



Fitzpatrick Investments Pty Ltd  
22-24 Junction St  
FOREST LODGE NSW 2037

L150804\_22-32JunctionSt\_Rev\_v2.docx

4 August 2015

**Attention:**       **Jamie Stewart**  
                          *Project Director*

Dear Jamie,

**Re: 22-32 Junction St, Forest Lodge Flood Assessment**

As per WMAwater's previous correspondence the proponent seeks to develop the above referenced site. Since WMAwater's last report the design has been modified, with the items relevant flood affectation being the proposed raising of the open car parking space to the 5% AEP level.

This report discusses the specific nature of the flooding the site is subject to and how the proposed development can be carried out in such a way that flood risk is not exacerbated. Further the potential for the works to impact on flood levels is considered.

**Background**

WMAwater recently completed the *Johnstons Creek Catchment Flood Study (2012)* and *Johnstons Creek Catchment Floodplain Risk Management Study and Draft Plan (2014)*. The description of results we supply herein is based on these studies as well as additional runs carried out specifically for the work reported upon herein.

**Existing Flood Behaviour**

Referring to Figure 1, the total catchment area contributing to Larkin Street depression is approximately 79 hectares. Four major flow paths discharge to the depression as per the list below (also refer to Figure 2):

1. The bulk of the flows originate from the University of Sydney Camperdown campus which either enters the Sydney Water trunk drain (Orphan School Creek Branch) or as overland flow (once the trunk drain is at capacity) crossing Parramatta Rd and flowing onto Larkin St;
2. Flow path originating from Arundel St/Sparkes St through a drainage reserve;
3. Flow path along St Johns Rd; and
4. Flow path originating from Bridge Rd which enters Junction St and discharges to this low point. Note it is this flow path that is the second mechanism of albeit minor overland flow flooding that impacts the subject site.

The Sydney Water trunk drain that traverses the site is full in the 20% AEP. Consequently for the 1% AEP event, very limited portions of the site experience significant inundation depths (> 2 m) albeit with low velocity as floodwaters accumulate behind Pyrmont Bridge Road (which acts as an embankment).

**Flood Depths, Levels and Rates of Rise**

Table 1 provides the peak flood levels and depths for the 5% AEP, 1% AEP flood and PMF events for the subject site at rear (to the west). The locations where the flood levels and depths are sampled is indicated in Figure 2.

**WMAwater Pty Ltd (Formerly Webb McKeown and Associates)**

**DIRECTORS**

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R W Dewar  
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Table 1: Peak Flood Levels and Depths for 22-32 Junction St, Forest Lodge (Site Rear)

|               | <b>Larkin St Depression</b><br>(point 2 in Figure 2) |                         |
|---------------|--|-------------------------|
| <b>Event</b>  | Peak Flood Level<br>(mAHD)                           | Peak Flood Depth<br>(m) |
| <b>5% AEP</b> | 13.1   | 3.5 <sup>1</sup>        |
| <b>1% AEP</b> | 13.9   | 4.3                     |
| <b>PMF</b>    | 18.5   | 8.9                     |

Rates of rise are ~ 20 mm per minute for the 1% AEP event and four times this for the Probable Maximum Flood event (which is ~ 1,000-10,000 times less likely than the 1% AEP event). The significance of such limited rates of rise are that people have ample time to seek higher flood free ground.

### Flood Planning Level Requirements

In regard to the proposed open car park level requirements are outlined in City of Sydney's *Draft Interim Floodplain Management Policy (2013)*. These are that the open car park must be at the 5% AEP flood level at a minimum. That is, as per Table 1 above, the car park must be at the level of 13.1 mAHD (or more).

Note that it is also a requirement of the policy that a registered engineer must certify that any proposed development on site must be able to withstand forces applied to it by floodwaters (inclusive of debris and buoyancy).

### Flood Risk

Previous correspondence from WMAwater has discussed the flood risk associated with residential development on the site. The focus herein is on the proposed open car park.

Clearly an issue is that during a flood event threatening inundation of the car park, car owners may seek to access the car park and remove vehicles. The following elements of the proposed works and specific local flood characteristics tend to mitigate potential flood risk:

1. The hazard of floodwaters is low. Modelled flow velocity at the location of the proposed car park is near zero. This is due to the fact that floodwaters are not flowing through the site but rather building up behind Pyrmont Bridge Road. As such hazard (the velocity depth product) of flood waters in the 1% AEP is low as per the NSW Floodplain Development Manual (NSW, 2005);
2. The rate of rise of flood waters facilitates evacuation. During a 1% AEP event the time for floodwaters to reach a depth of 0.3 m is slightly less than 15 minutes. As reported above rate of rise is ~ 20 mm per minute. Given the widest point of the car park to the west (from the high side at Junction St) is 40 m, ample time exists for a person to experience some level of flooding and then walk to the fire escapes facing Junction St and access higher ground; and finally
3. Higher ground is readily accessible. The site fortunately includes higher ground on the eastern side (Junction St). From both ends of the site (north and south) as well as via several fire escape stairs that lead to Junction St, those pedestrians exposed to flooding have the ability to access safe higher flood free ground.

### Flood Impacts

To minimise flood impact the car park will be built at the 5% AEP level with a void retained underneath. As such the flood storage volume lost in the 1% AEP event is limited to the volume of the slab and supporting piers. Given a slab of 0.25 m and a calculated area of ~ 2,400 m<sup>2</sup> the volume lost is ~ 600 m<sup>3</sup>. It is estimated that this is less than 1% of total runoff for the 1% AEP event. As such it may be presumed that the flood level impact of the slab is minimal and in the writer's opinion modelling is not required to quantify the impact.

<sup>1</sup> Peak depths far exceed average depths due to the fact that the subject site is steeply sloping.



**Summary**

Previous correspondence from WMAwater described flood affectation of the proposed development site and required levels for proposed development.


The work herein focuses on the open car park proposed to be built at the 5% AEP level as per Council requirements.

An assessment of flood behaviour indicates that the floodwaters are slow rising and low hazard. Further means of egress and higher flood free ground are readily accessible. Together these factors tend to minimise any flood risk associated with the proposed car park facility.

Further the potential for the car park to impact on 1% AEP flood levels is considered. Given that the car park is to be built on a slab with void retained underneath, and given the limited volume of the construction in the 1% AEP flood extent, it is demonstrated that any impacts will be trivial.

Yours Sincerely,

**WMAwater**

A handwritten signature in blue ink, appearing to be 'Steve Gray', with a long horizontal line extending to the right.

**Steve Gray**

DIRECTOR

Attachments

Figure 1: Contributing Catchment

Figure 2: Peak Flood Depth and Level – Existing Conditions – 1% AEP Design Flood Event



FIGURE 1  
CONTRIBUTING CATCHMENT  
22-32 JUNCTION ST

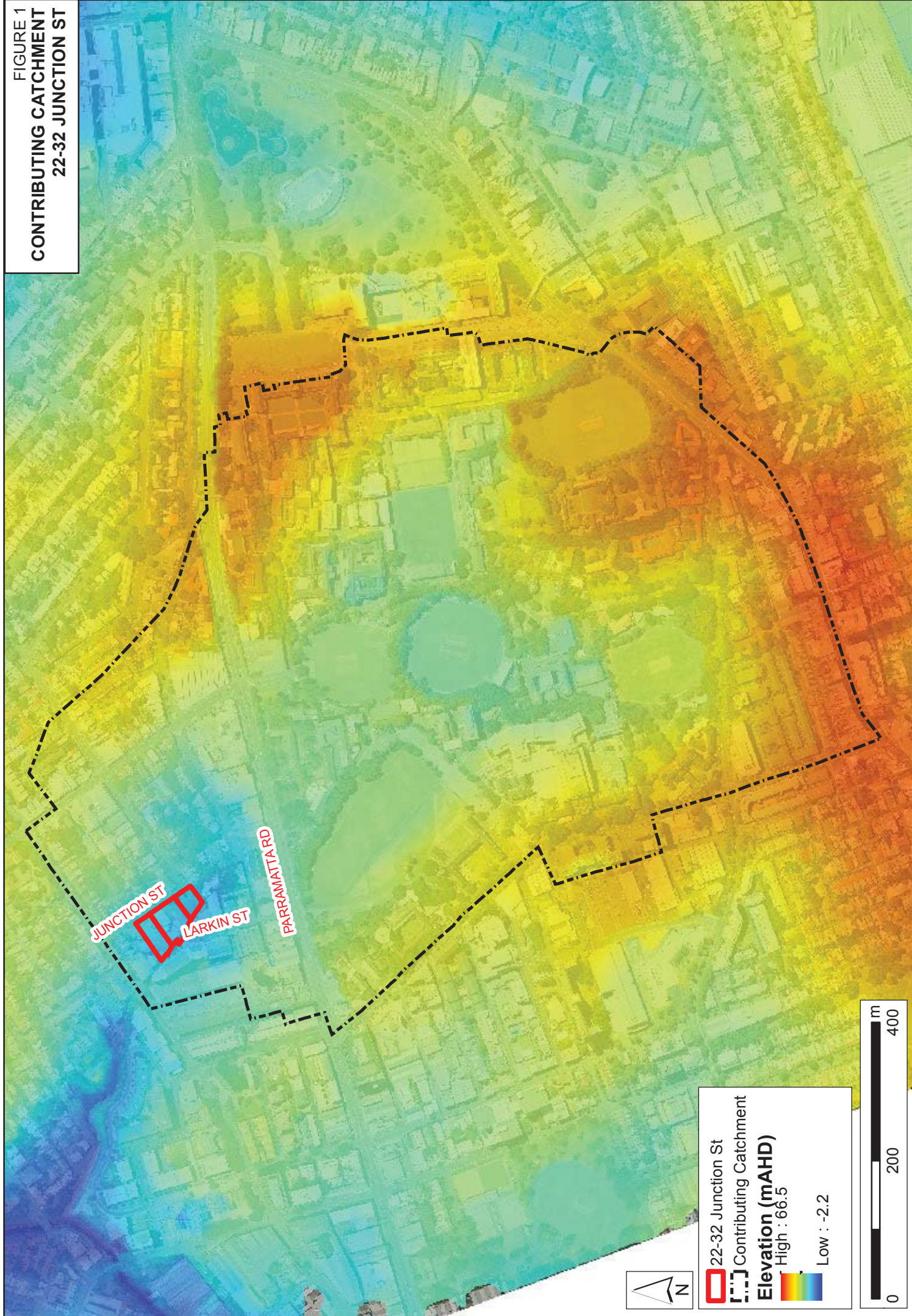
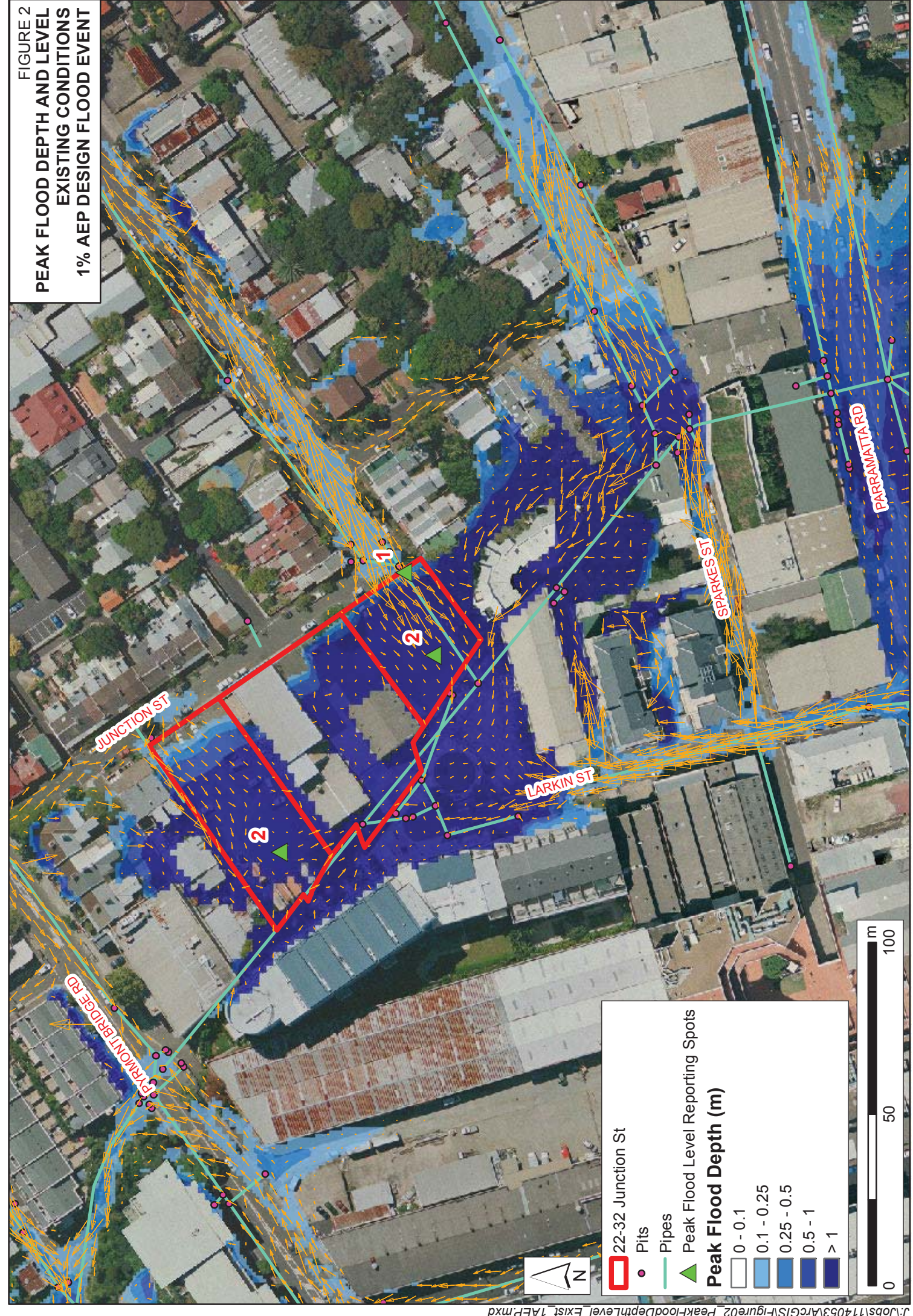




FIGURE 2  
PEAK FLOOD DEPTH AND LEVEL  
EXISTING CONDITIONS  
1% AEP DESIGN FLOOD EVENT





## Jonathon Carle

---

**From:** Jonathon Carle  
**Sent:** Wednesday, 16 September 2015 12:50 PM  
**To:** BCraig@jbaurban.com.au  
**Cc:** Benjamin Pechey  
**Subject:** RE: Junction Street Planning Proposal

Hi Ben

We've reviewed the revised scheme. We'd like to meet with you again to discuss flooding, overshadowing and next steps.

We'd also appreciate if you could provide further information about the shadow impact on the apartments at 1-3 Larkin St. In particular, we'd appreciate if could provide two tables as follows:

1. One table indicating how much sunlight each apartment currently receives, in minutes; and
2. A second table indicating how much sunlight each apartment would receive if the revised scheme is built.

The tables' rows and columns should correspond to the apartment buildings' layout, that is, there should be one table row for each level of the building etc.

It would be useful if you could provide the tables at least a couple of days before the meeting. Could you suggest some options for a meeting date please?

Please call if you need any more information about the tables.

Thanks  
Jonathon

Jonathon Carle  
Senior Specialist Planner  
Strategic Planning & Urban Design



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---

**From:** Ben Craig [<mailto:BCraig@jbaurban.com.au>]  
**Sent:** Monday, 31 August 2015 4:34 PM  
**To:** Jonathon Carle <[jcarle@cityofsydney.nsw.gov.au](mailto:jcarle@cityofsydney.nsw.gov.au)>; Benjamin Pechey <[bpechey@cityofsydney.nsw.gov.au](mailto:bpechey@cityofsydney.nsw.gov.au)>  
**Cc:** [jamie.stewart@fitzpatrickproperty.com.au](mailto:jamie.stewart@fitzpatrickproperty.com.au); [timb@fdcbuilding.com.au](mailto:timb@fdcbuilding.com.au); Guy Lake ([glake@batessmart.com](mailto:glake@batessmart.com)) <[glake@batessmart.com](mailto:glake@batessmart.com)>; Daniel Howard <[DHoward@jbaurban.com.au](mailto:DHoward@jbaurban.com.au)>  
**Subject:** RE: TRIM: Junction Street Planning Proposal - Flooding Response

Hi Jonathon,

Thanks for getting back to me. Any chance the review of the flooding material can happen quicker than 4 weeks' time?



## Jonathon Carle

---

**From:** Jonathon Carle  
**Sent:** Monday, 12 October 2015 4:18 PM  
**To:** Ben Craig  
**Cc:** Benjamin Pechey; Jesse McNicoll  
**Subject:** TRIM: 2-32 Junction St, Forest Lodge - 9 October meeting  
**Attachments:** CSA059443 Larkin Street Camperdown (1-3) Approved Plans(2).TIF

**HP TRIM Record Number:** 2015/622179

Hi Ben

Thanks for your time to meet with us again last Friday.

Confirming our advice, the City generally considers the revised flooding approach to be acceptable with some minor issues able to be addressed through a site specific DCP. Minor issues include the southern evacuation route and ensuring structural integrity if vehicles float during a flooding event.

The development will need to comply with section 3.1.4(3)(a) of Sydney DCP relating to overshadowing of the neighbouring park and Objectives 3B-2 and 4A-1 of the Apartment Design Guide relating to overshadowing of the existing apartments at 1-3 Larkin St.

We understand you'll provide advice about the methodology used for the overshadowing analysis of 1-3 Larkin St. This includes whether it complies with the 1 sqm requirement in Objective 4A-1 of the ADG. I've attached floorplans for 1-3 Larkin St.

We understand you'll revise the scheme to address the DCP controls relating to overshadowing of the neighbouring park. Following strategic open space analysis undertaken this year by the City, an opportunity to address overshadowing of the park and ensure compliance with the DCP could be through dedication of a regular shaped parcel of land to enable the existing neighbouring park to be enlarged. Note the City does not support dedication of an irregular-shaped parcel as this would reduce the usability of the open space. Any enlarged park area would also need to comply with the overshadowing controls in the DCP.

Subject to a regular-shaped parcel being dedicated to the City's satisfaction, the City is willing to consider alternative options for the existing commercial building as well as offsetting the dedication against section 94 contributions.

Regards  
Jonathon

Jonathon Carle  
Senior Specialist Planner  
Strategic Planning & Urban Design



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---

**From:** Ben Craig [mailto:BCraig@jbaurban.com.au]  
**Sent:** Thursday, 8 October 2015 9:45 AM  
**To:** Benjamin Pechey <bpechey@cityofsydney.nsw.gov.au>



## Jonathon Carle

---

**From:** Ben Craig <BCraig@jbaurban.com.au>  
**Sent:** Friday, 6 November 2015 12:08 PM  
**To:** Benjamin Pechey; Jonathon Carle  
**Cc:** jamie.stewart@fitzpatrickproperty.com.au; Guy Lake; jfraser@batesmart.com  
**Subject:** Junction Street, Forest Lodge  
**Attachments:** A08.001[4].pdf; 151103\_CoS Requested Shadow Study\_small.pdf; 151103\_Project Data\_Forest Lodge\_Areas.pdf; A01.000[4].pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Dear Ben / Jonathan,

Further to our most recent meeting on the Junction Street planning proposal the further work that you requested has now been completed. In particular further shadow analysis has been carried out on the impacts on the adjacent building and the parkland, while the building envelopes at the sites southern have also been redesigned. I discuss each of these below.

### Shadow Impacts on Larkin Street Properties

The updated shadow analysis has been carried out taking into consideration the ADG and Council the 1sqm requirement. Bates Smart have sourced the apartment layouts for the Larkin Street building and have carried out an analysis on the current design which confirms that 72.5% of the apartments presently receive a minimum of 2 hours of solar access between 9am and 3pm in mid-winter. Under the proposed massing it shows that the building will still achieve 70% solar access. Three apartments on Level 2 of the building will have their solar access reduced to below 2 hours of sunlight but importantly the existing building will still comply with the relevant controls. Bates Smart analysis also demonstrates that despite having their solar access reduced, the three apartments on Level 2 of the building will still meet the Design Guideline requirement in the ADG for a minimum of 1m<sup>2</sup> of direct sunlight measured at 1m above the ground for 15 minutes (i.e. they still achieve 45minutes in this regard).

