer tank, unless fire resistance level of 120/120/120 non-ignitable blast -resisting barrier is provided.
5. Ausgrid requires existing transformer tank to be separated from building ventilation system air intake and exhaust duct openings, by not less than 6 metres. This applies irrespective of whether the building ducted ventilation system is mechanical or natural and irrespective of whether or not fire dampers are installed in the ducts.
6. The existing transformer will have noise all the time and therefore, the developer should be aware of this issue and provide enough clearance from the existing transformer in order maintain a tolerable noise level (by human) all the time (day and night). Ausgrid will not be responsible for noise interference complaints by the resident in the future, due to the not sufficient clearance.

Prior to the issue of any Construction Certificate, the applicant is to provide verification from Ausgrid that the development complies with the above requirements.

ITEM 2 (continued)

ATTACHMENT 1

Engineering Conditions

36. Boundary Levels. The levels of the street alignment shall be obtained from Council. These levels shall be incorporated into the design of the internal driveway, carparking areas, landscaping and stormwater drainage plans and must be obtained prior to the issue of the construction certificate.

37. Driveway Grades. The maximum grade of all internal driveways and vehicular ramps shall be 1 in 4 and in accordance with the relevant section of AS 2890.1. The maximum change of grade permitted is 1 in 8 (12.5%) for summit grade changes and 1 in 6.7 (15%) for sag grade changes. Any transition grades shall have a minimum length of 2.0m. The driveway design is to incorporate Council's issued footpath and gutter crossing levels where they are required as a condition of consent. A driveway plan, longitudinal section from the centreline of the public road to the garage floor, and any necessary cross-sections clearly demonstrating that the driveway complies with the above details, and that vehicles may safely manoeuvre within the site without scraping shall be submitted with the Construction Certificate application.

38. On-Site Stormwater Detention. Stormwater runoff from all impervious areas shall be collected and piped by gravity flow to a suitable on-site detention system in accordance with City of Ryde, Development Control Plan 2014: - Part 8.2; Stormwater & Floodplain Management. The minimum capacity of the piped drainage system shall be equivalent to the collected runoff from a 100 year average recurrence interval 5 minute storm event.

Detailed engineering plans including certification from an accredited hydraulic engineer indicating compliance with this condition & DCP 2014 are to be submitted with the Construction Certificate application.

39. Water Tank First Flush. A first flush mechanism is to be designed and constructed with the water tank system. Details of the first flush system are to be submitted with the construction certificate application.

40. Erosion and Sediment Control Plan. An *Erosion and Sediment Control Plan (ESCP)* shall be prepared by a suitably qualified consultant in accordance with the guidelines set out in the manual "*Managing Urban Stormwater, Soils and Construction*" prepared by the Landcom. These devices shall be maintained during the construction works and replaced where considered necessary.

ITEM 2 (continued)

ATTACHMENT 1

The following details are to be included in drawings accompanying the *Erosion and Sediment Control Plan*

- a) Existing and final contours
- b) The location of all earthworks, including roads, areas of cut and fill
- c) Location of all impervious areas
- d) **Location and design criteria of erosion and sediment control structures,**
- e) Location and description of existing vegetation
- f) Site access point/s and means of limiting material leaving the site
- g) Location of proposed vegetated buffer strips
- h) Location of critical areas (drainage lines, water bodies and unstable slopes)
- i) Location of stockpiles
- j) Means of diversion of uncontaminated upper catchment around disturbed areas
- k) Procedures for maintenance of erosion and sediment controls
- l) Details for any staging of works
- m) Details and procedures for dust control.

PRIOR TO COMMENCEMENT OF CONSTRUCTION

Prior to the commencement of any demolition, excavation, or building work the following conditions in this Part of the Consent must be satisfied, and all relevant requirements complied with at all times during the operation of this consent.

Prescribed Conditions

41. Site Sign

- (a) A sign must be erected in a prominent position on site, prior to the commencement of construction:
 - (i) showing the name, address and telephone number of the Principal Certifying Authority for the work,
 - (ii) showing the name of the principal contractor (if any) or the person responsible for the works and a telephone number on which that person may be contacted outside working hours, and
 - (iii) stating that unauthorised entry to the work site is prohibited.
- (b) Any such sign must be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

ITEM 2 (continued)

ATTACHMENT 1

42. Residential building work – insurance. In the case of residential building work for which the Home Building Act 1989 requires there to be a contract of insurance in force in accordance with Part 6 of that Act, that such a contract of insurance is in force before any building work authorised to be carried out by the consent commences.

43. Residential building work – provision of information. Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the PCA has given the Council written notice of the following information:

- (a) in the case of work for which a principal contractor is required to be appointed:
 - (i) the name and licence number of the principal contractor; and
 - (ii) the name of the insurer by which the work is insured under Part 6 of that Act.
- (b) in the case of work to be done by an owner-builder:
 - (i) the name of the owner-builder; and
 - (ii) if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

If any of the above arrangements are changed while the work is in progress so that the information notified under this condition becomes out of date, further work must not be carried out unless the PCA for the development to which the work relates has given the Council written notice of the updated information (if Council is not the PCA).

44. Excavation adjacent to adjoining land

- (a) If an excavation extends below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must, at their own expense, protect and support the adjoining premises from possible damage from the excavation, and where necessary, underpin the adjoining premises to prevent any such damage.
- (b) The applicant must give at least seven (7) days notice to the adjoining owner(s) prior to excavating.
- (c) An owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this condition, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

45. Safety fencing. The site must be fenced prior to the commencement of construction, and throughout demolition and/or excavation and must comply with WorkCover New South Wales requirements and be a minimum of 1.8m in height.

ITEM 2 (continued)

ATTACHMENT 1

Engineering Conditions

46. **Sediment and Erosion Control.** The applicant shall install appropriate sediment control devices in accordance with an approved plan **prior** to any earthworks being carried out on the site. These devices shall be maintained during the construction period and replaced where considered necessary. Suitable erosion control management procedures shall be practiced. This condition is imposed in order to protect downstream properties, Council's drainage system and natural watercourses from sediment build-up transferred by stormwater runoff from the site.
47. **Compliance Certificate.** A Compliance Certificate should be obtained confirming that the constructed erosion and sediment control measures comply with the construction plan and City of Ryde, Development Control Plan 2014: - Part 8.1; Construction Activities.

DURING CONSTRUCTION

Unless otherwise specified, the following conditions in this Part of the consent must be complied with at all times during the construction period. Where applicable, the requirements under previous Parts of the consent must be implemented and maintained at all times during the construction period.

48. **Critical stage inspections.** The person having the benefit of this consent is required to notify the Principal Certifying Authority during construction to ensure that the critical stage inspections are undertaken, as required under clause 162A(4) of the *Environmental Planning and Assessment Regulation 2000*.
49. **Survey of footings/walls.** All footings and walls within 1 metre of a boundary must be set out by a registered surveyor. On commencement of brickwork or wall construction a survey and report must be prepared indicating the position of external walls in relation to the boundaries of the allotment.
50. **Sediment/dust control.** No sediment, dust, soil or similar material shall leave the site during construction work.
51. **Use of fill/excavated material.** Excavated material must not be reused on the property except as follows:
- (a) Fill is allowed under this consent;
 - (b) The material constitutes Virgin Excavated Natural Material as defined in the *Protection of the Environment Operations Act 1997*;
 - (c) the material is reused only to the extent that fill is allowed by the consent.

ITEM 2 (continued)

ATTACHMENT 1

52. Construction materials. All materials associated with construction must be retained within the site.

53. Site Facilities

The following facilities must be provided on the site:

- (a) toilet facilities in accordance with WorkCover NSW requirements, at a ratio of one toilet per every 20 employees, and
- (b) a garbage receptacle for food scraps and papers, with a tight fitting lid.

54. Site maintenance

The applicant must ensure that:

- (a) approved sediment and erosion control measures are installed and maintained during the construction period;
- (b) building materials and equipment are stored wholly within the work site unless an approval to store them elsewhere is held;
- (c) the site is clear of waste and debris at the completion of the works.

55. Work within public road. At all times work is being undertaken within a public road, adequate precautions shall be taken to warn, instruct and guide road users safely around the work site. Traffic control devices shall satisfy the minimum standards outlined in Australian Standard No. AS1742.3-1996 "Traffic Control Devices for Work on Roads".

56. Drop-edge beams. Perimeters of slabs are not to be visible and are to have face brickwork from the natural ground level.

PRIOR TO OCCUPATION CERTIFICATE

An Occupation Certificate must be obtained from a Principal Certifying Authority prior to commencement of occupation of any part of the development, or prior to the commencement of a change of use of a building.

Prior to issue, the Principal Certifying Authority must ensure that all works are completed in compliance with the approved construction certificate plans and all conditions of this Development Consent.

Unless an alternative approval authority is specified (eg Council or government agency), the Principal Certifying Authority is responsible for determining compliance with conditions in this Part of the consent. Details to demonstrate compliance with all conditions, including plans, documentation, or other written evidence must be submitted to the Principal Certifying Authority.

ITEM 2 (continued)

ATTACHMENT 1

57. **BASIX.** Compliance with all commitments listed in BASIX Certificate(s) numbered 717590S & 717584S dated 05 April 2016.

58. **Landscaping.** All landscaping works approved by condition 1, as modified by this consent, are to be completed prior to the issue of the final **Occupation Certificate**.

59. **Sydney Water – Section 73.** A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. Application must be made through an authorised Water Servicing Co-ordinator. Please refer to the Building Developing and Plumbing section of the web site www.sydneywater.com.au then refer to “Water Servicing Coordinator” under “Developing Your Land” or telephone 13 20 92 for assistance.

Following application a “Notice of Requirements” will advise of water and sewer infrastructure to be built and charges to be paid. Please make early contact with the Co-ordinator, since building of water/sewer infrastructure can be time consuming and may impact on other services and building, driveway or landscape design.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Interim/Final Occupation Certificate.

60. **Letterboxes and street/house numbering.** All letterboxes and house numbering are to be designed and constructed to be accessible from the public way. Council must be contacted in relation to any specific requirements for street numbering.

61. **Security deposit (tree planting).** The Council must be provided with security for the purposes in a sum \$750 per tree, a total of \$1500.00 prior to the release of the Occupation Certificate and be held for a minimum of 12 months to ensure the long term health and condition of the replacement street trees

Engineering Conditions

62. **Disused Gutter Crossing.** All disused gutter and footpath crossings shall be removed and the kerb and footpath reinstated to the satisfaction of Council.

ITEM 2 (continued)

ATTACHMENT 1

- 63. Vehicle Footpath Crossings.** Concrete footpath crossings shall be constructed at all locations where vehicles cross the footpath, to protect it from damage resulting from the vehicle traffic. The location, design and construction shall conform to the requirements of Council. Crossings are to be constructed in plain reinforced concrete and finished levels shall conform with property alignment levels issued by Council's City Works & Infrastructure Division. Kerbs shall not be returned to the alignment line.
- 64. On-Site Stormwater Detention System - Marker Plate.** Each on-site detention system basin shall be indicated on the site by fixing a marker plate. This plate is to be of minimum size: 100mm x 75mm and is to be made from non-corrosive metal or 4mm thick laminated plastic. It is to be fixed in a prominent position to the nearest concrete or permanent surface or access grate. The wording on the marker plate is described in City of Ryde, Development Control Plan 2014: - Part 8.2; Stormwater & Floodplain Management. An approved plate may be purchased from Council's Customer Service Centre on presentation of a completed City of Ryde OSD certification form.
- 65. Work-as-Executed Plan.** A Work-as-Executed plan signed by a Registered Surveyor clearly showing the surveyor's name and the date, the stormwater drainage, including the on-site stormwater detention system if one has been constructed and finished ground levels **is to be submitted to the Principal Certifying Authority (PCA)** and to Ryde City Council if Council is not the nominated PCA.
- 66. Drainage Construction.** The stormwater drainage on the site is to be constructed in accordance with plan the Construction Certificate version of Job No DG864 issue D dated 19/7/16 prepared by KD Stormwater Pty Ltd.
- 67. Damaged Footpath Paving Construction.** The applicant shall, at no cost to Council, construct any damaged concrete footpath paving across the frontages of the property in Lumsdaine & Elliot Avenue. A compliance certificate from the Council's City Works & Infrastructure shall be obtained upon completion of concrete footpath paving works indicating that all works have been completed to Council's satisfaction and submitted to the Principal Certifying Authority.

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ATTACHMENT 1

68. Compliance Certificates – Engineering. Compliance Certificates should be obtained for the following and **submitted to the PCA:**

- Confirming that all vehicular footway and gutter (layback) crossings are constructed in accordance with the construction plan requirements and Ryde City Council's Development Control Plan 2014: - Part 8.3; Driveways
- Confirming that the driveway is constructed in accordance with the construction plan requirements and Ryde City Development Control Plan 2014: - Part 8.3; Driveways.
- Confirming that the site drainage system (including the on-site detention storage system) servicing the development complies with the construction plan requirements and City of Ryde, Development Control Plan 2014: - Part 8.2; Stormwater & Floodplain Management
- Confirming that after completion of all construction work and landscaping, all areas adjacent the site, the site drainage system (including the on-site detention system), and the trunk drainage system immediately downstream of the subject site (next pit), have been cleaned of all sand, silt, old formwork, and other debris.
- Confirming that the vehicular crossing has been removed and the kerb and gutter have been constructed in accordance with Council's Development Control Plan 2014: - Part 8.3 Driveways

69. Positive Covenant, OSD. The creation of a Positive Covenant under Section 88 of the Conveyancing Act 1919, burdening the property with the requirement to maintain the stormwater detention system on the property. The terms of the instruments are to be generally in accordance with the Council's draft terms of Section 88E instrument for Maintenance of Stormwater Detention Systems and to the satisfaction of Council.

PRIOR TO SUBDIVISION CERTIFICATE

The following conditions in this Part of the consent apply to the Subdivision component of the development.

All conditions in this Part of the consent must be complied with prior to the issue of a Subdivision Certificate.

70. Final Occupation Certificate. The final occupation certificate associated with Development Consent DA2016/0197 and all related S96 applications if any, must be issued for the entire development prior to the release of the Strata Subdivision Certificate.

ITEM 2 (continued)

ATTACHMENT 1

71. **88B Instrument.** If required, an instrument under Section 88B of the Conveyancing Act 1919 plus 2 copies shall be submitted, creating any Easements Positive Covenants and restrictions on use, the Ryde City being the authority empowered to release, vary or modify the same.
72. **Final Plan of Subdivision.** The submission of a final plan of subdivision plus three copies suitable for endorsement by the Authorised Officer.
73. **Final plan of subdivision - title details.** The final plan of subdivision shall contain detail all existing and/or proposed easements, positive covenants and restrictions of the use of land
74. **Section 73 Certificate.** A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. A copy of Sydney Water's Notice of Requirements must be submitted to the Principal Certifying Authority prior to the Subdivision Certificate being issued. The Section 73 Certificate must be submitted to the Principal Certifying Authority prior to issue of the Subdivision Certificate.
75. **Utility provider** - compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, Council etc). Prior to the Subdivision Certificate the applicant is to provide details to demonstrate compliance with this condition.

Engineering Conditions

76. **Positive Covenant, OSD.** The creation of a Positive Covenant under Section 88 of the Conveyancing Act 1919, burdening the property with the requirement to maintain the stormwater detention system on the property. The terms of the instruments are to be generally in accordance with the Council's draft terms of Section 88E instrument for Maintenance of Stormwater Detention Systems and to the satisfaction of Council.

ITEM 2 (continued)

ATTACHMENT 2

Quality Certification

Assessment of a Dual Occupancy (attached), Single Dwelling House, Alterations & Additions to a Dwelling House and ancillary development

LDA No:	LDA2016/0197
Date Plans Rec'd	Original DA Plans: 3 May 2016 Amended Plan: 21 December 2016
Address:	1 Lumsdaine Avenue, East Ryde
Proposal:	New two (2), storey dual occupancy (attached). Including demolition of existing structures and strata subdivision.
Constraints Identified:	No constraints identified.

COMPLIANCE CHECK

LEP 2014	PROPOSAL	COMPLIANCE
4.3(2) Height		
<ul style="list-style-type: none"> 9.5m overall 	The maximum building height remains at the north-western corner of Dwelling 1 despite the amended design, where: Highest point is RL56.0 EGL below max point is RL48.3 Overall Height (max)= 7.7m	Yes
4.4(2) & 4.4A(1) - FSR		
<ul style="list-style-type: none"> 0.5:1 	0.489:1	Yes
4.1A Dual occupancy (attached) strata subdivision		
Development consent may only be granted to the subdivision of a dual occupancy (attached) on land in Zone R2 Low Density Residential if	The proposal includes strata subdivision and has a land area of 607.028m ² .	Yes

ITEM 2 (continued)

ATTACHMENT 2

LEP 2014	PROPOSAL	COMPLIANCE
<ul style="list-style-type: none"> the subdivision is a strata subdivision, and the land has an area of at least 580 square metres. 		
4.1B Minimum Lot Size		
<ul style="list-style-type: none"> 580 square metres 	The subject site has an area of 607.028m ² (DP 31253)	Yes
<ul style="list-style-type: none"> road frontage of the lot is equal to or greater than 20 metres 	The subject site has a total road frontage of 47.6m. This includes the primary frontage to Elliot Avenue (21.3m), corner splay of (6.465m) and secondary frontage to Lumsdaine Avenue (19.84m) - (DP 31253)	Yes

DCP 2014	PROPOSED	COMPLIANCE
<i>Part 3.3 – Dwelling Houses and Dual Occupancy (attached)</i>		
Desired Future Character		
Development is to be consistent with the desired future character of the low density residential areas.	Subject to the conditions of consent outlined within the Assessment Report, the proposed development is capable of being consistent with the desired future character of the low density residential area as described in Section 2.1 of DCP2014 for the following reasons: <ul style="list-style-type: none"> The proposed dual occupancy is low scale as determined by a two-storey height limit. The dual occupancy has been designed so that the building has a similar appearance of two separate dwellings. 	Yes

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
	<ul style="list-style-type: none"> • The proposed dual occupancy is well articulated so as to reduce the overall bulk of the built form. • Dwellings are located within a landscape setting, which include a clearly defined front garden and back yard – refer to submitted Landscape Plan. • The proposed development has compliant front, secondary, side and rear setbacks, despite the inherent constraints of a corner site. • The garages have been appropriately integrated into the design of the dual occupancy development, as such are not prominent elements within the streetscape. • Deep soil areas meet minimum requirements. 	
Dual Occupancy (attached)		
<p>New Dual occupancy (attached) buildings are to meet the controls for new dwelling houses:</p> <p>a) To have a landscaped setting which includes significant deep soil areas at front and rear.</p> <p>b) Residential dwellings are to be a maximum of two storeys high.</p> <p>c) Dwellings to address street</p>	<p>– The submitted Landscape Plan has demonstrated that an 7m x 8m deep soil area can be achieved within the rear yard. This is a result of the reduced rear setback for the site.</p> <p>– The proposed dual occupancy development does not exceed 2 storeys</p>	<p>No</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<p>d) The boundary between public and private space is to be clearly articulated.</p> <p>e) Garages and carports are not to be visually prominent features.</p> <p>f) Dwellings are to respond appropriately to the site's constraints and opportunities as identified in the site analysis</p>	<p>- The proposed dual occupancy development is considered to adequately address the primary street frontage of Elliot Avenue, as well as the secondary street frontage of Lumsdaine Avenue.</p> <p>- The boundary between public and private space is clearly defined through the provision of front fencing and landscaping.</p> <p>- The garages have been appropriately integrated into the design of the dual occupancy development, as such are not prominent elements within the streetscape.</p> <p>- The dual occupancy development is considered to appropriately respond to the site's constraints and opportunities as identified in the site analysis. The dwellings have been orientated so as to take advantage of the northern sun.</p> <p>Furthermore, the dwellings have been well designed and sited, despite the inherent constraints of a corner, square shaped lot.</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p>
<p>- Alterations and additions to dual occupancy (attached) buildings are to meet the requirements set out in 2.2.2</p>	<p>Not alterations and additions</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
Public Domain Amenity		
<ul style="list-style-type: none"> • Streetscape 		
<ul style="list-style-type: none"> - Site design, building setbacks and the location and height of level changes are to respect the existing topographic setting of the street and the relationship of existing buildings in the street to the topography - The design of front gardens is to complement and enhance streetscape character 	<p>The proposed design satisfactorily complies with the side and rear setback requirements, overall building height limits, and is generally compatible with existing surrounding low density development, as well as the desired future character for low density residential areas</p> <p>The proposed development generally respects the existing topographic setting, as excavation and fill has been minimised.</p> <p>The front garden satisfactorily compliments and enhances the prevailing streetscape character, as it allows for sufficient landscape planting and deep soil zones.</p>	<p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> - Dwelling design is to enhance the safety and amenity of the streetscape. 	<p>The design is considered to enhance the level of passive surveillance over the streetscape, as living areas and balconies are oriented towards the street for each dwelling. Furthermore, Dwelling 2 incorporates a balcony, which fronts onto the secondary street frontage of Lumsdaine Avenue.</p>	<p>Yes</p>
<ul style="list-style-type: none"> • Public Views and Vistas - A view corridor is to be provided along at least one side allotment boundary where there is an existing or potential view to the water from the street. Landscaping is not to restrict views. 	<p>There are no existing or potential views to the water from the street.</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Garages/carports and outbuildings are not to be located within view corridor if they obstruct view. - Fence 70% open where height is >900mm 	<p>There are no existing or potential views to the water from the street.</p> <p>There are no existing or potential views to the water from the street.</p>	<p>N/A</p> <p>N/A</p>
<ul style="list-style-type: none"> • Pedestrian & Vehicle Safety <ul style="list-style-type: none"> - Car parking located to accommodate sightlines to footpath & road. 	<p>As part of the assessment of the subject DA, the proposal was referred to Council's Development Engineers for review and comment.</p> <p>Council's Development Engineers have raised no issue with the proposal's vehicular access arrangements, subject to imposition of conditions of consent. In this regard, it is taken the proposed car parking allows for satisfactory sightlines to the footpath and road.</p>	<p>Yes</p>
Site Configuration		
<ul style="list-style-type: none"> • Deep Soil Areas <ul style="list-style-type: none"> - 35% of site area min. 	<p>The landscape plan indicates that an area of approx. 235m² of deep soil area is provided. Given a site area of 607.28m² this equates to a deep soil area of 38% of the site area. It is noted that while a reduction in deep soil area has occurred to the rear of the site, this has largely been offset by increased deep soil area within the front setback.</p>	<p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Min 8x8m deep soil area in backyard. 	<p>A 7m x 8m deep soil area is provided within the rear yard of the dual occupancy development. The non-compliance on the amended plans is due to a reduction in the rear setback.</p>	<p>No – Justifiable</p>
<ul style="list-style-type: none"> - Front yard to have deep soil area (only hard paved area to be driveway, pedestrian path and garden walls). 	<p>Aside from the driveway and pedestrian pathways and garden walls, all remaining front yard areas include landscape planting.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Dual occupancy developments only need 1 of 8 x 8m area (doesn't have to be shared equally). 	<p>A 7m x 8m deep soil area is provided within the rear yard of the dual occupancy development. The non-compliance on the amended plans is due to a reduction in the rear setback.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Deep soil areas are to have soft landscaping 	<p>The submitted Landscape Plan demonstrates that deep soil areas will provide soft landscaping.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Deep soil areas are to be 100% permeable to water and cannot be covered by structures, paving or the like, or have below surface structures such as stormwater detention elements. 	<p>The nominated deep soil areas are 100% permeable to water and is not covered by structures or paving</p>	<p>Yes</p>
<ul style="list-style-type: none"> • Topography & Excavation Within building footprint: <ul style="list-style-type: none"> - Max cut: 1.2m 	<p>The extent of excavation within the building footprint does not exceed 1.2m.</p>	<p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Max fill: 900mm 	<p>Despite the small shift in the building footprint, the maximum fill within the building footprint is still approximately 1m, which exceeds the maximum requirement by 100mm. This occurs within the north western corner of Dwelling 1, where the living room and alfresco area is proposed to be located.</p>	<p>No – Justifiable</p>
<ul style="list-style-type: none"> - Outside building footprint: - Max cut: 900mm 	<p>The extent of excavation within the building footprint still does not exceed 900mm despite the shift in the building footprint.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Max fill: 500mm 	<p>The extent of fill outside the building footprint still does not exceed 500mm despite the minor shift in the building footprint.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - No fill between side of building and boundary or close to rear boundary 	<p>The submitted plans do not show any fill between the side of the building and the boundary. It is, however, acknowledged that some minor grading will occur to create a level pathway.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - No fill in overland flow path 	<p>A review of Council’s maps of environmentally sensitive land held on file has revealed that the site is not impacted by overland flow.</p>	<p>N/A</p>
<ul style="list-style-type: none"> - Max ht retaining wall 900mm 	<p>The submitted plans have demonstrated that retaining walls are not proposed.</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
Floor Space Ratio		
<ul style="list-style-type: none"> - Basement Floor - Ground floor - First Floor - Outbuildings (incl covered pergolas, sheds etc) - Total (Gross Floor Area) - Less 36m² (double) or 18m² (single) allowance for parking <p>FSR (max 0.5:1)</p> <p>Note: Excludes wall thicknesses, lifts/stairs; basement storage/vehicle access/garbage area; terraces/balconies with walls <1.4m; void areas.</p>	<p style="text-align: center;">N/A</p> <p style="text-align: center;">179.99m²</p> <p style="text-align: center;">153.08m²</p> <p style="text-align: center;">N/A</p> <p style="text-align: center;">333.07m²</p> <p style="text-align: center;">Less garage - 36m²</p> <p style="text-align: center;">297.076m²</p> <p style="text-align: center;">0.489:1</p> <p style="text-align: center;">Based on a site area 607.028m² (Lot 435 DP 31253)</p> <p>Note: No change in GFA as a result of the amended plans. The reduction in the building envelope has come about via a smaller rear alfresco area and smaller front balcony, both of which do not contribute to the GFA as per the definition within the Dictionary of LEP2014.</p>	<p>Yes</p>
Height		
<ul style="list-style-type: none"> - 2 storeys maximum (storey) incl basement elevated greater than 1.2m above EGL). - 1 storey maximum above attached garage incl semi-basement or at-grade garages. <p>Wall plate (Ceiling Height)</p> <ul style="list-style-type: none"> - 7.5m max above FGL or - 8m max to top of parapet above FGL. <p>NB: TOW = Top of Wall EGL = Existing Ground Level</p>	<p>The proposed development includes two storeys.</p> <p>1 storey is located above the garage for each dwelling.</p> <p>The maximum wall plate height is still 7.4m. This continues to occur at the north western corner of Dwelling 1.</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p>

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ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Garage setback 1m from the dwelling façade - Wall above is to align with outside face of garage below. - Front setback free of ancillary elements e.g. RWT,A/C • Side <ul style="list-style-type: none"> ○ One storey dwelling <ul style="list-style-type: none"> - 900mm to wall ○ Two storey dwelling <ul style="list-style-type: none"> - 1.5m to wall, includes balconies etc. • Rear <ul style="list-style-type: none"> - 8m to rear of dwelling OR 25% of the length of the site, whichever is greater. <p>Allotments which are wider than they are long, and so cannot achieve the minimum rear setback requirement, are to have a minimum rear setback of 4 m.</p>	<p>Garages are still setback 1.2m from the façade of the dual occupancy development.</p> <p>The outside face of the walls built above the garages do not align with the outside face of the garage wall below.</p> <p>This occurs where the first floor balcony overhands the garage below.</p> <p>Front setback is free of ancillary elements</p> <p>The single storey component of the dual occupancy building still proposes a setback of 900mm from the north-western side property boundary</p> <p>The first floor component of the dual occupancy building still proposes a minimum setback of 1.5m when measured from the side boundary to the outside wall.</p> <p>N/A – refer below.</p> <p>The subject site has an average width of 26.6m and an average length of 24.385m. As such the site is wider than it is long. In this circumstance, a minimum rear setback of 4m is applicable.</p>	<p>Yes</p> <p>No – Justifiable</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>N/A</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
	<p>The dual occupancy proposes a reduced setback as part of the amended plans. The rear setback is now between 4m and 7m (reduced by approx. 1m), which still complies with this development control.</p>	
Outbuildings		
<ul style="list-style-type: none"> - Not within front setback. - Max area 20m² - The design and materials to complement the existing dwelling - An outbuilding may contain a toilet, shower and hand basin but cannot contain a bar, sink or any other kitchen facilities. - An outbuilding may be located on the side or rear boundary so long as the external wall is maintenance free and there is no eaves overhang - Windows not less than 900mm from boundary - Concrete dish drain if setback less than 900mm - Outbuilding are not to adversely affect the privacy and/or amenity of neighbours - Outbuilding are not to be located in the view corridors to the water - An outbuilding is not to be used as a dwelling 	<p>No outbuildings proposed. Dwelling 2 includes a freestanding garage, however by virtue of the definition contained within the Dictionary for DCP2014, garages and carport are not included as 'outbuildings'</p> <p>Refer above</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
Car Parking & Access		
<ul style="list-style-type: none"> • General 		
<ul style="list-style-type: none"> • General - Dwelling: 2 spaces max, 1 space min. - Dual Occ 1 space per dwelling - Where possible access off secondary street frontages or laneways is preferable. - Garage or carport may be in front if no other suitable position, no vehicular access to side or rear - Max 6m wide or 50% of frontage, whichever is less. Note. 50% of frontage to Elliot Avenue = 10.6m - Behind building façade. • Garages - Garages setback 1m from façade. 	<p>The development still provides one car space per dwelling in the form of an attached garage.</p> <p>Due to the orientation of the site, the proposed development proposes vehicular access for each dwelling from the primary frontage, which faces south. This has allowed the layout of each dwelling to take advantage of the northerly aspect, by locating the POS and living areas to the rear.</p> <p>This control applies to existing dwellings.</p> <p>Each garage still does not exceed 6m in width.</p> <p>Garages are setback 1.2m from the façade of the dual occupancy development.</p> <p>Garages are setback 1.2m from the façade of the dual occupancy development.</p>	<p>Yes</p> <p>Yes</p> <p>N/A</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Total width of garage doors visible from public space must not exceed 5.7m and not be recessed more than 300mm behind the outside face of the building element immediately above. 	<p>The combined width of the garage doors is 5.2m, as such does not exceed 5.47m.</p> <p>The garage doors for each dwelling are not recessed more than 300mm behind the outside face of the building element immediately above.</p>	<p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> - Garage windows are to be at least 900mm away from boundary. 	<p>N/A – no windows proposed</p>	<p>N/A</p>
<ul style="list-style-type: none"> - Free standing garages are to have a max GFA of 36m². 	<p>N/A – Freestanding garage not proposed.</p>	<p>N/A</p>
<ul style="list-style-type: none"> - Solid doors required 	<p>Each garage proposes a solid door.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Materials in keeping or complementary to dwelling. 	<p>Materials are considered to be complementary to the dwelling.</p>	<p>Yes</p>
<ul style="list-style-type: none"> • Parking Space Sizes (AS) 	<p>N/A.</p>	<p>N/A</p>
<p>Double garages: 5.4m w (min)</p>	<p>Min. width provided.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Single garage: 3m w(min) 	<p>Min. length provided.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Internal length: 5.4m (min) 		
<ul style="list-style-type: none"> • Driveways 		
<ul style="list-style-type: none"> - Extent of driveways minimised 	<p>Driveway width has generally been minimised. One driveway is proposed for both dwellings, which reduces in width towards the front property boundary.</p>	<p>Yes</p>
<p>2.11.2 Semi Basement Car Parking</p>		
<ul style="list-style-type: none"> - Ramps at least 2m back from street boundary 	<p>Semi-basement parking not proposed.</p>	<p>N/A</p>
<ul style="list-style-type: none"> - Walls not extend beyond walls of dwelling 	<p>Semi-basement parking not proposed.</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
- Can only be used if appropriate to topography of site	Semi-basement parking not proposed.	N/A
Swimming Pools & Spas	Not Proposed – existing pool within rear yard to be demolished.	N/A
Landscaping		
<ul style="list-style-type: none"> • Trees & Landscaping - Major trees retained where practicable <p>If bushland adjoining use native indigenous species for 10m from boundary</p> <p>Physical connection to be provided between dwelling and outdoor spaces where the ground floor is elevated above NGL e.g. stairs, terraces.</p>	<p>There are no trees of significance located within the subject site.</p> <p>It is noted that there are two (2) trees located within council's verge, adjacent to the subject site, which are to be retained.</p> <p>As part of the mediation meeting with neighbouring objectors, three (3) additional street trees are proposed. These include two (2) narrow leaf apple trees on the south-east side of Lumsdaine Avenue adjacent to 65 Elliot Avenue, and one water gum tree on the north-western side of Lumsdaine Avenue adjacent to 1 Lumsdaine Avenue.</p> <p>Bushland is not adjoining the subject site.</p> <p>Physical connection is still shown to be provided between the patio area and outdoor spaces for each dwelling.</p>	<p>Yes</p> <p>N/A</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Provide a landscaped front garden. Hard paved areas are to be minimised, and at a maximum, are to be no more than 40% of the front garden areas. 	<p>40% (72.8m²) of hard paved area is proposed within the front yard of Dwelling 1 and Dwelling 2, adjacent to Elliot Avenue. By virtue of the increased setback, the size of the front yard has increased also.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Obstruction-free pathway on one side of dwelling (excl cnr allotments or rear lane access). 	<p>Obstruction free pathway provided for each dwelling</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Front yard to have at least 1 tree with mature height of 10m min and a spreading canopy. 	<p>The amended plans reveal the front yard of each dwelling is to contain 2 x <i>Acacia binervia</i>, which are capable of reaching a maximum height of 16m.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Backyard to have at least 1 tree with mature ht of 15m min and a spreading canopy. 	<p>The amended Landscape Plan has indicated that the front yard of each dwelling is to contain 1 x <i>Acacia binervia</i>, which are capable of reaching a maximum height of 16m.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Hedging or screen planting on boundary mature plants reaching no more than 2.7m. 	<p>Hedge planting proposed is identified as growing to a height of less than 2.7m on the originally submitted plans.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Retaining walls and other landscape elements are not to obstruct the stormwater overland flow path. 	<p>The subject site is not impacted by overland flow.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - OSD generally not to be located in front setback unless under driveway. 	<p>The submitted Drainage Concept Plan has not indicated an OSD tank to be included. The proposal has however been assessed by Council's Development</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Landscaping is to include ground level private open space for each dwelling. 	<p>Engineer who has determined it to be satisfactory, subject to conditions. No change as part of the amended plans.</p> <p>Ground level private open space has been provided for each dwelling.</p>	<p>Yes</p>
Dwelling Amenity		
<ul style="list-style-type: none"> • Daylight and Sunlight Access - Living areas to face north where orientation makes this possible. - Increase side setback for side living areas (4m preferred) where north is the side boundary. - Subject dwelling north facing windows are to receive at least 3 hrs of sunlight to a portion of their surface between 9am and 3pm on June 21. - Private Open space of subject dwelling is to receive at least 2 hours sunlight between 9am and 3pm on June 21. 	<p>It is considered that the design of the dwelling has maximised the northern sun where possible.</p> <p>Dwellings have been orientated so that living areas and POS take advantage of the northerly aspect to the rear of the site.</p> <p>N/A – refer above</p> <p>The submitted shadow diagrams demonstrate that the north facing windows of each dwelling will receive at least 3 hours of sunlight to a portion of their surface between 9am & 3pm on June 21.</p> <p>According to the revised shadow diagrams submitted the POS of each dwelling will receive at least 2 hours solar access to at least 50% of the area on June 21</p>	<p>Yes</p> <p>N/A</p> <p>Yes</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<p><u>Neighbouring properties are to receive:</u></p> <ul style="list-style-type: none"> - 2 hours sunlight to at least 50% of adjoining principal ground level open space between 9am and 3pm on June 21. - At least 3 hours sunlight to a portion of the surface of north facing adjoining living area windows between 9am and 3pm on June 21. • Visual Privacy <ul style="list-style-type: none"> - Orientate the windows of the main internal living spaces such as living rooms, dining rooms, kitchens, family rooms and the like, generally to the front or to the rear of allotments. - Orientate terraces, balconies and outdoor living areas to either the front or the rear of allotments, and not to the side boundaries 	<p>The subject site is of a favourable orientation so as to minimise the extent of shadow cast over adjoining properties.</p> <p>As such, the revised shadow diagrams demonstrate that the adjoining properties at 3 Lumsdaine Avenue and 63 Elliot Avenue will achieve at least 2 hours sunlight to at least 50% of adjoining principal ground level open space between 9am and 3pm on June 21.</p> <p>The revised shadow diagrams demonstrate that the adjoining properties at 3 Lumsdaine Avenue and 63 Elliot Avenue will receive At least 3 hours sunlight to a portion of the surface of north facing adjoining living area windows between 9am and 3pm on June 21.</p> <p>Windows of the proposed living areas for each dwelling have generally been orientated to the front and rear. Minimal windows are located on the side elevation of each dwelling.</p> <p>Dwelling 1 and Dwelling 2 each propose a front balcony, which faces onto Elliot Avenue. The amended plans now reduce the width of</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<p>- Terraces and balconies are not to overlook neighbour's living areas and private open space.</p> <p>- Windows of living, dining, family etc. placed so there are no close or direct views to adjoining dwelling or open space.</p> <p>- Side windows offset from adjoining windows.</p>	<p>these balconies by 200mm to reduce the level of overhang below and increase the front setback.</p> <p>Due to their location at the front of the site, overlooking will not occur into neighbour's living areas and private open space.</p> <p>Dwelling 2 includes a balcony off the bedroom of Dwelling 4 which faces the secondary frontage of Lumsdaine Avenue. This is considered to be satisfactorily separated from the adjacent property at 65 Elliot Street (i.e. opposite side of Lumsdaine Avenue) to ameliorate overlooking impacts. It is also noted that additional vegetation planting in the streetscape is proposed to assist with maintenance of reasonable visual privacy.</p> <p>Windows of the proposed living areas for each dwelling have generally been orientated to the front and rear. Minimal windows are located on the side elevation of each dwelling. It is noted that the amended plans have included highlight windows on the side elevations, and also on the rear elevation of Dwelling 1.</p> <p>It is generally considered that the proposed window locations on the ground and first floor of each dwelling</p>	<p>Yes</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Splayed walls with windows are not to be located above ground level where the windows will provide views into neighbouring allotments. • Acoustic Privacy Layout of rooms in dual occupancies (attached) are to minimise noise impacts between dwellings e.g.: place adjoining living areas near each other and adjoining bedrooms near each other. • View Sharing - The siting of development is to provide for view sharing. • Cross Ventilation - Plan layout is to optimise access to prevailing breezes and to provide for cross ventilation. 	<p>have been appropriately located and are of a size and height which will avoid inappropriate looking into adjoining properties.</p> <p>No splayed wall with windows are proposed</p> <p>The proposed layout of the rooms of each dwelling is still generally considered to allow for sufficient acoustic privacy due to the design placing similar rooms adjacent to each other.</p> <p>No significant views identified from the subject site.</p> <p>The design of the dwellings are still considered to optimise the access to prevailing breezes and provide for cross ventilation.</p>	<p>Yes</p> <p>Yes</p> <p>N/A</p> <p>Yes</p>
External Building Elements		
<ul style="list-style-type: none"> • Roof - Articulated. - 450mm eaves overhang minimum to pitched roof. 	<p>A flat roof form is proposed. However it has been broken up so that there is not one continuous roof form across both dwellings within the dual occupancy development.</p> <p>450mm eave overhang not provided, however pitched roof form is not proposed. As such, this control is not considered applicable.</p>	<p>Yes</p> <p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
- Not to be trafficable Terrace.	Not provided.	N/A
- Skylights to be minimised and placed symmetrically.	No skylights proposed.	N/A
- Front roof plane is not to have both dormer windows and skylights.	No dormer windows proposed.	N/A
- Attics to be within roof space	No attic proposed	N/A
Fencing		
<ul style="list-style-type: none"> • Front/return: - To reflect design of dwelling. - To reflect character and height of neighbouring fences. - Max 900mm high for solid (picket can be 1m). - Max 1.8m high if 50% open (any solid base max 900mm). - Retaining walls, which are part of a front or return fence - max height 900mm. - No colourbond or paling - Max pier width 350mm. 	<p>The proposed front fence is considered to appropriately reflect the design of the proposed development.</p> <p>Refer above</p> <p>Solid fence with a maximum height of 1m is proposed, thus is at variance with this development control by 100mm. Accordingly, a condition of consent is recommended for front fencing to comply with DCP2014 requirements.</p> <p>Refer above.</p> <p>No retaining is proposed for front fence. Fencing will generally be stepped down with the slope of the site.</p> <p>Refer above</p> <p>Refer above</p>	<p>Yes</p> <p>Yes</p> <p>No – To be conditioned</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> • Side/rear fencing: - 1.8m max o/a height. 	<p>The submitted plans have indicated that existing boundary fencing is to be retained except for the rear block fence to be raised by 800mm, and a new 1.8m high fence is proposed to the secondary street frontage.</p>	<p>Yes</p>
Part 7.2 – Waste Minimisation & Management		
<p>Submission of a Waste Management Plan</p>	<p>The applicant has submitted a Waste Management Plan</p>	<p>Yes</p>
Part 8.2 – Stormwater Management		
<ul style="list-style-type: none"> • Stormwater 		
<ul style="list-style-type: none"> - Drainage is to be piped in accordance with Part 8.2 – Stormwater Management. 	<p>Drainage plans submitted and referred to Development Engineer for comment.</p>	<p>Yes</p>
Part 9.2 – Access for People with Disabilities		
<p>Accessible path required from the street to the front door, where the level of land permits.</p>	<p>Accessible pathway is provided from the street to the front door.</p>	<p>Yes</p>
Part 9.4 – Fencing		
<ul style="list-style-type: none"> • Front & Return Fences 		
<ul style="list-style-type: none"> - Front and return fences that exceed 1m in height are to be 50% open. 	<p>N/A –fence has a maximum height of 1m.</p>	<p>N/A</p>
Part 9.5 – Tree Preservation		
<p>Where the removal of tree(s) is associated with the redevelopment of a site, or a neighbouring site, the applicant is required to demonstrate that an alternative design(s) is not feasible and retaining the tree(s) is not possible in order to provide adequate clearance between the tree(s) and the proposed building and the driveway.</p>	<p>There are no trees of significance located within the subject site.</p> <p>It is noted that there are two (2) tree located within council's verge adjacent to the subject site which are to be retained.</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 2

DCP 2014	PROPOSED	COMPLIANCE
<p>Note: A site analysis is to be undertaken to identify the site constraints and opportunities including trees located on the site and neighbouring sites. In planning for a development, consideration must be given to building/site design that retains healthy trees, as Council does not normally allow the removal of trees to allow a development to proceed. The site analysis must also describe the impact of the proposed development on neighbouring trees. This is particularly important where neighbouring trees are close to the property boundary. The main issues are potential damage to the roots of neighbouring trees (possibly leading to instability and/or health deterioration), and canopy spread/shade from neighbouring trees that must be taken into account during the landscape design of the new development.</p>		

BASIX	PROPOSAL	COMPLIANCE
<p>All ticked "DA plans" commitments on the BASIX Certificate are to be shown on plans (list) BASIX Cert 717590S & 717584S dated 05 April 2016</p> <p>Note: No new BASIX Certificate has been provided, but the proposal is not considered to be materially different to that of the original proposed – see Regulation 55A of the EP&A Reg. 2000.</p>	<p>Dual occupancy (attached)</p>	<p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 2

BASIX	PROPOSAL	COMPLIANCE
1000L RWT	2500L provided per dwelling - Shown DA on plans	Yes
<ul style="list-style-type: none"> • Fixtures • 3 star showerheads • 4 star toilet flushing systems • 5 star bathroom taps • 5 star kitchen taps 	To comply – show on CC Plans	Yes
<ul style="list-style-type: none"> • Thermal Comfort Commitments: - Construction - TCC – Glazing. 	Shown on DA plans	Yes
<ul style="list-style-type: none"> • HWS Gas Instantaneous 5 star for all dwellings 	Shown on DA plans	Yes
<ul style="list-style-type: none"> • Natural Lighting - kitchen - bathrooms (2) 	Shown on DA plans	Yes Yes
Correct description of property/proposal on 1 st page of Certificate.	Correct description shown on first page.	Yes

DEMOLITION	PROPOSAL	COMPLIANCE
<ul style="list-style-type: none"> • Plan showing all structures to be removed. 	Demolition plan provided	Yes
<ul style="list-style-type: none"> • Demolition Work Plan 	Demolition Work Plan provided	Yes
<ul style="list-style-type: none"> • Waste Management Plan 	Plan submitted	Yes

Non compliances justifiable:

1. *Deep Soil Areas – Section 2.6.1*

- The deep soil dimension for the site have been reduced from a compliant 8m x 8m to a non-compliant 7m x 8m. This non-compliance is a result of the reduced rear setback undertaken by the applicant to increase the front setback. Despite the minimum deep soil area dimension not being achieved, a commensurate amount of deep soil area is now added to the front setback.

2. *Topography & Excavation – Section 2.6.2*

- The maximum level of fill within the building footprint is still 1m, which exceeds the 900mm limit by 100mm. This still occurs within the north-western corner of Dwelling 1 where the living room and alfresco area is proposed.

ITEM 2 (continued)

ATTACHMENT 2

3. *Car Parking and Access - Section 2.11*

- The garage doors for each dwelling are still recessed more than 300mm behind the outside face of the building element immediately above – i.e. the balcony overhanging the front elevation of the building.

Non-compliances to be resolved by condition:

1. *Daylight and Sunlight Access – Section 2.14.1*

- DCP2014 seeks for development to maximise daylight access. In order to ensure reasonable daylight access is afforded to Bedroom 2 of Dwelling 1, a condition requiring a larger window is recommended.

2. *Fences – Section 2.16*

- A solid front fence with a maximum height of 1m is proposed. This is a 100mm variance to the 900mm front fence height control. A condition is recommended to ensure front fencing complies with the DCP2014 requirements.

Certification

I certify that all of the above issues have been accurately and professionally examined by me.

Name: Ben Tesoriero



Signature:

Date: 27 February 2017

ITEM 2 (continued)

ATTACHMENT 3

Mediation Meeting Notes	
1 Lumsdaine Avenue, East Ryde. Proposed Attached Dual Occupancy Development	
12 December 2016 - 10am	
Landmark Meeting Room, Level 1, Binary Centre, 3 Richardson Place, North Ryde	
In attendance:	
<u>Council Officers:</u>	LC = Liz Coad. Acting Director – City Strategy and Planning (Chair); VG = Vince Galletto. Acting Manager – Assessment CY = Chris Young: Senior Co-ordinator – Assessment
<u>Applicant:</u>	MM = Mounzer Mortada, applicant RF = Rami Faraj, owner PH = Peter Hall, architect
<u>Neighbours:</u>	JS = Jill Shadbolt, owner of No 3 Lumsdaine Avenue to the north PP = Penny Pedersen, owner of No 63 Elliott Avenue to the west JW = Jackson Wong, owner of No 65 Elliott Avenue to the east
SUMMARY OF DISCUSSIONS:	
LC	Opened the meeting and introduced those attending from Council. Explained the “rules” to be followed in the meeting including providing opportunities for both parties to speak, to explain their point of view, mutual respect for each other’s position, and an expectation that all parties will work together to reach a solution.
LC	Quoted the Council resolution (Ordinary Meeting 25 October 2016) which states: <i>(a) That Local Development Application No. LDA2016/0197 at 1 Lumsdaine Avenue, East Ryde be deferred for a mediation to be undertaken by the Acting Director – City Strategy and Planning, the applicant and the objectors from 63 and 65 Elliott Street, East Ryde and 3 Lumsdaine Avenue, East Ryde to ensure full compliance with the front setback control and also to improve the privacy of the objectors.</i>

ITEM 2 (continued)

ATTACHMENT 3

	<p><i>(b) That amended plans prepared as a result of the mediation are notified to the local community and Ausgrid for 14 days. If the issues in Part (a) above are satisfactorily resolved the Acting Director – City Strategy and Planning be granted delegation to determine the application. Alternatively a further report is to be prepared for Planning and Environment Committee.</i></p> <p>Both sides would be able to state their concerns and issues, and see if we could find some middle ground.</p>
LC	Began by asking each of the neighbours to advise of their issues of concern.
JW	Jackson Wong advised that he is mostly concerned about privacy impacts from the development on his property (No 65 Elliott, across Lumsdaine Ave and to the east). In particular, privacy impacts from the balcony off dwelling 2/bedroom 4 at the first floor. JW provided a written submission (with sketch attached) both to Council officers and the applicants.
PP	<p>Penny Pedersen advised her concerns relate to the following impacts on their property at No 63 Elliott (to the west):</p> <ul style="list-style-type: none"> • privacy impacts – including overlooking into their entertainment area and pool, and in particular due to the elevated nature of alfresco. • Noise impacts due to close proximity of dwellings to each other, particularly from alfresco that is elevated above ground level. • Fencing, ie lack of information regarding proposed fencing. • Landscape plan information, particularly potential impacts of trees on their underground stormwater pipes.
JS	<p>Jill Shadbolt advised her concerns relate to the following impacts on their property at No 3 Lumsdaine Ave (to the north):</p> <ul style="list-style-type: none"> • Privacy impacts from 2nd storey windows. Privacy screens were requested for these windows. • Details of window types where these face in their direction • Possible damage to their fencing and to the trees on their property.
PH	Agreed that the development must fully comply with 6m front setback (to Elliott Ave). This would be achieved through combination of pushing the building back, or reduction in size of the rear decks (alfresco areas) or rear setback of building.

ITEM 2 (continued)

ATTACHMENT 3

LC	Advised that reduction to rear setback would not be supported.
PH	Advised that applicants would agree to requests for privacy screens or changes to window sizes (eg provision of “highlight” 1.6m high sill height windows). Would also agree to delete balcony off bedroom 4 that faces JW’s property.
JW	Advised that he would agree to proposal in terms of the proposed balcony off dwelling 2/bedroom 4, if additional trees were planted in the nature strip on either side of Lumsdaine Ave, with such planting to be replaced within 1 year if the trees die.
LC	Advised that this would be discussed with Council’s Tree Management Officers.
	<p>NOTE: After the Mediation Meeting, this was discussed with Council’s Senior Tree Management Officer, who provided the following comments:</p> <p><i>I have no objection the planting of the four additional street trees.</i></p> <p><i>The street trees located adjacent to 1 Lumsdaine Avenue East Ryde. Shall be two (2) water gums (Tristaniopsis laurina).</i></p> <p><i>Additionally, the two street trees to be located adjacent to 65 Elliott Avenue East Ryde shall be narrow leaf apple (Angophora bakeri).</i></p> <p><i>Please refer to the conditions following;</i></p> <p><u><i>Tree planting – street tree.</i></u></p> <p><i>Two (2) water gums (Tristaniopsis laurina “Luscious”) adjacent to 1 Lumsdaine Avenue East Ryde and two (2) be narrow leaf apple (Angophora bakeri) to be located adjacent to 65 Elliott Avenue East Ryde, on the Lumsdaine Avenue frontage. trees with a minimum size of 75litres to be planted in the nature strip. Details are to be submitted to and approved by the Principal Certifying Authority prior to the issue of a Construction Certificate.</i></p>

ITEM 2 (continued)

ATTACHMENT 3

	<p><i>Security deposit. The Council must be provided with security for the purposes in a sum \$750 per tree, a Total of \$3000.00 prior to the release of the Occupation Certificate and be held for a minimum of 12 months to ensure the long term health and condition of the replacement street tree</i></p> <p>Please note, the placement of the tree closest to Elliot Street on the Lumsdaine frontage should be planted with a minimum set back of 4m</p>
JS/PP	Raised concerns that if privacy screens are required, what would happen if the property owners changed (eg could these be removed if the new owners did not know about the requirement).
LC	Advised that if there was such a requirement for privacy screens imposed, these would continue to apply to any new owners, as the consent applies to the property and not to any individual property owner.
JS/PP	Raised concerns about potential privacy impacts from any raising of ground levels outside the building footprint
PH	Confirmed that there would be no increase to ground levels outside the building footprint, other than what is shown on the DA plans.
JS/PP	Request for detail on the height of fencing between the properties at No 63 Elliott and 3 Lumsdaine. In particular would it be possible to increase the height of the fence to preserve privacy and minimise noise.
MM/RF	Advised that the existing fence will be retained, and rendered with concrete to retain a solid fence. Happy to agree to increase the height of the fence as agreed between the respective property owners.
JS	Remained concerned about potential noise impacts from the development and requested noise attenuation measures to be added to the fence in addition to increase in height of the fence, supported by an acoustic assessment to recommend an appropriate type of fencing.

ITEM 2 (continued)

ATTACHMENT 3

MM/RF	Advised that they are happy to increase the height of the fencing and provide an additional solid section, but acoustic treatment will be difficult to provide.
LC	Advised that acoustic fencing would not be reasonable or necessary for a residential development such as a dual occupancy.
	Applicant to provide details re amended fencing designs with the amended plan submission with the DA, and to be discussed and agreed between the neighbours. <u>Note:</u> Such fencing to be consistent in height at the junction of each of the three properties (ie subject site, 63 Elliott and 3 Lumsdaine).
PP	Again raised concerns about possible impacts on the trees on her property.
	These concerns can be addressed via a standard condition on any consent, requiring tree protection measures to be installed prior to commencement of construction.
	<p>Summary of Outcomes</p> <p><u>Revised Plans</u> to be submitted which include the following:</p> <ol style="list-style-type: none"> 1. Minimum 6m setback from Elliott Ave to all parts of the building including balconies, blade walls or the like; 2. Rear setback (to north-east ie boundary with No 3 Lumsdaine) not to be reduced from existing proposed setbacks. Increased front setback (Point 1 above) to be achieved through reduction in size of the building footprint and/or reduction in size of rear alfresco/deck area without reducing the current rear setback; 3. Amendments to address privacy concerns from all neighbours – including: <ul style="list-style-type: none"> • deletion of unit 2 bedroom 4 balcony and/or amendment to window sizes from this room (privacy impacts towards No 65 Elliott); • amendment to window sizes from upper storey rooms (eg high sill height windows) and/or provision of any privacy screens to prevent overlooking into the immediate neighbouring properties (63 Elliott and 3 Lumsdaine); • details of any privacy screening to the rear alfresco areas;

ITEM 2 (continued)

ATTACHMENT 3

	<ol style="list-style-type: none"> 4. Fencing details with immediate neighbours (63 Elliott and 3 Lumsdaine) to address privacy concerns, including full details of the height of fencing, type of construction and external materials. <u>Note:</u> Such fencing to be consistent in height at the junction of each of the three properties (ie subject site, 63 Elliott and 3 Lumsdaine); 5. Details of any proposed tree planting in nature strip areas on either side of Lumsdaine Ave, between the subject site and No 65 Elliott Street; 6. Additional details on the DA plans for the finished ground levels within the rear yard areas near the adjoining properties (to confirm that these do not increase existing ground levels); 7. Details of tree protection measures (for trees on immediate neighbouring properties) showing how such trees and other vegetation will be protected during any construction work on the subject site (including retaining walls, drainage works etc).
	<p>Mediation meeting concluded at 11am.</p>

ITEM 2 (continued)

ATTACHMENT 4

**2 1 LUMSDAINE AVENUE, EAST RYDE- LOT 435 IN DP31253.
Development Application for demolition, and construction of a
two (2) storey dual occupancy (attached) and strata
subdivision. LDA2016/0197.**

Report prepared by: Creative Planning Solutions; Senior Coordinator -
Development Assessment

Report approved by: Acting Manager - Assessment; Acting Director - City Strategy
and Planning

File Number: GRP/09/5/6/2 - BP16/1207

1. Report Summary

Applicant: M Cubed Design

Owners: Rami Faraj, Rani Faraj, and Shadi Faraj

Date lodged: 3 May 2016

This report considers a development application (DA) for demolition of all existing structures, and construction of a two-storey dual occupancy (attached) and strata subdivision at 1 Lumsdaine Avenue, East Ryde. The proposal will also include associated stormwater and landscaping works.

The subject DA was received by Council on 3 May 2016. The application was notified to adjoining owners in accordance with the provisions of the Ryde Development Control Plan 2014 (DCP2014) from 11 May 2016 to 1 June 2016. In response to the notification, six (6) submissions were received in objection to the proposal, raising the following issues of concern (summarised):

- Density;
- Consistency with streetscape character, in particular the Dress Circle Estate;
- Front, side and rear setbacks;
- Amenity impacts, including acoustic, visual privacy and overshadowing;
- Car parking, i.e. the proposed development provides inadequate parking and will result in on-street parking impacts;
- Stormwater drainage management;
- Electrical Safety due to the location of the overhead transformer located within the road reserve of Lumsdaine Avenue; and
- Asbestos removal.

The proposal has been assessed against the heads of consideration of Section 79C of the *Environmental Planning and Assessment Act 1979* (the Act), the *Ryde Local Environmental Plan 2014* (LEP2014), and DCP2014. The areas of non-compliance relate to Part 3.3 of DCP2014 for dual-occupancy development, and can be summarised as follows:

ITEM 2 (continued)

ATTACHMENT 4

Non compliances justifiable:

1. *Topography & Excavation – Section 2.6.2*

- The maximum level of fill within the building footprint is 1000mm, which exceeds the 900mm limit by 100mm. This occurs within the north-western corner of Dwelling 1 where the living room and alfresco area is proposed.

2. *Car Parking and Access - Section 2.11*

- The garage doors for each dwelling are recessed by some 1200mm, does not comply with the requirement of 300mm behind the outside face of the building element immediately above.

Non-compliances to be resolved by condition:

1. *Front Setbacks – Section 2.9.1*

- A primary front setback ranging between 4.8m and 6.5m is proposed, which does not comply with the minimum 6m control. The encroachment is a result of the cantilevered balconies located on the front façade of Dwelling 1 and Dwelling 2. There are very few if any examples of such setback encroachments in the immediate vicinity, particularly at the first floor level. In order to ensure consistency in terms of streetscape presentation, a condition is recommended (Deferred Commencement) to require compliance with the 6m setback requirement.

2. *Fences – Section 2.16*

- A solid front fence with a maximum height of 1m is proposed. This is a 100mm variance to the 900mm front fence height control. A condition is recommended to ensure front fencing complies with the DCP2014 requirements.

Despite the non-compliances outlined above and the issues of concern raised in submissions, it is considered the proposal is generally satisfactory for approval as discussed in the body of the report. For this reason, the subject DA is recommended for approval via a Deferred Commencement consent, subject to conditions.

Reason for Referral to Planning and Environment Committee: Requested by Councillor Maggio; number of submissions received (6 submissions).

Public Submissions: A total of six (6) submissions objecting to the proposal were received by Council.

SEPP 1 (or clause 4.6 RLEP 2014) objection required? None required.

Value of works \$499,260

ITEM 2 (continued)

ATTACHMENT 4

RECOMMENDATION:

- (a) That Local Development Application No. LDA2016/0197 at 1 Lumsdaine Avenue, East Ryde be approved subject to the **ATTACHED** conditions (Attachment 1).
- (b) That the persons who made submissions be advised of Council's decision.

ATTACHMENTS

- 1 Draft Conditions of Consent
- 2 DCP Compliance Check
- 3 A4 Plans
- 4 A3 Plans - subject to copyright provisions - CIRCULATED UNDER SEPARATE COVER

Report Prepared By:

**Ben Tesoriero Planning Consultant
Creative Planning Solutions**

**Chris Young
Senior Coordinator - Development Assessment**

Report Approved By:

**Sandra Bailey
Acting Manager - Assessment**

**Liz Coad
Acting Director - City Strategy and Planning**

ITEM 2 (continued)

ATTACHMENT 4

2. Site (Refer to attached map overleaf)

- Address** : 1 Lumsdaine Avenue, East Ryde
(LOT 435 in Deposited Plan 31253)
- Site Area** : 607.25m²
Site frontage to Elliot Avenue of 21.3m
Secondary street frontage to Lumsdaine Avenue of 19.84m
Corner splay of 6.45m
North-western side boundary 24.38m
Rear boundary of 26.59m
Note: All areas and dimensions obtained from Deposited Plan.
- Topography and Vegetation** : The topography of the local area has a moderate gradient, with the subject site having a steady cross fall of approximately 1m from the south corner at the junction of Elliot Avenue and Lumsdaine Avenue to the northern corner of the site.
No significant vegetation has been identified on the site.
- Existing Buildings** : The site currently comprises a single storey dwelling house which fronts onto Elliot Avenue and in-ground swimming pool located within the rear yard.
- Planning Controls Zoning** : R2 – Low Density Residential under Ryde Local Environmental Plan 2014
- Other** : Ryde Development Control Plan 2014

ITEM 2 (continued)

ATTACHMENT 4



Aerial Image of subject site, including an annotation of the properties which objected to the proposed development by way of submission to Council as part of the notification of the DA.

Source: www.six.nsw.gov.au – edited by CPS



Photograph from the Elliot Avenue frontage showing the existing dwelling house located on the subject site.

Source: www.google.com.au

ITEM 2 (continued)

ATTACHMENT 4

3. Councillor Representations

Name of Councillor: Councillor Maggio

Nature of the representation: Call-up to Planning & Environment Committee

Date: 2 June 2016

Form of the representation (e.g. via email, meeting, phone call): Email to Councillor Help Desk

On behalf of applicant or objectors? Objector at No 65 Lumsdaine Ave.

Any other persons (e.g. consultants) involved in or part of the representation: None.

4. Political Donations or Gifts

None disclosed in applicant's DA submission or in any submission received.

5. Proposal

The proposal is for the construction of a two-storey attached dual occupancy development at 1 Lumsdaine Avenue, East Ryde. Each dwelling generally has the same layout, but is in a slightly different configuration due to building's location on a corner allotment. The details of each dwelling within the proposed dual occupancy development is described as follows:

Ground Floor

The ground floor of each dwelling comprises; the main living areas including an open plan kitchen, lounge and dining area; as well as a study, laundry, bathroom, and staircase leading to the first floor.

Each dwelling incorporates an attached single garage, which is accessed via the primary frontage off Elliot Avenue.

Pedestrian entry is provided for each dwelling via a covered porch entrance off Elliot Avenue.

First Floor

The first floor of each dwelling comprises four (4) bedrooms, one of which is a master bedroom containing an en-suite bathroom and walk-in-robe. A separate bathroom and a staircase leading to the ground floor are also provided on the first floor.

ITEM 2 (continued)

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Dwelling 1 and Dwelling 2 each incorporate a balcony off the respective master bedrooms which front Elliot Avenue. A balcony fronting Lumsdaine Avenue is also located off Bedroom 4 on the south-eastern elevation of Dwelling 2.

External

The primary setback to Elliot Avenue consists of a turf area, garden beds, mature plantings and a pathway leading to the front entry of each dwelling. Also within the primary street setback is a central driveway leading to a single garage for each dwelling. The secondary street setback comprises landscaping and a pathway leading to the rear private open space area of Dwelling 2.

The principal private open space area for each dwelling is located to the rear northern portion of the subject site, and is accessible from the main living areas via a rear paved terrace.

A new solid front fence is proposed to the Elliot Avenue frontage, and part of the Lumsdaine Avenue frontage. For the primary setback to Elliot Avenue, the new fence will have a height up to 1m. For the Lumsdaine Avenue frontage, the fence will be of varying height, up to a maximum 1.8m.

The proposal will also include new stormwater drainage arrangements.



Artist impression of the proposal as it presents to Elliot Avenue.

Source: Applicant's Statement of Environmental Effects.

6. Background

The DA was lodged 3 May 2016. It then underwent an initial review and internal referrals (to Council's Senior Development Engineer), and it was notified to neighbours for a period from 11 May to 1 June 2016. Six (6) submissions were received as a result of neighbour notification (see Submissions section below).

ITEM 2 (continued)

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The DA was called-up to Council's Planning & Environment Committee on 2 June 2016 by Councillor Maggio.

On 18 July 2016, following an assessment of the DA by Council's Senior Development Engineer, an additional information request was sent to the applicant in relation to the drainage plan submitted with the DA. A revised drainage plan was submitted by the applicant and referred to Council's Senior Development Engineer on 2 August 2016, and was advised to be satisfactory for approval subject to conditions.

It should be noted that the revised drainage plan did not make any alteration to the design of the dual occupancy building, and so re-notification to neighbours was not required.

7. Submissions

The application was notified between 11 May to 1 June 2016 in accordance with the provisions of the DCP2014, – Part 2.1, Notification of Development Applications. In response, six (6) submissions were received from surrounding properties, as shown on the aerial photograph earlier in this report.

The key planning objections/issues raised in the submissions are summarised and discussed below.

A – Density. *Concerns have been raised with regard to dwelling density. In particular, it is claimed by objectors that the proposal does not comply with clause 4.5A of LEP2014, which prescribes density controls for the R2 zone.*

Assessing Officer Comments: Clause 4.5A prescribes development controls for multi-dwelling. However, it should be noted that these controls do not apply to the subject development which is for a dual occupancy (attached).

It is however noted that clause 4.1A(2) of the LEP2014 prescribes that:

development consent may only be granted to the strata subdivision of a dual occupancy (attached) on land in Zone R2 Low Density Residential if the land has an area of at least 580 square metres.

In addition clause 4.1B(2) of the LEP2014 prescribes a minimum allotment frontage of 20m and area of 580m² for dual occupancy developments.

The proposal also includes dual occupancy (attached) and strata subdivision on a site which has an area of 607.028m² (DP 31253) and a total road frontage of 47.6m. This frontage includes the primary frontage to Elliot Avenue (21.3m), corner splay of (6.465m) and secondary frontage to Lumsdaine Avenue (19.84m).

ITEM 2 (continued)

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Accordingly, the subject site meets the prescribed minimum lot size and frontage width for a dual occupancy development. As such, the proposal is considered to be an appropriate from a dwelling density and site performance perspective.

It is also noted that the proposed complies with Council's floor space ratio and building height controls, therefore also being considered appropriate from a building bulk and scale perspective.

For the reasons outlined above, the objectors concerns relating to density are not supported in this instance.

B – Consistency with streetscape character. *Concerns have been raised by objectors with regard to the compatibility of the proposal with the existing streetscape character, as well as the desired future character for the R2 zone. In addition, concerns have been raised in relation to the proposal's compatibility with the character of the Dress Circle Estate for which the site is a part of.*

Assessing Officer Comments: The proposed dual occupancy has been assessed against Sections 2.1 and 2.5 in Part 3.3 of the DCP2014, which prescribe development controls to ensure that development is consistent with the desired future character of the low density areas, as well as ensure the existing landform and landscape setting of the street is retained and reinforced by new dwellings.

The proposal is considered to be consistent with the desired future character, as well as the existing streetscape character, for the following reasons.

- The proposed dual occupancy is low scale as determined by a two-storey height limit;
- The surrounding area will maintain a limited number of dual occupancy (attached) buildings, even with the introduction of the proposed development. Further, as dual occupancy (attached) development is limited to sites with a minimum 20m frontage, the surrounding area is not considered to include a proliferation of such housing into the future. Accordingly, the local area is considered to have the capacity to accommodate the proposal when having regard to Council's desired future character for the low density residential area;
- The proposed dual occupancy has been designed so that the building has a similar appearance of two detached dwelling houses. This has been achieved by the articulation of the form, as well as the separation of the two storey component of each dwelling;
- The proposed dual occupancy is well articulated so as to reduce the overall bulk of the built form;
- The proposed dual occupancy dwellings are considered to include a high degree of amenity through appropriate layouts, access to sunlight, cross ventilation, and private open space;
- The dwellings are located within a landscape setting, which include a clearly defined front garden and back yard, which are to include mature plantings;

ITEM 2 (continued)

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- The proposed development has appropriate secondary, side and rear setbacks, despite the inherent constraints of being located on a corner allotment. The development proposes a non-compliance in terms of the front setback (ie 4.8m setback to the cantilevered balcony and associated structure at the first floor level). The immediate vicinity of the site generally features consistent front setbacks, and therefore it is agreed that the proposed non-compliance of the first floor balconies would result in inconsistency with the established front setbacks. This non-compliance is proposed to be addressed via a condition of consent (Deferred Commencement);
- The garages have been appropriately integrated into the design of the dual occupancy development, and as such are not prominent elements within the streetscape.
- The dual occupancy development is considered to appropriately respond to the site's constraints and opportunities as identified in the site analysis. The dwellings have been orientated so as to take advantage of the northern sun, limit overshadowing, maintain satisfactory visual and acoustic privacy, and minimise the bulk and scale of the proposal through achieving a compliant building height and floor space ratio.

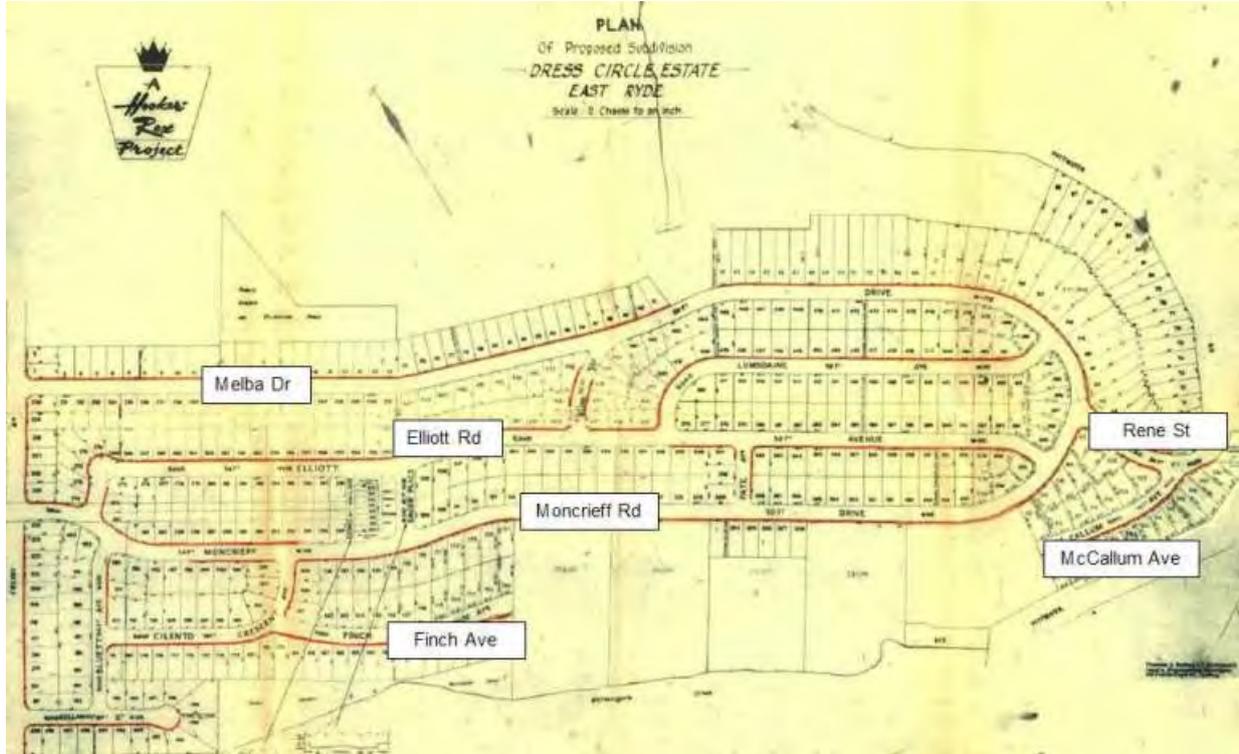
“Dress Circle Estate”

With regard to the objector concerns over the proposal's compatibility with the Dress Circle Estate character, the following specific comments are made:

'Dress Circle Estate' was created in the 1960s by Hooker Rex after removal of a significant portion of contaminated soils (previously a sewage dump) to allow the subdivision to occur. At Council's request, Hooker Rex also upgraded Pittwater Road as part of the subdivision. The subdivision configuration and streets within the estate are shown in the plan below.

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The streets within the 'Dress Circle Estate' area contain a mixture of brick and fibro clad dwellings (single and two storeys) with hipped gable roofs. Newly constructed dwellings and dual occupancies (predominantly two storeys) combine a variety of external finishes, contemporary window shapes and roof forms which is consistent with a significant number of modern redevelopments throughout the City of Ryde. Such examples are shown below:

50 Melba Drive – dual occupancy (constructed 2014)



102 Melba Drive – single dwelling (constructed 2015)



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6 Rene Street – single dwelling



79 Moncrieff Street – single dwelling



41 Finch Avenue – single dwelling



92 Melba Drive – dual occupancy



LDA2011/554 – Approved 05/04/12
Four (4) submissions received.

ITEM 2 (continued)

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Existing dwellings within the 'Dress Circle Estate' and properties which have been modified present a variety of built form as demonstrated by the images below:

36 Elliott Avenue – single dwelling



14 Elliott Avenue – single dwelling



12 Elliott Avenue – single dwelling



24 Elliott Avenue – single dwelling



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72 Elliott Avenue – single dwelling



42 Melba Drive – single dwelling



106 Melba Drive – single dwelling



94 Melba Drive – single dwelling



It is considered the design of the dual occupancy (refer to the applicant's "Artist Impression" earlier in this report) is reflective of both traditional and contemporary designs through the incorporation of a flat roof with the mixture of cement render, brickwork, and cladding facades to create a modern building with elements of traditional design.

The overall height of the building is a maximum of 7.7m which is well below the maximum allowable 9.5m. It has an overall FSR of 0.489:1 which is less than the maximum allowable 0.5:1, complying with LEP 2014. The building is a maximum of two storeys, and satisfactorily performs against Council's setback controls (subject to a Deferred Commencement condition to resolve non-compliance with the front setback as a result of the first floor balcony, as discussed throughout this report). Given the above, the design, bulk and scale of the proposed dual occupancy is considered to be consistent with the prevailing streetscape and the residential character of the 'Dress Circle Estate'.

ITEM 2 (continued)

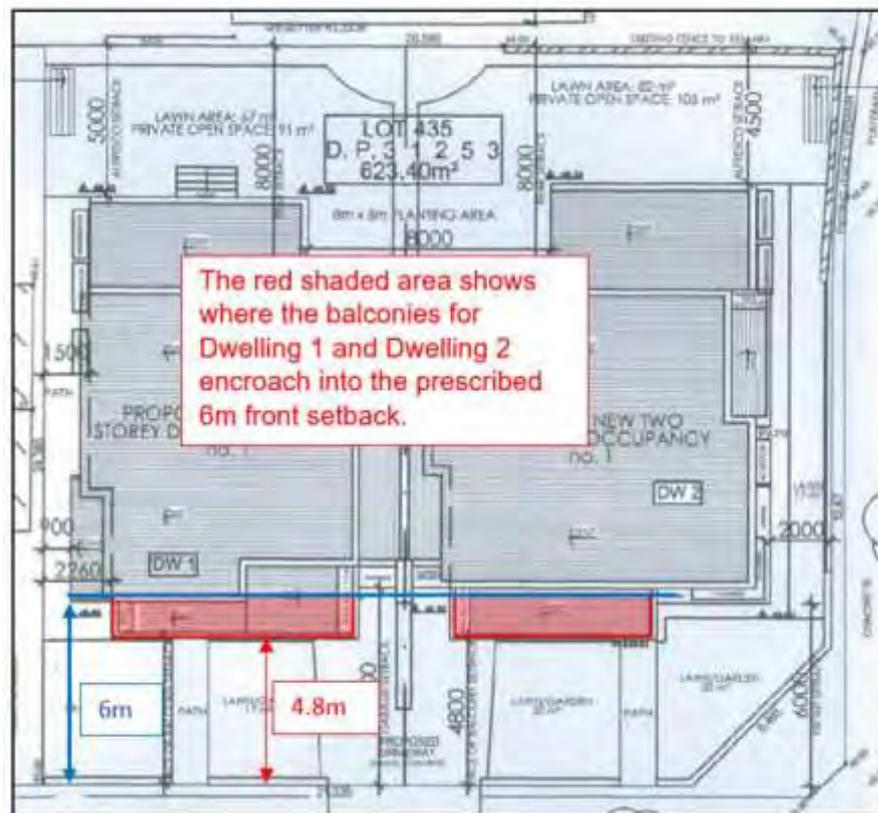
ATTACHMENT 4

C – Setbacks. Concerns have been raised that the proposal does not comply with the front, side and rear setback controls prescribed by DCP2014.

Assessing Officer Comments:

Front Setback

The proposal does not comply with the prescribed 6m front setback as outlined within DCP2014 (see diagram below, showing the area of non-compliance). The extent of non-compliance relates to the balconies at first floor level, which have a setback of 4.8m from the front boundary.

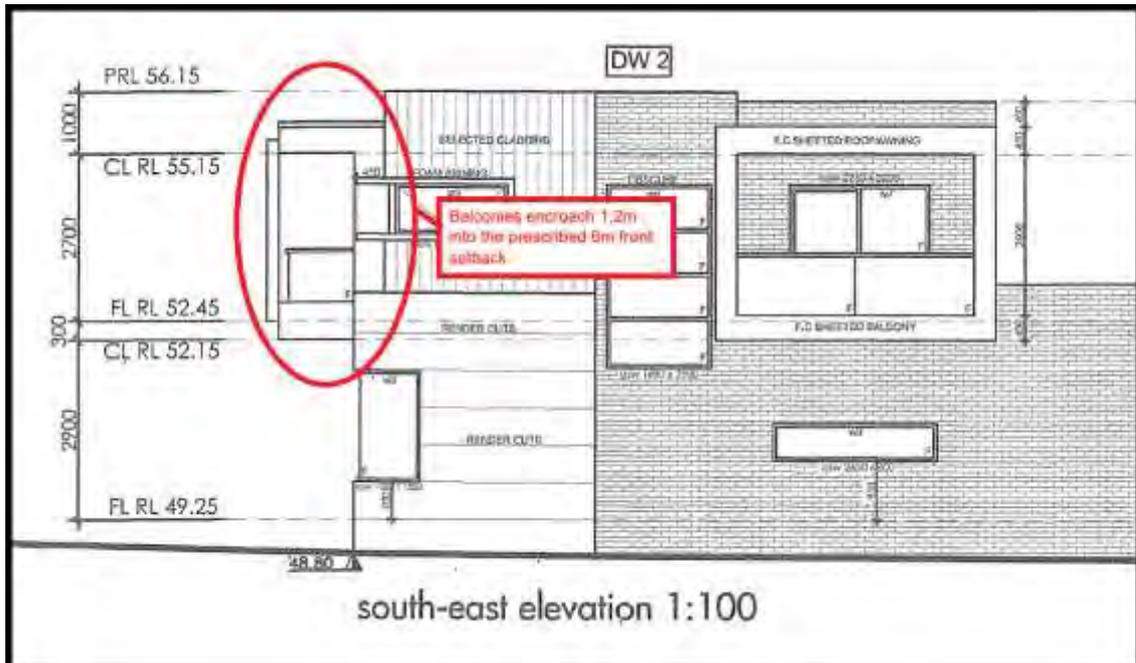


This diagram shows where the balconies for Dwelling 1 and Dwelling 2 encroach into the prescribed 6m front setback.

Source: Site Plan by applicant, edited for diagrammatic purposes by CPS.

ITEM 2 (continued)

ATTACHMENT 4



This diagram demonstrates the balcony (Dwelling 2) is a light weight structure and has an open appearance when viewed from Lumsdaine Avenue.

Source: South-East Elevation plan by applicant, edited for diagrammatic purposes by CPS.

The objector's concerns are supported in this instance. It is agreed that the proposed non-compliance would be inconsistent with the character of the streetscape of the immediate vicinity, which generally features consistent front setbacks of 6m (being the minimum allowed under Ryde DCP 2014) or greater. It is proposed to resolve this issue via the following condition of consent (Deferred Commencement):

1. **Plan Amendments.** *The submission of amended plans for the approval of the Acting Director, City Strategy & Planning which provide the following plan amendment:*
 - *Deletion of the first floor balcony at the front of both dwellings, to achieve compliance with the minimum 6m front setback requirement of Ryde DCP 2014.*

Side Setbacks

Section 2.9.2 of DCP2014 prescribes that single storey dwellings are to have a side setback of no less than 900mm, and two storey dwellings are to have a side setback of no less than 1.5m. When applying this development control, Council has consistently allowed the single storey component of a 2-storey dwelling to have a 900mm side setback, with the 2-storey component required to have a 1500mm side setback.

ITEM 2 (continued)

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Given Council's above application of Section 2.9.2, the proposed side setbacks are in compliance with the minimum requirements. This is because the single storey component of the dual occupancy development proposes a minimum side setback of 900mm from the north-western side property boundary, and the two-storey component proposes a minimum setback of 1.5m, when measured from the external building wall. This is shown in the following drawing:



Diagram showing side boundary setbacks of proposed development.

Source: *Elevation Plan by applicant, edited.*

Rear Setback

Section 2.9.3 of the DCP2014 prescribes that allotments which are wider than they are long, and so cannot achieve the minimum rear setback requirement, are to have a minimum rear setback of 4 m.

The subject site has an average width of 26.6m and an average length of 24.385, as such the site is wider than it is longer. In this circumstance, a minimum rear setback of 4m is applicable.

The dual occupancy proposes a setback of between 4.5 and 8m, as such complies with section 2.9.3 of the DCP2014.

Accordingly, for the reasons outlined above, objections relating to the proposal's setbacks are not supported on this occasion.

D – Visual Privacy. Concerns have been raised with regard to the potential for overlooking from the ground floor living areas, the alfresco areas, as well as from the second-storey bedroom windows, to adjoining properties. Furthermore, concerns have also been raised with regard to the potential for overlooking from proposed balconies located adjacent to the primary street frontage of Elliot Avenue and secondary street frontage of Lumsdaine Avenue.

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Assessing Officer Comments: The proposed development has been assessed against the visual privacy controls contained in Section 2.14.2 of DCP2014, and the proposal is not considered to have an adverse impact on the privacy of surrounding properties for the following reasons:

- Windows of the proposed living areas for each dwelling have generally been orientated to the front and rear. Minimal windows are located on the side elevation of each dwelling. Side facing windows for Dwelling 2 are orientated to Lumsdaine Avenue, and the only window for Dwelling 1 which faces the adjoining property at 63 Elliot Avenue includes a high sill height of 1.55m.
- Bedrooms have been located on the first level of the proposed development, which is considered to be an ideal layout for a two-storey dwelling. As stated in Section 2.14.2 of the DCP2014, overlooking from bedroom windows is less of a concern than overlooking from windows of other habitable rooms such as living spaces. This is because bedrooms are not the principal activity areas of a dwelling, and as such opportunities for overlooking are reduced.
- The side elevation of the adjoining dwelling at 3 Lumsdaine Avenue, which is located adjacent to the rear boundary of the subject site, does not contain any windows. As such, direct overlooking to adjoining living areas will not occur from the rear facing living room and kitchen windows of the dual occupancy development, into neighbouring dwellings – see photo below:



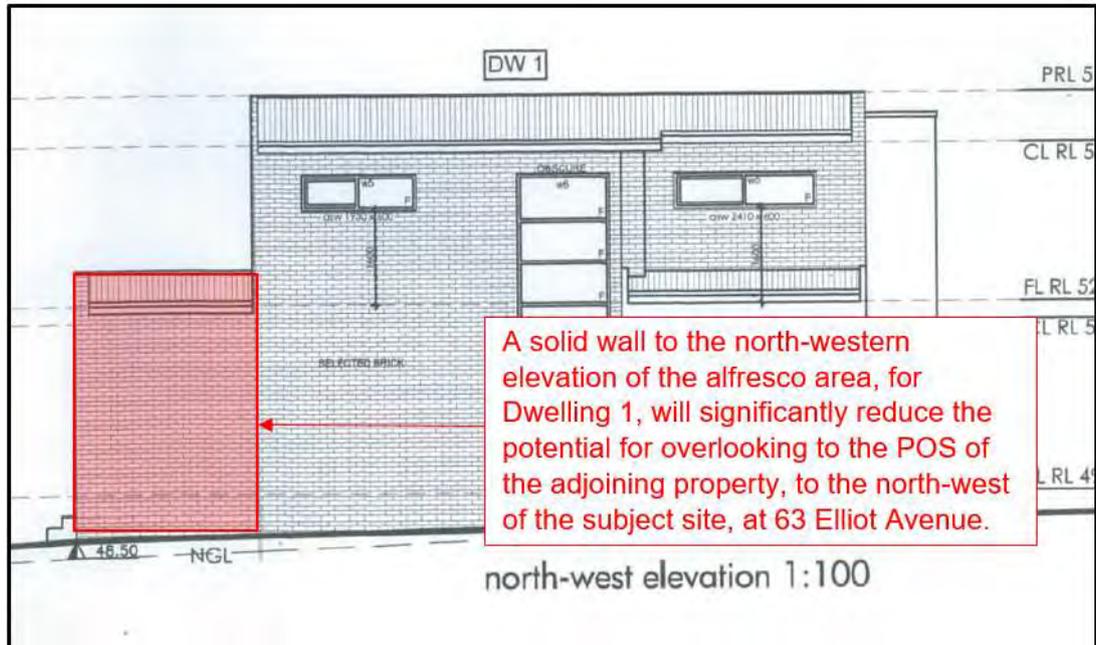
This figure demonstrates that the side elevation of adjoining dwelling at 3 Lumsdaine Avenue does not contain any windows. This dwelling is located adjacent to the rear boundary of the subject site.

Source: www.google.com.au, edited for diagrammatical purposes by CPS.

ITEM 2 (continued)

ATTACHMENT 4

- The alfresco area for Dwelling 1 proposes a solid wall to the north-western elevation of the alfresco area, which will significantly reduce the potential for overlooking to the private open space of the adjoining property, to the north-west of the subject site, at 63 Elliot Avenue – see following diagram:



This figure demonstrates that a solid wall to the north-western elevation of the alfresco area for Dwelling 1 will reduce the potential for overlooking to the POS of 63 Elliot Avenue.

Source: North-west Elevation Plan by applicant, edited for diagrammatical purposes by CPS.

- The FFL floor level of the proposed development is within acceptable limits and has not been raised significantly from the existing ground level. Accordingly, it is considered that the location of all ground floor living room windows will not result in direct overlooking to neighbouring properties.
- Dwelling 1 and Dwelling 2 each propose a balcony, which faces onto Elliot Avenue. Due to their location at the front of the site, direct overlooking will not occur into neighbour's living areas and private open space. The front facing balconies are only open on those elevations which overlook the street, therefore ensuring any overlooking of adjoining property is minimised.
- It is considered the balcony located adjacent to the secondary street frontage of Lumsdaine Avenue will not result in an unreasonable level of overlooking into neighbour's living areas and private open space. This is largely due to the separation distance of approximately 15 (from the property located directly adjacent to proposed balcony at 65 Elliot Avenue) – see following diagram:

ITEM 2 (continued)

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This diagram demonstrates the separation distance between the proposed balcony adjacent to the secondary street frontage of Lumsdaine Avenue, and the POS of the dwelling at 65 Elliot Avenue.

Source: maps.six.nsw.gov.au, edited for diagrammatic purposes by CPS.

- Each of the proposed balconies are located off a bedroom and are of a size that are unlikely to be utilised by any more than one (1) person at any one time. It is also noted that these balconies will not be used as the main area of private open space. The main areas of private open space are located off the ground floor level.
- The proposed balconies located adjacent to Elliot Avenue and Lumsdaine Avenue will allow for casual surveillance over the street. This is encouraged by the objectives of Section 2.14.2 of DCP2014.

Further to the above, it is noted that the alfresco area for Dwelling 1 is to be raised up to 1m above EGL. It is also noted that as the site is located on a corner lot, a lesser rear setback is permitted under DCP2014. The reduced setback has resulted in the main area of private open space being located closer to the side boundary of the adjoining property at 3 Lumsdaine Avenue. In order to maintain the privacy of the adjoining property at 3 Lumsdaine Avenue, where the side boundary adjoins the rear boundary of the subject site, it was considered that a 300mm high lattice screening on top of the existing north-eastern boundary fence, would satisfactorily minimise any potential for direct overlooking.

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However, a review of a submission from the owners of 3 Lumsdaine Avenue, has demonstrated that privacy screening already exists on top of the existing fence. As the submitted Landscape Plan has indicated that the existing rear north-eastern boundary fence is to be retained (with the existing privacy screen), it is not considered necessary to impose such a condition.

The below photograph is an extract of the submission from the owners of 3 Lumsdaine Avenue, which has been taken from the alfresco area of the adjoining property at 3 Lumsdaine Avenue looking toward the rear property boundary of the subject site.



Photo 3: Outdoor entertaining area of 3 Lumsdaine Ave towards proposed Dwelling 1.

This photograph is an extract of the submission received from the owners of 3 Lumsdaine Avenue, which demonstrates that the existing privacy screen will mitigate any potential for direct overlooking.
Source: Objection letter from owners at 3 Lumsdaine Avenue, East Ryde

This photograph demonstrates that the existing screen will satisfactorily minimise any potential for overlooking from the proposed rear alfresco area (of Dwelling 1, in particular) to adjoining private open space at 3 Lumsdaine Avenue. Also, the following is an aerial image showing the location of the existing privacy screen.

ITEM 2 (continued)

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This aerial image demonstrates the location of the existing privacy screen along the north-eastern property boundary which reducing overlooking potential from the rear private open space areas of the proposed development.

Source: maps.six.nsw.gov.au, edited for diagrammatic purposes by CPS.

Accordingly, for the reasons outlined above, the objectors concerns relating to visual privacy, are not supported on this occasion.

E – Overshadowing. Concerns have been raised that the proposed development will overshadow the private open space of the property at 65 Elliot Avenue, which is located south-east of the subject site on the opposite side of Lumsdaine Avenue.

Assessing Officer Comments: Section 2.14.1 of the DCP2014 prescribes that *sunlight to at least 50% of the principal area of ground level private open space of adjacent properties is not reduced to less than two hours between 9 am and 3 pm on June 21.*

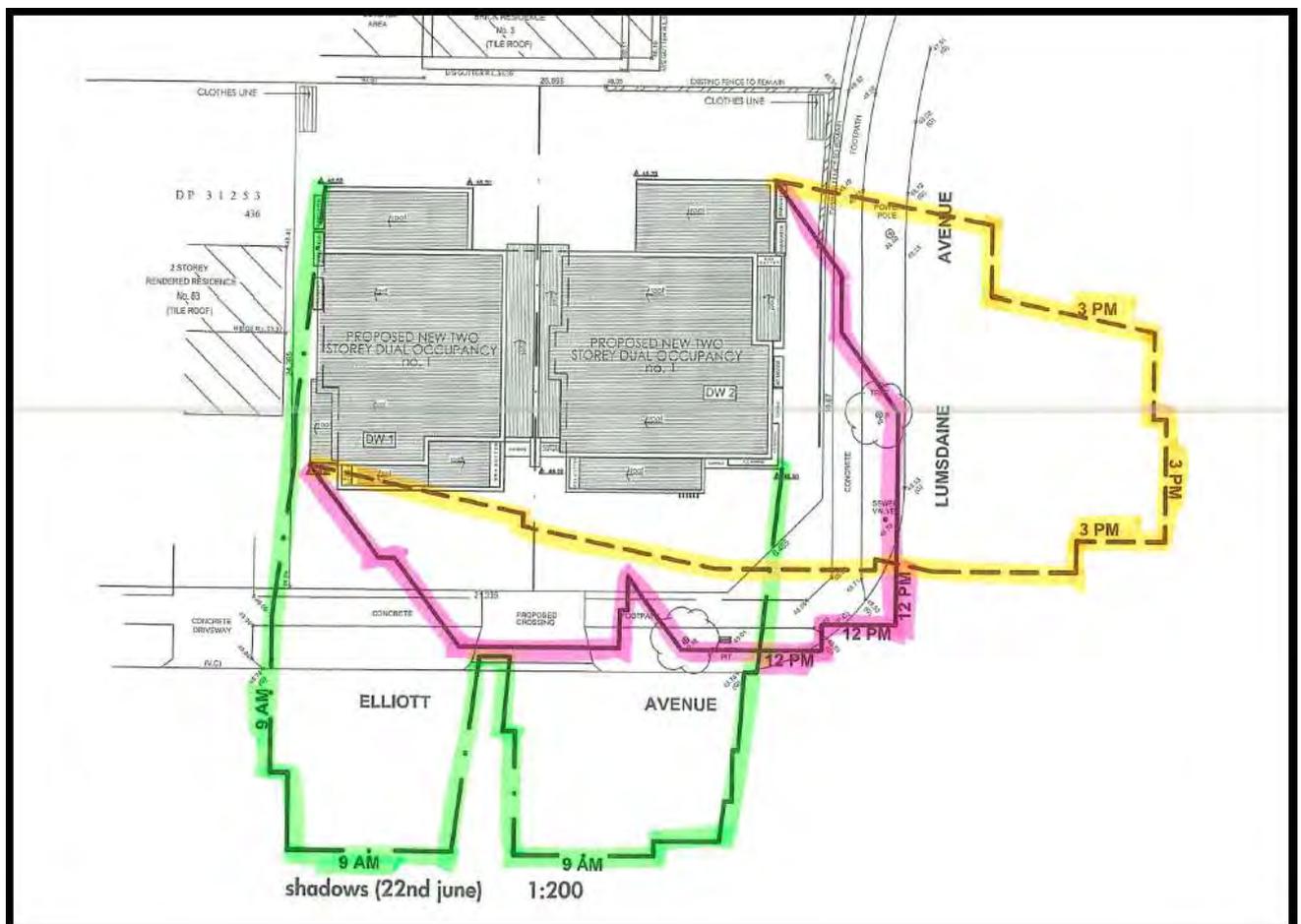
The shadow diagrams submitted with the proposed development demonstrates that given the orientation of the land, shadows from the development will fall mostly onto the street or the front setback area of the subject site.

ITEM 2 (continued)

ATTACHMENT 4

In relation to impacts on the private open space of the objector's property at 65 Elliot Avenue, this property may be subject to some minor overshadowing during late afternoon - from 2:30pm onwards. As such, 65 Elliot Avenue will not be impacted upon by overshadowing between the approximate hours of 9am – 2:30pm during the winter solstice. Accordingly, compliance with the provisions of DCP2014 will be achieved as 65 Elliot Avenue will not be reduced to less than two hours of sunlight between 9am and 3pm on June 21.

Accordingly, for the reasons outlined above, the objector's concerns relating to overshadowing, are not supported on this occasion. The shadow diagrams for the proposed development are provided below.



Shadow diagrams for proposed development (source: Applicant DA submission).

ITEM 2 (continued)

ATTACHMENT 4

F – Car parking and Traffic. The submissions have raised a number of concerns with regard to the car parking for the proposed dual occupancy development, which include the following comments:

- The proposed development will result in increased off-street parking to Lumsdaine Avenue.
- The dual occupancy will double the number of cars entering and exiting the site, which will increase traffic accidents at this location.
- There is no safe off-street parking outside 1 Lumsdaine Avenue. Thus causing visitors/residents to park outside surrounding homes in the area.

Assessing Officer Comments: Section 9.3 of DCP2014 includes development controls and parking rates for different types of development in the City of Ryde. In particular, it prescribes that a dual occupancy development is to provide one (1) car parking space per dwelling.

Each dwelling within the proposed dual occupancy development proposes a single covered car parking space, as well as a tandem parking space within the driveway, thus adequately meeting the minimum car parking requirements prescribed by DCP2014.

With regard to traffic, Council's Senior Development Engineer has reviewed the submissions received and provided specific comment. In this regard, it is noted that the RMS document "*Guide to Traffic Generating Developments*" provides average traffic generation rates for residential development for use in the assessment of such development. Whilst this document does not directly specify a rate for dual occupancy development, the document details a rate for larger units and townhouses (3 bedrooms or more) which would be equivalent to the subject proposal. As such, the specified rate is slightly greater than half that for single residential dwellings, being 5 to 6.5 daily vehicle trips per townhouse compared to 9 daily vehicle trips for a residential dwelling. Accordingly it is acknowledged that whilst there will be an increase in traffic generation, the level of traffic generation is not significant such to impact Lumsdaine Avenue or Elliott Avenue in terms of operation and safety.

On this basis, the objectors concerns in relation the provision of parking and potential traffic conflicts are not supported.

G - Water management. *Concerns have been raised with regard to the potential for excess stormwater run-off within the rear yard of the subject site to the adjoining property at 3 Lumsdaine Avenue and 63 Elliot Avenue.*

Assessing Officer Comments: A review of Council's map of Environmentally Sensitive Areas (held on file) has revealed that the site not subject to overland flow.

ITEM 2 (continued)

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As part of the assessment of the DA, the proposal and the applicant's Drainage Concept Plan were referred to Council's Senior Development Engineer for comment. Further, Council's Senior Development Engineer has reviewed the proposal and provided specific comment on concerns raised by the neighbour in relation to excess stormwater runoff. In this regard, the neighbour on the low side No 3 Lumsdaine Ave in their submission to the development indicated that they are getting a lot of surface runoff during heavy rain events. By providing the retaining walls and the fill it will allow for a gravity drained pipes to Lumsdaine Avenue with surface inlet pits. These surface inlet pits and agg lines for the retaining wall will help to collect most of this surface water and seepage water and direct it to the street. With the regrading proposed, the direction of surface runoff is now towards Lumsdaine Avenue.

On this basis, the objectors concerns in relation water management are not supported.

H - Electrical safety. Concerns have been raised with regard to the proximity of Dwelling 2, to the overhead transformer located within the road reserve of Lumsdaine Avenue.

Assessing Officer Comments: Clause 45 of State Environmental Planning Policy (Infrastructure) 2007 applies to development likely to affect electricity transmission or distribution network. Clause 45 is provided below:

45. Determination of development applications – other development

- (1) *This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following:*
 - (a) *the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,*
 - (b) *development carried out:*
 - (i) *within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or*
 - (ii) *immediately adjacent to an electricity substation, or*
 - (iii) *within 5m of an exposed overhead electricity power line,*
 - (c) *installation of a swimming pool any part of which is:*
 - (i) *within 30m of a structure supporting an overhead electricity transmission line, measured horizontally from the top of the pool to the bottom of the structure at ground level, or*
 - (ii) *within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool,*
 - (d) *development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.*

ITEM 2 (continued)

ATTACHMENT 4

- (2) *Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must:*
- (a) *give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and*
 - (b) *take into consideration any response to the notice that is received within 21 days after the notice is given.*

In summary, in relation to the proximity of an electrical power pole (and overhead electricity power lines) to a development, this clause requires the consent authority (Council) to give written notice to the energy supply authority, inviting comments about potential safety risks, and take into consideration any response that is received within 21 days after the notice is given.

Council officers emailed an officer at Ausgrid on 9 August 2016, to advise of the development application, and to request them to comment on the range of potential safety concerns regarding the proximity of the development to high voltage electricity equipment with the power pole in the Lumsdaine Ave frontage of the site.

On 16 September 2016, Ausgrid responded with the following comments:

Ausgrid has examined and reviewed the attached plans and the letter from neighbour in relation to the proposed Dual Occupancy Development at No.1 Lumsdaine Ave, East Ryde and would like to provide the following comments.

- 1. The development should comply with the clearance requirements as specified in Section 13 of Ausgrid's Network Standard NS220.*
- 2. The horizontal clearance between the existing 11 kV overhead mains and those parts of any structure of the building accessible to person should be greater than 4m (with the consideration of blow out).*
- 3. The vertical clearance between existing 11 kV overhead main and those parts of any structure of the building accessible to person should be greater than 4.5m.*
- 4. If there is any openable or fixed windows or glass block work or similar irrespective of fire rating, they are not permitted within 3 metres in any direction of the existing transformer tank, unless fire resistance level of 120/120/120 non-ignitable blast - resisting barrier is provided.*
- 5. Ausgrid requires existing transformer tank to be separated from building ventilation system air intake and exhaust duct openings, by not less than 6 metres. This applies irrespective of whether the building ducted ventilation system is mechanical or natural and irrespective of whether or not fire dampers are installed in the ducts.*

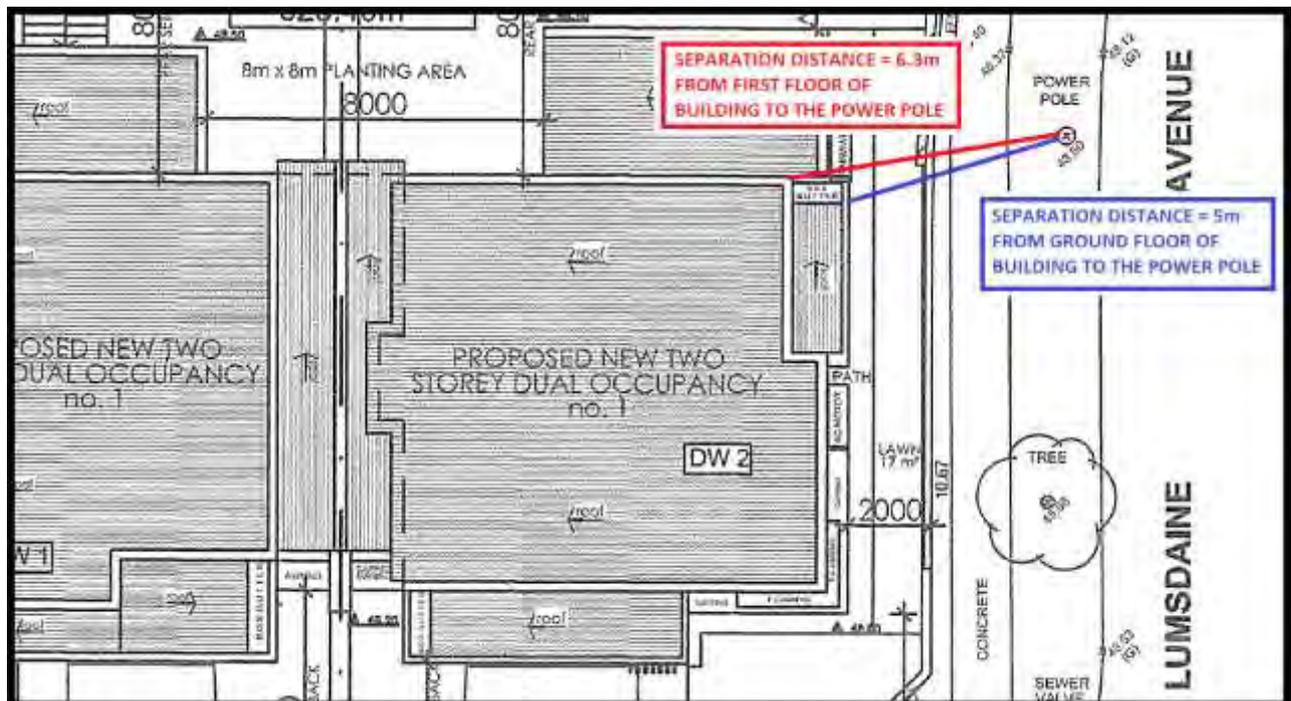
ITEM 2 (continued)

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6. The existing transformer will have noise all the time and therefore, the developer should be aware of this issue and provide enough clearance from the existing transformer in order maintain a tolerable noise level (by human) all the time (day and night) . Ausgrid will not be responsible for noise interference complaints by the resident in the future, due to the not sufficient clearance.

Hope the above comments provided by Ausgrid will assist you for the above DA assessment.

Review of the DA plans (both by officers of Ausgrid and Council officers) indicates that the proposed building is some 5m at ground floor level, and 6.3m at first floor level from the power pole and all associated electricity infrastructure, which would ensure compliance with the above requirements of Ausgrid. See diagram below.



Plan showing distances from the power pole to the proposed building (Source: Applicant DA plans, edited).

Council's standard conditions requires compliance with the requirements of public utility authorities and Australian Standards. These conditions will be incorporated into the draft consent and include the following:

Public Utilities. Compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, RMS, Council etc) in relation to any connections, works, repairs, relocation, replacements and/or adjustments to public infrastructure or services affected by the development. In particular, the development shall comply with the following requirements of Ausgrid:

ITEM 2 (continued)

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- a. *The development should comply with the clearance requirements as specified in Section 13 of Ausgrid's Network Standard NS220.*
- b. *The horizontal clearance between the existing 11 kV overhead mains and those parts of any structure of the building accessible to person should be greater than 4m (with the consideration of blow out).*
- c. *The vertical clearance between existing 11 kV overhead main and those parts of any structure of the building accessible to person should be greater than 4.5m.*
- d. *If there is any openable or fixed windows or glass block work or similar irrespective of fire rating, they are not permitted within 3 metres in any direction of the existing transformer tank, unless fire resistance level of 120/120/120 non-ignitable blast -resisting barrier is provided.*
- e. *Ausgrid requires existing transformer tank to be separated from building ventilation system air intake and exhaust duct openings, by not less than 6 metres. This applies irrespective of whether the building ducted ventilation system is mechanical or natural and irrespective of whether or not fire dampers are installed in the ducts.*
- f. *The existing transformer will have noise all the time and therefore, the developer should be aware of this issue and provide enough clearance from the existing transformer in order maintain a tolerable noise level (by human) all the time (day and night). Ausgrid will not be responsible for noise interference complaints by the resident in the future, due to the not sufficient clearance.*

Prior to the issue of any Construction Certificate, the applicant is to provide verification from Ausgrid that the development complies with the above requirements.

Utility provider - *compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, Council etc). Prior to the Subdivision Certificate the applicant is to provide details to demonstrate compliance with this condition.*

In summary, Council has complied with the requirements of clause 45 of SEPP (Infrastructure) 2007, and it is considered that the development is acceptable in terms of electrical safety issues, raised in the objector's submission, subject to compliance with the requirements of Ausgrid above.

I - Asbestos removal. Concerns have been raised with regard to the removal of asbestos from the building during the demolition phase of the development.

ITEM 2 (continued)

ATTACHMENT 4

Assessing Officer Comments: A Demolition Work Plan has been submitted with the DA, which outlines that demolition works will be carried out in accordance with the requirements of the Work Health and Safety Requirements and code of practice under section 274 of the *Work Health and Safety Act*.

Furthermore, standard conditions are to be included in the consent to ensure that where asbestos is present during demolition work, work must be carried out in accordance with the guidelines for asbestos work published by WorkCover New South Wales.

These conditions are copied below:

Asbestos. *Where asbestos is present during demolition work, the work must be carried out in accordance with the guidelines for asbestos work published by WorkCover New South Wales.*

Asbestos – disposal. *All asbestos wastes must be disposed of at a landfill facility licensed by the New South Wales Environmental Protection Authority to receive that waste. Copies of the disposal dockets must be retained by the person performing the work for at least 3 years and be submitted to Council on request.*

8. SEPP1 (or clause 4.6 RLEP 2014) objection required?

A Clause 4.6 Variation is not required.

9. Policy Implications

Relevant Provisions of Environmental Planning Instruments etc:

(a) Ryde Local Environmental Plan 2014

Zoning

Under Ryde LEP 2014, the zoning of the subject site is R2 Low Density Residential. The proposed development, being a '*dual occupancy (attached)*', is permissible with consent under the R2 zoning.

The proposal is considered capable of satisfying the objectives for residential development as it will provide for the housing needs of the community within a low density residential environment.

The proposal maintains the existing general low density nature of the zone as the built form will appear as two separate two-storey dwelling houses. The modern form of the development will assist in the enhancement of the local streetscape through the provision of architectural features to the façade, such as balconies and porticos fronting the primary and secondary street frontages. These features provide articulation to the façade as well as allow passive surveillance opportunities over the street.

ITEM 2 (continued)

ATTACHMENT 4

Principal Development Standards

A full assessment of the proposal against the relevant principal development standards contained within LEP2014 is illustrated in the Compliance Check table attached – see **Attachment 2**. The following outlines the relevant development standards applying to the proposed development, along with a comment as to how the proposal performs against these development standards:

Clause 4.3 – Height of buildings. Sub-clause (2) of this clause states that:

“the height of a building on any land is not to exceed the maximum height for the land shown for the land on the height of buildings map”.

LEP2014 prescribes a maximum building height of 9.5m. The development proposes a building height of 7.7m, which fully complies with the provisions of the LEP2014.

Clause 4.4 - Floor Space Ratio. This clause prescribes a maximum floor space ratio (FSR) of 0.5:1 on the Floor Space Ratio Map within LEP2014.

When utilising the definition for ‘gross floor area’ (GFA) as prescribed by the Dictionary within LEP2014, the total GFA of the building has been calculated to be 297.07m² – refer to the attached Compliance Checklist in **Appendix 2** for a more detailed calculation of the GFA of the building.

The site area has been identified as 607.028m² (as per DP31253). Accordingly, given the above, the FSR of the proposed development has been calculated as 0.489:1, thus fully complying with LEP2014.

Clause 4.1A and Clause 4.1B – Minimum lot size for dual occupancies. Clause 4.1A(2) of the LEP2014 prescribes that ‘*development consent may only be granted to the strata subdivision of a dual occupancy (attached) on land in Zone R2 Low Density Residential if the land has an area of at least 580 square metres.*’

In addition clause 4.1B(2) of the LEP2014 prescribes that ‘*development consent may be granted for development on a lot in Zone R2 Low Density Residential for a purpose shown in Column 1 of the table to this clause if:*

- (a) *the area of the lot is equal to or greater than the area specified for that purpose and shown opposite in Column 2 of the table, and*
- (b) *the road frontage of the lot is equal to or greater than 20 metres.*

Column 1

*Dual occupancy
(attached)*

Column 2

580 square metres

ITEM 2 (continued)

ATTACHMENT 4

The proposal also includes dual occupancy (attached) and strata subdivision on a site which has an area of 607.028m² (DP 31253) and a total road frontage of 47.6m. This frontage is made up of the primary frontage to Elliot Avenue of 21.3m, corner splay of 6.465m, and secondary frontage to Lumsdaine Avenue of 19.84m.

Accordingly, the subject site meets the minimum lot size and frontage width for a dual occupancy development, as prescribed by the LEP2014, and as such is considered to be an appropriate form of development for the subject site.

(b) Relevant State Environmental Planning Policies (SEPPs)

State and Sydney Regional Environmental Planning Policies

State Environmental Planning Policy No.55 – Remediation of Land

State Environmental Planning Policy No.55 – Remediation of Land (SEPP55) applies to the entire state of New South Wales and includes planning controls for the remediation of contaminated land. It also requires an investigation to be made if land contamination is suspected.

A review of Council's environmentally sensitive land mapping has not identified that the site is impacted upon by contamination.

Standard conditions of consent relating to contamination, fill and removal of hazardous materials will be imposed to assist in mitigating any potential impacts.

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

A compliant BASIX Certificate (Cert. No. 717590S and 717584S, dated 5 April 2016) has been submitted with the subject DA. A standard condition of consent will be imposed to ensure compliance with the BASIX Certificate.

Other State Environmental Planning Policies

No other SEPPs have been identified as being applicable to the proposed development.

(c) Any draft LEPs

No draft environmental planning instruments that have been identified which are considered relevant for the proposed development on the subject site.

ITEM 2 (continued)

ATTACHMENT 4

(d) The provisions of any development control plan applying to the land

Ryde Development Control Plan 2014

The proposal has been assessed using the development controls contained in *Ryde Development Control Plan 2014* (DCP2014). The full assessment is detailed in the Compliance Check table attached – see **Attachment 2**.

The following outlines those non-compliances identified with the subject DA, and elaborates on how these non-compliances are either justifiable in the circumstances of the case, or are not justifiable and require amendment to the design or imposition of mitigation measures by way of conditions of consent.

Non-Compliances: Justifiable

As covered by Section 79C(3A)(b) of the *Environmental Planning and Assessment Act 1979* (the Act), if a development control plan contains provisions that relate to the development that is the subject of a DA, the consent authority is to be flexible in applying those provisions and allow reasonable alternative solutions that achieve the objects of those standards for dealing with that aspect of the development.

With the above in mind, the following outlines those aspects of the proposal which have been assessed as non-compliant with the applicable development controls under DCP2014, but nonetheless have been determined acceptable as they are able to achieve the objects of those standards.

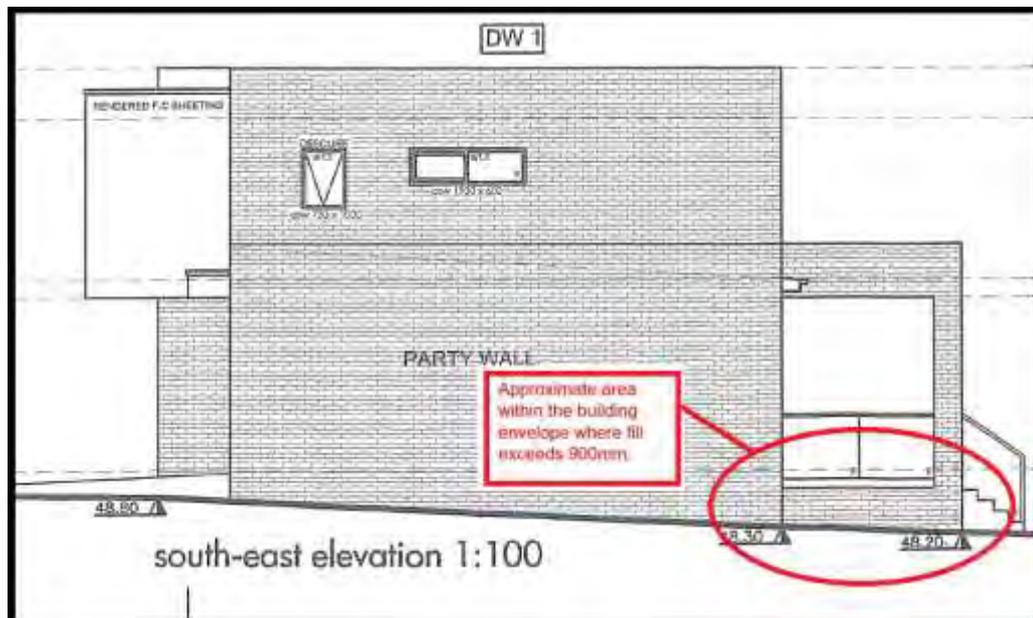
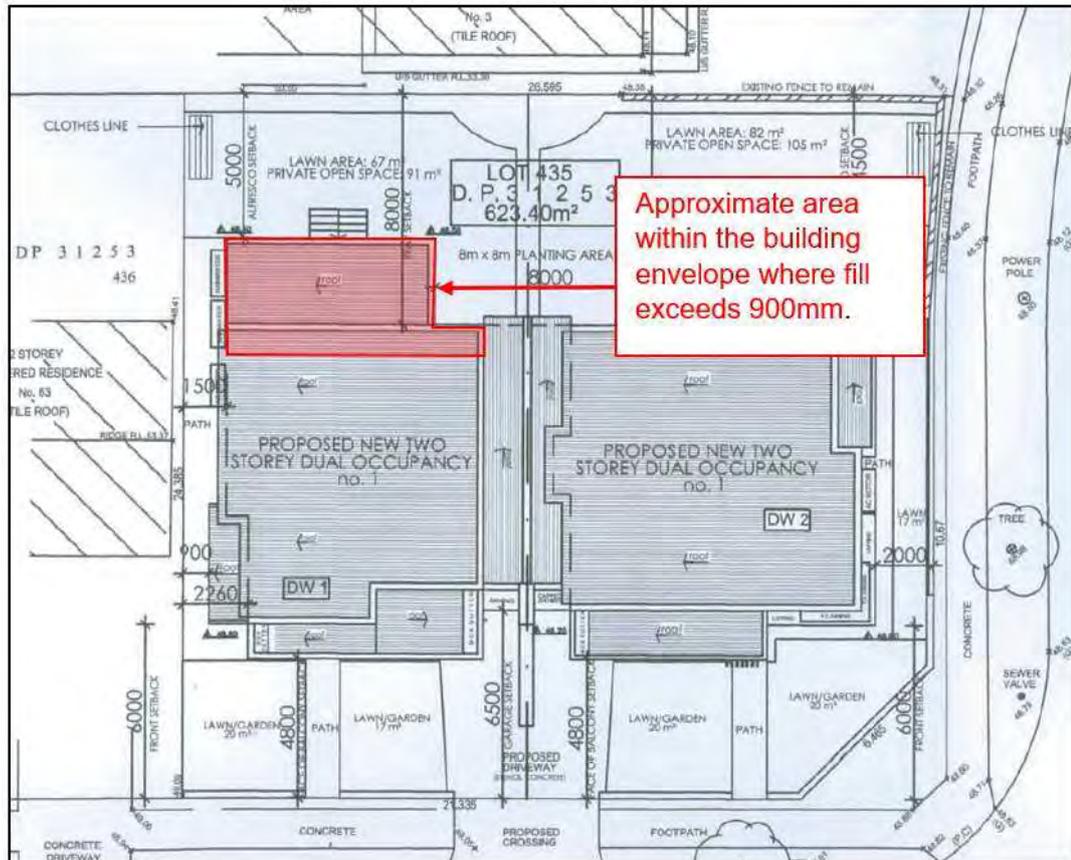
- 1. Topography and Excavation:** Section 2.6.2 of Part 3.3 of the DCP2014 prescribes development controls for topography and excavation. Specifically, DCP2014 stipulates the following:

- b. The area under the dwelling footprint may be excavated or filled so long as:*
 - ii. the depth of excavation is limited to 1.2m maximum; and*
 - iii. the maximum height of fill is 900mm.*

With reference to the above development control, an assessment of the proposal has revealed the maximum fill within the building footprint is approximately 1m, which exceeds the maximum requirement by 100mm. This occurs within the north-western corner of Dwelling 1 where the living room and alfresco area is proposed to be located – see diagram below.

ITEM 2 (continued)

ATTACHMENT 4



Diagrams showing the small portion of the building footprint where non-compliance occurs.

Source: Applicant DA plans, edited.

ITEM 2 (continued)

ATTACHMENT 4

Although not complying with the above controls for fill, the non-compliance with Council's numerical control can be supported as the proposal is still capable of meeting the relevant objectives of the control for the following reasons:

- The 100mm of excess fill will occur only within a small portion of the building footprint, predominately within the alfresco area of Dwelling 1.
- The majority of the development achieves compliance with this development control as the height of fill generally does not exceed 900mm across the building footprint.
- The variance in the amount of fill will not result in an unacceptable loss of privacy for neighbours. It is noted that the alfresco area incorporates a solid wall to the north-western elevation, which will mitigate any potential for overlooking to the adjoining property at 63 Elliot Avenue. Additionally, an existing privacy screen is in place at on top of the existing rear north-eastern boundary fence (which is proposed to be retained). This privacy screen is considered to adequately mitigate the potential for direct overlooking.
- The additional fill does not result in any non-compliances with Council's building height controls. Additionally, the proposal maintains compliance with Council's overshadowing controls despite the minor fill non-compliance.
- Due to the relatively minor variance with the development control relating to fill, the proposal is not considered to result in an outcome that is unsympathetic with the natural topography of the local area.

Given the above, the proposed non-compliance with the topography and excavation control contained within DCP2014 is considered justifiable in this instance, particularly having regard to the provisions of Section 79C(3A)(b) of the Act.

- 2. Front Setbacks:** Section 2.9.1(a) in Part 3.3 of the DCP2014 prescribes that dwellings are generally to be setback 6m from the street front boundary. The DCP2014 notes that setbacks are measured from the allotment boundary to the outside wall, or the outside face of any deck balcony or the like, or to the supporting posts of a carport or verandah.

Furthermore, Section 2.9.1(f) in Part 3.3 prescribes that the outside face of a wall built above a garage which faces the street is to align with the outside face of the garage wall below.

An assessment of the proposed development has revealed that the proposal is at variance with the above-mentioned development control for the following reasons:

ITEM 2 (continued)

ATTACHMENT 4

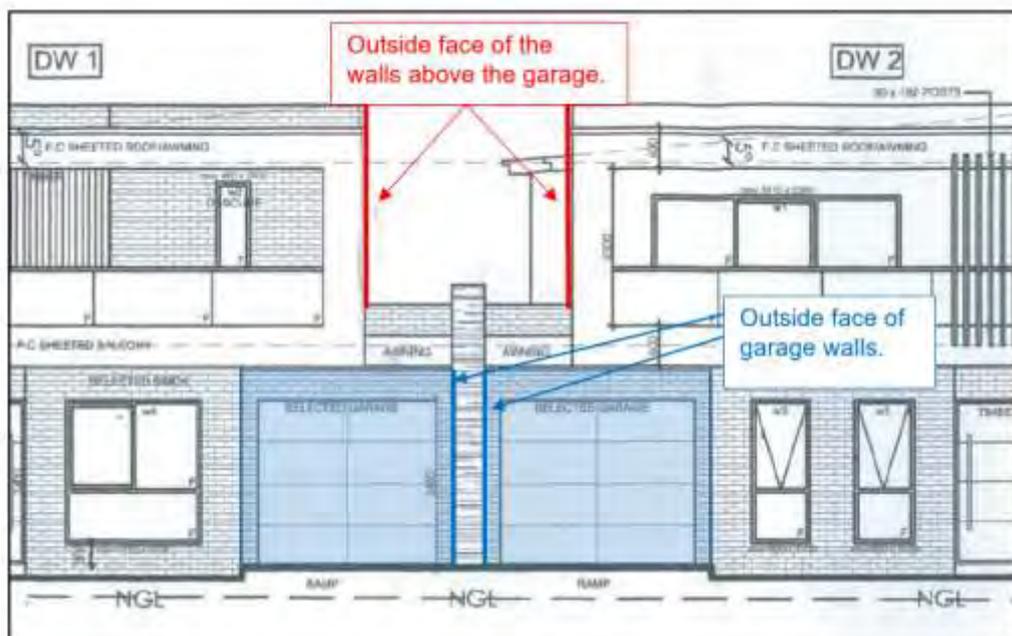
Front Setback

Although the ground floor level of the development complies with the minimum 6m front setback requirement of DCP 2014, a 1.2m encroachment into the front setback is proposed at the first level balconies to Dwelling 1 and Dwelling 2, resulting in a 4.8m front setback (drawing showing diagrammatical explanation of this non-compliance provided in the Submissions section, earlier in this report).

As discussed in the Submissions section, it is agreed that the proposed front setback non-compliance would result in a development that is inconsistent with the character of the streetscape, which in this locality generally features consistent front setbacks (of 6m or greater). Accordingly, it is recommended that the proposed non-compliance be addressed via a condition of consent (Deferred Commencement).

Alignment of garage walls and the outside face of the walls immediately above.

Ryde DCP 2014 contains a requirement that the outside face of the walls above a garage are to align with the outside face of the garage wall below. In the subject proposal, the outside face of the walls above the garages do not align with the outside face of the garage wall below. This occurs where the first floor component of each dwelling is separated above the garage so as to reduce visual bulk when viewed from Elliot Avenue. See following drawing.



This diagram demonstrates how the outside face of the walls built above the garages do not align with the outside face of the garage wall below. However, given this enables separation of the building mass, it is considered to be a positive outcome from a design perspective.

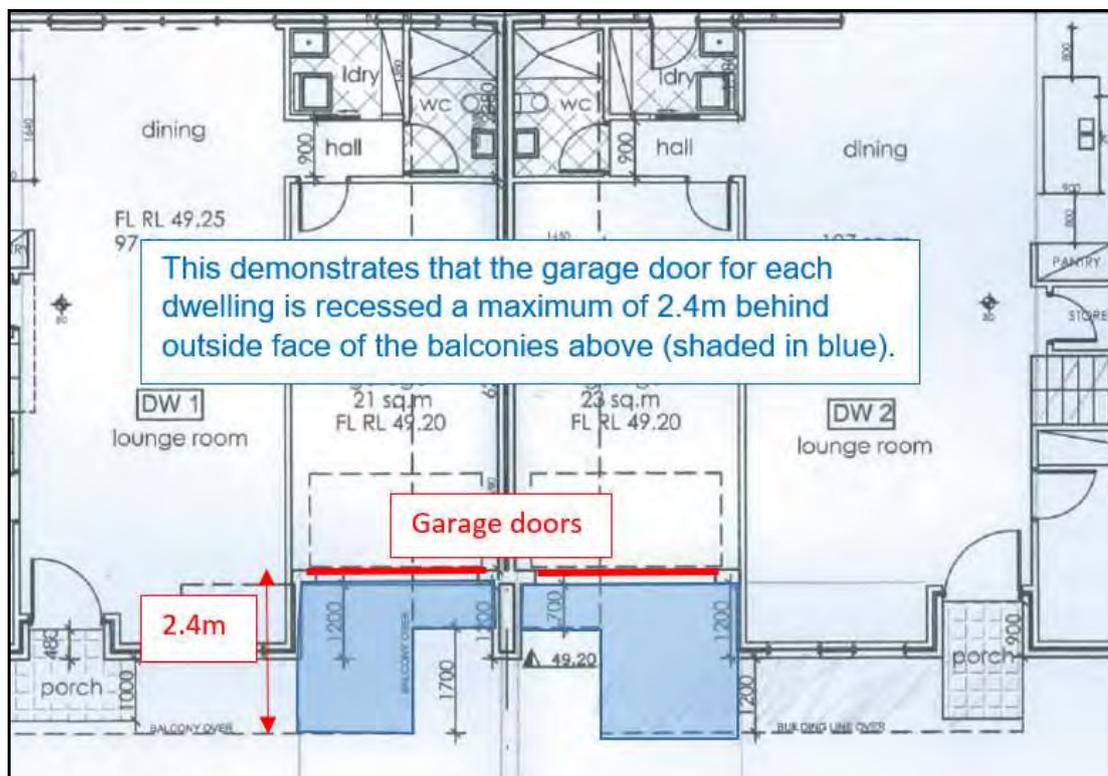
Source: South-West Elevation plan by applicant, edited for diagrammatic purposes by CPS.

ITEM 2 (continued)

ATTACHMENT 4

The development is considered to be acceptable despite this non-compliance for the following reasons:

- The proposed dual occupancy development has been designed so as to reduce the bulk of the built form. In particular, this has been achieved by separating the first floor component of the development so that the dwellings will be attached via a party wall at the ground floor only. Subsequently, this has resulted in a misalignment of the outside face of the walls above the garage and the outside face of the garage wall below. See following drawing.



This diagram demonstrates that the garage door for each dwelling is recessed a maximum of 2.4 behind the balconies above.

Source: Ground Floor plan by applicant, edited for diagrammatic purposes by CPS

- Despite the non-compliance with this development control, the proposed built form of the dual occupancy is considered to make a positive contribution to the existing and emerging streetscape character. This is because the overall bulk of the development has been substantially reduced by separating the first floor component of each dwelling.
- The garages are not considered to be prominent elements within the streetscape as they are setback at least 1m from the front building elevation and have been incorporated into the design of the dwelling so as to ensure that they are not the dominant feature of the building when viewed from the street.

ITEM 2 (continued)

ATTACHMENT 4

Although not complying with the prescribed front setback controls, the development is considered to be acceptable despite the non-compliance with the requirement that the outside face of the wall is to align with that of the garage below.

The development is not considered acceptable in terms of non-compliance with the 6m front setback control (to the first floor balconies), and this non-compliance is proposed to be addressed via a (Deferred Commencement) condition of consent as discussed throughout this report.

- 3. Car Parking and Access.** Section 2.11 of Part 3.3 prescribes that the garage doors for each dwelling are not to be recessed more than 300mm behind the outside face of the building element immediately above.

An assessment has revealed the location of the garages for the dual occupancy are at variance with the above-mentioned development control as the garage doors for each dwelling are recessed up to 2m behind the outside face of the building element immediately above, i.e. the cantilevered balconies to the front façade – see drawing above.

Although not complying with the prescribed controls relating to the siting of garages, the non-compliance with Council's development control can be supported as the proposal is capable of meeting the relevant objectives contained within the DCP2014. The reasoning for this is explained below:

- The garages are not considered to be prominent elements when viewed from the front building elevation. This is because the garages have been incorporated into the design of the dwelling so as to ensure that they are not the predominant feature when viewed from the street. Furthermore, the garages are located at least 1m behind the front building elevation, as prescribed by Section 2.11 of the DCP2014.
- This non-compliance occurs as a result of the cantilevered balconies located on the façade of Dwelling 1 and Dwelling 2, as such does not create the illusion of an undercroft within the front setback. The balconies proposed are generally light weight in design, and sufficiently open so as not to impede on the front setback area.

Non Compliances / Issues to be resolved via conditions

- 1. Fences.** Section 2.16 in Part 3.3 of the DCP2014 seeks to ensure that front fences contribute to the streetscape appearance. In particular, fences may have a maximum height of 1.8m so long as the fence is an open fence with an openness ratio of at least 50%. The fence may have a solid base so long as the base is no higher than 900mm. The submitted elevation plans indicate the front fence is not 50% open where the height exceeds 1m. Accordingly, the following condition of consent is recommended to ensure front fencing complies with the requirements of DCP2014.

ITEM 2 (continued)

ATTACHMENT 4

Fencing. *Fencing is to be in accordance with Council's Development Control Plan 2014 and details are to be submitted to and approved by the Principal Certifying Authority prior to the issue of a **Construction Certificate**.*

10. Likely impacts of the Development

(a) Built Environment

A thorough assessment of the impacts of the proposed development on the built environment has been undertaken as part of the assessment of the proposed development. This has included a compliance check against all relevant planning controls, referral of the proposal to relevant technical officers within Council, and a detailed assessment report.

The assessment of the proposal has revealed that it is unlikely to adversely impact on the existing character of the locality in terms of bulk and scale. Whilst it is acknowledged that the scale and built form density of the subject site will increase as a result of the development, the proposed dual occupancy has been appropriately designed so that the building has a similar appearance of two detached dwelling houses.

It is also noted that the primary controls governing the scale of the proposed development relating to building height, floor space ratio and setbacks contained within the DCP2014 have all been achieved. Furthermore, the objectives of the R2 Low Density Residential Zone as contained within the LEP2014 have also been achieved.

Having regard to the above, the proposed development is considered unlikely to significantly impact the streetscape or surrounding development.

(b) Natural Environment

The proposed development is located in an established urban area, and as such is not considered to result in any significant impacts on the natural environment. Imposition of Council's standard conditions of consent, relating to protection of the natural environment, are considered to satisfactorily mitigate any adverse impact the proposed demolition and construction of the proposed dual occupancy.

11. Suitability of the site for the development

A review of Council's map of Environmentally Sensitive Areas (held on file) identifies no constraints affecting the subject property other than those already identified within this report.

ITEM 2 (continued)

ATTACHMENT 4

12. The Public Interest

The proposed development is considered satisfactory having regard to the objectives and requirements of the LEP2014 and DCP2014. Any potential impact on adjoining properties has been considered and addressed within this report. As such it is considered that the proposed development is in the public interest.

13. Consultation – Internal and External

Internal Referrals

Senior Development Engineer: The proposed development and revised plans were referred to Council's Senior Development Engineer who has raised no objection to the proposal subject to appropriate conditions of consent.

External Referrals

None required.

14. Critical Dates

There are no critical dates or deadlines to be met.

15. Financial Impact

Adoption of the option(s) outlined in this report will have no financial impact.

16. Other Options

None relevant.

17. Conclusion

The proposed development has been assessed using the heads of consideration listed in Section 79 of the Act and is generally considered to be satisfactory for approval.

Although areas of non-compliance with DCP2014 were identified, these were either considered to be justifiable given the circumstances of the subject site and the development proposed, or alternatively addressed via imposition of consent conditions.

The proposed dual occupancy development is considered to result in a development that is consistent with the objectives of the R2 Low Density Residential zone. The proposal contributes to the delivery of a variety of housing types to meet the needs of the community within the R2 zone through the provision of a dual occupancy development in an area characterised by mostly single dwelling houses.

