The **Ordinary Meeting** of
Bayside Council
will be held in the Rockdale Town Hall Auditorium
Ground Level, 448 Princes Highway, Rockdale
on Wednesday, 12 August 2020 at 7.00 pm

UNDER SEPARATE COVER ATTACHMENTS

8 REPORTS

8.1 Brighton Le Sands Centre Masterplan Plan - Built Form Options

1 Attachment A Built Form Study The Foreshore Area prepared by AJ+C Architects 2

2 Attachment B Built Form Study The Carpark Area prepared by AJ+C Architects 109

8.3 Post-Exhibition Report Planning Proposal: 1-3 Lord Street, Botany

1 Planning Proposal and Appendices (including DCP) 157

AJ+C
Allen Jack+Cottier
Bayside Council
BRIGHTON-LE-SANDS
BUILT FORM STUDY
The Foreshore Area
OCTOBER 2019 | BAYSIDE CITY COUNCIL

Bayside Council

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BRIGHTON-LE-SANDS BUILT FORM STUDY

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Date	Revision	Status	By	Checked
31/07/2019	3	ISSUE FOR INFORMATION	DW	EC/LL
16/09/2019	4	ISSUE FOR INFORMATION	DW	EC/LL

EXECUTIVE SUMMARY

This Built Form Study has been prepared by Allen Jack+Cottier (AJ+C) for Bayside Council to recommend an appropriate Built Form outcome for an area of Brighton-Le-Sands along the foreshore of Botany Bay.

The Built Form Study is intended to inform an overall master plan for the suburb of Brighton-Le-Sands currently being prepared by Bayside Council, informed by an Urban Form Study prepared by GMU Urban Design and Architecture. AJ+C's study was limited to an area defined by Bay Street to the north, President Ave to the south, The Grande Pde to the east, and Hercules Road / Brighton Ave to the west.

Working with Bayside Council staff, AJ+C prepared 7 options for the study area, ranging from 5- to 14- storeys. These were used to establish a balance between the desire to increase the density of the Brighton-Le-Sands local centre, and to protect the major public assets of Cooks Park and Lady Robinson Beach.

Ultimately, AJ+C recommends that:

- That any built form outcome be restricted from overshadowing Cooks Park before 2pm and from overshadowing Lady Robinson Beach before 3pm.
- Sufficient street setbacks be established to improve pedestrian amenity on The Grand Parade, and to protect the urban quality of Hercules Road while permitting larger buildings on its eastern side.
- Additional pedestrian-oriented streets be introduced to increase permeability/walkability of the local centre.
- The potential for new public open spaces be explored as a requirement for increased density, to mitigate an existing deficit in local open space.
- That new public transport routes be advocated for as a requirement for increased density.

PROJECT METHODOLOGY

Volume One - Built Form Study

Volume One of this report is split into four chapters:

1.0 Site Context, Constraints & Opportunities

Outlines the site location and description, current strategic and statutory planning frameworks applying to the site, existing social & transport infrastructure, the sites natural features and opportunities and constraints.

2.0 Design Principles

Defines key design principles to be applied to design outcomes and provides a vision for the built outcome of the study area.

3.0 Concept Options

Provides a brief overview of the eight design options explored to come to a recommended built form outcome.

4.0 Recommendation

Details AJ+C's recommended built form outcome for the study area in Brighton-Le-Sands.

Volume Two - Design Options

Volume Two contains detailed analysis of all options explored. Each were tested against the parameters set out within the main body of this document, are include: Indicative plan & summary; lot amalgamation plans; 3D perspectives; sections; shadow impact diagrams, and detailed schedules.

Figure 01: Study Area

1.0

SITE CONTEXT, CONSTRAINTS & OPPORTUNITIES

1.1 SITE LOCATION & DESCRIPTION

Brighton-Le-Sands is within the Bayside Council Local Government Area (LGA), approximately 2km from Sydney Airport and 13km south-west of the Sydney CBD.

The study area for this Built Form Study comprises of eight blocks bounded by Bay Street to the north, President Ave to the south, The Grande Pde to the east, and Hercules Road / Brighton Ave to the west. The study area covers approximately 6.5ha and features 570 metres of continuous frontage to the Botany Bay foreshore, separated by The Grand Parade.

Figure 02: Site location on aerial map

1.2 STRATEGIC PLANNING FRAMEWORK

Figure 03: Structure Plan for the Eastern City District Source: GSC 2018

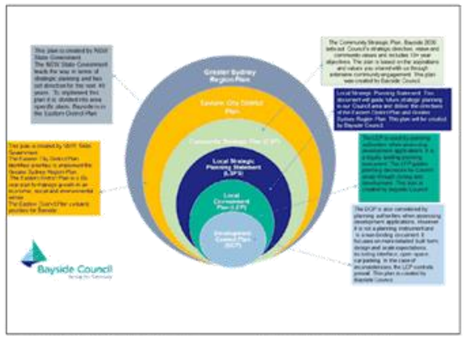


Figure 04: LSPS Process Diagram Source: Bayside Council

Figure 05: Draft Brighton-Le-Sand Master Plan Source: Bayside Council

Figure 06: Urban Design Principles Source: GMU

GREATER SYDNEY PLAN & EASTERN CITY DISTRICT PLAN

The Greater Sydney Commission (GSC)'s Greater Sydney Plan identifies BLS as one of ten local centres within the Eastern City District. The identification of a place as a local centre brings with it certain state planning priorities, including:

- Deliver transit-oriented development and co-locate facilities and social infrastructure
- Provide, increase or improve local infrastructure and open space
- Improve walking, cycling and public transport connections including through the Greater Sydney Green Grid
- Protect or expand retail and/or commercial floor space
- Protect or expand employment opportunities
- Integrate and support arts and creative enterprise and expression
- Support the night-time economy
- Augment or provide community facilities, services, arts and cultural facilities
- Conserve and interpret heritage values
- Accommodate local festivals, celebrations, temporary and interim uses
- Increase residential development in, or within a walkable distance of the centre
- Provide parking that is adaptable to future uses and takes account of access to public transport, walking and cycling.

The GSC also designates Kogarah, a 2.5km / 30 minute walk from the study area, as a Strategic Centre and as a Health and Education Cluster. This means that Kogarah has been identified as a future jobs centre, which would support the growth of local centres around it including BLS.

BAYSIDE LOCAL STRATEGIC PLANNING STATEMENT

All Local Councils are required to develop a Local Strategic Planning Statement (LSPS) and Local Housing Strategy (LHS) to identify how each LGA plans to accommodate Greater Sydney's predicted population growth. The Bayside Draft LSPS, currently on exhibition, identifies BLS as a potential location for the immediate delivery for a certain level of new housing, with potential for longer-term density uplift if future mass transit links are realised.

The draft LSPS also identifies certain Land Use Limitations for future development including for Developments within Coastal Areas. This limitation is defined as "protecting ecological and social values of coastal land".

BAYSIDE BRIGHTON-LE-SANDS MASTER PLAN

This Built Form Study is intended to inform a master plan currently being developed for the whole Brighton-Le-Sands centre by Bayside Council. The master plan is also being informed by a previous built form study undertaken by GMU Urban Design & Architecture of the entire centre. Draft issues of both reports were reviewed for this study.

Bayside's draft BLS master plan identifies an overall built form strategy where building heights and densities increase from west to east, with the highest density core around the intersection of Bay St and The Grand Parade.

The focus area for this current Built Form Study is identified in Bayside's draft master plan and the GMU study as being medium-to-high density mixed-use development along The Grande Parade, and a mixture of existing medium density and future medium density along the western boundary (variously Hercules Road and Brighton Avenue).

Certain upgrades are identified that are relevant for this study, including

- Beautification works of The Grand Parade, east and west sides
- Widened footpath of The Grand Parade, east side only
- Liaise with Sydney Transport to increase bus frequency
- Investigate and provide new bicycle lane[s] to improve connections
- Create east-west connections

An indicative built form strategy is defined that includes certain attributes which are queried in this current Built Form Study, including:

- Building heights in excess of the Sydney Airport OLS,
- Block dimensions that may result in unconcealed above-ground parking, and
- Significant overshadowing of the foreshore, midwinter.

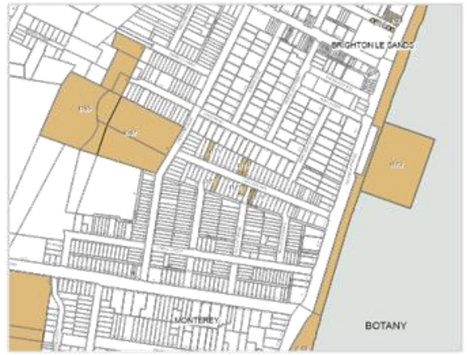
1.3 STATUTORY PLANNING FRAMEWORK

1.3.1 ROCKDALE LOCAL ENVIRONMENTAL PLAN

The study area of this report is covered by the Rockdale Local Environmental Plan (LEP) 2011. This establishes the following controls for the area:

Land zoning: primarily R4 High-density Residential, as well as R3 Medium Density Residential, R2 Low Density Residential and B4 Mixed Use.

Lot size: primarily no minimum lot size control, except for some areas of minimum 450m2 lot sizes where the current land zoning is Low- or Medium- Density Residential.



Heritage: There are three heritage items with particular impact on the study area:

I1168 - Cook Park

"Cook Park is major open space on the edge of Botany Bay with distinctive Norfolk Island Pines and historical associations with early developers Saywell and Cook. Established in 1886, Cook Park provides evidence of the late 19th century development of the area as the creation of the park was in direct response to the expanding urbanisation. Aesthetically the park is significant in its role as defining the character of the suburb and the edge of Botany Bay."

I1172 - Row of Araucaria Trees (in Cook Park)

I1173 - Brighton Baths

"Brighton Baths has historic significance as a remnant of the establishment of Brighton as a pleasure ground. The remaining Brighton Baths structure is symbolic of the important part the baths played in the social and leisure life of local and Sydney people during the early part of the twentieth century."

A number of single-family homes to the west of the study area are also heritage listed.

Height of buildings: primarily 14.5m (N2), as well as 28m (T3) around the intersection of The Grande Parade with The Boulevarde and 8.5m (I) where the current land zoning is Low- or Medium- Density Residential. In terms of storeys, these existing maximum building heights allow approximately 4-storey, 8-storeys and 2.5-storey residential buildings respectively.

Floor space ratio: primarily 1:1 (N), as well as 3:1 (V1) around the intersection of The Grande Parade with The Boulevarde, 0.6:1 (F) where the current land zoning is Medium Density residential, and 0.5:1 (D) where the current land zoning is Low Density Residential.

1.3 STATUTORY PLANNING FRAMEWORK

1.3.2 NSW COASTAL MANAGEMENT FRAMEWORK

Certain state policies and legislation apply to development along the Sydney foreshore, and a short desktop review has identified a number of factors which need to be considered within the framework of this study. Note that this list is not intended to be comprehensive and should not replace legal or planning advice.

NSW Fisheries Management Act 1994

Part 7 Protection of Aquatic Habitats - Division 4 part 205 notes that "a person must not harm any ... marine vegetation in a protected area, except under the authority of a permit issued by the Minister".

Under the meaning of the Act:

- *Harm includes "prevent[ing] light from reaching ... the marine vegetation"*
- *Marine vegetation includes the seagrasses along the BLS foreshore identified in the figure below.*
- *Protected area is defined as "any public water land ... and includes the foreshore"*

Figure 07: location of seagrasses along BLS foreshore

NSW Coastal Management Act 2016 & NSW SEPP (Coastal Management) 2018

The NSW Coastal Management Act divides the coastal zone into four coastal management areas: coastal wetlands & littoral rainforests; coastal vulnerability; coastal environment; coastal use. The latter two areas, environment and use, apply to the Brighton-Le-Sands coast.

The State Environmental Planning Policy (Coastal Management) 2018 puts in place high-level considerations for each of those land uses:

"Development on land within the coastal environment area

(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following:

(a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,

(b) coastal environmental values and natural coastal processes,

...

(d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,

(e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,

(f) Aboriginal cultural heritage, practices and places,

...

(2) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

(a) the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

... Development on land within the coastal use area

(1) Development consent must not be granted to development on land that is within the coastal use area unless the consent authority:

(a) has considered whether the proposed development is likely to cause an adverse impact on the following:

...

(ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,

(iii) the visual amenity and scenic qualities of the coast, including coastal headlands,

(iv) Aboriginal cultural heritage, practices and places,

(v) cultural and built environment heritage, and

(b) is satisfied that:

(i) the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or

(ii) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(iii) if that impact cannot be minimised—the development will be managed to mitigate that impact, and

(c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.

Specific controls on how to achieve these considerations are not established in either the Act or the SEPP. Instead, Local Councils are required by the Act to establish Coastal Management Plans for their LGA. In the meantime, Bayside Council's former Coastal Zone Management Plan (which will be transitioned to the new format) remains in effect.

1.3 STATUTORY PLANNING FRAMEWORK

1.3.3 AIRPORT CONSTRAINTS

The Prescribed Airspace for Sydney Airport establishes an Obstacle Limitation Surface (OLS) on areas affected by flight movements around Sydney Airport. The study area is within the Inner Horizontal Surface Contour 51m AHD. This establishes a maximum building height datum of 51-metres AHD (above sea level). As shown in Figure 08, the existing ground level in the study area is at a minimum RL of 6m AHD, which creates an effective building height cap of 13-storeys.

Note that this calculation relies on advice from Bayside Planning staff that the Council is empowered to approve development with minor incursions of non-habitable floor space within the OLS, including lift overruns, plant rooms and mechanical equipment. Alternatively, the Secretary of the Commonwealth Department of Infrastructure, Transport, Cities and Regional Development can approve incursions into the OLS on a case-by-case basis.

Without an additional height allowance, the effective height cap within the study area would be 13-storeys only.

The study area is also within the 70m Procedures for Air Navigation Systems Operations (PAN-OPS) zone, a second height control zone for aircraft flying in poor weather. This should not affect achievable maximum building heights, as it is significantly above the limitation imposed by the OLS.

The August 2018 Australian Noise Exposure Forecast (ANEF), which considers predicted airplane movements up to 2039, identifies the entirety of BLS as being outside of the ANEF-20 Contour, and so airport noise is considered to have no meaningful impact on future development potential.

Figure 08: OLS diagram

1.4 TRANSPORT

1.4.1 PUBLIC TRANSPORT

Public transport services to the suburb is generally poor with only a handful of direct bus connections. Sydney Bus routes 478 & 479 connect the site to Rockdale Station via Bay Street, with the only other connection provided by the 303 to Redfern via Mascot.

The site is located approximately 3.4km from Rockdale Station and 3.6km from Kogarah Station. Both stations are on the T4 Eastern Suburbs & Illawarra Line providing direct connections to the Sydney CBD and single transfer connections to Sydney Airports domestic and international terminals

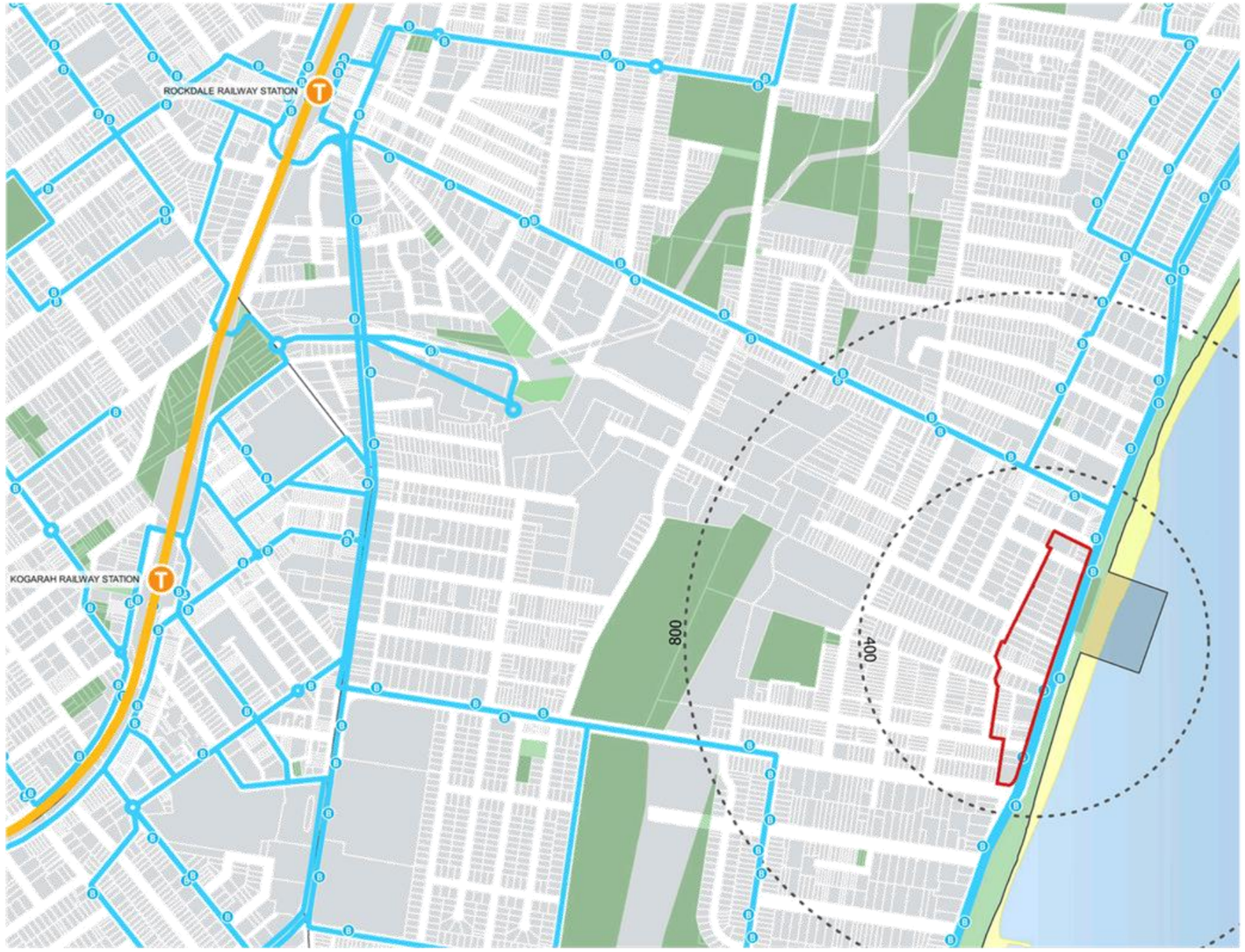


Figure 09: Existing Public Transport Map

1.4 TRANSPORT

1.4.2 ROAD NETWORK

The site is bounded by The Grand Parade to its east, President Avenue to the South, The Boulevarde to the north and Hercules Road & Brighton Avenue to its west.

The Grand Parade is part of a major arterial road and freight line running north south which dissects the suburb of Brighton Le Sands and the foreshore. The road connects President Avenue and the Princes Highway to the south and west and General Holmes Drive to the north.

Bay Street provides a direct connection between the site and Rockdale Station with the eastern end serving as a retail strip.

To the west a series of local roads connect The Grand Parade to Crawford Road and President Avenue to Bay Street. Many of these streets are of high urban design quality and offer a respite from the traffic noise generated by The Grand Parade. Hercules Road in particular which runs along the western edge of the site displays verge vegetation of high value and provides generous road widths.

Although no traffic study was provided to inform this report, Bayside Council Staff have advised that traffic is considered to be near capacity and that there is a deficit in available parking.

Figure 10: Existing Road Network Map

1.4 TRANSPORT

1.4.3 FUTURE TRANSPORT

TfNSW and the DPI&E have identified multiple transport initiatives that would affect the future character of BLS. The most imminent is Stage 1 of the F6 Extension, expected to open in 2024. This project is in an advanced stage of planning, with its Environmental Impact Statement (EIS) exhibited in 2018. The Stage 1 extension involves building two new road tunnels linking the M5 at Arncliffe to President Ave in Kogarah, at the southwest corner of Brighton-Le-Sands. A further Stage 2 extension of the F6 to Loftus is also identified in TfNSW Future Transport 2056 as an initiative for investigation with the next 10 years.

Further TfNSW initiatives identified for investigation include a mass-transit (rail) link from Kogarah to Parramatta in 10-20 years and from Kogarah to Miranda in 20+ years, as well as the extension of the NorthConnex motorway from the M2 to the future F6. Infrastructure NSW's State Infrastructure Strategy 2018 also identifies potential Bus Rapid Transit between Parramatta and surrounding strategic centres, including Kogarah.

As discussed, Brighton-Le-Sands is currently poorly serviced by public transport, and has difficulties with existing traffic and availability of parking. NSW State planning policy is currently to pair increases in density to areas either already well serviced by transport or areas that will benefit from near-term transport investment. Increased density at the Brighton-Le-Sands local centre should, therefore, be reliant on these future transport initiatives being realised.

Figure 11: Future Transport Map

1.5 OPEN SPACE

Brighton-Le-Sands benefits from two regional-scale clusters of open spaces. The first is Cook Park along The Grand Parade, a linear waterfront park running from Kyeemagh to Sandringham, which includes Brighton-le-Sands Beach. The second is the Rockdale Wetlands to the west of BLS, which includes Rockdale Bicentennial Park, Rockdale Ilinden Sports Fields, Memorial Fields and the Civic Avenue Reserve among others. Both these open spaces have been identified as part of the larger Sydney Green Grid, a state planning priority.

However, beyond these two major areas, there is a pronounced absence of local open spaces within BLS. The NSW Government Architect's Greener Places guidelines directs that all low-medium- density dwellings should be served by an open space (>4ha) within 400-metres, while all high-density dwellings should be within 200-metres of an open space. Cook Park and the Rockdale Wetlands are between 550 and 650 metres apart at BLS, meaning the transition to higher-densities will trigger the need for additional local open spaces within the centre.

Further, the F6 Extension Stage 1 described earlier will have major ramifications for the use value of the Rockdale Wetlands at BLS, with the tunnel dive occurring at Memorial Fields. This will reduce the usable area of open space accessible from BLS and impact the quality of the area that remains.

Given the current under-supply of open spaces within BLS and the planned reduction caused by the F6 Extension, existing public spaces must be protected as much as is possible. In relation to the focus area of the study, Cook Park should be a priority for immediate protection and future expansion. Within the larger Brighton-Le-Sands centre, additional local public open spaces should be proposed to support the increases in density being considered.

The 2010 Cook Park Plan of Management for Rockdale Council identified a number of opportunities for consideration along the BLS sections of Cook Park:

- consider options for separated paths for cycles and pedestrians,
- review potential for a tidal pool,
- enhance existing fitness facilities,
- review baths for repair or replacement,
- establish basic facilities to support windsurfing and kite boarding,
- pursue replacement planting strategy for pines,
- prepare upgraded interpretive material for area around cannon,
- evaluate construction of an in-harbour jetty,
- review cycle pinch points on boardwalk,
- evaluate construction of an interpretive boardwalk,
- continue critical dune restoration,
- ensure vista to Bay is clear from President Ave.

It is also recommended that the master planning process for the greater BLS centre consider the introduction of new local parks and other open spaces interspersed around areas identified for increased development.

Figure 12: Open Space & Recreation Map

Brighton-Le-Sands Beach is the defining public space within the local centre. It is the deepest, and so most usable, section of continuous beachfront that runs from Kyeemagh to Dolls Point. The Beach is currently largely protected from overshadowing until after 3pm, despite the north-east orientation of the coast line creating significant potential for overshadowing by the buildings positioned on Grand Parade. The most significant overshadowing is caused by the 13-storey Novotel Hotel, although its impact is mitigated by a stepped form positioning the height away from The Grand Parade.

Figure 13: Beach goers enjoying sun at Lady Robinson Beach, 3pm in July

Figure 14: Beach goers sitting at public kiosk, 3pm in July

Figure 15: A walk along Cooks Park, 3pm in July

1.5 OPEN SPACE

1.5.1 THE GRAND PARADE & COOK PARK

The F6 Extension Stage 1 provides the opportunity to significantly improve the amenity of The Grande Parade and Cook Parks. Traffic along The Grand Parade is expected to be reduced dramatically by the F6 Extension's re-routing*, meaning an argument could and should be made to reduce the width of the road reserve.

Although not a focus of this study, the existing and proposed street sections should be considered for the potential of The Grande Parade and Cook Park to become a more human-scaled place, increasing the amenity to residents and visitors while creating a much stronger connection between the neighbourhood and the foreshore.

* Bayside Council's response to the F6 Extension Stage 1 EIS identifies the absence of proposed connections between the F6 and the Port Botany Container Terminal. While the Sydney Gateway project will provide this connection for traffic travelling north, freight traffic travelling south from the Terminal may still need to use The Grand Parade. However, the expected reduction in passenger vehicles and partial removal of freight-based traffic could still have a transformative effect on The Grand Parade.

Figure 16: Future Transport Map

1.6 TOPOGRAPHY

The topography of Brighton-Le-Sands is largely shaped by its foreshore location.

The shoreline rises to RL 2 before rising sharply up to RL 6 at the Cook Park Trail continuing through The Grand Parade.

The land remains generally flat through the site and its surrounds before dropping off into the band of open space to the west where drainage lines and water bodies exist. The terrain then continues to rise towards Rockdale in the west.

The nature of the topography is particularly important due to the Obstacle Limitation Surface imposed by the distance to Sydney Airport. As the OLS is set as an 'AHD', the higher the ground level the less building height is possible. Consequently, slightly taller buildings are possible in the east of Brighton-Le-Sands than the west.

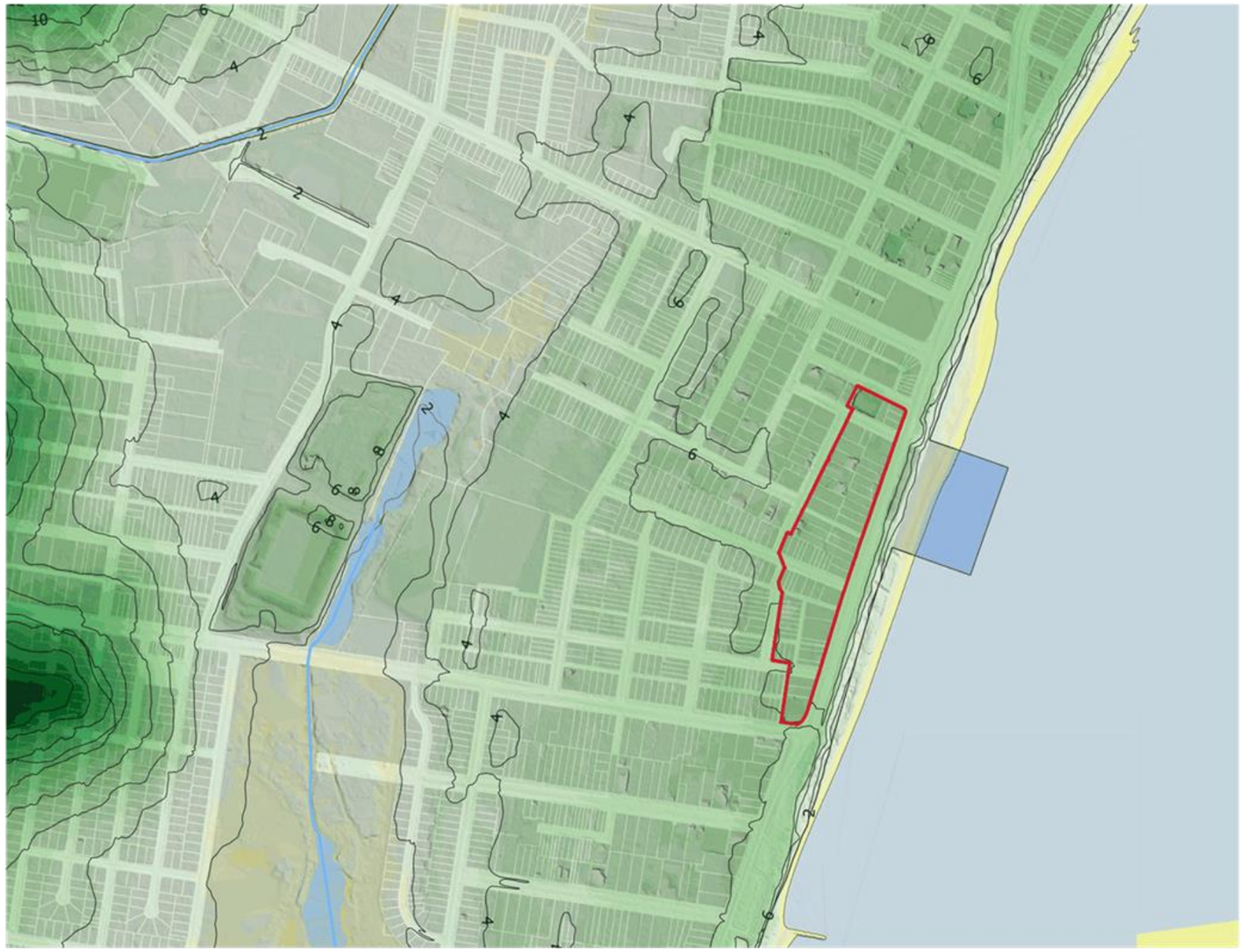


Figure 17: Topography Map

1.7 EXISTING BUILT FORM - THE GRAND PARADE

Existing Built form within the Study Area is largely typified by 2- and 4-storey residential flat buildings. The photomontages here identify each of the existing buildings along The Grand Parade.

The block immediately north of the Study Area (Bay Street to the Boulevarde) signals the beginning of the Brighton-Le-Sands Local Centre, as is occupied by retail and commercial tenancies. The next block (The Boulevarde to Duke Street) is occupied by a government-owned social housing complex. The next block (Duke Street to Kings Lane) is a very long continuous line of medium-density residential buildings of varied architecture characters.

Figure 18: Bay Street to The Boulevarde

Figure 19: The Boulevarde to Duke Street

Figure 20: Duke Street to Kings Lane

The Kings Lane to Teralba Road block continues this character until the corner, where a 2-storey shoptop residential building provides a pizza restaurant and hair salon. Kings Lane is a narrow pedestrian-only connection, with the character of a through-site link rather than a public street. This accentuates the perceived length of the block from Duke Street all the way to Teralba Road.

This is followed by a block with a single lot width (Teralba Road to Sybil Lane), then a longer block (Sybill Lane to O'Neill Street) which features the first of two 7-storey residential buildings, a narrow apartment building with numerous north-facing units. This block is the most varied within the study area, also including a 1-storey single family home and a function centre. The final block in the Study Area runs from O'Neill St to President Ave. This contains an 8-storey residential building, the largest in Brighton-Le-Sands.

Figure 21: Kings Lane to Teralba Road

Figure 22: Teralba Road to Sybil Lane

Figure 23: Sybil Lane to O'Neill St

Figure 24: O'Neill St to President Avenue

1.8 LAND OWNERSHIP

Properties within the Study Area are largely apartment buildings held in strata-ownership. In order to identify parcels that are the most likely to be developed in the near-term, Bayside Council provided the design team with a list of properties owned by less than five entities. These are listed below:

A. 94 Grand Pde, Brighton Le Sands

Total Units: 12
Ownership: 10 units are owned by four entities

B. 101 Grand Pde, Brighton Le Sands

Total Units: 4
Ownership: All units owned by one entity (same entity as C)

C. 102 Grand Pde, Brighton Le Sands

Total Units: 10
Ownership: 7 are owned by one entity (same entity as B)

D. 109 Grand Pde, Brighton Le Sands

Total Units: 4
Ownership: All units owned by one entity

E. 112 Grand Pde, Brighton Le Sands

Total Units: 12
Ownership: 8 units are owned by four entities

F. 130 Grand Pde, Brighton Le Sands

Total Units: 10
Ownership: All units owned by one entity

Figure 25: Lot Amalgamation Plan

1.9 SITE CONSTRAINTS

- Due to proximity to the Sydney Airport, an OLS limit of 51m AHD applies to the site
- The foreshore is composed of important features including Cook Park, Brighton Beach and existing ecological communities which must be protected from built form impacts
- The site is subject to substantial vehicular noise from The Grand Parade & President Avenue which is a heavily used freight route
- There are a series of narrow disconnected lane-ways running through and around the site
- There is approximately 690m between the controlled crossings of President Avenue and Bay Street. The absence of suitable pedestrian crossings to the foreshore highlights the disconnection of the foreshore and poor pedestrian safety and poor access to Botany Bay.
- There are a number of long impermeable blocks to the west of the site.
- There are a number of buildings which exceed the current 7 storey height limit.
- The solar access of existing apartment buildings are protected by the Apartment Design Guide, which does not allow new development to reduce solar access by more than 20%. This means that existing apartment buildings create some restrictions on potential development around them.

Figure 26: Site Constraint Map

1.10 SITE OPPORTUNITIES

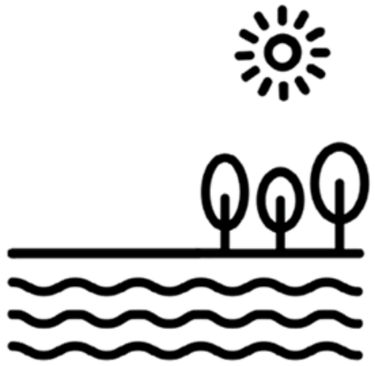
- Brighton-Le-Sands most distinguishing feature is the foreshore including access to Brighton Beach, Cook Park and the Cook Park Trail
- The foreshore includes expansive views of Botany Bay, with its unique mixture of natural and industrial landmarks including:
  - Sydney Airport
  - Caltex Oil Refinery
  - Quibray Bay
  - Towra Point
  - Port Botany
  - La Perouse and
  - Kamay Botany Bay National Park
- An existing key node is located at the intersection of Bay Street and The Grand Parade
- The Bay Street commercial strip extends around onto The Grand Parade
- The existing street network to the west of The Grand Parade includes a range of high quality streets with ample widths and large canopy trees.
- Opportunities exist to enhance and upgrade connections to the open space west via green pedestrian and cycle networks

Figure 27: Site Opportunity Map

2.0

DESIGN PRINCIPLES

2.1 DESIGN PRINCIPLES

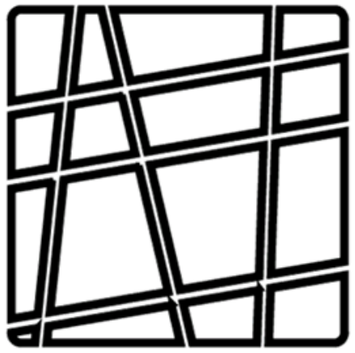


PROTECT AND ENHANCE THE FORESHORE

The foreshore is Brighton-Le-Sands' defining asset, and it should be protected and enhanced where possible. Increased housing opportunities within the town centre must be sensitive to and respect the heritage foreshore context adjacent. A considered approach will be necessary to ensure the character and amenity of the foreshore is not negatively affected.

Design Responses:

- Limit building heights to protect the heritage foreshore from overshadowing
- Use building setbacks to increase the sense of scale of the public realm along the foreshore

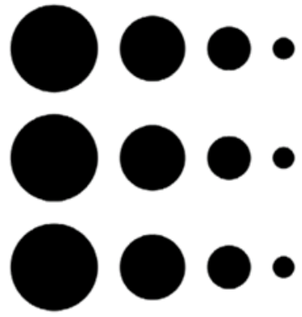


EXTEND THE PUBLIC STREET NETWORK AND CREATE THROUGH-SITE LINKS

Given its local and regional value as a major coastal public space, new and improved connections should be made between the town centre and the foreshore to ensure its enjoyment by all local residents. Revitalised streets & new pedestrian links will contribute to the Sydney Green Grid and better connect the foreshore to the rest of Brighton-Le-Sands.

Design Responses:

- Enhance block permeability & legibility
- Enable appropriate public/private interfaces to be delivered in the built form
- Building setbacks to allow for generous deep soil and landscaping zones and provide a high amenity interface with the public domain
- Retain existing mature street trees
- Promote active transport uses



NEW BUILDINGS TO BE RESPECTFUL OF LOWER-HEIGHT NEIGHBOURS

The draft master plan for Brighton-Le-Sands proposes significant increases in heights and densities rising from east to west. Careful design must be undertaken to mitigate the impact of new taller buildings on their existing lower-scale neighbours.

Design Responses:

- Consistent street wall heights with generous setbacks to upper levels to reduce the perceived scale from the street
- Limit the size of floor plates of residential towers to reduce their overshadowing and visual impact
- Use existing mature street trees and provide new landscaped buffers along Hercules Road and Brighton Avenue to conceal the tallest buildings.
- Above ground parking must be concealed ('skinned') with other building uses (residential, commercial or retail)

image credits: 'Made by Made' (left), 'Batibull' (centre) and Timothy Miller (right) from the Noun Project

2.2 APPLICATION OF DESIGN PRINCIPLES PROTECT AND ENHANCE THE FORESHORE

Numerous controls were explored to balance Bayside Council's planning priority to increase density at the Brighton-Le-Sands with the need to protect the heritage-listed foreshore.

We propose that **Cooks Park be protected from additional overshadowing up until 2pm** in mid-winter (June 21). This is to enable lunchtime use of the park and walking trails.

We also propose that **Brighton-Le-Sands Beach be protected from additional overshadowing up until 3pm**, as it is the defining feature of the Brighton-Le-Sands local area and should be protected throughout the entire day. An alternative control was to protect the beach only up to 4pm (typical of beach protection around NSW), however this was not considered feasible given the orientation of the Beach and The Grand Parade.