Bates Smart have then analysed the shadow impacts of the revised proposal on the park, taking into account the amended design at the site' southern end and looking at two scenarios, these being the park as it currently stands and a slightly expanded park that involves a contribution of land.

The shadow analysis of the park shows that, under the revised scheme, the existing park will receive 255minutes of sunlight to 50% or more of the park area during mid-winter, being 15 minutes more than the required 240minutes. If the park is expanded to include the additional land then the outcome is slightly different with the park receiving 175minutes of solar access. The reason being is that the additional land being provided is adjacent to the proposal and is subject to overshadowing.

At the end of the day this will be Council's call as we are willing to provide the land to expand the park however the resultant larger park won't achieve 240minutes to 50% of the area during mid-winter. Whilst this is the case it will still be a larger park and in our opinion will still provide a significant public benefit to the local community by improving the size and useability of that space. Obviously also outside of mid-winter the park will still receive plenty of sunlight.

Alternatively if Council is insistent that the park must comply with the controls then we can also easily retain that land within the site and use it as communal space for the development. This would provide an outcome that technically satisfies Council's requirements, but in my opinion isn't necessarily a better outcome for the area and the community.

I do also want to note that if Council is of a mind to pursue the option of a land dedication to the park then the client would like to ensure that this dedication is taken into account in any public benefit and contributions negotiations.



With regard to the revised design, we believe that the massing provides for an improved outcome, not only in terms of the relationship with the park, but also the frontage to Junction Street. The building envelopes have been designed to provide a consistent frontage to the street with a ground level component and then recessed and stepped upper levels.

The inclusion of the new east west building at the site's southern end also acts as a mirroring feature to the existing commercial building and we believe also responds well to the sites location at the end of St Johns Road.

Overall I think this information clearly demonstrates that the an appropriate design outcome can be achieved on site.

I trust this information is what you require at this stage, however should you have any queries or wish to discuss please don't hesitate to contact me.

Kind Regards

Ben

**Ben Craig** Associate

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PROJECT NUMBER

S11792

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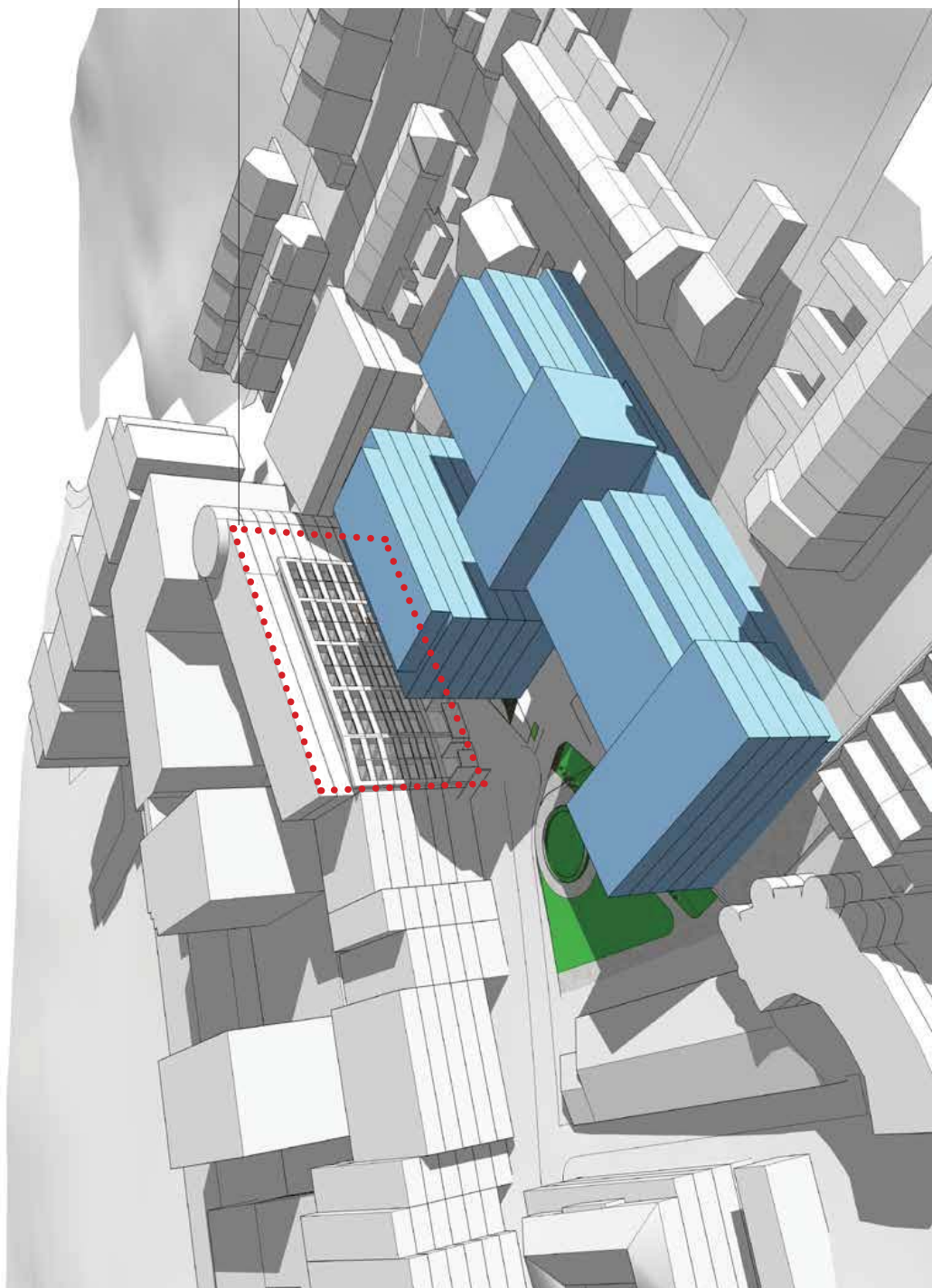
OVERSHADOWING STUDY

2-32 JUNCTION STREET  
FOREST LODGE  
S11792

NOVEMBER 2015



Solar overshadowing study of apartments  
at 1-3 Larkin Street, Forest Lodge  
at the winter solstice (21 June)

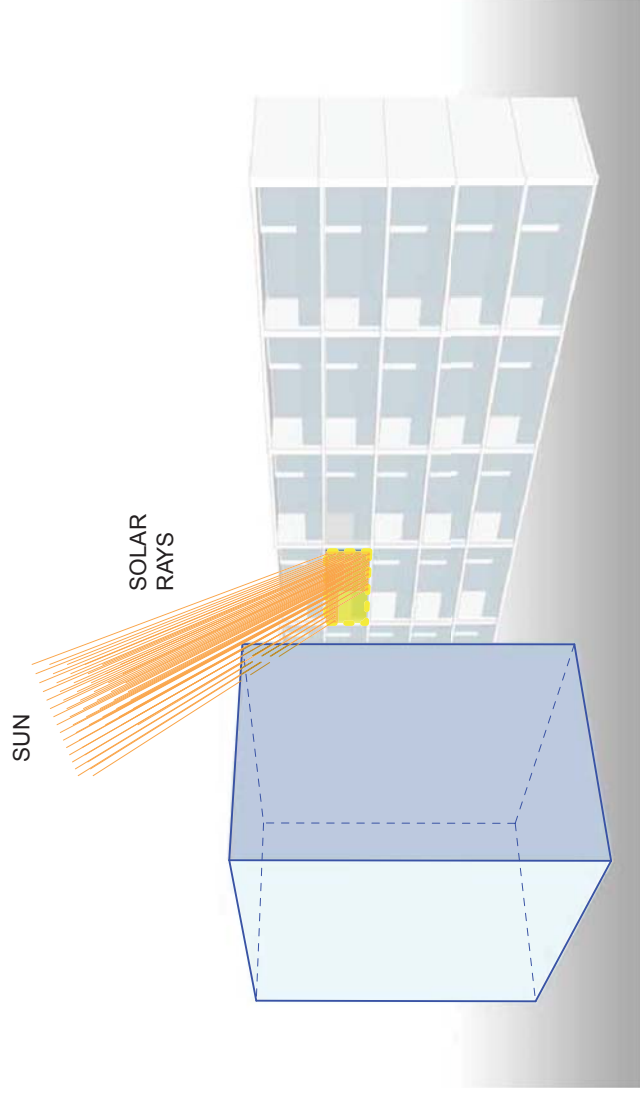
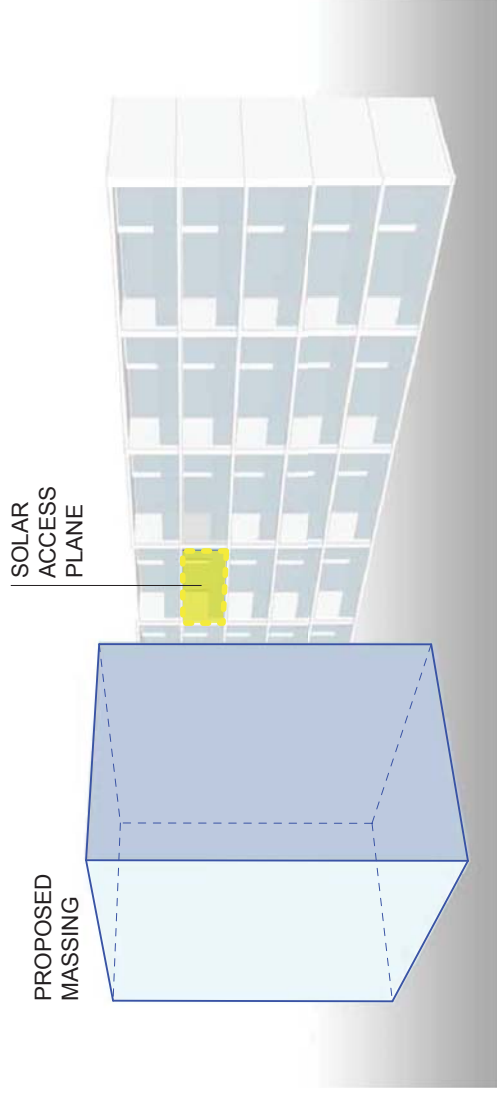




# METHODOLOGY

The SEPP-65 solar access compliance criteria are tested with parametric software (Rhino/Grasshopper). The technique is ray-tracing, where a grid of solar rays is projected back from the solar access plane to the sun direction. Each ray is then analysed to determine whether it intersects with any geometry, either the target building at 1-3 Larkin Street, or the proposed massing. In this way, the method includes the effects of self-shadowing and new shadowing from the proposed massing.

All calculations in this document are taken at the winter solstice (21st June).



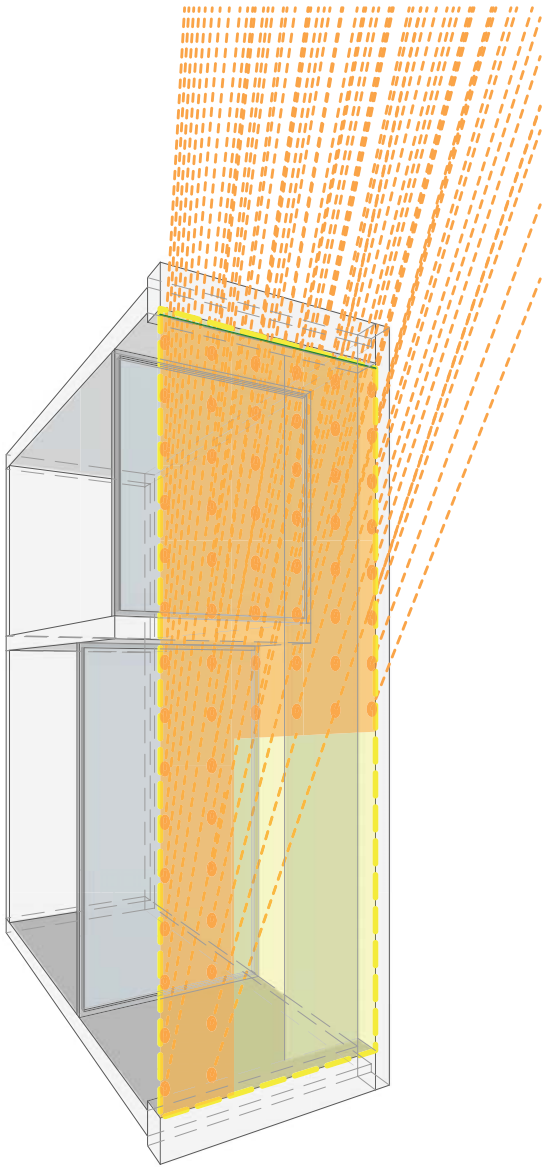
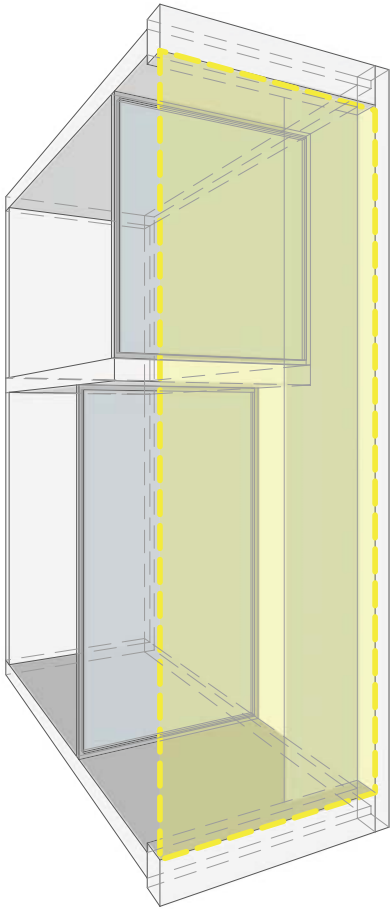


# DESIGN CRITERION 1A:

|   |  |
|---|--|
| <b>Objective 4A-1</b><br>To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space |  |
| <b>Design criteria</b>  |  |
| 1.  | Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas |

Private open spaces receive a minimum of 2 hours direct sunlight between 9am and 3pm.

Solar Access Plane is on the balcony line.



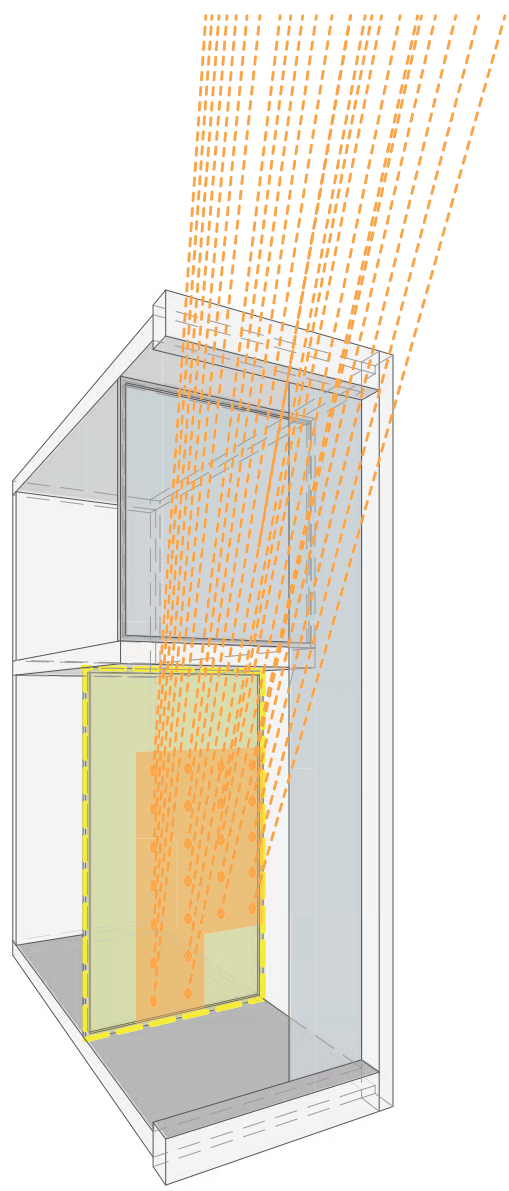
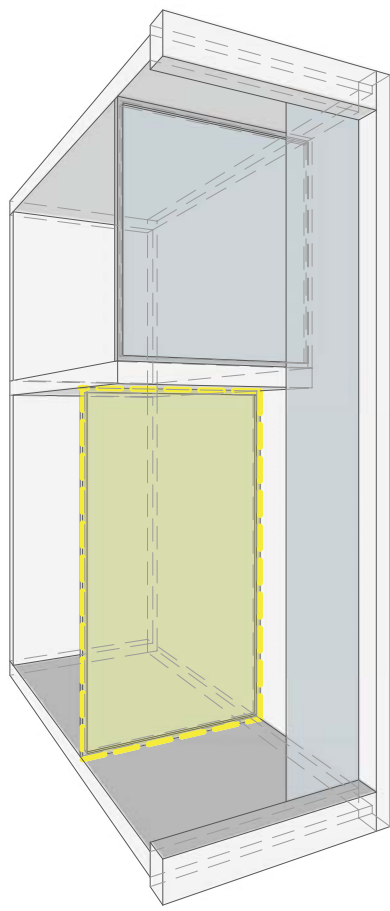


# DESIGN CRITERION 1B:

|   |  |
|---|--|
| <b>Objective 4A-1</b><br>To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space |  |
| <b>Design criteria</b>  |  |
| 1.  | Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas |

Living rooms receive a minimum of 2 hours direct sunlight between 9am and 3pm.

Solar Access Plane is on the glazing line.





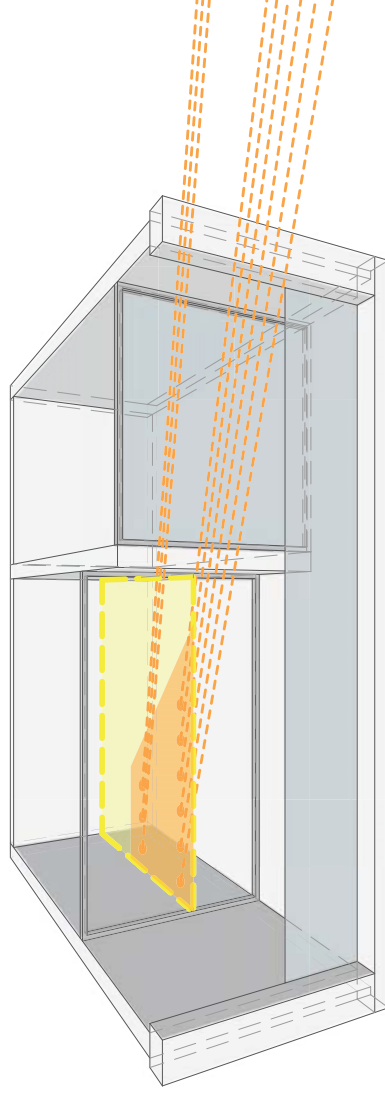
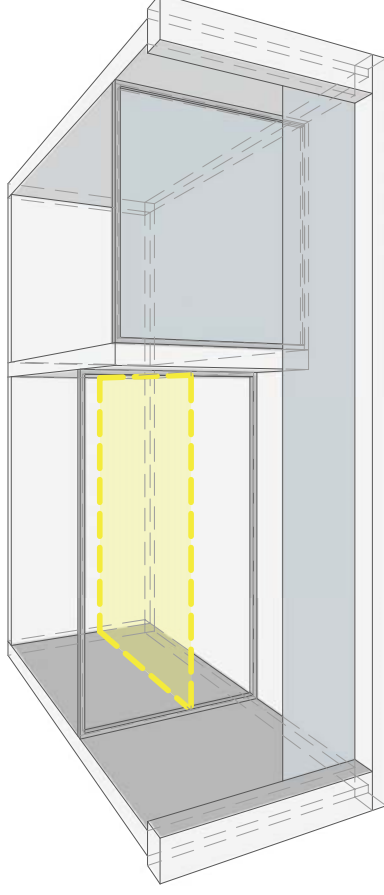
# DESIGN GUIDELINE:

To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m<sup>2</sup> of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes

The Solar Access Plane is measured 1m above the floor level in the living room.