ITEM 2 (continued)

ATTACHMENT 4

The proposal has attracted a number of submissions from the notification of DA. A number of submissions raised issue with the proposed dual occupancy being out of character with the 'Dress Circle Estate' and setting precedence for future development of this type and scale. However, the housing typology within the streets of the 'Dress Circle Estate' do not provide a sense of cohesion that enables one to view and appreciate the precinct as a good example of a c1960s estate subdivision that is readily identifiable and interpreted as such. This is demonstrated in the 'submissions section' of the report which included examples of the earlier housing forms which have been modified through alterations and additions, as well cosmetic changes such as rendering, re-cladding and newly constructed dwellings/dual occupancies which incorporated modern and contemporary designs.

The other issues raised in the submission with regard to traffic and parking, impacts on utility services, visual privacy, and overshadowing were not considered to be significant, nor necessitate any design amendments to the building.

Therefore, the issues of concern are not considered sufficient to warrant further design amendments or justify refusal of the proposal.

On the above basis, LDA2016/0197 at 1 Lumsdaine Avenue, East Ryde is recommended for approval, subject to conditions.

ITEM 2 (continued)

ATTACHMENT 4

ATTACHMENT 1

DRAFT CONDITIONS OF CONSENT
1 LUMSDAINE STREET EAST RYDE
LDA2016/197

DEFERRED COMMENCEMENT

The following are the Deferred Commencement condition(s) imposed pursuant to Section 80(3) of the Environmental Planning & Assessment Act 1979.

1. **Plan Amendments.** The submission of amended plans for the approval of the Acting Director – City Strategy & Planning which provide the following plan amendment:
 - A minimum 6m front setback is to be provided from Elliott Ave to all parts of the building, including balconies, as prescribed in Ryde DCP 2014. This shall be achieved without any reduction to the side or rear setbacks as currently shown.

The conditions in the following sections of this consent shall apply upon satisfactory compliance with the above requirements and receipt of appropriate written confirmation from Council.

GENERAL

The following conditions of consent included in this Part identify the requirements, terms and limitations imposed on this development.

1. **Approved Plans/Documents.** Except where otherwise provided in this consent, the development is to be carried out strictly in accordance with the following plans (stamped approved by Council) and support documents:

Document Description	Date	Plan No/Reference
<i>Architectural plans and documents prepared by Champion Homes</i>		
Site Plan	04/04/2016	Sheet 2/15
Ground Floor Plan	04/04/2016	Sheet 3/15
1 st Floor Plan	04/04/2016	Sheet 4/15
Roof Plan	04/04/2016	Sheet 5/15
South-west elevation North-west elevation Front fence (Elliot Avenue)	04/04/2016	Sheet 6/15
North-east elevation South-east elevation	04/04/2016	Sheet 7/15

ITEM 2 (continued)

ATTACHMENT 4

Side fence (Lumsdaine Avenue)		
South-east elevation North-west elevation	04/04/2016	Sheet 8/15
Typical Section a-a	04/04/2016	Sheet 9/15
Erosion, Soil & Sediment Control Plan Construction Site Management Plan Site Works Plan	04/04/2016	Sheet 10/15
Demolition Plan	04/04/2016	Sheet 11/15
Proposed Subdivision Plan	04/04/2016	Sheet 12/15
Landscape Plan	04/04/2016	Sheet 13/15
<i>Specialist reports and documents</i>		
Drainage Concept Plan & Details	27/04/2015	Sheet 1 of 1, Revision A Prepared by KD Stormwater Pty Ltd.

2. **Building Code of Australia.** All building works approved by this consent must be carried out in accordance with the requirements of the Building Code of Australia.
3. **BASIX.** Compliance with all commitments listed in BASIX Certificate(s) numbered 717590S & 717584S dated 5 April 2016.
4. **Support for neighbouring buildings.** If the development involves excavation that extends below the base of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the person's own expense:
 - (a) Protect and support the adjoining premises from possible damage from the excavation, and
 - (b) Where necessary, underpin the adjoining premises to prevent any such damage, in accordance with relevant Australian Standards.

Protection of Adjoining and Public Land

5. **Hours of work.** Building activities (including demolition) may only be carried out between 7.00am and 7.00pm Monday to Friday (other than public holidays) and between 8.00am and 4.00pm on Saturday. No building activities are to be carried out at any time on a Sunday or a public holiday.

ITEM 2 (continued)

ATTACHMENT 4

6. Hoardings.

(a) A hoarding or fence must be erected between the work site and any adjoining public place.

(b) Any hoarding, fence or awning erected pursuant this consent is to be removed when the work has been completed.

7. Illumination of public place. Any public place affected by works must be kept lit between sunset and sunrise if it is likely to be hazardous to persons in the public place.

8. Development to be within site boundaries. The development must be constructed wholly within the boundaries of the premises. No portion of the proposed structure shall encroach onto the adjoining properties. Gates must be installed so they do not open onto any footpath.

9. Public space. The public way must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances, without prior approval from Council.

10. Public Utilities. Compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, RTA, Council etc) in relation to any connections, works, repairs, relocation, replacements and/or adjustments to public infrastructure or services affected by the development.

11. Roads Act. Any works performed in, on or over a public road pursuant to this consent must be carried out in accordance with this consent and with the Road Opening Permit issued by Council as required under section 139 of the Roads Act 1993.

Engineering Conditions

12. Design and Construction Standards. All engineering plans and work shall be carried out in accordance with the relevant Australian Standard *and City of Ryde Development Control Plan 2014 Section 8* except as amended by other conditions.

13. Service Alterations. All mains, services, poles, etc., which require alteration shall be altered at the applicant's expense.

ITEM 2 (continued)

ATTACHMENT 4

- 14. Restoration.** Public areas must be maintained in a safe condition at all times. Restoration of disturbed road and footway areas for the purpose of connection to public utilities will be carried out by Council following submission of a permit application and payment of appropriate fees. Repairs of damage to any public stormwater drainage facility will be carried out by Council following receipt of payment. Restoration of any disused gutter crossings will be carried out by Council following receipt of the relevant payment.
- 15. Road Activity Permits.** To carry out work in, on or over a public road, the Consent of Council is required as per the Roads Act 1993. Prior to issue of a Construction Certificate and commencement of any work, permits for the following activities, as required and as specified in the form "*Road Activity Permits Checklist*" (available from Councils website) are to be obtained and copies submitted to Council with the *Notice of Intention to Commence Work*.
- a) Road Use Permit - The applicant shall obtain a Road Use Permit where any area of the public road or footpath is to be occupied as construction workspace, other than activities covered by a Road Opening Permit or if a Work Zone Permit is not obtained. The permit does not grant exemption from parking regulations.
 - b) Work Zone Permit - The applicant shall obtain a Work Zone Permit where it is proposed to reserve an area of road pavement for the parking of vehicles associated with a construction site. Separate application is required with a Traffic Management Plan for standing of construction vehicles in a trafficable lane. A Roads and Maritime Services Work Zone Permit shall be obtained for State Roads.
 - c) Road Opening Permit - The applicant shall apply for a road-opening permit and pay the required fee where a new pipeline is to be constructed within or across the road pavement or footpath. Additional road opening permits and fees are required where there are connections to public utility services (e.g. telephone, telecommunications, electricity, sewer, water or gas) within the road reserve. No opening of the road or footpath surface shall be carried out without this permit being obtained and a copy kept on the site.
 - d) Elevated Tower, Crane or Concrete Pump Permit - The applicant shall obtain an Elevated Tower, Crane or Concrete Pump Permit where any of these items of plant are placed on Council's roads or footpaths. This permit is in addition to either a Road Use Permit or a Work Zone Permit.

ITEM 2 (continued)

ATTACHMENT 4

- e) Crane Airspace Permit - The applicant shall obtain a Crane Over Airspace Permit where a crane on private land is operating in the air space of a Council road or footpath. Approval from the Roads and Maritime Services for works on or near State Roads is required prior to lodgement of an application with Council. A separate application for a Work Zone Permit is required for any construction vehicles or plant on the adjoining road or footpath associated with use of the crane.
- f) Hoarding Permit - The applicant shall obtain a Hoarding Permit and pay the required fee where erection of protective hoarding along the street frontage of the property is required. The fee payable is for a minimum period of 6 months and should the period is extended an adjustment of the fee will be made on completion of the works. The site must be fenced to a minimum height of 1.8 metres prior to the commencement of construction and throughout demolition and/or excavation and must comply with WorkCover (New South Wales) requirements.
- g) Skip Bin on Nature Strip - The applicant shall obtain approval and pay the required fee to place a Skip Bin on the nature strip where it is not practical to locate the bin on private property. No permit will be issued to place skips within the carriageway of any public road.

DEMOLITION CONDITIONS

The following conditions are imposed to ensure compliance with relevant legislation and Australian Standards, and to ensure that the amenity of the neighbourhood is protected.

A Construction Certificate is not required for Demolition.

16. Provision of contact details/neighbour notification. At least 7 days before any demolition work commences:

- (a) Council must be notified of the following particulars:
 - (i) The name, address, telephone contact details and licence number of the person responsible for carrying out the work; and
 - (ii) The date the work is due to commence and the expected completion date
- (b) A written notice must be placed in the letter box of each property identified in the attached locality plan advising of the date the work is due to commence.

ITEM 2 (continued)

ATTACHMENT 4

17. Compliance with Australian Standards. All demolition work is to be carried out in accordance with the requirements of the relevant Australian Standard(s).

18. Excavation

- (a) All excavations and backfilling associated with the development must be executed safely, properly guarded and protected to prevent the activities from being dangerous to life or property and, in accordance with the design of a structural engineer.
- (b) A Demolition Work Method Statement must be prepared by a licensed demolisher who is registered with the Work Cover Authority, in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version. The applicant must provide a copy of the Statement to Council prior to commencement of demolition work.

19. Asbestos. Where asbestos is present during demolition work, the work must be carried out in accordance with the guidelines for asbestos work published by WorkCover New South Wales.

20. Asbestos – disposal. All asbestos wastes must be disposed of at a landfill facility licensed by the New South Wales Environmental Protection Authority to receive that waste. Copies of the disposal dockets must be retained by the person performing the work for at least 3 years and be submitted to Council on request.

21. Waste management plan. Demolition material must be managed in accordance with the approved waste management plan.

22. Disposal of demolition waste. All demolition waste must be transported to a facility or place that can lawfully be used as a waste facility for those wastes.

PRIOR TO CONSTRUCTION CERTIFICATE

A Construction Certificate must be obtained from a Principal Certifying Authority to carry out the relevant building works approved under this consent. All conditions in this Section of the consent must be complied with before a Construction Certificate can be issued.

Council Officers can provide these services and further information can be obtained from Council's Customer Service Centre on 9952 8222.

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Unless an alternative approval authority is specified (eg Council or government agency), the Principal Certifying Authority is responsible for determining compliance with the conditions in this Section of the consent.

Details of compliance with the conditions, including plans, supporting documents or other written evidence must be submitted to the Principal Certifying Authority.

23. **Section 94.** A monetary contribution for the services in Column A and for the amount in Column B shall be made to Council as follows:

A – Contribution Type	B – Contribution Amount
Community & Cultural Facilities	\$4,227.74
Open Space & Recreation Facilities	\$10,407.85
Civic & Urban Improvements	\$3,539.91
Roads & Traffic Management Facilities	\$482.86
Cycleways	\$301.62
Stormwater Management Facilities	\$958.70
Plan Administration	\$81.32
The total contribution is	\$20,000.00

These are contributions under the provisions of Section 94 of the Environmental Planning and Assessment Act, 1979 as specified in Section 94 Development Contributions Plan 2007 Interim Update (2014), effective from 10 December 2014.

The above amounts are current at the date of this consent, and are subject to **quarterly** adjustment for inflation on the basis of the contribution rates that are applicable at time of payment. Such adjustment for inflation is by reference to the Consumer Price Index published by the Australian Bureau of Statistics (Catalogue No 5206.0) – and may result in contribution amounts that differ from those shown above.

The contribution must be paid **prior to the issue of any Construction Certificate**. Payment may be by EFTPOS (debit card only), CASH or a BANK CHEQUE made payable to the **City of Ryde**. Personal or company cheques will not be accepted.

A copy of the Section 94 Development Contributions Plan may be inspected at the Ryde Planning and Business Centre, 1 Pope Street Ryde (corner Pope and Devlin Streets, within Top Ryde City Shopping Centre) or on Council's website <http://www.ryde.nsw.gov.au>.

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- 24. Compliance with Australian Standards.** The development is required to be carried out in accordance with all relevant Australian Standards. Details demonstrating compliance with the relevant Australian Standard are to be submitted to the Principal Certifying Authority prior to the issue of the **Construction Certificate**.
- 25. Structural Certification.** The applicant must engage a qualified practising structural engineer to provide structural certification in accordance with relevant BCA requirements prior to the release of the **Construction Certificate**.
- 26. Security deposit.** The Council must be provided with security for the purposes of section 80A(6) of the *Environmental Planning and Assessment Act 1979* in a sum determined by reference to Council's Management Plan prior to the release of the **Construction Certificate**.
- 27. Fees.** The following fees must be paid to Council in accordance with Council's Management Plan prior to the release of the **Construction Certificate**:
- (a) Infrastructure Restoration and Administration Fee
 - (b) Enforcement Levy
- 28. Alignment Levels.** The applicant is to apply to Council, pay the required fee, and have issued site specific alignment levels by Council prior to the issue of the **Construction Certificate**.
- 29. Long Service Levy.** Documentary evidence of payment of the Long Service Levy under Section 34 of the Building and Construction Industry Long Service Payments Act 1986 is to be submitted to the Principal Certifying Authority prior to the issuing of the **Construction Certificate**.
- 30. Sydney Water Tap in™.** The approved plans must be submitted to the Sydney Water Tap in™ on-line service to determine whether the development will affect any Sydney Water sewer or water main, stormwater drains and/or easement, and if further requirements need to be met.

The Sydney Water Sydney Water Tap in™ service provides 24/7 access to a range of services, including:

- building plan approvals
- connection and disconnection approvals
- diagrams
- trade waste approvals

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- pressure information
- water meter installations
- pressure boosting and pump approvals
- changes to an existing service or asset, eg relocating or moving an asset.

Sydney Water's Tap in™ online service is available at:
<https://www.sydneywater.com.au/SW/plumbing-building-developing/building/sydney-water-tap-in/index.htm>

31. **Reflectivity of materials.** Roofing and other external materials must be of low glare and reflectivity. Details of finished external surface materials, including colours and texture must be provided to the Principal Certifying Authority prior to the release of the **Construction Certificate**.
32. **Acoustic amenity/privacy.** The operating noise level of air conditioners, swimming pool pumps and other mechanical services must not exceed the background noise level by more than 5dB(A). Details of any proposed air-conditioning are to be submitted and approved by the Principal Certifying Authority prior to the issue of a Construction Certificate
33. **Fencing.** Fencing is to be in accordance with Council's Development Control Plan and details of compliance are to be provided in the plans for the **Construction Certificate**.
34. **Boundary Levels.** The levels of the street alignment shall be obtained from Council. These levels shall be incorporated into the design of the internal driveway, carparking areas, landscaping and stormwater drainage plans and must be obtained prior to the issue of the construction certificate.
35. **Public Utilities.** Compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, RMS, Council etc) in relation to any connections, works, repairs, relocation, replacements and/or adjustments to public infrastructure or services affected by the development. In particular, the development shall comply with the following requirements of Ausgrid:
1. The development should comply with the clearance requirements as specified in Section 13 of Ausgrid's Network Standard NS220.

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2. The horizontal clearance between the existing 11 kV overhead mains and those parts of any structure of the building accessible to person should be greater than 4m (with the consideration of blow out).
3. The vertical clearance between existing 11 kV overhead main and those parts of any structure of the building accessible to person should be greater than 4.5m.
4. If there is any openable or fixed windows or glass block work or similar irrespective of fire rating, they are not permitted within 3 metres in any direction of the existing transformer tank, unless fire resistance level of 120/120/120 non-ignitable blast -resisting barrier is provided.
5. Ausgrid requires existing transformer tank to be separated from building ventilation system air intake and exhaust duct openings, by not less than 6 metres. This applies irrespective of whether the building ducted ventilation system is mechanical or natural and irrespective of whether or not fire dampers are installed in the ducts.
6. The existing transformer will have noise all the time and therefore, the developer should be aware of this issue and provide enough clearance from the existing transformer in order maintain a tolerable noise level (by human) all the time (day and night). Ausgrid will not be responsible for noise interference complaints by the resident in the future, due to the not sufficient clearance.

Prior to the issue of any Construction Certificate, the applicant is to provide verification from Ausgrid that the development complies with the above requirements.

Engineering Conditions

36. **Boundary Levels.** The levels of the street alignment shall be obtained from Council. These levels shall be incorporated into the design of the internal driveway, carparking areas, landscaping and stormwater drainage plans and must be obtained prior to the issue of the construction certificate.
37. **Driveway Grades.** The maximum grade of all internal driveways and vehicular ramps shall be 1 in 4 and in accordance with the relevant section of AS 2890.1. The maximum change of grade permitted is 1 in 8 (12.5%) for summit grade changes and 1 in 6.7 (15%) for sag grade changes. Any transition grades shall have a minimum length of 2.0m. The driveway design is to incorporate Council's issued footpath and gutter crossing levels where they are required as a condition of consent.

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A driveway plan, longitudinal section from the centreline of the public road to the garage floor, and any necessary cross-sections clearly demonstrating that the driveway complies with the above details, and that vehicles may safely manoeuvre within the site without scraping shall be submitted with the Construction Certificate application.

- 38. On-Site Stormwater Detention.** Stormwater runoff from all impervious areas shall be collected and piped by gravity flow to a suitable on-site detention system in accordance with City of Ryde, Development Control Plan 2014: - Part 8.2; Stormwater & Floodplain Management. The minimum capacity of the piped drainage system shall be equivalent to the collected runoff from a 100 year average recurrence interval 5 minute storm event.

Detailed engineering plans including certification from an accredited hydraulic engineer indicating compliance with this condition & DCP 2014 are to be submitted with the Construction Certificate application.

- 39. Water Tank First Flush.** A first flush mechanism is to be designed and constructed with the water tank system. Details of the first flush system are to be submitted with the construction certificate application.

- 40. Erosion and Sediment Control Plan.** An *Erosion and Sediment Control Plan (ESCP)* shall be prepared by a suitably qualified consultant in accordance with the guidelines set out in the manual "*Managing Urban Stormwater, Soils and Construction*" prepared by the Landcom. These devices shall be maintained during the construction works and replaced where considered necessary.

The following details are to be included in drawings accompanying the *Erosion and Sediment Control Plan*

- a) Existing and final contours
- b) The location of all earthworks, including roads, areas of cut and fill
- c) Location of all impervious areas
- d) **Location and design criteria of erosion and sediment control structures,**
- e) Location and description of existing vegetation
- f) Site access point/s and means of limiting material leaving the site
- g) Location of proposed vegetated buffer strips
- h) Location of critical areas (drainage lines, water bodies and unstable slopes)
- i) Location of stockpiles

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- j) Means of diversion of uncontaminated upper catchment around disturbed areas
- k) Procedures for maintenance of erosion and sediment controls
- l) Details for any staging of works
- m) Details and procedures for dust control.

PRIOR TO COMMENCEMENT OF CONSTRUCTION

Prior to the commencement of any demolition, excavation, or building work the following conditions in this Part of the Consent must be satisfied, and all relevant requirements complied with at all times during the operation of this consent.

Prescribed Conditions

41. Site Sign

- (a) A sign must be erected in a prominent position on site, prior to the commencement of construction:
 - (i) showing the name, address and telephone number of the Principal Certifying Authority for the work,
 - (ii) showing the name of the principal contractor (if any) or the person responsible for the works and a telephone number on which that person may be contacted outside working hours, and
 - (iii) stating that unauthorised entry to the work site is prohibited.
- (b) Any such sign must be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

42. Residential building work – insurance. In the case of residential building work for which the Home Building Act 1989 requires there to be a contract of insurance in force in accordance with Part 6 of that Act, that such a contract of insurance is in force before any building work authorised to be carried out by the consent commences.

43. Residential building work – provision of information. Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the PCA has given the Council written notice of the following information:

- (a) in the case of work for which a principal contractor is required to be appointed:
 - (i) the name and licence number of the principal contractor; and
 - (ii) the name of the insurer by which the work is insured under Part 6 of that Act.

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- (b) in the case of work to be done by an owner-builder:
 - (i) the name of the owner-builder; and
 - (ii) if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

If any of the above arrangements are changed while the work is in progress so that the information notified under this condition becomes out of date, further work must not be carried out unless the PCA for the development to which the work relates has given the Council written notice of the updated information (if Council is not the PCA).

44. Excavation adjacent to adjoining land

- (a) If an excavation extends below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must, at their own expense, protect and support the adjoining premises from possible damage from the excavation, and where necessary, underpin the adjoining premises to prevent any such damage.
- (b) The applicant must give at least seven (7) days notice to the adjoining owner(s) prior to excavating.
- (c) An owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this condition, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

45. Safety fencing. The site must be fenced prior to the commencement of construction, and throughout demolition and/or excavation and must comply with WorkCover New South Wales requirements and be a minimum of 1.8m in height.

Engineering Conditions

46. Sediment and Erosion Control. The applicant shall install appropriate sediment control devices in accordance with an approved plan **prior** to any earthworks being carried out on the site. These devices shall be maintained during the construction period and replaced where considered necessary. Suitable erosion control management procedures shall be practiced. This condition is imposed in order to protect downstream properties, Council's drainage system and natural watercourses from sediment build-up transferred by stormwater runoff from the site.

47. Compliance Certificate. A Compliance Certificate should be obtained confirming that the constructed erosion and sediment control measures comply with the construction plan and City of Ryde, Development Control Plan 2014: - Part 8.1; Construction Activities.

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DURING CONSTRUCTION

Unless otherwise specified, the following conditions in this Part of the consent must be complied with at all times during the construction period. Where applicable, the requirements under previous Parts of the consent must be implemented and maintained at all times during the construction period.

- 48. Critical stage inspections.** The person having the benefit of this consent is required to notify the Principal Certifying Authority during construction to ensure that the critical stage inspections are undertaken, as required under clause 162A(4) of the *Environmental Planning and Assessment Regulation 2000*.
- 49. Survey of footings/walls.** All footings and walls within 1 metre of a boundary must be set out by a registered surveyor. On commencement of brickwork or wall construction a survey and report must be prepared indicating the position of external walls in relation to the boundaries of the allotment.
- 50. Sediment/dust control.** No sediment, dust, soil or similar material shall leave the site during construction work.
- 51. Use of fill/excavated material.** Excavated material must not be reused on the property except as follows:
- (a) Fill is allowed under this consent;
 - (b) The material constitutes Virgin Excavated Natural Material as defined in the *Protection of the Environment Operations Act 1997*;
 - (c) the material is reused only to the extent that fill is allowed by the consent.
- 52. Construction materials.** All materials associated with construction must be retained within the site.
- 53. Site Facilities**
The following facilities must be provided on the site:
- (a) toilet facilities in accordance with WorkCover NSW requirements, at a ratio of one toilet per every 20 employees, and
 - (b) a garbage receptacle for food scraps and papers, with a tight fitting lid.
- 54. Site maintenance**
The applicant must ensure that:
- (a) approved sediment and erosion control measures are installed and maintained during the construction period;
 - (b) building materials and equipment are stored wholly within the work site unless an approval to store them elsewhere is held;

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(c) the site is clear of waste and debris at the completion of the works.

55. Work within public road. At all times work is being undertaken within a public road, adequate precautions shall be taken to warn, instruct and guide road users safely around the work site. Traffic control devices shall satisfy the minimum standards outlined in Australian Standard No. AS1742.3-1996 "Traffic Control Devices for Work on Roads".

56. Drop-edge beams. Perimeters of slabs are not to be visible and are to have face brickwork from the natural ground level.

PRIOR TO OCCUPATION CERTIFICATE

An Occupation Certificate must be obtained from a Principal Certifying Authority prior to commencement of occupation of any part of the development, or prior to the commencement of a change of use of a building.

Prior to issue, the Principal Certifying Authority must ensure that all works are completed in compliance with the approved construction certificate plans and all conditions of this Development Consent.

Unless an alternative approval authority is specified (eg Council or government agency), the Principal Certifying Authority is responsible for determining compliance with conditions in this Part of the consent. Details to demonstrate compliance with all conditions, including plans, documentation, or other written evidence must be submitted to the Principal Certifying Authority.

57. BASIX. Compliance with all commitments listed in BASIX Certificate(s) numbered 717590S & 717584S dated 05 April 2016.

58. Landscaping. All landscaping works approved by condition 1, as modified by this consent, are to be completed prior to the issue of the final **Occupation Certificate**.

59. Sydney Water – Section 73. A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. Application must be made through an authorised Water Servicing Co-ordinator. Please refer to the Building Developing and Plumbing section of the web site www.sydneywater.com.au then refer to "Water Servicing Coordinator" under "Developing Your Land" or telephone 13 20 92 for assistance.

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Following application a “Notice of Requirements” will advise of water and sewer infrastructure to be built and charges to be paid. Please make early contact with the Co-ordinator, since building of water/sewer infrastructure can be time consuming and may impact on other services and building, driveway or landscape design.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Interim/Final Occupation Certificate.

- 60. Letterboxes and street/house numbering.** All letterboxes and house numbering are to be designed and constructed to be accessible from the public way. Council must be contacted in relation to any specific requirements for street numbering.

Engineering Conditions

- 61. Disused Gutter Crossing.** All disused gutter and footpath crossings shall be removed and the kerb and footpath reinstated to the satisfaction of Council.
- 62. Vehicle Footpath Crossings.** Concrete footpath crossings shall be constructed at all locations where vehicles cross the footpath, to protect it from damage resulting from the vehicle traffic. The location, design and construction shall conform to the requirements of Council. Crossings are to be constructed in plain reinforced concrete and finished levels shall conform with property alignment levels issued by Council’s City Works & Infrastructure Division. Kerbs shall not be returned to the alignment line.
- 63. On-Site Stormwater Detention System - Marker Plate.** Each on-site detention system basin shall be indicated on the site by fixing a marker plate. This plate is to be of minimum size: 100mm x 75mm and is to be made from non-corrosive metal or 4mm thick laminated plastic. It is to be fixed in a prominent position to the nearest concrete or permanent surface or access grate. The wording on the marker plate is described in City of Ryde, Development Control Plan 2014: - Part 8.2; Stormwater & Floodplain Management. An approved plate may be purchased from Council’s Customer Service Centre on presentation of a completed City of Ryde OSD certification form.

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64. **Work-as-Executed Plan.** A Work-as-Executed plan signed by a Registered Surveyor clearly showing the surveyor's name and the date, the stormwater drainage, including the on-site stormwater detention system if one has been constructed and finished ground levels **is to be submitted to the Principal Certifying Authority (PCA)** and to Ryde City Council if Council is not the nominated PCA.
65. **Drainage Construction.** The stormwater drainage on the site is to be constructed in accordance with plan the Construction Certificate version of Job No DG864 issue D dated 19/7/16 prepared by KD Stormwater Pty Ltd.
66. **Damaged Footpath Paving Construction.** The applicant shall, at no cost to Council, construct any damaged concrete footpath paving across the frontages of the property in Lumsdaine & Elliot Avenue. A compliance certificate from the Council's City Works & Infrastructure shall be obtained upon completion of concrete footpath paving works indicating that all works have been completed to Council's satisfaction and submitted to the Principal Certifying Authority.
67. **Compliance Certificates – Engineering.** Compliance Certificates should be obtained for the following and **submitted to the PCA:**
- Confirming that all vehicular footway and gutter (layback) crossings are constructed in accordance with the construction plan requirements and Ryde City Council's Development Control Plan 2014: - Part 8.3; Driveways
 - Confirming that the driveway is constructed in accordance with the construction plan requirements and Ryde City Development Control Plan 2014: - Part 8.3; Driveways.
 - Confirming that the site drainage system (including the on-site detention storage system) servicing the development complies with the construction plan requirements and City of Ryde, Development Control Plan 2014: - Part 8.2; Stormwater & Floodplain Management
 - Confirming that after completion of all construction work and landscaping, all areas adjacent the site, the site drainage system (including the on-site detention system), and the trunk drainage system immediately downstream of the subject site (next pit), have been cleaned of all sand, silt, old formwork, and other debris.
 - Confirming that the vehicular crossing has been removed and the kerb and gutter have been constructed in accordance with Council's Development Control Plan 2014: - Part 8.3 Driveways

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68. **Positive Covenant, OSD.** The creation of a Positive Covenant under Section 88 of the Conveyancing Act 1919, burdening the property with the requirement to maintain the stormwater detention system on the property. The terms of the instruments are to be generally in accordance with the Council's draft terms of Section 88E instrument for Maintenance of Stormwater Detention Systems and to the satisfaction of Council.

PRIOR TO SUBDIVISION CERTIFICATE

The following conditions in this Part of the consent apply to the Subdivision component of the development.

All conditions in this Part of the consent must be complied with prior to the issue of a Subdivision Certificate.

69. **Final Occupation Certificate.** The final occupation certificate associated with Development Consent DA2016/0197 and all related S96 applications if any, must be issued for the entire development prior to the release of the Strata Subdivision Certificate.

70. **88B Instrument.** If required, an instrument under Section 88B of the Conveyancing Act 1919 plus 2 copies shall be submitted, creating any Easements Positive Covenants and restrictions on use, the Ryde City being the authority empowered to release, vary or modify the same.

71. **Final Plan of Subdivision.** The submission of a final plan of subdivision plus three copies suitable for endorsement by the Authorised Officer.

72. **Final plan of subdivision - title details.** The final plan of subdivision shall contain detail all existing and/or proposed easements, positive covenants and restrictions of the use of land

73. **Section 73 Certificate.** A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. A copy of Sydney Water's Notice of Requirements must be submitted to the Principal Certifying Authority prior to the Subdivision Certificate being issued. The Section 73 Certificate must be submitted to the Principal Certifying Authority prior to issue of the Subdivision Certificate.

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74. **Utility provider** - compliance with the requirements (including financial costs) of any relevant utility provider (e.g. Ausgrid, Sydney Water, Telstra, Council etc). Prior to the Subdivision Certificate the applicant is to provide details to demonstrate compliance with this condition.

Engineering Conditions

75. **Positive Covenant, OSD.** The creation of a Positive Covenant under Section 88 of the Conveyancing Act 1919, burdening the property with the requirement to maintain the stormwater detention system on the property. The terms of the instruments are to be generally in accordance with the Council's draft terms of Section 88E instrument for Maintenance of Stormwater Detention Systems and to the satisfaction of Council.

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ATTACHMENT 4

Quality Certification

Assessment of a Dual Occupancy (attached), Single Dwelling House, Alterations & Additions to a Dwelling House and ancillary development

LDA No:	LDA2016/0197
Date Plans Rec'd	3 May 2016
Address:	1 Lumsdaine Avenue, East Ryde
Proposal:	New two (2), storey dual occupancy (attached). Including demolition of existing structures and strata subdivision.
Constraints Identified:	No constraints identified.

COMPLIANCE CHECK

LEP 2014	PROPOSAL	COMPLIANCE
4.3(2) Height		
<ul style="list-style-type: none"> 9.5m overall 	The maximum building height occurs at the north-western corner of Dwelling 1, where: Highest point is RL56.0 EGL below max point is RL48.3 Overall Height (max)= 7.7m	Yes
4.4(2) & 4.4A(1) - FSR		
<ul style="list-style-type: none"> 0.5:1 	0.489:1	Yes
4.1A Dual occupancy (attached) strata subdivision		
Development consent may only be granted to the subdivision of a dual occupancy (attached) on land in Zone R2 Low Density Residential if <ul style="list-style-type: none"> the subdivision is a strata subdivision, and 	The proposal includes strata subdivision and has a land area of 607.028m ² .	Yes

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LEP 2014	PROPOSAL	COMPLIANCE
<ul style="list-style-type: none"> the land has an area of at least 580 square metres. 		
4.1B Minimum Lot Size		
<ul style="list-style-type: none"> 580 square metres 	The subject site has an area of 607.028m ² (DP 31253)	Yes
<ul style="list-style-type: none"> road frontage of the lot is equal to or greater than 20 metres 	The subject site has a total road frontage of 47.6m. This includes the primary frontage to Elliot Avenue (21.3m), corner splay of (6.465m) and secondary frontage to Lumsdaine Avenue (19.84m) - (DP 31253)	Yes

DCP 2014	PROPOSED	COMPLIANCE
Part 3.3 – Dwelling Houses and Dual Occupancy (attached)		
Desired Future Character		
Development is to be consistent with the desired future character of the low density residential areas.	Subject to the conditions of consent outlined within the Assessment Report, the proposed development is capable of being consistent with the desired future character of the low density residential area as described in Section 2.1 of DCP2014 for the following reasons: <ul style="list-style-type: none"> The proposed dual occupancy is low scale as determined by a two-storey height limit. The dual occupancy has been designed so that the building has a similar appearance of two separate dwellings. The proposed dual occupancy is well articulated so as to reduce the overall 	Yes

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DCP 2014	PROPOSED	COMPLIANCE
	<p>bulk of the built form.</p> <ul style="list-style-type: none"> • Dwellings are located within a landscape setting, which include a clearly defined front garden and back yard – refer to submitted Landscape Plan. • The proposed development has appropriate front, secondary, side and rear setbacks, despite the inherent constraints of a corner site. • The garages have been appropriately integrated into the design of the dual occupancy development, as such are not prominent elements within the streetscape. • Deep soil areas meet minimum requirements. 	
Dual Occupancy (attached)		
<p>New Dual occupancy (attached) buildings are to meet the controls for new dwelling houses:</p> <p>a) To have a landscaped setting which includes significant deep soil areas at front and rear.</p> <p>b) Residential dwellings are to be a maximum of two storeys high.</p> <p>c) Dwellings to address street</p>	<p>The proposed development is considered capable of meeting the requirements of the controls for new dwelling houses for the following reasons:-</p> <p>- The submitted Landscape Plan has demonstrated that an 8m x 8m deep soil area can be achieved within the rear yard. In addition to this, each dwelling provides significant deep soil areas within the front and rear yards.</p> <p>- The proposed dual occupancy development does not exceed 2 storeys</p>	<p>Yes</p> <p>Yes</p>

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DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> • Public Views and Vistas - A view corridor is to be provided along at least one side allotment boundary where there is an existing or potential view to the water from the street. Landscaping is not to restrict views. 	<p>There are no existing or potential views to the water from the street.</p>	<p>N/A</p>
<ul style="list-style-type: none"> - Garages/carports and outbuildings are not to be located within view corridor if they obstruct view. - Fence 70% open where height is >900mm 	<p>There are no existing or potential views to the water from the street.</p> <p>There are no existing or potential views to the water from the street.</p>	<p>N/A</p> <p>N/A</p>
<ul style="list-style-type: none"> • Pedestrian & Vehicle Safety - Car parking located to accommodate sightlines to footpath & road. 	<p>As part of the assessment of the subject DA, the proposal was referred to Council's Development Engineers for review and comment.</p> <p>Council's Development Engineers have raised no issue with the proposal's vehicular access arrangements, subject to imposition of conditions of consent. In this regard, it is taken the proposed car parking allows for satisfactory sightlines to the footpath and road.</p>	<p>Yes</p>
<p>Site Configuration</p>		
<ul style="list-style-type: none"> • Deep Soil Areas - 35% of site area min. 	<p>The landscape plan indicates that an area of approx. 235m² of deep soil area is provided. Given a site area of 607.28m² this</p>	<p>Yes</p>

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DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Min 8x8m deep soil area in backyard. - Front yard to have deep soil area (only hard paved area to be driveway, pedestrian path and garden walls). - Dual occupancy developments only need 1 of 8 x 8m area (doesn't have to be shared equally). - Deep soil areas are to have soft landscaping - Deep soil areas are to be 100% permeable to water and cannot be covered by structures, paving or the like, or have below surface structures such as stormwater detention elements. 	<p>equates to a deep soil area of 38% of the site area</p> <p>An 8m x 8m deep soil area is provided within the rear yard of the dual occupancy development.</p> <p>Aside from the driveway and pedestrian pathways and garden walls, all remaining front yard areas include landscape planting.</p> <p>An 8m x 8m deep soil area is provided within the rear yard of the dual occupancy development.</p> <p>The submitted Landscape Plan demonstrates that deep soil areas will provide soft landscaping.</p> <p>The nominated deep soil areas are 100% permeable to water and is not covered by structures or paving</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> • Topography & Excavation <p>Within building footprint:</p> <ul style="list-style-type: none"> - Max cut: 1.2m 	<p>The extent of excavation within the building footprint does not exceed 1.2m.</p>	<p>Yes</p>

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DCP 2014	PROPOSED	COMPLIANCE
- Max fill: 900mm	The maximum fill within the building footprint is approximately 1m, which exceeds the maximum requirement by 100mm. This occurs within the north western corner of Dwelling 1, where the living room and alfresco area is proposed to be located.	No – Justifiable
- Outside building footprint: - Max cut: 900mm	The extent of excavation within the building footprint does not exceed 900mm.	Yes
- Max fill: 500mm	The extent of fill outside the building footprint does not exceed 500mm.	Yes
- No fill between side of building and boundary or close to rear boundary	The submitted plans do not show any fill between the side of the building and the boundary. It is, however, acknowledged that some minor grading will occur to create a level pathway.	Yes
- No fill in overland flow path	A review of Council's maps of environmentally sensitive land held on file has revealed that the site is not impacted by overland flow.	N/A
- Max ht retaining wall 900mm	The submitted plans have demonstrated that retaining walls are not proposed.	N/A
Floor Space Ratio		
- Basement Floor - Ground floor - First Floor - Outbuildings (incl covered pergolas, sheds etc)	N/A 179.99m ² 153.08m ² N/A	Yes

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<p>- Total (Gross Floor Area) - Less 36m² (double) or 18m² (single) allowance for parking</p> <p>FSR (max 0.5:1)</p> <p>Note: Excludes wall thicknesses, lifts/stairs; basement storage/vehicle access/garbage area; terraces/balconies with walls <1.4m; void areas.</p>	<p>333.07m² Less garage - 36m² 297.076m²</p> <p>0.489:1 Based on a site area 607.028m² (Lot 435 DP 31253)</p>	
Height		
<p>- 2 storeys maximum (storey) incl basement elevated greater than 1.2m above EGL).</p> <p>- 1 storey maximum above attached garage incl semi-basement or at-grade garages.</p> <p>Wall plate (Ceiling Height) - 7.5m max above FGL <i>or</i> - 8m max to top of parapet above FGL. NB: <i>TOW = Top of Wall</i> <i>EGL = Existing Ground Level</i></p> <p>- 9.5m Overall Height</p> <p><i>NB: EGL – Existing ground Level</i></p>	<p>The proposed development includes two storeys.</p> <p>1 storey is located above the garage for each dwelling.</p> <p>The maximum wall plate height is 7.4m. Occurs at the north western corner of Dwelling 1.</p> <p>The maximum building height occurs at the north-western corner of Dwelling 1, where: Highest point is RL56.0, and EGL below max point is RL48.3 Overall Height (max)= 7.7m</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<p>- Habitable rooms to have 2.4m floor to ceiling height (min).</p>	<p>The submitted plans indicate that all ceilings will have a minimum height of 2.4m.</p>	<p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
Setbacks		
<ul style="list-style-type: none"> • Front - 6m to façade (generally) - On corner sites, the setback along the secondary street (the street to which the house has its secondary frontage) is to be a minimum of 2 m. - Garage setback 1m from the dwelling façade - Wall above is to align with outside face of garage below. 	<p>A front setback of between 4.8m and 6.5m is proposed to Elliot Avenue, thus does not comply with this development control.</p> <p>The proposed 1.2m encroachment into the prescribed front setback is a result of the cantilevered balconies located on the front façade of Dwelling 1 and Dwelling 2.</p> <p>It is noted that the calculation of the primary front setback to Elliot Avenue does not include the corner splay.</p> <p>The minimum setback to the secondary street frontage of Lumsdaine Avenue is 2m.</p> <p>Garages are setback 1.2m from the façade of the dual occupancy development.</p> <p>The outside face of the walls built above the garages do not align with the outside face of the garage wall below.</p> <p>This occurs where the first floor component of each dwelling is separated above the garage so as to reduce visual bulk when viewed from Elliot Avenue.</p>	<p>No – addressed via condition (Deferred Commencement)</p> <p>Yes</p> <p>Yes</p> <p>No - Justifiable</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<p>- Front setback free of ancillary elements e.g. RWT,A/C</p> <ul style="list-style-type: none"> • Side <ul style="list-style-type: none"> ○ One storey dwelling <ul style="list-style-type: none"> - 900mm to wall ○ Two storey dwelling <ul style="list-style-type: none"> - 1.5m to wall, includes balconies etc. • Rear <ul style="list-style-type: none"> - 8m to rear of dwelling OR 25% of the length of the site, whichever is greater. <p>Allotments which are wider than they are long, and so cannot achieve the minimum rear setback requirement, are to have a minimum rear setback of 4 m.</p>	<p>Front setback is free of ancillary elements</p> <p>The single storey component of the dual occupancy building proposes a setback of 900mm from the north-western side property boundary</p> <p>The first floor component of the dual occupancy building proposes a minimum setback of 1.5m when measured from the side boundary to the outside wall.</p> <p>N/A – refer below.</p> <p>The subject site has an average width of 26.6m and an average length of 24.385, as such the site is wider than it is longer. In this circumstance, a minimum rear setback of 4m is applicable.</p> <p>The dual occupancy proposes a setback of between 4.5 and 8m, as such complies with this development control</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>N/A</p> <p>Yes</p>
Outbuildings		
<p>- Not within front setback.</p>	<p>No outbuildings proposed. Dwelling 2 includes a freestanding garage,</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Max area 20m² - The design and materials to complement the existing dwelling - An outbuilding may contain a toilet, shower and hand basin but cannot contain a bar, sink or any other kitchen facilities. - An outbuilding may be located on the side or rear boundary so long as the external wall is maintenance free and there is no eaves overhang - Windows not less than 900mm from boundary - Concrete dish drain if setback less than 900mm - Outbuilding are not to adversely affect the privacy and/or amenity of neighbours - Outbuilding are not to be located in the view corridors to the water - An outbuilding is not to be used as a dwelling 	<p>however by virtue of the definition contained within the Dictionary for DCP2014, garages and carport are not included as 'outbuildings'</p> <p>Refer above</p>	
Car Parking & Access		
<ul style="list-style-type: none"> • General 		
<ul style="list-style-type: none"> • General - Dwelling: 2 spaces max, 1 space min. - Dual Occ 1 space per dwelling 	<p>The development provides one car spaces per dwelling in the form of an attached garage.</p>	<p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Where possible access off secondary street frontages or laneways is preferable. 	<p>Due to the orientation of the site, the proposed development proposes vehicular access for each dwelling from the primary frontage, which faces south. This has allowed the layout of each dwelling to take advantage of the northerly aspect, by locating the POS and living areas to the rear.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Garage or carport may be in front if no other suitable position, no vehicular access to side or rear 	<p>This control applies to existing dwellings.</p>	<p>N/A</p>
<ul style="list-style-type: none"> - Max 6m wide or 50% of frontage, whichever is less. 	<p>Each garage does not exceed 6m in width.</p>	<p>Yes</p>
<p>Note. 50% of frontage to Elliot Avenue = 10.6m</p> <ul style="list-style-type: none"> - Behind building façade. 	<p>Garages are setback 1.2m from the façade of the dual occupancy development.</p>	<p>Yes</p>
<ul style="list-style-type: none"> • Garages - Garages setback 1m from façade. 	<p>Garages are setback 1.2m from the façade of the dual occupancy development.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Total width of garage doors visible from public space must not exceed 5.7m and not be recessed more than 300mm behind the outside face of the building element immediately above. 	<p>The combined width of the garage doors is 5.2m, as such does not exceed 5.47m. The garage doors for each dwelling are recessed more than 300mm behind the outside face of the building element immediately above.</p>	<p>Yes</p> <p>No - Justifiable</p>
<ul style="list-style-type: none"> - Garage windows are to be at least 900mm away from boundary. 	<p>N/A – no windows proposed</p>	<p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Free standing garages are to have a max GFA of 36m². - Solid doors required - Materials in keeping or complementary to dwelling. • Parking Space Sizes (AS) Double garages: 5.4m w (min) - Single garage: 3m w(min) - Internal length: 5.4m (min) • Driveways - Extent of driveways minimised 	<p>N/A – Freestanding garage not proposed.</p> <p>Each garage proposes a solid door.</p> <p>Materials are considered to be complementary to the dwelling.</p> <p>N/A.</p> <p>Min. width provided. Min. length provided.</p> <p>Driveway width has generally been minimised. One driveway is proposed for both dwellings, which reduces in width towards the front property boundary.</p>	<p>N/A</p> <p>Yes</p> <p>Yes</p> <p>N/A</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
2.11.2 Semi Basement Car Parking		
<ul style="list-style-type: none"> - Ramps at least 2m back from street boundary 	Semi-basement parking not proposed.	N/A
<ul style="list-style-type: none"> - Walls not extend beyond walls of dwelling 	Semi-basement parking not proposed.	N/A
<ul style="list-style-type: none"> - Can only be used if appropriate to topography of site 	Semi-basement parking not proposed.	N/A
Swimming Pools & Spas	Not Proposed – existing pool within rear yard to be demolished.	N/A
Landscaping		
<ul style="list-style-type: none"> • Trees & Landscaping - Major trees retained where practicable 	There are no trees of significance located within the subject site.	Yes

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<p>If bushland adjoining use native indigenous species for 10m from boundary</p> <p>Physical connection to be provided between dwelling and outdoor spaces where the ground floor is elevated above NGL e.g. stairs, terraces.</p> <ul style="list-style-type: none"> - Provide a landscaped front garden. Hard paved areas are to be minimised, and at a maximum, are to be no more than 40% of the front garden areas. - Obstruction-free pathway on one side of dwelling (excl cnr allotments or rear lane access). - Front yard to have at least 1 tree with mature ht of 10m min and a spreading canopy. - Backyard to have at least 1 tree with mature ht of 15m min and a spreading canopy. 	<p>It is noted that there are two (2) tree located within council's verge, adjacent to the subject site, which are to be retained.</p> <p>Bushland is not adjoining the subject site.</p> <p>Physical connection is shown to be provided between the patio area and outdoor spaces for each dwelling.</p> <p>36% (45m²) of hard paved area is proposed within the front yard of Dwelling 1 and Dwelling 2, adjacent to Elliot Avenue.</p> <p>Obstruction free pathway provided for each dwelling</p> <p>The submitted Landscape Plan has indicated that the front yard of each dwelling is to contain 2 x <i>Acacia binervia</i>, which are capable of reaching a maximum height of 16m..</p> <p>The submitted Landscape Plan has indicated that the front yard of each dwelling is to contain 1 x <i>Acacia binervia</i>, which are capable of reaching a maximum height of 16m.</p>	<p>N/A</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Hedging or screen planting on boundary mature plants reaching no more than 2.7m. - Retaining walls and other landscape elements are not to obstruct the stormwater overland flow path. - OSD generally not to be located in front setback unless under driveway. - Landscaping is to include ground level private open space for each dwelling. 	<p>Hedge planting proposed is identified as growing to a height of less than 2.7m</p> <p>The subject site is not impacted by overland flow.</p> <p>The submitted Drainage Concept Plan has not indicated an OSD tank to be included. The proposal has however been assessed by Council's Development Engineer who has determined it to be satisfactory, subject to conditions.</p> <p>Ground level private open space has been provided for each dwelling.</p>	<p>Yes</p> <p>Yes</p> <p>N/A</p> <p>Yes</p>
Dwelling Amenity		
<ul style="list-style-type: none"> • Daylight and Sunlight Access - Living areas to face north where orientation makes this possible. - Increase side setback for side living areas (4m preferred) where north is the side boundary. 	<p>It is considered that the design of the dwelling has maximised the northern sun where possible.</p> <p>Dwellings have been orientated so that living areas and POS take advantage of the northerly aspect to the rear of the site.</p> <p>N/A – refer above</p>	<p>Yes</p> <p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> - Subject dwelling north facing windows are to receive at least 3 hrs of sunlight to a portion of their surface between 9am and 3pm on June 21. 	<p>The submitted shadow diagrams demonstrate that the north facing windows of each dwelling will receive at least 3 hours of sunlight to a portion of their surface between 9am & 3pm on June 21.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - Private Open space of subject dwelling is to receive at least 2 hours sunlight between 9am and 3pm on June 21. 	<p>According to the shadow diagrams submitted the POS of each dwelling will receive at least 2 hours solar access to at least 50% of the area on June 21.</p>	<p>Yes</p>
<p><u>Neighbouring properties are to receive:</u></p> <ul style="list-style-type: none"> - 2 hours sunlight to at least 50% of adjoining principal ground level open space between 9am and 3pm on June 21. 	<p>The subject site is of a favourable orientation so as to minimise the extent of shadow cast over adjoining properties.</p> <p>As such, the submitted shadow diagrams demonstrate that the adjoining properties at 3 Lumsdaine Avenue and 63 Elliot Avenue will achieve at least 2 hours sunlight to at least 50% of adjoining principal ground level open space between 9am and 3pm on June 21.</p>	<p>Yes</p>
<ul style="list-style-type: none"> - At least 3 hours sunlight to a portion of the surface of north facing adjoining living area windows between 9am and 3pm on June 21. 	<p>The submitted shadow diagrams demonstrate that the adjoining properties at 3 Lumsdaine Avenue and 63 Elliot Avenue will receive At least 3 hours sunlight to a portion of the surface of</p>	<p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<ul style="list-style-type: none"> • Visual Privacy - Orientate the windows of the main internal living spaces such as living rooms, dining rooms, kitchens, family rooms and the like, generally to the front or to the rear of allotments. - Orientate terraces, balconies and outdoor living areas to either the front or the rear of allotments, and not to the side boundaries - Terraces and balconies are not to overlook neighbour's living areas and private open space. 	<p>north facing adjoining living area windows between 9am and 3pm on June 21.</p> <p>Windows of the proposed living areas for each dwelling have generally been orientated to the front and rear. Minimal windows are located on the side elevation of each dwelling.</p> <p>Dwelling 1 and Dwelling 2 each propose a balcony, which faces onto Elliot Avenue. Due to their location at the front of the site, overlooking will not occur into neighbour's living areas and private open space.</p> <p>Dwelling 2 also proposes a balcony, which faces onto the secondary street frontage of Lumsdaine Avenue.</p> <p>It is considered the location of this balcony will not result in an unreasonable level of overlooking into neighbour's living areas and private open space. This is largely due to the separation distance of approximately 17m (from the property located directly adjacent to proposed balcony at 65 Elliot Avenue). Furthermore, the balcony is located off a bedroom and is of a size that is likely to be</p>	<p>Yes</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
	<p>utilised by one (1) person at any one time.</p> <p>It is noted that the first level balconies will not be used as the main area of private open space and are not accessible via a main living area, as such their location and orientation are considered acceptable.</p> <p>Each dwelling proposes a rear alfresco area. In particular the alfresco area for Dwelling 1 is raised a maximum of approximately 1m above EGL. It is noted that, as the site is located on a corner lot, a lesser rear setback is permitted. This has resulted in the main area of private open space being located closer to the side boundary of the adjoining property at 3 Lumsdaine Avenue.</p> <p>In order to maintain the privacy of the adjoining property at 3 Lumsdaine Avenue, where the side boundary adjoins the rear boundary of the subject site, it was considered that a 300mm high lattice screening on top of the existing north-eastern boundary fence, would satisfactorily minimise any potential for direct overlooking.</p>	

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<p>- Windows of living, dining, family etc. placed so there are no close or direct views to adjoining dwelling or open space.</p> <p>- Side windows offset from adjoining windows.</p> <p>- Splayed walls with windows are not to be located above ground level where the windows will provide views into neighbouring allotments.</p> <ul style="list-style-type: none"> • Acoustic Privacy <p>Layout of rooms in dual occupancies (attached) are to minimise noise impacts between dwellings e.g.: place adjoining</p>	<p>However, a review of a submission from the owners of 3 Lumsdaine Avenue, has demonstrated that privacy screening already exists on top of the existing fence. As the submitted Landscape Plan has indicated that the existing rear north-eastern boundary fence is to be retained (with the existing privacy screen), it is not considered necessary to impose such a condition.</p> <p>Windows of the proposed living areas for each dwelling have generally been orientated to the front and rear. Minimal windows are located on the side elevation of each dwelling.</p> <p>It is generally considered that the proposed window locations on the ground and first floor of each dwelling have been appropriately located and are of a size and height which will avoid inappropriate looking into adjoining properties.</p> <p>No splayed wall with windows are proposed</p> <p>The proposed layout of the rooms of each dwelling is generally considered to allow for sufficient acoustic</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<p>living areas near each other and adjoining bedrooms near each other.</p> <ul style="list-style-type: none"> • View Sharing <ul style="list-style-type: none"> - The siting of development is to provide for view sharing. • Cross Ventilation <ul style="list-style-type: none"> - Plan layout is to optimise access to prevailing breezes and to provide for cross ventilation. 	<p>privacy due to the design placing similar rooms adjacent to each other.</p> <p>No significant views identified from the subject site.</p> <p>The design of the dwelling is considered to optimise the access to prevailing breezes and provide for cross ventilation.</p>	<p>N/A</p> <p>Yes</p>
External Building Elements		
<ul style="list-style-type: none"> • Roof <ul style="list-style-type: none"> - Articulated. - 450mm eaves overhang minimum to pitched roof. - Not to be trafficable Terrace. - Skylights to be minimised and placed symmetrically. - Front roof plane is not to have both dormer windows and skylights. - Attics to be within roof space 	<p>A flat roof form is proposed. However it has been broken up so that there is not one continuous roof form across both dwellings within the dual occupancy development.</p> <p>450mm eave overhang not provided, however pitched roof form is not proposed. As such, this control is not considered applicable.</p> <p>Not provided.</p> <p>No skylights proposed.</p> <p>No dormer windows proposed.</p> <p>No attic proposed</p>	<p>Yes</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
Fencing		
<ul style="list-style-type: none"> • Front/return: <ul style="list-style-type: none"> - To reflect design of dwelling. - To reflect character and height of neighbouring fences. - Max 900mm high for solid (picket can be 1m). - Max 1.8m high if 50% open (any solid base max 900mm). - Retaining walls, which are part of a front or return fence - max height 900mm. - No colourbond or paling - Max pier width 350mm. • Side/rear fencing: <ul style="list-style-type: none"> - 1.8m max o/a height. 	<p>The proposed front fence is considered to appropriately reflect the design of the proposed development.</p> <p>Refer above</p> <p>Solid fence with a maximum height of 1m is proposed, thus is at variance with this development control by 100mm. Accordingly, a condition of consent is recommended for front fencing to comply with DCP2014 requirements.</p> <p>Refer above.</p> <p>No retaining is proposed for front fence. Fencing will generally be stepped down with the slope of the site.</p> <p>Refer above Refer above</p> <p>The submitted plans have indicated that existing boundary fencing is to be retained to the north-eastern and north-western property boundaries. A new 1.8m high fence is proposed to the secondary street frontage.</p>	<p>Yes</p> <p>Yes</p> <p>No – To be conditioned</p> <p>N/A</p> <p>N/A</p> <p>N/A N/A</p> <p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
Part 7.2 – Waste Minimisation & Management		
Submission of a Waste Management Plan	The applicant has submitted a Waste Management Plan	Yes
Part 8.2 – Stormwater Management		
<ul style="list-style-type: none"> • Stormwater 		
- Drainage is to be piped in accordance with Part 8.2 – Stormwater Management.	Drainage plans submitted and referred to Development Engineer for comment.	Yes
Part 9.2 – Access for People with Disabilities		
Accessible path required from the street to the front door, where the level of land permits.	Accessible pathway is provided from the street to the front door.	Yes
Part 9.4 – Fencing		
<ul style="list-style-type: none"> • Front & Return Fences 		
- Front and return fences that exceed 1m in height are to be 50% open.	N/A –fence has a maximum height of 1m.	N/A
Part 9.5 – Tree Preservation		
<p>Where the removal of tree(s) is associated with the redevelopment of a site, or a neighbouring site, the applicant is required to demonstrate that an alternative design(s) is not feasible and retaining the tree(s) is not possible in order to provide adequate clearance between the tree(s) and the proposed building and the driveway.</p> <p>Note: A site analysis is to be undertaken to identify the site constraints and opportunities including trees located on the site and neighbouring sites. In planning for a development, consideration must be given to building/site design that retains healthy trees, as Council</p>	<p>There are no trees of significance located within the subject site.</p> <p>It is noted that there are two (2) tree located within council's verge adjacent to the subject site which are to be retained.</p>	N/A

ITEM 2 (continued)

ATTACHMENT 4

DCP 2014	PROPOSED	COMPLIANCE
<p>does not normally allow the removal of trees to allow a development to proceed. The site analysis must also describe the impact of the proposed development on neighbouring trees. This is particularly important where neighbouring trees are close to the property boundary. The main issues are potential damage to the roots of neighbouring trees (possibly leading to instability and/or health deterioration), and canopy spread/shade from neighbouring trees that must be taken into account during the landscape design of the new development.</p>		

BASIX	PROPOSAL	COMPLIANCE
<p>All ticked "DA plans" commitments on the BASIX Certificate are to be shown on plans (list) BASIX Cert 717590S & 717584S dated 05 April 2016</p>	<p>Dual occupancy (attached)</p>	<p>Yes</p>
<p>1000L RWT</p>	<p>2500L provided per dwelling - Shown DA on plans</p>	<p>Yes</p>
<ul style="list-style-type: none"> • Fixtures • 3 star showerheads • 4 star toilet flushing systems • 5 star bathroom taps • 5 star kitchen taps 	<p>To comply – show on CC Plans</p>	<p>Yes</p>
<ul style="list-style-type: none"> • Thermal Comfort Commitments: <ul style="list-style-type: none"> - Construction - TCC – Glazing. 	<p>Shown on DA plans</p>	<p>Yes</p>
<ul style="list-style-type: none"> • HWS Gas Instantaneous 5 star for all dwellings 	<p>Shown on DA plans</p>	<p>Yes</p>
<ul style="list-style-type: none"> • Natural Lighting <ul style="list-style-type: none"> - kitchen - bathrooms (2) 	<p>Shown on DA plans</p>	<p>Yes Yes</p>
<p>Correct description of property/proposal on 1st page of Certificate.</p>	<p>Correct description shown on first page.</p>	<p>Yes</p>

ITEM 2 (continued)

ATTACHMENT 4

DEMOLITION	PROPOSAL	COMPLIANCE
<ul style="list-style-type: none"> Plan showing all structures to be removed. 	Demolition plan provided	Yes
<ul style="list-style-type: none"> Demolition Work Plan 	Demolition Work Plan provided	Yes
<ul style="list-style-type: none"> Waste Management Plan 	Plan submitted	Yes

Non compliances justifiable:

1. *Topography & Excavation – Section 2.6.2*

- The maximum level of fill within the building footprint is 1m, which exceeds the 900mm limit by 100mm. This occurs within the north-western corner of Dwelling 1 where the living room and alfresco area is proposed.

2. *Front Setbacks – Section 2.9.1*

- A primary front setback ranging between 4.8m and 6.5m is proposed, which does not comply with the 6m control. The encroachment is a result of the cantilevered balconies on the front façade of Dwelling 1 and Dwelling 2.

3. *Car Parking and Access - Section 2.11*

- The garage doors for each dwelling are recessed more than 300mm behind the outside face of the building element immediately above.

Non-compliances to be resolved by condition:

1. *Daylight and Sunlight Access – Section 2.14.1*

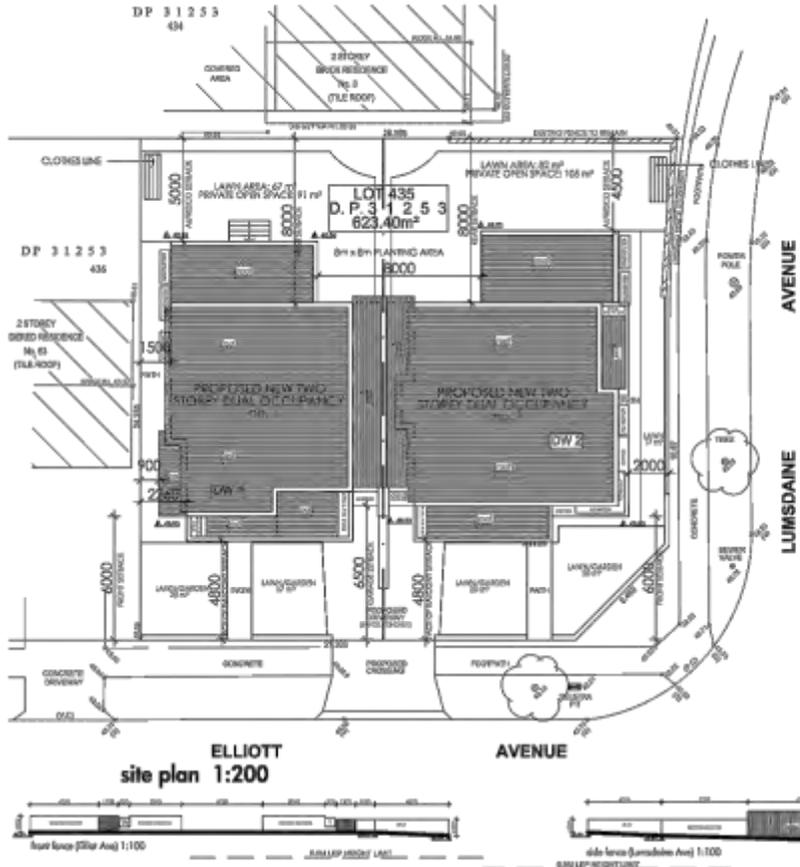
- DCP2014 seeks for development to maximise daylight access. In order to ensure reasonable daylight access is afforded to Bedroom 2 of Dwelling 1, a condition requiring a larger window is recommended.

2. *Fences – Section 2.16*

- A solid front fence with a maximum height of 1m is proposed. This is a 100mm variance to the 900mm front fence height control. A condition is recommended to ensure front fencing complies with the DCP2014 requirements.

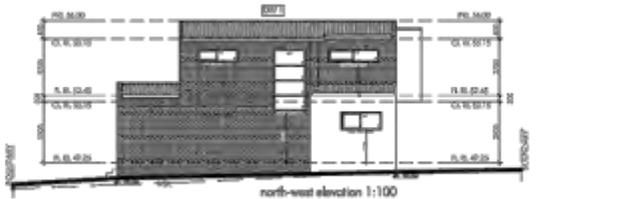
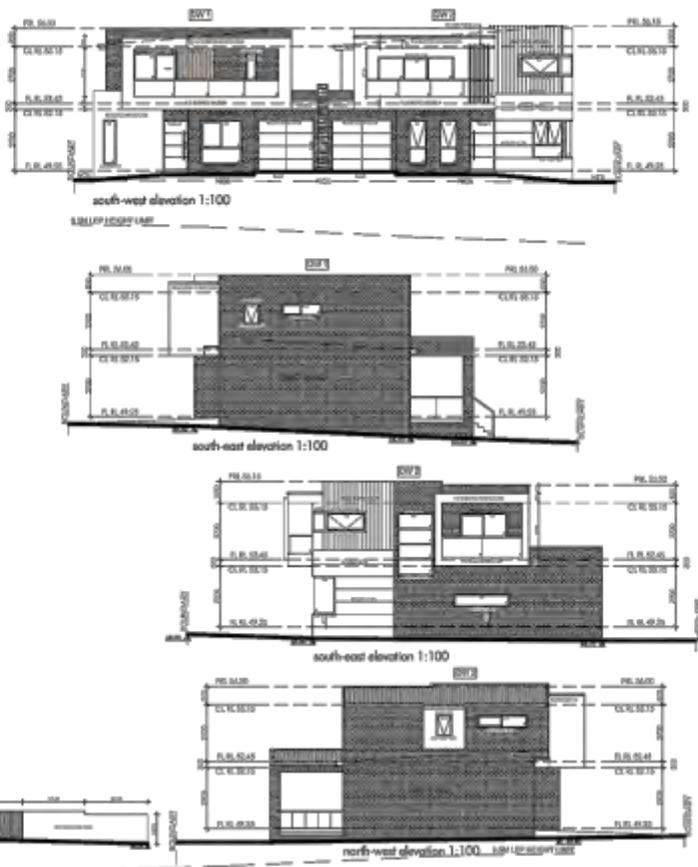
ITEM 2 (continued)

ATTACHMENT 4



NOTIFICATION PLAN

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1 Lumsdaine Avenue, EAST RYDE

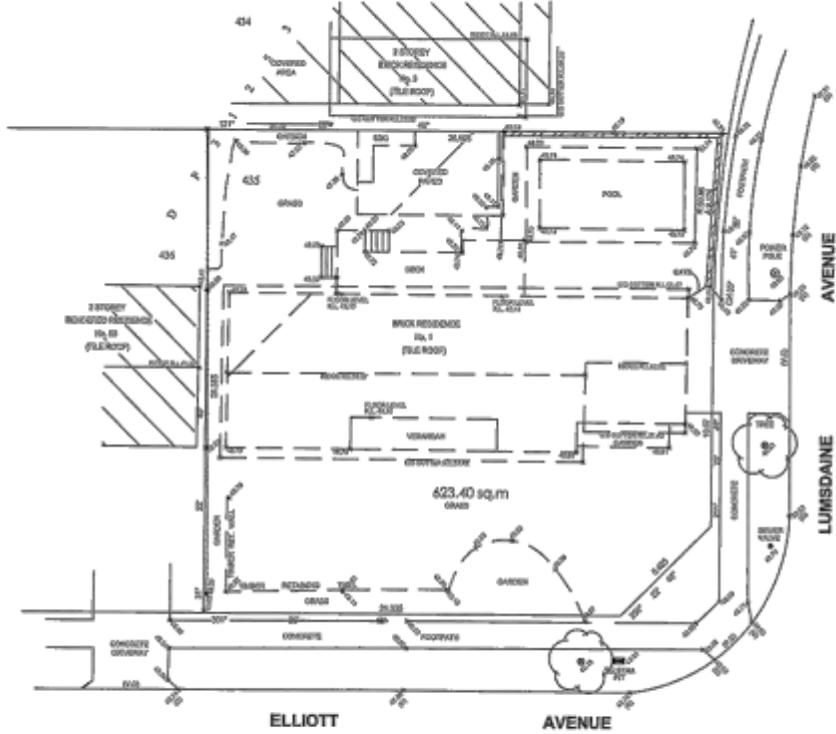
<p>scale: A3 - 1:100 date: 4th April, 2016</p>	<p>designer: mounzer mortada m. architecture (pvt) Pty. Ltd. 1/111 Sydney Road, East Ryde NSW 2112</p>	<p>tel: 0450 525 250 e: mortada@mcubed.com.au</p>	<p>1 of 1</p>
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ITEM 2 (continued)

ATTACHMENT 4



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demolition plan 1:200



1 Lumsdaine Avenue, EAST RYDE

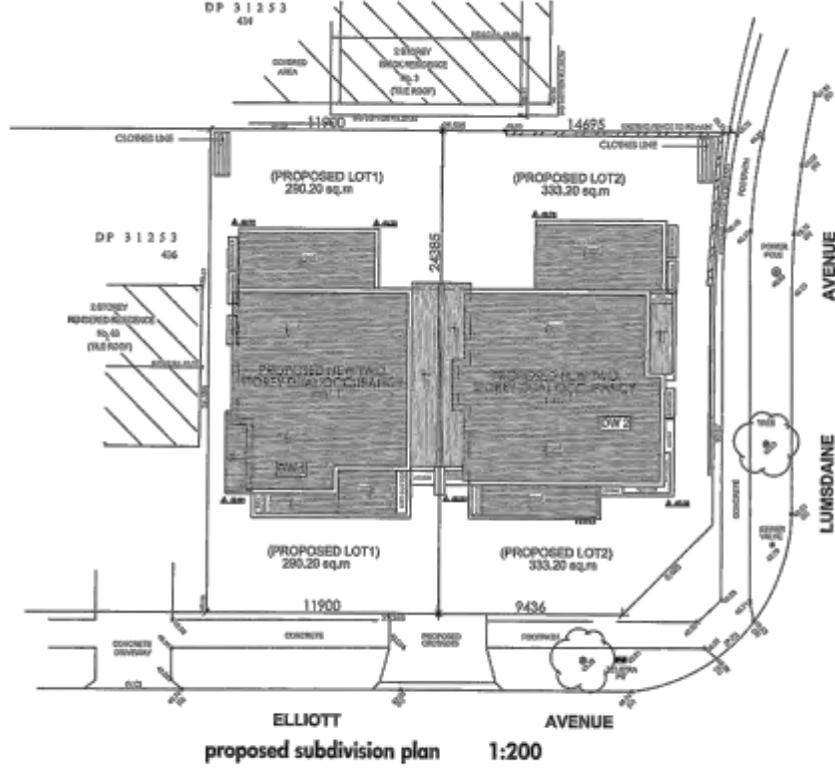
Scale: A3 - 1:200	Drawn: moumzer montada	NO DATE 12/15/16
Date: 4th April, 2016	Checked: GUY MONTADA	11/15

ITEM 2 (continued)

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1 Lumsdaine Avenue, EAST RYDE

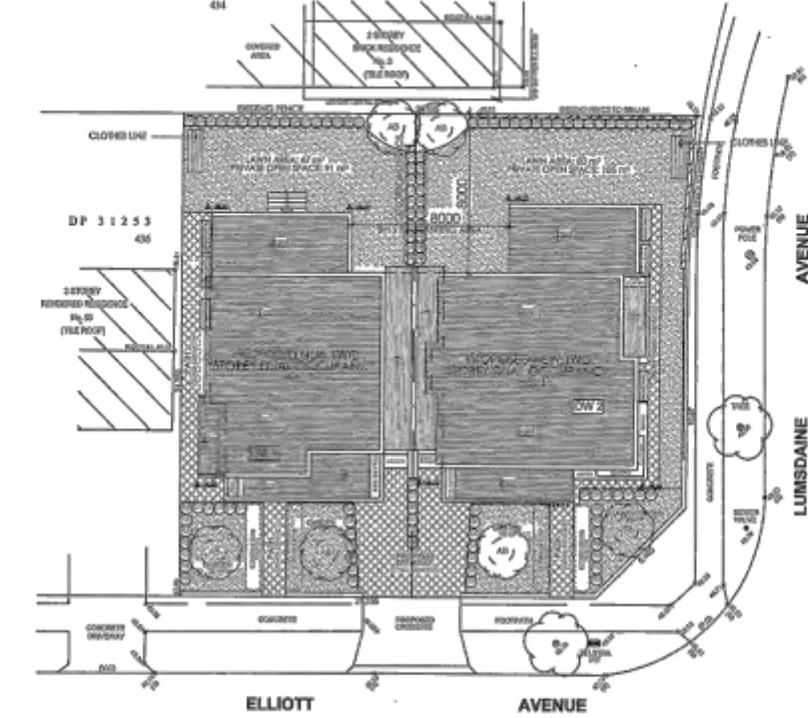
Scale: A3 - 1:200	Author: mouner mortada	Rev: 0000 128 280	12/15
Date: 4th April, 2016	Author: mouner mortada	Rev: 0000 128 280	12/15

ITEM 2 (continued)

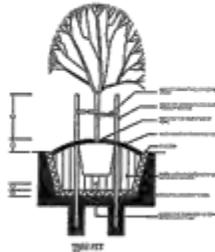
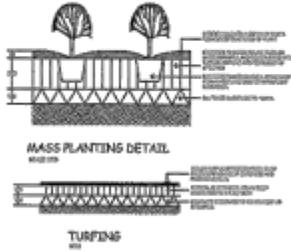
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landscape plan 1:200



PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	SIZE	NO STAKES
<u>TREES</u>			
AD-ADACIA BIVERTIA	NYVAL WATTLE	75L	8 YES
<u>SHRUBS & GROUNDCOVERS</u>			
Ga-GARDEZIA AUSTRALIS FLORIDA	GARDEZIA	6"	40 -
Ba-BUNUS HEDGES	BUNUS HEDGES	6"	40 -

SPECIFICATION NOTES

SITE PREPARATION / SOIL WORK
ALL EXISTING TREES SHOWN FOR RETENTION SHALL BE PROTECTED FOR THE DURATION OF THE BUILDING WORK. READ FROM RELEVANT PATENT, NEEDS TO BE MAINTAINED, CHECKED AND THE LINE NO FURTHER TO BE CARRIED OUT WITH THE DRAINING OF THE TREES TO BE RETAINED. WHERE EXCAVATION IS NECESSARY USE AND METHODS TO AVOID DAMAGE TO THE ROOT SYSTEM. DO NOT CUT OR REMOVE TREES. CUT SHOULD BE CARRIED OUT WITH A BARKHED DO NOT SEAL THE WOUNDS.

SOIL WORK
THOROUGHLY CULTIVATE THE SUBSOIL TO A DEPTH OF 300MM SURFACE AND REVEAL TO A DEPTH OF 100MM THE FOLLOWING SOIL MIX:

SOIL MIX	PERCENTAGE
TURF	100%
PLANTING	100%
SOIL MIX	100%
BLACKLOAM	40%
COARSE WASHED RIVER SAND	40%
BRIDGE LAYER 50MM DEEP	40%
CULTIVATE A 100MM LAYER OF BRIDGE LAYER AND REVEAL THE TOP 100MM OF SOIL MIX	40%
ASBESTOS IMPROVEMENT	3%
TREATED BARKWOOD BARKWOLLY	4%
PORE FILL FIBRE	4%
COMPOSTED MANURE	2%

THE PLANTING AREAS TO BE LOCATED WITHIN ABOVE THE EXISTING GRADE LINE TO AVOID DAMAGE TO EXISTING FOUNDATIONS. TO AVOID TO BE EXCAVATED TO THE EXISTING GRADE LINE TO AVOID DAMAGE TO EXISTING FOUNDATIONS. TO AVOID TO BE EXCAVATED TO THE EXISTING GRADE LINE TO AVOID DAMAGE TO EXISTING FOUNDATIONS.

ON SLAB PLANTERS

BRIDGE LAYER
AFTER WATERPROOFING OF PLANTERS LAY BRIDGE LAYER WHICH SHALL INCLUDE:
* 100% PLANTING BRIDGE LAYER OR BRIDGE LAYER
* 10% FIBRE GEOTEXTILE TO 100MM AREA WIDE
* 100% FINE SAND LAYER 50MM IN DEPTH

LIGHT WEIGHT SOIL MIX
LIGHT WEIGHT SOIL MIX SHALL BE COMPOSED OF THE FOLLOWING PERCENTAGE AND MIXED IN THE ORDER INDICATED TO PRODUCE A LIGHTWEIGHT SOIL MIX:

PERCENTAGE	SOIL MIX
10%	BLACKLOAM
30%	DOUBLE WASHED COARSE RIVER SAND
10%	BROWN TURF
10%	COMPOSTED MANURE
10%	COMPOSTED MANURE

MULCH

SUPPLY AND PLACE 100MM LAYER OF FINE SAND HORTICULTURAL GRADE MULCH, WHICH IS 100% SANDY 100% FINE, FREE FROM FIBRE, FERTILISER, SET DOWN FROM ADJACENT PAVED.

PLANT MATERIALS

ALL PLANTS SHALL BE TRUE TO TYPE, OF HEALTHY GROWTH (GARDEN) FREE FROM DISEASE AND NOT EXHIBITING SIGNIFICANT DEFECTS. SHOULD THERE BE A REQUIREMENT FOR SPECIFIC PLANTS THAT SHALL NOT BE OBTAINED FROM ANY OTHER SOURCE, THE MANUFACTURER'S RECOMMENDED RATE OF FERTILISER PER LITRE SHALL BE USED. ALL PLANTS SHALL BE SUPPLIED TO ALL PLANTING AREAS AT THE MANUFACTURER'S RECOMMENDED RATE TO BE OBTAINED TO GROWING.

FERTILISER

BASE PLANTING AREAS ALLOW A BUILDUP OF FERTILISER WHICH PRELAYS PER LITRE PLANT AND USE PER 100MM PLANT TARP AREA. ALLOW 500GMS HOLD LOW FERTILISER OR EQUIVALENT, APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

STAKES AND TIES

SUITABLE HARDWOOD, STAKES, SIZE SHALL BE 40MM DIA WITH TIES SPACED APPROXIMATELY 500MM APART. STAKES SHOULD BE DRIVEN INTO THE GROUND ON THE WINDWARD SIDE OF THE PLANT. TIES SHALL BE 100MM DIA HARDWOOD IN A LINE WITH THE STAKE POSITION.

PLANT ESTABLISHMENT PERIOD

FROM THE DATE OF PRACTICAL COMPLETION, THESE SHALL BE PERIOD OF 12 WEEKS FOR THE PLANTING ESTABLISHMENT PERIOD. ALL PLANTING SHALL BE ESTABLISHED WITHIN THE PERIOD OF 12 WEEKS. THE MAINTENANCE PERIOD SHALL BE 12 WEEKS. ALL PLANTS SHALL BE MAINTAINED BY A MAINTENANCE CONTRACTOR. STAKES AND TIES SHALL BE MAINTAINED AS REQUIRED AND THE TARP SHALL BE REGULARLY TENDED TO MAINTAIN A HEALTHY ESTABLISHMENT. A CONTRACTOR SHALL BE MAINTAINED TO ENSURE HEALTHY GROWTH OF ALL PLANT MATERIALS.

IRRIGATION

ALL PLANTING AREAS TO BE SUPPLIED WITH A FULLY AUTOMATIC IRRIGATION SYSTEM. SYSTEM SHOULD BE INSTALLED ON PAVED AREAS. THE IRRIGATION SYSTEM SHALL MEET ALL THE REQUIREMENTS OF THE WATER BOARD AND IS SUBJECT TO BE APPROVED BY THE WATER BOARD. THE IRRIGATION SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE WATER BOARD. THE IRRIGATION SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE WATER BOARD. THE IRRIGATION SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE WATER BOARD.

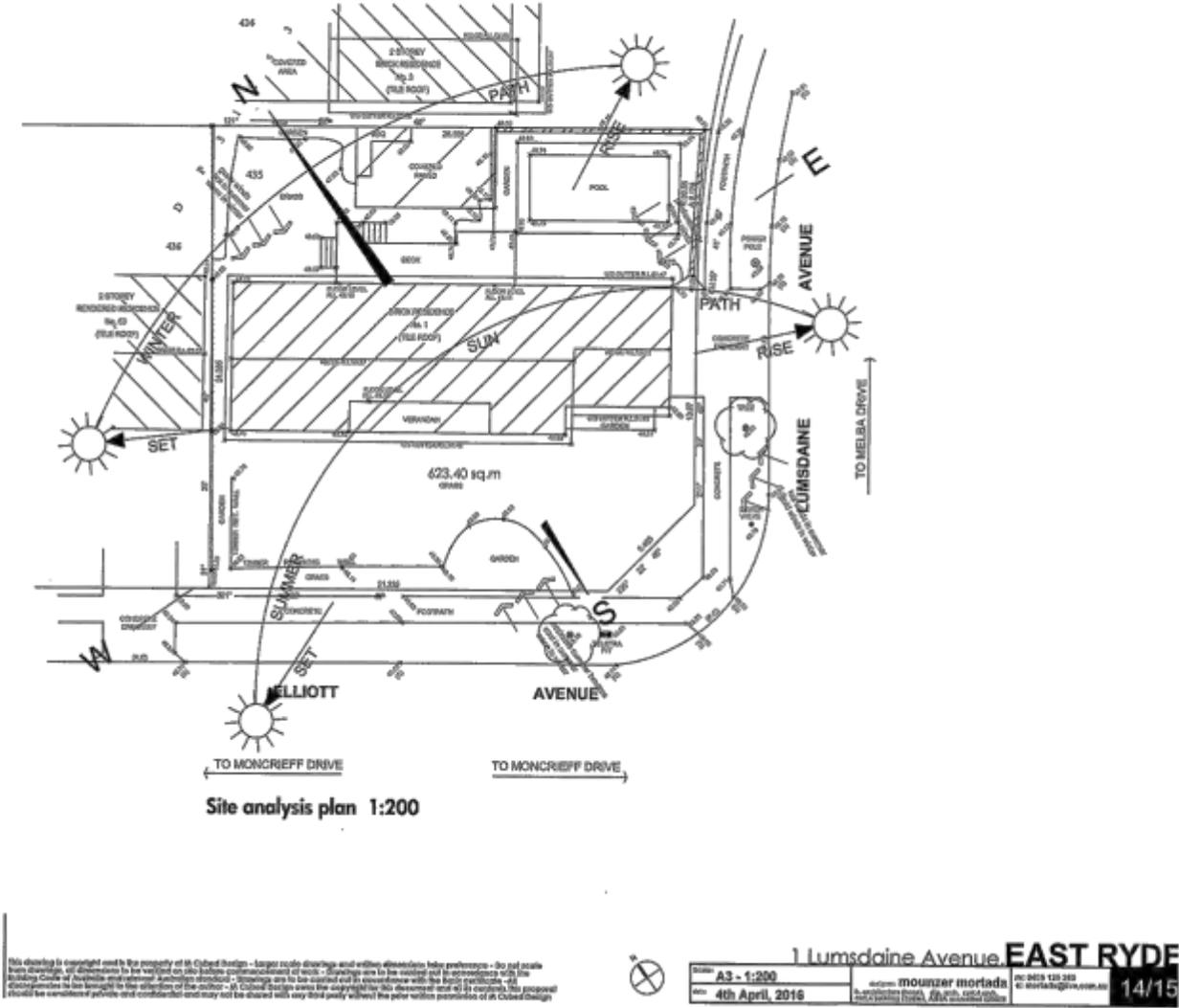
PARTICULAR ATTENTION SHOULD BE PAID BY THE CONTRACTOR TO ENSURE SUFFICIENT OVERFLOWING, MAINTENANCE AND ADJUSTMENT REQUIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE WATER BOARD. THE IRRIGATION SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE WATER BOARD.

LAY FIBRE TO MINIMIZE EROSION AND PLACE HEADS TO PROVIDE EVEN COVERAGE. ALL PIPES AND CABLES TO BE INSTALLED IN A CONCRETE TRENCH WHERE POSSIBLE.

1 Lumsdaine Avenue EAST RYDE
 A3 - 1:200
 4th April, 2016
 mounzer mortada
 13/15

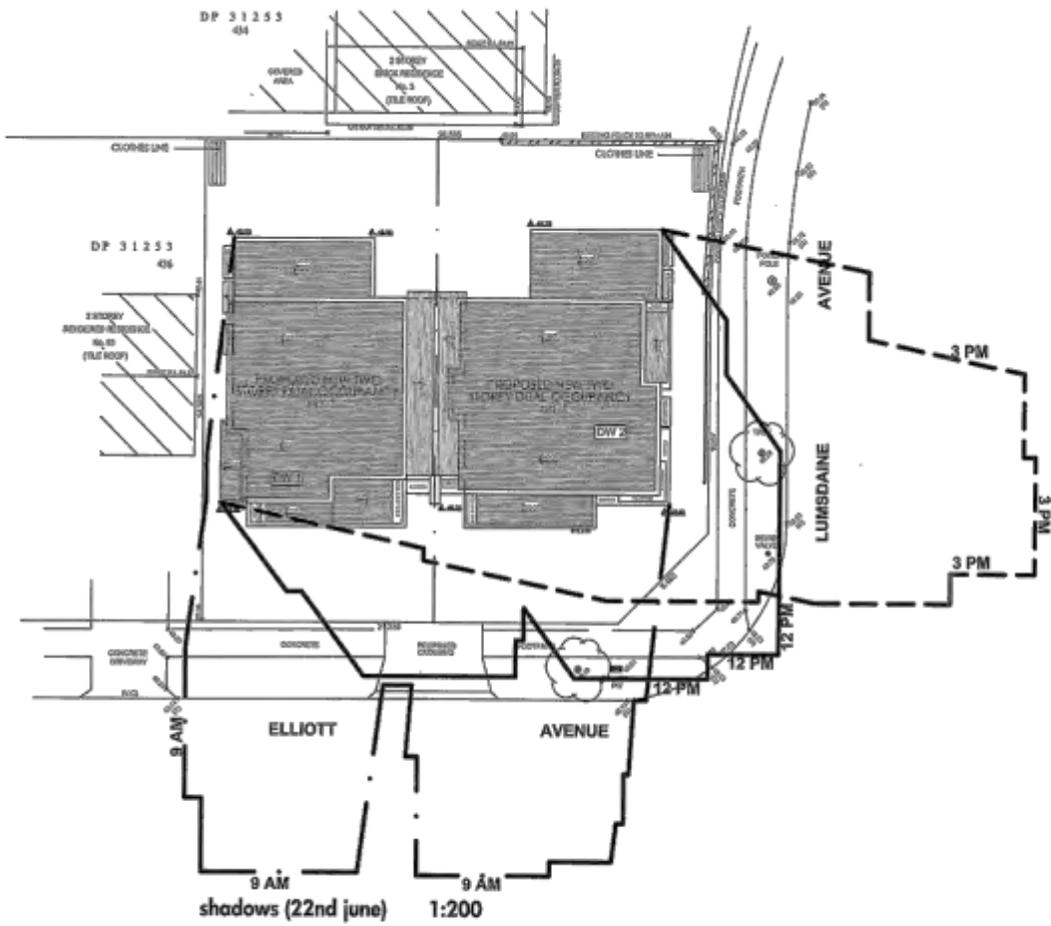
ITEM 2 (continued)

ATTACHMENT 4



ITEM 2 (continued)

ATTACHMENT 4



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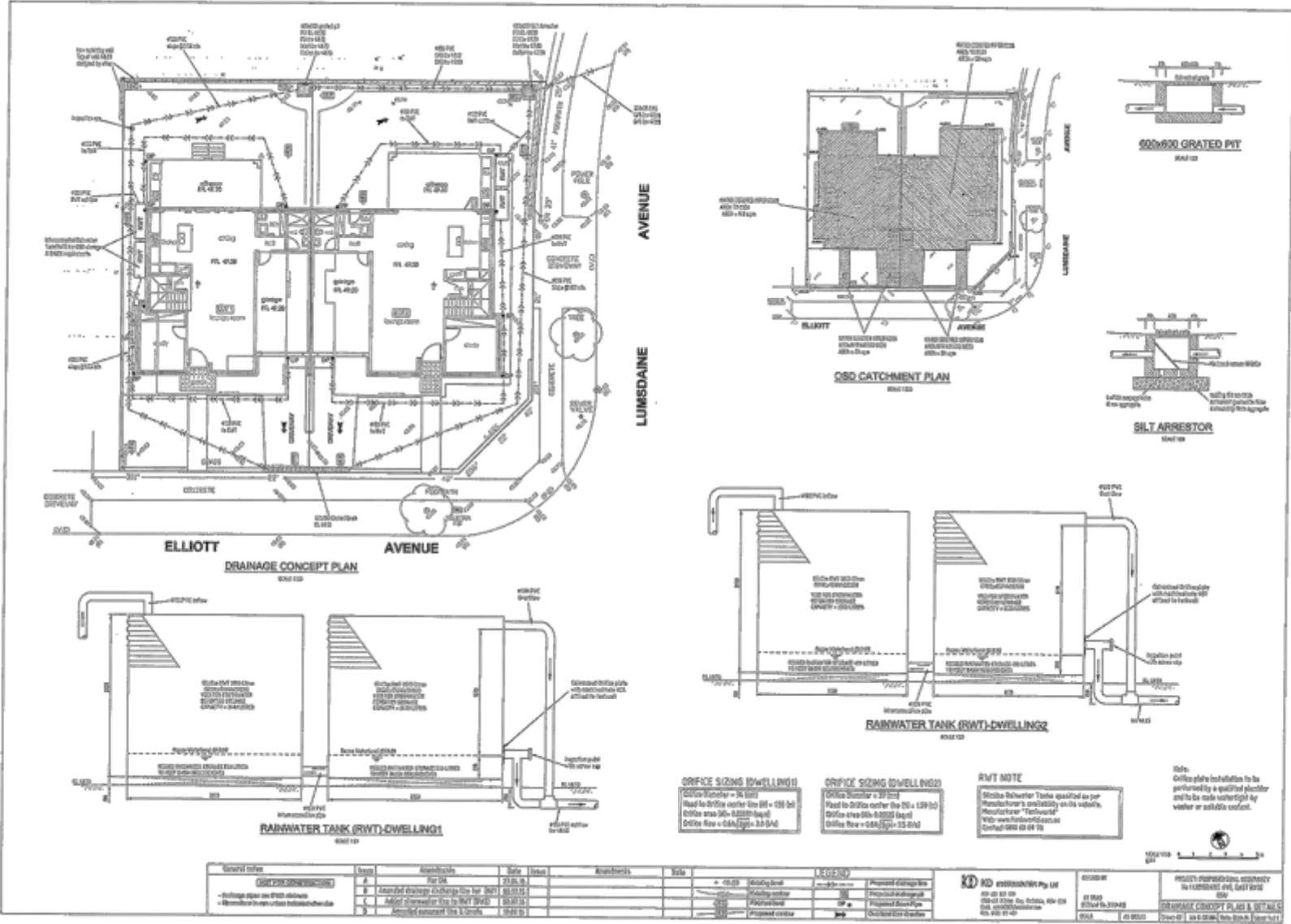


1 Lumsdaine Avenue EAST RYDE

DATE: A3 - 1:200	DESIGNER: mounzer mortada	REV: 04/11/16	15/15
DATE: 4th April, 2016	PROJECT: 1 Lumsdaine Avenue, East Ryde, NSW	BY: mounzer mortada	

ITEM 2 (continued)

ATTACHMENT 4

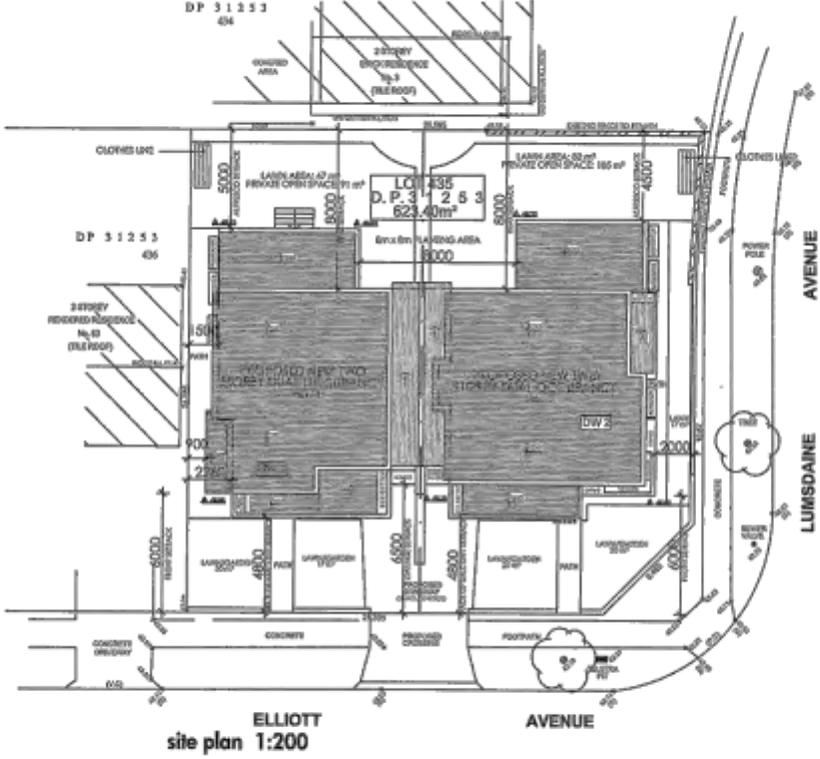


ITEM 2 (continued)

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CALCULATIONS:

site area:	639.43 sqm
allowed FFR 60%:	311.70 sqm
DWELLING 1	
total site DW 1:	250.20 sqm
total ground floor area:	57 sqm
total 1st floor area:	75.30 sqm (incl. set)
total allowed area:	145.10 sqm
garage area:	21 sqm
private open space:	91 sqm
setback deducted:	7.5 sqm once
total Proposed floor area:	144 sqm 49.42% after subdivision
DWELLING 2	
total site DW 2:	333.20 sqm
total ground floor area:	107 sqm
total 1st floor area:	65 sqm (incl. set)
total allowed area:	164.50 sqm
garage area:	23 sqm
private open space:	105 sqm
setback deducted:	4 sqm once
total Proposed Floor area:	164 sqm 49.20% after subdivision
total soft landscaping:	243 sqm 39% of site
total floor area:	308 sqm 49.30% of site

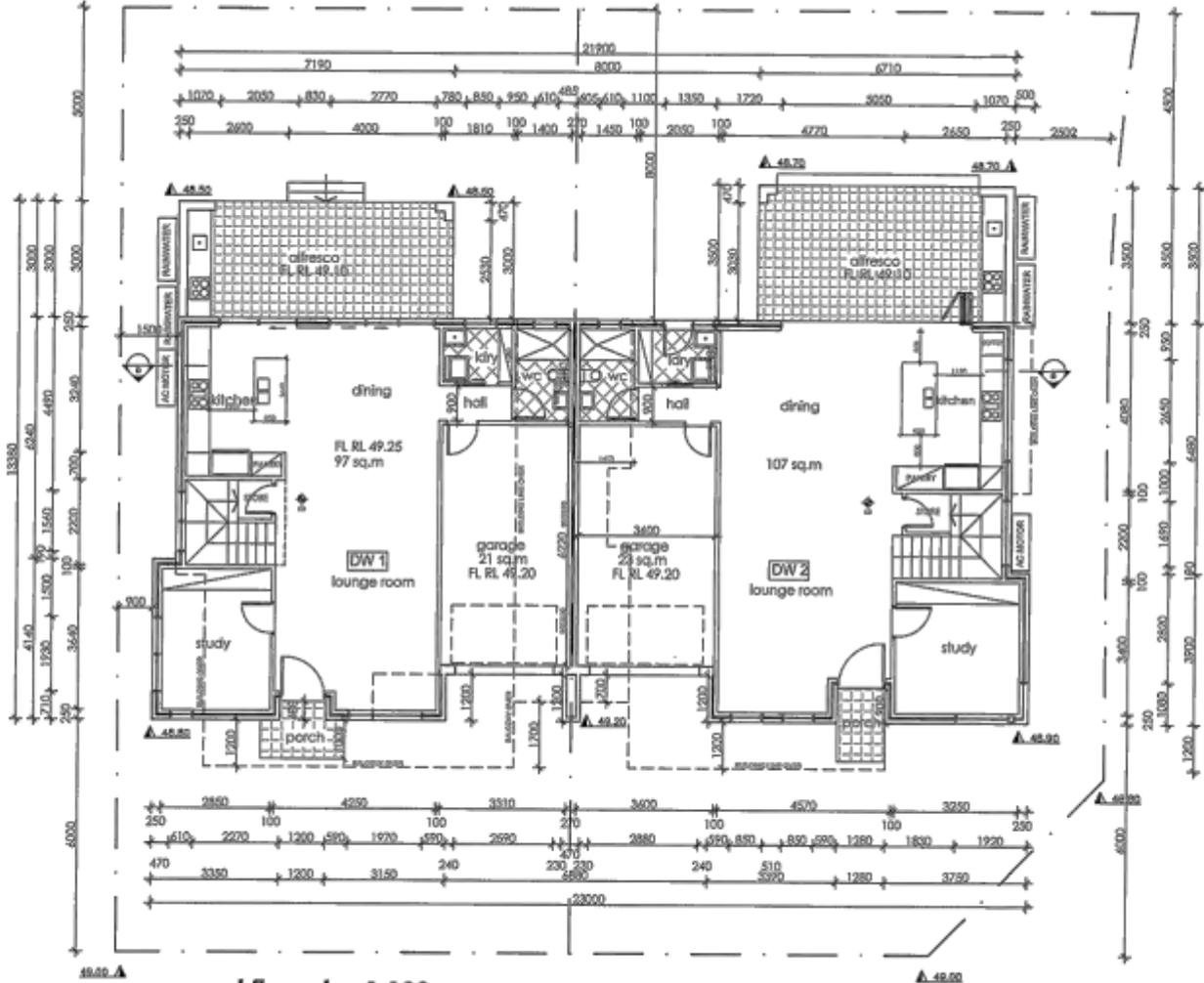


1 Lumsdaine Avenue **EAST RYDE**

Scale: A3 - 1:200	Drawn by: mouzner mortada	Rev: 04/04/2016	2/15
Date: 4th April, 2016	Project: 16/16/16/001	Client: 6456 126 028	Rev: 04/04/2016

ITEM 2 (continued)

ATTACHMENT 4



ground floor plan 1:100

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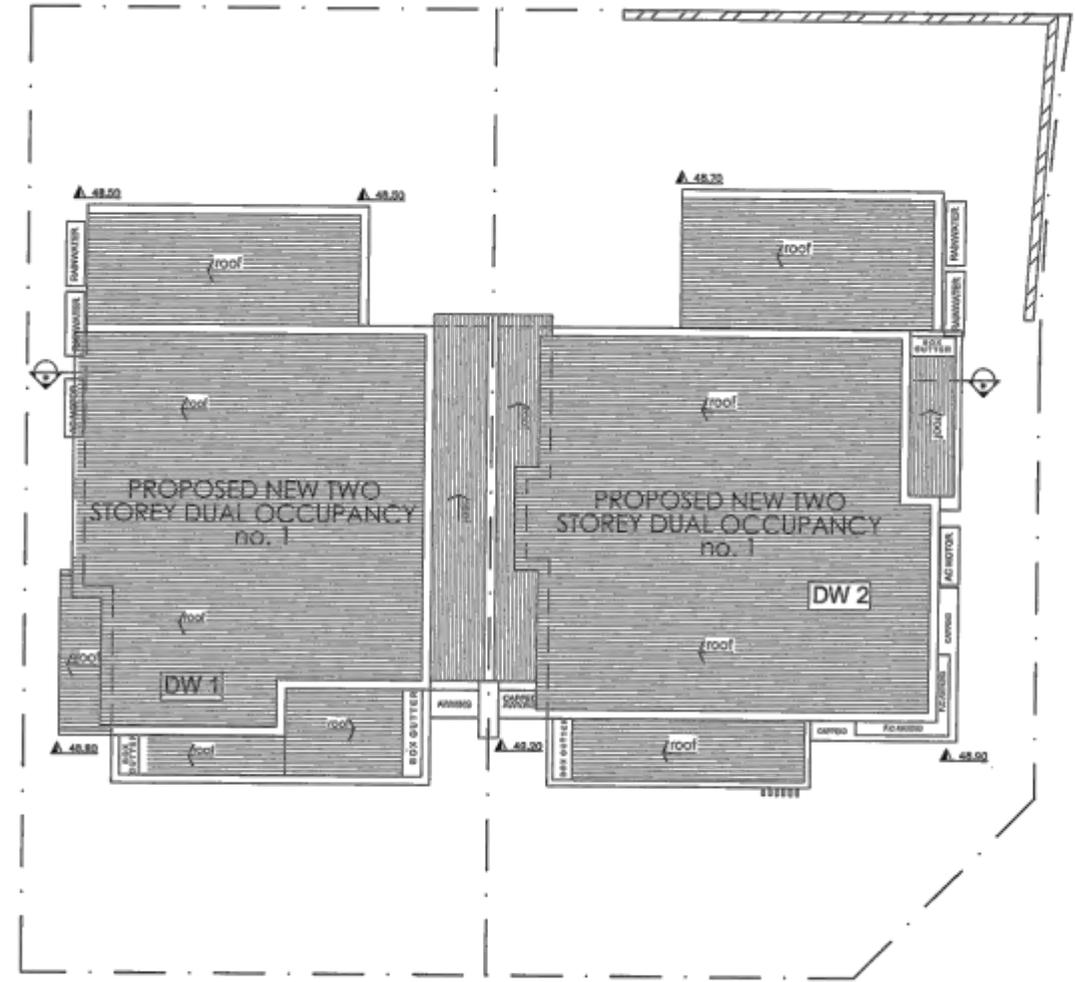
1 Lumsdaine Avenue **EAST RYDE**

Scale: A3 - 1:100	Drawn: moszner mortada	Rev: 04/05/16 08
Date: 4th April, 2016	Checked: moszner mortada	Rev: 04/05/16 08
	Project: 16/001	Rev: 04/05/16 08

3/15

ITEM 2 (continued)

ATTACHMENT 4



roof plan 1:100

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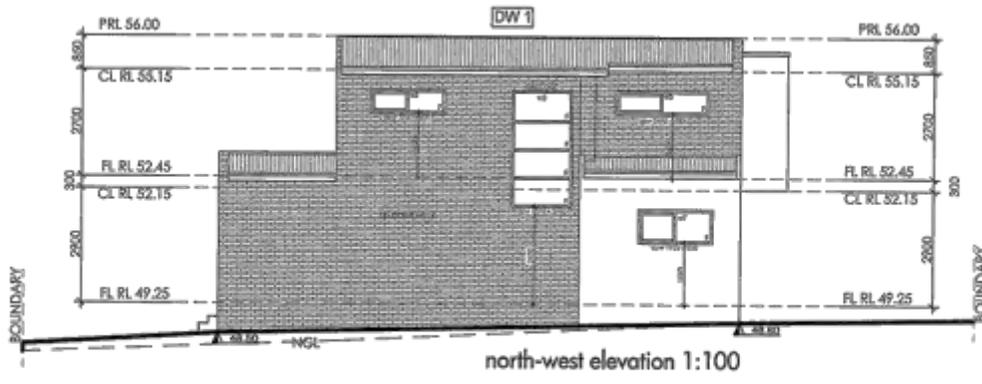
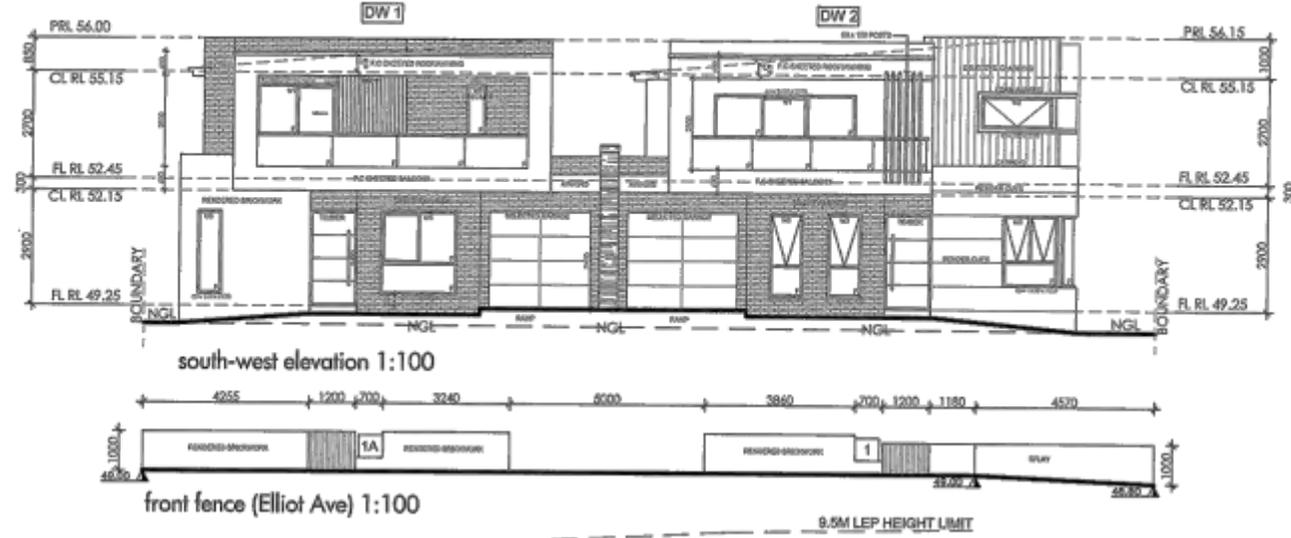


1 Lumsdaine Avenue **EAST RYDE**

Scale: A3 - 1:100	Drawn: mounzar morladi	Rev: 0000 028 000	5/15
Date: 4th April, 2016	Checked: mounzar morladi	Rev: 0000 028 000	

ITEM 2 (continued)

ATTACHMENT 4



MATERIALS COLOUR SCHEDULE	
WALLS:	RENDERED PAINTED LIGHT GREY/ FACE BRICK WESPER WHITE (DULUX)
ROOF TILES:	METAL ROOF (SHALE GREY) OR SIMILAR
WINDOWS:	SILVER ALUMINIUM FRAME
BRICK COLUMNS/ FARAPETS	RENDERED AND PAINTED GREY SAME AS WALLS
FRONT DOOR:	TIMBER (GOLDEN OAK)
COMPOSITE PANELS:	SILVER ALUMINIUM (ALUCOBOND)
STONE FEATURE WALL:	TRAVERTINE/STONE/TIMBER



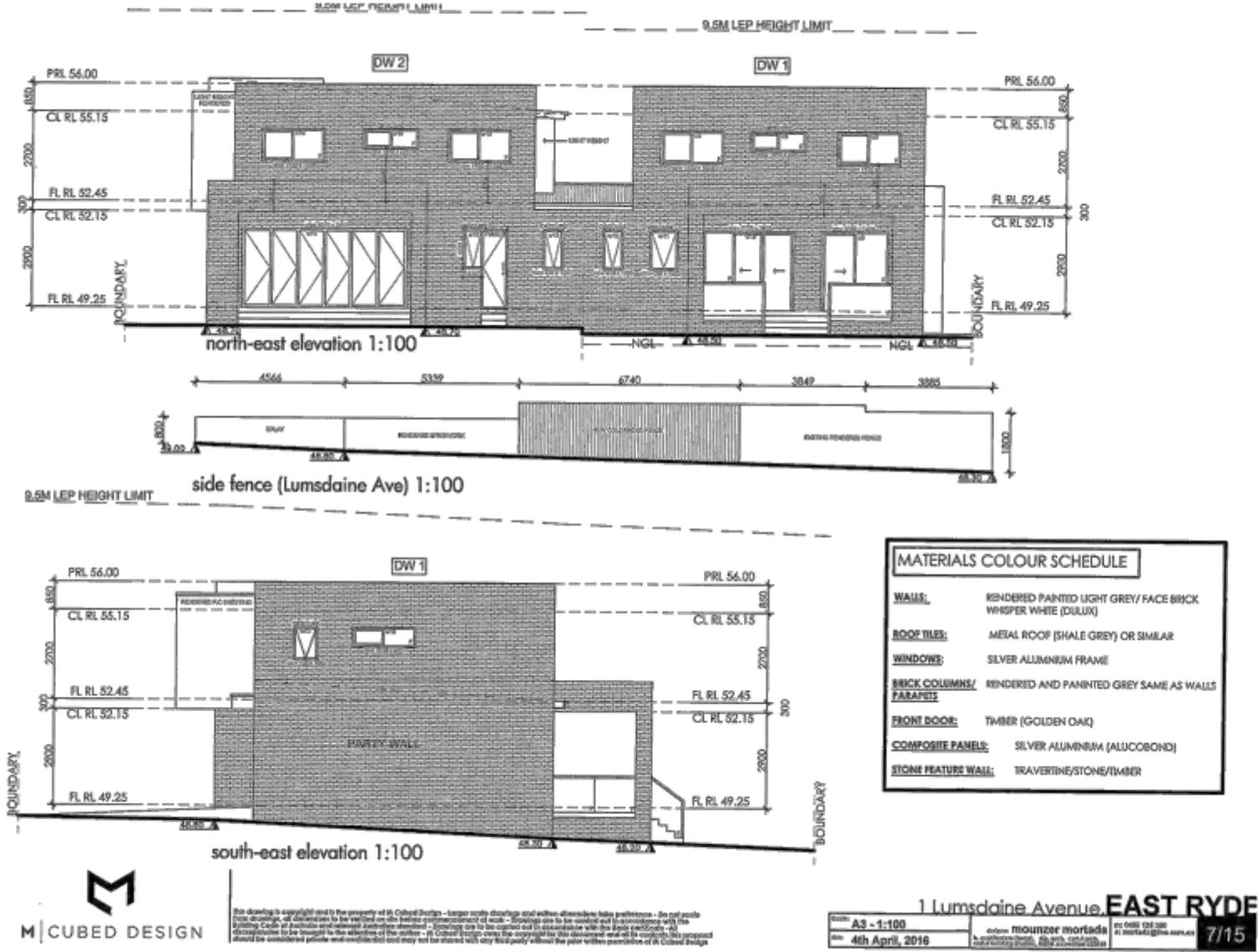
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1 Lumsdaine Avenue **EAST RYDE**

Scale: A3 - 1:100	Project: Inouzer mortars	Date: 6/15
Date: 4th April, 2016	Author: Inouzer mortars	Drawn: Inouzer mortars

ITEM 2 (continued)

ATTACHMENT 4



ITEM 2 (continued)

ATTACHMENT 4



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**BASIX COMMITMENTS
WATER COMMITMENTS**

THE APPLICANT MUST PLANT INDIGENOUS OR LOW WATER USE SPECIES VEGETATION THROUGHOUT 20 METRES OF THE SITE.

WATER COMMITMENTS

THE APPLICANT MUST INSTALL SHOWERSHEADS WITH A MINIMUM RATING OF 3 STAR IN ALL SHOWERS IN THE DEVELOPMENT.
THE APPLICANT MUST INSTALL A TOILET FLUSHING SYSTEM WITH A MINIMUM RATING OF 4 STAR IN EACH TOILET IN THE DEVELOPMENT.
THE APPLICANT MUST INSTALL TAPS WITH A MINIMUM RATING OF 5 STAR IN THE KITCHEN IN THE DEVELOPMENT.
THE APPLICANT MUST INSTALL BASIN TAPS WITH A MINIMUM RATING OF 8 STAR IN EACH BATHROOM IN THE DEVELOPMENT.

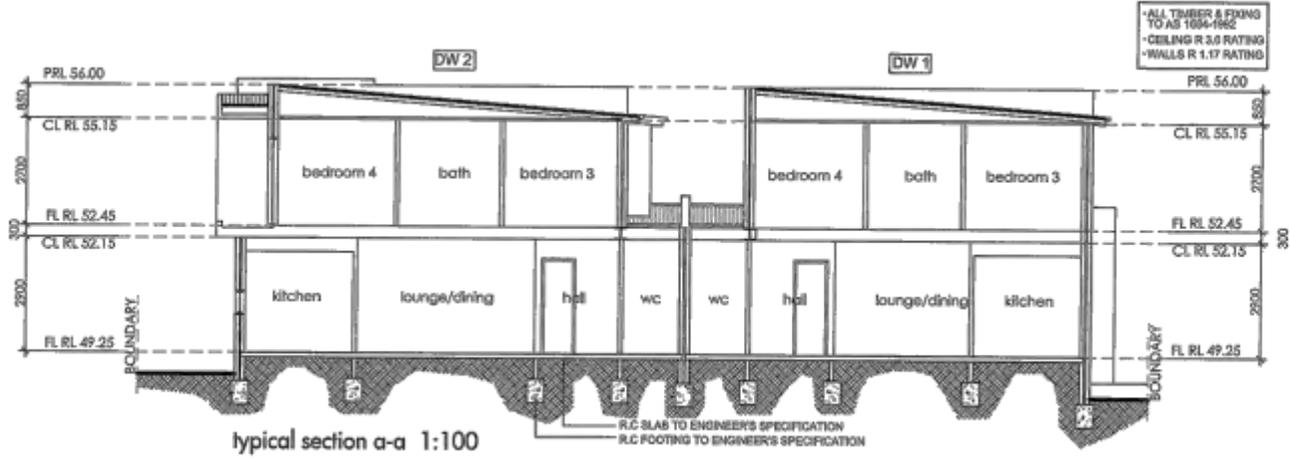
ALTERNATIVE WATER

THE APPLICANT MUST INSTALL A RAINWATER TANK OF AT LEAST 1000 LITRES FOR EACH DWELLING ON THE SITE. THIS RAINWATER TANK MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ALL APPLICABLE REGULATORY AUTHORITIES.
THE APPLICANT MUST CONFIGURE THE RAINWATER TANK TO COLLECT RUN-OFF FROM AT LEAST 80% METRES OF THE ROOF AREA OF THE DEVELOPMENT. THE APPLICANT MUST CONNECT THE RAINWATER TANK TO:
• ALL TOILETS IN THE DEVELOPMENT.
• THE COLD WATER TAP THAT SUPPLIES EACH CLOTHES WASHER IN THE DEVELOPMENT.
• AT LEAST ONE (1) OUTDOOR TAP IN THE DEVELOPMENT.

THERMAL COMFORT COMMITMENTS

Floor, wall and ceiling roof:

CONCRETE SLAB ON GROUND	RS	
FLOOR-GUARDRAIL FLOOR	NS	
ABOVE GARAGE	NS	
EXTERNAL WALL - BRICK VENEER	1.50	INCLUDES CONSTRUCTION OR 1.50 BETWEEN CAVITY
EXTERNAL WALL SHARED WITH GARAGE-SINGLE ORN	NS	
INTERNAL WALL	NS	
CEILING AND ROOF - FLAT CEILING/FINISHED	CEILING: R 0.50 (P) ROOF: R 0.50 (P)	UNVENTILATED, DARK (SOLAR ABSORPTANCE) <= 0.30



HOT WATER

THE APPLICANT MUST INSTALL THE FOLLOWING HOT WATER SYSTEM IN THE DEVELOPMENT, OR A SYSTEM WITH A HIGHER ENERGY RATING:
• GAS INSTANTaneous WITH A PERFORMANCE OF 8 STARS.

COOLING SYSTEM

THE APPLICANT MUST INSTALL THE FOLLOWING COOLING SYSTEM, OR A SYSTEM WITH A HIGHER ENERGY RATING, IN AT LEAST 1 LIVING AREA: 1 PHASE AIR CONDITIONING; ENERGY RATING: EER >= 4.0
THE APPLICANT MUST INSTALL THE FOLLOWING COOLING SYSTEM, OR A SYSTEM WITH A HIGHER ENERGY RATING, IN AT LEAST 1 BEDROOM: 1 PHASE AIR CONDITIONING; ENERGY RATING: EER >= 4.0
THE COOLING SYSTEM MUST PROVIDE FOR DAY/NIGHT ZONING BETWEEN LIVING AREAS AND BEDROOMS.

HEATING SYSTEM

THE APPLICANT MUST INSTALL THE FOLLOWING HEATING SYSTEM, OR A SYSTEM WITH A HIGHER ENERGY RATING, IN AT LEAST 1 LIVING AREA: 1 PHASE AIR CONDITIONING; ENERGY RATING: EER >= 4.0
THE APPLICANT MUST INSTALL THE FOLLOWING HEATING SYSTEM, OR A SYSTEM WITH A HIGHER ENERGY RATING, IN AT LEAST 1 BEDROOM: 1 PHASE AIR CONDITIONING; ENERGY RATING: EER >= 4.0
THE HEATING SYSTEM MUST PROVIDE FOR DAY/NIGHT ZONING BETWEEN LIVING AREAS AND BEDROOMS.

VENTILATION

THE APPLICANT MUST INSTALL THE FOLLOWING EXHAUST SYSTEM IN THE DEVELOPMENT:
AT LEAST 1 BEDROOM: NO MECHANICAL VENTILATION (IE: NATURAL); OPERATION CONTROL: N/A.
KITCHEN: INDIVIDUAL FAN, DUCTED TO FACADE OR ROOF; OPERATION CONTROL: MANUAL; SWITCH ON/OFF, LAUNDRY: NATURAL VENTILATION ONLY; OPERATION CONTROL: N/A.

ARTIFICIAL LIGHTING

THE APPLICANT MUST ENSURE THAT THE 'PRIMARY' TYPE OF ARTIFICIAL LIGHTING IS FLUORESCENT OR LIGHT EMITTING DIODE (LED) LIGHTING IN EACH OF THE FOLLOWING ROOMS, AND WHERE THE WORD 'DEDICATED' APPEARS, THE FITTINGS FOR THOSE LIGHTS MUST ONLY BE CAPABLE OF ACCEPTING FLUORESCENT OR LIGHT EMITTING DIODE (LED) LAMPS:
• AT LEAST 0 OF THE BEDROOM(S)/STUDY; DEDICATED.
• AT LEAST 0 OF THE LIVING/DINING ROOMS; DEDICATED.

NATURAL LIGHTING

THE APPLICANT MUST INSTALL A WINDOW AND/OR SKYLIGHT IN 3 BATHROOM(S) TOILET(S) IN THE DEVELOPMENT FOR NATURAL LIGHTING.

OTHER

THE APPLICANT MUST INSTALL A GAS COOKTOP AND ELECTRIC OVEN IN THE KITCHEN IN THE DWELLING. THE APPLICANT MUST INSTALL A FIXED INDOOR CLOTHES DRYING LINE AS PART OF THE DEVELOPMENT. THE APPLICANT MUST INSTALL A FIXED OUTDOOR CLOTHES DRYING LINE AS PART OF THE DEVELOPMENT. THE APPLICANT MUST CONSTRUCT EACH REFRESHMENT SPACE IN THE DEVELOPMENT SO THAT IT IS 'WELL VENTILATED', AS DEFINED IN THE 'BASIX' DEFINITIONS.

POOL:

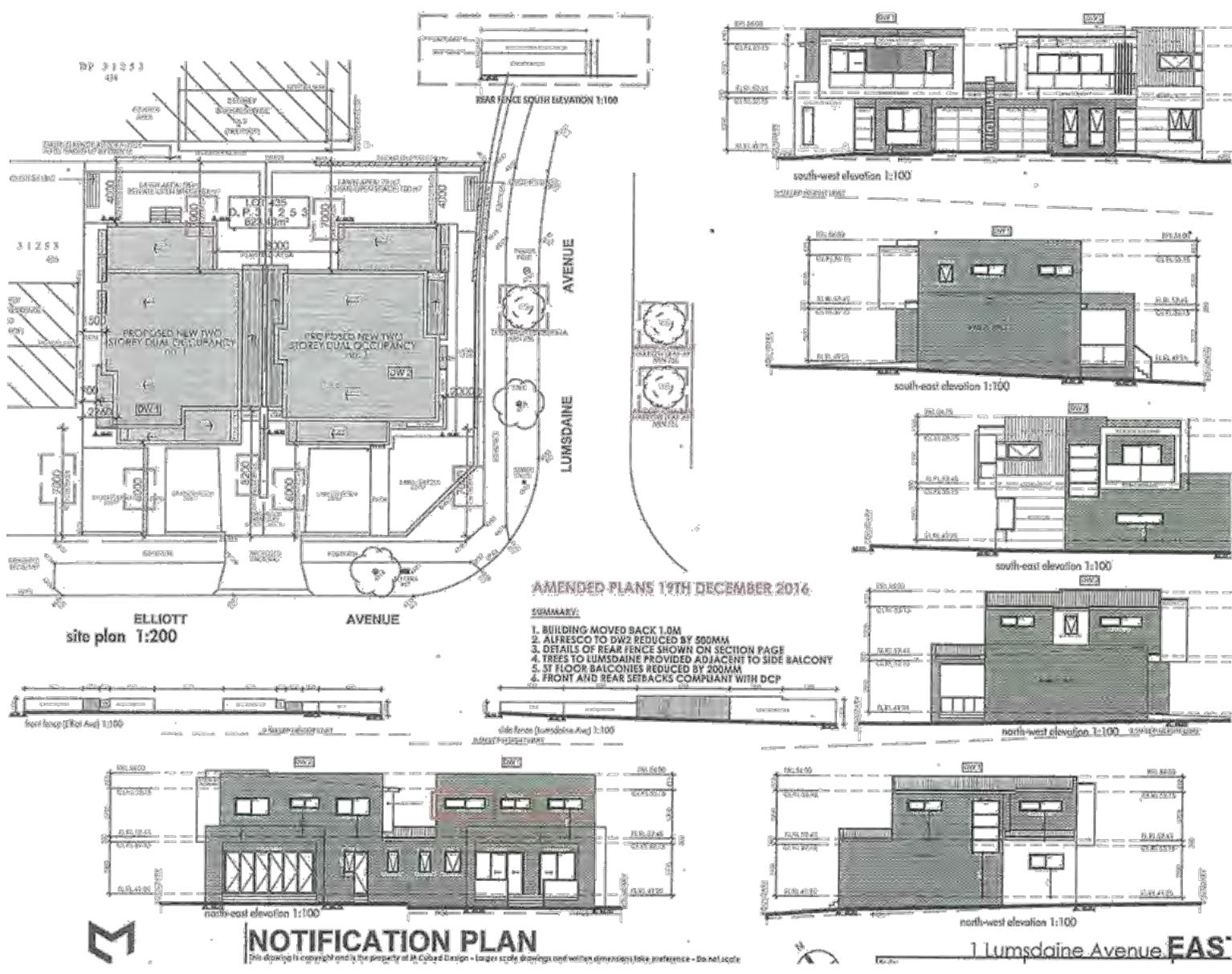
NO POOL - MORE THAN NIL.

1 Lumsdaine Avenue **EAST RYDE**

Project: A3 - 1/100	Client: mounzer mortada	Project No: 1015 (2) 100	Date: 9/15
Date: 4th April, 2016	Author: [Signature]	Check: [Signature]	Drawn: [Signature]

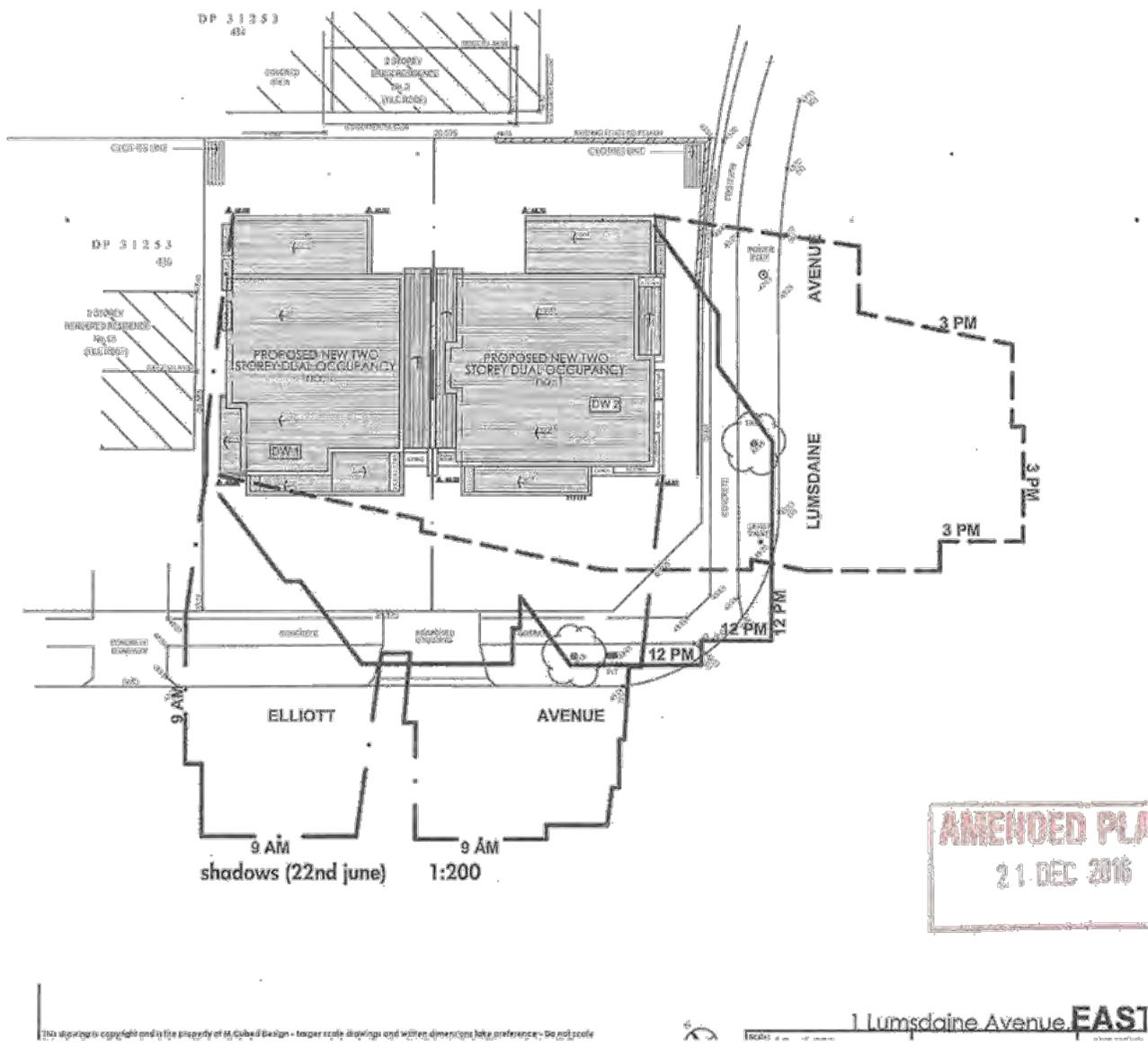
ITEM 2 (continued)

ATTACHMENT 5



ITEM 2 (continued)

ATTACHMENT 5



3 66 - 82 TALAVERA ROAD MACQUARIE PARK - AMENDMENT TO THE GATEWAY DETERMINATION

Report prepared by: Strategic Planner; Senior Coordinator - Strategic Planning
File No.: LEP2015/5/3 - BP16/1500

REPORT SUMMARY

On 8 December 2015 Council considered a Planning Proposal (PP) for 66 – 82 Talavera Road Macquarie Park that sought to amend the zoning of the site from B7 Business Park to B4 Mixed Use, increase the maximum incentive height of buildings permitted on the eastern portion of the site from 45m to 120m and increase the incentive FSR across the whole of the site from 1.5:1 to 3.5:1. The amendments to the Local Environmental Plan (LEP) proposed to facilitate a development for approximately 1,125 dwellings and 20,000sqm non residential floor space. At this meeting Council resolved to defer determination of the PP until the Macquarie Park Strategic Investigation Draft Plan was completed.

On 15 December 2015 Council resolved to provide in-principle support for the PP subject to a commensurate level of community benefit being provided via a Voluntary Planning Agreement. On 26 July 2016 Council considered a confidential report on the Voluntary Planning Agreement (VPA) offer. At this meeting Council considered not only the report on the VPA, but also letters of offer tabled at the meeting. The letters of offer were not anticipated or addressed by the report. In response Council resolved:-

- (a) That Council accept the irrevocable letters of offer from Holdmark dated 21 and 26 July 2016 to enter into a Voluntary Planning Agreement in accordance with Option 3 as outlined in the Report.*

- (b) That Council forward, within 7 days, the Planning Proposal to the Department of Planning and Environment for Gateway Determination.*

In accordance with the 26 July 2016 Council resolution the PP includes,

1. LEP amendments with the following effect:-
 - An increase in the incentive FSR for the site from 1.5:1 to 3.7:1
 - An increase in the incentive height from 45m to 120m
 - 1,030 space commercial car park to be excluded from FSR (approximately 30,900sqm)
 - 3,500sqm indoor recreation centre to be excluded from FSR
 - 5,296sqm of affordable housing to be excluded from FSR

and

ITEM 3 (continued)

2. The following community benefits:
 - 5,296sqm gross floor area (GFA) of affordable housing
 - An indoor recreation facility of 3,500sqm GFA
 - Approx. 6,100 sqm of open space
 - 20 car spaces dedicated to the indoor recreation facility
 - Up to 180 spaces within the proposed commercial carpark for a maximum of 2.5 hours free parking for users of the recreation facility
 - Pedestrian bridge over Talavera Road
 - \$5 million contribution to Roadworks and Traffic Management
 - Payment of Section 94 Contributions applicable to the development.

When the GFA exclusions of 26 July 2016 are taken into account the floor space for the site is equivalent to an FSR of approx. 4.75:1. It should be noted that the impacts of this level of development and the commercial car park, particularly in respect of traffic impacts and any consequential mitigation measures were not contemplated or assessed by the Council report of 26 July 2016.

It should be noted that this PP was determined to proceed based on offers of community benefit to mitigate its impacts. The Planning Agreement between City of Ryde Council and Holdmark Property Group, including detailed provisions, timeframes for delivery and guarantee of delivery is yet to be finalised and will be the subject of a separate report to Council. The updated PP reflects the VPA offer and Council's resolutions of 26 July 2016 and requests additional LEP amendments. The request for additional LEP amendments are not accompanied by an updated VPA offer.

A Gateway Determination (GD) for the Planning Proposal was issued by the Department of Planning and Environment (DPE) on 21 September 2016 subject to conditions including:

- The Planning Proposal include satisfactory arrangements provisions for contributions to designated State public infrastructure identified as part of a draft or final strategic investigation for Macquarie Park.
- Apply an FSR of 3.7:1 across the whole site.
- Additional GFA of 11,400 sqm for affordable housing and a recreation centre.

The GD is required to be amended in order to reflect Council's resolution of 26 July 2016. Specifically the GFA exclusions for the commercial car park must be added as a condition and a GD condition is required to be amended from 11,400sqm to 8,796sqm. This report recommends that Council request DPE amend the GD accordingly.

The Gateway Determination is **ATTACHED**.

ITEM 3 (continued)

The applicant has submitted an updated PP to align with the Council's resolutions of 26 July 2016. The document also requests additional LEP amendments including an increase in the permissible height of buildings from 120m to 154m across part of the site arguing that it is needed to accommodate the FSR exclusions and the increase in FSR from 3.5:1 to 3.7:1 as per the letters tabled at the Council meeting of 26 July 2016.

The increase in height and 3.7:1 FSR has been accompanied by a proposed increase in the development capacity of the site from 1,085 to 1,271 private dwellings i.e. an increase of 186 dwellings.

The updated PP also requests an additional FSR exclusion for the enclosure of "wind affected" balconies on the site. The City of Sydney has a similar control in some precincts where balconies are to be used as "external open space." This request is not supported as there will be sufficient open space on the site, it will further increase the development capacity of the site and screens that reduce wind affection may be provided without the need to exclude the balcony from the FSR.

At the time of accepting the letters of offer Council was not advised of the potential increases to building height to accommodate the FSR exclusions and increase in FSR, nor was relevant information provided that would enable consideration of the cumulative impacts of a 1,030 space commercial car park and parking for more than 1,200 dwellings. This report provides a review of the traffic impacts and details concerns arising from potential delay to bus services in Talavera Road and the proximity of the site to already congested Herring Road, the on/off ramps to the M2 and the Macquarie Shopping Centre, with its high traffic generation rates.

The updated PP and request to amend the GD were received in November 2016. However, the documentation was incomplete. The supporting Traffic Impact Assessment was received by Council on 17 January 2017. This TIA was referred to the Roads and Maritime Services (RMS) and their comments raising concerns are included in this report. Review of the 17 January 2017 TIA revealed that it erroneously assumed that the commercial carpark would replace 416 on-street car parking spaces and as a result the TIA was based on the nett impact of 614 commercial parking spaces rather than the full 1,030 spaces. The TIA was requested to be amended to remove this assumption and an updated TIA was received on 2 March 2017. However, due to time constraints the 2 March 2017 TIA has not been referred to the RMS. Notwithstanding, RMS has raised concerns even without the benefit of considering the full traffic impact of the proposal. Council's traffic section has also raised concerns with respect to impacts of the development. It is critical that further analysis is undertaken to ensure that traffic impacts including bus service time delays are suitably mitigated and that feasible transport infrastructure upgrades and associated funding and delivery mechanisms are identified.

ITEM 3 (continued)

This report recommends that consideration of the new request for additional amendments to the PP and GD is deferred to allow Council and the RMS to more fully consider the impacts of the PP, the impact on the road network and any potential transport infrastructure that may be needed to mitigate these impacts. Should Council support the amended PP (whether in response to this report or at a later date after consideration) this will also require the GD to be amended.

The differences between the original PP and the PP now before Council are detailed in the following table.