In order to encourage development, we propose these limitations be kept flexible in allowing existing overshadowing of the foreshore to be maintained. An alternative control would be to prohibit any development that overshadows the foreshore, even if it replaces a building that already does so.

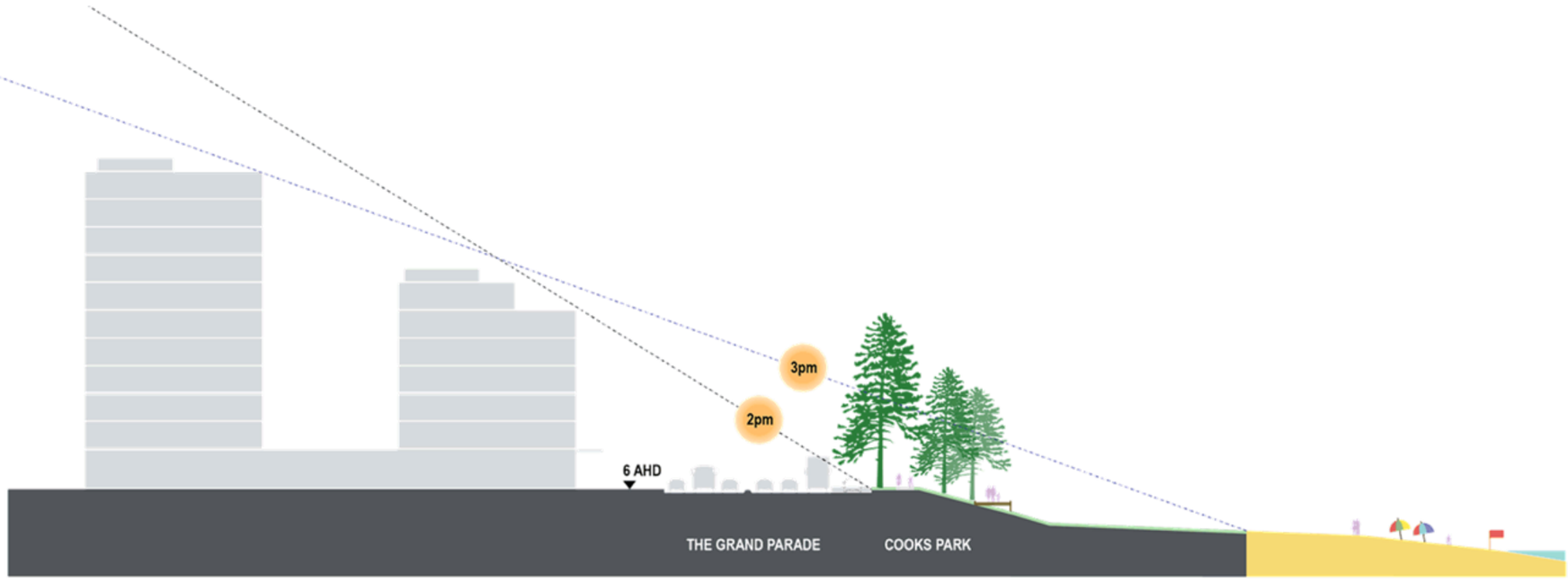


Figure 28: Section - building height effecting shadow at 2pm and 3pm

2.2 APPLICATION OF DESIGN PRINCIPLES

EXTEND THE PUBLIC STREET NETWORK AND CREATE THROUGH-SITE LINKS

In order to improve connections within Brighton-Le-Sands and from BLS to the foreshore, we explored extending the public street network to break down the longer blocks to create a more walkable and human-oriented place.

The recommended structure plan proposes to:

- Increase the number of public streets connecting east Brighton-Le-Sands to The Grand Parade, improving access and creating new through site vistas to Cooks Park and Botany Bay.
- Create a new north-south oriented street between Hercules/ Brighton and The Grand Parade. This will provide an alternative, sheltered pedestrian route to The Grand Parade as well as providing vehicular access to new developments.
- Increase green linkage opportunities connecting between Memorial Fields biodiversity corridor & Cooks Park.

Figure 29: Structure Plan

2.2 APPLICATION OF DESIGN PRINCIPLES

NEW BUILDINGS TO BE RESPECTFUL OF LOWER-HEIGHT NEIGHBOURS

Due to the nature of the existing built environment and the proposed changes to the rest of Brighton-Le-Sands, it will be important to require new buildings to be designed in a way that is respectful of their existing lower-height neighbours. As well as built form controls such as upper level setbacks and maximum floor plate sizes, we propose the street network be used to 'step down' from the new larger buildings to the existing residential to the west.

HERCULES ROAD & BRIGHTON AVE

Running parallel to The Grand Parade, Hercules Road is a pleasant residential street which includes generous setbacks to existing multi residential units.
The character of this street should be extended through Brighton Ave, and additional landscaped setbacks be implemented to further blend in the new taller building forms.

Design Guidelines:

- Introduce a 6m setback to the street providing new vegetation whilst retaining existing trees and landscape
- Create a transition to the lower-rise residential to the west
- Potential introduction of bike lane

NEW NORTH-SOUTH LANE

Bisecting the study area, a new lane running north to south will provide new routes through the suburb, created a sheltered alternative route to The Grand Parade.

Design Guidelines:

- Introduction of a curbless shared street that prioritises pedestrians
- All above ground parking to be sleeved with residential or commercial/retail uses

THE GRAND PARADE

A generous setback and the introduction of landscape verge abutting the street will improve pedestrian amenity and provide an appropriate buffer from the busy road. The introduction of retail and commercial uses at the northern end will activate the street and provide a suitable active transition to the foreshore.

Design Guidelines:

- Introduce a 6m setback to the street providing new vegetation and a generous pedestrian promenade
- Improve walkability and street amenity
- Introduction of an awning to retail, commercial and residential entries

Figure 30: Section - street amenity and transition by increasing setback to 6m

3.0

CONCEPT OPTIONS

3.1 SUMMARY OF CONCEPT OPTIONS

In order to address the project vision and design principles, eight design options were explored. Each was compared based on their impact in terms of visual bulk and overshadowing, balanced against their contribution to increasing the density at Brighton-Le-Sands.

Each option is summarised on the pages that follow, with detailed studies available in Volume Two of this report.

As will be seen in Chapter 4, our recommendation is that Option 2C be the basis for future Built Form Controls.

Figure 31: Concept Option 01A

Figure 32: Concept Option 01B

Figure 33: Concept Option 02A

Figure 34: Concept Option 02B

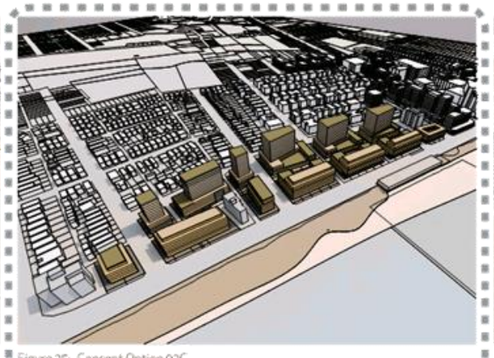


Figure 35: Concept Option 02C

Figure 36: Concept Option 03

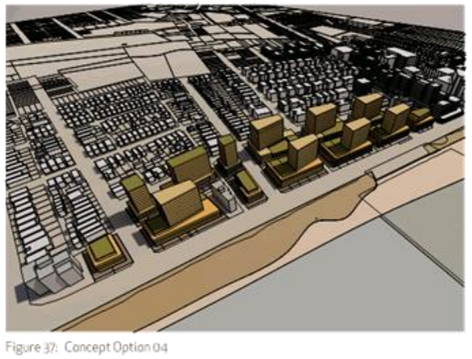


Figure 37: Concept Option 04

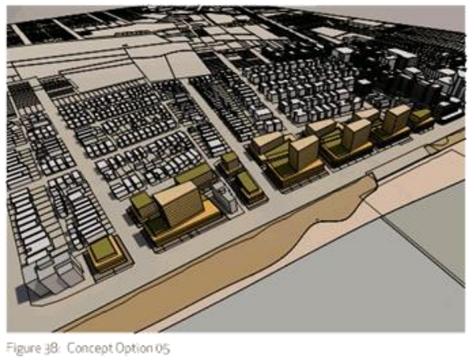


Figure 38: Concept Option 05

3.2 OPTION 01A

Option 1A was created based on a large amalgamation pattern - up to 12 lots per development site - with the aim to avoid any overshadowing of either Cooks Park or Brighton-Le-Sands beach before 3pm.

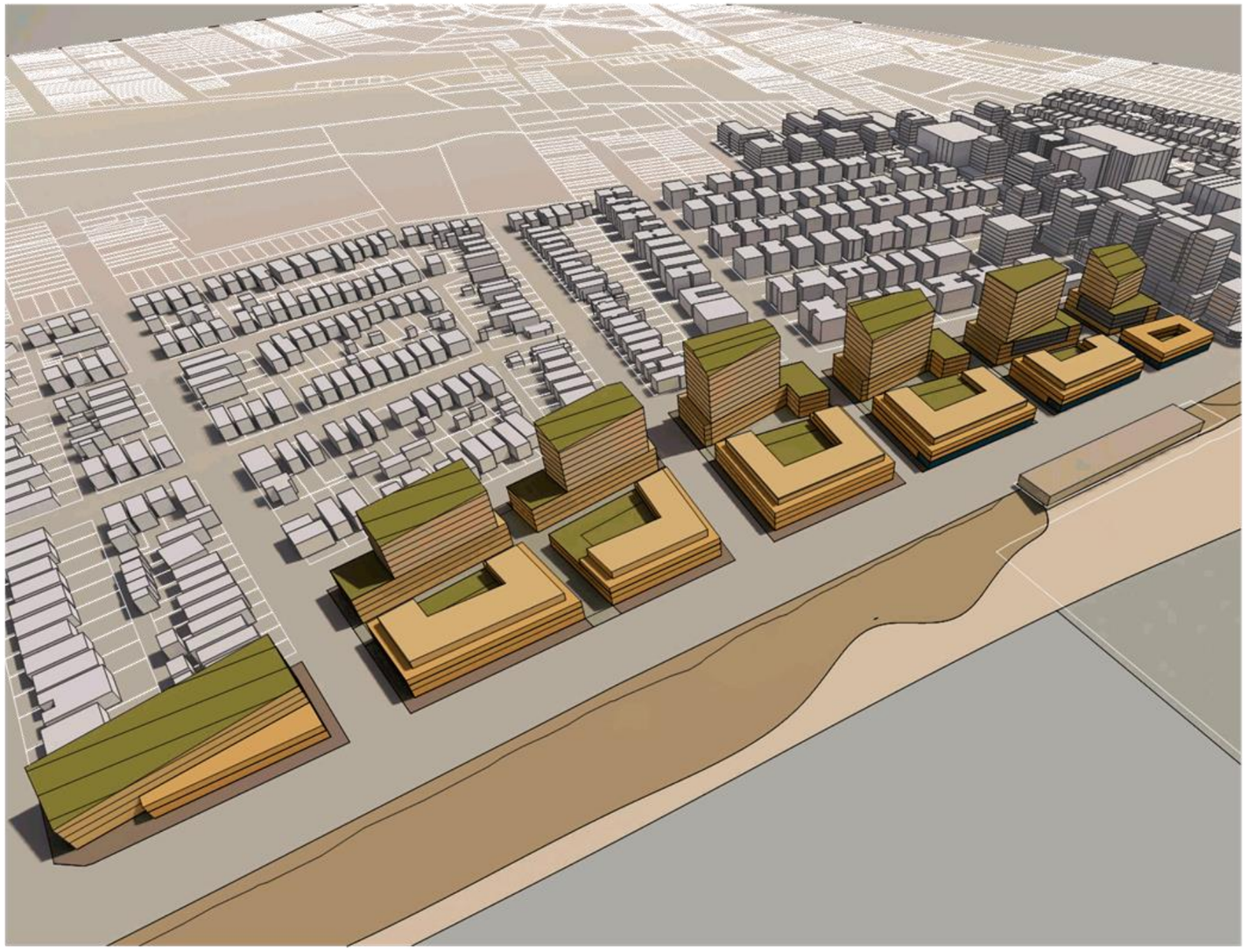
Ultimately the number of lots required to be amalgamated to achieve the new block pattern was decided to be unachievable, and the density proposed did not meet Bayside Council's ambitions for the area.

SUMMARY

FSR - 1.97:1

Storeys - The Grand Parade - 04
Hercules Road - 13

Solar - Cooks Park - until 3pm
Beach - until 3pm



3.3 OPTION 01B

Option 1B utilised the same amalgamation pattern as 1B, but loosened the overshadowing control so that Cooks Park was only protected from additional overshadowing up to 2pm.

As with Option 1B, it was decided that the number of amalgamated lots was not viable, although the density proposed came closer to Bayside Council's ambitions for the area.

SUMMARY

FSR - 2.48:1

Storeys - The Grand Parade - 06
Hercules Road - 14

Solar - Cooks Park - 2pm
Beach - 3pm

3.4 OPTION 02A

Option 2A proposed a more viable amalgamation pattern, with most superlots created through the amalgamation of an average of 6 existing lots. As was the case in 1A, this option protected Cooks Park from additional overshadowing up to 3pm.

As with Option 1A, the density proposed did not meet Bayside Council's ambitions for the area.

SUMMARY

FSR - 1.98:1

Storeys - The Grand Parade - 04
Hercules Road - 14

Solar - Cooks Park - 3pm
Beach - 3pm

3.5 OPTION 02B

Option 2B relaxed the overshadowing control to protect Cooks Park until 2pm, repeating the amalgamation pattern of Option 2A.

Although increased, the density proposed did not meet Bayside Council's ambitions for the area.

SUMMARY

FSR - 2.4:1

Storeys - The Grand Parade - 06
Hercules Road - 14

Solar - Cooks Park - 2pm
Beach - 3pm

3.6 OPTION 02C (PREFERRED OPTION)

Option 2C maximises density while protecting Cooks Park from additional overshadowing until 2pm and Brighton-Le-Sands Beach until 3pm. As discussed, we recommend this as the best option due to its careful balancing of maximising density while maintaining sensible foreshore protection controls.

SUMMARY

FSR - 2.58:1

Storeys - The Grand Parade - 07
Hercules Road - 14

Solar - Cooks Park - 2pm
Beach - 3pm

3.7 OPTION 03

Option 3 further increased density by positioning additional tall buildings along The Grand Parade, while retaining the increased heights along Hercules Street. Heights have been carefully considered to limit additional overshadowing of the Beach wherever possible, although overshadowing does occur.

SUMMARY

FSR - 2.44:1

Storeys - The Grand Parade - 10
Hercules Road - 14

Solar - Cooks Park - 1pm
Beach - 1pm

3.8 OPTION 04

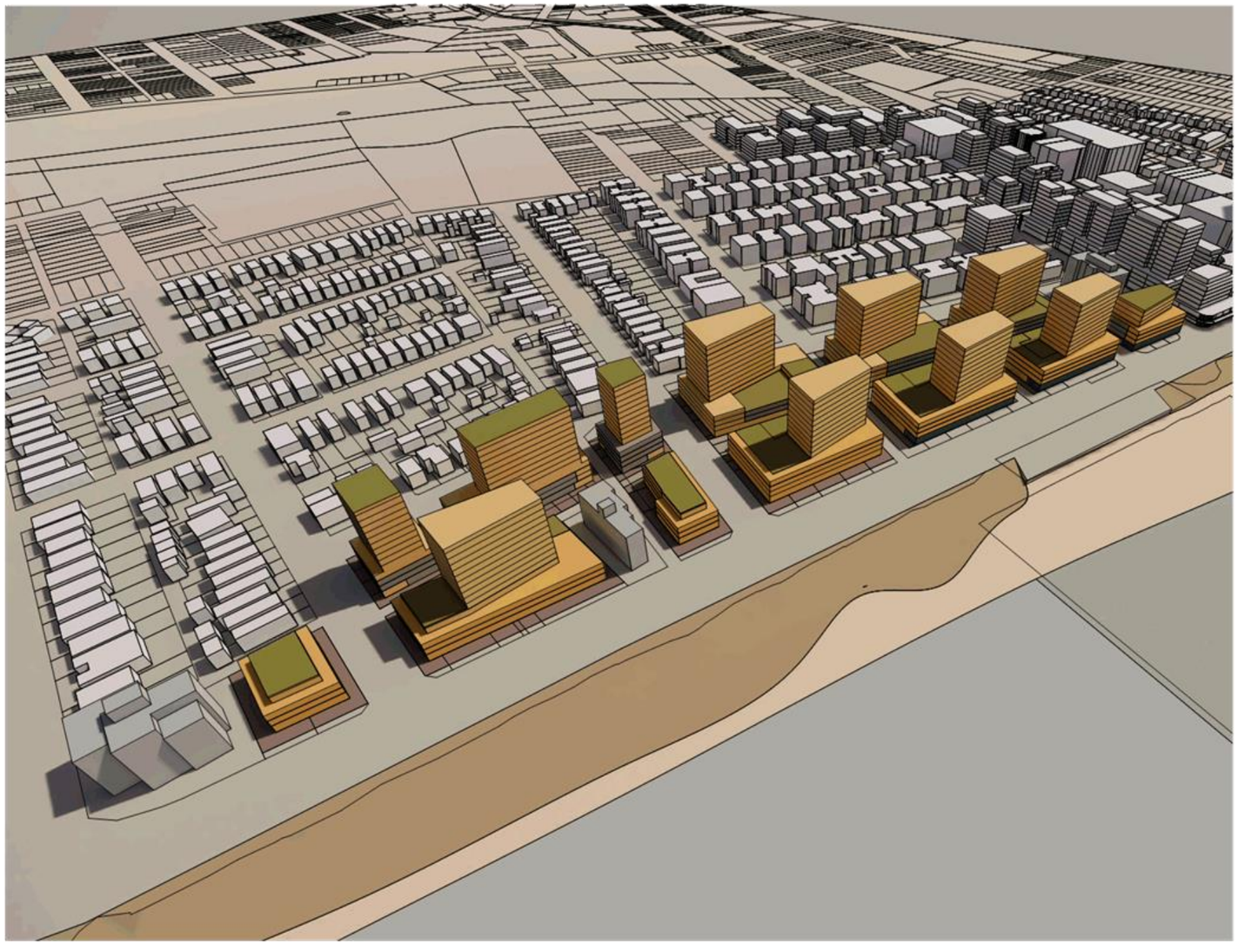
Option 4 maximised density by allowing building heights up to the Airport-permitted OLS maximum along both The Grand Parade and Hercules Street. This option essentially proposes to remove any restriction on development within the Study Area, and is not supported due to its major impact on the foreshore.

SUMMARY

FSR - 2.67:1

Storeys - The Grand Parade - 14
Hercules Road - 14

Solar - Cooks Park - 1pm
Beach - 1pm



3.9 OPTION 05

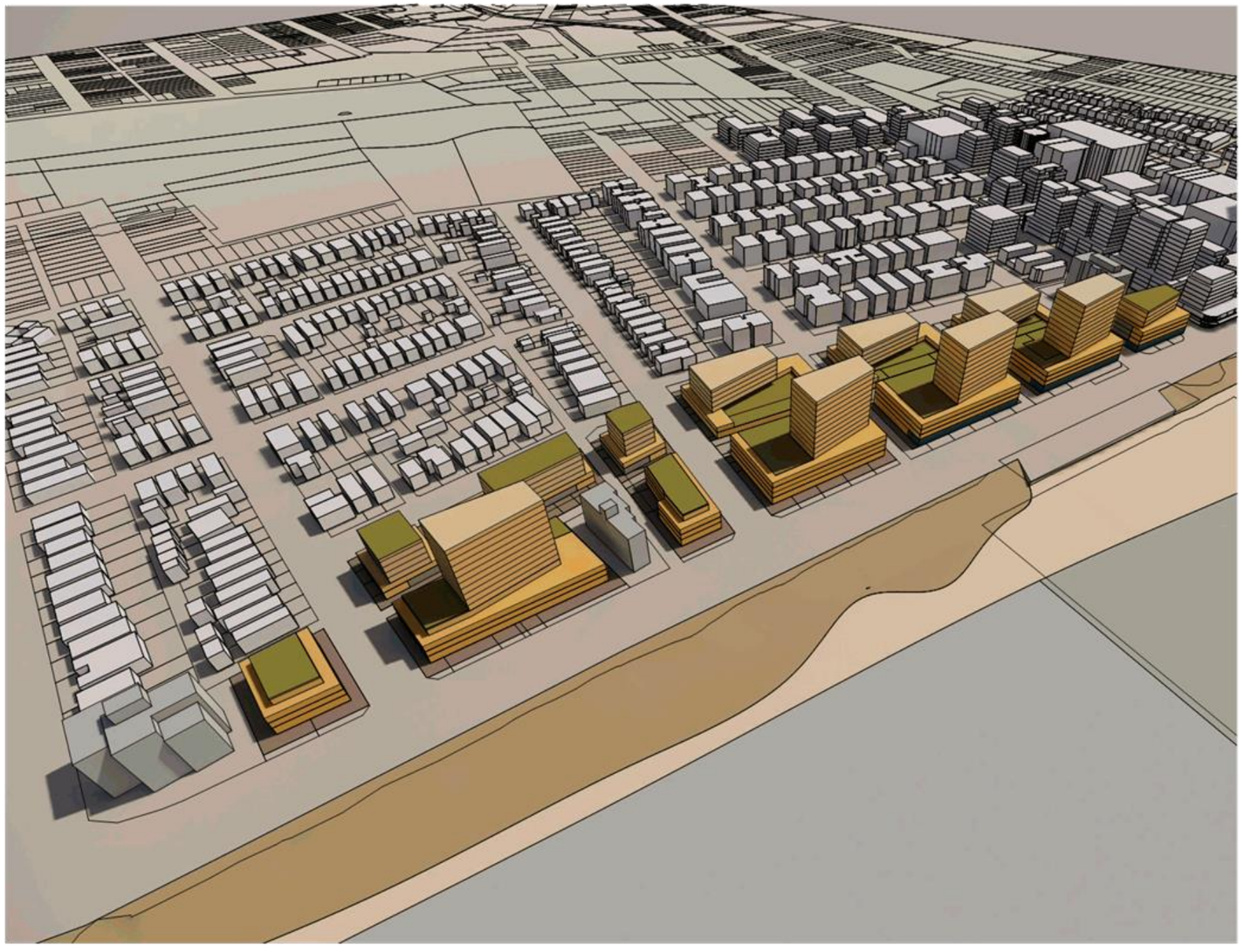
Option 5 proposes positioning most of the building height along The Grand Parade, with only limited height increases along Hercules Road. This is similar to the original master plan for Brighton-Le-Sands, but at higher building heights. This option is not supported due to its impact on the foreshore.

SUMMARY

FSR - 1.94:1

Storeys - The Grand Parade - 14
Hercules Road - 06

Solar - Cooks Park - 1pm
Beach - 1pm



4.0

RECOMMENDATION

BLAH

4.1 RECOMMENDATION

Of the eight alternate design options explored, Option 2C represents AJ+C's preferred option.

Option 2C aligns with the project vision, incorporates the design principles and respects the surrounding context whilst maintaining appropriate scale and density.

The recommended option reflects three key built form outcomes:

- Buildings are restricted from overshadowing Cooks Park before 2pm and from overshadowing Lady Robinson Beach before 3pm.
- In the recommended built form outcome, this establishes a 7-storey height limit along The Grand Parade with an upper-level setback but allows building heights of up to 14-storeys along Hercules Road/Brighton Ave.
- Sufficient street setbacks are established to improve pedestrian amenity on The Grand Parade, and to protect the urban quality of Hercules Road/Brighton Ave even while permitting taller buildings on its eastern side.
- 6-metre setbacks to The Grand Parade and Hercules Road are proposed. In the case of The Grand Parade, all or part of this would benefit from being dedicated back to Council. In the case of Hercules Road/Brighton Ave, this would remain as part of the residential developments and used for landscaping.
- Additional pedestrian-oriented streets are introduced to increase permeability/walkability of the local centre.
- A 12 metre shared zone is proposed between each set of amalgamated lots. This is shown as a curbless shared street, where pedestrians have right-of-way. Above-ground parking facing onto this (as well as that facing on to existing public streets) must be 'sleeved'/concealed by building uses such as residential dwellings, retail or commercial office space.

Figure 39: 3D Perspective

4.2 INDICATIVE SECTION

Maximum building heights of 14 storeys along Hercules Road and 7 storeys along The Grand Parade have been introduced to provide sufficient solar amenity to the foreshore and to keep within the OLS 51 m height limit.

In order to provide sufficient off street carparking 4 levels of parking are included, 2 above ground and 2 below. Including sleeved above ground parking allows the extent of excavation to remain above 0AHD to mitigate flooding impacts.

The above ground carparking will allow for high amenity communal open space podiums which will frame and provide passive surveillance to the newly formed lane bisecting the site.

All buildings have been designed to have a street address, take advantage of the high quality surrounding outlook and achieve excellent residential amenity.

The orientation and layout of the site presents a challenge in terms of maximising solar access to the buildings to reach ADG compliance. Although the proposal aligns with SEPP 65 Design Quality Principles and is capable of complying with the bulk of the ADG objectives achieving uniform solar compliance particularly to the eastern façades may not be possible.

Figure 40: 1:500 Section

4.3 OVERSHADOWING IMPACT

A solar analysis of the preferred option shows that there will be no additional solar impact on Cooks Park up until 2pm or Lady Robinson's Beach up until 3pm.

Despite the proposed increase to 14-storey building heights along Hercules Street and Brighton Avenue, the neighbouring properties on the western side of those streets are largely unaffected. This is due to the north-eastern orientation of the buildings, which ensures shadows have largely moved on from neighbouring residences by 10am.

The shadow diagrams here show some overshadowing of the beach at 3pm, however these areas are already overshadowed by the Beach Pavilion. Overall there is no meaningful increase of overshadowing of the beach until after 3pm.

Figure 41: 9am

Figure 42: 10am

Figure 43: 11am

Figure 47: 12noon

Figure 44: 1pm

Figure 45: 2pm - NO ADDITIONAL OVERSHADOWING

Figure 46: 3pm

4.4 AMALGAMATION PLAN

Superlot A

existing lot area	1702m2
lot area following development:	1726m2
GFA:	3778m2
FSR:	2.28:1

Superlot B1

existing lot area	3772m2
lot area following development:	3095m2
GFA:	11031m2
FSR:	3.56:1

Superlot B2

existing lot area	3441m2
lot area following development:	2725m2
GFA:	6916m2
FSR:	2.54:1

Superlot C1

existing lot area	4985m2
lot area following development:	3972m2
GFA:	12591m2
FSR:	3.17:1

Superlot C2

existing lot area	4587m2
lot area following development:	3539m2
GFA:	8829m2
FSR:	2.49:1

Superlot D1

existing lot area	5319m2
lot area following development:	4476m2
GFA:	12940m2
FSR:	2.89:1

Superlot D2

existing lot area	4236m2
lot area following development:	4141m2
GFA:	8481m2
FSR:	2.05:1

Superlot E1

existing lot area	1255m2
lot area following development:	1255m2
GFA:	3328m2
FSR:	2.65:1

Superlot E2

existing lot area	2780m2
lot area following development:	2780m2
GFA:	8201m2
FSR:	2.95:1

Superlot E3

existing lot area	3551m2
lot area following development:	3190m2
GFA:	7441m2
FSR:	2.33:1

Superlot E4

existing lot area	3888m2
lot area following development:	3638m2
GFA:	7367m2
FSR:	2.02:1

Superlot F

existing lot area	1629m2
lot area following development:	1529m2
GFA:	2181m2
FSR:	1.43:1

Figure 48: Lot Amalgamation Plan

4.5 SITE PLAN

The site plan here shows the recommended block and building layout, with heights in storeys notated. Note that certain buildings have been shown at heights lower than the 14-storey maximum on the western edge and 7-storey maximum on the eastern edge. These variations are designed to avoid additional overshadowing of the beach as well as to avoid impacting living rooms of existing apartment buildings, which have their solar access protected by SEPP65/the Apartment Design Guide.

Ultimately this option is recommended because it best balances maximising potential density in Brighton-Le-Sands with the need to protect the foreshore as well as contribute to the quality of the suburb as experienced on the street.

Figure 49: Indicative Plan

OPTION 02C - SUMMARY	REV A	17/09/2019
Total Site Area of Algamated Lots:	36,066 m²	
Gross FSR:	2.58:1	
FSR - residential:	2.49:1	
FSR - non-residential:	0.06:1	
Total GFA:	93,074 m²	
Retail GFA:	2,283 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	89,914 m²	
Total number of units:	1,046 units	

Figure 50: Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

ALLEN JACK+COTTIER

AJ+C
Allen Jack+Cottier
Bayside Council
BRIGHTON-LE-SANDS
BUILT FORM STUDY
VOLUME TWO
OCTOBER 2019 | BAYSIDE CITY COUNCIL

5.1 OPTION 01A

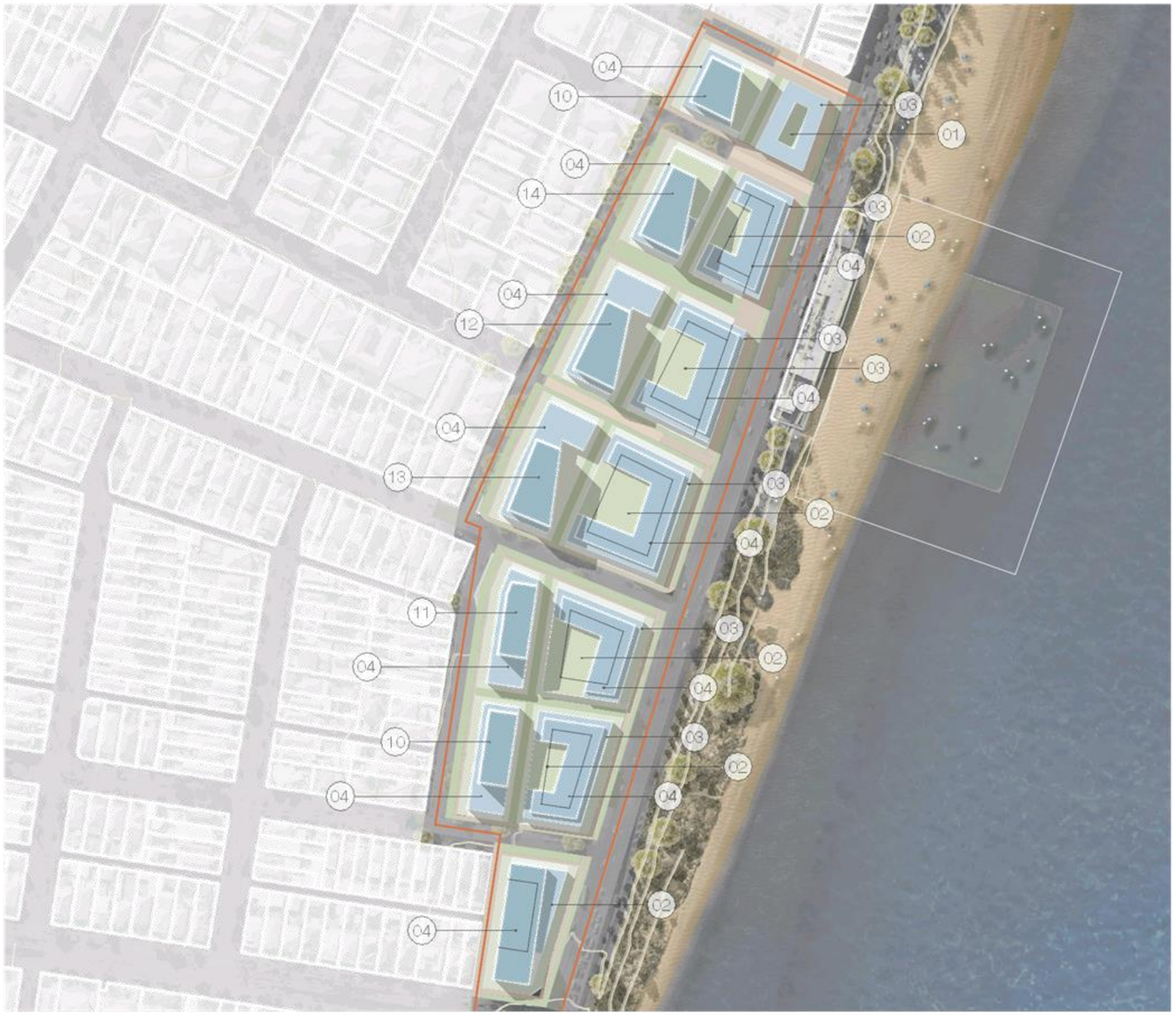


Figure 01: Indicative Plan

OPTION 01A - SUMMARY	Rev A	18/07/2019
Total Site Area of Algamated Lots:	44,112 m²	
Gross FSR:	1.97:1	
FSR - residential:	1.92:1	
FSR - non-residential:	0.05:1	
Total GFA:	86,999 m²	
Retail GFA:	2,128 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	84,871 m²	
Total number of units:	980 units	

Figure 02: Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

ALLEN JACK+COTTIER

5.2 OPTION 01A - AMALGAMATION PLAN

Superlot A

existing lot area	3819m2
lot area following development:	4063m2
GFA:	7692m2
FSR:	1.89:1

Superlot B

existing lot area	7213m2
lot area following development:	6167m2
GFA:	15104m2
FSR:	2.45:1

Superlot C

existing lot area	9572m2
lot area following development:	7908m2
GFA:	16834m2
FSR:	2.13:1

Superlot D

existing lot area	9556m2
lot area following development:	9014m2
GFA:	18339
FSR:	2.03:1

Superlot E

existing lot area	12732m2
lot area following development:	13599m2
GFA:	25060m2
FSR:	1.84:1

Superlot F

existing lot area	3561m2
lot area following development:	3362m2
GFA:	3970m2
FSR:	1.18:1