A minimum of 1 square metre of direct sunlight on this plane is required for 15 minutes.

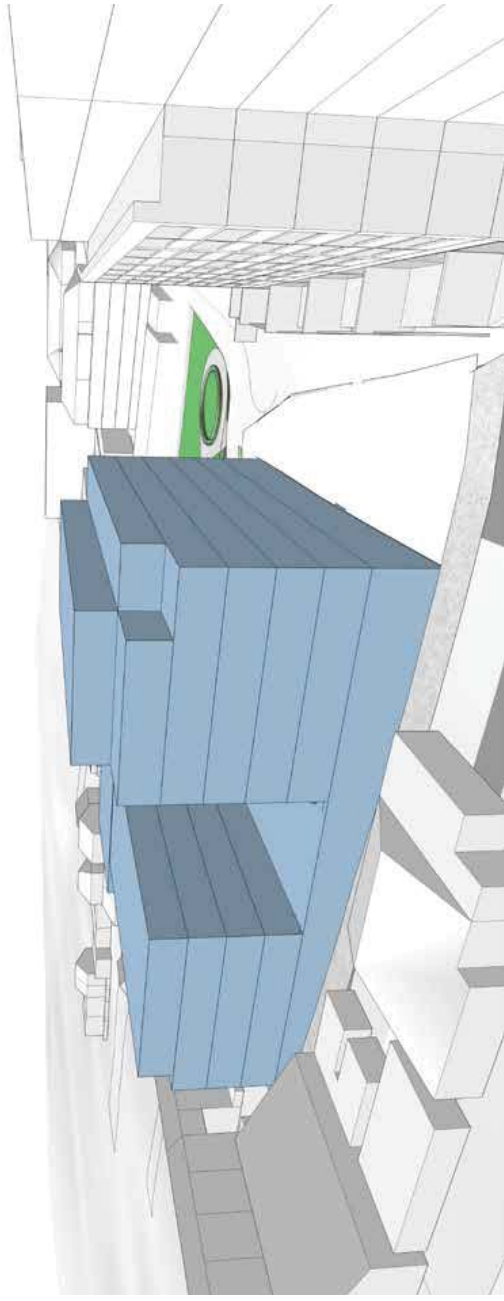
Note that this is more stringent than the design criteria and is required for a shorter interval (15 minutes rather than 2 hours).





# PROPOSED MASSING:

A setback on the western edge of the upper level and articulation of the building form on the north west corner provide solar access to Larkin street apartments





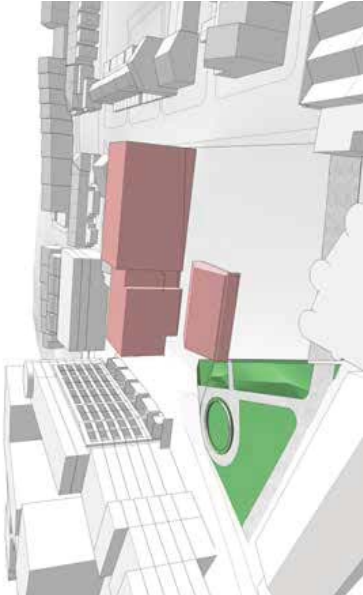
# SEPP-65 COMPLIANCE (1B) (EXISTING CONDITION):

Total number of units: **102**

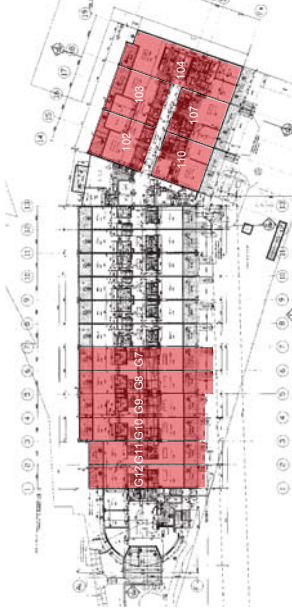
Number of non-compliant units: **28**  
(which do not satisfy both Design Criteria 1 and 2)

Living rooms and private open spaces of 72.5% of apartments receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter.

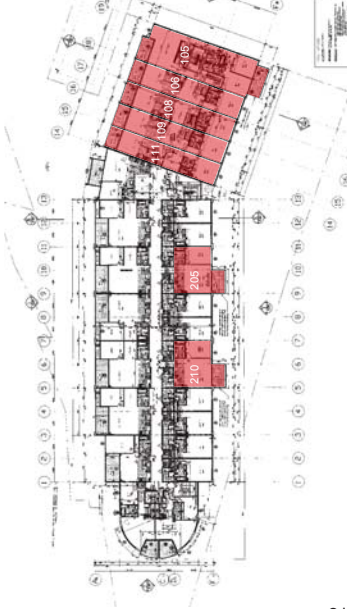
 Non-compliant apartments



Ground



L1



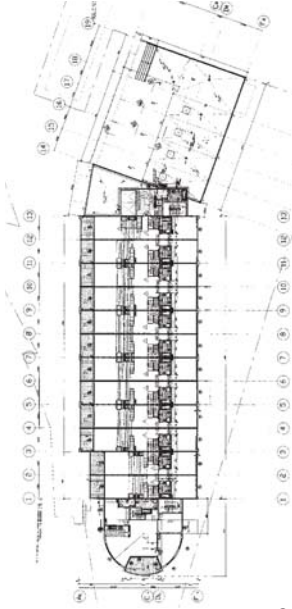
L2



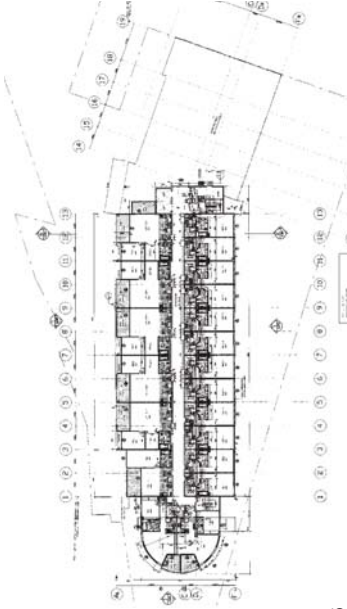
L3



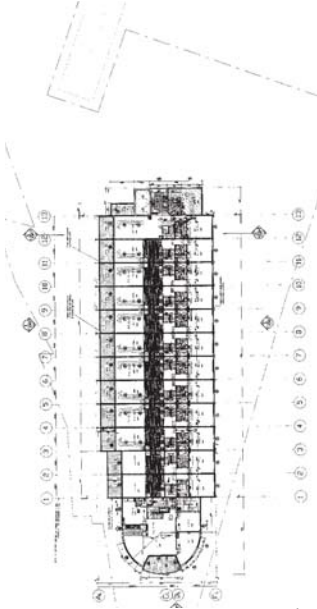
L4



L5



L6



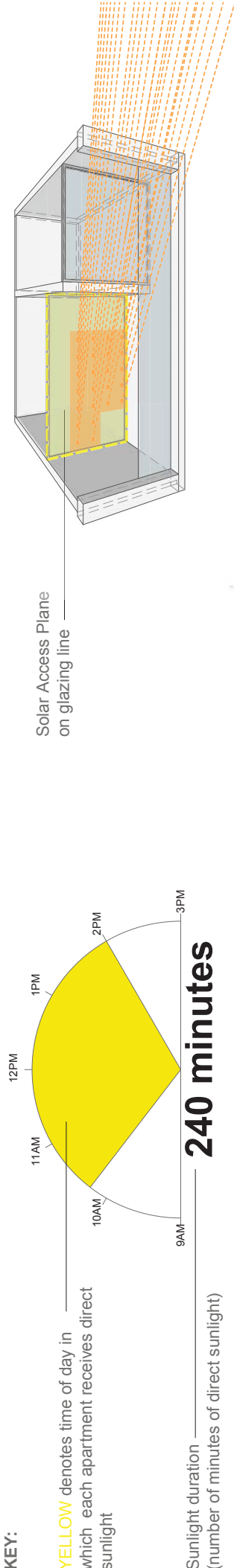
L7



Design criterion 1B - Existing Condition



East Elevation





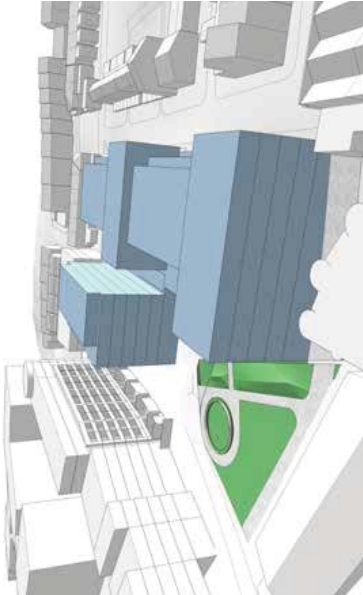
# SEPP-65 COMPLIANCE (1B) (PROPOSED MASSING):

Total number of units: **102**

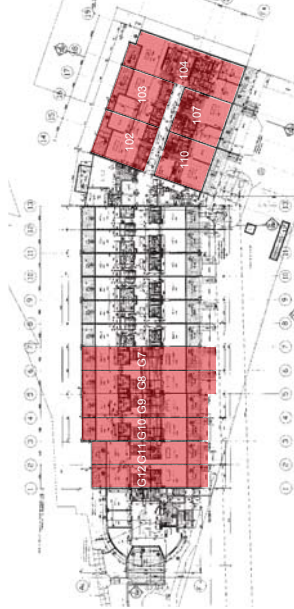
Number of non-compliant units: **31**  
(which do not satisfy both Design Criteria 1 and 2)

Living rooms and private open spaces of 70%  
of apartments receive a minimum of 2 hours direct sunlight  
between 9 am and 3 pm at mid-winter.

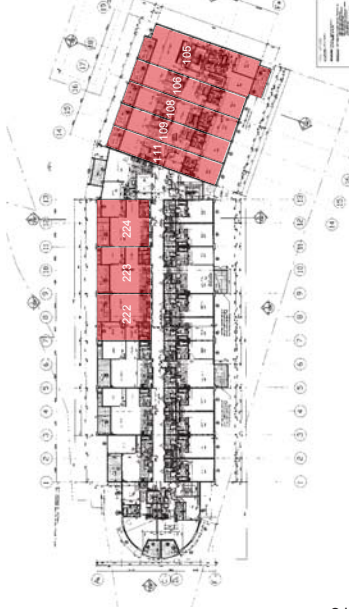
 Non-compliant apartments



Ground



L1



L2

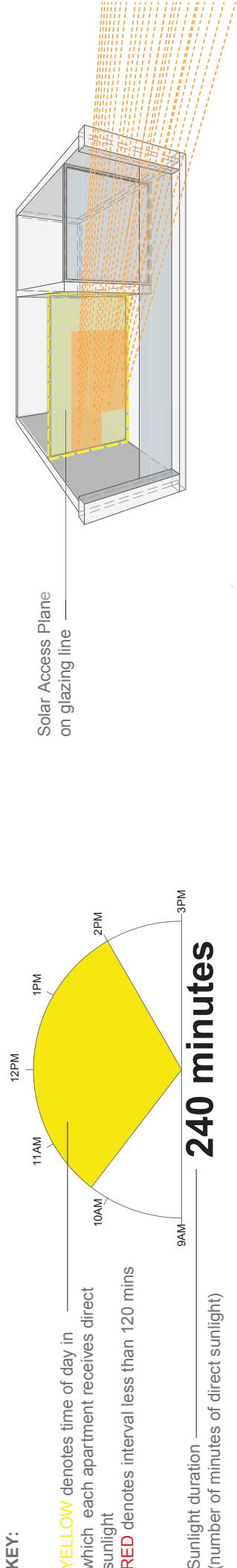




Design criterion 1B - Proposed Massing



East Elevation





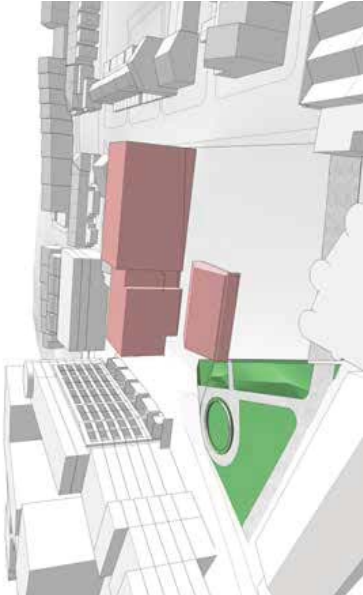
# DESIGN GUIDELINE (EXISTING CONDITION):

Total number of units: **102**

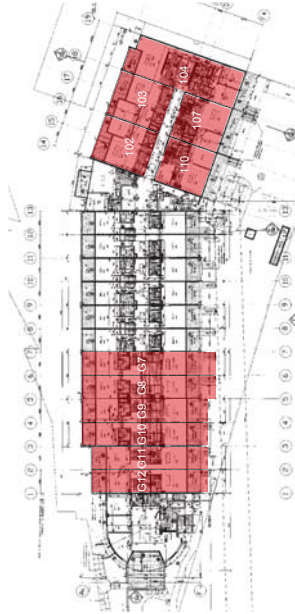
Number of non-compliant units: **28**  
(which do not satisfy the Design Guideline)

72.5% of apartments receive a minimum of 15 minutes direct sunlight (measured 1m above the living room floor level) between 9 am and 3 pm at mid-winter.

 Non-compliant apartments



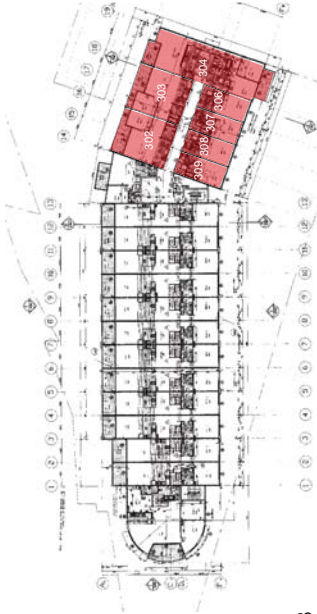
Ground



L1



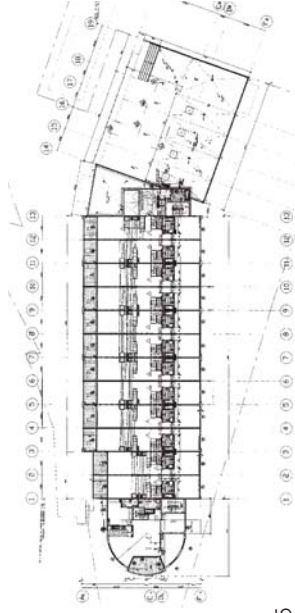
L2



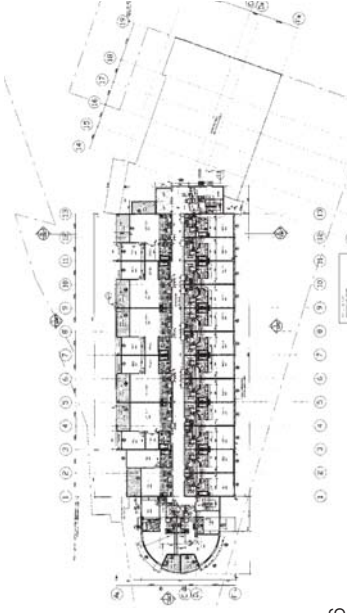
L3



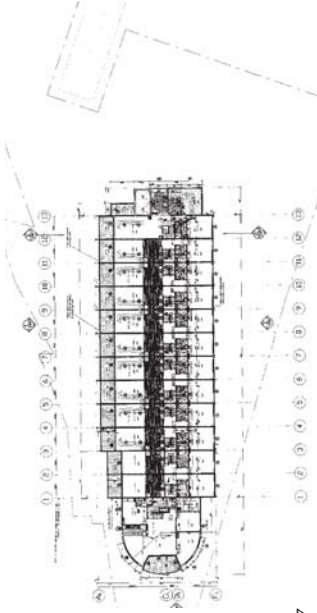
L4



L5



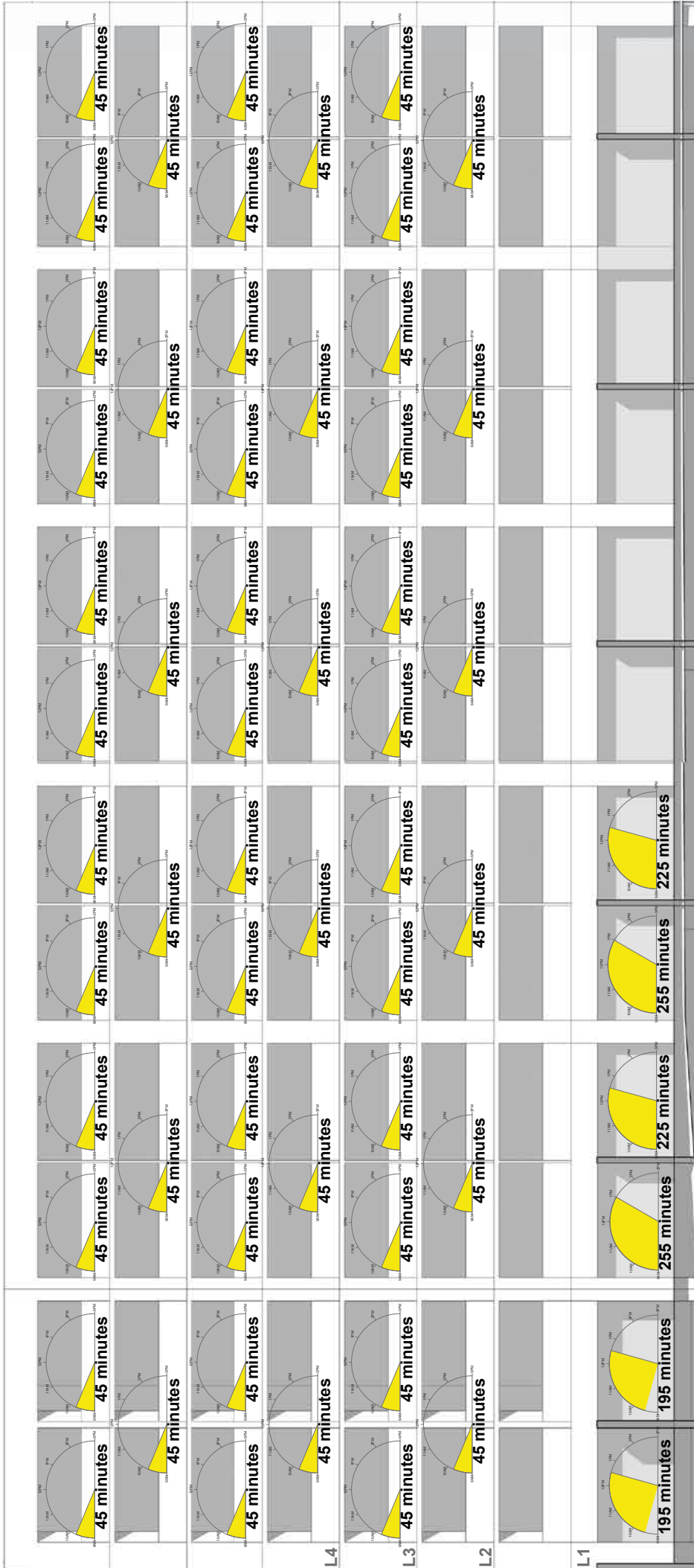
L6



L7



Design Guideline - Existing Condition

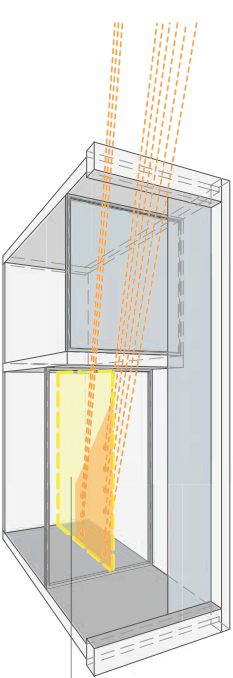


East Elevation

KEY:

**YELLOW** denotes time of day in which each apartment receives direct sunlight  
**RED** denotes interval less than 15 mins

Solar Access Plane  
1m above living room  
floor level



Sunlight duration  
(number of minutes of direct sunlight)



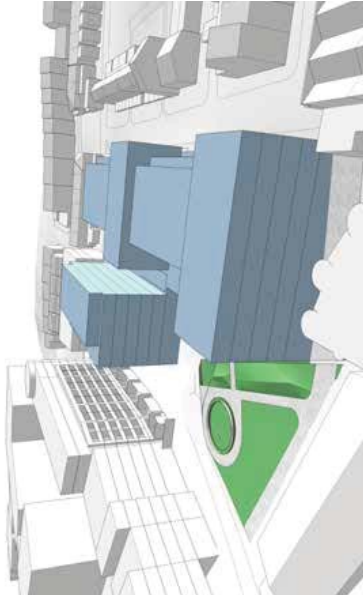
# DESIGN GUIDELINE (PROPOSED MASSING):

Total number of units: **102**

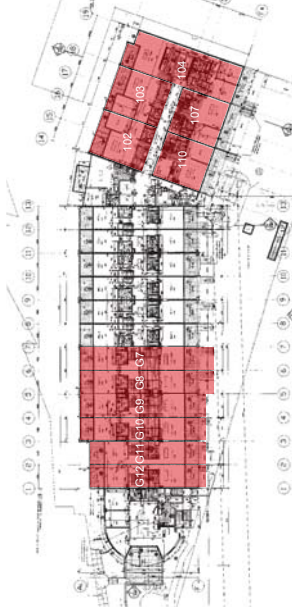
Number of non-compliant units: **31**  
(which do not satisfy the Design Guideline)

70% of apartments receive a minimum of 15 minutes direct sunlight (measured 1m above the living room floor level) between 9 am and 3 pm at mid-winter.