Table A – Development Outcomes
Differences between the original and amended PP
 Red text indicates amendments requested post 26 July 2016

	Original PP	Amended PP as per Council resolutions July 2016 and new requests
Site Area	37, 832 sqm	37, 832sqm
Proposed development capacity (sqm)	132,412 sqm approx. total floor space	193,511sqm approx. total floor space 139,978 with exclusions taken into account
FSR	3.5:1	3.7:1 Excluding:- 5,296sqm of affordable housing, 3,500 sqm indoor recreation centre 1,030 commercial car parking spaces (30,900sqm FSR approx.) Enclosed wind affected balconies (13,837sqm) Note. The FSR with all the above included is 5.1:1
Height	120m maximum (equivalent to 38-40 storeys)	154m maximum (centre of site) (49-52 storeys)
Total Dwellings	1,125	1,327
- Private	1,085	1,271 (additional 186 dwellings)
- Affordable	40	56
Total Non-Residential GFA	20,000sqm	20,000sqm
Indoor recreation centre	Nil	3,500sqm GFA and 20 associated car parking spaces
Car Parking -	1,704 comprising -1,173 residential spaces	2,826 comprising -1,265 residential spaces - up to 333 non-residential spaces

ITEM 3 (continued)

	- up to 353 visitor /non-residential spaces - 178 approved / existing parking spaces	- 20 indoor recreation spaces - 1,030 commercial car parking spaces (including 180 car spaces 2.5 hours free parking for recreation centre users) * see note below - 178 approved / existing parking spaces
Public open space	10, 000	6,100sqm

Note: 1,030 commercial car parking spaces is included in the updated PP but was adopted as part of Council's resolutions of 26 July 2016 and as a result is not indicated in red as a newly requested amendment.

In conclusion, this report recommends that the GD is requested to be amended in order to reflect Council's resolution of 26 July 2016. Specifically this will require that the conditions of the GD will be amended as follows;

- GFA exclusion of 11,400sqm for affordable housing and a recreation centre.
- Amended to:
- GFA exclusion of 8,796sqm for affordable housing and recreation facility.
- and:
- Additional exclusion from GFA for 1,030 commercial car park spaces.

This report considers the new requests for changes to the Planning Proposal which would also require an amendment to the GD if supported. The newly requested LEP amendments are:

- Increase the maximum height in the centre of the site from 120m to 154m, to accommodate the 3.7:1 FSR and FSR exclusions identified in letters dated 21 and 26 July 2016 and tabled at the Council meeting of 26 July 2016.
- A minimum of 20,000sqm of non-residential floor space be specified to be delivered on the site, and
- Exclusion from GFA of any wind affected balcony from the calculation of FSR

In respect of the new requested changes to the LEP and Planning Proposal, Council has the option of supporting these as submitted, not supporting them to proceed or to defer its consideration of these requests. This report raises concerns regarding the additional 34m increase in height and the request to exclude enclosed balconies from FSR calculations. In order to ensure a mixed use development this report supports a minimum of 20,000sqm of non-residential floor space be specified in the LEP to be delivered on the site.

ITEM 3 (continued)

The RMS and Council's traffic section have also raised concerns about the traffic generated by the development including the 1,030 commercial car park given the site's proximity to already congested Herring Road, the M2 on/off ramps and the Macquarie Shopping Centre and the potential impacts on public transport (bus) services. The RMS and Transport NSW has not had the opportunity to fully consider the impacts of the proposal.

As a consequence of the concerns raised, this report recommends that Council defer its consideration of the new requested LEP amendments so that both Council and the RMS may more fully consider the impacts of the Planning Proposal on the local road network in particular, and any improvements to the transport infrastructure or commensurate community benefits that may be required to mitigate these impacts.

Finally the site and development outcomes proposed are complex. As a result, design guidelines in the form of a Development Control Plan (DCP) are considered necessary to ensure that the park amenity (e.g. sunlight access) is protected in the long term and that the public domain interface in particular is of a high quality. The proponent has submitted a Draft DCP. Accordingly, this report recommends the preparation of a DCP (a technical requirement of the legislation in order for it to proceed) and that a separate report is presented to council on this matter. This will be subject to fees as per Council's adopted Fees and Charges (currently \$17,730).

RECOMMENDATION:

- (a) That Council request that the Department of Planning and Environment amend the Gateway Determination issued in respect of 66 – 82 Talavera Road Macquarie Park to reflect the Council resolutions of 26 July 2016. Specifically the Gateway Determination conditions are to be amended as follows:
- GFA exclusion of 11,400sqm for affordable housing and a recreation centre.
- Amended to:*
- GFA exclusion of 8,796sqm for affordable housing and recreation facility.
- and:*
- Additional exclusion from GFA for 1,030 commercial car park spaces.
- (b) That Council;
- a. does not support the request to further amend the Planning Proposal and the Gateway Determination to increase the maximum height in the centre of the site from 120m to 154m, and exclude from GFA of any wind affected balcony from the calculation of FSR; and
 - b. supports the request to further amend the Planning Proposal and the Gateway Determination to specify a minimum of 20,000sqm of non-residential floor space be delivered on the site.

ITEM 3 (continued)

- (c) That Council prepare a Development Control Plan for the property 66 – 82 Talavera Road and that a separate report be presented to Council on this matter.

ATTACHMENTS

- 1 Gateway Determination - 66 - 82 Talavera Road Macquarie Park
- 2 Planning Proposal 66- 82 Talavera Road Macquarie Park
- 3 Attachment A - Macquarie Park Framework for open space and mixed use development 25 June 2015
- 4 Attachment B - Macquarie Park - Growth and Sustainability - Research Study June 2015
- 5 Attachment C - Urban Design Report
- 6 Attachment D - Traffic Impact Assessment
- 7 Attachment E - Socio-Economic Impact Assessment
- 8 Attachment F - Open Space and Landscape Report
- 9 Attachment G - Agenda of the Council Meeting Strategic Investigation of Macquarie Park
- 10 Attachment H - Proposed Mapping Amendments
- 11 Attachment I - Council Resolution
- 12 Attachment J - DRAFT Development Control Plan
- 13 RMS Comments - Planning Proposal for 66-82 Talavera Road Macquarie Park

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ITEM 3 (continued)

Background

Council received in 2015 a Planning Proposal (PP) for 66 – 82 Talavera Rd Macquarie Park (known as the “the site”). The Planning Proposal sought to change the zoning, incentive height and floor space ratio controls applying to the site to facilitate the development of the site for a mixed use development containing approximately 1,085 dwellings plus 40 key worker dwellings, 20,000m² of non-residential floor space and 1,526 car parking spaces and 10,000m² of open space area.

This required:

- Amending LEP 2014 Land Zoning Map from B7 Business Park to B4 Mixed Use for the site.
- Amending LEP 2014 Macquarie Park Corridor Precinct Incentive Height of Buildings Map to increase the maximum height of buildings permitted on the eastern portion of the site from 45m to 120m and
- Amending LEP 2014 Macquarie Park Corridor Precinct Incentive Floor Space Ratio Map to increase the FSR across the whole of the site from 1.5:1 to 3.5:1.

At the Planning and Environment Committee meeting of the 8 December 2015, Council resolved to defer the determination of the PP until the Macquarie Park Strategic Review and supporting draft Plan was completed and that upon that occurring an amended Planning Proposal and a Voluntary Planning Agreement be submitted based on that draft Plan.

A rescission motion was lodged against the resolution and Council resolved on the 15 December 2015 to provide in-principle support for the PP subject to the proponent providing an appropriate level of community benefit to the City of Ryde via a Voluntary Planning Agreement.

Council on the 26 July 2016 considered a confidential report regarding letters of offer from the proponent and at that meeting resolved the following:

- (a) That Council accept the irrevocable letters of offer from Holdmark dated 21 and 26 July 2016 to enter into a Voluntary Planning Agreement in accordance with Option 3 as outlined in the Report.*
- (b) That Council forward, within 7 days, the Planning Proposal to the Department of Planning and Environment for Gateway Determination.*

The submitted VPA offer, endorsed by Council results in the provision of the following public benefits on the site:

- 5,296sqm gross floor area (GFA) of affordable housing (approx. 56 dwellings);
- An indoor recreation facility of 3,500sqm GFA;

ITEM 3 (continued)

- Approx. 6,100 sqm of public open space;
- 20 car spaces dedicated to the indoor recreation facility and up to 180 spaces within the proposed public car park for a maximum of 2.5 hours free parking for uses of the recreation facility;
- Terracing of the site;
- Pedestrian bridge over Talavera Road;
- \$5 million contribution to Roadworks and Traffic Management;
- 4.5m wide footpath along Talavera Road frontage;
- Payment of Section 94 Contributions on the site, and
- Transfer of assets at no cost to Council.(Amended PP v2 page 38)

The Planning Agreement is yet to be finalised between City of Ryde Council and Holdmark Property Group.

By adopting the letters of offer from Holdmark dated 21 and 26 July 2016 Council supported the following:-

- An increase in FSR for the site from 3.5:1 to 3.7:1
- A commercial car park containing 1030 spaces which is to be excluded from FSR
- A 3,500sqm indoor recreation centre to be excluded from FSR
- A 5,296sqm of affordable housing to be excluded from FSR

Discussion

The Gateway Determination for 66 – 82 Talavera Road Macquarie Park was issued by the Department of Planning and Environment on the 21 September 2016 subject to a number of conditions including the following:-

1. *Prior to undertaking community consultation the planning proposal is to be updated to*
 - a. Apply a maximum floor space ratio of 3.7:1 across the whole site and
 - b. Include an additional gross floor area of 11,400 sqm for affordable housing and recreation centre be permitted across the whole site
 - c. Include a satisfactory arrangements provision for contributions to designated State public infrastructure identified as part of a draft or final strategic investigation for Macquarie Park.

The Gateway determination is **ATTACHED**.

The Gateway Determination (GD) is required to be amended as it does not correctly address the exclusions to the floor space ratio (FSR) agreed to by Council. The applicant has also asked for additional amendments to the GD. The required and additional amendments to the GD are looked at in detail below.

ITEM 3 (continued)

Required Amendments to the GD

Table 4 identifies the amendments necessary to the GD to satisfy Council's resolution of the 26 July 2016 to accept the letters of offer from Holdmark dated 21 and 26 July 2016 adopted by Council on the 26 July 2016.

Table 4 – Amendments to Gateway Determination to implement Council resolution of 26 July 2016

Amendment to Gateway Determination	Reason	Comments
Floor space exclusions		
<p><i>Existing GD condition</i></p> <p>1. GFA exclusion of 11,400sqm for affordable housing and a recreation centre.</p> <p><i>Amended to</i></p> <p>GFA exclusion of 8,796sqm for affordable housing and recreation facility.</p>	<p>This amendment implements Council's resolution of 26 July 2016</p>	
<p><i>New GD condition</i></p> <p>2. Additional exclusion from GFA of 1,030 commercial car parking spaces.</p>	<p>This amendment implements Council's resolution of 26 July 2016</p>	<p>Under the RLEP 2014 definition of gross floor area car parking that exceeds the planning controls is included in FSR calculations. The commercial car park is in addition to that required by the proposed development and equates to approx. 30,900sqm. This is proposed to be excluded from FSR.</p> <p>The total amount of FSR proposed on the site including the commercial car park, affordable housing and recreation centre, is approximately 4.75:1. This was not explicit in the VPA letters of offer to Council dated 21 and 26 July 2016.</p>

ITEM 3 (continued)

Response to the required changes

1. *Amend GFA exclusion for affordable housing and recreation facility.*

There is no objection to the amendment to the existing GD condition to reduce the amount of maximum floor space to be excluded from FSR for affordable housing or a recreation centre from 11,400sqm to 8,796sqm.

2. *Additional exclusion of commercial car park*

The commercial car park is for 1,030 car parking spaces, of which 180 spaces are for a maximum 2.5 hours to be free to users of the recreation centre. The commercial car park is estimated to represent 30,900sqm of floor space. If the commercial car park was not excluded from FSR, as per the VPA letters of offer from Holdmark dated 21 and 26 July 2016 that were accepted by Council, the FSR for the site would be approximately 4.75:1. This is significantly above the accepted PP of 3.7:1.

Requested amendments to the GD

Table 5 identifies the additional amendments requested by the applicant. The amendments are a result of the applicant reviewing the impact of the endorsed FSR exclusions on the built form outcomes for the site. An amended PP was submitted to Council by the proponent. This, if accepted by Council, will require further amendments to the GD.

The amended PP is **ATTACHED**.

Table 5

Amendment to Gateway Determination (GD)
Height
<i>New GD condition</i> 1. Increase maximum height in the centre of the site from 120m to 154m.
Land use
<i>New GD condition</i> 2. A minimum 20,000sqm of floor space being for non-residential uses (including the existing commercial building on the site)
Floor space
<i>New GD condition</i> 3. Additional exclusion from GFA of any wind affected balcony from the calculation of FSR (wind affected includes any RFB that is over 30m high and partially enclosed).

ITEM 3 (continued)

Each requested additional GD condition is considered below.

1. Increase in Height

Table 6 provides a comparison between height controls endorsed by Council on the 26 July 2016 and the heights now proposed under the amended PP. Table 7 provides a comparison of building forms and dwelling numbers under the endorsed PP and the amended PP. Diagram 1 provides a visual comparison of the endorsed and proposed height layouts.

Table 6 Height

Amendment to LEP 2014 under Endorsed PP	Proposed amendment to LEP 2014 via Gateway determination condition														
<p>120m</p> <p>(This will permit approximately 38storeys)</p>  <p>Maximum Building Height (m)</p> <table border="1" data-bbox="231 1489 454 1568"> <tr><td>X</td><td>45</td></tr> <tr><td>AA</td><td>65</td></tr> <tr><td>AC</td><td>120</td></tr> </table>	X	45	AA	65	AC	120	<p>154m in the centre of site 120m for remainder of site</p> <p>The additional 34m in the centre of the site equates to 11 storeys.</p>  <p>Maximum Building Height (m)</p> <table border="1" data-bbox="837 1489 1061 1568"> <tr><td>X</td><td>45</td></tr> <tr><td>AA</td><td>65</td></tr> <tr><td>AC</td><td>120</td></tr> <tr><td>AE</td><td>154</td></tr> </table>	X	45	AA	65	AC	120	AE	154
X	45														
AA	65														
AC	120														
X	45														
AA	65														
AC	120														
AE	154														

ITEM 3 (continued)

Table 7 Comparison of Built form

	Endorsed Development	Amended Planning Proposal
Site Planning	4 towers – 38 storeys (120m) 4 buildings – up to 7 storeys (20m – 30m)	1 tower – 49 to 52 storeys 3 buildings – 38 storeys 4 buildings – up to 7 storeys (20m – 30m)
Proposed development capacity (sqm)	132,500 sqm approx. total floor space	193,511 approx. total floor space 139,978 with exclusions taken into account
FSR	3.7:1 (not including exclusions)	3.7:1 (not including exclusions)
Total No. Dwellings	1,125	1,327
Private dwellings	1,085	1,271
Affordable housing	40	56

Diagram 1 Site layouts comparison

Plan of Endorsed Development



ITEM 3 (continued)

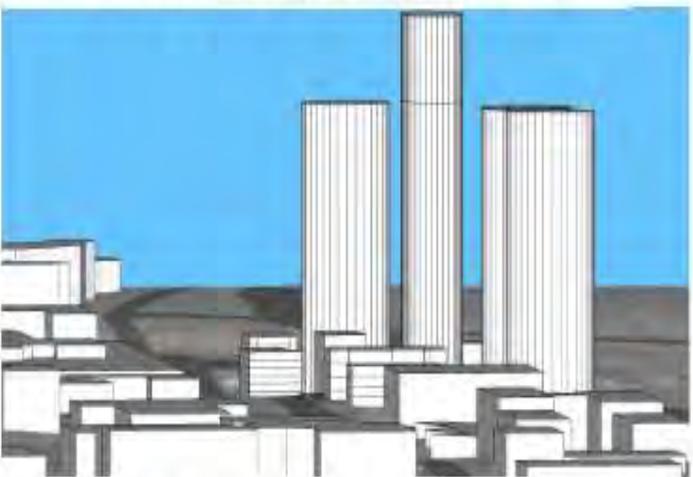
Amended Planning Proposal



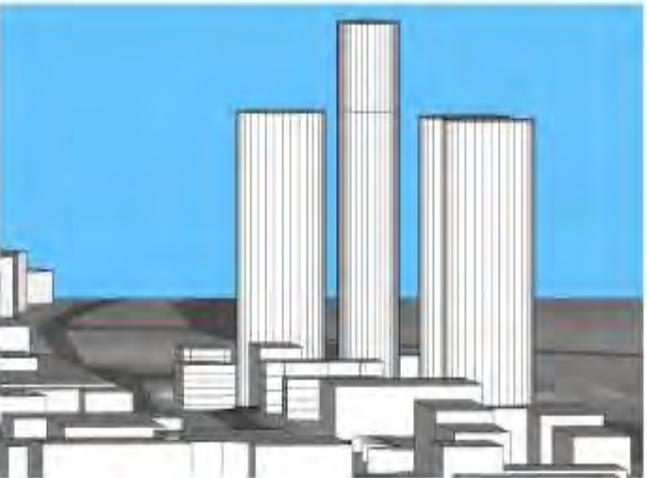
**ITEM 3 (continued)
Diagram 2 Perspective views**



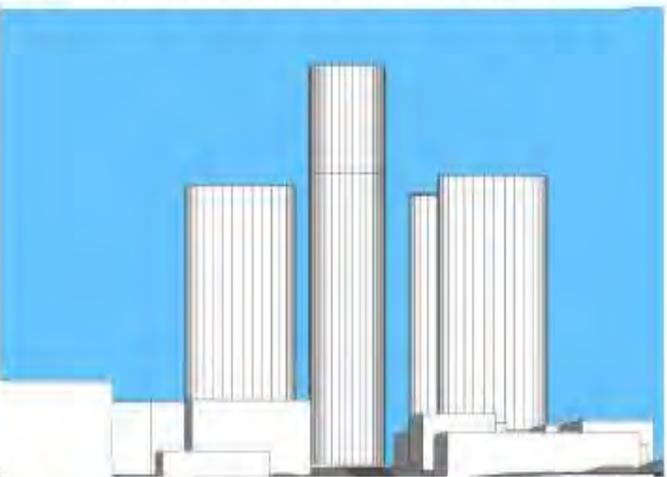
Perspective view corner Talavera Road and Herring Road



Perspective view corner Talavera Road and Lane Cove Road



Perspective view corner Talavera Road and Lane Cove Road



Perspective view corner Talavera Road and Khartoum Road

(Urban Design Report pg45)

ITEM 3 (continued)

The proponent states that the proposal as originally conceived (120m high) and now proposed (part 154m high) will:

- *Accommodate the floor space agreed to by Council (Amended PP v2 pge33)*

Response

Council was not advised of the need to increase the height of the development when it was requested to exclude certain floor space from the FSR calculations and increase the proposed FSR from 3.5:1 to 3.7:1. It has not been adequately demonstrated that the additional height is necessary to enable the delivery of the community benefit or the 3.7:1 FSR endorsed by Council.

The increase in height and FSR to 3.7:1 has been accompanied by an increase in the development capacity of the site i.e. an increase of 186 private dwellings from 1,085 to 1,271. Additional dwellings create additional demand on the road network and Council's social and community facilities. For clarity and infrastructure planning, the GD condition should restrict the number of dwellings on the site to the now proposed private dwellings number i.e. 1,271. Such a proposed control would be similar to the Shepherds Bay Part 3A concept approvals issued by the state government with dwellings and parking caps.

- *Allow for the delivery of open space (Urban Design Report v2 pg 30)*

Response

It is not necessary to increase the height to 154m to deliver the open space. The proposed 120m height limit already permits the delivery of open space

- *Be consistent with adjoining Herring Road sites (Urban Design Report v2 pg 30)*

Response

The site does not adjoin the 120m high development at the cnr Herring Rd and Waterloo Rd. The adjoining permissible heights are 45m, 30m and - across the road - 65m. (See diagram 4 below).

ITEM 3 (continued)

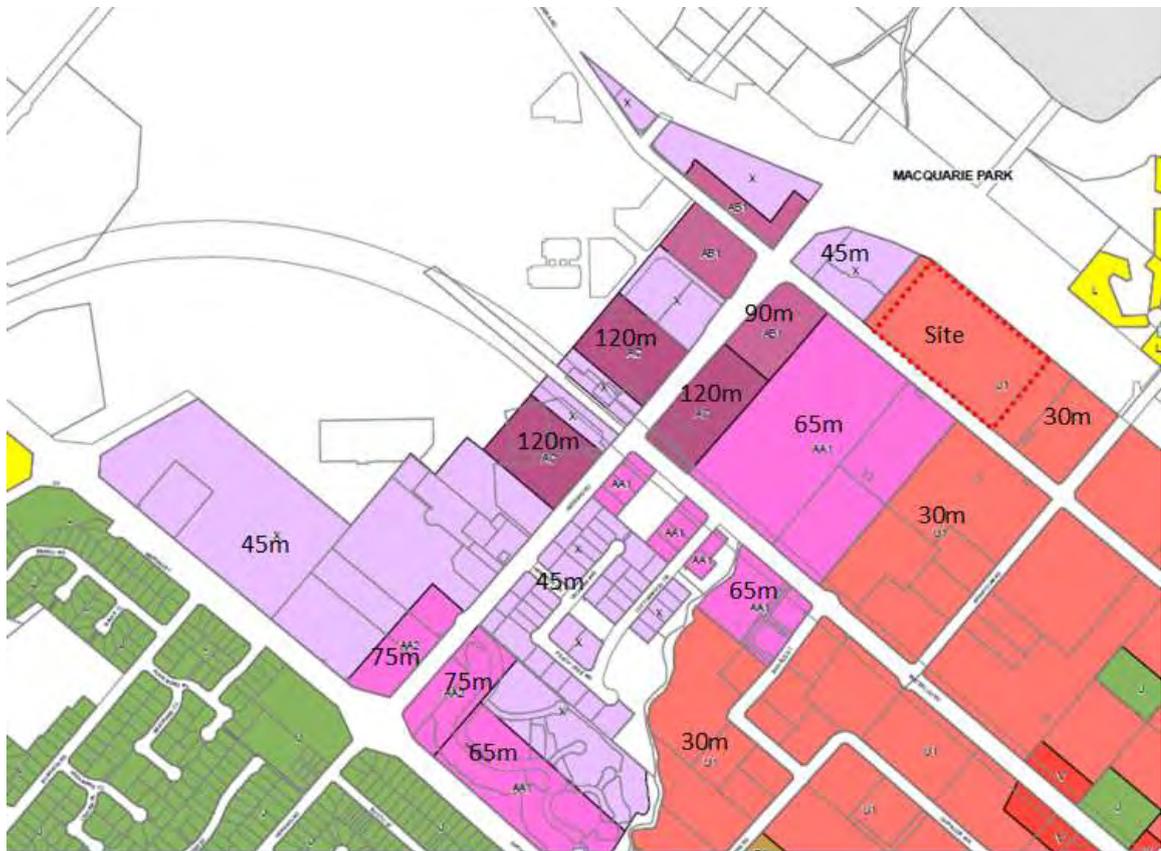


Diagram 4 – Existing height controls for Macquarie Park

- *Define the location of the Macquarie Park Precinct in the context of wider Sydney (Amended PP pg 33)*

Response

Council's urban design vision for the Macquarie Park Corridor is to "signpost" the rail stations and to signal that Waterloo Rd is the main street. Accordingly, the tallest permissible heights are located at the intersection of Waterloo and Herring Roads and the heights transition downwards from that location. This proposal, being at the fringe of the corridor, undermines this vision.

ITEM 3 (continued)

- *Create a varied skyline which will create visual interest in the precinct.
(Amended PP pg 33)*

There is no doubt that the proposal will create a varied skyline as there is a significant disparity between it and its neighbours as proposed. The proposed towers, even at 120m will appear very tall. The proposal will be delivered in several buildings which together will be read as bulky. The approved Macquarie Shopping Centre Development Application (Refer JRPP report October 2016) includes four towers along the Herring Road frontage of the site. The two towers closest Waterloo Road are 120m while the two closest Talavera Road are 90m in height. The towers on the shopping centre site are not clustered as they are on the subject site, which will appear bulky by comparison. These points are illustrated in the perspective diagram below which shows the site in yellow with the height control limits for the Macquarie University Priority Precinct. The recently approved shopping centre DA, together with DAs for 101, 80 and 82 Waterloo Road are overlaid on the controls in this diagram.

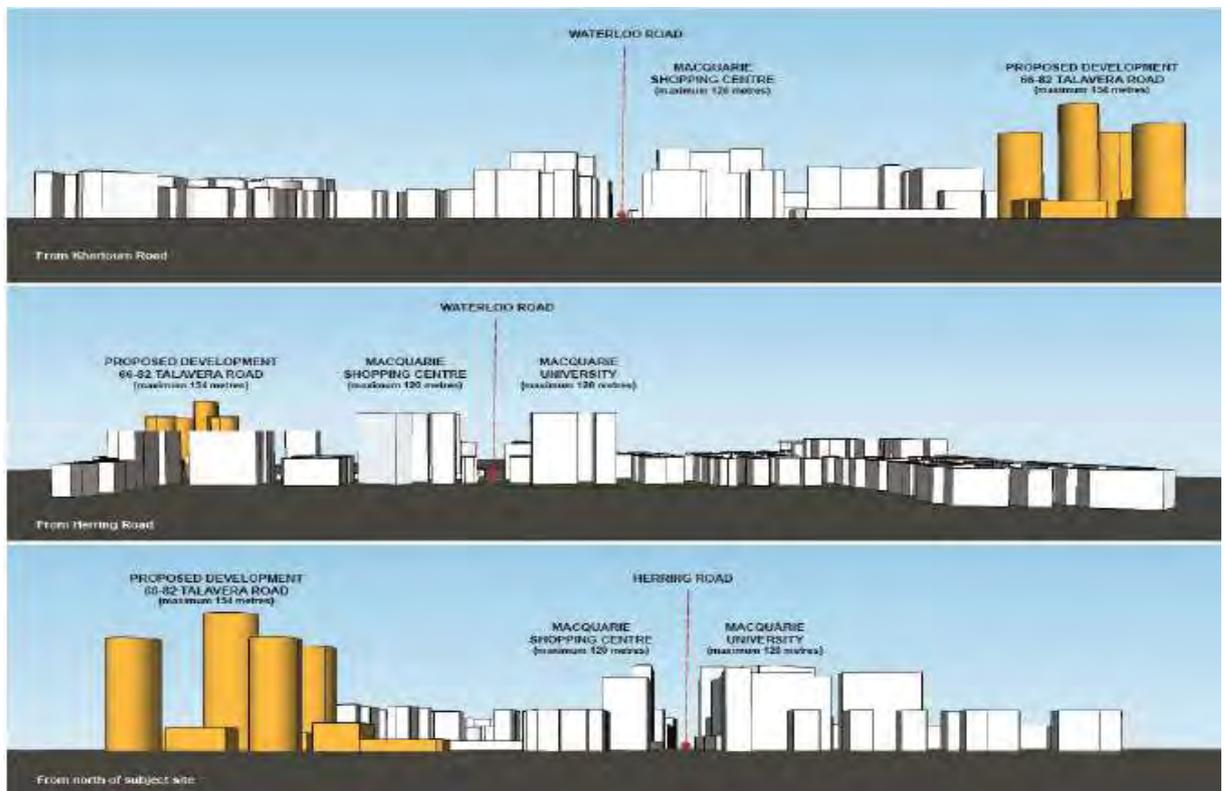


Perspective view from M2 Motorway

ITEM 3 (continued)



Perspective view from Corner Epping Road and Herring Road



Cross sections showing the site in context

ITEM 3 (continued)

- *Site is larger than others (Urban Design Report pg 30)*
There is no base for permitting additional height based on size of site.

Council's Development Contributions Coordinator advises the following:-

".....the offer (VPA) made was in respect to a Planning Proposal with a height limit of 120 metres. The increase in height of an additional 34 metres for one tower is significant, as it exceeds the core UAP heights. The increase in height of an additional 34 metres for one tower is significant, as it exceeds the core UAP heights. The applicant has made no additional offer to provide public benefits commensurate with this further increase in height.

Conclusion

It is considered that the endorsed 120m height is itself out of context with the locality but does allow the distribution of the development potential from the 10 000sqm of land to be dedicated to Council for open space and indoor recreation centre. The proposed 154m maximum is out of context with the vision for Macquarie Park and is unnecessary to develop the site under Council's endorsed floor space exclusions.

The amendment to the GD is not supported.

2. Non residential floor space

The amended PP seeks to amend the provisions of the Ryde LEP 2014 by the inclusion of a site specific provision to clarify the application of the maximum floor space ratio(amended PP pge 35)

It is proposed to include a clause that states in part:-

.....

(2) A minimum of 20,000sqm Gross Floor Area of commercial premises must be provided on the site.

The 20,000sqm consists of a 6 storey building fronting Talavera Road which has recently been completed and contains 8,224sqm of commercial floor space (amended PP v2 pg 15) and additional non-residential FSR within the proposed development.

Response

The non – residential floor space of 20,000sqm was identified in the Council endorsed PP in a land use break down for the site. The proposed condition to the GD formalises the requirement in LEP 2014 guaranteeing the space cannot be converted to residential in the future. This will ensure that the site remains a "mixed use" development.

ITEM 3 (continued)

Conclusion

The amendment will ensure through an LEP Clause a level of street activation and some employment uses are maintained within the development.

The amendment to the GD is supported.

3. Additional exclusion from GFA of any wind affected balcony

The Amended PP states:-

...the proposed building controls will result in tall slender towers which are likely to experience a high degree of exposure to wind. In order to provide high quality private open spaces for the balconies, controls are required to ensure that these balconies can be partially enclosed and not be captured as part of GFA. (Amended PP pg 35)

The amended PP suggests the following LEP Clause related to the enclosure of wind affected balconies

....

- (3) *The consent authority is to exclude the gross floor area of any existing or proposed wind-affected balcony from the calculation of the total floor space for the purposes of applying a floor space ratio, provided:*
- (a) *the excluded balcony gross floor area does not exceed 15% of the gross floor area of the apartment to which the balcony is attached,*
 - (b) *the wind-affected balcony is used, or designed to be used, as external open space,*
 - (c) *the wind-affected balcony has sufficient natural ventilation,*
- (2) *For the purposes of this clause, wind-affected balcony means a balcony that is:*
- (a) *part of residential flat building that is over 30 metres high, and*
 - (b) *above the level of any podium that is, or is required to be, part of the construction of the residential flat building, and*
 - (c) *partially enclosed. (Amended PP v2 pg35)*

Response

This proposed enclosure of wind affected balconies will create a possible additional FSR of approximately 13,837.5sqm. The City of Sydney has such a control but it may only be applied to balconies to be used as “external open space” over 30m high. In this case sufficient open space is provided on site. Screens that reduce wind affectation may still be provided without the need to exclude the balcony from FSR. Some examples are shown below.

ITEM 3 (continued)



The above images show balcony screening options for balconies. These can both operate to reduce wind and solar affectation.



There is also a concern that enclosed balconies will function as habitable rooms adding to the development capacity, occupation and traffic generation of the site – as shown above.

Conclusion

The amendment to the GD is not supported.

ITEM 3 (continued)

Other Matters

Internal Consultation

Traffic

A Traffic Impact Assessment (TIA) was submitted to Council on the 17 January 2017 for the PP. The TIA was forwarded to Roads and Maritime Services (RMS) for comment. Upon review by Council's Traffic Section a number of issues were raised with the TIA report including the assumptions used and additional matters that needed to be considered. At a meeting on the 16 February 2017 with the applicant, their traffic consultant and Council staff it was determined that an amended traffic report was needed to overcome the issues with the original report and to correctly assess the traffic implications of the amended PP. A second traffic report was submitted to Council on the 2 March 2017.

It should be noted that because of time constraints the amended TIA was not forwarded to RMS. As such the below comments from Council's Traffic Section relate to the TIA received by Council on the 2 March 2017 whilst the RMS comments (later in the report) relate to the original TIA received in January 2017.

Council's Traffic Section reviewed the Traffic Impact Assessment received 2 March 2017 and raise the following issues:

1. Issues with the TIA

- Chapter 4.3-Recent Approved Developments and Chapter 4.4-Assessment Scenarios Design Volumes needs to be agreed with Council prior to undertaking further assessment.
- Intersection assessment results reported in Chapter 5-Development Impact Analysis was based on Isolated Operation rather than SIDRA Network.
- Table 5.3-Existing Conditions do not reflect current operating conditions, especially Talavera Road/Lane Cove Road intersection during the PM peak period. Delays due to activation of pedestrian phase were not taken in to account. Therefore, intersection assessment results reported in Chapter 5 needs to be updated prior to Traffic Section undertaking further assessment.
- Impact on bus services operating along Talavera Road requires further examination by the applicant. Additional travel time delays along Talavera Road and suitable mitigation measure(s) shall be proposed.
- A detailed Traffic and Transport Impact Assessment report, articulating the development's mitigation strategies to manage its traffic and transport impacts and when (i.e. in an implementation schedule for trigger points and responsibilities in close consultation with the Council/RMS) needs to be prepared.

ITEM 3 (continued)

2. Matters to be considered post exhibition of PP

The level of traffic generated by the PP of this site is similar to Macquarie Centre redevelopment, and as such requires the preparation of a Transport Management and Accessibility Plan (TMAP) and assessment of local and regional traffic impacts and a list of mitigation measures.

Therefore, assessment at the following intersections will be required for existing and post development conditions including mitigation measures:

- Talavera Road/ Herring Road/ M2 on/off ramp signalised intersection
- Talavera Road/ Alma Road/ Shopping Centre West Access signalised intersection
- Talavera Road/ Shopping Centre East Access signalised intersection
- Talavera Road/ Khartoum Road signalised intersection
- Talavera Road/ Lane Cove Road signalised intersection.

The above will need to be provided to Council post exhibition of the PP and prior to Council determining whether the PP should proceed to notification. It should be noted that Council has not been provided with delegation to make the Plan.

Conclusion

In summary, TIA report for the amended PP is not supported by Traffic Section based on the above reasons. In particular, a proposal for new public car park for 1,030 spaces would generate a significant amount of unnecessary new trips to Macquarie Park during the weekday AM & PM peak periods. Council and RMS requirements associated with the very original PP were not addressed in the TIA report for the amended PP.

Environment, Health and Building

A preliminary Site Investigation Report was submitted with the revised PP. Council's Environment, Health and Building Directorate have advised the following:-

The revised report states that the site can be made suitable for residential, retail, open space and community uses as proposed by the planning proposal. The report advises that it will be necessary for site investigations to be conducted prior to demolition of existing structures on the site.

ITEM 3 (continued)

External Consultation

Roads and Maritime Services

The RMS comment on the original TIA (received by Council on the 17 January 2017 and forwarded to RMS on the 19 February 2017) dated 3 March 2017 states the following:-

Roads and Maritime raised a number of concerns to the original Planning Proposal in a letter sent to Council dated 8 December 2015. Given the increased scale and nature of the revised Planning Proposal, there is significant concern in relation to the development's impacts to the surrounding local and regional road network. Therefore, Roads and Maritime does not support the amendments to the Planning Proposal until the issues outlined in Attachment A have been satisfactorily addressed.

Attachment A includes the following:-

The proposal falls within the Macquarie Park Investigation Area with Department of Planning currently investigating opportunities to enhance Macquarie Park's role as a major commercial centre with increased commercial and residential development. Roads and Maritime is of the view that the proposed Planning Proposal should be consistent with the intended outcomes of the strategic investigations. Furthermore, this Planning Proposal may set a precedent with other land owners within the precinct requesting similar zonings and increased height and floor space ratio densities that may be inconsistent with the strategic vision for Macquarie Park. Roads and Maritime has significant concerns in relation to the potential cumulative traffic and transport impacts of this and other future proposals on an already constrained local and regional road and transport network.....

The RMS report of the 3 March 2017 is **ATTACHED**.

Transport for NSW

The revised Traffic Impact Assessment (TIA) was forwarded to Transport for NSW on the 19 January 2017 for comment. A follow up e-mail was sent by Council on the 2 February 2017. No response from Transport for NSW has been received has been received to date.

Gateway Determination (GD)

The GD contains a number of conditions which the amended PP addresses. These are:-

The Macquarie Park Strategic Investigation (MPSI)

The subject property is within the Macquarie Park Strategic Investigation area. The Gateway Determination requires that the PP to be updated, if required, to demonstrate consistency with any available findings of the MPSI.

ITEM 3 (continued)

The amended PP acknowledges the requirement.

Designated State Public Infrastructure

A condition of the GD requires that prior to exhibition the PP be amended to include arrangements for contributions to designated State public infrastructure identified as part of a draft or final investigation for Macquarie Park.

Part of the amendments made to LEP 2014 by the Department of Planning and Environment (DPE) when inserting the Herring Road Urban Activation Precinct into LEP 2014 was to add *Clause 6.10 Arrangement for contributions to designated State public infrastructure*. The Clause is related to *LEP 2014 Designated State Public Infrastructure Map* which was also developed and added by DPE into LEP 2014.

The DPE has advised that to satisfy this GD clause *Ryde LEP 2014 Designated State Public Infrastructure Map* will be required to be amended to include the subject property. The amended PP addresses this issue and the proposed amendment to the Map is illustrated below.



Draft Development Control Plan (DCP)

A site specific DCP Part for 66 – 82 Talavera Road Macquarie Park has been submitted with the amended PP. The new DCP Part addresses number of issues including the following:-

- Vehicle entry / exit points
- Location of the Recreation Centre / Open Space
- Development Parcels
- Maximum Tower footprint
- Commitments under the proposed VPA
- Setbacks;

ITEM 3 (continued)

- Development to achieve compliance with the ADGs; and
- Commercial car parking (1,030 spaces) to be delivered as part of the development as identified in the VPA. (Amended PP v2 pg 37).

The draft DCP will be dealt with in a separate report to Council.

Draft North District Plan (NDP)

The draft North District Plan was released by the Greater Sydney Commission in November 2016, and provides priorities and actions that will influence and guide strategic land use planning for nine northern Councils including Ryde over the next 20 years. The NDP is to be used to inform the preparation of LEPs and Planning Proposals.

The amended PP addresses the NDP and states:-

The proposed development is consistent with the objectives and statements of the Draft Plan, including:

- *Creating a Macquarie Park with a diverse range of uses and activities.*
- *Macquarie Park is situated between both the Eastern and Central Cities, resulting in an ideally located centrally between the cities' two major hubs.*
- *Acknowledges the need to balance commercial, residential and other uses to ensure the ongoing sustainability and enhanced vibrancy of Macquarie Park as a Strategic Centre.*
- *The plan calls for affordable housing options to be delivered in the district. (Amended PP v2 pg40)*

Financial Implications

Adoption of the recommendation will have no financial impact.

Critical Dates

The Gateway determination issued for the original PP on the 21 September 2016 stipulates that the timeframe for completing the LEP is 12 months from the week following the date of the determination. It is considered a similar timeframe will apply on amended Gateway determination.

ITEM 3 (continued)

Consultation with relevant external bodies

The Gateway determination issued on the 21 September 2016 requires that the Planning Proposal must be exhibited for a minimum of 28 days and the following public authorities are required to be consulted with:

- Transport for NSW
- Roads and Maritime Services
- Department of Education and Communities
- Ausgrid and
- Sydney Water

It is considered similar consultation requirements will apply on any amended Gateway determination issued.

Options

This report recommends that Council request the Gateway Determination be amended to reflect Councils resolutions of 26 July 2016. Specifically this will result in a request to change the GD conditions as follows:

- a. GFA exclusion of 11,400sqm for affordable housing and a recreation centre.

Amended to:

- GFA exclusion of 8,796sqm for affordable housing and recreation facility,

and:

- b. Additional exclusion from GFA of 1,030 car parking spaces

Council's options with respect to the additional requested amendments to the LEP are outlined below.

Option 1 – Support new requested changes to the PP and GD, specifically;
That Council request DPE amend the Gateway Determination to also include the following:

- Increase the maximum height in the centre of the site from 120m to 154m, and
- A minimum of 20,000sqm of non-residential floor space, and
- Exclusion from GFA of any wind affected balcony from the calculation of FSR

This request to amend the GD would be in addition to amendments required to reflect Council's resolution of 26 July 2106.

This option is not supported for the following reasons:-

- The proposed 154m maximum is out of context with the current vision for Macquarie Park which has a maximum height of 120m and is unnecessary to develop the site under Council's endorsed floor space exclusions. It is also noted the site is within the Macquarie Park Strategic Investigation Review Area.

ITEM 3 (continued)

- Gross Floor Area should include habitable balcony areas, as such areas increase the development capacity, occupation and traffic generation of the site.
- Impacts on traffic and open space requirements have not yet been assessed

Option 2 – Support only some elements of the new requested changes to the PP and GD, specifically;

That Council request DPE amend the Gateway Determination to also include

- A minimum of 20,000sqm of non-residential floor space

This request to amend the GD would be in addition to amendments required to reflect Council's resolution of 26 July 2106.

Option 3 –_Defer decision pending consideration by Transport for NSW, the RMS and Council of the impacts of the development and any transport infrastructure or community benefit that may be required to mitigate the level of development and uplift proposed

This option will allow Council, Transport for NSW and the RMS to more fully explore the impacts of the proposed total floor space and development outcomes on the site and its locale. A further report would be provided to Council in respect of this option.

ITEM 3 (continued)

ATTACHMENT 1



Gateway Determination

Planning proposal (Department Ref: PP_2016_RYDEC_005_00): to amend the zone, building height and floor space ratio controls at 66-82 Talavera Road, Macquarie Park.

I, the Executive Director, Regions at the Department of Planning and Environment as delegate of the Greater Sydney Commission, have determined under section 56(2) of the *Environmental Planning and Assessment Act 1979* (the Act) that an amendment to the Ryde Local Environmental Plan (LEP) 2014 to amend the zone, building height and floor space ratio control should proceed subject to the following conditions:

1. Prior to undertaking community consultation the planning proposal is to be updated to:
 - a. apply a maximum floor space ratio of 3.7:1 across the whole site;
 - b. include an additional gross floor area of 11,400 square metres for affordable housing and a recreation centre be permitted across the whole site; and
 - c. include a satisfactory arrangements provision for contributions to designated State public infrastructure identified as part of a draft or final strategic investigation for Macquarie Park.
2. Prior to finalisation, the planning proposal is to be updated if required to demonstrate consistency with any available findings of the Macquarie park strategic investigation being undertaken by the Department in consultation with Ryde council.
3. Community consultation is required under sections 56(2)(c) and 57 of the Act as follows:
 - (a) the planning proposal must be made publicly available for a minimum of 28 days; and
 - (b) the relevant planning authority must comply with the notice requirements for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals as identified in section 5.5.2 of *A Guide to Preparing LEPs (Department of Planning and Environment 2016)*.
4. Consultation is required with the following public authorities under section 56(2)(d) of the Act:
 - Transport for NSW;
 - Roads and Maritime Services;
 - Department of Education and Communities;
 - Ausgrid; and
 - Sydney Water.

Each public authority is to be provided with a copy of the planning proposal and any relevant supporting material, and given at least 21 days to comment on the proposal.

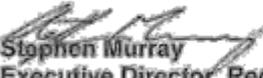
PP_2016_RYDEC_005_00

ITEM 3 (continued)

ATTACHMENT 1

5. A public hearing is not required to be held into the matter by any person or body under section 56(2)(e) of the Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).
6. The timeframe for completing the LEP is to be 12 months from the week following the date of the Gateway determination.

Dated 21st day of September 2016


Stephen Murray
Executive Director, Regions
Planning Services
Department of Planning and Environment

Delegate of the Greater Sydney Commission

ITEM 3 (continued)

ATTACHMENT 1



Mr Roy Newsome
Acting General Manager
Ryde City Council
Locked Bag 2069
North Ryde NSW 1670

Corref: PP_2016_RYDEC_005_00 (16/10/17)

Dear Mr Newsome

Planning proposal to amend Ryde Local Environmental Plan 2014

I am writing in response to your Council's letter dated 9 August 2016 requesting a Gateway determination under section 56 of the Environmental Planning and Assessment Act 1979 (the Act) in respect of the planning proposal to amend the zone, building height and floor space ratio controls at 66-82 Talavera Road, Macquarie Park.

As delegate of the Greater Sydney Commission, I have now determined the planning proposal should proceed subject to the conditions in the attached Gateway determination.

The subject site is located within the area subject to the Macquarie Park strategic investigation area being undertaken by the Department in consultation with Ryde council. Prior to public exhibition, the planning proposal is to be updated to include a new satisfactory arrangements clause in regard to contributions to the provision of designated State public infrastructure identified as part of a draft or final strategy for this precinct. The Department is available to assist Council in the wording of such a clause.

Council should also demonstrate that the proposal is consistent with any available findings of the Macquarie Park strategic investigation prior to finalisation.

Plan making powers were delegated to councils by the Minister in October 2012. It is noted that Council has now accepted this delegation. I have considered the nature of Council's planning proposal and have decided not to issue an authorisation for Council to exercise delegation to make this plan.

The amending Local Environmental Plan (LEP) is to be finalised within 12 months of the week following the date of the Gateway determination. Council should aim to commence the exhibition of the planning proposal as soon as possible. Council's request for the Department of Planning and Environment to draft and finalise the LEP should be made 6 weeks prior to the projected publication date.

The State Government is committed to reducing the time taken to complete LEPs by tailoring the steps in the process to the complexity of the proposal, and by providing clear and publicly available justification for each plan at an early stage. In order to meet these commitments, the Minister may take action under section 54(2)(d) of the Act if the time frames outlined in this determination are not met.

Department of Planning & Environment

25-35 Bridge Street Sydney NSW 2000 | GPO Box 98 Sydney NSW 2001 | T 02 9226 9111 | F 02 9226 6400 | www.planning.nsw.gov.au

ITEM 3 (continued)

ATTACHMENT 1

Should you have any queries in regard to this matter, I have arranged for Mr Wayne Williamson of the Department's regional office to assist you. Mr Williamson can be contacted on (02) 9228 6585.

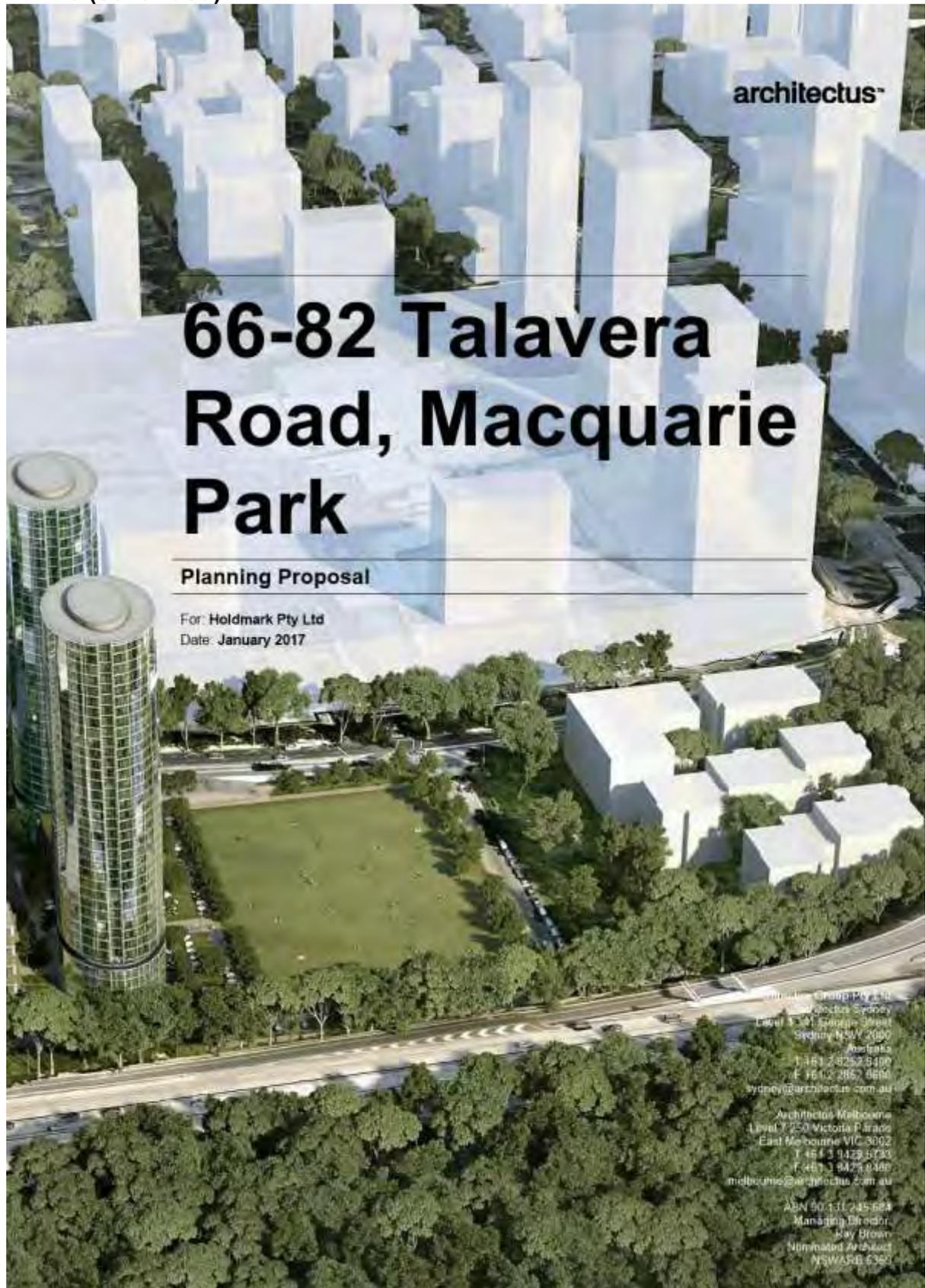
Yours sincerely

 21 September 2016
Stephen Murray
Executive Director, Regions
Planning Services

Encl:
Gateway Determination

ITEM 3 (continued)

ATTACHMENT 2



ITEM 3 (continued)

ATTACHMENT 2

This report is considered a draft unless signed by a Director



30 November 2016

Michael Harrison, Director Urban Design and Planning

Revision history

Issue Reference	Issue Date	Issue Status
A	3 September 2015	Preliminary Draft for Internal Review
B	8 September 2015	Preliminary Draft for Client Review
C	23 September 2015	Draft for Client Review
D	2 October 2015	Final Draft for Client Review
E	7 October 2015	Final
F	13 November 2015	Revision One
G	19 October 2016	Post Gateway Determination Client Review
H	30 November 2016	Submission to City of Ryde Council
I	15 December 2016	Revised Planning Proposal
J	17 January 2017	Revised Planning Proposal

File reference	K:\140041.00\Docs\IC_Client\Gateway Determination\Revised PP\161123cl_C05_REPT_140041_PlanningProposal Issue J HIGHLIGHT.docx
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Report contact:

Adrian Melo
Associate, Urban Design and Planning
adrian.melo@architectus.com.au

ITEM 3 (continued)

ATTACHMENT 2

Foreword

Internationally, business parks are becoming thriving urban centres with activities and services to attract businesses and employees; residential accommodation to enliven places after hours, and open space for amenity, health and wellbeing.

The NSW Government and the City of Ryde Council are currently reviewing Macquarie Park to assess the right mix of uses in the future while maintaining primacy of employment.

This Planning Proposal delivers high density residential and major open space while maintaining a high level of employment on one of the largest sites at Macquarie Park. It fits the right vision for Macquarie Park's future. It is an unparalleled opportunity to achieve a large area of open space for the benefit of local employees as well as the thousands of new residents planned in the adjacent Herring Road Priority Precinct. The Planning Proposal also offers a significant amount of key worker/affordable housing to support the social sustainability of the centre and a community recreation centre.

Located adjacent the Macquarie Park Shopping Centre, a short walk to Macquarie University and Macquarie University Rail Station, and part of one of the largest job centres in Australia - the site is exceptionally well positioned for the development proposed and to achieve its part in the greater effective utilisation of Sydney's urban land.

As an experienced urban planner and urban designer for over 30 years in NSW, I commend this Planning Proposal for consideration and adoption by the City of Ryde Council and the NSW Government. When I first saw this unique site, knowing the needs of Macquarie Park from Architectus' recent review of the planning controls, I immediately envisioned a solution that would serve the wider interests of Macquarie Park. This is an opportunity to be grasped.



Michael Harrison

Director Urban Design and Urban Planning M City Plng M Arch (UPenn) FPIA FAIA
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ITEM 3 (continued)

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Attachments

- A Macquarie Park. Framework for open space and mixed use development, dated 25 June 2015, prepared by Architectus Group Pty Ltd
- B Macquarie Park – Growth and Sustainability – Research Study, dated June 2015, prepared by AEC
- C Urban Design Report, dated 13 November 2015, prepared by Architectus Group Pty Ltd
- D Traffic Impact Assessment, to be provided
- E Socio-Economic Impact Assessment, dated 6 October 2016, prepared by AEC
- F Open Space and Landscape Report, dated 29 September 2016, prepared by Clouston
- G Agenda of the Council Meeting, Strategic Investigation of Macquarie Park, dated 22 September 2015, prepared by City of Ryde Council
- H Proposed Mapping Amendments, dated 13 October 2015, prepared by Architectus
- I Council Resolution of Meeting 2 August 2016
- J Draft Development Control Plan 2014, prepared by Architectus
- K Phase 1 Preliminary Site Investigation Report, to be provided

ITEM 3 (continued)

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Executive summary

Introduction

This report has been prepared by Architectus for Holdmark Property Group Pty Ltd in response to the Gateway Determination (ref PP_2016_RDEC_005_00) dated 21 September 2016 endorsing the public exhibition of the Planning Proposal, submitted by City of Ryde Council. This proposal seeks to progress the rezoning of the site at 66-82 Talavera Road, Macquarie Park, by updating the previously submitted Planning Proposal to reflect subsequent agreements with Ryde Council plus a number of other matters listed in the Gateway Determination.

The Planning Proposal seeks to amend the Ryde LEP 2014 to rezone the site to B4 zoning, allowing an FSR of 3.7:1 (see clarification below) and maximum building height of 120m with additional height up to 154m for a single point tower. This rezoning would allow for delivery of a large publicly accessible open space and a mixed use development, including residential apartments. Subject to further discussion with Council, a site specific addition to the Ryde Development Control Plan 2014 will be prepared to support the future redevelopment of the site. This report and supporting appendices has been updated in response to the Gateway Determination.

The proposal is also supported by a Voluntary Planning Agreement offer which has been accepted by a resolution of City of Ryde Council on 2 August 2016 and which seeks to deliver significant public benefit, including:

- 5,296m² Gross Floor Area (GFA) of Affordable Housing;
- A community indoor recreation facility of 3,500m² GFA, plus 20 associated dedicated parking spaces;
- Approximately 6,100m² of public open space;
- Public parking of 1,030 spaces;
- Pedestrian bridge over Talavera Road;
- \$5 million contribution to Roadworks and Traffic Management;
- 4.5m wide footpath along Talavera Road frontage; and
- Payment of full Section 94 Contributions on the site, with the exception of the Section 94 applicable for the affordable housing component and community indoor recreation facility and ancillary commercial floor space.

In calculating Floor Space Ratio, the GFA associated with the affordable housing and indoor recreation facility are in addition to the total 3.7:1 ratio to apply to the site. It should be noted that the publicly accessible commuter car parking is also additional to the FSR of 3.7:1.

This Planning Proposal has been drafted in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and *A Guide to Preparing Planning Proposals*, NSW Department of Planning and Environment (2012).

ITEM 3 (continued)

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The Site

The site is located within the Macquarie Park Corridor and is bound by the M2 Motorway to the northeast; a commercial property to the southeast; Talavera Road to the southwest; and Alma Road to the northwest. The subject property is owned by Macquarie Park Investments P/L and is identified in **Figure 1**.

The site is located within Macquarie Park, which is nominated as a Strategic Centre in the NSW Government's *Plan for Growing Sydney*. It is 550m from the Macquarie University Railway Station and opposite the Macquarie Regional Shopping Centre.

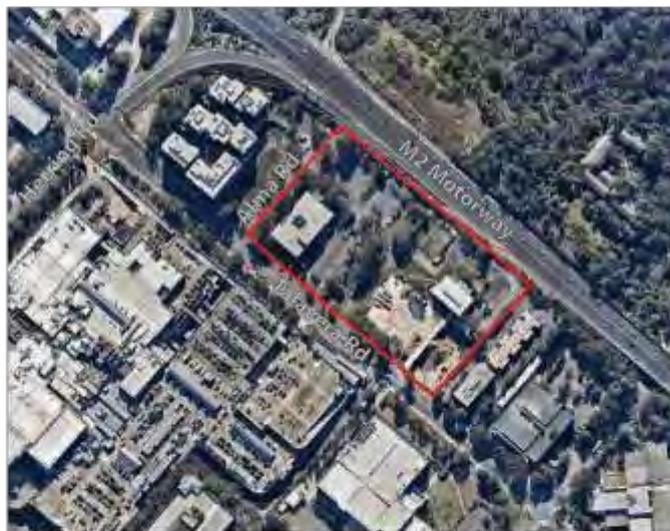


Figure 1 The subject site

The Ryde LEP 2014 zones the site B7 Business Park and allows for a maximum FSR of 1:1 and maximum building height of 30m. Some incentive FSR and height is available under the Ryde LEP 2014 – Amendment No. 1.

Strategic Context

Macquarie Park is a key Strategic Centre in the NSW Government's metropolitan *Plan for Growing Sydney*, and the second largest office market in NSW behind Central Sydney. The centre has a strong role in the Global Economic Corridor and the success of Sydney more broadly. The role of Macquarie Park as a contributing centre to Sydney's global competitiveness is reinforced in the Draft District Plan for the North District. The strategic role of Macquarie Park as part of Sydney's Global Economic Corridor will be reinforced by:

- The planned and under construction Sydney Metro project, which will provide direct metro rail links between North West Sydney, Macquarie Park, Chatswood, North Sydney, Central Sydney and on to Bankstown.
- Growth and development of the centre is likely to see Macquarie Park become Australia's fourth largest commercial centre by 2036.
- Macquarie Park will continue to have strong links, reinforced by enhanced transport connectivity, with the Eastern City of Sydney.

In 2012, the Ryde Integrated Open Space Plan concluded that major new open

ITEM 3 (continued)

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spaces were required in Macquarie Park to sufficiently support the residential and worker population. Since this time, two Priority Precincts have been announced by the Department of Planning and Environment for land around Herring Road and North Ryde Station for mixed uses, allowing for more than 12,000 new dwellings in Macquarie Park. The Priority Precincts do not provide for any new active open space (only the minor augmentation of existing spaces and the creation of smaller spaces), and so the latent demand for open space becomes even more significant.

Businesses are increasingly demanding greater amenity in their location to promote employee wellbeing and satisfaction. Under the current regime, the planning controls and strategies for Macquarie Park will result in a significant deficit in open space that will affect the long-term success of the Priority Precincts and the business park. This Planning Proposal facilitates the provision of new open space which will reinforce Macquarie Park's role as a major Strategic Centre and facilitate its ongoing and successful growth to become Australia's fourth largest commercial centre by 2036.

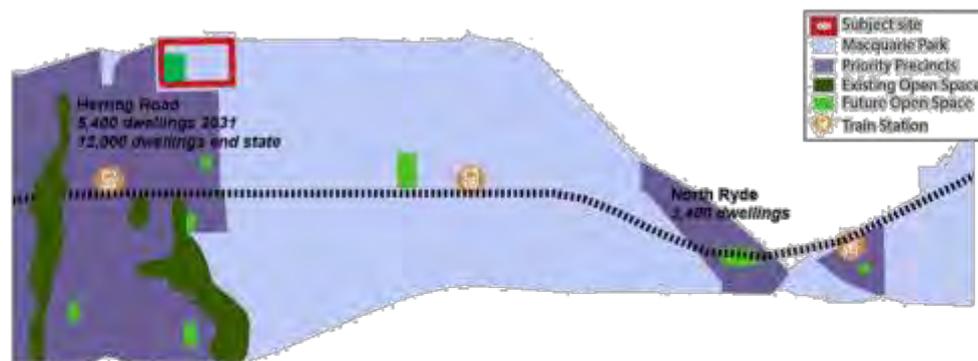


Figure 2 Macquarie Park and open space

Proposed Amendments to the Ryde Local Environmental Plan 2014

This report and the supporting documentation set out a preferred master plan for the site that allows for the delivery of a new open space of approximately 6,100sqm, residential land uses and employment uses on the site. The master plan comprises a range of buildings including four apartment towers up to a maximum of 120m, with one tower being up to 154m.

The following amendments to Ryde Local Environmental Plan 2014 (LEP 2014) are proposed to facilitate the preferred development of the site which will ensure the delivery of approximately 6,100sqm of public open space, affordable housing and an indoor recreation centre and other public benefits.

- Amend the land use controls for the site. Currently the land is zoned B7 Business Park. It is proposed that a B4 Mixed Use Zone be applied to the site, to allow for the site's development for public open space, residential, retail and commercial uses. Through the development process, open space would be dedicated back to Council as a stratum lot over a below ground car park.
- Amend the Macquarie Park Corridor Precinct Incentive Height of Buildings Map - Sheet MHB_004 to reflect an incentive maximum height of buildings of 120m plus a single tower up to 154m.
- Amend the Macquarie Park Corridor Precinct Incentive Floor Space Ratio Map - Sheet MFS_004 to reflect an incentive floor space ratio of 3.7:1 across the

ITEM 3 (continued)

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whole of the site, excluding the affordable housing, the indoor recreation centre and the commercial car park.

- Amend the Designated State Public Infrastructure Map Sheet SPI_004 to include the subject site under a satisfactory arrangements clause.

It is noted that an offer to enter into a Voluntary Planning Agreement (VPA) with City of Ryde Council has been provided by Holdmark Property Group which has been accepted by Council. The VPA includes the delivery of significant public benefits as identified above.

Site specific amendments to the Part 4.5 Macquarie Park Corridor of Ryde Development Control Plan 2014 (adopted in 2015) would also be required to deliver the preferred master plan and will be developed with Council and Holdmark Property Group prior to the public consultation of the Planning Proposal.

A summary of the proposed concept master plan these amendments seek to enable is provided below.

Table 1 Summary of indicative areas of concept master plan

Indicative Areas	
Site area	37,832sqm
Total proposed GFA	139,978sqm
Proposed FSR	3.7.1
Total dedicated public open space	6,100sqm, approx.
Indoor Recreation Centre (GFA)	3,500sqm
Affordable Housing (GFA)	5,296sqm
Total residential, excluding affordable housing (GFA)	119,978sqm
Indicative number of apartments (average of 94.41sqm each)	1,327 apartments
Indicative number of affordable housing apartments	56 apartments
Indicative number of private residential apartments	1,271 apartments
Total non-residential GFA (incl. new office GFA)	20,000sqm
Commercial commuter car park	1,030 car spaces
Residential dwelling parking	1,265 car spaces
Commercial development parking	Up to 333 car spaces
Car parking dedicated to indoor recreation centre	20 spaces

It should be noted that the above figures are indicative only and subject to further refinement as part of the development.

Assessment

This Planning Proposal acknowledges and addresses potential impacts of the rezoning, including employment and economic impact, traffic and open space.

Employment and economics

AEC's report, Macquarie Park – Growth and Sustainability Research Study, concludes that the emphasis on worker amenity and employee satisfaction is of growing importance to businesses in their choice of location. Employees, and

ITEM 3 (continued)

ATTACHMENT 2

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consequently businesses, are demanding social infrastructure such as childcare, open space and public transport easily accessed from their workplaces.

The report states:

'While the appropriation of land to public open space and key worker housing would mean less land available to accommodate new employment floorspace, the provision of items of key social infrastructure would undoubtedly result in sustaining Macquarie Park's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace'; and

'This Research Study concludes that permitting residential and mixed-use development on selected, appropriate sites in Macquarie Park which comply with the criteria listed in the Architectus strategic planning framework would have a significant positive impact on the growth and sustainability of Macquarie Park as a major employment zone in metropolitan Sydney and a key economic engine room for NSW.'

In its subsequent Socio-Economic Impact Assessment, AEC has further concluded as follows:

'It is apparent that the Proposal will provide significant benefit to the local area, delivering strong positive socio-economic impacts comparative to the status quo. This builds a strong case for the Proposal from a socio-economic perspective. As Macquarie Park grows the economic impact identified in this assessment will become even more significant.'

Traffic

The Traffic Impact Assessment **by Bitzios Consulting** demonstrates that the Planning Proposal would result in a better traffic outcome than a development that maximised the current controls. The report concludes that the proposal has an acceptable outcome on intersection performance and advantages the area by being a transit oriented proposal. **A final report will be submitted following lodgement of this proposal.**

Open space

Architectus, AEC, Clouston and Council's *Integrated Open Space Plan* all provide evidence that better provision of open space in the Macquarie Park Corridor is essential to the wellbeing of businesses, employees and residents of the area. In September 2015, Mayor of City of Ryde Council nominated addressing housing affordability and the lack of open space and parks as two of his three key priorities¹. This Planning Proposal alleviates both of those issues. Current evidence suggests that the primary focus for Macquarie Park should continue to be for employment uses, but that improving amenity and activity within the locality and creating nearby housing opportunities will be an important part of the business park's success and long term viability.

Strategic Planning

Holdmark and Architectus appreciate the value of the Macquarie Park Business Centre and the importance of avoiding a mixed use precedent. Two Planning Proposals have been recently lodged with Council to achieve **residential uses elsewhere within Macquarie Park**. Whilst both Planning Proposals were refused by Council and the NSW Department of Planning and Environment at Pre-gateway Review, it is considered that this proposal provides significant amenity above and beyond those previously considered. In addition, the unique locational attributes of the subject site render it more suitable for mixed-use development compared to the

¹ Northern District Times, Labor Wins Mayor Ballot, Wednesday September 9 2015 page 1.

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other two. In considering the proposed land use controls in the broader context of the Macquarie Park Business Centre, the nexus between rezoning and delivery of substantial public benefit must be demonstrated clearly. It is noted that this Planning Proposal is prepared in response to a Gateway Determination to a Planning Proposal already endorsed and submitted by Council for submission for the rezoning of the site to mixed use, and the provision of open space, residential apartment development, commercial and retail uses and community facilities on the subject site.

To guide rezoning in the area and continue to support a thriving business centre, Architectus has prepared a framework for open space and mixed use development (Attachment A). It is noted that the proposal has since evolved beyond the proposed framework (part of the proposed park is now replaced by a community recreational centre and key worker housing, to be dedicated to Council) as a result of the VPA negotiations with Council, however it is still considered that this document provides sufficient justification to support the objectives of the Planning Proposal. The public benefit that could be delivered as part of this proposed rezoning could not be feasibly delivered by more than three existing sites in the Macquarie Park Business Centre (including the subject site). It is therefore argued that this site presents a unique opportunity for Council, local businesses and the community, which can be demonstrated to manage precedent.

The proposal is also consistent with the recent metropolitan planning strategy, *A Plan for Growing Sydney*, which nominates a key priority for Macquarie Park as 'to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing' (pg. 126). The significance of this priority to the success of Macquarie Park is evident in the recent resolution of Council to work with the Department of Planning and Environment in preparing a Macquarie Park Study, including a consideration of land uses to most appropriately support the business centre (Attachment G). Specifically, the Department of Planning and Environment has stated that:

'The investigation will look into enhancing the area's existing role as a major commercial centre, with the addition of housing, shops and restaurants within walking distance of three train stations'².

The impact of rezoning on employment and economics, traffic, open space and strategic planning has been carefully assessed and it is considered that, on balance, these impacts are acceptable.

Section 117 Direction 1.1 Business and Industrial Zones is particularly relevant to this Planning Proposal, and has been assessed by both AEC in the Socio-Economic Impact Assessment and Architectus in this report. The Planning Proposal is consistent with this Direction in that it is likely to increase the renewal, expansion and increased efficiency of employment uses on site. The retention of the recently constructed six storey Astra Zeneca building, as well as commitment to deliver further employment floor space, will result in a total of 20,000sqm of non-residential floor space, facilitating an increase in the number of jobs generated on site compared to the current use.

Equally, the provision of key social infrastructure in the form of open space, indoor recreation centre, and affordable housing will support the sustainability of the Macquarie Park business lands as a whole, achieving this Direction.

Justification

² NSW Department of Planning and Environment, Frequently Asked Questions - Macquarie University Station Precinct, September 2015

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We consider the proposal for rezoning, increased maximum building height and increased maximum FSR to be justified in that:

1. A **substantial public benefit** is provided, including:
 - a. public open space, local infrastructure in which Macquarie Park is severely deficient;
 - b. key worker housing which is in very short supply in the Ryde municipality;
 - c. indoor recreation facility to service the needs of the wider business and residential community;
 - d. pedestrian bridge linking to the Macquarie Shopping Centre and the adjacent bus/rail interchange
2. A **framework for the delivery of open space** has been prepared by Architectus to manage the risk of establishing an undesirable precedent. If adopted as a policy of Council for considering rezoning applications in the Macquarie Park Business Centre, only two other existing sites could potentially seek rezoning. These sites could deliver significant open spaces in line with the Ryde Integrated Open Space Strategy adopted by Council;
3. The effective mix of uses would **improve the vibrancy and sustainability** of the business centre, improving its attractiveness and long-term sustainability. Without the benefits provided by this Planning Proposal, it is considered that the Macquarie Park Business Centre will not offer the same level of amenity as competing centres in Sydney and internationally;
4. The site is in an excellent strategic location for transport infrastructure (bus, train and car) and local services, adjoins the existing B4 Mixed Use zone, and is currently effectively isolated from commercial uses by the Macquarie Park Shopping centre;
5. Increased FSR and height will allow for the delivery of additional dwellings, including affordable and private dwellings, in a transit oriented and well serviced location in line with **A Plan for Growing Sydney and draft District Plan for the North District**. These amended controls will increase the viability of development to allow for the delivery of a substantial public benefit; and
6. The proposed height of 120m, with a single point tower of 154m to promote skyline variation will function to concentrate maximum heights near services, minimise the building footprint whilst delivering an FSR in line with nearby sites, allow for slender tower forms, and signpost the entry to this rapidly developing key urban centre in metropolitan Sydney.

It is noted that the subject site is located within the Macquarie Park Strategic Investigation Area. Gateway Determination Condition 2 requires consideration of the findings of this study as part of this proposal. To date, the findings of this investigation are not yet known.

Recommendation

We agree with the conclusions of the AEC Economics report that some residential uses within the Macquarie Park Business Centre would support the function of the centre, increasing the supply of good quality housing stock in close proximity to employment and improving the vitality of the area through out-of-work-hours use and would also result in a significant economic benefit for the local area.

A key benefit of this Planning Proposal is the certainty of delivery of a large open space, indoor recreation facility, commuter parking and affordable housing, through rezoning of the subject site to a similar height, FSR and land use as adjoining sites. The total value of public benefits is estimated to exceed \$160 million. The proposal

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allows for the delivery of significant public benefits which would not otherwise be possible. This unique site is a one off opportunity to deliver sorely needed open space and an indoor recreation facility to serve the resident and business community in Macquarie Park. It is also an opportunity for the provision of affordable housing for key workers.

As noted in the AEC report, there is little incentive, under the current controls, for the site to be redeveloped. In fact, with the current controls in place, there may possibly be some merit in subdividing the site and selling it in smaller parcels, in which case the opportunity to create significant new open space would be lost forever. Even with the new controls proposed in this Planning Proposal, the economic cycle has to display the necessary features to facilitate the viable redevelopment of this property. The current economic cycle does have these features so the redevelopment, with its associated public benefits, can be realised in the short term if this proposal is progressed now. As these economic cycles are often 15 to 20 years in duration, this unique opportunity may be lost if not actioned promptly.

The Planning Proposal is therefore recommended for support.

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1.0 Introduction

1.1 Preliminary

This report has been prepared by Architectus on behalf of Holdmark Property Group Pty Ltd to seek Council support to progress a rezoning of the site at 66-82 Talavera Road, Macquarie Park.

The site is located within Macquarie park and is bound by the M2 Motorway to the northeast; a commercial property to the southeast; Talavera Road to the southwest; and Alma Road to the northwest. The subject property is owned by Holdmark Property Group Pty Ltd. **Figure 3** identifies the area affected by the Planning Proposal. Holdmark Property Group is the owner of the site in its entirety.

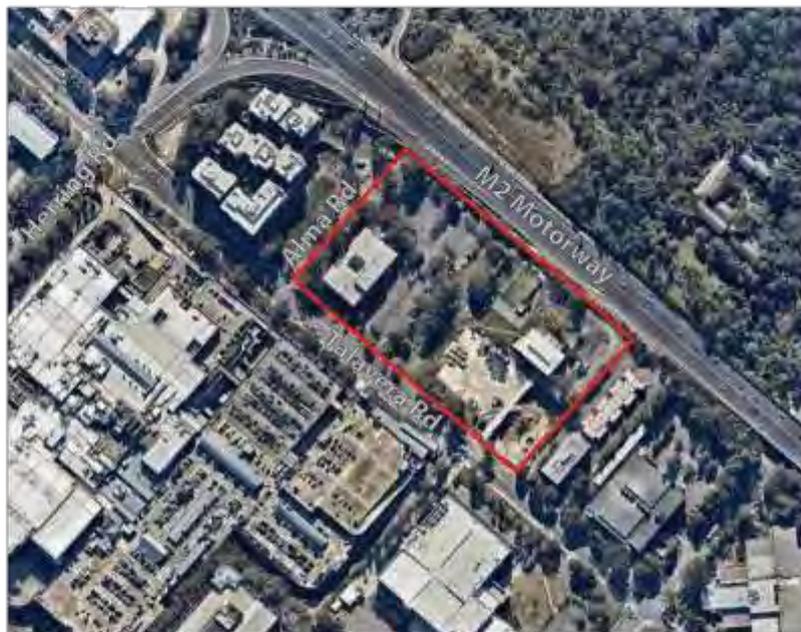


Figure 3 The subject site

This Planning Proposal has been drafted in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and *A Guide to Preparing Planning Proposals*, NSW Department of Planning and Environment (2012).

The site is strategically located within easy walking distance to Macquarie University Train Station and in close proximity to services and infrastructure. The current

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controls for the site limit land uses to commercial / business / industrial in nature and do not provide adequate density, or amenity for a site in this location.

The purpose of the Planning Proposal is to amend the maximum building height controls, FSR and land use controls to allow for the development of a preferred master plan option for the site as detailed in **Attachment C** which allows for the creation of approximately **6,100sqm public open space** and delivery of key worker housing.

The sites close proximity to the Herring Road Priority Precinct and the recognised shortage of open space in Macquarie Park support the proposed inclusion of residential land uses on the site.

1.2 Structure of this report

This report is prepared in accordance with the NSW Government's 'A Guide to Preparing Planning Proposals', and is set out as follows:

- **Section 2: The Site and its context.** Provides an overview of the site and key planning controls which are relevant to the Planning Proposal.
- **Section 3: Objectives and intended outcomes.** Provides a concise statement of the proposal objectives and intended outcomes.
- **Section 4: Justification:** Provides the urban planning justification to support the proposal.
- **Section 5: Consultation.** Outlines the community consultation program that should be undertaken in respect of the proposal.
- **Section 6: Project Timeline.** Outlines the expected timeline of the Planning Proposal.
- **Section 7: Conclusion:** Concludes the report with a summary of findings and recommendations.

This report should be read in conjunction with Attachments A to H

1.3 Authors

This Planning Proposal has been prepared by Adrian Melo, Associate and Urban Planner, and Camille Latouf Associate and Urban Planner, both of Architectus. Michael Harrison, Director at Architectus, has provided quality assurance and project direction.

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2.0 The site and its context

2.1 Local context

The subject site, 66-82 Talavera Road, is located in Macquarie Park which is within the Ryde Local Government Area (LGA).

Macquarie Park is located approximately 12 kilometres north-west of the Sydney Central Business District and 13km north-east of the Parramatta Central Business District.

It is well connected by public transport being serviced by the Epping to Chatswood Rail Line and bus services extending to the Sydney CBD, Parramatta, North Sydney and Castle Hill. It is also in close proximity to Chatswood and St Leonards which are easily accessed by the Epping to Chatswood Rail Line, Epping Road, Lane Cove Tunnel, Pacific Highway and numerous bus routes.

Macquarie Park is located along the Epping Chatswood Rail Line which forms part of the North Shore, Northern and Western Line. It is bound by the M2 Motorway, Epping Road Culloden Road and the Lane Cove National Park. **Figure 4** identifies the location and context of Macquarie Park.



Figure 4 Macquarie Park location and context

2.2 Strategic Context

The NSW Department of Planning and Environment's Plan for Growing Sydney 2036 identifies Macquarie Park as a Strategic Centre, and provides directions to increase amenity, and densities for employment, education, and residential uses near train stations. Refer to the metropolitan plan and key directions for Macquarie Park, overleaf.

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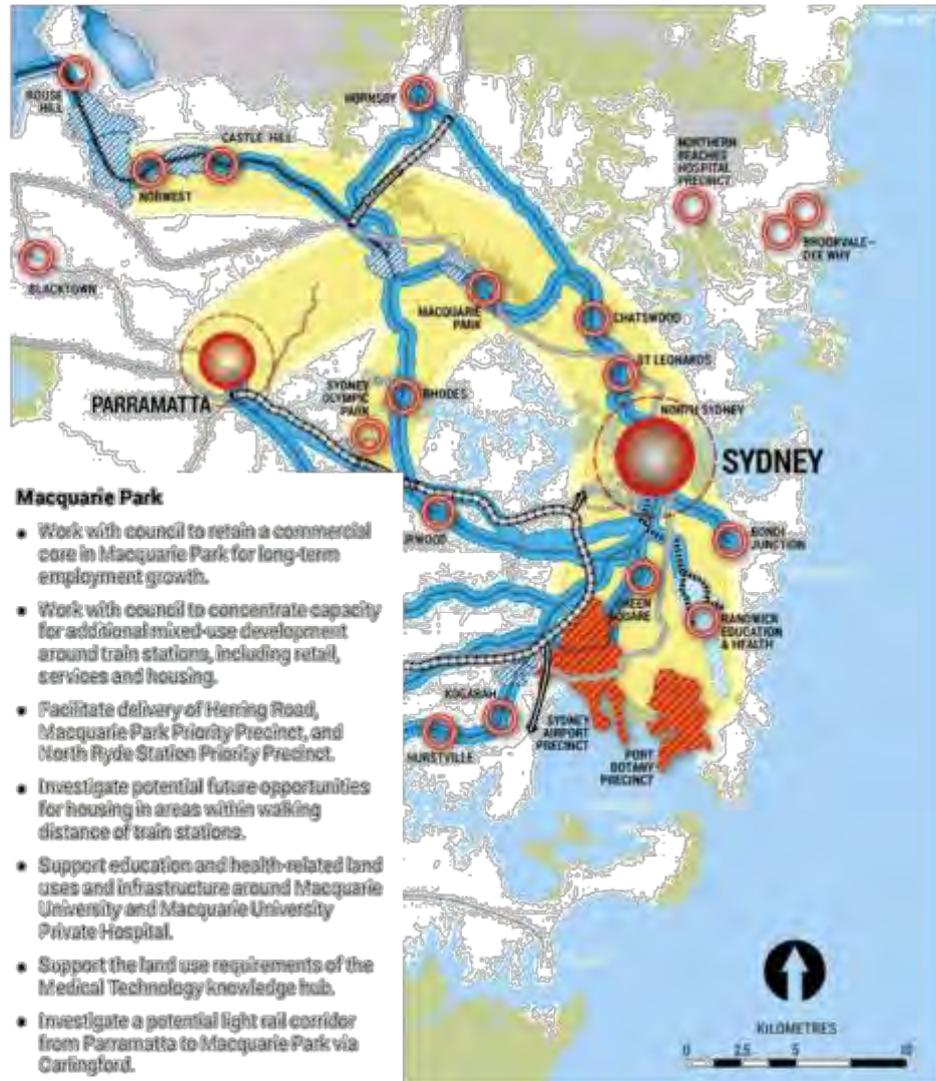


Figure 5 Macquarie Park objectives excerpt from A Plan for Growing Sydney

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Macquarie Park is commonly referred to as the Macquarie Park Corridor which includes a range of uses as follows:

- Residential development located primarily around Herring Road;
- Macquarie University;
- Macquarie Shopping Centre; and
- A wide variety of commercial / business / industrial uses dominated by pharmaceutical, technology, electronics and telecommunication businesses including Optus, Foxtel, 3M, CSIRO and Sonic Healthcare.

Macquarie Park Corridor also includes the Herring Road Priority Precinct and the North Ryde Priority Precinct. Priority Precincts are areas identified for high density mixed use retail, commercial and residential development by the NSW Department of Planning and Environment. Both the Herring Road and North Ryde Priority Precincts are within 800m of existing railway stations and seek to maximise the use of the Epping to Chatswood Railway Line. These are identified with other surrounding land uses in **Figure 5**.



Figure 6 Macquarie Park land uses and priority precincts

- The site is well located within Macquarie Park as shown in **Figure 6** as the site is:
- 550m, measured along the footpath, from Macquarie University Train Station. A distance of 800m is generally accepted a comfortable walking distance from a rail station. The site is also within 400m of the future bus interchange on Herring Road by the Macquarie Shopping Centre (which is owned by AMP).
 - on a street corner and opposite the Macquarie Shopping Centre, which is a major attraction and soon to be the largest shopping centre in NSW. The site is one block away from Waterloo Road, which is the central spine of Macquarie Park. The site is also highly visible from the M2 Motorway.
 - located between the high density residential Herring Road Priority Precinct and the employment lands. The site is within 800m of many workers and many existing and planned dwellings.

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Figure 7 Subject site - access to public transport and surrounding land uses

2.3 Site legal description

The subject land is legally identified as Lot 1 in DP 854779 and is commonly referred to as 66-82 Talavera Road, Macquarie Park.

2.4 Land ownership

The land is owned by Macquarie Park Investments P/L who have given permission to Architectus to lodge the application. Part of the site has been leased to Astra Zeneca for use of the commercial building which has recently been completed.

2.5 Existing development

The existing built form within the site includes:

- A 4-storey office building fronting Alma Road (A);
- A conference centre, that is occasionally utilised by the employees of the Alma Road office (B);
- Private tennis courts (C);
- Internal circulation areas and at-grade parking (D).

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These uses would be demolished to achieve the concept master plan under the Planning Proposal.

A 6 storey commercial building fronting Talavera Road has been completed, comprising 8,224 sqm of commercial floor space. This use would be retained under the concept master plan.



Figure 8 Render of Completed Astra Zeneca Building
Refer to the Urban Design Report at **Attachment C** for more details about the site.



Figure 9 Subject site existing built form

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2.6 Ryde Local Environmental Plan 2014

Zoning

The site is currently zoned **B7 Business Park**. This zone permits:

Building identification signs; Business identification signs; Child care centres; Light industries; Neighbourhood shops; Office premises; Passenger transport facilities; Respite day care centres; Restaurants or cafes; Roads; Warehouse or distribution centres; Any other development not specified in item 2 or 4

Prohibited within this zone are the following:

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Entertainment facilities; Environmental facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home businesses; Home occupations (sex services); Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Residential accommodation; Resource recovery facilities; Restricted premises; Retail premises; Rural industries; Service stations; Sewage treatment plants; Sex services premises; Signage; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Waste disposal facilities; Water recreation structures; Water recycling facilities; Water supply systems; Wholesale supplies

The land use map of the site and the surrounding area is illustrated at **Figure 10**.



B1	Neighbourhood Centre
B2	Commercial Core
B4	Mixed Use
B7	Business Development
B7	Enterprise Center
B7	Business Park
RE1	National Parks and Nature Reserves
RE2	Environmental Conservation
IN2	Light Industrial
IN4	Working Waterfront
R1	General Residential
RD1	Low Density Residential
RD2	Medium Density Residential
RD3	High Density Residential
RE1	Public Recreation
PR2	Private Recreation
SP1	Special Activities
SP2	Infrastructure
DM	Deferred Matter
MD	SEPP (Major Development) (Macquarie University) 2009

Figure 10 Land Use Zoning Plan
The site is zoned B7 Business park but is directly adjacent to B4 Mixed Use and SP2 for the M2 Motorway.

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Building Height

The maximum building height for development on the site is controlled under Clause 4.3 of the LEP. The LEP currently allows for a maximum height of 30m (U1). The maximum building height plan for the site and the surrounding area is illustrated at Figure 11 below.



Figure 11 Maximum building height plan

The site has a maximum height of 30m without delivery of incentive provisions. Under the recently gazetted Amendment 1 to the Ryde LEP 2014, an incentivised maximum height of buildings of 45m applies to the site. Clause 6.9 allows that the City of Ryde Council may approve development with this increased height of buildings if they are satisfied that:

- a) there will be adequate provision for recreation areas and an access network, and
- b) the configuration and location of the recreation areas will be appropriate for the recreational purposes of the precinct, and
- c) the configuration and location of the access network will allow a suitable level of connectivity within the precinct.

Further detail on this mechanism and its relationship to this Planning Proposal is provided below.

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Figure 12 Maximum Building Height under Amendment 1
The site has a maximum building height of 45m under incentive provisions.

Floor Space Ratio

The maximum FSR for the site is controlled under Clause 4.4 of the LEP. The LEP currently allows for a maximum FSR of 1.0:1 (N).

The maximum FSR for the site and the surrounding area is illustrated at **Figure 13**.



Figure 13 Maximum floor space ratio map
The site has a maximum FSR of 1.0:1 FSR limit without delivery of incentive provisions outlined below.

Under the recently gazetted Amendment 1 to the Ryde LEP 2014, an incentivised FSR of 0.5:1 applies to the site, with the resulting maximum FSR including base and incentive being 1.5: 1. Clause 6.9 allows that the City of Ryde Council may approve development with this increased FSR if they are satisfied that:

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- a) there will be adequate provision for recreation areas and an access network, and
- b) the configuration and location of the recreation areas will be appropriate for the recreational purposes of the precinct, and
- c) the configuration and location of the access network will allow a suitable level of connectivity within the precinct.

Further detail on this mechanism and its relationship to this Planning Proposal is provided as follows.

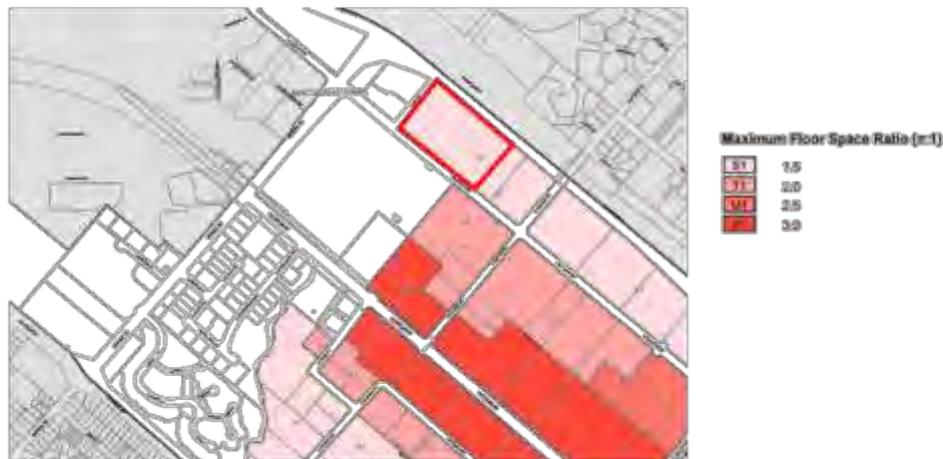


Figure 14 Floor Space Ratio under Amendment 1
 Source: Ryde Local Environmental Plan 2014, NSW Legislation, 2015

Macquarie Park Corridor Incentive Scheme

The incentive FSR and height of buildings provided for within the Ryde LEP 2014 through the recently gazetted Amendment 1 seek to provide increased yield in return for monetary contributions and / or the delivery of public infrastructure including access networks and recreation facilities. This infrastructure to be delivered is identified in the supporting documentation for Amendment 1, and is expected to be translated into a supporting policy document imminently. It is understood that these incentive provisions will apply to only the infrastructure provided in **Figures 14 and 15**. The subject site does not contain any of this infrastructure to be delivered as identified in **Figure 14 and Figure 15**.

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Figure 15 Access Network under Amendment 1
Source: Ryde Local Environmental Plan 2014, NSW Legislation, 2015



Figure 16 Open Space under Amendment 1
Source: Ryde Local Environmental Plan 2014, NSW Legislation, 2015

The supporting policy document is expected to establish a mechanism for identification of infrastructure in return for a Voluntary Planning Agreement which commits to the delivery of infrastructure or monetary contributions.

As this proposal is a rezoning of the subject site, including additional FSR and increased height, the incentive scheme does not apply. It should be noted that significant public benefit in the form of recreation facilities, public open space and affordable housing has been endorsed by Council as part of the VPA for the site.

2.7 Council Plans and Policies

City of Ryde Development Control Plan 2014

The City of Ryde Development Control Plan 2014 applies to all sites within the LGA, however only Part 4.5 Macquarie Park Corridor has particular relevance to a Planning Proposal on the subject site.

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This DCP applies to the wider Macquarie Park Corridor and provides for a range of controls relating to public domain, built form, access network, other matters. Achieving the preferred built form as set out in the attached master plan would require amendment of the DCP. A site specific amendment has been prepared and is provided at **Attachment K** to this report.

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The Priority Precincts do not provide for any new significantly sized active open space (only the minor augmentation of existing spaces and the creation of smaller spaces), and so the latent demand for open space becomes even more significant.

Section 94 Development Contribution Plan 2007 Interim Update (2014)

Council adopted the *Section 94 Development Contribution Plan 2007 Interim Update (2014)* for the LGA in December 2014. The interim update applied to the previous *S94 Development Contributions Plan 2007*, made effective on 19 December 2007. The objectives of the Plan have not changed and the minor modifications are designed to make it easier for potential developers to understand how the Plan works in relation to their projects. There are no changes to the areas to which the Plan applies.

However, the plan does identify that 'The anticipated resident population growth within the LGA will generate additional demand for open space and recreation facilities. There will also be demand created by future workers for certain open space facilities (such as within centres).' (pg. 36 *Section 94 Development Contributions Plan – 2007 – Interim Update (2014)*, City of Ryde Council).

It is noted that the VPA agreed to with Council identifies that the full payment of Section 94 Contributions will be paid to Council, excluding Section 94 Contributions applicable to the affordable housing to be dedicated to Council and the Indoor Recreation Facility.

It is noted however that the current contributions which apply to the subject site should residential dwellings be built includes a contribution which specially applies to the delivery of open space. This equates to over 50% of the total contribution per dwelling. This is detailed at **Figure 18**.

Development Area - Inside Macquarie Park	Contribution Rates - Residential Development										Contribution Rates - Non-Residential Development		
	Residential 1 (1 bedroom)	Residential 2 (2 bedrooms)	Residential 3 (3 bedrooms)	Residential 4 (4 bedrooms)	Residential 5 (5 bedrooms)	Residential 6 (6 bedrooms)	Residential 7 (7 bedrooms)	Residential 8 (8 bedrooms)	Residential 9 (9 bedrooms)	Residential 10 (10 bedrooms)	Commercial/Industrial (per sqm)	Community/Recreation (per sqm)	Public Works (per sqm)
Community and Cultural Facilities	\$ 2,258.97	\$ 2,686.77	\$ 3,227.85	\$ 3,227.85	\$ 3,227.85	\$ 3,227.85	\$ 3,493.45	\$ 3,493.45	\$ 3,227.85	\$ 2,258.97	\$ 25.58	\$ 29.63	\$ 25.51
Open Space and Recreation Facilities	\$ 8,923.65	\$ 10,777.59	\$ 12,867.00	\$ 12,867.59	\$ 12,867.59	\$ 12,867.59	\$ 14,743.50	\$ 14,743.50	\$ 12,867.59	\$ 8,923.65	-	-	-
Civic and Urban Improvements	\$ 1,125.37	\$ 1,385.40	\$ 1,628.23	\$ 1,628.23	\$ 1,628.23	\$ 1,628.23	\$ 1,749.88	\$ 1,749.88	\$ 1,628.23	\$ 1,125.37	\$ 10.40	\$ 12.41	\$ 10.39
Roads and Traffic Management Facilities	\$ 1,348.00	\$ 1,488.00	\$ 1,776.00	\$ 1,776.00	\$ 1,776.00	\$ 1,776.00	\$ 1,776.00	\$ 1,776.00	\$ 1,776.00	\$ 1,348.00	\$ 40.00	\$ 40.00	\$ 40.00
Cycleways	\$ 359.74	\$ 395.40	\$ 428.85	\$ 428.85	\$ 428.85	\$ 428.85	\$ 428.85	\$ 428.85	\$ 428.85	\$ 359.74	\$ 3.30	\$ 3.00	\$ 2.33
Stormwater Management Facilities	\$ 346.41	\$ 369.00	\$ 392.00	\$ 392.00	\$ 392.00	\$ 392.00	\$ 392.00	\$ 392.00	\$ 392.00	\$ 346.41	\$ 4.71	\$ 4.71	\$ 4.71
Plan Administration	\$ 48.00	\$ 52.40	\$ 56.70	\$ 56.70	\$ 56.70	\$ 56.70	\$ 56.70	\$ 56.70	\$ 56.70	\$ 48.00	\$ 1.44	\$ 0.70	\$ 0.59
Transport and Accessibility Facilities*	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 17,880.25	\$ 21,712.29	\$ 27,093.00	\$ 27,093.00	\$ 27,093.00	\$ 27,093.00	\$ 29,017.21	\$ 29,017.21	\$ 27,093.00	\$ 17,880.25	\$ 128.67	\$ 141.42	\$ 128.47

* Contributions payable for transport and accessibility facilities are listed as a per car parking space basis where landfilled developments are provided to meet demand generated.

Car Parking per space* \$ 20,558.58

Figure 18 Section 94 Contribution Rates – Jun - 2015 quarter

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Ryde City Council's Section 94 Development Contributions Plan (2007) does not provide for public open space by non-residential development, implicit in this is the presumption that only residential users demand public open space.

However this is not that case as identified in *Macquarie Park - Growth and Sustainability – Research Study* prepared by AEC, dated June 2015. This study is provided at Attachment B and identifies that access to facilities which allow for enhancement of employee wellbeing is crucial to the demand and function of business parks. This includes social infrastructure items such as childcare, gyms, and public recreation space. Importantly, the proposal is supported by a Voluntary Planning Agreement which seeks the full payment of Section 94 Contributions for future development.

Macquarie Park Floodplain Risk Management Plan

Macquarie Park Floodplain Risk Management Plan has been prepared on behalf of Council and includes a series of floodplain management measures to be implemented within the catchments.

Relevant to this Planning Proposal, the subject site is identified as being affected by the 1 in 100 year Flood and the Probable Maximum Flood. These are identified in the following figures.

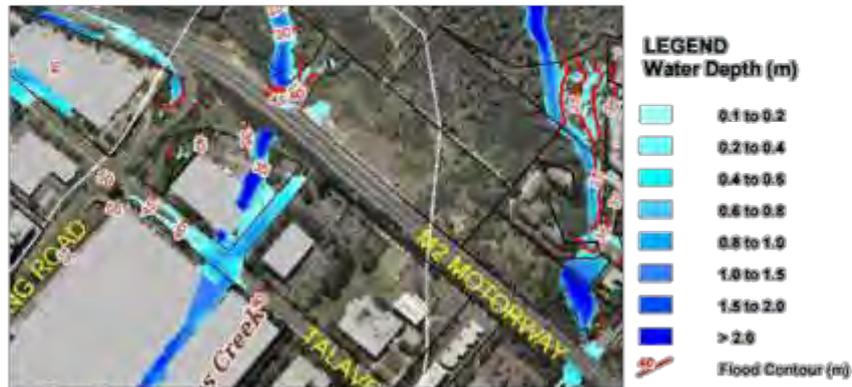


Figure 191 in 100 year flood event
 Source: City of Ryde – Macquarie Park Floodplain Risk Management Study and Plan

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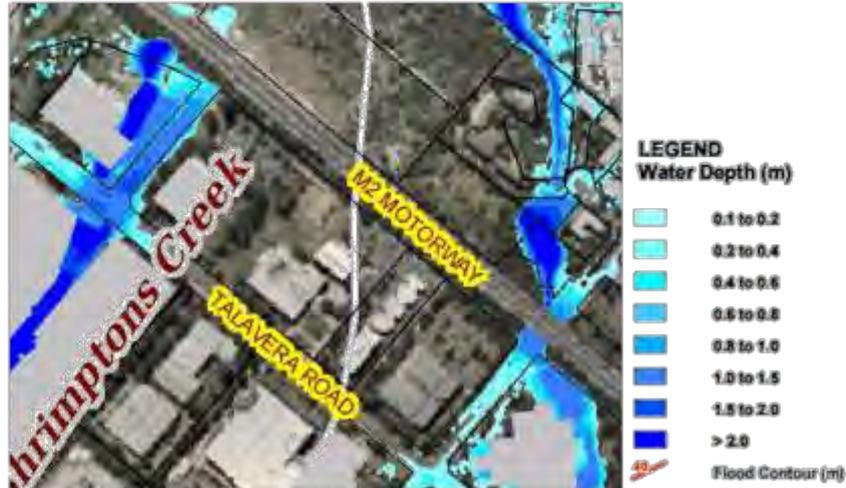


Figure 20 Probable Maximum Flood Event
Source: City of Ryde – Macquarie Park Floodplain Risk Management Study and Plan
However, the site is not identified in Council's Flood Planning Lands map.

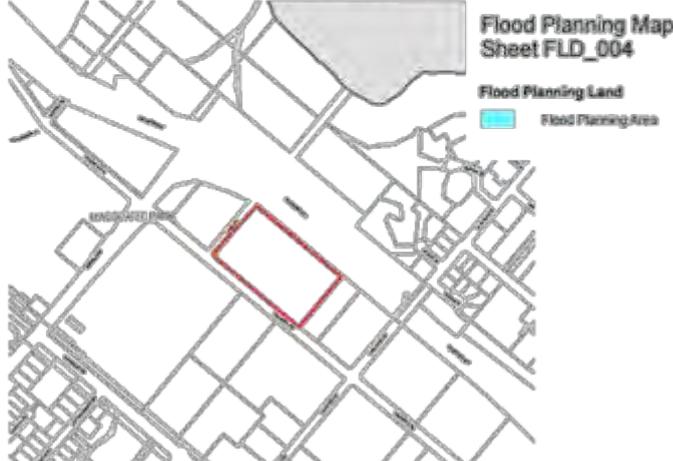


Figure 21 Ryde LEP Flood Planning Map

An assessment of this Planning Proposal against Section 117 Direction 4.3 Flood Prone Land is undertaken in Section 4.0 of this report.

More detailed planning in relation to flood risk could provide opportunity for the proposed open space to play a role in the treatment and management of flood risk.

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2.8 Draft Plans and Policies

Herring Road Priority Precinct

The Herring Road Priority Precinct is an area in the north eastern end of the Macquarie Park Corridor focused around Herring Road, Macquarie University and Macquarie University Station located on the Epping to Chatswood Railway Line.

Priority Precincts include areas selected through the Priority Precincts program as suitable for urban renewal including increased housing. They are generally located close to a centre or multiple centres and with good access (within an 800m walking catchment) to public transport, shops and services.

By 2031, the Herring Road precinct will be transformed into a walkable transit oriented centre, vital to the evolution of Macquarie Park. Building on its existing business, retailing and educational success, Herring Road will attract more people to live, study and work in the area.



Figure 22 Proposed Herring Road Priority Precinct master plan
 Source Herring Road, Macquarie Park Urban Activation Precinct Proposal

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The supporting documentation for the precinct identifies that it will comprise:

- a mix of land uses to transform the precinct into an active place for living, learning and working
- a quality higher density urban community that utilises excellent transport infrastructure and access to job markets, educational facilities, retail, local services and recreational assets
- increased building heights and densities that can improve housing supply and choice
- a transformation of Herring Road into an active street, with wider pavements, new landscaping and new places to meet
- better connected and finer-grained streets and pedestrian / cycle and networks providing safer, more convenient and pleasant access
- opportunities for new and improved parks, spaces, playgrounds and community facilities

The rezoning proposal for the Herring Road Priority Precinct was finalised in September 2015, with the Priority Precinct renamed to be the Macquarie University Station (Herring Road) Precinct.

The subject site is located just outside of the Priority Precinct.



Figure 23 The Proposal in the context of the Herring Road Priority Precinct

However, it is noted that the planning for the Herring Road Priority Precinct does not provide for any new significant open space, only linear connections between existing open spaces. The planned spaces are unable to meet the demand for a district, 1.5 hectare open space as identified in the City of Ryde IOISP. The planned densities in the Herring Road Priority Precinct also require good amenity to mitigate the impacts of high density living.

The translation of planning for the Herring Road Priority Precinct into legislative controls will result in significant uplift for many sites, without allowing Council to capture any additional value of that uplift, beyond the increase in Section 94 contributions that would result from the increased densities. There is no mechanism proposed as part of the Priority Precinct report for the delivery of new spaces, new roads or other community and transport infrastructure required to support the

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planned population growth. The Precinct Support Scheme funding is proposed to be allocated to works on Herring Road only.

Despite an existing shortage of open space within Macquarie Park, the Herring Road Priority Precinct will provide an additional 5,400 dwellings forecasted by the Department of Planning and Environment by 2031 (approximately 12,000 end state should all sites be developed in accordance with draft controls). This is the equivalent to a population of 26,175 additional residents.

With regards to built form, the recommended heights in the Herring Road Priority Precinct proposal range from 45m to 120m. These heights are considered appropriate for their context, if the overshadowing impacts are tested and considered to be acceptable. Generally, the plan may benefit from more variation of the built form.

Recommended FSRs range between 2.5:1 and 4.5:1. Again, this general range is appropriate for a town centre location, based on our experience with similar projects. The strategy to create a 6-8 storey street wall height is supported. This will be important for the quality of the public domain. Achievement of the vision outlined in the Herring Road Priority Precinct master plan is likely to be frustrated by complex and fragmented land ownership patterns, particularly for the sites south-west of the train station. The nominated FSR of 4.0 and 4.5:1 will not be achievable on these small, single lots. Rezoning these small, fragmented land-holdings with this increased density may generate significant problems for implementation and assessment of DAs in this precinct. The advantage of the subject site is that it is a large consolidated lot in single ownership.

Planning Proposals in the area

There have been a number of Planning Proposals lodged within Macquarie Park which seek to amend the Ryde LEP to B4 Mixed Use. Recently, two Planning Proposals (described below) were refused by Council and the NSW Department of Planning and Environment at Pre-gateway Review, it is considered that this proposal provides significant amenity above and beyond those previously considered.

Both Planning Proposals were deemed by Council to be inconsistent with the strategic vision for Macquarie Park, and pre-emptive of the District Plans yet to be released by the DP&E. The strategic framework set out in the Macquarie Park Framework for open space and mixed use development (**Attachment A**) addresses this concern by providing assessment criteria to maintain the employment functions of Macquarie Park, in line with strategic planning for the centre.

Whilst the District Plans have not yet been released, the Proposal aligns with the strategic direction of the Herring Road Priority Precinct and the key directions for the relevant subregion set out in *A Plan for Growing Sydney*, the metropolitan planning strategy by the NSW State Government.

269 – 271 Lane Cove Road

A Planning Proposal for land at 269-271 Lane Cove Road sought to amend current planning controls to allow for residential development. This proposal was refused by DP&E and Council at a Pre-Gateway Review in December 2014.

It is considered that this proposal did not deliver substantial public benefit or amenity as the proposed open spaces were internalised and unlikely to serve the wider community; and that the development mix was residential with only a small component of commercial accommodation.

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111 Wicks Road, 29 Epping Road and 31-35 Epping Road

A Planning Proposal for 111 Wicks Road, 29 Epping Road and 31-35 Epping Road sought to amend current planning controls to permit residential development on the site. The proposal was refused by both Council and the DP&E in February 2015.

The proposed public domain was unlikely to be utilised due to the size, location and type of open space. Therefore, the proposal did not offer significant public benefit or improved amenity.

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3.0 Objectives and intended outcomes

This section outlines the objectives of the Planning Proposal and provides detail on the proposed planning control provisions to achieve these objectives and outcomes.

3.1 Intended outcomes

The intended outcome of the Planning Proposal is to amend the current planning controls to allow for the future redevelopment of the site to deliver:

- **Public open space:** The open space should comprise a large park with a minimum size of 6,100sqm. The space should have regular dimensions to allow for a variety of active and passive uses.
- **Key worker housing/affordable housing:** allow for the delivery of approximately 5,296sqm of affordable housing, or around 4% of the residential development, as key worker/affordable housing. The location and management of this housing should be negotiated between the developer and Council to achieve a positive social outcome and benefit the sustainability of the Business Park. It is noted that this has been endorsed by Council as part of the VPA process.
- **Change of uses:** A diverse mix of uses that support the sustainability and growth of the Macquarie Park Centre by increasing the viability of delivering public benefit and delivering social infrastructure that supports the attractiveness of the centre to business.
- **Increased Density:** The master plan should provide for a maximum building height of 120m (plus site single point tower of 154m) with a FSR of 3.7:1 which encourages the redevelopment of the site in accordance with the proposed master plan provided at Error! Reference source not found..
- **Robust envelopes:** Building envelopes in a preferred built form option should be tested to give Council confidence that future development within those envelopes can achieve design quality and consistency with SEPP 65 rules of thumb.

A concept master plan has been developed which demonstrates how the sites could be developed in accordance with the proposed controls for the site provided to deliver the intended outcomes of the Planning Proposal, as shown in **Figure 24**. It is proposed that this will be further developed with Council to form the basis of a Site specific amendment to the RDCP 2014.

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Figure 24 Concept master plan including key worker housing on the north west boundary

3.2 Objectives of the proposed controls

The objectives of the Planning Proposal for the site at 66-82 Talavera Road, Macquarie Park are to ensure the provision and functionality of public open space of 6,100sqm to support the existing and future community, delivery of a 3,500sqm indoor recreation facility, 5,296sqm of affordable housing and encourage good urban design by providing for increased height on the site. The specific objectives are to:

1. Ensure that the existing shortage of open space within Macquarie Park and future Herring Road Priority Precinct are resolved and addressed;
2. Ensure that a contiguous and well-designed large area of open space can be achieved on the subject site at minimal cost to the wider community;
3. Ensure that the site delivers a high quality open space catering to the diverse needs of the surrounding community, both existing and future;
4. Provide ongoing amenity (open spaces and retail/residential) for Macquarie Park to ensure that it remains a competitive;
5. Ensure an appropriate mix of uses on the site to support the attractiveness of the Business Centre and a vibrant mixed-use development, including provision of affordable and private housing; and

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6. Unlock substantial public benefit on this key site including key worker/affordable housing by ensuring development feasibility.

3.3 Amendments to planning provisions

This Planning Proposal seeks to amend the following provisions of the Ryde Local Environmental Plan 2014:

- Amend **Land Zoning Map Sheet LZN_004** to rezone the site from B7 Business Park to B4 Mixed Use Zone to allow for residential development on the site. The new open space could be rezoned for RE1 Zone at a later stage once the park has been dedicated to Council through the renewal process.
- Amend the **Macquarie Park Corridor Precinct Incentive Height of Buildings Map - Sheet MHB_004** to reflect an incentive maximum height of buildings of 120m and a single tower of 154m to promote variation in the skyline applicable to the eastern portion of the site through the creation of a new incentive zone.
- Amend the **Macquarie Park Corridor Precinct Incentive Floor Space Ratio Map - Sheet MFS_004** to reflect an incentive floor space ratio of 3.7:1 across the whole of the site.
- Amendment to the **Designated State Public Infrastructure Map** for the application of Clause 6.10 to the subject site, for contribution toward designated State Infrastructure.
- Inclusion of a site specific provision to clarify the application of the maximum floor space ratio and for the application of a balcony in tall buildings control.

The benefits of this proposed amendment for Macquarie Park Corridor and the wider community have been further identified in **Section 5 Justification**.

3.4 Land use zoning

The land use zoning of the site will require amendment to permit residential land uses on the subject site. As such, the site will need to be rezoned from B7 Business Park to B4 Mixed Use. The new open space to be created would be dedicated to Council as a stratum lot over the proposed commercial commuter car park.

This will require amendment to the Land Use Zoning Map Sheet **LZN_004**, an extract of which is shown at **Figure 25**, with the full scale map available at **Attachment H**.

Although this will rezone land currently limited to employment uses only, the *Macquarie Park – Growth and Sustainability Research Report* prepared by AEC (**Attachment B**) concludes that 'permitting residential and mixed-use development on selected, appropriate sites in Macquarie Park which comply with the criteria listed in the Architectus strategic planning framework would have a significant positive impact on the growth and sustainability of Macquarie Park as a major employment zone in metropolitan Sydney and a key economic engine room for NSW.'

The mixed use zone is expected to benefit the Macquarie Park Business Centre by:

- allowing for the integration of business, office, retail and residential development to achieve the most efficient use of land,
- co-locating residents to highly skilled jobs, generating economic, social and environmental benefits by reducing commuting times, congestion and encouraging active transport. Currently, 33% of residents in the Macquarie

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Park suburb work in the Ryde – Hunters Hill area³, and 44% of these walked only. The proposal is likely to support these transport habits;

- activating the centre throughout the day, including out of work hours. People are likely to access the site at a range of times due to differentiated usage demands for residential, retail, recreation and commercial space; and
- creating a community asset and activity hub which supports increased social interaction among residents and employees of the area.
- This rezoning allows for the delivery of a significant public open space which addresses a recognised shortfall in the wider Macquarie Park Corridor which will be exacerbated by the Herring Road Priority Precinct. The proposal also allows for the delivery of key worker housing, which would represent a substantial public benefit and support to the centre's employment uses.



Figure 25 Proposed amended Ryde LEP 2014 Land Zoning Map

3.5 Maximum building height

The maximum building heights for the subject site will need to be amended to allow the delivery of the built form envisaged for the site as detailed in the submitted concept plan. A maximum building height of 120m with a single tower of 154m has been proposed for the following reasons:

- A taller building is required to accommodate the total floor space agreed to by Council to be accommodated on the subject site. This was considered the most appropriate way of accommodating this floor space on the site, given the additional reasons below.
- It allows for a varied skyline which will create visual interest in the precinct when viewed from a distance in accordance with best practice urban design principles.
- It will define the location of the Macquarie Park Precinct in the context of wider Sydney.
- It will encourage and support tall slender tower forms which allow for a relief of building bulk and scale at the ground floor.

³ Bureau of Transport Statistics, Journey to Work Explorer, Place of Residence (including TZs 1535, 1537, 1539, 1541, 1542, 1543, 1544, 1545, 1547, 1548, 1550, 1551, 1552), 2015.

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Whilst this will result in an increase in building height beyond that envisaged by wider Macquarie Park Precinct, it is considered that the proposed heights is appropriate for the stated reasons.

This will require amendment to the Macquarie Park Corridor Precinct Incentive Height of Buildings Map - Sheet MHB_004, provided as Attachment H, with an extract provided at Figure 27.



Figure 26 Proposed amended Ryde LEP 2014 Macquarie Park Corridor Precinct Incentive Maximum building height Map

3.6 Maximum Floor Space Ratio

The maximum FSR for the subject site will need to be amended to allow the delivery of the built form envisaged for the site as detailed in the attached Concept Plan and further in this report. This will require the maximum FSR to be increased from 1.5:1 to 3.7:1 which is in line with the FSR in the adjoining Herring Road Priority Precinct which range from 2.5:1 to 6.0:1.

This will require amendment to the Macquarie Park Corridor Precinct Incentive Floor Space Ratio Map - Sheet MFS_004. An extract of this is provided at Figure 28 below, with the full version provided at Attachment H. Importantly, it should be noted that as per Ryde Council Resolution on 2 August 2016 the FSR of 3.7:1 does not include the following:

- 1,030 publicly accessible commuter car spaces (as identified in Holdmarks letter dated 26 July 2016 regarding the proposed VPA and referenced in Ryde Council's resolution on 2 August 2016)
- 3,500sqm indoor recreation facility; and
- 5,206sqm of affordable housing.

The proposed site specific amendment to the Development Control plan will include a requirement for the provision of additional 1,030 public car parking spaces in addition to other spaces required under Council's DCP, identifying that these spaces are to meet Council's requirements and are therefore excluded from GFA.

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In addition to the above, it is noted that the proposed building controls will result in tall slender towers which are likely to experience a high degree of exposure to wind. In order to provide high quality private open spaces for the balconies, controls are required to ensure that these balconies can be partially enclosed and not be captured as part of GFA.

In addition to the above, it is recommended that to mitigate wind impacts to apartments above 30m in height, that a provision excluding winter gardens from the maximum floor space ratio should also be implemented. This will allow for adequate wind mitigation in the four taller towers whilst ensuring the provision of an area of private open space.

Given that the Planning Proposal also specifically excludes the 3,500sqm for the indoor recreation facility and the 5,296sqm for affordable housing, as recognised by the Gateway Determination, an additional clause will need to be incorporated into the RLEP 2014 as per the below:

Clause 6.12 66-82 Talavera Road, Macquarie Park

(1) For the site at 66-82 Talavera Road, Macquarie Park, floor space for the purposes of affordable housing, indoor recreation centre (and supporting ancillary uses) and a commercial commuter car park, are permissible in addition to the maximum Floor Space Ratio shown on the Floor Space Ratio Map.

(2) A minimum of 20,000m² Gross Floor Area of commercial premises must be provided on the site.

(3) The consent authority is to exclude the gross floor area of any existing or proposed wind-affected balcony from the calculation of the total floor space for the purposes of applying a floor space ratio, provided:

(a) the excluded balcony gross floor area does not exceed 15% of the gross floor area of the apartment to which the balcony is attached,

(b) the wind-affected balcony is used, or designed to be used, as external open space,

(c) the wind-affected balcony has sufficient natural ventilation.

(2) For the purposes of this clause, wind-affected balcony means a balcony that is

(a) part of residential flat building that is over 30 metres high, and

(b) above the level of any podium that is, or is required to be, part of the construction of the residential flat building, and

(c) partially enclosed.

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Figure 27 Proposed amended Ryde LEP 2014 Macquarie Park Corridor Precinct Incentive Maximum Floor Space Ratio Map

3.7 Arrangements for contributions to designated State public infrastructure

The Gateway Determination issued by the Department of Planning and Environment also identifies that the site should be subject to a satisfactory arrangements provision for contributions to designated state public infrastructure identified as part of the draft or final strategic investigation for Macquarie Park.

At this stage, it is appreciated that this information is yet to be released by the Department. However, in discussion with Council and the Department, it is understood that the clause will be similar in nature to the current 6.10 clause contained within the RLEP 2014.

This will require amendment to the Designated State Public Infrastructure Map Sheet SPI_004. An extract of this is provided at Figure 28 below, with the full version provided at **Attachment H**.

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3.8 Ryde Development Control Plan 2014

The Ryde Development Control Plan 2014 will require amendment to reflect the preferred built form and public domain envisaged by the concept master plan for the site.

A site specific DCP has been prepared and is provided at **Attachment J**. This DCP is generally in accordance with the master plan provided at **Attachment C** and will identify the following:

- Vehicle entry / exit points
- Location of the Recreation Centre / Open Space
- Development Parcels
- Maximum Tower footprint
- Commitments under the proposed VPA
- Setbacks
- Development to achieve compliance with the ADGs, and
- Commercial car parking (1,030 spaces) to be delivered as part of the development as identified in the VPA.

3.9 Voluntary Planning Agreement

The Planning Proposal is supported by a VPA offer from Holdmark Property Group (provided at **Attachment I**) which was endorsed by Council at its meeting held 2 August 2016. At this meeting, Council resolved to:

- a) That Council accept the irrevocable letters of offer from Holdmark dated 21 and 26 July 2016 to enter into a Voluntary Planning Agreement in accordance with Option 3 as outlined in the Report.

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b) That Council forward, within 7 days, the Planning Proposal to the Department of Planning and Environment for Gateway Determination

The submitted VPA offer, endorsed by Council ensures the provision of the following public benefits on the site:

- 5,296m² GFA of Affordable Housing;
- An indoor recreation facility of 3,500m² GFA;
- Approx. 6,100m² GFA of public open space;
- 20 car spaces dedicated to the indoor recreation facility and up to 180 spaces within the proposed public car park for a maximum of 2.5 hours free parking for validated patrons of the recreation facility;
- Terracing of the site at Holdmarks cost;
- Pedestrian bridge over Talavera Road;
- \$5 million contribution to Roadworks and Traffic Management;
- 4.5m wide footpath along Talavera Road frontage;
- Payment of full Section 94 Contributions on the site, with the exception of the Section 94 applicable for the affordable housing component and community indoor recreation facility and ancillary commercial floor space; and
- Transfer of assets at no cost to Council.

The formal legal agreement is yet to be finalised between City of Ryde Council and Holdmark Property Group but will be provided prior to Public Exhibition.

3.10 Summary

The proposal allows for the delivery of:

- a) public open space which addresses an existing shortfall within the Macquarie Park Corridor which will be exacerbated by the future Herring Road Priority Precinct;
- b) affordable housing, which is substantially undersupplied in the Ryde municipality; and
- c) a community indoor recreation facility which is a much needed facility to service the needs to residents and workers within Macquarie Park.

To allow for the delivery of this open space, key worker housing and community recreation facility, the Planning Proposal seeks to allow for the redevelopment of the site for residential through allowing tall slender tower forms and lower built form buildings with significant employment use in the site. The proposal is supported by a VPA which ensures the delivery of significant public benefit and has been endorsed by Council at its meeting held 2 August 2016.

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4.0 Justification

This section provides justification of the Planning Proposal in line with the 'questions to consider when demonstration justification' set out within the NSW Government's 'A guide to preparing Planning Proposals'.

4.1 Section A - Need for the Planning Proposal

Is the Planning Proposal a result of any strategic study or report?

The Planning Proposal, and the proposed rezoning of the site for increased densities is in response to directions in the following endorsed strategic planning studies:

- NSW Department of Planning and Environment's *Plan for Growing Sydney 2036*, which identifies Macquarie Park as a Strategic Centre, and provides directions to increase amenity, and densities for employment, education, and residential uses near train stations.
- The City of Ryde's *Integrated Open Space Plan 2012*, which identifies the need for new open spaces to support business and new residents.

The Planning Proposal is a result of the following supporting studies, reports and advice, prepared for Holdmark:

- Urban Design Report, prepared by Architectus, dated 13th November 2015;
- Traffic Impact Assessment, prepared by Bitzios, dated 11th October 2016;
- Socio-Economic Impact Assessment, prepared by AEC, dated 13th October 2016; and
- Open Space and Landscape Report, prepared by Clouston, dated 29th September 2016.

The proposal also considers the following documents (also prepared for Holdmark) which are studies that provide a holistic consideration of Macquarie Park:

- Macquarie Park: Framework for open space and mixed use development, prepared by Architectus, dated 25 June 2015; and
- Macquarie Park - Growth and Sustainability – Research Study prepared by AEC, dated June 2015

These documents demonstrate the need for a Planning Proposal, as discussed in more detail below:

Strategic planning framework

The *Plan for Growing Sydney to 2036* is the NSW's State Government's plan for the future growth and prosperity of the Greater Sydney Region. The Plan includes goals and directions that should inform the planning controls for sites in Metropolitan Sydney.

As discussed in more detail in Section 4 of this report, the subject Planning Proposal for higher densities and a B4 Mixed Use Zone is consistent with the

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following overarching objectives for Macquarie Park, as expressed in the Plan for Growing Sydney:

- Macquarie Park is a Strategic Centre, and an appropriate location for employment and mixed use intensification, whilst maintaining the primary role of the centre as a business park.
- ACTION 1.6.1: Grow high-skilled jobs in the Global Economic Corridor by expanding employment opportunities and mixed-use activities
- ACTION 1.7.1: Invest in Strategic centres across Sydney to grow jobs and housing and create vibrant hubs of activity
- ACTION 1.11.3: Undertake long-term planning for social infrastructure to support growing communities
- ACTION 2.1.1: Accelerate housing supply and local housing choices
- ACTION 2.2.2: Undertake urban renewal in transport corridors which are being transformed by investment, and around strategic centres
- ACTION 2.3.3: Deliver more opportunities for affordable housing
- ACTION 3.1.1: Support Urban Renewal by directing local infrastructure to centres where there is growth
- ACTION 3.2.1: Deliver The Sydney Green Grid Project

The Planning Proposal is a progression of the following specific directions for Macquarie Park (Page 127, Plan for Growing Sydney):

- Work with council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing.
- Investigate potential future opportunities for housing in areas within walking distance of train stations.
- Support education and health-related land uses and infrastructure around Macquarie University and Macquarie University Private Hospital.
- Work with council to retain a commercial core in Macquarie Park for long-term employment growth.
- Investigate opportunities to deliver a finer grain road network in Macquarie Park.

Draft North District Plan

The draft North District Plan was released by the Greater Sydney Commission in November 2016, and provide a strategic planning framework for the north district, which includes the Ryde LGA. The proposed development is consistent with the objectives and statements of the Draft Plan, including:

- Creating a Macquarie Park with a diverse range of uses and activities
- Macquarie Park is situated between both the Eastern and Central Cities, resulting in an ideally located centrally between the cities' two major hubs
- Acknowledges the need to balance commercial, residential and other uses to ensure the ongoing sustainability and enhanced vibrancy of Macquarie Park as a Strategic Centre
- The plan calls for affordable housing options to be delivered in the district.

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Ryde Integrated Open Space Plan 2012

The Ryde Integrated Open Space Plan 2012 (prepared by Clouston Associates and endorsed by Council in 24 July 2012) indicated that two major new open space areas suitable for active and passive recreation, as well as several smaller reserves in good proximity to the centre, are required to support the planned commercial and residential growth in Macquarie Park.

Since this time, two Priority Precincts have been announced by the Department of Planning and Environment for land around Herring Road and North Ryde Station for mixed uses, allowing for more than 14,000 new dwellings in Macquarie Park. The Priority Precincts do not provide for any new active open space (only the minor augmentation of existing spaces and the creation of smaller spaces), and so the latent demand for open space becomes even more significant.

The Planning Proposal enables the delivery of a 6,100sqm open space, which would supplement open space in the area in line with the recommendations of the Ryde Integrated Open Space Plan 2012

Refer to Section 4 of this report for more details.

Studies for Holdmark considering the broader vision for Macquarie Park

Macquarie Park: Framework for open space and mixed use development, prepared by Architectus, dated 25 June 2015

This report was prepared by Architectus and is provided at **Attachment A** for Holdmark in relation to the subject site at 66 - 82 Talavera Road, Macquarie Park. The report provides support for a rezoning of the site by establishing a framework for the site to be rezoned to mixed use whilst maintaining the integrity of the Macquarie Park employment centre.

It recognises that there is significant pressure for residential development within Macquarie Park as evidenced by multiple approaches to the City of Ryde Council to seek permission for residential land uses within Macquarie Park as well as by the very high rates of sale for the recent residential developments on land adjacent to the Macquarie Park B7 zone.

The report identifies that the role and composition of business parks is evolving, with an increased emphasis on worker amenity and employee well-being as well as the provision of a full offer of services and facilities while protecting commercial uses.

The existing shortfall of open space is identified as having the potential to severely limit the ability of Macquarie Park to continue to attract businesses into the future as residential, retail and commercial growth exacerbate the centre's existing concerns.

The report finds that Council has an opportunity to strategically approach the problem by permitting mixed use development where substantial public benefit can be delivered on site by the developer. This strategic approach is formalised into a framework that provides key criteria and circumstances in which residential floor space can be permitted. These criteria are as follows:

Public open space

- Provide either new open space shown in the Draft Macquarie Park DCP 2014⁴ or a new 1 hectare minimum public open space, designed to Council's reasonable requirements.

⁴ The Macquarie Park DCP 2014 has since been adopted.

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- Where a site proposes to deliver the 1 hectare minimum open space, the site must be larger than 3 hectares, thereby allowing for a 2 hectare development site for mixed uses.
- The open space must have a frontage to a major road (Waterloo Road, Talavera Road, Wicks Road or Herring Road) and one secondary street.
- The proposed open space should satisfy specified design criteria and be dedicated to Council on completion.

Non-residential floorspace

- Provide a minimum of 20,000sqm GFA of non-residential floorspace.

Key worker housing

- Deliver key worker housing (or Affordable Housing) at the rate of approximately 3% of total dwellings provided.
- Up to 15% of the open space (1,500sqm) can be used to deliver the required key worker housing.

Childcare facilities

- Provide privately run childcare facilities suitable for 60 children.

Public domain

- Delivery of all other required public domain on the site including roads and through site links as nominated in the Draft Macquarie Park DCP 2014⁵.

Since the preparation of the Macquarie Park Framework Plan, the proposal has been amended in response to VPA negotiations with Council which resulted in the inclusion of a 3,500sqm Recreational facility, the increase of affordable housing on the site of 4%, and a reduction in the total open space to be delivered on the site of 6,100sqm.

Whilst the amended proposal is not in line with the prepared Framework study, it continues to deliver significant public benefits as detailed within this report.

Macquarie Park - Growth and Sustainability – Research Study prepared by AEC, dated June 2015

This study was prepared by AEC on behalf of Holdmark and is provided at **Attachment B**. The study provides an overview of the background and future of the Macquarie Park Corridor. Key points identified in the report are as follows:

- The Macquarie Park Corridor is positioned on a new growth trajectory, with significant growth in residents and employment expected to further strengthen its importance and significance as one of Sydney's economic engine rooms and Sydney's second largest commercial office precinct after the Sydney CBD.
- Business parks are beginning to resemble CBDs in many ways, combining shops, restaurants, and services to employees such as banks, travel agencies, gyms, swimming pools and playing fields.
- Worker amenity and employee wellbeing are critical factors that have come to the fore for businesses located in Business Parks. This includes:
 - Proximity to residences;
 - Opportunities for the enhancement of employee wellbeing such as recreational open space; and

⁵ As above.

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- Access to social infrastructure items, i.e. childcare, gyms, public recreation space.
- While the appropriation of land to public open space and affordable housing would mean less available land to accommodate new employment floorspace, the provision of these items of key social infrastructure result in increased appeal of Macquarie Park as a business destination, leading to increased demand for floorspace.
- The ultimate delivery of additional jobs (through increased overall employment densities) would support NSW Government and Council objectives of strengthening Macquarie Park's position in the Global Economic Corridor.

Studies for Holdmark supporting the Planning Proposal

Urban Design Report , prepared by Architectus, dated 13th November 2015

The Planning Proposal is informed by an Urban Design Report prepared by Architectus. The Urban Design Review has been provided with this report at **Attachment C**.

The Urban Design Report recommends the preferred arrangement of development parcels and public open space. It provides recommendations on uplift of GFA through increased building height limits for the site and recommends a total precinct gross floor area for each use based on detailed massing studies.

The Urban Design report demonstrates that the proposed 120m incentive maximum height of buildings plus single tower of 154m is supported from an urban design perspective in that:

- The 120m / 154m height concentrates maximum heights and densities near the train station, university and shopping centre. This is intended to make the most efficient use of local infrastructure and services.
- The 120m / 154m height limit minimizes building footprint while delivering an FSR in line with adjoining Herring Road sites, enabling the delivery of more public domain.
- The 120m / 154m height is consistent with the Macquarie University Station (Herring Road) Priority Precinct controls which has heights up to 120m for large parts of the precinct, but also diversifies building height in the centre. This creates a distinctive skyline for Macquarie Park.
- The 120m / 154m height allows for slender building forms which provide better lower separation, slender shadows and residential amenity.
- The 120m / 154m height allows for the delivery of open space while preserving its solar access and amenity.
- The site is located near a key entry and exit point to Macquarie Park (from the M2 Motorway), and is larger than the majority of other sites within Macquarie Park. The site is therefore considered to be appropriate for additional height to signpost the entry to this key commercial centre through landmark buildings.
- This study has informed the overall heights and FSRs proposed under the Planning Proposal and will be used to inform the appropriate amendments to the Ryde DCP 2014 as required.

Traffic Impact Assessment, prepared by Bitzios, dated 11th October 2016

The Traffic Impact Assessment prepared by Bitzios, provided at **Attachment D**, concludes that the planning proposal will result in a development acceptable with relation to traffic impact. The traffic issues will be addressed as part of a forthcoming report.

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Socio-Economic Impact Assessment, prepared by AEC, dated 13th October 2016

The Socio-Economic Impact Assessment, prepared by AEC, provided at **Attachment E** finds:

- Employment hubs such as business parks are responding to demand from employers and employees for amenities such as recreational open space and childcare facilities. Flexible and inviting workplaces that are not only engaging within but engaging with the surrounding public domain are highly valued by business and occupiers;
- Given the configuration of the site and building layout, the permitted uses are unlikely to facilitate a more attractive use to displace the existing use and facilitate a comprehensive redevelopment. The highest and best use of the Site under the existing zoning is likely to already be secured. On that basis, assuming the Site is not rezoned and remains subject to existing planning controls, comprehensive redevelopment of the Site is unlikely to occur;
- While the appropriation of land to public open space and key worker housing would mean less land available to accommodate new employment floorspace, the provision of items of key social infrastructure would undoubtedly result in sustaining Macquarie Park Corridor's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace;
- Increased demand for employment floorspace in Macquarie Park Corridor would in turn result in take-up of Council's bonus FSR provisions as envisaged under the Macquarie Park Corridor Planning Proposal. Development to greater FSRs than provided for under the Ryde LEP 2013 would ultimately result in increased overall employment densities in Macquarie Business Park;
- The ultimate delivery of additional jobs (in increased overall employment densities) would support NSW Government and Council objectives of strengthening Macquarie Park Corridor's position in the Global Economic Corridor; and
- Rezoning of the site would deliver a clear, strong positive economic impact comparative to the existing case.

Open Space and Landscape Report, dated 29th September 2016

An open space and landscape assessment of the Planning Proposal and concept master plan was undertaken by Clouston, focusing on the proposed open space and drawing on their experience in the preparation of the Ryde Integrated Open Space Plan (IOSP). The report forms **Attachment F**.

The report compares the Strategic Rezoning Assessment Framework prepared by Architectus in the report Macquarie Park: Framework for Open Space and Mixed Use Development (provided at **Attachment A**) to the recommendations of the IOSP, and the resulting proposed open space as part of this Planning Proposal.

Clouston's assessment demonstrates that the proposed open space will address some of the deficiency of open space in Macquarie Park. Key benefits of the proposal from an open space perspective include:

- The proposal would provide much needed certainty in respect of the delivery of a large new local park and importantly in the early phases of population growth in the locality
- The proposal would provide certainty regarding the timing of delivery of new public open space
- The proposal would address the latent shortfall in open space provision in Macquarie Park.

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- The proposal would assist in meeting the demand for open space that caters for the day-to-day needs generated by the Herring Road Priority Precinct by providing a large new local park immediately adjoining the Precinct.
- The proposal provides certainty of outcome in terms of open space delivery.
- The proposal would create a new public open space of significant size north of Waterloo Road, in the area of least open space provision.
- The proposal has the potential to make a significant contribution towards ensuring equity of access to public open space.
- The proposal would create a new public open space of significant size within walking distance of the University campus.
- The proposal would reduce local reliance on the University grounds for informal recreation and access to nature.
- The proposal would complement the recreation and leisure offering of the Macquarie Centre by providing a new public open space immediately adjoining the Centre.
- The co-location of community and recreation facilities and infrastructure is consistent with best practice planning principles. It creates significant activity hubs and reduces the need for travel to access a range of facilities and services.