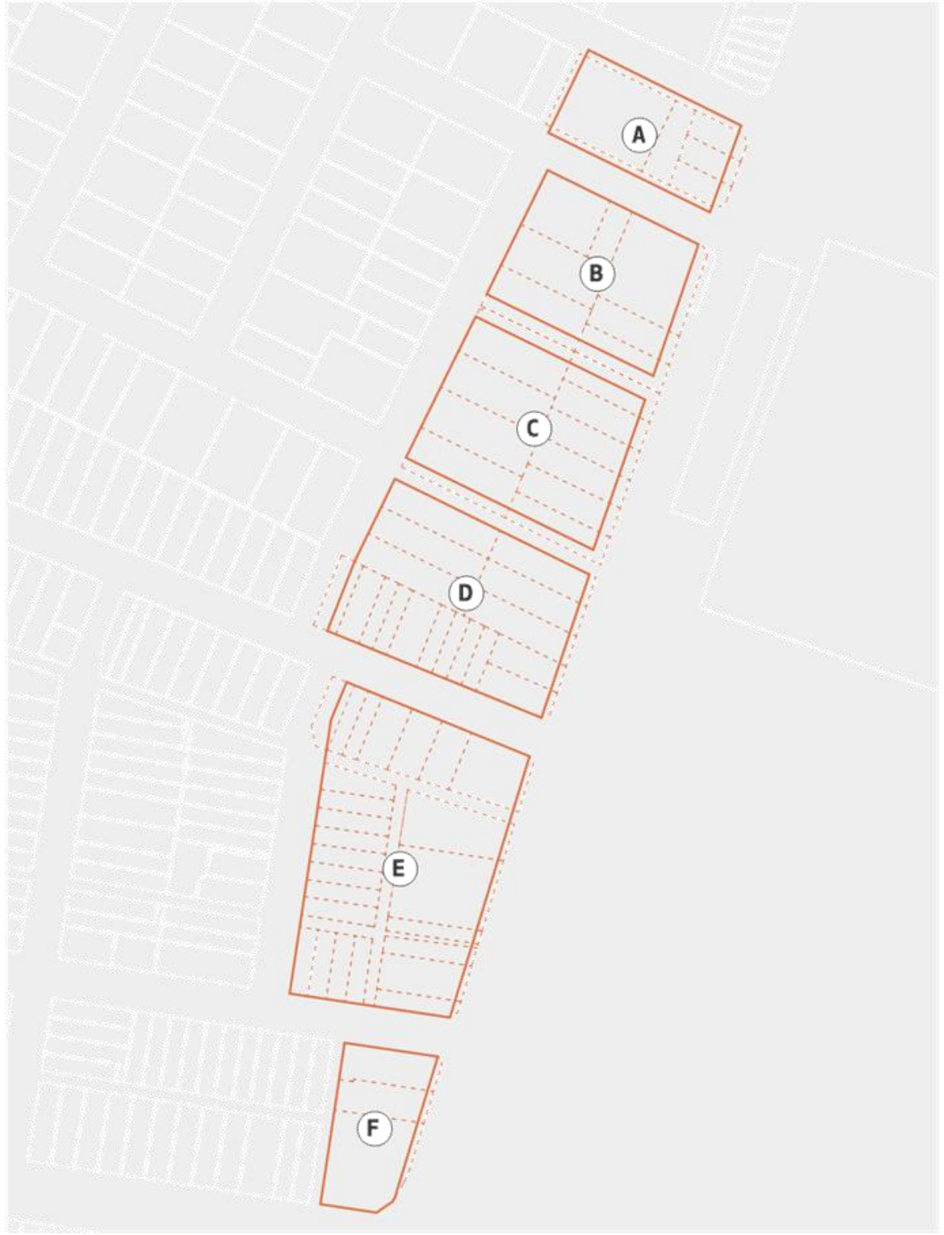


Figure 03: Lot Amalgamation Plan

5.3 OPTION 01A - PERSPECTIVE 1

Figure 04: 3D Perspective

5.4 OPTION 01A - PERSPECTIVE 2

Figure 05: 3D Perspective

5.5 OPTION 1A - SECTION

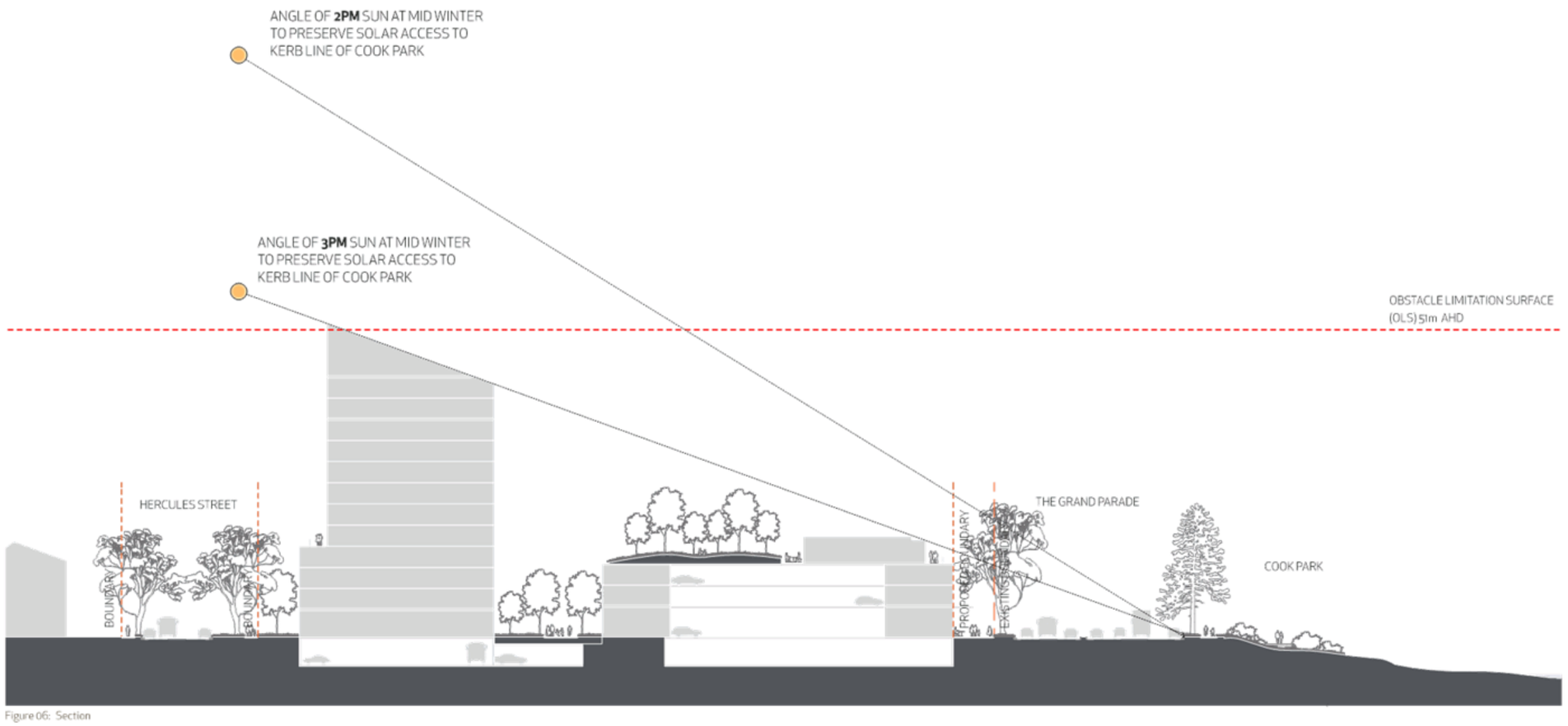


Figure 06: Section

5.6 OPTION 01A - MIDWINTER SHADOW ANALYSIS

Figure 07: 9am

Figure 08: 10am

Figure 09: 11am

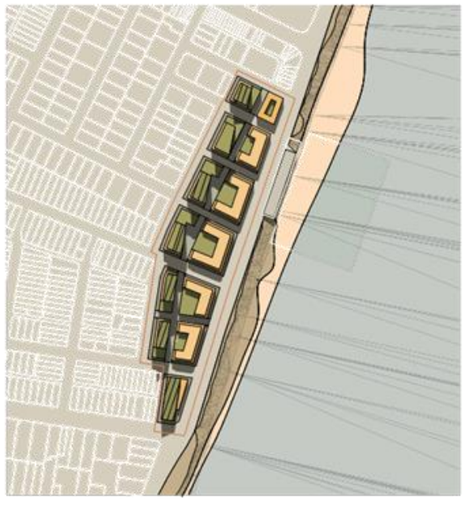


Figure 13: 12noon

Figure 10: 1pm

Figure 11: 2pm

Figure 12: 3pm - NO ADDITIONAL OVER SHADOWING

5.7 OPTION 01A - SCHEDULES

BRIGHTON LE SANDS OPTION 1A — **Rev A** — **18/07/2019**

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential												Non-residential									Resi + Non-Resi			
					GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3- bed units	4- bed units	Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	4,062																												
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		B4?	59%	41%	1,246	1	1,246	1,184	769	577	8	0	2	5	1	0	861	1	861	818	736	699	861	818	736	699	2,107	2,002	1,506	1,276
A2 - Podium		B4?	100%	0%	1,806	1	1,806	1,716	1,287	1,094	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,806	1,716	1,287	1,094
A3 - Podium		B4?	100%	0%	1,806	1	1,806	1,716	1,287	1,094	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,806	1,716	1,287	1,094
A4 - Podium		B4?	100%	0%	685	1	685	651	488	415	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	685	651	488	415
A5 - A10		B4?	100%	0%	731	6	4,386	4,167	3,125	2,656	37	0	11	22	4	0	0	0	0	0	0	0	0	0	0	0	4,386	4,167	3,125	2,656
Total	4,062				6,274	10	9,929	9,433	6,956	5,836	81	0	24	49	8	0	861	1	861	818	736	699	861	818	736	699	10,790	10,251	7,692	6,535
FSR																											Net FSR:	1.89:1		
Lot B Amalgamated	6,167																												
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1 Gr Fl/Lvl 1		B4?	70%	30%	2,160	1	2,160	2,052	1,334	1,009	14	0	4	8	1	0	909	1	909	864	777	738	909	864	777	738	3,069	2,916	2,111	1,739
B2 - Podium		B4?	100%	0%	2,654	1	2,654	2,521	1,891	1,607	22	0	7	13	2	0	0	0	0	0	0	0	0	0	0	0	2,654	2,521	1,891	1,607
B3 - Podium		B4?	100%	0%	3,012	1	3,012	2,861	2,146	1,824	25	0	8	15	3	0	0	0	0	0	0	0	0	0	0	0	3,012	2,861	2,146	1,824
B4 - Podium		B4?	100%	0%	2,360	1	2,360	2,242	1,682	1,429	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,360	2,242	1,682	1,429
B5 - B13		B4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	8	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	6,167				11,207	14	20,396	19,376	14,327	12,045	166	0	50	100	17	0	909	1	909	864	777	738	909	864	777	738	21,305	20,240	15,104	12,783
FSR																											Net FSR:	2.45:1		
Lot C Amalgamated	7,908																												
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1 Gr Fl/Lvl 1		B4?	82%	18%	3,272	1	3,272	3,108	2,020	1,515	21	0	6	13	2	0	719	1	719	683	615	584	719	683	615	584	3,991	3,791	2,635	2,099
C2 - Podium		B4?	100%	0%	3,992	1	3,992	3,792	2,844	2,418	33	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	3,992	3,792	2,844	2,418
C3 - Podium		B4?	100%	0%	3,992	1	3,992	3,792	2,844	2,418	33	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	3,992	3,792	2,844	2,418
C4 - Podium		B4?	100%	0%	3,776	1	3,776	3,587	2,690	2,287	32	0	10	19	3	0	0	0	0	0	0	0	0	0	0	0	3,776	3,587	2,690	2,287
C5 - C12		B4?	100%	0%	8,168	8	8,168	7,760	5,820	4,947	68	0	20	41	7	0	0	0	0	0	0	0	0	0	0	0	8,168	7,760	5,820	4,947
Total	7,908				16,053	12	23,200	22,040	16,219	13,584	187	0	56	112	19	0	719	1	719	683	615	584	719	683	615	584	23,919	22,723	16,834	14,168
FSR																											Net FSR:	2.13:1		
Lot D Amalgamated	9,014																												
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1 Gr Fl/Lvl 1		R4?	100%	0%	4,159	1	4,159	3,951	2,568	1,926	27	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	4,159	3,951	2,568	1,926
D2 - Podium		R4?	100%	0%	4,159	1	4,159	3,951	2,963	2,519	35	0	11	21	4	0	0	0	0	0	0	0	0	0	0	0	4,159	3,951	2,963	2,519
D3 - Podium		R4?	100%	0%	4,797	1	4,797	4,557	3,418	2,905	40	0	12	24	4	0	0	0	0	0	0	0	0	0	0	0	4,797	4,557	3,418	2,905
D4 - Podium		R4?	100%	0%	3,959	1	3,959	3,790	2,842	2,416	33	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	3,959	3,790	2,842	2,416
D5-D13		R4?	100%	0%	1,021	9	9,189	8,730	6,547	5,565	77	0	23	46	8	0	0	0	0	0	0	0	0	0	0	0	9,189	8,730	6,547	5,565
Total	9,014				18,125	13	26,293	24,978	18,339	15,331	212	0	64	127	21	0	0	0	0	0	0	0	0	0	0	0	26,293	24,978	18,339	15,331
FSR																											Net FSR:	2.03:1		
Lot E Amalgamated	13,599																												
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1 Gr Fl/Lvl 1		R4?	100%	0%	6,499	1	6,499	6,174	4,813	3,810	42	0	13	25	4	0	0	0	0	0	0	0	0	0	0	0	6,499	6,174	4,813	3,810
E2 - Podium		R4?	100%	0%	6,499	1	6,499	6,174	4,631	3,936	54	0	16	32	5	0	0	0	0	0	0	0	0	0	0	0	6,499	6,174	4,631	3,936
E3 - Podium		R4?	100%	0%	6,889	1	6,889	6,545	4,908	4,172	58	0	17	35	6	0	0	0	0	0	0	0	0	0	0	0	6,889	6,545	4,908	4,172
E4 - Podium		R4?	100%	0%	5,667	1	5,667	5,384	4,038	3,432	47	0	14	28	5	0	0	0	0	0	0	0	0	0	0	0	5,667	5,384	4,038	3,432
E5-E13		R4?	100%	0%	1,613	6.5	10,485	9,960	7,470	6,350	88	0	26	53	9	0	0	0	0	0	0	0	0	0	0	0	10,485	9,960	7,470	6,350
Total	13,599				27,167	11	36,039	34,237	25,060	20,900	289	0	87	173	29	0	0	0	0	0	0	0	0	0	0	0	36,039	34,237	25,060	20,900
FSR																											Net FSR:	1.84:1		
Lot F Amalgamated	3,362																												
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1 Gr Fl/Lvl 1		R4?	100%	0%	1,288	1	1,288	1,224	795	597	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,288	1,224	795	597
F2 - Podium		R4?	100%	0%	1,288	1	1,288	1,224	918	780	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,288	1,224	918	780
F3-F4		R4?	100%	0%	1,584	2	3,168	3,010	2,257	1,919	26	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,168	3,010	2,257	1,919
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,362				4,160	4	5,744	5,457	3,970	3,295	45	0	14	27	5	0	0	0	0	0	0	0	0	0	0	0	5,744	5,457	3,970	3,295
FSR																											Net FSR:	1.18:1		
Develop. Area	44,112				82,986		121,601	115,520	84,871	70,990	980	0	294	588	98	0	2,489		2,489	2,365	2,128	2,022	2,489	2,408	2,128	2,022	124,090	117,885	86,999	73,012

Figure 14: Schedule Part 1

BRIGHTON LE SANDS OPTION 1A

Lot/Building No.	Development Lot Area (m²)	Car Parking												
		Resi Carparking Area	Number of floors	Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	4,062														
Basement		2,166	1	54	0	0	0	0	0	0	0	2,166	54	0	0
A1 Gr Fl/Lvl 1		548	1	14	416	10	0	0	0	644	18	548	14	1,060	29
A2 - Podium		848	1	21	780	20	0	0	0	0	0	848	21	780	20
A3 - Podium		848	1	21	780	20	0	0	0	0	0	848	21	780	20
A4 - Podium		848	1	21	312	8	0	0	0	0	0	848	21	312	8
A5 - A10		0	0	0	1,924	48	0	0	0	0	0	0	0	1,924	48
Total	4,062	5,258	5	131	4,212	105	0		0	644	18	5,258	131	4,856	124
FSR															
Lot B Amalgamated	6,167														
Basement		3,807	1	95	0	0	0	0	0	0	0	3,807	95	0	0
B1 Gr Fl/Lvl 1		1,421	1	36	728	18	0	0	0	680	19	1,421	36	1,408	38
B2 - Podium		1,835	1	46	1,144	29	0	0	0	0	0	1,835	46	1,144	29
B3 - Podium		994	1	25	1,300	33	0	0	0	0	0	994	25	1,300	33
B4 - Podium		994	1	25	1,040	26	0	0	0	0	0	994	25	1,040	26
B5 - B13		0	0	0	4,420	111	0	0	0	0	0	0	0	4,420	111
Total	6,167	9,051	5	226	8,632	216	0		0	680	19	9,051	226	9,312	235
FSR															
Lot C Amalgamated	7,908														
Basement		5,665	1	142	0	0	0	0	0	0	0	5,665	142	0	0
C1 Gr Fl/Lvl 1		1,525	1	38	1,092	27	0	0	0	538	15	1,525	38	1,630	43
C2 - Podium		1,525	1	38	1,716	43	0	0	0	0	0	1,525	38	1,716	43
C3 - Podium		1,525	1	38	1,716	43	0	0	0	0	0	1,525	38	1,716	43
C4 - Podium		0	0	0	1,664	42	0	0	0	0	0	0	0	1,664	42
C5 - C12		0	0	0	3,536	88	0	0	0	0	0	0	0	3,536	88
Total	7,908	10,240	4	256	9,724	243	0		0	538	15	10,240	256	10,262	258
FSR															
Lot D Amalgamated	9,014														
Basement		7,253	1	181	0	0	0	0	0	0	0	7,253	181	0	0
D1 Gr Fl/Lvl 1		1,860	1	47	1,404	35	0	0	0	0	0	1,860	47	1,404	35
D2 - Podium		1,860	1	47	1,820	46	0	0	0	0	0	1,860	47	1,820	46
D3 - Podium		0	0	0	2,080	52	0	0	0	0	0	0	0	2,080	52
D4 - Podium		0	0	0	1,716	43	0	0	0	0	0	0	0	1,716	43
D5-D13		0	0	0	4,004	100	0	0	0	0	0	0	0	4,004	100
Total	9,014	10,973	3	274	11,024	276	0		0	0	0	10,973	274	11,024	276
FSR															
Lot E Amalgamated	13,599														
Basement		11,188	1	280	0	0	0	0	0	0	0	11,188	280	0	0
E1 Gr Fl/Lvl 1		2,140	1	54	2,184	55	0	0	0	0	0	2,140	54	2,184	55
E2 - Podium		2,140	1	54	2,808	70	0	0	0	0	0	2,140	54	2,808	70
E3 - Podium		0	0	0	3,016	75	0	0	0	0	0	0	0	3,016	75
E4 - Podium		0	0	0	2,444	61	0	0	0	0	0	0	0	2,444	61
E5-E13		0	0	0	4,576	114	0	0	0	0	0	0	0	4,576	114
Total	13,599	15,468	3	387	15,028	376	0		0	0	0	15,468	387	15,028	376
FSR															
Lot F Amalgamated	3,362														
Basement		1,584	1	40	0	0	0	0	0	0	0	1,584	40	0	0
F1 Gr Fl/Lvl 1		757	1	19	416	10	0	0	0	0	0	757	19	416	10
F2 - Podium		757	1	19	572	14	0	0	0	0	0	757	19	572	14
F3-F4		0	0	0	1,352	34	0	0	0	0	0	0	0	1,352	34
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,362	3,098	3	77	2,340	59	0		0	0	0	3,098	77	2,340	59
FSR															
Develop. Area	44,112	54,088		1,352	50,960	1,274	0		0	1,862	53	54,088	1,352	52,822	1,327

Figure 15: Schedule Part 2

ASSUMPTIONS [APPLY TO OPTION 1A/1B] **19067 - BRIGHTON LE SANDS OPTION 1A YIELD ANALYSIS**

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA	
Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA

GFA	
Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA

NSA	
Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate					
	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces for 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m² GFA	
	Commercial	1 space per	40.0	m² GFA	
Parking area	Residential	1 per	40.0	m²	rule of thumb
	Non-Residential	1 per	35.0	m²	

Residential Mix Calculator	Mix	NSA (m²)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	
3 Bed - 10% min	10%	98	NSAs are minimum from ADG plus small tolerance
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m² per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 16: Assumptions

5.8 OPTION 01B

OPTION 01B - SUMMARY	Rev A	18/07/2019
Total Site Area of Algamated Lots:	44,112 m²	
Gross FSR:	2.48:1	
FSR - residential:	2.44:1	
FSR - non-residential:	0.05:1	
Total GFA:	109,590 m²	
Retail GFA:	2,008 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	107,581 m²	
Total number of units:	1,243 units	

Figure 18: Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

Figure 17: Indicative Plan

5.9 OPTION 01B - AMALGAMATION PLAN

Superlot A

existing lot area	3819m2
lot area following development:	4063m2
GFA:	10627m2
FSR:	2.62:1

Superlot B

existing lot area	7213m2
lot area following development:	6167m2
GFA:	17379m2
FSR:	2.82:1

Superlot C

existing lot area	9572m2
lot area following development:	7908m2
GFA:	20693m2
FSR:	2.62:1

Superlot D

existing lot area	9556m2
lot area following development:	9014m2
GFA:	21352 m2
FSR:	2.37:1

Superlot E

existing lot area	12732m2
lot area following development:	13599m2
GFA:	33194m2
FSR:	2.44:1

Superlot F

existing lot area	3561m2
lot area following development:	3362m2
GFA:	6345m2
FSR:	1.89:1

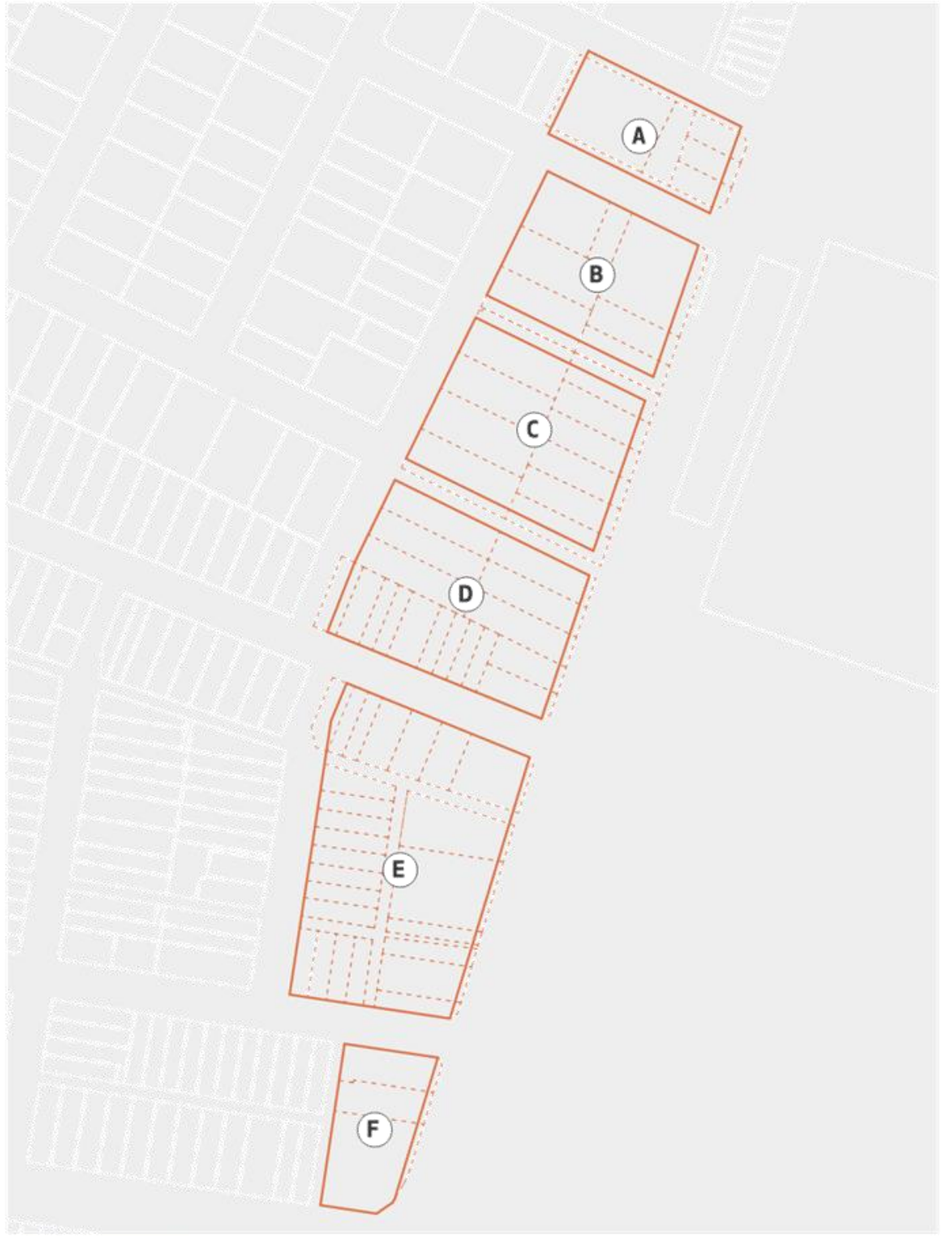


Figure 19: Lot Amalgamation Plan

5.10 OPTION 01B - PERSPECTIVE 1

Figure 20: 3D Perspective

5.11 OPTION 01B - PERSPECTIVE 2

Figure 21: 3D Perspective

5.12 OPTION 1B - SECTION

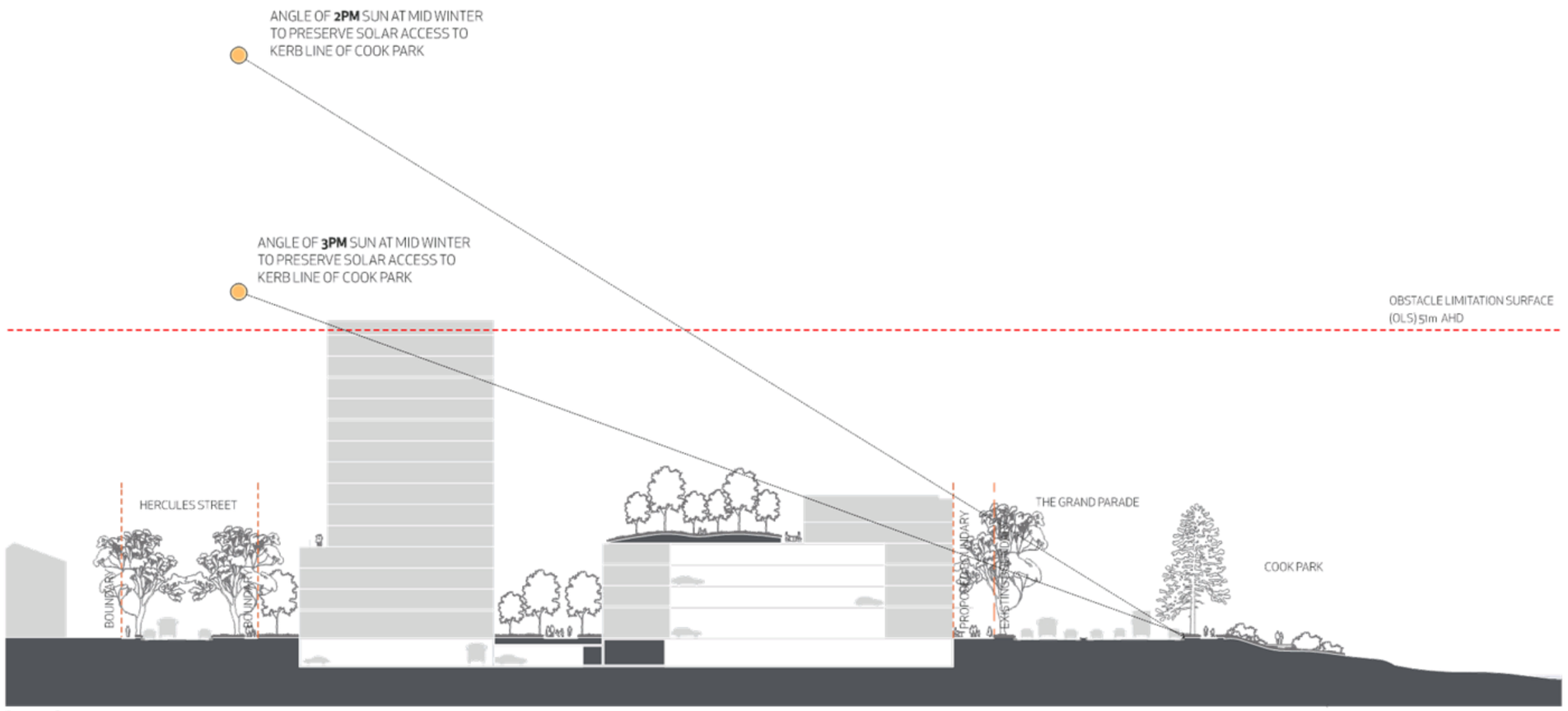


Figure 22: Section

5.13 OPTION 01B - SHADOWS

Figure 23: 9am

Figure 24: 10am

Figure 25: 11am

Figure 29: 12noon

Figure 26: 1pm

Figure 27: 2pm - NO ADDITIONAL OVERSHADOWING

Figure 28: 3pm

5.14 OPTION 01B - SCHEDULES

BRIGHTON LE SANDS OPTION 1B — **Rev A** — **18/07/2019**

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential												Non-residential									Resi + Non-Resi			
					GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3- bed units	4- bed units	Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	4,062																												
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		B4?	63%	37%	1,226	1	1,226	1,165	757	568	8	0	2	5	1	0	721	1	721	685	616	586	721	685	616	586	1,947	1,850	1,374	1,153
A2 - A3 Podium		B4?	100%	0%	1,648	2	3,292	3,127	2,346	1,994	27	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,292	3,127	2,346	1,994
A4 - Podium		B4?	100%	0%	1,646	1	1,646	1,564	1,173	997	14	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,646	1,564	1,173	997
A5 - A6		B4?	100%	0%	1,101	2	2,202	2,092	1,569	1,334	18	0	5	11	2	0	0	0	0	0	0	0	0	0	0	0	2,202	2,092	1,569	1,334
A7 - A14		B4?	100%	0%	731	8	5,848	5,556	4,167	3,542	49	0	15	29	5	0	0	0	0	0	0	0	0	0	0	0	5,848	5,556	4,167	3,542
Total	4,062				6,350	14	14,214	13,503	10,011	8,434	116	0	35	70	12	0	721	1	721	685	616	586	721	685	616	586	14,935	14,188	10,627	9,019
FSR																											Net FSR:	2.62:1		
Lot B Amalgamated	6,167																												
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1 Gr Fl/Lvl 1		B4?	70%	30%	2,160	1	2,160	2,052	1,334	1,009	14	0	4	8	1	0	909	1	909	864	777	738	909	864	777	738	3,069	2,916	2,111	1,739
B2 - B3 Podium		B4?	100%	0%	2,654	2	5,308	5,043	3,702	3,215	44	0	13	26	4	0	0	0	0	0	0	0	0	0	0	0	5,308	5,043	3,702	3,215
B4 - Podium		B4?	100%	0%	3,013	1	3,013	2,862	2,147	1,825	25	0	8	15	3	0	0	0	0	0	0	0	0	0	0	0	3,013	2,862	2,147	1,825
B5 - B6		B4?	100%	0%	2,470	2	4,940	4,693	3,520	2,992	41	0	12	25	4	0	0	0	0	0	0	0	0	0	0	0	4,940	4,693	3,520	2,992
B7 - B14		B4?	100%	0%	1,021	8	8,168	7,760	5,820	4,947	68	0	20	41	7	0	0	0	0	0	0	0	0	0	0	0	8,168	7,760	5,820	4,947
Total	6,167				11,318	14	23,589	22,410	16,602	13,978	192	0	58	115	19	0	909	1	909	864	777	738	909	864	777	738	24,498	23,273	17,379	14,717
FSR																											Net FSR:	2.82:1		
Lot C Amalgamated	7,908																												
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1 Gr Fl/Lvl 1		B4?	82%	18%	3,272	1	3,272	3,108	2,020	1,515	21	0	6	13	2	0	719	1	719	683	615	584	719	683	615	584	3,991	3,791	2,635	2,099
C2 - C3 Podium		B4?	100%	0%	3,992	2	7,984	7,585	5,809	4,835	67	0	20	40	7	0	0	0	0	0	0	0	0	0	0	0	7,984	7,585	5,809	4,835
C4 - Podium		B4?	100%	0%	3,992	1	3,992	3,792	2,844	2,418	33	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	3,992	3,792	2,844	2,418
C5 - C6		B4?	100%	0%	2,600	2	5,200	4,940	3,705	3,149	43	0	13	26	4	0	0	0	0	0	0	0	0	0	0	0	5,200	4,940	3,705	3,149
C7 - C14		B4?	100%	0%	1,021	8	8,168	7,760	5,820	4,947	68	0	20	41	7	0	0	0	0	0	0	0	0	0	0	0	8,168	7,760	5,820	4,947
Total	7,908				14,877	14	28,616	27,185	20,078	16,864	232	0	70	139	23	0	719	1	719	683	615	584	719	683	615	584	29,335	27,868	20,693	17,448
FSR																											Net FSR:	2.62:1		
Lot D Amalgamated	9,014																												
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1 Gr Fl/Lvl 1		R4?	100%	0%	4,159	1	4,159	3,951	2,568	1,926	27	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	4,159	3,951	2,568	1,926
D2 - D3 Podium		R4?	100%	0%	4,159	2	8,318	7,902	5,927	5,050	69	0	21	41	7	0	0	0	0	0	0	0	0	0	0	0	8,318	7,902	5,927	5,050
D4 - Podium		R4?	100%	0%	4,797	1	4,797	4,557	3,418	2,905	40	0	12	24	4	0	0	0	0	0	0	0	0	0	0	0	4,797	4,557	3,418	2,905
D5-D6		R4?	100%	0%	2,540	2	5,080	4,826	3,620	3,077	42	0	13	25	4	0	0	0	0	0	0	0	0	0	0	0	5,080	4,826	3,620	3,077
D7-D14		R4?	100%	0%	1,021	8	8,168	7,760	5,820	4,947	68	0	20	41	7	0	0	0	0	0	0	0	0	0	0	0	8,168	7,760	5,820	4,947
Total	9,014				16,676	14	30,522	28,996	21,352	17,892	246	0	74	148	25	0	0	0	0	0	0	0	0	0	0	0	30,522	28,996	21,352	17,892
FSR																											Net FSR:	2.37:1		
Lot E Amalgamated	13,599																												
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1 Gr Fl/Lvl 1		R4?	100%	0%	6,499	1	6,499	6,174	4,013	3,010	42	0	13	25	4	0	0	0	0	0	0	0	0	0	0	0	6,499	6,174	4,013	3,010
E2 - Podium		R4?	100%	0%	6,499	1	6,499	6,174	4,631	3,936	54	0	16	32	5	0	0	0	0	0	0	0	0	0	0	0	6,499	6,174	4,631	3,936
E3-E4 - Podium		R4?	100%	0%	6,499	2	12,998	12,348	9,261	7,872	109	0	33	65	11	0	0	0	0	0	0	0	0	0	0	0	12,998	12,348	9,261	7,872
E5-E6		R4?	100%	0%	4,277	2	8,554	8,126	6,095	5,181	71	0	21	43	7	0	0	0	0	0	0	0	0	0	0	0	8,554	8,126	6,095	5,181
E7-E14		R4?	100%	0%	1,613	8	12,904	12,259	9,194	7,815	108	0	32	65	11	0	0	0	0	0	0	0	0	0	0	0	12,904	12,259	9,194	7,815
Total	13,599				25,387	14	47,454	45,081	33,194	27,813	384	0	115	230	38	0	0	0	0	0	0	0	0	0	0	0	47,454	45,081	33,194	27,813
FSR																											Net FSR:	2.44:1		
Lot F Amalgamated	3,362																												
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1 Gr Fl/Lvl 1		R4?	100%	0%	1,288	1	1,288	1,224	795	597	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,288	1,224	795	597
F2 - Podium		R4?	100%	0%	1,288	1	1,288	1,224	918	780	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,288	1,224	918	780
F3		R4?	100%	0%	1,288	1	1,288	1,224	918	780	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,288	1,224	918	780
F4		R4?	100%	0%	2,045	1	2,045	1,943	1,457	1,239	17	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	2,045	1,943	1,457	1,239
F5-F6		R4?	100%	0%	1,584	2	3,168	3,010	2,257	1,919	26	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,168	3,010	2,257	1,919
Total	3,362				7,493	6	9,077	8,623	6,345	5,314	73	0	22	44	7	0	0	0	0	0	0	0	0	0	0	0	9,077	8,623	6,345	5,314
FSR																											Net FSR:	1.89:1		
Develop. Area	44,112				82,101		153,472	145,798	107,581	90,295	1,243	0	373	746	124	0	2,349		2,349	2,232	2,008	1,908	2,349	2,268	2,008	1,908	155,821	148,030	109,590	92,203

Figure 30: Schedule Part 1

BRIGHTON LE SANDS OPTION 1E

Lot/Building No.	Development Lot Area (m²)	Car Parking												
		Resi Carparking Area	Number of floors	Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	4,062														
Basement		3,464	1	87	0	0	0	0	0	0	0	3,464	87	0	0
A1 Gr Fl/Lvl 1		548	1	14	416	10	0	0	0	539	15	548	14	955	26
A2 - A3 Podium		848	1	21	1,404	35	0	0	0	0	0	848	21	1,404	35
A4 - Podium		848	1	21	728	18	0	0	0	0	0	848	21	728	18
A5 - A6		848	1	21	936	23	0	0	0	0	0	848	21	936	23
A7 - A14		0	0	0	2,548	64	0	0	0	0	0	0	0	1,548	64
Total	4,062	6,556	5	164	6,032	151	0		0	539	15	6,556	164	6,571	166
FSR															
Lot B Amalgamated	6,167														
Basement		5,227	1	131	0	0	0	0	0	0	0	5,227	131	0	0
B1 Gr Fl/Lvl 1		1,421	1	36	728	18	0	0	0	600	19	1,421	36	1,400	38
B2 - B3 Podium		1,835	1	46	2,288	57	0	0	0	0	0	1,835	46	2,288	57
B4 - Podium		994	1	25	1,300	33	0	0	0	0	0	994	25	1,300	33
B5 - B6		994	1	25	2,132	53	0	0	0	0	0	994	25	2,132	53
B7 - B14		0	0	0	3,536	88	0	0	0	0	0	0	0	3,536	88
Total	6,167	10,471	5	262	9,984	250	0		0	680	19	10,471	262	10,664	269
FSR															
Lot C Amalgamated	7,908														
Basement		6,681	1	167	0	0	0	0	0	0	0	6,681	167	0	0
C1 Gr Fl/Lvl 1		1,525	1	38	1,092	27	0	0	0	538	15	1,525	38	1,630	43
C2 - C3 Podium		1,525	2	76	3,484	87	0	0	0	0	0	3,050	76	3,484	87
C4 - Podium		1,525	1	38	1,716	43	0	0	0	0	0	1,525	38	1,716	43
C5 - C6		0	0	0	2,236	56	0	0	0	0	0	0	0	2,236	56
C7 - C14		0	0	0	3,536	88	0	0	0	0	0	0	0	3,536	88
Total	7,908	11,256	5	320	12,064	302	0		0	538	15	12,781	320	12,602	317
FSR															
Lot D Amalgamated	9,014														
Basement		7,253	1	181	0	0	0	0	0	0	0	7,253	181	0	0
D1 Gr Fl/Lvl 1		1,860	1	47	1,404	35	0	0	0	0	0	1,860	47	1,404	35
D2 - D3 Podium		1,860	2	93	3,588	90	0	0	0	0	0	3,720	93	3,588	90
D4 - Podium		0	0	0	2,080	52	0	0	0	0	0	0	0	2,080	52
D5-D6		0	0	0	2,184	55	0	0	0	0	0	0	0	2,184	55
D7-D14		0	0	0	3,536	88	0	0	0	0	0	0	0	3,536	88
Total	9,014	10,973	4	321	12,792	320	0		0	0	0	12,833	321	12,792	320
FSR															
Lot E Amalgamated	13,599														
Basement		11,188	1	280	0	0	0	0	0	0	0	11,188	280	0	0
E1 Gr Fl/Lvl 1		2,140	1	54	2,184	55	0	0	0	0	0	2,140	54	2,184	55
E2 - Podium		2,140	1	54	2,808	70	0	0	0	0	0	2,140	54	2,808	70
E3-E4 - Podium		2,140	2	107	5,668	142	0	0	0	0	0	4,280	107	5,668	142
E5-E6		0	0	0	3,692	92	0	0	0	0	0	0	0	3,692	92
E7-E14		0	0	0	5,616	140	0	0	0	0	0	0	0	5,616	140
Total	13,599	17,608	5	494	19,968	499	0		0	0	0	19,748	494	19,968	499
FSR															
Lot F Amalgamated	3,362														
Basement		1,584	1	40	0	0	0	0	0	0	0	1,584	40	0	0
F1 Gr Fl/Lvl 1		757	1	19	416	10	0	0	0	0	0	757	19	416	10
F2 - Podium		757	1	19	572	14	0	0	0	0	0	757	19	572	14
F3		757	1	19	572	14	0	0	0	0	0	757	19	572	14
F4		0	0	0	884	22	0	0	0	0	0	0	0	884	22
F5-F6		0	0	0	1,352	34	0	0	0	0	0	0	0	1,352	34
Total	3,362	3,855	4	96	3,796	95	0		0	0	0	3,855	96	3,796	95
FSR															
Develop. Area	44,112	60,719		1,656	64,636	1,616	0		0	1,757	50	66,244	1,656	66,393	1,666