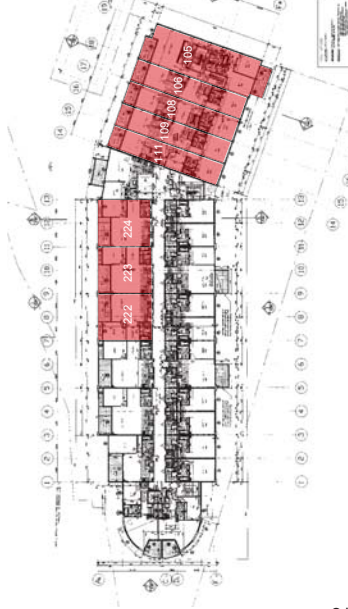
 Non-compliant apartments



Ground



L1



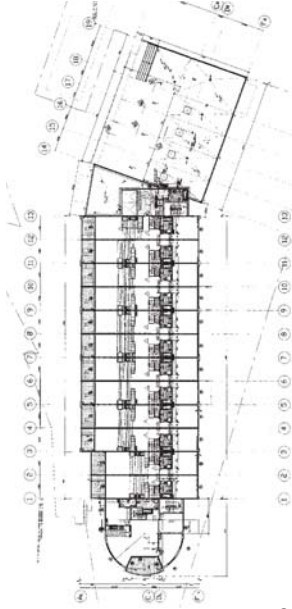
L2



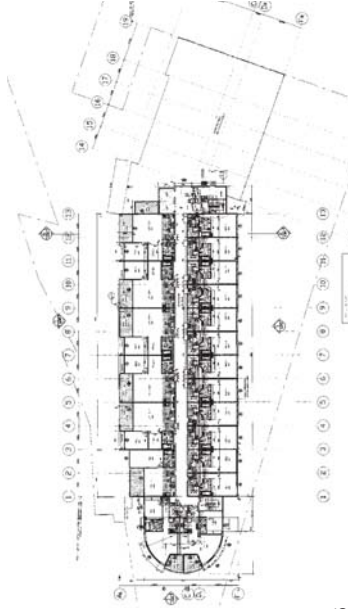
L3



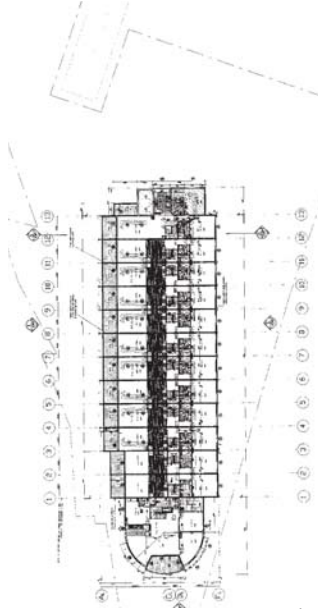
L4



L5



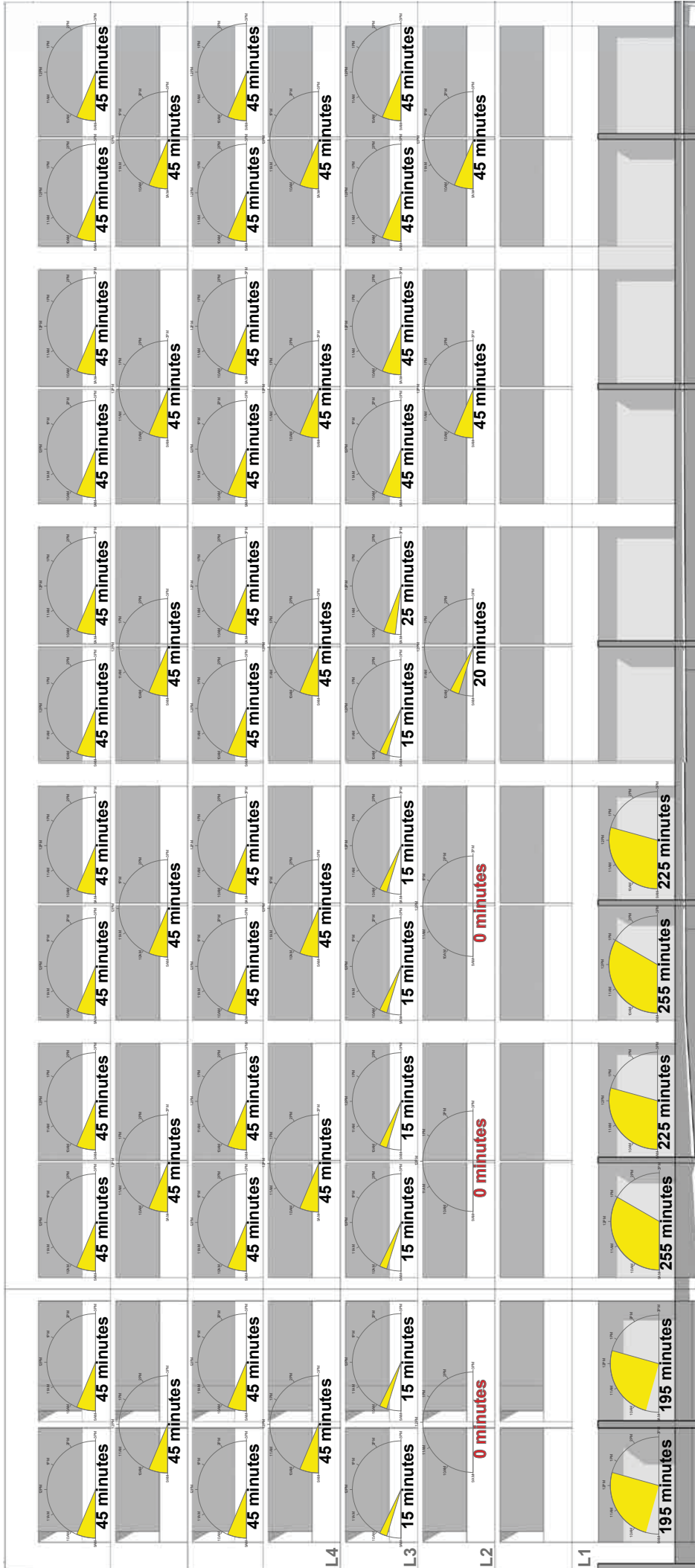
L6



L7



Design Guideline - Proposed Massing



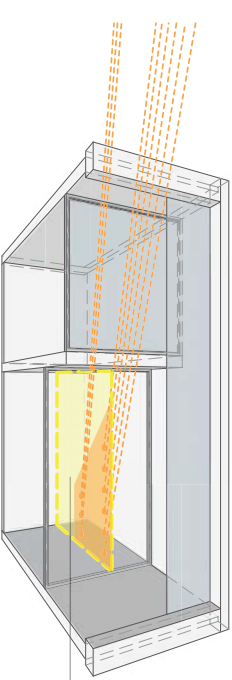
East Elevation

KEY:

**YELLOW** denotes time of day in which each apartment receives direct sunlight  
**RED** denotes interval less than 15 mins



Solar Access Plane  
1m above living room  
floor level



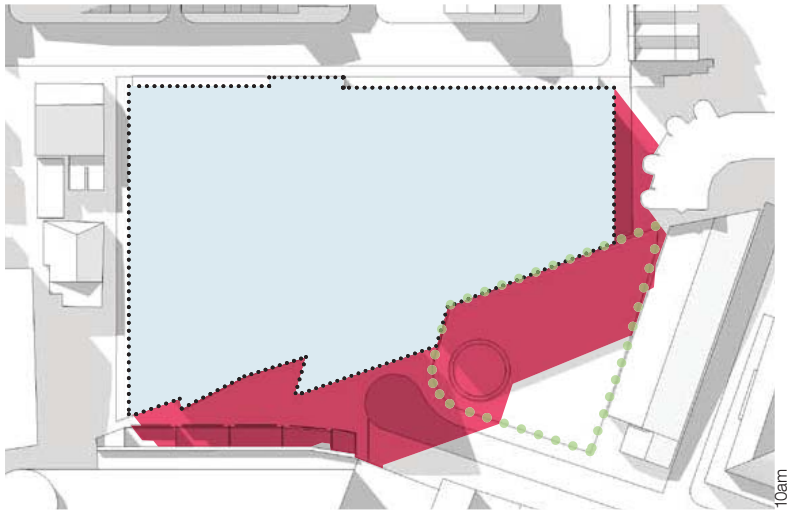
Sunlight duration  
(number of minutes of direct sunlight)



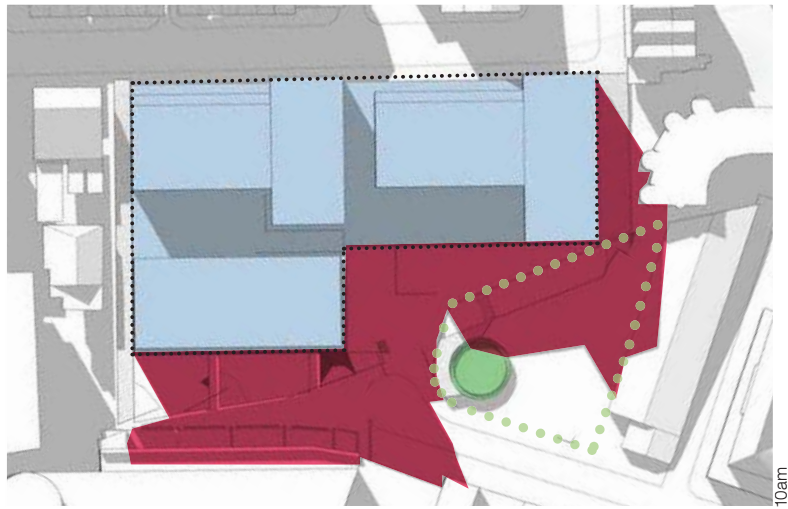
OVERSHADOWING OF NEIGHBOURING PARK



- Existing park extent
- Extended park extent



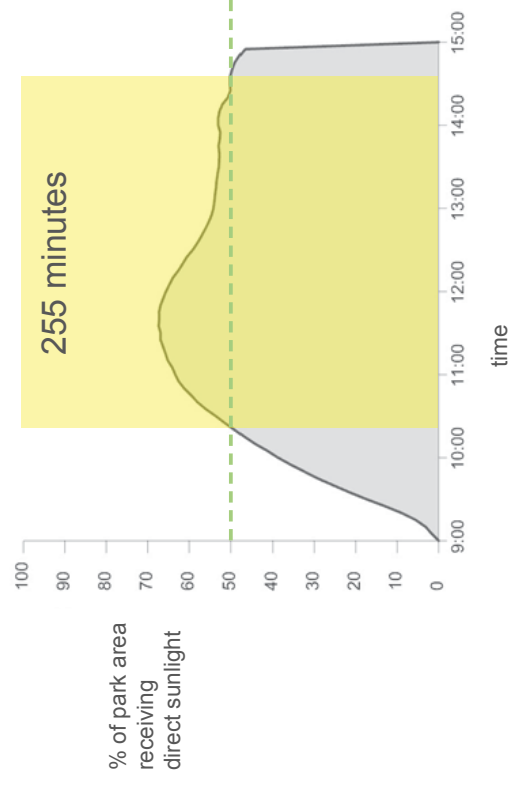
- Permissible (LEP) building footprint
- Shadows cast by permissible building footprint 12m above ground



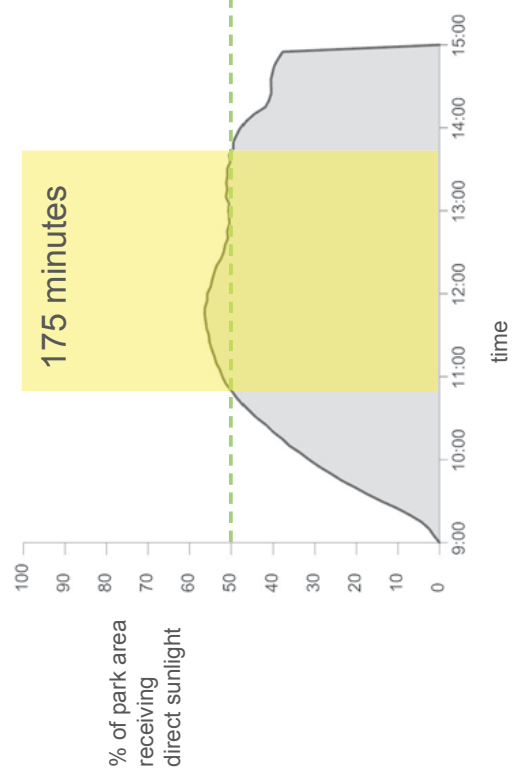
- Proposed massing
- Shadows cast by proposed massing



Existing park extent

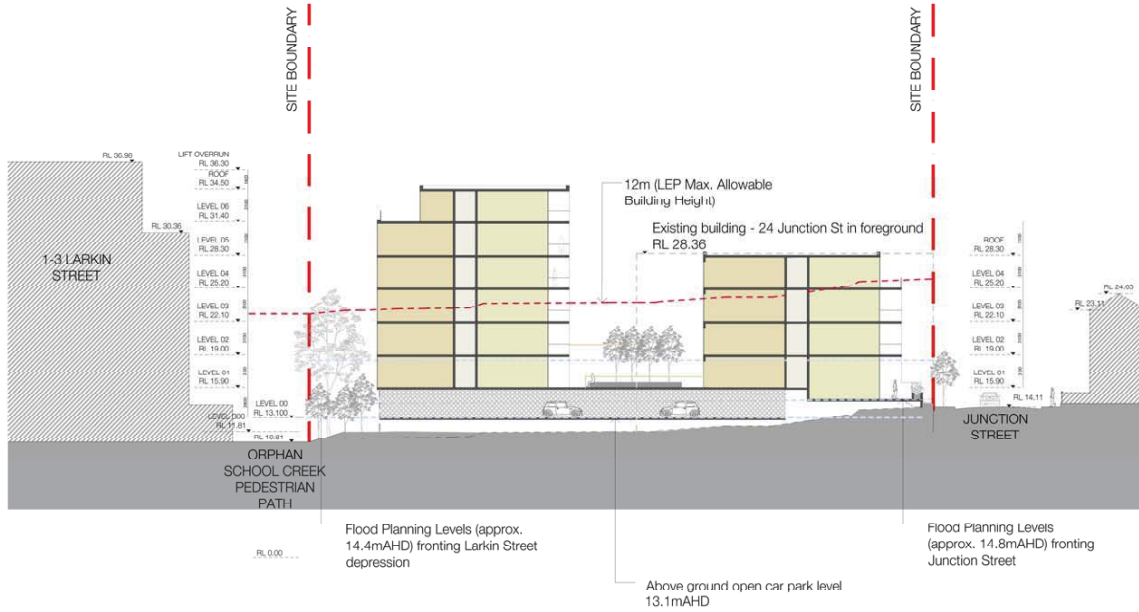


Extended park extent

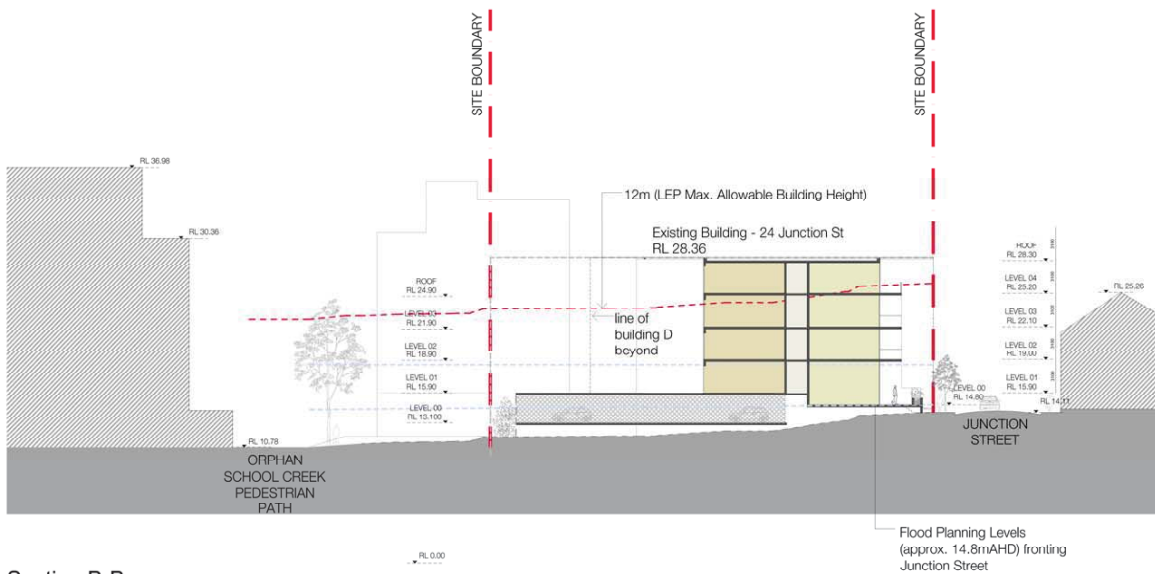


Target = 240 minutes





Section A-A



Section B-B



S11792\_2-22 JUNCTION STREET, FOREST LODGE

| PROPOSAL Nov 2015 |        |      |  | Efficiency (to GEA) |
|-------------------|--------|------|--|---------------------|
| Areas             |        |      |  |                     |
| Site Area         | 4,324  |      |  |                     |
| FSR               | 1.75   |      |  |                     |
| Total GEA         | 10,977 |      |  |                     |
| Total GFA         | 8,439  |      |  |                     |
| Residential Areas |        |      |  | Efficiency (to GEA) |
|                   | GEA    | GFA  |  |                     |
| Ground            | 0      | 0    |  |                     |
| Level 01          | 2169   | 1627 |  |                     |
| Level 02          | 2169   | 1627 |  |                     |
| Level 03          | 2169   | 1627 |  |                     |
| Level 04          | 2060   | 1545 |  |                     |
| Level 05          | 704    | 528  |  |                     |
| Level 06          | 560    | 420  |  |                     |
|                   | 9831   | 7373 |  | 75%                 |
| Commercial Areas  |        |      |  | Efficiency (to GEA) |
|                   | GEA    | GFA  |  |                     |
| Ground            | 382    | 355  |  |                     |
| Level 01          | 382    | 355  |  |                     |
| Level 02          | 382    | 355  |  |                     |
|                   | 1146   | 1066 |  | 93%                 |







## Jonathon Carle

---

**From:** Jonathon Carle <jcarle@cityofsydney.nsw.gov.au>  
**Sent:** Wednesday, 25 November 2015 4:14 PM  
**To:** Ben Craig  
**Cc:** Benjamin Pechey; Jesse McNicoll  
**Subject:** RE: Junction Street, Forest Lodge

Hi Ben

Thank you for providing the additional shadow analysis and revised building footprints and envelopes.