The report concludes that in the changing context of Macquarie Park, the proposal to rezone the site and deliver a new public open space would deliver significant public benefit. The proposal is recommended for support by Council from an open space planning perspective.

Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The objectives and intended outcomes of the proposal can only be achieved through an increase in height and FSR beyond those achievable under the current Ryde Local Environmental Plan 2014.

This is as the current zoning does not allow for residential development which would financially enable the delivery of the public infrastructure on the subject site which would support the ongoing sustainability of Macquarie Park as a business centre, as demonstrated in the research study prepared by AEC, provided in **Attachment B**.

Accordingly, the Planning Proposal is considered the only way to amend the primary built form controls to achieve the objectives and intended outcomes for the site.

Is there a net community benefit?

The Planning Proposal and supporting Voluntary Planning Agreement will result in a wide variety of public benefits including:

- public open space of approximately 6,100sqm;
- provision of residential land uses in close proximity to Macquarie University Station and the surrounding amenities located along Herring Road;
- Provision of approximately 20,000sqm of commercial floor space contained within the recently completed Astra Zeneca building and within future development;
- Provision of 5,296sqm of affordable housing on the site;
- An indoor recreation facility of 3,500m² for the use of the wider community;
- 20 car spaces dedicated to the indoor recreation facility and up to 180 spaces within the proposed public car park for a maximum of 2.5 hours;
- A pedestrian bridge over Talavera Road to facilitate access to the open space and indoor recreation centre for the wider Macquarie Park;

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- \$5 million contribution to Roadworks and Traffic Management to alleviate and resolve surrounding traffic issues.
- Provision of a 4.5m footpath along Talavera Road frontage to facilitate access to the to the open space and indoor recreation centre for the wider Macquarie Park.

Although it is recognised that the proposal will result in an additional maintenance burden to Council as a result of the proposed dedication of the open space, it is noted that the proposal would result in significant increase in rates for the site

4.2 Section B - Relationship to strategic planning framework

This section provides a summary of the strategic planning framework within which the Planning Proposal outcomes for the site have been considered. It should be noted that only those relevant to the subject site have been identified below.

A Plan for Growing Sydney

A Plan for Growing Sydney is the NSW's State Governments plan for the future growth and prosperity of the Greater Sydney Region. The Plan includes 4 main goals which are underpinned by several key actions. Each of these goals and the actions relevant to the Plan have been considered below in **Table 1**.

Table 2 A Plan for Growing Sydney

A Plan for Growing Sydney: Goals and Actions	Consistency	Comment
GOAL 1 A COMPETITIVE ECONOMY WITH WORLD-CLASS SERVICES AND TRANSPORT		
ACTION 1.6.1: Grow high-skilled jobs in the Global Economic Corridor by expanding employment opportunities and mixed-use activities	Yes	This action recognises the importance of the Global Economic Corridor (GEC). Importantly this action recognises a need to protect the viability of commercial cores but also that restrictive zonings should be targeted. The proposal, although including residential land uses within the GEC, will allow and enhance the functionality of Macquarie Park as a commercial centre. This is as: - The provision of much needed open space will enhance the appeal of the wider Macquarie Park Corridor to businesses; - Given that the site directly adjoins the B4 Mixed Use area, it will not significantly reduce the wider commercial / business offering within Macquarie Park; - Unlikely to be a conflict between the commercial / residential land uses as the Business park character of Macquarie Park is unlikely to contain 'offensive' odour and noise generating land uses. - The provision of residential land uses will allow for a greater activation and vibrancy within the Macquarie Park Corridor through providing land uses which function outside of 'business hours'. This will in turn enhance the commercial / retail offering on the site. - Modern business parks include a variety of land uses, including outdoor recreation opportunities, retail / commercial components and residential. These uses improve the sustainability of the centre.
ACTION 1.6.2: Invest to improve infrastructure and remove bottlenecks to grow Economic Activity	Yes	The proposal will actively allow for the delivery of the public open space, indoor recreation facility and allow a monetary contribution to traffic resolution in Macquarie Park. This components are considered to be a crucial addition to infrastructure which will actively increase the appeal and functionality of the Macquarie Park Corridor as a key commercial centre. This will unlock further economic activity within the precinct.
Direction 1.7: Grow strategic centres - providing more jobs closer to home		
ACTION 1.7.1:	Yes	The proposal will actively allow for the delivery of the public open space, indoor recreation facility and allow a monetary contribution to traffic

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A Plan for Growing Sydney: Goals and Actions	Consistency	Comment
Invest in Strategic centres across Sydney to grow jobs and housing and create vibrant hubs of activity		<p>resolution in Macquarie Park which will actively increase the appeal and functionality of the wider Macquarie Park Corridor as one of Sydney's premier commercial centres.</p> <p>This is through increasing the commercial appeal of the centre through providing opportunities for recreation within the corridor which is a key attractor for new businesses.</p> <p>This will in turn result in further job growth in the centre.</p> <p>Through the proposal built form controls and the inclusion of residential on the site, the public open space is ensured and additional housing in a well serviced and well located centre is achieved.</p> <p>The proposal allows for approximately 1,271 dwellings on site.</p>
Direction 1.9: Support priority economic sectors		
ACTION 1.9.1: Support the growth of priority industries with appropriate planning controls	Yes	<p>As identified elsewhere, the proposal will not detract from the ongoing development of Macquarie Park Corridor as a priority location for medical technology industries as identified within the Plan for Growing Sydney. Importantly, with relationship to this proposal, the inclusion of residential land uses within the corridor will not restrict the opportunities for and capacity for growth for these industries.</p> <p>This is as:</p> <ul style="list-style-type: none"> - Provision of well designed, high quality dwellings in close proximity to jobs will support the attractiveness of the corridor to employees and respective employers, - Provision of open space will enhance appeal of Macquarie Corridor to employees and employers, - Generally, medical technologies are unlikely to be noise or odour generating and will not result in a conflict between residential and commercial uses,
ACTION 1.9.2: Support key industrial precincts with appropriate planning controls	Yes	<p>The proposal is in close proximity to key economic infrastructure, being the key office market of Macquarie Park. The subject site is somewhat separated from the rest of the business park by the Macquarie Park Shopping Centre.</p> <p>While the site currently contributes to the Macquarie Park Business Centre by hosting the AstraZeneca building and at-grade car parking, the proposal seeks to increase the efficiency and effective contribution of the site to allow it to deliver supporting residential accommodation: substantial open space, indoor facilities and retail uses while maintaining the use of the site by AstraZeneca.</p> <p>The rezoning of the site to B4 Mixed Use would allow the partial use of the site for residential uses. However, this does not preclude the use of the site for industrial or commercial uses as demanded by the market. Importantly, a total of 20,000sqm is proposed to be delivered on site.</p> <p>The proposal is considered to be critical to meeting the need for an alternative purpose in the Business Park, in line with A Plan for Growing Sydney and the Ryde IOSP.</p>
Direction 1.11: Deliver infrastructure		
ACTION 1.11.3: Underlake long-term planning for social infrastructure to support growing communities	Yes	<p>The proposal represents an opportunity to address an existing, recognised shortfall in open space within Macquarie Park.</p> <p>This shortfall is a significant threat to the ongoing functionality and future success of the Macquarie Park Corridor as a crucial part of the GEC.</p> <p>The proposal adequately responds to this action through resolving a recognised social infrastructure need.</p> <p>If this need is not resolved, the attractiveness of Macquarie Park as a commercial centre is likely to be negatively impacted upon.</p>
GOAL 2 A CITY OF HOUSING CHOICE, WITH HOMES THAT MEET OUR NEEDS AND LIFESTYLES		
Direction 2.1: Accelerate housing supply across Sydney		
ACTION 2.1.1: Accelerate housing supply and local housing choices	Yes	<p>The proposal represents an offer by a recognised and established developer with extensive experience within the Ryde LGA to commit to and provide additional housing.</p> <p>As such, this responds effectively to this action.</p>
Direction 2.2: Accelerate urban renewal across Sydney – providing homes closer to jobs		

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A Plan for Growing Sydney: Goals and Actions	Consistency	Comment
ACTION 2.2.2: Undertake urban renewal in transport corridors which are being transformed by investment, and around strategic centres	Yes	The proposal seeks to allow for the urban renewal of the subject site to deliver public open space and housing which will: - Connect new homes to the northern section of the Sydney Rapid Transit, - Recognise an opportunity to connect new homes to a job-rich strategic centre, - Provide new housing and much needed open space which will support the ongoing development of the Macquarie Park Corridor.
Direction 2.3: Improve housing choice to suit different needs and lifestyles		
ACTION 2.3.3: Deliver more opportunities for affordable housing	Yes	A VPA has been endorsed by City of Ryde Council which ensures that a total of 5,296sqm of affordable housing will be delivered on the site.
GOAL 3 A GREAT PLACE TO LIVE WITH COMMUNITIES THAT ARE STRONG, HEALTHY AND WELL CONNECTED		
Direction 3.1: Revitalise existing suburbs		
ACTION 3.1.1: Support Urban Renewal by directing local infrastructure to centres where there is growth	Yes	The proposal seeks to deliver a 6,100sqm public open space in a strategic location between the Macquarie Park Business Centre and the Herring Road Priority Precinct. As stated in A Plan for Growing Sydney, this investment in the amenity and provision of infrastructure in the centre will attract development and business. The proposal adequately responds to this action through resolving a recognised local infrastructure need. This will also be supported by a 3,500sqm indoor recreation facility, full payment of Section 94 Contributions, a \$5 million contribution to roadworks and traffic management, and a pedestrian bridge over Talavera Road.
Direction 3.2: Create a network of interlinked, multipurpose open and green spaces across Sydney		
ACTION 3.2.1: Deliver The Sydney Green Grid Project	Yes	The Sydney Green Grid Project seeks to deliver flexible open space that meets the needs of the local community. The Proposal seeks to deliver a large, flexible, multipurpose and high-quality open space that will go towards meeting the needs of the local residential and business community.

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Is the Planning Proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft strategies)?

Subregional Planning

Subregional plans are intended to set out how *A Plan for Growing Sydney* applies to local areas.

Whilst the Draft North Subregional Strategy is no longer publicly available, the draft subregional plans are expected to be released late 2015. In the interim, priorities for the north subregion have been established, including specific priorities for the Macquarie Park Strategic Centre.

This Planning Proposal supports the priorities for the Macquarie Park centre as part of the North Subregion as set out below:

Table 3 Priorities for Strategic Centres in the North Subregion

Priority	Consistency	Comment
Work with council to retain a commercial core in Macquarie Park for long-term employment growth.	Yes	The Planning Proposal will support the commercial core through provision of open space, commercial and retail uses. A strong framework for rezoning which supports the retention of the commercial core has been proposed.
Work with council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing.	Yes	The Planning Proposal seeks to deliver mixed use development on a strategic site in close proximity to the Macquarie University station.
Facilitate delivery of Herring Road, Macquarie Park Priority Precinct, and North Ryde Station Priority Precinct.	Yes	The Planning Proposal will ensure the delivery of open space to support the nearby Priority Precincts.
Investigate potential future opportunities for housing in areas within walking distance of train stations.	Yes	The Planning Proposal seeks to substantially increase housing supply within 550m walk of the Macquarie University Train Station, measured along footpaths. There is opportunity to deliver some key worker housing on the site.
Support education and health-related land uses and infrastructure around Macquarie University and Macquarie University Private Hospital.	Yes	The Planning Proposal does not preclude these uses. The proposal supports the use of the site by AstraZeneca, an existing biopharmaceutical company.
Support the land use requirements of the Medical Technology knowledge hub.	N/A	
Investigate a potential light rail corridor from Parramatta to Macquarie Park via Carlingford.	N/A	
Investigate opportunities to deliver a finer-grain road network in Macquarie Park.	N/A	
Investigate opportunities to improve bus interchange arrangements at train stations.	N/A	
Work with council to improve walking and cycling connections to North Ryde train station.	N/A	

Draft North District Plan

The draft North District Plan was released by the Greater Sydney Commission in November 2016, and provide a strategic planning framework for the north district, which includes the Ryde LGA. The proposed development is consistent with the objectives and statements of the Draft Plan, including:

- Creating a Macquarie Park with a diverse range of uses and activities. This planning proposal will assist in providing a diverse range of residential, commercial, retail and community based recreational uses.
- Macquarie Park is situated between both the Eastern and Central Cities, resulting in an ideally located centrally between the cities' two major hubs. This proposal leverages off the opportunity being within a strategic centre with strong connectivity both east and west.

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- Acknowledges the need to balance commercial, residential and other uses to ensure the ongoing sustainability and enhanced vibrancy of Macquarie Park as a Strategic Centre.
- The plan calls for affordable housing options to be delivered in the district, which will be included as part of the proposal.

Is the Planning Proposal consistent with a Council's local strategy or other local strategic plan?

Ryde Integrated Open Space Plan 2012

The Planning Proposal enables the delivery of a 6,100sqm open space, which would supplement open space in the area in line with the recommendations of the Ryde Integrated Open Space Plan 2012.

The Ryde Integrated Open Space Plan 2012 indicated that two major new open space areas suitable for active and passive recreation, as well as several smaller reserves in good proximity to the centre, are required to support the planned commercial and residential growth in Macquarie Park.

Specifically, the IOSP identified the need for a variety of different sized open space areas including:

- at least one major reserve close to the core of the precinct generally no less than 1.5 Ha in size to support passive and informal active recreation;
- a suite of local parks distributed across the corridor of a nominal size no less than 0.3 Ha; and
- a series of small corner meeting places (as little as 20sqm)

Since this time, two Priority Precincts have been announced by the Department of Planning and Environment for land around Herring Road and North Ryde Station for mixed uses, allowing for more than 14,000 new dwellings in Macquarie Park. The Priority Precincts do not provide for any new active open space (only the minor augmentation of existing spaces and the creation of smaller spaces), and so the latent demand for open space becomes even more significant.

The Planning Proposal for Macquarie Park Corridor (City of Ryde, 2013) acknowledges a body of work that has established an open space deficiency that will be exacerbated by planned growth.

City of Ryde Local Planning Study, 2010

The City of Ryde Local Planning Study 2010, intended to guide the future growth of Ryde LGA for 10 years through the comprehensive LEP, establishes the desired future character of the Macquarie Park Corridor through the following statement:

'Macquarie Park will mature into a premium location for globally competitive businesses with strong links to the university and research institutions and an enhanced sense of identity.

The Corridor will be characterised by a high quality, well-designed, safe and liveable environment that reflects the natural setting, with three accessible and vibrant railway station areas providing focal points.

Residential and business areas will be better integrated and an improved lifestyle will be forged for all those who live, work and study in the area.'

The Planning Proposal is considered to be consistent with this desired future character in that it will improve amenity in the business park, attracting business investment.

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The Planning Proposal would deliver a well-integrated mixed use development and substantial public benefit to improve the lifestyle of local residents, students and employees.

Is the Planning Proposal consistent with applicable State Environmental Planning Policies?

The consistency of the Planning Proposal with the applicable State Environmental Planning Policies is discussed at **Table 4** below.

Table 4 Response to State Environmental Planning Policies

State Environmental Planning Policy	Consistency	Comment
SEPP 55 – Remediation of Land	Yes	There is no knowledge of prior contaminating use on the land. The site is currently in use as a commercial office building and adjoins residential uses. A search of the NSW Contaminated Land Register revealed no records of notices in the City of Ryde LGA. The City of Ryde is undertaking two remediation projects at 2 – 14 Wellington Road, Ryde and the Former Parsonage Street Depot, which are not in proximity to the subject site. A Phase 1 Preliminary Environmental Assessment is underway and will be submitted at later date.
SEPP 64 – Advertising and Signage	Yes	The Planning Proposal will not contradict or hinder the application of this SEPP if and when signage is proposed under future development.
SEPP 65 – Design Quality of Residential Flat Development	Yes	The Urban Design Study for the site has been informed by SEPP 65 Principles. The Planning Proposal is not considered to hinder the application of this SEPP or the accompanying Apartment Design Guide.
SEPP (Building Sustainability Index: BASIX) 2004	Yes	The Planning Proposal will be consistent with the application of this SEPP. Future residential use on the site will be required to achieve minimum BASIX requirements (lighting, heating, cooling, and ventilation) to qualify for a BASIX Certificate and compliance with SEPP BASIX.
SEPP (Exempt and Complying Development Codes) 2008	Yes	The Planning Proposal will not contradict or hinder the application of this SEPP.
SEPP (Infrastructure) 2007	Yes	The Planning Proposal will not contradict or hinder the application of this SEPP.

Is the Planning Proposal consistent with applicable Ministerial Directions (s.117 directions)?

A review of the consistency of the Planning Proposal with the Ministerial Directions for LEPs under Section 117 of the EP&A Act 1979 is discussed at

Table 5 below.

Where the Section 117 Direction does not apply, the application trigger has been provided. Where the Direction does apply, the relevant controls have been provided.

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Table 5 Response to Section 117 Directions

No.	Direction	Application / Controls	Consistency	Comment
1	Employment and Resources			
1.1	Business and Industrial Zones	<p><i>Application</i></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).</p> <p><i>Controls</i></p> <p>A planning proposal must:</p> <p>(a) give effect to the objectives of this direction,</p> <p>(b) retain the areas and locations of existing business and industrial zones,</p> <p>(c) not reduce the total potential floor space area for employment uses and related public services in business zones,</p> <p>(d) not reduce the total potential floor space area for industrial uses in industrial zones, and</p> <p>(e) ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning.</p>	Yes	<p>The Planning Proposal is consistent with this Direction in that it is likely to increase the renewal, expansion and increased efficiency of employment uses on site. The retention of the six storey AstraZeneca building, currently under construction, as well as commitment to deliver 20,000sqm of non-residential floor space to be secured by a VPA, demonstrates an increase in the number of jobs generated on site compared to the current use.</p> <p>Direction 1.1 specifically seeks to 'not reduce the total potential floor space area for employment uses and related public services in business zones'. The Planning Proposal addresses this by seeking to commit to the delivery of 20,000sqm of non-residential uses on the site, with investigation into the viability of providing a 1:1 FSR of non-residential uses (in line with the existing zoning potential) being undertaken in discussion with Council.</p> <p>The provision of key social infrastructure in the form of open space, childcare and affordable housing will support the sustainability of the Macquarie Park business lands as a whole, achieving this Direction.</p> <p><i>Land Use Conflict</i></p> <p>One planning concern for the introduction of mixed uses in to employment areas is the potential for land use conflict. In this case, the impacts of mixed uses on the nominated site is unlikely to generate any land use conflict because:</p> <ul style="list-style-type: none"> - The nearby employment uses are generally commercial office and high technology uses that do not generate adverse impacts for residential uses. - The site is large enough so that residential uses can be designed to respond to the mixed land use conditions. - Further, it is envisaged that some mixed use development in the employment area would support a wider variety of food and drink options, and provide some activation of the area in the evenings. <p><i>Precedent</i></p> <p>A Framework for the delivery of open space has been prepared by Architectus in Attachment A. This Framework ensures the proposed rezoning does not set an undesirable precedent by establishing nine criteria for the assessment of rezoning applications that establish the need to deliver substantial public benefit to achieve rezoning.</p> <p>The primary strength of the Framework is the clear nexus between public benefits and the ability to rezone land for mixed uses.</p> <p>Architectus and Holdmark are aware that a study is being undertaken by the NSW Department of Planning and Environment in</p>

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No.	Direction	Application / Controls	Consistency	Comment
				<p>partnership with the City of Ryde into land uses in Macquarie Park. Due to the firm nexus between public benefit and rezoning, it is not considered that this Planning Proposal precludes the outcomes of this study in any way.</p> <p><i>Certainty and orderly planning</i></p> <p>The on-going role of Macquarie Park as an employment centre is a critical part of the overarching strategy of A Plan for Growing Sydney. All planning decisions should support this vision.</p> <p>The proposed framework for open space and mixed uses for Macquarie Park supports this vision by allowing for essential open space and other public benefits to be delivered by the private market. Importantly, the provision of open space will enhance function and role of Macquarie Park as a business centre by increasing its attractiveness to businesses and contributing to employee wellbeing.</p> <p>This direction is addressed in further detail on page 56 of the Socio-Economic Impact Assessment prepared by AEC, provided at Attachment E.</p>
1.2	Rural Zones	<p><i>Application</i></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural zone (including the alteration of any existing rural zone boundary).</p>	N/A	The Planning Proposal does not affect land within an existing or proposed rural zone.
1.3	Mining, Petroleum Production and Extractive Industries	<p><i>Application</i></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that would have the effect of:</p> <p>(a) prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or</p> <p>(b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.</p>	N/A	The Planning Proposal does not relate to the mining of coal or other materials, production of petroleum or extractive materials.
1.4	Oyster Aquaculture	<p><i>Application</i></p> <p>This direction applies to Priority Oyster Aquaculture Areas and oyster aquaculture outside such an area as identified in the NSW Oyster Industry Sustainable Aquaculture Strategy (2006) ("the Strategy").</p>	N/A	The Planning Proposal does not relate to oyster aquaculture.
1.5	Rural Lands	<p><i>Application</i></p> <p>This direction applies when:</p> <p>(a) a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural or environment protection zone (including the alteration of any existing rural or environment protection zone boundary) or</p> <p>(b) a relevant planning authority prepares a planning proposal that changes the existing minimum lot size on land within a rural or environment protection zone.</p>	N/A	The Planning Proposal does not apply to an existing or proposed rural or environmental protection zone.

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No.	Direction	Application / Controls	Consistency	Comment
2	Environment and Heritage			
2.1	Environmental Protection Zones	<p>Controls</p> <p>4) A planning proposal must include provisions that facilitate the protection and conservation of environmentally sensitive areas.</p> <p>5) A planning proposal that applies to land within an environment protection zone or land otherwise identified for environment protection purposes in a LEP must not reduce the environmental protection standards that apply to the land (including by modifying development standards that apply to the land). This requirement does not apply to a change to a development standard for minimum lot size for a dwelling in accordance with clause (5) of Direction 1.5 "Rural Lands".</p>	Yes	The Planning Proposal complies with this direction in that does not apply to land within an environmental protection zone or identified for environmental protection purposes.
2.2	Coastal Protection	<p>Application</p> <p>This direction applies when a relevant planning authority prepares a planning proposal that applies to land in the coastal zone.</p>	N/A	The Planning Proposal does not apply to land within the coastal Zone.
2.3	Heritage Conservation	<p>Controls</p> <p>A planning proposal must contain provisions that facilitate the conservation of:</p> <p>(a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area,</p> <p>(b) Aboriginal objects or Aboriginal places that are protected under the National Parks and Wildlife Act 1974, and</p> <p>(c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people.</p>	Yes	The Planning Proposal does not relate to land including a heritage item and therefore does not contravene this direction.
2.4	Recreation Vehicle Areas	<p>Controls</p> <p>A planning proposal must not enable land to be developed for the purpose of a recreation vehicle area (within the meaning of the Recreation Vehicles Act 1983):</p> <p>(a) where the land is within an environmental protection zone,</p> <p>(b) where the land comprises a beach or a dune adjacent to or adjoining a beach,</p> <p>(c) where the land is not within an area or zone referred to in paragraphs (4)(a) or (4)(b) unless the relevant planning authority has taken into consideration:</p> <p>(i) the provisions of the guidelines entitled Guidelines for Selection, Establishment and Maintenance of Recreation Vehicle</p>	Yes	The Planning Proposal does not seek to enable land to be developed for the purposes of a recreation vehicle area.

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No.	Direction	Application / Controls	Consistency	Comment
		Areas, Soil Conservation Service of New South Wales, September, 1985, and (ii) the provisions of the guidelines entitled Recreation Vehicles Act, 1983, Guidelines for Selection, Design, and Operation of Recreation Vehicle Areas, State Pollution Control Commission, September 1985.		
3	Housing, Infrastructure and Urban Development			
3.1	Residential Zones	<p>Controls</p> <p>A planning proposal must include provisions that encourage the provision of housing that will:</p> <p>(a) broaden the choice of building types and locations available in the housing market, and</p> <p>(b) make more efficient use of existing infrastructure and services, and</p> <p>(c) reduce the consumption of land for housing and associated urban development on the urban fringe, and</p> <p>(d) be of good design.</p> <p>(5) A planning proposal must, in relation to land to which this direction applies:</p> <p>(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</p> <p>(b) not contain provisions which will reduce the permissible residential density of land.</p>	Yes	<p>The Planning Proposal will improve variety and choice of housing types by encouraging high density residential development with a mix of sizes.</p> <p>The Planning Proposal will make efficient use of existing transport infrastructure as the site is located close to the Macquarie University Station and bus interchange at the Macquarie Shopping Centre.</p> <p>The site is also close to retail uses, services and Macquarie University.</p> <p>The proposal would deliver a large, contiguous open space to support residential uses.</p>
3.2	Caravan Parks and Manufactured Home Estates	<p>Controls</p> <p>In identifying suitable zones, locations and provisions for caravan parks in a planning proposal, the relevant planning authority must:</p> <p>(a) retain provisions that permit development for the purposes of a caravan park to be carried out on land, and</p> <p>(b) retain the zonings of existing caravan parks, or in the case of a new principal LEP zone the land in accordance with an appropriate zone under the Standard Instrument (Local Environmental Plans) Order 2006 that would facilitate the retention of the existing caravan park.</p>	Yes	The Planning Proposal does not relate to the location or provision for caravan parks or manufactured homes.
3.3	Home Occupations	<p>Controls</p> <p>Planning proposals must permit home occupations to be carried out in dwelling houses without the need for development consent.</p>	Yes	The Planning Proposal does not seek to change the permissibility of home occupations in dwelling houses.
3.4	Integrated Land Use and Transport	<p>Controls</p> <p>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> <p>(a) Improving Transport Choice – Guidelines for planning and development (DUAP 2001), and</p> <p>(b) The Right Place for Business and Services – Planning Policy (DUAP 2001).</p>	Yes	<p>The site is located close to the Macquarie University Station and bus interchange at Macquarie Shopping Centre. The site is also close to retail uses, services and Macquarie University.</p> <p>The Planning Proposal will enable the intensification of residential uses in a well-connected accessible site, encouraging active and public transport while discouraging car traffic, trip generation, and distances travelled.</p> <p>Although the proposal will include a commuter carpark, this is intended to facilitate access.</p>

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No.	Direction	Application / Controls	Consistency	Comment
3.5	Development Near Licenced Aerodromes	Application This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to land in the vicinity of a licenced aerodrome.	N/A	The Planning Proposal does not relate to land in proximity to an aerodrome.
3.6	Shooting Ranges	Application This direction applies when a relevant planning authority prepares a planning proposal that will affect, create, alter or remove a zone or a provision relating to land adjacent to and/ or adjoining an existing shooting range.	N/A	The Planning Proposal does not seeks to affect, create, alter or remove a zone or provision relating to land adjacent to or adjoining an existing shooting range.
4 Hazard and Risk				
4.1	Acid Sulfate Soils	Application This direction applies when a relevant planning authority prepares a planning proposal that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps.	N/A	The Planning Proposal does not apply to land identified as having a probability of acid sulfate soils.
4.2	Mine Subsidence and Unstable Land	Application This direction applies to land that: (a) is within a Mine Subsidence District proclaimed pursuant to section 15 of the Mine Subsidence Compensation Act 1961, or (b) has been identified as unstable land.	N/A	The Planning Proposal does not apply to land that is within a mine subsidence district or that has been identified as being unstable.
4.3	Flood Prone Land	Application This direction applies when a relevant planning authority prepares a planning proposal that creates, removes or alters a zone or a provision that affects flood prone land. Controls A planning proposal must include provisions that give effect to and are consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 (including the Guideline on Development Controls on Low Flood Risk Areas). (5) A planning proposal must not rezone land within the flood planning areas from Special Use, Special Purpose, Recreation, Rural or Environmental Protection Zones to a Residential, Business, Industrial, Special Use or Special Purpose Zone. (6) A planning proposal must not contain provisions that apply to the flood planning areas which: (a) permit development in floodway areas, (b) permit development that will result in significant flood impacts to other properties, (c) permit a significant increase in the development of that land, (d) are likely to result in a substantially increased requirement for government spending on flood mitigation measures, infrastructure or services, or	Yes	The site is not identified as flood planning land on the Flood Planning Map Sheet FLD_004, as demonstrated by Figure 24. Therefore, in our view, this Planning Proposal does not engage Direction 4.3, clause 6, which restricts intensification of use on the site. However, considering the definitions for flood planning area in the Floodplain Development Manual 2005, areas impacted by PMF or 100 year ARI flood may also be deemed flood planning areas if an endorsed flood management plan nominates a specific event. The Ryde Flood and Floodplain Risk Management Study and Plan do not. Considering flooding issues generally, the area of the site impacted by PMF and 100 year ARI flood event is in the location of the proposed open space. This could be managed through appropriate site design at Development Application stage, and does not fundamentally impact the scheme or the suitability of the site for mixed uses. If this were the case, further investigation could be undertaken as the Planning Proposal progresses.

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No.	Direction	Application / Controls	Consistency	Comment
		<p>(e) permit development to be carried out without development consent except for the purposes of agriculture (not including dams, drainage canals, levees, buildings or structures in floodways or high hazard areas), roads or exempt development.</p> <p>(7) A planning proposal must not impose flood related development controls above the residential flood planning level for residential development on land, unless a relevant planning authority provides adequate justification for those controls to the satisfaction of the Director-General (or an officer of the Department nominated by the Director-General).</p>		

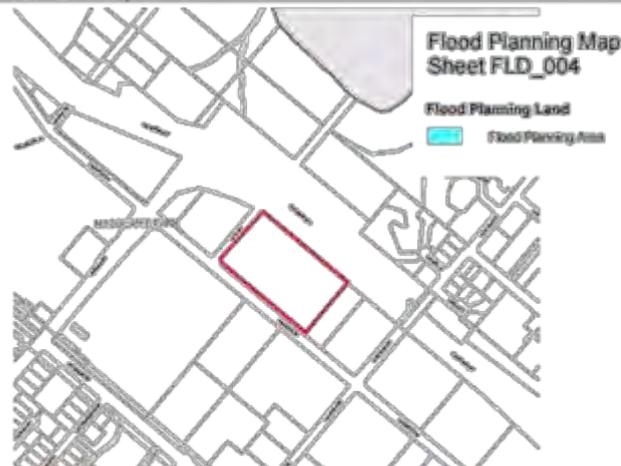


Figure 28 City of Ryde Flood Planning Map Sheet FLD_004



Figure 29 Simulation of PMF Flood

4.4	Planning for Bushfire Protection	<p>Application</p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land.</p>	N/A	The Planning Proposal does not affect land mapped as bushfire prone land. The site is adjoined by an areas nominated as Bushfire Prone Land – Vegetation Buffer – 100m & 30m.
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No.	Direction	Application / Controls	Consistency	Comment
				This Planning Proposal does not contravene this Direction.
5	Regional Planning			
5.1	Implementation of Regional Strategies	This direction applies to land to which the following regional strategies apply: (a) Far North Coast Regional Strategy (b) Lower Hunter Regional Strategy (c) Illawarra Regional Strategy (d) South Coast Regional Strategy (e) Sydney–Canberra Corridor Regional Strategy (f) Central Coast Regional Strategy, and (g) Mid North Coast Regional Strategy.	N/A	The Planning Proposal does not apply to land subject to regional strategies.
5.2	Sydney Drinking Water Catchment	<i>Application</i> This Direction applies to the Sydney drinking water catchment in the following local government areas: - Blue Mountains - Campbelltown - Cooma Monaro - Eurobodalla - Goulburn Mulwaree - Kiama - Lithgow - Oberon - Palerang - Shoalhaven - Sutherland - Upper Lachian - Wingecarribee - Wollondilly - Wollongong.	N/A	The Planning Proposal does not apply to land in the Sydney drinking water catchment.
5.3	Farmland of State and Regional Significance on the NSW Far North Coast	<i>Application</i> This direction applies to: (a) Ballina Shire Council, (b) Byron Shire Council, (c) Kyogle Shire Council, (d) Lismore City Council, (e) Richmond Valley Council, and (f) Tweed Shire Council, except within areas contained by a "town and village growth boundary" in the Far North Coast Regional Strategy.	N/A	The Planning Proposal does not apply to land in the nominated Council areas.
5.4	Commercial and Retail Development along the Pacific Highway, North Coast	<i>Application</i> This Direction applies to those council areas on the North Coast that the Pacific Highway traverses, being those council areas between Port Stephens Shire Council and Tweed Shire Council, inclusive.	N/A	The Planning Proposal does not apply to land in Council areas on the north Coast.
5.8	Second Sydney Airport, Badgerys Creek	<i>Application</i> This direction applies to land shown within the boundaries of the proposed airport site and within the 20 ANEF contour as shown on the map entitled "Badgerys Creek–Australian Noise Exposure Forecast–Proposed Alignment–Worst Case Assumptions", this being found in	N/A	The Planning Proposal does not apply to land in the vicinity of Badgerys Creek.

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No.	Direction	Application / Controls	Consistency	Comment
		Appendix U of the Second Sydney Airport Site Selection Program Draft Environmental Impact Statement within Fairfield City Council, Liverpool City Council, Penrith City Council and Wollondilly Shire Council local government areas.		
5.9	North West Rail Link Corridor Strategy	Application This Direction applies to Hornsby Shire Council, The Hills Shire Council and Blacktown City Council.	N/A	The Planning Proposal does not apply to land within the Hornsby Shire, Hills Shire or Blacktown Council areas.
§ Local Plan Making				
6.1	Approval and Referral Requirements	Controls A planning proposal must: (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: (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: (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.	Yes	This is a matter for consideration by City of Ryde and NSW Department of Planning and Environment during the assessment of the Planning Proposal. This Planning Proposal does not contravene the objectives of this Direction.
6.2	Reserving Land for Public Purposes	Controls A planning proposal must not create, alter or reduce existing zonings or reservations of land for public purposes without the approval of the relevant public authority and the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General). (5) When a Minister or public authority requests a relevant planning authority to reserve land for a public purpose in a planning proposal and the land would be required to be acquired under Division 3 of Part 2 of the Land Acquisition (Just Terms Compensation) Act 1991, the relevant planning authority must: (a) reserve the land in accordance with the request, and	Subject to discussion	The Planning Proposal seeks to deliver 6,100sqm of public open space on the site through dedication to Council. This will not impact land reserved for public purposes under the current LEP, but may trigger the identification of the land as reserved for public purpose to increase certainty.

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No.	Direction	Application / Controls	Consistency	Comment
		<p>(b) include the land in a zone appropriate to its intended future use or a zone advised by the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General), and</p> <p>(c) identify the relevant acquiring authority for the land.</p> <p>(6) When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal relating to the use of any land reserved for a public purpose before that land is acquired, the relevant planning authority must:</p> <p>(a) include the requested provisions, or</p> <p>(b) take such other action as advised by the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) with respect to the use of the land before it is acquired.</p> <p>(7) When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal to rezone and/or remove a reservation of any land that is reserved for public purposes because the land is no longer designated by that public authority for acquisition, the relevant planning authority must rezone and/or remove the relevant reservation in accordance with the request.</p>		
6.3	Site Specific Provisions	<p>Controls</p> <p>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> <p>(a) allow that land use to be carried out in the zone the land is situated on, or</p> <p>(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</p> <p>(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> <p>(5) A planning proposal must not contain or refer to drawings that show details of the development proposal.</p>	Yes	The Planning Proposal does not propose any unnecessarily restrictive site specific planning controls. Alterations to the DCP would be required to achieve the proposed master plan, which could be the subject of negotiation upon approval of the Planning Proposal.
7	Metropolitan Planning			
7.1	Implementation of the Metropolitan Plan for Sydney.	<p>Controls</p> <p>Planning proposals shall be consistent with:</p> <p>(a) the NSW Government's A Plan for Growing Sydney published in December 2014.</p>	Yes	The Planning Proposal will enable development that is consistent with the key directions of the Metropolitan Strategy, as discussed above in Section 4.2 of this report.

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4.3 Section C - Environmental, social and economic impact

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?

There are no impacts envisaged. The Planning Proposal site is located in a built up area with existing development. Future Development Applications will be required to be accompanied by Arborist Reports assessing the significance of vegetation on the site.

Are there any other likely environmental effects as a result of the Planning Proposal and how are they proposed to be managed?

The Planning Proposal is not likely to result in development that will create any significant adverse environmental effects.

Solar Access and Overshadowing

The increased of height and FSR on the site will increase the need to carefully manage solar access and overshadowing. The master plan for the site has been subject to solar access testing for both the open space and building forms (see **Attachment C**). It is considered that more detailed design could improve the solar access of the building forms in compliance with SEPP 65. The site's orientation and placement of the public open space means that solar access to the park is good.

Further solar access and overshadowing analysis can be undertaken post-gateway determination in the development of a master plan and site specific DCP controls.

Noise and Air Quality

Development Applications will be required to take into consideration the noise impacts of the M2 Motorway, and it is anticipated that Conditions of Consent will be imposed on future applications requiring compliance with acceptable air quality standards and recommended noise mitigation measures for the detailed architectural design of the buildings.

Environmental Sustainability

The proposal seeks to maximise the use and accessibility of the existing railway infrastructure within Sydney through locating high density housing within close proximity of the Macquarie University Station. In addition, the site is well located within the Macquarie Park Business Centre and in proximity to the Macquarie Park Shopping Centre. This is expected to reduce reliance on the use of private motor vehicles as a primary method of transport and encourage active and public transport to local services, education and employment.

It is noted that SEPP BASIX would apply to future residential development on the site.

Has the Planning Proposal adequately addressed any social and economic effects?

AEC group has prepared a socio-economic impact assessment for the Planning Proposal (**Attachment E**), as well as a supporting research study into the Macquarie Park Centre. These reports demonstrate the importance of open space to the growth and sustainability of Macquarie Park and surrounding residential areas.

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An analysis of local demographic trends can be undertaken post-gateway to ensure future unit mix is informed by identified population and housing trends.

4.4 Section D - State and Commonwealth Interests

Is there adequate public infrastructure for the Planning Proposal?

The Planning Proposal will result in higher densities on the site. Accordingly, consultation will be required with Council, Transport for NSW and the RMS in relation to roads, traffic and transport. Being located in Macquarie Park, the site is already well serviced by a full range of public utilities including electricity, telecommunications, water, sewer and stormwater. Where required at detailed planning stage, it is expected that these services would be upgraded by the developer at the construction stage.

As part of future DAs, consultation will occur with utilities providers to ensure that sufficient capacity exists in water, sewer, gas, telecommunications, and all other utilities.

The impact of the Planning Proposal on traffic and social and economic infrastructure has been undertaken (see **Attachment D, Attachment E and Attachment F**).

Traffic and road infrastructure

The Traffic Impact Assessment, prepared by Bitzios, concludes that the Planning Proposal is expected to reduce the traffic generating potential of the site in both peak periods, and that the Planning Proposal will make effective use of public and active transport infrastructure including the Macquarie University Train Station and bus services.

The internal road network required to service new buildings would be provided by the developer at construction stage.

Social Infrastructure

The new residents would create a demand for childcare spaces and open space. Development under the new controls could provide a childcare centre, as shown in the concept plan, and substantial open space.

It is likely that the new population will generate demand for primary and secondary school places. It is the responsibility of the NSW Department of Education and Communities to monitor and respond to increased demand. It is noted that the NSW Department of Education and Communities has been consulted on the Priority Precincts and has advised that 'the existing schools in the area will have sufficient capacity in the short to mid-term' and that 'A number of redevelopment projects to increase existing school capacities have already been included within DEC's 10 year Total Asset Management Plan'.

Open Space Infrastructure

The Open Space and Landscape Report assesses the existing deficiency of open space within Macquarie Park and demonstrates that the open space proposed as part of this Planning Proposal would substantially address this deficiency. The Planning Proposal seeks to improve the provision of open space in the centre, supporting not only the increased density on the site, but increased density in adjoining Priority Precincts.

Section 94 Contributions

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While they address local public infrastructure, Section 94 contributions will also provide for the delivery of additional facilities to accommodate demand generated by the site's increased residential and employment capacity, including community and cultural facilities, open space and recreation facilities, civic and urban improvements, roads and traffic management facilities, cycleways, and storm management facilities. The VPA endorsed by Council identifies that full Section 94 Contributions are to be paid by the development.

Importantly, we note that the open space proposed to be included in a VPA to accompany development is in addition to Section 94 contributions.

What are the views of State and Commonwealth public authorities consulted in accordance with the Gateway determination?

The NSW Department of Planning and Environment have been consulted on the proposal, and support its submission to Council for further consideration.

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5.0 Consultation

5.1 City of Ryde Council

Holdmark and Architectus have engaged with City of Ryde Council throughout the development of this Planning Proposal. Key aspects of this consultation are summarised as follows:

- Meeting of February 2014, in which Council officers advised residential development would not be supported on the site due to the loss of commercial/employment lands and new Priority Precincts;
- Councillor Workshop November 2014, attended by three Councillors, at which the concept and preferred master plan was presented;
- Meeting with Council held August 2015 to present the Macquarie Park Framework for Open Space and Mixed Use Development and Macquarie Park - Growth and Sustainability Research Study (**Attachment A** and **Attachment B**).

5.2 NSW Department of Planning and Environment

Holdmark and Architectus have engaged with the DP&E throughout the development of this Planning Proposal. Key aspects of this consultation are summarised as follows:

- Submission to public exhibition of Herring Road Priority Precinct by Architectus in August 2014;
- A meeting of 22nd October 2014, including presentation of concept and agreement to meet again following discussions with Ryde Councillors;
- Communication in December 2014, with representatives of the DP&E advising that it was considered inappropriate to consider the site in the Herring Road Priority Precinct;
- Meeting between Holdmark, Carolyn McNally of the NSW DP&E, Gail Connolly and Dominic Johnson from City of Ryde Council, in February 2015;
- Communication in July, 2015, in which the NSW DP&E advised that the Department was not in a position to consider the proposal as part of the Herring Road Priority Precinct, but advising Holdmark to put forward a Planning Proposal to Council or await subregional planning.

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5.3 Community

Consultation likely to be prescribed by Gateway Determination

Consultation with the local community will be undertaken in accordance with the Gateway determination made by the Minister for Planning, in accordance with Sections 56 and 57 of the EP&A Act.

It is anticipated that the Gateway Determination issued by the Department of Planning & Environment will require this minimum consultation:

- on the City of Ryde website;
- in newspapers that circulate widely in the City of Ryde local government area; and
- in letters delivered to the surrounding community in the immediate vicinity of the site.

It is requested that the planning proposal be publicly exhibited for a period of 28 days to coincide with the exhibition of an accompanying draft DCP amendment.

Additional community consultation

- A drop in session could be held during the formal exhibition period to answer residents and businesses questions about the Planning Proposal. The project team's planners, urban designers, traffic, social and economic and open space experts would be available to answer detailed questions. This information would be captured and fed back into the Planning Proposal.
- Notification of the Planning Proposal could be directed specifically to the Macquarie Park Business Forum, Connect Macquarie Park, local community housing providers and Macquarie University.

Community consultation regarding open space needs was undertaken in 2012 to support the Ryde Integrated Open Space Plan. Prior to and informing this study, a range of leisure and recreation needs studies were undertaken with and on behalf of Council. The Open Space and Landscape Report, prepared by Clouston and provided at **Attachment F**, demonstrates that this consultation has informed the public open space proposed in this Planning Proposal. Further consultation regarding the function and amenities required for the open space may be undertaken to support the detailed design of the park and a Voluntary Planning Agreement at a later stage. The park would be subject to a detailed DA, which would provide further opportunities for engagement.

Similarly, consultation with community and community housing organisations will be required to ensure that the proposed key worker housing provides the facilities and design required to support its residents. This is expected to take place to support a Voluntary Planning Agreement at a later stage.

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5.4 Agencies

The Gateway Determination will determine the authorities with whom consultation is required. It is anticipated that agencies would include:

- Transport for NSW
- Department of Education and Communities
- Ausgrid
- Sydney Water, and
- Roads and Maritime Services

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6.0 Project timeline

This Planning Proposal and DCP is expected to be put to the December 2016 meeting of the City of Ryde Council for their consideration.

The anticipated timeframe for the completion of the Planning Proposal is therefore as follows:

Table 6 Project Timeline

Milestone	Timeframe and/or date
Received Gateway Determination	September 2016
Submission of Revised Planning Proposal and Draft DCP Amendment	November 2016
Council resolution to exhibit a Draft DCP Amendment	February 2017
Public Exhibition of Planning Proposal (and Draft DCP amendment)	March 2017
Consideration of submissions	April 2017
Submit revised Planning Proposal and response to submissions	April/May 2017
Post exhibition report to Council - seeking resolution to endorse the Planning Proposal and adopt the amendment to the DCP	May 2017
Council resolve to endorse the Planning Proposal and submit to the NSW Department of Planning and Environment for legal drafting and gazettal	May 2017
Drafting, review, gazettal of the LEP	June - October 2017

The finalisation and release of the Macquarie Park Study by the NSW Department of Planning and Environment and the City of Ryde Council may impact this timeframe. This timeline may be updated following receipt about timing of the study.

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7.0 Conclusion

This Planning Proposal has been prepared in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* and the Department of Planning publication 'A Guide to Preparing Planning Proposals' dated July 2012. It has been amended in response to the Gateway Determination (ref PP_2016_RDEC_005_00) dated 21 September 2016 endorsing for public exhibition the Planning Proposal submitted by City of Ryde Council. This proposal seeks to progress a rezoning of the site at 66-82 Talavera Road, Macquarie Park.

This is achieved through amending the Ryde LEP 2014 to rezone the site to B4 zoning, allowing an FSR of 3.7:1 (refer to clarification below) and maximum building height of 120m with additional height up to 154m for a single tower. This rezoning would allow for delivery of a large publicly accessible open space and a mixed use development, including residential apartments. Subject to further discussion with Council, a site specific addition to the Ryde Development Control Plan 2014 will be prepared to support the future redevelopment of the site.

The proposal is also supported by a Voluntary Planning Agreement offer which has been accepted by a resolution of City of Ryde Council on 2 August 2016 and which seeks to deliver significant public benefit, including:

- 5,296m² Gross Floor Area (GFA) of Affordable Housing;
- A community indoor recreation facility of 3,500m² GFA;
- 6,100m² of public open space;
- Public parking;
- Pedestrian bridge over Talavera Road;
- \$5 million contribution to Roadworks and Traffic Management;
- 4.5m wide footpath along Talavera Road frontage; and
- Payment of full Section 94 Contributions on the site, with the exception of the Section 94 applicable for the affordable housing component and community indoor recreation facility and ancillary commercial floor space.

The proposal is considered consistent with the Strategic Merit Test, being:

- Consistent with the relevant Draft District Plan, providing additional residential housing within 30 minutes of major employment centres, including Macquarie Park itself, and Central Sydney;
- Responds to an identified need for open space in Macquarie Park; and
- Responds to a change in circumstances in Macquarie Park, with the forthcoming Sydney Metro infrastructure, and the current Strategic Investigation being undertaken, which will seek to balance employment and residential uses within the Macquarie Park corridor.

In calculating Floor Space Ratio, the GFA associated with the affordable housing and indoor recreation facility are in addition to the total 3.7:1 ratio to apply to the site. It should be noted that the publically accessible commuter car parking is also to be additional to the FSR of 3.7:1.

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The following amendments to Ryde Local Environmental Plan 2014 (LEP 2014) are proposed to facilitate the preferred development of the site which will ensure the delivery of approximately 6,100sqm of public open space, affordable housing and an indoor recreation centre and other public benefits:

- Amend the land use controls for the site. Currently the land is zoned B7 Business Park. It is proposed that a B4 Mixed Use Zone be applied to the site, to allow for the site's development for public open space, residential, retail and commercial uses. Through the development process, open space would be dedicated back to Council as a stratum lot over a below ground car park.
- Amend the Macquarie Park Corridor Precinct Incentive Height of Buildings Map - Sheet MHB_004 to reflect an incentive maximum height of buildings of 120m plus a single point tower up to 154m.
- Amend the Macquarie Park Corridor Precinct Incentive Floor Space Ratio Map - Sheet MFS_004 to reflect an incentive floor space ratio of 3.7:1 across the whole of the site, excluding the affordable housing, the indoor recreation centre and the commercial car park.
- Amend the Designated State Public Infrastructure Map Sheet SPI_004 to include the subject site under a satisfactory arrangements clause.

It is noted that an offer to enter into a Voluntary Planning Agreement (VPA) with City of Ryde Council has been provided by Holdmark Property Group which has been accepted by Council. The VPA includes the delivery of significant public benefits as identified above.

Site specific amendments to the Part 4.5 Macquarie Park Corridor of Ryde Development Control Plan 2014 (adopted in 2015) would also be required to deliver the preferred master plan and will be developed with Council and Holdmark Property Group prior to the public consultation of the Planning Proposal.

Architectus has considered the impact of the rezoning proposal on employment uses and the function of Macquarie Park as a Specialised Centre. In short, Architectus, AEC and Clouston consider that a significant open space, such as that proposed, is essential to the long term success of Macquarie Park for employment uses. On balance, the loss of a small area of land for employment uses is justifiable on the grounds that it would result in:

- much needed open space;
- key worker/affordable housing which is in critically short supply;
- a new indoor recreation facility for use by local residents and employees of Macquarie Park based businesses;
- significant short and long term economic uplift for the local area.

In addition, the master plan submitted in this report allows for an increase of jobs on site compared to the existing use.

The total value of public benefits which can be delivered by this proposal is estimated to exceed \$160 million.

It is considered that the Planning Proposal will deliver essential open space and key worker housing infrastructure to the Macquarie Park centre, supporting the growth and sustainability of the business park and adjoining Priority Precincts. A framework for the delivery of open space has been proposed to establish a strong nexus between the offer of substantial public benefit and rezoning of land in the Macquarie Park centre. Through the application of this framework, the Planning Proposal is considered to be justified and recommended for support.

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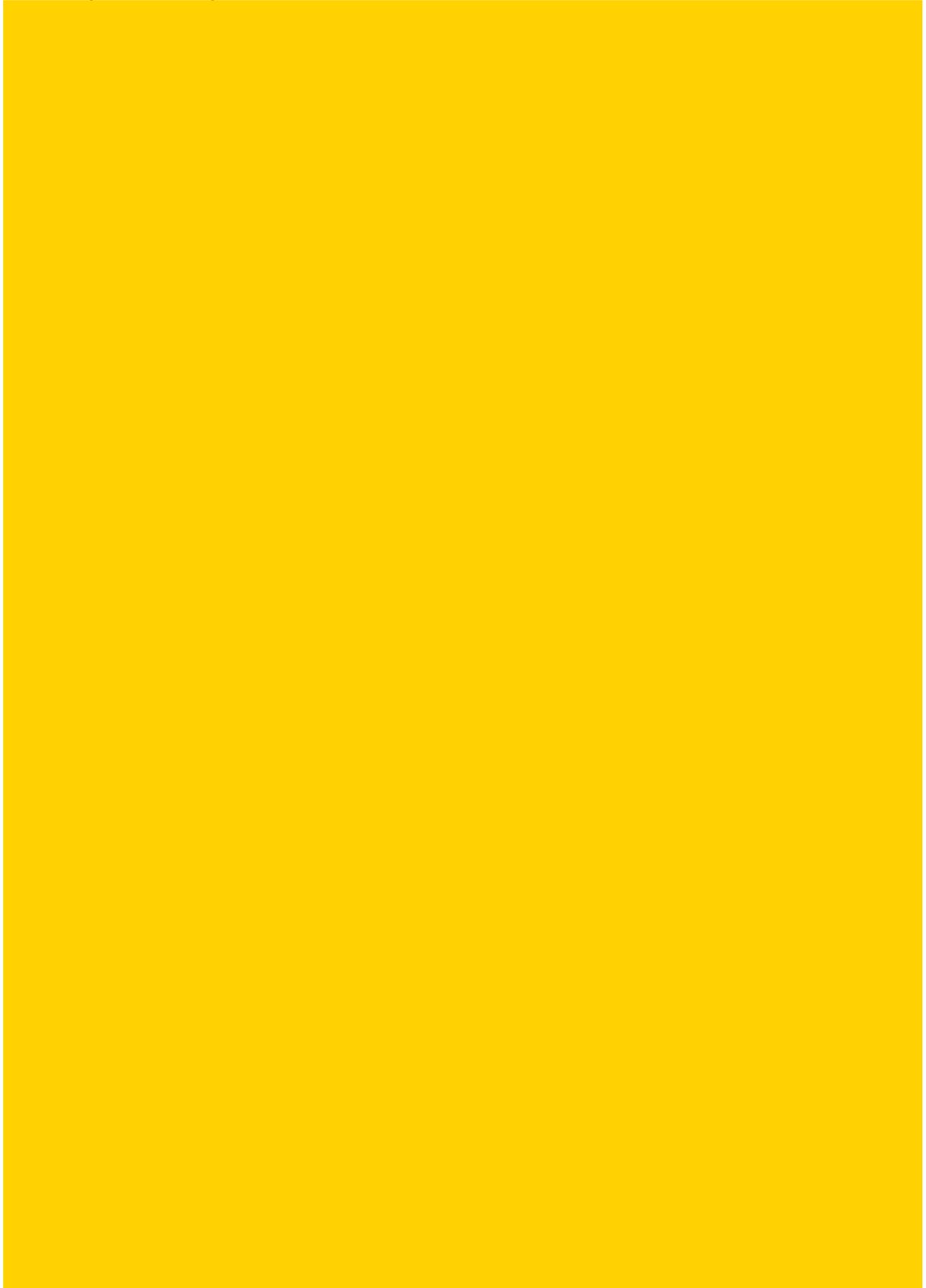
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Recommendation

Architectus recommends that Council support this updated Planning Proposal and resolve to submit it to the Department of Planning and Environment in response to the Gateway determination dated 21 September 2016, issued on 21 September 2016 by the Department of Planning and Environment as delegate of the Greater Sydney Commission.

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Executive summary

Purpose of this report

This report has been prepared by Architectus for Holdmark in relation to their site at 66 - 82 Talavera Road, Macquarie Park. The site is to the north of the Macquarie Park centre, and 550m from the Macquarie University Station. The report provides support for a rezoning of the site by establishing a framework for the site to be rezoned to mixed use whilst maintaining the integrity of the Macquarie Park employment centre.

There is significant pressure for residential development within Macquarie Park as evidenced by multiple approaches to the City of Ryde Council to seek permission for residential land uses within Macquarie Park as well as by the very high rates of sale for the recent residential developments on land adjacent to the Macquarie Park B7 zone. This report presents a unique opportunity for Council to leverage off strong residential demand whilst delivering critical infrastructure within Macquarie Park.

The site and its context

The site is located at 66 - 82 Talavera Road, Macquarie Park, and is currently zoned B7 Business Park. The planning controls that apply to the site are currently in a state of consideration, with the Ryde LEP 2014 having recently come into force and the Ryde LEP 2014 - Draft Amendment No. 1 (Macquarie Park) having been on public exhibition in late 2014.

Additionally, the site adjoins the Herring Road Priority Precinct boundary, an area identified by the Department of Planning and Environment for future high density mixed use development. Amended planning controls to achieve this objective have been drafted.

The site currently accommodates a four storey office building, a single storey warehouse with mezzanine office space, and a conference centre that is utilised by the on-site offices. A new office building is under construction in the south east corner of the site.

From a strategic planning perspective, Macquarie Park is a crucial part of the Global Economic Corridor that extends from the Sydney CBD to Parramatta CBD and Norwest.

There has been significant pressure for residential development within Macquarie Park due to housing pressure within greater Sydney and the high levels of amenity afforded by Macquarie Park.

We consider that the primary focus for Macquarie Park should continue to be for employment uses, but that improving amenity and activity and the provision of housing on appropriate key sites within the locality will be an important part of the business park's success and long term viability.

Key findings

The role and composition of business parks is evolving, with an increased emphasis on worker amenity and employee well-being as well as the provision of a full offer of services and facilities while protecting commercial uses.

There is a recognised shortfall of open space within Macquarie Park (see the Ryde Open Space Strategy, 2012) but no clear mechanism to allow for the delivery of open space to the extent required to support residential dwellings within the Priority Precinct and the wider business park.

This shortfall has the potential to severely limit the ability of Macquarie Park to continue to attract businesses into the future as residential, retail and commercial growth exacerbate the centre's existing concerns. However, it is difficult for Council to purchase new sites for open space due to the prevalence of private ownership in the area.

Council have an opportunity to strategically approach the problem by permitting mixed use development where substantial public benefit can be delivered on site by the developer.

This strategic approach should be formalised in a framework that clearly demonstrates decision making logic and provides certainty for Council, developers and business.

Next steps

While a rezoning to B4 Mixed Use is supported for the Subject Site, Architectus and Holdmark recognise the challenge of maintaining the integrity of Macquarie Park's commercial core while providing sufficient open space and social infrastructure to support the area's growth.

It is therefore recommended that a framework to support rezoning to B4 is implemented in the centre to facilitate decision making.

Under this Framework, Council could consider rezoning applications for sites that can achieve ALL of the following nine criteria.

1. Provide either new open space shown in the Draft Macquarie Park DCP 2014 or a new 1 hectare minimum public open space, designed to Council's reasonable requirements.
2. Where a site proposes to deliver the 1 hectare minimum open space, the site must be larger than 3 hectares, thereby allowing for a 2 hectare development site for mixed uses.
3. The open space must have a frontage to a major road (Waterloo Road, Talavera Road, Wicks Road or Herring Road) and one secondary street.
4. The proposed open space should satisfy specified design criteria (refer to Section 4.1 of this report) and be dedicated to Council on completion.
5. Provide a minimum of 20,000sqm GFA of non-residential floorspace.
6. Deliver key worker housing (or Affordable Housing) at the rate of 3% of total dwellings provided.
7. Up to 15% of the open space (1,500sqm) can be used to deliver the required key worker housing.
8. Provide privately run childcare facilities suitable for 60 children.
9. Delivery of all other required public domain on the site including roads and through site links as nominated in the Draft Macquarie Park DCP 2014.

ITEM 3 (continued)

ATTACHMENT 3



There are three sites in the Macquarie Park centre that currently fulfil all criteria under the proposed framework and have been identified by Architectus as suitable for open space and mixed uses, including the Subject Site.

Recommendation

On the basis of this framework, Architectus recommends that the subject site be rezoned to B4 Mixed Use with an increased maximum building height and Floor Space Ratio (FSR). This could be implemented simply and effectively through inclusion as part of the Herring Road Priority Precinct or, alternatively, through a Planning Proposal through City of Ryde Council.



ITEM 3 (continued)

ATTACHMENT 3



ITEM 3 (continued)

ATTACHMENT 3



1.1 Introduction

This report has been prepared by Architectus for Holdmark in relation to their site at 66 - 82 Talavera Road, Macquarie Park. The site is to the north of the Macquarie Park centre, and 550m from the Macquarie University Station.

The report provides support for a rezoning of the site by establishing a framework for the site to be rezoned to mixed use whilst maintaining the integrity of the Macquarie Park employment centre.

The framework is designed to provide a genuinely positive outcome for Macquarie Park, a centre of metropolitan significance, by drawing on Architectus's extensive and unique experience in the locality. This experience spans both government and private stakeholders, providing a balanced view to the delivery of infrastructure and public domain works in the centre.

Macquarie Park is one of the premier business centres of Sydney, with a growing metropolitan significance as part of the Global Economic Corridor. In 2014, the North Ryde/Macquarie Park centre overtook North Sydney as Sydney's second largest office market with over 866,000sqm of commercial office space.

There is significant pressure for residential development within Macquarie Park as evidenced by multiple approaches to the City of Ryde Council to seek permission for residential land uses within Macquarie Park as well as by the very high rates of sale for the recent residential developments on land adjacent to the Macquarie Park B7 employment zone. This report presents a unique opportunity for Council to leverage off strong residential demand whilst delivering critical infrastructure within Macquarie Park.

Existing situation

The site is currently zoned B7 Business Park under the Ryde LEP 2014, allowing for a range of commercial and industrial uses, with an FSR of 1:1 and a maximum building height of 30m. Under the proposed planning amendment Ryde LEP 2014 - Draft Amendment No. 1 (Macquarie Park) the site would be subject to an increase in the permissible FSR and height of the site.

The site currently accommodates a four storey office building, a single storey warehouse with mezzanine office space, and a conference centre that is utilised by the on-site offices. This represents a significant underutilisation of a well located, large site.

Council has recently approved a development for a six storey commercial office building which is currently under construction on the site.

The opportunity

Architectus was engaged by Holdmark to investigate the site's development potential. Architectus and Holdmark see an opportunity to provide a district open space on the site as part of a high density mixed use rezoning and redevelopment.

The subject site provides a unique opportunity to provide this open space and potentially key worker housing in close proximity to the commercial core, key transport nodes and Macquarie retail centre, and at no cost to Council.

Architectus worked closely with Clouston Associates Landscape Architects to master plan a site that would provide the optimal open space outcome for Macquarie Park.

The proposal

The new open space is proposed to be located on the intersection of Alma Road and Talavera Road, where it will be highly visible and will have a relationship with the Macquarie Shopping Centre, and be one block away from Waterloo Road. The park is 550m from Macquarie University Train Station and within a comfortable walking distance of many businesses and new dwellings in the Herring Road Priority Precinct.

The open space would make up 1 hectare at the corner of Talavera Road and Alma Road, the western section of the site.

The remaining part of the site is proposed to be developed for mixed uses, with an option to include key worker housing on the north-west boundary of the site replacing a portion of the open space. The proposed built form is designed to maximise solar access to the park and public domain. The master plan achieves an FSR of 3.5:1, with maximum building height of 120m, which is consistent with the maximum proposed Priority Precinct controls.

The proposal allows for approximately 126,000sqm of residential GFA, or 1,280 apartments (excluding key worker accommodation) at an average of 100sqm per apartment. The plan also allows for the approved commercial building on site, which has commenced construction and will accommodate the offices of AstraZeneca pharmaceuticals, who have a manufacturing facility opposite the site.

It is worth noting that if the site was developed for commercial uses at the current FSR of 1.5:1, the peak morning traffic volume would be 2.2 times greater than that generated by the proposed, predominately residential scheme.

To allow for the delivery of an open space on the site through provision of residential development, a rezoning from B7 Business Park to B4 Mixed Use is required.

ITEM 3 (continued)

ATTACHMENT 3



Indicative Master Plan (not including key worker housing)

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ITEM 3 (continued)

ATTACHMENT 3



Indicative built form and scale (not including key worker housing)

ITEM 3 (continued)

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Key worker housing / affordable housing

Consultation with Council identified an opportunity to use some of the open space area for key worker housing. The proposal allows for the use of some of the 1 hectare space for this purpose (less than 15% of the site), whilst retaining a usable open space for a variety of active sports uses. This is in line with the Framework criteria, and allows for some flexibility for additional community uses in the 1 hectare zone, at Council's discretion.

The plan to the right demonstrates how a single-loaded key worker housing development could be accommodated on the site, and still allow for a competition-sized soccer field (45m x 90m, with 10m run out on all sides) should Council wish to pursue this option. Alternatively, key worker housing could be accommodated within the proposed towers in addition to the nominated density.

The key worker housing shown in this option is in two buildings with a footprint of 12m x 35m, separated by a 6m through site link. The total GFA of these buildings at 6 storeys would be 3,780sqm, or approximately 38 apartments at 100sqm/ apartment. This is 3% of the 1,280 dwellings proposed, in line with the criteria set out in this framework.

This option results in the loss of the on-street public car parking. This car parking could be relocated to either the basement, or on-street parking on Alma Road and Talavera Road.



Indicative Master Plan (including key worker housing)

ITEM 3 (continued)

ATTACHMENT 3



ITEM 3 (continued)

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2.1 The role of Macquarie Park

2.1.1 Metropolitan context

Macquarie Park is an employment centre of increasing metropolitan significance, with the Plan for Growing Sydney identifying Macquarie Park as a specialised centre in the Global Economic Corridor.

The Centre has a strong focus on technology and innovation, driven by Ryde Council and supported by Macquarie University and the Macquarie Hospital. Major private tenants, including international brands in Macquarie Centre, are driving growth in the area.

As at July 2014, the business centre of North Ryde/Macquarie Park offered a total office stock level of 866,961sqm (Preston Rowe Paterson, 2014). The North Ryde/Macquarie Park business centre is currently Sydney's second largest office market, behind only the Sydney CBD (Urbis, North Sydney Commercial Centre Study, 2015).

Whilst it is anticipated that the predominant uses within the Corridor will be Commercial/Business, the Plan for Growing Sydney identifies 'potential for urban renewal in and around centres with improved public transport links in cross-city corridors between:

- Macquarie Park and Parramatta;
- Macquarie Park and Hurstville via Sydney Olympic Park;
- Parramatta and Hurstville via Bankstown; and
- Parramatta to Sydney CBD via Ryde...' (pg. 72, Plan for Growing Sydney)

The Centre is within the North Subregion. Key priorities for the State in this region include:

- **Working with Council to retain a commercial core in Macquarie Park for long-term employment growth;**
- **Working with Council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing;**
- **Facilitating delivery of Herring Road Priority Precinct, Macquarie Park Priority Precinct, and North Ryde Station Priority Precinct;**
- **Investigating potential future opportunities for housing in areas within walking distance of train stations;**
- **Supporting education and health-related land uses and infrastructure around Macquarie University and Macquarie University Private Hospital.**
- **Supporting the land use requirements of the Medical Technology knowledge hub.**
- **Investigating opportunities to deliver a finer-grain road network in Macquarie Park.**
- **Investigating opportunities to improve bus interchange arrangements at train stations.**
- **Working with council to improve walking and cycling connections to North Ryde train station. (pg. 127, Plan for Growing Sydney)**

2.1.2 Local context

The planning, policy and strategy work of Ryde Council has fostered the Macquarie Park centre to its current situation as the second largest commercial office market in NSW. The Council has leveraged the competitive advantages of the centre, including its proximity to Macquarie University and position in the Global Economic Corridor.

In the past, planning controls in Macquarie Park have attracted business investment by allowing more affordable, campus style buildings with surrounding at-grade car parking. The Council has sought to position the centre as a technology and innovation hub through branding and support of these kinds of businesses.

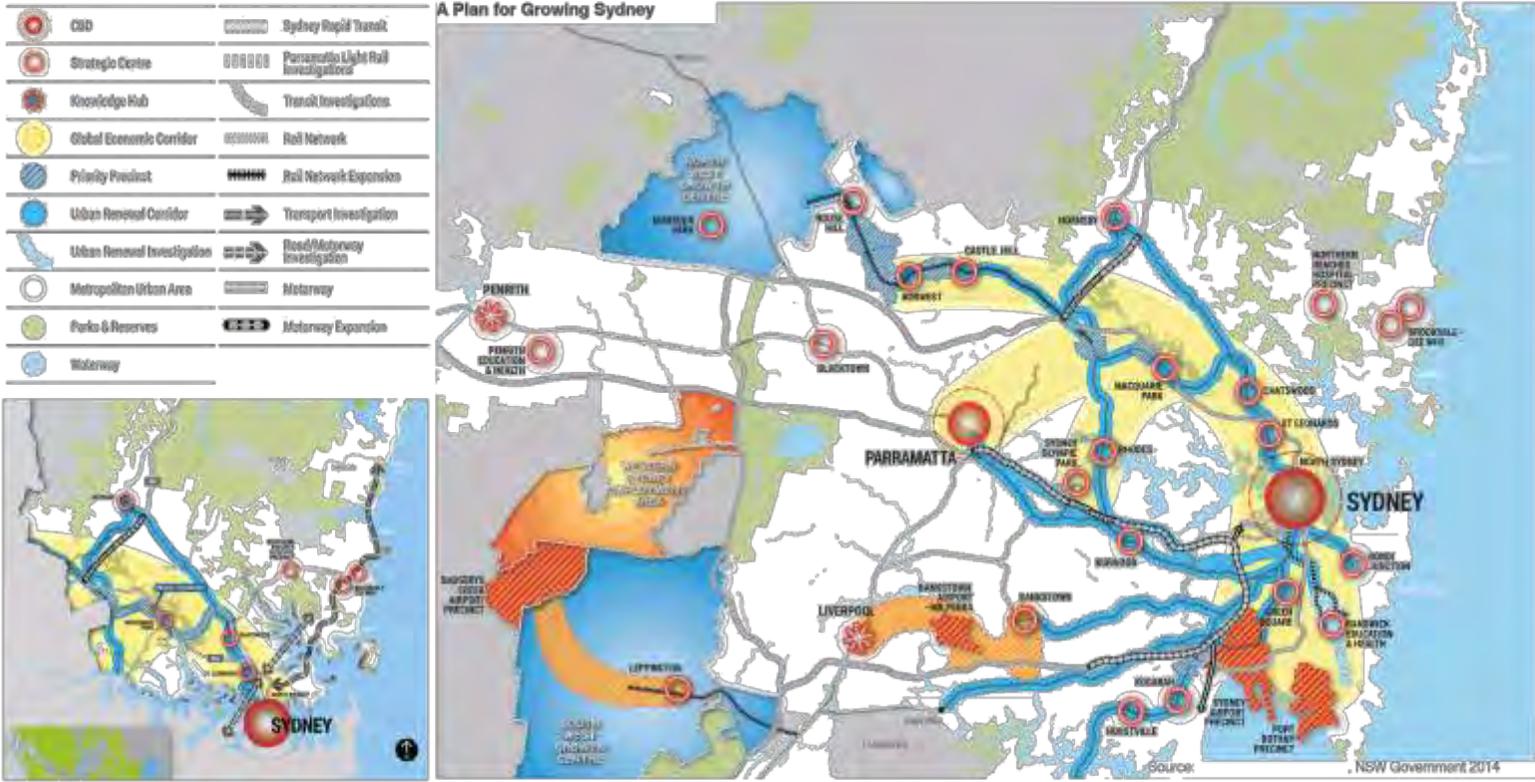
Currently, the Macquarie Park business centre provides approximately 40,000 jobs, forecast to double by 2031, and 32,500 student places, expected to increase to more than 50,000 students by 2031.

Ryde Council recognises that there are a number of challenges for the centre in the context of this expected growth. The provision of open space, traffic management, increased pedestrian permeability, and additional services and amenities are identified as key areas of focus in the Ryde 2025 Community Strategic Plan.

In 2013, Ryde Council sought to amend the Ryde LEP 2014 to amend the FSR and height controls applying to the Macquarie Park Corridor to encourage development that provides new roads and parks. This planning proposal has been exhibited but not yet gazetted.

ITEM 3 (continued)

ATTACHMENT 3



2.2 The need for open space

2.2.1 The need for open space in Macquarie Park

The Ryde Integrated Open Space Plan (IOSP) 2012 indicated that two major new open space areas suitable for active and passive recreation, as well as several smaller reserves in good proximity to the centre, are required to support the planned commercial and residential growth in Macquarie Park.

Specifically, the IOSP identified the need for a variety of different sized open space areas including:

- at least one major reserve close to the core of the precinct generally no less than 1.5 Ha in size to support passive and informal active recreation;
- a suite of local parks distributed across the corridor of a nominal size no less than 0.3 Ha; and
- a series of small corner meeting places (as little as 20sqm)

Since this time, two Priority Precincts have been announced by the Department of Planning and Environment for land around Herring Road and North Ryde Station for mixed uses, allowing for more than 14,000 new dwellings in Macquarie Park. The Priority Precincts do not provide for any new active open space (only the minor augmentation of existing spaces and the creation of smaller spaces), and so the latent demand for open space becomes even more significant.

While the Ryde Local Environmental Plan 2014 (Amendment No. 1) and the new draft DCP for Macquarie Park identify one significant new open space for Macquarie Park (a park of 7000sqm), the Planning Proposal for Macquarie Park Corridor (City of Ryde, 2013) acknowledges a body of work that has established an open space deficiency that will be exacerbated by planned growth.

Under the current regime, the planning controls and strategies for Macquarie Park will result in a significant deficit in open space that will affect the long-term success of the Priority Precincts and the business park.

2.2.2 Why open space is important for business

Evidence continues to build across the world that the quality of the public domain in our parks and open spaces is central to our individual and collective health and well-being. Accessible, safe and appealing public open space directly affects our sense of the liveability of our working and home environment; it also influences our decisions on where we want to live and work.

Progressive trends in the planning and design of working environments over the last twenty years responding to employee demands is requiring a commensurate move in planning to match. These demands include more recent shifts in the times at which many in the working community are choosing to take exercise (increasingly early morning, lunchtimes and early evenings). In the case of nationally significant specialised centres such as Macquarie Park, this response becomes all the more critical, as explained below.

The dedication of high quality open spaces in Macquarie Park will help to ensure an attractive place for residents, workers and visitors to take part in healthy, sustainable and socially cohesive activities.

Clouston Associates identify the following open space requirements for high technology employment areas in their IOSP:

- Inspiring work environments attracting top personnel and encouraging high productivity;
- Raised corporate profile associated with benchmark design and an attractive business environment;
- Commitment to ESD principles and high Green Star ratings in the built form and landscape;
- Promotion of healthy lifestyles for staff through provision of recreation facilities and open space; and
- Opportunities to host/sponsor major events within the public domain.

Typically, high-end business environments in contexts such as Macquarie Park generate needs for public open space during weekdays and working hours that cater for leisure and recreation uses such as:

- Lunchtime team sports (e.g. touch football, basketball etc., often with inter-business competitions);
- Fitness training areas/facilities for personal training and fitness equipment/trails;
- Shaded circuits and routes suitable for jogging, walking and cycling (not on major roads);
- Play spaces (especially associated with or adjoining crèches);
- Informal open space with trees, shade and shelter for lunchtime, breaks and working sessions (picnic tables, shelters, BBQ, wireless connectivity etc); and
- Natural creeks and formal or natural water bodies Corporate event and promotion spaces (often catering for significant numbers).

The benefits to residential communities of a well-planned, accessible, safe and engaging public domain include environmental, cultural, social and economic values. In particular, the mental and physical health and well-being outcomes derived from the presence of a high quality public domain is being increasingly demonstrated by national and international research.

Examples of successful open space areas within Business Parks are provided in the following pages.

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Jubilee Park, Canary Wharf, Tower Hamlets, London

Open Space	The 2.4ha Jubilee Park is a public park which has been built above the Canary Wharf Tube Station, acting as a rooftop garden. The park facilitates mainly passive recreation.
Cafés	The park is constructed over a retail mall.
Mass Transit	The southern half of the park is constructed over the Jubilee Line Underground Station.



Vache Noire, Paris

Open Space	The 1.8ha public park is built over the Vache Noire shopping centre and was provided as part of a large urban regeneration program including retail, houses and offices. The vast main central space is flat and easily accessible from the neighbouring streets.
Cafés	The park is constructed over a 50,000sqm shopping centre.
Mass Transit	550m walking distance to a train station.



Channel Centre, Fort Point Channel District, Boston

Open Space	More than 1.8ha of new public spaces envisioned as an "Urban Living Room". The open space vision set the character of public realm projects within the district – the first implementation includes streetscapes, a pocket park, Iron Street Park, and Channel Centre Park.
Cafés	There are a range of cafés and restaurants at the site.
Mass Transit	Less than 100m walking distance to a bus station. 800m walking distance to a train station.



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Klyde Warren Park, Dallas

Open Space	2ha of open space. The Park includes a performance pavilion, restaurant, shaded walking paths, a dog Park, a children's Park, great lawn, water features, a reading room, an area for games etc.
Cafés	There are a number of cafés and restaurants surrounding the site.
Mass Transit	Less than 100m walking distance to a bus station.



Lakeshore East, Chicago

Open Space	The 2.4ha park is designed to act as a 'botanical centrepiece' for a large scale residential and commercial redevelopment. The park is designed for both active and passive activities, including ornamental gardens, water features, walking paths, children's play equipment, and a dog park.
Cafés	There are a large number of cafés and restaurants servicing the site, set out as a 'village market'.
Mass Transit	The park is less than 100m walking distance to a bus station and 400m walking distance to a train station.



RMIT University, City Campus, Melbourne

Open Space	Transformation of both its building stock and its open spaces. The transformation of the campus was overseen through the Urban Spaces Project which began in 1995.
Cafés	There are a number of cafés and restaurants surrounding the site.
Mass Transit	200m walking distance from a tram station. 350m walking distance from a train station.



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Novo Nordisk Corporate Centre, Bagsvaerd, Denmark

Open Space	The focus of the development has been on maximizing the park's value for Novo's employees. The 31,000sqm of green space has been viewed by its pharmaceutical owners as both demonstrating the company's commitment to innovation and inspiring creativity in its employees.
Cafés	There are a range of cafés and restaurants at the site.
Mass Transit	Less than 100m walking distance to a bus station. 800m walking distance to a train station.



MediCityUK, Salford, UK

Open Space	The public space enhances the appeal and function of each building individually and holistically. Spaces are designed to fulfil a variety of uses and be a recreational destination.
Cafés	There are a number of cafés and restaurants at the site.
Mass Transit	Greater Manchester's light-rail system was extended to the site – less than 100m walking distance to a train station. Footpaths and cycleways link the development with Manchester city centre.



Artists Impression of the proposal



Artists Impression of the proposal

2.3 Ingredients of successful business parks

Anchor tenants

Key anchor tenants define the focus of the business park and attract complementary and ancillary business.

These tenants, and the direction they provide, are not static. Rather, they respond to changes in broader trends over time. In the case of Macquarie Park, Ryde Council has historically driven the focus of the park towards innovation and technology through restrictive zoning.

More recently, the centre has diversified, with Macquarie Shopping Centre hosting a concentration of major international brands and the Macquarie Park business park accommodating headquarters of major companies such as Optus and Johnson and Johnson.

Key businesses in the Macquarie Park centre currently include Macquarie Shopping Centre (AMP Capital), Macquarie University, Panasonic, Orix, Johnson and Johnson, Novartis Pharmaceuticals, Foxtel, Toshiba, CSIRO, Komatsu, AstraZeneca, Seiko and Optus.

Public investment

The provision of transport, educational, community and health infrastructure in business parks drives growth through improved connectivity, amenity and services.

Moreover, government investment demonstrates commitment to the success of the business park.

For Macquarie Park, this is evident in the State Government investment in railway stations servicing the precinct that link to Epping and the Central Sydney.

Central location with access to skilled workforce

A central location with good transport infrastructure and close proximity to housing centres will offer businesses access to a highly skilled, knowledgeable workforce and allow them to attract employees.

In addition, these locational benefits allow businesses to be easily accessible to their customers and suppliers.

24 hour activation

A successful mix of commercial, retail, residential and community uses that ensures activation of the area throughout the day and evening.

This diversity benefits the sustainability of the business park through residential, retail and commercial market cycles. Currently, investment and economic activity in many centres across Sydney is driven by the strength of the residential market and movements towards high density.

Good business and personal amenity

Corporations are placing increasing importance on employee well-being and satisfaction, being seen as strongly linked to the productivity and retention of staff. These shifting priorities have lead companies to place different kinds of demands on their immediate and broader work spaces, indulging improved social infrastructure such as parks.

In addition, premier business parks are seeking a range of facilities to support their customer relationships, such as coffee shops and restaurants in close proximity (walking distance) to their offices.

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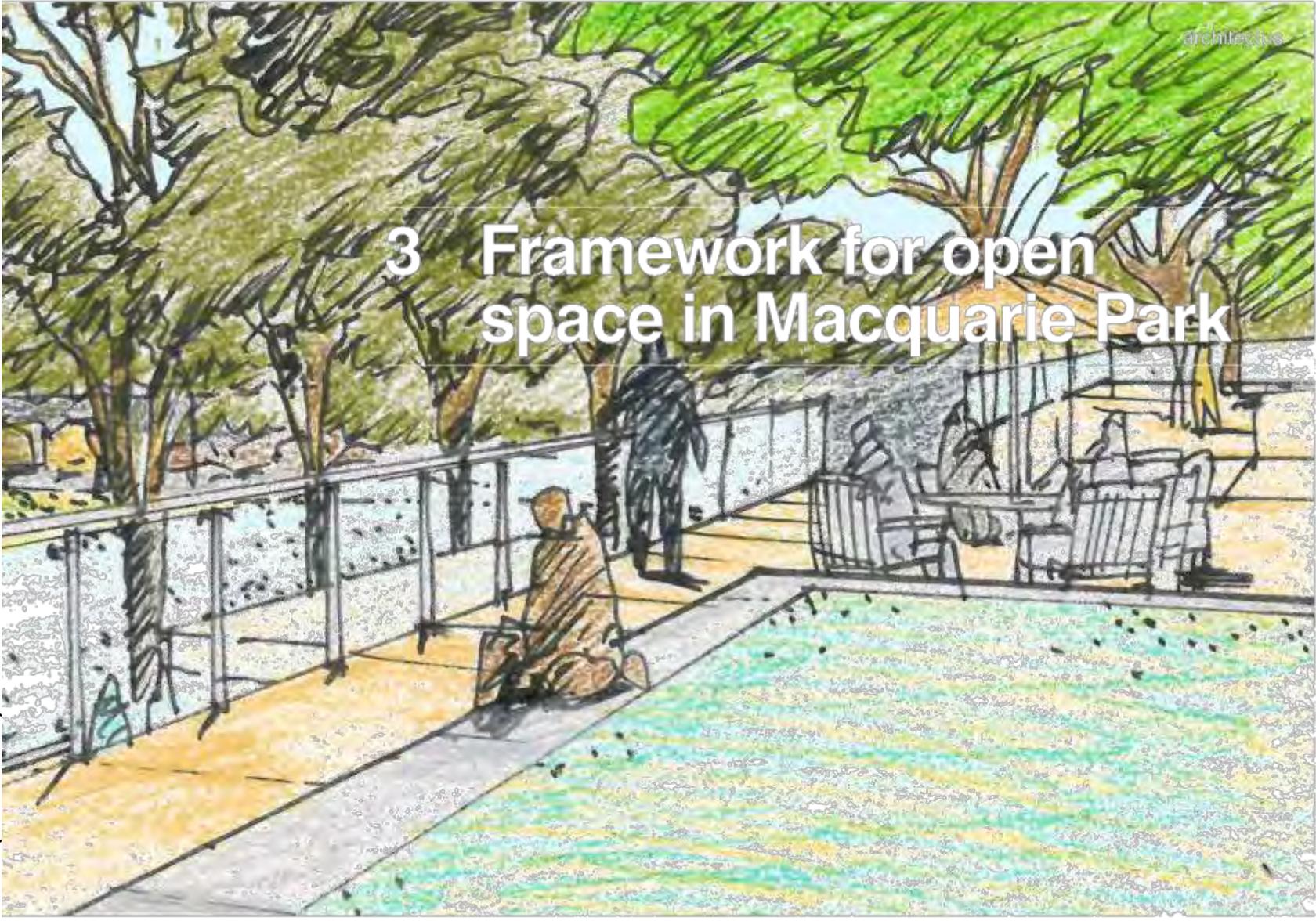
ITEM 3 (continued)

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ITEM 3 (continued)

ATTACHMENT 3



ITEM 3 (continued)

ATTACHMENT 3

3.1 The proposed framework for new open space and mixed use

3.1.1 How to deliver new open space

It is extremely difficult for Council or State government to purchase new sites for open space in Macquarie Park. Most of the appropriate land is held in private ownership and would be prohibitively expensive to purchase.

Also, it is extremely difficult to identify land in LEPs and DCPs as required open space without triggering the need for Council to acquire the land, which they are unlikely to be able to afford. Because of this, large areas of land, like Macquarie Park, are rezoned without the provision of new open space.

There is one solution to this issue. Council have an opportunity to negotiate public benefits when land is rezoned. On many sites, the rezoning process can result in an increase in value for the owner, and it is common practice that councils or other consent authorities attempt to capture some of that benefit. Examples of this process include the City of Sydney Council's controls for Green Square, where contributions towards the provision of affordable housing and new parks and streets are required to be made when historic employment uses take advantage of the new zoning controls and provide for mixed use development.

The long term management and operation of the open spaces also need to be considered, with the design of these spaces to reduce the maintenance burden on Councils.

In the same way, Ryde Council has an opportunity to be very strategic about permitting mixed uses on certain sites where open space and / or other significant public benefits can be delivered and paid for by private developers. It is critical that Council have a very clear framework for this type of strategy. It is also critical that the framework provides certainty for Council, developers and businesses.

3.1.2 A framework for the delivery of open space

Architectus recommends that Council permit residential uses in the B3 and B7 Zones in Macquarie Park, but only where certain open space can be delivered. This should be done by a rezoning, and subject to an agreement being in place between Council and the owner for the delivery of the new park to Council's reasonable requirements.

Under this framework, Council could consider a rezoning application for sites that can achieve ALL of the following nine criteria.

1. Provide either new open space shown in the Draft Macquarie Park DCP 2014 or a new 1 hectare minimum public open space, designed to Council's reasonable requirements.
2. Where a site proposes to deliver the 1 hectare minimum open space, the site must be larger than 3 hectares, thereby allowing for a 2 hectare development site for mixed uses.
3. The open space must have a frontage to a major road (Waterloo Road, Talavera Road, Wicks Road or Herring Road) and one secondary street.
4. The proposed open space should satisfy specified design criteria (as set out in Section 4.1 of this report) and be dedicated to Council on completion.
5. Provide a minimum of 20,000sqm GFA of non-residential floorspace.
6. Deliver key worker housing (or Affordable Housing) at the rate of 3% of total dwellings provided.
7. Up to 15% of the open space (1,500sqm) can be used to deliver the required key worker housing.
8. Provide privately run childcare facilities suitable for 60 children.
9. Delivery of all other required public domain on the site including roads and through site links as nominated in the Draft Macquarie Park DCP 2014.

The plan shown on the following page applies the above criteria to illustrate the outcome of the proposed framework.

Key	Criteria	Comments
	Sites greater than 3 hectares and frontage to a primary road	<ul style="list-style-type: none"> - Site 4 is nominated because a new 7000sqm park is required under the Draft DCP. Waterloo Road is the central spine of Macquarie Park and an appropriate location for open space. Some mixed uses on the site would ensure the park's early delivery and activate the space on weekends and in the evening. - Sites 1, 2, 3, 5 + 6 all satisfy the minimum size criteria
	Sites that do not satisfy detailed criteria NOT SUITABLE for open space and mixed uses.	<ul style="list-style-type: none"> - Site 2 (10-14 Kharisum Road) has excellent road frontage and is just over 400m from the train station but it is highly unlikely that this site would be developed for mixed uses and open space because of the recent significant investment in the AstraZeneca pharmaceutical plant on the site. - Site 5 has recently been developed. It is also affected by a requirement for new roads that would make a contiguous 1 hectare park with suitable orientation and minimum dimensions difficult to achieve. This site is not well-connected to the train station or Waterloo Road for pedestrians. - Site 6 is currently the subject of a Planning Proposal to allow for a Masters Hardware on the site, so it is unlikely to be re-developed. It is not well connected to Waterloo Road or the train station. The sloping topography and disconnects the site from Waterloo Road even further.
	Sites that do satisfy detailed criteria SUITABLE for open space and mixed uses.	<ul style="list-style-type: none"> - Site 1 is a good location for a new district open space. It has good solar access and is large enough and unencumbered to allow for a park in a desirable configuration. The medium to long term opportunity to redevelop the AMP shopping centre would provide the opportunity to create direct pedestrian and visual links between the open space and the station. The site also adjoins, on two of its boundaries, the Herring Road Priority Precinct, which is being rezoned for residential uses. - Site 3 is well-positioned on Waterloo Road, but may be too close to Site 4 and the new local park required in the draft DCP. It is further away from the stations and other key attractors (like the shopping centre) than Site 1, which may have an adverse impact on its level of use in the short to medium term. - Site 4 is the site of a new open space required under the DCP. The smaller park (0.7ha) will primarily service the employee population during the week. Mixed uses would ensure the early delivery and activation of this park outside of working hours.

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ATTACHMENT 3

Assessment of potential sites to deliver public open space



Site	Size	Site Frontage	Secondary Street Frontage	Area not affected by new roads	
1	66-82 Talavera Rd	37,800m ²	Talavera (252m)	Alma (152m)	37,800m ² (100%)
2	10-14 Khartoum Rd	32,381m ²	Talavera (196m)	Khartoum (140m)	29,689m ² (92%)
3	1-5 Khartoum Rd	41,216m ²	Waterloo (217m)	Khartoum (90m)	36,532m ² (89%)
4	45-61 Waterloo Rd	40,000m ²	Waterloo (202m)	Griffrock (47m)	29,553m ² (59%)
5	5 Talavera Rd	38,258m ²	Lane Cove Rd (84m)	Talavera (117m)	31,878m ² (88%)
6	144 Wickes Rd	58,300m ²	Waterloo (24m)	Wickes (111m)	48,290m ² (78%)

Key

- Railway station entry/exit
- Existing active open space
- Existing passive open space
- Significant trees to be retained
- Proposed active open space
- Existing Roads
- Proposed 20m road
- Proposed 18m road
- Proposed 14m road
- Proposed pedestrian connection
- Proposed new road zone
- Pedestrian link (flexible location)

ITEM 3 (continued)

ATTACHMENT 3



ITEM 3 (continued)

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4 Impact assessment and recommendations

4.1 Assessment and mitigation measures

Impact on employment lands and metropolitan planning strategies

The on-going role of Macquarie Park as an employment centre is a critical part of the overarching strategy for Metropolitan Sydney. All planning decisions should support this vision.

The proposed framework for open space and mixed uses for Macquarie Park supports this vision by allowing for essential open space and other public benefits to be delivered by the private market.

In our view, and based on our review of successful business parks, the provision of a 1 hectare open space on the site at 66-82 Talavera Road would have an overall net benefit for the business park, in addition to addressing the existing and future demand generated by residential uses in the Herring Road and North Ryde Priority Precincts. AEC have been engaged to assess the impacts of this framework on the operation of the business park from an economic perspective, as part of this process, and their report accompanies and complements this Framework document.

The Framework also provides a very clear planning structure for Council to assess appropriate sites for mixed use development in Macquarie Park. The certainty of this policy will provide comfort for businesses about the long term functioning of Macquarie Park.

The design of the new open spaces delivered under this framework should be undertaken in consultation with businesses to engage businesses and employees and to ensure the spaces are appropriate for business as well as local residents, and well used.

Creating a precedent for mixed use development

Architectus is aware of the significant pressure for mixed use development in Macquarie Park, and Ryde Council and State Government's policies regarding the protection of land for employment uses. Architectus also notes the strategies set out for Macquarie Park in A Plan for Growing Sydney, including 'concentrating capacity for additional mixed use around train stations' and 'investigat[ing] potential future opportunities for housing'. We are confident that the proposed Framework provides a clear line in the sand for mixed uses in Macquarie Park. The Framework would be easy to implement and defend.

The primary strength of the Framework is the clear nexus between public benefits and the ability to rezone land for mixed uses. It will not be possible for other sites to argue that they can provide the same public benefit if it is clear that what is required are large open spaces designed to Council's satisfaction.

This Framework may be further developed with Councils' planners, property and open space teams to ensure that the criteria for open space and public benefits is clearly defined. This will strengthen the Framework and Council's ability to defend pressure to rezone other sites in Macquarie Park.

Mixed uses and potential for land use conflict

One planning concern for the introduction of mixed uses in to employment areas is the potential for land use conflict. In some locations, the impacts of traffic, industrial noise and lighting can ultimately lead to restrictions on commercial operations, and the erosion of the long-term viability of the land for employment uses.

In this case, the impacts of mixed uses on all of the nominated sites are unlikely to generate any land use conflict because:

- The employment uses are generally commercial office and high technology uses that do not generate adverse impacts for residential uses. These uses co-exist happily in many other locations in Sydney – including the CBD.
- The sites identified in the Framework are large enough so that residential uses can be designed to respond to the mixed land use conditions. For example, living spaces can overlook open spaces and internal areas and not main roads and over employment uses. Buildings can be designed with quality communal spaces that are secure and very separate from commercial uses on the site. Vehicle entries to residential uses can be separate so as not to generate conflict with any commercial car movements/ loading and servicing. Entries to residential buildings can be separate and well-designed to ensure legibility.

Further, it is envisaged that some mixed use development in the employment area would support a wider variety of food and drink options, and provide some activation of the area in the evenings. These are two important ingredients for the long-term success of business parks, and are existing issues for the business park today.

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Maintenance and ownership of the new open space

It is important that the uplift in development potential on the site, or any of the sites nominated in the Framework, be tied to a clear, and long-term public benefit.

To ensure this outcome, it is recommended that the open space and public benefits be secured via a Voluntary Planning Agreement with Council.

It is also recommended that the land be dedicated to Council to ensure the long-term use of the space for the public, and to provide Council with the flexibility to adapt the space over time as Macquarie Park and its needs evolve.

The delivery of open space on the sites nominated would result in the need for maintenance by Council which comes at a cost. We understand the pressure this places on Council, but do not concede that this justifies a decision to not provide open space in Macquarie Park, where there is an identified existing deficiency. The two Priority Precincts will also generate significant demand for open space that will not be met through the development of these precincts.

However, to address the issue of the cost of maintenance of the open space, Holdmark would need to work closely with Council to ensure that the open space is designed to be as low maintenance as possible. Robust landscaping and good stormwater infrastructure will be critical.

There is also an opportunity to use parts of the 1 hectare site for other community uses, such as a community facility for hire, or key worker housing, that generate income for Council. This income could be used for park maintenance.

Ensuring the open space meets demand in Macquarie Park

Architectus would like the opportunity to work with Council to develop the design criteria for the open space and a clear brief for any community facilities or other public uses to be provided on site.

At a minimum, we would propose the following design standards for the open space area are achieved.

- The primary purpose of the open space is for a multi-use playing field.
- Minimum dimensions:
 - Playing area: 45m x 90m
 - Run-out zones: 65m x 110m (10m boundary on all sides)
 - The run out zones should not include any infrastructure – all lighting, benches, fencing must be outside of the 10m run-out zone
- Slope: 1:100 (minimum) to 1:50 (maximum)
- Open space does not include area for the following:
 - Parking
 - Steps and retaining walls
 - Vehicle access
 - Flooding retention
- There should be no car parking or other structure under the open space – it should be 100% deep soil.
- The open space should be dedicated to Council.

4.2 Recommendations and next steps

Recommendations

In light of the framework detailed within this report, it is considered appropriate to commence the process to rezone the site. There are two possible options to achieve this. These are:

1. The inclusion of the site as part of the Herring Road Priority Precinct including a rezoning to B4 Mixed Use and amendments to the maximum building height and FSR, which would be undertaken by the Department of Planning and Environment. One benefit of this approach is its potential for early delivery of the public infrastructure, which Architectus would recommend. It is also a much simpler process, easing the administrative burden on Council and Government. It should be noted that this would in part alleviate the perceived shortfall of open space within the Herring Road Priority Precinct identified in submissions against the precinct.
2. The rezoning of the site to B4 Mixed Use and amendments to the maximum building height and FSR through a Planning Proposal process undertaken by City of Ryde Council as an amendment to the Ryde Local Environmental Plan 2014. This has the potential to be a more involved process and is therefore not preferred.

Next Steps

In order to implement the above strategy, the following steps are recommended:

- Undertake an Economic Assessment of the framework for open space and mixed use within Macquarie Park. This will be required to test the economic impact and viability of the proposal.
- Undertake further detailed design testing of the other sites identified by the framework (45-61 Waterloo Road and 1-5 Khartoum Road) which may be suitable for the inclusion of residential land uses within Macquarie Park (to be undertaken by each landowner at their discretion).
- Commence discussions with the Department of Planning and Environment and Council to co-ordinate the mechanisms for the delivery of the open space within the site. This would necessitate the rezoning of the site to B4 Mixed Use and amendments to the applicable maximum height and FSR controls.

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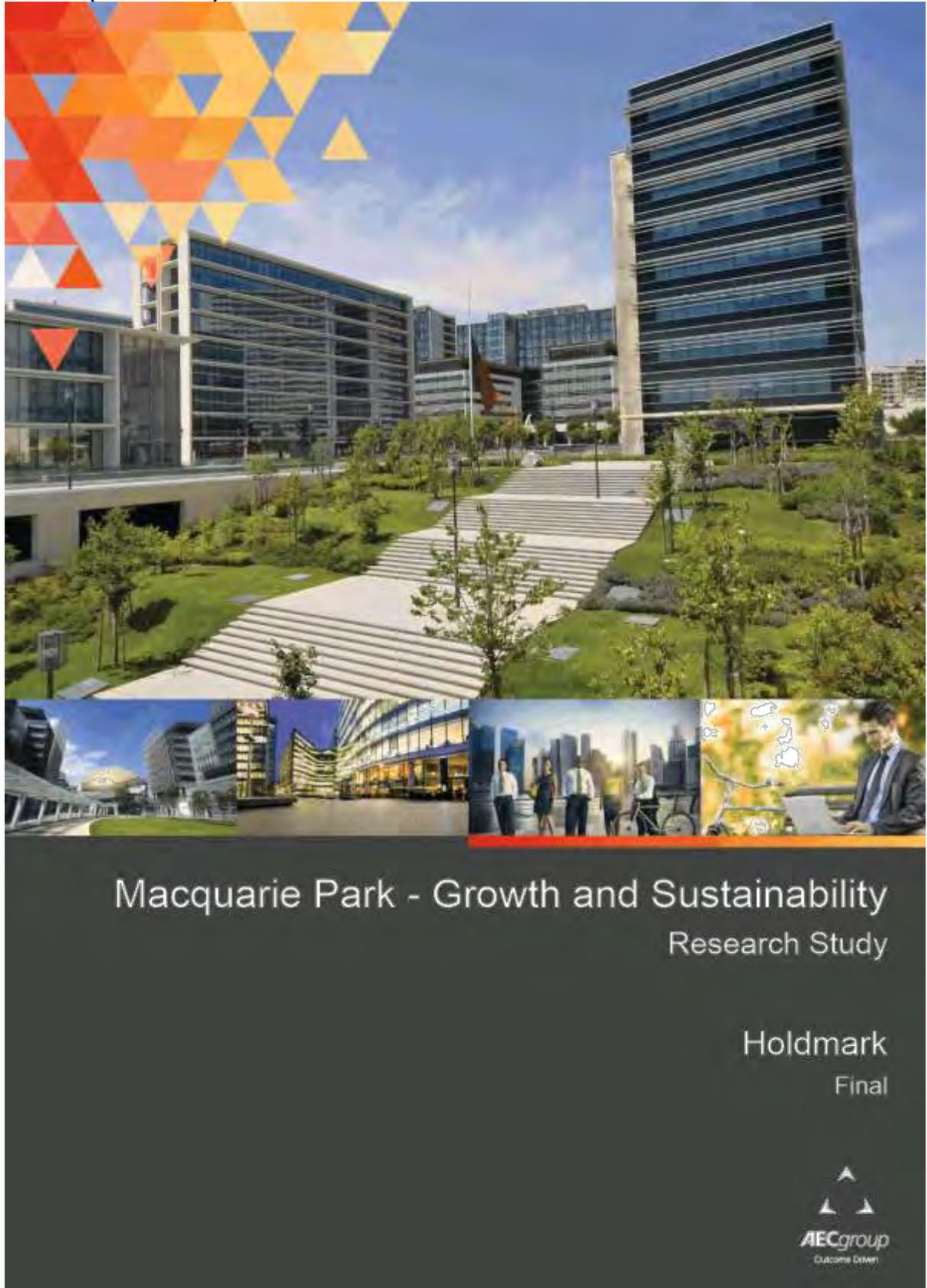
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*Macquarie Park - Growth and Sustainability
Research Study*

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*Macquarie Park - Growth and Sustainability
Research Study*

Executive Summary

Background and Overview

Macquarie Park sits in the Global Economic Corridor as identified in *A Plan for Growing Sydney*. The Global Economic Corridor is an area of concentrated employment, economic activity and other uses in centres, transport gateways and industrial zoned land extending from Port Botany and Sydney Airport, through Sydney CBD, north-west through Macquarie Park, and towards Norwest, Parramatta and Sydney Olympic Park.

The Macquarie Park Corridor is positioned on a new growth trajectory, with significant growth in residents and employment expected to further strengthen its importance and significance as one of Sydney's economic engine rooms and Sydney's second largest commercial office precinct after the Sydney CBD.

Despite there being a range of economic benefits associated with population and employment growth, there are challenges associated with urban renewal and growth. In urban planning terms, it is well accepted that growth puts pressure on infrastructure needs. These needs include access to amenities such as quality housing, transport systems, roads, schools, hospitals and police and fire services.

AEC Group have been commissioned to provide a clear understanding of key and critical factors that underpin the success and competitiveness of business parks. This understanding of key site selection factors will assist in understanding the sustainability of Macquarie Park's competitive position.

The Evolution of Business Parks

Over the past number of decades, business parks have transitioned from accommodating warehousing and light manufacturing uses to include office uses in greater proportions.

As the proportion of office space provided in business parks increases and further to their location outside or on the fringe of the city, there is a growing need to provide a greater range of amenities for workers. This includes, *inter alia*, shops, restaurants, childcare centres, medical services, retail facilities and recreational space as well as housing in close proximity.

Business parks are beginning to resemble a CBD in many ways, combining a retail offer of shops, restaurants, banks and travel agencies as well as a recreational offer of gyms, swimming pool and playing fields. The availability of housing options in close proximity to accommodate the worker population is also an important factor.

Occupier/Tenant Requirements

As businesses continue to evolve to remain competitive in the face of global and national pressures, the primary focus for accommodation selection is to reduce cost and increase efficiencies.

Businesses recognise that in order to keep their cost base lean, they need to ensure their largest cost element (i.e. employees) is effectively managed. Ensuring that employees are satisfied and happy in their working environment will not only assist staff retention rates but improve staff productivity levels. On this basis, worker amenity and employee wellbeing are critical factors that have come to the fore in recent years.

Worker Amenity

"Worker amenity" demanded by industry is over and above statutory requirements, more akin to those which are deemed social infrastructure items, i.e. childcare, gyms, public recreation space, etc.

Annual office tenant surveys are instrumental in identifying trends in tenants' leasing decision making with recent surveys indicating that overwhelmingly, occupier needs are focused on cost-cutting and achieving workspace efficiencies (Colliers International, 2012). That said, there is increasing importance placed on location selection for attracting and retaining staff and with a focus on staff health and employee wellbeing.

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Employee Wellbeing

In addition to worker amenity, social research shows that greenspace in business parks is no less important for amenity and wellbeing (Gilchrist, Brown and Montarzino, 2014). The use of greenspace and visual access to them supports employee wellbeing, thus positively related to job performance and productivity.

Corporations are increasingly placing more importance on employee wellbeing. Employee satisfaction and wellbeing are seen as key factors in workplace productivity and retention of staff. This in turn has shaped how businesses select locations and configure their work space (Colliers International, 2012).

Proximity of Housing

A number of key factors influence residential location choice, one of these is proximity to work. Research suggests that the time it takes to get to work is just as important as the job itself (Oxford Properties and Environics Research Group, 2013):

- 76% of respondents wanted a reasonable commute to the office. The majority of those surveyed said a commute time of less than 30 minutes was the appropriate travel time.
- 50% of respondents considered commute time to be the No. 1 factor in choosing one employer over another.
- The survey also found that once at the office, workers sought space that allowed them to work collaboratively with other employees, is close to shops and other amenities and is energy-efficient.

Macquarie Business Park: Present and Future

A *Plan for Growing Sydney* identifies that Macquarie Park sits in the Global Economic Corridor. The Plan identifies, *inter alia*, the following priorities:

- Work with council to retain a commercial core in Macquarie Park for long-term employment growth.
- Work with council to concentrate capacity for **additional mixed-use development around train stations, including retail, services and housing.**
- Investigate potential **future opportunities for housing in areas within walking distance of train stations.**

Since the completion of the Epping to Chatswood Rail Link in 2009 which resulted in the opening of three new stations (North Ryde, Macquarie Park and Macquarie University), the profile of Macquarie Park and its surrounds has lifted significantly.

Some 215,000sqm of new office space has been completed since January 2009 with strong residential growth driven on several fronts: increased appeal of the area, desire for workers to live close to their place of work and growth in Macquarie University's enrolment activity.

Future employment and residential growth expectations are equally strong with coordinated planning by state and local governments leading to significant development projects in the pipeline.

The NSW Bureau of Transport Statistics (BTS) forecasts that the population in Macquarie Park will increase by 15,358 persons and increase by 12,872 employees by 2031, representing an increase of 770% and 28% respectively from 2011.

Broadly, Macquarie Park's continued growth will be driven on three key fronts:

- **Macquarie Business Park**
There is some 450,000sqm of commercial/retail floorspace in the pipeline in the business park and commercial core.
- **Herring Road and North Ryde Station priority precincts**
The priority precincts have the potential to deliver up to 5,400 new dwellings.
- **Macquarie University's growth plans**
The university's growth over the last decade has been impressive, with growth in the 2003-2010 period amongst the highest of Australian universities.

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Macquarie University has significant expansion plans. A concept plan was approved for 400,000sqm of floorspace outside the Academic Core, 61,200sqm of floorspace within the Academic Core and 3,450 additional beds within the University Housing precinct.

Planning for and Delivering Social Infrastructure

The nature and composition of business parks has changed over the last two decades. A range of uses are now incorporated into business parks as worker convenience and amenity are of increasing importance to businesses and occupiers. Business parks increasingly aspire to provide the offer of a CBD location, Macquarie Business Park is no exception.

In addition to residential-driven demand, increasingly, employment hubs such as business parks are responding to demand from employers and employees for amenities such as recreational and childcare facilities. Flexible and inviting workplaces that are not only engaging within but engaging with the surrounding public domain are highly valued by business and occupiers.

According to the Ryde Integrated Open Space Plan (Ryde Council, 2012), there is presently an open space deficiency in the Macquarie Park Corridor that will be exacerbated by planned growth. The Plan further indicates that **two new major reserves** suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park. These have significant funding and delivery challenges.

The funding of public infrastructure has changed significantly over the past few decades, the burden shifting from government budgets to an array of public-private arrangements and user pays charges.

Statutory Funding Mechanisms

Current statutory funding mechanisms are fairly rigid in their scope of application, in that only 'additional' demand resulting from new development can be funded via these mechanisms. Furthermore, development contributions in established areas were capped to \$20,000 per dwelling in 2008.

More specifically, Ryde City Council's Section 94 Development Contributions Plan (2007) **does not** provide for public open space by non-residential development, implicit in this is the presumption that only residential users demand public open space. As indicated by contemporary tenant/occupier requirements, this presumption is incorrect.

Incentive-based Infrastructure Funding Mechanisms

Incentive-based infrastructure funding mechanisms can be effective if conceived and implemented well, as demonstrated by the Green Square Community Infrastructure Contributions (formerly known as the Green Square Bonus FSR System).

Green Square

Since its implementation over a decade ago, significant public domain and community infrastructure works have been delivered in Green Square. Today, the Sydney DCP 2012 outlines a list of "community infrastructure" that can be delivered in exchange for, subject to a merits assessment, "additional floorspace" in Green Square. Community infrastructure items include public streets, pedestrian and bike networks and public open spaces.

The large scale renewal of Green Square (led by and cross-subsidised by the residential market) has been instrumental in delivering substantial amounts of community infrastructure. *But for* the permissibility of residential uses in Green Square, the rate of infrastructure delivery would conceivably have been much slower.

Macquarie Park Corridor

The City of Ryde Section 94 Development Contribution Plan 2007 does not provide for open space by non-residential development, implicit in the now-outmoded presumption that only residential uses demand public open space.

Ryde Council has recognised the need to fund the delivery of new roads and public open space in Macquarie Park and has sought to do this via the Macquarie Park Corridor Planning

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Proposal (proposed Amendment 1 to the Ryde LEP 2013) wherein bonus floorspace can be granted to proponents who deliver an acceptable package of infrastructure works.

When Amendment 1 to the Ryde LEP 2013 is effected, proponents of bonus floorspace in Macquarie Park will be required to deliver items of infrastructure including new roads and open space. At proposed contribution rates (\$250/sqm of bonus FSR), the contributions received and subsequent delivery of infrastructure could conceivably occur at a slow pace, given that these are dependent on industry take-up of bonus commercial floorspace.

Despite an identified deficiency of open space in Macquarie Park, there is presently no mechanism to fund the provision of public open space in Macquarie Business Park.

In order to address the difficulties associated with delivering infrastructure in a timely manner, an alternate mechanism to deliver required and social infrastructure in Macquarie Park is needed.

A Strategy to Deliver Social Infrastructure in Macquarie Park

Architectus has developed a strategic planning framework by which Council could consider a rezoning application for sites that have the ability to deliver public benefit and meet all of the following specified criteria.

- **Public open space**
Provide either new open space shown in the Draft Macquarie Park DCP 2014 or a new 1ha minimum public open space, designed to Council's reasonable requirements.

Where a site proposes to deliver the 1ha minimum open space, the site must be larger than 3ha, thereby allowing for a 2ha development site for mixed uses.

The open space must have a frontage to a major road (Waterloo Road, Talavera Road, Wicks Road or Herring Road) and one secondary street.

The proposed open space should satisfy specified design criteria and be dedicated to Council on completion.
- **Non-residential floorspace**
Provide a minimum of 20,000sqm GFA of non-residential floorspace.
- **Key worker housing**
Deliver key worker housing (or Affordable Housing) at the rate of 3% of total dwellings provided.

Up to 15% of the open space (1,500sqm) can be used to deliver the required key worker housing.
- **Childcare facilities**
Provide privately run childcare facilities suitable for 60 children.
- **Public domain**
Delivery of all other required public domain on the site including roads and through site links as nominated in the Draft Macquarie Park DCP 2014.

Conclusion

While the appropriation of land to public open space and affordable housing would mean less available land to accommodate new employment floorspace, the provision of these items of key social infrastructure would undoubtedly result in increased appeal of Macquarie Park as a business destination, leading to increased demand for floorspace.

The ultimate delivery of additional jobs (through increased overall employment densities) would support NSW Government and Council objectives of strengthening Macquarie Park's position in the Global Economic Corridor.

This Research Study concludes that permitting residential and mixed-use development on selected, appropriate sites in Macquarie Park which comply with the criteria listed in the Architectus strategic planning framework would have a **significant positive impact on the growth and sustainability of Macquarie Park** as a major employment zone in metropolitan Sydney and a key economic engine room for NSW.

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1. Introduction

1.1 Background and Overview

Macquarie Park sits in the Global Economic Corridor as identified in *A Plan for Growing Sydney*. The Global Economic Corridor is an area of concentrated employment, economic activity and other uses in centres, transport gateways and industrial zoned land extending from Port Botany and Sydney Airport, through Sydney CBD, north-west through Macquarie Park, and towards Norwest, Parramatta and Sydney Olympic Park.

Macquarie Park is located in the local government area of City of Ryde, about 12km north-west of the Sydney central business district and is one of Sydney's major business hubs. Macquarie Park contains three major employment anchors: Macquarie Business Park, Macquarie University and Macquarie University Hospital. Macquarie Park is serviced by three train stations, these include: Macquarie University Station, Macquarie Park Station and North Ryde Station.

Macquarie Park is set to experience significant population and employment growth. The NSW Bureau of Transport Statistics forecasts that the population in Macquarie Park will increase by 15,358 persons and increase by 12,872 employees by 2031 (representing an increase of 770% and 28% respectively). Testament to this growth outlook is the quantum of development already in the pipeline, at various stages of planning and development.

- Commercial proposals totalling some 450,000sqm of commercial floorspace.
- Residential proposals totalling more than 3,000 residential units.

Despite there being a range of economic benefits associated with population and employment growth, there are also challenges associated with urban renewal and growth. In urban planning terms, it is well accepted that growth puts pressure on infrastructure needs. These needs include access to amenities such as quality housing, transport systems, roads, schools, hospitals and police and fire services. A reduction in access and service levels would result in a commensurate reduction in quality of life. Urbanisation demands equal emphasis be placed on social infrastructure, such as community centres, youth centres, parks and sporting fields, so as to enable social cohesion in urban areas.

Many business parks have transitioned from providing warehousing and light manufacturing space to include increasing amounts of office uses. As a result of the increasing amount of office space (and office workers) located in business parks, the overall composition of business parks has evolved to contain a range of facilities, including restaurants, banks, medical centres and even travel agencies. These facilities are similar to those that might be found in a CBD. As such, business parks are beginning to take the shape of a CBD in some ways, they are becoming denser and more walkable centres. As a result, there is increasing demand and expectation for social infrastructure and facilities that contribute to worker and resident amenity in business parks.

As business parks evolve, workers will be attracted to housing options in close proximity to their place of work (i.e. people will want to live and work locally). This has broader economic benefits as it promotes self-containment which improves the health of the local economy.

1.2 Scope and Purpose

The overarching objective of the Study is to provide a clear understanding of key and critical factors that underpin the success and competitiveness of business parks, including the complementary residential development that they generate. This understanding of key site selection factors will assist in understanding the sustainability of Macquarie Park's competitive position.

The importance of key infrastructure items is investigated against current and future provision. Case studies, tenant/occupier surveys and a literature review collectively identify key tenant requirements (e.g. open space, affordable housing for workers, childcare facilities, etc.). The position and ability of Macquarie Park to respond to infrastructure need is then analysed, specifically with respect to funding mechanisms available to Council.

The Study has sought to answer the following questions:

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- In the context of expected growth (employment and residential), do current and future provision of social infrastructure (specifically open space, childcare facilities, key working housing) affect Macquarie Park's ability to be sustainable and competitive?
- Are there any impediments to achieving growth in Macquarie Park as envisioned by the incentive scheme introduced by Ryde LEP 2013 (Amendment 1) Macquarie Park Corridor?
- Incentive zoning - Is it a viable method to procure critical items of community infrastructure and what is an appropriate strategic criteria framework to guide the use of incentive zoning in Macquarie Park? Is residential permissibility the only viable incentive, what about increased commercial density?
- What are the trade-offs (costs v benefits) should community infrastructure be obtained via incentive zoning that permits residential uses within the Macquarie Business Park?

This Study together with a proposed Planning Strategy (Architectus, 2015) aims to define and evaluate a strategic framework as to how key items of community infrastructure can be secured.

1.3 Structure of the Study

Capital in search of investment is mobile and will gravitate to the most attractive investment opportunity. In order to attract more private capital investment and grow, Macquarie Park needs to not only remain sustainable but competitive as a premier business park destination.

This study aims to, *inter alia*, investigate the factors required for sustainable growth in Macquarie Park.

In order to understand how Macquarie Park can accommodate sustainable growth, it is necessary to understand:

- Factors of success for similar business parks.
- Macquarie Park's competitive and future offer.
- Practical delivery of required and social infrastructure.
- Cost-benefit trade off of accommodating social infrastructure on land designated for employment.

Chapter 2 provides an overview of Macquarie Park, the history of its growth and its future growth outlook.

Chapter 3 examines the evolution of business parks nationally and internationally to understand the drivers of location selection and tenant requirements.

Chapter 4 examines the current employment composition of Macquarie Park, where workers live and the industries that are highly represented. The chapter also examines current and future provision for social infrastructure in Macquarie Park.

Chapter 5 investigates the current and future competitive position of Macquarie Park, recognising the impact of changing tenant requirements and surrounding residential growth. This chapter also analyses the various infrastructure funding mechanisms available to Council to fund the required items of social infrastructure.

Chapter 6 evaluates the necessity for a planning framework and strategy to ensure required infrastructure is able to be delivered in a timely manner. The cost-benefit trade-off is also examined, particularly if lands designated for employment are appropriated for community infrastructure and residential uses.

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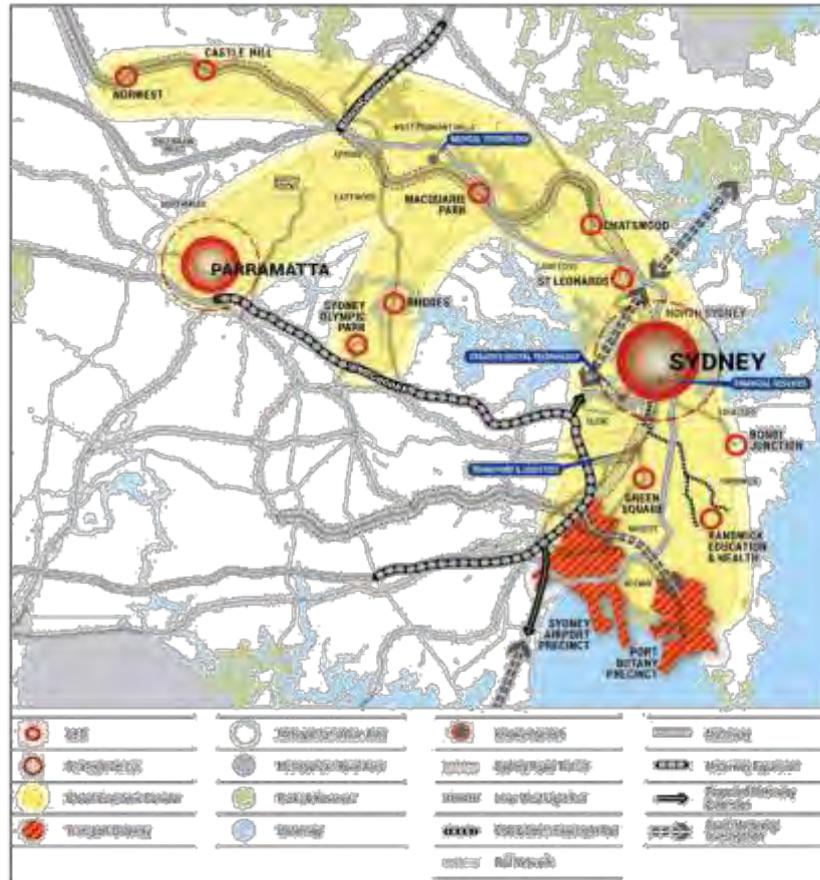
2. Overview of Macquarie Park

2.1 Location

Macquarie Park is located in the local government area of City of Ryde. It is located 12km northwest of the Sydney central business district and it is one of Sydney's major business hubs. Macquarie Park contains three major employers: Macquarie Business Park, Macquarie University and Macquarie University Hospital. Macquarie Park is serviced by three train stations, these include: Macquarie University Station, Macquarie Park Station and North Ryde Station.

A Plan for Growing Sydney identifies that Macquarie Park sits in the Global Economic Corridor (refer to Figure 2.1). The Global Economic Corridor is an area of concentrated employment, economic activity and other uses in centres, transport gateways and industrial zoned land extending from Port Botany and Sydney Airport, through Sydney CBD, north-west through Macquarie Park, and towards Norwest, Parramatta and Sydney Olympic Park.

Figure 2.1: Strategic Context and Location of Macquarie Park



Source: NSW DPE (2014a)

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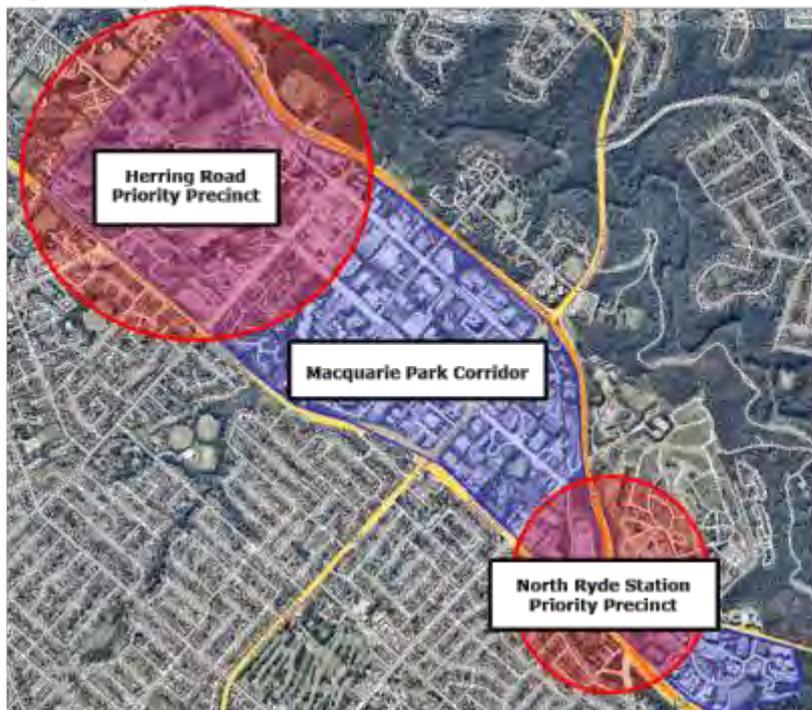
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2.2 Macquarie Park Corridor and Surrounds

Macquarie Park contains a range of land uses which are reflective of the different land use zones which subsist in the area. Under the Ryde Local Environmental Plan 2014, the eastern portion is zoned B4 Mixed Use, the core is zoned B3 Commercial Core and the land on either side of the core is zoned B7 Business Park.

Importantly, DPE have identified two Priority Precincts which are located at the northwestern and southeastern ends of the business park, these are Herring Road and North Ryde Station Priority Precincts respectively. Both of these precincts have been designated for substantial dwelling and population growth. The area northwest of Herring Road (Macquarie University) falls under the State Environmental Policy (Major Development) (Macquarie University) 2009 and is zoned SP2 Infrastructure (Educational Establishment) and B4 Mixed Use.

Figure 2.2: Map of Macquarie Park Corridor



Source: Nearmap (2015)

From its early association with Macquarie University, Macquarie Park has developed into a centre for research and technology activities. The occupiers are diverse within the range of land use zones (refer to Figure 2.3).

- Occupiers in the B4 Mixed Use zone include Macquarie Retail Centre, Panasonic, Macquarie University residential colleges.
- Occupiers in the B3 Commercial Core zone include financial services firms, medical and pharmaceutical research and telecommunications companies. These include Orix, Johnson and Johnson, Novartis Pharmaceuticals and Foxtel.
- Prominent occupiers in the B7 Business Park zone include Toshiba, CSIRO, Komatsu, Astra Zeneca, Selko and Optus.

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2.3 Strategic Context and Locational Strengths

2.3.1 History of Macquarie Park – From Market Gardens to Major Employment Hub

In the 1970's Macquarie Park was one of the outlying market garden areas serving Sydney. Under the County of Cumberland Scheme (1951) the area was protected from development by a 'green belt' zone. This zone comprised land surrounding the Sydney metropolitan area which was designated for farming and recreational use.

In 1963 the NSW Government resumed the land to establish Macquarie University (Sydney's third university at the time). In addition to the university, land was rezoned for residential and industrial development. This was done in recognition of the integral role that universities can play in the development of industry clusters. Additionally, this was consistent with a common United States practice where industry sponsors university courses.

Over the past 30 years, Macquarie Park has developed rapidly from market gardens into a major employment hub. One of the key factors which drove development in the initial stages was its close proximity to the professional labour market located in Sydney's northern beaches and inner northern suburbs. A secondary driver was the transport links to service markets in Chatswood, North Sydney and the Sydney CBD.

It was during the 1990s that the area developed as home to various multinational corporations. Over the subsequent decade, the amount of warehouse and distribution occupiers decreased and office occupiers came to prominence.

Over 200 hectares of industrial land has been rezoned in the last two decades to create Macquarie Business Park.

2.3.2 The Evolution of Macquarie Park and Planning Controls

The aim of the planning controls for Macquarie Park is to guide evolution of the area from Business Park to urban centre, making it more attractive to workers and Ryde residents through the provision of an effective access network and parks, plazas and other recreation opportunities whilst also encouraging employment diversity.

In order to support the growth and development of Macquarie Park, Ryde Council has since 2006 implemented various planning controls and initiatives.

In 2008 refinements to strengthen the incentive planning controls were included in a Draft Local Environmental Plan amendment (DLEP Amendment 1). However, due to legal complexities regarding the proposed incentive controls, it took nearly two years of negotiation with the Department of Planning and Infrastructure (DoPI) before they were satisfied that the LEP was compliant with legislative requirements and in particular, the standard template for LEPs. The delay in approving DLEP Amendment 1 for exhibition meant that the financial incentive model prepared by Council in 2007/8 was out-dated and required review.

To address this, Council allocated funds in the 2011/12 budget to review the Macquarie Park Development Control Plan and DLEP Amendment 1. The 2011/12 review recommended new open space and roads networks and changes to the planning controls, in recognition of a public open space deficiency and a need for new roads. The review also proposed a planning incentive scheme to assist with funding needed infrastructure.

It was proposed that the Ryde Local Environmental Plan 2013 Draft (Amendment 1) Macquarie Park Corridor introduce an incentive scheme that defers an availability of additional Floor Space Ratio (FSR) and height until the developer negotiates with Council to deliver roads and/or parks or contribute towards these. Once this agreement is executed the greater height and FSR is made available through a minor site specific LEP amendment. The scheme is voluntary and if a developer chooses not to enter into the agreement the provisions of the existing Ryde LEP 2013 will apply. This changes have not as yet been implemented.

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2.3.3 Vision for Macquarie Park

A Plan for Growing Sydney

A *Plan for Growing Sydney* identifies that Macquarie Park sits in the Global Economic Corridor. The Global Economic Corridor is an area of concentrated employment, economic activity and accommodates a range of other uses. These activities are accommodated in centres, transport gateways and industrial zoned land extending from Port Botany and Sydney Airport, through Sydney CBD, north-west through Macquarie Park, and towards Norwest, Parramatta and Sydney Olympic Park.

Furthermore, The Plan states that by 2030, there will be demand for around 190,000 new stand-alone office jobs: around 75% of these will likely seek to locate in Sydney's 10 major office markets. Many of these jobs will be outside Sydney CBD and North Sydney, in the eight suburban office markets of Chatswood, Macquarie Park, Norwest, Parramatta, Rhodes, St Leonards, Sydney Olympic Park and South Sydney, situated along the Global Economic Corridor.

With specific regard to the Macquarie Park, The Plan identifies the following priorities:

- Work with council to retain a commercial core in Macquarie Park for long-term employment growth.
- Work with council to concentrate capacity for **additional mixed-use development around train stations, including retail, services and housing.**
- Facilitate delivery of Herring Road, Macquarie Park Priority Precinct, and North Ryde Station Priority Precinct.
- Investigate potential **future opportunities for housing in areas within walking distance of train stations.**
- Support education and health-related land uses and infrastructure around Macquarie University and Macquarie University Private Hospital.
- Support the land use requirements of the Medical Technology knowledge hub.
- Investigate a potential light rail corridor from Parramatta to Macquarie Park via Carlingford.
- Investigate opportunities to deliver a finer grain road network in Macquarie Park.
- Investigate opportunities to improve bus interchange arrangements at train stations.
- Work with council to improve walking and cycling connections to North Ryde station.

The importance and significance of Macquarie Park is recognised in state and local planning documents, its future prosperity underpinned by the priorities of governments.

2.4 Future Growth Outlook

The NSW Bureau of Transport Statistics (BTS) forecasts that the population in Macquarie Park will increase by 15,358 residents and by 12,872 employees towards 2031. This represents a phenomenal growth of 770% and 28% respectively (detail in Table 4.8).

There are a number of commercial development applications in the pipeline for Macquarie Park, these cumulatively proposing a total of some 455,286sqm of commercial floorspace while more than 3,000 residential units are at various stages of planning and delivery. A list of commercial/retail proposals are detailed in Appendix B.

Business Park (B3 and B7 Zoned Lands)

With regard to the land zoned B3 Commercial Core and B7 Business Park, there are a number of development applications and projects in early planning in the pipeline.

- The Macquarie Park Commerce Centre (located at 396 Lane Cove Rd, 32-46 Waterloo Rd & 1 Giffnock Avenue) is a major project and will involve the construction of a 17 storey retail/commercial building (total floorspace of 83,368sqm). The project is still at the concept plan approval stage and is expected to be completed in 2020.

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- The Land and Property Management Authority (LPMA) plans to develop a Defence Technology Hub (located at 45-61 Waterloo Road), expected to be high-tech hub that includes major commercial office space and ancillary facilities. This is still in the very early planning stages (it is expected to be completed by 2020), nonetheless it provides insight into the types of uses Macquarie Park will cater for in the future.

A number of 5-6 storey commercial buildings are under construction along Talavera Road and Waterloo Road.

Macquarie University

It is well documented that Macquarie University has significant expansion plans. Macquarie University has an approved concept plan for:

- 400,000sqm of commercial gross floor area outside of the Academic Core.
- Additional 61,200sqm of academic gross floor area within the Academic Core.
- Additional 3,450 beds within the University Housing Precinct for University purposes.

The concept plan also includes provision of open space as well as cycle paths. A masterplan is now in place to guide the development and staging of the university's planned expansion.

Priority Precincts

NSW Department of Planning and Environment has designated two precincts for urban renewal and future growth, located immediately to the northwest and southeast of Macquarie Park - Herring Road and North Ryde.

These Priority Precincts (formerly known as Urban Activation Precincts) are identified as areas which are suitable for urban renewal including increased housing within the Priority Precincts program to coordinate planning and investment to revitalise local centres, services and infrastructure.

- **Herring Road**
This Priority Precinct envisages development of medium to high density housing that could achieve up to 5,400 new dwellings by 2031.
- **North Ryde Station**
This Priority Precinct is envisaged to accommodate 3,000 homes and 1,500 jobs by 2031. There has been a significant amount of work done regarding social infrastructure this precinct is assessed to require approximately 2.4ha open space, public plazas and a multi-purpose community facility.

2.5 Challenges

The Macquarie Park Corridor is positioned on a new growth trajectory, with significant growth in residents and employment expected to further strengthen its importance and significance as one of Sydney's economic engine rooms and Sydney's second largest commercial office precinct after the Sydney CBD.

Despite the range of economic benefits associated with population and employment growth, urban and renewal and regeneration is not without its challenges. All forms of growth exert pressure on existing infrastructure networks, not just from a quantum but also from a suitability-for-needs perspective.

As areas renew and regenerate, the infrastructure needs of its workers and residents change, therefore demand for and access to amenities such as quality housing, transport systems, roads, schools, hospitals and police and fire services should be considered in the appropriate context.

Urbanisation also demands more emphasis be placed on social infrastructure, such as community centres, youth centres, parks and sporting fields, etc. so that urban renewal areas can contribute to reducing social disadvantage and maintaining social cohesion.

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3. Business Parks

3.1 What is a Business Park

'Business park' is a term that originated from United States in the 1960's/1970's and was used to describe several buildings in a low-rise development on a greenfield site. This was often located on the city fringe, occupied by large tenants who need significant amounts of office space at a comparatively low price and in a pleasant countryside environment.

The demand for business park space has traditionally been highest from IT firms, FMCG (fast moving consumer goods), telecommunications, pharmaceutical and other companies who, unlike law firms or investment banks, do not place as much emphasis on office location prestige.

In many ways a business park combines the characteristics of an industrial park and an office park, the activities and appearance of the business park conveying a multi-use environment.

"Planned multi-use developments" have been suggested to be the most advanced form of business park (PCA, 2000). Design, land use and transportation patterns, occupancy and operation are carefully planned to accommodate a range of activities from employment-based office and industrial activities to commercial services, recreational facilities and housing. These developments are often designed to be self-sufficient, with basic worker requirements provided within their boundaries. In many respects these developments are designed to replicate the offer of a city CBD environment.

Australian and NSW Context

There are a number of business parks in Sydney and across capital cities across Australia - Macquarie Park is one of Sydney's premier business parks.

In NSW, 'business park' is a separate zone (B7) under the NSW standard LEP template, the zone having the following objectives:

- To provide a range of office and light industrial uses.
- To encourage employment opportunities.
- To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.
- To encourage industries involved in research and development.

Although accommodating a mix of commercial and light industrial activities and functions, the co-location of the B7 Business Park zone with the B3 Commercial Core zone in Macquarie Park presents it with a strong commercial focus.

The success of business parks around the country has been a result of the dynamism of the property industry, constantly reinventing floorspace and accommodation formats to meet the ever-changing needs of industry. The spatial transformation of commercial development favouring highly adaptable out-of-centre locations is the result of a combination of social, economic, technological and policy trends.