Figure 31: Schedule Part 2

ASSUMPTIONS [APPLY TO OPTION 1A/1B] **19067 - BRIGHTON LE SANDS OPTION 1A YIELD ANALYSIS**

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA	
Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA
GFA	
Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA
NSA	
Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate					
	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces for 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m² GFA	
	Commercial	1 space per	40.0	m² GFA	
Parking area	Residential	1 per	40.0	m²	rule of thumb
	Non-Residential	1 per	35.0	m²	

Residential Mix Calculator	Mix	NSA (m²)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	
3 Bed - 10% min	10%	98	NSAs are minimum from ADG plus small tolerance
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m² per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 32: Assumptions

5.15 OPTION 02A

Figure 33. Indicative Plan

OPTION 02A - SUMMARY	REV A	18/07/2019
Total Site Area of Algamated Lots:	36,066 m²	
Gross FSR:	1.98:1	
FSR - residential:	1.89:1	
FSR - non-residential:	0.05:1	
Total GFA:	71,502 m²	
Retail GFA:	1,982 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	68,268 m²	
Total number of units:	793 units	

Figure 34. Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

ALLEN JACK+COTTIER

5.16 OPTION 02A - AMALGAMATION PLAN

Superlot A

existing lot area:	1702m2
lot area following development:	1726m2
GFA:	3333m2
FSR:	1.93:1

Superlot B1

existing lot area:	3772m2
lot area following development:	3095m2
GFA:	9807m2
FSR:	3.17:1

Superlot B2

existing lot area:	3441m2
lot area following development:	2725m2
GFA:	4541m2
FSR:	1.67:1

Superlot C1

existing lot area:	4985m2
lot area following development:	3972m2
GFA:	10587m2
FSR:	2.67:1

Superlot C2

existing lot area:	4587m2
lot area following development:	3539m2
GFA:	5698m2
FSR:	1.61:1

Superlot D1

existing lot area:	5319m2
lot area following development:	4476m2
GFA:	12012
FSR:	2.68:1

Superlot D2

existing lot area:	4236m2
lot area following development:	4141m2
GFA:	5440 m2
FSR:	1.31:1

Superlot E1

existing lot area:	1255m2
lot area following development:	1255m2
GFA:	2712m2
FSR:	2.16:1

Superlot E2

existing lot area:	2780m2
lot area following development:	2780m2
GFA:	6178m2
FSR:	2.22:1

Superlot E3

existing lot area:	3551m2
lot area following development:	3190m2
GFA:	5356m2
FSR:	1.68:1

Superlot E4

existing lot area:	3888m2
lot area following development:	3638m2
GFA:	4173m2
FSR:	1.15:1

Superlot F

existing lot area:	1629m2
lot area following development:	1529m2
GFA:	1665m2
FSR:	1.09:1

1:2,500 at A3

0 25 62.5 125m

N

Figure 35: Lot Amalgamation Plan

5.17 OPTION 2A - PERSPECTIVE 1

Figure 36: 3D Perspective

5.18 OPTION 2A - PERSPECTIVE 2

Figure 37: 3D Perspective

5.19 OPTION 2A - SECTION

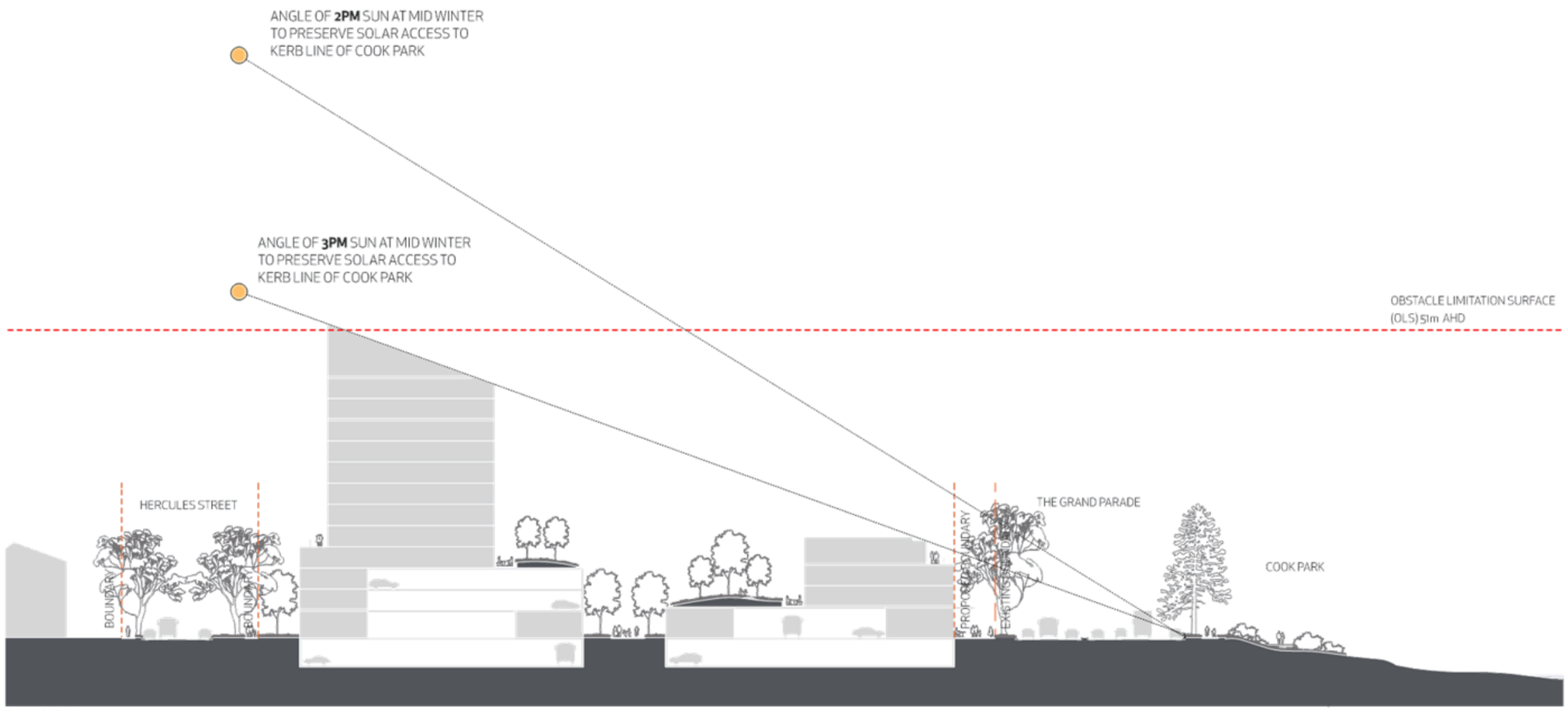


Figure 38: Section

5.20 OPTION 2A - SHADOWS

Figure 39: 9am

Figure 40: 10am

Figure 41: 11am

Figure 45: 12noon

Figure 42: 1pm

Figure 43: 2pm

Figure 44: 3pm - NO ADDITIONAL OVERSHADOWING

5.21 OPTION 02A - SCHEDULES

BRIGHTON LE SANDS OPTION 2A — **REV A** — **18/07/2019**

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential												Non-residential										Resi + Non-Resi			
					GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3- bed units	4- bed units	Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	1,726																													
Basement		B4?	0%	0%	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		B4?	26%	74%	240	1	240	226	140	111	2	0	1	1	0	0	697	1	697	662	596	566	697	662	596	566	937	890	744	677
A2 - Podium		B4?	100%	0%	938	1	938	891	665	565	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	665	565
A3 - Podium		B4?	100%	0%	938	1	938	891	665	565	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	665	565
Total	1,726				2,117	3	2,116	2,010	1,485	1,247	18	0	5	11	2	0	697	1	697	662	596	566	697	662	596	566	2,813	2,672	2,333	1,813
FSR																												Net FSR:	1.93:1	
Lot B1 Amalgamated	3,095																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,281	1	1,281	1,237	791	593	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,315	1,237	791	593
B1_2 - Podium		R4?	100%	0%	917	1	917	871	655	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	655	555
B1_3 - Podium		R4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_4 - Podium		R4?	100%	0%	917	1	917	871	655	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	655	555
B1_5-16		R4?	100%	0%	1,021	10	9,904	9,408	7,056	5,998	83	0	25	50	8	0	0	0	0	0	0	0	0	0	0	0	9,904	9,408	7,056	5,998
Total	3,095				5,053	14	13,936	13,239	9,807	8,257	115	0	35	69	12	0	0	0	0	0	0	0	0	0	0	0	13,970	13,239	9,807	8,257
FSR																												Net FSR:	3.17:1	
Lot B2 Amalgamated	2,725																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B2_1 Gr Fl/Lvl 1		B4?	40%	60%	603	1	603	573	372	279	4	0	1	2	0	0	902	1	902	857	771	733	902	857	771	733	1,505	1,430	1,144	1,012
B2_2 - Podium		R4?	100%	0%	1,798	1	1,798	1,708	1,281	1,088	15	0	5	8	2	0	0	0	0	0	0	0	0	0	0	0	1,798	1,708	1,281	1,088
B2_3 - Podium		R4?	100%	0%	1,798	1	1,798	1,708	1,281	1,088	15	0	5	8	2	0	0	0	0	0	0	0	0	0	0	0	1,798	1,708	1,281	1,088
B2_4 - Podium		R4?	100%	0%	1,173	1	1,173	1,114	836	710	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,173	1,114	836	710
Total	2,725				5,372	4	5,372	5,103	3,770	3,167	44	0	13	24	4	0	902	1	902	857	771	733	902	857	771	733	6,274	5,960	4,541	3,900
FSR																												Net FSR:	1.67:1	
Lot C1 Amalgamated	3,972																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,827	1	1,827	1,736	1,128	846	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,827	1,736	1,128	846
C1_2 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	895	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	895
C1_3 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	895	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	895
C1_4 - Podium		R4?	100%	0%	2,158	1	2,158	2,050	1,538	1,307	18	0	5	11	2	0	0	0	0	0	0	0	0	0	0	0	2,158	2,050	1,538	1,307
C1_5-12		R4?	100%	0%	1,021	8	8,168	7,760	5,820	4,947	68	0	20	41	7	0	0	0	0	0	0	0	0	0	0	0	8,168	7,760	5,820	4,947
Total	3,972				7,956	12	15,103	14,348	10,587	8,886	122	0	37	73	12	0	0	0	0	0	0	0	0	0	0	0	15,103	14,348	10,587	8,886
FSR																												Net FSR:	2.67:1	
Lot C2 Amalgamated	3,539																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2_1 Gr Fl/Lvl 1		B4?	61%	39%	1,144	1	1,144	1,087	706	530	7	0	2	4	1	0	719	1	719	683	615	584	719	683	615	584	1,863	1,770	1,321	1,114
C2_2 - Podium		B4?	100%	0%	2,281	1	2,281	2,167	1,625	1,381	19	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,281	2,167	1,625	1,381
C2_3 - Podium		B4?	100%	0%	2,281	1	2,281	2,167	1,625	1,381	19	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,281	2,167	1,625	1,381
C2_4 - Podium		B4?	100%	0%	1,581	1	1,581	1,502	1,126	957	13	0	4	6	1	0	0	0	0	0	0	0	0	0	0	0	1,581	1,502	1,126	957
Total	3,539				7,287	4	7,287	6,923	5,083	4,250	58	0	17	35	6	0	719	1	719	683	615	584	719	683	615	584	8,006	7,606	5,698	4,834
FSR																												Net FSR:	2.01:1	
Lot D1 Amalgamated	4,476																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,969	1	1,969	1,871	1,216	912	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,216	912
D1_2 - Podium		R4?	100%	0%	1,969	1	1,969	1,871	1,402	1,192	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,402	1,192
D1_3 - Podium		R4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_4 - Podium		R4?	100%	0%	2,389	1	2,389	2,270	1,702	1,447	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,389	2,270	1,702	1,447
D1_5-13		R4?	100%	0%	1,021	9	9,189	8,730	6,547	5,565	77	0	23	46	8	0	0	0	0	0	0	0	0	0	0	0	9,189	8,730	6,547	5,565
Total	4,476				8,954	13	17,122	16,266	12,012	10,089	139	0	42	83	14	0	0	0	0	0	0	0	0	0	0	0	17,122	16,266	12,012	10,089
FSR																												Net FSR:	2.68:1	
Lot D2 Amalgamated	4,141																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D2_1 Gr Fl/Lvl 1		R4?	100%	0%	1,862	1	1,862	1,769	1,150	862	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,862	1,769	1,150	862
D2_2 - Podium		R4?	100%	0%	2,237	1	2,237	2,125	1,594	1,355	19	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,237	2,125	1,594	1,355
D2_3 - Podium		R4?	100%	0%	2,237	1	2,237	2,125	1,594	1,355	19	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,237	2,125	1,594	1,355
D2_4 - Podium		R4?	100%	0%	1,547	1	1,547	1,470	1,102	937	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,547	1,470	1,102	937
Total	4,141				7,883	4	7,883	7,489	5,440	4,509	63	0	19	38	6	0	0	0	0	0	0	0	0	0	0	0	7,883	7,489	5,440	4,509
FSR																												Net FSR:	1.31:1	
Lot E1 Amalgamated	1,255																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_1 Gr Fl/Lvl 1		R4?	100%	0%	429	1	429	408	285	199	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	429	408	285	199
E1_2 - Podium		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_3 - Podium		R4?	100%	0%	697	1	697	662	497	422	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	497	422
E1_4 - Podium		R4?	100%	0%	697	1	697	662	497	422	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	497	422
E1_5-9		R4?	100%	0%	408	5	2,040	1,938	1,454	1,235	17	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	2,040	1,938	1,454	1,235
Total	1,255				2,231	9	3,863	3,670	2,712	2,278	32	0	10	19	3	0	0	0	0	0	0	0	0	0	0	0	3,863	3,670	2,712	2,278
FSR																												Net FSR:	2.16:1	
Lot E2 Amalgamated	2,780																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E2_1 Gr Fl/Lvl 1		R4?	100%	0%	825	1	825	784	509	382	5	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	825	784	509	382
E2_2 - Podium		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E2_3 - Podium		R4?	100%	0%	1,470	1	1,470	1,397	1,047	890	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,470	1,397	1,047	890
E2_4 - Podium		R4?	100%	0%	1,470	1	1,470	1,397	1,047	890	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,470	1,397	1,047	890
E2_5-10		R4?	100%	0%	836	6	5,016	4,765	3,574	3,036	42	0	13	25	4	0	0	0	0	0	0	0	0	0	0	0	5,016	4,765	3,574	3,036
Total	2,780				4,601	10	8,781	8,342	6,178	5,200	71	0	23	43	7	0	0	0	0	0	0	0	0	0	0	0	8,781	8,342	6,178	5,200
FSR																												Net FSR:	2.22:1	
Lot E3 Amalgamated	3,190																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E3_1 Gr Fl/Lvl 1		R4?	100%	0%	1,349	1	1,349	1,282	833	625	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,349	1,282	833	625
E3_2 - Podium		R4?	100%	0%	954	1	954	906	680	578	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	954	906	680	578
E3_3 - Podium		R4?	100%	0%	1,666	1	1,666	1,582	1,187	1,009	14	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,666	1,582	1,187	1,009
E3_4 - Podium		R4?	100%	0%	1,271	1	1,271	1,207	906	770	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,271	1,207	906	770
E3_5-11		R4?	100%	0%	351	7	2,457	2,334	1,751	1,488	21	0	6	13	2	0	0	0	0	0	0	0	0	0	0	0	2,457	2,334	1,751	1,488
Total	3,190				5,591	11	7,697	7,312	5,358	4,469	63	0	19	38	6	0	0	0	0	0	0	0	0	0	0	0	7,697	7,312	5,358	4,469
FSR																												Net FSR:	1.68:1	
Lot E4 Amalgamated	3,638																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E4_1 Gr Fl/Lvl 1		R4?	100%	0%	1,210	1	1,210	1,150	747	560	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,210	1,150	747	560
E4_2 - Podium		R4?	100%	0%	1,778	1	1,778	1,689	1,267	1,077	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,778	1,689	1,267	1,077
E4_3 - Podium		R4?	100%	0%	1,778	1	1,778	1,689	1,267	1,077	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,778	1,689	1,267	1,077
E4_4 - Podium		R4?	100%	0%	1,252	1	1,252	1,189	892	758	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,252	1,189	892	758
Total	3,638				6,018	4	6,018	5,717	4,173	3,472	48	0	14	29	5	0	0	0	0	0	0	0	0	0	0	0	6,018	5,717	4,173	3,472
FSR																												Net FSR:	1.15:1	
Lot F1 Amalgamated	1,529																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1_1 Gr Fl/Lvl 1		R4?	100%	0%	403	1	403	383	249	187	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	403	383	249	187
F1_2 - Podium		R4?	100%	0%	793	1	793	753	565	430	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	430
F1_3 - Podium		R4?	100%	0%	793	1	793	753	565	430	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	430
F1_4 - Podium		R4?	100%	0%	401	1	401	381	286	243	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	401	381	286	243
Total	1,529				2,390	4	2,390	2,271	1,665	1,290	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,390	2,271	1,665	1,290
FSR																												Net FSR:	1.09:1	
Develop. Area	36,066				85,453		97,508	92,689	68,268	57,217	793	0	238	476	79	0	2,318		2,318	2,202	1,982	1,883	2,318	2,202	1,982	1,883	99,920	94,891	71,502	59,099

Figure 46: Schedule Part 1

BRIGHTON LE SANDS OPTION 2A

Lot/Building No.	Development Lot Area (m²)	Car Parking												
		Resi Carparking Area	Number of floors	Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	1,726														
Basement		1,311	1	33	0	0	0	0	0	0	0	1,311	33	0	0
A1 Gr Fl/Lvl 1		373	1	9	109	3	0	0	0	521	15	373	9	631	17
A2 - Podium		0	0	0	437	10	0	0	0	0	0	0	0	437	10
A3 - Podium		0	0	0	437	10	0	0	0	0	0	0	0	437	10
Total	1,726	1,684	2	40	983	23	0		0	521	15	1,684	40	1,504	38
FSR															
Lot B1 Amalgamated	3,095														
Basement		2,124	1	51	0	0	0	0	0	0	0	2,124	51	0	0
B1_1 Gr Fl/Lvl 1		843	1	20	437	10	0	0	0	0	0	843	20	437	10
B1_2 - Podium		1,207	1	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_3 - Podium		1,207	1	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_4 - Podium		1,207	1	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_5-14		0	0	0	4,532	108	0	0	0	0	0	0	0	4,532	108
Total	3,095	6,588	5	157	6,279	150	0		0	0	0	6,588	157	6,279	150
FSR															
Lot B2 Amalgamated	2,725														
Basement		2,363	1	56	0	0	0	0	0	0	0	2,363	56	0	0
B2_1 Gr Fl/Lvl 1		858	1	20	218	5	0	0	0	675	19	858	20	893	24
B2_2 - Podium		0	0	0	819	20	0	0	0	0	0	0	0	819	20
B2_3 - Podium		0	0	0	819	20	0	0	0	0	0	0	0	819	20
B2_4 - Podium		0	0	0	546	13	0	0	0	0	0	0	0	546	13
Total	2,725	3,221	2	77	2,402	57	0		0	675	19	3,221	77	3,077	78
FSR															
Lot C1 Amalgamated	3,972														
Basement		2,858	1	68	0	0	0	0	0	0	0	2,858	68	0	0
C1_1 Gr Fl/Lvl 1		1,091	1	25	655	16	0	0	0	0	0	1,091	25	855	16
C1_2 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	855	16
C1_3 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	855	16
C1_4 - Podium		0	0	0	983	23	0	0	0	0	0	0	0	983	23
C1_5-12		0	0	0	3,713	88	0	0	0	0	0	0	0	3,713	88
Total	3,972	6,655	4	158	6,661	159	0		0	0	0	6,655	158	6,661	159
FSR															
Lot C2 Amalgamated	3,539														
Basement		2,634	1	63	0	0	0	0	0	0	0	2,634	63	0	0
C2_1 Gr Fl/Lvl 1		1,144	1	27	382	9	0	0	0	538	15	1,144	27	920	24
C2_2 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
C2_3 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
C2_4 - Podium		0	0	0	710	17	0	0	0	0	0	0	0	710	17
Total	3,539	3,778	2	90	3,167	75	0		0	538	15	3,778	90	3,705	91
FSR															
Lot D1 Amalgamated	4,476														
Basement		3,339	1	80	0	0	0	0	0	0	0	3,339	80	0	0
D1_1 Gr Fl/Lvl 1		1,370	1	33	710	17	0	0	0	0	0	1,370	33	710	17
D1_2 - Podium		1,370	1	33	874	21	0	0	0	0	0	1,370	33	874	21
D1_3 - Podium		1,733	1	41	710	17	0	0	0	0	0	1,733	41	710	17
D1_4 - Podium		0	0	0	1,092	26	0	0	0	0	0	0	0	1,092	26
D1_5-13		0	0	0	4,204	100	0	0	0	0	0	0	0	4,204	100
Total	4,476	7,812	4	186	7,589	181	0		0	0	0	7,812	186	7,589	181
FSR															
Lot D2 Amalgamated	4,141														
Basement		3,056	1	73	0	0	0	0	0	0	0	3,056	73	0	0
D2_1 Gr Fl/Lvl 1		991	1	24	655	16	0	0	0	0	0	991	24	655	16
D2_2 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
D2_3 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
D2_4 - Podium		0	0	0	710	17	0	0	0	0	0	0	0	710	17
Total	4,141	4,047	2	98	3,440	82	0		0	0	0	4,047	98	3,440	82
FSR															
Lot E1 Amalgamated	1,255														
Basement		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_1 Gr Fl/Lvl 1		268	1	6	164	4	0	0	0	0	0	268	6	164	4
E1_2 - Podium		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_3 - Podium		0	0	0	328	8	0	0	0	0	0	0	0	328	8
E1_4 - Podium		0	0	0	328	8	0	0	0	0	0	0	0	328	8
E1_5-9		0	0	0	928	22	0	0	0	0	0	0	0	928	22
Total	1,255	1,662	3	40	1,747	42	0		0	0	0	1,662	40	1,747	42
FSR															
Lot E2 Amalgamated	2,780														
Basement		1,697	1	40	0	0	0	0	0	0	0	1,997	40	0	0
E2_1 Gr Fl/Lvl 1		645	1	15	273	7	0	0	0	0	0	645	15	273	7
E2_2 - Podium		1,470	1	35	0	0	0	0	0	0	0	1,470	35	0	0
E2_3 - Podium		0	0	0	655	16	0	0	0	0	0	0	0	855	16
E2_4 - Podium		0	0	0	655	16	0	0	0	0	0	0	0	855	16
E2_5-10		0	0	0	2,293	55	0	0	0	0	0	0	0	2,293	55
Total	2,780	3,812	3	91	3,877	92	0		0	0	0	3,812	91	3,877	92
FSR															
Lot E3 Amalgamated	3,190														
Basement		2,103	1	50	0	0	0	0	0	0	0	2,103	50	0	0
E3_1 Gr Fl/Lvl 1		316	1	8	491	12	0	0	0	0	0	316	8	491	12
E3_2 - Podium		712	1	17	437	10	0	0	0	0	0	712	17	437	10
E3_3 - Podium		0	0	0	784	18	0	0	0	0	0	0	0	784	18
E3_4 - Podium		0	0	0	601	14	0	0	0	0	0	0	0	801	14
E3_5-11		0	0	0	1,147	27	0	0	0	0	0	0	0	1,147	27
Total	3,190	3,131	3	75	3,440	82	0		0	0	0	3,131	75	3,440	82
FSR															
Lot E4 Amalgamated	3,638														
Basement		1,517	1	36	0	0	0	0	0	0	0	1,517	36	0	0
E4_1 Gr Fl/Lvl 1		1,308	1	31	437	10	0	0	0	0	0	1,308	31	437	10
E4_2 - Podium		0	0	0	819	20	0	0	0	0	0	0	0	819	20
E4_3 - Podium		0	0	0	819	20	0	0	0	0	0	0	0	819	20
E4_4 - Podium		0	0	0	546	13	0	0	0	0	0	0	0	546	13
Total	3,638	2,825	2	67	2,621	62	0		0	0	0	2,825	67	2,621	62
FSR															
Lot F1 Amalgamated	1,529														
Basement		793	1	19	0	0	0	0	0	0	0	793	19	0	0
F1_1 Gr Fl/Lvl 1		390	1	9	164	4	0	0	0	0	0	390	9	164	4
F1_2 - Podium		0	0	0	382	9	0	0	0	0	0	0	0	382	9
F1_3 - Podium		0	0	0	382	9	0	0	0	0	0	0	0	382	9
F1_4 - Podium		0	0	0	164	4	0	0	0	0	0	0	0	164	4
Total	1,529	1,183	2	28	1,092	26	0		0	0	0	1,183	28	1,092	26
FSR															
Develop. Area	36,066	46,398		1,105	45,298	1,031	0		0	1,734	50	46,398	1,105	45,032	1,080

Figure 47: Schedule Part 2

ALLEN JACK+COTTIER

ASSUMPTIONS [APPLY TO OPTION 2A/2B]

19067 - BRIGHTON LE SANDS OPTION 2A YIELD ANALYSIS

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA

Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA

GFA

Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA

NSA

Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate

	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces per 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m^2 GFA	
	Commercial	1 space per	40.0	m^2 GFA	
Parking area	Residential	1 per	42.0	m^2	rate of change increases for smaller lots
	Non-Residential	1 per	35.0	m^2	

Residential Mix Calculator

	Mix	NSA (m^2)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	NSAs are minimum from ADG plus small tolerance
3 Bed - 10% min	10%	98	
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m^2 per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 48: Assumptions

5.22 OPTION 02B

Figure 49: Indicative Plan

OPTION 02B - SUMMARY	REV A	18/07/2019
Total Site Area of Algamated Lots:	36,066 m²	
Gross FSR:	2.4:1	
FSR - residential:	2.31:1	
FSR - non-residential:	0.06:1	
Total GFA:	86,658 m²	
Retail GFA:	2,262 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	83,486 m²	
Total number of units:	965 units	

Figure 50: Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

ALLEN JACK+COTTIER

5.23 OPTION 02B - AMALGAMATION PLAN

Superlot A

existing lot area	1702m2
lot area following development:	1726m2
GFA:	4184m2
FSR:	2.42:1

Superlot B1

existing lot area	3772m2
lot area following development:	3095m2
GFA:	10026m2
FSR:	3.24:1

Superlot B2

existing lot area	3441m2
lot area following development:	2725m2
GFA:	6289m2
FSR:	2.31:1

Superlot C1

existing lot area	4985m2
lot area following development:	3972m2
GFA:	11556m2
FSR:	2.91:1

Superlot C2

existing lot area	4587m2
lot area following development:	3539m2
GFA:	8150m2
FSR:	2.3:1

Superlot D1

existing lot area	5319m2
lot area following development:	4476m2
GFA:	12481m2
FSR:	2.79:1

Superlot D2

existing lot area	4236m2
lot area following development:	4141m2
GFA:	7900m2
FSR:	1.91:1

Superlot E1

existing lot area	1255m2
lot area following development:	1255m2
GFA:	3669m2
FSR:	2.92:1

Superlot E2

existing lot area	2780m2
lot area following development:	2780m2
GFA:	7767m2
FSR:	2.79:1

Superlot E3

existing lot area	3551m2
lot area following development:	3190m2
GFA:	6418m2
FSR:	2.01:1

Superlot E4

existing lot area	3888m2
lot area following development:	3638m2
GFA:	6404m2
FSR:	1.76:1

Superlot F

existing lot area	1629m2
lot area following development:	1529m2
GFA:	1816m2
FSR:	1.19:1