Our advice is as follows:

1. Open space should enable a park of at least 1,500 sqm to be created consistent with the City's approach for neighbourhood parks.
2. The approximately 5m high car park frontage will create a poor edge condition to the park. The proposal will need to allow for a landscape buffer of at least 2m on the development site between the car park and the park.
3. We note your client is willing to provide land to expand the existing public park. Further details are needed on whether there will be a public benefit offer from your client for the dedication of land for new open space, though site links and any other public benefits and in particular how those public benefits are to be secured.
4. If the proposed FSR relies on high efficiency commercial floor space to achieve the proposed building envelopes, the City would secure that amount of commercial floor space in the planning controls.
5. Please also provide dwg envelope drawings and floor by floor Excel GFA calculations.

I look forward to your response. Please call if you've any questions.

Regards  
Jonathon  
9246 7736

---

**From:** Ben Craig [<mailto:BCraig@jbaurban.com.au>]  
**Sent:** Friday, 6 November 2015 12:08 PM  
**To:** Benjamin Pechey <[bpechey@cityofsydney.nsw.gov.au](mailto:bpechey@cityofsydney.nsw.gov.au)>; Jonathon Carle <[jcarle@cityofsydney.nsw.gov.au](mailto:jcarle@cityofsydney.nsw.gov.au)>  
**Cc:** [jamie.stewart@fitzpatrickproperty.com.au](mailto:jamie.stewart@fitzpatrickproperty.com.au); Guy Lake ([glake@batessmart.com](mailto:glake@batessmart.com)) <[glake@batessmart.com](mailto:glake@batessmart.com)>; [jfraser@batessmart.com](mailto:jfraser@batessmart.com)  
**Subject:** Junction Street, Forest Lodge

Dear Ben / Jonathan,

Further to our most recent meeting on the Junction Street planning proposal the further work that you requested has now been completed. In particular further shadow analysis has been carried out on the impacts on the adjacent building and the parkland, while the building envelopes at the sites southern have also been redesigned. I discuss each of these below.

Shadow Impacts on Larkin Street Properties



The updated shadow analysis has been carried out taking into consideration the ADG and Council the 1sqm requirement. Bates Smart have sourced the apartment layouts for the Larkin Street building and have carried out an analysis on the current design which confirms that 72.5% of the apartments presently receive a minimum of 2 hours of solar access between 9am and 3pm in mid-winter. Under the proposed massing it shows that the building will still achieve 70% solar access. Three apartments on Level 2 of the building will have their solar access reduced to below 2 hours of sunlight but importantly the existing building will still comply with the relevant controls. Bates Smart analysis also demonstrates that despite having their solar access reduced, the three apartments on Level 2 of the building will still meet the Design Guideline requirement in the ADG for a minimum of 1m<sup>2</sup> of direct sunlight measured at 1m above the ground for 15 minutes (i.e. they still achieve 45minutes in this regard).

Bates Smart have then analysed the shadow impacts of the revised proposal on the park, taking into account the amended design at the site's southern end and looking at two scenarios, these being the park as it currently stands and a slightly expanded park that involves a contribution of land.

The shadow analysis of the park shows that, under the revised scheme, the existing park will receive 255minutes of sunlight to 50% or more of the park area during mid-winter, being 15 minutes more than the required 240minutes. If the park is expanded to include the additional land then the outcome is slightly different with the park receiving 175minutes of solar access. The reason being is that the additional land being provided is adjacent to the proposal and is subject to overshadowing.

At the end of the day this will be Council's call as we are willing to provide the land to expand the park however the resultant larger park won't achieve 240minutes to 50% of the area during mid-winter. Whilst this is the case it will still be a larger park and in our opinion will still provide a significant public benefit to the local community by improving the size and useability of that space. Obviously also outside of mid-winter the park will still receive plenty of sunlight.

Alternatively if Council is insistent that the park must comply with the controls then we can also easily retain that land within the site and use it as communal space for the development. This would provide an outcome that technically satisfies Council's requirements, but in my opinion isn't necessarily a better outcome for the area and the community.

I do also want to note that if Council is of a mind to pursue the option of a land dedication to the park then the client would like to ensure that this dedication is taken into account in any public benefit and contributions negotiations.

With regard to the revised design, we believe that the massing provides for an improved outcome, not only in terms of the relationship with the park, but also the frontage to Junction Street. The building envelopes have been designed to provide a consistent frontage to the street with a ground level component and then recessed and stepped upper levels.

The inclusion of the new east west building at the site's southern end also acts as a mirroring feature to the existing commercial building and we believe also responds well to the sites location at the end of St Johns Road.

Overall I think this information clearly demonstrates that the an appropriate design outcome can be achieved on site.

I trust this information is what you require at this stage, however should you have any queries or wish to discuss please don't hesitate to contact me.

Kind Regards

Ben

**Ben Craig** Associate

Office +61 2 9956 6962 Direct +61 2 9409 4953 Mobile +61 416 917 365

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## Jonathon Carle

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**From:** Jonathon Carle  
**Sent:** Monday, 12 October 2015 4:18 PM  
**To:** Ben Craig  
**Cc:** Benjamin Pechey; Jesse McNicoll  
**Subject:** TRIM: 2-32 Junction St, Forest Lodge - 9 October meeting  
**Attachments:** CSA059443 Larkin Street Camperdown (1-3) Approved Plans(2).TIF

**HP TRIM Record Number:** 2015/622179

Hi Ben

Thanks for your time to meet with us again last Friday.

Confirming our advice, the City generally considers the revised flooding approach to be acceptable with some minor issues able to be addressed through a site specific DCP. Minor issues include the southern evacuation route and ensuring structural integrity if vehicles float during a flooding event.

The development will need to comply with section 3.1.4(3)(a) of Sydney DCP relating to overshadowing of the neighbouring park and Objectives 3B-2 and 4A-1 of the Apartment Design Guide relating to overshadowing of the existing apartments at 1-3 Larkin St.

We understand you'll provide advice about the methodology used for the overshadowing analysis of 1-3 Larkin St. This includes whether it complies with the 1 sqm requirement in Objective 4A-1 of the ADG. I've attached floorplans for 1-3 Larkin St.

We understand you'll revise the scheme to address the DCP controls relating to overshadowing of the neighbouring park. Following strategic open space analysis undertaken this year by the City, an opportunity to address overshadowing of the park and ensure compliance with the DCP could be through dedication of a regular shaped parcel of land to enable the existing neighbouring park to be enlarged. Note the City does not support dedication of an irregular-shaped parcel as this would reduce the usability of the open space. Any enlarged park area would also need to comply with the overshadowing controls in the DCP.

Subject to a regular-shaped parcel being dedicated to the City's satisfaction, the City is willing to consider alternative options for the existing commercial building as well as offsetting the dedication against section 94 contributions.

Regards  
Jonathon

Jonathon Carle  
Senior Specialist Planner  
Strategic Planning & Urban Design



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Telephone: 9246 7736  
[cityofsydney.nsw.gov.au](http://cityofsydney.nsw.gov.au)

---

**From:** Ben Craig [mailto:BCraig@jbaurban.com.au]  
**Sent:** Thursday, 8 October 2015 9:45 AM  
**To:** Benjamin Pechey <bpechey@cityofsydney.nsw.gov.au>



**Cc:** Jonathon Carle <jcarle@cityofsydney.nsw.gov.au>; jamie.stewart@fitzpatrickproperty.com.au; Guy Lake (glake@batessmart.com) <glake@batessmart.com>; jfraser@batessmart.com  
**Subject:** FW: s11792\_Forest Lodge - Additional Information

Morning Ben / Jon,

Re Junction Street please find attached further information on shadows in advance of tomorrow's meeting.

Look forward to seeing you tomorrow to discuss.

Cheers

**Ben Craig** Associate

Office +61 2 9956 6962 Direct +61 2 9409 4953 Mobile +61 416 917 365  
[jbaurban.com.au](http://jbaurban.com.au) - Level 7, 77 Berry Street, North Sydney (PO Box 375, North Sydney NSW 2059)



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**From:** Jason Fraser [<mailto:jfraser@batessmart.com>]  
**Sent:** Thursday, 8 October 2015 8:30 AM  
**To:** Jamie Stewart; Ben Craig; Guy Lake  
**Cc:** Andrew Willes  
**Subject:** s11792\_Forest Lodge - Additional Information

All

Please see attached. Let me know if there are any further comments.

Regards

Jason

**Jason Fraser**

Associate

[jfraser@batessmart.com](mailto:jfraser@batessmart.com)

Phone: +612 8354 5103

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## Jonathon Carle

**From:** Ben Craig <BCraig@jbaurban.com.au>  
**Sent:** Friday, 27 November 2015 1:48 PM  
**To:** Jonathon Carle; Benjamin Pechey  
**Cc:** Guy Lake; jfraser@batesmart.com; jamie.stewart@fitzpatrickproperty.com.au  
**Subject:** Junction Street, Forest Lodge  
**Attachments:** 151126\_Plan with Lscape Areas.pdf; Option 3 Massing Study\_Oct.dwg

Hi Jonathan,

Please find below responses to your queries.

1. The park at present is 1055sqm. The total area of the proposed extension is 471sqm. The total combined area of the park would therefore be 1,526sqm which is in excess of the 1,500sqm requirement. A 2m landscape buffer along the frontage to the car park can be provided, however if it is then the dedication of parkland potentially 393sqm, which takes the combined area of the park down to 1,448sqm. We don't have an issue with this but it is ultimately Council's decision what you want to do with the park and the landscape buffer. As illustrated in our documentation. There is an option with or without the land dedication for the park.
2. With regard to the landscape buffer it is worth pointing out that this is not necessarily the only option to screen the park, the car park interface could be dealt with very effectively through treatment of the façade. Some great examples of where this has been done elsewhere include Brisbane Domestic Airport and the Wintergarden on Brisbane Mall.
3. These matters could be dealt with through a letter to Council that outlines the principles/terms of a Public Benefit Offer. It is however important to lock down exactly what is agreed in the first instance before any in principle offer is drafted.
4. Currently GEA of the building is 1146sqm. The commercial GEA/GFA ratio is 84.7% which results in 981sqm of GFA. If we use the residential GEA/GFA ratio this would result in  $1146 \times 0.75 = 860$ sqm GFA and a loss of 121sqm GFA. This would reduce FSR from 1.77:1 to 1.75:1.
5. Table with floor by floor below and cad file attached.

## S11792\_2-22 JUNCTION STREET, FOREST LODGE

### Feasibility Analysis

#### PROPOSED OPTION 2 Building C with extra storey and setbacks

| Areas            | Areas(sqm)   |
|------------------|--------------|
| Site Area        | 4,824        |
| FSR              | 1.77         |
| Total GEA        | 10,528       |
| Total GBA        | 9,482        |
| <b>Total GFA</b> | <b>8,550</b> |
| Total NSA        | 7,963        |

| Residential Mix Combined |      |      |      |      |                 |               |               |               |
|--------------------------|------|------|------|------|-----------------|---------------|---------------|---------------|
|                          | GEA  | GBA  | GFA  | NSA  | Studio<br>45sqm | 1bed<br>50sqm | 2bed<br>72sqm | 3bed<br>95sqm |
| Ground                   | 2257 | 1940 | 1797 | 1561 |                 | 4             | 11            | 3             |



|          |             |             |             |             |           |            |            |
|----------|-------------|-------------|-------------|-------------|-----------|------------|------------|
| Level 01 | 2257        | 1983        | 1812        | 1696        | 9         | 14         | 0          |
| Level 02 | 2257        | 1983        | 1812        | 1696        | 9         | 14         | 0          |
| Level 03 | 1819        | 1744        | 1534        | 1448        | 9         | 7          | 3          |
| Level 04 | 780         | 674         | 614         | 581         | 3         | 5          | 0          |
|          | <b>9370</b> | <b>8324</b> | <b>7569</b> | <b>6982</b> | <b>0</b>  | <b>34</b>  | <b>51</b>  |
|          |             | 89%         | 91%         | 92%         | <b>0%</b> | <b>37%</b> | <b>56%</b> |
|          |             |             |             |             |           | <b>7%</b>  |            |

| Parking                       |      |     |          |        |      |      |      |
|-------------------------------|------|-----|----------|--------|------|------|------|
| Commercial / m2               |      |     | Visitors | Studio | 1bed | 2bed | 3bed |
| Parking Rate / DCP Category C | 1per | 175 | 0.1      | 0.4    | 0.5  | 1.0  | 1.2  |
| Apartments / Area             |      | 981 | 91       | 0      | 34   | 51   | 6    |
| Total Permissible             |      | 6   | 9        | 0      | 17   | 51   | 7    |
| Total Provided                |      |     |          |        |      |      |      |

| Commercial Total |             |             |            |            |
|------------------|-------------|-------------|------------|------------|
|                  | GEA         | GBA         | GFA        | NSA        |
| Ground           | 386         | 386         | 327        | 327        |
| Level 01         | 386         | 386         | 327        | 327        |
| Level 02         | 386         | 386         | 327        | 327        |
|                  | <b>1158</b> | <b>1158</b> | <b>981</b> | <b>981</b> |

I hope this helps and happy to discuss.

Cheers

**Ben Craig** Associate

Office +61 2 9956 6962 Direct +61 2 9409 4953 Mobile +61 416 917 365

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14253  
9<sup>th</sup> December 2014

Mr Graham Jahn  
City of Sydney Council  
GPO Box 1591  
SYDNEY NSW 2000

Attention: Jonathan Carle

Dear Graham

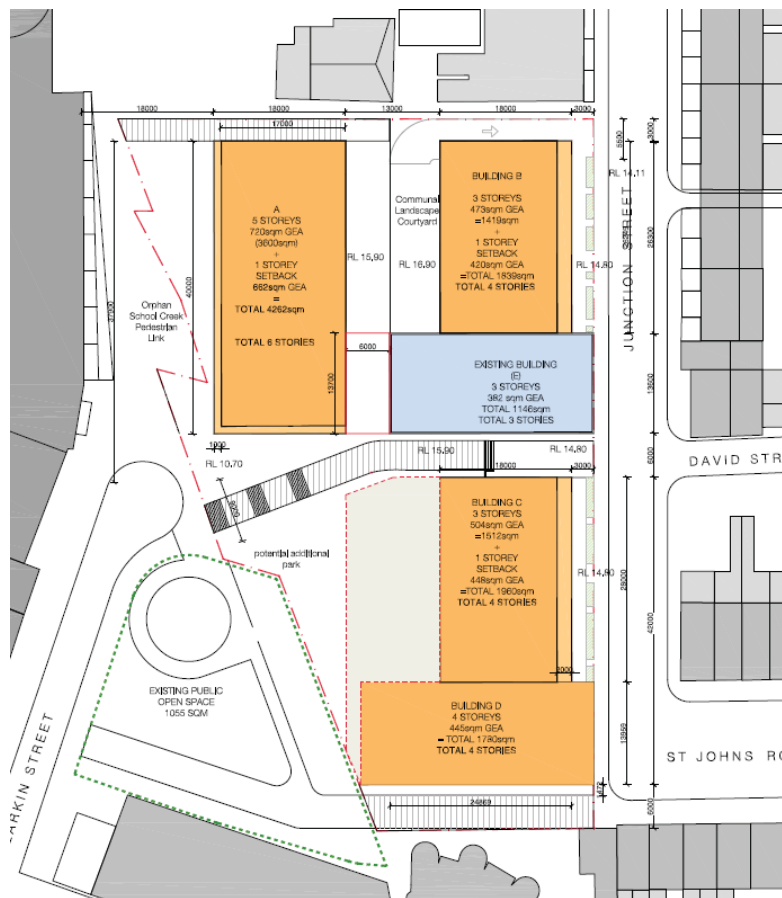
**DRAFT Planning Agreement Offer**  
**2-32 Junction Street, forest lodge**

On 24 December 2013, a Planning Proposal was lodged by JBA on behalf of Fitzpatrick Investments Pty Ltd seeking to amend the height and floor space ratio (FSR) controls as they relate to the site under the Sydney Local Environmental Plan 2012. Specifically the Planning Proposal is seeking the following:

- The floor space ratio that applies to the site is proposed to be increased from 1:1 to 1.75:1.
- The maximum building height that applies to the site is proposed to be increased from 12m to 22m, with a 12m maximum building height strip retained fronting Junction Street with a depth of 7m from the boundary.

The Planning Proposal was accompanied by an Indicative Master Plan (**Figure 1**) prepared by Bates Smart Architects that illustrated how the site could be redeveloped in accordance with the proposed controls.





**Figure 1: Indicative Master Plan - Site layout**

During the design process opportunities have been identified for delivering potential public benefits through enlargement of the existing public park and the provision of new through site links. As part of the proposed LEP Amendments Fitzpatrick wish to offer to enter into a Planning Agreement pursuant to Clause 93F of the Environmental Planning and Assessment Act 1979, with the City of Sydney Council (the Council) in relation to the proposed amendments to the Sydney LEP 2012 as they relate to land at 2-32 Junction Street, Forest Lodge. This offer is based on the following terms:

- 1. Enlargement of Pubic Park** – As shown in the material prepared by Bates Smart Architects, future redevelopment of the site in accordance with the Indicative Master Plan provides an opportunity to increase the size of Larkin Street Park. This has been previously discussed with Council who have highlighted a potential desire for a 2m wide landscape strip along the sites south-western boundary to screen the car park level from Larkin Street Park. With this in mind Fitzpatrick Investments Pty Ltd are willing to offer Council the dedication of land under two alternative scenarios, these being:

Scenario 1 – Dedication of 471m<sup>2</sup> of land to increase the size of Larkin Street Park from 1,055m<sup>2</sup> to 1,526m<sup>2</sup>. Under this scenario the two metre wide landscape strip is to be provided within the enlarged park area, with the future building on the subject site to be built to site boundary along this edge.



Scenario 2 – Dedication of 393m<sup>2</sup> of land to increase the size of Larkin Street Park from 1,055m<sup>2</sup> to 1,448m<sup>2</sup>. Under this scenario the two metre wide landscape strip is to be provided within the site area resulting in a slightly smaller park and the future building being setback from the south half of the western boundary.

Importantly it is noted that under both scenarios the western building façade facing Larkin Street Park will also be architectural designed to minimise a visual impacts of the above ground car park level and in this regard will provide a high quality design outcome for the site and the park interface. Such a requirement can be written into any site specific DCP.

2. **Southern Pedestrian Link** – Dedication of 144m<sup>2</sup> of land to create a new 6m wide publicly accessible link along the site's southern boundary, allowing pedestrian access from St Johns Road through to Larkin Street Park.
3. **Central Pedestrian Link** – Creation of a new east-west pedestrian connection through the centre of the site connecting Junction Street with Larkin Street. This connection is to be achieved via the creation of a public access easement as part of the future development application. The area of this through site link is approximately 232sqm.
4. **Realignment of north-west boundary** – The site's north-west boundary is to be realigned to create a more logical property boundary and road reserve. This realignment will be facilitated under a future development application for the site and if located 6m from the proposed building alignment will result in a net benefit of 53m<sup>2</sup> of land being dedicated to the public.

The proposed dedication public benefits outlined above will require a Voluntary Planning Agreement to secure the terms of this dedication. It is intended that should the LEP Amendment be gazetted, this offer will be consolidated and crystallised into a Voluntary Planning Agreement with the Council. The agreement will comply with the requirements of the *Environmental Planning and Assessment Act and Regulations*, and will contain mechanisms and timing of the proposed dedications. We trust the above is satisfactory, however should you have any queries about this matter then please do not hesitate to contact me on 9956 6962.

Yours faithfully  
**Fitzpatrick Investments Pty Ltd**



**Jamie Stewart**  
Development Director



25<sup>th</sup> February 2016

Mr Graham Jahn  
City of Sydney Council  
GPO Box 1591  
SYDNEY NSW 2000

Attention: Jonathan Carle

Dear Graham

**DRAFT Planning Agreement Offer**  
**2-32 Junction Street, forest lodge**

On 24 December 2013, a Planning Proposal was lodged by JBA on behalf of Fitzpatrick Investments Pty Ltd seeking to amend the height and floor space ratio (FSR) controls as they relate to the site under the Sydney Local Environmental Plan 2012. Specifically the Planning Proposal is seeking the following:

- The floor space ratio that applies to the site is proposed to be increased from 1:1 to 1.75:1.
- The maximum building height that applies to the site is proposed to be increased from 12m to 22m, with a 12m maximum building height strip retained fronting Junction Street with a depth of 7m from the boundary.