The rate at which development occurs is significantly influenced by planning policy which is guided by compact and sustainable city ideologies. This policy philosophy of compact cities is intended to ensure the capital cost of economic infrastructure (usually by government) is leveraged and most efficiently used, this planning approach accordingly affecting the spatial dispersion of development.

Against an international review of literature, the following sections examine how business parks have evolved over time and the key success factors for business parks.

3.2 How have Business Parks Evolved

Business parks continually evolve. It is well documented that the first "planned industrial estate" dates back to 1800, when a company in Manchester, England bought a 1,200 acre estate and called it Tafford Park Estate. In the 1970's large corporate organisations in the

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United States like IBM developed low scale corporate campuses on greenfield sites. Being greenfield sites, these campus type developments were heavily reliant on the automobile.

Businesses today are increasingly looking for office space in business parks which they can lease rather than own (Frey and Mazullo, 2001), enabling firms to expand and contract as they need to. In addition, the types of uses located at business parks have transitioned from warehousing and light manufacturing to include office uses in greater proportions. As a consequence of the increasing amount of office space locating in business parks, the demands of users is changing to demand locations that combine a retail offer of restaurants, banks and travel agencies as well as a recreational offer of gyms, swimming pool and playing fields as well as affordable housing close by for the working population. As such, business parks are beginning to take the shape of a CBD in some ways, they are becoming denser and walkable centres.

Unlike the traditional business parks whereby the only way to access them was by automobile, these new business parks are increasingly centred around train stations. As a result, they increasingly reflect transit-orientated design (TOD) principles.

From Greenfield to Brownfield Sites

Traditionally business parks have been developed on greenfield sites. However, research undertaken by the Urban Land Institute (ULI, 2001) suggests that increasingly business parks are being developed on brownfield sites. Some of the key reasons the ULI suggest that make using brownfield sites a viable proposition is that they are close to transit infrastructure and close to retail provision. An example of where this has occurred is Twin Lakes Business Park in Minnesota which involved the redevelopment of a 275 acres industrial site into a business park. The masterplan for the business park incorporated walking paths, day care facilities and a gym. In addition, it incorporated approximately 600 unit housing (townhouses and apartments). Most of the dwellings were delivered at market rate, however, some units were made to be more affordable to those earning 80% of the area's median income.

Employee Wellbeing

As the proportion of office space provided in business parks increases and further to their location outside or on the fringe of the city, there is a growing need to provide a greater range of amenities for workers. This includes, *inter alia*: shops, restaurants, childcare centres, medical services, retail facilities and recreational space, as well as housing in close proximity.

In addition to worker amenities provided for within business parks, greenspace in business parks is no less important for amenity and wellbeing (Gilchrist, Brown and Montarzano, 2014). Research suggests that both the use of greenspace and visual access to them supports employee wellbeing. Research studies that have gathered employee data and applied them in multiple regression analysis have found that higher subjective wellbeing and job satisfaction at work are positively related to job performance, productivity, and organisational citizenship (e.g. being cooperative, friendly and trustworthy). These have positive implications for economic benefits.

Employee satisfaction and wellbeing are critical factors that underpin location selection and building leasing decisions. These factors are discussed in sections 3.3 and 3.4.

3.3 Drivers of Location Selection and Investment Attraction

There are many factors that influence decisions for business relocation and investment attraction. The Area Development Corporate Survey (2014) is a survey of businesses in the United States of America. The survey focuses on issues such as expansion/ relocation plans, the importance of site selection and quality of life factors in planning decisions, environmental sustainability and the economic climate. Each year the survey ranks the top 25 site selection factors when choosing a facility.

While the survey is based in the United States and the operating environment there is different from Australia, the survey contains many solid indicators as to how businesses make location decisions.

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In 2014, the survey found the availability of skilled labour was the top concern for businesses, followed by highway accessibility and labour cost. Occupancy costs are a major factor, this also identified to be important in a tenant survey (section 3.4).

Table 3.1: Corporate Site Selection Factors, 2013

Rank	Site Selection Factor	2013 Score
1	Availability of skilled labour	95%
2	Highway accessibility	94%
3	Competitive labour costs	91%
4	Occupancy or construction costs	87%
5	Availability of advanced ICT services	85%
6	Availability of buildings	83%
7	Corporate tax rate	82%
8	State and local incentives	82%
9	Low union profile	81%
10	Energy availability and costs	81%
11	Tax exemptions	81%
12	Right-to-work state	81%
13	Available land	80%
14	Expedited or 'fast-track' permitting (planning approvals and regulation)	76%
15	Proximity to major markets	75%
16	Availability of long-term financing	75%
17	Environmental regulations	72%
18	Inbound/ Outbound shipping costs	71%
19	Proximity to suppliers	68%
20	Raw materials availability	61%
21	Accessibility to major airport	59%
22	Proximity to technical university	54%
23	Training programs	52%
24	Availability of unskilled labour	49%
25	Railroad service	29%
26	Waterway or oceanport accessibility	20%

Note: Percentages are the total of "very important" and "important" ratings of the Area Development Corporate Survey. Source: Area Development Corporate Survey (2014).

The same survey asked business decision makers in the United States about quality of life, which is another important locational aspect that supports the quality of an area. While not as conclusive as the site selection factors, these results demonstrate that quality of life in an area is important for site selection and investment decision making.

Table 3.2: Corporate Quality of Life Factors, 2013

Rank	Site Selection Factor	2013 Score
1	Low crime rate	81%
2	Healthcare facilities	80%
3	Housing costs	75%
4	Ratings of public schools	73%
5	Housing availability	72%
6	Recreational opportunities	66%
7	Universities in the area	60%
8	Climate	60%
9	Cultural opportunities	55%

Note: Percentages are the total of "very important" and "important" ratings of the Area Development Corporate Survey. Source: Area Development Corporate Survey (2014).

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Low crime, access to healthcare, housing, schools and recreational opportunities as well as cost of housing featured prominently and provides insights into the type of quality of life factors that can impact business investment decisions.

3.4 Occupier/Tenant Requirements

Cost of Accommodation

Workplaces which are amenity rich are viewed favourably by occupiers when making location and building selection. Notwithstanding this, when occupiers and tenants evaluate their leasing options - what fundamentally underpins the decision is cost (Colliers International, 2012).

There is no doubt occupiers and tenants are attracted to Macquarie Park due to the good value for money proposition that it offers. As a comparison,

- Prime grade rents in Macquarie Park are \$320/sqm-\$390/sqm (net) and secondary grade rents are \$280/sqm-\$300/sqm (net).
- Prime grade rents in St Leonards are higher and range between \$430/sqm and \$450/sqm (net).
- Prime grade rents in Chatswood range from \$400/sqm to \$450/sqm (net).

A key factor which enables Macquarie Park to compete effectively with Chatswood and St Leonards is the better value for money that it offers, the availability of large floorplates and close proximity to the shopping centre, cafes and train stations. In addition the direct freeway connection to the Sydney CBD enhances its attractiveness.

As businesses continue to evolve to remain competitive in the face of global and national pressures, the primary focus for accommodation selection is to reduce cost and increase efficiencies.

Worker Amenity

As a proportional of total business cost, property occupancy costs (e.g. rents, outgoings, etc.) represent a small proportion, suggested to be in the region of 5%-10%. A key proportion of business cost is employees. As a consequence, despite the importance of cost in the location and building selection process, research suggests that the extent and quality of worker amenity is an increasingly important factor in location selection as employers seek to minimise employee cost by optimising employee productivity and retention.

"Worker amenity" that is sought by businesses is beyond the basic amenities that all workplaces are to provide under the Local Government Act 1995 and the Building Code of Australia (BCA). These legislative documents require the following amenities: air quality, temperature controls, workspace, lighting, seating, washing facilities, toilets, change rooms, dining facilities, drinking water and the provision of suitable access and egress.

"Worker amenity" demanded by industry is over and above statutory requirements, more akin to those which are deemed social infrastructure items, i.e. childcare, gyms, public recreation space, etc.

Colliers International carries out annual office tenant surveys to identify trends in tenants' leasing decision making to assist building owners and investors respond to occupier needs and requirements as they evolve.

The most recent survey was carried out in 2012 where 300 telephone interviews were carried out with key decision makers. Australian tenants surveyed represented 5.5% of all office space in Australia. These tenants were across Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra, Auckland and Wellington.

The following responses are of direct relevance for this Study:

- Increasing importance of building choice to attract and retain staff (61% of respondents indicated a "high importance rating" compared to 47% respondents in 2010).

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- Reasons for the importance of building choice for attracting and retaining staff were suggested as:
 - Central location (51%)
 - Accessibility for staff (47%)
 - Staff happiness (37%),
 - Importance of image (32%).
 - Proximity to amenities (27%).
- An increasing importance placed on certain building attributes, specifically buildings with access to gyms, swimming pools, childcare facilities, bike racks, green space and a CBD location was observed between 2010 and 2012.
- A decline in importance in other building attributes, specifically car parking and ESD (environmentally sustainable design) was observed between 2010 and 2012.

Overwhelmingly, occupier needs are focused on cost-cutting and achieving workspace efficiencies. That said, there is increasing importance placed on location selection for attracting and retaining staff and with a focus on staff health and employee wellbeing. As a consequence, the provision of significant informal, social and communal space within workplaces has increased.

The next section examines the role and influence of employee wellbeing in site and building selection.

Employee Wellbeing

Corporations are increasingly placing more importance on employee wellbeing. Employee satisfaction and wellbeing are seen as key factors in workplace productivity and retention of staff. This in turn has shaped how businesses select locations and configure their work space (Colliers International, 2012).

In Macquarie Business Park major occupiers like AstraZeneca, a British-Swedish multinational pharmaceutical and biologics company which is one of Australia's largest private sector investors in medical research and development (R&D) places a strong emphasis on the health and wellbeing of its employees. The company has a Health and Wellbeing Strategy, which provides a framework for promoting health and wellbeing and managing and measuring related activities consistently across the company (AstraZeneca, 2015). Broadly the health and wellbeing initiatives aligned with Strategy include:

- Health promotion activities.
- Home-work balance initiatives.
- Ergonomically-designed working environments.
- Fitness opportunities.
- Healthy eating options in restaurants.

Another major occupier in Macquarie Business Park is Optus, and like AstraZeneca, Optus have a clear focus on employee health and wellbeing. In 2012 Optus recruited a Health and Wellbeing Manager and launched a new 'My Wellbeing' program which includes a personalised online health risk assessment, flu vaccinations, mobile dental service and Employee Assistance Program for employees. Furthermore, at the Macquarie Park facility, Optus provides an onsite childcare facility.

Proximity of Housing

A number of key factors influence residential location choice, one of these is proximity to work. Results from a survey undertaken in Canada suggests that the time it takes to get to work is just as important as the job itself. A survey by Oxford Properties and Environics Research Group (Oxford Properties and Environics Research Group, 2013) found:

- 76% of respondents wanted a reasonable commute to the office. The majority of those surveyed said a commute time of less than 30 minutes was the appropriate travel time.

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- 50% of respondents considered commute time to be the No. 1 factor in choosing one employer over another.
- The survey also found that once at the office, workers sought space that allowed them to work collaboratively with other employees, is close to shops and other amenities and is energy-efficient.

Whilst proximity to work may be one selection factor in residential location choice, it is important to acknowledge that generally, house price gradient will be negatively related to distance from an employment node (Osland et al, 2011). As such, price of housing is also a factor when workers consider their residential location.

Traditionally houses prices declined with distance from the central business district. However, where there are multiple employment nodes (i.e. Macquarie Business Park) the complexity level of the issue is raised. The median price of houses in proximity to Macquarie Park¹ is currently at \$1.275m in the 12 months to December 2014 (Department of Family and Community Services, 2014), comparable to the Ryde LGA median house price of \$1.3m. In contrast the median unit price in Macquarie Park² is at \$613,000, marginally lower than the Ryde LGA median unit price of \$623,000.

3.5 Case Study Analysis

In order to understand the key characteristics and environment required for successful business parks a series of case studies (national and international) was examined.

The review identified several core themes which have contributed to the success of each business park.

- Centrally located with good transport infrastructure (road and rail).
- Accessibility to highly skilled knowledge workforce.
- Good communications and ICT infrastructure.
- High quality, modern and flexible building and business park design.
- Good business and personal amenity.

The business parks analysed offer varying degrees of facilities and items of social infrastructure that contribute to worker amenity. Depending on their origins of development, some business parks have transitioned to include these facilities over time while some business parks have been developed with these facilities from the outset.

¹ Postcode 2113 which includes suburbs of Macquarie Park, North Ryde and East Ryde

² Ibid

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Table 3.3: Multi-use Facilities in Business Parks

Business Park	Description and Occupiers	Social Facilities and Worker Amenity
Norwest (NSW)	Now accommodating more than 400 companies including IBM, Schneider, Woolworths, B Braun, Capital Finance, Optus data centre and more than 20,000 employees. Future expansion is expected to increase capacity to more than 35,000 employees.	The business park has grown to offer a full service and self-sufficient working environment that includes: <ul style="list-style-type: none"> • Post office, banks (business and retail). • Restaurants, bars and cafés. • Childcare centres. • Gyms, drycleaners, etc. • 2 shopping centres incorporating Woolworths and Coles supermarket. • Recreational lakes. • Walking and bicycle tracks.
Parkview Estate (VIC)	Situated 20km from Melbourne's CBD and provides space for corporate offices, office/ warehouses, bulky goods/trade sales. Tenants include Quest, Bole, Westpac, AAMI.	Moorabbin Super Centre (located at the front of the estate) contains 30,000sqm of retail space incorporating Bunnings, Fantastic Furniture, Total Tools, Repco, etc. Other facilities include: <ul style="list-style-type: none"> • Restaurant, café, bar • Quest serviced apartments • Pelican childcare centre. • Star Fitness and Aqua Star swim school. • Crocs Indoor Kids Playcentre and café.
Intech Park (Indianapolis)	Established in 1999 and is Indiana's largest office development. Centrally located and in close proximity to some of the city's most affluent neighbourhoods. Prominent tenants include Eli Lilly, Digital Networks, Statewide Credit Association, US Customs.	Key focus on establishment of this business park was the provision of worker amenity. Key facilities include: <ul style="list-style-type: none"> • Shops • Basketball courts • Bank • Restaurants • Hotels • Day care facility • 2.5 miles of walking paths
Zuidas (Amsterdam)	A rapidly developing business district known as 'Financial Mile', transitioning over time. In the 1990's a masterplan was developed for Zuidas following the establishment of ABN AMRO's new headquarters. Over 700 companies are now established, including Google, AkzoNoble, Fonterra and Vimpeicom. Zuidas also incorporates a large residential component - with 8,000-9,000 homes by 2040, Zuidas is set to become Amsterdam's most prominent housing location.	The masterplan was developed based on a thorough analysis of lessons from other cities, aiming to achieve a healthy balance between living, working and amenity. With the arrival of more residents Zuidas has transformed into a well-rounded neighbourhood with schools, cafés and restaurants, sports centres and a growing number of retail outlets located therein. The district is the setting for the annual Zuidas Run and for classical music performances as part of Amsterdam's Grachtenfestival. It forms part of the ARTZUID open-air sculpture route and recently hosted the fascinating Body Worlds exhibition.

Source: AEC

Norwest Business Park (NSW) is an example of a business park in the early stages of transition to incorporating a mix of uses.

Intech Business Park (Indianapolis, US) is a business park which has been developed with social infrastructure facilities from the outset while Zuidas (Amsterdam, The Netherlands) is a business park which has significantly transitioned over time to include residential uses in addition to social infrastructure facilities.

Even though these business parks are at different stages of development, they all provide insight into the importance of social infrastructure incorporated and co-located with commercial uses within business parks.

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Figure 3.1: Intech Park Land Use Plan



Source: <http://www.intechpark.com> (2015)

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Figure 3.2: Zuidas Aerial Image



Source: <http://en.cio.nl/projects/36> (2015)

3.6 Implications for Macquarie Park

The configuration and composition of business parks is evolving. Macquarie Park is no exception. This change may be observed to occur on two fronts:

- **Inclusion of multi-use facilities**
Business parks are evolving to comprise a full offer of services facilities, successful business parks are observed to accommodate a range of uses, including medical, support business services, retail, recreational, residential, leisure and hotel accommodation.
- **Greater tenant emphasis placed on worker amenity and employee wellbeing**
Tenant requirements are evolving to place more importance on employee satisfaction and wellbeing, less on ESD and building sustainability. Access to gyms, swimming pools, green space, childcare facilities, affordable housing, etc. is becoming increasingly important. Tenant expectations are almost akin to replicating a CBD location.

Population and employment growth will increasingly put pressure on social infrastructure networks and provision, this is a given. The need for increased social infrastructure in Macquarie Park is driven on two fronts:

- New growth in Macquarie Park Corridor.
- Growing demand from occupiers in the business park to service workers and for employee satisfaction and wellbeing.

These two components of growth combined have significant and complex implications for Macquarie Park.

The relevance of the evolution of business parks and implications for Macquarie Park are investigated in Chapter 4.

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4. Macquarie Business Park: Evolution and Growth

4.1 Employment and Business Profile

4.1.1 Macquarie Business Park

Macquarie Park is a business precinct located just 12km north-west of the CBD, and is Sydney's second largest commercial office precinct after the Sydney CBD. Some of the growing list of tenants include: Microsoft, Sony, Optus, Johnson & Johnson and Goodman-Fielder.

Macquarie Park is continually evolving, over the past 20 years with the rezoning of 200 hectares of industrial land to create a thriving business centre. Macquarie Park is on the Chatswood to Epping Rail Line and a major stop for bus services from key centres such as Parramatta, North Sydney and Castle Hill.

The proposed Sydney Metro train line will connect to the proposed extension of the North West Rail Link at Chatswood, run under the city and connect to the Bankstown line at Sydenham. It's the first step in introducing next generation rapid, fast-service metro trains to Sydney CBD.

The park is accessible by car via the M2, M4, M7 and Lane Cove Tunnel. The Macquarie Centre also operates the Biz Park shuttle, which offers free transit between the Centre and around the business park.

Macquarie Park contains the following facilities and social infrastructure items that contribute to worker amenity, these include:

- Restaurants and cafés, retail facilities, i.e. Macquarie Centre.
- Fitness centres.
- Childcare centres.
- Public open space, i.e. Christie Park, Fontenoy Park, Tuckwell Park and Wilga Reserve.

This will be discussed in further detail in section 4.3.

4.1.2 Employment Profile

This section summarises key socio economic characteristics of Macquarie Park, combining different data sets, across various levels of geographies as outlined below:

Table 4.1: Data Sources

Data	Geography	Source
Employment by Industry	Macquarie Park Precinct/Ryde LGA	Bureau of Transport Statistics
Employment by Occupation	Macquarie Park Precinct/Ryde LGA	Bureau of Transport Statistics
Method of Transport to Work	Macquarie Park Precinct	Bureau of Transport Statistics
Employment by Income	Macquarie Park- Mansfield SA2/Ryde LGA	Bureau of Transport Statistics
Journey to Work (simple)	Macquarie Park Precinct	Bureau of Transport Statistics
Journey to Work (cross tabulated i.e. by origin by income, by origin by industry)	Ryde LGA	ABS

Source: AEC

Given that various databases have been utilised, totals from different datasets (i.e. employment by occupation, employment by industry) may not add up due to different rounding, statistical analysis and reporting techniques.

Employment Profile

Key employment data for Macquarie Park highlights that:

- Estimated employment of approximately 40,450 people in 2011.

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- Wholesale trade (22.0%), information, media telecommunications (19.4%) and professional scientific and technical services (18.8%) are the largest employers.
- Key occupations include professionals (38.2%), managers (21.7%) and clerical and administrative workers (17.3%) reflective of its industry profile.

Table 4.2: Employment Profile Overview, Macquarie Park Precinct

Indicator	Macquarie Park
Total Employment (Number)	
2011	40,475
Key Industries (2011, % of Total Employment)	
Wholesale Trade	22.0%
Information, Media Telecommunications	19.4%
Professional, Scientific and Technical Services	18.8%
Key Occupations (2011, % of total)	
Professionals	38.2%
Managers	21.7%
Clerical and Administrative Workers	17.3%
Average Income* (2011, dollars)	\$70,409

*Macquarie Park-Marfield SA2
Source: BTS (2014)

The following sections investigate at a finer grain the composition of employment.

Employment by Industry

In 2011, Macquarie Park employed 40,475 workers, representing approximately 54% of those employed (74,500) across the Ryde LGA, demonstrating Macquarie Park's significance to the Ryde local economy.

Wholesale trade (22.0%), information, media telecommunications (19.4%) and professional scientific and technical services (18.8%) are the largest employers. Other sectors represented in Macquarie Park include manufacturing (12.0%), retail trade (6.3%) and health care and social assistance (6.0%). This highlights a broad industry mix, comprising white collar, blue collar and service based industries, though with a larger concentration of white collar dominated industries.

The Ryde LGA comprises an even broader industry mix, and in particular a larger proportion of workers in education and training and health care and social assistance.

Table 4.3: Employment by Industry, 2011 (19 Sector – 1-Digit ANZSIC)

Industry	Macquarie Park		Ryde LGA	
	Employment	% of Total	Employment	% of Total
Agriculture, Forestry and Fishing	29	0.1%	48	0.1%
Mining	44	0.1%	60	0.1%
Manufacturing	4,844	12.0%	6,787	9.1%
Electricity, Gas, Water and Waste Services	34	0.1%	378	0.5%
Construction	1,720	4.2%	3,879	5.2%
Wholesale Trade	8,923	22.0%	10,825	14.5%
Retail Trade	2,561	6.3%	5,999	8.0%
Accommodation and Food Services	848	2.1%	3,035	4.1%
Transport, Postal and Warehousing	265	0.7%	864	1.2%
Information Media and Telecommunications	7,860	19.4%	8,234	11.0%
Financial and Insurance Services	502	1.2%	964	1.3%
Rental, Hiring and Real Estate Services	352	0.9%	867	1.2%
Professional, Scientific and Technical Services	7,596	18.8%	10,221	13.7%
Administrative and Support Services	959	2.4%	2,087	2.8%
Public Administration and Safety	285	0.7%	2,210	3.0%
Education and Training	283	0.7%	6,782	9.1%
Health Care and Social Assistance	2,438	6.0%	8,453	11.3%

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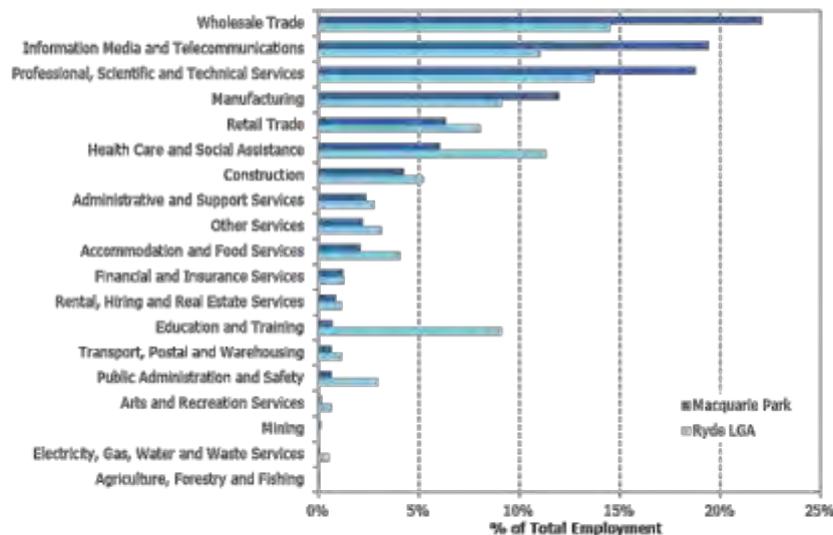


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Industry	Macquarie Park		Ryde LGA	
	Employment	% of Total	Employment	% of Total
Arts and Recreation Services	61	0.2%	492	0.7%
Other Services	890	2.2%	2,344	3.1%
Total	40,475	100.0%	74,527	100.0%

Note: Totals may not add up to other BTS tables due to different databases utilised and rounding.
Source: BTS (2014)

Figure 4.1: Employment by Industry, Macquarie Park and Ryde LGA, 2011



Note: Place of Work Data.
Source: BTS (2014)

Employment by Occupation

The employment profile of Macquarie Park primarily comprises professionals (38.2%), managers (21.7%) and clerical and administrative workers (17.3%), reflecting a large representation of jobs across white collar dominated industries such as professionals, scientific and technical services. With a broader industry mix the larger Ryde LGA is also represented by a more balanced employment by occupation mix.

Table 4.4: Employment by Occupation, 2011 (1-digit ANZSIC)

Occupation	Macquarie Park		Ryde LGA	
	No.	%	No.	%
Managers	8,776	21.7%	13,101	17.6%
Professionals	15,455	38.2%	25,993	34.9%
Technicians and Trades Workers	4,001	9.9%	7,836	10.5%
Community and Personal Service Workers	759	1.9%	4,773	6.4%
Clerical and Administrative Workers	7,001	17.3%	11,901	16.0%
Sales Workers	2,943	7.3%	5,785	7.8%
Machinery Operators and Drivers	606	1.5%	1,883	2.5%
Labourers	939	2.3%	3,258	4.4%
Total	40,479	100.0%	74,530	100.0%

Note: Totals may not add up to other BTS tables due to different databases utilised and rounding.
Source: BTS (2014)

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Average Income

The average yearly income in the Macquarie Park-Marsfield SA2 (\$70,409) is higher than that across Ryde LGA (\$64,445) in 2011, given larger proportion of workers with a yearly income of \$104,000+ (highest income range bracket), respectively 27.3% in the former and 22.4% in the latter. This is primarily expected to be influenced by a larger presence of white collar industries across Macquarie Park-Marsfield SA2, such as across professional, scientific and technical services, which often are associated with higher incomes.

Table 4.5: Income, Place of Work, 2011

Income	Macquarie Park - Marsfield SA2	Ryde LGA
	Percentage (%)	Percentage (%)
\$0-\$7,799	3.2%	4.4%
\$7,800-\$12,999	2.1%	3.0%
\$13,000-\$20,799	2.5%	3.5%
\$20,800-\$31,199	5.7%	8.0%
\$31,200-\$41,599	8.5%	10.4%
\$41,600-\$51,999	9.9%	10.7%
\$52,000-\$67,599	12.1%	12.1%
\$67,600-\$83,199	11.4%	10.4%
\$83,200-\$103,999	17.3%	15.1%
\$104,000 or more	27.3%	22.4%
Total (%)	100.0%	100.0%
Average Income	\$70,409	\$64,445

Notes: average income differs to that identified in 'Journey to Work' given the different level of geographies (Macquarie Park-Marsfield SA2/Ryde LGA) and sources (BTS/ABS respectively) used
Source: BTS (2014)

Macquarie Park comprises a broad industry mix, however with a relatively high concentration of white collar dominated industries, such as professional, scientific and technical services and information, media and telecommunications. Therefore, this leads to a higher proportion of white collar occupations, such as professionals and managers, as well as considerably high incomes.

The industry mix provides good growth prospects for employment, with many white collar sectors forecast to grow significantly in Australia over the medium to long term.

Significantly, the ability to attract and retain a skilled local labour force is crucial in promoting investment and attracting additional such businesses to Macquarie Park.

4.1.3 Where Workers Live

Journey to work analysis answers key questions about commuting workers, such as: how many workers commute to a particular area, where they live, what industries they work in. Such analysis is useful, having significant implications for town planning, dwelling requirements, infrastructure demand, demand for retail and office space, employment land uses and many other aspects of a local/regional economy.

Journey to work data has been applied to Macquarie Park precinct to understand the flow of workers to the precinct and method of transport utilised.

- Macquarie Park comprises a low proportion of workers who live in the catchment LGA (Ryde LGA), with only 10.7% of employees working in the precinct also living in Ryde LGA.
- As such, nearly 90 out of every 100 workers employed in Macquarie Park are commuting to work from outside the Ryde LGA. Therefore, the LGA has potential to improve its containment rate and employ a larger proportion of residents living in the local area, to reduce commuting times and pressure on the road system.
- Approximately an additional 35% of workers in Macquarie Park commute from surrounding LGAs, implying relatively short commuting patterns for these workers. However, 55% of workers commute from LGAs further afield implying longer commutes.

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- The majority of workers rely on private vehicle transport to get to work, with approximately two thirds of workers travelling by car. Approximately 20% of workers take public transport to work, with opportunities to increase public transportation accessibility for workers travelling to Macquarie Park.

Table 4.6 outlines the origin of Macquarie Park workers, categorising them by the top 10 local government areas and indicating that only 10% of Macquarie Park workers live in the Ryde LGA.

Table 4.6: Movement to Macquarie Park, 2011

Origin LGA	No.	% of Total
Ryde	4,330	10.7%
Hornsby	3,800	9.4%
The Hills Shire	2,998	7.4%
Blacktown	2,686	6.6%
Parramatta	2,441	6.0%
Ku-ring-gal	2,128	5.3%
Warringah	1,514	3.7%
Sydney	1,470	3.6%
Willoughby	1,234	3.0%
North Sydney	1,206	3.0%
Other LGAs	16,679	41.2%
Total	40,487	100.0%

Note: Totals may not add up to other BTS tables due to different databases utilised and rounding.
Source: BTS (2014)

Table 4.7: Method of Transport to Work, Macquarie Park 2011

Method of Travel	No.	% of Total
Car as driver	26,528	65.5%
Train	5,372	13.3%
Did not go to work	2,412	6.0%
Bus	2,208	5.5%
Car as passenger	1,612	4.0%
Other	2,343	5.8%
Total	40,475	100.0%

Note: Totals may not add up to other BTS tables due to different databases utilised and rounding.
Source: BTS (2014)

A large proportion of commuters to Ryde LGA are employed in white collar dominated industries such as professional, scientific and technical services and are employed as professionals and managers. The majority of commuters have also high incomes and are well educated.

In particular, journey to work analysis highlights that a higher proportion of those commuting to Ryde LGA are employed as professionals and managers, have higher incomes and are more educated than workers residing in Ryde LGA. Accordingly, even though there is a large proportion of highly paid jobs and a large proportion of white collar positions in Ryde LGA (and Macquarie Park), most of these appear to be better 'suited' to the socio-economic profile of commuters than residents itself.

This is further emphasised by relatively low containment rates, with most LGA residents commuting to work outside. This suggests potential implications for housing affordability for local workers.

4.2 Future Employment and Residential Growth

The completion of the Epping to Chatswood Rail Link in 2009 resulted in the opening of three new stations, i.e. North Ryde, Macquarie Park and Macquarie University. Delivery of the 13km underground line also included a rebuild of the Chatswood Interchange, a major upgrade of Epping station, upgrade of the North Sydney station and new substations at Waverton and Beecroft.

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Since that time, Macquarie Park and its surrounds have been on a new growth trajectory. Some 215,000sqm of new office space has been completed since January 2009, adding to a total of 866,480sqm of total office space (PCA, 2015). Residential dwelling growth has also been strong, driven by the increased appeal of the area (and the desire for workers to live close to their place of employment) as well as Macquarie University's enrolment activity.

Future employment and residential growth expectations are equally strong with coordinated planning by state and local governments, leading to significant projects in the pipeline.

Growth Projections

The NSW Bureau of Transport Statistics (BTS) provides population and employment projections for both small area geographies and large geographies i.e. an LGA. Table 4.8 identifies population and employment projections for the Macquarie Park Business Park benchmarked against the Ryde LGA. Both the resident population and number of employees are expected to grow significantly toward 2031.

Table 4.8: Growth Projections, Macquarie Park, 2011-2031

	2011	2016	2021	2026	2031	Change, 2011-2031	
						No.	%
Residential Projections*							
Macquarie Park	1,997	2,523	5,373	11,987	17,355	15,358	769.10%
Ryde LGA	108,712	117,392	128,638	140,570	153,018	44,306	40.80%
Employment Projections**							
Macquarie Park	45,837	49,132	51,925	55,218	58,709	12,872	28.10%
Ryde LGA	84,378	90,938	96,801	103,261	109,973	25,595	30.30%

Source: BTS, 2014

* BTS has included North Ryde PP (The PP should provide around 3,000 homes (or approximately 8,000 persons) and Herring Road PP (strong residential development post 2021 is assumed in these three Herring Road travel zones).

**The BTS has factored an additional 500 jobs every 5 years to reflect the expansion of the Macquarie Park Shopping Centre (additional 16,000sqm of floorspace). The Herring Road Priority Precinct has also been factored in and includes an adjustment of 500 additional jobs every year to reflect the growth anticipated for the precinct.

Broadly, Macquarie Park's continued growth will be driven on three key fronts:

- Commercial development and growth in the business park and commercial core.
- Residential development in the priority precincts.
- Macquarie University's expansion plans.

Each of these components of growth are discussed in the following sections.

4.2.1 Macquarie Business Park

There are a range of commercial developments in the pipeline which are at various stages in the approval process.

There is approximately 455,286sqm of commercial/retail floorspace in the pipeline, these proposals range from commercial buildings, mixed use buildings to hotels. Key developments include:

- Macquarie Park Commerce Centre at 396 Land Cove Road
Proposal for 17 storey retail/commercial building containing 83,368sqm of floorspace.
- 120-128 Herring Road
Proposal for 45,718sqm of retail/commercial floorspace.
- 110-114 Herring Road
Stamford Hotel has submitted a Concept Plan Approval for redevelopment into a hotel containing 51,139sqm of floorspace.

A list of the developments in the pipeline is contained in Appendix B.

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4.2.2 Herring Road Priority Precinct

The Herring Road Urban Activation Precinct (now termed Priority Precinct) was announced by DPE in January 2013 with significant investigations since then into its potential to increase local housing supply and deliver up to 2,400 new homes by 2021 and up to 5,400 by 2031.

The area of the priority precinct includes the Macquarie Shopping Centre, Macquarie University and Ivanhoe Estate, located to the northwest of the Macquarie Business Park.

Figure 4.2: Herring Road Priority Precinct



Source: DPE (2014b)

A suite of planning reports was publicly exhibited in June 2014 outlining the proposal for revitalisation. The indicative structure plan illustrates a mix of land uses and activities possible for the Herring Road precinct, which are proposed to be delivered using the 'B4 Mixed Use' zone and floorspace ratios ranging from FSR 2.5:1 to FSR 4.5:1 and with building heights up to 120m.

The proposal envisages redevelopment for medium to high density housing that could achieve up to 5,400 new dwellings by 2031.

Figure 4.3 depicts the future land uses envisaged for the Herring Road Priority Precinct.

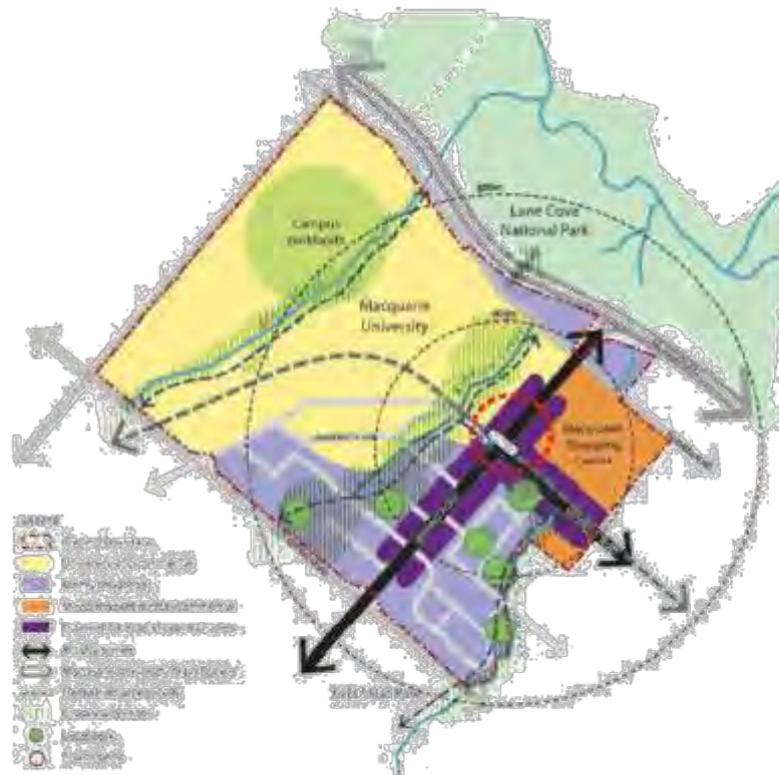
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Figure 4.3: Herring Road Priority Precinct Future Land Uses



Source: DPE (2014b)

The Herring Road UAP proposal (DPE, 2014b) envisages key opportunities to improve both access to and quality of open space in the Herring Road precinct to include:

- Remove barriers and create connections to ensure existing open space areas are more accessible.
- Enhance the open space and environmental qualities of existing creek corridors.
- Enhance and embellish existing local open spaces with new facilities, such as Wilga Park and Elouera Reserve.
- As precinct redevelopment occurs, provide new public open spaces where gaps in provision exist.

Submissions have closed and DPE is undertaking work to address and respond to submissions received.

4.2.3 North Ryde Station Priority Precinct

The North Ryde Station Urban Activation Precinct (now termed Priority Precinct) was announced in the 2012-13 NSW Budget and is currently advanced in its planning. A finalisation report has been produced by DPE and the Minister for Planning and Infrastructure has endorsed the rezoning and planning controls for the precinct.

The rezoning of 12.5ha of land around North Ryde Station will enable up to 3,000 new homes and 1,500 new jobs to be created within a 10 minute walk of North Ryde station.

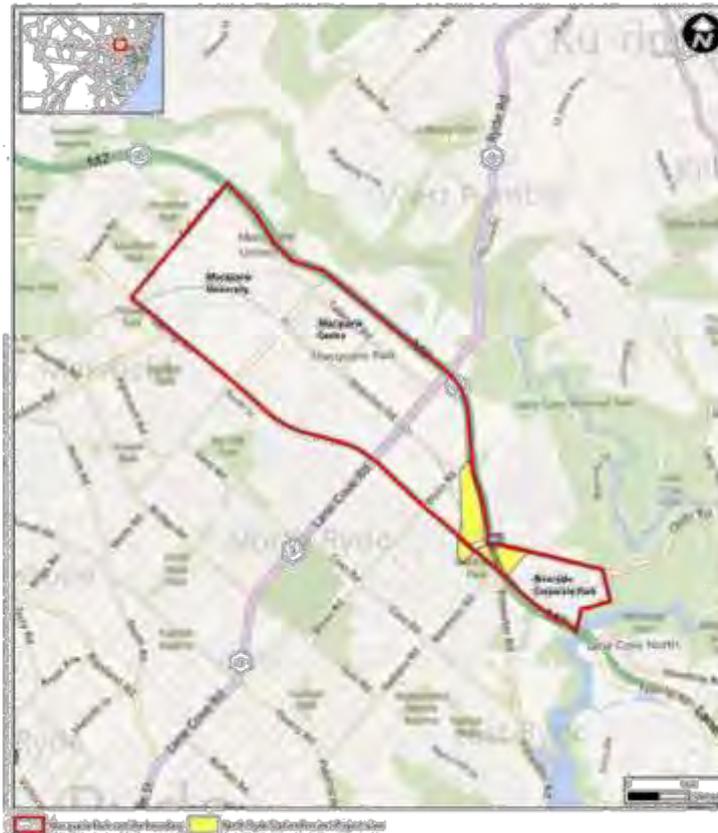
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Figure 4.4: North Ryde Priority Precinct



Source: DPE (2013)

The following is envisaged for the precinct:

- More than 2.4ha of parks and open space, i.e. 20% of the precinct.
- More than \$17million in transport upgrades
- Precinct Support Scheme funding towards public domain and community infrastructure works.
- Public plazas and a multi-purpose community facility.

As part of the investigations into the precinct's potential for revitalisation, a social infrastructure assessment (DPI, 2013) investigated demand for community infrastructure as a result of anticipated population growth. The following were identified as required:

- New school - the isolated nature of the precinct was recognised as unsuitable for a new school location (as agreed with the Department of Communities). Rather, the additional demand for school places should be addressed through the upgrade of existing schools in the area which have the capacity for additional enrolments.
- The implementation of proposed pedestrian and cycle ways within the precinct is critical to achieve the full connectivity benefits as envisaged.
- Childcare services within the Ryde LGA generally.

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4.2.4 Macquarie University

Since its founding in 1964, Macquarie University has grown to accommodate nearly 40,000 students. Its connection with Macquarie Park is still strong as it formed the initial catalyst for development of the business park (refer to section 2.3.1).

The university occupies a 126ha campus and is renowned for accommodating the most high-tech university library in Australia.

Macquarie University's growth over the last decade has been strong, with growth in the 2003-2010 period among the highest of Australian universities (refer to Table 4.9).

Table 4.9: Australian University Growth, 2003-2010 (EFTSL)

University	2003	2004	2005	2006	2007	2008	2009	2010	Growth
RMIT University	27,381	28,061	28,128	30,323	32,001	34,588	36,087	38,624	41.1%
University of Wollongong	15,000	15,290	16,291	15,859	16,351	17,408	19,171	20,737	38.2%
Griffith University	23,364	23,789	24,992	25,729	26,693	27,743	30,006	31,902	36.5%
University of Newcastle	17,401	17,255	17,605	17,804	18,779	20,058	21,930	23,417	34.6%
University of NSW	29,341	27,907	27,051	27,289	30,404	32,329	33,845	36,665	25.0%
Monash University	38,833	40,552	40,429	40,576	41,665	42,826	46,195	48,518	24.9%
La Trobe University	20,664	20,781	20,293	21,439	21,953	22,386	23,548	25,102	21.5%
University of Queensland	29,391	29,329	28,955	29,066	29,339	29,803	32,047	34,932	18.9%
University of Technology Sydney	21,076	21,694	21,997	23,090	22,800	22,887	23,960	24,511	16.3%
Queensland University of Technology	28,187	28,314	27,632	27,546	28,551	28,896	30,144	31,144	10.5%
University of Melbourne	32,869	33,612	33,713	33,949	34,696	35,488	35,887	36,566	11.2%
University of Sydney	36,640	36,589	36,024	35,582	36,132	37,165	38,743	39,711	8.4%
Macquarie University	18,988	19,677	19,891	20,788	21,408	22,480	24,882	26,661	40.4%

Note: Equivalent Full Time Student Load.
Source: MQU (2014)

Macquarie University has significant future expansion plans. A concept plan was approved for 400,000sqm of additional commercial gross floor area outside of the Academic Core. In addition it allows for the provision of an additional 61,200sqm of academic gross floor area within the Academic Core and an additional 3,450 beds within the University Housing Precinct for University purposes.

Following the approval of the concept plan in 2009, a Masterplan is in place to guide future development and expansion of the University campus.

Continued growth of Macquarie University has significant economic benefits for Macquarie Park and the City of Ryde. New enrolments, and increased teaching and research activities will create employment opportunities and contribute to the local economy. Equally important will be the 'lifting' of Macquarie Park's profile.

4.3 Provision of and Planning for Social Infrastructure

It is well accepted that population growth drives the need for social infrastructure provision. As the resident population grows so too does demand for social infrastructure. Industry benchmarks based on residential population thresholds are often used for estimating the need for open space and community facilities.

In addition to residential-driven demand, increasingly, employment hubs such as business parks are responding to demand from employers and employees for amenities such as recreational and childcare facilities.

Whilst there is an abundance of literature on the relationship between residents and social infrastructure need, there appears to be a gap with regard to worker and social infrastructure need.

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Planning Benchmarks

A common way of ascertaining social infrastructure requirements is by using planning benchmarks. There are some broadly accepted standards with regard to open space and social infrastructure which are widely used. However, there are two main challenges with using these standards.

- They have been developed to identify demand generated by residents, rather than employees.
- They are generic in nature and accordingly there are limitations with the standards themselves and how they have been derived.

In NSW the 'fixed' standard of 2.83ha of open space per 1,000 people is often applied. However, it should be noted that this standard is derived from the British seven acres per 1,000 residents standard from the early 1900's, which is considered to be outdated for contemporary planning, as it largely ignores that different types of open space is required to accommodate different needs.

The NSW Department of Planning conducted a study which found that the simple fixed, quantitative standard should be treated with caution given observed rates of provision in the different parts of metropolitan Sydney (see Table 4.10).

The table shows that about 5% of inner urban Sydney is classified as open space. If the 2.83 ha per 1,000 people standard was applied about 16% of inner urban Sydney would be devoted to open space. The reality is that the residents of inner urban Sydney have access to a range of recreational and leisure opportunities that the existing open space assets (including high quality urban public spaces and harbour and beach foreshores) manage to deliver (though there may be some pressure on outdoor sports areas).

In contrast, in suburban inner areas average actual provision is equivalent to the standard-derived provision while suburban outer areas demonstrate a reverse situation. Macquarie Park is considered a 'middle ring suburb' and hence a cross between the quoted "suburban inner" and "suburban outer" as depicted below.

Table 4.10: Comparison of Actual Provision v Standard-derived Provision

Geographical Context	Percentage of Urban Residential Areas	
	Average Actual Provision	Provision based on 2.83ha/1,000 persons
Inner urban	5%	16%
Suburban inner	10%	10%
Suburban outer	26%	8%

Source: DoP, 2010

With regard to social infrastructure the NSW Department of Planning & Environment has two sets of standards to estimate demand for social infrastructure. These include:

- Growth Centres Commission Development Code (2006).
- NSW Department of Planning and Infrastructure - Draft Development Contributions Guidelines (2009).

Like the open space standards described above, these standards have been developed to estimate demand for social infrastructure generated by the resident rather than worker population. The social infrastructure standards are outlined in Appendix C.

Chapter 3 outlined the evolution of business parks to incorporate a varied and mix of uses as the proportion of office space in business parks increases and occupier/tenant requirements evolve to demand more worker amenity and access to social infrastructure. Flexible and inviting workplaces that are not only engaging within but engaging with the surrounding public domain are highly valued by businesses and occupiers.

It would appear that open space and social infrastructure standards have failed to keep pace with the evolution of business parks and the increase in amenity and social infrastructure requirements of businesses/employees.

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4.3.1 Current Provision

At present, Macquarie Park is provided with a range of social infrastructure items, this includes:

- Public open space:
 - **Christie Park**
Christie Park features floodlit soccer fields with a grandstand, BBQ areas and canteen.
 - **Fontenoy Park**
A large soccer field popular for corporate sports events as well as a playground.
 - **Tuckwell Park**
Used for corporate sport events and features a large soccer field, half a basketball court and a playground for children.
 - **Wilga Reserve**
Large grassed area surrounded by bushland and located along picturesque Shrimpton's Creek. It offers a picnic shelter, cycle path and walking track.
- Other social infrastructure items:
 - **Childcare facilities**
There are approximately 10 childcare centres in the business park.
 - **Gyms and Fitness Centres**
These include the Macquarie University Sports and Aquatic Centre, Upper Limits Health and Fitness, Fitness First and Good Vibes Gym.

Discussions with leasing agents active in Macquarie Park affirm the findings of section 3.4), suggesting that over the last 4-5 years a distinct transition is observed in tenant requirements for worker amenity.

- Businesses seek out the following facilities as part of their leasing requirements, including: showers, bike racks, gym, cafes, etc. Some occupiers such as Goodman have an employee-only gym located within their building.
- Occupiers are increasingly seeking end of trip services, i.e. showers and bike racks.
- Larger occupiers have specific requirements for worker amenity and employee wellbeing (as outlined in section 3.4), e.g. access to green space, childcare facilities, gyms.

Anecdotal feedback suggests that broadly speaking, businesses are presently able to have their worker amenity requirements met in Macquarie Park, however, this need will undoubtedly increase commensurate with employment and population growth.

4.3.2 Planning for the Future

Ryde Council has undertaken analysis of current open space and childcare provision in the LGA. The findings of this research are outlined below.

Public Open Space

According to the Ryde Integrated Open Space Plan (Ryde Council, 2012), the Ryde LGA contains 355ha of open space while the suburb of Macquarie Park (which very closely aligns with the Macquarie Park Business Park) contains 17.6ha of open space. Figure 4.5 visually shows the quantum of open space in each suburb within the Ryde LGA.

Based on the standard of 2.83 ha per 1,000 people, the amount of open space currently required in the LGA is around **307.67ha** of open space. The LGA currently contains **355ha** of open space, so on the face of it would appear to be meeting resident population demand.

After considering the substantial population growth and employment growth expected to 2031 (additional 44,306 residents and 25,595 workers respectively), there is no doubt the Ryde LGA and indeed Macquarie Park will require more open space.

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The Open Space Plan suggests there is presently an open space deficiency in the Macquarie Park Corridor that will be exacerbated by planned growth. The Plan further indicates that **two new major reserves** suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park.

Figure 4.5: Ryde LGA Open Space Provision



Source: Ryde Council (2012)

Childcare Facilities

The City of Ryde is home to approximately 40 preschools (Ryde Council, 2015a) and long day care centres. The type of childcare provided varies and include: long day care centres, preschools, occasional care, playgroups and family day care.

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There are currently 7,521 children aged 0-5 in the Ryde LGA. Based on the Draft DPI standards (2009) this means there is need for 23 long day care facilities and 18 pre-schools. The LGA currently contains 40 childcare centres including both long day care centres and pre-schools.

The limitation of this analysis is that it only considers resident need. Considering the high proportion of Macquarie Park workers (90% or circa 32,000 workers) who commute from outside the Ryde LGA, the requirement for childcare facilities within the Macquarie Park business park speaks for itself.

Macquarie Park's ability to provide for social infrastructure and future sustainability are investigated in Chapter 5.

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5. The Future of Macquarie Business Park

5.1 Competitive Analysis

Macquarie Park is an important asset to the Ryde local economy, providing for and accommodating more than 50% of the LGA's total employment.

Macquarie Park's offer of large contiguous floorplates at competitive rents has attracted many blue chip tenants over the last decade, employment therein demonstrating high representation by the information, media & telecommunications and professional, scientific & technical services industries.

Key strengths of Macquarie Park include:

- Proximity to employees, suppliers, supplies and key markets.
- Location at the confluence of major roads including M2 Motorway, Epping Road and Lane Cove Road.
- Increasing profile and prestige with occupiers including major institutions, government agencies and corporations.
- Rail transport infrastructure with three train stations therein.

Macquarie Park has a higher employment reliance on a number of industries, including the information, media & telecommunications, wholesale trade and professional, scientific & technical services compared to the Ryde LGA and Australia.

Location Quotient Analysis

Location quotient analysis of employment by industry data for Macquarie Park confirms a high level of specialisation across a number of industries.

In order to demonstrate the specialisation of the economy, location quotients based on employment have been calculated. The location quotients (LQs) demonstrate the degree to which a local or regional economy is specialised by examining the proportion of employment (by industry sub-sector) compared to a large economy (Greater Sydney economy). Location quotients can be used to indicate strengths and weaknesses of a local or regional economy (i.e. its natural competitive advantage).

For this Study, the analysis has compared Macquarie Park-Marsfield Statistical Area 2 (SA2), Ryde LGA with the Greater Sydney Capital City economy.

A location quotient of "1" means that the economies being compared have an equal share of employment (compared to Greater Sydney) for a specific industry sector, this no potential advantage or disadvantage. A location quotient above "1" indicates a specialisation of labour and therefore an area of potential competitive advantage. A location quotient below "1", indicates the area is under-represented compared to the national economic structure in this particular industry sector.

The LQs suggest a local industry concentration (in Macquarie Park) in the following sectors:

- Information, media and telecommunications.
- Wholesale trade.
- Professional, scientific and technical services.
- Education and training.

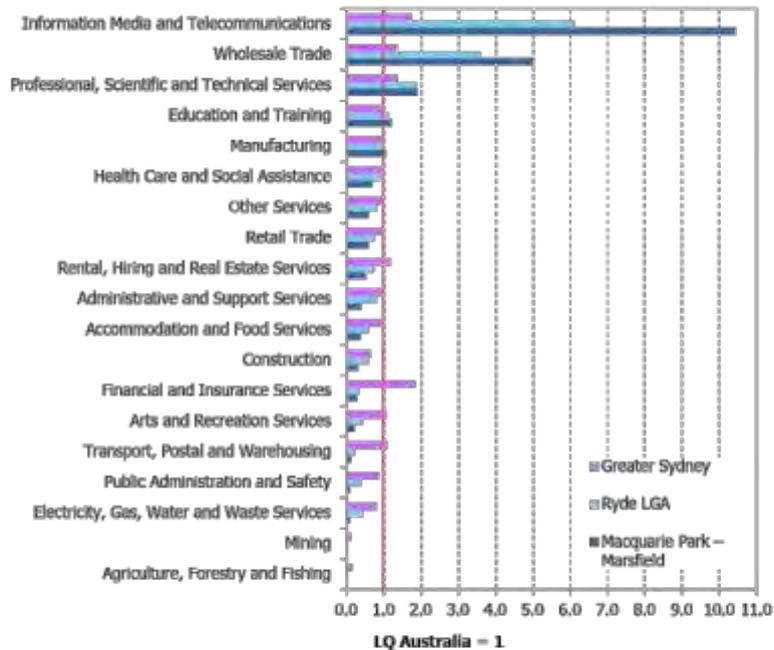
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Figure 5.1: Location Quotient Analysis (PoW, 2011)



Source: ABS (2012)

Macquarie Park has a clear specialisation in a diverse range of information media & telecommunications and wholesale trade activities.

Further disaggregation of information media & telecommunications and wholesale trade depict in greater detail the industry sub-sectors represented in Macquarie Park (refer to Figure 5.2 and Figure 5.3 respectively).

Within the information media & telecommunications sector, significant local specialisation in Macquarie Park exists in:

- Telecommunications Services.
- Broadcasting (except Internet).
- Internet Service Providers, Web Search Portals and Data Processing Services.
- Motion picture and sound recording activities.
- Publishing (except internet and music publishing).

Occupiers like Optus, Foxtel, TPG Internet are examples of industry businesses.

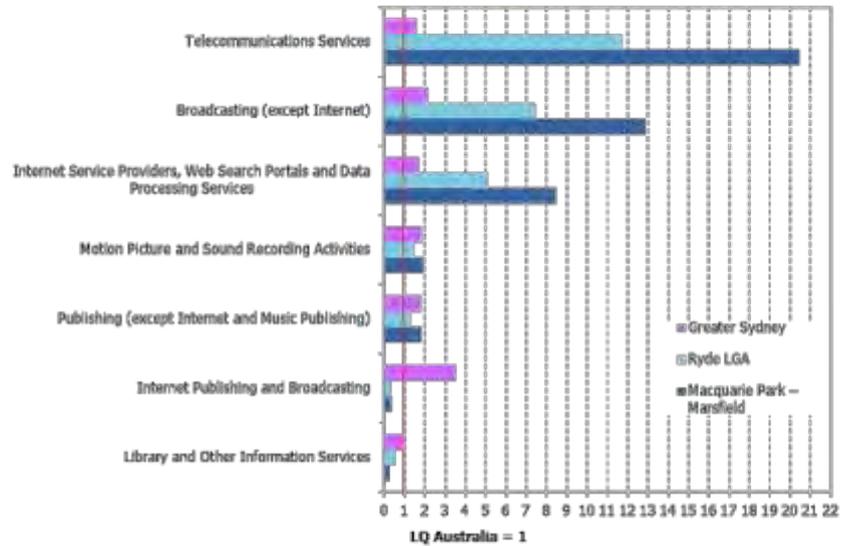
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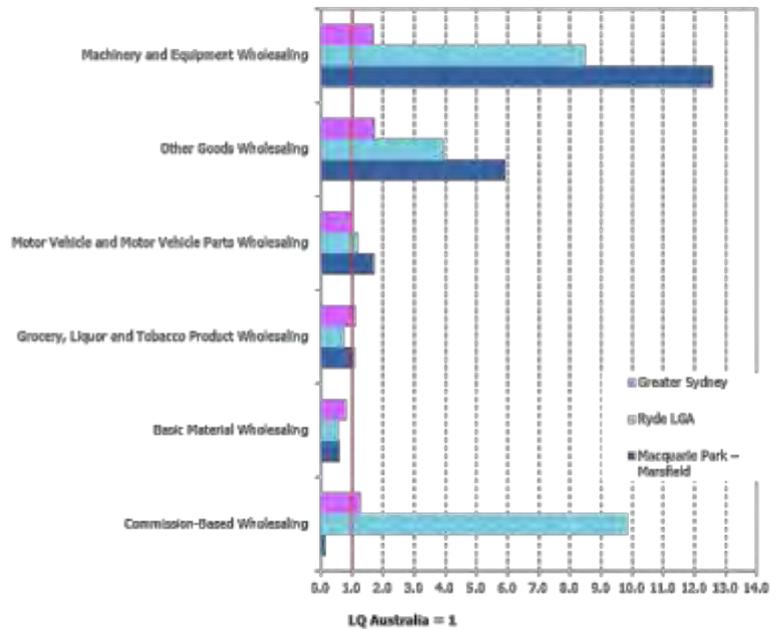
Figure 5.2: Location Quotient Analysis Information Media & Telecommunications (2 Digit PoW, 2011)



Source: ABS (2012)

Figure 5.3 depicts the wholesale trade industry location quotients in major sub-sectors.

Figure 5.3: Location Quotient Analysis Wholesale Trade (2 Digit PoW, 2011)



Source: ABS (2012)



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Within the wholesale trade sector, significant local specialisation exists in:

- Machinery and equipment wholesaling.
- Other goods wholesaling.
- Motor vehicle and motor vehicle parts wholesaling.

The focus on wholesale trade recognises the broader trends across the industrial sector in Australia, with a focus moving from often pure production or manufacturing to a larger focus on warehousing and logistics.

Macquarie Park has an opportunity to strengthen its role in accommodating employment for those key industries already highly represented, many of which are in the growth phase of their economic cycle.

As Australia continues its transition into an economy that is a net importer of goods, the wholesale trade industry will increase in importance as will the demand for floorspace.

5.2 Importance of Worker Amenity

The emphasis on worker amenity and employee satisfaction is growing and will, conceivably establish itself as a given just like building 'green sustainability' and ESD standards have. As business parks evolve to accommodate more office-based workers, this emphasis on worker amenity is only expected to increase.

Many office parks and business parks have declined in appeal as occupiers seek to ensure their employees are satisfied in their work environment and are consequently able to achieve high retention rates. There are numerous instances where office buildings have suffered from high vacancies and declining rents as tenants vacate in search of locations that offer better worker amenity and employee satisfaction. Examples include Pymble, Frenchs Forest, etc.

In the first instance, there is current unmet open space demand even before considering future demand generated by an increase in resident and worker population. The Ryde Integrated Open Space Plan (Ryde Council, 2012) suggests there is presently an open space deficiency in Macquarie Park Corridor that will be exacerbated by planned growth. The plan indicates that **two new major reserves** suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park.

There is clear demand for social infrastructure in Macquarie Park, brought about by changing tenant preferences as well as growth (including surrounding residential growth).

Considering the importance of support and social infrastructure as valued by businesses and occupiers - if allowed to grow, present unmet demand for open space could result in a stagnation of and eventual decline in market appeal.

Substantial private investment has been applied to premises in Macquarie Business Park. An objective of Council is no doubt to attract more private investment as it ensures Macquarie Park competes effectively with other locations.

5.3 Delivering Social and Required Infrastructure

The funding of public infrastructure has changed significantly over the past few decades, the burden shifting from government budgets to an array of public-private arrangements and user pays charges. The various methods of funding infrastructure are collectively known as the development contributions system, broadly including mechanisms such as s94 and s94A development contributions, affordable housing contributions, special infrastructure contributions and planning agreements.

As cities grow, policy makers and statutory planning authorities are faced with the challenge of ensuring infrastructure keeps pace with the needs of new residents and workers and that the right infrastructure is delivered in the right place and at the right time.

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5.3.1 Statutory Funding Mechanisms

Current statutory funding mechanisms are fairly rigid in their scope of application, in that only 'additional' demand resulting from new development can be funded via these mechanisms. Furthermore, development contributions in established areas were capped to \$20,000 per dwelling in 2008. Councils are able to apply for funding from the Priority Infrastructure Fund following an assessment of the contributions plan by the Independent Pricing and Regulatory Tribunal (IPART).

The main types of developer contributions that are applicable in NSW are:

- **Section 94 contributions**
Payable to local councils when development results in additional floorspace and presently capped at \$20,000 per dwelling in established areas and \$30,000 per dwelling in the growth centres.
- **Section 94A levies**
Levied as a percentage of development cost and payable to local councils.
- **Planning agreements**
Negotiated between a developer and consent authority, often where there is no contributions plan or if a change to planning controls is sought (e.g. land use zone, density).
- **Affordable housing levy**
Levy payable to council in designated areas where the availability of affordable housing is reduced or development results in a need for affordable housing.
- **Special infrastructure contribution**
Applicable in the growth centres.

Section 94 Contributions

Section 94 of the *Environmental Planning and Assessment Act 1979* covers the contribution of development towards local infrastructure provision.

Contributions paid under this regime are based on principles of reasonableness, nexus and fair apportionment of the cost of planned infrastructure to development. This model is generally used where development is occurring at a predictable pace and infrastructure needs can be reasonably foreseen and planned.

Costs of infrastructure are generally apportioned on the basis of estimated demand load on infrastructure or estimated benefit from public amenities and public services. Accordingly this form of contribution is a form of upfront (and estimates based) user pays charge.

The contributions are payable as a condition of development approval as a cash payment or if agreed, dedication of land or works-in-kind in lieu of cash payment. The manner of charging is based on the characteristics of development (such as land development or project / building development) and based on the selected unit of charge.

In order for s94 contributions to be charged, the relevant agency must prepare a Section 94 Contributions Plan which is generally based on the planning framework for an area and its associated population (residents and workers) estimates, development estimates and infrastructure needs. The cost of infrastructure is then apportioned to development sites using a method deemed reasonable for the circumstances, with the objective being to share costs fairly amongst benefiting developments or sites.

In the Ryde LGA, the following s94 development contributions are payable according to the type of development.

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Table 5.1: Summary of s94 Contribution Rates, City of Ryde

Local Facilities	Residential			Non-Residential	
	1 bedroom (/dwelling)	2 bedroom (/dwelling)	3 bedroom (/dwelling)	Commercial (/sqm GFA)	Retail (/sqm GFA)
Community and Cultural Facilities	\$2,218	\$2,662	\$3,208	\$39	\$19
Open Space and Recreation Facilities	\$8,899	\$10,678	\$12,868	-	-
Civic and Urban Improvements	\$1,145	\$1,374	\$1,655	\$38	\$19
Roads and Traffic Management Facilities	\$1,229	\$1,474	\$1,776	\$40	\$40
Cycleways	\$158	\$190	\$229	\$5	\$3
Stormwater Management Facilities	\$140	\$168	\$203	\$5	\$5
Plan Administration	\$43	\$51	\$62	\$1	\$1
Transport and Accessibility Facilities	-	-	-	-	-
Total	\$13,831	\$16,598	\$20,000	\$128	\$87

Source: Ryde Council, 2015b

Consistent with the comments in section 4.3 wherein community infrastructure planning standards typically only considers resident demand, demand for open space and recreation facilities by workers (i.e. associated with non-residential development) is **not provided for** in the City of Ryde's s94 Development Contributions Plan.

Ryde Council recognised the need to facilitate substantial new infrastructure (including new roads and open space) to address the needs of existing and future residents and workers in the Macquarie Park Corridor Planning Proposal (discussed further in section 5.3.2).

The limitations of current statutory funding mechanisms have been recognised by local governments, with an increasing role played by a range of incentive-based funding mechanisms to fund and deliver public domain and infrastructure works.

5.3.2 Incentive-based Infrastructure Funding Mechanisms

The use and role of incentive-based infrastructure funding mechanisms are important particularly where, owing to statutory limitations not all infrastructure can be funded by Section 94 contributions or Section 94A levies.

There are only a few incentive-based infrastructure funding mechanisms that are codified in NSW. Those few include Green Square Community Infrastructure contributions (formerly known as the Bonus FSR Contributions System) and Macquarie Park Bonus FSR Contributions scheme (still in draft).

Incentive-based infrastructure funding mechanisms are generally centred on incentive zoning provisions, which could include:

- Density bonuses and/or planning concessions in an LEP or SEPP.
- 'Capture' of planning gain/value uplift associated with a rezoning or increased density, typically negotiated as part of a planning agreement.

The City of Sydney adopted new planning controls and the Employment Lands Affordable Housing Program to allow for the transition of employment lands in Green Square to transition from traditional industrial uses to diverse business activity.

The Employment Lands Affordable Housing Program seeks to encourage the provision of affordable rental housing within the Green Square Employment Lands area and provides a framework for the implementation and operation of two approaches.

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- Application of a new levy to fund new affordable rental housing.
- Permissibility of residential uses subject to contribution to/delivery of affordable rental housing.

In many cases though, contributions to infrastructure are levied/collected on an ad hoc basis through planning agreements executed in conjunction with planning proposals for change of zone/use and/or change in density.

Green Square Community Infrastructure Floorspace (Sydney LEP 2012)

Part 6 Division 2 of the Sydney LEP 2012 provides for "additional floorspace" (previously known as bonus floorspace) outside Central Sydney in a number of circumstances. These include:

- In Green Square where community infrastructure is also provided, i.e. where development for the purposes of recreation areas, recreation facilities (indoor and outdoor), public roads, drainage or flood mitigation works is carried out.
- Commercial premises where 'end of journey floorspace' is also provided, e.g. showers, change rooms, lockers and bicycle storage areas.
- A building that demonstrates design excellence.

Additional floorspace provided in Green Square is subject to the City of Sydney's 'Development Guidelines – Providing Community Infrastructure in Green Square' (City of Sydney, 2012), referred to as "The Guidelines".

A development proposal incorporating floorspace additional to that permitted in the LEP must be acceptable in terms of environmental capacity, compliance with development controls and have little or no impact on adjoining properties and the surrounding area.

If acceptable on a merit assessment, a package of community infrastructure work must then be agreed with the City. The Sydney DCP identifies a range of community infrastructure (local infrastructure including public streets, pedestrian and bike networks and public open spaces) to be provided in conjunction with community infrastructure in Green Square.

Community infrastructure proposed must be acceptable to the City, and where there is no community infrastructure identified in the Sydney DCP within a site, the additional floorspace could still be achieved subject to the proponent contributing towards the delivery of other community infrastructure off the site but within Green Square.

The Guidelines provide clear direction on how the value of community infrastructure is to be assessed. A dollar rate is used to establish the value of the additional floorspace and package of community infrastructure to be delivered. This dollar value is then used to guide the community infrastructure package, i.e. the quantum of monetary or in-kind contributions to be made.

The dollar rates per square metre of additional floorspace are as follows:

- Residential - \$475/sqm additional floorspace.
- Retail - \$275/sqm additional floorspace.
- Other non-residential uses - \$200/sqm additional floorspace.

A voluntary planning agreement (VPA) is the legal instrument used for the City and proponent to come to mutual agreement on the additional floorspace and appropriateness of the community infrastructure package, the VPA to be prepared and executed as required by the *Environmental Planning and Assessment Act 1979* and *Environmental Planning and Assessment Regulation 2000*.

HISTORY AND PREMISE OF CONTRIBUTION RATES

The predecessor to Community Infrastructure Floorspace in Green Square is the Bonus FSR Contribution system. Following the adoption of South Sydney DCP (1997), an incentive system was put in place with base FSR and maximum FSR identified for the Green Square Urban Renewal Area.

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The difference between the base and maximum FSR is known as a 'bonus FSR, where developers were able to potentially achieve a bonus in exchange for delivering an appropriate package of works which would comprise infrastructure and/or public domain works.

Large scale renewal in Green Square commenced in the late 1990's with more than 7,000 dwellings completed in the 10 years from 2002 to 2012. Much development in Green Square over the period has been delivered utilising the bonus FSR provisions with significant public domain works funded and delivered through VPAs.

Macquarie Park Corridor Planning Proposal (Amendment to Ryde LEP 2013)

Ryde Council recognises that in order to facilitate growth and development in Macquarie Park, substantial new infrastructure (including new roads and open space) is required to address the needs of existing and future residents and workers.

As part of a suite of planning controls to guide evolution of the Macquarie Park Corridor, an incentive scheme is being introduced in the Ryde LEP 2013 (Amendment 1) Macquarie Park Corridor.

The proposed incentive scheme defers the availability of additional commercial FSR and height until an acceptable package of infrastructure contribution (monetary and/or in-kind) is negotiated between Council and the developer. Once agreed, the infrastructure contribution is incorporated and executed through the VPA process.

The operation of the incentive scheme is stated to be proposed by the NSW Parliamentary Counsel and is based on the Green Square Town Centre model (City of Ryde, 2013). Furthermore, it is considered to be the "best means of achieving the proposed infrastructure because the scheme is voluntary, feasible, low risk and complies with the Standard Instrument template.

INCENTIVE SCHEME/FUNDING MODEL

The incentive scheme is proposed to operate alongside the LEP controls, a landowner able to develop up to the 'base FSR' under the LEP without making any contributions. A landowner wishing to unlock the site's development potential is alternatively able to make the necessary contributions to access the incentive/bonus FSR.

The planning proposal states the principles that underpin the proposed incentive scheme to include:

- **Transparency**
A clear understanding of what infrastructure is to be funded and how contribution rates are calculated and applied to individual sites.
- **Equity**
Landowners must be convinced that the framework treats landowners fairly and that both infrastructure and incentives for development are based on equity and fairness.
- **Practical**
Implementation of the mechanism must be practical and occur in a timely fashion to avoid delays and provide certainty for commercial dealings.
- **Feasible**
The contributions must be reasonable and provide infrastructure without undermining development feasibility at each stage.

A multi-disciplinary team of consultants led by Architectus (urban designers, traffic planners, land economists and planners) was engaged by Council to prepare a feasibility assessment in relation to the planning incentives and to make recommendations to ensure Council could leverage proposed new open space and roads through the development process. Other aims of the review were to ensure equity and to provide certainty to the planning process.

Feasibility modelling established that approximately \$298/sqm of bonus FSR was required to fund the cost of the required infrastructure. Notwithstanding, the value of the bonus FSR was calculated at around \$500/sqm and hence a \$298/sqm contribution (60% capture of the bonus) was considered too high to provide adequate incentive for developers to take up the additional floorspace.

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Following extensive feasibility testing, Council set the maximum contribution at 50% of the capture of the value uplift, or \$250/sqm of additional commercial FSR.

Green Square Employment Lands Affordable Housing Program

The Employment Lands Affordable Housing Program (the Program) provides background, requirements and operational detail for the establishment of affordable rental housing, recognised as key social infrastructure "necessary to support sustainable employment growth and efficient business in the City of Sydney LGA" (City of Sydney, 2015).

The Program contains two approaches to encourage the provision of affordable rental housing and outlines the framework for the implementation and operation of these approaches.

• **Affordable housing levy**

All development within the Green Square Employment Lands are required to make a contribution towards affordable housing, either in-kind or monetary or both.

• **Permissibility of residential uses**

Two areas (termed "the investigation areas" within the Green Square Employment Lands have been identified as having the potential to be rezoned to allow residential uses (market housing) where changes to planning controls will result in public benefit, i.e. delivery of affordable rental housing.

A draft guideline document is prepared to guide the preparation of planning proposals for the rezoning of a site to allow for market housing as well as for increases in density (whether height and/or FSR).

Any proposed changes must have strategic planning merit, and have regard to a number of considerations, including:

- Consistency with the strategic objectives of the NSW Government and The City.
- Appropriateness of proposed uses.
- Suitability of the proposed built form for the site and surrounds.
- Resultant public benefit from change in planning controls.

The City recognises the cost associated with the permissibility of employment lands for residential uses and consequent displacement of business. Equally, The City also recognises the critical need for affordable housing resulting from the rezoning and urban renewal of the Green Square Employment Lands.

Without the provision of more affordable forms of housing, the market is expected to continue to produce more expensive housing in the area that will be beyond the financial capacity of lower income households, forcing these households to find accommodation further away.

The City has developed an innovative incentive-based mechanism that seeks to capture a portion of the value uplift created by the rezoning to deliver much needed affordable rental housing.

Central to the implementation of the Affordable Housing Program is acknowledgement that the ability of lower paid workers to secure affordable housing close to where they work is critical, and a continued and sustained shortage of affordable housing will undermine the sustainability of the Green Square Employment Lands.

5.3.3 Effectiveness of Different Infrastructure Funding Mechanisms

Statutory Mechanisms

Statutory mechanisms are aimed at facilitating the provision of 'incremental' infrastructure, i.e. as new development occurs.

• **Section 94 development contributions**

These contributions can only be imposed following the preparation of a contributions plan which details the local infrastructure needed and draws the nexus between

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Infrastructure need and new development. In recent years these contributions have been capped (\$20,000 in established areas and \$30,000 in greenfield areas).

- **Section 94A development levy**

This was introduced to allow development contributions to be levied in areas of sporadic development, e.g. regional areas where development is slow/sporadic and established urban areas where development is mainly 'infill' and sporadic in nature.

Imposition of a percentage levy on development does not require councils to prepare a contributions plan akin to s94, particularly due to the nexus required to be established under s94 between development and increased demand for public amenities and public services. A s94A development contributions plan is still required, and which outlines the priorities for the expenditure of the contributions with reference to a works schedule.

Statutory mechanisms are generally centred on the principle of inclusionary zoning, where mandatory contributions are 'included' for all development within a defined area.

These statutory mechanisms were designed to facilitate provision of local infrastructure on an incremental basis and are generally effective where new infrastructure need is predictable, easily identified and quantified.

They are less effective in circumstances of urban renewal development where the required infrastructure is less 'local' in nature and/or where existing infrastructure may require augmentation due to age or is inadequate by contemporary planning standards. It is for these reasons that many local councils are increasingly relying on incentive-based infrastructure funding mechanisms.

Incentive-based Mechanisms

Incentive-based Infrastructure funding mechanisms can be incredibly effective if conceived and implemented well, as demonstrated by the Green Square Community Infrastructure Floorspace (formerly known as the Green Square Bonus FSR System).

Since its implementation over a decade ago, significant public domain and community infrastructure works have been delivered in Green Square. Today, the Sydney DCP 2012 outlines a list of "community infrastructure" that can be delivered in exchange for, subject to a merits assessment, "additional floorspace" in Green Square. These community infrastructure items include public streets, pedestrian and bike networks and public open spaces.

The large scale renewal of Green Square (led by and cross-subsidised by the residential market) has been effective in delivering substantial amounts of community infrastructure. But for the permissibility of residential uses in Green Square, the rate of infrastructure delivery would conceivably have been much slower.

Most recently, the City of Sydney has recognised that the rezoning of the Green Square Employment Lands from industrial to mixed business uses will result in an increased need for affordable housing in the area. To this end, The City has put in place an incentive-based approach to procure affordable rental housing. This includes leveraging the residential market to cross-subsidise the provision of new affordable housing units.

The strength of the residential market in recent years has been unparalleled. This is due to a combination of factors, including a low supply period over the 2004-2008 period which resulted in severe pent-up demand. The strength of this property market has been harnessed effectively in Green Square where The City has obtained a significant level of public benefit in new and renewed infrastructure, and seeks to continue to do so for affordable housing outcomes in the employment lands.

Delivery of public benefit in areas that are non-residential in nature is expected to be more incremental and not to the same rate of delivery as witnessed in Green Square. The Macquarie Park Corridor Planning Proposal, whilst seeking to deliver similar infrastructure items as the Green Square Community Infrastructure Floorspace, will conceivably deliver infrastructure at a more moderate pace than witnessed in Green Square. 'Lumpy' infrastructure items such as large open spaces could take a long time to deliver.

Delivering infrastructure in areas experiencing rapid urban renewal and resultant population growth should have regard to:

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- Optimising the value of infrastructure from limited resources by ensuring these assets are flexible to adapt to changing needs over time.
- Keeping up with leading practice and emerging models of service and facility provision.
- Providing infrastructure for the range of needs of new communities, when it's needed.
- Applying standards and benchmarks in ways that produce practical, realistic and equitable outcomes for local, district and regional social infrastructure.

As infrastructure needs change (not just in quantum but also in their nature, e.g. where public open space was not considered to be required in employment areas like business parks but are now increasingly demanded by the market), funding mechanisms need to be able to respond. Current statutory mechanisms are limited in this respect.

In the case of Macquarie Park where employment and residential growth are expected to increase exponentially in the coming years, it is therefore crucial that any infrastructure funding mechanism implemented is effective in delivering needed infrastructure, including, *inter alia*, public open space, childcare facilities, affordable housing, etc. As identified earlier, the effectiveness of incentive-based mechanisms depends on the land use category that is expected to drive contributions as well as the rate of development.

5.4 A Strategy to Deliver Required Infrastructure

The nature and composition of business parks has changed over the last two decades. A range of land uses are now incorporated into business parks as worker convenience and amenity are of increasing importance to businesses and occupiers. Business parks are increasingly aspiring to provide the offer of a CBD location. The Macquarie Park business park is no exception.

The delivery of infrastructure on brownfield and infill sites is challenging due not only to already established lot and development patterns but also as sites are privately held. Unless there are commercial incentives in place, private landowners will not deliver community infrastructure or items of public benefit.

Council's s94 development contributions plan does not provide for public open space by non-residential development, implicit in this is the presumption that only residential users demand public open space. As indicated by contemporary tenant/occupier requirements, this presumption is incorrect. This demonstrates a case for an alternate strategy to deliver required and social infrastructure to ensure the sustainability of Macquarie Park.

Council has recognised the need to fund the delivery of new roads and public open space and has sought to do this via the Macquarie Park Corridor Planning Proposal wherein bonus floorspace can be granted to proponents who deliver an acceptable package of infrastructure works.

The intention of Council's incentive-based infrastructure funding mechanism (still in draft) is commendable - a hybrid of the Green Square Bonus FSR Contributions System and the Green Square Town Centre delivery model of infrastructure.

Given that this mechanism is predicated on **bonus commercial** floorspace, the rate of 'bonus' development (beyond the base FSR in the LEP) is expected to be **much more moderate** than (residential) development in Green Square. Accordingly, the receipt of contributions towards infrastructure will be commensurate.

This rate of development is also expected to be **slower** than those in Herring Road and North Ryde Priority Precincts. This has direct implications for the quantum and rate of contribution towards infrastructure, especially if development in the priority precincts outstrips the delivery of infrastructure in Macquarie Park.

In order to address the difficulties associated with delivering infrastructure in a timely manner, a planning strategy to deliver required and social infrastructure in Macquarie Park is needed.

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Architectus has developed a strategic framework for the delivery of key items of social infrastructure in Macquarie Park. As is observed in Green Square Urban Renewal Area and Green Square Employment Lands, delivery of key infrastructure seeks to leverage the residential property market.

This framework recommends residential permissibility in the B3 Commercial Core and B7 Business Park zones subject to delivery of acceptable package of infrastructure works. This planning strategy is discussed in the next chapter.

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6. Accommodating Future Growth

6.1 Pressures of Growth on Existing Infrastructure

Our research suggests there is growing pressure on existing social infrastructure and open space networks in Macquarie Park. This is brought about on several fronts, new growth as well as current requirements which are evolving:

- **New Residents and Workers**

The NSW Bureau of Transport Statistics forecasts that the population in Macquarie Park will increase by 15,358 persons and increase by 12,872 employees towards 2031. There are a number of commercial development applications in the pipeline for Macquarie Park, totalling more than 450,000sqm of commercial floorspace.

- **Changing Requirements of Tenants**

Business parks have transitioned from warehousing and light manufacturing to include office uses. As a result of the increasing amount of office space located in business parks the demands of business park users are changing, increasingly they are seeking business parks which contain restaurants, banks and travel agencies, recreational facilities and open space. In many ways the amenity offer of business parks attempts to replicate that of a CBD.

Low crime, access to healthcare, housing, schools and recreational opportunities as well as cost of housing featured prominently in survey of businesses and provides insights into the type of quality of life factors that can impact business investment decisions.

As building sustainability and ESD standards are now well accepted, tenants and occupiers are increasingly focusing on worker satisfaction and employee wellbeing.

Research suggests that both the use of greenspace and visual access to them supports employee wellbeing. Studies have gathered employee data and applied them in multiple regression analysis, finding that higher subjective wellbeing and job satisfaction at work are positively related to job performance, productivity, and organisational citizenship. These have positive implications for economic benefits.

Spaces that are engaging, flexible and promote healthy living are keenly sought after. Facilities such as gyms, childcare centres, public open space and end-of-journey amenities are, where possible provided on-site.

As a net importer of skilled labour (90% of workers in Macquarie Park do not live in the Ryde LGA), there is conceivably a need for childcare facilities to be provided within the business park itself as well as affordable housing close by.

- **Obsolete Planning Standards**

Open space and social infrastructure standards have failed to keep pace with the evolution of business parks and the social infrastructure requirements of employees. These requirements are notably different from those demanded by residents and as such benchmarks are not aligned to estimating demand generated by workers. This has been carried over to the funding of local infrastructure, Ryde Council's s94 development contributions plan only levying contributions for open space on *new residential* development only.

Ryde Integrated Open Space Plan (Ryde Council, 2012) suggests there is presently an open space deficiency in the Macquarie Park Corridor that will be exacerbated by planned growth. The same plan indicates that two new major reserves suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park.

6.2 Delivering and Funding Infrastructure on Brownfield Sites

As established areas undergo renewal and growth it is a challenge for policy makers and planning authorities to ensure that required and social infrastructure not only keeps pace but is suitable to accommodate changes in infrastructure need.

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The limitations of statutory funding mechanisms (s94 and s94A) are acknowledged, in that they are mostly designed to provide for new local infrastructure directly associated with new development. These mechanisms are less suited to providing for infrastructure needed in urban renewal areas, i.e. where ageing and obsolete infrastructure no longer meets demand and/or provision requires augmentation due to changing planning standards.

Major drivers of the need for augmentation of social infrastructure (i.e. public open space, childcare facilities, affordable housing) in Macquarie Park are:

- Contemporary tenant/occupier requirements.
- Anticipated residential growth in the nearby priority precincts.

There is presently no mechanism to fund the provision of public open space in Macquarie Business Park (no provision in s94 contributions plan and the Macquarie Park Corridor Planning Proposal which is still in draft).

When Amendment 1 to the Ryde LEP 2013 is effected, proponents of bonus floorspace in Macquarie Park will be required to deliver items of infrastructure including new roads and open space. At current contribution rates (\$250/sqm of bonus FSR), the contributions received and subsequent delivery of identified infrastructure could conceivably be at a slow pace, given that these are dependent on industry take-up of bonus commercial floorspace.

In an environment where tenant/occupier requirements for employee satisfaction and wellbeing are distinct and substantial residential growth is expected to occur, the need for additional public open space and other social infrastructure is clear.

Importantly, delivery of these infrastructure items needs to keep pace with said demand. In line with the analysis in section 5.3.3, cross-subsidisation by residential uses (subject to environmental and planning capacity) is necessary for large scale delivery of infrastructure.

In order to address the difficulties associated with delivering infrastructure in a timely manner, a planning strategy to deliver social infrastructure in Macquarie Park is needed.

Planning Strategy by Architectus

Architectus has developed a strategic planning framework which recommends that Council permit residential uses in the B3 and B7 Zones in Macquarie Park, but only where certain open space can be delivered. This should be done by a rezoning, and subject to an agreement being in place between Council and the owner for the delivery of the new park to Council's reasonable requirements.

Under this framework, Council could consider a rezoning application for sites that can achieve **ALL** of the following criteria.

- **Public open space**
Provide either new open space shown in the Draft Macquarie Park DCP 2014 or a new 1 hectare minimum public open space, designed to Council's reasonable requirements.
Where a site proposes to deliver the 1 hectare minimum open space, the site must be larger than 3 hectares, thereby allowing for a 2 hectare development site for mixed uses.
The open space must have a frontage to a major road (Waterloo Road, Talavera Road, Wicks Road or Herring Road) and one secondary street.
The proposed open space should satisfy specified design criteria and be dedicated to Council on completion.
- **Non-residential floorspace**
Provide a minimum of 20,000sqm GFA of non-residential floorspace.
- **Key worker housing**
Deliver key worker housing (or Affordable Housing) at the rate of 3% of total dwellings provided.
Up to 15% of the open space (1,500sqm) can be used to deliver the required key worker housing.

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- **Childcare facilities**
Provide privately run childcare facilities suitable for 60 children.

- **Public domain**

Delivery of all other required public domain on the site including roads and through site links as nominated in the Draft Macquarie Park DCP 2014.

6.3 Balancing the Costs and Benefits of Growth

There is currently a recognised deficiency of open space in Macquarie Park (Ryde Council, 2012). In addition, there is increasing demand for social infrastructure as a result of population and employment growth but also from evolving tenant/occupier requirements.

Provision of public open space, childcare facilities and key worker housing (or affordable housing) will conceivably be at the expense of employment lands. The designation of 1ha of land to public open space would mean the land no longer has the ability to accommodate employment.

A large body of literature suggests that in order to attain sustainable economic growth, consistent attention needs to be paid for the development of social infrastructure. Urban open space provides a number of valuable services to urban populations, including recreational opportunities, aesthetic enjoyment and environmental functions.

Over the past 10 years or more, there is a growing body of evidence that the economic benefits of providing social infrastructure far outweigh the costs of provision and result in a net return on investment.

- **Economic and social dividends**
Research (University of Queensland, 2005) suggest that investment in social infrastructure has an economic dividend as well as a social one. Put simply, it makes good economic sense to invest in the provision of social infrastructure. The need to therefore incorporate social infrastructure requirements in planning and redevelopment proposals has become an increasing requisite for both the private and public sectors.

- **Better social outcomes**
A UK Study (Marmot and Wilkinson, 2001) suggests that for every \$1 invested in community networks and services, \$10 were saved in costs on poor health, reduced crime and better employment outcomes, amongst other things.

The Washington State Institute for Public Policy (Aos et al, 2004) has calculated a benefit-cost ratio of over \$2 per dollar of cost for some pre-kindergarten education programs and benefit-cost ratios of up to \$11 per dollar of cost for some youth development programs.

- **Economic and social costs of non-provision**
Research (CABE, University College of London and Department of Environment and Transport and the Regions, 2001) identified both the economic and social costs of inadequate social infrastructure and the opportunities to develop local employment and enterprise and other community-based service provision and also to support communities as they grow.

Evidence suggests the most successful developments generally involve a partnership between commercial providers and local government with the private sector taking a long-term stake in the development. The most high quality and successful schemes tend to be led by owners/investors who are able to take a longer term view.

While the appropriation of land to public open space and affordable housing would mean less available land to accommodate new development and employment, the provision of these items of key social infrastructure would undoubtedly result in increased appeal of Macquarie Park as a business destination, leading to increased demand for floorspace.

Increased demand for employment floorspace in Macquarie Park would in turn result in take-up of Council's bonus FSR provisions as envisaged under the Macquarie Park Corridor Planning Proposal. Development to greater FSRs than provided for under the LEP would ultimately result in increased overall employment densities in Macquarie Business Park.

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The ultimate delivery of additional jobs (In increased overall employment densities) would support NSW Government and Council objectives of strengthening Macquarie Park's position in the Global Economic Corridor.

The strategic provision of required and social infrastructure to support Macquarie Park's growth would also contribute to supporting surrounding residential growth and ultimately contribute to sustainability of the Macquarie Park Corridor.

6.4 Conclusion

The NSW Bureau of Transport Statistics (BTS) forecasts that the population in Macquarie Park will increase by 15,358 residents and by 12,872 employees towards 2031. This represents a phenomenal growth of 770% and 28% respectively. In addition, there are a number of commercial development applications in the pipeline for Macquarie Park, these cumulatively proposing a total of some 455,286sqm of commercial floorspace while more than 3,000 residential units are at various stages of planning and delivery.

The Importance of Social Infrastructure

Research shows that business parks have transitioned from providing warehousing and light manufacturing space to include increasing amounts of office uses. As a result of the increasing amount of office space (and office workers) located in business parks, the overall composition of business parks has evolved to contain a range of facilities, including restaurants, banks, medical centres and even travel agencies. These facilities are similar to those that might be found in a CBD.

As business parks evolve, workers will be attracted to housing options in close proximity to their place of work (i.e. people will want to live and work locally). This has broader economic benefits as it promotes self-containment which improves the health of the local economy.

The emphasis on worker amenity and employee satisfaction is growing and will, conceivably establish itself as a given just like building 'green sustainability' and ESD standards have. This is not surprising as employee costs form a major proportion of an organisation's operational costs.

Many office parks and business parks have declined in appeal as occupiers seek to ensure their employees are satisfied in their work environment and are consequently able to achieve high retention rates. There are numerous instances where office buildings have suffered from high vacancies and declining rents as tenants vacate in search of locations that offer better worker amenity and employee satisfaction. Examples include Pymble and Frenchs Forest.

As social infrastructure (e.g. open space, childcare facilities) is increasingly demanded by occupiers of business parks, it would appear that open space and social infrastructure standards have failed to keep pace with the evolution of business parks and the increase in requirements of businesses/employees. The delivery of social infrastructure in Macquarie Park is no exception.

Delivering Social Infrastructure in Macquarie Park

There is current unmet demand for open space in Macquarie Park, as identified by the Ryde Integrated Open Space Plan (Ryde Council, 2012). The Plan indicates that two new major reserves suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park. This deficiency is even before considering future demand generated by an increase in resident and worker population.

Council's s94 development contributions plan **does not** provide for public open space by non-residential development, implicit in this is the presumption that only residential users demand public open space. As indicated by contemporary tenant/occupier requirements, this presumption is now outmoded.

Council has recognised the need to fund the delivery of new roads and public open space and has sought to do this via the Macquarie Park Corridor Planning Proposal (via Amendment 1 to the Ryde LEP) wherein bonus floorspace can be granted to proponents who deliver an acceptable package of infrastructure works.

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Still in draft form, when Amendment 1 to the Ryde LEP 2013 is effected, proponents of bonus floorspace in Macquarie Park will be required to deliver items of infrastructure including new roads and open space. At current contribution rates (\$250/sqm of bonus FSR), the contributions received and subsequent delivery of identified infrastructure could conceivably be at a **modest** pace, given that these are dependent on industry take-up of bonus **commercial** floorspace. Unlike in Green Square, where the rapid rate of delivery of public benefit was driven by development of **bonus residential** floorspace.

There is presently no mechanism to fund the provision of public open space in Macquarie Business Park (no provision in s94 contributions plan and the Macquarie Park Corridor Planning Proposal which is still in draft).

This demonstrates a case for an alternate strategy to deliver required and social infrastructure to ensure the sustainability of Macquarie Park.

Architectus has developed a strategic framework for the delivery of key items of social infrastructure in Macquarie Park. As is observed in Green Square Urban Renewal Area and Green Square Employment Lands, delivery of key infrastructure seeks to leverage the residential property market. This framework recommends residential permissibility in the B3 Commercial Core and B7 Business Park zones subject to delivery of acceptable package of infrastructure works.

Balancing the Costs and Benefits of Growth

A Plan for Growing Sydney identifies that Macquarie Park sits in the Global Economic Corridor, an area of concentrated employment, economic activity and accommodates a range of other uses. The Plan also identifies that, in Macquarie Park there should be:

- Additional mixed use development around train stations, including retail, services and housing.
- Future opportunities for housing in areas within walking distance of train stations.

Already Sydney's second largest commercial market, Macquarie Park is not only important to the local Ryde economy (accounting for more than 50% of Ryde LGA employment) but also plays a significant role in Sydney's economic prosperity.

The strategic provision of required social infrastructure to support Macquarie Park's growth would ultimately contribute to the sustainability of the Macquarie Park Corridor.

While the appropriation of land to public open space and key worker housing would mean less land available to accommodate new employment floorspace, the provision of items of key social infrastructure would undoubtedly result in sustaining Macquarie Park's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace.

Increased demand for employment floorspace in Macquarie Park would in turn result in take-up of Council's bonus FSR provisions as envisaged under the Macquarie Park Planning Proposal. Development to greater FSRs than provided for under the Ryde LEP 2013 would ultimately result in increased overall employment densities in Macquarie Business Park.

The ultimate delivery of additional jobs (in increased overall employment densities) would support NSW Government and Council objectives of strengthening Macquarie Park's position in the Global Economic Corridor.

This Research Study concludes that permitting residential and mixed-use development on selected, appropriate sites in Macquarie Park which comply with the nine criteria listed in the Architectus strategic planning framework would have a **significant positive impact on the growth and sustainability of Macquarie Park** as a major employment zone in metropolitan Sydney and a key economic engine room for NSW.

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Appendix A: Journey-to-Work Analysis

This section analyses more detailed data, such as cross tabulations by industry, by occupation, by income and by educational attainment, with all data analysed for the broader Ryde LGA.

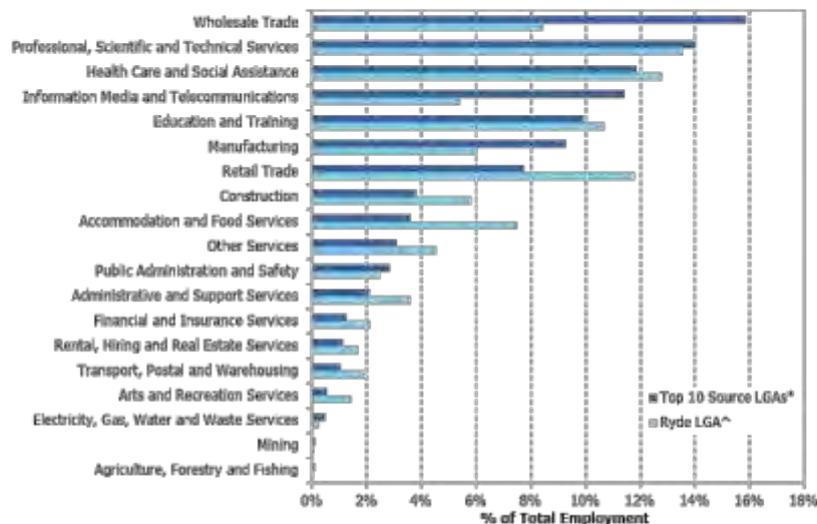
The largest source of workers for Ryde LGA include, alongside Ryde LGA residents itself, residents of Hornsby, Parramatta, The Hills Shire, Blacktown, Ku-Ring-Gai, Sydney, Warringah, Canada Bay, Willoughby LGAs. Approximately 30,970 workers commute to Ryde LGA from these LGAs (hereinafter referred to as "Top 10 Source LGAs") implying that more than 50% of commuters to Ryde LGA (from outside the LGA itself) live in the abovementioned LGAs, based on the number of total workers across the Ryde LGA.

Industry

Analysis of commuting flows by industry indicate a relatively large proportion of workers from the Top 10 Source LGAs are employed in white collar businesses in the Ryde LGA (across industries such as professional, scientific and technical services, health care and social assistance and information media and telecommunications).

There appears to be a significantly larger number of workers in information media and telecommunications that commute from the Top 10 Source LGAs than those living and working in Ryde LGA itself across the same industry. By cross referring to the analysis in section 0, employment in information media and telecommunications are likely to be located in Macquarie Park.

Figure A.1: Ryde LGA Employment by Industry from Top 10 Source LGAs, 2011



*Top 10 LGAs for number of workers travelling to Ryde LGA ^Workers in Ryde LGA also residing in Ryde LGA
Source: ABS (2012)

Occupation

A large number of commuters work in white collar industries, particularly a large proportion of workers from outside the LGA who are managers and professionals. In particular, more than one third (36.8%) of workers from the Top 10 Source LGAs are professionals, followed by managers (19.2%), accentuating the white collar profile of commuting workers.

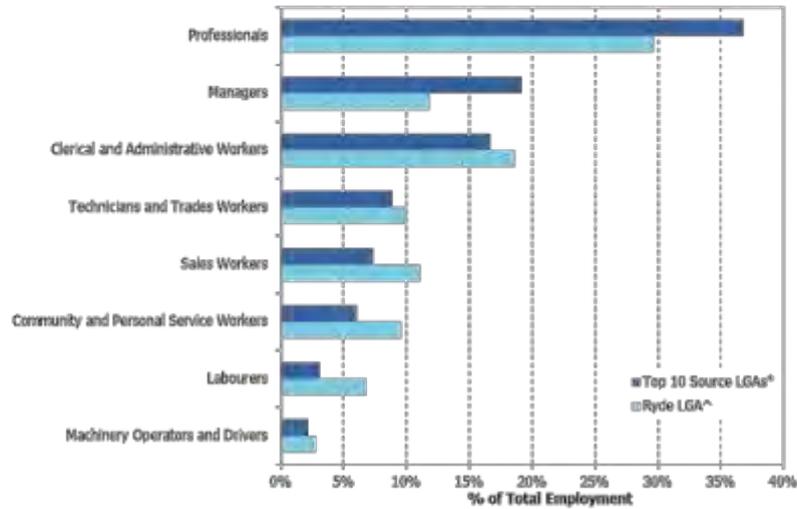
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Figure A.2: Ryde LGA Employment by Occupation from Top 10 Source LGAs, 2011

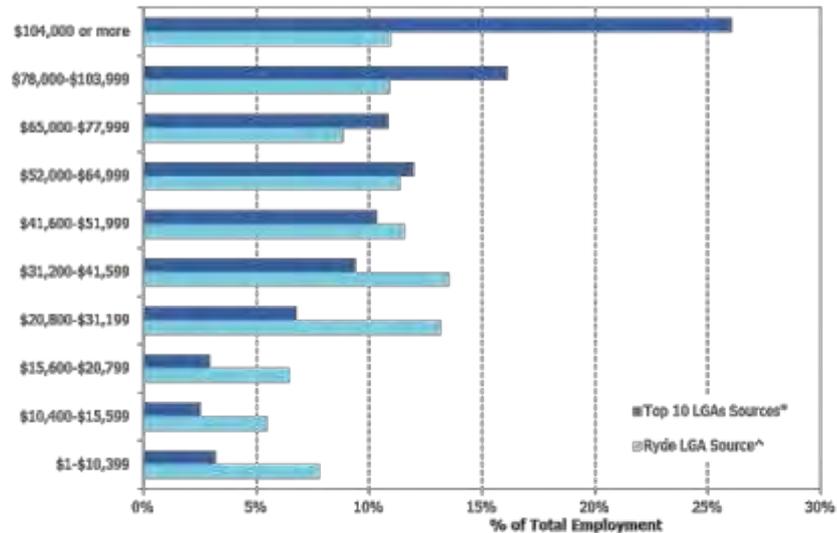


*Top 10 LGAs for number of workers travelling to Ryde LGA ^Workers in Ryde LGA also residing in Ryde LGA
Source: ABS (2012)

Income

Personal Income data of commuters from the Top 10 Source LGAs highlights a significant difference between income levels of commuters and those who live and work in Ryde LGA.

Figure A.3: Ryde LGA Employment from Top 10 Source LGAs, Personal Income Distribution, 2011



*Top 10 LGAs for number of workers travelling to Ryde LGA
^Workers in Ryde LGA also residing in Ryde LGA
Source: ABS (2012)

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26.1% of workers from the Top 10 Source LGAs have an annual income in the top income bracket, at more than \$104,000 per year, while 10.9% of resident workers across Ryde LGA are in the same income category. As such, average household income is higher for those commuting from the Top 10 Source LGAs (\$67,516) compared to resident workers in the LGA (\$50,306).

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Appendix B: Commercial Development Pipeline

Table B.1: Commercial Development Pipeline

Name	Address	Description	Floorspace	Expected Completion	Status
Macquarie Business Park					
Khartoum Road commercial building	8 (Lot 1) Khartoum Rd (DP582794)	Construction of a new part 6/part 7 storey commercial building.	11,731sqm	19/08/2016	Deferred, subject to pre-tenant commitment
Macquarie Square	Herring Road, Macquarie Park	Unsolicited proposal from AMP & Macquarie University for a town centre, called Macquarie Square, in Herring Rd. Under the plan, Macquarie Centre could expand by an extra 60,000sq m, whilst there could also be new housing, commercial, retail, community, education & recreational facilities.	60,000sqm	10/09/2021	Early Planning
Harvey Norman Mixed Use Development	111 Wicks Rd & 29-35 Epping Rd	<ul style="list-style-type: none"> Proposed construction of a mixed use development within 3 tower buildings. A concept masterplan has been prepared which would comprise a new commercial office building comprising an 8 storey element built above the rear of the existing Domayne/Harvey Norman store (no changes are proposed to the existing Domayne/Harvey Norman store. Hotel to be accommodated within the lower 10 levels of a new building at 111 Wicks Rd. Approx 160-170 apartments accommodated within the upper 17 levels of new building at 111 Wicks Rd. 	N/A	18/04/2022	Early – Rezoning Application refused at Gateway
Ryde Garden	27-37 (Lot 160) Delhi Rd (DP1136651)	<ul style="list-style-type: none"> Construction of a mixed use development comprising 3 buildings. The development will contain a total of 830 apartments. It will also contain retail/commercial uses. The non-residential GFA is expected to be 60,489sqm. 	60,489sqm	22/03/2019	Possible
Macquarie Park Commerce Centre	396 Lane Cove Rd, 32-46 Waterloo Rd & 1 Giffnock Av	Construction of 17 storey retail/commercial building.	83,368sqm	30/06/2020	Concept Plan Approval Under Review
Talavera commercial building	66-82 Talavera Rd	Construction of new commercial building.	37,830sqm	3/11/2017	Possible – Development Application Submitted
Defence Industry Technology Hub	45-61 (Lot 101) Waterloo Rd (DP1130630)	The LPMA plans to facilitate this development opportunity either: directly with a private sector lessee or multiple lessees, or with a Master Developer that can demonstrate proven capabilities in the design, construction, leasing, marketing and ongoing operational capabilities needed to manage a Defence Industry Hi-Tech Hub that is expected to include major commercial office space and ancillary facilities within the site in accordance with permitted planning uses for the site.	N/A	30/12/2020	Possible
Holiday Inn Express Hotel	10 (Lot 31) Byfield St (DP567569)	Construction of a 9 storey building for use as a 192 room hotel.	6,264sqm	5/02/2016	Construction

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Name	Address	Description	Floorspace	Expected Completion	Status
Stamford Grand Hotel Site	110-114 (Lot 1) Herring Rd (DP780134)	Concept Plan for mixed use redevelopment of Stamford Grand North Ryde site, including 7 new buildings ranging from 4-22 storeys in height, total maximum GFA 51,139sqm, with an indicative total of 593 apartments & minimum non-residential GFA of 1,210sqm.	51,139sqm	27/04/2018	Early Planning – Concept Plan Approval Submitted
Lachlans Line	bounded by 1-17 Delhi Rd & Wicks, Epping & Delhi Rd & M2 Motorway	This prominent site is the first release UrbanGrowth NSW's significant Lachlan's Line Precinct. B4 mixed-use zone with GFA 73,520sqm. Concept scheme for 860 apartments plus 6,000sqm retail.	6,000sqm	30/12/2019	Possible
Herring Road Mixed Use Development Site – Macquarie Central	120-128 Herring Road	Concept Plan application for a mixed use commercial/retail development.	45,718sqm	N/A	Early Planning
Giffnock Avenue Office Development – Links Business Park	22 (Lot 12) Giffnock Av (DP711380)	Construction of a new A grade 7 storey office facility for commercial use.	10,294sqm	28/06/2013	Firm
Novartis Commercial Building	52-58 (Lot 5) Waterloo Rd (DP1043041)	Construction of a 6 storey commercial building for Novartis Pharmaceuticals.	9,885sqm	8/09/2015	Commenced
Macquarie Centre	197-223 Talavera Rd	Major expansion of existing shopping centre. The development proposes the demolition of structures at 55-61 Talavera Rd & construction of a new 5 level building containing a full line David Jones department store of 14,664sqm, a new supermarket of 3,861sqm, new fresh food market & approx. 130 specialty shops over 16,396sqm.	31,800sqm	31/12/2014	Commenced
The Park – 5 Talavera Road	5 Talavera Road	Construction of a new 5 storey commercial office building comprising 28,000sq m & ground floor cafe.	28,000sqm	27/05/2014	Construction
118 Talavera Road	118 Talavera Road	Construction of a 6 storey commercial office building with a proposed GFA of 12,768sq m & a NLA of 11,540sq m.	12,768sqm	13/05/2014	Construction
Total: 455,286sqm					
Macquarie University					
Macquarie University Concept Plan	Bounded by Culloden Rd, Epping Rd, Herring Rd & Talavera Rd	<ul style="list-style-type: none"> • Concept plan for 400,000sqm of commercial gross floor area outside of the Academic Core • Additional 61,200sqm of academic gross floor area within the Academic Core • Additional 3,450 beds within the University Housing Precinct for University purposes only • Provisions which allow for senior living development within the Precinct • Infrastructure upgrading and improvements to the road network as required • Establishment of landscaped open spaces across the campus, integrated with the pedestrian and cycle network • Establishment of car parking structures at key vehicle access points across the campus. 	400,000sqm	N/A	Early Planning

Source: Cordell (2015)

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Appendix C: Social Infrastructure Standards

Social Infrastructure Standards in NSW

There are a range of standards which can be used to estimate future demand for community facilities. These are:

- Growth Centre Commission – Development Code (2006).
- NSW Department of Planning and Infrastructure – Draft Development Contributions Guidelines (2009).

It should be noted that the thresholds provided in each of these documents for the provision of community facilities and open space vary considerably and are not intended to be a specific definition of need. They do however provide a useful guide when analysing the generic community facilities that will be required by future population of a proposed development.

Standards for the Provision of Community Facilities

Table C.2 applies the standards provided by the *Growth Centres Commission – Development Code (2006)* to show the indicative demand for community facilities generated by the future residents of the proposed development.

Table C.2: Growth Centres Commission Development Code Benchmarks

Type of Facility	Benchmark (number per population)
Education	
Public Primary Schools	1 : 1,500 new dwellings (approx)
Public High Schools	1 : 4,500 new dwellings (approx)
Health and Social Welfare	
Community Health Centre	1 : 20,000 people
Hospital	2 beds : 1000 people
Aged care Housing	1:10,000 people
Youth Centres	1 : 20,000 people
Community Service Centre	1 : 60,000 people
Childcare facility	1 place : 5 children 0 - 4 yrs
After school care facility	1 place : 25 children 5 - 12 yrs
Culture	
Branch Library	1 : 33,000 people
District Library	1 : 40,000 people
Performing Arts/Cultural Centre	1 : 30,000 people
Community Centre	
Local	1 : 6,000 people
District	1 : 20,000 people

Source: Growth Centre Commission (2006)

The NSW Department of Planning and Infrastructure also provides indicative thresholds for community facility provision in its *Draft Development Contributions Guidelines (2009)*. These thresholds are applied in the context of the proposed development in Table C.3.

Table C.3: Draft Development Contributions Guidelines Benchmarks

Type of Facility	Benchmark (number per population)
Performing arts, cultural centre	1 : 50-120,000 people
Branch library	1: 10,000 people
Central Library	1 : 20-35,000 people
Community/neighbourhood centres	
Small	1 : 3,500-6,000 people

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Type of Facility	Benchmark (number per population)
Large	1 : 15-20,000 people
Meeting halls	
Small	1 : 10,000 people
Large	1 : 20-30,000 people
Youth centres	1 : 10-30,000 people
Children's services	
Long day care centres	1 : 320 children aged 0-5 years
Pre-schools	1 : 4-6,000 people
Occasional care centres	1 : 12-15,000 people
Outside of school hours care	1 : 10-30,000 people

Source: NSW Department of Planning and Infrastructure (2009)

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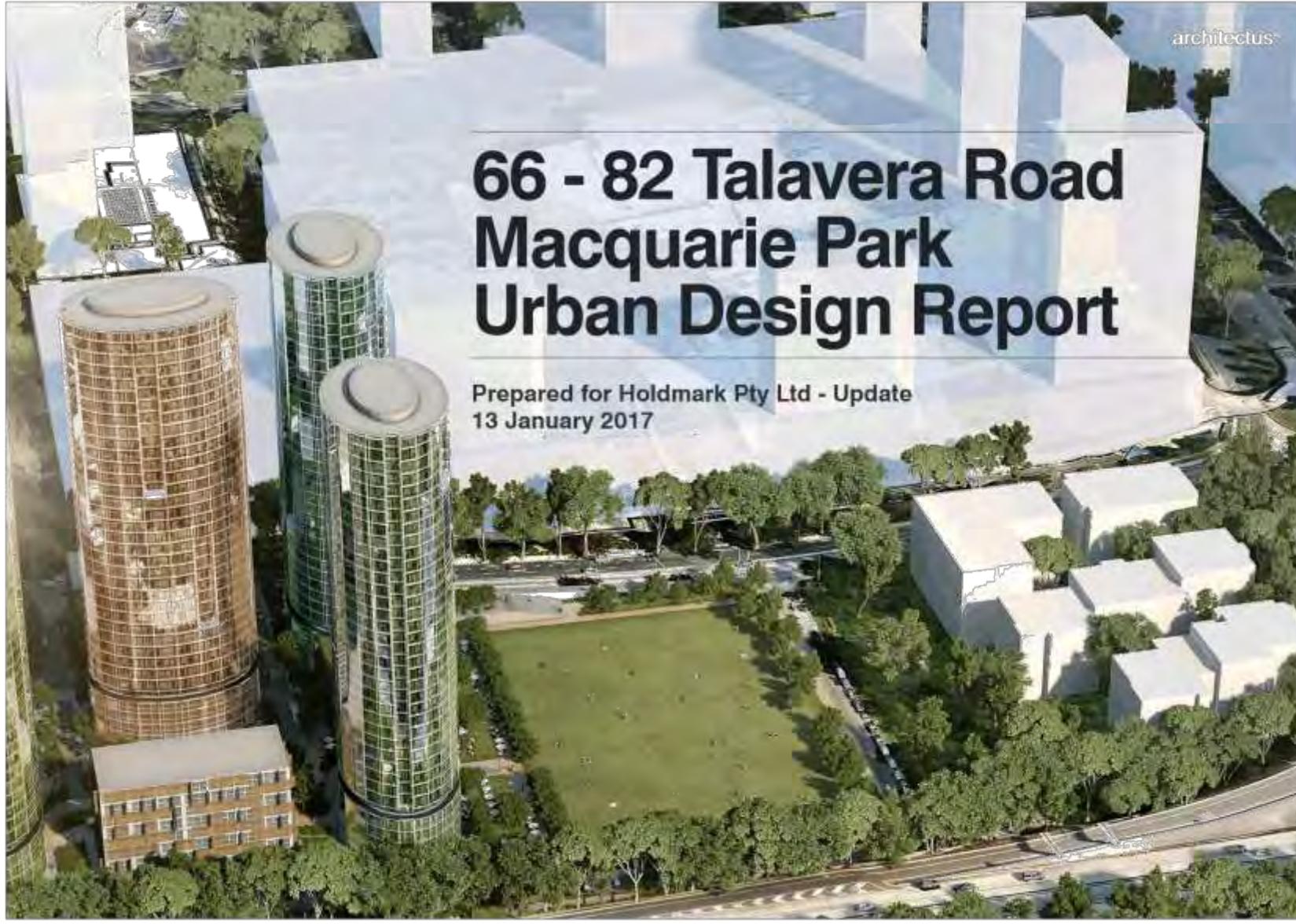


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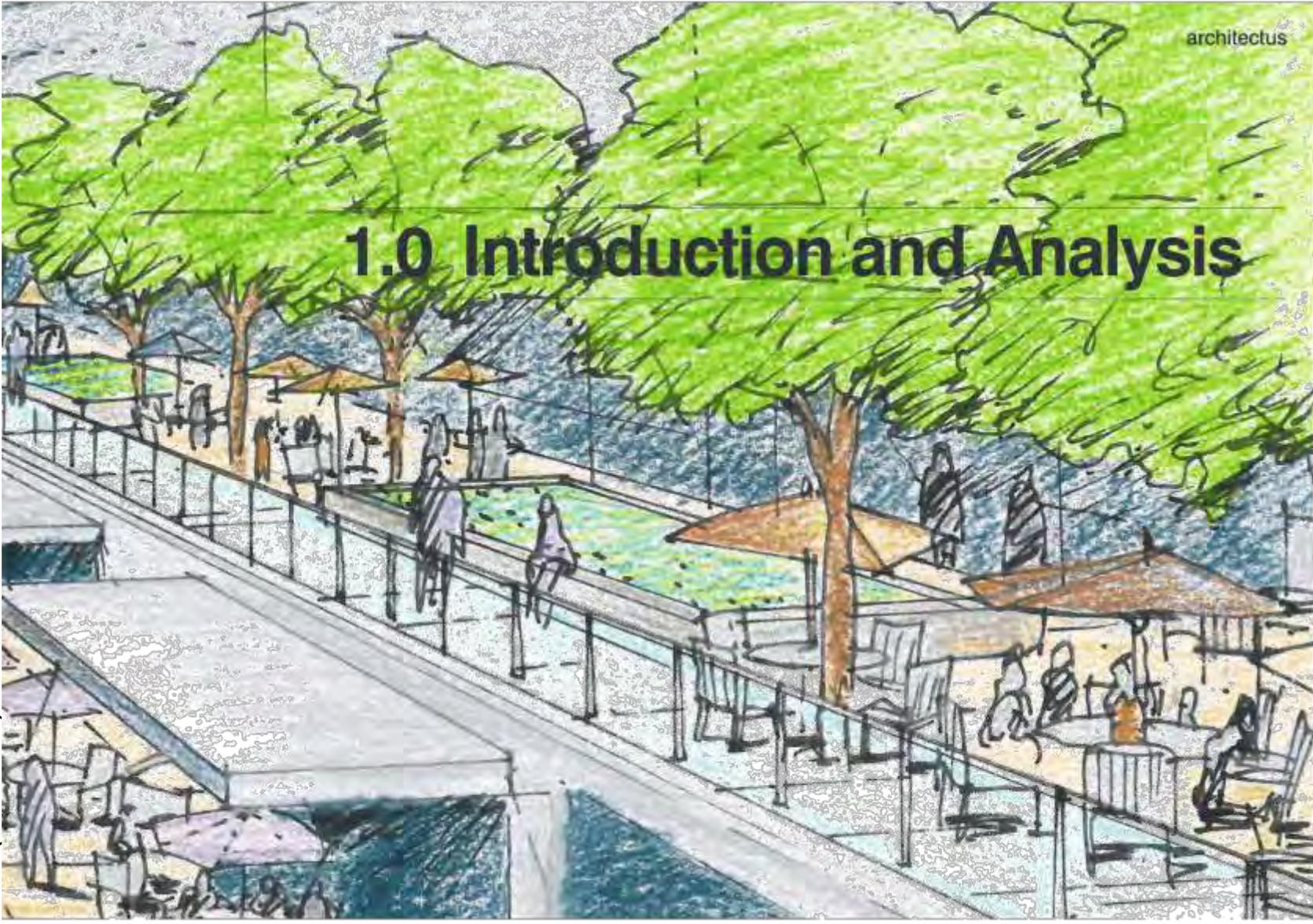
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1.1 Purpose of this report

This urban design report has been prepared by Architectus on behalf of Holdmark Property Group, for land at 66-82 Talavera Road, Macquarie Park. The primary purpose of this report is to accompany a Planning Proposal which seeks to:

- Amend the land use controls for the site. Currently the land is zoned B7 Business Park. It is proposed that a B4 Mixed Use Zone be applied to the site, to allow for the site's development for public open space, residential, retail and commercial uses. Through the development process, open space would be dedicated back to Council as a stratum lot above a commuter car park;
- Amend the current maximum building height controls from 30m to 120m, with a single tower of 154m; and
- Amend the current maximum FSR controls from 1.0:1 to 3.7:1.

This urban design report demonstrates the preferred master plan that the Planning Proposal seeks to enable, including the delivery of 6,100sqm of open space, 5,296sqm GFA of affordable housing for key worker housing, and an indoor recreation centre for the residents and workers of Macquarie Park.

The initial Planning Proposal submitted by Ryde Council in August 2016 received a Gateway Determination from the Greater Sydney Commission on 21 September 2016. This report has been prepared to accompany the update of the Planning Proposal as required by the conditions of the Gateway Determination.



Aerial view of Macquarie Park showing development proposal in relation to Herring Road Urban Activation Precinct
Source: Herring Road, Macquarie Park Urban Activation Precinct Proposal

ITEM 3 (continued)

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1.2 The site

The subject site has an area of almost 3.8 hectares (37,832sqm), with a frontage of 254 metres to Talavera Road and 153 metres to Alma Road.

The site is bound by:

- The M2 Motorway to the north-east;
- The Macquarie Shopping Centre to the south-west, on the other side of Talavera Road;
- A 3-storey office/ warehouse directly adjoining the site to the south-east; and
- An 8-storey residential complex to the north-west, which is still under construction.

Current uses on the site include (with reference to site plan to the right):

- A 4-storey office building fronting Alma Road, which accommodates approximately 8,224sqm of office area (Label A);
- A single storey warehouse on Talavera Road with some mezzanine office space (Label C);
- A conference centre behind the warehouse, that is occasionally utilised by the employees of the Alma Road office only (Label D).

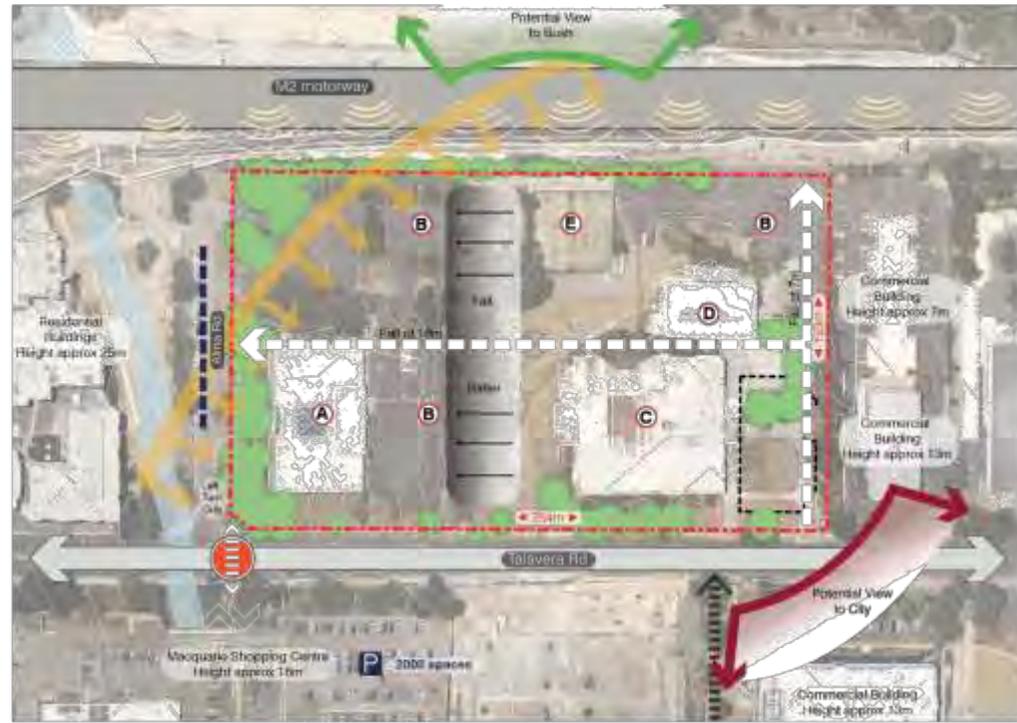
Other existing site features comprise (with reference to site plan to the right):

- Private tennis courts (Label E)
- Internal circulation areas and at-grade parking (Label B)

Refer to the plan to the right, which identifies other key features of the site.

Employment

Part of the site has been leased to AstraZeneca for use of the commercial building which is currently undergoing construction.



Site analysis plan

ITEM 3 (continued)

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1.3 Metropolitan Context

1.3.1 A Plan for Growing Sydney

Macquarie Park is an employment centre of increasing metropolitan significance, with the Plan for Growing Sydney identifying Macquarie Park as a specialised centre in the Global Economic Corridor.

The Centre has a strong focus on technology and innovation, driven by Ryde Council and supported by Macquarie University and the Macquarie Hospital. Major private tenants, including international brands in Macquarie Centre, are driving growth in the area.

As at July 2014, the business centre of North Ryde/Macquarie Park offered a total office stock level of 866,961sqm (Preston Rowe Paterson, 2014). The North Ryde/Macquarie Park business centre is currently Sydney's second largest office market, behind only the Sydney CBD (Urbis, North Sydney Commercial Centre Study, 2015).

Whilst it is anticipated that the predominant uses within the Corridor will be Commercial/Business, the Plan for Growing Sydney identifies 'potential for urban renewal in and around centres with improved public transport links in cross-city corridors between:

- Macquarie Park and Parramatta;
- Macquarie Park and Hurstville via Sydney Olympic Park;
- Parramatta and Hurstville via Bankstown; and
- Parramatta to Sydney CBD via Ryde...' (pg. 72, Plan for Growing Sydney)

The Centre is within the North Subregion. Key priorities for the State in this region as identified in the plan for Growing Sydney include:

- Working with Council to retain a commercial core in Macquarie Park for long-term employment growth;
- Working with Council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing;

- Facilitating delivery of Herring Road Priority Precinct, Macquarie Park Priority Precinct, and North Ryde Station Priority Precinct;

- Investigating potential future opportunities for housing in areas within walking distance of train stations;

- Supporting education and health-related land uses and infrastructure around Macquarie University and Macquarie University Private Hospital

- Supporting the land use requirements of the Medical Technology knowledge hub.

- Investigating opportunities to deliver a finer-grain road network in Macquarie Park.

- Investigating opportunities to improve bus interchange arrangements at train stations.

- Working with council to improve walking and cycling connections to North Ryde train station. (pg. 127, Plan for Growing Sydney)

ITEM 3 (continued)

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1.3.2 Dwelling projections

In June 2014, NSW Planning and Environment released new population and dwelling projections for NSW. The data indicates:

- 62,950 dwellings will be required to accommodate the projected population growth in Ryde, compared to 55,516 projected in 2011 - increase of 7,434 dwellings.
- Between 2016 and 2031, the projected demand is 14,950 dwellings for the Ryde Local Government Area.
- Between 2004 and 2011, the City of Ryde averaged 485 dwelling approvals per year. Dwelling approvals in the 12 months to June 2012 was 1,003 dwellings, and in the 12 months to June 2013 was 952 dwellings in the 12 months to June 2013. This indicates an average slightly under 1,000 dwelling approvals per year since 2012.

Based on the projected dwelling demand of 14,950 new dwellings between 2016 and 2031 for the Ryde LGA, and assuming that:

- In the year to June 2014, Council will approve an additional 1,000 dwellings,
- 3,000 new dwellings are to be provided in the North Ryde Urban Activation Precinct,
- 5,400 new dwellings are to be provided in the Herring Road Urban Activation Precinct,

There would be an underlying further demand for an additional 5,550 dwellings in the forecast period for the Ryde Local Government Area.

The subject site has the potential to accommodate approximately 1,200 dwellings.



Finalised Herring Road Priority Precinct master plan. Source: Herring Road, Macquarie Park Urban Activation Precinct Proposal

1.4 Regional context

The subject site is located adjacent to the Herring Road Priority Precinct within Macquarie Park.

The objectives of A Plan for Growing Sydney include the intensification of Macquarie Park for specialised business uses, and the delivery of infrastructure to support that growth. The maintenance of employment lands in Macquarie Park, and its success as an employment centre are priorities for both State government and the City of Ryde Council.

Macquarie Park is extremely well serviced by public transport and freeway connections to the City and a regional shopping centre (the Macquarie Shopping Centre, owned by AMP, adjoins the subject site).

Looking at the nearby centres, Macquarie Park is unique because of its employment function. Strategically, State Government and Council need to ensure that Macquarie Park has the right services and infrastructure, including open space, to ensure that Macquarie Park can continue to compete with Central Sydney and Parramatta as a place to locate business.

It is understood that Council and the Department of Planning and Environment are undertaking a strategic investigation into the wider Macquarie Park and that the outcomes of this work will be released late 2016.



Regional land uses plan: Macquarie Park contains a mix of residential, employment, retail and education uses.



Regional context plan: Macquarie Park is well served by rail and the M2 motorway

ITEM 3 (continued)

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1.5 Local context

The City of Ryde Council has recently amended the controls for Macquarie Park to allow for additional incentive building height and FSR on all of the employment land in Macquarie Park. Similarly, the recent Macquarie University Master Plan has resulted in increased long term capacity for employment on the university site. These initiatives will go a long way to facilitate significant employment growth in Macquarie Park.

The subject site adjoins the indented north-eastern corner of the Herring Road Priority Precinct, which is identified for future high density mixed use development. The recently gazetted Herring Road amendment to the Ryde Local Environmental Plan 2014 recommends FSRs of up to 6.0:1 and maximum building heights of 120m for sites near Herring Road.

The subject site has the following important locational attributes:

- **Proximity to transport:** The site is 550m, measured along the footpath, from Macquarie University Train Station. A distance of 800m is generally accepted a comfortable walking distance from a rail station. The site is also within 400m of the future bus interchange on Herring Road by the Macquarie Shopping Centre (which is owned by AMP).
- **Highly-visible site:** The site is on a street corner and opposite the Macquarie Shopping Centre, which is a major attraction and soon to be the largest shopping centre in NSW. The site is one block away from Waterloo Road, which is the central spine of Macquarie Park. The site is also highly visible from the M2 Motorway.
- **Proximity to residential and employment uses:** The site is located between the high density residential Herring Road Priority Precinct and the employment lands. The site is within 800m of many workers and many existing and planned dwellings.



1.6 Strategic need for open space

Evidence continues to build across the world that the quality of the public domain in our parks and open spaces is central to our individual and collective health and well-being. Accessible, safe and appealing public open space directly affects our sense of the liveability of our working and home environment; it also influences our decisions on where we want to live and work.

1.6.1 Why open space is important for business

Traditionally, open space planning did not consider that employment land uses would generate any significant demand for recreation during the working day and in that same vein Local Governments would not generally levy Section 94 Contributions for Public Open Space for business precincts.

However, progressive trends in the planning and design of working environments over the last twenty years responding to employee demands, as well as more recent shifts in the times at which many in the working community are choosing to take exercise (increasingly early morning, lunchtimes and early evenings) is requiring a commensurate move in planning to match this demand. In the case of nationally significant specialised centres such as Macquarie Park, this response becomes all the more critical, as explained below.

In preparing the Ryde Integrated Open Space Plan (IOSP) in 2012 CLOUSTON Associates was asked by Ryde City Council to provide an overview of likely requirements for public open space in the Macquarie Park Precinct (see Macquarie Park Green Infrastructure diagram). The following is a direct quote from that report, with respect to open space needs for major high technology employment areas:

Most major international corporations seek development environments in which landscape and open space play a core role in site selection criteria – high-end technology and science parks around the world have hosted major corporations and research organisations since the advent of business parks such as Silicon Valley in the 1980s. For these organisations a high quantum and quality of landscape and open space has a range of benefits that meet their corporate goals:

- Inspiring work environments attracting top personnel and encouraging high productivity
 - Raised corporate profile associated with benchmark design and an attractive business environment
 - Commitment to ESD principles and high Green Star ratings in the built form and landscape
 - Promotion of healthy lifestyles for staff through provision of recreation facilities and open space
 - Opportunities to host/sponsor major events within the public domain.
- Typically, high-end business environments in contexts such as Macquarie Park generate needs for public open space during weekdays and working hours that cater for leisure and recreation uses such as:*
- Lunchtime team sports (e.g. touch football, basketball etc., often with inter-business competitions)
 - Fitness training areas/facilities for personal training and fitness equipment/trails
 - Shaded circuits and routes suitable for jogging, walking and cycling (not on major roads)
 - Play spaces (especially associated with or adjoining crèches)
 - Informal open space with trees, shade and shelter for lunchtime, breaks and working sessions (picnic tables, shelters, BBQ, wireless connectivity etc.)
 - Natural creeks and formal or natural water bodies
 - Corporate event and promotion spaces (often catering for significant numbers)



Macquarie Park Green Infrastructure diagram, Source: Integrated Open Space Plan 2012 (Draft), City of Ryde

ITEM 3 (continued)

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The recommendations report went on to observe that where such open space provision was inadequately supplied the impacts on the local Council and the community could be significant and might typically include:

- Major corporations choosing other locations offering a more extensive public domain
- Over-use of existing open space in the adjoining neighbourhoods with resulting cost impacts and negative community perceptions
- Lack of flexibility for open space provided for working communities to absorb additional residential demand by being available for use outside working hours

The net effect of such impacts can be a disjunction in social and economic integration between the working and adjoining residential neighbourhoods.

Current best practice in open space planning acknowledges that there is no single formula for the amount of open space required to meet the needs of a given working population; those needs vary greatly according to the mix of employment type, the local geography and the proximity and capacity of existing open space in the locality. Accordingly, any estimation of the quantum required must be based on site specific analysis of these and other factors.

The brief analysis undertaken for the Ryde IOSP recommended at minimum the following open space quantum for the employment area over and above any existing open space network (e.g. reserves on the Shrimptons Creek and Kikkaya Creek riparian corridors):

- A 2 Ha multi-use reserve close to the core of the employment area (where constraints on acquisition prevailed this could be a minimum of 1.5 Ha)
- A suite of local open spaces of 0.3-0.5 Ha in size evenly distributed across the locality (seven such reserves were illustrated for the whole Macquarie Park area)
- 3 plaza spaces, one near the core of the employment area and one on – or close to – the Herring Road and Waterloo Road junction and one north-west of Blenheim Park

- A number of street corner meeting places (typically 10-20m² in size). None were illustrated for the whole Macquarie Park area
- Continuous green web connections integrating recreation corridors on all east-west creeks
- District and Local Green Grid streets, as illustrated below.

It should be noted here that this suggested provision was solely oriented to employment needs and did not address the needs of any additional residential population, such as may be generated by the Herring Road Priority Precinct, an initiative that post-dated the IOSP.



Public grow gardens: Melbourne Docklands



Active street and mixed use precinct: West End, Brisbane



Defined, landscaped internal streets: West End, Brisbane

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1.6.2 Why open space is important for residential areas

The benefits to residential communities of a well-planned, accessible, safe and engaging public domain include environmental, cultural, social and economic values. In particular, the mental and physical health and well-being outcomes derived from the presence of a high quality public domain is being increasingly demonstrated by national and international research.

The NSW Department of Planning and Environment's guideline document, *Open Space Planning Guidelines for Local Government, 2011 (OSPG 2011)* provides research-based guidance on planning for open space in residential communities from rural to inner urban contexts with these values in mind. The following analysis draws on those guidelines.

For dense inner urban apartment living, such as will prevail in the Herring Road Priority Precinct the quantum, quality and accessibility of such open space becomes critical to social cohesion in such communities, particularly in the absence of private gardens and ground level living.

The generally accepted norm of 800m maximum distance (10-15 minutes slow walk) between any residential dwelling and some local open space becomes tested for those who may live on upper floors of a high rise apartment blocks, where the first 5 minutes may be taken up in leaving the building, much less crossing major roads.

Consequently, local open space or at minimum off-road corridors (e.g. creek lines) which give access to such open space need to be easily accessed. In such environments the size (preferably 0.5 hectares in size but at minimum 0.3 hectares) and multi-use nature of such spaces is also important, as is the need for larger district level spaces for unstructured recreation within at least 2kms of most residences.

The OSPG 2011 recommends that the default provision for local and regional open space in any new or redeveloping community is 9% of total development area (including district open space this rises to 16%) rather than a per capita quantum. However, the guidelines stress the need to evaluate the site itself in terms of the distribution and accessibility of such space.

The proposals for open space in the Herring Road Priority Precinct make reference to the IOSP 2102 (a document that pre-dated the Priority Precinct) and suggested the need for additional open space, but provides no analysis of the quantum required for the significant additional population (at least 11,000 new residents). The Priority Precinct does not specifically identify the total amount of open space to be provided for the life of the development and thus it is not possible to assess what percentage of the total development area is dedicated to public open space.