Figure 51: Lot Amalgamation Plan

5.24 OPTION 2B - PERSPECTIVE 1

Figure 52: 3D Perspective

5.25 OPTION 2B - PERSPECTIVE 2

Figure 53: 3D Perspective

5.26 OPTION 2B - SECTION

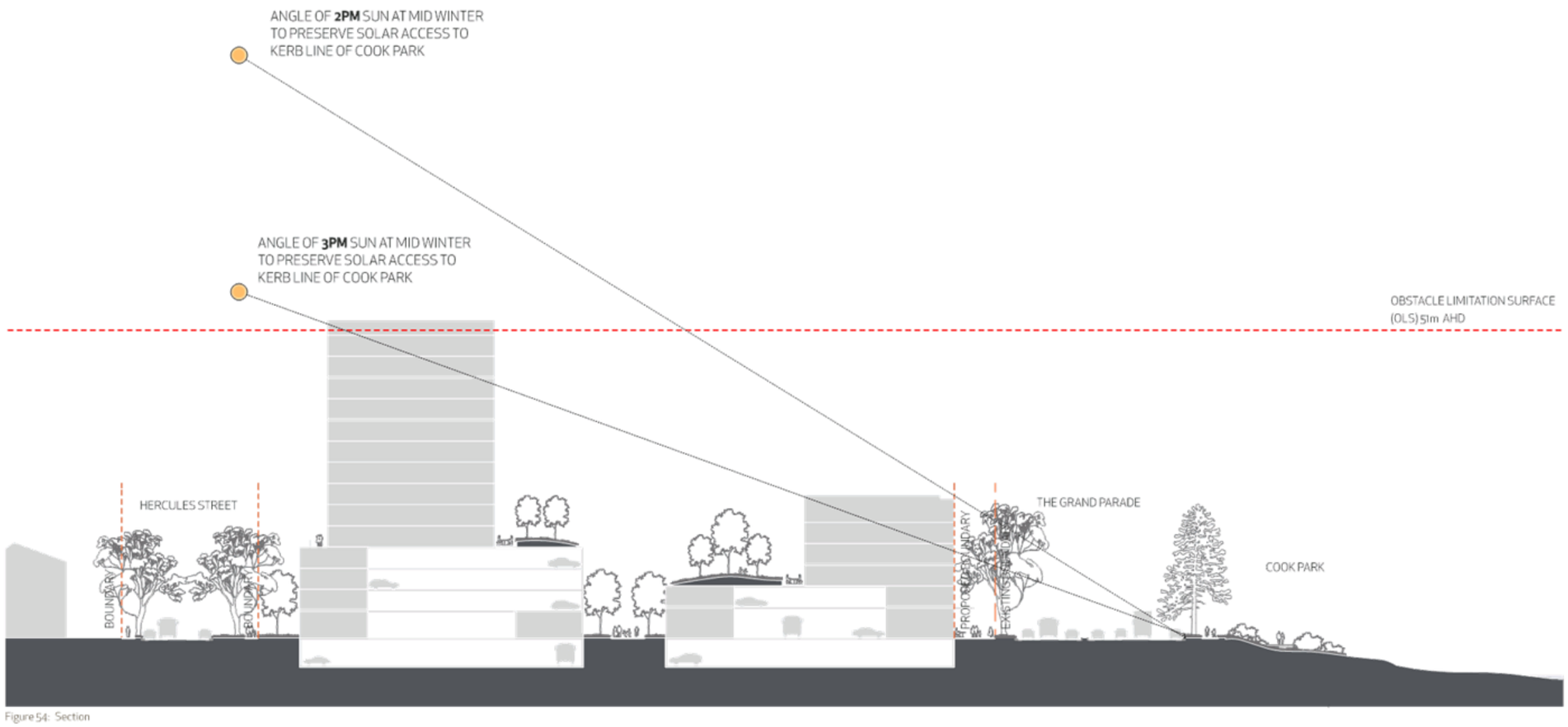


Figure 54: Section

5.27 OPTION 2B - SHADOWS

Figure 55: 9am

Figure 56: 10am

Figure 57: 11am

Figure 61: 12noon

Figure 58: 1pm

Figure 59: 2pm - NO ADDITIONAL OVERSHADOWING

Figure 60: 3pm

5.28 OPTION 02B - SCHEDULES

BRIGHTON LE SANDS OPTION 2B — **REV A** — **18/07/2019**

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential: GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3- bed units	4- bed units	Non-residential: Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Resi + Non-Resi: Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	1,726																													
Basement		R4?	0%	0%	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		R4?	22%	78%	224	1	224	213	135	106	1	0	0	1	0	0	791	1	761	751	676	642	791	751	676	642	1,015	964	811	706
A2 - Podium		R4?	100%	0%	555	1	555	527	395	336	5	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	555	527	395	336
A3 - Podium		R4?	100%	0%	938	1	938	891	668	568	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	668	568
A4 - Podium		R4?	100%	0%	938	1	938	891	668	568	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	1,770	568
A5 - 6		R4?	100%	0%	370	2	740	709	527	440	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	740	709	527	440
Total	1,726				3,026	6	3,395	3,225	2,398	2,024	28	0	8	17	3	0	791	1	791	751	676	642	791	751	676	642	4,186	3,977	4,184	2,667
FSR																												Net FSR:	2.42:1	
Lot B1 Amalgamated	3,095																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,281	1	1,281	1,237	791	593	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,315	1,237	791	593
B1_2 - Podium		R4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_3 - Podium		R4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_4 - Podium		R4?	100%	0%	917	1	917	871	653	553	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_5-14		R4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	3,095				5,053	14	14,242	13,330	10,026	8,443	117	0	35	70	12	0	0	0	0	0	0	0	0	0	0	0	14,276	13,330	10,026	8,443
FSR																												Net FSR:	3.24:1	
Lot B2 Amalgamated	2,725																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B2_1 Gr Fl/Lvl 1		R4?	40%	60%	603	1	603	579	372	279	4	0	1	2	0	0	902	1	902	857	771	733	902	857	771	733	1,505	1,436	1,144	1,012
B2_2 - Podium		R4?	100%	0%	1,253	1	1,253	1,180	883	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,190	992	759
B2_3 - Podium		R4?	100%	0%	1,798	1	1,798	1,708	1,281	1,089	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,798	1,708	1,281	1,089
B2_4 - Podium		R4?	100%	0%	1,798	1	1,798	1,708	1,281	1,089	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,798	1,708	1,281	1,089
B2_5 - B2_6		R4?	100%	0%	1,186	2	2,372	2,255	1,690	1,437	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,372	2,253	1,690	1,437
Total	2,725				6,638	6	7,824	7,435	5,517	4,652	64	0	19	38	6	0	902	1	902	857	771	733	902	857	771	733	8,728	8,290	6,289	5,385
FSR																												Net FSR:	3.31:1	
Lot C1 Amalgamated	3,972																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,827	1	1,827	1,736	1,328	946	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,827	1,736	1,328	946
C1_2 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	889	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	889
C1_3 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	893	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	893
C1_4 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	889	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	889
C1_5-14		R4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	3,972				7,273	14	16,462	15,639	11,556	9,709	133	0	40	80	13	0	0	0	0	0	0	0	0	0	0	0	16,482	15,639	11,556	9,709
FSR																												Net FSR:	2.91:1	
Lot C2 Amalgamated	3,539																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2_1 Gr Fl/Lvl 1		R4?	61%	39%	1,144	1	1,144	1,087	706	530	7	0	2	4	1	0	718	1	718	683	615	584	718	683	615	584	1,865	1,770	1,321	1,114
C2_2 - Podium		R4?	100%	0%	1,884	1	1,884	1,771	1,328	1,129	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,944	1,771	1,328	1,129
C2_3 - Podium		R4?	100%	0%	2,281	1	2,281	2,167	1,625	1,383	19	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,281	2,167	1,625	1,383
C2_4 - Podium		R4?	100%	0%	2,281	1	2,281	2,167	1,625	1,383	19	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,281	2,167	1,625	1,383
C2_5 - C2_6		R4?	100%	0%	1,579	2.0	3,158	3,000	2,250	1,913	26	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,158	3,000	2,250	1,913
Total	3,539				9,149	6	10,728	10,192	7,535	6,334	87	0	28	52	9	0	718	1	718	683	615	584	718	683	615	584	11,447	10,875	8,190	6,918
FSR																												Net FSR:	2.3:1	
Lot D1 Amalgamated	4,476																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,969	1	1,969	1,871	1,216	912	12	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,216	912
D1_2 - Podium		R4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_3 - Podium		R4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_4 - Podium		R4?	100%	0%	2,389	1	2,389	2,270	1,702	1,447	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,389	2,270	1,702	1,447
D1_5-14		R4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	4,476				8,591	14	17,780	16,891	12,481	10,487	144	0	43	86	14	0	0	0	0	0	0	0	0	0	0	0	17,780	16,891	12,481	10,487
FSR																												Net FSR:	2.79:1	
Lot D2 Amalgamated	4,141																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D2_1 Gr Fl/Lvl 1		R4?	100%	0%	1,862	1	1,862	1,769	1,150	962	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,962	1,769	1,150	882
D2_2 - Podium		R4?	100%	0%	1,962	1	1,962	1,864	1,388	1,188	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,962	1,864	1,388	1,188
D2_3 - Podium		R4?	100%	0%	2,237	1	2,237	2,125	1,584	1,355	18	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,237	2,125	1,584	1,355
D2_4 - Podium		R4?	100%	0%	2,237	1	2,237	2,125	1,584	1,355	18	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	2,237	2,125	1,584	1,355
D2_5- D2_6		R4?	100%	0%	1,519	2	3,038	2,886	2,165	1,840	25	0	8	15	3	0	0	0	0	0	0	0	0	0	0	0	3,038	2,886	2,165	1,840
Total	4,141				9,817	8	11,336	10,769	7,900	6,800	91	0	27	55	9	0	0	0	0	0	0	0	0	0	0	0	11,336	10,769	7,900	6,800
FSR																												Net FSR:	1.91:1	
Lot E1 Amalgamated	1,255																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_1 Gr Fl/Lvl 1		R4?	100%	0%	429	1	429	408	285	199	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	429	408	285	199
E1_2 - Podium		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_3 - Podium		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_4 - Podium		R4?	100%	0%	697	1	697	662	487	422	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	497	422
E1_5-14		R4?	100%	0%	408	10	4,080	3,876	2,907	2,471	34	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	4,080	3,876	2,907	2,471
Total	1,255				1,534	14	5,206	4,946	3,669	3,092	43	0	13	26	4	0	0	0	0	0	0	0	0	0	0	0	5,206	4,946	3,669	3,092
FSR																												Net FSR:	3.92:1	
Lot E2 Amalgamated	2,780																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E2_1 Gr Fl/Lvl 1		R4?	100%	0%	825	1	825	784	508	382	5	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	825	784	508	382
E2_2 - Podium		R4?	100%	0%	178	1	178	168	127	108	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178	169	127	108
E2_3 - Podium		R4?	100%	0%	178	1	178	168	127	108	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178	169	127	108
E2_4 - Podium		R4?	100%	0%	1,470	1	1,470	1,387	1,047	890	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,470	1,387	1,047	890
E2_5-14		R4?	100%	0%	836	10	8,360	7,942	5,957	5,063	70	0	21	42	7	0	0	0	0	0	0	0	0	0	0	0	8,360	7,942	5,957	5,063
Total	2,780				3,487	14	11,011	10,460	7,767	6,551	89	0	27	53	9	0	0	0	0	0	0	0	0	0	0	0	11,011	10,460	7,767	6,551
FSR																												Net FSR:	2.79:1	
Lot E3 Amalgamated	3,190																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E3_1 Gr Fl/Lvl 1		R4?	100%	0%	1,349	1	1,349	1,282	833	625	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,349	1,282	833	625
E3_2 - E3_3 Podium		R4?	100%	0%	954	2	1,908	1,813	1,359	1,156	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,908	1,813	1,359	1,156
E3_4 - Podium		R4?	100%	0%	954	1	954	906	680	578	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	954	906	680	578
E3_5 - E3_6		R4?	100%	0%	1,084	2	2,168	2,060	1,545	1,313	18	0	5	11	2	0	0	0	0	0	0	0	0	0	0	0	2,168	2,060	1,545	1,313
E3_7 - E3_14		R4?	100%	0%	351	8	2,808	2,668	2,001	1,701	23	0	7	14	2	0	0	0	0	0	0	0	0	0	0	0	2,808	2,668	2,001	1,701
Total	3,190				4,692	14	9,187	8,728	6,418	5,372	74	0	22	44	7	0	0	0	0	0	0	0	0	0	0	0	9,187	8,728	6,418	5,372
FSR																												Net FSR:	2.01:1	
Lot E4 Amalgamated	3,638																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E4_1 Gr Fl/Lvl 1		R4?	100%	0%	1,255	1	1,255	1,182	775	581	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,192	775	581
E4_2 - Podium		R4?	100%	0%	1,255	1	1,255	1,182	884	760	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,192	894	760
E4_3 - Podium		R4?	100%	0%	1,778	1	1,778	1,689	1,267	1,077	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,778	1,689	1,267	1,077
E4_4 - Podium		R4?	100%	0%	1,778	1	1,778	1,689	1,267	1,077	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,778	1,688	1,267	1,077
E4_5- E4_6		R4?	100%	0%	1,545	2	3,090	2,936	2,202	1,873	26	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,090	2,936	2,202	1,873
Total	3,638				7,611	6	9,156	8,698	6,404	5,366	74	0	22	44	7	0	0	0	0	0	0	0	0	0	0	0	9,156	8,698	6,404	5,366
FSR																												Net FSR:	1.76:1	
Lot F1 Amalgamated	1,529																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1_1 Gr Fl/Lvl 1		R4?	100%	0%	420	1	420	398	258	195	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	420	389	258	195
F1_2 Podium		R4?	100%	0%	198	1	198	188	141	120	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	198	188	141	120
F1_3 - F1_4 Podium		R4?	100%	0%	793	2	1,586	1,507	1,130	961	12	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,586	1,507	1,130	961
F1_5		R4?	100%	0%	401	1	401	383	286	243	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	401	383	286	243
Total	1,529				1,812	5	2,605	2,475	1,816	1,518	21	0	6	13	2	0	0	0	0	0	0	0	0	0	0	0	2,605	2,475	1,816	1,518
FSR																												Net FSR:	1.19:1	
Develop. Area	36,066				66,683		118,932	112,985	83,406	70,149	965	0	290	579	97	0	2,412		2,412	2,291	2,062	1,959	2,412	2,291	2,062	1,959	121,378	115,277	86,058	72,108

Figure 62: Schedule Part 1

BRIGHTON LE SANDS OPTION 2E

Lot/Building No.	Development Lot Area (m²)	Car Parking												
		Resi Carparking Area	Number of floors	Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	1,728														
Basement		1,311	1.0	31	0	0	0	0	0	0	0	1,311	31	0	0
A1 Gr Fl/Lvl 1		295	1.0	7	55	1	0	0	0	592	17	295	7	648	18
A2 - Podium		756	1.0	18	273	7	0	0	0	0	0	756	18	273	7
A3 - Podium		0	0.0	0	437	10	0	0	0	0	0	0	0	437	10
A4 - Podium		0	0.0	0	437	10	0	0	0	0	0	0	0	437	10
A5 - 6		0	0.0	0	128	8	0	0	0	0	0	0	0	128	8
Total	1,728	2,362	3	56	1,529	36	0		0	592	17	2,362	56	2,121	53
2/A															
Lot B1 Amalgamated	3,095														
Basement		2,124	1.0	51	0	0	0	0	0	0	0	2,124	51	0	0
B1_1 Gr Fl/Lvl 1		843	1.0	20	437	10	0	0	0	0	0	843	20	437	10
B1_2 - Podium		1,207	1.0	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_3 - Podium		1,207	1.0	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_4 - Podium		1,207	1.0	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_5-14		0	0.0	0	4,641	111	0	0	0	0	0	0	0	4,641	111
Total	3,095	6,588	5	157	6,388	152	0		0	0	0	6,588	157	6,388	152
2/A															
Lot B2 Amalgamated	2,725														
Basement		2,363	1.0	56	0	0	0	0	0	0	0	2,363	56	0	0
B2_1 Gr Fl/Lvl 1		858	1.0	20	218	5	0	0	0	675	19	858	22	893	24
B2_2 - Podium		1,110	1.0	26	548	13	0	0	0	0	0	1,110	26	548	13
B2_3 - Podium		0	0.0	0	819	20	0	0	0	0	0	0	0	819	20
B2_4 - Podium		0	0.0	0	819	20	0	0	0	0	0	0	0	819	20
B2_5 - B2_6		0	0.0	0	1,091	26	0	0	0	0	0	0	0	1,091	26
Total	2,725	4,331	3	103	3,494	83	0		0	675	19	4,331	103	4,169	102
2/A															
Lot C1 Amalgamated	3,972														
Basement		2,858	1	68	0	0	0	0	0	0	0	2,858	68	0	0
C1_1 Gr Fl/Lvl 1		1,031	1	25	655	16	0	0	0	0	0	1,031	25	655	16
C1_2 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	655	16
C1_3 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	655	16
C1_4 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	655	16
C1_5-14		0	0	0	4,641	111	0	0	0	0	0	0	0	4,641	111
Total	3,972	8,038	5	191	7,262	173	0		0	0	0	8,038	191	7,262	173
2/A															
Lot C2 Amalgamated	3,539														
Basement		2,968	1	71	0	0	0	0	0	0	0	2,968	71	0	0
C2_1 Gr Fl/Lvl 1		1,304	1	26	382	9	0	0	0	538	15	1,304	26	920	24
C2_2 - Podium		1,304	1	26	874	21	0	0	0	0	0	1,304	26	874	21
C2_3 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
C2_4 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
C2_5 - C2_6		0	0	0	1,420	34	0	0	0	0	0	0	0	1,420	34
Total	3,539	5,176	3	123	4,750	113	0		0	538	15	5,176	123	5,288	128
2/A															
Lot D1 Amalgamated	4,476														
Basement		3,339	1	80	0	0	0	0	0	0	0	3,338	80	0	0
D1_1 Gr Fl/Lvl 1		1,370	1	33	730	17	0	0	0	0	0	1,370	33	730	17
D1_2 - Podium		1,733	1	41	730	17	0	0	0	0	0	1,733	41	730	17
D1_3 - Podium		1,733	1	41	730	17	0	0	0	0	0	1,733	41	730	17
D1_4 - Podium		0	0	0	1,092	26	0	0	0	0	0	0	0	1,092	26
D1_5-14		0	0	0	4,641	111	0	0	0	0	0	0	0	4,641	111
Total	4,476	8,175	4	195	7,862	187	0		0	0	0	8,175	195	7,862	187
2/A															
Lot D2 Amalgamated	4,141														
Basement		3,036	1	73	0	0	0	0	0	0	0	3,036	73	0	0
D2_1 Gr Fl/Lvl 1		991	1	24	655	16	0	0	0	0	0	991	24	655	16
D2_2 - Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	21
D2_3 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
D2_4 - Podium		0	0	0	1,037	25	0	0	0	0	0	0	0	1,037	25
D2_5 - D2_6		0	0	0	1,365	33	0	0	0	0	0	0	0	1,365	33
Total	4,141	5,018	3	120	4,969	118	0		0	0	0	5,018	120	4,969	118
2/A															
Lot E1 Amalgamated	1,255														
Basement		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_1 Gr Fl/Lvl 1		288	1	8	164	4	0	0	0	0	0	288	9	164	4
E1_2 - Podium		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_3 - Podium		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_4 - Podium		0	0	0	328	8	0	0	0	0	0	0	0	328	8
E1_5-14		0	0	0	1,856	44	0	0	0	0	0	0	0	1,856	44
Total	1,255	2,359	4	58	2,348	56	0		0	0	0	2,359	58	2,348	56
2/A															
Lot E2 Amalgamated	2,780														
Basement		1,680	1	40	0	0	0	0	0	0	0	1,680	40	0	0
E2_1 Gr Fl/Lvl 1		645	1	15	273	7	0	0	0	0	0	645	15	273	7
E2_2 - Podium		1,292	1	31	55	1	0	0	0	0	0	1,292	31	55	1
E2_3 - Podium		1,292	1	31	55	1	0	0	0	0	0	1,292	31	55	1
E2_4 - Podium		0	0	0	655	16	0	0	0	0	0	0	0	655	16
E2_5-14		0	0	0	3,822	91	0	0	0	0	0	0	0	3,822	91
Total	2,780	4,909	4	117	4,859	116	0		0	0	0	4,909	117	4,859	116
2/A															
Lot E3 Amalgamated	3,190														
Basement		2,103	1	50	0	0	0	0	0	0	0	2,103	50	0	0
E3_1 Gr Fl/Lvl 1		316	1	8	491	12	0	0	0	0	0	316	8	491	12
E3_2 - E3_5 Podium		712	2	34	574	23	0	0	0	0	0	1,424	34	574	23
E3_4 - Podium		0	0	0	437	10	0	0	0	0	0	0	0	437	10
E3_5 - E3_6		0	0	0	983	23	0	0	0	0	0	0	0	983	23
E3_7 - E3_14		0	0	0	1,256	30	0	0	0	0	0	0	0	1,256	30
Total	3,190	3,131	4	92	4,040	98	0		0	0	0	3,843	92	4,040	96
2/A															
Lot E4 Amalgamated	3,638														
Basement		1,517	1	36	0	0	0	0	0	0	0	1,517	36	0	0
E4_1 Gr Fl/Lvl 1		1,263	1	30	437	10	0	0	0	0	0	1,263	30	437	10
E4_2 - Podium		1,263	1	30	548	13	0	0	0	0	0	1,263	30	548	13
E4_3 - Podium		0	0	0	819	20	0	0	0	0	0	0	0	819	20
E4_4 - Podium		0	0	0	819	20	0	0	0	0	0	0	0	819	20
E4_5- E4_6		0	0	0	1,420	34	0	0	0	0	0	0	0	1,420	34
Total	3,638	4,043	3	96	4,040	96	0		0	0	0	4,043	96	4,040	96
2/A															
Lot F1 Amalgamated	1,529														
Basement		793	1	19	0	0	0	0	0	0	0	783	19	0	0
F1_1 Gr Fl/Lvl 1		435	1	10	164	4	0	0	0	0	0	435	10	164	4
F1_2 Podium		597	1	14	109	3	0	0	0	0	0	597	14	109	3
F1_3 - F1_4 Podium		0	0	0	710	17	0	0	0	0	0	0	0	710	17
F1_5		0	0	0	164	4	0	0	0	0	0	0	0	164	4
Total	1,529	1,825	3	43	1,147	27	0		0	0	0	1,825	43	1,147	27
2/A															
Develop. Area	39,066	39,975		1,359	32,989	1,255	0		0	1,804	52	39,847	1,359	34,493	1,305

Figure 63: Schedule Part 2

ASSUMPTIONS [APPLY TO OPTION 2A/2B] **19067 - BRIGHTON LE SANDS OPTION 2A YIELD ANALYSIS**

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA	
Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA

GFA	
Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA

NSA	
Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate					
	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces for 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m^2 GFA	
	Commercial	1 space per	40.0	m^2 GFA	
Parking area	Residential	1 per	42.0	m^2	rate of Parking increases for small lots
	Non-Residential	1 per	35.0	m^2	

Residential Mix Calculator	Mix	NSA (m^2)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	NSAs are minimum from ADG plus small tolerance
3 Bed - 10% min	10%	98	
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m^2 per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 64: Assumptions

5.29 OPTION 02C

Figure 65: Indicative Plan

OPTION 02C - SUMMARY	REV A	17/09/2019
Total Site Area of Algamated Lots:	36,066 m²	
Gross FSR:	2.58:1	
FSR - residential:	2.49:1	
FSR - non-residential:	0.06:1	
Total GFA:	93,074 m²	
Retail GFA:	2,283 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	89,914 m²	
Total number of units:	1,046 units	

Figure 66: Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

ALLEN JACK+COTTIER

5.30 OPTION 02C - AMALGAMATION PLAN

Superlot A

existing lot area	1702m2
lot area following development:	1726m2
GFA:	3778m2
FSR:	2.28:1

Superlot B1

existing lot area	3772m2
lot area following development:	3095m2
GFA:	11031m2
FSR:	3.56:1

Superlot B2

existing lot area	3441m2
lot area following development:	2725m2
GFA:	6916m2
FSR:	2.54:1

Superlot C1

existing lot area	4985m2
lot area following development:	3972m2
GFA:	12591m2
FSR:	3.17:1

Superlot C2

existing lot area	4587m2
lot area following development:	3539m2
GFA:	8829m2
FSR:	2.49:1

Superlot D1

existing lot area	5319m2
lot area following development:	4476m2
GFA:	12940m2
FSR:	2.89:1

Superlot D2

existing lot area	4236m2
lot area following development:	4141m2
GFA:	8481m2
FSR:	2.05:1

Superlot E1

existing lot area	1255m2
lot area following development:	1255m2
GFA:	3328m2
FSR:	2.65:1

Superlot E2

existing lot area	2780m2
lot area following development:	2780m2
GFA:	8201m2
FSR:	2.95:1

Superlot E3

existing lot area	3551m2
lot area following development:	3190m2
GFA:	7441m2
FSR:	2.33:1

Superlot E4

existing lot area	3888m2
lot area following development:	3638m2
GFA:	7367m2
FSR:	2.02:1

Superlot F

existing lot area	1629m2
lot area following development:	1529m2
GFA:	2181m2
FSR:	1.43:1

Figure 67: Lot Amalgamation Plan

5.31 OPTION 2C - PERSPECTIVE 1

Figure 68: 3D Perspective

5.32 OPTION 2C - PERSPECTIVE 2

Figure 69: 3D Perspective

5.33 OPTION 2C - SECTION

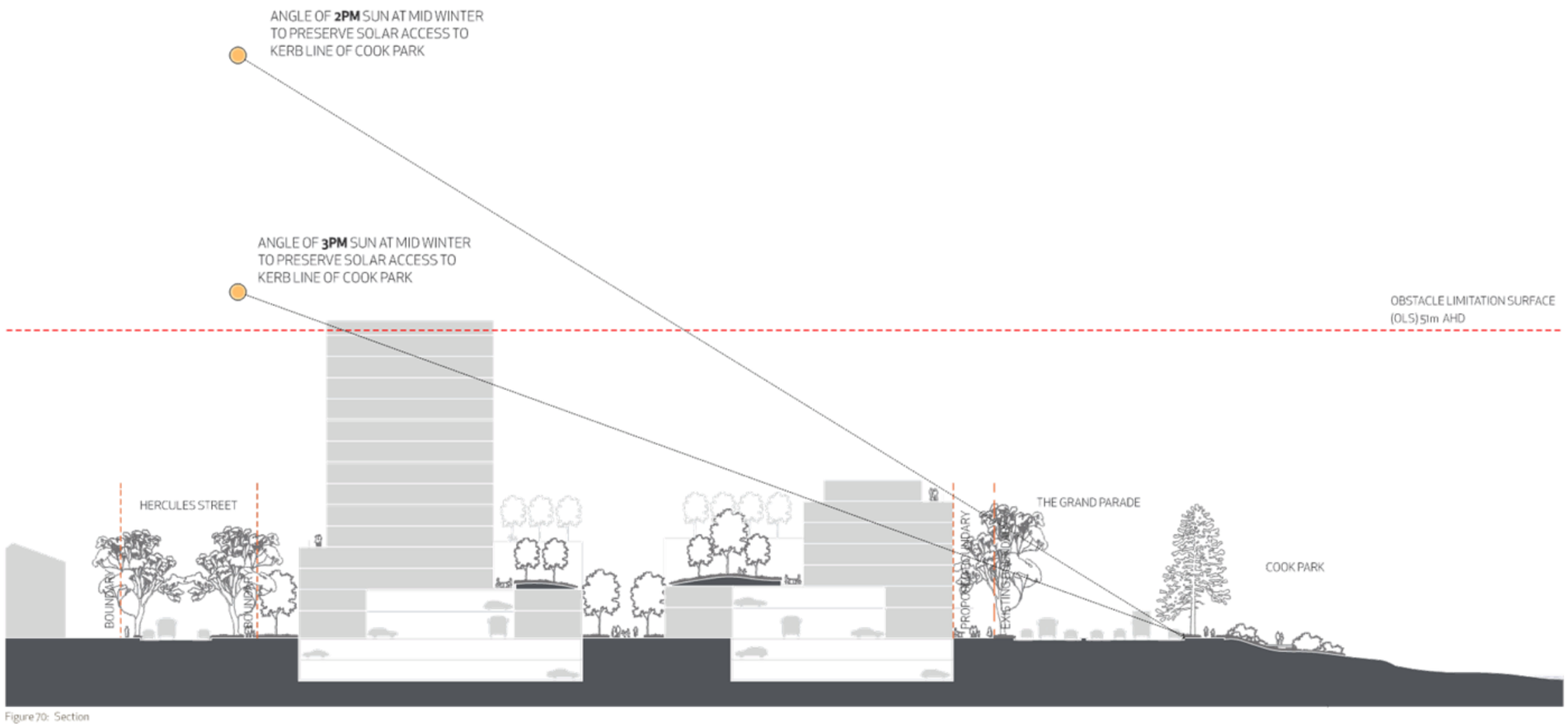


Figure 70: Section

5.34 OPTION 2C - SHADOWS

Figure 71: 9am

Figure 72: 10am

Figure 73: 11am

Figure 77: 12noon

Figure 74: 1pm

Figure 75: 2pm - NO ADDITIONAL OVERSHADOWING

Figure 76: 3pm

5.35 OPTION 02C - SCHEDULES

BRIGHTON LE SANDS OPTION 2C — REV A — 17/09/2019

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential: GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3-bed units	4- bed units	Non-residential: Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Resi + Non-Resi: Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	1,726																													
Basement		R4?	0%	0%	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	1,049	1	1,049	996	897	852	1,049	996	897	852	1,049	996	897	852
A2 - Podium		R4?	100%	0%	938	1	938	891	668	568	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	668	568
A3 - Podium		R4?	100%	0%	938	1	938	891	668	568	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	668	568
A4 - Podium		R4?	100%	0%	938	1	938	891	668	568	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	1,545	568
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,726				2,815	4	2,814	2,673	2,005	1,704	24	0	7	14	2	0	1,049	1	1,049	996	897	852	1,049	996	897	852	3,863	3,670	3,778	2,556
FSR																											Net FSR:	2.19:1		
Lot B1 Amalgamated	3,095																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,281	1	1,281	1,217	791	589	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,281	1,217	791	589
B1_2 - Podium		R4?	100%	0%	1,281	1	1,281	1,217	913	776	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,281	1,217	913	776
B1_3 - Podium		R4?	100%	0%	1,281	1	1,281	1,217	913	776	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,281	1,217	913	776
B1_4 - Podium		R4?	100%	0%	1,600	1	1,600	1,520	1,140	969	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,600	1,520	1,140	969
B1_5-14		R4?	100%	0%	1,021	10	10,210	9,702	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,702	7,275	6,183
Total	3,095				6,464	14	15,653	14,870	11,031	9,297	128	0	38	77	13	0	0	0	0	0	0	0	0	0	0	0	15,687	14,870	11,031	9,297
FSR																											Net FSR:	3.56:1		
Lot B2 Amalgamated	2,725																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B2_1 Gr Fl/Lvl 1		R4?	40%	60%	603	1	603	573	372	279	4	0	1	2	0	0	902	1	902	857	771	733	902	857	771	733	1,505	1,430	1,144	1,012
B2_2 - Podium		R4?	100%	0%	1,505	1	1,505	1,430	1,072	911	13	0	4	9	1	0	0	0	0	0	0	0	0	0	0	0	1,505	1,430	1,072	911
B2_3 - B2_4 Podium		R4?	100%	0%	1,798	2	3,596	3,416	2,562	2,175	30	0	9	18	3	0	0	0	0	0	0	0	0	0	0	0	3,596	3,416	2,562	2,175
B2_5 - B2_6		R4?	100%	0%	1,186	2	2,372	2,253	1,690	1,437	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,372	2,253	1,690	1,437
B2_7		R4?	100%	0%	628	1	628	597	447	380	5	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	628	597	447	380
Total	2,725				5,720	7	8,704	8,269	6,144	5,185	72	0	22	43	7	0	902	1	902	857	771	733	902	857	771	733	9,606	9,126	6,916	5,918
FSR																											Net FSR:	2.54:1		
Lot C1 Amalgamated	3,872																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,746	1	1,746	1,659	1,070	809	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,746	1,659	1,070	809
C1_2 - Podium		R4?	100%	0%	1,746	1	1,746	1,659	1,244	1,057	15	0	5	9	2	0	0	0	0	0	0	0	0	0	0	0	1,746	1,659	1,244	1,057
C1_3 - Podium		R4?	100%	0%	2,095	1	2,095	1,990	1,493	1,268	18	0	5	11	2	0	0	0	0	0	0	0	0	0	0	0	2,095	1,990	1,493	1,268
C1_4 - Podium		R4?	100%	0%	2,095	1	2,095	1,990	1,493	1,268	18	0	5	11	2	0	0	0	0	0	0	0	0	0	0	0	2,095	1,990	1,493	1,268
C1_5-14		R4?	100%	0%	1,021	10	10,210	9,702	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,702	7,275	6,183
Total	3,872				8,703	14	17,892	16,997	12,582	10,587	147	0	44	88	15	0	0	0	0	0	0	0	0	0	0	0	17,892	16,997	12,582	10,587
FSR																											Net FSR:	3.17:1		
Lot C2 Amalgamated	3,539																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2_1 Gr Fl/Lvl 1		R4?	62%	38%	1,144	1	1,144	1,087	706	530	7	0	2	4	1	0	719	1	719	683	615	584	719	683	615	584	1,863	1,770	1,321	1,114
C2_2 - Podium		R4?	100%	0%	1,864	1	1,864	1,771	1,328	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,128
C2_3 - C2_4 Podium		R4?	100%	0%	2,281	2	4,562	4,334	3,250	2,760	38	0	11	23	4	0	0	0	0	0	0	0	0	0	0	0	4,562	4,334	3,250	2,760
C2_5 - C2_6		R4?	100%	0%	1,579	2	3,158	3,000	2,250	1,913	26	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,158	3,000	2,250	1,913
C2_7		R4?	100%	0%	953	1	953	905	679	577	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	953	905	679	577
Total	3,539				7,821	7	11,681	11,097	8,214	6,911	95	0	29	57	10	0	719	1	719	683	615	584	719	683	615	584	12,400	11,780	8,829	7,495
FSR																											Net FSR:	2.49:1		
Lot D1 Amalgamated	4,476																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,969	1	1,969	1,871	1,238	912	12	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,238	912
D1_2 - Podium		R4?	100%	0%	1,969	1	1,969	1,871	1,403	1,192	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,403	1,192
D1_3 - Podium		R4?	100%	0%	2,138	1	2,138	2,031	1,523	1,295	18	0	5	11	2	0	0	0	0	0	0	0	0	0	0	0	2,138	2,031	1,523	1,295
D1_4 - Podium		R4?	100%	0%	2,138	1	2,138	2,031	1,523	1,295	18	0	5	11	2	0	0	0	0	0	0	0	0	0	0	0	2,138	2,031	1,523	1,295
D1_5-14		R4?	100%	0%	1,021	10	10,210	9,702	7,275	6,183	85	0	28	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,702	7,275	6,183
Total	4,476				9,235	14	18,424	17,503	12,940	10,877	150	0	45	90	15	0	0	0	0	0	0	0	0	0	0	0	18,424	17,503	12,940	10,877
FSR																											Net FSR:	2.89:1		
Lot D2 Amalgamated	4,141																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D2_1 Gr Fl/Lvl 1		R4?	100%	0%	1,862	1	1,862	1,769	1,150	862	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,862	1,769	1,150	862
D2_2 - Podium		R4?	100%	0%	1,862	1	1,862	1,769	1,527	1,328	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,862	1,769	1,527	1,328
D2_3 - D2_4 Podium		R4?	100%	0%	2,237	2	4,474	4,250	3,188	2,710	37	0	11	22	4	0	0	0	0	0	0	0	0	0	0	0	4,474	4,250	3,188	2,710
D2_5 - D2_6		R4?	100%	0%	1,519	2	3,038	2,886	2,165	1,840	29	0	8	15	3	0	0	0	0	0	0	0	0	0	0	0	3,038	2,886	2,165	1,840
D2_7		R4?	100%	0%	915	1	915	869	652	554	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	915	869	652	554
Total	4,141				8,305	7	12,151	11,543	8,681	7,094	98	0	29	59	10	0	0	0	0	0	0	0	0	0	0	0	12,151	11,543	8,681	7,094
FSR																											Net FSR:	2.05:1		
Lot E1 Amalgamated	1,255																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_1 Gr Fl/Lvl 1		R4?	100%	0%	307	1	307	292	190	142	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	307	292	190	142
E1_2 - Podium		R4?	100%	0%	307	1	307	292	219	186	5	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	307	292	219	186
E1_3 - Podium		R4?	100%	0%	697	1	697	662	497	422	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	497	422
E1_4 - Podium		R4?	100%	0%	697	1	697	662	497	422	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	497	422
E1_5-12		R4?	100%	0%	338	8	2,704	2,568	1,927	1,638	23	0	7	14	2	0	0	0	0	0	0	0	0	0	0	0	2,704	2,568	1,927	1,638
Total	1,255				2,346	12	4,712	4,476	3,328	2,810	40	0	12	24	4	0	0	0	0	0	0	0	0	0	0	0	4,712	4,476	3,328	2,810
FSR																											Net FSR:	2.65:1		
Lot E2 Amalgamated	2,780																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E2_1 Gr Fl/Lvl 1		R4?	100%	0%	1,031	1	1,031	979	697	477	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	1,031	979	697	477
E2_2 - Podium		R4?	100%	0%	1,031	1	1,031	979	735	624	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,031	979	735	624
E2_3 - Podium		R4?	100%	0%	1,031	1	1,031	979	735	624	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,031	979	735	624
E2_4 - Podium		R4?	100%	0%	1,031	1	1,031	979	735	624	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,031	979	735	624
E2_5-13		R4?	100%	0%	836	9	7,524	7,148	5,363	4,557	63	0	18	36	6	0	0	0	0	0	0	0	0	0	0	0	7,524	7,148	5,363	4,557
Total	2,780				4,960	13	11,648	11,066	8,201	6,907	97	0	29	56	10	0	0	0	0	0	0	0	0	0	0	0	11,648	11,066	8,201	6,907
FSR																											Net FSR:	2.95:1		
Lot E3 Amalgamated	3,190																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E3_1 Gr Fl/Lvl 1		R4?	100%	0%	1,167	1	1,167	1,108	721	540	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	1,167	1,108	721	540
E3_2 - E3_3 Podium		R4?	100%	0%	1,522	2	3,044	2,892	2,169	1,844	25	0	9	15	3	0	0	0	0	0	0	0	0	0	0	0	3,044	2,892	2,169	1,844
E3_4 - Podium		R4?	100%	0%	1,522	1	1,522	1,446	1,084	922	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,522	1,446	1,084	922
E3_5 - E3_6		R4?	100%	0%	1,029	2	2,058	1,955	1,466	1,246	17	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	2,058	1,955	1,466	1,246
E3_7 - E3_14		R4?	100%	0%	351	8	2,808	2,668	2,001	1,701	28	0	7	14	2	0	0	0	0	0	0	0	0	0	0	0	2,808	2,668	2,001	1,701
Total	3,190				5,591	14	10,599	10,069	7,441	6,253	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,599	10,069	7,441	6,253
FSR																											Net FSR:	2.33:1		
Lot E4 Amalgamated	3,638																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E4_1 Gr Fl/Lvl 1		R4?	100%	0%	1,575	1	1,575	1,496	973	728	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,575	1,496	973	728
E4_2 - Podium		R4?	100%	0%	1,575	1	1,575	1,496	1,322	954	13	0	4	9	1	0	0	0	0	0	0	0	0	0	0	0	1,575	1,496	1,322	954
E4_3 - E4_4 Podium		R4?	100%	0%	1,689	2	3,378	3,209	2,407	2,046	28	0	8	17	3	0	0	0	0	0	0	0	0	0	0	0	3,378	3,209	2,407	2,046
E4_5 - E4_8		R4?	100%	0%	1,545	2	3,090	2,938	2,202	1,873	26	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,090	2,938	2,202	1,873
E4_7		R4?	100%	0%	931	1	931	884	663	564	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	931	884	663	564
Total	3,638				7,315	7	10,549	10,022	7,367	6,164	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,549	10,022	7,367	6,164
FSR																											Net FSR:	2.02:1		
Lot F1 Amalgamated	1,529																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1_1 Gr Fl/Lvl 1		R4?	100%	0%	525	1	525	507	199	150	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	525	507	199	150
F1_2 Podium		R4?	100%	0%	785	1	785	758	985	680	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	785	758	985	680
F1_3 - F1_4 Podium		R4?	100%	0%	793	2	1,586	1,507	1,110	961	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,586	1,507	1,110	961
F1_5		R4?	100%	0%	401	1	401	381	786	243	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	401	381	786	243
Total	1,529				2,310	5	3,103	2,948	2,180	1,833	25	0	8	15	3	0	0	0	0	0	0	0	0	0	0	0	3,103	2,948	2,180	1,833
FSR																											Net FSR:	1.43:1		
Develop. Area	39,066				71,875		127,930	121,574	89,914	75,924	1,046	0	314	628	105	0	2,670		2,670	2,536	2,283	2,188	2,670	2,536	2,283	2,188	130,634	124,076	93,874	77,793