The Planning Proposal was accompanied by an Indicative Master Plan prepared by Bates Smart Architects that illustrated how the site could be redeveloped in accordance with the proposed controls. Following discussions with the City of Sydney Council, further changes have been made to the design of the master plan, with the updated version accompanying this letter (**refer attachment**).

During the design process, opportunities have been identified for delivering potential public benefits through enlargement of Larkin Street Park and the provision of new through site links. As part of the proposed LEP Amendments, Fitzpatrick wish to offer to enter into a Planning Agreement pursuant to Clause 93F of the Environmental Planning and Assessment Act 1979, with the City of Sydney Council (the Council) in relation to the proposed amendments to the Sydney LEP 2012 as they relate to land at 2-32 Junction Street, Forest Lodge. This offer is based on the following terms:



**1. Enlargement of Public Park** – Larkin Street Park currently has an area of 1,053m<sup>2</sup> and Council have indicated their desire for the size of the park to be increased to a minimum 1,500m<sup>2</sup> if land is to be dedicated, with this in mind Fitzpatrick Investments Pty Ltd are willing to make the following offer to Council with regard to Larkin Street Park:

- Fitzpatrick Investments Pty Ltd will dedicate 452m<sup>2</sup> of land to increase the size of Larkin Street Park to 1,505m<sup>2</sup>.
- Fitzpatrick Investments Pty Ltd will make a cash contribution to City of Sydney Council of \$1,000/m<sup>2</sup> of parkland for the future embellishment and improvement of the increased Larkin Street Park. Based on an increased land area of 1,505m<sup>2</sup> the total cash contribution is calculated to be \$1,505,000.
- A minor alteration to the eastern boundary of Larkin Street Park is to occur (as shown on the attached Master Plan), resulting in 3m<sup>2</sup> of existing parkland being excised and amalgamated with land that is the subject of this planning proposal.
- The transfer of land between the site and Larkin Street Park is to be facilitated via a subdivision plan that will form part of any subsequent detailed development application for the site.

**2. Southern Pedestrian Link** – Dedication of 159m<sup>2</sup> of land to create a new 6m wide publicly accessible link along the site's southern boundary, allowing pedestrian access from St Johns Road through to Larkin Street Park. This link is to support disabled access between Junction Street and Larkin Street, with the detailed design to be determined as part of any subsequent DA process.

**3. Central Pedestrian Link** – Creation of a new east-west pedestrian connection through the centre of the site connecting Junction Street with Larkin Street. This connection is to be achieved via the creation of a public access easement as part of the future development application. The area of this through site link is approximately 139m<sup>2</sup>.

The proposed dedication public benefits outlined above will require a Voluntary Planning Agreement to secure the terms of this dedication. It is intended that should the LEP Amendment be gazetted, this offer will be consolidated and crystallised into a Voluntary Planning Agreement with the Council. The agreement will comply with the requirements of the *Environmental Planning and Assessment Act and Regulations*, and will contain mechanisms and timing of the proposed dedications. We trust the above is satisfactory; however should you have any queries about this matter then please do not hesitate to contact me on 8117 5105.

Yours faithfully  
**Fitzpatrick Investments Pty Ltd**



**Jamie Stewart**  
Development Director







12 April 2016

Our Ref: X000094  
File No: 2016/133738

Benjamin Craig  
JBA Pty Ltd, PO Box 159  
North Sydney NSW 2059  
[BCraig@jbaurban.com.au](mailto:BCraig@jbaurban.com.au)

Dear Benjamin,

## PLANNING PROPOSAL REQUEST – 2-32 JUNCTION STREET, FOREST LODGE

I refer to your submission of a revised planning proposal request to amend the maximum height and floor space ratio controls under Sydney LEP 2012 and draft planning agreement offer for 2-32 Junction Street, Forest Lodge.

The City's previous correspondence from 28 November 2013 and 16 October 2014 stated that a maximum floor space ratio of 1.5:1 would be appropriate for the site. The correspondence also identified the need to comply with SEPP 65, the Residential Flat Design Code (since replaced by the Apartment Design Guide) and Sydney Development Control Plan 2012. Particular concerns raised included building separation, boundary setbacks, overshadowing of surrounding development, retention of the former warehouse and envelope efficiency requirements.

A planning proposal request submitted on 4 March 2015 sought to increase the maximum FSR from 1:1 to 1.75:1 and increase the maximum height from 12 metres to approximately 25 metres. The City's correspondence of 16 April 2015 stated any proposed increase in the FSR is to be based on 75 per cent building envelope efficiency and that the planning proposal request is to comply with the Residential Flat Design Code's requirements for communal open space and deep soil. Subsequent discussions focused on flooding issues, overshadowing impacts to the apartments at 1-3 Larkin Street and Larkin Street Reserve and the impact of the proposed above ground car park on the public domain.

A revised scheme including overshadowing analysis was submitted on 6 November 2015. The proposed scheme involves retaining the existing commercial warehouse building and constructing three new 4–6 storey residential apartment buildings with an envelope efficiency of 75%. It also includes a new above ground undercroft car park with the basement slab elevated to the 5% Annual Exceedance Probability to address flooding.

A draft planning agreement offer dated 25 February 2016 includes two new pedestrian links and 452m<sup>2</sup> of land dedication to extend Larkin Street Reserve. It also includes a \$1,000/m<sup>2</sup> cash contribution to integrate and embellish the existing reserve with the dedicated land. The 452m<sup>2</sup> of land offered for dedication includes part of the central through site link and part of the irregular-shaped north-west boundary.



The City has reviewed the information provided. The City considers the information provided does not demonstrate that the impact of a proposed scheme with an FSR of 1.75:1 will be within acceptable limits. The City's reasons for this are outlined below. Consequently, the City's position of 2013 and 2014 remains that the maximum FSR achievable at the site given its constraints should not be more than 1.5:1. This represents a 50% increase to the current maximum allowable floor space. Amendments and additional information needed for the City to progress the planning proposal are outlined below.

### **Setbacks and building separation**

The proposed scheme does not comply with the following controls in the Apartment Design Guide:

- Part 3F, relating to minimum boundary setbacks necessary to achieve reasonable levels of external and internal visual privacy. This includes the proposed buildings A, B and D;
- Part 2F, relating to minimum separation distances for buildings. This includes the proposed separation between Building B and the existing terrace at 34 Junction Street, to the north of the site, and Building D and the existing terrace at 256 St Johns Road and the existing apartment building at 2A Short Street, to the south of the site.

The proposal will need to be amended to ensure it complies with setbacks and building separation requirements in Part 2F and 3F of the Apartment Design Guide.

### **Overshadowing of apartments at 1-3 Larkin Street**

It is unclear whether the proposal's overshadowing impact on the adjoining apartments at 1-3 Larkin Street complies with Part 4A of the Apartment Design Guide.

Part 4A says living rooms of at least 70% of apartments must receive a minimum of 2 hours of sunlight and no more than 15% of apartments can receive no sunlight. If more than 15% of apartments receive no direct sunlight, this proportion cannot be increased. For any sunlight to be counted, it must be at least 1m<sup>2</sup> in area on the vertical plane, be measured 1 metre above the floor level and be received for at least 15 minutes.

The overshadowing analysis provided indicates 70% of apartments will receive at least 2 hours of sunlight on the vertical plane, however, it does not say whether the sunlight is at least 1m<sup>2</sup> in area on the vertical plane, 1 metre above the floor level and received for at least 15 minutes.

The overshadowing analysis states there are currently more than 15% of units that receive no direct sunlight (27.5%) and the proposal will increase that number of units. However, the analysis has been undertaken on the horizontal rather than vertical plane and therefore compliance cannot be determined.

For the planning proposal to progress, the overshadowing analysis will need to demonstrate the proposal can comply with the Apartment Design Guide, including Parts 3B and 4A, using the methodology outlined above.

### **Overshadowing of apartments at 2A Short Street**

No information has been provided about overshadowing impacts on the existing apartments at 2A Short Street, to the south of the site. Consequently, it is not known whether the proposed envelope complies with overshadowing requirements in the Apartment Design Guide.



For the planning proposal to progress, an assessment of the proposed scheme's overshadowing impact at 2A Short Street and its compliance against the Apartment Design Guide will need to be provided.

Overshadowing impacts at 2A Short Street will need to comply with overshadowing requirements in the Apartment Design Guide. If it does not, the proposal will need to be amended.

### **Building D impacts on Larkin Street Reserve**

Building D is considered to have an unacceptable impact on Larkin Street Reserve due to its height, scale, bulk, proximity and its carpark use. The sections provided do not correlate with the survey and do not show the building heights and walls along the Reserve and side boundaries accurately.

Building D is proposed to be setback 2 metres from both the Reserve and land offered to extend the Reserve. Although necessary elevations and sections have not been provided, in some locations, Building D is estimated to be around 18 metres higher than the Reserve, including the car park which is estimated to be around 5 metres higher.

The bulk, scale and siting of Building D will dominate the Reserve and its extension and make it an undesirable place for recreation. The impacts are significant given the relatively small size of the extended reserve and the relative lack of open space and density of this precinct.

Provisions of Sydney DCP 2012 typically require car parks to be below ground or screened by active uses where above ground (provisions 3.2.2 (5) and (6)) and for public open space to achieve a minimum four hours of sunlight to 50% of the park in mid-winter (provision 3.1.4(3)(a)).

Flooding at the site means the proposed scheme is unable to comply with provisions 3.2.2(5) and 3.2.2(6)(b). Analysis indicates overshadowing of Larkin Street Reserve complies with provisions 3.1.4(3)(a), but overshadowing of the combined extended park area does not.

While the City is willing to allow some flexibility given the flooding constraints and the offer to extend Larkin Street Reserve, the magnitude of the impact means it is considered unacceptable, even allowing for this flexibility.

For the planning proposal to progress, the proposal will need to be amended to reduce the impact of Building D on Larkin Street Reserve by increasing the setback of Building D from the extended boundary of the reserve and introducing upper level setbacks. Accurate plans, elevations, sections and a 3D massing model are to be submitted illustrating the relationship of the built form to the surrounding area.

### **Floor space in the existing warehouse building**

The proposed scheme is based on retaining the existing warehouse building and using it for commercial purposes. Under Part 2B of the Apartment Design Guide, the maximum allowable building envelope efficiency for residential uses is 70-75%. The maximum allowable building envelope efficiency for commercial uses under Part 2D is generally 80-85%.

The building envelope efficiency for the proposed residential buildings is approximately 75%. The building envelope efficiency for commercial use of the warehouse building is approximately 90%.



If the warehouse building is used for residential uses instead of commercial uses, approximately 120 m<sup>2</sup> of floor space could be transferred from the warehouse building to one of the proposed new apartment buildings without increasing the FSR. This may increase undesirable impacts, however, no information has been provided about where this floor space is proposed to be located and whether the impacts of the additional floor space will comply with relevant controls, including the Apartment Design Guide.

An amended proposal is to assume the existing warehouse building will be used for residential purposes with a maximum envelope efficiency of 70-75%.

#### **Land offered to be dedicated**

The 452m<sup>2</sup> of land offered for dedication includes part of the central through site link and a portion of land along the irregular-shaped north west boundary. The City has estimated the combined area of these two components to be in the order of 100m<sup>2</sup>. Their function and shape means they are not usable open space and they should therefore be excluded from the land offered to be dedicated for open space. This results in an effective extended open space area of approximately 1,350m<sup>2</sup>. This is less than the minimum 1,500m<sup>2</sup> needed to provide an appropriate level of usability.

For the planning proposal to progress, the land offered for dedication to extend Larkin Street Reserve will need to be revised to exclude part of the central through site link and part of the north west boundary and ensure the combined usable park area is at least 1,500m<sup>2</sup>. If the landowner no longer wishes to dedicate land to extend Larkin Street Reserve, ensure the proposed scheme complies with communal open space and overshadowing requirements in the Apartment Design Guide.

#### **Next steps**

For the planning proposal to progress, the proposed scheme will need to be revised to address the issues above. Any revised submission should be in the form of a consolidated planning and urban design report including all plans, elevations, sections, and overshadowing analysis demonstrating the proposal can comply with relevant controls, including the Apartment Design Guide and Sydney DCP 2012. A three dimensional massing model is also to be provided to confirm the shadow analysis and accurately show the relationship of the built form to the surrounding area. Details on the requirement for 3D models can be requested by emailing to [model@cityofsydney.nsw.gov.au](mailto:model@cityofsydney.nsw.gov.au).

Please advise within two weeks whether you intend to resubmit a revised scheme that addresses the issues. Alternatively, the City will determine the planning proposal request based on the information submitted to date.

Nothing in this advice precludes the Council from requesting additional information or requiring further issues to be addressed should another concept proposal be submitted.



Should you wish to speak with a Council officer about the above, please contact Benjamin Pechey, Manager Planning Policy, on 9265 9570 or [bpechey@cityofsydney.nsw.gov.au](mailto:bpechey@cityofsydney.nsw.gov.au)

Yours sincerely,

A handwritten signature in black ink, appearing to be 'GJahn', written in a cursive style.

**Graham Jahn AM**  
**Director**  
City Planning | Development | Transport



## Jonathon Carle

---

**From:** Jonathon Carle  
**Sent:** Thursday, 19 May 2016 10:02 AM  
**To:** Ben Craig  
**Cc:** jamie.stewart@fitzpatrickproperty.com.au; Guy Lake (glake@batesmart.com); jfraser@batesmart.com; Benjamin Pechey  
**Subject:** RE: TRIM: Junction Street - Meeting Notes

Hi Ben

Our advice is as follows:

### **Overshadowing**

The proposal need to comply with Parts 3B and 4A of the Apartment Design Guide. In particular, the proposal needs to ensure at least 70% of apartments in neighbouring buildings receiving 2 hours or more of sunlight. Additionally, the apartments that receive less than 2 hours cannot have their sunlight reduced to less than 15 minutes measured on the horizontal plane 1 metres above the floor level. Under the current scheme, the number of apartments receiving 2 hours or more is reduced to 70% and the number of apartments receiving no sunlight (measured on the horizontal plane) is increased by 3 apartments from 27.5% of apartment to approximately 30% of apartments. The proposal needs to be amended so the 3 apartments receive at least 15 minutes of sunlight measured on the horizontal plane.

Information also needs to be provided about overshadowing impacts on the apartments at 2A Short Street. Impacts also need to comply with the Apartment Design Guide.

### **Side setbacks**

The proposal needs to comply with Part 3F of the ADG. In particular, typical floor plans need to be provided showing the side setbacks between habitable and non-habitable rooms. This includes Buildings A, B and D. If typical floor plans are not provided, it will be assumed the rooms with windows facing the side boundaries are habitable. In this case, rooms with windows on levels above 12 metres need to be setback at least 9 metres from the side boundaries. Alternatively, if typical floor plans are provided indicating rooms on levels above 12 metres are non-habitable, the rooms need to be setback at least 4.5 metres. Where the basement car park protrudes more than 3 metres above ground level, it will be considered as a storey.

### **Through site link**

Relocating the proposed through site link from the central portion of the site to its northern boundary may be considered an acceptable alternative.

### **Existing Warehouse**

As the building is a period building in the conservation area, retention and adaptation for residential is likely. The retain scenario needs to assume highest and best use permitted in the zone with lowest efficiency, i.e. the envelope is adapted for residential use with floor space calculated at 75% efficiency. For comparison, an alternative retain scenario based on commercial usage and a higher efficiency should also be provided, in addition to the demolish scenario. To summarise, a total of three of scenarios should be provided.

We understand you'll provide the additional information you've outlined below. Please call Ben or I if you'd like to discuss.

Regards  
Jonathon

Jonathon Carle  
Senior Specialist Planner  
Strategic Planning & Urban Design



Telephone: 9246 7736  
[cityofsydney.nsw.gov.au](http://cityofsydney.nsw.gov.au)

---

**From:** Ben Craig [mailto:BCraig@jbaurban.com.au]

**Sent:** Tuesday, 17 May 2016 11:57 AM

**To:** Benjamin Pechey <bpechey@cityofsydney.nsw.gov.au>; Jonathon Carle <jcarle@cityofsydney.nsw.gov.au>

**Cc:** jamie.stewart@fitzpatrickproperty.com.au; Guy Lake (glake@batesmart.com) <glake@batesmart.com>; jfraser@batesmart.com

**Subject:** TRIM: Junction Street - Meeting Notes

Dear Ben / Jonathan,

I hope you are both well. Further to last week's meeting I thought it would be useful just to send out a short summary of the key points and actions that were discussed and agreed. Please see below:

#### **Overshadowing**

- Council to look at 20% reduction guidance and come back to us. Reference made to 3B-2 of ADG.

#### **Building D Impacts on Larkin Street**

- Bates Smart to prepare some additional plans, including:
  - o section views that show the relationship, in particular levels, between Building D and Larkin Street Park.
  - o Elevation view of building façade fronting the park.
  - o 3D Model – Bates Smart to contact Mark Werner
- Building D to be a podium with a recessed upper element.

#### **Existing Warehouse**

- Provide an updated design for this area that assumes demolition of the existing building and replacement with residential through the continuation of the proposed built form
- Provide a comparative floor space analysis of the 'retain' vs 'demolish' scenarios. Under the demolish scenario the floor space calculation is to use the 75% efficiency assumption as requested by Council.

#### **Through Site Link**

- Bates Smart proposed the idea of removing the central through site link. Jesse to think about the pedestrian link through the middle of the site and to come back to us with his thoughts on this.
- Bates Smart to prepare possible alternative options to show Council.

#### **Park**

- Council concerned about quality of park and quality of the built form edge to the park. This was a key concern of the Design Advisory Panel.
- There was a misconception within the Design Advisory Panel that the built form scale was premised on providing additional land for the park.
- Additional information that illustrates the interface with the park will help with providing the Design Advisory Panel a clear understanding of what is intended to be achieved.

#### **Actions Moving Forward**

- Following Guy Lakes presentation, Council to discuss internally re overshadowing guidance and come back to us with clear feedback and direction in this regard.
- Bates Smart to prepare additional information that clearly shows the relationship between the park and the proposed built form.



- The form and scale of Building D to be amended so that it is setback from the podium and so that it appropriately preserves solar access to the south.
- Bates Smart to prepare new plans that show demolition of existing warehouse building.
- Bates Smart to provide floor area comparison between 'retain' and 'demolish' scenarios.

Hope this assists. Please feel free to add if I have missed anything.

Kind Regards

**Ben Craig** Associate

Office +61 2 9956 6962 Direct +61 2 9409 4953 Mobile +61 416 917 365

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urban development services



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## Jonathon Carle

---

**From:** Ben Craig <BCraig@jbaurban.com.au>  
**Sent:** Wednesday, 20 July 2016 12:38 PM  
**To:** Jonathon Carle; Benjamin Pechey  
**Cc:** Guy Lake; jfraser@batesmart.com; jamie.stewart@fitzpatrickproperty.com.au  
**Subject:** Junction Street, Forest Lodge - Response to Council Issues  
**Attachments:** s11792\_FDC\_Forest\_Lodge\_Response\_to\_Council.pdf

Hi Jonathan,

Further to our meeting a little while back and your subsequent email below please find attached further design analysis prepared by Bates Smart. The design report sets out a response to each of the matters raised in your email, specifically:

### **Overshadowing**

A number of key massing revisions have been made to the proposed indicative scheme. These changes are illustrated in detail in the Bates Smart report and are accompanied by a sunlight access analysis to the Larkin Street apartments and the town houses in Short Street. The amendments made to the scheme enable the proposal to comply with Parts 3B and 4A of the Apartment Design Guide, specifically:

- They ensure that two Short Street townhouses impacted by the proposal (7/2A and 8/2A Short Street) receive 2.5hrs of direct sunlight between 9am and 11.30am on 21 June.
- They ensure that apartments 221, 222, 223 and 224 all receive 1sqm of direct sunlight, measured at 1m above floor level, for 15 minutes on 21 June.