Rather, the open space provision appears to be principally based on the embellishment of three small existing reserves (Wilga, Elouera and Quandong) and the enhancing of the Shrimptons and Kikaya Creek corridors, as well as the notional locations of some additional open spaces of unspecified size and setting type.

The largest of the existing spaces to be embellished is Wilga Reserve at approximately 0.3 hectares (when the creek area is deducted) and this also the only level space that would appear to be suited to easy access and multi-use for local recreation. The total amount of reserve space specifically identified for such embellishment appears to be in the order of 1.41 hectares (excluding the creek corridors) over three separate locations.

There is no provision identified for any larger district level reserves in the Priority Precinct, as such provision is generally deemed to be available within an 800m radius of the Priority Precinct boundaries.

The Priority Precinct report does not however describe, identify or analyse the settings and recreational functions of these nearby spaces nor does it state whether such space is currently below, at or over capacity from existing community use in those neighbourhoods. The Priority Precinct finalised report identifies four new open spaces, however delivery of these spaces is uncertain as they are subject to future development and offsetting against Section 94 contributions.

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Joynton Park, Victoria Park

1.6.3 Supply analysis and Indoor Recreation Facility

While recognizing that the longstanding benchmark of 2.83 hectares of open space per 1000 persons is generally recognised as being simplistic and unsubstantiated (for the ultimate population of the Priority Precinct this would suggest the need for up to 30 hectares of new open space), the level of provision proposed at 1.41 hectares/1000 future population appears to fall well below the average existing local and district level provision across the whole Ryde LGA at 3.41 hectares/1000 persons and for the Macquarie Park planning precinct at 2.95 hectares/1000 persons.

From this brief overview, it appears therefore that there is definitely a significant under-provision of both local and district level open space for the quantum of population.

The plan to the right shows all of the existing and planned open spaces within 800m of the Macquarie University Train Station, highlighting this under-provision.

However, as a result of discussions with Council, it was identified that there was an existing need for an Indoor Recreation Centre of 3,500sqm for the use of residents and workers within wider Macquarie Park. This has resulted in the reduction of the total open space in order to provide this facility.

1.6.4 Proposed open space

The proposed 6,100sqm public open space at 66-62 Talavera Road and 3,500sqm Indoor Recreation Facility assists in meeting some of the apparent under-provision of open space in that precinct, as well as serving the adjoining employment precinct. This will support the ongoing development of Macquarie Park as a high quality commercial centre.

While the master plan provides convenient on-street parking for public use, the main access to the proposed park will be from the walking catchment.



1.7 Current and proposed planning controls

The primary planning instrument for the subject site is Ryde LEP 2014. This section of the report outlines the key land use and built form provisions for the site, from Ryde LEP 2014.

Ryde LEP 2014 - Draft Amendment No. 1 (Macquarie Park) was gazetted. This Amendment provides an increase in height and FSR controls for the site and the remainder of Macquarie Park as part of an incentive scheme.

The proposed Herring Road Priority Precinct controls have also been noted to contextualise the site. The Herring Road Priority Precinct Plan has been finalised but not yet translated into legislative controls.

1.7.1 Land use/ zoning

Ryde LEP 2014 currently zones the site, and a large area of Macquarie Park, B7 - Business Park. This zones allows for a range of commercial and industrial uses, as well as some supporting retail and business uses. Residential uses and larger retail uses are prohibited in the zone.

The proposed Herring Road Priority Precinct controls would zone the land adjoining the subject site on two boundaries, B4 - Mixed Uses.



ITEM 3 (continued)

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1.7.2 Floor Space Ratio (FSR)

Ryde LEP 2014 currently allows a maximum FSR on the subject site of 1:1. However in the areas to the west and north of the site, significantly greater FSRs have been introduced as part of the Herring Road Priority Precinct

As shown in the lower plan to the right, a maximum FSR to 1.5:1 applies to the site as part of an incentive scheme where new public domain, or a monetary contribution in lieu of public domain is provided.

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1.7.3 Maximum building height

Current controls

Ryde LEP 2014 currently allows a maximum building height on the subject site of 30 metres.

However as part of the Herring Road Priority Precinct, significantly greater heights have been introduced up to 120m in height. As shown in the lower plan to the right, a maximum height of buildings of 45m also applies to the site as part of an incentive scheme in the Macquarie Park Corridor.



The proposal in the context of the proposed Herring Road Priority Precinct



Current maximum building height controls, Ryde LEP 2014



Incentive maximum height of buildings under Ryde LEP 2014

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- 1.7.4 Occupied Commercial Office Building**
- A commercial office building was approved by Council in June 2015. The building has since been completed and is now occupied. It comprises:
- 8,982sqm commercial office GFA;
 - 6 storeys;
 - 178 total parking spaces, including vehicle and bicycle spaces.



Render - Approved AstraZeneca Commercial Office Building

ITEM 3 (continued)

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2.1 Design principles

2.1.1 Public domain and streets

- The new internal street should align with the new proposed street south of Talavera Road
- Internal streets should be designed as publicly accessible streets with similar dimensions, and section to public streets, and materials should give the streets more of a shared character
- New vehicle access points should be minimised, particularly near existing intersections and off Talavera Road.
- A suite of integrated and linked open spaces surrounding buildings that provide clear definition between public open space and residential community use
- Create amenity (optimal solar access, shelter from winds) and privacy for residents
- Design ground level to enhance sense of human scale
- Design walkable and cycle-friendly shared zone streets



Human scaled ground level and resident amenity: Power Street development, Enkiville

2.1.2 Built form

- Generally, the built form should comprise street walls with tall, slender, well-spaced towers.
- Architectus' Tower slenderness study (see Appendix A) indicates the following floorplate sizes, inclusive of balconies;
 - Up to 25 storeys – 800sqm GBA maximum
 - 26-35 storeys - 950sqm GBA maximum
 - Above 35 storeys – 1,100sqm GBA maximum
- Maximum building heights similar to the maximum heights in the Priority Precinct should be available
- All envelopes must be capable of achieving SEPP 65 standards, in particular:
 - 70% apartments with minimum 2-3 hrs mid-winter solar access



Slender tower forms, Sydney Olympic Park, Competition entry, Architectus for Ecove

- 60% apartments with natural ventilation
- 24m separation between tall buildings
- 18m maximum building depth for residential uses (excluding balconies)
- Minimise the visual bulk of the buildings from the new open space. Buildings should appear slender and maintain low-angle views to the sky between buildings

2.1.3 Land use

- Facilitate retention of the majority of jobs on the site and create opportunities for new jobs where appropriate
- Provide non-residential uses adjoining the park and other important public spaces
- Maximise residential densities in this well-served location
- maintain some commercial uses



Active frontage, St. Margarets residential development, Bourke Street Darlinghurst

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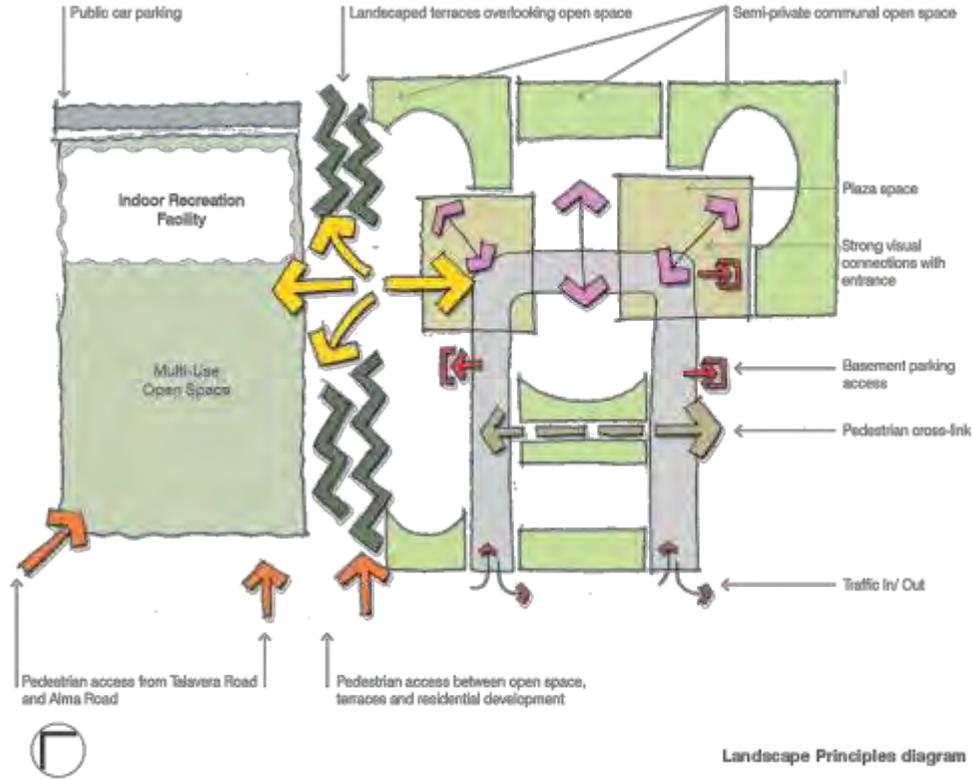
2.1.4 Open space and Indoor Recreation Facility

The design, usability, orientation and location of the new district open space has been given priority for this master plan. The planning and design principles for the proposed open space should include:

- A consolidated form to a total of 6,100sqm (this may include terracing)
- A Indoor Recreation Facility of 3,500sqm GFA, providing multi-purpose sports courts and supporting commercial land uses
- A north/south orientation for optimal solar access (generally two hours between 11am and 3pm on 21 June)
- Ready pedestrian access from adjoining streets and buildings in line with AS1428
- High visibility from adjoining streets, minimum two adjoining street frontages to ensure it has a public character
- High levels of passive surveillance from residential dwellings and other public domain
- Active façades fronting the space (e.g. community uses, cafés, amenities)
- Multi use layout and design to allow for general day to day recreation, fitness, special event field sports, community events, celebrations and performances
- Seating, shade (structures and trees) and play areas
- Layout and design for day and evening use, including events stage area
- 'Back-of-house' event support space and services

Given the high levels of potential use and the permeable nature of walking routes to and across the space, the central green space may best be constructed as a synthetic grass surface. There are a number of successful examples which use this surface.

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Landscape Principles diagram

ITEM 3 (continued)

ATTACHMENT 5

2.2 The master plan

Indicative Areas	
Site area	37,832m ²
Total proposed GFA	139,978 m ²
FSR	3.7:1
Total public open space	6,100 m ²
Total residential GFA	119,978 m ²
Number of apartments (average of 94 m ² each)	1,271
Total non-residential GFA (incl. existing office GFA)	20,000m ²
Retained office building (Astra Zeneca) GFA	8,982m ²



Illustrative view of proposed master plan looking south-east towards the Herring Road Urban Activation Precinct

ITEM 3 (continued)

ATTACHMENT 5

Affordable housing / Indoor Recreation Centre

Consultation with Council identified an opportunity to deliver affordable housing and an indoor recreation centre on site to serve the needs of residents and workers of the wider Macquarie Park. This has been formalised by an accepted Letter of Offer to enter into a Voluntary Planning Agreement endorsed by a Council resolution dated 2 August 2016.

The proposed indoor recreation centre will be 3,500sqm GFA and will include ancillary commercial facilities for compatible commercial uses such as cafés, sport focused medical facilities, and small scale retail spaces. This indoor recreation facility will be located along side approximately 6,100sqm allowing activation of open space.

A total of 5,296sqm GFA affordable housing will also be provided on the site above the recreation centre. This will equate to roughly 56 units at an average apartment size of 94sqm. This equates to approximately 4% of the total number of apartments to be delivered on the site.

The Indoor Recreation Centre and the affordable housing is proposed to be dedicated to Council. It is understood that Council will appoint a affordable housing provider who will be responsible for the management and maintenance of the affordable housing which will be leased to key workers within the wider Ryde LGA.



Indicative Master Plan (including key worker housing)

ITEM 3 (continued)

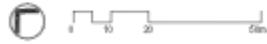
ATTACHMENT 5

2.2.1 Basement car park

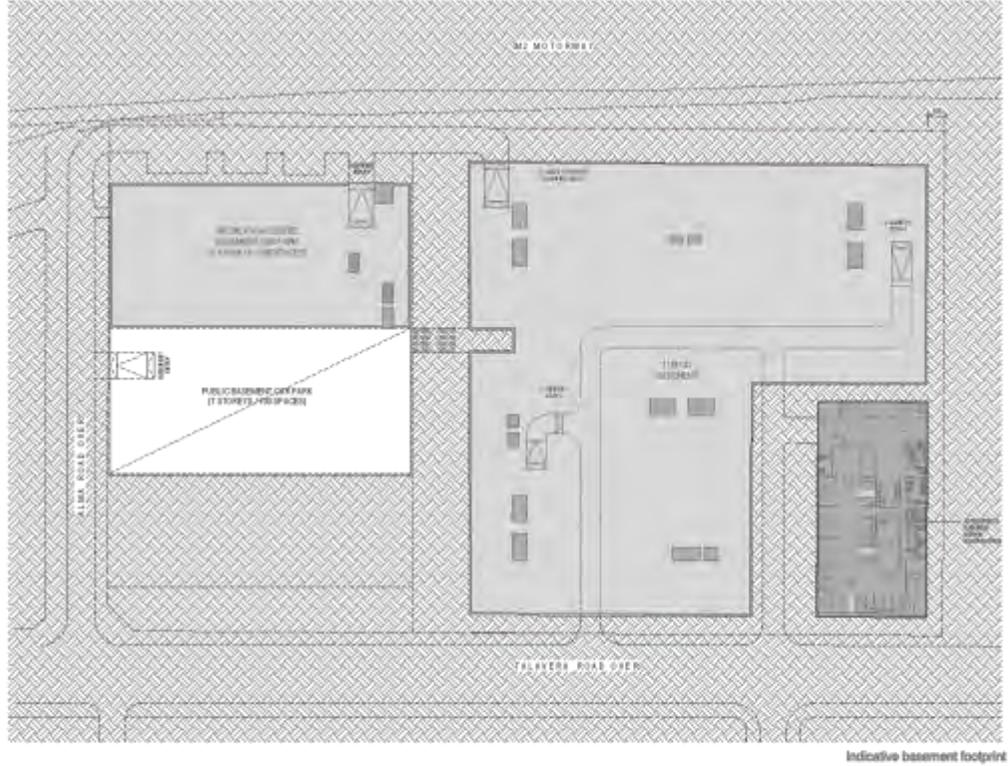
The car park to support the concept master plan would be located below grade and comprise three (3) levels. It would accommodate a total of 1,618 parking spaces, including spaces for non-residential uses. A breakdown of parking spaces is shown below:

- 1,113 residential spaces,
 - 127 visitor spaces and 25 car share spaces,
 - Up to 333 commercial parking spaces (based on LEP parking rates); and
 - 20 spaces for the use of the indoor recreation facility.
- In addition:
- 1,030 commuter car parking spaces below park.

The basement would contain loading docks for retail and commercial tenancies and accommodate service vehicles. The plan to the right shows an indicative basement footprint and points of



LEGEND	
	RESIDENTIAL USE
	RESIDENTIAL DEVELOP
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	COMMERCIAL
	RETAIL
	CHILDREN
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	PLANT (ENCL. LIFTS) STAIRS



ITEM 3 (continued)

ATTACHMENT 5

2.2.2 Ground floor level

The indicative ground floor plan to the right shows the indicative placement of retail uses along Talavera Road. Additional retail kiosk style tenancies have been located adjacent to the proposed open space to provide a new active edge.

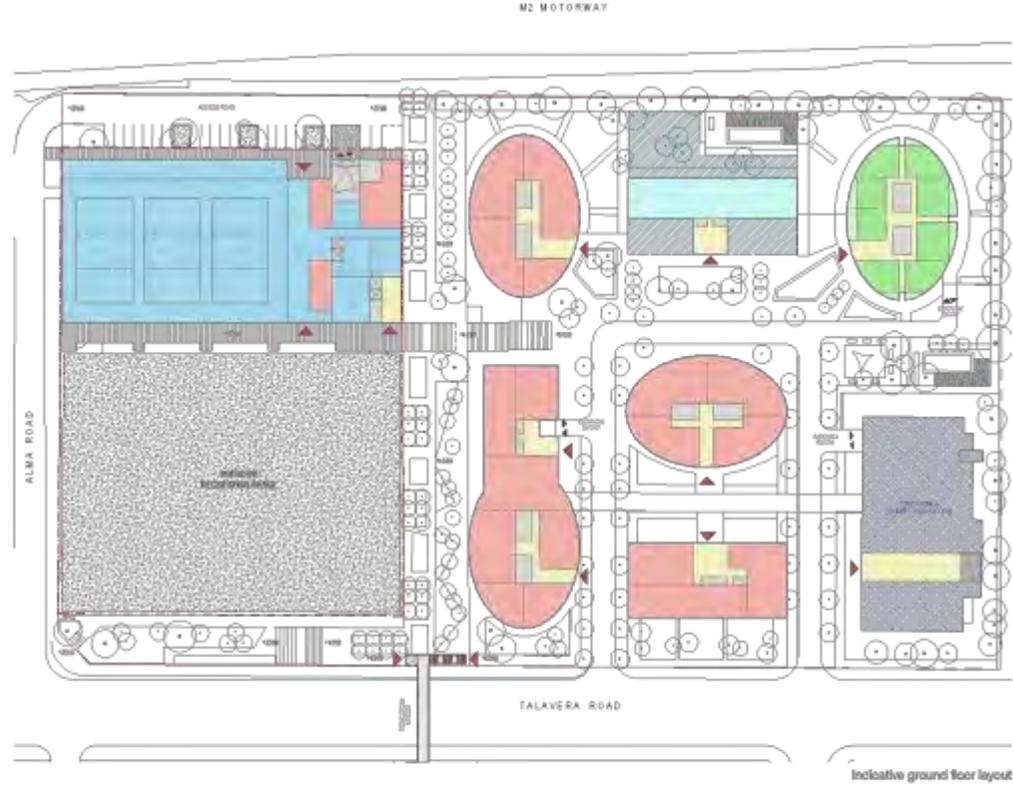
It also provides an indicative layout for the Indoor Recreation Centre and how this could connect to and activate the public open space.

The childcare centre is located centrally within the site and is co-located where extensive open space is available. Each building is afforded a building entry which is on-street or in close proximity.

Detailed planning would further consider and respond to site levels.

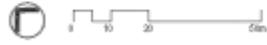


LEGEND	
	RESIDENTIAL APARTMENT
	RESIDENTIAL BLOCKS
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	COMMERCIAL
	RETAIL
	CHILD CARE
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	PLANTING, LIGHTS - STAIRS



ITEM 3 (continued)

ATTACHMENT 5

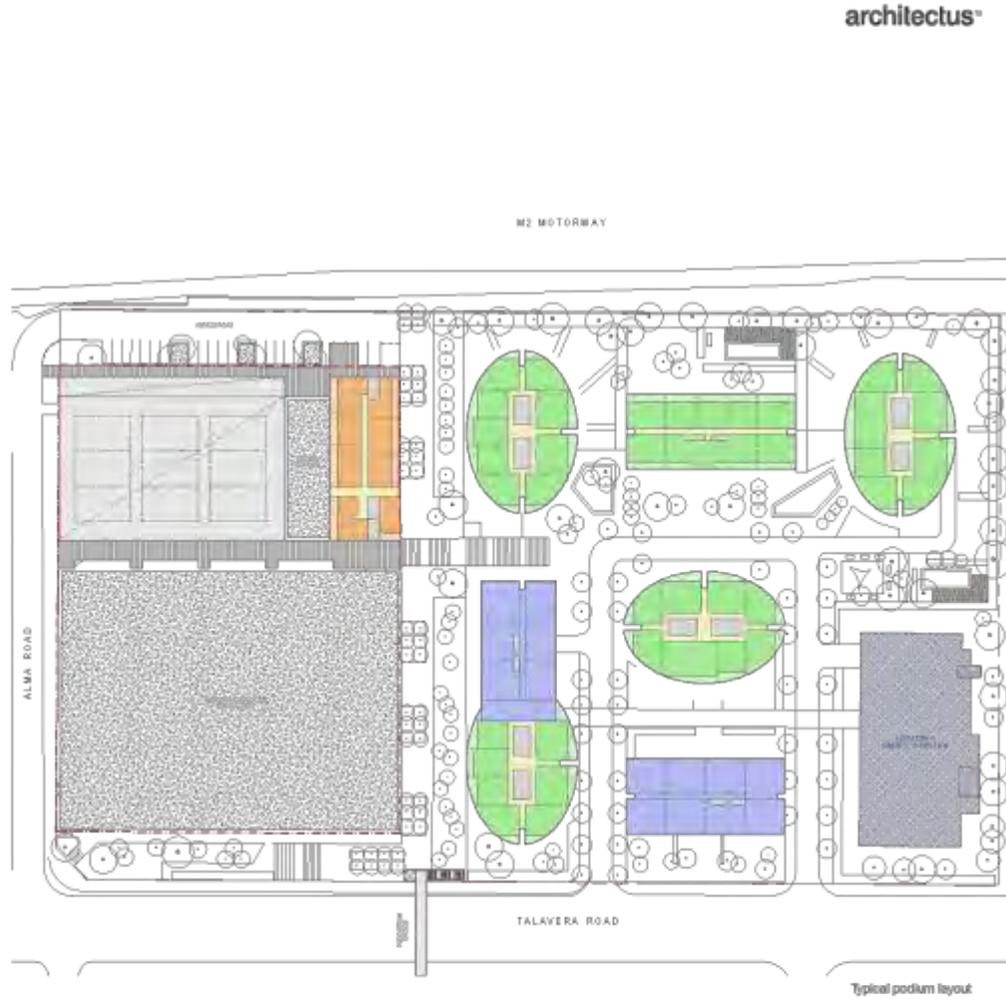


2.2.3 Podium Level

The plan to the right shows an indicative layout of a typical podium level which consists of residential uses. This is with the exception of two podium buildings (B5 and B7) where commercial uses are included, but are able to function separately to the residential buildings adjacent.

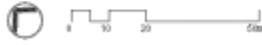
An indicative layout for the future affordable housing units above the recreation centre is also provided. The indicative plan details how the affordable housing component could be constructed away from the indoor sports courts, allowing for a clear, open area with no support structures located in close proximity to the courts.

LEGEND	
	RESIDENTIAL USE
	RESIDENTIAL BUILDING UNDER CONSTRUCTION
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	COMMERCIAL
	RETAIL
	CHILDREN
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	PLUMB INCL. LIFTED STAIRS



ITEM 3 (continued)

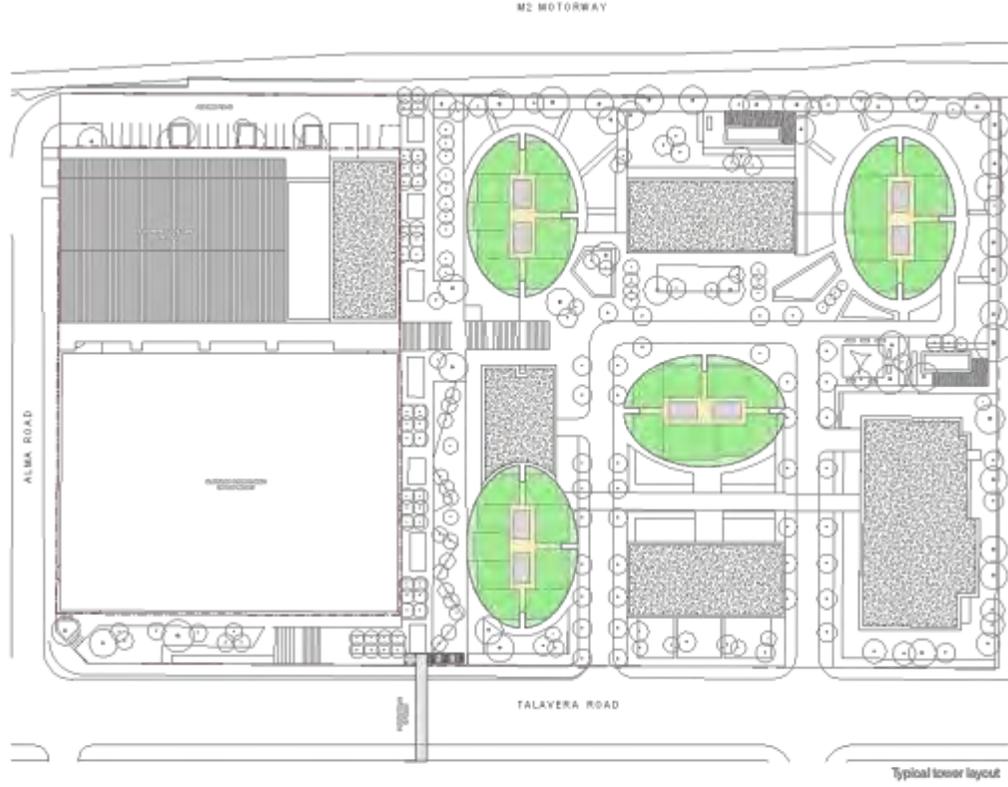
ATTACHMENT 5



2.2.4 Typical Tower Level

The plan to the right shows an indicative layout of the four tower floor plates that comprise an all residential component.

LEGEND	
	RESIDENTIAL APARTMENT
	RESIDENTIAL BLOCK/ST
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	COMMERCIAL
	RETAIL
	CHILDREN
	COMMERCIAL BUILDING UNDER CONSTRUCTION
	PLANT/CL. LIFTS/ STAIRS



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Typical tower layout

ITEM 3 (continued)

ATTACHMENT 5

2.2.5 Height of Buildings

The plan to the right shows the building heights represented in storeys. The building envelopes indicate 3 towers which may support 38 storeys (120m) in height, plus an additional tower of 49 storeys (154m) inclusive of all mechanical plant and services, with adjacent podium building envelopes ranging from 5 - 7 storeys across the site.

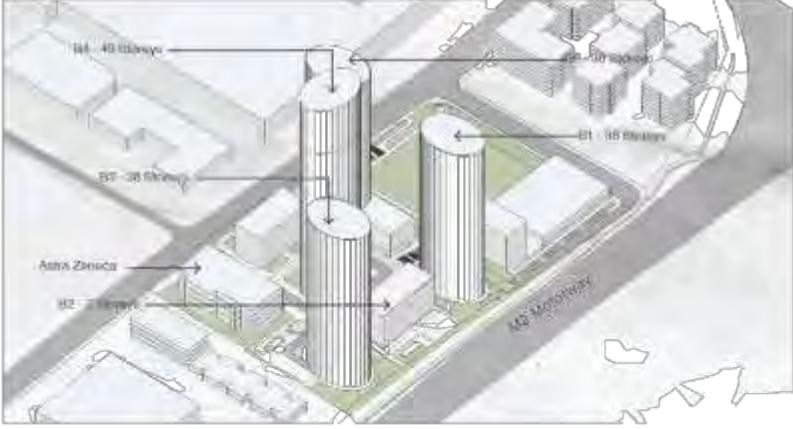
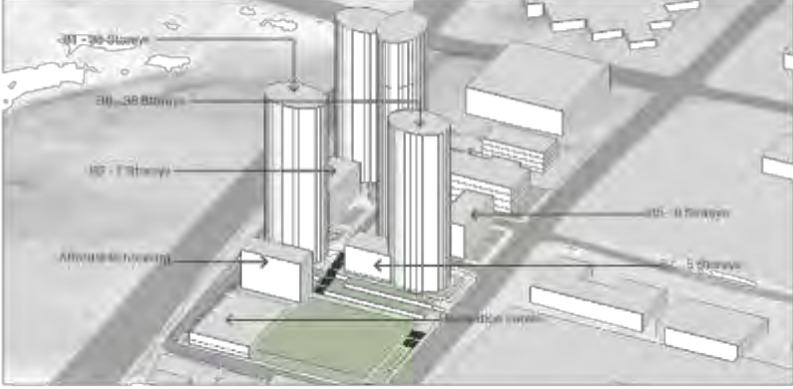
Building envelopes that contain retail uses would have a 4.5m floor to floor height at ground level to maximise its flexibility of use, resulting in a slight variation to building height in storeys to B2 and B5. The proposed 120m incentive maximum height of buildings plus single tower of 154m is supported from an urban design perspective in that:

- The 120m / 154m height concentrates maximum heights and densities near the train station, university and shopping centre. This is intended to make the most efficient use of local infrastructure and services;
- The 120m / 154m height limit minimizes building footprint while delivering an FSR in line with adjoining Herring Road sites, enabling the delivery of more public domain;
- The 120m / 154m height is consistent with the Macquarie University Station (Herring Road) Priority Precinct controls which has heights up to 120m for large parts of the precinct, but also diversifies building height in the centre. This creates a distinctive skyline for Macquarie Park.
- The 120m / 154m height allows for slender building forms which provide better tower separation, slender shadows and residential amenity;
- The 120m / 154m height allows for the delivery of open space while preserving its solar access and amenity;
- The site is located near a key entry and exit point to Macquarie Park (from the M2 Motorway), and is larger than the majority of other sites within Macquarie Park. The site is therefore considered to be appropriate for additional height to signpost the entry to this key commercial centre through landmark buildings.
- This study has informed the overall heights and FSRs proposed under the Planning Proposal and will be used to inform the appropriate amendments to the Ryde DCP 2014 as required.



ITEM 3 (continued)

ATTACHMENT 5



ITEM 3 (continued)

ATTACHMENT 5

2.3 The public domain

2.3.1 New public park

The proposed open space, totalling **6,100sqm**, comprises the following elements:

- A single, level, open multi use green space (turf or synthetic surface) of approximately **6,100m²** (subject to detailed design), including an event stage and support area to be dedicated to Council;
- Four linked terrace spaces of approximately **3,000 m²** in total, overlooking the central green space, with each terrace offering a range of uses such as public seating under trees, play, outdoor café seating, boules courts etc. It is intended that these open spaces be protected for public use through right-of-way easement.
- Off-street pedestrian access from Talavera Road, linked to lift access on the building perimeters to ensure universal access to all areas of the public open space
- Tree and shrub planting on streets and terraces, offering amenity and shade
- Amenity night lighting and special event lighting and service infrastructure (three phase power, water etc.)

A public car park will be provided below the new park, servicing the needs of the indoor recreation centre and the wider community.

Note the image right shows the open space of 1ha as originally proposed. This has been reduced in discussion with Council to provide affordable housing and an indoor recreation centre.



Illustrative view of new public park and indoor recreation centre from terrace area;



Illustrative view of proposed new public park

Note: the community recreational centre & affordable housing are not shown as these were later additions requested by Council

2.3.2 Open space design

Architectus' master planning for the site provided for a minimum 6,100sqm open space. Clouston were involved in the location and dimensions of the open space, with a view to create the best, most flexible space for Macquarie Park. Clouston were then requested by Holdmark Property Group to prepare a preliminary design concept for the 1ha space.

The design principles for the open space are:

- Provide a large, level open space;
- Ensure that the park has a good relationship with the public domain by minimising level changes and providing level access with the public footpath where possible.
- Provide some at-grade parking to service the park;
- Provide commercial and community space at the edge of the park.
- Focus planting around the edge of the park to allow for active uses in the park.

The level change over the site is a challenge for the design of open space. In early options, the open space extended to the base of buildings B1, B6 and B7, but this was not considered to be an appropriately scaled interface for the open space.

The solution was to introduce terrace buildings, to provide for a transitioned level change with terraced public open space above. The terraces provide for more passive recreation and places to sit and watch the activity in the main area of the park. The lower level of these buildings could be used for community, childcare and retail uses, which would activate the park. The upper level of buildings B8 and B9 is earmarked for residential use, and a small proportion of the terraced area at this level will be designed as private courtyards. The terrace which lies atop the upper, residential level will be entirely for public use.

The proposed terraces allow are spatially appropriate because they improve the quality and operation of the open space whilst successfully negotiating the topography.

Clouston have also assisted with a design concept for the common open space areas. The focus for these areas was to create spaces for gathering and interaction. The terraced design ensures that open spaces are private and usable, without the need to provide high fences.



Section west to east through new public park and terraces looking north-east towards the M2

ITEM 3 (continued)

ATTACHMENT 5

2.3.3 Communal open spaces and streets

The layout and design of open spaces associated with the buildings and streets on the eastern part of the site recognises the need for a mix of community and more private spaces including:

- Shared use streets designed for low vehicle speeds;
- Defined and easily recognised entry landscapes for each building;
- Community space adjoining each building;
- A ground level local play space;
- Swimming pools for use of residents; and
- Street trees and seating along all access roads.

It is expected that the definition between public open space and the community spaces for residential users will be clearly defined by planting and/or permeable fencing, which establishes the principal uses whilst optimising casual surveillance.

It is proposed to have all-movements vehicle access at the easternmost entry to the built-up area of the site, with a signalised intersection on Talavera Road at this point. The location of this access point will align with the future Council road connecting Talavera Road and Waterloo Road.

The second vehicle entry-point to the site off Talavera Road to the west, and the Alma Road intersection are proposed as left-in/ left-out access.

A one-way link between the two internal circulation roads is proposed to improve opportunities for vehicles to circulate and avoid using the external road network. This link would be a share-zone to safely accommodate pedestrians.



Green internal and external streets: Park Lane, Central Park, Sydney



Communal grow gardens: Elephant Park, Central London

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ITEM 3 (continued)

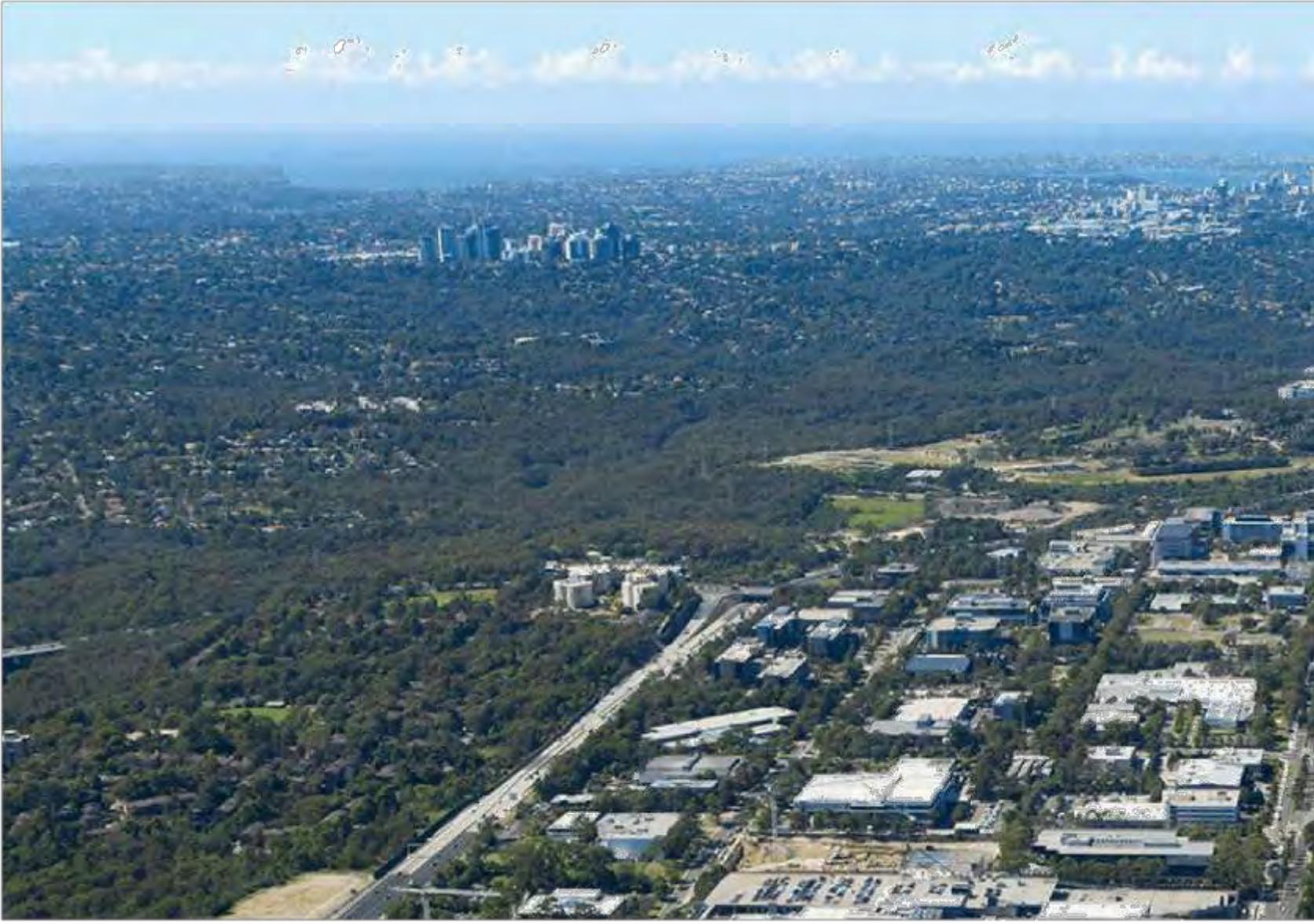
ATTACHMENT 5



Illustrative view of active frontages and landscaped terraces opening onto new dedicated public park; View looking north-east towards M2

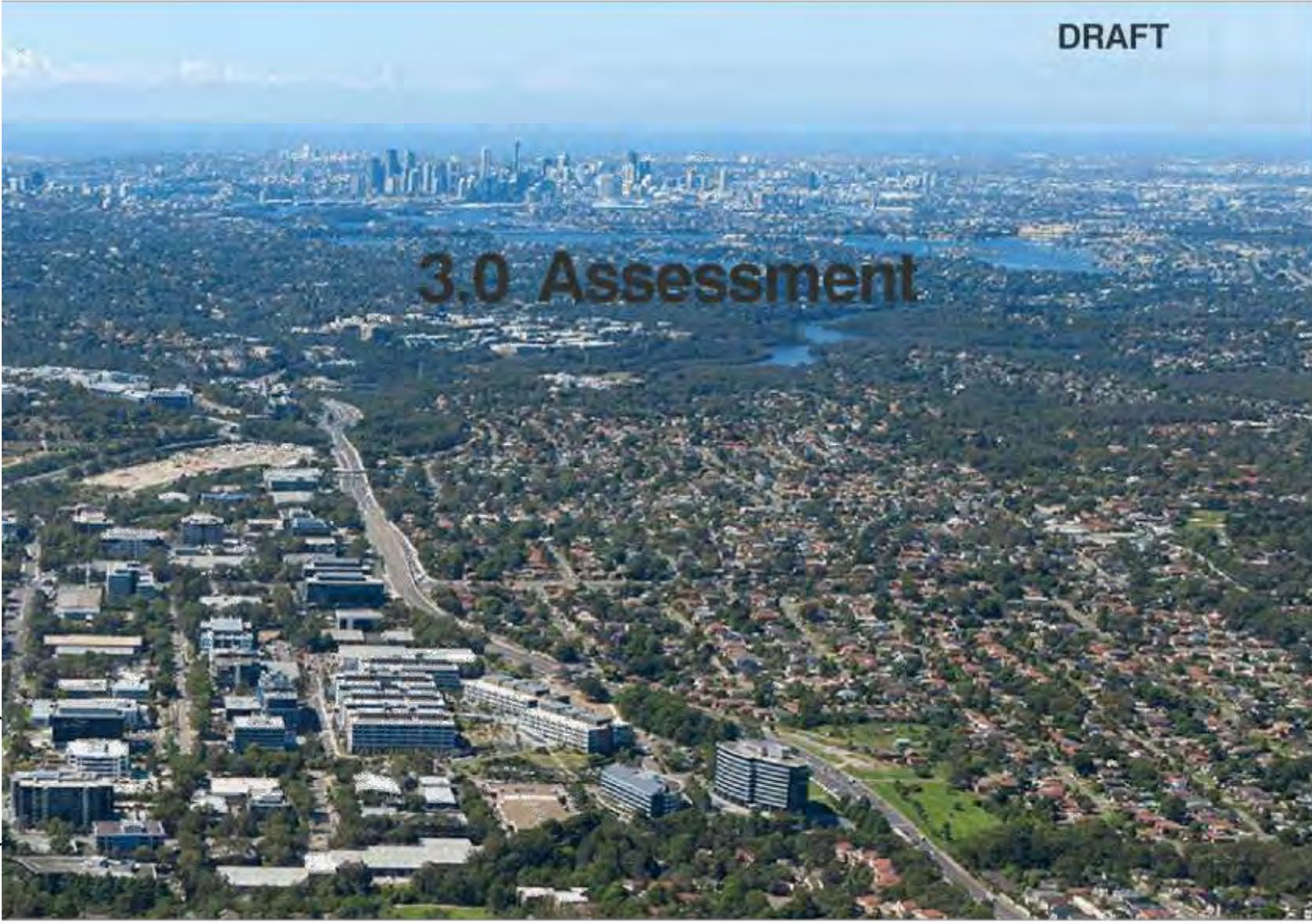
ITEM 3 (continued)

ATTACHMENT 5



ITEM 3 (continued)

ATTACHMENT 5



3.1 SEPP65 and Apartment Design Guide compliance

3.1.1 Master Plan Option

Sunlight/ daylight access to buildings

Daylight access to the indicative built form of the master plan proposal has been assessed for mid-winter (21 June) between the hours of between 9 am and 3 pm. With an FSR of 3.7, it is recommended that the proposed development be considered a dense urban area. The proposed master plan achieves SEPP 65 direct sunlight access (2 hrs) to approximately 70% of apartments.

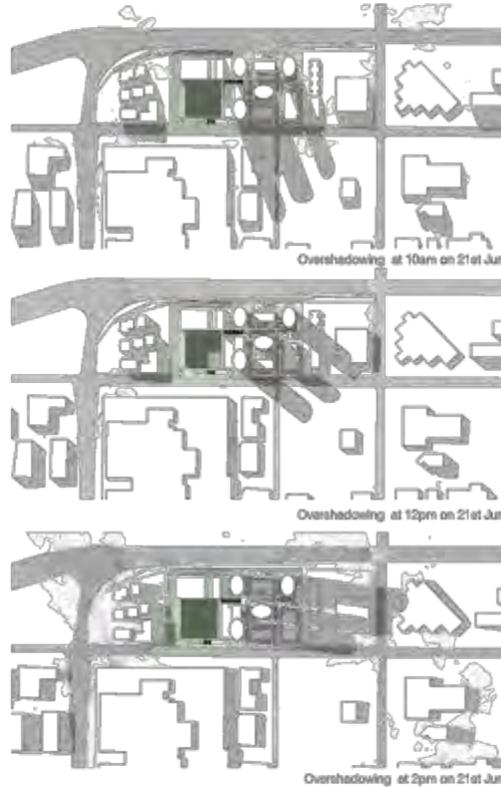
Solar-access promoting features of the proposed development include;

- Elliptical tower form optimises the number of apartments receiving daylight access to habitable rooms and principal windows
- Provision of high ceilings and window-heads to allow deep sunlight penetration
- Provision of external horizontal shading to north-facing windows, and vertical shading to east and west-facing windows

Overshadowing

Potential overshadowing impacts of the indicative built form of the master plan proposal have been assessed for mid-winter (21 June) The 21st June is the shortest day of the year day, and has the longest shadows. For each of these days, an overshadowing study is provided for 9:00am, 12:00pm midday, and 2:00pm.

The proposal concentrates the tallest buildings away from the park to minimise overshadowing and maximise amenity to this public space. There is no overshadowing impact on adjacent residential areas, with shadows falling on commercial buildings where they have the least impact.



East Aerial View - Sunlight/ Daylight access, to buildings 21st June



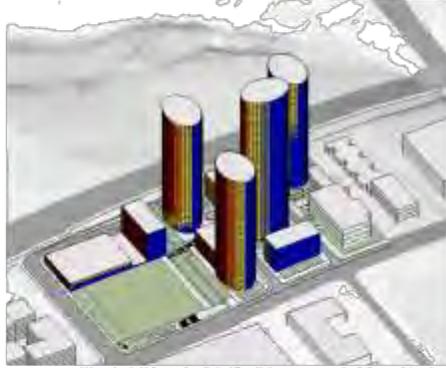
East Aerial View - Sunlight/ Daylight access, to park 21st June

ITEM 3 (continued)

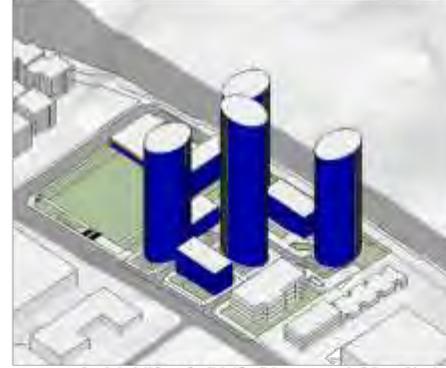
ATTACHMENT 5



North Aerial View - Sunlight/ Daylight access, to buildings 21st June



West Aerial View - Sunlight/ Daylight access, to buildings 21st June



South Aerial View - Sunlight/ Daylight access, to buildings 21st June



North Aerial - Sunlight/ Daylight access, to park 21st June



West Aerial View - Sunlight/ Daylight access, to park 21st June



South Aerial View - Sunlight/ Daylight access, to park 21st June

ITEM 3 (continued)

ATTACHMENT 5

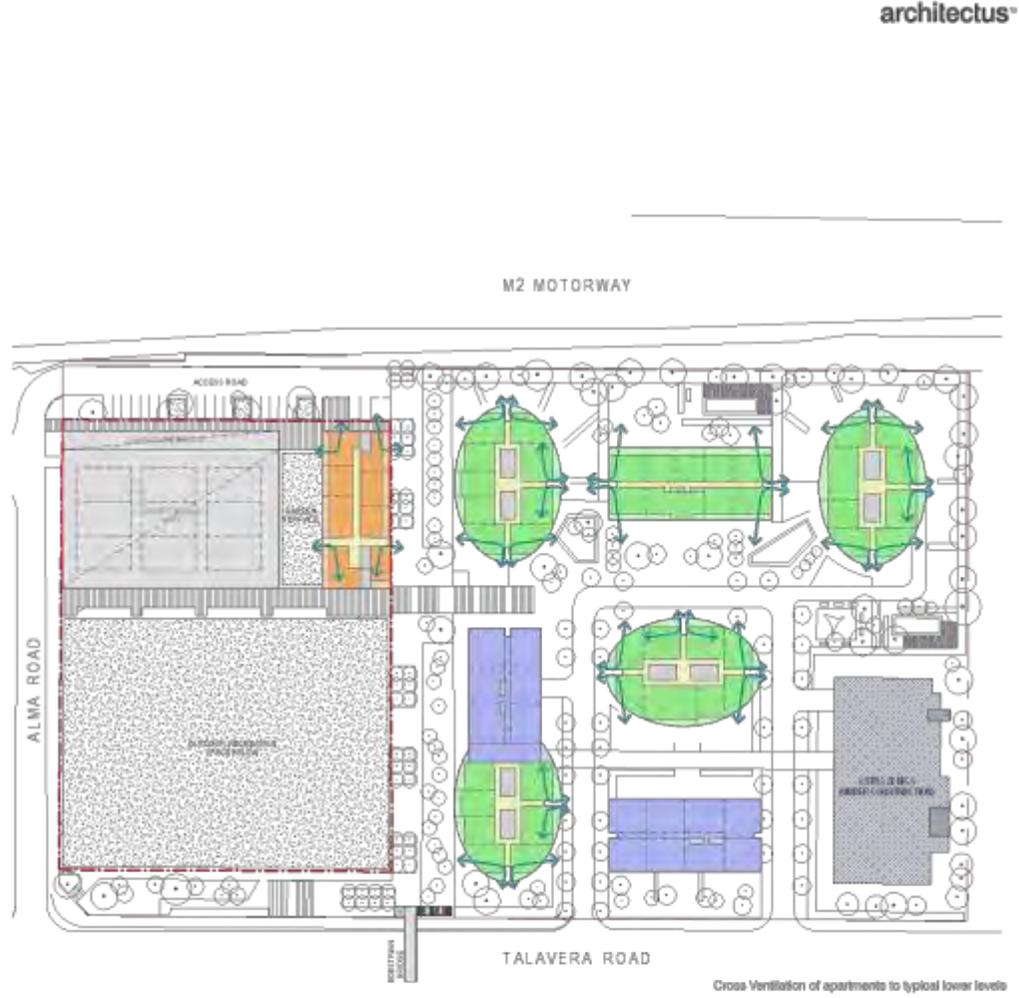
3.1.2 Cross Ventilation

Cross Ventilation to buildings

Testing of the built form has demonstrated that the envelopes of capable of achieving the 60% natural ventilation requirement of SEPP 65 in line with the Apartment Design Guide. It is considered that with further detailed design development other natural ventilation methods may be introduced to improve performance.

It should be noted that detailed compliance with cross ventilation will be demonstrated as part of subsequent detailed design Development Applications.

It is intended that apartments above 9 storeys will have balconies that are not fully enclosed. Louvres or other such architectural devices could be used to manage airflow at these heights.



ITEM 3 (continued)

ATTACHMENT 5

3.1.3 Master Plan Option Including Key Worker Housing

Location

The location of the key worker housing is subject to negotiation between Holdmark and Council. Holdmark proposes two options:

- a) the key worker housing is located to the north west of the open space;
- b) the key worker housing is located within the mixed use towers as increased density.

It is Architectus's recommendation that the approximately 40 apartment dwellings be located within the mixed use towers as additional density to the proposal.

Our recommendation is based on a consideration of the best function of the open space and the relationship between housing and the M2, which may result in the isolation of the key worker housing.

In addition, the integration of key worker housing into the mixed use towers is likely to achieve better social outcomes by ensuring that it is not as easily distinguishable from private housing, reducing the perception and likelihood of social exclusion.

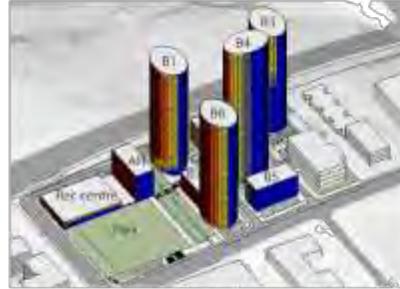
Solar Access

Solar access testing has been undertaken for the key worker housing located to the north west of the open space, being option a. The testing demonstrates that good solar access is achievable to the key worker housing and the public open space in this option.

SEPP 65 Compliance

The key worker housing envelopes are considered likely to be able to achieve SEPP 65 compliance through detailed design, based on the envelope width and solar access testing.

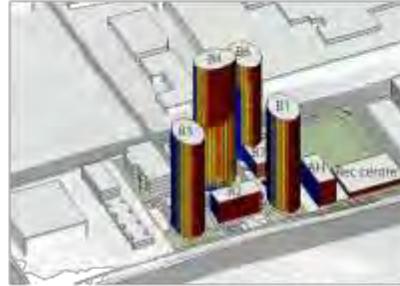
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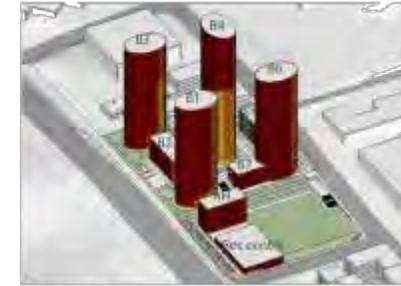
Aerial - view looking East Sunlight/ Daylight access to buildings 21st June



Aerial - view looking North Sunlight/ Daylight access to buildings 21st June



Aerial - view looking West Sunlight/ Daylight access to buildings 21st June



Aerial - view looking South Sunlight/ Daylight access to buildings 21st June



Aerial - view looking West Sunlight/ Daylight access to open space 21st June

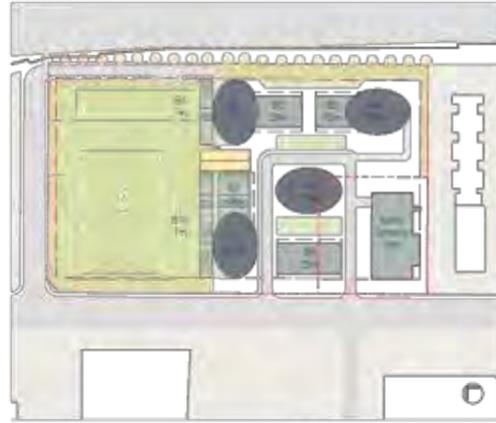
LEGEND	
Red	0-4 HOURS
Orange	4-8 HOURS
Yellow	8-12 HOURS
Blue	<2 HOURS

3.2 Options tested

Prior to arriving at the proposed master plan, Architectus tested a number of alternative master plan options.

3.2.1 Option 01 Variable heights

Strengths	Weaknesses	Conclusions
<ul style="list-style-type: none"> - Complies with SEPP 65 separation, solar access, cross ventilation, building depths - Park location is excellent - good visibility, public character and can be generally flat. - Varied heights provide interest and break up building bulk. - All buildings have good street address. - Good interface between buildings and the open space. - Maximises views for towers - Oval-shaped towers minimise visual bulk and ensure towers achieve 24m separation. 	<ul style="list-style-type: none"> - Less separation between towers when standing in the park than Option 2 and 4. - Exceeds 120m maximum building height. 	<ul style="list-style-type: none"> - Varied tower heights provide an excellent built form outcome, but requires building height in excess of 120m (the maximum height identified in the Herring Road Priority Precinct)



Option 01 Variable heights: Master plan



Option 01 Variable heights: View from new park (Alma Street)



Option 01 Variable heights: View from Talavera Road west, looking uphill to the east



Option 01 Variable heights: View from M2 Motorway



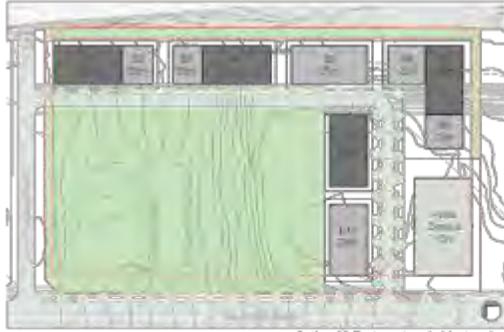
Option 01 Variable heights: View from Talavera Road east, looking downhill to the west

ITEM 3 (continued)

ATTACHMENT 5

3.2.2 Option 02 East-west park

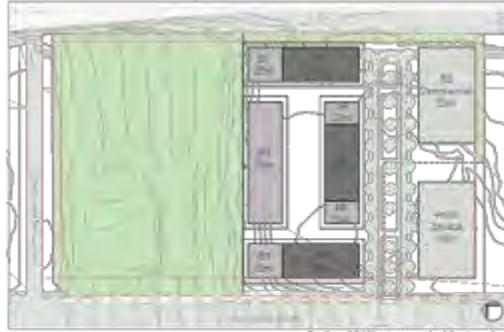
Strengths	Weaknesses	Conclusions
<ul style="list-style-type: none"> - Excellent tower separation - Complies with SEPP 65 separation, solar access, cross ventilation, building depths - Open space effectively relates to drainage channel west of Alma Road 	<ul style="list-style-type: none"> - Open space must be terraced because of level change and does not allow for a large, flexible open space for active play - Towers too close to motorway jeopardising resident amenity 	<ul style="list-style-type: none"> - Does not achieve objectives for district open space



Option 02 East-west park: Master plan

3.2.3 Option 03 Western park

Strengths	Weaknesses	Conclusions
<ul style="list-style-type: none"> - Complies with SEPP 65 solar access and ventilation. - Park location is excellent – good visibility, public character and can be generally flat. - Open space effectively relates to drainage channel west of Alma Road 	<ul style="list-style-type: none"> - Does not achieve SEPP 65 tower separation distances - Towers are too bulky when viewed from the open space. - Poor street address - Buildings are too long 	<ul style="list-style-type: none"> - Built form needs further consideration in this configuration



Option 03 Western park: Master plan

3.2.4 Option 04 Centralised open space

Strengths	Weaknesses	Conclusions
<ul style="list-style-type: none"> - Complies with SEPP 65 separation, solar access, cross ventilation, building depths - Internal park provides access from both sides of development 	<ul style="list-style-type: none"> - Open space feels internalised and private. - Poor interface between buildings and the open space - Park centred on steepest slope of site which would cause significant earthworks to be required - Reduced views from towers - Park overshadowed by western towers 	<ul style="list-style-type: none"> - Open space has only one street edge and provides less public amenity than preferred option



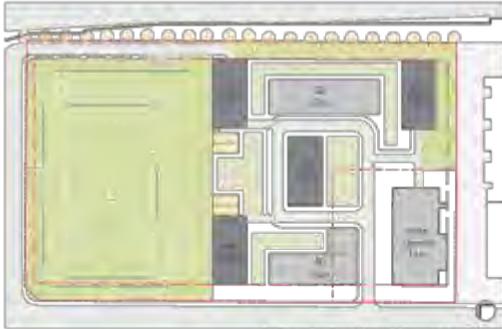
Option 04 Centralised open space: Master plan

ITEM 3 (continued)

ATTACHMENT 5

3.2.5 Option 05 Looped internal road

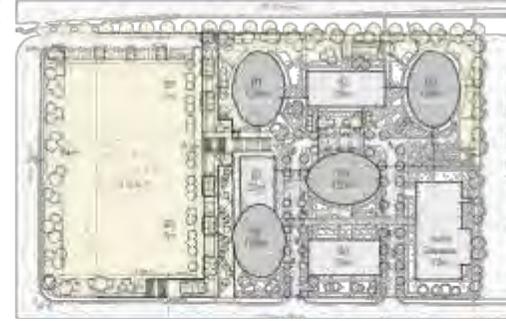
Strengths	Weaknesses	Conclusions
<ul style="list-style-type: none"> - Park location is excellent – good visibility, public character and can be generally flat. - New internal road adjoining the M2 provides good access to the park and the common basement - Open space effectively relates to drainage channel west of Alma Road 	<ul style="list-style-type: none"> - Road pattern is inefficient and does not provide good address for individual buildings. - Low-rise slab building adjoining the M2 is too long. 	<ul style="list-style-type: none"> - Need to further resolve road pattern and built form



Option 06 Looped internal road: Master plan

3.2.6 Preferred scheme

Strengths	Weaknesses	Conclusions
<ul style="list-style-type: none"> - Complies with SEPP 85 separation, solar access, cross ventilation, building depths - Park location is excellent – good visibility, public character and can be generally flat. - All buildings have good street address. - Good interface between buildings and the open space. - Maximises views for towers - Oval-shaped towers minimise visual bulk and ensure towers achieve 24m separation. - Open space effectively relates to drainage channel west of Alma Road 	<ul style="list-style-type: none"> - Less separation between towers when standing in the park than Option 2 and 4. 	<ul style="list-style-type: none"> - Recommend as basis for the master plan as this scheme provides more public and private amenity than any other option <p>This option has since been further progressed with Council to deliver affordable housing and an Indoor Recreation Facility.</p>



Preferred scheme: Draft master plan



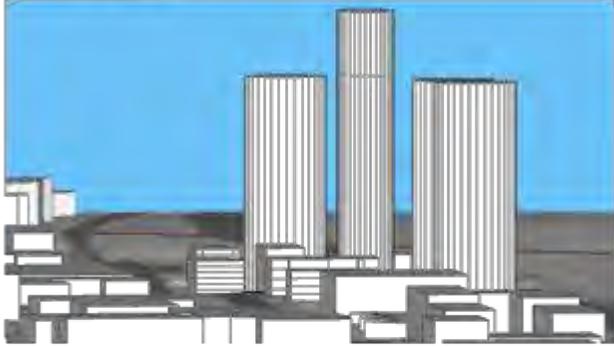
Preferred Scheme: View from new park (Alma Street)

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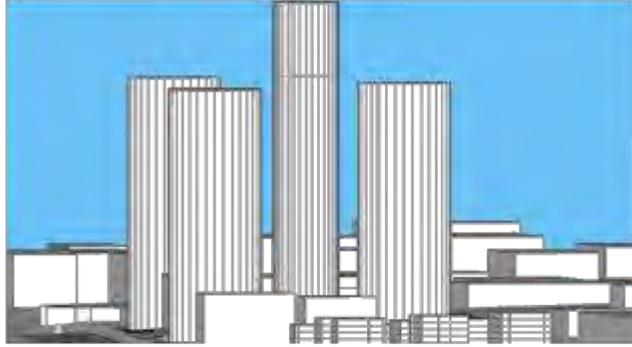
ITEM 3 (continued)

ATTACHMENT 5

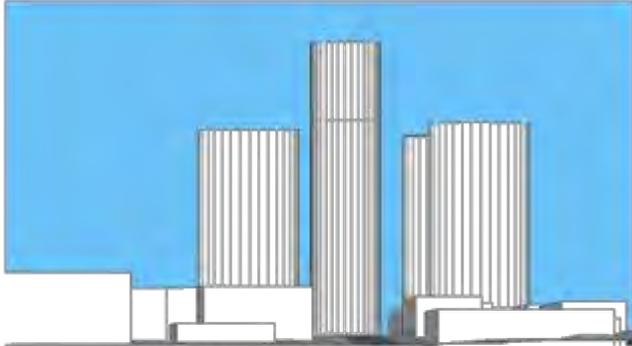
3.2.7 Street Views



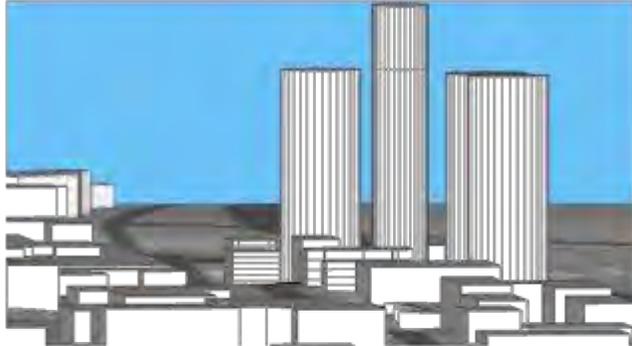
Perspective view: Corner of Talavera Road and Lane Cove Road



Perspective view: Corner of Talavera Road and Herring Road



Perspective view: Corner of Talavera Road and Khatoum Road



Perspective view : Corner of Talavera Road and Lane Cove Road

ITEM 3 (continued)

ATTACHMENT 5



ITEM 3 (continued)

ATTACHMENT 5



4.1 Proposed Local Environmental Plan controls

4.1.1 Land use zoning

It is recommended that the subject site be zoned **B4 Mixed Uses**, as per all other non-recreational land subject to the Priority Precinct. This will allow for the development of the new commercial building on Talavera Road, the new public open space and the residential uses proposed in the preferred master plan. Importantly, this zone will also facilitate active uses at ground levels, which will be important for the success of the park.

This allows for the delivery of key worker housing to Council in a location to be agreed.

4.1.2 Building heights

It is recommended that the site have a maximum building height of **120m, with a singular tower of 154m**. The FSR control and DCP provisions would restrict development on the site to a maximum of four towers.

From an urban design perspective, it is appropriate to have the maximum building height on the periphery of the Herring Road Priority Precinct because the site will be a gateway for the precinct, marking the entrance to Macquarie Park from the M2 motorway, and also visually locating the new park. In practical terms, the additional height on the subject site is required commercially to allow for 1ha of the site to be dedicated to Council for public open space and public facilities at no cost to Council.

4.1.3 Floor space ratio

The preferred master plan for the site results in an **FSR of 3.7:1**. This is within the range of FSR controls for the Herring Road Priority Precinct.

4.2 Development Control Plan and VPA

4.2.1 DCP controls

To support the development of the site in accordance with the preferred master plan, a draft Site specific amendment to the Ryde Development Control Plan 2014 has been proposed. This draft Development Control Plan addresses the following:

- Vehicle entry / exit points
- Location of the Recreation Centre / Open Space
- Development Parcels
- Maximum Tower footprint
- Commitments under the proposed VPA
- Setbacks;
- Development to achieve compliance with the ADGs; and
- Commuter car parking to be delivered as part of the development as identified in the VPA.

4.2.2 Voluntary Planning Agreement

The proposal is also supported by a Voluntary Planning Agreement offer which has been accepted by a resolution of City of Ryde Council on 2 August 2016 and which seeks to deliver significant public benefit, including:

- 5,296m² Gross Floor Area (GFA) of Affordable Housing;
- A community indoor recreation facility of 3,500m² GFA;
- 6,100m² of public open space (dedicated as a stratum lot over a public car park);
- Public parking;
- Pedestrian bridge over Talavera Road;
- \$5 million contribution to Roadworks and Traffic Management;
- 4.5m wide footpath along Talavera Road frontage; and
- Payment of full Section 94 Contributions on the site, with the exception of the Section 94 applicable for the affordable housing component and community indoor recreation facility and ancillary commercial floor space.

ITEM 3 (continued)

ATTACHMENT 5

4.3 Conclusion and recommendations

The rezoning for B4 Mixed Uses and increased maximum FSR and height would result in the provision of 6,100sqm open space and Indoor Recreation Centre and 56 affordable housing units, at no cost to the public purse – a significant and important opportunity for Macquarie Park and City of Ryde.

This report provides an indicative building envelope plan for the redevelopment of the remainder of the site for residential uses. In summary, the master plan prioritises the location and design of the open space. In the proposed northern location the park will be visible, have excellent solar access and can be designed to be level (which has been a challenge on this site which has a fall of over 18m from the south to the north of the site). The preliminary design concept for the park, prepared by Clouston, ensures that it will have active edges, passive surveillance opportunities and a significant grassed area for a wide variety of active and passive recreation uses.

Key worker housing would achieve the same level of amenity and compliance with SEPP 65 as the proposed private residential dwellings. The proposed dwellings could also achieve compliance

with the definition of affordable housing under the NSW Affordable Housing Guidelines. The location and management of these dwellings would be negotiated between Council and Holdmark to ensure a positive social outcome and a benefit to the Business Park.

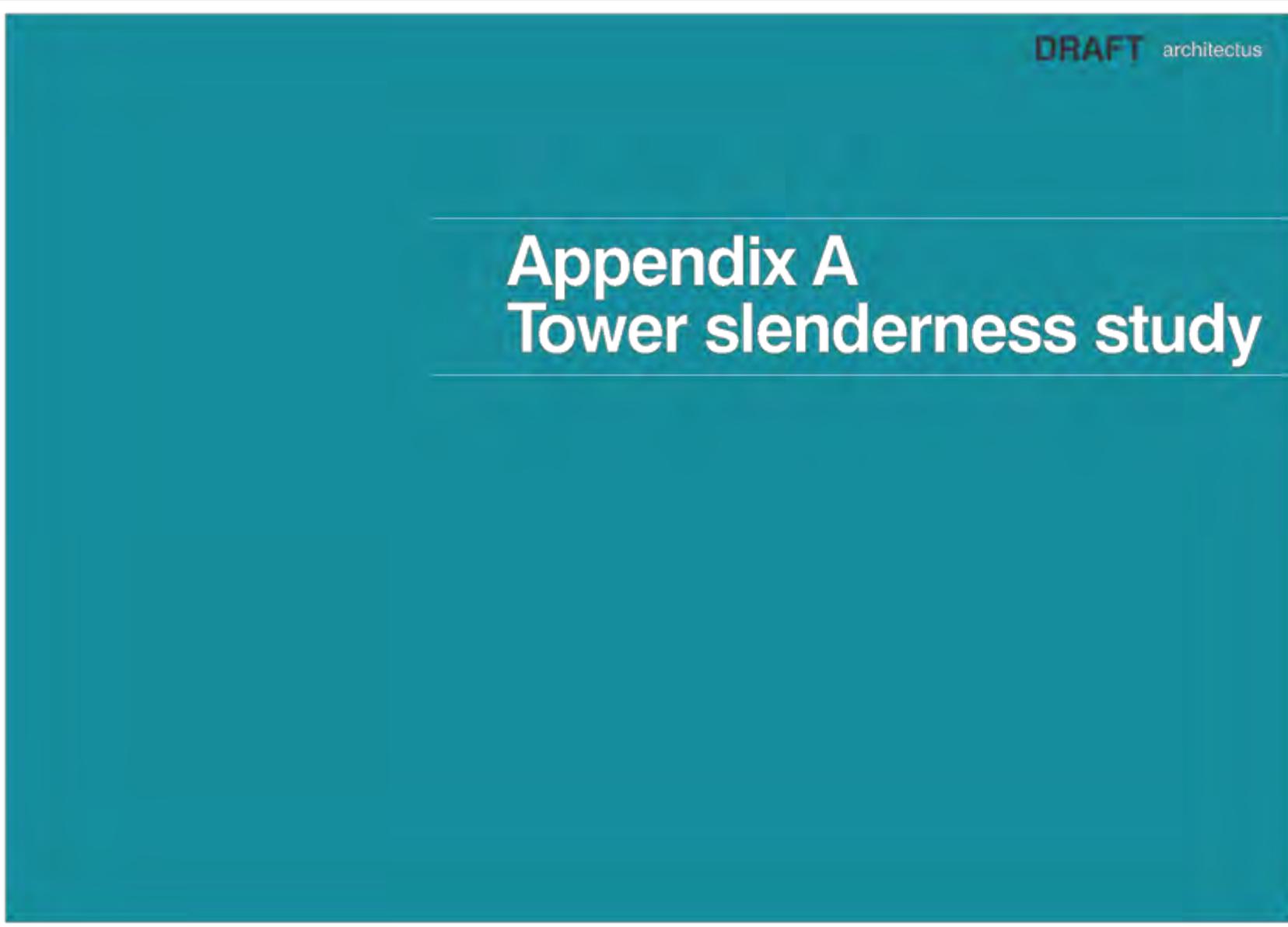
The built form provided in this report shows indicative envelopes that would be refined through detailed design, consultation and testing. The plan has demonstrated ability to comply with SEPP65.

On the basis of the public benefit to be delivered, Architectus recommend that the planning proposal is supported.



ITEM 3 (continued)

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Tower slenderness study

Architectus has researched methods to achieve tower slenderness to provide good urban design, internal amenity and address impacts of tower bulk on surroundings. The aim of this research is to develop 'rules of thumb' for appropriate tower proportions.

Benefits of slender towers

As urban densities increase the slenderness of tall towers are becoming an important consideration – especially for residential towers and their separation.

Benefits of slender towers include:

- Overcomes the sense of tower bulkiness and overwhelming of the public domain.
- Opportunities for views of sky between buildings and a feeling of openness.
- Minimising overshadowing, particularly extended periods of overshadowing in comparison to long elevations of lower scale development.
- Enables a good sunlight and daylight to the public domain.
- Creating better separation between buildings and better views - improves the amenity, privacy and outlook of apartments
- Increased residential amenity, as the floor-plates are more likely to achieve good solar access and ventilation requirements.
- Limits the number of apartments per level and the length of corridors.
- Ensures that apartments are not too deep and rooms don't rely on 'borrowed' light and air.

Local examples of floorplate controls

New South Wales

SEPP 65 and the Apartment Design Guide (ADG) provide design controls for all residential flat buildings in NSW. The ADG has controls for building depth and separation and amenity. Together with fire regulations, the proper application of the ADG should have the effect of limiting floorplates in residential buildings.

However, in the early master planning stages of a project, it is difficult to test all of these detailed design provisions. As a result, master plans, and planning controls can result in envelopes for large floor-plates that are acceptable from a design and amenity perspective.

There are no state-wide floor-plate controls for tall buildings in NSW.

Green Square, City of Sydney Council

In the South Dowling St Precinct within Victoria Park, Zetland (part of Green Square) detailed consideration has been given to the slenderness of towers. The resulting controls allow for 22-storey towers (approximately 70m in height) to a maximum of 750sqm of floor area including balconies (referred to here as 750sqm Gross Building Area floor-plate).

A significant separation distance between towers (60m) is also provided as this precinct is an inner city area but is not within a designated urban centre.

Central Sydney

In Central Sydney, a 1,000sqm Gross Floor Area maximum is applied to residential tower buildings. This would equate to 1,333sqm GBA. A maximum horizontal dimension of the building facade of 40m is also applied. Towers in Central Sydney have maximum building heights ranging from 60m to 235m.

International examples of floorplate controls

Calgary, Canada

The maximum floorplate size is 650 square metres of net residential floor area (i.e. not including elevator cores, balconies etc.). This would equate to 953sqm GBA.

Chicago, USA

There is no limit to floorplate size, but upper storeys are required to be smaller to give the towers a sculptural appearance.

New York, USA

Floorplate size is regulated using a site coverage control. Towers must cover 40% or less of a site area, with special exceptions up to 50% for smaller sites.

San Francisco, USA

The floorplate of towers in San Francisco must incrementally decrease as height increases. Lower parts of a tower must not exceed 1,600sqm GBA and the upper tower floorplates must not exceed 1,100sqm GBA.

Vancouver, Canada

The maximum floorplate size is 604sqm of net residential floor area (this equates to 886sqm GBA) and the maximum horizontal dimension of a tower is 27.5m.

Open balconies may extend beyond this provided they are less than 1/3 the overall facade length.

ITEM 3 (continued)

ATTACHMENT 5

Design examples



Victoria Square North: 20 Gadigal Avenue, Zetland, NSW, Australia

- Floorplate: 700sqm including balcony
- Floorplate dimensions: 46m x 15.2m = 700sqm.
- Building Height: 83m and 26 storeys
- Slenderness ratio: 1:6 (using the narrow side of the building)



One Madison Park: East 23rd Street, New York, NY

- Slenderness ratio: 1:12 (Depth:Height)
- 50 Floors plus cellar/ 621 ft (189.28m)

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ATTACHMENT 5

Findings

There are a variety of different floorplate controls in other cities around the world. Ultimately, the controls are a function of different priorities for a city – whether the aspirations are access to sunlight, views, or densification and consolidation. Generally, it seems that larger cities have more relaxed floorplate controls, while smaller cities seek slimmer towers and more separation between towers.

A floorplate control that is simply a percentage of the site area can produce very bulky buildings on large sites or amalgamated sites.

Reducing the size of upper floorplates is a solution to reducing visual bulk for very tall buildings (say, over 50 storeys). In Sydney's climate, it is usually preferable to have a podium/tower form of development where the podium relates to the alignment and scale of the street and the tower relates to a wider context of towers. It is usually preferable to not have "wedding cake" or stepped built forms in favour of simplicity of built form.

It is now commonly acknowledged that the Green Square provisions (700sqm floorplate, 22-25 storeys) produce a tower with slender proportions.

Taller buildings can accommodate larger footprints, and still achieve good internal amenity, as more floor space is dedicated to lift cores/services.

Architectus' recommendations

In order to achieve slender tower the following rules-of-thumb are recommended:

– Floor-plate sizes should be related to height as follows:

– Up to 25 storeys – 800sqm GBA maximum

– 26-35 storeys - 950sqm GBA maximum

– Above 35 storeys – 1,100sqm GBA maximum

– The length (horizontal dimension) of a residential tower should not exceed 40m.

– A tower slenderness ratio (depth:height) should be at least 1:4.

The above recommendation is subject to detailed testing for each site, and in consideration of the site's context and constraints. Towers might not be able to achieve the above maximum floorplates if they cannot meet SEPP 65 standards for internal amenity.

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Sources:

Extract from a study for the City of Toronto: www1.toronto.ca/city_of_toronto/city.../tall-buildings-Final-pt5.pdf

Program for the 'Slenderness: New York, Hong Kong' exhibition, Skyscraper Museum, New York: http://www.skyscraper.org/PROGRAMS/slender_program.htm

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September 2015

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ATTACHMENT 6

66-82 TALAVERA ROAD, MACQUARIE PARK
TRAFFIC IMPACT ASSESSMENT



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ATTACHMENT 6

66-82 Talavera Road, Macquarie Park
Traffic Impact Assessment 

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1. INTRODUCTION

1.1 BACKGROUND

Bitzios Consulting has been commissioned by Holdmark to prepare an updated Traffic Impact Assessment (TIA) to support a Planning Proposal which involves changes to the permissible use at 66–82 Talavera Road, Macquarie Park, from B7 (Business Park) to B4 (Mixed Use); increasing the floor-space-ratio from 1:1 to 3.7:1 and increasing the height limit from 30m to 120m, with a single tower of up to 154m in height.

The site is on the south-east corner of Alma Road and Talavera Road (refer Figure 1.1 below), and borders the south-east corner of the Herring Road (Epping and Macquarie Park Urban Renewal Area). It is also located adjacent to the Macquarie Shopping Centre, with a bus station located at the shopping centre on Herring Road, and 500m walking distance to the Macquarie University Train Station.

There are currently several buildings occupying the site, including the existing Astra Zeneca office premises on Alma Road, from which the existing employees will be relocated to a Council approved proposed new six (6) storey office/commercial development located in the south-eastern corner of the study area.



Source: Google Maps

Figure 1.1 Locality Map

1.2 RELEVANT REVIEW HISTORY

Roads and Maritime Services (RMS) provided comments to City of Ryde Council (Council) on the Planning Proposal and original TIA report on 8th December 2015. The applicant requested some changes to the Planning Proposal due to amendments to the Gateway Determination. The revised Planning Proposal and TIA report have since been submitted to RMS (19th January 2017) with a target reply date set for 17th February 2017. At the time of preparing this updated TIA report (1st March 2017) and associated traffic modelling, RMS comments have not yet been received. This report has been based on the best available information and assumptions available to Bitzios Consulting, prior to input being received from RMS.

1.3 SCOPE OF WORKS

The purpose of this report is to assess the traffic and transport impacts of the Planning Proposal on the operation of the road and transport network. Specifically, this report includes:

- identification of potential impacts on the road network;
- proposed access points and arrangements; and
- parking provisions.

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Traffic Impact Assessment



2. PLANNING PROPOSAL

2.1 PROPOSAL DETAILS

The proposal includes 1,271 apartments and approximately 20,000m² of non-residential floor space.

Macquarie Park, now one of the premier business centres of "Global Sydney", is facing a deficiency in accessible open space as it continues to grow. In view of offering appropriate community benefit, a Voluntary Planning Agreement (VPA) has been established as part of the Planning Proposal.

The VPA seeks to provide an outdoor recreational park with underground public car park and an indoor sports facility consisting of three (3) courts, with approximately 270m² in three (3) commercial tenancies (cafes, offices, or commercial). The commercial tenancies would be ancillary and complementary to the use of open space and indoor courts. The remainder of this part would include an option for key worker housing. This facility would be separated from the residential and commercial traffic through its proposed access via Alma Road (refer Figure 2.1).

Based on this proposal, there is a need to apply for a rezoning from B7 (business park) to B4 (mixed use).

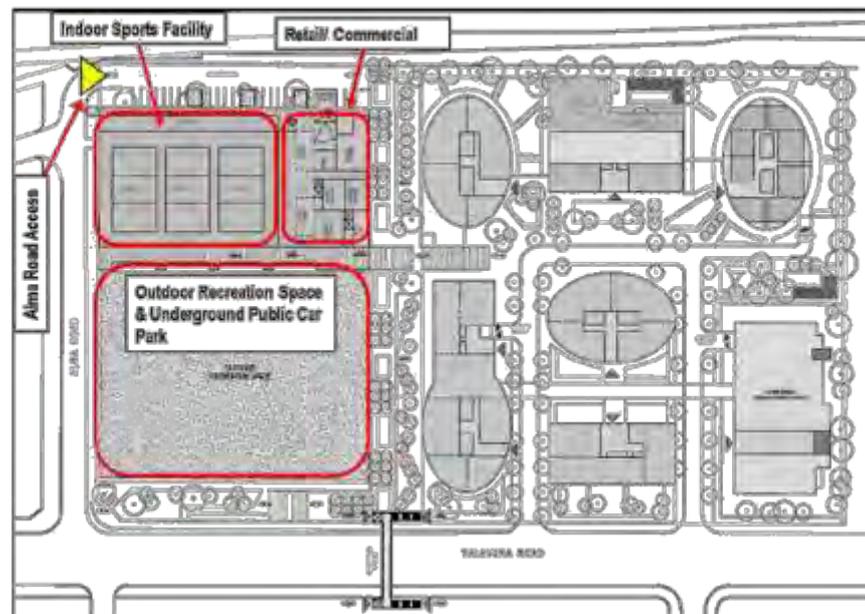


Figure 2.1 Indoor/ Outdoor Recreation Facility

The concept Master Plan can be summarised as:

- 1,271 apartments;
- 20,000 m² of non-residential floor space, with the combination of:
 - Council approved Astra Zeneca building (8,982m²);
 - retail / restaurant 4,000m² maximum; and
 - commercial / office approximately 7,000m².
- recreation centre 3,500m²;
- dedicated public open space 6,100m²; and
- key worker dwellings (affordable housing): 56 units.

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2.2 PROPOSED ACCESS ARRANGEMENT

The study area is proposed to comprise of three (3) access points:

- Alma Road;
- Western Access; and
- Eastern Access.

The Western and Eastern Access points are proposed to be interlinked within the site, and would offer direct vehicular access to the Residential and Commercial developments. The Alma Road access would be the only vehicular access for VPA parking, but would also provide access for residential and commercial parking. The access points are described in Table 2.1.

Table 2.1 Summary of the Three Access Points

Access	Present Arrangement	Proposed Modification	Concerned Traffic
Alma Road	Left-in/left-out	-	Public Car Park, Indoor Sports Facilities, Key Workers Housing, Residential, Commercial (including Astra Zeneca)
Western Access	Proposed new	Left-in/left-out	Residential, Commercial (including Astra Zeneca)
Eastern Access	Left-in/left-out	Align with shopping centre access to form a four-leg signalised intersection	Residential, Commercial (including Astra Zeneca)

The proposed access points, as well as the ground level and podium level of the proposed development are presented in Figure 2.2 and Figure 2.3.

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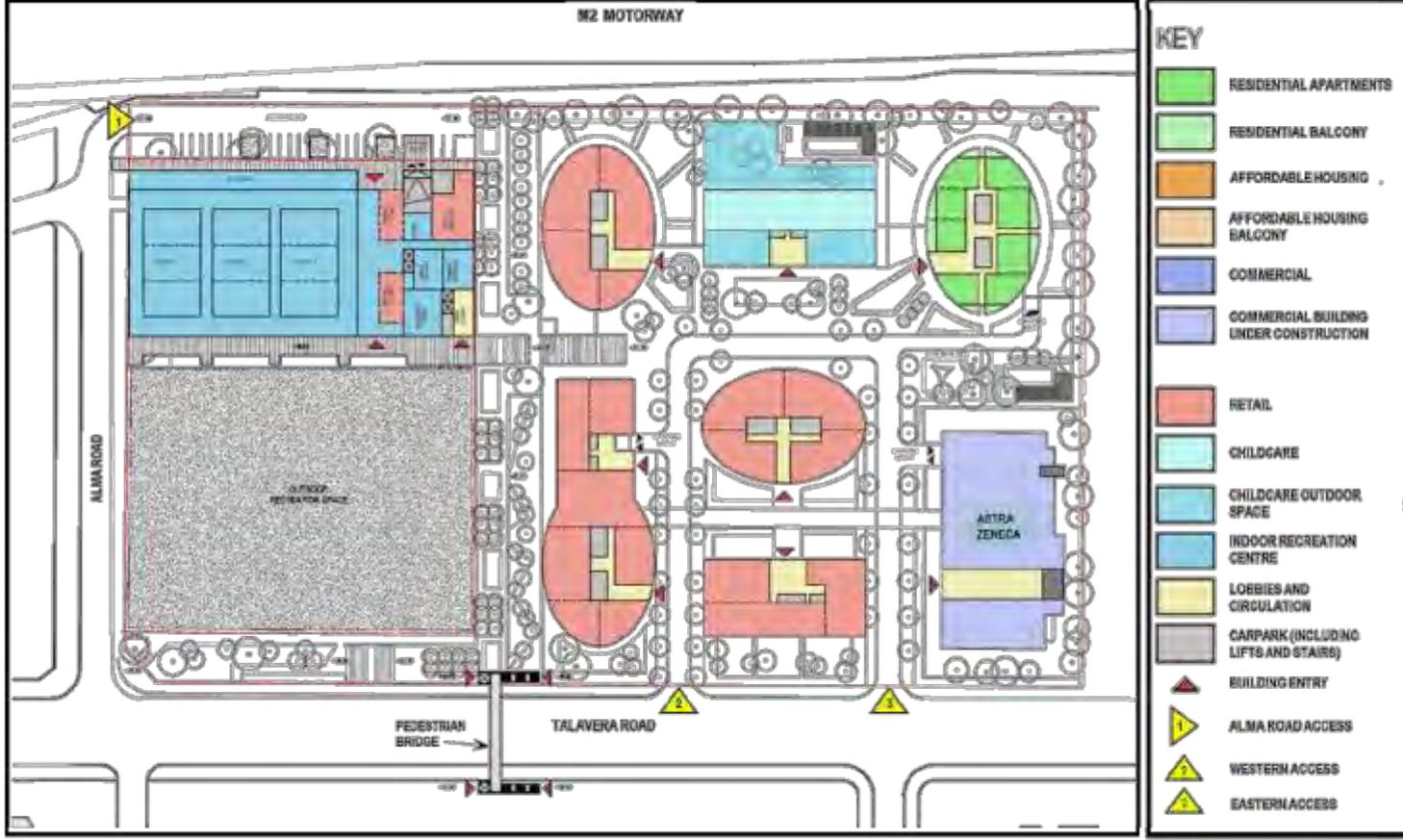


Figure 2.2 Ground Level of Proposed Development

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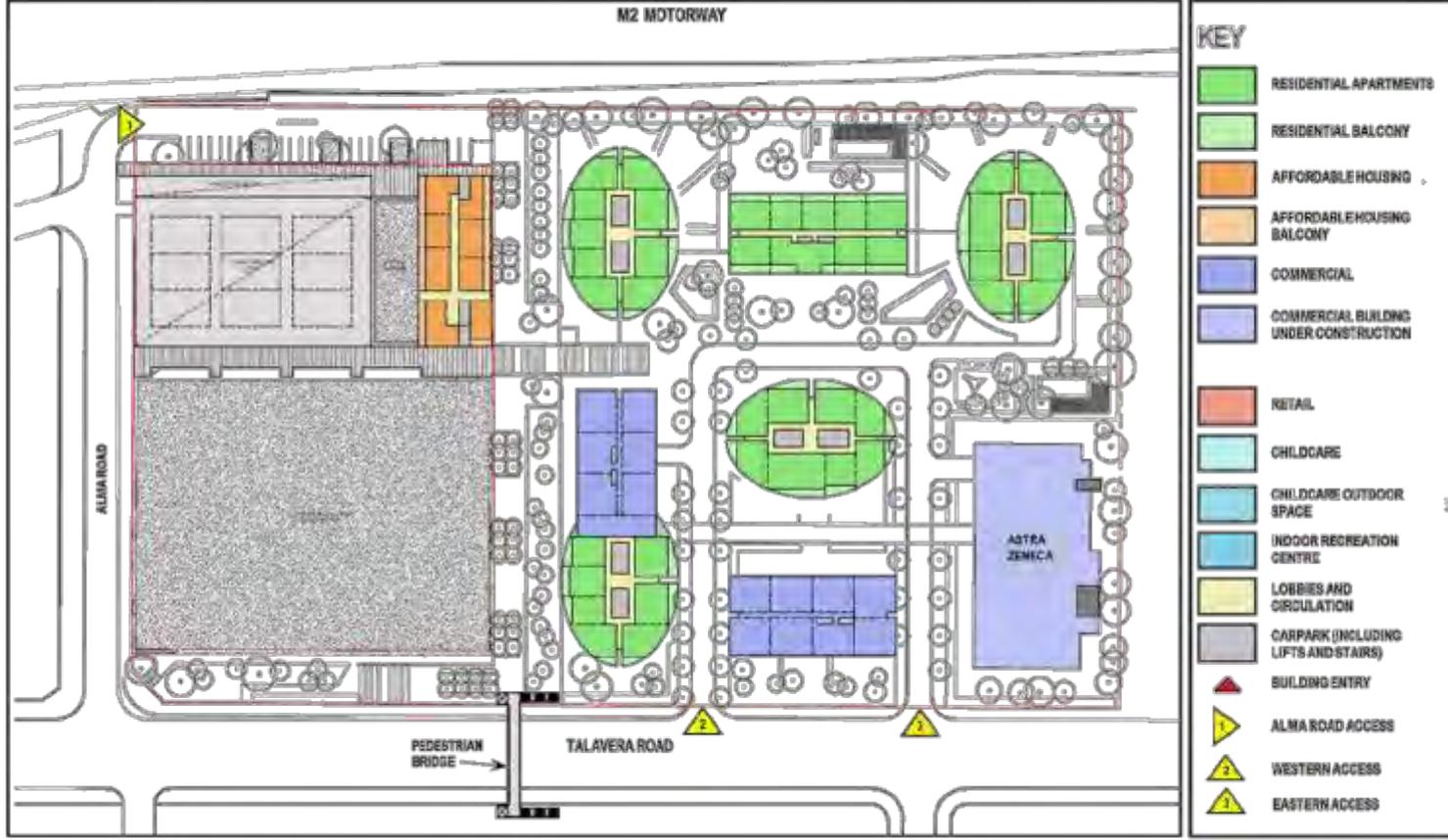


Figure 2.3 Podium Level of Proposed Development

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86-82 Talavera Road, Macquarie Park
Traffic Impact Assessment



3. EXISTING CONDITION

3.1 ROAD NETWORK

The subject site is accessed via both Talavera Road and Alma Road. Talavera Road is a two-way sub-arterial road with a posted speed limit of 50km/h. Restricted "6P Ticket" sign-posted parking zones control the parking demand on both sides of the road outside the AM and PM peak periods. Alma Road is essentially a local access road with a 50kph speed limit and on-street parking.

The nearest state-controlled roads are accessed via the Herring Road/Talavera Road and Lane Cove Road/Talavera Road signalised intersections. There is an alternative access point to Lane Cove Road at Fontenoy Road (accessed via Khartoum Road), north of the Lane Cove Road/M2 Motorway access ramps.

The M2 entry and exit ramps are located at Herring Road and Christie Road, allowing direct access to the site from the M2 via the western leg of Talavera Road. Figure 3.1 below illustrates existing major roads and key trip generating areas near the site.



Source: NSW Globe (google earth)

Figure 3.1 Existing Major Roads and Trip Generators

The existing premises within the site are accessed via a driveway on Alma Road. The premises may also be accessed directly from Talavera Road in the east. The Alma Road intersection with Talavera Road is a left-in/left-out priority intersection and a median strip is located on Talavera Road at Alma Road restricting right turn movement in and out of Alma Road. The existing access arrangements are shown in Figure 3.2.



Source: NSW Globe (google earth)

Figure 3.2 Existing Access Arrangements

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3.2 STUDY INTERSECTIONS

Updated traffic analysis has been undertaken using the latest version of SIDRA. The study network includes a total of seven (7) intersections as summarised in Table 3.1 and illustrated on Figure 3.3. The two (2) major signalised intersections at either end of the study network (i.e. Intersection 1 and 7) a cycle time of 140 seconds has been adopted. However, based on feedback from RMS, the cycle time for intersections modelled along Talavera Road (i.e. Intersections 3, 4 and 5) has been based on a 120 second cycle time.

Table 3.1 Study Intersections

ID	Name	Control	Cycle Time
1	Talavera Road / Herring Road / M2 Ramps	Traffic Signals	140 seconds
2	Talavera Road / Alma Road	Priority (Left-in/Left-out)	n/a
3	Talavera Road / Shopping Centre Access	Traffic Signals	120 seconds
4	Talavera Road / Site Access	Priority (Left-in/Left-out)	n/a
5	Talavera Road / Shopping Centre Access / Site Access	Traffic Signals	120 seconds
6	Talavera Road / Khartoum Road	Traffic Signals	120 seconds
7	Talavera Road / Lane Cove Road	Traffic Signals	140 seconds



Source: NSW Globe (google earth)

Figure 3.3 Study Intersections

3.3 ON-STREET PARKING

As noted previously, Talavera Road has restricted "6P Ticket" sign-posted parking zones control on both sides of the road for use outside of the AM and PM peak periods. Whilst Council has noted that there is no direction to remove on-street parking on Talavera Road, this proposal provides Council with an opportunity to change the long-term parking into short term parking.

3.4 BUS ROUTES

Several bus routes travel along Talavera Road between Khartoum Road and Lane Cove Road (i.e. Routes 294, 458, 459, 506, 550, 562, 565, 572 and 575). There are no dedicated public transport provisions along this section of the network (i.e. no bus lanes, or bus priority signals etc.). As such, all buses are subject to general traffic conditions and associate delays and queues.

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86-82 Talavera Road, Macquarie Park
Traffic Impact Assessment



4. ESTIMATED TRAFFIC DEMANDS

4.1 BACKGROUND TRAFFIC VOLUMES

4.1.1 Traffic Survey Data

Traffic survey data for Intersections 6 and 7 were extracted from the previous report titled "Astra Zeneca Office, Macquarie Park Traffic Impact Assessment" dated 25th June 2015 (Bitzios Consulting).

Traffic survey data for Intersections 1, 2 and 3 was obtained on 3rd September 2015 at the following times:

- AM Peak – 7.15am-9.15am; and
- PM Peak – 4.15am-6.15pm.

From the above data, the following AM and PM peak hours were determined for the study area:

- AM Peak – 8.15am-9.15am; and
- PM Peak – 4.45am-5.45pm.

4.1.2 Adopted Traffic Growth Rate

For consistency and due to the absence of a recommended alternative rate from RMS at the time of this report, traffic growth rates have been obtained from Arup's "Macquarie Centre Redevelopment Stage 1 Concept DA Transport Management and Access Plan" (December 2015), as follows:

- AM Peak – 1.5% per annum; and
- PM Peak – 1.1% per annum.

4.2 DEVELOPMENT TRAFFIC VOLUMES

4.2.1 Traffic Generation Rates

Traffic volumes were generated in accordance with the RTA "Guide to Traffic Generating Developments" and the RMS "Technical Direction with Updated Traffic Surveys". These rates are as follows:

- High density residential:
 - AM Peak: 0.19 trips per unit; and
 - PM Peak: 0.15 trips per unit.
- Office block:
 - AM Peak: 1.6 trips per 100m² GFA; and
 - PM Peak: 1.2 trips per 100m² GFA.
- Retail (shopping centre rate 0 – 10,000m²):
 - AM Peak: n/a;
 - Thursday PM Peak: 12.3 trips per 100m² GLFA; and
 - Friday PM Peak: 12.5 trips per 100m² GLFA.

The residential development is within walking distance to major shopping, education, recreational opportunities and mass public transport and hence using the high-density rate is entirely appropriate in this location. This rate was checked against a first principles assessment considering access to other uses and public transport and correlated very well with the surveyed RMS rates.

4.2.2 Generated Traffic by Development Component

A TIA was recently undertaken for the Astra Zeneca building within the study area. This proposal has been approved by Council and is currently under construction. The relevant data from the traffic assessment for that development was extracted and used in this assessment.

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Retail/Restaurant

The retail/restaurant type uses (4,000m² maximum) within the main development are expected to provide services for the residential and commercial development in the area primarily, and restaurant-generated traffic is outside the commuter peak hours in any event. Therefore, the retail/restaurant traffic generation has been assumed as half of the *RTA Guide to Traffic Generating Developments* rate for a shopping centre; i.e., 6.15 trips per 100m² GLFA for Thursday PM Peak and 6.25 trips per 100m² GLFA for Friday PM Peak. The *RTA Guide to Traffic Generating Developments* states 100m² of GFA equals 75m² GLFA.

Community Centre

The community centre proposed parking consists of parking for the indoor sports facility, retail/commercial and for the affordable housing in the same building. This traffic generally coincides with the PM peak hour, but would occur outside the AM peak hour. A maximum of approximately 90 additional vehicle trips are expected to be generated from the indoor sports facility accessing Alma Road during the PM peak hours. The affordable housing may generate 11 vehicle trips in the AM peak and 8 vehicle trips in the PM peak.

Public Car Park

As part of the development, it is proposed to provide 1,030 off-street (under the open space facility) and 20 on-street spaces for public car parking. The proposed public car park will provide parking for commuters, university students, visitors to Macquarie Park, and to provide public car parking for people using the outdoor recreation facility.

The public car park under the outdoor facility would be open to the public, and the operator would provide shuttle buses to transport commuters to the other precincts around Macquarie Park. The frequency of the buses would be assessed at a later date and would require surveys of the demand and be revised accordingly.

There is no other long-stay car park in Macquarie Park, apart from at Macquarie Centre which ideally should be occupied by shopping centre employees and visitors rather than employees from surrounding businesses or the university. There are about 416 on-street parking spaces with a 12P parking restriction in Macquarie Park.

The location of the car park is ideal, being close to on/off ramps to the M2 and on the edge (rather than the centre) of the Macquarie Park precinct. This minimises the traffic being added to road network in the centre of Macquarie Park.

Although the car park is close to public transport, which is intended to be a more sustainable alternative to private vehicle use, public transport is not suitable for all commuters for various reasons, including availability at the origin of their journey, accessibility, weather, carrying equipment/luggage, cost, and journey time. In particular, the station and the Metro Line service a relatively narrow catchment compared to the relatively dispersed employee catchment of Macquarie Park which has a slight bias towards the North-East, away from major, direct public transport connections. The car park provides an alternative for these commuters, and the shuttle bus can transport commuters to the other precincts around Macquarie Park that are not located near the primary public transport interchange.

The proposed car park will reduce the amount of traffic circulating around Macquarie Park searching for parking spaces, which is significant and is growing. It provides a single parking focal point, which can be appropriately signed and will remove the need for drivers to circulate various streets until they find a parking space.

Although other visitors to Macquarie Park and/or university students might use the car park, by the nature of these trips, it is unlikely a large proportion of these would occur during the AM and PM peak hours. Since the parking in the 1,030 off-street public parking spaces consists of mixed patronage, the overall proportion expected to arrive or leave in the peak hours is less than 75 percent of the capacity, or a maximum of 773 vehicle trips per peak hour. Cars would arrive at or depart from the remaining spaces outside peak hours.

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Therefore, a maximum of 773 additional vehicle trips would be expected to enter Alma Road in the AM peak and 773 additional vehicle trips to exit in the PM peak. These additional vehicle trips are expected to be a re-distribution of the existing traffic within Macquarie Park rather than the development attracting additional vehicles trips into the Macquarie Park network as car parks, on their own, do not contain activities that generate the need for travel.

Public Open Space

The public open space is expected to be used by local residents and commercial tenants, as well as attracting some traffic from outside the area. However, the amount of traffic is expected to be negligible in the peak hours since the facilities in the public open space are generally for passive recreation. Facilities such as market stalls are expected to generate traffic outside the peak hours and particularly on week-ends. The car park is in a convenient accessible location for these users, who have a negligible impact on peak hour traffic.

No traffic generation analysis was undertaken for weekend peak, this is due to the weekday AM and PM peak being considered as the more critical peak hours with higher existing traffic volumes.

The proposed changes to the land use type on site are to generate traffic volumes in the peak hours as outlined in Table 4.1.

Table 4.1 Peak Hour Traffic Generation

Development Type	Size	Traffic Generated	
		AM Peak	PM Peak
Apartments	1,271 units (total 119,978m ²)	241	191
Astra Zeneca*	8,982m ²	150	122
Commercial (excluding restaurants)	7,000m ²	112	84
Retail in main development	4,000m ² maximum	-	185 (Thursday) 188 (Friday)
Public Car Park	-	773	773
Indoor Courts	3 courts	-	90 (included in 773 from public car park)
Retail in VPA	3 shops (total 270m ²)	-	3 (included in 773 from public car park)
Key Worker Dwellings	56 units (total 5,296m ²)	11	8

*Council approved development adopted from the Astra Zeneca traffic impact assessment report

This proposal replaces a "business park" development type, which is heavily private car dependent with a mixed-use development relying heavily on local travel, public transport, walking and cycling for its accessibility.

The traffic generated by an office block development on the same site would be based on a traffic generation rate of 1.6 trips per 100m² GFA in the AM peak hour and 1.2 trips per 100m² GFA in the PM peak hour. The theoretical floor area of an office block on the site under the current applicable planning controls allowing an FSR of 1.5:1 would deliver a total Gross Floor Area of 56,748m². Therefore, the traffic generation for a compliant commercial development could be 908 trips per hour in the AM peak and 681 trips per hour in the PM peak, which is 71% and 50%, of the traffic generation for the proposal in the AM and PM peaks, respectively.

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4.2.3 Traffic Distribution Splits & Traffic Distribution

The *RTA Guide to Traffic Generating Developments* assumes for residential development that 80% of morning peak movements are outbound and 20% inbound. The split is reversed in the evening peak. For commercial development, the RTA Guide assumes 80% of employees are inbound and 20% outbound in the morning peak, with the reverse occurring in the afternoon peak.

The distribution of the development traffic from the proposed has been assumed to match the movement patterns identified in the previous Herring Road Urban Activation Precinct (UAP) Transport Strategy, with:

- 65% of the trips to/from the east;
- 14% of the trips to/from the west;
- 11% of trips to/from the north; and
- 10% of trips to/from the south.

4.2.4 Estimated Peak Hour Development Traffic

The following assumptions were adopted:

- the 773 vehicle trips to/from the public car park would be 100% inbound at morning peak and 100% outbound at evening peak;
- trips to/from the retail use in the main development would be 50% inbound and 50% outbound;
- vehicle trips related to the community open space, indoors courts and retail/café would not coincide with morning peak hours. However, they would be 100% outbound during the evening peak;
- 100% of traffic generated by the community benefit area (Key workers' dwellings, open space, indoor courts and retail) would use Alma Road Access only, as it would offer vehicular access to the internal road within the commercial and residential developments;
- similarly, trips to/from commercial and residential developments would use the Western and Eastern access. Eastbound and Westbound traffic is presumed to be 70% and 30%, respectively;
- due to presence of an internal road within the premises, and to avoid queueing at the signalised intersection of the Eastern Access, the majority of the eastbound traffic (60% of the total traffic) would enter the main premises through the Western Access. The rest of the eastbound traffic (10% of total traffic) would enter through the Eastern Access. All westbound traffic will use the Eastern access as this is the only available right turn entry; and
- Alma Road would offer a left in/left out arrangement only. For a right turn out of Alma Road, 10% of the outbound traffic is assumed to enter the main premises through the Western Access and turn right at the signalised Eastern gateway.

Based on these assumptions, the peak hour inbound and outbound development traffic movements are:

- AM Peak
 - Inbound: 1,048 vehicle trips; and
 - Outbound: 239 vehicle trips.
- PM Peak
 - Inbound: 280 vehicle trips; and
 - Outbound: 1,082 vehicle trips.

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4.3 RECENT APPROVED DEVELOPMENTS

As requested by RMS, the updated traffic analysis includes estimated increased traffic demands generated by the proposed Macquarie Centre Redevelopment Stage 1, which were taken from Arup's *Macquarie Centre Redevelopment Stage 1 Concept DA Transport Management and Access Plan*. Table 4.2 shows the Macquarie Centre Redevelopment Stage 1 traffic at the relevant intersections. The assessment assumes the distribution of this traffic is proportional to the current traffic distribution.

Table 4.2 Macquarie Centre Redevelopment Stage 1 Traffic

Access	AM Peak Hour IN	AM Peak Hour OUT	PM Peak Hour IN	PM Peak Hour OUT
Talavera Road/Shopping Centre West Access	90	115	180	355
Talavera Road entry to Tower car park (left in only)	45	0	30	0
Talavera Road/Shopping Centre Central Access – LI/LO	5	5	5	20
Talavera Road/Shopping Centre East Access	30	15	50	50

Source: Table 11 of Arup's *Macquarie Centre Redevelopment Stage 1 Concept DA Transport Management and Access Plan*.

4.4 ASSESSMENT SCENARIOS DESIGN VOLUMES

The adopted assessment scenarios are summarised in Table 4.3 below.

Table 4.3 Assessment Scenarios

Scenario ID	Existing	Planning Proposal	Approved Development	Year 2027 Growth	Public Car Park
1	Yes	-	-	-	-
2	Yes	Yes	Yes	-	-
3	Yes	Yes	Yes	Yes	-
4	Yes	Yes	Yes	-	Yes
5	Yes	Yes	Yes	Yes	Yes

The design traffic volumes for each scenario are illustrated on Figure 4.1 to Figure 4.5 respectively.

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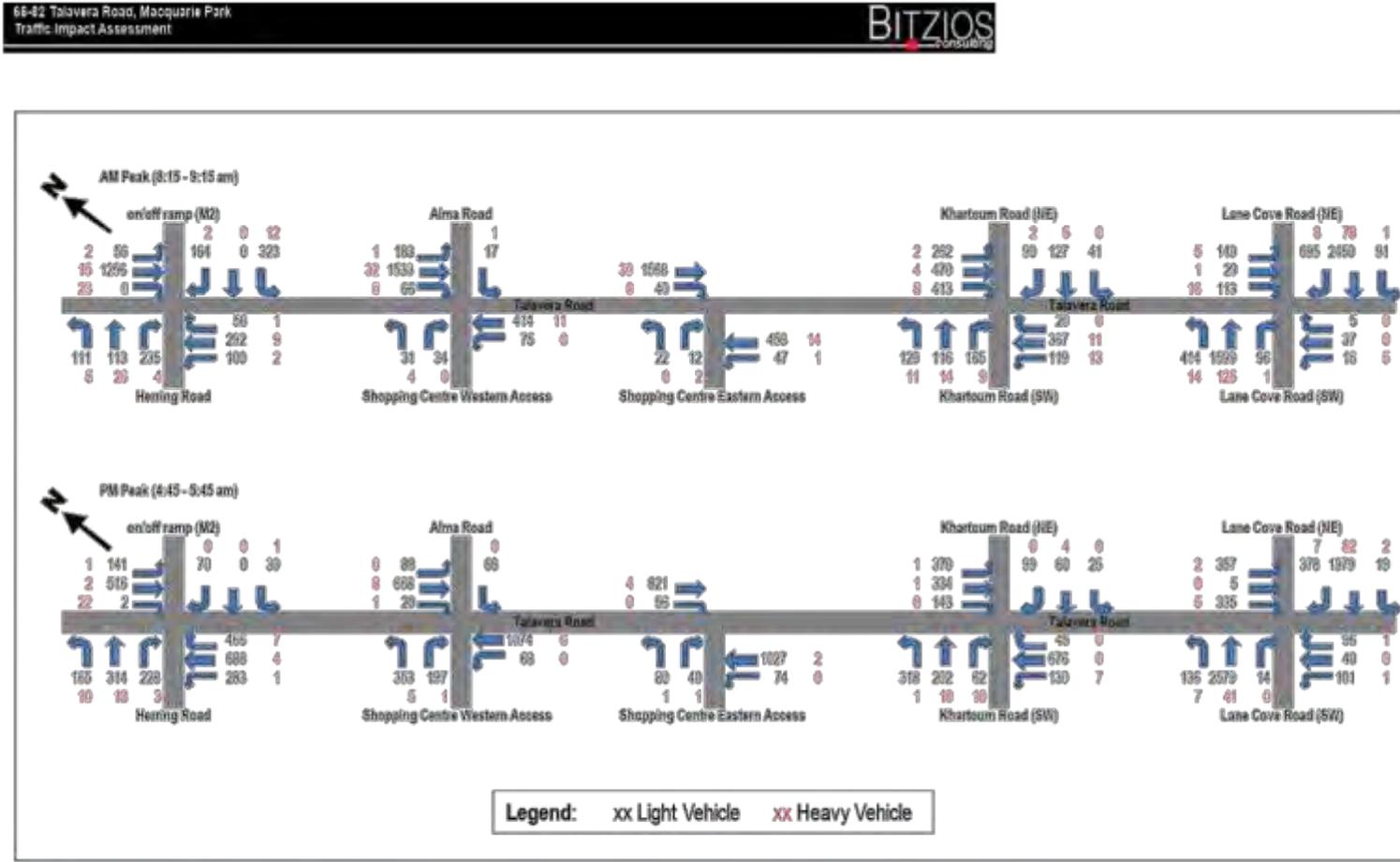


Figure 4.1 Scenario 1 - Existing

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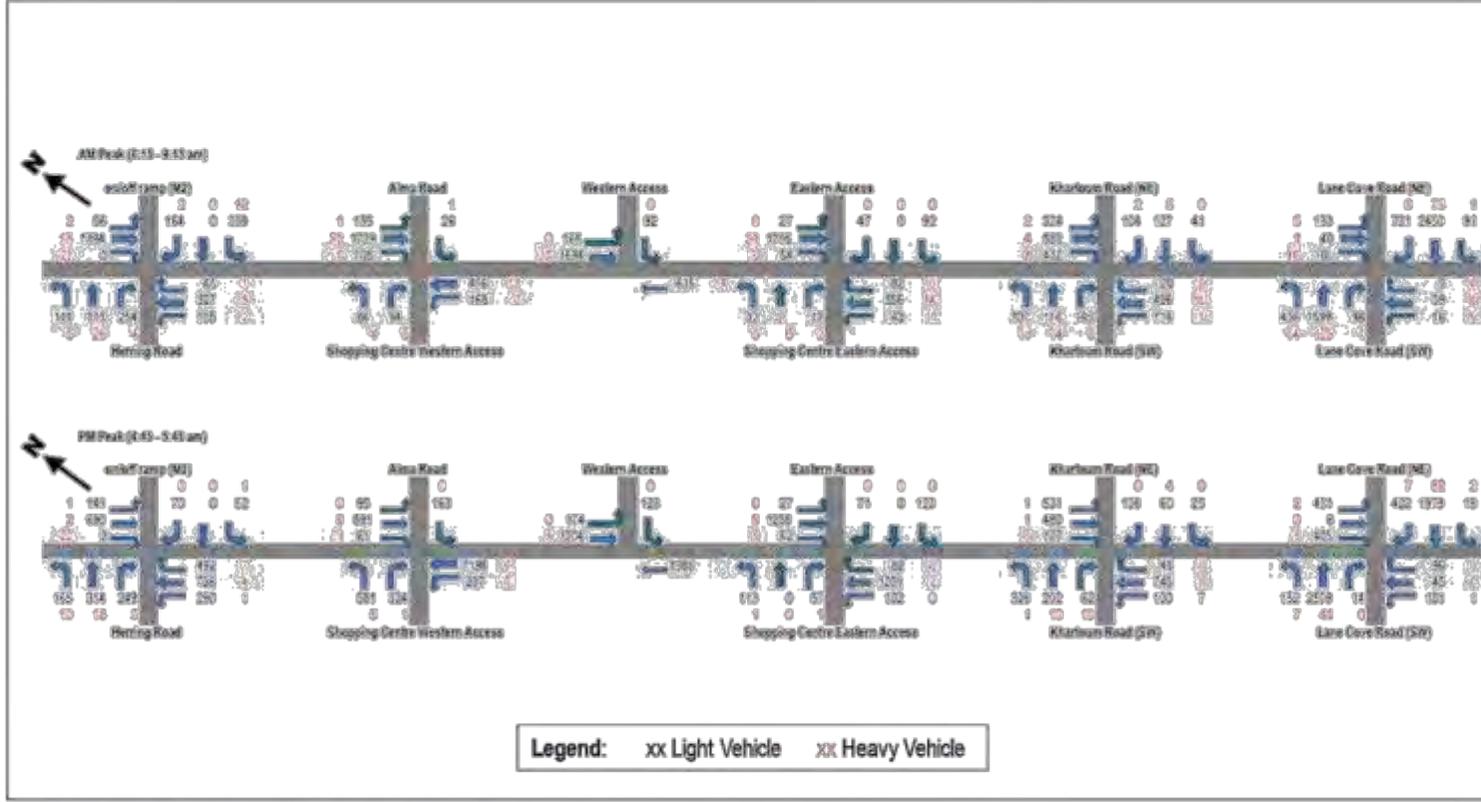


Figure 4.2 Scenario 2 – Existing + Planning Proposal + Approved Development

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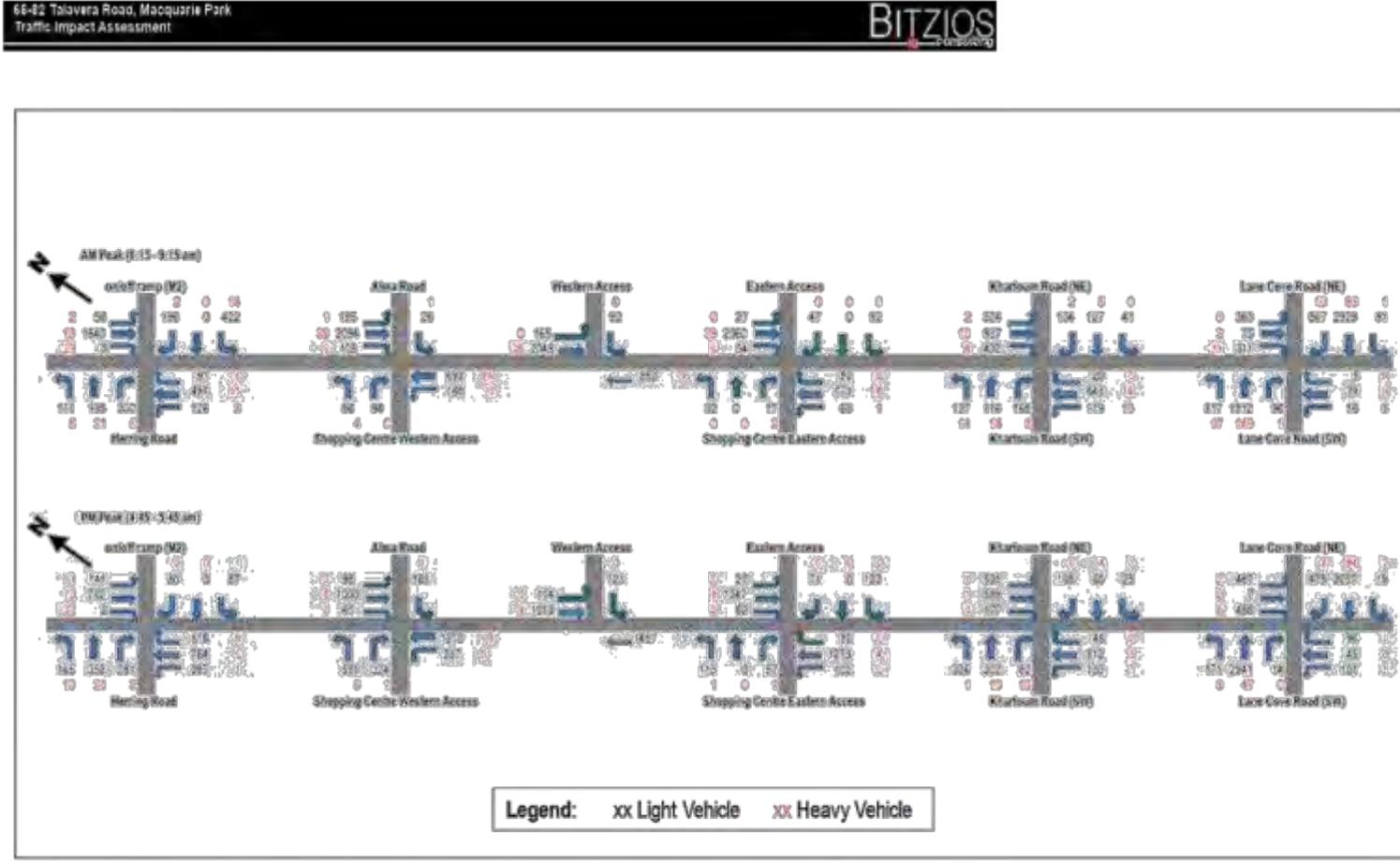


Figure 4.3 Scenario 3 - Existing + Planning Proposal + Approved Development + Growth

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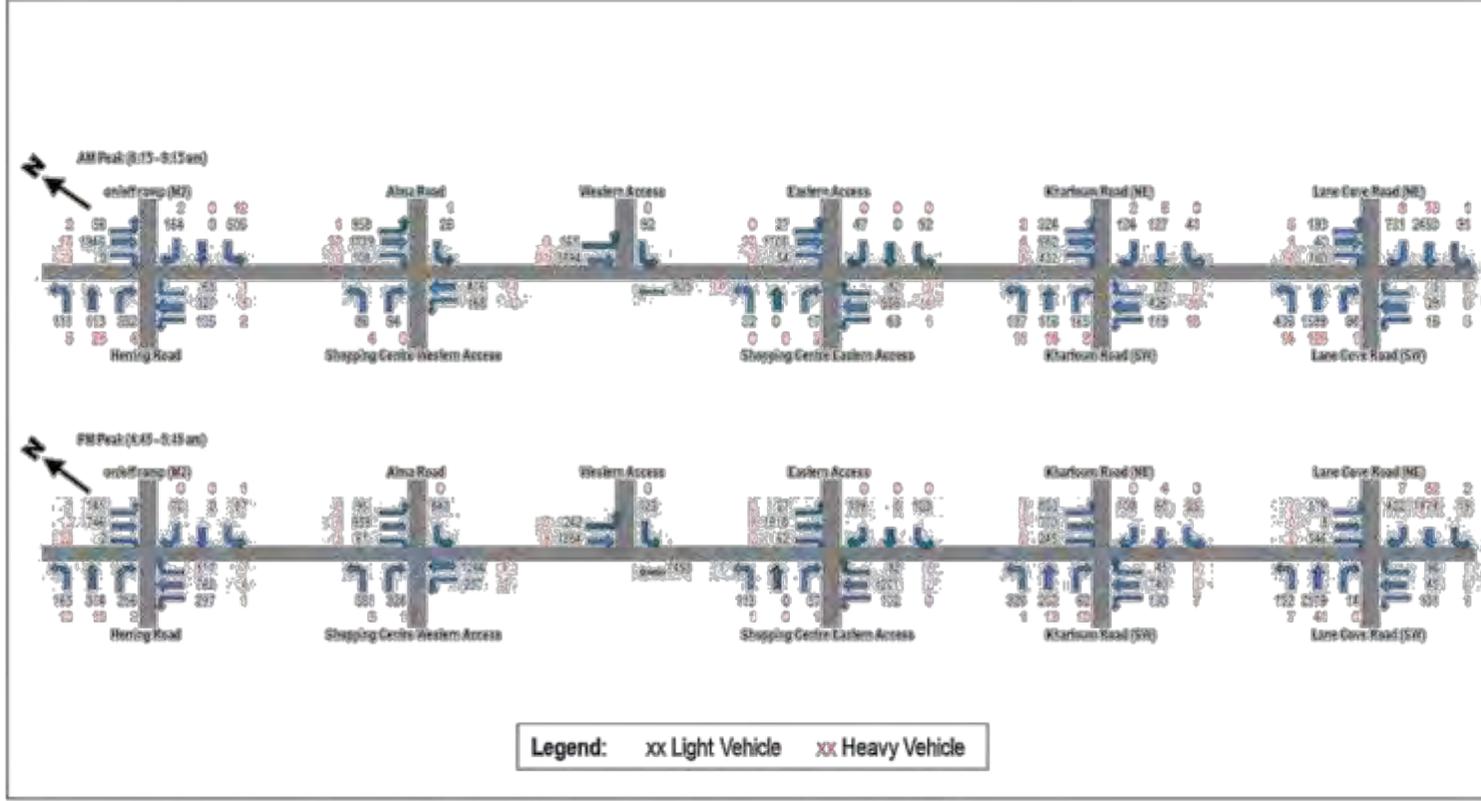


Figure 4.4 Scenario 4 - Existing + Planning Proposal + Approved Development + Public Car Park

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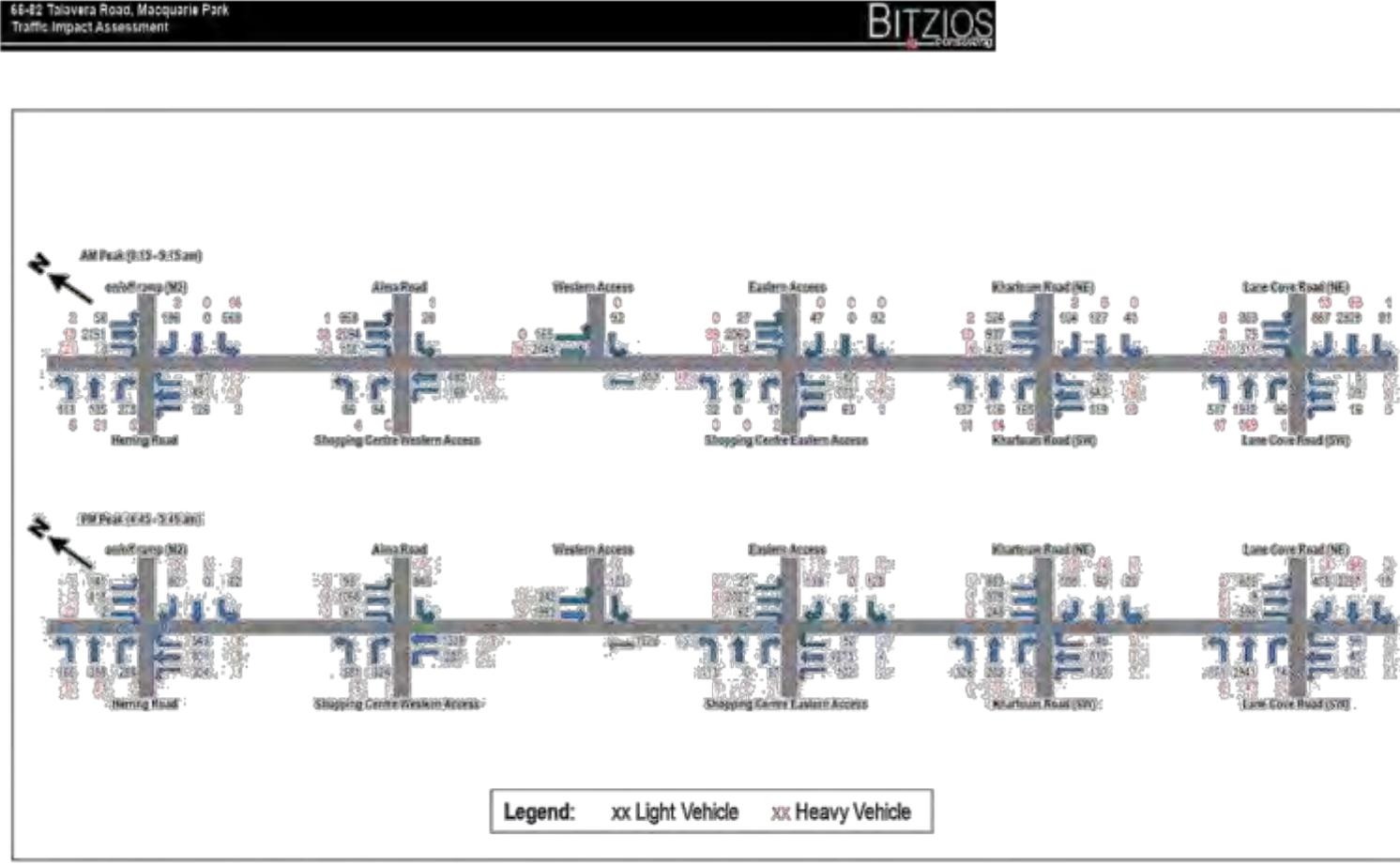


Figure 4.5 Scenario 5 - Existing + Planning Proposal + Approved Development + Growth + Public Car Park

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5. DEVELOPMENT IMPACT ANALYSIS

5.1 ASSESSMENT CRITERIA

The results of the SIDRA analysis are reported in terms of Level of Service (LOS), degree of saturation (DOS) as well as 95th percentile back of queue lengths.

Table 5.1 provides a summary of the adopted LOS criteria.

Table 5.1 Assessment Criteria: Level of Service

Level of Service	Average Delay per Vehicle (sec/veh)	Description
A	> 14	Good operation
B	15 to 28	Good with acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Operating near capacity
E	57 to 70	At capacity
F	70 and above	Unsatisfactory

Source: RTA Guide to Traffic Generating Developments 2002

For signalised intersections, the LOS is based on the average delay per vehicle for the whole intersection. For priority intersections, the LOS is based on the average delay for the worst movement.

Table 5.2 provides a summary of the adopted DOS criteria.

Table 5.2 Assessment Criteria: Degree of Saturation

Intersection Control	DOS Threshold
Priority	0.80
Traffic Signals	0.90

The DOS is the ratio of the actual or modelled traffic volumes compared to the theoretical capacity of the intersection or traffic movement. A DOS of less than 0.5 indicates that the intersection has spare capacity and queues would be expected to be relatively short. A DOS above 0.80 (priority intersection) and 0.9 (signalised intersection) indicates that the intersection may be unstable at times with long queues and delays as the traffic volumes approach practical capacity. Intersections with DOS greater than 1.0 are considered to be over capacity and have a LOS F.

Queue lengths are based on the 95th percentile back of queue, defined as meaning that the queue length is exceeded only 5% of the time. Whilst difficult in constrained urban environments, from both a safety and capacity perspective, it is preferable if back of queues do not extend back to adjacent intersections.

It is important to recognise that for development-related traffic assessments, intersection analysis is primarily for identifying the incremental traffic impacts of development, compared to what conditions would have otherwise been in place without the development.

5.2 ASSESSMENT LIMITATIONS

It is important to recognise the limitations of the SIDRA software program, particularly where DOS values exceed 1.00. That is, the addition of small amounts of traffic to an already saturated network tends to produce disproportionate output results. Simply put, the algorithms contained in SIDRA are only valid in the stable flow volume range. Where unstable flow is released on approach links (i.e. DOS > 1.0), the model results need to be interpreted with extreme caution.

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5.3 EXISTING NETWORK ANALYSIS

5.3.1 Scenario 1: Existing Conditions

Table 5.3 provides a summary of results for Scenario 1. Detailed outputs can be provided on request.

Table 5.3 Summary of Results - Scenario 1

Intersection	Degree of Saturation	Average Delay (s)	LOS	95 th % Back of Queue (m)
AM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.912	35	C	168
ID#2: Talavera Road / Alma Road	N/A			
ID#3: Talavera Road / Shopping Centre Access	0.525	3	A	15
ID#4: Talavera Road / Site Access	N/A			
ID#5: Talavera Road / Shopping Centre Access / Site Access	0.794	6	A	115
ID#6: Talavera Road / Khartoum Road	1.000	26	D	190
ID#7: Talavera Road / Lane Cove Road	0.933	26	C	372
PM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.888	38	C	186
ID#2: Talavera Road / Alma Road	N/A			
ID#3: Talavera Road / Shopping Centre Access	0.895	15	B	174
ID#4: Talavera Road / Site Access	N/A			
ID#5: Talavera Road / Shopping Centre Access / Site Access	0.684	8	A	42
ID#6: Talavera Road / Khartoum Road	0.801	40	C	171
ID#7: Talavera Road / Lane Cove Road	0.922	22	B	336

Key points to note:

- Intersection 1 is currently operating close to practical capacity during both peaks (i.e. DOS > 0.90);
- Intersection 3 is currently operating under practical capacity during both peaks (i.e. DOS < 0.90);
- Intersection 5 is currently operating under practical capacity during both peaks (i.e. DOS < 0.90);
- Intersection 6 is currently operating at theoretical capacity during the AM peak (i.e. DOS = 1.00); and
- Intersection 7 is currently operating close to practical capacity during both peaks (i.e. DOS > 0.90).

The abovementioned results are not surprising for the following reasons:

- Intersection 1 is a major intersection and portal from the M2 into the Macquarie Park precinct;
- Intersection 6 is a constrained intersection which provides alternative access to Lane Cove Road (via Khartoum Road (north) and Fontenoy Road); and
- Intersection 7 is a major intersection and portal from the M2 and Lane Cove Road into the Macquarie Park precinct.

Given that the surrounding area is developed with large buildings, there are very limited feasible upgrade opportunities at these intersections that would not have third party property impacts, noting that at:

- Intersection 1, Talavera Road (east) is already four (4) lanes with dual right turn lanes onto the M2. Furthermore, the M2 on and off ramps are already maxed out. There are also reserve width, grade, and land ownership issues on the other approaches;
- Intersection 5, each approach already has four (4) lanes within a narrow road reserve of 20-25m and with no corner truncations; and
- Intersection 7, Lane Cove Road is already a six (6) lane road with dual right turn lanes, narrow medians and verges.

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5.3.2 Scenario 2: Existing + PP + Approved Development

Table 5.4 provides a summary of results for Scenario 2. Detailed outputs can be provided on request.

Table 5.4 Summary of Results - Scenario 2

Intersection	Degree of Saturation	Average Delay (s)	LOS	95 th % Back of Queue (m)
AM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.789	35	C	253
ID#2: Talavera Road / Alma Road	N/A			
ID#3: Talavera Road / Shopping Centre Access	0.596	6	A	41
ID#4: Talavera Road / Site Access	N/A			
ID#5: Talavera Road / Shopping Centre Access / Site Access	0.883	14	A	198
ID#6: Talavera Road / Khartoum Road	1.161	124	F	458
ID#7: Talavera Road / Lane Cove Road	0.958	30	C	425
PM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.888	39	C	192
ID#2: Talavera Road / Alma Road	N/A			
ID#3: Talavera Road / Shopping Centre Access	0.908	18	B	283
ID#4: Talavera Road / Site Access	N/A			
ID#5: Talavera Road / Shopping Centre Access / Site Access	0.757	16	B	113
ID#6: Talavera Road / Khartoum Road	0.880	34	C	157
ID#7: Talavera Road / Lane Cove Road	0.962	27	B	383

With the addition of the planning proposal and approved developments, the analysis suggests that:

- Intersection 1 would likely operate under practical capacity during both peaks (i.e. DOS < 0.90);
- Intersection 3 would likely operate close to practical capacity during the PM peak (i.e. DOS > 0.90);
- Intersection 5 would likely operate under practical capacity during both peaks (i.e. DOS < 0.90);
- Intersection 6 would likely operate over theoretical capacity during the AM peak (i.e. DOS > 1.00); and
- Intersection 7 would likely operate close to practical capacity during both peaks (i.e. DOS > 0.90).

It is important to note that under this scenario, the analysis suggests that only Intersection 6 during the AM peak would experience a reduced LOS (i.e. from D to F). Again, this is not surprising given the constrained cross section and the fact that the intersection is already operating at theoretical capacity in the base case.

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5.3.3 Scenario 3: Existing + PP + Approved Development + Growth

Table 5.5 provides a summary of results for Scenario 3. Detailed outputs can be provided on request.

Table 5.5 Summary of Results - Scenario 3

Intersection	Degree of Saturation	Average Delay (s)	LOS	95 th % Back of Queue (m)
AM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.969	44	D	391
ID#2: Talavera Road / Alma Road	N/A			
ID#3: Talavera Road / Shopping Centre Access	0.715	5	A	42
ID#4: Talavera Road / Site Access	N/A			
ID#5: Talavera Road / Shopping Centre Access / Site Access	1.057	95	F	922
ID#6: Talavera Road / Khartoum Road	1.560	256	F	1029
ID#7: Talavera Road / Lane Cove Road	2.627	305	F	1182
PM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.906	42	C	222
ID#2: Talavera Road / Alma Road	N/A			
ID#3: Talavera Road / Shopping Centre Access	0.911	17	B	285
ID#4: Talavera Road / Site Access	N/A			
ID#5: Talavera Road / Shopping Centre Access / Site Access	0.757	15	B	130
ID#6: Talavera Road / Khartoum Road	0.920	39	C	266
ID#7: Talavera Road / Lane Cove Road	3.081	754	F	2087

With the addition of the planning proposal, approved developments and background traffic growth, the analysis suggests that:

- Intersection 1 would likely operate close to practical capacity during both peaks (i.e. DOS > 1.00);
- Intersection 3 would likely operate close to practical capacity during the PM peak (i.e. DOS > 0.90);
- Intersection 5 would likely operate over theoretical capacity during the AM peak (i.e. DOS > 1.00);
- Intersection 6 would likely operate over theoretical capacity during the AM peak (i.e. DOS > 1.00); and
- Intersection 7 would likely operate over theoretical capacity during both peaks (i.e. DOS > 1.00).