Figure 78: Schedule Part 1

BRIGHTON LE SANDS OPTION 2

Lot/Building No.	Development Lot Area (m²)	Resi Carparking Area	Number of floors	Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	1,726														
Basement		1,311	2	62	0	0	0	0	0	0	0	2,622	62	0	0
A1 Gr Fl/Lvl 1		0	0	0	0	0	0	0	0	785	22	0	0	785	22
A2 - Podium		0	0	0	437	10	0	0	0	0	0	0	0	437	10
A3 - Podium		0	0	0	437	10	0	0	0	0	0	0	0	437	10
A4 - Podium		0	0	0	437	10	0	0	0	0	0	0	0	437	10
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,726	1,311	2	62	1,310	31	0		0	785	22	2,622	62	2,095	54
Lot															
Lot B1 Amalgamated	3,095														
Basement		2,124	2	101	0	0	0	0	0	0	0	4,248	101	0	0
B1_1 Gr Fl/Lvl 1		843	1	20	437	10	0	0	0	0	0	843	20	437	10
B1_2 - Podium		843	1	20	601	14	0	0	0	0	0	843	20	601	14
B1_3 - Podium		843	1	20	601	14	0	0	0	0	0	843	20	601	14
B1_4 - Podium		0	0	0	730	17	0	0	0	0	0	0	0	730	17
B1_5-14		0	0	0	4,841	111	0	0	0	0	0	0	0	4,841	111
Total	3,095	4,653	5	161	6,989	166	0		0	0	0	6,777	161	6,989	166
Lot															
Lot B2 Amalgamated	2,725														
Basement		3,477	1	83	0	0	0	0	0	0	0	3,477	83	0	0
B2_1 Gr Fl/Lvl 1		858	1	20	216	5	0	0	0	675	19	858	20	893	24
B2_2 - Podium		858	1	20	730	17	0	0	0	0	0	858	20	730	17
B2_3 - B2_4 Podium		0	0	0	1,638	39	0	0	0	0	0	0	0	1,638	39
B2_5 - B2_6		0	0	0	1,092	26	0	0	0	0	0	0	0	1,092	26
B2_7		0	0	0	273	7	0	0	0	0	0	0	0	273	7
Total	2,725	5,193	3	124	3,931	94	0		0	675	19	5,193	124	4,806	113
Lot															
Lot C1 Amalgamated	3,972														
Basement		2,858	2	136	0	0	0	0	0	0	0	5,716	136	0	0
C1_1 Gr Fl/Lvl 1		1,111	1	26	601	14	0	0	0	0	0	1,111	26	601	14
C1_2 - Podium		1,111	1	26	869	20	0	0	0	0	0	1,111	26	869	20
C1_3 - Podium		0	0	0	983	23	0	0	0	0	0	0	0	983	23
C1_4 - Podium		0	0	0	983	23	0	0	0	0	0	0	0	983	23
C1_5-14		0	0	0	4,841	111	0	0	0	0	0	0	0	4,841	111
Total	3,972	5,080	4	189	8,026	191	0		0	0	0	7,938	189	8,026	191
Lot															
Lot C2 Amalgamated	3,539														
Basement		3,791	1	90	0	0	0	0	0	0	0	3,791	90	0	0
C2_1 Gr Fl/Lvl 1		1,104	1	26	382	9	0	0	0	538	15	1,104	26	920	24
C2_2 - Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	21
C2_3 - C2_4 Podium		0	0	0	2,075	49	0	0	0	0	0	0	0	2,075	49
C2_5 - C2_6		0	0	0	1,420	34	0	0	0	0	0	0	0	1,420	34
C2_7		0	0	0	437	10	0	0	0	0	0	0	0	437	10
Total	3,539	5,999	3	143	5,187	124	0		0	538	15	5,999	143	5,725	139
Lot															
Lot D1 Amalgamated	4,476														
Basement		2,616	2	125	0	0	0	0	0	0	0	5,232	125	0	0
D1_1 Gr Fl/Lvl 1		1,370	1	33	730	17	0	0	0	0	0	1,370	33	730	17
D1_2 - Podium		1,370	1	33	874	21	0	0	0	0	0	1,370	33	874	21
D1_3 - Podium		0	0	0	983	23	0	0	0	0	0	0	0	983	23
D1_4 - Podium		0	0	0	983	23	0	0	0	0	0	0	0	983	23
D1_5-14		0	0	0	4,841	114	0	0	0	0	0	0	0	4,841	114
Total	4,476	5,356	4	190	8,190	195	0		0	0	0	7,972	190	8,190	195
Lot															
Lot D2 Amalgamated	4,141														
Basement		3,472	1	83	0	0	0	0	0	0	0	3,472	83	0	0
D2_1 Gr Fl/Lvl 1		991	1	24	655	16	0	0	0	0	0	991	24	655	16
D2_2 - Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	21
D2_3 - D2_4 Podium		0	0	0	2,020	48	0	0	0	0	0	0	0	2,020	48
D2_5- D2_6		0	0	0	1,385	33	0	0	0	0	0	0	0	1,385	33
D2_7		0	0	0	437	10	0	0	0	0	0	0	0	437	10
Total	4,141	5,454	3	130	5,351	127	0		0	0	0	5,454	130	5,351	127
Lot															
Lot E1 Amalgamated	1,255														
Basement		697	2	33	0	0	0	0	0	0	0	1,394	33	0	0
E1_1 Gr Fl/Lvl 1		389	1	6	109	3	0	0	0	0	0	389	6	109	3
E1_2 - Podium		389	1	6	164	4	0	0	0	0	0	389	6	164	4
E1_3 - Podium		0	0	0	328	8	0	0	0	0	0	0	0	328	8
E1_4 - Podium		0	0	0	328	8	0	0	0	0	0	0	0	328	8
E1_5-12		0	0	0	1,256	30	0	0	0	0	0	0	0	1,256	30
Total	1,255	1,475	4	46	2,184	52	0		0	0	0	2,172	46	2,184	52
Lot															
Lot E2 Amalgamated	2,780														
Basement		1,842	2	85	0	0	0	0	0	0	0	3,684	85	0	0
E2_1 Gr Fl/Lvl 1		811	1	14	382	9	0	0	0	0	0	811	14	382	9
E2_2 - Podium		811	1	14	491	12	0	0	0	0	0	811	14	491	12
E2_3 - Podium		811	1	14	491	12	0	0	0	0	0	811	14	491	12
E2_4 - Podium		811	1	14	491	12	0	0	0	0	0	811	14	491	12
E2_5-13		0	0	0	3,440	82	0	0	0	0	0	0	0	3,440	82
Total	2,780	5,086	6	142	5,296	128	0		0	0	0	6,928	142	5,296	128
Lot															
Lot E3 Amalgamated	3,190														
Basement		2,103	2	100	0	0	0	0	0	0	0	4,206	100	0	0
E3_1 Gr Fl/Lvl 1		354	1	9	382	9	0	0	0	0	0	354	9	382	9
E3_2 - E3_3 Podium		0	0	0	1,365	33	0	0	0	0	0	0	0	1,365	33
E3_4 - Podium		0	0	0	710	17	0	0	0	0	0	0	0	710	17
E3_5 - E3_6		0	0	0	928	22	0	0	0	0	0	0	0	928	22
E3_7 - E3_14		0	0	0	1,236	30	0	0	0	0	0	0	0	1,236	30
Total	3,190	2,457	3	109	4,641	111	0		0	0	0	4,560	109	4,641	111
Lot															
Lot E4 Amalgamated	3,638														
Basement		4,019	1	96	0	0	0	0	0	0	0	4,039	96	0	0
E4_1 Gr Fl/Lvl 1		786	1	13	546	13	0	0	0	0	0	786	13	546	13
E4_2 - Podium		786	1	13	730	17	0	0	0	0	0	786	13	730	17
E4_3 - E4_4 Podium		0	0	0	1,528	36	0	0	0	0	0	0	0	1,528	36
E4_5- E4_6		0	0	0	1,420	34	0	0	0	0	0	0	0	1,420	34
E4_7		0	0	0	437	10	0	0	0	0	0	0	0	437	10
Total	3,638	5,591	3	122	4,641	111	0		0	0	0	5,591	122	4,641	111
Lot															
Lot F1 Amalgamated	1,529														
Basement		793	2	35	0	0	0	0	0	0	0	1,586	35	0	0
F1_1 Gr Fl/Lvl 1		469	1	11	109	3	0	0	0	0	0	469	11	109	3
F1_2 Podium		0	0	0	382	9	0	0	0	0	0	0	0	382	9
F1_3 - F1_4 Podium		0	0	0	710	17	0	0	0	0	0	0	0	710	17
F1_5		0	0	0	164	4	0	0	0	0	0	0	0	164	4
Total	1,529	1,262	3	49	1,365	33	0		0	0	0	2,055	49	1,365	33
Lot															
Develop. Area	36,068	48,917		1,466	57,112	1,360	0		0	1,997	57	63,201	1,466	59,108	1,417

Figure 79: Schedule Part 2

ASSUMPTIONS [APPLY TO OPTION 2A/2B] **19067 - BRIGHTON LE SANDS OPTION 2A YIELD ANALYSIS**

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA	
Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA

GFA	
Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA

NSA	
Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate					
	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces for 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m² GFA	
	Commercial	1 space per	40.0	m² GFA	
Parking area	Residential	1 per	42.0	m²	rate of Parking increase for Level 1&2
	Non-Residential	1 per	35.0	m²	

Residential Mix Calculator	Mix	NSA (m²)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	NSAs are minimum from ADG plus small tolerance
3 Bed - 10% min	10%	98	
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m² per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 80: Assumptions

5.36 OPTION 3

Figure 81: Indicative Plan

OPTION 03 - SUMMARY	REV A	25/07/2019
Total Site Area of Algamated Lots:	36,066 m²	
Gross FSR:	2.44:1	
FSR - residential:	2.41:1	
FSR - non-residential:	0.05:1	
Total GFA:	88,181 m²	
Retail GFA:	1,982 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	86,199 m²	
Total number of units:	1,008 units	

Figure 82: Summary

Legend

04 Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

ALLEN JACK+COTTIER

5.37 OPTION 3 - AMALGAMATION PLAN

Superlot A

existing lot area	1702m2
lot area following development:	1726m2
GFA:	2792m2
FSR:	1.62:1

Superlot B1

existing lot area	3772m2
lot area following development:	3095m2
GFA:	10026m2
FSR:	3.24:1

Superlot B2

existing lot area	3441m2
lot area following development:	2725m2
GFA:	7109m2
FSR:	2.61:1

Superlot C1

existing lot area	4985m2
lot area following development:	3972m2
GFA:	11556m2
FSR:	2.91:1

Superlot C2

existing lot area	4587m2
lot area following development:	3539m2
GFA:	9588m2
FSR:	2.71:1

Superlot D1

existing lot area	5319m2
lot area following development:	4476m2
GFA:	12481m2
FSR:	2.79:1

Superlot D2

existing lot area	4236m2
lot area following development:	4141m2
GFA:	9007m2
FSR:	2.17:1

Superlot E1

existing lot area	1255m2
lot area following development:	1255m2
GFA:	3669m2
FSR:	2.92:1

Superlot E2

existing lot area	2780m2
lot area following development:	2780m2
GFA:	7767m2
FSR:	2.79:1

Superlot E3

existing lot area	3551m2
lot area following development:	3190m2
GFA:	5599m2
FSR:	1.76:1

Superlot E4

existing lot area	3888m2
lot area following development:	3638m2
GFA:	6914m2
FSR:	1.9:1

Superlot F

existing lot area	1629m2
lot area following development:	1529m2
GFA:	1675m2
FSR:	1.1:1

Figure 83: Lot Amalgamation Plan

5.38 OPTION 3 - PERSPECTIVE 1

Figure 84: 3D Perspective

5.39 OPTION 3 - PERSPECTIVE 2

Figure 85: 3D Perspective

5.40 OPTION 3 - SECTION

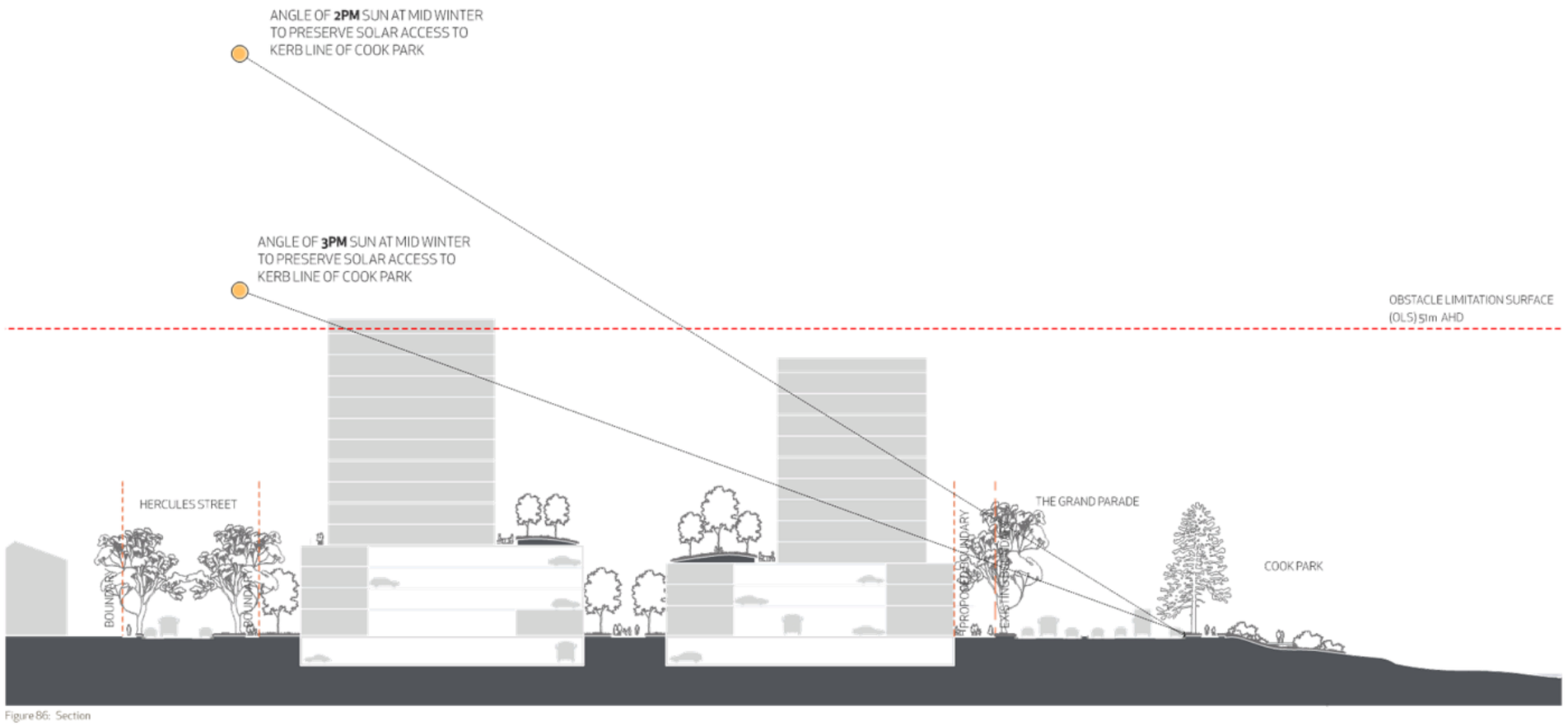


Figure 86: Section

5.41 OPTION 3 - SHADOWS

Figure 87: 9am

Figure 88: 10am

Figure 89: 11am

Figure 93: 12noon

Figure 90: 1pm

Figure 91: 2pm

Figure 92: 3pm

5.42 OPTION 3 - SCHEDULES

BRIGHTON LE SANDS OPTION 3 **REV A** **25/07/2019**

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential: GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3- bed units	4- bed units	Non-residential: Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Resi + Non-Resi: Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	1,726																													
Basement		R4?	0%	0%	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		R4?	26%	74%	240	1	240	228	148	111	2	0	1	1	0	0	697	1	697	662	586	566	697	662	586	566	937	890	734	677
A2 - Podium		R4?	100%	0%	938	1	938	891	665	565	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	938	891	665	565
A3 - Podium		R4?	100%	0%	370	1	370	352	264	224	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	370	352	264	224
A4 - A7		R4?	100%	0%	672	4	2,688	2,554	1,915	1,626	22	0	7	13	2	0	0	0	0	0	0	0	0	0	0	0	2,688	2,554	1,916	1,626
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,726				2,221	7	4,236	4,024	2,995	2,531	35	0	11	21	4	0	697	1	697	662	586	566	697	662	586	566	4,933	4,686	3,782	3,097
FSR																												Net FSR:	1.62:1	
Lot B1 Amalgamated	3,095																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,281	1	1,281	1,237	791	593	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,281	1,237	791	593
B1_2 - Podium		R4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_3 - Podium		R4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_4 - Podium		R4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_5-14		R4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	3,095				5,053	14	14,242	13,330	10,028	8,443	117	0	35	70	12	0	0	0	0	0	0	0	0	0	0	0	14,242	13,330	10,028	8,443
FSR																												Net FSR:	3.24:1	
Lot B2 Amalgamated	2,725																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B2_1 Gr Fl/Lvl 1		R4?	40%	60%	603	1	603	579	372	279	4	0	1	2	0	0	902	1	902	857	771	733	902	857	771	733	1,505	1,436	1,144	1,012
B2_2 - Podium		R4?	100%	0%	1,233	1	1,233	1,190	883	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,233	1,190	892	759
B2_3 - Podium		R4?	100%	0%	1,233	1	1,233	1,190	883	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,233	1,190	892	759
B2_4 - Podium		R4?	100%	0%	1,165	1	1,165	1,110	832	707	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,165	1,110	832	707
B2_5 - B2_10		R4?	100%	0%	703	6	4,690	4,465	3,347	2,845	59	0	12	23	4	0	0	0	0	0	0	0	0	0	0	0	4,690	4,465	3,347	2,845
Total	2,725				5,060	10	8,975	8,526	6,337	5,350	73	0	22	44	7	0	902	1	902	857	771	733	902	857	771	733	9,877	9,383	7,109	6,082
FSR																												Net FSR:	2.61:1	
Lot C1 Amalgamated	3,972																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,827	1	1,827	1,736	1,328	946	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,827	1,736	1,328	946
C1_2 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	893	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	893
C1_3 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	893	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	893
C1_4 - Podium		R4?	100%	0%	1,475	1	1,475	1,401	1,051	893	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	893
C1_5-14		R4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	3,972				7,273	14	16,462	15,639	11,556	9,709	133	0	40	80	13	0	0	0	0	0	0	0	0	0	0	0	16,462	15,639	11,556	9,709
FSR																												Net FSR:	2.91:1	
Lot C2 Amalgamated	3,539																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2_1 Gr Fl/Lvl 1		R4?	61%	39%	1,144	1	1,144	1,087	706	530	7	0	2	4	1	0	718	1	718	683	615	584	718	683	615	584	1,865	1,770	1,321	1,114
C2_2 - Podium		R4?	100%	0%	1,884	1	1,884	1,771	1,328	1,129	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,884	1,771	1,328	1,129
C2_3 - Podium		R4?	100%	0%	1,884	1	1,884	1,771	1,328	1,129	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,884	1,771	1,328	1,129
C2_4 - Podium		R4?	100%	0%	1,618	1	1,618	1,537	1,153	980	14	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,618	1,537	1,153	980
C2_5 - C2_12		R4?	100%	0%	782	8	6,256	5,943	4,457	3,789	52	0	16	31	5	0	0	0	0	0	0	0	0	0	0	0	6,256	5,943	4,457	3,789
Total	3,539				7,272	12	12,748	12,109	8,973	7,556	105	0	32	63	11	0	718	1	718	683	615	584	13,485	12,792	9,588	8,140
FSR																												Net FSR:	2.71:1	
Lot D1 Amalgamated	4,476																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1_1 Gr Fl/Lvl 1		R4?	100%	0%	1,969	1	1,969	1,871	1,216	912	12	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,216	912
D1_2 - Podium		R4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_3 - Podium		R4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_4 - Podium		R4?	100%	0%	2,389	1	2,389	2,270	1,702	1,447	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,389	2,270	1,702	1,447
D1_5-14		R4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	4,476				8,591	14	17,780	16,891	12,481	10,487	144	0	43	86	14	0	0	0	0	0	0	0	0	0	0	0	17,780	16,891	12,481	10,487
FSR																												Net FSR:	2.79:1	
Lot D2 Amalgamated	4,141																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D2_1 Gr Fl/Lvl 1		R4?	100%	0%	1,862	1	1,862	1,769	1,150	862	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,862	1,769	1,150	862
D2_2 - Podium		R4?	100%	0%	1,862	1	1,862	1,769	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,862	1,769	1,327	1,128
D2_3 - Podium		R4?	100%	0%	1,862	1	1,862	1,769	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,862	1,769	1,327	1,128
D2_4 - Podium		R4?	100%	0%	1,535	1	1,535	1,458	1,094	930	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,535	1,458	1,094	930
D2_5- D2_6		R4?	100%	0%	721	5	5,768	5,480	4,110	3,493	48	0	16	29	5	0	0	0	0	0	0	0	0	0	0	0	5,768	5,480	4,110	3,493
Total	4,141				7,842	12	12,889	12,245	9,007	7,541	105	0	32	63	11	0	0	0	0	0	0	0	0	0	0	0	12,889	12,245	9,007	7,541
FSR																												Net FSR:	2.17:1	
Lot E1 Amalgamated	1,255																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_1 Gr Fl/Lvl 1		R4?	100%	0%	429	1	429	408	285	199	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	429	408	285	199
E1_2 - Podium		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_3 - Podium		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_4 - Podium		R4?	100%	0%	697	1	697	662	487	422	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	487	422
E1_5-14		R4?	100%	0%	408	10	4,080	3,876	2,907	2,471	34	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	4,080	3,876	2,907	2,471
Total	1,255				1,534	14	5,206	4,948	3,669	3,092	43	0	13	26	4	0	0	0	0	0	0	0	0	0	0	0	5,206	4,948	3,669	3,092
FSR																												Net FSR:	2.92:1	
Lot E2 Amalgamated	2,780																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E2_1 Gr Fl/Lvl 1		R4?	100%	0%	825	1	825	784	509	382	5	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	825	784	509	382
E2_2 - Podium		R4?	100%	0%	178	1	178	168	127	108	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178	169	127	108
E2_3 - Podium		R4?	100%	0%	178	1	178	168	127	108	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178	169	127	108
E2_4 - Podium		R4?	100%	0%	1,470	1	1,470	1,397	1,047	890	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,470	1,397	1,047	890
E2_5-14		R4?	100%	0%	836	10	8,360	7,942	5,957	5,063	70	0	21	42	7	0	0	0	0	0	0	0	0	0	0	0	8,360	7,942	5,957	5,063
Total	2,780				3,487	14	11,011	10,460	7,767	6,551	89	0	27	53	9	0	0	0	0	0	0	0	0	0	0	0	11,011	10,460	7,767	6,551
FSR																												Net FSR:	2.79:1	
Lot E3 Amalgamated	3,190																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E3_1 Gr Fl/Lvl 1		R4?	100%	0%	1,349	1	1,349	1,282	833	625	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,349	1,282	833	625
E3_2 - E3_3 Podium		R4?	100%	0%	854	2	1,708	1,623	1,059	1,106	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,708	1,623	1,059	1,106
E3_4 - Podium		R4?	100%	0%	1,271	1	1,271	1,207	906	770	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,271	1,207	906	770
E3_5 - E3_14		R4?	100%	0%	351	10	3,510	3,335	2,501	2,126	28	0	8	17	3	0	0	0	0	0	0	0	0	0	0	0	3,510	3,335	2,501	2,126
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,190				3,925	14	8,038	7,836	5,599	4,676	65	0	20	39	7	0	0	0	0	0	0	0	0	0	0	0	8,038	7,836	5,599	4,676
FSR																												Net FSR:	1.76:1	
Lot E4 Amalgamated	3,638																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E4_1 Gr Fl/Lvl 1		R4?	100%	0%	1,255	1	1,255	1,182	775	581	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,192	775	581
E4_2 - Podium		R4?	100%	0%	1,255	1	1,255	1,182	884	760	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,192	894	760
E4_3 - Podium		R4?	100%	0%	1,709	1	1,709	1,624	1,218	1,035	14	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,709	1,624	1,218	1,035
E4_4 - Podium		R4?	100%	0%	1,116	1	1,116	1,060	795	676	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,116	1,060	795	676
E4_5- E4_10		R4?	100%	0%	756	6	4,536	4,309	3,232	2,747	36	0	11	23	4	0	0	0	0	0	0	0	0	0	0	0	4,536	4,309	3,232	2,747
Total	3,638				6,091	10	9,871	9,377	6,914	5,799	78	0	24	47	8	0	0	0	0	0	0	0	0	0	0	0	9,871	9,377	6,914	5,799
FSR																												Net FSR:	1.9:1	
Lot F1 Amalgamated	1,529																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1_1 Gr Fl/Lvl 1		R4?	100%	0%	420	1	420	398	258	195	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	420	389	258	195
F1_2 Podium		R4?	100%	0%	793	1	793	753	565	410	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	410
F1_3 - F1_4 Podium		R4?	100%	0%	793	1	793	753	565	410	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	410
F1_5		R4?	100%	0%	401	1	401	383	288	249	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	401	383	288	249
Total	1,529				2,407	4	2,407	2,287	1,675	1,398	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,407	2,287	1,675	1,398
FSR																												Net FSR:	1.1:1	
Develop. Area	36,066				60,756		123,863	117,870	86,998	73,133	1,008	0	302	605	101	0	2,318		2,318	2,202	1,982	1,883	2,318	2,202	1,982	1,883	129,181	119,872	88,181	75,016

Figure 94: Schedule Part 1

BRIGHTON LE SANDS OPTION 3

Lot/Building No.	Development Lot Area (m²)	Resi Carparking Area	Number of floors	Car Parking: Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	1,726														
Basement		1,311	1.0	31	0	0	0	0	0	0	0	1,311	31	0	0
A1 Gr Fl/Lvl 1		373	1.0	9	108	3	0	0	0	521	15	373	9	629	17
A2 - Podium		940	1.0	22	437	10	0	0	0	0	0	940	22	437	10
A3 - Podium		0	0.0	0	164	4	0	0	0	0	0	0	0	164	4
A4 - A7		0	0.0	0	1,201	29	0	0	0	0	0	0	0	1,201	29
		0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,726	2,624	3	62	1,911	46	0	0	0	521	15	2,824	62	2,432	60
GFA															
Lot B1 Amalgamated	3,095														
Basement		2,124	1.0	51	0	0	0	0	0	0	0	2,124	51	0	0
B1_1 Gr Fl/Lvl 1		843	1.0	20	437	10	0	0	0	0	0	843	20	437	10
B1_2 - Podium		1,207	1.0	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_3 - Podium		1,207	1.0	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_4 - Podium		1,207	1.0	29	437	10	0	0	0	0	0	1,207	29	437	10
B1_5-14		0	0.0	0	4,641	111	0	0	0	0	0	0	0	4,641	111
Total	3,095	6,588	5	157	6,388	152	0		0	0	0	6,588	157	6,388	152
GFA															
Lot B2 Amalgamated	2,725														
Basement		2,363	1.0	56	0	0	0	0	0	0	0	2,363	56	0	0
B2_1 Gr Fl/Lvl 1		858	1.0	20	248	5	0	0	0	675	19	858	20	923	24
B2_2 - Podium		1,110	1.0	26	548	13	0	0	0	0	0	1,110	26	548	13
B2_3 - Podium		1,110	1.0	26	548	13	0	0	0	0	0	1,110	26	548	13
B2_4 - Podium		0	0.0	0	548	13	0	0	0	0	0	0	0	548	13
B2_5 - B2_10		0	0.0	0	2,129	51	0	0	0	0	0	0	0	2,129	51
Total	2,725	5,441	4	130	3,986	95	0		0	675	19	5,441	130	4,661	114
GFA															
Lot C1 Amalgamated	3,972														
Basement		2,858	1	68	0	0	0	0	0	0	0	2,858	68	0	0
C1_1 Gr Fl/Lvl 1		1,031	1	25	655	16	0	0	0	0	0	1,031	25	655	16
C1_2 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	655	16
C1_3 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	655	16
C1_4 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	655	16
C1_5-14		0	0	0	4,641	111	0	0	0	0	0	0	0	4,641	111
Total	3,972	8,038	5	191	7,262	173	0		0	0	0	8,038	191	7,262	173
GFA															
Lot C2 Amalgamated	3,538														
Basement		2,968	1	71	0	0	0	0	0	0	0	2,968	71	0	0
C2_1 Gr Fl/Lvl 1		1,104	1	26	922	9	0	0	0	538	15	1,104	26	920	24
C2_2 - Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	21
C2_3 - Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	21
C2_4 - Podium		0	0	0	764	18	0	0	0	0	0	0	0	764	18
C2_5 - C2_12		0	0	0	2,639	66	0	0	0	0	0	0	0	2,639	66
Total	3,538	6,280	4	150	5,733	137	0		0	538	15	6,280	150	6,271	152
GFA															
Lot D1 Amalgamated	4,476														
Basement		3,339	1	80	0	0	0	0	0	0	0	3,338	80	0	0
D1_1 Gr Fl/Lvl 1		1,370	1	33	732	17	0	0	0	0	0	1,370	33	732	17
D1_2 - Podium		1,733	1	41	730	17	0	0	0	0	0	1,733	41	730	17
D1_3 - Podium		1,733	1	41	730	17	0	0	0	0	0	1,733	41	730	17
D1_4 - Podium		0	0	0	1,092	26	0	0	0	0	0	0	0	1,092	26
D1_5-14		0	0	0	4,641	111	0	0	0	0	0	0	0	4,641	111
Total	4,476	8,175	4	195	7,862	187	0		0	0	0	8,175	195	7,862	187
GFA															
Lot D2 Amalgamated	4,141														
Basement		3,036	1	73	0	0	0	0	0	0	0	3,036	73	0	0
D2_1 Gr Fl/Lvl 1		991	1	24	655	16	0	0	0	0	0	991	24	655	16
D2_2 - Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	21
D2_3 - Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	21
D2_4 - Podium		0	0	0	730	17	0	0	0	0	0	0	0	730	17
D2_5 - D2_6		0	0	0	2,623	62	0	0	0	0	0	0	0	2,623	62
Total	4,141	6,029	4	144	5,733	137	0		0	0	0	6,029	144	5,733	137
GFA															
Lot E1 Amalgamated	1,255														
Basement		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_1 Gr Fl/Lvl 1		288	1	8	164	4	0	0	0	0	0	288	8	164	4
E1_2 - Podium		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_3 - Podium		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_4 - Podium		0	0	0	328	8	0	0	0	0	0	0	0	328	8
E1_5-14		0	0	0	1,856	46	0	0	0	0	0	0	0	1,856	44
Total	1,255	2,359	4	58	2,348	58	0		0	0	0	2,359	58	2,348	58
GFA															
Lot E2 Amalgamated	2,780														
Basement		1,687	1	40	0	0	0	0	0	0	0	1,687	40	0	0
E2_1 Gr Fl/Lvl 1		645	1	15	273	7	0	0	0	0	0	645	15	273	7
E2_2 - Podium		1,292	1	31	55	1	0	0	0	0	0	1,292	31	55	1
E2_3 - Podium		1,292	1	31	55	1	0	0	0	0	0	1,292	31	55	1
E2_4 - Podium		0	0	0	655	16	0	0	0	0	0	0	0	655	16
E2_5-14		0	0	0	3,923	93	0	0	0	0	0	0	0	3,923	93
Total	2,780	4,928	4	117	4,859	116	0		0	0	0	4,928	117	4,859	116
GFA															
Lot E3 Amalgamated	3,190														
Basement		2,103	1	50	0	0	0	0	0	0	0	2,103	50	0	0
E3_1 Gr Fl/Lvl 1		316	1	8	491	12	0	0	0	0	0	316	8	491	12
E3_2 - E3_3 Podium		712	2	54	574	21	0	0	0	0	0	1,424	54	574	21
E3_4 - Podium		0	0	0	601	14	0	0	0	0	0	0	0	601	14
E3_5 - E3_14		0	0	0	1,583	38	0	0	0	0	0	0	0	1,583	38
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,190	3,131	4	92	3,549	85	0		0	0	0	3,843	92	3,549	85
GFA															
Lot E4 Amalgamated	3,638														
Basement		2,517	1	60	0	0	0	0	0	0	0	2,517	60	0	0
E4_1 Gr Fl/Lvl 1		1,263	1	30	417	10	0	0	0	0	0	1,263	30	417	10
E4_2 - Podium		1,263	1	30	548	13	0	0	0	0	0	1,263	30	548	13
E4_3 - Podium		0	0	0	764	18	0	0	0	0	0	0	0	764	18
E4_4 - Podium		0	0	0	491	12	0	0	0	0	0	0	0	491	12
E4_5- E4_10		0	0	0	2,075	49	0	0	0	0	0	0	0	2,075	49
Total	3,638	5,043	3	120	4,313	103	0		0	0	0	5,043	120	4,313	103
GFA															
Lot F1 Amalgamated	1,529														
Basement		793	1	19	0	0	0	0	0	0	0	783	19	0	0
F1_1 Gr Fl/Lvl 1		435	1	10	164	4	0	0	0	0	0	435	10	164	4
F1_2 Podium		0	0	0	362	9	0	0	0	0	0	0	0	362	9
F1_3 - F1_4 Podium		0	0	0	362	9	0	0	0	0	0	0	0	362	9
F1_5		0	0	0	164	4	0	0	0	0	0	0	0	164	4
Total	1,529	1,228	2	29	1,092	26	0		0	0	0	1,228	29	1,092	26
GFA															
Develop. Area	39,066	59,842		1,442	55,037	1,310	0		0	1,734	50	60,574	1,442	56,771	1,360

Figure 95: Schedule Part 2

ASSUMPTIONS [APPLY TO OPTION 2A/2B/3] — **BRIGHTON LE SANDS OPTION 3**

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA	
Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA

GFA	
Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA

NSA	
Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate

	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces for 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m^2 GFA	
	Commercial	1 space per	40.0	m^2 GFA	
Parking area	Residential	1 per	42.0	m^2	rate of Parking increase for small lots
	Non-Residential	1 per	35.0	m^2	

Residential Mix Calculator

	Mix	NSA (m^2)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	NSAs are minimum from ADG plus small tolerance
3 Bed - 10% min	10%	98	
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m^2 per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 96: Assumptions

5.43 OPTION 4

Key Principles

- 14 storey building height for Lots C2, B2, D2 and E4.
- 8 storey building height for Lot A.
- 14 storey building height for Lots C1, B1, D1, E1, E2 and E3.
- Sleeve parking where possible.

Pros

- Towers are slender in shape.

Cons

- Significant overshadowing to Brighton Le Sands beach and Cook Park.
- Monotonous height compromises sense of place.
- Parking within the podium is inefficient due to constrained lot depth, a problem that is exacerbated by building height.
- Lots E1, E3 (west) and A are too small to provide parking with sleeving use(s) on all podium levels (also exacerbated by building height).
- Above ground parking interfacing directly with the streetscape/ adjoining lot is proposed to meet the parking requirement.

OPTION 04 - SUMMARY	REV A	19/08/2019
Total Site Area of Algamated Lots:	36,066 m²	
Gross FSR:	2.67:1	
FSR - residential:	2.59:1	
FSR - non-residential:	0.08:1	
Total GFA:	96,216 m²	
Retail GFA:	1,982 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	93,382 m²	
Total number of units:	1,081 units	

Figure 98: Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

Figure 97: Indicative Plan

5.44 OPTION 4 - AMALGAMATION PLAN

Superlot A

existing lot area	1702m2
lot area following development:	1726m2
GFA:	4154m2
FSR:	2.41:1

Superlot B1

existing lot area	3772m2
lot area following development:	3095m2
GFA:	10026m2
FSR:	3.24:1

Superlot B2

existing lot area	3441m2
lot area following development:	2725m2
GFA:	9401m2
FSR:	3.45:1

Superlot C1

existing lot area	4985m2
lot area following development:	3972m2
GFA:	11556m2
FSR:	2.91:1

Superlot C2

existing lot area	4587m2
lot area following development:	3539m2
GFA:	10877m2
FSR:	3.07:1

Superlot D1

existing lot area	5319m2
lot area following development:	4476m2
GFA:	12481m2
FSR:	2.79:1

Superlot D2

existing lot area	4236m2
lot area following development:	4141m2
GFA:	10267m2
FSR:	2.48:1

Superlot E1

existing lot area	1255m2
lot area following development:	1255m2
GFA:	3669m2
FSR:	2.92:1

Superlot E2

existing lot area	2780m2
lot area following development:	2780m2
GFA:	7767m2
FSR:	2.79:1

Superlot E3

existing lot area	3551m2
lot area following development:	3190m2
GFA:	5599m2
FSR:	1.76:1

Superlot E4

existing lot area	3888m2
lot area following development:	3638m2
GFA:	8745m2
FSR:	2.4:1

Superlot F

existing lot area	1629m2
lot area following development:	1529m2
GFA:	1675m2
FSR:	1.1:1