### **Side Setbacks**

Side setbacks to the northern and southern boundaries have been increased to satisfy Apartments Design Guide 3F and to improve solar access to the south. As required by Council indicative apartment layouts have also been provided to illustrate how apartments can be designed without the need for windows facing the side boundary.

### **Through Site Link**

The through site link through the centre of the site has been removed from the proposed design. The southern through site link connecting Larkin Street to Junction Street has been retained to ensure that appropriate pedestrian permeability is provided through the site. The provision of a northern through site link was not considered necessary in this instance given that an alternative link through the south of the site was already provided, which is within 100m of the northern boundary. It is also noted that a northern link was not considered to be a desirable solution as it provided a potential conflict with the driveway entrance into the proposed development.

### **Existing Warehouse**

Three options are presented within the Bates Smart Report. These being a scenario that involves demolition of the existing building, a retain scenario that reuses the building for residential, and a retain scenario that reuses the building for commercial purposes. All options results in a floor space ratio of between 1.72 to 1.76.

### **Park**

Based on discussions with Council to date it has been concluded by the applicant that the most appropriate way forward for the planning proposal is to retain the site in its current form. With this in mind it has been decided not to proceed with dedicating land to increase the size of the park, but rather provide this land as additional communal space to service residents of the proposed development.

Sectional views and precedent images have also been provided to demonstrate a landscape solution that could be used to address the interface issue between the lower building levels and Larkin Street Park. It is noted that this is one of a number of solutions that could be implements to deal with this interface.



I trust this is what you require at this stage to enable you to progress with your assessment. Should you require any further information please feel free to email me or call on 9956 6962.

Kind Regards

**Ben Craig**

**Associate | JBA**

Office +61 2 9956 6962 | Direct +61 2 9409 4953 | Mobile +61 416 917 365

173 Sussex Street, Sydney NSW 2000

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**We have moved!** JBA has moved to a new office. Our new address is 173 Sussex Street, Sydney NSW 2000.

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# PLANNING PROPOSAL AMENDMENT REPORT

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2-32 JUNCTION STREET  
FOREST LODGE  
S11792  
JULY 2016

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PROJECT NUMBER

S11792

BATESSMART™

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NOMINATED NSW REGISTERED ARCHITECTS

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Note: All area calculations are advisory only and all figures should be checked and verified by a licensed surveyor.



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# GOS - COMMENTS

## PROPOSED MASSING (FEBRUARY 2016)

On the 19/05/2016 City of Sydney provided the following in response to the proposed massing at this time:

"Our advice is as follows:

### OVERSHADOWING

The proposal need to comply with Parts 3B and 4A of the Apartment Design Guide. In particular, the proposal needs to ensure at least 70% of apartments in neighbouring buildings receiving 2 hours or more of sunlight. Additionally, the apartments that receive less than 2 hours cannot have their sunlight reduced to less than 15 minutes measured on the horizontal plane 1 metres above the floor level. Under the current scheme, the number of apartments receiving 2 hours or more is reduced to 70% and the number of apartments receiving no sunlight (measured on the horizontal plane) is increased by 3 apartments from 27.5% of apartment to approximately 30% of apartments. The proposal needs to be amended so the 3 apartments receive at least 15 minutes of sunlight measured on the horizontal plane.

Information also needs to be provided about overshadowing impacts on the apartments at 2A Short Street. Impacts also need to comply with the Apartment Design Guide.

### SIDE SETBACKS

The proposal needs to comply with Part 3F of the ADG. In particular, typical floor plans need to be provided showing the side setbacks between habitable and non-habitable rooms. This includes Buildings A, B and D. If typical floor plans are not provided, it will be assumed the rooms with windows facing the side boundaries are habitable. In this case, rooms with windows on levels above 12 metres need to be setback at least 9 metres from the side boundaries. Alternatively, if typical floor plans are provided indicating rooms on levels above 12 metres are non-habitable, the rooms need to be setback at least 4.5 metres. Where the basement car park protrudes more than 3 metres above ground level, it will be considered as a storey.

### THROUGH SITE LINK

Relocating the proposed through site link from the central portion of the site to its northern boundary may be considered an acceptable alternative.

### EXISTING WAREHOUSE

As the building is a period building in the conservation area, retention and adaptation for residential is likely. The retain scenario needs to assume highest and best use permitted in the zone with lowest efficiency, i.e. the envelope is adapted for residential use with floor space calculated at 75% efficiency. For comparison, an alternative retain scenario based on commercial usage and a higher efficiency should also be provided, in addition to the demolish scenario. To summarise, a total of three of scenarios should be provided.

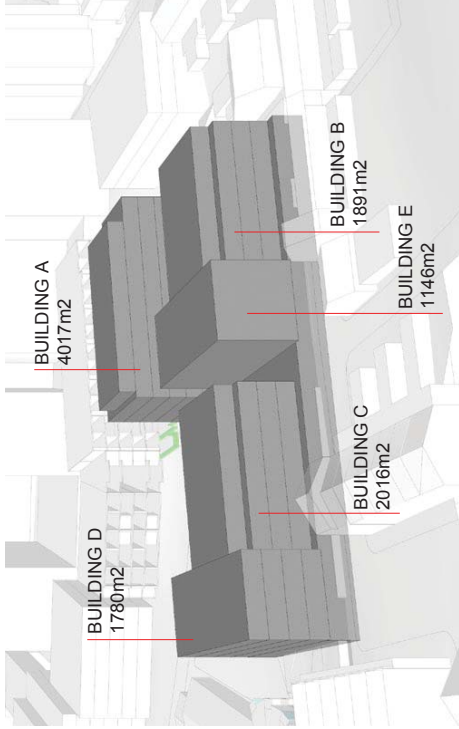
We understand you'll provide the additional information you've outlined below. Please call Ben or I if you'd like to discuss.

Regards

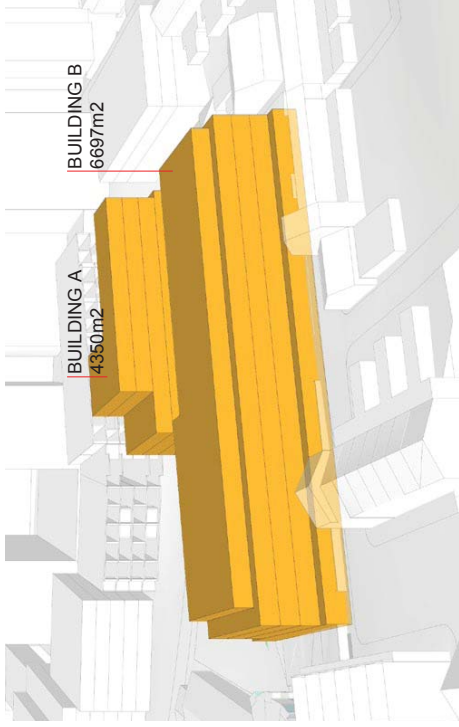
Jonathon Carle

Senior Specialist Planner

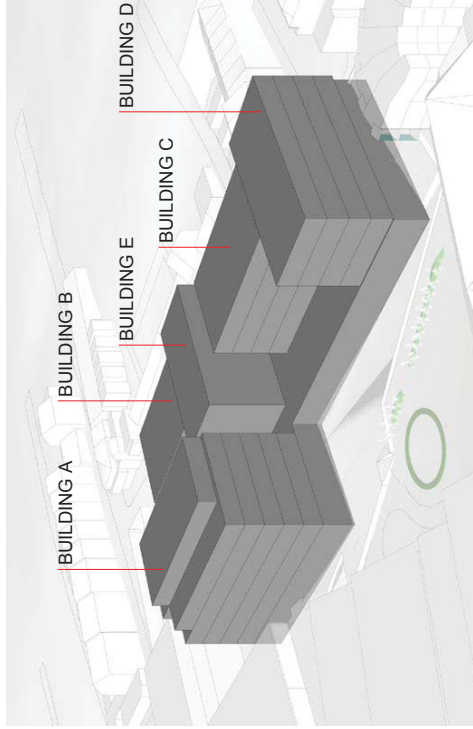
Strategic Planning & Urban Design "



PROPOSED MASSING FEBRUARY 2016



PROPOSED MASSING JULY 2016



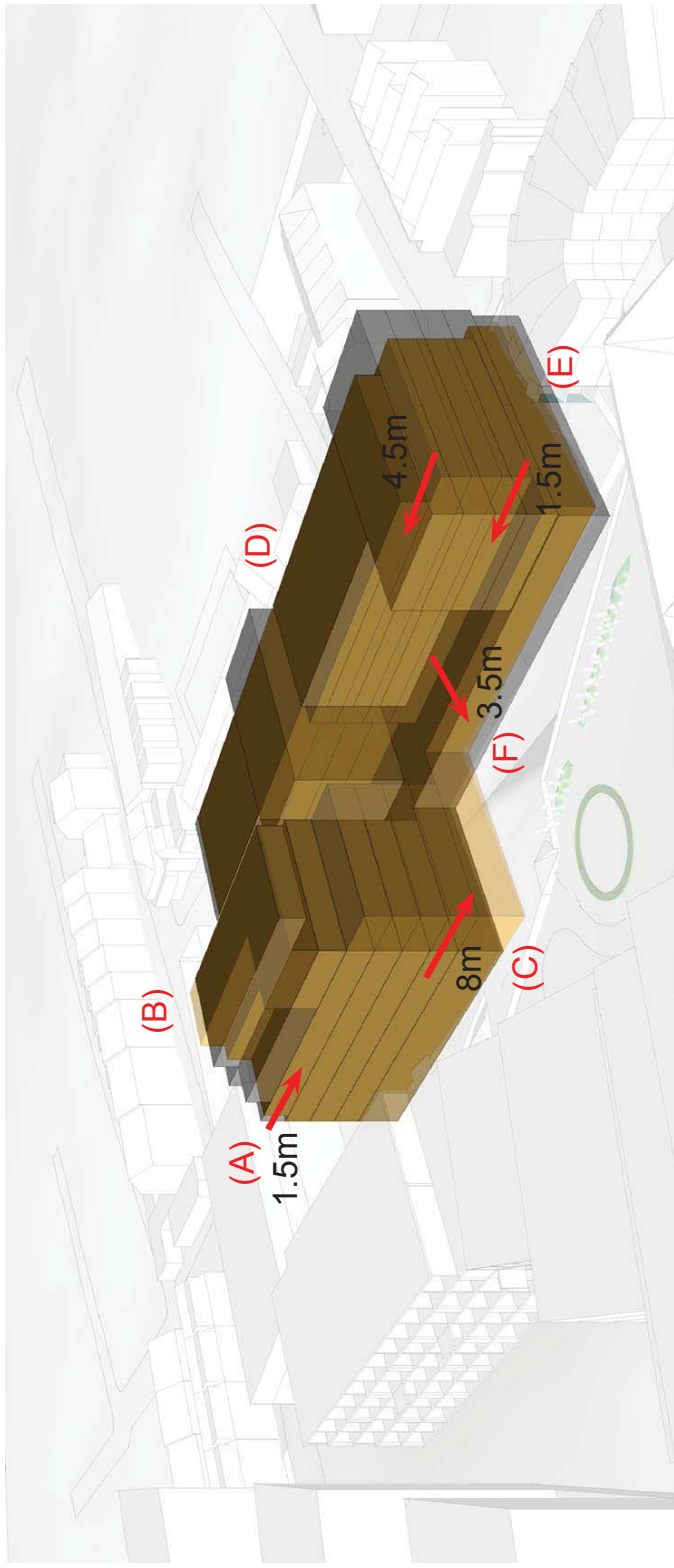
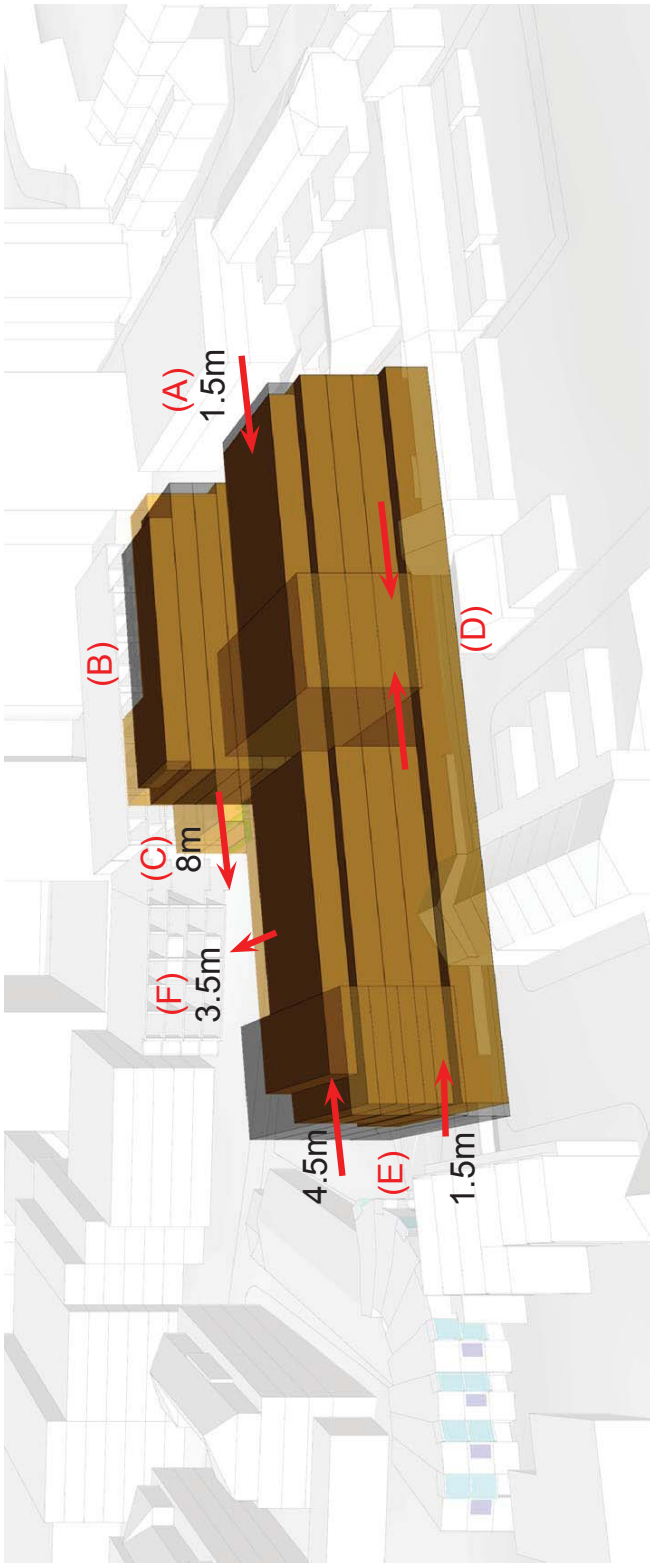


# MASSING REVISIONS

## KEY MASSING MOVES

- (A) 1.5m setback on Levels 4-6 of Building A and Level 4 of Building B (to satisfy Apartment Design Guide 3F)
- (B) L-shaped massing form on top two levels of Building A in order to ensure solar access to Larkin Street apartments includes 2-metre circulation zone on Level 5 for access to two-storey apartments
- (C) Increase length of Building A (Levels 1-4) by 8m towards Larkin Street Reserve
- (D) Demolish Building E, remove mid through-site link and consolidate Buildings B, C and D into one massing form (with articulation)
- (E) Setbacks to southern elevation of new Building B (formerly D) to ensure adequate solar access to townhouses at 2A Short Street (1.5m setbacks for Levels 1-3, and 5m setback for Level 4)
- (F) Increase width of Building C by 3.5m (from 18.5m to 22m). The 22m width includes a glass line to glass line dimension of 18m, and a balcony zone on both sides.

The proposed boundary setbacks of 3m for buildings A and B comply with Part 3F of the Apartment Design Guide (Visual Privacy) with regards to the blank side wall of the adjacent terrace house across Kimber Lane (for non-habitable rooms to non-compliant existing). These also comply with Part 2F (Building Separation), where the additional 1.5m setback on level 4 complies with the specified '9m between non-habitable rooms' for five to eight storeys (where the basement carpark level is counted as a level).





# SITE PLAN - OPTION 01

## BUILT FORM

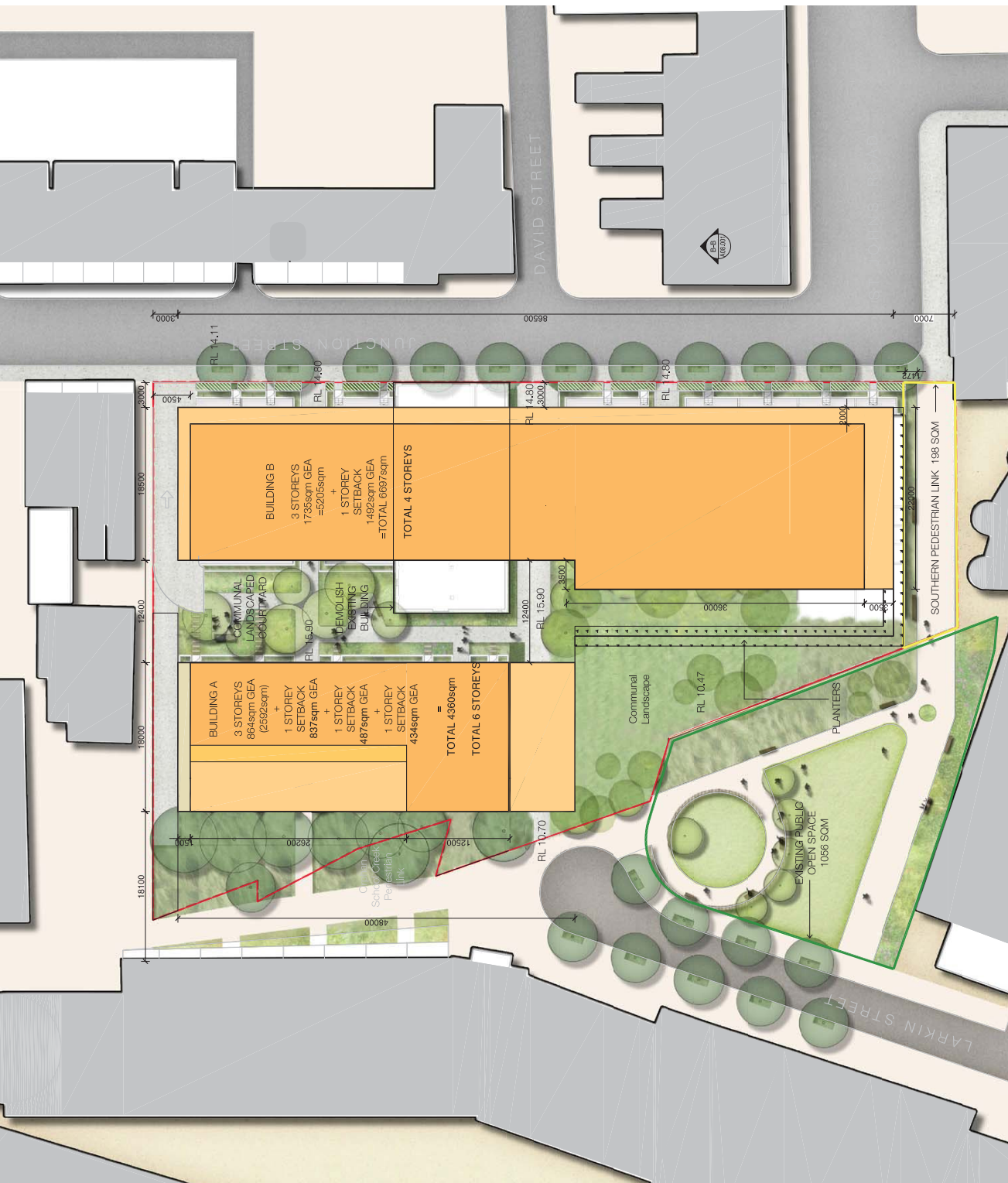
The proposal provides appropriately sized buildings for the site that will result in well considered alignments, proportions, building and apartment types promoting varied and diverse occupancy.

Built form is set back 3m along Junction Street and an 18m building separation is established to the existing 6-8 storey buildings on the Orphan's Creek pedestrian link. The proposal also achieves building separation between the proposed and existing built form.