It is important to note that under this scenario, the analysis suggests that when compared to the base case:

- Intersection 1 would experience a reduced LOS (i.e. from C to D) in the AM peak;
- Intersection 5 would experience a reduced LOS (i.e. from A to F) in the AM peak;
- Intersection 6 would experience a reduced LOS (i.e. from D to F) in the AM peak; and
- Intersection 7 would experience a reduced LOS (i.e. from B/C to F) in both peaks.

The above results are not surprising based on the high "theoretical" background traffic growth rate recommended by ARUP in their TIA for the Macquarie Centre Redevelopment Stage 1 (i.e. 1.5% p.a. and 1.1% p.a. in the AM and PM peak periods respectively). These rates are unrealistic for a constrained urban environment and effectively represent a global traffic demand increase of 15 to 20% (2015 to 2027). Given that these intersections are already at or approaching capacity, peak spreading, modal shift and other influences would occur as the estimated additional traffic growth simply cannot pass through these intersections in the peak hours.

Given the constrained nature of Lane Cove Road, Herring Road and Talavera Road, and the fact that there is limited feasible upgrade opportunities are the key intersections in the study network, it is highly unlikely that these growth rates would be achieved. If demands were to increase, it is highly likely that this would be through 'peak spreading'.

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5.3.4 Scenario 4: Existing + PP + Approved Development + Car Park

Table 5.6 provides a summary of results for Scenario 4. Detailed outputs can be provided on request.

Table 5.6 Summary of Results - Scenario 4

Intersection	Degree of Saturation	Average Delay (s)	LOS	95 th % Back of Queue (m)
AM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	1.419	222	F	755
ID#2: Talavera Road / Alma Road	0.517	1	n/a	-
ID#3: Talavera Road / Shopping Centre Access	0.596	5	A	41
ID#4: Talavera Road / Site Access	0.493	1	n/a	4
ID#5: Talavera Road / Shopping Centre Access / Site Access	0.883	14	A	198
ID#6: Talavera Road / Khartoum Road	1.161	124	F	458
ID#7: Talavera Road / Lane Cove Road	1.426	226	F	1167
PM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.889	38	C	198
ID#2: Talavera Road / Alma Road	0.808	3	n/a	124
ID#3: Talavera Road / Shopping Centre Access	0.908	15	B	283
ID#4: Talavera Road / Site Access	0.552	1	n/a	6
ID#5: Talavera Road / Shopping Centre Access / Site Access	0.968	27	B	435
ID#6: Talavera Road / Khartoum Road	1.391	130	F	648
ID#7: Talavera Road / Lane Cove Road	3.659	1359	F	2588

With the addition of the planning proposal, approved developments and the public car park (i.e. no background traffic growth), the analysis suggests that:

- Intersection 1 would likely operate over theoretical capacity during the AM peak (i.e. DOS > 1.00);
- Intersection 3 would likely operate close to practical capacity during the PM peak (i.e. DOS > 0.90);
- Intersection 5 would likely operate close to practical capacity during the PM peak (i.e. DOS > 0.90);
- Intersection 6 would likely operate over theoretical capacity during both peaks (i.e. DOS > 1.00); and
- Intersection 7 would likely operate over theoretical capacity during both peaks (i.e. DOS > 1.00).

It is important to note that under this scenario, the analysis suggests that when compared to the base case:

- Intersection 1 would experience a reduced LOS (i.e. from C to F) in the AM peak;
- Intersection 6 would experience a reduced LOS (i.e. from C/D to F) in both peaks; and
- Intersection 7 would experience a reduced LOS (i.e. from B/C to F) in both peaks.

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5.3.5 Scenario 5: Existing + PP + Approved Development + Growth + Car Park

Table 5.7 provides a summary of results for Scenario 5. Detailed outputs can be provided on request.

Table 5.7 Summary of Results - Scenario 5

Intersection	Degree of Saturation	Average Delay (s)	LOS	95 th % Back of Queue (m)
AM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	2.506	407	F	1353
ID#2: Talavera Road / Alma Road	0.559	1	n/a	1
ID#3: Talavera Road / Shopping Centre Access	0.715	4	A	42
ID#4: Talavera Road / Site Access	0.586	1	n/a	6
ID#5: Talavera Road / Shopping Centre Access / Site Access	1.057	95	F/D	922
ID#6: Talavera Road / Khartoum Road	1.560	256	F	1029
ID#7: Talavera Road / Lane Cove Road	2.627	565	F	2007
PM Peak				
ID#1: Talavera Road / Herring Road / M2 Ramps	0.888	42	C	219
ID#2: Talavera Road / Alma Road	0.837	3	N/A	139
ID#3: Talavera Road / Shopping Centre Access	1.058	31	C	533
ID#4: Talavera Road / Site Access	0.580	1	N/A	7
ID#5: Talavera Road / Shopping Centre Access / Site Access	1.021	53	D	728
ID#6: Talavera Road / Khartoum Road	1.391	167	F	929
ID#7: Talavera Road / Lane Cove Road	4.011	1507	F	2924

With the addition of the planning proposal, approved developments, background traffic growth and the public car park, the analysis suggests that:

- Intersection 1 would likely operate over theoretical capacity during the AM peak (i.e. DOS > 1.00);
- Intersection 3 would likely operate over theoretical capacity during the PM peak (i.e. DOS > 1.00);
- Intersection 5 would likely operate over theoretical capacity during both peaks (i.e. DOS > 1.00);
- Intersection 6 would likely operate over theoretical capacity during both peaks (i.e. DOS > 1.00); and
- Intersection 7 would likely operate over theoretical capacity during both peaks (i.e. DOS > 1.00);

It is important to note that under this scenario, the analysis suggests that when compared to the base case:

- Intersection 1 would experience a reduced LOS (i.e. from C to F) in the AM peak;
- Intersection 5 would experience a reduced LOS (i.e. from A to F/D) in both peaks;
- Intersection 6 would experience a reduced LOS (i.e. from C/D to F) in both peaks; and
- Intersection 7 would experience a reduced LOS (i.e. from B/C to F) in both peaks.

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5.4 POTENTIAL MITIGATION STRATEGY

5.4.1 Proportional Impacts

Table 5.8 provides an LOS comparison for all scenarios.

Table 5.8 Summary of Results – LOS Comparison for All Scenarios

Intersection	S1	S2	S3	S4	S5
AM Peak					
ID#1: Talavera Road / Herring Road / M2 Ramps	C	C	D	F	F
ID#2: Talavera Road / Alma Road	-	-	-	n/a	n/a
ID#3: Talavera Road / Shopping Centre Access	A	A	A	A	A
ID#4: Talavera Road / Site Access	-	-	-	n/a	n/a
ID#5: Talavera Road / Shopping Centre Access / Site Access	A	A	F	A	F
ID#6: Talavera Road / Khartoum Road	D	F	F	F	F
ID#7: Talavera Road / Lane Cove Road	C	C	F	F	F
PM Peak					
ID#1: Talavera Road / Herring Road / M2 Ramps	C	C	C	C	C
ID#2: Talavera Road / Alma Road	-	-	-	n/a	n/a
ID#3: Talavera Road / Shopping Centre Access	B	B	B	B	C
ID#4: Talavera Road / Site Access	-	-	-	n/a	n/a
ID#5: Talavera Road / Shopping Centre Access / Site Access	A	B	B	B	D
ID#6: Talavera Road / Khartoum Road	C	C	C	F	F
ID#7: Talavera Road / Lane Cove Road	B	B	F	F	F

As mentioned previously, the analysis suggests that the study network and in particularly Intersections 1, 5 and 6 are already operating close to or at theoretical capacity during both peak periods. Logic would suggest that the performance at these key intersections would gradually deteriorate as the Macquarie Park precinct continues to grow into one of the premier business centres of "Global Sydney". This is likely to occur irrespective of the subject planning proposal and/or public car park.

Table 5.9 provides a summary of the proportional traffic demands at each intersection during the ultimate design scenario (i.e. Scenario 5). This considers the combined AM and PM design traffic demands.

Table 5.9 Summary of Results – Proportion Demands in Ultimate Scenario (Scenario 5)

Intersection	Existing	Growth + Mac Park	Planning Proposal	Public Carpark
ID#1: Talavera Road / Herring Road / M2 Ramps	71.5%	16.6%	0.6%	11.3%
ID#2: Talavera Road / Alma Road	57.1%	15.3%	7.8%	19.8%
ID#3: Talavera Road / Shopping Centre Access	60.1%	21.6%	7.8%	10.5%
ID#4: Talavera Road / Site Access	58.0%	18.5%	11.7%	11.8%
ID#5: Talavera Road / Shopping Centre Access / Site Access	58.7%	15.9%	12.5%	12.9%
ID#6: Talavera Road / Khartoum Road	69.6%	18.4%	2.5%	9.5%
ID#7: Talavera Road / Lane Cove Road	80.6%	15.0%	2.5%	1.9%

The above results suggest that the estimated peak hour traffic demands generated by the planning proposal and public car park equates to approximately 4.4% to 12% of ultimate traffic demands at the key three (3) key intersections (i.e. 1, 6 and 7). This finding suggests that it is primarily that broader growth of Macquarie Park driving the need for intersection upgrades and its ultimate performance outcomes.

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5.4.2 High Level Options for Further Investigation

Table 5.10 provides a summary of high level mitigation options for further investigation.

Table 5.10 High Level Options for Further Investigation

Intersection	Option	Comment
ID#1: Talavera Road / Herring Road / M2 Ramps	Widen the Herring Road approach to the intersection to provide an additional stand up lane.	This may not be feasible due to existing services, level differences and the location of the Macquarie Centre and Bus Interchange access ramp
	Increase the cycle time and optimise the signal phasing arrangements.	-
ID#6: Talavera Road / Khartoum Road	Consistent with the ARUP report for the Macquarie Centre Redevelopment, investigate modified signal phasing to provide shared through/right turn lane on Talavera Road north west approach.	This may not be feasible and may introduce safety issues.
ID#7: Talavera Road / Lane Cove Road	Consistent with the ARUP report for the Macquarie Centre Redevelopment, investigation of a staged pedestrian crossing on the south west approach of the intersection to reallocate green time to adjacent movements.	-

It is important to note that the above options are "high level" only and are provided to aid and future negotiations in relation to fair and reasonable development contributions and/or infrastructure upgrades. The feasibility, desirability and acceptability of these proposals, along with the equitable apportionment of responsibilities for their implementation would require further investigation.

5.5 POTENTIAL IMPACTS ON THE HERRING ROAD BUS INTERCHANGE

The Herring Road bus interchange is located between Talavera Road and Waterloo Road. The study network documented herein only covers Talavera Road from Herring Road to Lane Cove Road. That said, the impacts to the Herring Road bus interchange can be seen by further analysing the SIDRA results for Intersection 1 (i.e. Talavera Road / Herring Road / M2 ramps). The network is already operating above its practical capacity (90%) for the existing scenario. Capacity deteriorates further with the addition of the planning proposal and approved development, and further again with the addition of background traffic growth and the public carpark. As noted in Table 5.9, the estimated peak hour traffic demands generated by the planning proposal and public car park equates to approximately 12% of ultimate traffic demands at Intersection 1. This finding suggests that it is primarily broader growth of Macquarie Park driving the need for intersection upgrades and its ultimate performance outcomes. The same proportional impacts are likely to be experienced at the Herring Road bus interchange.

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Traffic Impact Assessment



6. PARKING REQUIREMENTS

6.1 RESIDENTIAL AND COMMERCIAL PARKING (EASTERN AND WESTERN ACCESS)

The State Environmental Planning Policy No.65 (SEPP65) – Design Quality of Residential Apartment Development recommends the minimum amount of car parking for a residential apartment in accordance with the RMS “Guide to Traffic Generating Development”, as follows:

- 0.6 space per 1-bedroom unit;
- 0.9 space per 2-bedroom unit;
- 1.4 spaces per 3-bedroom unit; and
- 1.0 visitor space per 5 units.

With the proposed change of land use to the study area, the residential parking requirement would be slightly different to the existing according to the Macquarie Park Corridor Development Control Plan (DCP) 2014. The maximum parking rates for residential development are as follows:

- 0.6 space per 1-bedroom unit;
- 0.9 space per 2-bedroom unit;
- 1.4 space per 3-bedroom unit;
- 1.0 visitor space per 10 units; and
- 1.0 car share space per 50 proposed parking spaces.

These parking provision rates are similar to the RMS rates with the exception of fewer visitor parking spaces required and provision for car share spaces. It is recommended the parking provision to be in accordance with the DCP parking rates.

The ratio of residential mix for the master plan is as follows:

- 25% one-bedroom (including 5% Studio apartments);
- 65% two-bedroom; and
- 10% three-bedroom.

On this basis, the maximum permissible parking spaces for the proposed residential development under the master plan for a total of 1,271 apartments are shown in Table 6.1.

Table 6.1 Parking Spaces Required for Residential Development

Total number of apartments	Type	Percentage	Number of Apartments	Parking Rate	Allowable Maximum number of Parking Spaces
1,271	One bedroom (including Studio apt.)	25%	318	0.6 space / unit	191
	Two bedroom	65%	826	0.9 space / unit	744
	Three bedroom	10%	127	1.4 space / unit	178
	Visitors	-	-	1 space / 10 units	127
	Car Share	-	-	1 space / 50 spaces	25
Total					1,265

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Table 6.2 Parking Spaces Required for Commercial Development

Commercial	Area (m ²)	Parking Space Requirement	Maximum Number of Parking Spaces	Remarks
Astra Zeneca	8,982	-	-	Approved
Other	11,000	1 space per 46m ² GFA	239	-

For commercial development, 20,000m² GFA could provide a maximum of 434 parking spaces. A maximum of 1,699 spaces (i.e. 1,265 spaces plus 434 spaces) would be reasonable for the Residential and Commercial developments, including the spaces for Astra Zeneca. The approved Astra Zeneca development has 184 parking spaces, so there is capacity for provision of 1,515 extra spaces.

6.2 VPA PARKING (ALMA ROAD ACCESS ONLY)

Additional spaces for the indoor sports facility have been calculated based on a first principles approach of a typical evening practice session for all three (3) courts to be occupied (see Table 6.3). No additional visitor parking provision was calculated for the 270m² retail/commercial, assuming most journeys to the retail/commercial component at the community centre would be shared journey trips from either the recreation facility or the residential towers.

- maximum players: 12 per team;
- number of coaches: 2 per team;
- number of referees: 2 per game; and
- total per court: 30 persons x 3 courts = 90 persons;
- typical car share rate of 1.2 person per vehicle: 75 private vehicles; and
- maximum vehicle per practise session (1 person per vehicle): 90 private vehicles.

Parking for the Affordable Housing component has been calculated as recommended in SEPP 2009.

Table 6.3 Required Parking for the Community Benefit Area

Development	Size/Type	Rates	Required Number of Parking Spaces
Indoor Sports Facility	3 courts	1 space for 1.2 person (minimum) / 1 space for 1 person (maximum)	75 (Minimum) 90 (Maximum)
Retail/ Commercial	3 shops; total 270m ²	1 per shop (minimum) / 1 per 46m ² (Ryde LEP) (maximum)	3 (Minimum) 6 (Maximum)
Affordable Housing (total 56 units)	1 bedroom (incl. Studio): <u>14 units</u>	0.5 space per unit	7
	2 bedroom: <u>36 units</u>	1.0 space per unit	36
	3 bedroom: <u>6 units</u>	1.5 spaces per unit	9
Total			148

The number of parking spaces proposed for the community benefit area is:

- 1,030 off-street spaces for public car park, under the open space for recreation;
- of these 1,030 spaces, 180 spaces would be made available for the users of indoor sports facility and adjacent retail/commercial spaces; and
- 20 on-street spaces for public car park.

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In addition to the car parking spaces, it is recommended to provide two (2) bus parking spaces for local/school hire competition purposes. The existing width of Alma Road would not allow for parking a 24-seater coach, and would require decommissioning some existing on-street parking and widening of the road. The existing road reserve is wide enough to accommodate the required road widening.

A turnaround bay would be required on Alma Road for buses. The turning circle for a coach is approximately 27m without reversing. The road reserve appears to be approximately 20m in Alma Road. Therefore, a land dedication would be required to provide a turnaround bay. Detailed design for provision of a coach turning-circle and widening of Alma Road would be subject to further detailed design at later stages and may necessitate a change in the design of the indoor recreation centre / open space area.

It is recommended to provide a stop on the eastern side of Alma Road near the outdoor recreation space.

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7. DESIGN REVIEW COMMENTS

7.1 CAR PARK ACCESS

The car park access for the public car park, as well as the other components of VPA, is off Alma Road. Therefore, Alma Road would predominantly be used for access by visitors to the public car park, either to use the shuttle bus facility or the indoor/outdoor recreation facility.

A turnaround facility should be provided at the end of Alma Road adjacent to the site access for vehicles aiming to turn around without entering the site (Figure 7.1). This would also facilitate a turnaround area for charter coaches/buses during a competition event when required. Alternatively, the turnaround facility could be located half way along Alma Road to avoid encroaching on the available space for the indoor recreation facility.

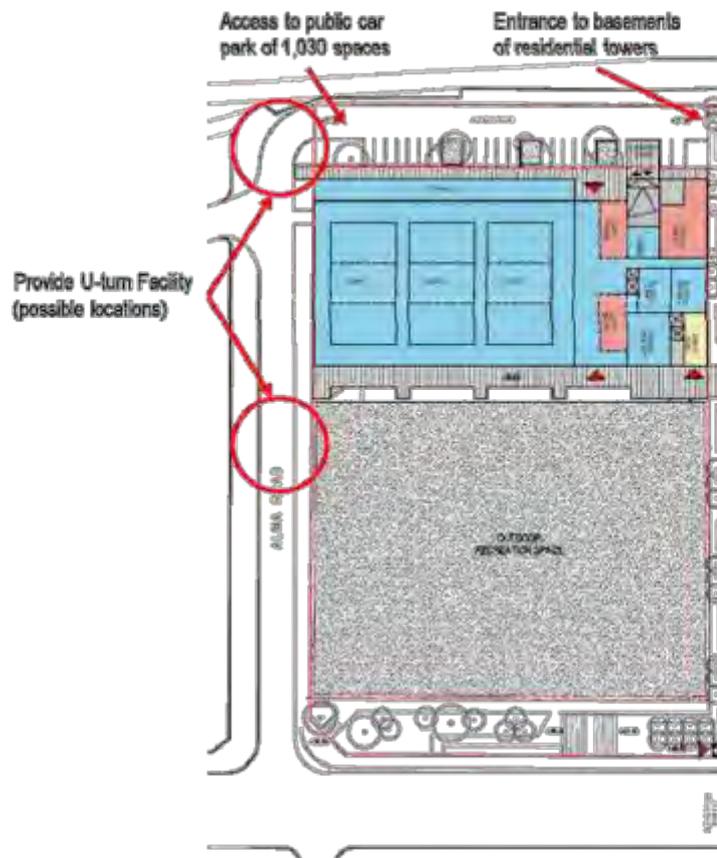


Figure 7.1 Car Park Access Layout

Having separate access points to the recreation facility/public car park and the residential tower basements reduces the likelihood of queues within the car parks and creates a better liveable environment for the residential tower. It also provides some privacy for the residential precinct. It is recommended to provide signage for the separate access points to avoid any confusion about which areas are accessible by the public.

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7.2 PEDESTRIAN OVERHEAD BRIDGE

An overhead pedestrian bridge has been proposed as part of the plans. The pedestrian overhead bridge design requirements are:

- the desirable minimum width required to allow for two wheelchairs to pass each other is 1.8m. A minimum of 2.4m is recommended to be provided at high pedestrian volume areas such as shopping centres. The minimum clearance height above the pedestrian bridge is 2.5m to any overhang object, such as lights and signage;
- the vertical clearance from the road to the underside of the bridge would be a desirable minimum of 5.5m. However, this would be dependent on the height of the shopping centre entrance if the south end of the bridge is to connect directly with the shopping centre; and
- lifts would be required on both ends of the bridge to allow people with a disability and parents with prams to access the pedestrian bridge.

The proposed pedestrian bridge concept design shown in Figure 7.2 is generally in accordance with the guidelines stated above. However, it does not show the connectivity from the bridge to the shopping centre, nor the gradient of the walkway.



Figure 7.2 Pedestrian Bridge Concept Design

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8. SUMMARY & RECOMMENDATIONS

This traffic assessment has been updated to respond to preliminary comments from RMS and City of Ryde on the previous version of the assessment however it has been prepared prior to receipt of feedback from RMS on key modelling parameters such as approved traffic generation rates and agreed background growth rates. Accordingly, the best available information has been utilised to prepare this report including the recent traffic analysis for upgrading the Macquarie Shopping Centre which was approved by the RMS. On this basis, the key findings are summarised below:

- a maximum of 1,515 parking spaces is permissible in accordance with the relevant LEP and DCP for the proposed Residential and Commercial developments, although there may be opportunities to reduce this requirement considering shared usage and high levels of alternative mode usage;
- there are some traffic accessibility advantages of allowing unrestricted access between the three proposed accesses (i.e. underground) to assist with the potential for shared parking and reducing the length of travel of the external road system;
- during the morning peak one hour, the development is estimated to generate a total of 1,048 inbound vehicle trips and 239 outbound vehicle trips;
- during the afternoon peak one hour, however, the estimated numbers of inbound and outbound vehicle trips generated by the development are 280 and 1,082, respectively;
- the full potential of the existing B7 zoning would be expected to generate 71% and 50% of the traffic volumes during the AM and PM peak hours, respectively, compared to the planning proposal;
- the proposed three (3) accesses to the development were assessed and shown to operate within acceptable RMS guidelines for intersection performance; and
- the existing major intersections east of the study area such as Talavera Road/Khartoum Road and Lane Cove Road/Talavera Road intersections were found to be at capacity in peak periods already and would require future upgrades in any event for these intersections to operate under capacity. This finding is independent of the planning proposal's impacts. Future upgrades to these intersections are unlikely, in the short term, given the constrained road reserves in which they are located and potential third party property impacts, but they may be possible in the medium to long term.

The assessment of the Voluntary Planning Agreement (VPA) components of the masterplan has revealed the following considerations:

- this part of the proposal consists of a community centre with an open space recreational area, three indoor courts facility, retail/commercial component, key workers' dwellings and public car parking area, and the area would only be accessible through Alma Road;
- the public car park would offer a substantial total of 1,030 off-street and 20 on-street spaces, of which 180 spaces would be available for the users of indoor courts and retail shops;
- this area would also be served by a shuttle bus service throughout Macquarie Park;
- the concept design of the pedestrian bridge over Talavera Road is generally in accordance with the guidelines, with the exception of the connectivity from the bridge to the shopping centre was not shown. Besides, the gradient of the walkway was not included in the plans; and
- the SIDRA analysis of the Alma Road give way intersection and the shopping centre signalised intersection (with the development) shows the intersection performance would worsen slightly but maintain an acceptable level of service.

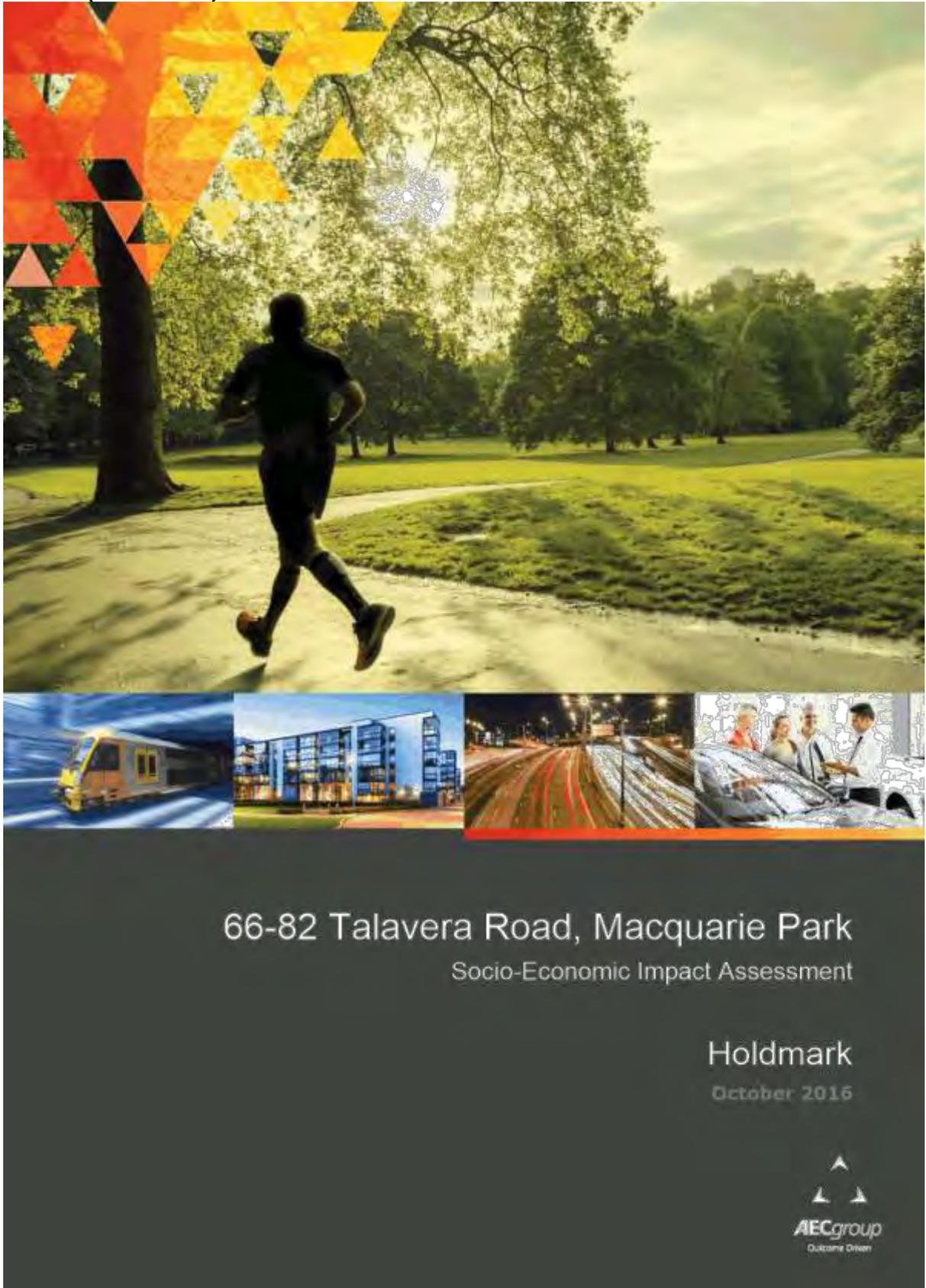
It is recommended that:

- a U-turn facility be provided at the end of (or half way along) Alma Road to provide better internal circulation as well as catering for buses transporting participants to sports events on site;
- Alma Road be widened to provide a bus/coach stop on the eastern side of Alma Road near the outdoor recreation space; and
- City of Ryde and RMS give further consideration to potential upgrades that would be feasible and reasonable for implementation should mitigation of the impacts of the relatively small proportion of additional traffic generated by the site (in the context of total traffic in the area) be required.

Overall it is concluded that the proposed development does not materially detrimentally affect the existing road system and traffic flow conditions.

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66-82 Talavera Road, Macquarie Park, Socio-Economic Impact Assessment

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66-82 Talavera Road, Macquarie Park, Socio-Economic Impact Assessment

Executive Summary

Introduction and Background

Architectus on behalf of Holdmark are preparing a Planning Proposal to rezone 66-82 Talavera Road, Macquarie Park Corridor ("the Site") from B7 Business Park to B4 Mixed Use and subsequently redevelop the Site and deliver the Concept Master Plan.

AEC Group (AEC) has been engaged by Holdmark to prepare a Socio-economic Impact Assessment (SEIA) to analyse the social and economic impacts likely to result from the proposed rezoning and subsequent delivery of the Concept Master Plan. The economic and social impacts that result from a redevelopment of the Site are analysed in the context of the proposed Concept Master Plan.

The Planning Proposal seeks to:

- Amend the land use controls for the site. Currently the land is zoned B7 Business Park. It is proposed that a B4 Mixed Use Zone be applied to the site, to allow for the site's development for public open space, residential, retail and commercial uses. Through the development process, open space would be dedicated back to Council and rezoned as RE1 Zone at a later stage when the boundaries of the open space are defined if required by Council. It is also intended that a number of key worker affordable housing apartments would also be provided and dedicated to Council;
- Amend the current maximum FSR controls from 1.0:1 to 3.7:1.

The Planning Proposal seeks to enable the delivery of the Concept Master Plan, which will accommodate approximately 1,271 apartments, 56 key worker housing apartments, 16,000sqm GFA commercial floorspace and 4,000sqm GFA of retail floorspace and 6,100sqm of public open space. The proposal also envisages a public carpark under the open space containing 1,030 spaces, with up to 180 spaces for users of the recreation facility for up to 2.5hours.

Need for the Proposal

The Macquarie Park Corridor is positioned on a new growth trajectory, with significant growth in residents and employment expected to further strengthen its importance and significance as one of Sydney's economic engine rooms and Sydney's second largest commercial office precinct after the Sydney CBD.

The NSW Bureau of Transport Statistics forecasts that the population in Macquarie Park Corridor will increase by 15,358 persons and increase by 12,872 employees by 2031 (representing an increase of 770% and 28% respectively). Furthermore DPE have identified two Priority Precincts at the north-western and south-eastern ends of the business park, these are Herring Road and North Ryde Station Priority Precincts respectively.

Despite there being a range of economic benefits associated with population and employment growth, there are challenges associated with urban renewal and growth. In urban planning terms, it is well accepted that growth puts pressure on infrastructure needs.

As infrastructure needs change (not just in quantum but also in their nature, e.g. where public open space was not considered to be required in employment areas like business parks but are now increasingly demanded by the market), funding mechanisms need to be able to respond. Current statutory mechanisms are limited in this respect.

Council has recognised the need to fund the delivery of new roads and public open space and has sought to do this via Amendment 1 to the Ryde LEP wherein bonus floorspace can be granted to proponents who deliver an acceptable package of infrastructure works.

There is presently no mechanism to fund the provision of public open space in Macquarie Business Park (no provision in s94 contributions plan) and even though Amendment 1 is well intentioned, it is conceivable that provision of infrastructure will be at an incremental rate.

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This demonstrates a case for an alternate strategy to deliver required and social infrastructure to ensure the sustainability of Macquarie Park Corridor.

Architectus has developed a strategic framework for the delivery of key items of social infrastructure in Macquarie Park Corridor.

As is observed in Green Square Urban Renewal Area and Green Square Employment Lands, delivery of key infrastructure seeks to leverage the residential property market. This framework recommends residential permissibility in the B3 Commercial Core and B7 Business Park zones subject to delivery of acceptable package of infrastructure works.

While the appropriation of land to public open space and key worker housing would mean less land available to accommodate new employment floorspace, the provision of items of key social infrastructure would undoubtedly result in sustaining Macquarie Park Corridor's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace.

The economic impacts of appropriation of some employment land to social infrastructure (public open space, key worker housing and childcare facilities) and residential uses are considered.

Socio-economic Impact Assessment

The existing improvements on the Site accommodate AstraZeneca, a biopharmaceutical company. Originally accommodating 446 workers at peak occupation, the Site is understood to currently accommodate circa 220 workers.

Direct Employment and Support Economic Activity

Once established and in steady state operations (i.e., whereby all facilities have been developed and long-term average worker density ratios prevail), the Site is expected to make a significant additional contribution to the local economy.

The redeveloped Site is expected to support on an ongoing annual basis:

- \$984.5 million in output.
- \$473.8 million contribution to GRP.
- \$234.5 million in incomes and salaries paid to local workers.
- 2,863 FTE jobs (of which 1,144 are direct jobs).

Table E.1: Rezoning Case Operational Economic Impacts (per annum)

Impact	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$496.9	\$219.4	\$100.8	1,144
Indirect Impact (Type I)	\$192.4	\$88.1	\$43.0	490
Indirect Impact (Type II)	\$295.2	\$166.3	\$90.7	1,229
Total Impact	\$984.5	\$473.8	\$234.5	2,863

Note: Totals may not sum due to rounding. Includes estimates of existing economic activity.
Source: AEC

Construction of the Site (planned to be developed over a 4-6 year period) is estimated to directly inject around \$279.4 million into local businesses in Ryde LGA. The injection is expected to support around \$200 million in gross value added (GVA) activity within the Ryde LGA over the course of the 4 to 6 year construction period (including both direct and flow-on activity).

An estimated 1,537 FTE jobs for Ryde residents are estimated to be supported as a result of construction over the 4 to 6 year period (including direct and flow-on impacts), equating to an average of 250 to 380 FTE jobs per annum.

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Public Open Space

The Proposal will provide a new sports field for public use. It is anticipated this field will primarily be used by workers and residents in the Macquarie Park Corridor, future residents of the Herring Road and North Ryde Station Priority Precincts and dwellings developed as part of this Proposal.

Assuming the sports fields have a service population of around 5,000 people, the sports field provided as part of this development can be estimated to return a social value of approximately **\$200,000 per annum**.

Key Worker Housing

While 27% of workers in Macquarie Park earn more than \$104,000 per annum, a large proportion (44%) earn less than \$68,000, many of whom would be 'key workers'.

If key worker housing were made available at a discount of 25% to market rents, the difference between that paid and market rents represents social value to a key worker household. Computed at the average Ryde LGA rent of \$520 per week, this equates to an annual value of \$6,182 or nearly \$180,000 in social value per dwelling¹. The provision of 56 key worker dwellings would multiply to a value of **\$710.1million**.

Net Impacts

The proposed rezoning sought would lead to a reduction in the quantum of land zoned for employment generating land uses. Yet while the Site currently accommodates 220 employees, these workers will be relocated to a new commercial building (currently under construction) on the Site and as such no 'loss' of jobs. Instead, the construction of 20,000sqm of new commercial and retail space would enable an intensification of uses on the Site and the accommodation of more employees.

When fully operational, the total number of jobs accommodated on the Site is estimated at 1,144 (representing an increase of 924), representing an intensification of employment and much greater employment numbers than present should the rezoning occur.

Conclusion

While the appropriation of land to other uses would mean a reduction in employment land on the Site, the provision of key social infrastructure would result in sustaining Macquarie Park's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace.

It is apparent that the Proposal will provide significant benefit to the local area, delivering strong positive socio-economic impacts comparative to the status quo. This builds a strong case for the Proposal from a socio-economic perspective. As Macquarie Park grows the economic impact identified in this assessment will become even more significant.

¹ Capitalised at gross yield of 3.5%

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66-82 Talavera Road, Macquarie Park, Socio-Economic Impact Assessment

1. Introduction

1.1 Project Background and Overview

Macquarie Park Corridor sits in the Global Economic Corridor as identified in *A Plan for Growing Sydney*. The Global Economic Corridor is an area of concentrated employment, economic activity and other uses in centres, transport gateways and industrial zoned land extending from Port Botany and Sydney Airport, through Sydney CBD, north-west through Macquarie Park Corridor, and towards Norwest, Parramatta and Sydney Olympic Park.

Macquarie Park Corridor is located in the local government area of City of Ryde, about 12km north-west of the Sydney central business district and is one of Sydney's major business hubs. Macquarie Park Corridor contains three major employment anchors: Macquarie Business Park, Macquarie University and Macquarie University Hospital. Macquarie Park Corridor is serviced by three train stations, these include: Macquarie University Station, Macquarie Park Corridor Station and North Ryde Station.

Macquarie Park Corridor is set to experience significant population and employment growth. The NSW Bureau of Transport Statistics forecasts that the population in Macquarie Park Corridor will increase by 15,358 persons and increase by 12,872 employees by 2031 (representing an increase of 770% and 28% respectively). Testament to this growth outlook is the quantum of development already in the pipeline, at various stages of planning and development.

- Commercial proposals totalling some 450,000sqm of commercial floorspace.
- Residential proposals totalling more than 3,000 residential units.

Despite there being a range of economic benefits associated with population and employment growth, there are also challenges associated with urban renewal and growth. In urban planning terms, it is well accepted that growth puts pressure on infrastructure needs. These needs include access to amenities such as quality housing, transport networks, roads, schools, open space, hospitals and police and fire services.

Many business parks have transitioned from providing warehousing and light manufacturing space to include increasing amounts of office uses. As a result of the increasing amount of office space (and office workers) located in business parks, the overall composition of business parks has evolved to contain a range of convenience and recreational facilities, including restaurants, banks, medical centres, travel agencies as well as active and passive recreational facilities.

As business parks evolve, workers will be attracted to housing options in close proximity to their place of work (i.e. people will want to live and work locally). This has broader economic benefits as it promotes self-containment, improving health of the local economy.

1.2 Scope and Purpose

Architectus on behalf of Holdmark are preparing a Planning Proposal to rezone 66-82 Talavera Road, Macquarie Park Corridor ("the Site") from B7 Business Park to B4 Mixed Use and subsequently redevelop the Site and deliver the Concept Master Plan.

AEC Group (AEC) has been engaged by Holdmark to prepare a Socio-economic Impact Assessment (SEIA) to analyse the social and economic impacts likely to result from the proposed rezoning and subsequent delivery of the Concept Master Plan. The economic and social impacts that result from a redevelopment of the Site are analysed in the context of the proposed Concept Master Plan.

The Planning Proposal seeks to:

- Amend the land use controls for the site. Currently the land is zoned B7 Business Park. It is proposed that a B4 Mixed Use Zone be applied to the site, to allow for the site's development for public open space, residential, retail and commercial uses. Through the development process, open space would be dedicated back to Council and rezoned as RE1 Zone at a later stage when the boundaries of the open space are defined if required by Council;
- Amend the current maximum FSR controls from 1.0:1 to 3.7:1.

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The Planning Proposal seeks to enable the delivery of the Concept Master Plan, which will accommodate approximately 1,271 apartments, 56 key worker housing apartments, 16,000sqm GFA commercial floorspace and 4,000sqm GFA of retail floorspace and 6,100sqm public open space. The proposal also envisages a public carpark under the open space containing 1,030 spaces, with up to 180 spaces for users of the recreation facility for up to 2.5hours.

1.3 Macquarie Park Corridor: Growth and Sustainability Research Study

AEC Group (AEC) was commissioned by Holdmark to undertake a research study titled *Macquarie Park Corridor – Growth and Sustainability*. The overarching objective of the Study was to provide a clear understanding of key and critical factors that underpin the success and competitiveness of business parks, including the complementary residential development that they generate. This understanding of key site selection factors assisted in understanding the sustainability of Macquarie Park's competitive position.

The importance of key infrastructure items in the Macquarie Park Corridor was investigated against current and future provision. Case studies, tenant/occupier surveys and a literature review collectively identify key tenant requirements (e.g. open space, affordable housing for workers, childcare facilities, etc.).

Given Macquarie Park's position on a growth trajectory, its position and ability to respond to infrastructure need and delivered required social infrastructure is imperative for its continued success.

The findings of the research study are elaborated on throughout the SEIA.

1.4 Purpose and Structure of the Study

The purpose of the SEIA is to consider whether the direct economic impacts of the proposed rezoning and development represent a net positive impact compared to the existing uses.

Chapter 2 analyses key State and local government policies relevant.

Chapter 3 reviews the Site, its current context within Macquarie Park Corridor and describes the Proposal as envisioned for future redevelopment of the Site.

Chapter 4 analyses the socio-economic profile of Macquarie Park and relevant catchment to understand its role in accommodating employment/economic activity. The employment analysis provides insight into the profile of current employment demand and future growth prospects. The Chapter also profiles existing residents in Macquarie Park.

Chapter 5 provides an overview of the economic trends/drivers impacting the Site and its broader context within Macquarie Park Corridor.

Chapter 6 assesses the need for social infrastructure in the Macquarie Park Corridor and analyses the effectiveness of the mechanisms in place which can fund this infrastructure.

Chapter 7 assesses the socio-economic impacts of the Proposal by investigating two scenarios, these include:

- *The Base Case:* the social and economic impacts of the Site in its existing use (i.e. no rezoning).
- *Rezoning Case:* This scenario assumes that the Site is rezoned and redeveloped in line with the proposed master plan.

Chapter 8 assesses the Net Community Benefit of the proposal and seeks to evaluate the socio-economic implications of the rezoning from a community perspective. It translates the key findings from Chapters 2 to 7 and applies them in the assessment of the Proposal against the Section 117 Direction.

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2. Planning and Policy Context

2.1 State Planning Policy

2.1.1 NSW State Plan (2011)

The NSW 2021 Plan (NSW DPC, 2011) aims to rebuild the NSW economy, provide quality services, renovate infrastructure, restore government accountability and strengthen NSW's local environment and communities.

The Plan comprises five sub-strategies. The main sub-strategy that is of relevance to this Assessment is 'Rebuild the Economy' with the following goals of particular importance:

- **Goal 1 Improve the Performance of the NSW Economy** – states that a strong economy generates opportunities for fulfilling jobs, choices and financial security. The target of the Plan is to grow employment by an average of 1.25% per year to 2020.
- **Goal 4 Increase the Competitiveness of Doing Business in NSW** – states that there should be an increase in business innovation. Furthermore, it is put forward that high performing businesses should be supported to innovate in order to further enhance productivity through Industry Action Plans. The plans will identify innovation drivers and barriers within key sectors (professional services, manufacturing, digital economy, tourism and events, and education and research).
- **Goal 5 Place Downward Pressure on the Cost of Living** – the aim of the goal is to reduce the pressure on household budgets where possible by providing support to people in need and dealing with the underlying causes of rising household costs. The State government plans to increase the supply of land for housing and provide incentives to help make housing in NSW more affordable and housing stock more appropriate for people's needs.

The Plan aims to improve housing affordability and availability and aims to:

- Continue to set dwelling targets for local councils outlined in subregional strategies.
- Partner with local councils to ensure that targets for housing and growth and the priorities within the subregional plans and regional plans are reflected in relevant planning proposals and in local planning instruments (local environmental plans).

2.1.2 A Plan for Growing Sydney (2014)

A Plan for Growing Sydney (NSW DP&E, 2014a) (the Plan) sets the strategic direction for Sydney towards 2031. The overarching vision is that by 2031, Sydney will be "a strong global city, a great place to live". The Plan is built around four key goals:

- A competitive economy with world-class services and transport.
- A city of housing choice with homes that meet our needs and lifestyles.
- A great place to live with communities that are strong, health and well connected.
- A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.

It is considered goal 1, 2 and 3 are of most relevance to the SEIA and are analysed below. *Goal 4: A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources*, is focused on the natural environment and biodiversity and as such not considered relevant to the Concept Master Plan – which is an urban focused development.

Goal 1: A Competitive Economy with World-class Services and Transport

Of particular relevance to the SEIA is *Goal 1: A competitive economy with world-class services and transport*. One of the associated directions – *Direction 1.6: Expand the Global Economic Corridor* states that the Global Economic Corridor extends from Macquarie Park Corridor (where the Site is located) through the Sydney CBD to Port Botany and Sydney Airport, generating over 41 per cent of the NSW Gross State Product (GSP). This economic

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cluster is unique in Australia due to the extent, diversity and concentration of globally competitive industries.

Goal 2: A City of Housing Choice

Another goal of relevance is *Goal 2: A city of housing choice, with homes that meet our needs and lifestyles*. The following key directions/actions are of relevance to this Assessment.

- **Accelerate housing supply and local housing choices** (Direction 2.1/Action 2.1.1)
The Plan states the Government is working to achieve its target of an additional 664,000 new dwellings by 2031. The Plan acknowledges that increasing housing supply and addressing housing affordability and choice will assist in reaching the target.

Working with the market to deliver new housing

Importantly the Plan acknowledges that Government and local councils need to understand and respond to the housing market in each and every Local Government Area. The housing market reflects consumer demand and willingness to pay for particular types of housing in particular locations.

It is the role of the private sector to build new houses. The private sector will only develop housing on rezoned sites where there is sufficient consumer demand for it, at a price that provides a return to the developer. Local councils should assist housing production by identifying and rezoning suitable sites for housing.

- **Accelerate urban renewal across Sydney – providing homes closer to jobs** (Direction 2.2/Action 2.2.2)

A Plan for Growing Sydney focuses new housing in centres which have public transport that runs frequently and can carry large numbers of passengers.

- **Improve housing choice to suit different needs and lifestyles** (Direction 2.3)
The Plan states as the population ages, many people will choose to downsize their homes. Most people will prefer to remain in their communities – around 50 per cent of people looking to purchase a new house stay within their current Local Government Area. To respond to these issues, the Government will introduce planning controls that increase the number of homes in established urban areas.

Action 2.3.3 Deliver more opportunities for affordable housing recognises the need meet the housing needs of people on very low, low and moderate incomes. People in lower income brackets that spend more than 30 per cent of their gross income on rent are said to be experiencing rental stress.

The Plan states that in order to respond to these issues, the Government will introduce planning controls that increase the number of homes in established urban areas to take advantage of public transport, jobs and services.

Goal 3: Sydney's Great Places to Live

Goal 3 and the associated *Direction 3.1: Revitalise existing suburbs* emphasises that focusing new housing within Sydney's established suburbs brings real benefits to communities and makes good social and economic sense. This type of development lowers infrastructure costs; reduces the time people spend commuting to work or travelling between places.

Furthermore, *Direction 3.2 Create a network of interlinked, multipurpose open and green spaces across Sydney*. *A Plan for Growing Sydney* aims to improve the quality of green spaces and create an interconnected network of open spaces and parks, tree-lined streets, bushland reserves, riparian walking tracks and National Parks.

2.1.3 Section 117 Direction (Environmental Planning and Assessment Act 1979)

Under Section 117(2) (S117(2)) of the Environmental Planning and Assessment Act 1979 the Minister for Planning and Infrastructure provides directions to planning authorities regarding proposals lodged with the DP&E.

Of relevance to this SEIA is Section 1.1 Business and Industrial Zones which stipulates the objectives of S117(2) which are as follows:

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- Encourage employment growth in suitable locations.
- Protect employment land in business and industrial zones.
- Support the viability of identified strategic centres.

Given that S117 (2) applies in this case, Council must:

- Give effect to the objectives of this direction.
- Retain the areas and locations of existing business and industrial zones.
- Not reduce the total potential floor space area for employment uses and related public services in business zones.
- Not reduce the total potential floor space area for industrial uses in industrial zones.
- Ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning.

2.2 Local Planning Policy

2.2.1 Ryde Local Environmental Plan (2014)

The Ryde Local Environmental Plan (LEP) applies to most land within the Ryde LGA. The aim of the LEP is to regulate development of land within the LGA by providing land use and density controls.

Macquarie Park Corridor is subject to the B7 Business Park and B3 Commercial Core zones which are adjacent to the B4 Mixed Use zone. Together, these zones operate to reinforce the significant role of Macquarie Park Corridor as a major employment and economic hub. More particularly, the Site is zoned B7 Business Park, which generally frames the B3 Commercial Core zone. The objectives of the B7 Business Park zone are:

- To provide a range of office and light industrial uses.
- To encourage employment opportunities.
- To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.
- To encourage industries involved in research and development.

The Site is subject to the following key planning controls:

- Building height: 30m; and
- FSR: 1:1.

The land surrounding the Site is zoned B4 Mixed Use and B3 Commercial Core. Set out below is the location of each zone and the FSR which applies.

- **B4 Mixed Use** is broadly bound by Herring Road and Balaclava Road to the north, M2 Motorway to the east, Byfield Street to the south and Epping Road to the west.

The FSR of this land use zone ranges from 1:1, 1.5:1, 2:1 and 3:1.

- **B3 Commercial Core** is broadly bound by Byfield Street to the north, B7 Business Park land use zone to the east, Wickson Road to the south and Optus Drive and Epping Road to the west. The FSR of this land use zone ranges from 1:1, 1.5:1, 2:1 and 3:1.

The FSR ranges for the B4 Mixed use zone and B3 Commercial Core zone provide greater densities compared to the B7 Business Park zone which is confined to an FSR of 1:1.

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Figure 2.1: The Site Land Use Zoning



Source: Ryde Council (2014)

2.2.2 Ryde Local Environmental Plan 2014 (Amendment 1) Macquarie Park Corridor

Ryde Local Environmental Plan 2014 (Amendment 1) Macquarie Park Corridor (referred to as 'Amendment 1') is an amendment to the current RLEP 2014. The purpose of the amendment is to increase height and floor space ratio controls for the Macquarie Park Corridor to enable the implementation of new roads and parks that will support employment growth and the evolution of Macquarie Park Corridor from Business Park to specialised employment centre.

Amendment 1 provides an incentivised set of controls for the Macquarie Park Corridor which allow for an increase in height or FSR in return for monetary contributions and/or the delivery of public infrastructure including roads and open space. This infrastructure to be delivered is identified in the supporting documentation for Amendment 1. The Site does not contain any of this infrastructure to be delivered.

Under Amendment 1 the Site is subject to the following key planning controls:

- Maximum building height of 45m; and
- Maximum FSR of 1.5:1.

As the Site does not include any required infrastructure, it will be subject to payment of monetary contributions on a per sqm basis for each additional sqm above the current applicable FSR.

Delivery of public infrastructure including roads and open space will hinge on the redevelopment and take-up of bonus FSR on sites where these items of infrastructure have been identified.

2.3 Vision for Macquarie Park Corridor

A Plan for Growing Sydney identifies that Macquarie Park Corridor sits in the Global Economic Corridor. The Global Economic Corridor is an area of concentrated employment, economic activity and accommodates a range of other uses. These activities are accommodated in centres, transport gateways and industrial zoned land extending from Port Botany and Sydney Airport, through Sydney CBD, north-west through Macquarie Park Corridor, and towards Norwest, Parramatta and Sydney Olympic Park.

Furthermore, The Plan states that by 2030, there will be demand for around 190,000 new stand-alone office jobs: around 75% of these will likely seek to locate in Sydney's 10 major

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office markets. Many of these jobs will be outside Sydney CBD and North Sydney, in the eight suburban office markets of Chatswood, Macquarie Park Corridor, Norwest, Parramatta, Rhodes, St Leonards, Sydney Olympic Park and South Sydney, situated along the Global Economic Corridor.

With specific regard to the Macquarie Park Corridor, The Plan identifies the following priorities:

- Work with council to retain a commercial core in Macquarie Park Corridor for long-term employment growth.
- Work with council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing.
- Facilitate delivery of Herring Road, Macquarie Park Corridor Priority Precinct, and North Ryde Station Priority Precinct.
- Investigate potential future opportunities for housing in areas within walking distance of train stations.
- Support education and health-related land uses and infrastructure around Macquarie University and Macquarie University Private Hospital.
- Support the land use requirements of the Medical Technology knowledge hub.
- Investigate a potential light rail corridor from Parramatta to Macquarie Park Corridor via Carlingford.
- Investigate opportunities to deliver a finer grain road network in Macquarie Park Corridor.
- Investigate opportunities to improve bus interchange arrangements at train stations.
- Work with council to improve walking and cycling connections to North Ryde station.

The importance and significance of Macquarie Park Corridor is recognised in state and local planning documents, its future prosperity underpinned by the priorities of governments.

Supporting and Sustaining Growth

Despite the range of economic benefits associated with population and employment growth, urban and renewal and regeneration is not without its challenges. All forms of growth exert pressure on existing infrastructure networks, not just from a quantum but also from a suitability-for-needs perspective.

As areas renew and regenerate, the infrastructure needs of its workers and residents change, therefore demand for and access to amenities such as quality housing, transport systems, roads, schools, hospitals and police and fire services should be considered in the appropriate context.

Urbanisation also demands more emphasis be placed on social infrastructure, such as community centres, youth centres, parks and sporting fields, etc. so that urban renewal areas can contribute to reducing social disadvantage and maintaining social cohesion. As such, Amendment 1 aims to combat some of the pressures associated with population and employment growth.

The aim of Amendment 1 is to increase permissible height and floor space ratio controls in the Macquarie Park Corridor to enable the implementation of new roads and parks that will support employment growth and the evolution of Macquarie Park Corridor from Business Park to specialised employment centre.

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3. The Proposal

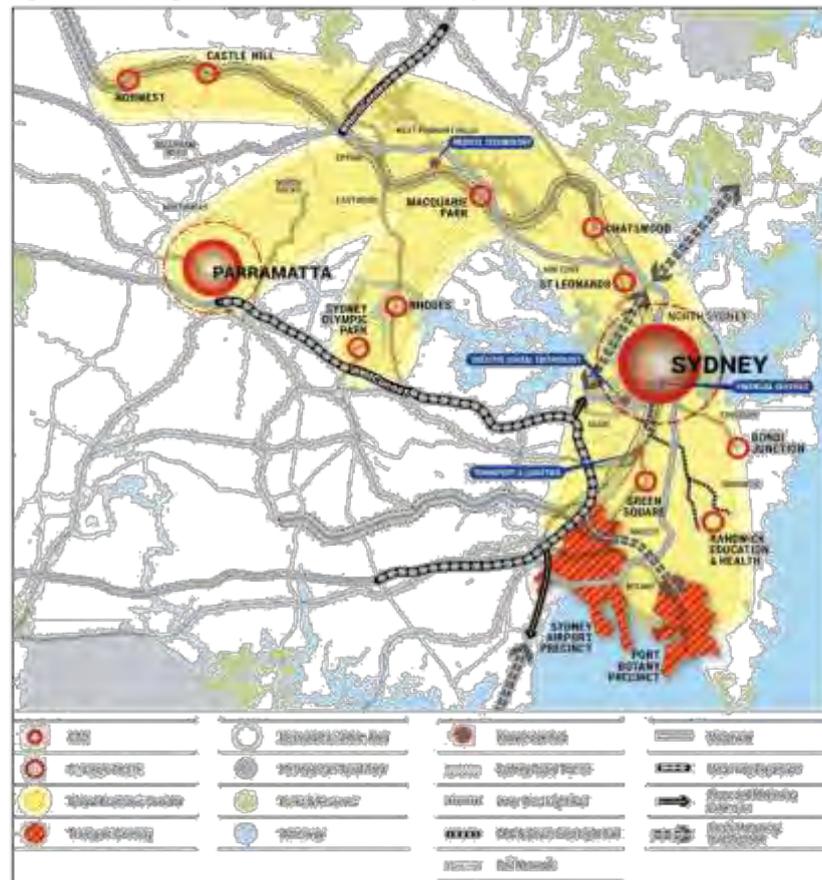
3.1 Location and Site Context

3.1.1 Macquarie Park Corridor

Macquarie Park Corridor is located in the local government area of City of Ryde. It is located 12km northwest of the Sydney central business district and it is one of Sydney's major business hubs. Macquarie Park Corridor contains three major employers: Macquarie Business Park, Macquarie University and Macquarie University Hospital. Macquarie Park Corridor is serviced by three train stations, these include: Macquarie University Station, Macquarie Park Corridor Station and North Ryde Station.

A Plan for Growing Sydney identifies Macquarie Park Corridor as within the Global Economic Corridor (refer to Figure 3.1). The Global Economic Corridor is an area of concentrated employment, economic activity and other uses in centres, transport gateways and industrial zoned land extending from Port Botany and Sydney Airport, through Sydney CBD, north-west through Macquarie Park Corridor, and towards Norwest, Parramatta and Sydney Olympic Park.

Figure 3.1: Strategic Context and Location of Macquarie Park Corridor



Source: NSW DPE (2014)



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Macquarie Park Corridor is a business precinct located just 12km north-west of the CBD, and is Sydney's second largest commercial office precinct after the Sydney CBD. Some of the growing list of tenants include: Microsoft, Sony, Optus, Johnson & Johnson and Goodman-Fielder.

Macquarie Park Corridor is continually evolving, over the past 20 years with the rezoning of 200 hectares of industrial land to create a thriving business centre. Macquarie Park Corridor is on the Chatswood to Epping Rail Line and a major stop for bus services from key centres such as Parramatta, North Sydney and Castle Hill.

The proposed Sydney Metro train line will connect to the proposed extension of the North West Rail Link at Chatswood, run under the city and connect to the Bankstown line at Sydenham. It's the first step in introducing next generation rapid, fast-service metro trains to Sydney CBD.

The park is accessible by car via the M2, M4, M7 and Lane Cove Tunnel. The Macquarie Centre also operates the Biz Park shuttle, which offers free transit between the Centre and around the business park.

Macquarie Park Corridor contains the following facilities and social infrastructure items that contribute to worker amenity, these include:

- Restaurants and cafés, retail facilities, i.e. Macquarie Centre.
- Fitness centres.
- Childcare centres.
- Public open space, i.e. Christie Park, Fontenoy Park, Tuckwell Park and Wilga Reserve.

The existing provision of social infrastructure items and adequacy of the same is discussed in further detail in Chapter 6.

3.1.2 The Site and Surrounds

Macquarie Park Corridor contains a range of land uses which are reflective of the different land use zones which subsist in the area. Under the Ryde Local Environmental Plan 2014, the eastern portion is zoned B4 Mixed Use, the core is zoned B3 Commercial Core and the land on either side of the core is zoned B7 Business Park.

The Site is located at 66-82 Talavera Road, Macquarie Park Corridor and is zoned B7 Business Park. The existing built form on the Site comprised:

- A 4-storey office building fronting Alma Road (6,988sqm);
- A conference centre (2,160sqm);
- Warehouse (8,974sqm) which has since been demolished for a new 6 storey commercial building;
- Private tennis courts;
- At grade parking.

A 6 storey commercial building on Talavera Road is currently under construction (following demolition of the warehouse), to comprise nearly 9,000sqm of office GFA on completion.

DPE have identified two Priority Precincts which are located at the north-western and south-eastern ends of the business park, these are Herring Road and North Ryde Station Priority Precincts respectively. Both of these precincts have been designated for substantial dwelling and population growth.

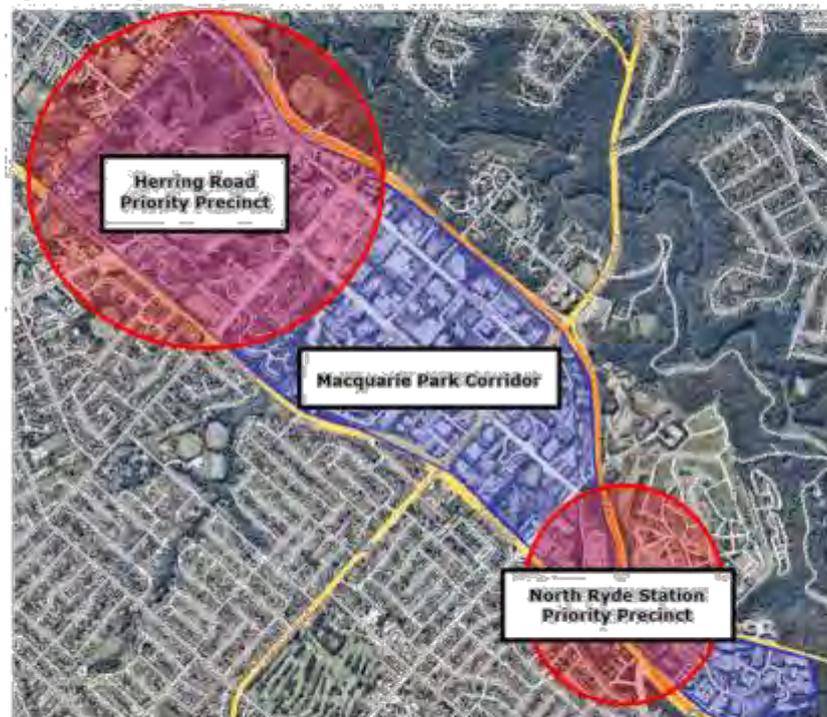
The area to the north west of Herring Road (Macquarie University) falls under the State Environmental Policy (Major Development) (Macquarie University) 2009 and is zoned SP2 Infrastructure (Educational Establishment) and B4 Mixed Use.

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Figure 3.2: Map of Macquarie Park Corridor



Source: Nearmap (2015)

From its early association with Macquarie University, Macquarie Park Corridor has developed into a centre for research and technology activities. The occupiers are diverse within the range of land use zones.

- Occupiers in the B4 Mixed Use zone include Macquarie Retail Centre, Panasonic, Macquarie University residential colleges.
- Occupiers in the B3 Commercial Core zone include financial services firms, medical and pharmaceutical research and telecommunications companies. These include Orix, Johnson and Johnson, Novartis Pharmaceuticals and Foxtel.
- Prominent occupiers in the B7 Business Park zone include Toshiba, CSIRO, Komatsu, Astra Zeneca, Seiko and Optus.

As stated in section 2.2.1 the B3 Commercial Core zone has a greater variance of density controls (i.e. FSR 1:1, 1.5:1, 2:1 and 3:1) in comparison to the B7 Business Park zone which is designated with an FSR of 1:1. These built form controls are reflective of the built form on the ground in Macquarie Park Corridor.

There is generally greater density and taller buildings in the B3 Commercial Core zone, particular around Macquarie Park Station and Macquarie University Station and lower density development at the edge of the Corridor where the B7 Business Park zone is located.

3.2 Rezoning and Proposed Redevelopment

The Planning Proposal seeks to amend the land use controls for the Site. Currently the land is zoned B7 Business Park. The Proposal envisages the following applied to 3.78ha of land currently zoned B7 Business Park:

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- B4 Mixed Use zone.
- Amend the current maximum FSR controls from 1:1 to 3.7:1.

It is envisaged that once the land is rezoned it will accommodate the following (as contained in the Concept Masterplan):

- Approximately 1,271 apartments (as well as an additional 56 apartments for key worker housing).
- 20,000sqm of non-residential GFA:
 - 16,000sqm commercial floorspace; and
 - 4,000sqm retail floorspace.
- Recreation Centre containing 3,500sqm.
- 6,100sqm of open space.

The socio-economic context within which the Site and proposed redevelopment operate is investigated in the next chapter.



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4. Socio-Economic Analysis

4.1 Employment Profile

In order to understand the employment and economic activity occurring in Macquarie Park Corridor (where the Site is located) the Bureau of Transport Statistics data (BTS, 2012) was used.

The BTS statistical boundaries do not align with the Site, accordingly the data collected relates to the broader precinct where the Site is located and considers a much larger employment catchment.

The specific employment profile of Site is therefore not reflected in the analysis. That said, the employment profile provides a contextual indication of employment structure of Macquarie Park Corridor.

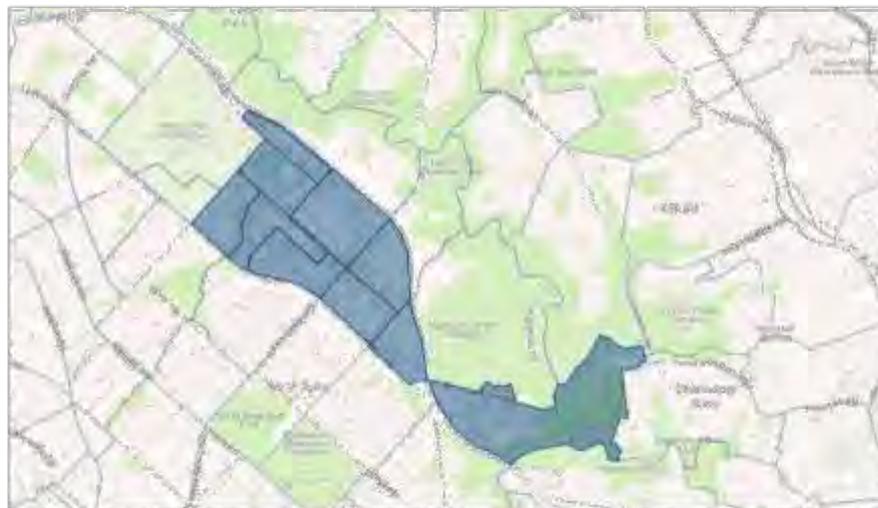
This section considers the employment profile of workers in the precinct by analysing types of employment categorised under Australian and New Zealand Standard Industrial Classification (ANZSIC). The ANZSIC has been developed jointly by the Australian Bureau of Statistics and Statistics New Zealand to improve the comparability of industry statistics between the two countries and the rest of the world.

The ANZSIC is a hierarchical classification of industry with four levels, namely Divisions (the broadest level), Subdivisions, Groups and Classes (the finest level). At the Divisional level (referred to as 1-digit ANZSIC), the main purpose is to provide a limited number of categories which provide a broad overall picture of the economy.

The Subdivision (2-digit ANZSIC), Group (3-digit ANZSIC) and Class (4-digit ANZSIC) levels provide increasingly detailed dissections of these categories to enable the compilation of more specific and detailed statistics (ABS, 2006).

Figure 4.1 depicts the statistical area analysed in relation to the Site.

Figure 4.1: Precinct Employment Analysis



Source: BTS (2012)

4.1.1 Employment Profile

This section summarises key socio economic characteristics of Macquarie Park Corridor, combining different data sets, across various levels of geographies as outlined below:



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Table 4.1: Data Sources

Data	Geography	Source
Employment by Industry	Macquarie Park Corridor Precinct/Ryde LGA	Bureau of Transport Statistics
Employment by Occupation	Macquarie Park Corridor Precinct/Ryde LGA	Bureau of Transport Statistics
Method of Transport to Work	Macquarie Park Corridor Precinct	Bureau of Transport Statistics
Employment by Income	Macquarie Park Corridor- Marsfield SA2/Ryde LGA	Bureau of Transport Statistics
Journey to Work (simple)	Macquarie Park Corridor Precinct	Bureau of Transport Statistics
Journey to Work (cross tabulated i.e. by origin by income, by origin by industry)	Ryde LGA	ABS

Source: AEC

Given that various databases have been utilised, totals from different datasets (i.e. employment by occupation, employment by industry) may not add up due to different rounding, statistical analysis and reporting techniques.

Employment Profile

Key employment data for Macquarie Park Corridor highlights that:

- Estimated employment of approximately 40,450 people in 2011.
- Wholesale trade (22.0%), information, media telecommunications (19.4%) and professional scientific and technical services (18.8%) are the largest employers.
- Key occupations include professionals (38.2%), managers (21.7%) and clerical and administrative workers (17.3%) reflective of its industry profile.

Table 4.2: Employment Profile Overview, Macquarie Park Corridor Precinct

Indicator	Macquarie Park Corridor
Total Employment (Number)	
2011	40,475
Key Industries (2011, % of Total Employment)	
Wholesale Trade	22.0%
Information, Media Telecommunications	19.4%
Professional, Scientific and Technical Services	18.8%
Key Occupations (2011, % of total)	
Professionals	38.2%
Managers	21.7%
Clerical and Administrative Workers	17.3%
Average Income* (2011, dollars)	\$70,409

*Macquarie Park Corridor-Marsfield SA2
Source: BTS (2014)

The following sections investigate at a finer grain the composition of employment.

Employment by Industry

In 2011, Macquarie Park Corridor employed 40,475 workers, representing approximately 54% of those employed (74,500) across the Ryde LGA, demonstrating Macquarie Park Corridor's significance to the Ryde local economy.

Wholesale trade (22.0%), information, media telecommunications (19.4%) and professional scientific and technical services (18.8%) are the largest employers. Other sectors represented in Macquarie Park Corridor include manufacturing (12.0%), retail trade (6.3%) and health care and social assistance (6.0%). This highlights a broad industry mix, comprising white collar, blue collar and service based industries, though with a larger concentration of white collar dominated industries.

The Ryde LGA comprises an even broader industry mix, and in particular a larger proportion of workers in education and training and health care and social assistance.

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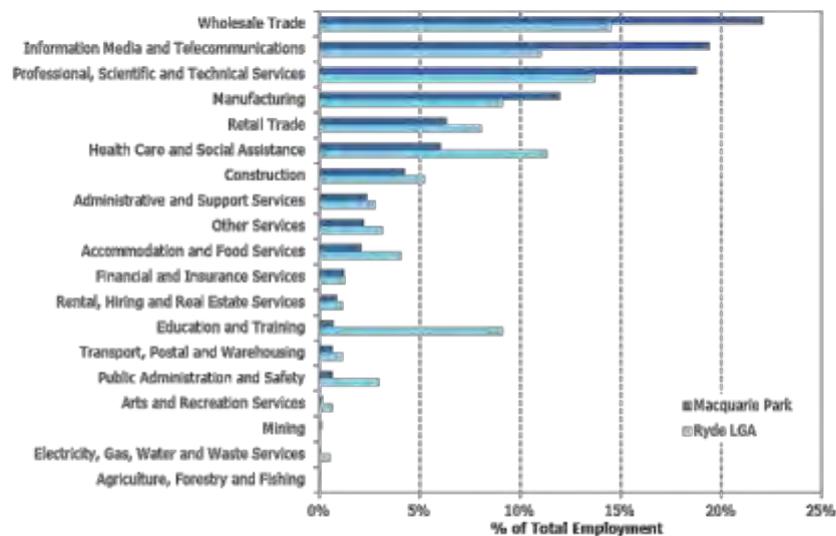
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Table 4.3: Employment by Industry, 2011 (19 Sector – 1-Digit ANZSIC)

Industry	Macquarie Park Corridor		Ryde LGA	
	Employment	% of Total	Employment	% of Total
Agriculture, Forestry and Fishing	29	0.1%	48	0.1%
Mining	44	0.1%	60	0.1%
Manufacturing	4,844	12.0%	6,787	9.1%
Electricity, Gas, Water and Waste Services	34	0.1%	378	0.5%
Construction	1,720	4.2%	3,879	5.2%
Wholesale Trade	8,923	22.0%	10,825	14.5%
Retail Trade	2,561	6.3%	5,999	8.0%
Accommodation and Food Services	848	2.1%	3,035	4.1%
Transport, Postal and Warehousing	265	0.7%	864	1.2%
Information Media and Telecommunications	7,860	19.4%	8,234	11.0%
Financial and Insurance Services	502	1.2%	964	1.3%
Rental, Hiring and Real Estate Services	352	0.9%	867	1.2%
Professional, Scientific and Technical Services	7,596	18.8%	10,221	13.7%
Administrative and Support Services	959	2.4%	2,087	2.8%
Public Administration and Safety	265	0.7%	2,210	3.0%
Education and Training	283	0.7%	6,782	9.1%
Health Care and Social Assistance	2,438	6.0%	8,453	11.3%
Arts and Recreation Services	61	0.2%	492	0.7%
Other Services	890	2.2%	2,344	3.1%
Total	40,475	100.0%	74,527	100.0%

Note: Totals may not add up to other BTS tables due to different databases utilised and rounding.
Source: BTS (2014)

Figure 4.2: Employment by Industry, Macquarie Park Corridor and Ryde LGA, 2011



Note: Place of Work Data.
Source: BTS (2014)

Employment by Occupation

The employment profile of Macquarie Park Corridor primarily comprises professionals (38.2%), managers (21.7%) and clerical and administrative workers (17.3%), reflecting a large representation of jobs across white collar dominated industries.

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Table 4.4: Employment by Occupation, 2011 (1-digit ANZSIC)

Occupation	Macquarie Park Corridor		Ryde LGA	
	No.	%	No.	%
Managers	8,776	21.7%	13,101	17.6%
Professionals	15,455	38.2%	25,993	34.9%
Technicians and Trades Workers	4,001	9.9%	7,836	10.5%
Community and Personal Service Workers	759	1.9%	4,773	6.4%
Clerical and Administrative Workers	7,001	17.3%	11,901	16.0%
Sales Workers	2,943	7.3%	5,785	7.8%
Machinery Operators and Drivers	606	1.5%	1,883	2.5%
Labourers	939	2.3%	3,258	4.4%
Total	40,479	100.0%	74,530	100.0%

Notes: Totals may not add up to other BTS tables due to different databases utilised and rounding.
Source: BTS (2014)

Average Income

The average yearly income in the Macquarie Park Corridor-Marsfield SA2 (\$70,409) is higher than that across Ryde LGA (\$64,445) in 2011, given larger proportion of workers with a yearly income of \$104,000+ (highest income range bracket), respectively 27.3% in the former and 22.4% in the latter.

This is primarily expected to be influenced by a larger presence of white collar industries across Macquarie Park Corridor-Marsfield SA2, such as across professional, scientific and technical services, which often are associated with higher incomes.

Table 4.5: Income, Place of Work, 2011

Income	Macquarie Park Corridor	Marsfield SA2	Ryde LGA
	Percentage (%)		Percentage (%)
\$0-\$7,799		3.2%	4.4%
\$7,800-\$12,999		2.1%	3.0%
\$13,000-\$20,799		2.5%	3.5%
\$20,800-\$31,199		5.7%	8.0%
\$31,200-\$41,599		8.5%	10.4%
\$41,600-\$51,999		9.9%	10.7%
\$52,000-\$67,599		12.1%	12.1%
\$67,600-\$83,199		11.4%	10.4%
\$83,200-\$103,999		17.3%	15.1%
\$104,000 or more		27.3%	22.4%
Total (%)		100.0%	100.0%
Average Income		\$70,409	\$64,445

Notes: average income differs to that identified in 'Journey to Work' given the different level of geographies (Macquarie Park Corridor-Marsfield SA2/Ryde LGA) and sources (BTS/ABS respectively) used
Source: BTS (2014)

Macquarie Park Corridor comprises a broad industry mix, with a high concentration of white collar dominated industries, such as professional, scientific and technical services and information, media and telecommunications. Therefore, this leads to a higher proportion of white collar occupations, such as professionals and managers, as well as considerably high incomes. The industry mix provides good growth prospects for employment, with many white collar sectors forecast to grow significantly in Australia over the medium to long term.

Significantly, the ability to attract and retain a skilled local labour force is crucial in promoting investment and attracting additional such businesses to Macquarie Park.

4.1.2 Where Workers Live

Journey to work analysis answers key questions about commuting workers, such as: how many workers commute to a particular area, where they live, what industries they work in. Such analysis is useful, having significant implications for town planning, dwelling

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requirements, infrastructure demand, demand for retail and office space, employment land uses and many other aspects of a local/regional economy.

Journey to work data has been applied to Macquarie Park Corridor precinct to understand the flow of workers to the precinct and method of transport utilised.

- Macquarie Park Corridor comprises a low proportion of workers who live in the catchment LGA (Ryde LGA), with only 10.7% of employees working in the precinct also living in Ryde LGA.
- As such, nearly 90 out of every 100 workers employed in Macquarie Park Corridor are commuting to work from outside the Ryde LGA. Therefore, the LGA has potential to improve its containment rate and employ a larger proportion of residents living in the local area, to reduce commuting times and pressure on transport networks.
- Approximately an additional 35% of workers in Macquarie Park Corridor commute from surrounding LGAs, implying relatively short commuting patterns for these workers. However, 55% of workers commute from LGAs further afield implying longer commutes.
- The majority of workers rely on private vehicle transport to get to work, with approximately two thirds of workers travelling by car. Approximately 20% of workers take public transport to work, with opportunities to increase public transportation accessibility for workers travelling to Macquarie Park Corridor.

Table 4.6 outlines the origin of Macquarie Park Corridor workers, categorising them by the top 10 local government areas and indicating that just over 10% of Macquarie Park Corridor workers live in the Ryde LGA.

Table 4.6: Movement to Macquarie Park Corridor, 2011

Origin LGA	No.	% of Total
Ryde	4,330	10.7%
Hornsby	3,800	9.4%
The Hills Shire	2,998	7.4%
Blacktown	2,686	6.6%
Parramatta	2,441	6.0%
Ku-ring-gai	2,128	5.3%
Warringah	1,514	3.7%
Sydney	1,470	3.6%
Willoughby	1,234	3.0%
North Sydney	1,206	3.0%
Other LGAs	16,679	41.2%
Total	40,487	100.0%

Note: Totals may not add up to other BTS tables due to different databases utilised and rounding. Source: BTS (2014)

Table 4.7: Method of Transport to Work, Macquarie Park Corridor 2011

Method of Travel	No.	% of Total
Car as driver	26,528	65.5%
Train	5,372	13.3%
Did not go to work	2,412	6.0%
Bus	2,208	5.5%
Car as passenger	1,612	4.0%
Other	2,343	5.8%
Total	40,475	100.0%

Note: Totals may not add up to other BTS tables due to different databases utilised and rounding. Source: BTS (2014)

A large proportion of commuters to Ryde LGA are employed in white collar dominated industries such as professional, scientific and technical services and are employed as professionals and managers. The majority of commuters have also high incomes and are well educated.

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In particular, journey to work analysis highlights that a higher proportion of those commuting to Ryde LGA are employed as professionals and managers, have higher incomes and are more educated than workers residing in Ryde LGA. Accordingly, even though there is a large proportion of highly paid jobs and a large proportion of white collar positions in Ryde LGA (and Macquarie Park Corridor), most of these appear to be better 'suited' to the socio-economic profile of commuters than residents itself.

This is further emphasised by relatively low containment rates, with most LGA residents commuting to work outside.

4.1.3 Self Containment and Self Sufficiency

Self-sufficiency and self-containment measure the health of a local economy based on the number of jobs that it can provide.

Self-sufficiency measures the number of local jobs versus the labour force (i.e. the number of local jobs divided by the labour force).

Self-containment is a similar measure but provides an understanding of where local resident workers are employed. Self-containment is calculated by dividing the number of local residents that work locally by the total number of local residents that are employed.

Table 4.8: Self-sufficiency v Self-containment, 2011

Indicator	Units	Macquarie Park Corridor - Marsfield SA2	Ryde LGA
Self-Sufficiency	%	413.2%	130.2%
Self-Containment	%	24.9%	27.7%

Source: ABS (2012b 2012c and 2012d)

In 2011, the SA2 reported a high employment self-sufficiency rate of 413.2%, suggesting there were 4.132 local jobs for each local resident participating in the labour force (this was markedly higher than the LGA at 130.2%). The high self-sufficiency rate of Macquarie Park is no surprise given its major employment centre status as part of Sydney's Global Economic Corridor.

The SA2 has a low employment self-containment rate with just 24.9% of local residents who work, working in the local area. This is compared to the LGA which reports an employment self-containment rate of 27.7%.

Overall the Ryde LGA has a relatively high self-sufficiency rate of 130%. This suggests that there are 1.3 local jobs for each local resident participating the labour force. This is very high compared to the Sydney SD (85.2%) and NSW (82.3%).

In contrast to the high employment self-sufficiency rate, the Ryde LGA has a low employment self-containment rate with just over 27% of local residents who have a job also working in the local area. Overall, the LGA typically employs higher proportions of highly skilled workers (of who many many work in Macquarie Park). This indicates a mismatch of skills between residents and worker profiles, resident workers represented by greater proportions of blue collar and service workers, lower levels of education attainment and much lower individual incomes.

Housing options that are not only affordable but available will contribute to accommodating those workers in Macquarie Park whose incomes are more modest.

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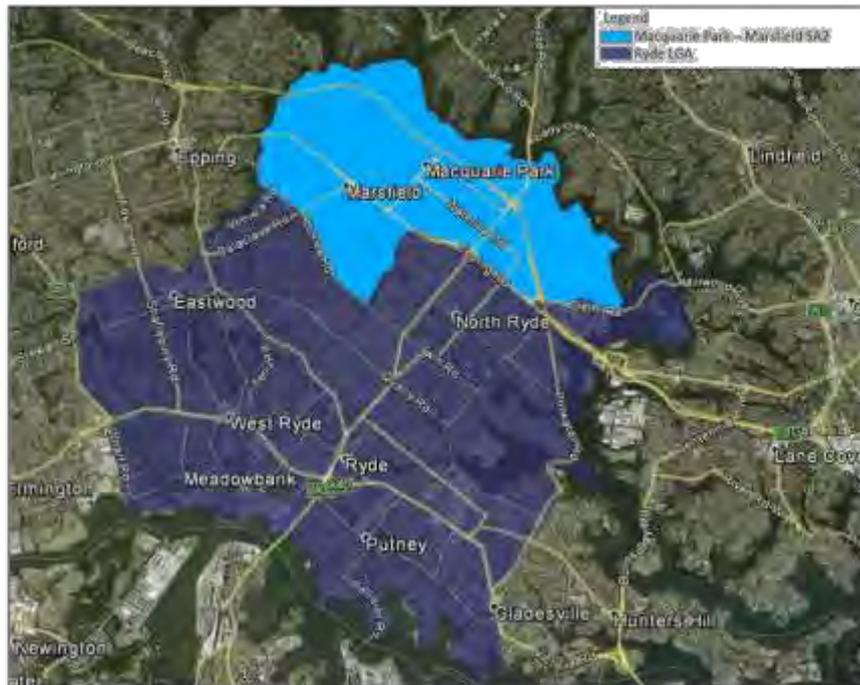
4.2 Socio-Demographic Analysis

This section provides a summary of key socio-demographic indicators for residents in the Macquarie Park Corridor - Marsfield SA2, using Ryde LGA as a benchmark.

The ABS statistical boundary SA2 does not align with the Site or Precinct, accordingly the data collected relates to a broader area and considers a much larger statistical catchment. That said, the population profile provides a contextual indication of population profile in the Macquarie Park Corridor - Marsfield SA2 and Ryde LGA.

The observations of Macquarie Park Corridor - Marsfield SA2 and Ryde LGA are taken to be a proxy for understanding the population profile of the characteristics of those residents who may reside in the proposed development. The Macquarie Park Corridor - Marsfield SA2 has been used as it is the smallest geographical area for which ABS time series data is available.

Figure 4.3: Macquarie Park Corridor-Marsfield SA2 and Ryde LGA



Source: ABS (2011), AEC, Google Pro

4.2.1 Population Growth

The SA2 had an estimated population of 19,192 people in 2011, representing an increase of approximately 2,052 people (or 1.1% annual average growth) between 2001 and 2011. In comparison, the LGA had an estimated population of 103,095 people in 2011, from an estimated population of approximately 94,244 people in 2001 (0.9% annual average growth).

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Table 4.9: Estimated Population, Macquarie Park Corridor - Marsfield SA2 and Ryde LGA, 2001-2011

Area	2001	2006	2011	Change (2001-2011)		
				No.	%	Avg. Annual
Macquarie Park Corridor - Marsfield (SA2)	17,140	17,847	19,192	2,052	12.0%	1.1%
Ryde (LGA)	94,244	96,765	103,095	8,851	9.4%	0.9%

Note: This table is based on place of enumeration and excludes overseas visitors.
Source: ABS (2012a)

4.2.2 Population Age

Data on the breakdown of age profiles between the SA2 and the LGA indicate significant differences between the two areas. The SA2's population in 2011 is considerably younger with a median age of 33 years compared to 36 years for the LGA. The median age in both areas remained generally stable between 2001 and 2011.

The LGA's older median age is reflected through several key differences in the age profile of local residents when compared to the SA2. In 2011, the SA2 reported a higher proportion of working age residents 20-64 years compared to the LGA (70.1% and 64.0% respectively). Particularly, residents aged between 20-24 years in 2011 were represented almost twice as high in the SA2 compared to the LGA (16.0% and 8.7% respectively). Similarly, the SA2 has a greater proportion of residents in the 25-34 years bracket in 2011 compared to the LGA (21.0% and 16.4% respectively).

The relatively high proportion of young adults in the SA2 is likely explained by the presence of Macquarie University, the fifth largest University in NSW (Universities Australia, 2015), which resides within the SA2's boundaries and attracts a large number of students being accommodated in the area.

Despite its higher median age, a large proportion of residents in the LGA were aged 5-14 years in 2011, compared to the SA2 (10.3% compared to 5.9%).

Table 4.10: Age Brackets, 2001-2011

Age Bracket	Units	Macquarie Park Corridor - Marsfield (SA2)			Ryde (LGA)		
		2001	2006	2011	2001	2006	2011
0-4 years	%	4.6%	4.6%	5.2%	5.9%	5.7%	6.1%
5-14 years	%	8.0%	6.4%	5.9%	11.2%	10.9%	10.3%
15-19 years	%	6.3%	5.1%	5.1%	6.1%	5.7%	5.4%
20-24 years	%	11.9%	15.6%	16.0%	7.6%	8.7%	8.7%
25-34 years	%	21.7%	20.2%	21.0%	16.5%	15.4%	16.4%
35-44 years	%	15.5%	14.0%	13.3%	16.4%	15.8%	14.9%
45-54 years	%	12.1%	11.7%	10.6%	13.2%	13.6%	13.4%
55-64 years	%	7.8%	9.0%	9.2%	8.6%	9.9%	10.5%
65-74 years	%	5.2%	5.5%	5.8%	7.2%	6.6%	6.7%
75-84 years	%	4.2%	4.9%	4.6%	5.3%	5.7%	5.1%
85 years and over	%	2.6%	3.0%	3.4%	1.9%	2.1%	2.4%
Total	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Median Age	No.	33.0	33.0	33.0	36.0	37.0	36.0

Note: This table is based on place of enumeration and excludes overseas visitors.
Source: ABS (2012a)

4.2.3 Educational Attainment

In 2011, bachelor degree level accounted for the highest proportion of educational attainment amongst residents for both the SA2 and LGA (43.4% and 30.5% respectively).

The SA2, which incorporates Macquarie University, is subsequently characterised by a relatively large proportion of residents with postgraduate degree level education attainment in 2011 compared to the LGA (20.7% and 16.1% respectively).

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In 2011, disparity across the areas is most significant for certificate level educational attainment, accounting for only 15.8% of residents in the SA2 compared to 22.0% in the LGA.

Two key patterns have been observed in the changing educational attainment profiles of both areas between 2001 and 2011. First, a significant reduction in the proportion of residents holding a certificate as their highest level of education (down 8.4 percentage points over the period in the SA2 and down 10.4 percentage points in the LGA). Secondly, there has been a significant increase in the proportion of residents with post graduate degree level attainment (up 9.4 percentage points over the period in the SA2 and up 6.2 percentage points in the LGA).

Table 4.11: Educational Attainment, 2001-2011

Educational Attainment	Units	Macquarie Park Corridor - Marsfield (SA2)			Ryde (LGA)		
		2001	2006	2011	2001	2006	2011
Postgraduate Degree Level	%	11.3%	15.6%	20.7%	9.8%	12.7%	16.1%
Graduate Diploma	%	3.9%	3.7%	3.5%	3.9%	3.5%	3.6%
Bachelor Degree Level	%	41.7%	43.1%	43.4%	35.8%	38.9%	40.5%
Advanced Diploma/ Diploma Level	%	19.0%	19.5%	16.7%	18.0%	19.0%	17.8%
Certificate	%	24.1%	18.1%	15.8%	32.4%	25.9%	22.0%
Total	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Graduate Diploma also includes Graduate Certificate Level
Note: This table is based on place of enumeration and is applicable to persons aged 15 years and over.
Source: ABS (2012a)

4.2.4 Household Composition and Ownership

An analysis of household structure is important to understand the household types that are attracted to the SA2 in comparison to the LGA.

- In 2011, the SA2 comprised of primarily family households (55.2% of all households), consistent with 2001.
- The proportion of lone person households has also remained relatively consistent over the period, at 29.6% in 2011.
- The LGA has experienced a marginal increase in family households as a proportion of total households, from 65.8% in 2001 to 66.8% in 2011. While a marginal decrease in lone person households, from 25.3% in 2001 to 24.3% in 2011.
- Group households have reported the highest growth rate between 2001 and 2011 for both areas. Group households have grown by an annual average rate of 1.8% in the SA2 over the period, compared to 1.3% for the LGA. In 2011, group households accounted for approximately twice the proportion of total households in the SA2 compared to the LGA (10.1% and 5.1% respectively).
- Growth in overall households between 2001 and 2011 has generally been higher for the LGA compared to the SA2 (0.6% and 0.2% respectively).
- In terms of household ownership, the SA2 reported a greater proportion of households rented, compared to the LGA. This disparity has declined slightly since 2001 but remains significant in 2011 with 45.9% of SA2 households rented, compared to 35.0% in the LGA. The LGA has traditionally reported a higher proportion of households owned outright, although this has declined considerably since 2001 in both the LGA and SA2.

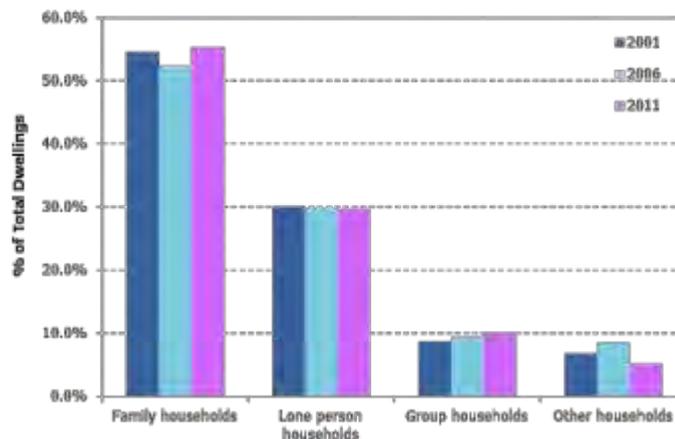
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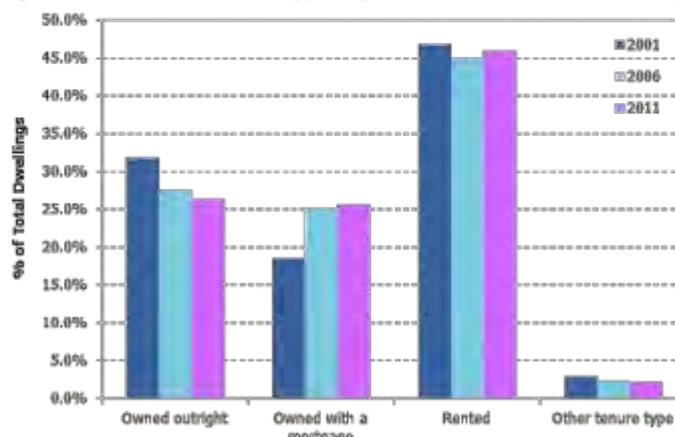
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Figure 4.4: Household Composition, Macquarie Park Corridor-Marsfield SA2, 2001-2011



Source: ABS (2012a)

Figure 4.5: Household Ownership, Macquarie Park Corridor-Marsfield SA2, 2001-2011



Source: ABS (2012a)

4.2.5 Dwelling Structure

The SA2 has a considerably different dwelling structure mix compared to LGA:

- In 2011, the SA2 reported a significantly higher proportion of flat, unit or apartments (almost half of all dwellings at 44.9%) compared to LGA (32.6%).
- While the inverse is true for separate houses with the LGA reporting 52.1% of all dwellings being separate houses in 2011 compared to the SA2 (21.8%).
- Growth across dwelling structures in the SA2 has remained relatively flat between 2001 and 2011, with only flat, unit or apartment reporting a marginal annual average growth of 0.5%. While the LGA reported growth in semi-detached, row or terrace house, townhouses as well as flat, unit and apartment (average annual growth of 2.0% and 1.6% respectively over the period).

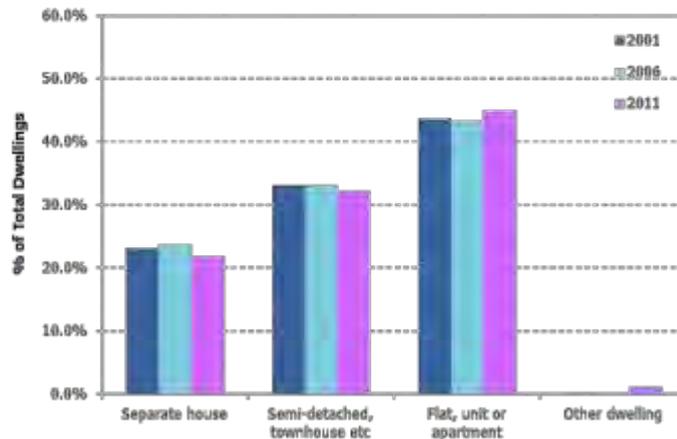
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Figure 4.6: Dwelling Structure, Macquarie Park Corridor-Marsfield SA2, 2001-2011



Note: Semi-detached, townhouses etc includes row and terrace houses
Source: ABS (2012a)

4.2.6 Household Income

In 2011, the actual median household income in SA2 (\$1,351 per week) is below the LGA's (\$1,462 per week). Median household incomes in the LGA have grown at a slightly higher annual growth rate compared to the SA2 between 2001 and 2011 (3.6% and 2.6% respectively).

Table 4.12: Total Household Income (Weekly), 2001-2011

Household Income	Units	Macquarie Park Corridor - Marsfield (SA2)			Ryde LGA		
		2001	2006	2011	2001	2006	2011
Negative/Nil income	%	3.5%	8.5%	8.3%	2.6%	4.5%	4.9%
\$1-\$199	%	5.6%	3.4%	3.5%	5.4%	2.5%	2.4%
\$200-\$299	%	6.0%	8.1%	4.5%	6.4%	7.8%	4.5%
\$300-\$399	%	5.3%	6.1%	5.8%	5.9%	6.6%	5.8%
\$400-\$599	%	9.5%	8.8%	7.2%	12.0%	10.8%	7.9%
\$600-\$799	%	10.5%	8.9%	6.1%	12.9%	10.0%	7.9%
\$800-\$999	%	10.7%	7.8%	6.9%	11.0%	8.6%	8.3%
\$1,000-\$1,249	%	15.6%	13.0%	8.1%	13.4%	13.2%	9.6%
\$1,250-\$1,499	%	6.0%	8.8%	8.6%	6.4%	8.3%	8.8%
\$1,500-\$1,999	%	16.3%	10.9%	14.0%	13.9%	11.0%	13.1%
\$2,000-\$2,499	%	6.9%	5.9%	9.8%	6.0%	6.4%	8.9%
\$2,500-\$2,999	%	3.0%	6.3%	10.2%	2.7%	6.3%	9.2%
\$3,000 or more	%	1.1%	3.5%	6.5%	1.4%	4.0%	8.7%
Total	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Median Household Income	\$/week	\$1,043	\$1,126	\$1,351	\$1,023	\$1,180	\$1,462

Note: This table is based on place of enumeration
Source: ABS (2012a)

4.2.7 Employment

For comparison purposes, place of enumeration data has been used to approximate the employment profile of residents in the SA2 and LGA.

Key changes in the employment profile for people residing in the two areas across the census years 2001, 2006 and 2011 have been:



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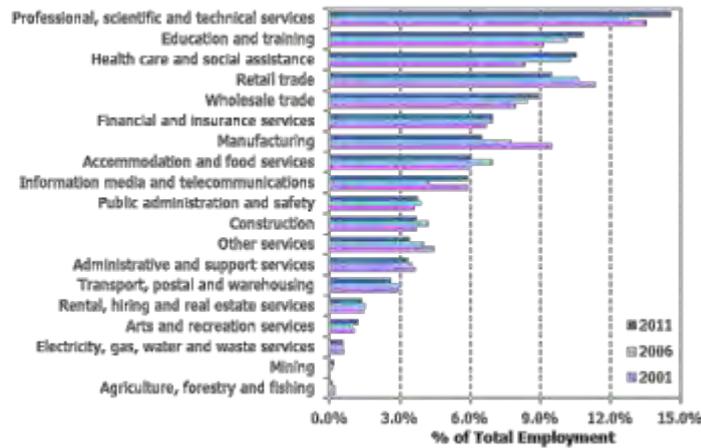
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- In line with the national trend, there has been a significant increase in those employed in the health care and social assistance industry as a proportion of total employment. For the SA2, those employed in the health care and social assistance industry have increased from 8.4% of total employment, in 2001, to 10.5% in 2011 (compared to 9.8% and 11.8% respectively for the LGA).
- Another industry which has grown strongly over the period, in terms of its proportion of total employment for both areas, has been education and training. For the SA2, those employed in the education and training industry have increased from 9.2% of total employment in 2001 to 10.8% in 2011 (compared to 8.0% and 8.9% respectively for the LGA).
- In line with the national trend, there has been a significant reduction in those employed in the manufacturing industry. For the SA2, those employed in the manufacturing industry have declined from 9.5% of total employment in 2001 to 6.5% in 2011 (compared to 9.2% and 6.8% respectively for the LGA).
- A similar trend has been observed in the retail trade industry with employment declining from 11.4% in 2001 to 9.5% in 2011 for the SA2, while for the LGA, 10.6% to 9.6% respectively.

Figure 4.7: Employment by Industry, Macquarie Park Corridor-Marsfield SA2, 2001-2011



Source: ABS (2012a)

4.3 Need for the Proposal

The Macquarie Park workforce comprises a broad industry mix, with a relatively high concentration of white collar dominated industries, such as professional, scientific and technical services and information, media and telecommunications. Therefore, this leads to a higher proportion of white collar occupations, such as professionals and managers who are on considerably high incomes.

Although some 27% of workers in Macquarie Park earn more than 104,000 per annum, a large proportion of workers (44%) earn less than \$52,000 per annum. The lower income workers would be the key beneficiaries of key worker and affordable housing on the Site.

Furthermore there would appear to be a misalignment of skills between Ryde residents and workers in Macquarie Park, the former more focused on service jobs. The inclusion of service and supporting sectors in Macquarie Park Corridor will not only provide amenity to the business park and contribute to its overall vitality and health, it would also provide more opportunities for local employment.

This section demonstrates a significant proportion of the resident and worker population are low income earners and as such are need of more affordable housing options.

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5. Economic Trends and Drivers

The Macquarie Park Corridor is positioned on a new growth trajectory, with significant growth in residents and employment expected to further strengthen its importance and significance as one of Sydney's economic engine rooms and Sydney's second largest commercial office precinct after the Sydney CBD.

Despite there being a range of economic benefits associated with population and employment growth, there are challenges associated with urban renewal and growth. In urban planning terms, it is well accepted that growth puts pressure on infrastructure needs.

This Chapter investigates the economic trends and drivers influencing business parks, how occupier requirements are transitioning and what this means for Macquarie Business Park.

5.1 The Evolution of Business Parks

Over the past number of decades, business parks have transitioned from accommodating warehousing and light manufacturing uses to include office uses in greater proportions.

As the proportion of office space provided in business parks increases and further to their location outside or on the fringe of the city, there is a growing need to provide a greater range of amenities for workers. This includes, *inter alia*, shops, restaurants, childcare centres, medical services, retail facilities and recreational space as well as housing in close proximity.

Business parks are beginning to resemble a CBD in many ways, combining a retail offer of shops, restaurants, banks and travel agencies as well as a recreational offer of gyms, swimming pool and playing fields. The availability of housing options in close proximity to accommodate the worker population is also an important factor.

5.1.1 Occupier/Tenant Requirements

As businesses continue to evolve in order to be competitive in the face of global and national pressures, the primary focus for accommodation selection is to reduce cost and increase efficiencies.

Businesses recognise that in order to keep their cost base lean, they need to ensure their largest cost element (i.e. employees) is effectively managed. Ensuring that employees are satisfied and happy in their working environment will not only assist staff retention rates but improve staff productivity levels. On this basis, worker amenity and employee wellbeing are critical factors that have come to the fore in recent years.

Worker Amenity

"Worker amenity" demanded by industry is over and above statutory requirements, more akin to those which are deemed social infrastructure items, i.e. childcare, gyms, public recreation space, etc.

Annual office tenant surveys are instrumental in identifying trends in tenants' leasing decision making with recent surveys indicating that overwhelmingly, occupier needs are focused on cost-cutting and achieving workspace efficiencies (Colliers International, 2012). That said, there is increasing importance placed on location selection for attracting and retaining staff and with a focus on staff health and employee wellbeing.

Employee Wellbeing

In addition to worker amenity, social research shows that greenspace in business parks is no less important for amenity and wellbeing (Gilchrist, Brown and Montarzino, 2014). The use of greenspace and visual access to them supports employee wellbeing, thus positively related to job performance and productivity.

Corporations are increasingly placing more importance on employee wellbeing. Employee satisfaction and wellbeing are seen as key factors in workplace productivity and retention of staff. This in turn has shaped how businesses select locations and configure their work space (Colliers International, 2012).

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Proximity of Housing

A number of key factors influence residential location choice, one of these is proximity to work. Research suggests that the time it takes to get to work is just as important as the job itself (Oxford Properties and Environics Research Group, 2013):

- 76% of respondents wanted a reasonable commute to the office. The majority of those surveyed said a commute time of less than 30 minutes was the appropriate travel time.
- 50% of respondents considered commute time to be the No. 1 factor in choosing one employer over another.
- The survey also found that once at the office, workers sought space that allowed them to work collaboratively with other employees, is close to shops and other amenities and is energy-efficient.

5.2 Macquarie Business Park: Present and Future

A Plan for Growing Sydney identifies that Macquarie Park Corridor sits in the Global Economic Corridor. The Plan identifies, *inter alia*, the following priorities:

- Work with council to retain a commercial core in Macquarie Park Corridor for long-term employment growth.
- Work with council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing.
- Investigate potential future opportunities for housing in areas within walking distance of train stations.

Since the completion of the Epping to Chatswood Rail Link in 2009 which resulted in the opening of three new stations (North Ryde, Macquarie Park Corridor and Macquarie University), the profile of Macquarie Park Corridor and its surrounds has lifted significantly.

Some 215,000sqm of new office space has been completed since January 2009 with strong residential growth driven on several fronts: increased appeal of the area, desire for workers to live close to their place of work and growth in Macquarie University's enrolment activity.

Future employment and residential growth expectations are equally strong with coordinated planning by state and local governments leading to significant development projects in the pipeline.

The NSW Bureau of Transport Statistics (BTS) forecasts that the population in Macquarie Park Corridor will increase by 15,358 persons and increase by 12,872 employees by 2031, representing an increase of 770% and 28% respectively from 2011.

Broadly, Macquarie Park Corridor's continued growth will be driven on three key fronts:

- **Macquarie Business Park**
There is some 450,000sqm of commercial/retail floorspace in the pipeline in the business park and commercial core.
- **Herring Road and North Ryde Station priority precincts**
The Herring Road Precinct has the potential to deliver 5,400 dwellings by 2031 and potentially 12,000 should all sites be developed. The North Ryde Station Precinct has the potential deliver 2,400 dwellings.
- **Macquarie University's growth plans**
The university's growth over the last decade has been impressive, with growth in the 2003-2010 period amongst the highest of Australian universities.

Macquarie University has significant expansion plans. A concept plan was approved for 400,000sqm of floorspace outside the Academic Core, 61,200sqm of floorspace within the Academic Core and 3,450 additional beds within the University Housing precinct.



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5.3 Need for the Proposal

The nature and composition of business parks has changed over the last two decades. A range of uses are now incorporated into business parks as worker convenience and amenity are of increasing importance for businesses and occupiers. Business parks increasingly aspire to provide the offer of a CBD location, Macquarie Business Park is no exception.

In addition to residential-driven demand, increasingly, employment hubs such as business parks are responding to demand from employers and employees for amenities such as recreational open space and childcare facilities. Flexible and inviting workplaces that are not only engaging within but engaging with the surrounding public domain are highly valued by business and occupiers.

The next chapter examines how these critical items of social infrastructure are planned for and delivered in Macquarie Park Corridor.



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6. Social Infrastructure Needs Assessment

This chapter assesses the need for social infrastructure in the Macquarie Park Corridor and analyses the effectiveness of the mechanisms in place which can fund this infrastructure.

Social infrastructure is the interdependent mix of facilities, places and spaces, programs that maintain and improve the standard of living and quality of life in a community. Social infrastructure includes: open space, child care centres, affordable housing, libraries and education facilities (i.e. TAFE).

6.1 Need for Social Infrastructure

It is well accepted that population growth drives the need for social infrastructure provision. As the resident population grows so too does demand for social infrastructure. Industry benchmarks based on resident population thresholds are often used in estimating the need for open space and community facilities.

In addition to resident-driven demand, increasingly, employment hubs such as business parks are responding to demand from employers and employees for amenities such as recreational and childcare facilities.

Whilst there is an abundance of literature on the relationship between residents and their social infrastructure needs, there appears to be a gap with regard to workers and *their* social infrastructure needs (with the exception of childcare provision).

6.1.1 Open Space

A common way of ascertaining social infrastructure requirements is by using planning benchmarks. There are some broadly accepted standards with regard to open space and social infrastructure which are widely used. However, there are two main challenges with using these standards.

- They have been developed to identify demand generated by *residents*, rather than workers.
- They are generic in nature and accordingly there are limitations with the standards themselves and how they have been derived.

In NSW the 'fixed' standard of 2.83ha of open space per 1,000 people is often applied. However, it should be noted that this standard is derived from the British seven acres per 1,000 residents standard from the early 1900's, which is considered to be outdated for contemporary planning, as it largely ignores that different types of open space is required to accommodate different needs.

The NSW Department of Planning conducted a study which found that the simple fixed, quantitative standard should be treated with caution given observed rates of provision in different parts of metropolitan Sydney.

Table 6.1 shows that about 5% of Inner urban Sydney is classified as open space. If the 2.83 ha per 1,000 people standard was applied about 16% of Inner urban Sydney would be devoted to open space. The reality is that the residents of inner urban Sydney have access to a range of recreational and leisure opportunities that the existing open space assets (including high quality urban public spaces and harbour and beach foreshores) manage to deliver (though there may be some pressure on outdoor sports areas).

In contrast, in suburban inner areas average actual provision is equivalent to the standard-derived provision while suburban outer areas demonstrate a reverse situation. Macquarie Park Corridor is considered a 'middle ring suburb' and hence a cross between the quoted "suburban inner" and "suburban outer" as depicted below.

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Table 6.1: Comparison of Actual Provision v Standard-derived Provision

Geographical Context	Percentage of Urban Residential Areas	
	Average Actual Provision	Provision based on 2.83ha/1,000 persons
Inner urban	5%	16%
Suburban inner	10%	10%
Suburban outer	26%	8%

Source: DoP, 2010

Chapter 5 outlined the evolution of business parks to incorporate a varied and mix of uses as the proportion of office space in business parks increases and occupier/tenant requirements evolve to demand more worker amenity and access to social infrastructure. Flexible and inviting workplaces that are not only engaging within but engaging with the surrounding public domain are highly valued by businesses and occupiers.

It would appear that by considering only resident-driven demand, open space standards have failed to keep pace with the evolution of business parks and the increase in amenity and social infrastructure requirements of businesses/employees.

6.1.2 Key Worker Housing

Key worker housing is often used interchangeably with the term affordable housing. Key workers are the people in our community who are essential to our way of life but who usually do not earn a high income. This would include people such as nurses, teachers, police officers and other minimum wage workers in supermarkets, hospitality and so on. Common government indicators say that housing is affordable when a household does not have to spend more than 30% of their income to meet their housing costs. On that indicator many "key workers" struggle to find housing that they can afford.

Key worker housing can mean different things to different people and in different contexts, but is usually referred to by Housing Plus (Housing Plus, 2015) in terms of the cost of housing in comparison to other living expenses and household income. Key worker housing is accommodation which:

- Is reasonably adequate in standard and location for a lower or middle-income household; and
- Does not cost so much that such a household is unlikely to be able to meet other basic living costs on a sustainable basis.

Housing affordability is a function of incomes, property prices and interest rates. As property prices increase amid stagnant or falling income levels, affordability declines, i.e. fewer people are able to afford to purchase a home. To better understand the issue of housing affordability in Ryde LGA, the table below profiles household income bands and measures how much households can afford to spend on housing cost, whether rental or mortgage cost.

Worker Population

The Macquarie Park workforce comprises a broad industry mix, with a relatively high concentration of white collar dominated industries, such as professional, scientific and technical services and information, media and telecommunications. Therefore, this leads to a higher proportion of white collar occupations, such as professionals and managers who are on considerably high incomes.

Table 6.2: Income, Place of Work, 2011

Income	Macquarie Park Corridor - Household SA2		Ryde LGA
	Percentage (%)		Percentage (%)
\$0-\$7,799	3.2%		4.4%
\$7,800-\$12,999	2.1%		3.0%
\$13,000-\$20,799	2.5%		3.5%
\$20,800-\$31,199	5.7%		8.0%
\$31,200-\$41,599	8.5%		10.4%
\$41,600-\$51,999	9.9%		10.7%

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Income	Macquarie Park Corridor - Marsfield SA2		Ryde LGA
	Percentage (%)		Percentage (%)
\$52,000-\$67,599		12.1%	12.1%
\$67,600-\$83,199		11.4%	10.4%
\$83,200-\$103,999		17.3%	15.1%
\$104,000 or more		27.3%	22.4%
Total (%)		100.0%	100.0%
Average Income		\$70,409	\$64,445

Note: average income differs to that identified in 'Journey to Work' given the different level of geographies (Macquarie Park Corridor-Marsfield SA2/Ryde LGA) and sources (BTS/ABS respectively) used
Source: BTS (2014)

Table 6.2 shows that although 27.3% of workers in Macquarie Park earn more than \$104,000 per annum, a large proportion of workers (56%) earn less than \$68,000 per annum. These lower income workers would be the primary beneficiaries of key worker housing provided on the Site.

Resident Population

The highlighted rows indicate the affordability thresholds associated with SA2 and Ryde LGA's average household income band (\$70,525 and \$76,024 per annum respectively), households have the capacity to purchase dwellings which are between \$363,150-\$389,089. This well below the median unit price in the Ryde LGA which is \$630,000 (FACS, 2015).

Table 6.3: Household Income and Housing Affordability

Household Income	Household Income (weekly)	Rental (% of income)	Weekly Rental	Ownership (% of income)	Monthly	Principal Loan	Deposit	Home Affordability
\$20,000	\$385	25%	\$96	30%	\$500	\$70,743.45	\$7,074	\$77,818
\$25,000	\$481	25%	\$120	35%	\$729	\$103,168	\$10,317	\$113,484
\$30,000	\$577	26%	\$150	38%	\$875	\$123,801	\$12,380	\$136,181
\$35,000	\$673	27%	\$182	37%	\$1,079	\$152,688	\$15,269	\$167,957
\$40,000	\$769	28%	\$215	38%	\$1,267	\$179,217	\$17,922	\$197,138
\$45,000	\$865	30%	\$260	40%	\$1,500	\$212,230	\$21,223	\$233,453
\$50,000	\$962	30%	\$288	40%	\$1,667	\$236,812	\$23,681	\$260,493
\$55,000	\$1,058	30%	\$317	40%	\$1,833	\$259,393	\$25,939	\$285,332
\$56,368	\$1,084	30%	\$325	30%	\$1,409	\$199,383	\$19,938	\$219,322
\$56,368	\$1,084	30%	\$325	40%	\$1,879	\$265,844	\$26,584	\$292,429
\$60,000	\$1,154	30%	\$346	40%	\$2,000	\$282,974	\$28,297	\$311,271
\$65,000	\$1,250	30%	\$375	40%	\$2,167	\$306,555	\$30,655	\$337,210
\$70,000	\$1,346	30%	\$404	40%	\$2,333	\$330,196	\$33,014	\$363,190
\$75,000	\$1,442	30%	\$433	40%	\$2,500	\$353,717	\$35,372	\$389,089
\$80,000	\$1,538	30%	\$462	40%	\$2,667	\$377,298	\$37,730	\$415,028
\$85,000	\$1,635	30%	\$490	40%	\$2,833	\$400,880	\$40,088	\$440,968
\$90,000	\$1,731	30%	\$519	40%	\$3,000	\$424,461	\$42,446	\$466,907
\$95,000	\$1,827	30%	\$548	40%	\$3,167	\$448,042	\$44,804	\$492,846
\$100,000	\$1,923	30%	\$577	40%	\$3,333	\$471,623	\$47,162	\$518,785
\$105,000	\$2,019	30%	\$606	40%	\$3,500	\$495,204	\$49,520	\$544,725
\$110,000	\$2,115	30%	\$635	40%	\$3,667	\$518,785	\$51,879	\$570,664
\$115,000	\$2,212	30%	\$663	40%	\$3,833	\$542,366	\$54,237	\$596,603
\$120,000	\$2,308	30%	\$692	40%	\$4,000	\$565,948	\$56,595	\$622,542
\$125,000	\$2,404	30%	\$721	40%	\$4,167	\$589,529	\$58,953	\$648,482
\$130,000	\$2,500	30%	\$750	40%	\$4,333	\$613,110	\$61,311	\$674,421
\$135,000	\$2,596	30%	\$779	40%	\$4,500	\$636,691	\$63,669	\$700,360
\$140,000	\$2,692	30%	\$808	40%	\$4,667	\$660,272	\$66,027	\$726,299
\$145,000	\$2,788	30%	\$837	40%	\$4,833	\$683,853	\$68,385	\$752,239
\$150,000	\$2,885	30%	\$865	40%	\$5,000	\$707,435	\$70,743	\$778,178

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Household Income	Household Income (weekly)	Rental (% of income)	Weekly Rental	Ownership (% income)	Monthly Principal Loan	Deposit	Home Affordability	
\$155,000	\$2,981	30%	\$894	40%	\$5,167	\$731,016	\$73,102	\$804,117
\$160,000	\$3,077	30%	\$923	40%	\$5,333	\$754,697	\$75,460	\$830,056

*Note that proportion of income for home ownership is increased for higher income bands, higher income households having the ability to contribute a larger proportion of their income to mortgage payments without compromising on their quality of life. Source: ABS (2011), AEC assumptions: 10% deposit, 7% interest rate, 25 year loan term

Table 6.4 tests the specific ability for Ryde LGA residents to pay for housing. Household income bands are tested for capacity and affordability thresholds.

Table 6.4: Resident Household Incomes and Affordability Thresholds

Household Income	Household Income (weekly)	Income Distribution	Rental Income (% income)	Weekly Rental	Ownership (% income)	Monthly Principal Loan	Deposit	Home Affordability	
\$20,748	\$399	12.83%	25%	\$100	30%	\$519	\$73,389	\$7,339	\$80,728
\$31,148	\$599	8.00%	25%	\$150	35%	\$908	\$128,538	\$12,854	\$141,392
\$41,548	\$799	7.15%	28%	\$208	35%	\$1,212	\$171,456	\$17,146	\$188,602
\$51,948	\$999	7.38%	27%	\$270	37%	\$1,602	\$226,624	\$22,662	\$249,286
\$64,948	\$1,249	8.08%	28%	\$380	38%	\$2,057	\$290,994	\$29,099	\$320,094
\$77,948	\$1,499	7.56%	30%	\$450	40%	\$2,598	\$367,621	\$36,762	\$404,383
\$103,948	\$1,999	12.18%	30%	\$600	40%	\$3,465	\$480,243	\$48,024	\$528,267
\$129,948	\$2,499	8.90%	30%	\$750	40%	\$4,332	\$612,865	\$61,286	\$674,151
\$155,948	\$2,999	11.0%	30%	\$900	40%	\$5,198	\$735,487	\$73,549	\$809,035
\$181,948	\$3,499	7.05%	30%	\$1,050	40%	\$6,065	\$858,109	\$85,811	\$943,920
\$207,948	\$3,999	3.54%	30%	\$1,200	40%	\$6,932	\$980,731	\$98,073	\$1,078,804
\$208,000	\$4,000	6.34%	30%	\$1,200	40%	\$6,933	\$980,976	\$98,098	\$1,079,073

Source: ABS (2011), AEC assumptions: 10% deposit, 7% interest rate, 25 year loan term

The following observations emerge:

- More than 63% of households in Ryde LGA cannot afford a dwelling greater than \$600,000 (highlighted rows).
- At a price of \$735,000, a 2-bedroom unit is within reach of only 28% of residents.
- At a price of \$980,000, a 3-bedroom unit is within reach of only 6% of residents.

This analysis demonstrates that the issue of housing affordability is equally a critical one for the residents of Ryde LGA.

Housing Affordability

While information on specific occupations at various income bands is not available for workers in Macquarie Park, based on known average annual salaries for select occupations², it would be reasonable to conclude the 56% of workers in Macquarie Park who earn less than \$68,000 are 'key workers'.

At these income levels, the analysis demonstrates there is a clear need for affordable housing options for both workers in Macquarie Park and residents of Ryde LGA.

6.2 Existing Provision of Social Infrastructure

This section considers existing provision of social infrastructure, making comparison to the assessed need as outlined in section 6.1.

² For example, nurses at average salary of \$63,440, baristas at average salary of \$21,996 (ABS, 2014b)

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Ryde Council has undertaken analysis of current open space provision in the LGA while AEC has undertaken an assessment of existing childcare provision. The findings of this research are outlined below.

6.2.1 Public Open Space

According to the Ryde Integrated Open Space Plan (Ryde Council, 2012), the Ryde LGA contains 355ha of open space while the suburb of Macquarie Park Corridor (which very closely aligns with the Macquarie Park Corridor Business Park) contains 17.6ha of open space.

Based on the standard of 2.83 ha per 1,000 people, the amount of open space currently required in the LGA is around **307.67ha** of open space. The LGA currently contains **355ha** of open space, so on the face of it would appear to be meeting resident population demand.

However after considering the substantial population growth *and* employment growth expected to 2031 (additional 44,306 residents and 25,595 workers respectively), there is no doubt the Ryde LGA and indeed Macquarie Park Corridor will require more open space.

Figure 6.1 visually shows the quantum of open space in each suburb within the Ryde LGA.

Macquarie Park is among those catchments that have relatively low provision of open space per 1,000 persons. Note that the provision of open space is calculated on a per capita resident basis, not taking into account the 40,000 worker population in Macquarie Park.



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Figure 6.1: Ryde LGA Open Space Provision



KEY

No Open Space Provision	Low Open Space Provision
High Open Space Provision	

Source: Ryde Council (2012)

The Open Space Plan suggests there is presently an open space deficiency in the Macquarie Park Corridor that will be exacerbated by planned (*residential*) growth. The Plan further indicates that **two new major reserves** suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park Corridor.

While Council's Open Space Plan identifies two new major reserves are needed to meet demand from future residential growth, this conceivably *understates* demand for open space from worker population growth, particularly in Macquarie Park.

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6.2.2 Key Worker Housing

Housing that is within the financial capability of households is important for both residents and workers.

As Macquarie Park Corridor grows (significant employment growth as forecasted) and the number of jobs therein increases, the proportion of jobs for skilled, white collar workers will increase over time. There will also be an increase in the number of workers on lower incomes as new businesses and workers will generate demand for support services generally staffed by lower income earners. Examples of these support services employ childcare workers, retail and hospitality workers, cleaning workers, etc. Collectively, these lower income earners who are integral to the successful operation of employment hubs such as Macquarie Park Corridor are generally referred to as 'key workers'.

More specific to the Site and essential for supporting growth in Macquarie Park Corridor, the provision of key worker housing will be critical.

The City of Sydney Council recognises that in major employment centres (e.g. Sydney CBD, Green Square Employment Lands) the provision of affordable housing is critical to the sustainability and long term health of these economies. Various affordable housing policies apply in select areas of the Sydney LGA wherein monetary contributions or contributions in-kind are sought for affordable housing outcomes.

Ryde City Council does not have an official affordable/key worker housing policy. In locations of significant employment hubs such as Macquarie Park, strategic and organised methods for procuring affordable housing/key worker housing is critical.

6.3 Delivering Required Social Infrastructure

The delivery (funding) of public infrastructure has changed significantly over the past few decades, the burden shifting from government budgets to an array of public-private arrangements and user pays charges. The various methods of funding infrastructure are collectively known as the development contributions system, broadly including mechanisms such as s94 and s94A development contributions, affordable housing contributions, special infrastructure contributions and planning agreements.

This section explores the various methods available for funding and delivering the social infrastructure required to support Macquarie Park's growth and sustain its competitive position.

Statutory Mechanisms

Statutory mechanisms are aimed at facilitating the provision of 'incremental' infrastructure, i.e. as new development occurs.

• **Section 94 development contributions**

These contributions can only be imposed following the preparation of a contributions plan which details the local infrastructure needed and draws the nexus between infrastructure need and new development. In recent years these contributions have been capped (\$20,000 in established areas and \$30,000 in greenfield areas).

• **Section 94A development levy**

This was introduced to allow development contributions to be levied in areas of sporadic development, e.g. regional areas where development is slow/sporadic and established urban areas where development is mainly 'infill' and sporadic in nature.

Imposition of a percentage levy on development does not require councils to prepare a contributions plan akin to s94, particularly due to the nexus required to be established under s94 between development and increased demand for public amenities and public services. A s94A development contributions plan is still required, and which outlines the priorities for the expenditure of the contributions with reference to a works schedule.

• **Planning agreements**

Negotiated between a developer and consent authority, often where there is no contributions plan or if a change to planning controls is sought (e.g. land use zone, density).

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- **Affordable housing levy**
Levy payable to council in designated areas where the availability of affordable housing is reduced or development results in a need for affordable housing.
- **Special infrastructure contribution**
Applicable in the growth centres.

Statutory mechanisms are generally centred on the principle of inclusionary zoning, where mandatory contributions are 'included' for all development within a defined area.

These statutory mechanisms were designed to facilitate provision of local infrastructure on an incremental basis and are generally effective where new infrastructure need is predictable, easily identified and quantified.

They are less effective in circumstances of urban renewal development where the required infrastructure is less 'local' in nature and/or where existing infrastructure may require augmentation due to age or is inadequate by contemporary planning standards. It is for these reasons that many local councils are increasingly relying on incentive-based infrastructure funding mechanisms.

Incentive-based Mechanisms

Incentive-based infrastructure funding mechanisms can be incredibly effective if conceived and implemented well, as demonstrated by the Green Square Community Infrastructure Floorspace (formerly known as the Green Square Bonus FSR System).

Since its implementation over a decade ago, significant public domain and community infrastructure works have been delivered in Green Square. Today, the Sydney DCP 2012 outlines a list of "community infrastructure" that can be delivered in exchange for, subject to a merits assessment, "additional floorspace" in Green Square. These community infrastructure items include public streets, pedestrian and bike networks and public open spaces.

The large scale renewal of Green Square (led by and cross-subsidised by the residential market) has been effective in delivering substantial amounts of community infrastructure. But for the permissibility of residential uses in Green Square, the rate of infrastructure delivery would conceivably have been much slower.

Most recently, the City of Sydney has recognised that the rezoning of the Green Square Employment Lands from industrial to mixed business uses will result in an increased need for affordable housing in the area. To this end, The City has put in place an incentive-based approach to procure affordable rental housing in "Investigation Areas". This includes leveraging the residential market to cross-subsidise the provision of new affordable housing units.

The strength of the residential market in recent years has been unparalleled. This is due to a combination of factors, including a low supply period over the 2004-2008 period which resulted in severe pent-up demand. The strength of this property market has been harnessed effectively in Green Square where The City has obtained a significant level of public benefit in new and renewed infrastructure, and seeks to continue to do so for affordable housing outcomes in the employment lands.

Delivery of public benefit in areas that are non-residential in nature is expected to be more incremental and not to the same rate of delivery as witnessed in Green Square. The Macquarie Park Corridor Planning Proposal, whilst seeking to deliver similar infrastructure items as the Green Square Community Infrastructure Floorspace, will conceivably deliver infrastructure at a more moderate pace than witnessed in Green Square. 'Lumpy' infrastructure items such as large open spaces could take a long time to deliver.

Delivering infrastructure in areas experiencing rapid urban renewal and resultant population growth should have regard to:

- Optimising the value of infrastructure from limited resources by ensuring these assets are flexible to adapt to changing needs over time.
- Keeping up with leading practice and emerging models of service and facility provision.
- Providing infrastructure for the range of needs of new communities, when it's needed.

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- Applying standards and benchmarks in ways that produce practical, realistic and equitable outcomes for local, district and regional social infrastructure.

As infrastructure needs change (not just in quantum but also in their nature, e.g. where public open space was not considered to be required in employment areas like business parks but are now increasingly demanded by the market), funding mechanisms need to be able to respond. Current statutory mechanisms are limited in this respect.

In the case of Macquarie Park Corridor where employment and residential growth are expected to increase exponentially in the coming years, it is therefore crucial that any infrastructure funding mechanism implemented is effective in delivering needed infrastructure, including, *inter alia*, public open space, childcare facilities, affordable housing, etc. As identified earlier, the effectiveness of incentive-based mechanisms depends on the land use category that is expected to drive contributions as well as the rate of development.

6.4 Macquarie Park Corridor Planning Framework

Architectus has developed a strategic planning framework which recommends permissibility of residential uses in the B3 and B7 Zones in Macquarie Park Corridor, **but only** where certain open space, key worker housing, and quantum of non-residential GFA can be delivered. This should be done by a rezoning, and subject to an agreement being in place between Council and the owner for the delivery of the new park to Council's reasonable requirements.

Under this framework, Council could consider a rezoning application for sites that can achieve *all* of the following criteria.

- **Public open space**
Provide either new open space shown in the Draft Macquarie Park Corridor DCP 2014 or a new 1 hectare minimum public open space, designed to Council's reasonable requirements.

Where a site proposes to deliver the 1 hectare minimum open space, the site must be larger than 3 hectares, thereby allowing for a 2ha development site for mixed uses.

The open space must have a frontage to a major road (Waterloo Road, Talavera Road, Wicks Road or Herring Road) and one secondary street.

The proposed open space should satisfy specified design criteria and be dedicated to Council on completion.
- **Non-residential floorspace**
Provide a minimum of 20,000sqm GFA of non-residential floorspace.
- **Key worker housing**
Deliver key worker housing (or Affordable Housing) at the rate of 3% of total dwellings provided.

Up to 15% of the open space (1,500sqm) can be used to deliver the required key worker housing.
- **Childcare facilities**
Provide privately run childcare facilities suitable for 60 children.
- **Public domain**
Delivery of all other required public domain on the site including roads and through site links as nominated in the Draft Macquarie Park Corridor DCP 2014.

Whilst we acknowledge that the Planning Proposal is no longer consistent with the above framework, the amendments to the Planning Proposal have come at the request of Council and the Voluntary Planning Agreement negotiations.

6.5 Need for the Proposal

There is current unmet demand for open space in Macquarie Park Corridor, as identified by the Ryde Integrated Open Space Plan (Ryde Council, 2012). The Plan indicates that two

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new major reserves suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park Corridor. This deficiency is *even before* considering future demand generated by an increase in resident and worker population.

Council's s94 development contributions plan **does not** provide for public open space by non-residential development, implicit in this is the presumption that only residential users demand public open space. As indicated by contemporary tenant/occupier requirements, this presumption is now outmoded.

Council has recognised the need to fund the delivery of new roads and public open space and has sought to do this via the Macquarie Park Corridor Planning Proposal (via Amendment 1 to the Ryde LEP) wherein bonus floorspace can be granted to proponents who deliver an acceptable package of infrastructure works.

Amendment 1 to the Ryde LEP 2014 is in force. As such, proponents of bonus floorspace in Macquarie Park Corridor will be required to deliver items of infrastructure including new roads and open space. At current contribution rates (\$250/sqm of bonus FSR), the contributions received and subsequent delivery of identified infrastructure could conceivably be at a *modest* pace, given that these are dependent on industry take-up of bonus **commercial** floorspace. Unlike in Green Square, where the rapid rate of delivery of public benefit was driven by development of **bonus residential** floorspace.

Furthermore, there is no official mechanism through which key worker housing can be provided, leaving the crucial and basic item of social need to the private market. This demonstrates a case for an alternate strategy to deliver required and social infrastructure to ensure the sustainability of Macquarie Park Corridor.

Architectus has developed a strategic framework for the delivery of key items of social infrastructure in Macquarie Park Corridor. As is observed in Green Square Urban Renewal Area and Green Square Employment Lands, delivery of key infrastructure seeks to leverage the residential property market. This framework recommends residential permissibility in the B3 Commercial Core and B7 Business Park zones subject to delivery of acceptable package of infrastructure works.

While the appropriation of land to public open space and key worker housing would mean less land available to accommodate new employment floorspace, the provision of items of key social infrastructure would undoubtedly result in sustaining Macquarie Park Corridor's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace.

The economic impacts of appropriation of some employment land to social infrastructure (public open space, key worker housing and childcare facilities) and residential uses are examined in the next chapter.

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7. Socio-Economic Impact Assessment

This chapter assesses the socio-economic impacts of the Proposal by investigating two cases, these include:

- The Base Case: the current social and economic impacts of the Site and existing use as a means for comparison with the Rezoning Case.
- Rezoning Case: This scenario assumes that the Site is rezoned and redeveloped in the manner envisioned in the Concept Master Plan.

The likely social and economic impacts assessed under the Rezoning Case are based on the Concept Master Plan being delivered. Introduction and Approach

The following sections examine the estimated economic activity supported through the operational and construction phases of the Proposal. The economic impacts have been assessed at the Ryde LGA level.

An Input-Output model, including the development of a series of specific regional Input-Output transaction tables, was developed to reflect the economic structure of the Ryde LGA (refer to Appendix A).

Input-Output modelling describes economic activity through the examination of four types of impacts which are defined and described in the table below.

Table 7.1: Economic Indicators

Indicator	Description
Output	Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
Gross Value Added (GVA)	Refers to the value of output after deducting the cost of goods and services inputs in the production process. GVA defines the true net contribution and is subsequently the preferred measure for assessing economic impacts.
Income	Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the Project.
Employment	Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow-on activity, and is expressed in terms of Full-Time Equivalent (FTE) positions. One FTE job is defined as one person working full time for a period of one year.

Source: AEC

Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow-on (Industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending.

Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).

The estimates of economic activity consider both Type I and Type II flow-on impacts though it should be noted that Type II impacts are commonly considered to overstate economic activity.

7.1 Base Case: The Existing Use and No Rezoning

7.1.1 Economic Impact

Prior to acquisition by Holdmark, the buildings on the Site originally comprised an office building (6,988sqm), conference centre (2,160sqm) and warehouse building (8,974sqm) to a total of 18,122sqm floor area. The remainder of the Site consists of significant at-grade car parking areas and two grassed tennis courts.

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The warehouse building is to be demolished for the construction of a new 6 storey office building (9,000sqm). For the purposes of this SEIA, the buildings originally on the Site (18,122sqm) are assessed as the existing use of the Site (this excludes the warehousing building).

The existing Improvements on the Site accommodate AstraZeneca, a biopharmaceutical company. Originally accommodating 446 workers at peak occupation, the Site is understood to currently accommodate circa 220 workers.

In line with global restructuring of its research and development activities, AstraZeneca's floorspace requirements have changed - the conference facility and warehouse building now surplus to requirements. At its North American headquarters campus in Fairfax, Delaware, space requirements contracted by a third following a consolidation of research and development activities in overseas locations (DelawareOnline, 2015).

Reduced focus on on-shore manufacturing and increased import activity has resulted in a change in AstraZeneca's floorspace requirements, not inconsistent with trends witnessed in the pharmaceutical industry. The changing face of the pharmaceutical industry is discussed in further detail below.

The economic contribution of the Site is characterised by:

- Direct employment sustained by the occupier business (AstraZeneca).
- The economic value add of existing employment.

Direct Employment and Supported Economic Activity

It is understood that Astra Zeneca currently employs 220 workers on the Site understood to be mainly accommodated in the existing 4 storey office building. This is equivalent to a relatively low employee density ratio of 1 worker per 32sqm. Calculated on total floor area (18,122sqm) the number of existing employees equates to 1 worker per 82sqm of floorspace.

Current economic activity supported at the Site through AstraZeneca's operations are estimated to support (including direct and indirect activity) annually:

- \$263.0 million in output.
- \$107.4 million contribution to GRP.
- \$54.1 million in incomes and salaries paid to local workers.
- 609 FTE jobs.

Table 7.2: Current Economic Activity Supported

Impact	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$146.0	\$49.5	\$21.6	220
Indirect Impact (Type I)	\$53.3	\$22.0	\$12.9	123
Indirect Impact (Type II)	\$63.8	\$35.9	\$19.6	266
Total Impact	\$263.0	\$107.4	\$54.1	609

Note: Totals may not sum due to rounding.
Source: AEC

Including the indirect impacts of these 220 direct jobs on the Site, the broader economic activity supported increases significantly.

Evolution of Pharmaceutical Industry

Businesses in Australia's pharmaceutical product manufacturing industry are increasingly limiting their involvement to the later stages of the manufacturing process, i.e. packaging and dispensing. Over the five years through 2014-2015, a number of players have closed down manufacturing plant capacity in favour of locations in China and Singapore. One of the latest closures was GlaxoSmithKline's tablet facility in Boronia, VIC in 2013 (IBISWorld, 2015).