Figure 99: Lot Amalgamation Plan

5.45 OPTION 4 - PERSPECTIVE 1

Figure 100: 3D Perspective

5.46 OPTION 4 - PERSPECTIVE 2

Figure 101: 3D Perspective

5.47 OPTION 4 - SECTION

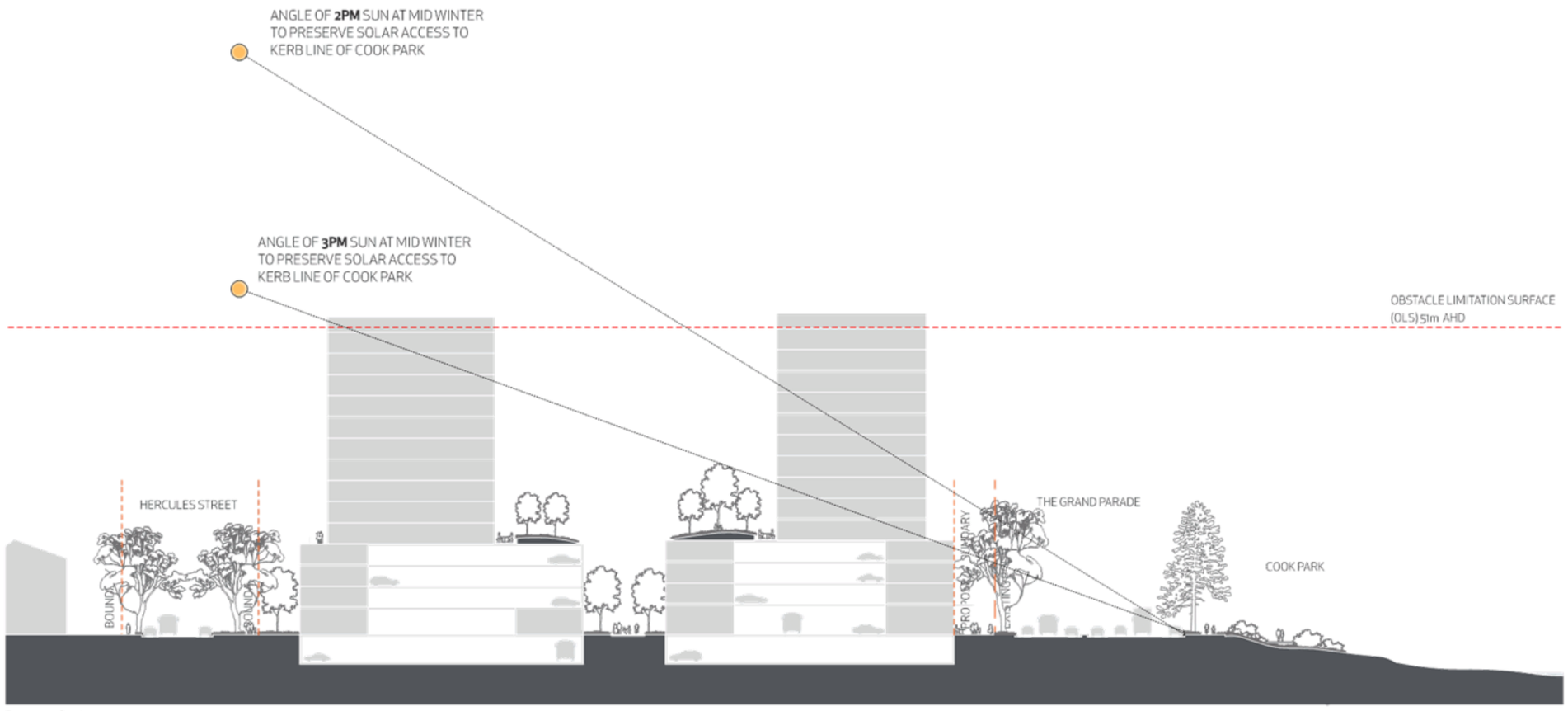


Figure 102: Section

5.48 OPTION 4 - SHADOWS

Figure 103: 9am

Figure 104: 10am

Figure 105: 11am

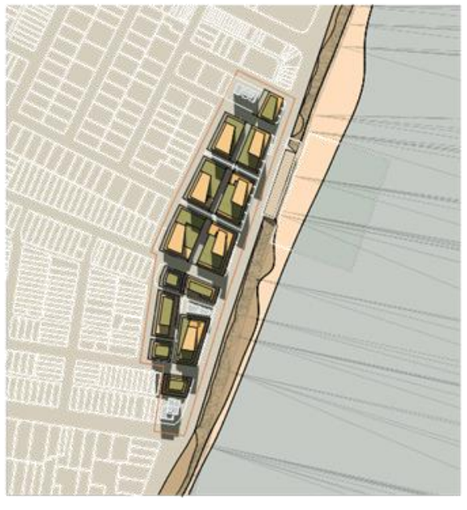


Figure 109: 12noon

Figure 106: 1pm

Figure 107: 2pm

Figure 108: 3pm

5.49 OPTION 4 - SCHEDULES

BRIGHTON LE SANDS OPTION 4 — **REV A** — **19/08/2019**

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential: GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3- bed units	4- bed units	Non-residential: Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Resi + Non-Resi: Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	1,728																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		B4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	697	1	687	662	596	566	697	662	596	566	697	662	596	566
A2 - Podium		B4?	100%	0%	370	1	370	352	284	224	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	370	352	284	224
A3 - Podium		B4?	100%	0%	370	1	370	352	284	224	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	370	352	284	224
A4 - Podium		B4?	100%	0%	370	1	370	352	284	224	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	370	352	1,116	224
A5-8		B4?	100%	0%	672	4	2,688	2,554	1,915	1,620	22	0	7	15	2	0	0	0	0	0	0	0	0	0	0	0	2,688	2,554	1,915	1,620
Total	1,728				1,782	8	3,798	3,608	2,708	2,300	31	0	9	19	3	0	697	1	697	662	596	566	697	662	596	566	4,495	4,270	4,194	2,866
FSR																												Net FSR:	2.43:1	
Lot B1 Amalgamated	3,095																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1_1 Gr Fl/Lvl 1		B4?	100%	0%	1,281	1	1,281	1,217	791	583	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,281	1,217	791	583
B1_2 - Podium		B4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	955	555
B1_3 - Podium		B4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	955	555
B1_4 - Podium		B4?	100%	0%	917	1	917	871	653	555	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	917	871	653	555
B1_5-14		B4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	3,095				5,053	14	14,242	13,530	10,026	8,443	117	0	35	70	12	0	0	0	0	0	0	0	0	0	0	0	14,242	13,530	10,026	8,443
FSR																												Net FSR:	3.24:1	
Lot B2 Amalgamated	2,725																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B2_1 Gr Fl/Lvl 1		B4?	40%	60%	603	1	603	575	372	279	4	0	1	2	0	0	902	1	902	857	771	733	902	857	771	733	1,505	1,430	1,144	1,012
B2_2 - Podium		B4?	100%	0%	1,253	1	1,253	1,190	893	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,253	1,190	893	759
B2_3 - Podium		B4?	100%	0%	1,253	1	1,253	1,190	893	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,253	1,190	893	759
B2_4 - Podium		B4?	100%	0%	1,253	1	1,253	1,190	893	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,253	1,190	893	759
B2_5 -14		B4?	100%	0%	783	10	7,830	7,439	5,579	4,742	65	0	20	39	7	0	0	0	0	0	0	0	0	0	0	0	7,830	7,439	5,579	4,742
Total	2,725				5,145	14	12,192	11,582	8,830	7,298	99	0	30	59	10	0	902	1	902	857	771	733	902	857	771	733	13,094	12,439	9,601	8,031
FSR																												Net FSR:	3.45:1	
Lot C1 Amalgamated	3,972																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1_1 Gr Fl/Lvl 1		B4?	100%	0%	1,827	1	1,827	1,736	1,128	846	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,827	1,736	1,128	846
C1_2 - Podium		B4?	100%	0%	1,475	1	1,475	1,401	1,051	885	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	885
C1_3 - Podium		B4?	100%	0%	1,475	1	1,475	1,401	1,051	885	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	885
C1_4 - Podium		B4?	100%	0%	1,475	1	1,475	1,401	1,051	885	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,475	1,401	1,051	885
C1_5-14		B4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	3,972				7,273	14	16,462	15,639	11,556	9,709	133	0	40	80	13	0	0	0	0	0	0	0	0	0	0	0	16,462	15,639	11,556	9,709
FSR																												Net FSR:	2.91:1	
Lot C2 Amalgamated	3,539																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2_1 Gr Fl/Lvl 1		B4?	61%	39%	1,144	1	1,144	1,067	706	530	7	0	2	4	1	0	719	1	719	683	615	584	719	683	615	584	1,863	1,770	1,321	1,114
C2_2 - Podium		B4?	100%	0%	1,864	1	1,864	1,771	1,328	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,129
C2_3 - Podium		B4?	100%	0%	1,864	1	1,864	1,771	1,328	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,129
C2_4 - Podium		B4?	100%	0%	1,864	1	1,864	1,771	1,328	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,129
C2_5 -14		B4?	100%	0%	782	10	7,820	7,426	5,572	4,736	65	0	20	39	7	0	0	0	0	0	0	0	0	0	0	0	7,820	7,426	5,572	4,736
Total	3,539				7,518	14	14,556	13,828	10,262	8,652	120	0	36	72	12	0	719	1	719	683	615	584	719	683	615	584	15,275	14,511	10,877	9,236
FSR																												Net FSR:	3.07:1	
Lot D1 Amalgamated	4,476																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1_1 Gr Fl/Lvl 1		B4?	100%	0%	1,969	1	1,969	1,871	1,216	912	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,216	912
D1_2 - Podium		B4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_3 - Podium		B4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_4 - Podium		B4?	100%	0%	2,389	1	2,389	2,270	1,702	1,447	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,389	2,270	1,702	1,447
D1_5-14		B4?	100%	0%	1,021	10	10,210	9,700	7,275	6,183	85	0	26	51	9	0	0	0	0	0	0	0	0	0	0	0	10,210	9,700	7,275	6,183
Total	4,476				8,591	14	17,780	16,891	12,481	10,487	144	0	43	86	14	0	0	0	0	0	0	0	0	0	0	0	17,780	16,891	12,481	10,487
FSR																												Net FSR:	2.79:1	
Lot D2 Amalgamated	4,141																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D2_1 Gr Fl/Lvl 1		B4?	100%	0%	1,882	1	1,882	1,769	1,150	862	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,882	1,769	1,150	862
D2_2 - Podium		B4?	100%	0%	1,882	1	1,882	1,769	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,882	1,769	1,327	1,128
D2_3 - Podium		B4?	100%	0%	1,882	1	1,882	1,769	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,882	1,769	1,327	1,128
D2_4 - Podium		B4?	100%	0%	1,882	1	1,882	1,769	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,882	1,769	1,327	1,128
D2_5- 14		B4?	100%	0%	721	10	7,210	6,850	5,137	4,367	60	0	18	38	6	0	0	0	0	0	0	0	0	0	0	0	7,210	6,850	5,137	4,367
Total	4,141				8,189	14	14,658	13,925	10,267	8,612	120	0	36	72	12	0	0	0	0	0	0	0	0	0	0	0	14,658	13,925	10,267	8,612
FSR																												Net FSR:	2.48:1	
Lot E1 Amalgamated	1,255																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_1 Gr Fl/Lvl 1		B4?	100%	0%	429	1	429	408	269	199	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	428	408	269	199
E1_2 - Podium		B4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_3 - Podium		B4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_4 - Podium		B4?	100%	0%	697	1	697	662	497	422	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	497	422
E1_5-14		B4?	100%	0%	408	10	4,080	3,878	2,907	2,471	34	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	4,080	3,878	2,907	2,471
Total	1,255				1,534	14	5,206	4,948	3,669	3,092	43	0	13	26	4	0	0	0	0	0	0	0	0	0	0	0	5,206	4,948	3,669	3,092
FSR																												Net FSR:	2.92:1	
Lot E2 Amalgamated	2,780																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E2_1 Gr Fl/Lvl 1		B4?	100%	0%	825	1	825	784	509	382	5	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	825	784	509	382
E2_2 - Podium		B4?	100%	0%	178	1	178	169	127	108	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178	169	127	108
E2_3 - Podium		B4?	100%	0%	178	1	178	169	127	108	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178	169	127	108
E2_4 - Podium		B4?	100%	0%	1,470	1	1,470	1,397	1,047	890	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,470	1,397	1,047	890
E2_5-14		B4?	100%	0%	836	10	8,360	7,942	5,957	5,063	70	0	21	42	7	0	0	0	0	0	0	0	0	0	0	0	8,360	7,942	5,957	5,063
Total	2,780				3,487	14	11,011	10,460	7,767	6,551	89	0	27	53	9	0	0	0	0	0	0	0	0	0	0	0	11,011	10,460	7,767	6,551
FSR																												Net FSR:	2.79:1	
Lot E3 Amalgamated	3,190																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E3_1 Gr Fl/Lvl 1		B4?	100%	0%	1,349	1	1,349	1,282	833	625	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,349	1,282	833	625
E3_2 - E3_3 Podium		B4?	100%	0%	954	2	1,908	1,813	1,359	1,136	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,908	1,813	1,359	1,136
E3_4 - Podium		B4?	100%	0%	1,271	1	1,271	1,207	906	770	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,271	1,207	906	770
E3_5 - E3_14		B4?	100%	0%	351	10	3,510	3,335	2,501	2,126	29	0	8	17	3	0	0	0	0	0	0	0	0	0	0	0	3,510	3,335	2,501	2,126
		B4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,190				3,925	14	8,038	7,636	5,599	4,676	65	0	20	39	7	0	0	0	0	0	0	0	0	0	0	0	8,038	7,636	5,599	4,676
FSR																												Net FSR:	2.76:1	
Lot E4 Amalgamated	3,838																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E4_1 Gr Fl/Lvl 1		B4?	100%	0%	1,255	1	1,255	1,182	775	581	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,182	775	581
E4_2 - Podium		B4?	100%	0%	1,255	1	1,255	1,182	894	760	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,182	894	760
E4_3 - Podium		B4?	100%	0%	1,255	1	1,255	1,182	894	760	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,182	894	760
E4_4 - Podium		B4?	100%	0%	1,116	1	1,116	1,060	795	676	9	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	1,116	1,060	795	676
E4_5- 14		B4?	100%	0%	756	10	7,560	7,182	5,387	4,579	63	0	19	38	6	0	0	0	0	0	0	0	0	0	0	0	7,560	7,182	5,387	4,579
Total	3,838				5,637	14	12,441	11,819	8,745	7,356	100	0	30	60	10	0	0	0	0	0	0	0	0	0	0	0	12,441	11,819	8,745	7,356
FSR																												Net FSR:	2.4:1	
Lot F1 Amalgamated	1,529																													
Basement		B4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1_1 Gr Fl/Lvl 1		B4?	100%	0%	420	1	420	389	258	195	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	420	389	258	195
F1_2 Podium		B4?	100%	0%	793	1	793	753	565	400	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	400
F1_3 - F1_4 Podium		B4?	100%	0%	793	1	793	753	565	400	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	400
F1_5		B4?	100%	0%	401	1	401	383	286	243	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	401	383	288	243
Total	1,529				2,407	4	2,407	2,287	1,675	1,398	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,407	2,287	1,675	1,398
FSR																												Net FSR:	1.5:1	
Develop. Area	36,066				60,321		132,791	126,151	93,382	78,574	1,081	0	324	649	108	0	2,318		2,318	2,202	1,982	1,883	2,318	2,202	1,982	1,883	135,109	128,354	96,216	80,457

Figure 110: Schedule Part 1

BRIGHTON LE SANDS OPTION 4

Lot/Building No.	Development Lot Area (m²)	Car Parking											
		Resi Carparking Area	Number of floors	Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	1,726														
Basement		1,311	1.0	31	0	0	0	0	0	0	0	1,311	31	0	0
A1 Gr Fl/Lvl 1		613	1.0	15	0	0	0	0	0	521	15	613	15	521	15
A2 - Podium		940	1.0	22	164	4	0	0	0	0	0	940	22	164	4
A3 - Podium		940	1.0	22	164	4	0	0	0	0	0	940	22	164	4
A4 - Podium		940	0.0	0	164	4	0	0	0	0	0	0	0	164	4
A5-8		0	0.0	0	1,201	28	0	0	0	0	0	0	0	1,201	28
Total	1,726	4,744	4	91	1,693	40	0	0	0	521	15	3,804	91	2,214	55
FSR															
Lot B1 Amalgamated	3,095														
Basement		2,124	1.0	51	0	0	0	0	0	0	0	2,124	51	0	0
B1_1 Gr Fl/Lvl 1		843	1.0	20	427	10	0	0	0	0	0	843	20	427	10
B1_2 - Podium		1,207	1.0	29	427	10	0	0	0	0	0	1,207	29	427	10
B1_3 - Podium		1,207	1.0	29	427	10	0	0	0	0	0	1,207	29	427	10
B1_4 - Podium		1,207	1.0	29	427	10	0	0	0	0	0	1,207	29	427	10
B1_5-14		0	0.0	0	4,841	111	0	0	0	0	0	0	0	4,841	111
Total	3,095	6,588	5	157	6,388	152	0	0	0	0	0	6,588	157	6,388	152
FSR															
Lot B2 Amalgamated	2,725														
Basement		2,363	1.0	56	0	0	0	0	0	0	0	2,363	56	0	0
B2_1 Gr Fl/Lvl 1		858	1.0	20	215	5	0	0	0	675	19	858	20	890	24
B2_2 - Podium		1,110	1.0	26	546	13	0	0	0	0	0	1,110	26	546	13
B2_3 - Podium		1,110	1.0	26	546	13	0	0	0	0	0	1,110	26	546	13
B2_4 - Podium		1,110	1.0	26	546	13	0	0	0	0	0	1,110	26	546	13
B2_5-14		0	0.0	0	5,548	126	0	0	0	0	0	0	0	5,548	126
Total	2,725	6,551	5	156	5,405	129	0	0	0	675	19	6,551	156	6,080	148
FSR															
Lot C1 Amalgamated	3,972														
Basement		2,858	1	68	0	0	0	0	0	0	0	2,858	68	0	0
C1_1 Gr Fl/Lvl 1		1,051	1	25	655	16	0	0	0	0	0	1,051	25	655	16
C1_2 - Podium		1,383	1	33	653	16	0	0	0	0	0	1,383	33	655	16
C1_3 - Podium		1,383	1	33	655	16	0	0	0	0	0	1,383	33	655	16
C1_4 - Podium		1,383	1	33	653	16	0	0	0	0	0	1,383	33	655	16
C1_5-14		0	0	0	4,841	111	0	0	0	0	0	0	0	4,841	111
Total	3,972	8,038	5	191	7,262	173	0	0	0	0	0	8,038	191	7,262	173
FSR															
Lot C2 Amalgamated	3,539														
Basement		2,988	1	71	0	0	0	0	0	0	0	2,988	71	0	0
C2_1 Gr Fl/Lvl 1		1,104	1	26	382	9	0	0	0	538	15	1,104	26	920	24
C2_2 - Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	21
C2_3 - Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	21
C2_4 - Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	21
C2_5-14		0	0	0	3,548	85	0	0	0	0	0	0	0	3,548	85
Total	3,539	7,384	5	176	6,552	156	0	0	0	538	15	7,384	176	7,090	171
FSR															
Lot D1 Amalgamated	4,476														
Basement		3,339	1	80	0	0	0	0	0	0	0	3,339	80	0	0
D1_1 Gr Fl/Lvl 1		1,370	1	33	710	17	0	0	0	0	0	1,370	33	710	17
D1_2 - Podium		1,733	1	41	710	17	0	0	0	0	0	1,733	41	710	17
D1_3 - Podium		1,733	1	41	710	17	0	0	0	0	0	1,733	41	710	17
D1_4 - Podium		0	0	0	1,092	26	0	0	0	0	0	0	0	1,092	26
D1_5-14		0	0	0	4,841	111	0	0	0	0	0	0	0	4,841	111
Total	4,476	8,175	4	195	7,862	187	0	0	0	0	0	8,175	195	7,862	187
FSR															
Lot D2 Amalgamated	4,141														
Basement		3,056	1	73	0	0	0	0	0	0	0	3,056	73	0	0
D2_1 Gr Fl/Lvl 1		991	1	24	655	16	0	0	0	0	0	991	24	655	16
D2_2 - Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	21
D2_3 - Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	21
D2_4 - Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	21
D2_5-14		0	0	0	3,276	79	0	0	0	0	0	0	0	3,276	79
Total	4,141	7,020	5	167	6,552	158	0	0	0	0	0	7,020	167	6,552	158
FSR															
Lot E1 Amalgamated	1,255														
Basement		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_1 Gr Fl/Lvl 1		268	1	6	164	4	0	0	0	0	0	268	6	164	4
E1_2 - Podium		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_3 - Podium		697	1	17	0	0	0	0	0	0	0	697	17	0	0
E1_4 - Podium		0	0	0	328	8	0	0	0	0	0	0	0	328	8
E1_5-14		0	0	0	1,856	44	0	0	0	0	0	0	0	1,856	44
Total	1,255	2,359	4	58	2,348	56	0	0	0	0	0	2,359	58	2,348	56
FSR															
Lot E2 Amalgamated	2,780														
Basement		1,687	1	40	0	0	0	0	0	0	0	1,687	40	0	0
E2_1 Gr Fl/Lvl 1		665	1	15	273	7	0	0	0	0	0	665	15	273	7
E2_2 - Podium		1,292	1	31	55	1	0	0	0	0	0	1,292	31	55	1
E2_3 - Podium		1,292	1	31	55	1	0	0	0	0	0	1,292	31	55	1
E2_4 - Podium		0	0	0	655	16	0	0	0	0	0	0	0	655	16
E2_5-14		0	0	0	3,822	91	0	0	0	0	0	0	0	3,822	91
Total	2,780	4,926	4	117	4,859	116	0	0	0	0	0	4,926	117	4,859	116
FSR															
Lot E3 Amalgamated	3,190														
Basement		2,109	1	50	0	0	0	0	0	0	0	2,109	50	0	0
E3_1 Gr Fl/Lvl 1		316	1	8	493	12	0	0	0	0	0	316	8	491	12
E3_2 - E3_3 Podium		712	2	34	874	21	0	0	0	0	0	1,424	34	874	21
E3_4 - Podium		0	0	0	601	14	0	0	0	0	0	0	0	601	14
E3_5 - E3_14		0	0	0	1,557	38	0	0	0	0	0	0	0	1,557	38
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,190	3,131	4	92	3,549	85	0	0	0	0	0	3,843	92	3,549	85
FSR															
Lot E4 Amalgamated	3,838														
Basement		2,517	1	60	0	0	0	0	0	0	0	2,517	60	0	0
E4_1 Gr Fl/Lvl 1		1,263	1	30	427	10	0	0	0	0	0	1,263	30	427	10
E4_2 - Podium		1,263	1	30	546	13	0	0	0	0	0	1,263	30	546	13
E4_3 - Podium		1,263	1	30	546	13	0	0	0	0	0	1,263	30	546	13
E4_4 - Podium		0	0	0	491	12	0	0	0	0	0	0	0	491	12
E4_5-14		0	0	0	3,442	82	0	0	0	0	0	0	0	3,442	82
Total	3,838	6,306	4	150	5,460	130	0	0	0	0	0	6,306	150	5,460	130
FSR															
Lot F1 Amalgamated	1,529														
Basement		793	1	19	0	0	0	0	0	0	0	793	19	0	0
F1_1 Gr Fl/Lvl 1		435	1	10	164	4	0	0	0	0	0	435	10	164	4
F1_2 Podium		0	0	0	382	9	0	0	0	0	0	0	0	382	9
F1_3 - F1_4 Podium		0	0	0	382	9	0	0	0	0	0	0	0	382	9
F1_5		0	0	0	164	4	0	0	0	0	0	0	0	164	4
Total	1,529	1,228	2	29	1,092	26	0	0	0	0	0	1,228	29	1,092	26
FSR															
Develop. Area	39,066	86,400		1,377	39,023	1,405	0		0	1,734	50	88,222	1,377	88,757	1,455

Figure 111: Schedule Part 2

ASSUMPTIONS [APPLY TO OPTION 2A/2B/3/4/5] BRIGHTON LE SANDS OPTION 4

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA	
Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA

GFA	
Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA

NSA	
Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate					
	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces per 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m² GFA	
	Commercial	1 space per	40.0	m² GFA	
Parking area	Residential	1 per	42.0	m²	rate of 95% increase for small lots
	Non-Residential	1 per	35.0	m²	

Residential Mix Calculator	Mix	NSA (m²)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	NSAs are minimum from ADG plus small tolerance
3 Bed - 10% min	10%	98	
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m² per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 112: Assumptions

5.50 OPTION 5

Key Principles

- 14 storey building height for Lots C2, B2, D2 and E4.
- 8 storey building height for Lot A.
- 6 storey building height for Lots C1, B1, D1, E1, E2 and E3.
- Sleeve parking where possible.

Pros

- No above ground parking is required for the western lots on Hercules Road.
- The ground and one level of basement parking can provide compliant number of parking spaces.
- 6-stroey with 2-storey podia for the western lots to provide built form transition to the adjoining residential precinct.

Cons

- Significant overshadowing to Brighton Le Sands beach and Cook Park.
- The western lots built forms are in general too bulky given its 6 storey maximum height.
- View access of the western lots are compromised by taller built forms within the eastern lots.

OPTION 05 - SUMMARY	REV A	19/08/2019
Total Site Area of Algamated Lots:	36,066 m²	
Gross FSR:	1.94:1	
FSR - residential:	1.87:1	
FSR - non-residential:	0.05:1	
Total GFA:	70,136 m²	
Retail GFA:	1,902 m²	
Commercial GFA:	0 m²	
Community GFA:	0 m²	
Residential GFA:	67,302 m²	
Total number of units:	779 units	

Figure 114: Summary

Legend

(04) Number of Storeys

1:2,500 at A3

0 25 62.5 125m

N

Figure 113: Indicative Plan

5.51 OPTION 5 - AMALGAMATION PLAN

Superlot A

existing lot area	1702m2
lot area following development:	1726m2
GFA:	4154m2
FSR:	2.41:1

Superlot B1

existing lot area	3772m2
lot area following development:	3095m2
GFA:	4807m2
FSR:	1.55:1

Superlot B2

existing lot area	3441m2
lot area following development:	2725m2
GFA:	9401m2
FSR:	3.45:1

Superlot C1

existing lot area	4985m2
lot area following development:	3972m2
GFA:	5366m2
FSR:	1.35:1

Superlot C2

existing lot area	4587m2
lot area following development:	3539m2
GFA:	10877m2
FSR:	3.07:1

Superlot D1

existing lot area	5319m2
lot area following development:	4476m2
GFA:	5270m2
FSR:	1.18:1

Superlot D2

existing lot area	4236m2
lot area following development:	4141m2
GFA:	10267m2
FSR:	2.48:1

Superlot E1

existing lot area	1255m2
lot area following development:	1255m2
GFA:	1722m2
FSR:	1.37:1

Superlot E2

existing lot area	2780m2
lot area following development:	2780m2
GFA:	3837m2
FSR:	1.38:1

Superlot E3

existing lot area	3551m2
lot area following development:	3190m2
GFA:	4014m2
FSR:	1.26:1

Superlot E4

existing lot area	3888m2
lot area following development:	3638m2
GFA:	8745m2
FSR:	2.4:1

Superlot F

existing lot area	1629m2
lot area following development:	1529m2
GFA:	1675m2
FSR:	1.1:1