The buildings dimensions between 12-18m in the short dimension promote single oriented planning that maximises solar access and cross ventilation. And in the longer north south dimension are articulated to provide rhythm and variation to adjoining streets and parks. The wider building dimension at the southern end of Building B (22m) allows for balconies on both sides to maximize park views, with a glass line to glass line dimension of 18m (as recommended by the Apartment Design Guide).

Building orientation maximises solar access and provides for maximum visual connectivity to landscaped courtyards and parks.

The buildings will further improve public and communal amenity to landscaped courtyards, parks and pathways within and surrounding the site by providing activated edges and natural surveillance. The proposed through-site link connecting Larklin Street to St John's Road has been widened, with a landscaped edge.





# AREA SCHEDULE

This proposal achieves an FSR of 1.76 : 1

| Areas             |      |      |  | Efficiency (to GEA) |
|-------------------|------|------|--|---------------------|
| Site Area         |      |      |  | 4,824               |
| FSR               |      |      |  | 1.76                |
| Total GEA         |      |      |  | 11,323              |
| Total GFA         |      |      |  | 8,492               |
|                   |      |      |  |                     |
| Residential Areas |      |      |  | Efficiency (to GEA) |
| Ground            | GEA  | GFA  |  |                     |
| Level 01          | 0    | 0    |  |                     |
| Level 02          | 2682 | 2012 |  |                     |
| Level 03          | 2682 | 2012 |  |                     |
| Level 04          | 2427 | 1820 |  |                     |
| Level 05          | 425  | 319  |  |                     |
| Level 06          | 425  | 319  |  |                     |
| 11323             |      |      |  | 8492                |
|                   |      |      |  | 75%                 |
|                   |      |      |  |                     |
| Commercial Areas  |      |      |  | Efficiency (to GEA) |
| Ground            | GEA  | GFA  |  |                     |
| Level 01          | 0    | 0    |  |                     |
| Level 02          | 0    | 0    |  |                     |
| 0                 |      |      |  | 0                   |
|                   |      |      |  | 85%                 |



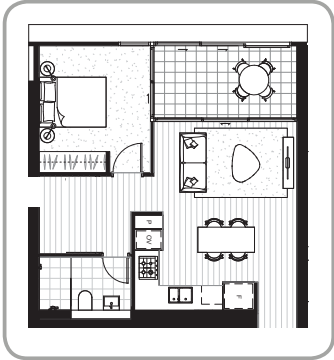
# TYPICAL FLOOR PLAN

**PLAN - TYPICAL LEVEL (LEVELS 1-3)**

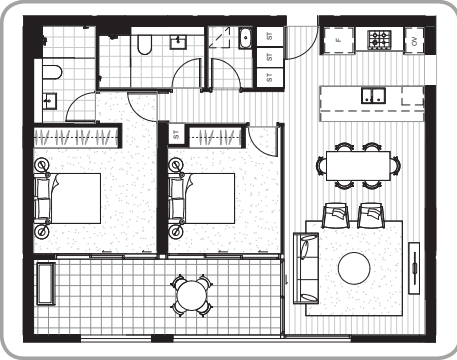
PLANNING ENVELOPE AREAS:  
/ BUILDING A GEA = 864 SQM  
/ BUILDING B GEA = 1734 SQM  
/ TOTAL GEA = 2598 SQM

INDICATIVE PLAN MEASURED AREAS:  
/ BUILDING A GFA = 661 SQM  
/ BUILDING B GFA = 1287 SQM  
/ TOTAL GFA = 1948 SQM

EFFICIENCY (MEASURED GFA / PLANNING ENVELOPE GEA)  
= 1,948SQM / 2,598SQM = 75%



**INDICATIVE PLAN - TYPICAL 1 BED**  
plan can be oriented towards Junction street to maximise outlook and avoid overlooking issues. Translucent or screened glazing can provide cross ventilation and ventilation to kitchen



**INDICATIVE PLAN - TYPICAL 2 BED**  
plan can be oriented towards park to maximise outlook and avoid overlooking issues. Translucent or screened glazing can provide cross ventilation and ventilation to kitchen



# OPTION 02 RETAIN / RESIDENTIAL

| Areas             |      |      | Efficiency (to GEA) |     |
|-------------------|------|------|---------------------|-----|
| Site Area         |      |      | 4,824               |     |
| FSR               |      |      | 1.72 : 1            |     |
| Total GEA         |      |      | 11,032              |     |
| Total GFA         |      |      | 8,274               |     |
| Residential Areas |      |      |                     |     |
|                   | GEA  | GFA  | Efficiency (to GEA) |     |
| Ground            | 0    | 0    |                     |     |
| Level 01          | 2599 | 1949 |                     |     |
| Level 02          | 2599 | 1949 |                     |     |
| Level 03          | 2599 | 1949 |                     |     |
| Level 04          | 2314 | 1736 |                     |     |
| Level 05          | 487  | 365  |                     |     |
| Level 06          | 434  | 326  |                     |     |
|                   |      |      | 11032               | 75% |
| Commercial Areas  |      |      |                     |     |
|                   | GEA  | GFA  | Efficiency (to GEA) |     |
| Ground            | 0    | 0    |                     |     |
| Level 01          | 0    | 0    |                     |     |
| Level 02          | 0    | 0    |                     |     |
|                   |      |      | 0                   | 85% |





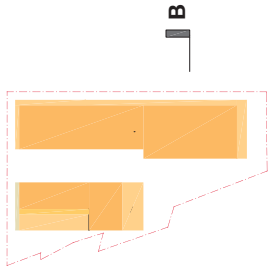
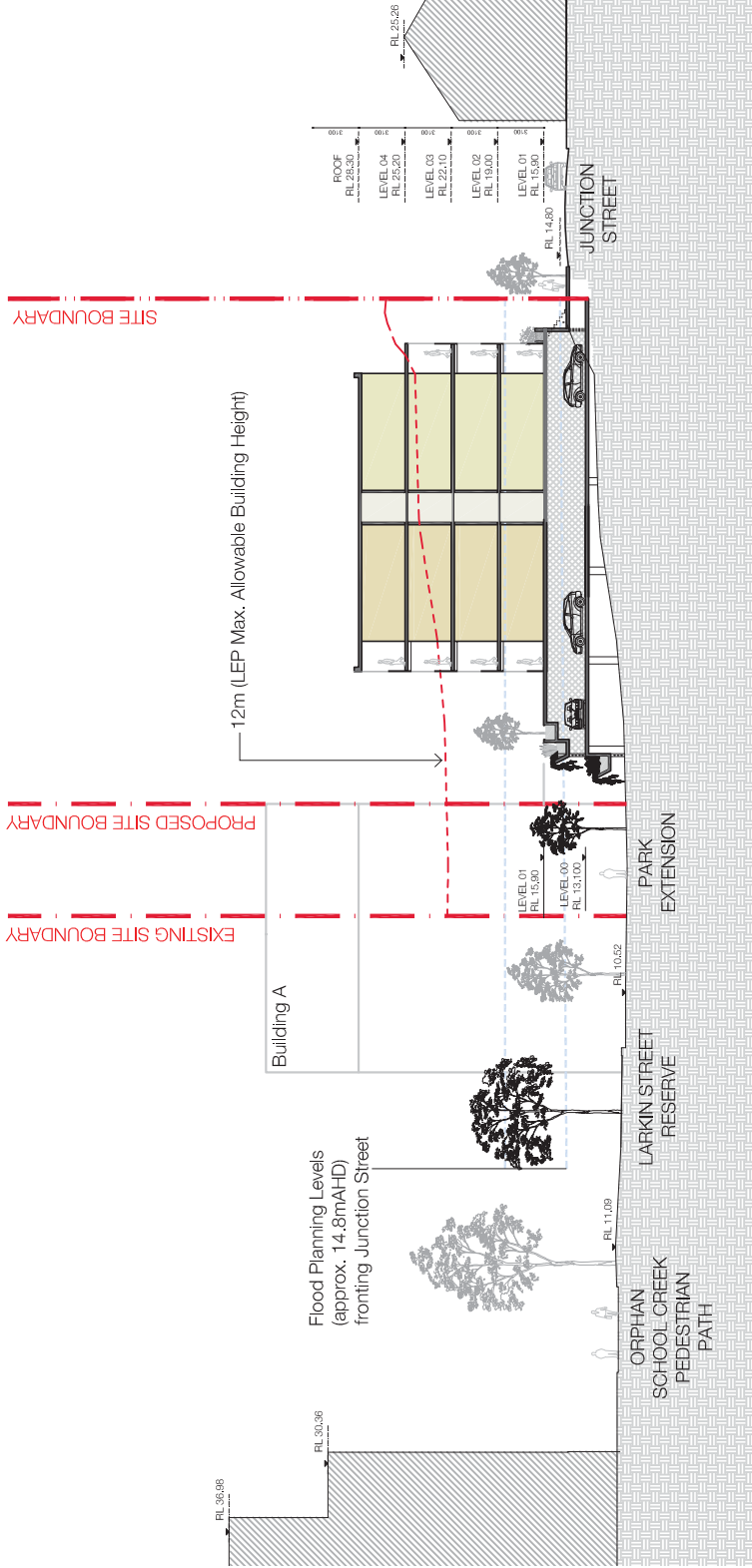
# OPTION 03 RETAIN / COMMERCIAL

| Areas             |        | Efficiency (to GEA) |
|-------------------|--------|---------------------|
| Site Area         | 4,824  |                     |
| FSR               | 1.72   |                     |
| Total GEA         | 10,941 |                     |
| Total GFA         | 8,320  |                     |
|                   |        |                     |
| Residential Areas |        | Efficiency (to GEA) |
| Ground            | 0      | 0                   |
| Level 01          | 2300   | 1725                |
| Level 02          | 2300   | 1725                |
| Level 03          | 2300   | 1725                |
| Level 04          | 2045   | 1534                |
| Level 05          | 425    | 319                 |
| Level 06          | 425    | 319                 |
| 9795              |        | 7346                |
|                   |        |                     |
| Commercial Areas  |        | Efficiency (to GEA) |
| Ground            | 382    | 325                 |
| Level 01          | 382    | 325                 |
| Level 02          | 382    | 325                 |
| 1146              |        | 974                 |
|                   |        | 85%                 |



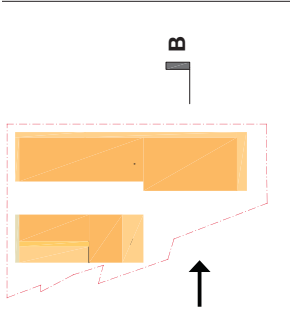


# SITE SECTION





# CARPARK/ GROUND LEVEL INTERFACE



DETAIL SECTION B-B 1:100 @ A3



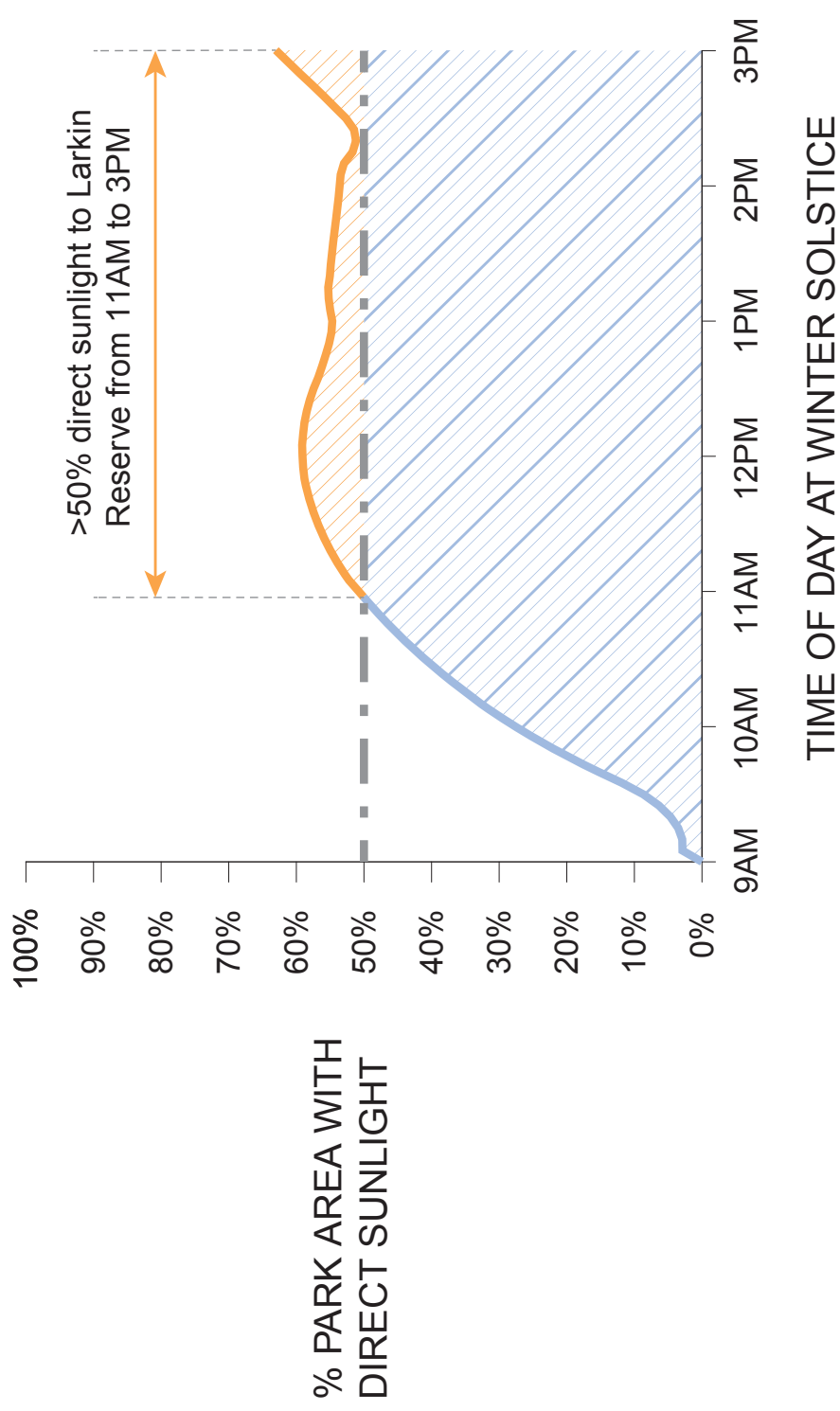
INDICATIVE LARKIN STREET RESERVE ELEVATION 1:200 @ A3



LANDSCAPE PRECEDENTS



# LARKIN STREET RESERVE SUNLIGHT ACCESS



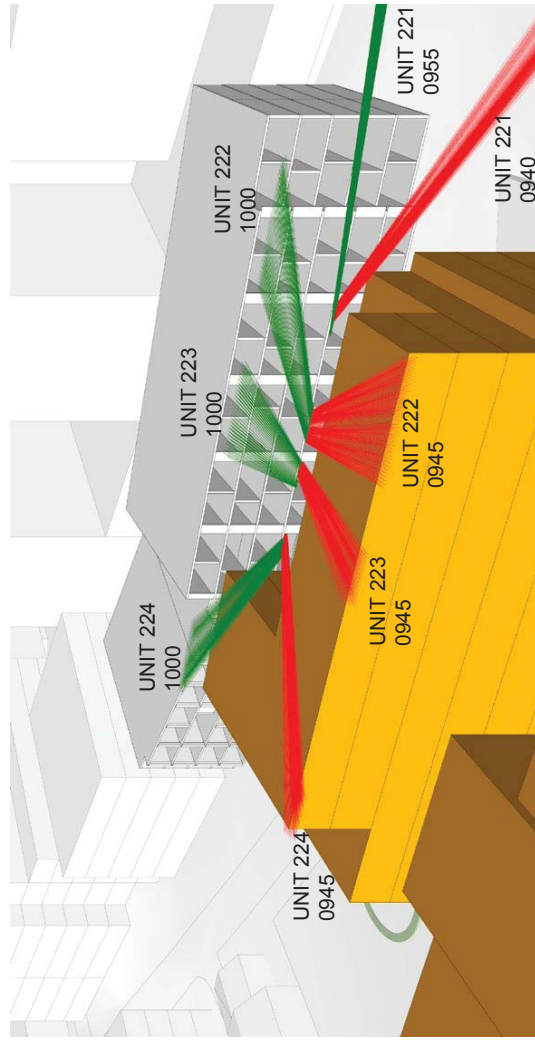
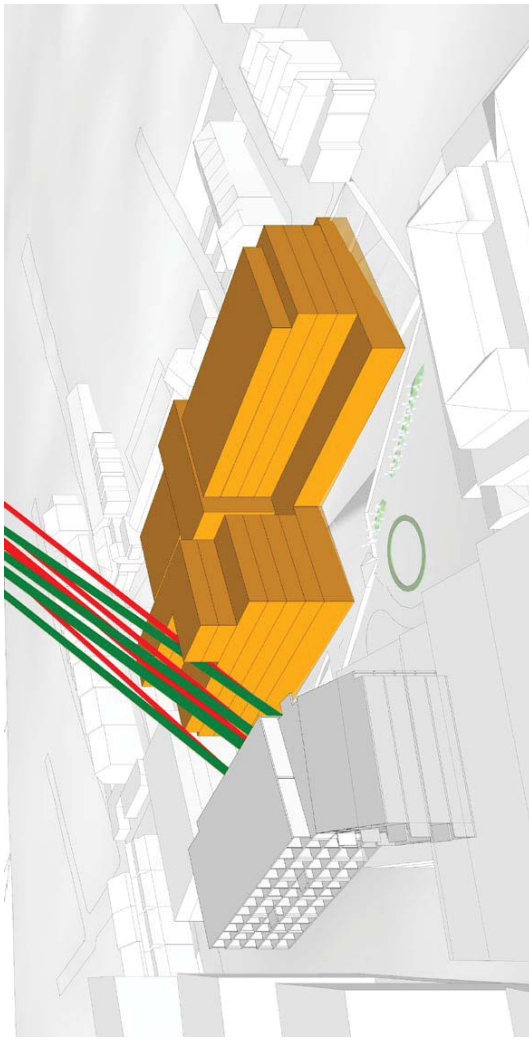


# LARKIN STREET APARTMENTS SUNLIGHT ACCESS

These raytracing diagrams illustrate how setbacks in Level 5 and Level 6 of Building A permit solar access to Units 221-224 at 1-3 Larkin Street such that these apartments comply with the Design Guideline in the Apartment Design Guide:

*To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1 sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes.*

Specifically Unit 221 receives 1 sqm of direct sunlight for 15 minutes (from 9:40am to 9:55 am) and Units 222-224 receive 1 sqm of direct sunlight for 15 minutes (from 9:45am to 10:00 am).





# SHORT STREET TOWNHOUSES SUNLIGHT ACCESS

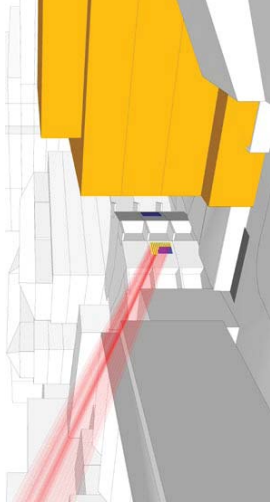
Two townhouses are impacted by the proposed development: 7/2A and 8/2A Short Street. These raytracing diagrams illustrate how the living spaces of 7/2A and 8/2A Short Street receive 2.5 hours of direct sunlight between 9 and 11:30am at the winter solstice, and thus comply with Objective 4A-1 of the Australian Design Guide:

*Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9am and 3pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas.*

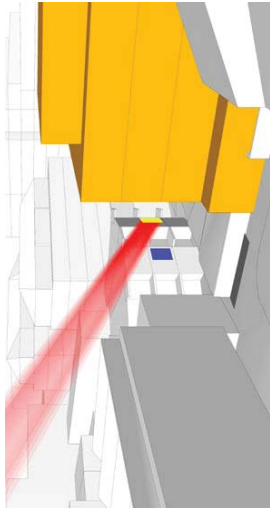
Second-floor living room location  
in 2A Short Street townhouses



7/2A SHORT STREET SOLAR ACCESS  
9AM



8/2A SHORT STREET SOLAR ACCESS  
9AM



7/2A SHORT STREET SOLAR ACCESS  
11:30AM



8/2A SHORT STREET SOLAR ACCESS  
11:30AM