Major companies in the pharmaceutical industry include Pfizer, GlaxoSmithKline, AstraZeneca, Aspen and Merck Sharp & Dohme.

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The pharmaceutical industry in Australia is increasingly becoming a net importer of completed product given the globally competitive industry, resulting to cuts in local manufacturing base capacity.

As are its global counterparts, the Australian pharmaceutical industry is contending with the fallout associated with the patent cliff, where some of the world's highest selling drugs have lost or are due to lose patent protection.

In the short term, industry revenue is expected to contract by 2.6% over 2014-15 as the industry continue its transformation. This is expected to occur amid marginal revenue growth, declining research and development (R+D) productivity, increasing competitive pressures and rising safety concerns. Global industry rationalisation will continue to have implications for the level of pharmaceutical manufacturing and R+D in Australia (IBISWorld, 2014d).

The contraction and consolidation of the Australian pharmaceutical sector has resulted in a number of departures around the country (Sigma Pharmaceuticals and Merck in Melbourne) and cutbacks to manufacturing capacity (GlaxoSmithKline in Melbourne and Pfizer in Sydney). As companies focus on the later stages of the manufacturing process, the need for floorspace evolves to that which is more marketing and administration focused.

Over the next few years the pharmaceutical industry is therefore likely to witness reduction in manufacturing employment; offset by employment in administration, marketing and research & development (R+D). The floorspace requirements of these functions will therefore be different, likely to comprise less manufacturing and storage floorspace for raw materials, rather more office-based floorspace for higher order and more knowledge based functions. Employment density ratios per sqm of floorspace are accordingly expected to be higher, i.e. more employees per square metre of floorspace.

The changing floorspace requirements of AstraZeneca are consistent with global and national trends witnessed in the pharmaceutical industry. Traditional manufacturing and warehousing facilities are increasingly replaced by office-type floorspace and high-tech warehouse and storage facilities. These contemporary facilities typically accommodate more employees per square metre and represent a more intensive use of space.

Feasibility of Redevelopment and Renewal

A challenge in infill and brownfield areas is the tension between land uses and for uses to be accommodated within scarce lands that are not only suitable but available.

Existing buildings and their configuration are also challenges for any redevelopment. As a consequence, development feasibility is a major hurdle for large scale renewal in infill/brownfield locations unless there is a change of use or the site is redeveloped to a 'higher and better' use.

A 'higher and better use' is often associated with residential development, however it is useful to consider this concept in the context of a use that is either a densification or intensification of existing built form.

• **Densification of Use**

This refers to an increase in density, typically associated with greater floorspace or heights. Measures of density can be represented by FSR, building heights and setbacks, site coverage ratios, etc. Building densities vary by geographic region, higher density buildings generally located on higher value lands.

Not all uses respond to density. Industrial uses are not generally one of those uses that respond to density in the manner that residential or commercial uses do. That said, some developers have been able to achieve increased densities by combining various uses within a building including industrial functions.

• **Intensification of Use**

An intensification of use is not necessarily accompanied by an increase in floorspace density. Increased intensification can occur without increased density and can be measured in any one of the following metrics:

- Increased economic and employment activity (e.g. more employees per sqm, more output per sqm, etc.).

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- o More efficient use of land and resources.
- o Extending the lifespan of available industrial lands.

Intensification can occur in different ways for different industries and sectors, from greater use of technology and augmentation with higher building ceilings to more intense employee/floorspace ratios (generally associated with more office-type floorspace).

In instances where employee density ratios are already high, e.g. 1 employee per 15sqm of space for office-based uses, in order to be feasible, a redeveloped use either needs to represent a more intensive use of the space or a more dense use of the space. In the case of the Site, the changing floorspace requirements of AstraZeneca has meant a shift to a more intense use, i.e. with more employees per sqm of space. Accordingly land and resources are utilised more efficiently.

Likelihood of Redevelopment

A common misconception is that if land is zoned, vacant and undeveloped that it will be available for immediate development. In practice, this can be far from reality as the development potential of land is often influenced collectively by environmental, market or ownership factors that can together, impede development.

The capacity of urban zoned land to accommodate new development can be thought of as two-fold: planning capacity and market capacity.

- **Planning capacity** refers to the physical ability of land to be developed, taking into account permissibility under planning framework.
- **Market capacity** refers to issues of commercial viability whether pricing levels, market acceptance/resistance, development costs which are influenced by environmental and site constraints, etc. make development a commercial proposition, i.e. if development is financially feasible.

While planning capacity (or "theoretical capacity") is important for understanding development potential, 'market capacity' is equally important as it underpins whether development occurs.

The Site is currently zoned B7 Business Park and designated with an FSR of 1:1, currently improved to FSR 0.5:1. The B7 Business Park zone permits with consent the following uses: childcare centres, light industries, neighbourhood shops, office premises, passenger transport facilities, respite day care centres, restaurants or cafes and warehouse or distribution centres.

Assuming demolition of all buildings and a comprehensive redevelopment of the Site under current planning controls (to FSR 1:1), the Residual Land Value of the Site is assessed at \$19.9m. This is lower than its current value of \$30.7m. This suggests that there is little incentive for the Site to be redeveloped, as the site value associated with a new use should exceed the 'as is' site value in order to displace the existing use.

Given the configuration of the site and building layout, the permitted uses are unlikely to facilitate a more attractive use to displace the existing use and facilitate a comprehensive redevelopment. The highest and best use of the Site under the existing zoning is likely to already be secured. On that basis, assuming the Site is not rezoned and remains subject to existing planning controls, comprehensive redevelopment of the Site is unlikely to occur.

7.1.2 Social Infrastructure and Impact

From a social perspective, the limited impetus for redevelopment and renewal in the Base Case would result in an ongoing deficiency in social infrastructure provision in Macquarie Park, that is, open space provision, childcare places and key worker housing.

Given that the amenity of a locality is an important factor in its attraction as a place to work, an ongoing deficiency in open space and childcare places provision will be a continued challenge for the future success and sustainability of the Site as well as Macquarie Park Corridor as a whole.

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The social impacts of the Base Case should be considered in the context of the evolution of business parks outlined in Chapter 8, wherein business parks are increasingly incorporating a range of uses in order to provide greater worker amenity:

- **Inclusion of multi-use facilities**
Business parks are evolving to comprise a full offer of services facilities, successful business parks are accommodating a range of uses, including medical, support business services, retail, recreational, residential, leisure and hotel accommodation.
- **Greater tenant emphasis placed on worker amenity and employee wellbeing**
Tenant requirements are evolving to place more importance on employee satisfaction and wellbeing, with less on ESD and building sustainability which are increasingly considered as 'givens'. Access to gyms, swimming pools, green space, childcare facilities, affordable housing, etc. is becoming increasingly important. Tenant expectations are almost akin to replicating a CBD location.

The existing planning controls are unlikely to result in a comprehensive redevelopment of the Site in the short to medium term. The current deficiencies in open space and childcare places in Macquarie Park will continue to be a challenge to overcome given the limitations in mechanisms available to fund and deliver items of social infrastructure.

7.2 Scenario 2: Rezoning Case (Operational Phase)

The Rezoning Case seeks to leverage the residential property market to provide land to key items of social infrastructure. These include open space and key worker housing.

This section assesses the socio-economic impacts of rezoning the Site to B4 Mixed Use to accommodate:

- 1,271 apartments (as well as 56 additional key worker apartments).
- 16,000sqm commercial floorspace.
- 4,000sqm retail floorspace.
- 3,500sqm recreation centre.
- 6,100sqm public open space.

It is acknowledged that social and economic impacts occur both during the construction phase and post the construction phase (operational phase). This examines firstly those impacts during the operational phase (post-construction) and then construction impacts.

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7.2.1 Economic Impact

Model Drivers

Estimates of direct operational phase activity have been developed utilising Gross Floor Area (GFA) and employment density ratios. For modelling purposes, potential operational activities associated with the redeveloped site were allocated to the most relevant I-O Industries, based on ANZSIC categories.

Based on the derived employment levels, estimates for direct output were developed using the output to employment ratios outlined in the I-O transaction table developed for Ryde LGA as part of this project (see Appendix A).

It should be noted that in developing these estimates of activity, a 'steady state' of operations (whereby all facilities have been developed and long-term average worker density rates prevail) has been assumed.

Table 7.3: Operational Turnover Estimates

Activity/ANZSIC Allocation	GFA	FTE /SQM*	FTE	Estimated Turnover (\$M)
Retail				
Retail Trade	4,000	30	133	\$18.0
Commercial				
Human Pharmaceutical and Medicinal Product Manufacturing (Existing)	3,000	14	220	\$146.0
Professional, Scientific and Technical Services	5,200	18	289	\$72.8
Wholesale Trade	2,600		144	\$53.5
Information Media and Telecommunications	2,600		144	\$129.8
Manufacturing	1,300		72	\$47.8
Other Services	1,300		72	\$15.1
Recreation Centre				
Sport and Recreation	3,500	50	70	\$13.9
Total	23,500	21	1,144	\$496.9

Note: Totals may not sum due to rounding. *Worker ratios adjusted for GFA estimates considering industry references are typically in terms of lettable area, not gross floor area.

Source: AEC

The economic impact is considered in five years' time at which point the development is assumed to be completed and fully occupied and operational. The positive and negative economic impacts of the Rezoning Case are examined individually below.

Direct Employment and Support Economic Activity

All jobs associated with the existing use (equivalent to 220 full and part-time employees) would be accommodated in two floors of the new 6 storey commercial building (3,000sqm). This equates to an average employee density of 1 worker per 14sqm GFA.

The Proposal would also provide 13,000sqm of additional commercial floorspace and by applying assumed proportion of industry occupiers, an average employment density ratio of 1 worker per 18sqm would imply new accommodation for 721 workers.

New retail operations on the Site would sustain some employment. Retail floorspace provision is likely to be dispersed across the development, allowing for a small supermarket (1,500sqm-2,000sqm) and small retail specialities (e.g. newsagency, restaurants/cafés, hairdressing salon, etc.). At an average employment density ratio of 1 worker per 30sqm some 133 workers could be accommodated in the proposed retail floorspace.

Once established and in steady state operations (i.e., whereby all facilities have been developed and long-term average worker density ratios prevail), the Site is expected to make a significant additional contribution to the local economy.

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The redeveloped Site is expected to support on an ongoing annual basis:

- \$984.5.6 million in output.
- \$473.8 million contribution to GRP.
- \$234.5 million in incomes and salaries paid to local workers.
- 2,865 FTE jobs.

Table 7.4: Rezoning Case Operational Economic Impacts

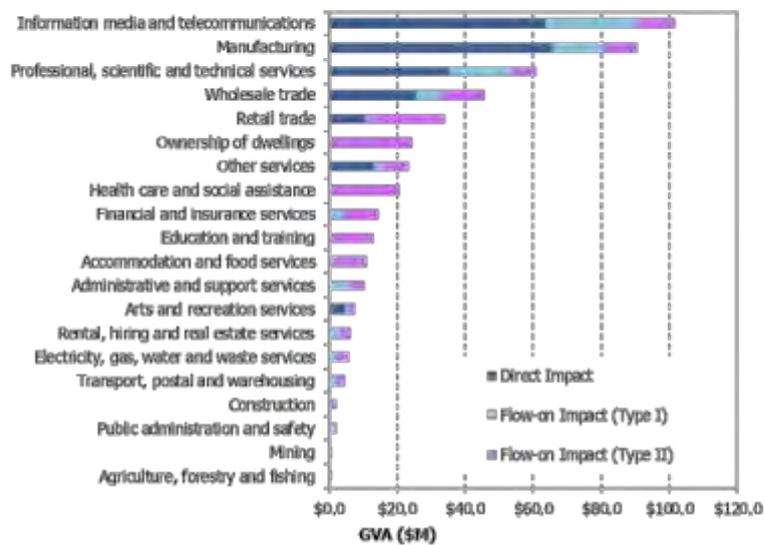
Impact	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$496.9	\$219.4	\$100.8	1,144
Indirect Impact (Type I)	\$192.4	\$88.1	\$43.0	490
Indirect Impact (Type II)	\$295.2	\$166.3	\$90.7	1,229
Total Impact	\$984.5	\$473.8	\$234.5	2,863

Note: Totals may not sum due to rounding. Includes estimates of existing economic activity.
Source: AEC

Major industry beneficiaries of the operational phase of the development within the Ryde LGA include (in Gross Value Add, GVA terms per annum):

- Information media and telecommunications (\$101.5 million).
- Manufacturing (\$90.3 million).
- Professional, scientific and technical services (\$60.7 million).
- Wholesale trade (\$45.8 million).

Figure 7.1: Operational GVA Impacts by Industry



Source: AEC

Retail Demand and Impact

The Rezoning Case envisages new retail space in the order of 4,000sqm to be dispersed across the Site. A small format supermarket (1,500sqm-2,000sqm) and specialty retail stores could be accommodated within this floorspace provision.

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The addition of new residents on the Site will generate retail expenditure that will be available to be captured by retail facilities on the Site, in Macquarie Park and Ryde LGA. For the purposes of this SEIA we have assumed:

- New residential units will have an average household size of 2.6 persons per dwelling which is commensurate with the average dwelling occupancy rate in the Ryde LGA (2011 Census). This equates to a total residential population of 3,305 upon completion.
- New residents will demand retail floorspace of 2.2sqm per person³. This is based on the industry benchmark of 2.1sqm retail floorspace per person in 2011, which is assumed to increase by 0.1sqm per capita every five years in line with the historic trend and as outlined by the NSW Draft Centres Policy (DPE, 2009). By applying a rate of 2.2sqm per person of retail demand, 3,305 future residents would support 7,270sqm of additional retail floorspace in five years' time.

On this basis, the provision of 4,000sqm retail space as part of the Rezoning Case is justified in the context of demand growth. The residual demand would be available to support existing and new retail facilities beyond the Site.

This analysis does not purport to imply that all of the retail demand generated by residents on the Site will be directed to future facilities on it, but rather the overall contribution it will make.

7.2.2 Social Infrastructure and Impacts

Research shows that business parks have transitioned from providing warehousing and light manufacturing space to include increasing amounts of office uses. As a result of the increasing amount of office space (and office workers) in business parks, the overall composition of business parks has evolved to contain a range of facilities, including restaurants, banks, medical centres and even travel agencies. These facilities are similar to those that might be found in a CBD.

The emphasis on worker amenity and employee satisfaction is growing and will, conceivably establish itself as a given just like building 'green sustainability' and ESD standards have. This is not surprising as employee costs form a major proportion of an organisation's operational costs.

Many office parks and business parks have declined in appeal as occupiers seek to ensure their employees are satisfied in their work environment and are consequently able to achieve high retention rates. There are numerous instances where office buildings have suffered from high vacancies and declining rents as tenants vacate in search of locations that offer better worker amenity and employee satisfaction. Examples include Pymble and Frenchs Forest.

Public Open Space

According to the Ryde Integrated Open Space Plan (Ryde Council, 2012), the Ryde LGA contains 355ha of open space while the suburb of Macquarie Park Corridor (which very closely aligns with the Macquarie Park Corridor Business Park) contains 17.6ha of open space.

After considering the substantial population growth and employment growth expected to 2031 (additional 44,306 residents and 25,595 workers respectively, NSW BTS 2014), there is no doubt the Ryde LGA and indeed Macquarie Park Corridor will require more open space.

Council's Open Space Plan identifies a present open space deficiency in the Macquarie Park Corridor, indicating that **two new major reserves** suitable for active and passive recreation and several smaller open space areas are needed to support planned growth in Macquarie Park Corridor. This assessment considers planned residential growth only and does not take into account worker population demand.

The provision of 1ha of open space on Site (including 8,250sqm sports field/pitch) will ensure that the deficiency of open space in the Macquarie Park Corridor is mitigated, amenity for workers is improved and open space for existing and future residential

³ Industry accepted benchmark to represent retail demand by residents

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population is provided. Within the Macquarie Business Park, new residential dwellings in the priority precincts could also benefit from access to the proposed public open space, increasing opportunities for leisure, exercise and social interaction.

There is extensive literature on the value and social benefits of public open space. Statistically significant relationships have been found in a number of studies between proximity to public parks and open space and an increase in residential property values (Bolitzer and Netusil, 2000; Crompton, 2004; Espey and Owusu-Edusei, 2001). Typically these studies have found the majority of price impacts occur within a 150m to 180m radius of the park/open space, but can extend as far as 350m to 400m from the park/open space.

Studies examining the impacts on residential property values provide an indication of the value placed on parks and open space by those residing nearby. However, they do not provide an indication of the value people place on the existence of parks and open space (i.e. the amenity value people place on knowing parks and open space exist). Some studies have attempted to address this by examining the willingness of people to pay to maintain the existence of a park or natural area (Brefle *et al.*, 1998; McConnell and Walls, 2005). While the value people place on preserving open space varies based on the type of open space and proximity to residences, these studies show the positive value people place on public open space.

Valuing the Social Contribution of Sports Fields

The Proposal will provide a new sports field for public use. It is anticipated this field will primarily be used by workers and residents in the Macquarie Park Corridor, future residents of the Herring Road and North Ryde Station priority precincts and dwellings developed as part of this Proposal.

A study in Victoria regarding the socio-economic impacts of water restrictions on turf sports grounds (Weller and English, 2009) examined the willingness of people to pay to preserve a sports field. While the survey approach prevented a definitive value to be estimated, survey results indicate a minimum willingness to pay of around \$35 per person in 2009 dollar terms (or around \$40 inflating to 2015 dollars using CPI (ABS, 2015).

According to the draft local development contributions guidelines by the NSW Department of Planning (DoP, 2009), turf sports grounds typically cater for populations varying between 2,500 and 25,000, depending on its primary use. Assuming the sports fields have a service population of around 5,000 people, the sports field provided as part of this development can be estimated to return a social value of approximately \$200,000 per annum.

Beyond the value directly attributable to primary users of the sports field, existence of the open space would have positive impacts for lifting and enhancing Macquarie Park's reputation as a business destination.

As social infrastructure (e.g. open space, childcare facilities) is increasingly demanded by occupiers of business parks, it would appear that open space and social infrastructure standards have failed to keep pace with the evolution of business parks and the increase in requirements of businesses/employees. The delivery of social infrastructure in Macquarie Park Corridor is no exception and the Proposal would help to mitigate this.

Key Worker Housing

While 27% of workers in Macquarie Park earn more than \$104,000 per annum, a large proportion (44%) earn less than \$68,000, many of whom would be 'key workers'.

If key worker housing were made available at a discount of 25% to market rents, the difference between that paid and market rents represents social value to a key worker household. Computed at the average Ryde LGA rent of \$520 per week, this equates to an annual value of \$6,182, or nearly \$180,000 in social value per dwelling*. The provision of 56 key worker dwellings would multiply to a value of \$10.1 million.

* Capitalised at gross yield of 3.5%

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7.2.3 Consequential Economic Impacts

An upshot of the Proposal is the development of 1,271 residential units on the Site. As the provision of residential is considered to be a 'facilitator' of the broader proposal which is comprised of a redeveloped commercial building, dedicated public open space and sports fields and childcare facilities, the consequential impacts of housing on the Site are also outlined.

Contribution of Housing

The Sydney metropolitan area is experiencing significant demand for housing and growing housing affordability issues, largely as a result of population growth. As a response State government is focused on ensuring that the planning system facilitates increased housing development.

'A Plan for Growing Sydney' (the Plan) sets out State government objectives for the Sydney metropolitan area over the period of the Plan (2011 to 2031). The Plan states have the accelerated delivery of new housing is a major goal with approximately 664,000 additional homes required in the 20 year period, equivalent to 33,200 new homes per annum. This is in response to population growth of 1.58 million.

Table 7.5 compares building approvals in the Sydney metropolitan area over the last four years to targeted approvals based on State government guidance. It indicates a significant and widening shortfall between the number of dwellings required and the number being approved. There is an imperative to increasing housing supply.

Table 7.5: Sydney Residential Building Approvals versus Targets

	2011-12	2012-13	2013-14	2014-15 YTD
Building Approvals	15,591	21,097	23,456	14,411
Building Targets	33,200	33,200	33,200	33,200
Annual Shortfall	-17,609	-12,103	-9,744	-18,789
Cumulative Shortfall	-17,609	-29,712	-39,456	-58,245

Source: ABS (2015), NSW DP&E (2014)

The priority for new housing delivery is established areas, particularly those with access to transport infrastructure and in particular centres. This maximises the use of existing infrastructure and lowers the need to develop new greenfield land. New housing delivery is recognised as boosting economic activity, supporting the viability of infrastructure and stimulating business investment opportunities.

The provision of 1,271 apartments (as well as 56 key worker housing apartments) in the Ryde LGA constitutes a strong positive economic impact.

Contribution towards Easing Housing Affordability

The Sydney metropolitan area is in the midst of a housing affordability crisis. The Plan recognises that house prices in Sydney are high comparative to other Australian capitals and that government can assist to place downwards pressure on price rises through facilitating greater volumes of supply. In particular, additional units are noted as ensuring more people can access residential product which matches their lifestyle and budget.

Ryde is slightly less affordable compared to the wider Sydney metropolitan area. The latest Housing Sales and Rent Report (FACS, 2015) indicates that the median price of a unit in Ryde LGA in March quarter 2015 was \$630,000 compared to a Greater Sydney median of \$620,000 and a Sydney Middle Ring (within which Ryde LGA is situated) of \$620,000.

Over the last five years since March quarter 2010, based on the latest FACS data the median price of a unit in Ryde LGA has increased by \$145,000 or 23%. By contrast the average price increases in the Sydney metropolitan area was 37% over the same period and in the Sydney Middle Ring it was 43%. Even though housing prices in Ryde LGA are increasing at a slower rate in comparison to the Sydney metropolitan area and Middle Ring, initiatives to increase the volume of supply in Ryde LGA will nevertheless help moderate the already high median house prices.

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Increasing the volume of housing supply is a government imperative because it assists to ensure affordability by tempering the pace of house price growth. The provision of dwellings on the Site would help to achieve this and constitutes a strong positive economic impact.

Providing Housing Choice

A Plan for Growing Sydney identifies the need to accelerate housing supply and local housing choice (Action 2.1.1) and acknowledges that increasing housing supply and addressing housing affordability and choice will assist in reaching the target.

Importantly the Plan acknowledges that Government and local councils need to understand and respond to the housing market in each and every Local Government Area. The housing market reflects consumer demand and willingness to pay for particular types of housing in particular locations. It is the role of the private sector to build new houses. The private sector will only develop housing on rezoned sites where there is sufficient consumer demand for it, at a price that provides a return to the developer. Local councils should assist housing production by identifying and rezoning suitable sites for housing.

Furthermore the Plan states that housing choice should be improved to suit different needs and lifestyles (Direction 2.3). The Plan acknowledges that research indicates a current shortage of semi-detached houses across Sydney and a shortage of apartments in the middle and outer areas of the city. This is affecting the capacity of people to buy or rent a home. The Plan states that in order to respond to these issues, the Government will introduce planning controls that increase the number of homes in established urban areas to take advantage of public transport, jobs and services.

The Proposal would assist in the meeting these actions and directions by providing greater housing choice by increasing the supply of units in the Ryde LGA, which is at present dominated by detached dwellings.

Providing Homes Close to Jobs and Amenity

Providing homes close to jobs, public transport, civic functions, retail and entertainment options is a community benefit. Doing so lowers the needs for residents to travel to access employment and the other services they require and promotes public transport use. As a result negative externalities of travel in terms of lost time commuting, monetary expenses of travel, pollution, congestion, traffic, noise and so on are minimised. For this reason A Plan for Growing Sydney aims to provide homes closer to jobs (Direction 2.2/Action 2.2.2) and focus new housing in centres which have public transport that runs frequently and can carry large numbers of passengers.

Ryde LGA is an ideal place to concentrate new housing development. Rezoning of the Site and subsequent development as of 1,271 apartments (as well as 56 key worker housing apartments) in this location in addition to new employment opportunities on site constitutes a strong positive economic impact.

7.2.4 Other Impacts

Efficient and Effective Use of Infill Land

By enabling a more economically efficient use of the Site to be achieved and by delivering much needed higher density residential development in close proximity to important transport nodes, the Rezoning Case would maximise the development potential of this infill site. In doing so it would assist to achieve planning policy aims by concentrating new development on locations most capable of accommodating it. It may assist to alleviate pressure for new housing development in locations less suitable for such uses, such as outer lying suburbs or greenfield sites not well connected to public transport infrastructure, services, jobs and retail uses. The Rezoning Case would ensure efficient and effective use of land.

Traffic Impacts

The provision of new residential uses on the Site will facilitate greater demand for public and private transport for future residents. It is situated close to the major public transport nodes (Macquarie Park Corridor Station and Macquarie University Station) which offers

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extensive rail and bus connections which will reduce the requirement for new residents to have private vehicles.

The development application process will require detailed consideration of the traffic, transport and access implications by suitably qualified experts. Redevelopment would not proceed unless Council is satisfied that traffic, transport and access arrangements are acceptable and could be appropriately accommodated by the road network. It is assumed that steps would be taken to limit and/or mitigate any potential adverse impacts identified. The overall economic impact for the purposes of this SEIA is therefore assumed to be neutral – neither positive nor negative.

Community Safety

Upon completion the level of activity generated on the Site during both the day and evening periods across the working week and weekends would be greatly enhanced. Combined with appropriate design and lighting measures this activity would facilitate a high level of perceived safety and security. The activity generated on the Site would also have a positive flow on effect to surrounding uses and may enhance existing levels of passive surveillance and therefore perceived security in the precinct.

7.3 Scenario 2: Rezoning Case (Construction Phase)

Model Drivers

For modelling purposes the capital outlay was disaggregated into relevant industries represented in the Input-Output model (based on Australian and New Zealand Standard Industrial Classification (ANZSIC) industries). This breakdown was developed based on assumptions by AEC regarding the most appropriate ANZSIC industries for each activity as highlighted in the table below.

Table 7.6: Construction Costs Allocation (Incl. Contingency)

Item	Cost (\$M)	ANZSIC Industry Allocation
Retail/Commercial	\$59.2	Non-Residential Building Construction
Residential	\$426.4	Residential Building Construction
Open Space	\$3.2	Construction Services
Professional Fees	\$60.8	Professional, Scientific and Technical Services
Total	\$558.8	n.a.

Source: AEC

Only the construction activity expected to be undertaken within the Ryde LGA has been included in the economic impact assessment. For the purposes of this assessment it was assumed:

- Approximately 50% of the direct expenditure on construction activity would be sourced from local businesses and labour (including construction and professional services activity).
- Approximately 25% of purchases on goods and services (supply chain related activity) made by construction-related businesses sourced from outside the Ryde LGA would be spent within the local economy (i.e., 25% of the Type I flow-on activity associated with non-local construction companies is assumed to represent additional local activity in Ryde LGA).
- Approximately 5% of wages and salaries paid to construction-related workers sourced from outside the region would be spent on local goods and services, such as food and beverages (i.e., 5% of the Type II flow-on activity associated with non-local workers is assumed to represent additional local activity in Ryde LGA).

The Planning Proposal does not seek approval for any construction works. However, the construction of the concept master plan in its current form would be likely to result in the following and economic impacts.

Construction Impacts

The construction phase associated with the development is expected to support the following economic activity through direct and flow-on impacts:

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- \$543.7 million in additional output.
- \$200.0 million in GVA.
- \$124.3 million in incomes and salaries paid to households.
- 1,537 FTE jobs.

The construction of redevelopment on the Site is estimated to directly generate \$279.4 million in industry output for businesses in Ryde LGA. Estimates of the economic contribution to the Ryde LGA both directly and indirectly (through flow on activity) from the rezoning and subsequent development of the Site is outlined in Table 7.7.

A total of \$200 million in gross value added (GVA) activity is estimated to be supported within the Ryde LGA over the course of the 4-6 year construction period, including both direct and flow-on activity.

An estimated 1,537 FTE jobs for Ryde residents are estimated to be supported as a result of construction over the 4-6 year period (including direct and flow-on impacts), equating to an average of approximately 250 to 380 FTE jobs per annum.

Table 7.7: Construction Phase Impacts (\$2016)

Impact	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$279.4	\$65.1	\$47.3	554
Indirect Impact (Type I)	\$128.1	\$58.2	\$35.2	417
Indirect Impact (Type II)	\$136.2	\$76.7	\$41.8	567
Total Impact	\$543.7	\$200.0	\$124.3	1,537

Note: Totals may not sum due to rounding.
Source: AEC

Major industry beneficiaries of the construction phase of the development within the Ryde LGA include:

- Construction (gross value add of \$58.0 million).
- Professional, scientific and technical services (\$30.0 million).
- Wholesale trade (\$13.1 million).
- Manufacturing (\$11.8 million).

These industry beneficiaries are depicted in Figure 7.2.

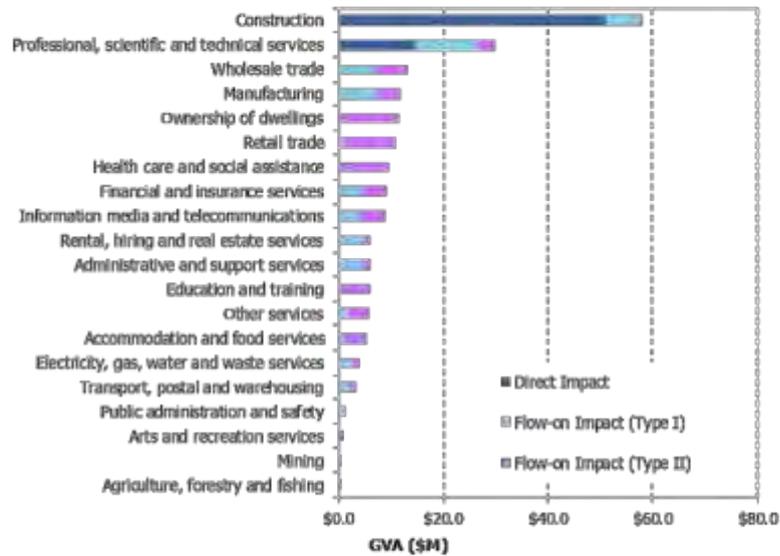
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Figure 7.2: GVA Impacts by Industry (\$M)



Source: AEC

Other Construction Impacts

There are a number of other Impacts with economic and productivity implications expected to occur during the construction phase. These include:

• **Business Impacts**

It is anticipated that the small number of businesses located along Talavera Road would experience some impact to their operation during construction as a result of disturbances such as noise, vibration and traffic. For the most part however, the negative Impacts for businesses would be confined to the construction period and eliminated upon completion of work. Appropriate management plans should be implemented during construction to ensure that any potential Impacts to businesses located within close proximity of the Site would be minimised.

Notwithstanding the potential for adverse Impacts to some business during the construction phase, other businesses may experience economic benefits as a result of the construction process. Businesses that are most likely to experience positive Impacts during the construction phase are those that service the construction industry including recruitment agencies, development consultants, manufacturers and suppliers of building materials, food and beverage retailers.

• **Traffic Impacts**

The construction process has the potential to disturb local pedestrian and traffic flows, as well as the ease of access to surrounding uses. Access to the Site for construction traffic would be through predominantly business areas. As such those operating businesses in the vicinity of the Site could potentially be impacted by a temporary and minor increase in traffic congestion at various times during construction.

These issues could be addressed in more detail and properly mitigated in a Construction Management Plan. For example, one means to mitigate Impacts generated by construction related traffic could be to establish alternate access routes that work together to disperse traffic, consequently minimising congestion in any one location.

By employing appropriate mitigation measures it is anticipated that traffic and accessibility Impacts would be relatively contained both temporally and geographically.

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Social Impacts

There are a number of social impacts that could occur during the construction phase including:

- **Amenity**
During the construction process the proposed development has the potential to adversely affect the amenity of sensitive receivers within the local area. Sensitive receivers generally relate to residents but may also include childcare centres, community, recreational facilities and businesses.

Owing to potential noise, dust and traffic disturbances, those most likely to be impacted during the construction of the project would be to residential and recreational uses surrounding the Site.

A range of mechanisms can be applied to minimise impacts to residential amenity. Such mechanisms are employed by most building contractors and implemented through a Construction Management Plan. Such plans tend to focus on issues such as demolition and construction staging, noise, air and water quality, construction traffic management, pedestrian safety and site management. They include simple but effective measures such as screening, noise mitigation at source and varying work hours. It is considered that in addition to the screening provided by the construction site, the existing vegetation would also provide screening.
- **Community Safety**
During construction, the perception of safety and security of the Site could be a community concern. The lack of activity on the Site (particularly during evening periods) and the presence construction material can result in reduced passive surveillance and an increased number of dark or hidden areas. This can lead to increased fears of anti-social behaviour an exacerbate anxiety and social stress amongst the community.

These perceived fears and thereby impacts as a result of the proposed development are likely however to be short term and limited to the construction period. Furthermore they can often be minimised or avoided through the implementation of a bespoke Construction Environment Management Plan and measures such as on site security, appropriately located lighting and the securing of work related machinery and tools.
- **Community Facilities**
As there are no hospitals, schools, recreational facilities or aged care facilities in the immediate vicinity of the Site (i.e. within 400m) it is not anticipated the proposed development would detrimentally impact any community facilities by way of noise, dust, overshadowing, privacy, safety or access.

7.4 Summary of Each Scenario

A summary of the positive and negative impacts and attributes of the Base Case and Rezoning Case are summarised in Table 7.8.

Table 7.8: Summary of Each Scenario

Scenario	Strengths	Weaknesses
Base Case (Existing Uses and No Rezoning)	<ul style="list-style-type: none"> • Provides employment land (i.e. B7 Business Park) • Accommodates 220 jobs 	<ul style="list-style-type: none"> • Accommodates employment in older style office building (on existing ratio of 1 worker per 32sqm) • Underutilised and redundant buildings (conference centre and warehouse) that do not meet contemporary floorspace requirements • Site is 'underutilised' with low worker floorspace ratios • Unlikely to be comprehensively redeveloped in short to immediate term as not financially feasible under existing planning controls • Ongoing deficiency of key social infrastructure items (open space, childcare facilities and key worker housing)

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Scenario	Strengths	Weaknesses
Rezoning Case	<ul style="list-style-type: none"> Despite a smaller site area for employment uses, the Rezoning enables an intensification of use, i.e. accommodates 1,131 jobs (an additional 924 jobs) More economically efficient use of the Site Contributes to social infrastructure provision (meeting undersupply of open space and childcare places) Contributes to enhancing overall worker amenity and strengthening Macquarie Park's competitiveness and future sustainability Enable a far greater level of social interaction and community engagement on the Site through provision of active/passive open space Contributes to meeting housing and employment targets Eases housing affordability by providing key worker housing Provides a greater mix of housing choice and type The pedestrian bridge will improve accessibility and pedestrian safety Free parking for those using the recreation space will increase patronage of the space 	<ul style="list-style-type: none"> Opportunity cost of employment land that could accommodate increased employment uses

Sources: AEC

While the appropriation of part of the Site to public open space and key worker housing would mean less land available to accommodate new employment floorspace, the provision of items of key social infrastructure would undoubtedly result in sustaining Macquarie Park Corridor's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace.

Increased demand for employment floorspace in Macquarie Park Corridor would in turn result in take-up of Council's bonus FSR provisions as envisaged under the Macquarie Park Corridor Planning Proposal. Development to greater FSRs than provided for under the Ryde LEP 2013 would ultimately result in increased overall employment densities in Macquarie Business Park.

The ultimate delivery of additional jobs (in increased overall employment densities) would support NSW Government and Council objectives of strengthening Macquarie Park Corridor's position in the Global Economic Corridor.

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8. Assessment of Net Impacts

8.1 Net Community Benefit Test

To compare the outcome of the Base Case versus the Rezoning Case, each of the identified impacts compared to the Base Case are summarised and ranked based on the rating system outlined in Table 8.1.

Table 8.1: Economic Impact Rating Matrix

Severity of Impact	Score	Explanation
Strong Positive Impact	+3	The scenario would make a strong positive contribution towards this impact compared to the Base Case
Slight Positive Impact	+1	The scenario would make a slight positive contribution towards this impact compared to the Base Case
Neutral Impact	0	The scenario would make neither positive or a negative contribution towards this impact compared to the Base Case
Slight Negative Impact	-1	The scenario would make a slight negative contribution towards this impact compared to the Base Case
Strong Negative Impact	-3	The scenario would make a strong negative contribution towards this impact compared to the Base Case

Source: AEC

Table 8.2 identifies all of the economic impacts and derives a total score for the Rezoning Case using the Base Case as the starting point of '0'. The higher the positive score the greater the net positive economic impact from a community perspective, the lower the score the greater the adverse economic impact.

Table 8.2: Economic Impact of Base Case versus Rezoning Case

Impact	Base Case	Rating	Rezoning Case	Rating
Employment & Economic Impact				
Jobs	220	0	1,144	+3
Direct Value Add	\$49.5 mill	0	\$219.4mill	+1
Retail Impact				
Support Retail Demand	n.a.	0	6,435sqm	+1
Social Infrastructure Impact				
Open Space	1,000sqm (2 x tennis courts)	0	6,100sqm (including sports field)	+1
Housing Impact				
Housing supply	n.a.	0	1,271	+3
Homes close to jobs	n.a.	0	Yes	+3
Construction				
Output	n.a.	0	\$279.4 mill	+3
Jobs	n.a.	0	554	+3
Wages and Salaries	n.a.	0	\$47.3 mill	+3
Total		0		26

Source: AEC

The Rezoning Case would deliver a clear, strong positive economic impact comparative to the Base Case.

The Rezoning Case has only allowed for the redevelopment of the Site as envisaged under the Proposal. As Macquarie Park Corridor grows the economic impact identified in this Assessment would be even greater.

8.2 Section 117 Direction

The Section 117(2) direction was previously highlighted in section 2.1.3, with Section 1.1 Business and Industrial Zones identified as being relevant. The objectives are identified below together with their consideration in the context of the proposed Master Plan.



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Table 8.3: Consistency with Section 117(2) Objectives

No.	Objective	Rezoning Scenario
1	Encourage employment growth in suitable locations	<p>The Site is improved with several buildings – some of which are aged, redundant and ill-suited to contemporary requirements. Whilst still occupied, the 4 storey commercial building accommodates jobs at relatively low worker density ratios (circa 1 per 32sqm).</p> <p>The Rezoning Case would trigger redevelopment of the Site with modern commercial and retail facilities that would be likely to more efficiently accommodate workers.</p> <p>The provision of a large amount of open space on-site (including playing fields), childcare facilities and key worker housing will all contribute to addressing current under-provision and shortfall as well as contribute to Macquarie Park's market appeal, competitiveness and ability to grow sustainably.</p> <p>For these reasons, the Rezoning Case complies with this Objective.</p>
2	Protect employment land in business and industrial zones	<p>Given the configuration of the site and building layout, the permitted uses are unlikely to facilitate a more attractive use to displace the existing use and facilitate a comprehensive redevelopment. The highest and best use of the Site under the existing zoning is likely to already be secured. On that basis, assuming the Site is not rezoned and remains subject to existing planning controls, comprehensive redevelopment of the Site is unlikely to occur.</p> <p>The land use zoning sought would lead to a reduction in the quantum of land zoned for employment generating land uses in the Ryde LGA. Yet while the Site currently accommodates 220 employees, these workers will be relocated to a new commercial building on the site and as such no 'loss' of jobs.</p> <p>Instead, the construction of a modern 6 storey commercial building would enable an intensification of uses on the site, potentially accommodating more than 800 employees in total.</p> <p>The total number of jobs generated on the Site is estimated at 1,144 jobs (representing an increase of 924 jobs), it is important to note this represents a much greater intensification of employment on the Site and a much higher ratio of employment of 1 worker per 21sqm of floorspace should the rezoning occur.</p> <p>While the appropriation of land to other uses would mean a reduction in employment land on the Site, the provision of key social infrastructure would result in sustaining Macquarie Park's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace. The Rezoning Case complies with this Objective.</p>
3	Support the viability of identified strategic centres	<p>The Rezoning Case would consolidate new homes, jobs and investment at Macquarie Park Corridor in accordance with <i>A Plan for Growing Sydney</i> which states that Macquarie Park Corridor could accommodate additional mixed-use development around train stations, including retail, services and housing.</p> <p>The Rezoning Case would increase the quantum of retail expenditure generated by workers and residents and provide a net positive addition to the pool of expenditure available to be captured by local businesses.</p> <p>For these reasons, the Rezoning Case would fulfil this Objective.</p>

Section 117 Directions set out five requirements for planning authorities to consider when preparing a planning proposal that will affect land within an existing or proposed business or industrial zone. This are considered below in relation to the Rezoning Case.

Table 8.4: Planning Authority Considerations

Consideration	Achieved?	Explanation
Give effect to the objectives of this direction	Yes	Table 8.3 has established that the objectives of the Direction would be achieved via the Rezoning Case.
Retain the areas and locations of existing business and industrial zones	Yes	The Rezoning Case would reduce the quantum of land used for employment uses in Ryde LGA, but as identified in this SEIA proposed uses on the Site would help sustain Macquarie Park's competitive position and appeal as a business destination leading to increase demand for floorspace. This in turn would result in take-up of Council's bonus FSR provisions under Amendment 1. Take-up of the bonus FSR provisions and development to greater densities would result in increased overall employment.

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Consideration	Achieved?	Explanation
Not reduce the total potential floor space area for employment uses and related public services in business zones	Yes	The Rezoning Case would increase the quantum of floorspace used for employment uses from 18,000sqm to 20,000sqm and additionally enable a more intense use of the land than is currently experienced.
Not reduce the total potential floor space area for industrial uses in industrial zones	Yes	N/A
Ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning	Yes	As established in this SEIA, the Rezoning Case is consistent with State and local government objectives to support jobs, economic development, efficient and effective use of land and accelerate housing supply in suitable locations. It complies with this condition.

Conclusion

While the appropriation of land to other uses would mean a reduction in employment land on the Site, the provision of key social infrastructure would result in sustaining Macquarie Park's competitive position as well as increasing its appeal as a business destination, leading to increased demand for floorspace.

It is apparent that the Proposal will provide significant benefit to the local area, delivering strong positive socio-economic impacts comparative to the status quo. This builds a strong case for the Proposal from a socio-economic perspective. As Macquarie Park grows the economic impact identified in this assessment will become even more significant.

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Appendix A: Input-Output Methodology

Input-Output Model Overview

Input-Output analysis demonstrates inter-industry relationships in an economy, depicting how the output of one industry is purchased by other industries, households, the government and external parties (i.e. exports), as well as expenditure on other factors of production such as labour, capital and imports. Input-Output analysis shows the direct and indirect (flow-on) effects of one sector on other sectors and the general economy. As such, Input-Output modelling can be used to demonstrate the economic contribution of a sector on the overall economy and how much the economy relies on this sector or to examine a change in final demand of any one sector and the resultant change in activity of its supporting sectors.

The economic contribution can be traced through the economic system via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Flow-on impacts**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
 - **Industry Support Effects (Type I)**, which represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services in the intermediate usage quadrant, and subsequent round effects of increased purchases by suppliers in response to increased sales.
 - **Household Consumption Effects (Type II)**, which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economic system.

These effects can be identified through the examination of four types of impacts:

- **Output:** Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
- **Value added:** Refers to the value of output after deducting the cost of goods and services inputs in the production process. Value added defines the true net contribution and is subsequently the preferred measure for assessing economic impacts.
- **Income:** Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the project.
- **Employment:** Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow-on activity, and is expressed in terms of full-time equivalent (FTE) positions.

Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow-on (Industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending.

Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).

Model Development

Multipliers used in this assessment are derived from sub-regional transaction tables developed specifically for this project. The process of developing a sub-regional transaction table involves developing regional estimates of gross production and purchasing patterns

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based on a parent table, in this case, the 2013-14 Australian transaction table (ABS, 2016a).

Estimates of gross production (by industry) in the study area were developed based on the percent contribution to employment (by place of work) of the study area to the Australian economy (ABS, 2012), and applied to Australian gross output identified in the 2012-13 Australian table.

Industry purchasing patterns within the study area were estimated using a process of cross-industry location quotients and demand-supply pool production functions as described in West (1993).

Where appropriate, values were rebased from 2013-14 (as used in the Australian national IO transaction tables) to 2016 values using the Consumer Price Index (ABS, 2016b).

Modelling Assumptions

The key assumptions and limitations of Input-Output analysis include:

- **Lack of supply-side constraints:** The most significant limitation of economic impact analysis using Input-Output multipliers is the implicit assumption that the economy has no supply-side constraints, so the supply of each good is perfectly elastic. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using Input-Output multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. The system is in equilibrium at given prices, and prices are assumed to be unaffected by policy and any crowding out effects are not captured. This is not the case in an economic system subject to external influences.
- **Fixed ratios for intermediate inputs and production (linear production function):** Economic impact analysis using Input-Output multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. That is, the input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs). As such, impact analysis using Input-Output multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount. Further, it is assumed each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies there is only one method used to produce each commodity and that each sector has only one primary output.
- **No allowance for economies of scope:** The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the "additivity assumption". This generally does not reflect real world operations.
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these limitations, Input-Output techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and provide useful insight into the quantum of final demand for goods and services, both directly and indirectly, likely to be generated by a project.

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In addition to the general limitations of Input-Output Analysis, there are two other factors that need to be considered when assessing the outputs of sub-regional transaction table developed using this approach, namely:

- It is assumed the sub-region has similar technology and demand/ consumption patterns as the parent (Australia) table (e.g. the ratio of employee compensation to employees for each industry is held constant).
- Intra-regional cross-industry purchasing patterns for a given sector vary from the national tables depending on the prominence of the sector in the regional economy compared to its input sectors. Typically, sectors that are more prominent in the region (compared to the national economy) will be assessed as purchasing a higher proportion of imports from input sectors than at the national level, and vice versa.

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**66-82 TALAVERA ROAD,
 MACQUARIE PARK
 OPEN SPACE AND LANDSCAPE REPORT**

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1. BACKGROUND, PURPOSE AND OBJECTIVES

BACKGROUND

This Open Space and Landscape Report (OSLR) has been prepared in support of a Planning Proposal for 66-62 Talavera Road (the site). The site is located in Macquarie Park, Sydney.

Macquarie Park is a precinct of strategic importance at both the local and state level. It is Sydney's second largest business district outside of the Sydney CBD and North Sydney. It is a major employment, technology and research centre that is home to global players across the pharmaceutical, technology, electronics and telecommunications industries. It is situated in the Ryde Local Government Area (LGA).

Planning Proposal for 66-62 Talavera Road, Macquarie Park

The 66-62 Talavera Road, Macquarie Park Planning Proposal (PP) was prepared by Architectus in September 2015. The PP seeks to change the land use zoning of the site from what is currently B7 Business Park to B4 Mixed Uses. It further seeks to alter the current maximum built height controls and Floor Space Ratio (FSR) controls.

Rezoning of the site would allow for development for mixed uses, including residential, retail, commercial and open space. The PP anticipates that open space would be rezoned to RE1 at a later stage, when the extent and boundaries of open space required are confirmed with Council.

66-62 Talavera Road, Macquarie Park. Urban Design Report

The '66-62 Talavera Road, Macquarie Park. Urban Design Report' (TRUDR) was prepared by Architectus in September 2015, in support of the PP. It summarises the preferred masterplan outcome that the PP seeks to enable, including the size and design of public open space to be dedicated to Ryde City Council.

66-62 Talavera Road, Macquarie Park. Submission to DP&E

The PP follows on from an earlier study which entailed a submission to the NSW Department of Planning and Environment (DP&E) Hearing Road Urban Activation Precinct, the '66-62 Talavera Road, Macquarie Park' (TRMP) report, prepared by Architectus in August 2014.

The report supported the inclusion of the site in the Herring Road Priority Precinct. A key finding was the identified major opportunity for the provision of a new 1.5 hectare large district open space, a new resource referred to in the Ryde IOGP (Integrated Open Space Plan). Delivery of the open space would be facilitated through high density development of the site, including residential and commercial uses.

The new open space would deliver significant benefit as it would address an identified shortfall in the amount of open space in the Macquarie Park precinct.

Macquarie Park Framework for Open Space and Mixed Use Development

The 'Macquarie Park Framework for Open Space and Mixed Use Development' (MPOF) was prepared by Architectus in June 2015.

The MPOF provides support for the PP, based on the site's ability to deliver a new local public open space that has the potential to address an identified gap in provision.

In doing so the MPOF proposes a set of key requirements to be met by development or rezoning proposals in Macquarie Park, in order to maintain and protect the integrity of the precinct as a major business and employment centre.

PURPOSE OF THIS REPORT

The purpose of this report is to complement the PP by providing an assessment of the site from an open space and landscape perspective. It is anticipated that, if the PP is approved, this Open Space and Landscape Report will provide the framework to guide the development of open space on the site.

PROJECT OBJECTIVES

The objectives of the project are to:

- Review the open space requirements of the Macquarie Park Precinct
- Assess the ability of the PP to contribute to meeting the open space requirements of the precinct, both in terms of the location and quantum of open space proposed
- Define principles to guide and inform the development of open space on the site
- Identify the likely capital and ongoing cost associated with the development of open space on the site.

Project Tasks

Preparation of this report involved:

- Review of relevant project-related studies and reports including the TRMP, MPOF, the draft PP and the draft TRUDR
- Review of relevant background studies and reports including the Ryde Integrated Open Space Plan, the Ryde Local Planning Study 05 - Environment and Open Space
- Review of the planning context
- Review of the open space planning context, including existing provision and future demand
- Preparation of an open space proposal, guidelines and design criteria for open space development.
- Assessment of the open space proposal against open space needs assessment and Council's open space planning
- Estimation of the likely costs of delivering and maintaining open space on the site.



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2. SITE & PROPOSAL

LOCATION AND CONTEXT

The site is located at 96-82 Telavara Road, in the north-eastern part of the Macquarie Park precinct (refer Figure 1). The site is bound by:

- Telavara Road to the south-west,
- Alma Road to the north-west,
- the M2 Motorway to the north-east and
- existing commercial buildings at 60 Telavara Road to the south-east.

Macquarie Park is a major business and education district in North Ryde, hosting telecommunications, technology, pharmaceutical and electronics companies.

The precinct also features a major regional shopping centre - the Macquarie Centre and Macquarie University (one of Australia's largest universities and a major research centre) together with the Macquarie University Hospital and other major research centres.

One of the key attractors of the precinct is its high quality environment and attractive setting, owing in part to the park-like nature of the University campus, the adjoining Lane Cove National Park and open space and landscape features within the precinct itself.

NATURE OF THE SITE

The site currently features warehouses, commercial buildings and a conference centre. Associated structures include car parking, driveways access roads, and tennis courts. The site also features large open landscape areas and a number of mature trees that give it a park-like character (refer Figures 2 to 4).

There has been a recent approval for a six storey commercial building containing approximately 9,000m² of commercial floor space in the southern corner of the site. This building is currently under construction.

The site slopes very steeply from the south-east to the north-west. A steep turfed embankment delineates the northern from the southern part of the site. The northern part of the site is lower than the adjoining M2 Motorway (refer Figures 3 and 4).

The site's topography combines with tree planting along the motorway and the site's north-eastern edge, to shield much of the site from views from the motorway (refer Figure 4).

BRIEF OUTLINE OF THE PROPOSAL

The Planning Proposal prepared for the site, the "96-82 Telavara Road, Macquarie Park Planning Proposal" (PP), seeks to rezone the site to B4 Mixed Use, to allow for mixed use development.



FIGURE 1: Site Location (source: Google Maps).



FIGURE 2: The site as seen from Alma Road, showing car parks and internal tree cover (source: Google Maps).



FIGURE 3: Telavara Road frontage, showing the steep slope of the site and its parklike character (source: Google Maps).

The potential urban design and development outcomes on the site are summarised in the "96-82 Telavara Road, Macquarie Park, Urban Design Report" (TRUDR). The report shows the preferred outcome for the site to be a combination of mixed use development and a new public open space.

Mixed use development would be located on the south-eastern part of the site and include a significant residential dwelling component. The new public open space would be approximately one hectare in size and be located in the north-western part of the site, along Alma Road.

There is also an option of providing Key Worker Housing on the site. This would be accommodated either at the north of the proposed open space area or within the mixed use lowers, as additional density. This is further discussed in Section 5.



FIGURE 4: Looking south-east into the site from the M2, showing tree cover and the site's elevation relative to the M2 (source: Google Maps).

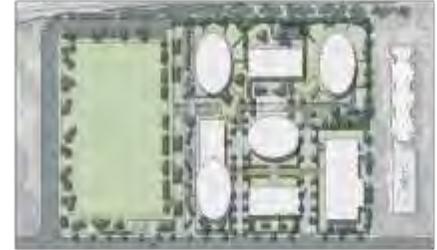


FIGURE 5: Illustrative view of initially proposed masterplan showing mixed use development and public open space (source: TRUDR).

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FIGURE 6: Global Economic Corridor (source: A Plan for Growing Sydney)

3. PLANNING CONTEXT

A PLAN FOR GROWING SYDNEY

The Sydney Metropolitan Strategy - 'A Plan for Growing Sydney' (the Plan) sets the metropolitan planning context. It identifies Macquarie Park as a specialised centre that forms part of the 'Global Economic Corridor', a major economic cluster extending from Macquarie Park to Port Botany with a heavy concentration of knowledge-based jobs (refer Figure 6). Macquarie Park has been identified as being of particular importance for Sydney's continued growth.

- Key actions identified in the Plan and relevant to Macquarie Park include
- Increasing employment opportunities as well as mixed use activities in the Global Economic Corridor (Action 1.6.1)
 - Growing jobs and housing (Action 1.7.1)
 - Providing a range of services to be an attractive place to live in (Action 1.7.1)
 - Identifying and connecting open spaces to develop a city-wide 'green grid' of interconnected open spaces as a key ingredient to a highly livable city (Direction 3.2); and
 - Working with local Councils to encourage appropriate local planning for the open space needs of communities (Action 3.2.1)



FIGURE 7: The Herring Road Priority Precinct in the context of the Epping and Macquarie Park Urban Renewal Area (source: DP&E 2014, p. 4)

- Other priorities for the Macquarie Park Strategic Centre include:
- Work with Council to retain a commercial core in Macquarie Park for long-term employment growth
 - Work with Council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing
 - Facilitate delivery of Herring Road, Macquarie Park Priority Precinct, and North Ryde Station Priority Precinct
 - Investigate potential future opportunities for housing in areas within walking distance of train stations
 - Support the land use requirements of the Medical Technology knowledge hub.

EPPING AND MACQUARIE PARK URBAN RENEWAL AREA

The Epping and Macquarie Park Urban Renewal Area has been identified by the Department of Planning and Environment (DP&E) as an important area within the Global Economic Corridor. It holds significant potential to deliver new community facilities, homes and public spaces in close proximity to public transport and employment opportunities.

The aim of the Urban Renewal Area is to allow the Government to plan for and deliver local infrastructure, to ensure services are available to the local community, both when and where they are needed.

The Epping and Macquarie Park Urban Renewal Area includes the Priority Precincts of Epping Town Centre, Herring Road and Macquarie University and North Ryde Station (refer Figure 7). Work to revitalise local areas is currently underway.

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FIGURE 8: Herring Road Priority Precinct, showing key features and site location immediately adjoining the Precinct (source: TRUIDR).

HERRING ROAD PRIORITY PRECINCT

The Herring Road Priority Precinct is centred around Macquarie University Train Station and includes Macquarie University and the Macquarie Shopping Centre, a major regional shopping centre. The Precinct benefits from excellent access to public transport, as well as the employment opportunities offered by Macquarie Park.

The aim of Priority Precinct planning is to revitalise the area through a mix of residential, commercial, retail, educational and community buildings. The Precinct vision is for additional housing and employment opportunities in a higher density, mixed-use walkable centre around Macquarie University Train Station (refer Figure 8).

The Precinct is expected to become an attractive and comfortable place for people to live and visit, with good access to transport, shops and services, as well as to community and recreation facilities, including local and regional parks.

The land uses proposed for the Precinct indicate a mix of university, commercial, residential and mixed use, with the main activity spine located along Herring Road (refer Figure 9 - Indicative Structure Plan).

The Indicative Structure Plan shows that the land uses immediately adjoining the site would be residential to the west, and mixed use to the south. No change in land use is proposed for land adjoining the site to the east.



FIGURE 9: Indicative Structure Plan for the Herring Road Priority Precinct showing proposed land uses (source: DP&E 2014)

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Public Open Space Framework

The open space network proposed for the Herring Road Priority Precinct largely reflects the findings of the Ryde ICSP. It combines a network of natural creek corridors with parks and other recreation opportunities, as well as a network of canopied streets to connect open spaces to the town centre (refer Figure 10).

Key open spaces in the open space framework are the riparian corridors along Kikkya and Shrimpton's Creeks. They include a number of local parks along these creeks. For the most part, proposed parks consist of existing open space such as Wiga and Elouera Reserves that are proposed to be enhanced. The opportunity to improve access to and connections between existing open space is also recognised.

Potential locations for up to four new local parks are identified. They would be dispersed through the Precinct and connected via the creek corridors. It is noted that all four new parks would be smaller than the recommended minimum size of 0.5ha for local parks (DP&E). This has been identified as a critical threshold to accommodate a basic range of local recreation functions, as well as concurrent use by several groups of users.

It is noted that the Precinct Plan does not mandate open space locations. Potential open space locations shown are indicative and would be subject to negotiation with land owners as part of the development application process. The proposed delivery model is through Works in Kind in lieu of Section 94 Contributions. There is a risk that potential open spaces are not realised unless outcomes can be successfully negotiated at the development assessment stage.



FIGURE 10: Indicative Open Space Framework - Herring Road Priority Precinct (source: DP&E 2015)

CITY OF RYDE DEVELOPMENT CONTROL PLAN

The City of Ryde Development Control Plan 2014 contains a section dedicated to Macquarie Park, namely Part 4.5 Macquarie Park Corridor (MPDCP). The MPDCP outlines the objectives, controls and design criteria to achieve development outcomes consistent with Council's vision for the Macquarie Park. The latest version MPDCP came into effect on 1 July 2015.

Section 5 of the MPDCP summarises the desired public domain outcomes, including the open space network. An Open Space Structure Plan identifies new public space and augments existing public open spaces to create an open space network. It seeks to integrate public open space with the street network to maximise pedestrian access opportunities, and to deliver a diverse range of open space types such as plazas, parks and natural areas along Shrimpton's Creek (refer Figure 11).

The major new open space proposed by the MPDCP is 'Central Park', a new one hectare multi-function open space located at 43-61 Waterloo Road. The new park would meet the identified need from the ICSP to address an existing gap in provision by delivering a new public open space in the part of Macquarie Park centred on Lane Cove Road and the Macquarie Park train station.

Ryde Local Environmental Plan 2014

It is noted that Central Park has not yet been zoned as RE1 Public Recreation under the current Ryde Local Environmental Plan 2014 (Ryde LEP). The site for proposed Central Park is part of a larger parcel of land that currently retains a B3 Commercial Core zoning. There is a risk that this lack of statutory weight could threaten delivery of the proposed park.

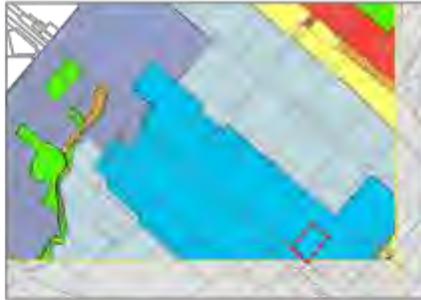


FIGURE 11: Extract from Ryde LEP 2014 Land Zoning Map 4, showing proposed Central Park site and current B3 zoning

The LEP Land Zoning Map also shows that there is currently no zoned public open space in Macquarie Park, north of Waterloo Road.

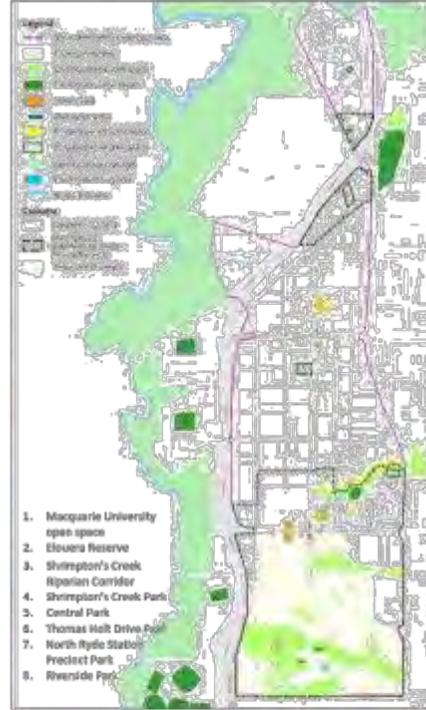


FIGURE 12: Proposed Open Space Network (source: MPDCP)

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5. OPEN SPACE PROPOSAL

LANDSCAPE DESIGN PRINCIPLES

Drawing on the findings of the ICSP in respect of the potential gap in open space provision in the Macquarie Park, the urban design and development masterplan for the site proposes the creation of a major new public open space as a key initiative.

The principles for the siting and design of the new public open space are as follows (also refer Figure 16):

- provide direct street access from two streets to maximise access and passive surveillance
- provide open space in a single consolidated form to maximise usability and flexibility
- provide open space in a regular shape that supports multi-use including general community use, informal sports use and special events
- maximise passive surveillance from surrounding buildings through the provision of active building facades facing the open space
- take advantage of the topography to provide terraces overlooking the open space and mitigating the transition from public to private open spaces
- maximise year-round thermal comfort by maximising solar access and providing shade, from both tree cover and built structures
- provide park furniture and recreation facilities including seating, lighting and significant play elements for a range of ages
- provide surface treatments and materials that ensure the park is a resource that offers maximum usability including day and night, and through all seasons
- ensure that the park is accessible and able to be enjoyed by all members of the community, irrespective of age and ability
- provide a stage area to allow for community events and celebrations, including back-of-house access, parking and services.

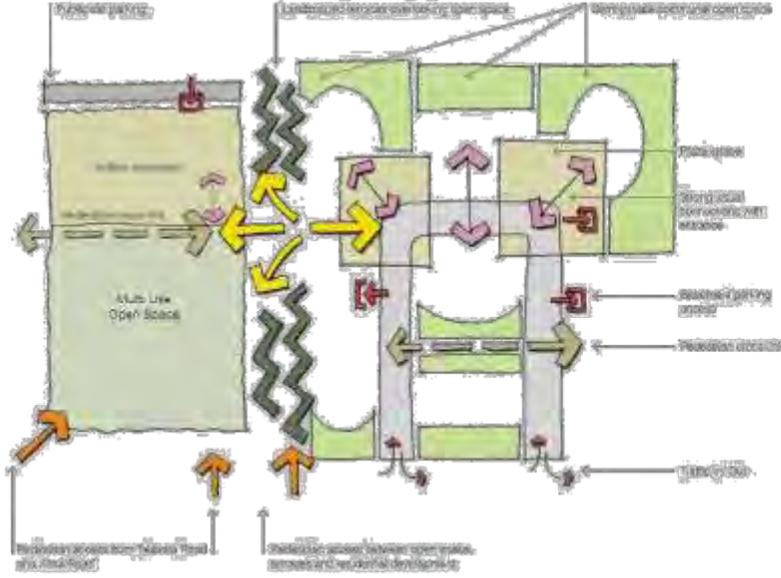


FIGURE 16 Landscape Design Principles Diagram

5. OPEN SPACE PROPOSAL

LANDSCAPE CONCEPT

Purpose And Objective

Consistent with the above landscape design principles, the objective for the new public open space is to create a place that offers maximum flexibility and optimises opportunities for recreation and social interaction.

CONCEPT OPTIONS

The TRUDR has identified an opportunity for the site to deliver up to 38 dwellings for Key Worker Housing. Two potential locations have been nominated, as follows:

1. Within the proposed mixed use towers, in addition to the nominated densities, or
2. Along the M2 corridor along the north-western site boundary.

Accordingly, two concept options are presented in this report. Both options propose a major new public open space in the north-western part of the site. The preferred location of the key worker housing will influence the size and design of the open space.

Option 2 would locate the key worker housing within the area generally proposed for open space. Two buildings are proposed with a footprint of about 12m x 35m. They would face south to overlook the open space. These buildings would be accessed via a rear car park covered with roof gardens.

COMMON FEATURES - OPTION 1 AND 2

The preferred masterplan for the site proposes a single open space area at the north-western end of the site (refer Figures 17 and 19).

Access

The park has two street frontages along Talavera and Alma Roads.

Pedestrian access would be via Talavera and Alma Roads. There would also be a public domain link, providing access to the park from the podium level of the proposed mixed use towers to the south-east.

Due to the site's existing topography, there would be a level change between Talavera Road and the open space. Maintenance vehicle access would be from Alma Street.

Orientation

The proposed open space would be oriented north-south to maximise solar access year round. This orientation is consistent with best practice orientation of sports fields, making the park suitable for playing of informal or special event sports games.

Multi-use Field

The bulk of the open space consists of a large, level multi-use field, approximately with a synthetic grass surface. The size of the field is sufficiently large to accommodate a competition size soccer pitch (90m x 45m) plus a 10m run-off area all around.

Landscaped Terraces

The multi-use field is overlooked by a series of four inter-linked terraces on the eastern side. They would deliver an additional 0.5ha of open space and are designed to mitigate the level change inherent in the site. They provide a range of recreation, leisure and entertainment opportunities that will provide an active park edge (refer Figures 18, 20-25).

Active Park Edge

Typical activities along the park's eastern edge and within the terraces would include play areas for all ages including play equipment or games areas such as boules and chess, feature gardens, community gardens, public seating, public art, fountains or waterplay. There may also be community facilities such as multi-purpose rooms or a branch library and commercial outlets including cafes and restaurants (refer Figures 18, 20-25).

UNIQUE FEATURES - OPTION 1

Option 1 proposes a single open space area of approximately 100m x 140m (1.4ha) (refer Figures 17, 23-25).

Pitch Size

The size of the field is sufficiently large to allow for a variety of sports activities to take place. It would accommodate either a 100m x 68m rugby pitch or a competition size soccer pitch (90m x 45m). This provides flexibility to cater for the future needs of residents in the area.

Access

Option 1 proposes a parking aisle along the M2 Motorway corridor boundary. This would provide approximately 22 standard parking spaces. It would further enable vehicular and service vehicle access to the park.

Special Events Area

The northern end of the field would be designed to provide a special events area that can be serviced from the parking aisle along the M2 boundary.

The car park and access road along the M2 would be highly beneficial in terms of the ability to stage events. It would provide a back of house area that would permit access by large vehicles and trucks. It would further integrate the respective infrastructure required to conduct and service special events.

UNIQUE FEATURES - OPTION 2

Option 2 accommodates key worker housing development at the northern end of the proposed open space (refer Figures 16 and 18). As a result, the total open space area is smaller than in Option 1. It would be approximately 70m x 90m (0.63ha) in size (refer Figure 19).

Access

Option 2 proposes to provide access to the Key Worker Housing via a covered car park along the northern site boundary.

No public parking is currently proposed for the site. It may be possible to provide some public parking within the Key Worker Housing covered car park.

KEY DIFFERENCES - OPTION 1 AND 2

Pitch Size

The size of the multi-use field in Option 2 is smaller than in Option 1. The latter therefore offers a greater degree of flexibility in terms of being able to accommodate a wider range of sporting codes or exhibition matches.

However, the field is not intended as a professional or competition pitch. Even at the smaller size it would provide a sufficiently large field to allow for recreational games and training for a variety of codes.

Parking

Option 2 would not have a parking aisle at the northern site boundary. Unless car parking is able to be provided within the Key Worker Housing covered car park, this would increase demand for on-street parking.

Access and Ability to Stage Events

The location of the Key Worker Housing at the northern end of the site in Option 2 removes the parking aisle as an access point for major vehicles including trucks. They would typically be required as part of setting up and managing major events.

The loss of this access point with integrated servicing infrastructure may affect the type of event able to be staged in the park. Option 2 would therefore offer less flexibility in terms of potential future use and programs for the open space.

Residential Interface

The potential to hold major events on the site may also be reduced under Option 2, as a result of the proximity of Key Worker Housing.

The noise and servicing requirements of major events may not be considered compatible with the needs of immediately adjoining residents. This may impact on the type and frequency of events able to be held in the park.

ITEM 3 (continued)

ATTACHMENT 8

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SUMMARY

Both options would deliver a significant new public open space.

Option 2 would deliver a slightly smaller park with potentially reduced flexibility in terms of potential future uses and programming. In particular it may offer less potential for major or frequent events. However it offers scope for smaller and infrequent community events.

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FIGURE 17: Landscape Concept Plan - Option 1

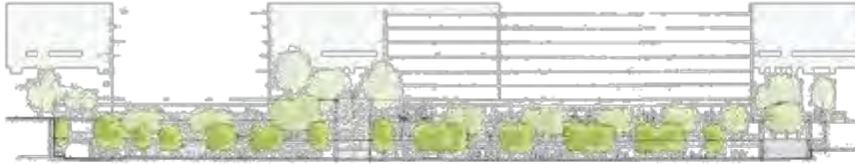


FIGURE 18: Elevation of Eastern Park Edge showing terracing - Option 1

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ITEM 3 (continued)

ATTACHMENT 8

5. OPEN SPACE PROPOSAL

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ABOVE:
 FIGURE 20: Artist's Impression: Aerial View of the New Park in its Context
 TOP LEFT:
 FIGURE 21: Artist's Impression illustrating design principles for terracing along the eastern park edge

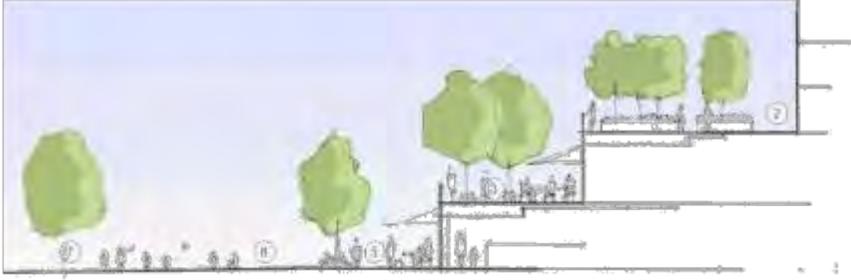


FIGURE 22: Section Through Eastern Park Edge illustrating active built facade

KEY

- | | | |
|---|---|--|
| 1. Street access | 4. Terraced gardens | 7. Shaded grove: seating, picnic areas, play opportunities |
| 2. Upper terrace: child care, health centre, etc (semi-private) | 5. Ground floor: cafes, community facilities, gym, amenities, public art/ interactive play, waterplay | 8. Public domain link to podium level of mixed use buildings |
| 3. Middle terrace: restaurants, cafes, public art | 6. Synthetic turf multi-use open space | |

09/19/2016 09:00 AM | 09/19/2016 09:00 AM

09/19/2016 09:00 AM

ITEM 3 (continued)

ATTACHMENT 8

5. OPEN SPACE PROPOSAL



FIGURE 25: OPTION 1 Artist's Impression: Aerial View of the New Open Space

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OPTION 1

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ITEM 3 (continued)

ATTACHMENT 8

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RYDE PLANNING AND ENVIRONMENT COMMITTEE | OPEN SPACE AND LANDSCAPE REPORT

6. OPEN SPACE ASSESSMENT

MACQUARIE PARK FRAMEWORK FOR OPEN SPACE

The "Macquarie Park Framework for Open Space and Mixed Used Development" (MPDF) was prepared by Architectus in June 2015, to provide Ryde City Council with a strategic framework for assessing rezoning applications in Macquarie Park.

The major strategic consideration is that all rezoning applications ensure the continued viability of the precinct's commercial core and its integrity as a major employment centre.

The MPDF identifies substantial pressure for increased residential development within the Macquarie Park precinct driven by significant employment opportunities, good access and transport connections and a high quality built and natural environment.

These factors were recognised and have informed planning for the Epping and Macquarie Park Urban Renewal Area. As discussed above the area has been identified as holding significant potential to deliver new homes including through the Herring Road Priority Precinct.

The MPDF discusses the known shortfall of open space in the precinct, and its potential to limit the future attractiveness of Macquarie Park as a residential and employment locality. The pressure for more residential development in the precinct is identified as an opportunity to negotiate with potential developers to address the identified open space shortfall.

To assist Council in such negotiations and in the assessment of rezoning applications in Macquarie Park the MPDF provides a strategic assessment framework. It outlines the requirements to be met in order for rezoning applications to be considered.

Key requirements include:

- significant public open space will be provided (minimum 5ha in area), effectively addressing existing and forecast shortfalls and meeting minimum design standards and criteria
- minimum commercial floor space areas are delivered
- a high quality public domain is achieved
- critical social needs are met such as provision of key worker housing, affordable housing or childcare facilities

The MPDF found that there are only three sites within Macquarie Park that would meet all criteria under the framework (refer Figure 26). The small number of sites would ensure that the strategic employment role of the precinct would be protected while allowing for increased residential development and delivering important additional local public open space.



FIGURE 26: Potential Sites to Deliver Open Space in Macquarie Park

Need for Open Space in Macquarie Park

The MPDF draws on the findings of the IOGP to highlight the need for additional open space in the precinct, to meet the needs of both future residents and businesses. This includes the recommendation for a new major park complemented by a series of small parks and small social spaces as discussed above.

It further identifies that the creation of the Herring Road Priority Precinct will further accelerate growth and demand yet it will not provide any new public open space. This will result in even greater demand for open space than anticipated at the time of writing the IOGP.

MPDF Framework for Delivery of Open Space

The MPDF proposes that rezoning applications be granted subject to nine criteria, four of which relate to the ability of the site to provide additional public open space.

The open space criteria recommended by the framework are as follows:

1. Provide either new open space shown in the Draft Macquarie Park DCP 2014 or a new 1 hectare minimum public open space, designed to Council's reasonable requirements
2. Where a site proposes to deliver the 1 hectare minimum open space, the site must be larger than 3 hectares, thereby allowing for a 2 hectare development site for mixed uses
3. The open space must have a frontage to a major road (Waterloo Road, Talavera Road, Wicks Road or Herring Road) and one secondary street
4. The proposed open space should satisfy specified design criteria (as set out in Section 4.1 of the MPDF) and be dedicated to Council on completion.

ITEM 3 (continued)

ATTACHMENT 8

6. OPEN SPACE ASSESSMENT

- walking distance of the University campus.
- The proposal would reduce local reliance on the University grounds for informal recreation and access to nature.

Proximity to Macquarie Centre

The Macquarie Centre provides a major shopping, commercial and entertainment destination in Macquarie Park, featuring leisure attractions such as cinemas, indoor playgrounds, kids club and play land and the Macquarie Ice Rink. It is a regional destination that attracts a large number of people from within and outside the area. There is currently no public open space that would complement the offering of indoor activities with external recreation facilities.

Benefits of the Proposal

- The proposal would complement the recreation and leisure offering of the Macquarie Centre by providing a new public open space immediately adjoining the Centre.
- The co-location of community and recreation facilities and infrastructure is consistent with best practice planning principles. It creates significant activity hubs and reduces the need for travel to access a range of facilities and services.

CONCLUSION AND RECOMMENDATION

The above discussion outlines that while the proposal does not meet all aspects of the Open Space Strategy for Macquarie Park identified in the IOSP, planning has developed significantly since the IOSP was prepared. There is now significant planned population growth which is not currently matched with certainty in terms of planning for local open space provision.

In this context and from an open space planning perspective, the above assessment demonstrates that the proposal to rezone the site and deliver a new public open space would deliver significant public benefit, irrespective of the option adopted for the location of Key Worker Housing.

While Option 1 (accommodating Key Worker Housing as additional density within the proposed mixed use towers) would be preferred in terms of the size and flexibility able to be offered by the new open space, Option 2 (location of Key Worker Housing at the northern end of the open space) would still offer a significant open space resource.

From an open space planning perspective, the proposal to rezone the site should be supported, subject to the creation of a new public open space consistent with the planning and design principles outlined in section 5 of this report and the TRUIOR.



ITEM 3 (continued)

ATTACHMENT 8



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RYDE PLANNING AND ENVIRONMENT COMMITTEE REPORT NO. 3/17 AND LANDSCAPE REPORT

ITEM 3 (continued)

ATTACHMENT 8

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REFERENCES

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ITEM 3 (continued)

ATTACHMENT 8



PROJECT CREDITS

CLIENT

Holdmark Property Group
Gavin DM Carrier, Head of Development

LEAD CONSULTANT

architectus[®]

Adrien Mole, Senior Urban Planner
Jane Freeman, Associate Urban Design & Planning
Rachel Nesbitt, Planner

CONSULTANT TEAM

The Landscape and Open Space Report for 66-62 Talavera Road, Macquarie Park was prepared by

Crosbie Lorimer - Director
Judith Fritsche - Senior Landscape Architect
Marie O'Dea - Associate Director
Nessen Naddi - Graduate Landscape Architect

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ITEM 3 (continued)

ATTACHMENT 9



Correspondence Page 320

3 STRATEGIC INVESTIGATION OF MACQUARIE PARK

Report prepared by: Section Manager - Governance
File No.: ENV/08/3/8/14 - BP15/1344

CORRESPONDENCE:

Submitting correspondence from the NSW Department of Planning and Environment dated 1 September 2015 inviting Council to partner with the Department to undertake a strategic investigation of Macquarie Park.

RECOMMENDATION:

- (a) That the correspondence be received and noted.
- (b) That Council accept the invitation to partner with the NSW Department of Planning and Environment to undertake a strategic investigation of Macquarie Park.

ATTACHMENTS

- 1 A Plan for Growing Sydney - Request from the NSW Department of Planning and Environment dated 1 September 2015 to partner with Council to commence a strategic investigation of Macquarie Park

Report Prepared By:

Amanda Janvrin
Section Manager - Governance

Report Approved By:

Gail Connolly
General Manager

Agenda of the Council Meeting No. 17/15, dated Tuesday 22 September 2015.

ITEM 3 (continued)

ATTACHMENT 9



Correspondence Page 321

PRECIS OF CORRESPONDENCE 3 (continued)

ATTACHMENT 1



Ms Gill Connolly
General Manager
City of Ryde Council
Locked Bag 2069
North Ryde NSW 1570

17/5/12807

Dear Ms Connolly

I am writing to invite Council to partner with the Department to undertake a strategic investigation of Macquarie Park.

As you are aware, A Plan for Growing Sydney identifies Macquarie Park as a strategic centre and recognises Macquarie Park's role as an important employment centre.

As part of the implementation of A Plan for Growing Sydney, the Department would like to partner with Council to commence a strategic review of Macquarie Park. This is an excellent opportunity to undertake a coordinated, strategic investigation of Macquarie Park in accordance with the advice identified in A Plan for Growing Sydney.

The strategic investigation provides the opportunity to work together to retain a commercial core in Macquarie Park for long term employment growth and identify the potential for additional uses, including retail, services and housing.

To initiate the investigation, the Department would like to meet with Council to discuss the scope of the strategic review and the ongoing working arrangements for the study. The Department will shortly provide Council with a draft scope of works for the initial phase of the study (an analysis of the demand and drivers for employment uses) for Council's consideration prior to the meeting.

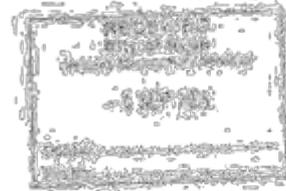
It is expected that the scope of this investigation will also include infrastructure analysis to inform the investigation of the need for future upgrades and cost recovery mechanisms as per Council's recent resolution.

The Department will be in contact shortly to confirm a meeting date for the first meeting. We look forward to working in partnership with City of Ryde Council.

If you have any further enquiries, Michael Lee, Director, Urban Renewal, can be contacted on 9225 6407 or by email michael.lee@department.newsw.gov.au

Yours sincerely


Michael Lee
Deputy Secretary
Growth, Design and Programs



ITEM 3 (continued)

ATTACHMENT 9

Record of Voting:

For the Motion: Unanimous

Note: Councillor Simon returned to the meeting at 9.12pm.

**2 EXECUTION OF PLANNING AGREEMENT - NORTH RYDE STATION
PRECINCT - REGIONAL ROAD UPGRADES**

RESOLUTION: (Moved by Councillors Stott and Maggio)

That the correspondence be received and noted.

Record of Voting:

For the Motion: Unanimous

3 STRATEGIC INVESTIGATION OF MACQUARIE PARK

RESOLUTION: (Moved by Councillors Maggio and Pickering)

(a) That the correspondence be received and noted.

(b) That Council accept the invitation to partner with the NSW Department of Planning and Environment to undertake a strategic investigation of Macquarie Park.

Record of Voting:

For the Motion: Unanimous

4 STREET LIGHT REFORM - PRIVATISATION OF AUSGRID

RESOLUTION: (Moved by Councillors Maggio and Pickering)

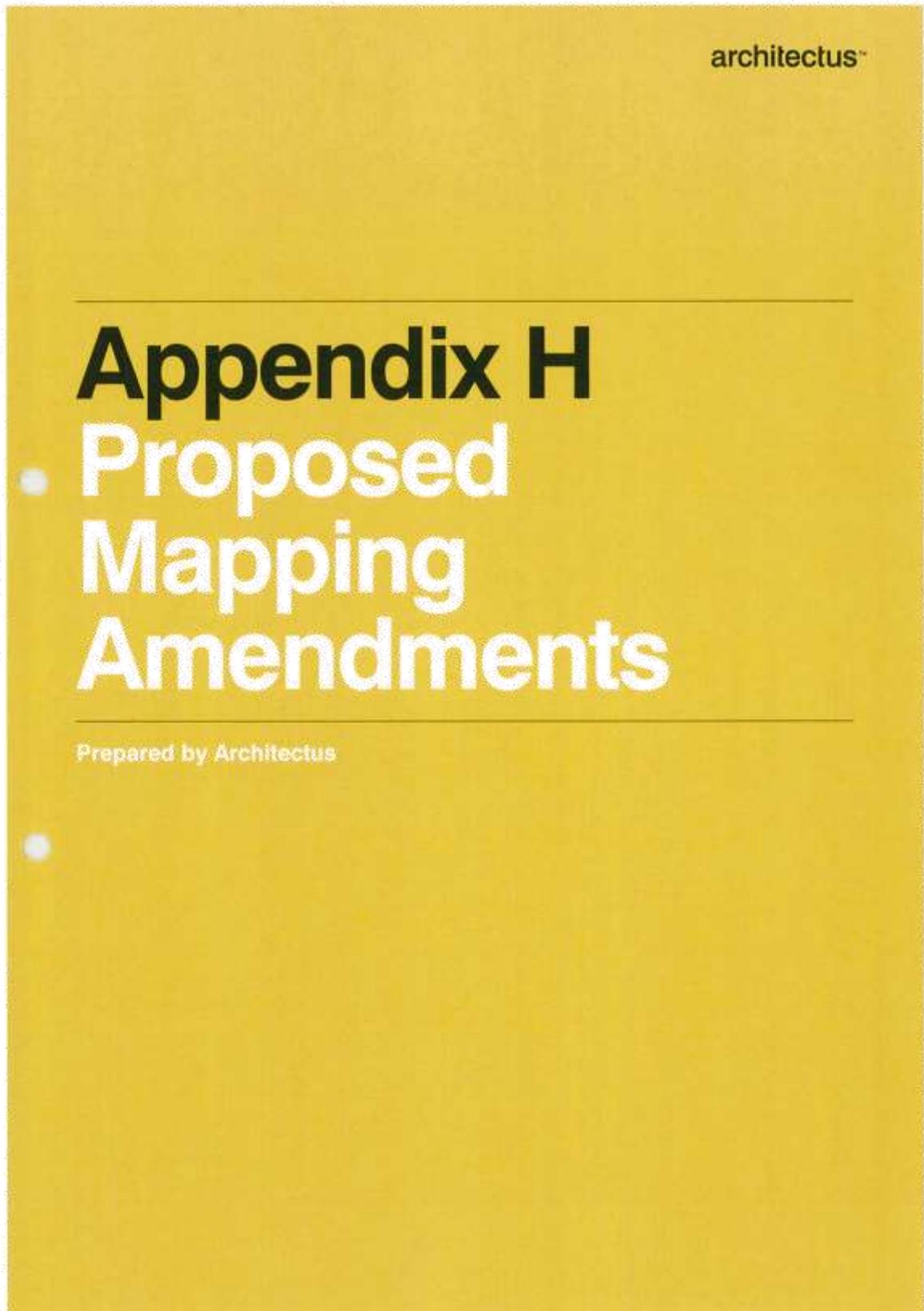
That the correspondence be received and noted.

Record of Voting:

For the Motion: Unanimous

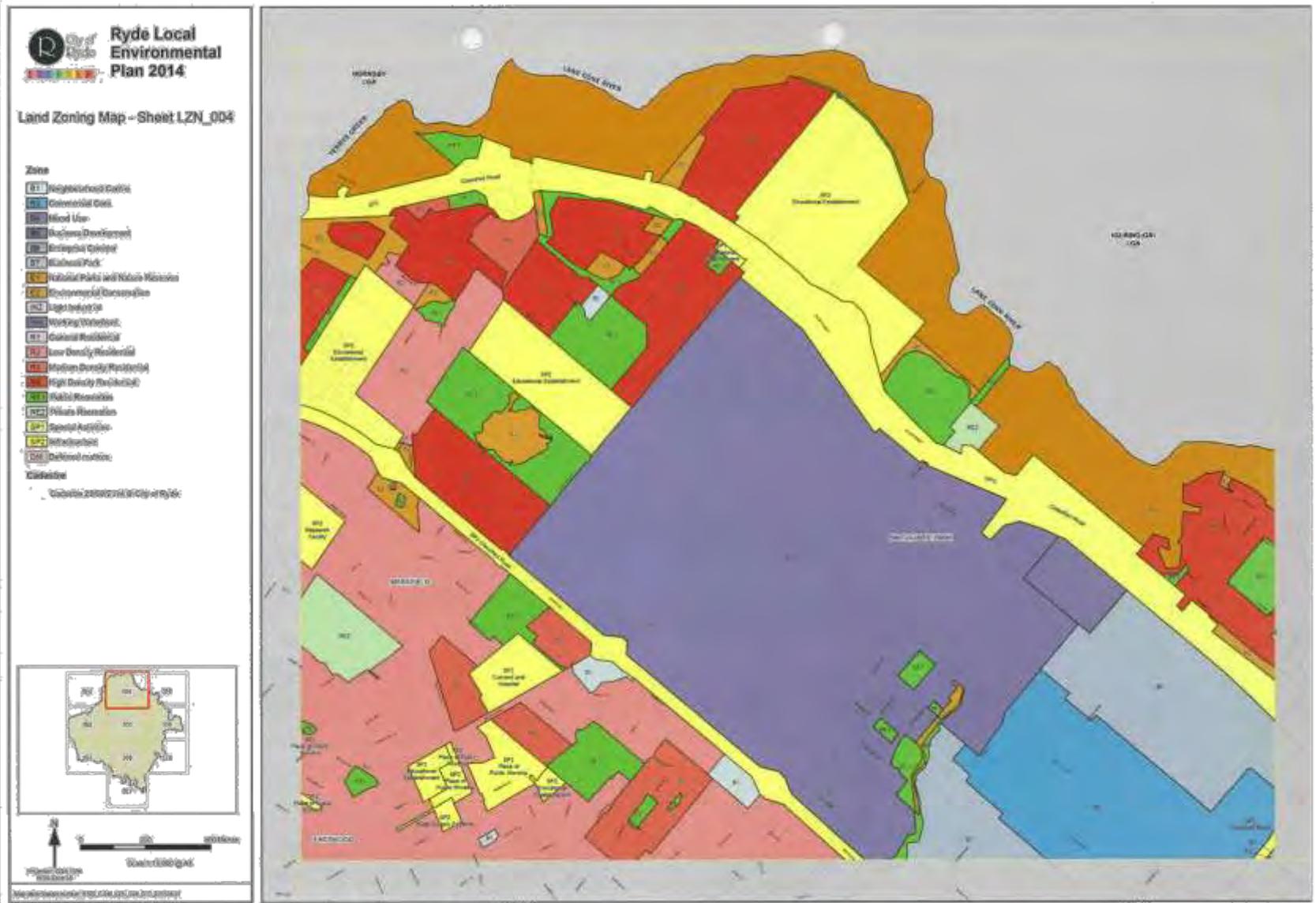
ITEM 3 (continued)

ATTACHMENT 10



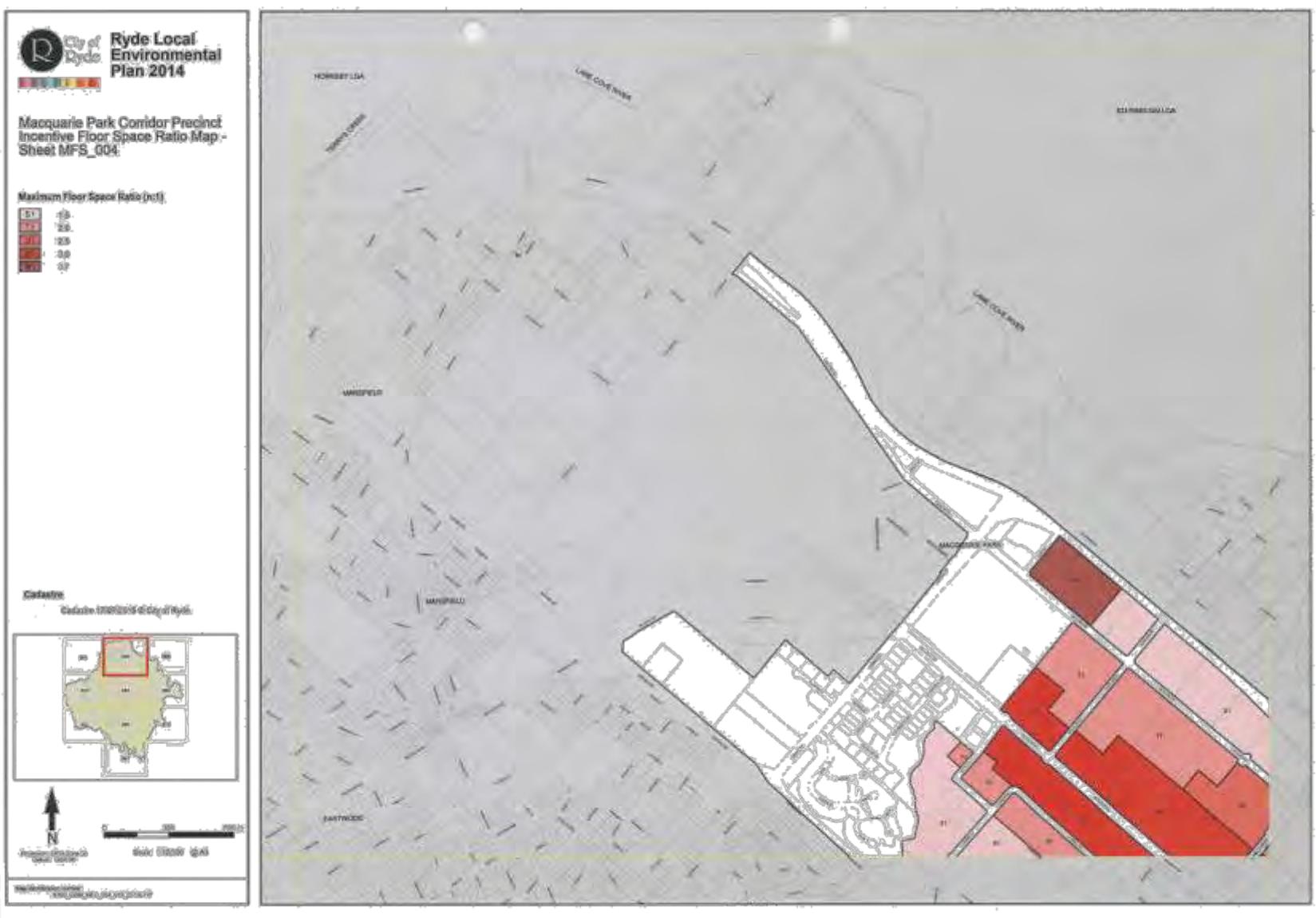
ITEM 3 (continued)

ATTACHMENT 10



ITEM 3 (continued)

ATTACHMENT 10



ITEM 3 (continued)

ATTACHMENT 10



ITEM 3 (continued)

ATTACHMENT 10



ITEM 3 (continued)

ATTACHMENT 11



Council Meeting Page 29

Note: The Mayor, Councillor Laxale returned to the meeting at 12.13am.

Note: The Mayor, Councillor Laxale assumed the Chair.

Note: Councillor Perram left the meeting at 12.15am and did not return.

**6 VOLUNTARY PLANNING AGREEMENT / PLANNING PROPOSAL - 66-82
TALAVERA ROAD, MACQUARIE PARK**

Note: Councillor Maggio was not present for discussion or consideration of this Item.

Note: Councillor Perram was not present for discussion or consideration of this Item.

Note: Gavin Carrier (representing Holdmark Property Group) addressed the meeting in relation to this Item.

Note: Confidential correspondence from Holdmark dated 26 July 2016 was tabled in relation to this Item and a copy is ON FILE – CONFIDENTIAL.

Note: A Confidential Memorandum from the Acting General Manager dated 2 August 2016 together with attachments was tabled in relation to this Item and a copy is ON FILE – CONFIDENTIAL.

Note: Confidential correspondence from HillPDA Consulting dated 25 July 2016 was tabled in relation to this Item and a copy is ON FILE – CONFIDENTIAL.

MOTION: (Moved by Councillors Pickering and Etmekdjian)

- (a) That Council invite Holdmark to submit an amended Planning Proposal with a maximum FSR of 3.7:1 and provide a letter of offer to enter into a Planning Agreement under Section 93f of the *Environmental Planning and Assessment Act (1979)*, that provides a community benefit offer with the amended proposal, to a value of \$145 million, subject to the following:-
- i. That the community benefit offer valued at \$145 million from Holdmark be supported by valuations report from a registered valuer and will be peer reviewed by a Council appointed expert at its cost;
 - ii. The community benefit offer is to include a minimum of 200 car parking spaces dedicated to Council to support the community facilities; and
 - iii. The full payment of Section 94 Contributions is to be made in addition to the community benefit offer valued at \$145 million.

Minutes of the Council Meeting No. 8/16, dated 26 July 2016.

ITEM 3 (continued)

ATTACHMENT 11

- (b) That the General Manager be delegated to forward the amended Planning Proposal and letter of offer from Holdmark to enter into a Planning Agreement to the Department of Planning and Environment for Gateway Determination, provided the amended documents satisfy part (a) above.
- (c) That any further negotiations with Holdmark on this matter be independently facilitated by a third party mediator, with the costs met equally between Holdmark and Council.

AMENDMENT: (Moved by Councillor Chung and The Mayor, Councillor Laxale)

- (a) That Council accept the irrevocable letters of offer from Holdmark dated 21 and 26 July 2016 to enter into a Voluntary Planning Agreement in accordance with Option 3 as outlined in the Report.
- (b) That Council forward, within 7 days, the Planning Proposal to the Department of Planning and Environment for Gateway Determination.

On being put to the Meeting, the voting on the Amendment was seven (7) for and two (2) against. The Amendment was **CARRIED** and then became the Motion.

Record of Voting:

For the Amendment: The Mayor, Councillor Laxale and Councillors Chung, Etmekdjian, Pickering, Simon, Stott and Yedelian OAM

Against the Amendment: Councillors Li and Pendleton

RECOMMENDATION: (Moved by Councillor Chung and The Mayor, Councillor Laxale)

- (a) That Council accept the irrevocable letters of offer from Holdmark dated 21 and 26 July 2016 to enter into a Voluntary Planning Agreement in accordance with Option 3 as outlined in the Report.
- (b) That Council forward, within 7 days, the Planning Proposal to the Department of Planning and Environment for Gateway Determination.

Record of Voting:

For the Motion: The Mayor, Councillor Laxale and Councillors Chung, Etmekdjian, Pickering, Simon, Stott and Yedelian OAM

Against the Motion: Councillors Li and Pendleton

ITEM 3 (continued)

ATTACHMENT 11

OPEN SESSION

RESOLUTION: (Moved by Councillors Simon and Pickering)

That Council resolve itself into open Council.

Record of Voting:

For the Motion: Unanimous

Note: Open Council resumed at 1.25am.

RESOLUTION: (Moved by Councillors Simon and Pendleton)

That the recommendations of Items considered in Closed Session be received and adopted as resolutions of Council without any alteration or amendment thereto.

Record of Voting:

For the Motion: Unanimous

NATIONAL ANTHEM

The National Anthem was sung at the conclusion of the meeting.

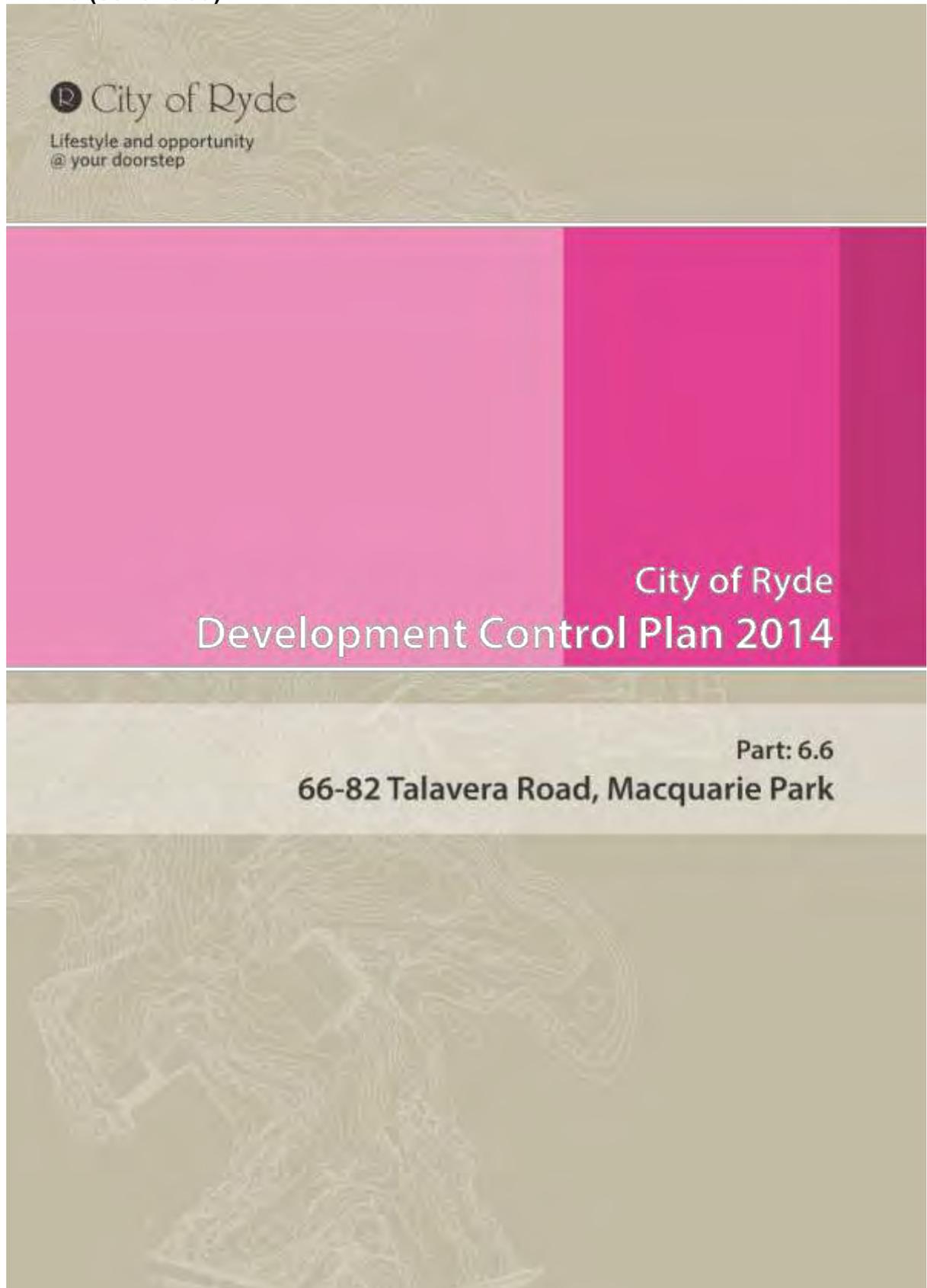
The meeting closed at 1.27am on Wednesday, 3 August 2016.

CONFIRMED THIS 23RD DAY OF AUGUST 2016

Chairperson

ITEM 3 (continued)

ATTACHMENT 12



ITEM 3 (continued)

ATTACHMENT 12

6.6

66-82 Talavera Road, Macquarie Park

Amend No. 1

Translation

ENGLISH

If you do not understand this document please come to Ryde Civic Centre, 1 Devlin Street, Ryde Monday to Friday 8.30am to 4.30pm or telephone the Telephone and Interpreting Service on 131 450 and ask an interpreter to contact the City of Ryde for you on 9952 8222.

ARABIC

إذا لم تفهم محتوى هذه الوثيقة، يرجى الاتصال بمرکز بلدية ريد في Ryde Civic Centre على العنوان: 1 Devlin Street, Ryde من الاثنين إلى الجمعة بين الساعة 8.30 صباحاً والساعة 4.30 بعد الظهر، أو الاتصال بمرکز خدمات الترجمة على الرقم 131 450 لكي يطلب من أحد المترجمين الاتصال بمرکز بلدية ريد، على الرقم 9952 8222، لمساعدتك.

ARMENIAN

Եթե այս փաստաթուղթը չէք հասկանում, խնդրում ենք՝ Բայդե Միջին Սենթրը, 1 Devlin Street, Ryde, (Ryde Civic Centre, 1 Devlin Street, Ryde) նրբաշարժիչն ընթացք կառ ժամը 8.30 – կես ժամը 4.30, կամ հեռախոսակցելք հեռահամարին և Քոնսուլտանտներն Արժանատիության՝ 131 450, և խնդրելք որ թարգմանիչ մը Բայդե Քոնսուլտանտներությանից հետ կառ հասարակ ձեռք հասնար, հեռահամարիչով՝ 9952 8222 քննելք:

CHINESE

如果您看不懂本文，請在周一至周五上午 8 時 30 分至下午 4 時 30 分前往 Ryde 市政中心詢問 (Ryde Civic Centre, 地址: 1 Devlin Street, Ryde)。您也可以打電話至電話傳譯服務中心，電話號碼是: 131 450。接聽後您可以要求一位翻譯員為您打如下電話和 Ryde 市政廳聯繫，電話是: 9952 8222。

FARSI

اگر این مدرک را نمی فهمید لطفاً از 8.30 صبح تا 4.30 بعد از ظهر دوشنبه تا جمعه به مرکز شهرداری راید، Ryde Civic Centre, 1 Devlin Street, Ryde مراجعه کنید یا به سرویس مترجم تلفنی شماره 131 450 تلفن بزرگ و از یک مترجم بخوانید که از طرف شما با شهرداری راید شماره تلفن 9952 8222 تلفن بزند.

ITALIAN

Se non capite il presente documento, siete pregati di rivolgervi al Ryde Civic Centre al n. 1 di Devlin Street, Ryde, dalle 8.30 alle 16.30, dal lunedì al venerdì; oppure potete chiamare il Telephone Translating and Interpreting Service al 131 450 e chiedere all'interprete di contattare a vostro nome il Municipio di Ryde presso il 9952 8222.

KOREAN

이 문서가 무슨 의미인지 모르실 경우에는 1 Devlin Street, Ryde 에 있는 Ryde Civic Centre 로 오시거나 (월 – 금, 오전 8:30 – 오후 4:30), 전화 131 450 번으로 전화 통역 서비스에 연락해서서 종역사에게 여러번 대신 Ryde 시청에 전화 9952 8222 번으로 연락을 부탁하십시오.

Amend. No.	Date approved	Effective date	Subject of amendment
Draft			Yet to be approved by Council

ITEM 3 (continued)

ATTACHMENT 12

66-82 Talavera Road, Macquarie Park

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6.6 66-82 Talavera Road, Macquarie Park



ITEM 3 (continued)

ATTACHMENT 12

66-82 Talavera Road, Macquarie Park

1.0 Introduction

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1.0 INTRODUCTION

1.1 Land to which this Part applies

This Part applies to 66-82 Talavera Road, Macquarie Park.

1.2 Objectives of this Part

Objectives

The objectives of this Part are:

1. To provide appropriate development control principles for the redevelopment of the land to which this plan applies;
2. To ensure co-ordinated development of the land in accordance with the applicable planning controls under the Ryde Local Environmental Plan 2014;
3. To ensure the delivery of public infrastructure to support the redevelopment of the site;
4. To ensure slender tower forms of varying height which add to and enhance the Macquarie Park skyline;
5. To ensure new development contributes positively to the public domain and streetscape; and
6. To support for a range of land uses including, residential, commercial premises, retail premises, indoor recreation facilities, and other ancillary uses.

1.3 Purpose of this Part

Whilst the subject site is part of the wider Macquarie Park Centre as defined by the Ryde Local Environmental Plan 2014, the site has recently undergone a site specific Planning Proposal which has resulted in a significant uplift of height and FSR on the site which will facilitate the delivery of the open space, affordable housing, and an indoor recreation facility.

This section of the DCP applies supersedes the wider Part 4.5 Macquarie Park Corridor section of the Ryde Development Control Plan 2014.

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66-82 Talavera Road, Macquarie Park

Development Control Plan 2014

2.0 SITE PLANNING AND STAGING

The site has an area of 3.8ha and will be responsible for the delivery of significant public infrastructure. This section provides guidance for the future development of the site, and supports the Ryde Local Environmental Plan 2014.

Objectives

The objectives of this Part are:

1. To ensure co-ordinated development of the land in accordance with the applicable planning controls under the Ryde Local Environmental Plan 2014; and
2. To ensure the delivery of public infrastructure to support the redevelopment of the site.

Controls

- a. A Stage 1 Development Application must be lodged for the site which addresses:
 - i. Changes in topography across the site.
 - ii. The timing and staging of future development of the site including the proposed timing for the delivery of public domain and infrastructure, publicly accessible car parking.
 - iii. Provides concept plans for all publicly accessible areas of the site, including:
 - Roads, including upgrades or signalisation of existing roads
 - Open space, including the 6,100m² publicly space, terraced garden areas
 - Footpaths, including new, amended or upgrades to existing footpaths
 - Pedestrian overbridge, identifying height and compliance with applicable standards
 - The location and design of the indoor recreation centre and affordable housing
 - iv. Location of tower and low rise buildings, to building envelope / massing level which demonstrates compliance with the requirements of the Apartment Design Guide can be achieved.
 - v. Location and quantum of non-residential land uses, equal to a total of 20,000m² GFA on the site, including the Astra Zeneca Building.
 - vi. A Traffic Impact Assessment and Green Travel Plan is to be submitted with the Stage 1 Development Application.
 - vii. That the 6,100sqm of public open space is to achieve a minimum of 2 hours solar access between 9-3pm for at least 50% of the total open space area.
- b. Figure 1 provides a high level concept plan for the how the site will be developed. It provides indicative development parcels and nominates locations of tower forms.

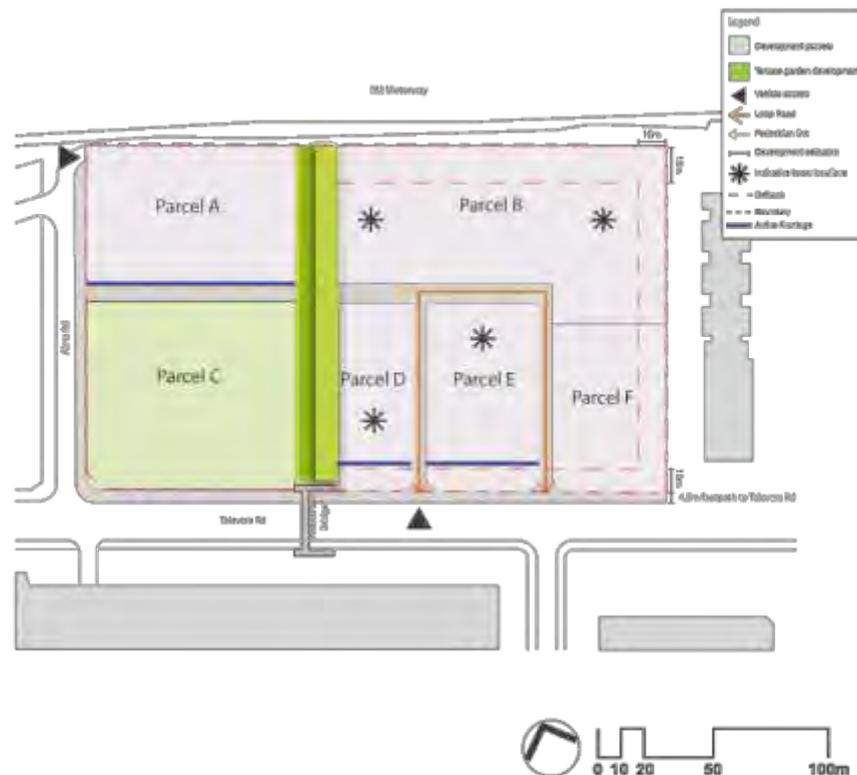
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66-82 Talavera Road, Macquarie Park

2.0 Development Controls

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66-82 Talavera Road, Macquarie Park

Development Control Plan 2014

3.0 BUILT FORM

This section provides guidance for the future development of the site with regards to Building Height, Setbacks and Building Design and Performance.

Objectives

The objectives of this Part are:

1. Ensure buildings are well located and placed to minimise impacts upon adjoining properties and maximise amenity for future residents;
2. and
3. Ensure buildings are well designed and represent good architectural design principles.

Controls

- a. A maximum of 4 tower forms are permissible on the site.
- b. Building setbacks must be in accordance with the below nominated setbacks:
 - i. Talavera Road – 10m
 - ii. M2 Motorway – 15m
 - iii. Alma Road – 2m
 - iv. 64 Talavera Road – Minimum of 10m, subject to achieving compliance with minimum building separation requirements of Apartment Design Guide.
- c. Tower footprints must not exceed 1,000m² Building Envelope Area.
- d. Figure 1 provides a high level concept plan for the how the site will be developed. Below is a high level statement for each of the identified areas:
 - i. Parcel A – This parcel will contain an indoor recreation centre, affordable housing and provide vehicular access from Alma Road. Development within this parcel should maximise passive surveillance of the open space and encourage connection and connectivity to the open space.
 - ii. Parcel B - This development parcel will contain two separate towers which are slender in form and help define the skyline of Macquarie Park It will also contain a low rise residential building and landscape surrounds which provide defined entry points into the buildings.
 - iii. Parcel C – This parcel will contain a 6,100m² open space which is designed to respond to Talavera Rd, allowing passive surveillance where possible. It will allow connectivity and a well-designed interface with the Terrace Garden Development. This space will contain a range of uses, both passive and active spaces and include landscape planting and sufficient soil depth for well located and appropriately placed tall trees.
 - iv. Parcel D - This parcel will contain one tower, with potential to incorporate a base low rise building. Some commercial / retail spaces will be provided which activate the park and Garden Terrace Development. It will provide activation of the internal road either through residential uses with separate entrances or retail / commercial uses at the ground floor. It will also orientate dwellings towards the open space to allow passive surveillance of this space.
 - v. Parcel E – This parcel will contain one tower, with potential to incorporate a base low rise building either at the base of the tower or as a free standing building. Ground floor uses will activate the internal road and the Talavera Road frontage.
 - vi. Parcel F – This parcel contains the existing Astra Zeneca building which will be retained.
 - vii. Terrace Garden Development – This area will act as a transitional zone of terraces from

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66-82 Talavera Road, Macquarie Park

2.0 Development Controls

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the high rise residential development through to the lower level open space and the upper level residential / commercial area. It will be stepped to achieve a human scale and allow for a range of uses within the space.

Note: building setbacks may need to be increased to achieve compliance with minimum building separations required under the Apartment Design Guides.

- e. Buildings must comply with the requirements of the Apartment Design Guide. Particular reference is made to the below aspects of the Guide:
 - i. Communal and Public Open Space: Minimum communal open space area equal to a minimum of 25% of each of the development parcels. This can be provided on rooftops and / or at ground level. This must include usable functional spaces for the enjoyment of residents; and
 - ii. Pedestrian Access and Entries: Pedestrian access points are to be provided at the ground level for individual apartments to activate the streetscape. This is to maximise opportunities for passive surveillance.

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66-82 Talavera Road, Macquarie Park

Development Control Plan 2014

4.0 ACTIVE FRONTAGE

Active uses at ground level are encouraged within Macquarie Park generally but more particularly in Activity Centres in order to ensure vibrant streetscapes, community meeting places and the provision of local services and facilities. This is supported by controls for 'Active Frontages', which identify areas where active ground level uses are to be consolidated.

Objectives

1. To provide a mix of uses to support an increasing employment and residential population over time.
2. To provide a range of uses, including where permitted residential and retail, that generate activity at ground level.
3. To ensure that public spaces and streets are activated along their edges.
4. To encourage safe well used public domain spaces.
5. To create vibrant streetscapes around areas of high pedestrian traffic.

Controls

- a. Continuous ground level active uses must be provided where identified in Figure 1. Buildings must address the street or public domain.
- b. Loading docks, vehicular access is not to be located where primary active frontages are shown in Figure 1 unless it can be demonstrated that there is no alternative.
- c. Active uses are defined as one or more of the following:
 - i. shop fronts;
 - ii. retail/service facilities with a street entrance;
 - iii. cafe or restaurants with street entrance;
 - iv. community and civic uses with a street entrance;
 - v. recreation and leisure facilities with a street entrance;
 - vi. commercial or residential lobbies with a street entrance not more than 20% of the total length of the building's street frontage
- d. Entries to active frontage tenancies are to be accessible and at the same level as the adjacent footpath.
- e. Active uses must occupy the street frontage for a depth of at least 10m.
- f. On sloping sites, the maximum level change between ground floor tenancies and the adjacent footpath is 600 mm.
- g. Where active frontage is required a minimum of 90% of the building frontage is to be transparent i.e. windows and glazed doors (A maximum 10% active frontage may be fire stairs, plant, masonry walls and other non-active uses).
- h. Clear glazing is to be provided to windows and doors. The sill height for windows must be maximum 1200mm above the footpath, including for sloping sites. Refer Figure 7.3.1 below.

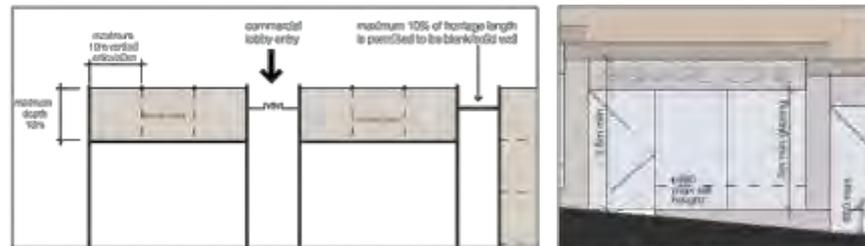
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66-82 Talavera Road, Macquarie Park

2.0 Development Controls

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Active Frontages Plan Diagram and Active Frontages Elevation Diagram

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6.6 66-82 Talavera Road, Macquarie Park

5.0 PUBLIC DOMAIN, INFRASTRUCTURE AND FACILITIES

This section details the significant public infrastructure and facilities to be delivered. This is also subject to a Voluntary Planning Agreement with City of Ryde Council which is registered on the title of the site.

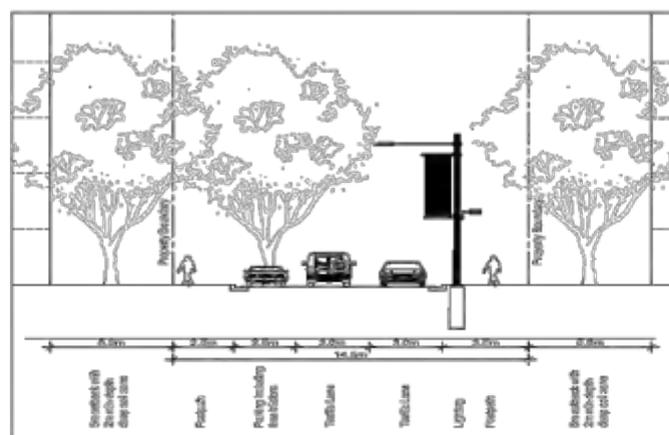
Objectives

The objectives of this Part are:

1. To identify the size and approximate location of the public infrastructure to be delivered on the subject site.

Controls

- a. The future redevelopment of the site must deliver the public infrastructure and facilities identified in Figure 1:
 - i. An open space area a minimum of 6,100m²
 - ii. Affordable housing of 5,296m² GFA
 - iii. A community indoor recreation facility of 3,500m² GFA + 20 dedicated car spaces and up to 180 spaces with free parking up to 2.5 hours
 - iv. 1,030 publicly accessible parking spaces
 - v. Pedestrian footbridge over Talavera Road
 - vi. Footpath along Talavera Rd a minimum of 4.5m wide
- b. Figure 1 provides a high level concept plan for the how the site will be developed and the approximate location of the infrastructure and community facilities to be delivered.
- c. Publically accessible areas are to be designed in accordance with City of Ryde's Public Domain Technical Manual for Macquarie Park.
- d. The proposed loop road is to be a minimum of 14m wide and is to be in accordance with the indicative section provided at Figure 3. This is to be designed in accordance with Council's Public Domain Technical Manual for Macquarie Park.



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ATTACHMENT 12

6.0 WIND IMPACT

Being located on a ridge above the Lane Cove River, the site is relatively exposed to prevailing winds. In order to maximize the amenity of new developments and their adjoining public domains it is important that the design of new buildings incorporate measures to minimize any wind impacts, particularly on the proposed public spaces.

Objectives

1. To protect the public domain from the impact of undesirable winds while allowing the penetration of cooling summer breezes, and
2. To minimise any adverse wind impacts from the introduction of new structures.

Controls

- a. Buildings shall not create uncomfortable or unsafe wind conditions in the public domain which exceeds the Acceptable Criteria for Environmental Wind Conditions. Carefully locate or design outdoor areas to ensure places with high wind level are avoided.
- b. All applications for buildings over 5 storeys in height shall be accompanied with a wind environment statement. For buildings over 9 storeys and for any other building which may be considered an exposed building shall be accompanied by a wind tunnel study report. Refer to Council for documentation and report requirements.
- c. Calculation rules
 - i. Natural wind conditions are intensified by certain types of buildings by the way they relate to the surrounding area. In this section, those buildings are called exposed buildings.
 - ii. A building may be considered exposed if half or more of its height rises above surrounding buildings and/or the building lies on the perimeter of a built up area.
 - iii. Exposed buildings are likely to create unpleasant and even dangerous high winds, mainly in three locations: at the base, around corners or through arcades or other openings at the base of the building.
 - iv. In addition the areas within the exposed buildings that could potentially experience adverse wind effects are the areas on the podium, terraces on the roof or on setbacks in the tower as well as projecting or corner balconies.

Acceptable criteria for environmental wind conditions:

AREA CLASSIFICATION	LIMITING WEEKLY MAXIMUM GUST ¹ EQUIVALENT MEAN	LIMITING ANNUAL MAXIMUM GUST
Outdoor dining areas, amphitheatres etc	3.5 m/s	10 to 13 m/s
Main retail centres and retail streets, parks, communal recreational areas	5.5 m/s	13 m/s
Footpaths and other pedestrian accessways	7.5 m/s	16 m/s
Infrequently used laneways, easements, private balconies	10 m/s	23 m/s

Note: The Gust -Equivalent Mean is defined as the maximum 3 second gust divided by a local Gust Factor for the local wind speed. It is recommended that the local gust factor be derived from

ITEM 3 (continued)

ATTACHMENT 12

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66-82 Talavera Road, Macquarie Park

Development Control Plan 2014

the measured local turbulence intensity. If the mean wind speed happens to be greater than the Gust -Equivalent Mean then the Mean wind speed is to be adopted in place of the Gust -Equivalent Mean.

The Annual Maximum Gust wind speed criteria can be used as an alternative to the Gust-Equivalent Mean Criteria.

If the Gust-Equivalent Mean criteria are being used then a check should also be made to ensure that all areas studied are within the Annual Maximum Gust wind speed of 23 m/s.

When assessing the impact of a proposed development, no increase over the existing wind conditions is acceptable unless the increase over the existing conditions is such that the relevant criterion for that type of space is still satisfied.

d. Balconies for residential flat buildings above 30m in height are permitted enclosed balconies under Clause 6.12 of the RLEP 2014, subject to further consideration by Council.

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66-82 Talavera Road, Macquarie Park
2.0 Development Controls

6.6

6.2 Noise and Vibration

Loud noise affects the amenity of places, particularly in mixed-use areas where developments need to consider the amenity of a range of occupants. The site is in close proximity to the M2 Motorway and future development must respond to noise generated by traffic.

Objectives

1. The impacts of noise on residential development are to be mitigated through appropriate design and the use of insulation.
2. The operation of commercial and industrial developments is to protect the amenity of residential and public spaces.

Controls

- a. An Acoustic Impact Assessment report prepared by a suitably qualified acoustic consultant is required to be submitted with all development applications for commercial, industrial, retail and community buildings, with the exception of applications minor building alterations.
- b. Development is to comply with all relevant statutory regulations.
- c. Where light industrial and commercial development adjoins residential development, the use of mechanical plant equipment and building services will be restricted and must have appropriate acoustic insulation.
- d. Loading and unloading facilities must not be located immediately adjacent to residential development.
- e. Retail premises must limit any spruiking and the playing of amplified music or messages so as not to disturb the amenity of other public and private places.
- f. Air conditioning ducts shall not be situated immediately adjacent to residential development.

ITEM 3 (continued)

ATTACHMENT 12

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66-82 Talavera Road, Macquarie Park

Development Control Plan 2014

7.0 VEHICLE ACCESS AND PARKING

This section provides guidance for the location of vehicle access points and quantum of parking to be located on the site

Objectives

The objectives of this Part are:

1. Manage the impact of traffic generation from development;
2. Provide co-ordinated entry and exit points for the site to reduce impacts on wider traffic network; and
3. Provide commuter car parking spaces to service the needs of the wider Macquarie Park Corridor.

Controls

- a. Vehicle access into the site is to be in accordance with the locations provided in Figure 1.
- b. Individual vehicle access for buildings is to comply with the applicable standards and to occur from the 14.5m loop road and Alma Road.
- c. Parking is to be provided in accordance with Part 9.3 Parking Controls, with the exception of up to 1,030 publically accessible car parking spaces as commuter / general purpose car parking.

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ATTACHMENT 12

66-82 Talavera Road, Macquarie Park

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ITEM 3 (continued)

ATTACHMENT 12



City of Ryde
Civic Centre
1 Devlin Street
Ryde NSW 2112

www.ryde.nsw.gov.au

ITEM 3 (continued)

ATTACHMENT 13



Friday 3 March 2017

Roads and Maritime Reference: SYD15/001416/02

The General Manager
City of Ryde Council
Locked Bag 2069
North Ryde NSW 1670

Attention: Sue Wotton

PRELIMINARY RESPONSE – PLANNING PROPOSAL – 66-82 TALAVERA ROAD, MACQUARIE PARK

Dear Ms Wotton

I refer to your email of 23 January 2017 inviting Roads and Maritime Services to provide comments on the proposed amendments to the Gateway Determination for the abovementioned Planning Proposal in accordance with Section 56(2d) of the *Environmental Planning and Assessment Act 1979*.

It is noted that the proposal has received Gateway Determination that allows an amendment to the Ryde Local Environmental Plan 2014 (RLEP 2014) as follows:

- Rezone the land from B7 Business Park to B4 Mixed Use;
- Increase the maximum floor space ratio on the site from 1:1 to 3.7:1 over the entire site;
- Increase the maximum height permitted from 30m to 120m over the entire site and;
- Include an additional gross floor area of 11,400 m² for affordable housing and a recreation centre.

Since Gateway Determination was granted in September 2016, it is understood that the following new changes are being sought for the Planning Proposal:

- Exclusion of the affordable housing and recreation centre from the maximum 3.7:1 floor space ratio calculation for the entire site;
- Include a new commercial car park with capacity for 1030 car parking spaces and exclude this development from the maximum 3.7:1 floor space ratio calculation for the entire site;
- Increase the height limit of one of the residential towers from a maximum height limit of 120m to 154m;
- Exclude balconies above 30m above ground level from the total gross floor space calculation;

Roads and Maritime Services

27-31 Argyle Street, Parramatta NSW 2150 |
PO Box 973 Parramatta NSW 2150 |

www.rms.nsw.gov.au | 13 22 13

ITEM 3 (continued)

ATTACHMENT 13

- Increase the number of residential dwellings on the site from 1125 to 1327 resulting in an increase of 202 additional dwellings and;
- Increase the number of car parking spaces from 1526 to 1598 spaces resulting in an increase of 72 car additional parking spaces.

Roads and Maritime raised a number of concerns to the original Planning Proposal in a letter sent to Council dated 8 December 2015. Given the increased scale and nature of the revised Planning Proposal, there is significant concern in relation to the development's impacts to the surrounding local and regional road network. Therefore, Roads and Maritime does not support the amendments to the Planning Proposal until the issues outlined in Attachment A have been satisfactorily addressed.

Thank you for the opportunity to provide comments on the subject proposal. If you require clarification on any issue raised, please contact Tricia Zapanta, Strategic Land Use Planner on 8849 2473 or by email on Tricia.Zapanta@rms.nsw.gov.au.

Yours Sincerely,



Mary Whalan
Principal Network Manager, North Precinct
Network Sydney

ITEM 3 (continued)

ATTACHMENT 13

Attachment A

1. The proposal falls within the Macquarie Park Investigation Area with Department of Planning currently investigating opportunities to enhance Macquarie Park's role as a major commercial centre with increased commercial and residential development. Roads and Maritime is of the view that the proposed Planning Proposal should be consistent with the intended outcomes of the strategic investigations. Furthermore, this Planning Proposal may set a precedent with other land owners within the precinct requesting similar zonings and increased height and floor space ratio densities that may be inconsistent with the strategic vision for Macquarie Park. Roads and Maritime has significant concerns in relation to the potential cumulative traffic and transport impacts of this and other future proposals on an already constrained local and regional road and transport network. In this regard, should Council proceed to public exhibition of the Planning Proposal, the Traffic Impact Assessment should satisfactorily address the following issues:
- Council is advised that Transport for NSW is undertaking an Aimsun traffic model for Macquarie Park which may assist in the traffic modelling analysis requirements outlined below. Please contact Roads and Maritime to confirm the status and availability of this traffic model to assist this proposed Planning Proposal.
 - In the event the Aimsun traffic model is unavailable at this time, the SIDRA modelling should be updated as the current results are inconsistent and insufficient for an assessment of the development's traffic impact. These results were produced from a mix of SIDRA intersection and network modelling, using SIDRA versions 5.1 and 6.0. SIDRA versions 5.1 and 6.0 have been superseded and are not recommended for further modelling. Therefore, the traffic assessment of the proposed accesses and all Talavera Road intersections between (and including) Herring Road and Lane Cove Road need to be modelled in SIDRA Network using the latest edition of SIDRA 7. Note: Cycle times for intersections modelled along Talavera Road should be no greater than 120 seconds.
 - Traffic generation should be calculated based on the maximum development yields rather than a concept plan;
 - An update to the traffic analysis to include proposed new changes to the Planning Proposal:
 - A maximum 3.7:1 floor space ratio calculation for the entire site;
 - Inclusion of the affordable housing and recreation centre above and beyond the maximum 3.7:1 floor space ratio calculation for the entire site
 - Inclusion of a new commercial car park with capacity for 1030 car parking spaces and exclusion of this development from the maximum 3.7:1 floor space ratio calculation for the entire site;
 - Increase the number of residential dwellings on the site from 1125 to 1327 resulting in an increase of 202 additional dwellings and;
 - Increase the number of car parking spaces from 1526 to 1598 spaces resulting in an increase of 72 car additional parking spaces.
 - The Traffic Impact Assessment states that: *"The retail/restaurant type uses (approximately 4,000m²) are expected to provide services for the residential development in the area primarily and restaurant-generated traffic is outside of the commuter peak hours in any event. The retail/restaurant traffic generation has therefore been excluded"*. Roads and Maritime does not support this statement and acknowledge that through surveys conducted for the 'Guide to Traffic Generating Developments' and 'Technical Direction (TDT2013/04a) – Guide to Traffic Generating Developments Updated Traffic Surveys' that both Restaurant and Retail development will generate traffic impacts during the weekday network peaks.

ITEM 3 (continued)

ATTACHMENT 13

Therefore, the Traffic Impact Assessment must be subsequently updated to also include the traffic generation impacts from the proposed Restaurant and Retail uses based on rates provided within the 'Guide to Traffic Generating Developments' and 'Technical Direction (TDT2013/04a) – Guide to Traffic Generating Developments Updated Traffic Surveys'.

- The Traffic Impact Assessment has excluded modelling and analysis of the development's impact on the surrounding regional road network stating that "the major intersections surrounding the development are currently at capacity in peak periods and would require future upgrades." Given current traffic capacity issues at major intersections surrounding the site and the nature and scale of the proposed development, an assessment of the development's impact to the regional road network is even more critical to determine the need for and timing and cost of traffic mitigation measures that will be required. The following intersections should be analysed as part of the modelling update:
 - Talavera Road/ Herring Road/ M2 on/off ramp signalised intersection
 - Talavera Road/ Alma Road/ Shopping Centre West Access signalised intersection
 - Talavera Road/ Shopping Centre East Access signalised intersection
 - Talavera Road/ Khartoum Road signalised intersection
 - Talavera Road/ Lane Cove Road signalised intersection
 - An update to the SIDRA model should also include, if it hasn't already been included, the impacts of any planning scenario currently being considered by the NSW Government and/or Council which would require a revised layout/phasing of the Talavera Road/Herring Road/M2 ramp intersection and the redistribution of peak hour traffic flows along Talavera Road and/or other changes to the intersections outlined above (see Roads and Maritime's letter of 8 December 2015 for contact details).
2. More information is required to justify the need for a pedestrian overhead bridge across Talavera Road including the connectivity to Macquarie Shopping Centre given the existing pedestrian crossings at the Alma Road/Talavera Road and Eastern Access/Shopping Access intersections and potential constraints such as the narrow shared footpath on the southern side of Talavera Road and existing shopping centre car park entry points. This assessment should be part of the analysis of pedestrian and cyclist demands to/from the site to surrounding land uses and transport networks.
 3. A significant number of bus services operate through the Talavera Road/Herring Road, Talavera Road/Khartoum Road and Talavera Road/Lane Cove Road intersection, including Rapid Bus Routes. To ensure that these bus services are not detrimentally impacted the SIDRA 7 Network analysis should also examine the additional travel time delays along Talavera Road caused by the proposal and ensure that any additional travel time delays are suitably mitigated either through intersection enhancements and/or bus priority measures.
 4. The Macquarie Park DCP indicates that a Framework Travel Plan would be required for any future development which exceeds 10,000m² with the intent of minimising rates of private vehicle use for commuters and business trips to achieve a transport modal shift target of 60% public transport use for the journey to work. To achieve this objective, the Traffic Impact Assessment should also be considering options that minimise parking provision on the site (ie. providing parking below the suggested maximum rates).
 5. An Infrastructure Staging Plan should be developed that identifies feasible infrastructure upgrades and all other transport infrastructure and services required to cater for full development growth of the site. This plan should detail a funding and delivery mechanism (Contributions Plan and/or Voluntary Planning Agreement) including trigger points based on the future staging of development.