Figure 115: Lot Amalgamation Plan

5.52 OPTION 5 - PERSPECTIVE 1

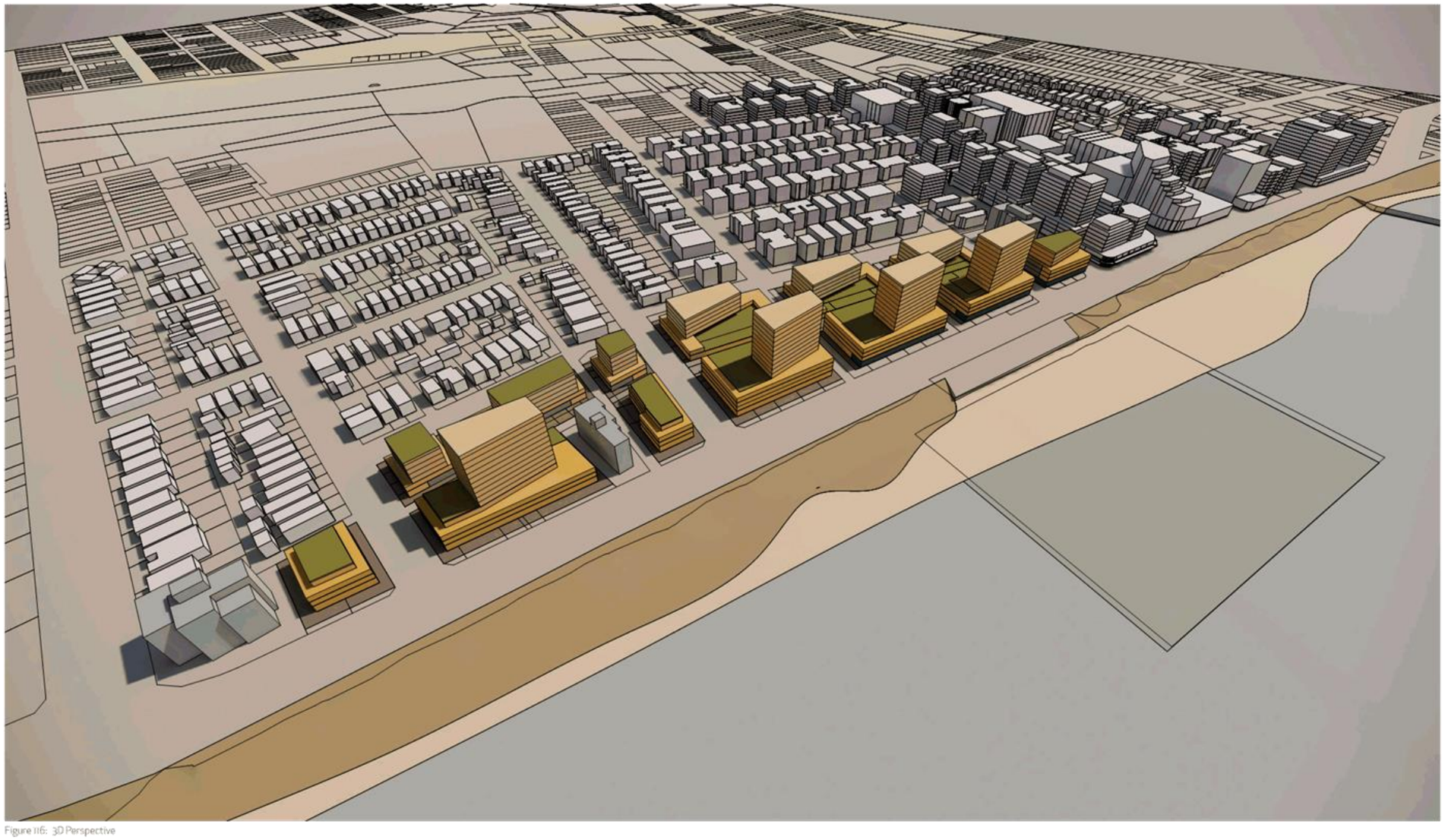


Figure 116: 3D Perspective

5.53 OPTION 5 - PERSPECTIVE 2

Figure 117: 3D Perspective

5.54 OPTION 5 - SECTION

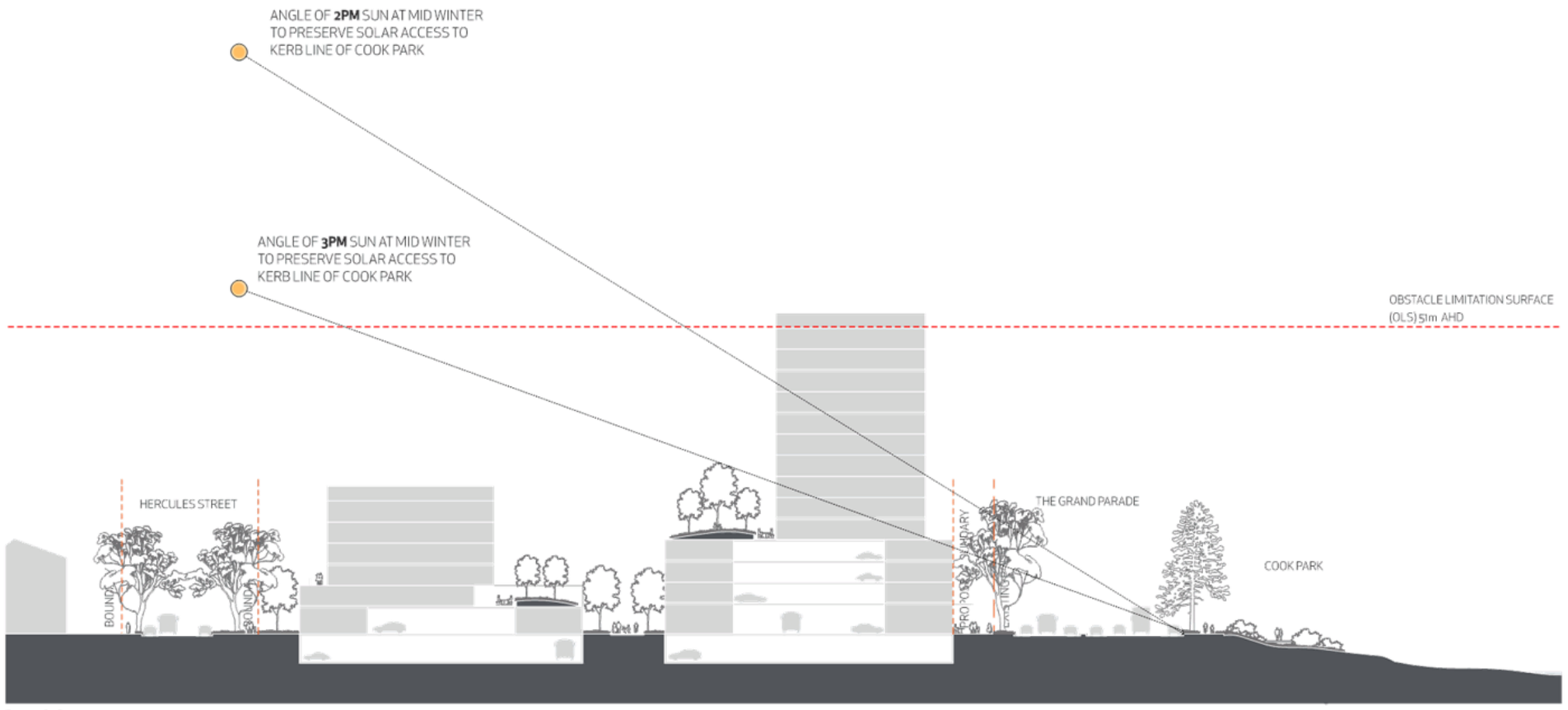


Figure 118: Section

5.55 OPTION 5 - SHADOWS

Figure 119: 9am

Figure 120: 10am

Figure 121: 11am

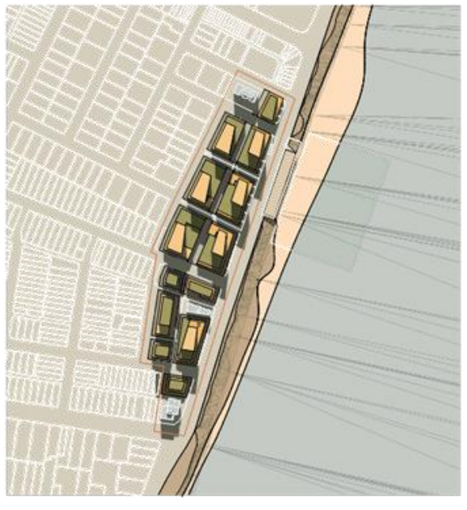


Figure 125: 12noon

Figure 122: 1pm

Figure 123: 2pm

Figure 124: 3pm

5.56 OPTION 5 - SCHEDULES

BRIGHTON LE SANDS OPTION 5 — **REV A** — **19/08/2019**

Lot/Building No.	Development Lot Area (m²)	Zone	Resi %	Non-Resi %	Residential: GEA per floor	Number of floors	GEA per building	GBA per building	GFA per building	NSA per building	Total No of units	Studios	1-Bed units	2-bed units	3- bed units	4- bed units	Non-residential: Retail GEA per floor	Number of floors	Retail GEA per building	Retail GBA per building	Retail GFA per building	Retail NLA per building	Total non-resi GEA	Total non-resi GBA	Total non-resi GFA	Total non-resi NLA	Resi + Non-Resi: Total GEA	Total GBA	Total GFA	Total NSA / NLA
Lot A Amalgamated	1,726																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A1 Gr Fl/Lvl 1		R4?	0%	100%	0	1	0	0	0	0	0	0	0	0	0	0	697	1	697	662	596	566	697	662	596	566	697	662	596	566
A2 - Podium		R4?	100%	0%	370	1	370	352	264	224	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	370	352	264	224
A3 - Podium		R4?	100%	0%	370	1	370	352	264	224	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	370	352	264	224
A4 - Podium		R4?	100%	0%	370	1	370	352	264	224	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	370	352	264	224
A5-8		R4?	100%	0%	672	4	2,688	2,554	1,915	1,628	22	0	7	13	2	0	0	0	0	0	0	0	0	0	0	0	2,688	2,554	1,915	1,628
Total	1,726				1,782	8	3,798	3,608	2,706	2,300	31	0	9	19	3	0	697	1	697	662	596	566	697	662	596	566	4,495	4,270	3,154	2,866
GFA																												Net FSR:	2.41:1	
Lot B1 Amalgamated	3,095																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B1_Gr Fl		R4?	100%	0%	1,281	1	1,281	1,217	791	593	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,281	1,217	791	593
B1_1Podium		R4?	100%	0%	1,553	1	1,553	1,475	1,107	941	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,553	1,475	1,107	941
B1_2-5		R4?	100%	0%	4,084	4	4,084	3,880	2,910	2,475	34	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	4,084	3,880	2,910	2,475
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,095				6,918	6	6,918	6,572	4,807	4,007	55	0	17	33	5	0	0	0	0	0	0	0	0	0	0	0	6,918	6,572	4,807	4,007
GFA																												Net FSR:	1.55:1	
Lot B2 Amalgamated	2,725																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B2_Gr Fl		R4?	40%	60%	603	1	603	573	372	279	4	0	1	2	0	0	902	1	902	857	771	733	902	857	771	733	1,505	1,430	1,144	1,012
B2_1Podium		R4?	100%	0%	1,253	1	1,253	1,190	893	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,253	1,190	893	759
B2_2Podium		R4?	100%	0%	1,253	1	1,253	1,190	893	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,253	1,190	893	759
B2_3Podium		R4?	100%	0%	1,253	1	1,253	1,190	893	759	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,253	1,190	893	759
B2_4 -13		R4?	100%	0%	783	10	7,830	7,439	5,579	4,742	65	0	20	39	7	0	0	0	0	0	0	0	0	0	0	0	7,830	7,439	5,579	4,742
Total	2,725				5,145	14	12,192	11,582	8,630	7,298	99	0	30	59	10	0	902	1	902	857	771	733	902	857	771	733	13,094	12,439	9,401	8,031
GFA																												Net FSR:	3.45:1	
Lot C1 Amalgamated	3,972																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C1_Gr Fl		R4?	100%	0%	1,827	1	1,827	1,736	1,128	846	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,827	1,736	1,128	846
C1_1Podium		R4?	100%	0%	1,864	1	1,864	1,771	1,328	1,129	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,129
C1_2 - 5		R4?	100%	0%	1,021	4	4,084	3,880	2,910	2,475	34	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	4,084	3,880	2,910	2,475
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3,972				4,712	6	7,775	7,386	5,366	4,448	62	0	19	37	6	0	0	0	0	0	0	0	0	0	0	0	7,775	7,386	5,366	4,448
GFA																												Net FSR:	1.35:1	
Lot C2 Amalgamated	3,539																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C2_Gr Fl		R4?	61%	39%	1,144	1	1,144	1,087	706	530	7	0	2	4	1	0	719	1	719	683	615	584	719	683	615	584	1,863	1,770	1,321	1,114
C2_1Podium		R4?	100%	0%	1,864	1	1,864	1,771	1,328	1,129	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,129
C2_2Podium		R4?	100%	0%	1,864	1	1,864	1,771	1,328	1,129	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,129
C2_3Podium		R4?	100%	0%	1,864	1	1,864	1,771	1,328	1,129	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,864	1,771	1,328	1,129
C2_4 -13		R4?	100%	0%	782	10	7,820	7,429	5,572	4,736	65	0	20	39	7	0	0	0	0	0	0	0	0	0	0	0	7,820	7,429	5,572	4,736
Total	3,539				7,518	14	14,556	13,828	10,262	8,052	120	0	36	72	12	0	719	1	719	683	615	584	719	683	615	584	15,275	14,511	10,827	9,236
GFA																												Net FSR:	2.97:1	
Lot D1 Amalgamated	4,476																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D1_Gr Fl		R4?	100%	0%	1,969	1	1,969	1,871	1,216	912	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,969	1,871	1,216	912
D1_1Podium		R4?	100%	0%	1,606	1	1,606	1,526	1,144	973	13	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,606	1,526	1,144	973
D1_2 - 5		R4?	100%	0%	1,021	4	4,084	3,880	2,910	2,475	34	0	10	20	3	0	0	0	0	0	0	0	0	0	0	0	4,084	3,880	2,910	2,475
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4,476				4,596	6	7,659	7,276	5,270	4,358	60	0	18	36	6	0	0	0	0	0	0	0	0	0	0	0	7,659	7,276	5,270	4,358
GFA																												Net FSR:	1.18:1	
Lot D2 Amalgamated	4,141																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D2_Gr Fl		R4?	100%	0%	1,862	1	1,862	1,768	1,150	862	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,862	1,768	1,150	862
D2_1Podium		R4?	100%	0%	1,862	1	1,862	1,768	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,862	1,768	1,327	1,128
D2_2Podium		R4?	100%	0%	1,862	1	1,862	1,768	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,862	1,768	1,327	1,128
D2_3Podium		R4?	100%	0%	1,862	1	1,862	1,768	1,327	1,128	16	0	5	10	2	0	0	0	0	0	0	0	0	0	0	0	1,862	1,768	1,327	1,128
D2_4- 13		R4?	100%	0%	721	10	7,210	6,850	5,137	4,367	60	0	18	36	6	0	0	0	0	0	0	0	0	0	0	0	7,210	6,850	5,137	4,367
Total	4,141				8,169	14	14,858	13,925	10,267	8,812	120	0	36	72	12	0	0	0	0	0	0	0	0	0	0	0	14,858	13,925	10,267	8,812
GFA																												Net FSR:	2.48:1	
Lot E1 Amalgamated	1,255																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1_Gr Fl		R4?	100%	0%	101	1	101	96	62	47	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	101	96	62	47
E1_1Podium		R4?	100%	0%	697	1	697	662	497	422	8	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	697	662	497	422
E1_2 - 5		R4?	100%	0%	408	4	1,632	1,550	1,163	988	14	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,632	1,550	1,163	988
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,255				1,204	6	2,430	2,309	1,722	1,457	21	0	6	13	2	0	0	0	0	0	0	0	0	0	0	0	2,430	2,309	1,722	1,457
GFA																												Net FSR:	1.37:1	
Lot E2 Amalgamated	2,780																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E2_Gr Fl		R4?	100%	0%	825	1	825	784	509	382	5	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	825	784	509	382
E2_1 Podium		R4?	100%	0%	1,470	1	1,470	1,397	1,047	890	12	0	4	7	1	0	0	0	0	0	0	0	0	0	0	0	1,470	1,397	1,047	890
E2_2 - 7		R4?	100%	0%	800	4	3,200	3,040	2,280	1,938	27	0	8	16	3	0	0	0	0	0	0	0	0	0	0	0	3,200	3,040	2,280	1,938
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		R4?	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2,780				3,095	6	5,495	5,220	3,837	3,210	44	0	13	26	4	0	0	0	0	0	0	0	0	0	0	0	5,495	5,220	3,837	3,210
GFA																												Net FSR:	1.38:1	
Lot E3 Amalgamated	3,190																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E3_Gr Fl		R4?	100%	0%	1,213	1	1,213	1,152	749	562	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,213	1,152	749	562
E3_1 Podium		R4?	100%	0%	1,666	1	1,666	1,582	1,187	1,009	14	0	4	8	1	0	0	0	0	0	0	0	0	0	0	0	1,666	1,582	1,187	1,009
E3_2		R4?	100%	0%	1,305	1	1,305	1,240	930	790	11	0	3	7	1	0	0	0	0	0	0	0	0	0	0	0	1,305	1,240	930	790
E3_3		R4?	100%	0%	910	1	910	865	648	551	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	910	865	648	551
E3_4-5		R4?	100%	0%	351	2	702	667	502	425	6	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	702	667	500	425
Total	3,190				5,445	6	5,796	5,506	4,014	3,337	47	0	14	28	5	0	0	0	0	0	0	0	0	0	0	0	5,796	5,506	4,014	3,337
GFA																												Net FSR:	1.26:1	
Lot E4 Amalgamated	3,638																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E4_Gr Fl		R4?	100%	0%	1,255	1	1,255	1,192	775	581	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,192	775	581
E4_1Podium		R4?	100%	0%	1,255	1	1,255	1,192	894	760	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,192	894	760
E4_2Podium		R4?	100%	0%	1,255	1	1,255	1,192	894	760	10	0	3	6	1	0	0	0	0	0	0	0	0	0	0	0	1,255	1,192	894	760
E4_3Podium		R4?	100%	0%	1,116	1	1,116	1,060	795	676	8	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	1,116	1,060	795	676
E4_4-13		R4?	100%	0%	756	10	7,560	7,182	5,387	4,579	63	0	18	38	6	0	0	0	0	0	0	0	0	0	0	0	7,560	7,182	5,387	4,579
Total	3,638				5,837	14	12,441	11,819	8,745	7,356	100	0	30	60	10	0	0	0	0	0	0	0	0	0	0	0	12,441	11,819	8,745	7,356
GFA																												Net FSR:	2.4:1	
Lot F1 Amalgamated	1,529																													
Basement		R4?	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F1_Gr Fl		R4?	100%	0%	420	1	420	399	258	195	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	420	399	258	195
F1_1 Podium		R4?	100%	0%	793	1	793	753	565	480	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	480
F1_2-3 Podium		R4?	100%	0%	793	1	793	753	565	480	7	0	2	4	1	0	0	0	0	0	0	0	0	0	0	0	793	753	565	480
F1_4		R4?	100%	0%	401	1	401	383	288	243	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	401	383	286	243
Total	1,529				2,407	4	2,407	2,287	1,675	1,398	20	0	6	12	2	0	0	0	0	0	0	0	0	0	0	0	2,407	2,287	1,675	1,398
GFA																												Net FSR:	1.1:1	
Develop. Area	36,066				53,567		96,125	91,319	67,902	56,434	779	0	234	487	78	0	2,318		2,318	2,202	1,982	1,883	2,318	2,202	1,982	1,883	98,443	93,521	70,136	58,317

Figure 126: Schedule Part 1

BRIGHTON LE SANDS OPTION 5

Lot/Building No.	Development Lot Area (m²)	Car Parking											
		Resi Carparking Area	Number of floors	Resi Spaces	Resi Target Area	Resi Target Spaces	Retail Carparking Area	Number of floors	Retail Spaces	Retail Target Area	Retail Target Spaces	Total Area Provided	Total Spaces Provided	Total Target Area	Total Target Spaces
Lot A Amalgamated	1,726														
Basement		1,311	1.0	31	0	0	0	0	0	0	0	1,311	31	0	0
A1 Gr Fl/Lvl 1		613	1.0	15	0	0	0	0	0	521	15	613	15	521	15
A2 - Podium		940	1.0	22	184	4	0	0	0	0	0	940	22	184	4
A3 - Podium		940	1.0	22	184	4	0	0	0	0	0	940	22	184	4
A4 - Podium		940	0.0	0	184	4	0	0	0	0	0	0	0	184	4
A5-8		0	0.0	0	1,203	29	0	0	0	0	0	0	0	1,203	29
Total	1,726	4,744	4	91	1,893	40	0		0	521	15	3,804	91	2,214	55
2/A															
Lot B1 Amalgamated	3,095														
Basement		2,124	1.0	51	0	0	0	0	0	0	0	2,124	51	0	0
B1_Gr Fl		843	1.0	20	437	10	0	0	0	0	0	843	20	437	10
B1_1Podium		0	1.0	0	710	17	0	0	0	0	0	0	0	710	17
B1_2-5		0	1.0	0	1,856	44	0	0	0	0	0	0	0	1,856	44
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
Total	3,095	2,967	4	71	3,003	72	0		0	0	0	2,967	71	3,003	72
2/A															
Lot B2 Amalgamated	2,725														
Basement		2,363	1.0	56	0	0	0	0	0	0	0	2,363	56	0	0
B2_Gr Fl		858	1.0	20	181	5	0	0	0	675	19	858	20	856	24
B2_1Podium		1,110	1.0	26	548	13	0	0	0	0	0	1,110	26	548	13
B2_2Podium		1,110	1.0	26	548	13	0	0	0	0	0	1,110	26	548	13
B2_3Podium		1,110	1.0	26	548	13	0	0	0	0	0	1,110	26	548	13
B2_4-15		0	0.0	0	2,549	65	0	0	0	0	0	0	0	2,549	65
Total	2,725	6,551	5	156	5,405	129	0		0	675	19	6,551	156	6,080	148
2/A															
Lot C1 Amalgamated	3,972														
Basement		2,858	1	68	0	0	0	0	0	0	0	2,858	68	0	0
C1_Gr Fl		1,031	1	25	455	18	0	0	0	0	0	1,031	25	655	26
C1_1Podium		0	1	0	874	21	0	0	0	0	0	0	0	874	21
C1_2 - 5		0	1	0	1,856	44	0	0	0	0	0	0	0	1,856	44
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
Total	3,972	3,889	4	93	3,385	81	0		0	0	0	3,889	93	3,385	81
2/A															
Lot C2 Amalgamated	3,539														
Basement		2,968	1	71	0	0	0	0	0	0	0	2,968	71	0	0
C2_Gr Fl		1,104	1	26	382	9	0	0	0	598	15	1,104	26	920	24
C2_1Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	23
C2_2Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	23
C2_3Podium		1,104	1	26	874	21	0	0	0	0	0	1,104	26	874	23
C2_4-13		0	0	0	2,549	65	0	0	0	0	0	0	0	2,549	65
Total	3,539	7,384	5	176	6,552	156	0		0	538	15	7,384	176	7,090	171
2/A															
Lot D1 Amalgamated	4,476														
Basement		3,339	1	80	0	0	0	0	0	0	0	3,339	80	0	0
D1_Gr Fl		1,370	1	33	710	17	0	0	0	0	0	1,370	33	710	17
D1_1Podium		0	1	0	710	17	0	0	0	0	0	0	0	710	17
D1_2 - 5		0	6	0	1,856	44	0	0	0	0	0	0	0	1,856	44
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
Total	4,476	4,709	9	112	3,276	78	0		0	0	0	4,709	112	3,276	78
2/A															
Lot D2 Amalgamated	4,141														
Basement		3,056	1	73	0	0	0	0	0	0	0	3,056	73	0	0
D2_Gr Fl		991	1	24	655	16	0	0	0	0	0	991	24	655	16
D2_1Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	23
D2_2Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	23
D2_3Podium		991	1	24	874	21	0	0	0	0	0	991	24	874	23
D2_4-13		0	0	0	3,276	78	0	0	0	0	0	0	0	3,276	78
Total	4,141	7,020	5	167	6,552	156	0		0	0	0	7,020	167	6,552	156
2/A															
Lot E1 Amalgamated	1,255														
Basement		687	1	17	0	0	0	0	0	0	0	687	17	0	0
E1_Gr Fl		586	1	14	55	1	0	0	0	0	0	586	14	55	1
E1_1Podium		0	1	0	328	8	0	0	0	0	0	0	0	328	8
E1_2 - 5		0	4	0	784	18	0	0	0	0	0	0	0	784	18
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
Total	1,255	1,293	7	31	1,147	27	0		0	0	0	1,293	31	1,147	27
2/A															
Lot E2 Amalgamated	2,780														
Basement		1,687	1	40	0	0	0	0	0	0	0	1,687	40	0	0
E2_Gr Fl		645	1	15	273	7	0	0	0	0	0	645	15	273	7
E2_1 Podium		0	1	0	655	16	0	0	0	0	0	0	0	655	16
E2_2 - 7		0	4	0	1,474	35	0	0	0	0	0	0	0	1,474	35
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
Total	2,780	2,342	7	56	2,402	57	0		0	0	0	2,342	56	2,402	57
2/A															
Lot E3 Amalgamated	3,190														
Basement		2,103	1	50	0	0	0	0	0	0	0	2,103	50	0	0
E3_Gr Fl		453	1	11	437	10	0	0	0	0	0	453	11	437	10
E3_1 Podium		0	1	0	784	18	0	0	0	0	0	0	0	784	18
E3_2		0	0	0	601	14	0	0	0	0	0	0	0	601	14
E3_3		0	0	0	437	10	0	0	0	0	0	0	0	437	10
E3_4-5		0	0	0	328	8	0	0	0	0	0	0	0	328	8
Total	3,190	2,556	1	61	2,588	61	0		0	0	0	2,556	61	2,588	61
2/A															
Lot E4 Amalgamated	3,638														
Basement		2,517	1	60	0	0	0	0	0	0	0	2,517	60	0	0
E4_Gr Fl		1,263	1	30	437	10	0	0	0	0	0	1,263	30	437	10
E4_1Podium		1,263	1	30	566	13	0	0	0	0	0	1,263	30	566	13
E4_2Podium		1,263	1	30	566	13	0	0	0	0	0	1,263	30	566	13
E4_3Podium		0	0	0	691	12	0	0	0	0	0	0	0	691	12
E4_4-13		0	0	0	3,440	82	0	0	0	0	0	0	0	3,440	82
Total	3,638	6,306	4	150	5,460	130	0		0	0	0	6,306	150	5,460	130
2/A															
Lot F1 Amalgamated	1,529														
Basement		793	1	19	0	0	0	0	0	0	0	793	19	0	0
F1_Gr Fl		435	1	10	164	4	0	0	0	0	0	435	10	164	4
F1_1 Podium		0	0	0	382	9	0	0	0	0	0	0	0	382	9
F1_2-5 Podium		0	0	0	382	9	0	0	0	0	0	0	0	382	9
F1_4		0	0	0	164	4	0	0	0	0	0	0	0	164	4
Total	1,529	1,228	2	29	1,092	28	0		0	0	0	1,228	29	1,092	28
2/A															
Develop. Area	39,989	50,949		1,192	42,533	1,013	0		0	1,734	50	50,949	1,192	44,268	1,062

Figure 127: Schedule Part 2

ASSUMPTIONS [APPLY TO OPTION 2A/2B/3/4/5] **BRIGHTON LE SANDS OPTION 5**

Note: for legibility, all editable fields are black and all rules of thumb/assumptions are orange

GBA	
Residential Ground Floor	95% of GEA
Residential Podium	95% of GEA
Residential Tower	95% of GEA
Commercial Ground Floor	95% of GEA
Commercial Tower	95% of GEA
Retail	95% of GEA
Community Ground Floor	80% of GEA
Community Tower	95% of GEA
Parking	95% of GEA

GFA	
Residential Ground Floor	65% of GBA
Residential Podium	75% of GBA
Residential Tower	75% of GBA
Commercial Ground Floor	80% of GBA
Commercial Tower	90% of GBA
Retail	90% of GBA
Community Ground Floor	80% of GBA
Community Tower	90% of GBA
Parking	90% of GBA

NSA	
Residential Ground Floor	75% of GFA
Residential Podium	85% of GFA
Residential Tower	85% of GFA
Commercial Ground Floor	85% of GFA
Commercial Tower	95% of GFA
Retail	95% of GFA
Community Ground Floor	85% of GFA
Community Tower	95% of GFA
Parking	90% of GFA

Min. parking rate					
	Residential		1.0	spaces per studio	as per Bayside DCP 2011
			1.0	space per 1 bed	
			1.0	spaces for 2 bed	
			2.0	spaces for 3 bed	
			2.0	spaces for 4 bed	
			0.2	visitors per unit	
	Retail	1 space per	40.0	m² GFA	
	Commercial	1 space per	40.0	m² GFA	
Parking area	Residential	1 per	42.0	m²	rule of thumb increased for small lots
	Non-Residential	1 per	35.0	m²	

Residential Mix Calculator	Mix	NSA (m²)	
Studio - 10% max	0%	42	as per Bayside DCP 2011
1 Bed - 30% max	30%	53	
2 Bed - 50% min	60%	78	NSAs are minimum from ADG plus small tolerance
3 Bed - 10% min	10%	98	
4 Bed/ Townhouse	0%	110	
Average unit size:		73	

Open Space	ADG Target		DCP Target	
Communal Open	25% of lot area	50% of ADG Target	5 m² per unit	as per Bayside DCP 2011
Deep Soil Zone	7% of lot area	15% of lot area	NA	
Landscape Area	NA	of lot area	15% of lot area	

Definitions

- Site Area in this instance is the net amalgamated lot figure which incorporates for footpath dedications and through site links deductions
- FSR is Floor Space Ratio = GFA /Site Area
- NSA is Nett Sellable Area measured to the inside face of enclosing walls excluding voids above a floor and balconies
- GFA is Planning Gross Floor Area measured as defined by the governing Local Government Authority - in this instance any required above ground parking is EXCLUDED from GFA
- FECA is Fully Enclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- UCA is Unenclosed Covered Area as defined by the Australian Standard Method of Measuring Building Works
- GBA is FECA plus UCA plus wall thickness
- All areas are measured in square metres

Figure 128: Assumptions

AJ+C
Allen Jack+Cottier
Bayside Council
BRIGHTON-LE-SANDS CAR PARK BLOCK
BUILT FORM STUDY
MAY 2020 BAYSIDE CITY COUNCIL

Bayside Council

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ALLEN JACK+COTTIER

BRIGHTON-LE-SANDS CAR PARK BLOCK BUILT FORM STUDY

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Date	Revision	Status	By	Checked
29/04/2020	04	REPORT ISSUE	DW	DC
04/05/2020	05	REPORT ISSUE	DW	DC

1.1 EXECUTIVE SUMMARY

This Built Form Study has been prepared by Allen Jack+Cottier (AJ+C) for Bayside Council to recommend an appropriate built form outcome for an area of Brighton-Le-Sands (BLS) along the foreshore of Botany Bay.

The study area is defined by Bay Street to the north, The Boulevarde to the south, The Grand Parade to the east and Trafalgar Street to the west ('the Council Car Park Block'). The Council Car Park Block is bisected by The Boulevarde Walk, a long-established north-south through-site link that connects Hercules Road to Bay Street crossing Duke Street, The Boulevarde and Crighton Lane. The latter street, Crighton Lane, is a narrow one-way service lane that also bisects the Council Car Park Block.

The study analyses the site context, establishes a number of design principles which are applied to the site to create a basic site plan, and then explores four different built form arrangements to come to a recommendation.

Ultimately, the study recommends height and density increases be permitted at the Council Car Park Block provided that:

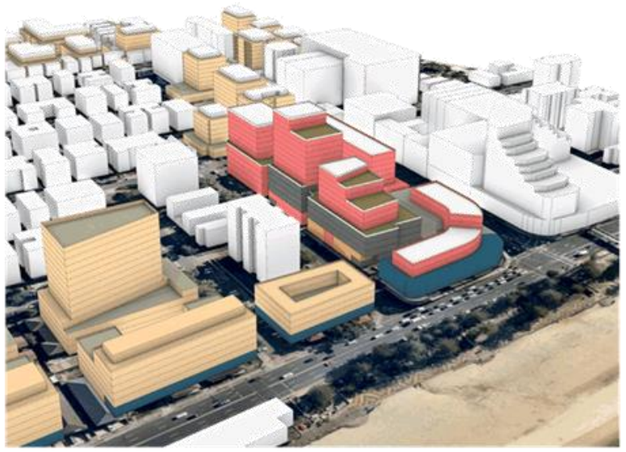
- The Boulevarde Walk through-site link is widened and improved.
- Crighton Lane is widened and improved.
- Existing public parking spaces in the Council Car Park are replaced.
- New public parking spaces are introduced to meet existing unmet demand at Brighton-Le-Sands.
- The Council Car Park is identified as a Gateway Location through its built form.
- No additional overshadowing of Cooks Park or Lady Robinsons Beach is created, before 2:30pm and 3:00pm respectively.

This Built Form Study is intended to complement a suburb-wide Urban Form Study (prepared by GMU) and a Built Form Study of The Grand Parade (prepared by AJ+C) in informing an overall master plan for Brighton-Le-Sands currently being prepared by Bayside Council.

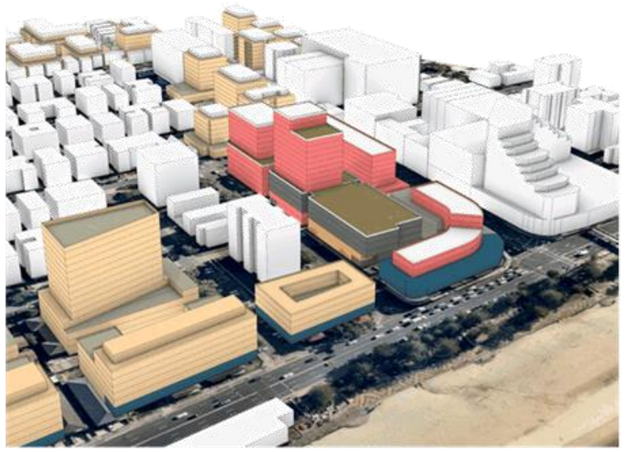
If the suburb-wide rezoning is stalled, an alternative recommendation has been made to provide the same level of public benefit with reduced impact on neighbouring properties. This built form largely follows the initial recommendation, however it removes one tower in order to maintain a greater level of solar amenity to its neighbours.

Study Area

Study Aerial



RECOMMENDATION A: OPTION 3
Recommended as part of a suburb-wide rezoning.



RECOMMENDATION B: OPTION 4
Recommended as a 'spot rezoning' alternative.

1.0

BACKGROUND

1.1 INTRODUCTION

This Built Form Study has been prepared by Allen Jack+Cottier (AJ+C) for Bayside Council to recommend an appropriate Built Form outcome for an area of Brighton-Le-Sands (BLS) along the foreshore of Botany Bay.

The Built Form Study is intended to inform an overall master plan for the suburb of Brighton-Le-Sands currently being prepared by Bayside Council, itself informed by an Urban Form Study prepared by GMU Urban Design and Architecture as well as an additional AJ+C built form study limited of an area defined by Bay Street to the north, President Avenue to the south, The Grande Parade to the east, and Hercules Road / Brighton Avenue to the west.

This Council Car Park Block study is limited to an area defined by Bay Street to the north, The Boulevarde to the south, The Grand Parade to the east and Trafalgar Street to the west.

The study area includes:

- Council owned car park at 1-7 The Boulevarde (219 spaces)
- 9-13 The Boulevarde (single ownership)
- 2-6 Trafalgar Street & 15 The Boulevarde (few owners)
- Retail strip including 315-373 Bay Street & 77-88 The Grand Parade (fragmented ownership)

AJ+C's brief for this project was to:

- Investigate maximum appropriate envelope for the site, up to a theoretical maximum datum imposed by Sydney Airport.
- Provide maximum public benefit for Brighton-Le-Sands.
- Replace all 229 public car spaces currently provided at The Bouelvarde Car Park.
- Introduce an additional 211 public car spaces, established in the Brighton-Le-Sands Parking study as the extent of existing unmet parking demand in the suburb.

Figure 01: Study Area

1.2 BACKGROUND

Figure 02: GMU Urban Form Study (GMU)

1.2.1 BRIGHTON-LE-SANDS URBAN FORM STUDY (GMU) & DRAFT MASTER PLAN (BAYSIDE COUNCIL)

GMU Architecture and Urban Design prepared a suburb-wide urban form study to inform a master plan being developed by Bayside Council, which is currently in working draft.

Bayside's draft BLS master plan confirms an overall built form strategy established by GMU where building heights and densities increase from west to east, with the highest density core around the intersection of Bay Street and The Grand Parade.

The focus area for this current Built Form Study is identified in Bayside's draft master plan and the GMU study as being medium-to-high density mixed-use development along The Grande Parade, The Boulevarde, Bay Street and Trafalgar Street.

Figure 03: Existing Parking Conditions (Roberts Day & GTA)

1.2.2 BRIGHTON LE SANDS CAR PARK STRATEGY

RobertsDay and GTA Consultants prepared a June 2014 parking strategy document to inform future master plans for the area. The strategy analysed current car parking conditions and sets a vision and strategy ultimately providing recommendations for the centre.

The report found that the Boulevarde car park suffered from poor access-ability highlighting the surrounding streets lack of permeability for motor vehicles. The parking strategy recommends that The Site be ultimately redeveloped.

The report concluded that an additional 211 spaces is needed to meet existing unmet demand in Brighton-Le-Sands.

Figure 04: The Grand Parade Built Form Study (AJ+C)

1.2.3 THE GRAND PARADE BUILT FORM STUDY (AJ+C)

A previous Built Form Study was developed by Allen Jack+Cottier Architects (AJ+C) for Bayside Council to recommend an appropriate Built Form outcome for the area of Brighton-Le-Sands along the foreshore of Botany Bay between Bay St and President Ave.

AJ+C's study was limited to an area defined by Bay Street to the north, President Ave to the south, The Grande Pde to the east, and Hercules Road / Brighton Ave to the west.

The report recommended that:

- Any built form outcome be restricted from overshadowing Cooks Park before 2pm and from overshadowing Lady Robinson Beach before 3pm.
- Sufficient street setbacks be established to improve pedestrian amenity on The Grand Parade, and to protect the urban quality of Hercules Road while permitting larger buildings on its eastern side.
- Additional pedestrian-oriented streets be introduced to increase permeability/ walkability of the local centre.
- The potential for new public open spaces be explored as a requirement for increased density, to mitigate an existing deficit in local open space.
- That new public transport routes be advocated for as a requirement for increased density.

1.3 STATUTORY PLANNING FRAMEWORK

The study area of this report is covered by the Rockdale Local Environmental Plan (LEP) 2011. This establishes the following controls for the area:

Land zoning: the car park site and the retail strip is zoned as **SP3 - Tourist** and the lots on the corner of The Boulevarde and Trafalgar Street are zoned as **B4 - Mixed Business**

Lot size: no minimum lot size control

Heritage: There are three heritage items with particular impact on the study area:

I1168 - Cooks Park

"Cook[s] Park is major open space on the edge of Botany Bay with distinctive Norfolk Island Pines and historical associations with early developers Saywell and Cook. Established in 1886, Cook[s] Park provides evidence of the late 19th century development of the area as the creation of the park was in direct response to the expanding urbanisation. Aesthetically the park is significant in its role as defining the character of the suburb and the edge of Botany Bay."

I1172 - Row of Araucaria Trees (in Cooks Park)

I1173 - Brighton Baths

"Brighton Baths has historic significance as a remnant of the establishment of Brighton as a pleasure ground. The remaining Brighton Baths structure is symbolic of the important part the baths played in the social and leisure life of local and Sydney people during the early part of the twentieth century."

Height of buildings: **28m (T3)**

This existing maximum building height allows approximately 8-storeys using residential floor to floor heights.

Floor space ratio: **3:1 (V1)**

2.0

SITE ANALYSIS

2.1 TOPOGRAPHY

Figure 05: Topography Map

The topography of Brighton-Le-Sands is largely shaped by its foreshore location.

The shoreline rises to RL 2 before rising sharply up to RL 6 at the Cook Park Trail continuing through The Grand Parade.

The land remains generally flat through the site and its surrounds before dropping off into the band of open space to the west where drainage lines and water bodies exist. The terrain then continues to rise towards Rockdale in the west.

The nature of the topography is particularly important due to the Obstacle Limitation Surface imposed by the distance to Sydney Airport. As the OLS is set as an 'AHD', the higher the ground level the less building height is possible. Consequently, slightly taller buildings are possible in the east of Brighton-Le-Sands than the west.

2.2 OPEN SPACE CONTEXT

Figure 06: Open Space Map

Brighton-Le-Sands benefits from two regional-scale clusters of open spaces. The first is Cook Park along The Grand Parade, a linear waterfront park running from Kyeemagh to Sandringham, which includes Lady Robinsons Beach. The second is the Rockdale Wetlands to the west of BLS, which includes Rockdale Bicentennial Park, Riverine Park, Barton Park, Scarborough Park among others. Both these open space corridors have been identified as part of the larger Sydney Green Grid, a state planning priority. The Boulevarde Walk Through-Site Link is also identified in the Green Grid network.

2.3 TRANSPORT CONTEXT

Figure 07: Public Transport Map

Public transport services to the suburb is generally poor with only a handful of direct bus connections. Sydney Bus routes 478 & 479 connect the site to Rockdale Station via Bay Street, with the only other connection provided by the 303 to Redfern via Mascot.

The site is located approximately 3.4km from Rockdale Station and 3.6km from Kogarah Station. Both stations are on the T4 Eastern Suburbs & Illawarra Line providing direct connections to the Sydney CBD and single transfer connections to Sydney Airports domestic and international terminals

2.4 SURROUNDING ROAD NETWORK

Figure 08: Road Network Map

The site is bounded by The Grand Parade to its east, The Boulevarde to the south, Bay Street to the north and Trafalgar Street to its west.

The Grand Parade is part of a major arterial road and freight line running north south which dissects the suburb of Brighton Le Sands and the foreshore. The road connects President Avenue and the Princes Highway to the south and west and General Holmes Drive to the north.

Bay Street provides a direct connection between the site and Rockdale Station with the eastern end serving as a retail strip.

Crighton Lane bisects the site servicing the businesses along Bay Street running from Trafalgar Street to the Boulevarde and is of poor urban quality.

Trafalgar Street ends at Crighton Lane with no connection provided through to Bay Street. The Boulavarde is accessed directly from The Grand Parade from the left lane only and from Trafalgar Street.

2.5 SITE ANALYSIS

The site and surrounds display the following characteristics:

- The site is on the foreshore and includes access to Lady Robinsons Beach, Cooks Park and the Cooks Park Trail
- The site is bisected north to south by a pedestrian through site link ('The Boulevarde Walk') and east to west by Crighton Lane.
- The site includes a commercial strip running from The Grand Parade and continuing up Bay Street
- Existing buildings include:
  - A 3 storey car park at 1-7 The Boulevarde
  - 2-3 storey medium density residential buildings at 9-13 The Boulevarde
  - 2-3 storey medium density residential buildings at 2-6 Trafalgar Street & 15 The Boulevarde
  - 1, 2 & 3 storey commercial buildings at 315-373 Bay Street & 77-88 The Grand Parade
- The Council Car Park does not meet Australian Standards for parking space or aisle sizes. If the Car Park was to be rebuilt at the same height and footprint, it would provide significantly fewer spaces than existing.
- The Boulevarde has 90-degree parking on both sides and contains a number of mature trees particularly on its southern side.
- Trafalgar Street terminates at Crighton Lane with no vehicular access through to Bay Street. There is a small plaza and access to limited 90-degree parking where Trafalgar Street terminates.

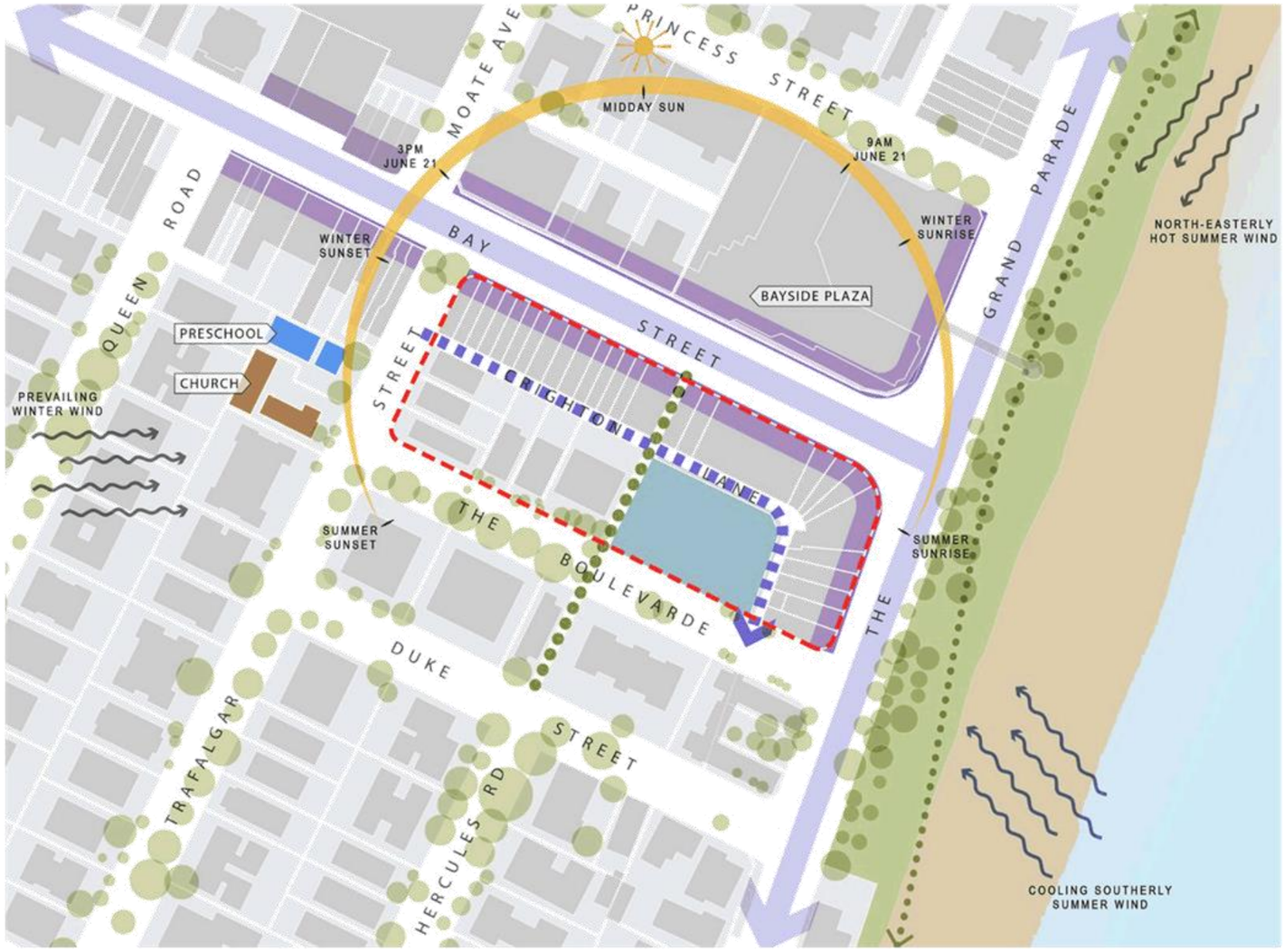


Figure 09: Site Analysis Map

2.6 PHOTOS OF STUDY AREA

Figure 10: Looking north towards Bay Street from The Boulevarde Walk through site link

Figure 11: Looking south along The Boulevarde Walk through site link

Figure 12: Looking west on Crighton Lane

Figure 13: Looking west on Crighton Lane near Trafalgar Street

Figure 14: Council car park building on The Boulevarde

Figure 15: Looking south down Trafalgar Street

2.7 SHADOW IMPACT STUDY

Due to the orientation of the site, any development will have some degree of overshadowing impact to the properties directly to the south along The Boulevarde.

A visual examination of the properties at #4-10, #12 and #16 The Boulevarde, as well as #10 Trafalgar St and #89 The Grand Parade, indicates that none of these properties currently receive solar access in accordance with the NSW Apartment Design Guideline (ADG, due to the street orientation and direction of harbour views. #12 and #16 The Boulevarde as well as #10 Trafalgar are also already overshadowed by large canopy street trees.

At 8-storeys, #4-10 The Boulevardereceives the most solar amenity of all these properties, as the apartments on the northern side receive nearly unobstructed solar access through the entire day due to the low height of the existing Council Car park site. However, at least 50% of units face south and so this building still does not meet the ADG solar objectives.

Where neighbouring buildings do not meet the ADG solar objectives, the ADG provides an objective for surrounding development: *"Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%"*

Most options for future development in the study area are likely to have an impact of greater than 20% on at least some neighbouring properties.

Likely impacts:

#89 The Grand Parade and #10 Trafalgar will retain either morning or afternoon sun respectively.

Impacts in excess of 20% on #16 and #12 The Boulevarde are largely unavoidable due to their low building height and small unit count. However, living rooms in these properties largely face east or west, rather than north towards the Council Car Park Block.

The 8-storey residential building at #4-10 The Boulevarde will be variably impacted depending on the massing outcome. The impacts of each option explored have been studied in the Built Form Study Chapter o this report.

Figure 16: Living room Locations

2.7.1 14-18 THE BOULEVARDE

Figure 17: 14-18 The Boulevarde

2.7.2 12 THE BOULEVARDE

Figure 18: 12 The Boulevarde

Figure 19: 4-10 The Boulevarde

Figure 20: 89 The Grand Parade

2.8 LAND OWNERSHIP

Properties within the Study Area are mix of residential apartments, retail buildings and above ground public car parking.

The commercial lots along Bay Street and The Grand Parade are fragmented and unlikely to be developed. Development on the following lots is more achievable:

2 Trafalgar – 15 The Boulevarde

2 Trafalgar Street
Total Units: 4
Ownership: 1

4 Trafalgar Street
Total Units: 4
Ownership: unknown

6 Trafalgar Street
Total Units: 4
Ownership: 1

15 The Boulevarde
Total Units: 5
Ownership: unknown

9-13 The Boulevarde

13 The Boulevarde
Total Units: 4
Ownership: 1 (assumed)

9-11 The Boulevarde
Total Units: 11
Ownership: 1 (assumed)

Council Car Park

1-7 The Boulevarde
Total Units: 0
Ownership: 1

RSL

351-367 Bay St
Total Units: 1
Ownership: 1

Figure 21: Lot Amalgamation Plan

2.9 SITE OPPORTUNITIES

- Views towards Brighton-Le-Sands distinguishing features: Cooks Park, Lady Robinsons Beach and Botany Bay.
- Direct access to the key intersection of Brighton-Le-Sands: Bay Street with The Grand Parade
- Direct access through The Boulevarde Walk through-site walkway linking the Hercules Road residential neighbourhood through to the main commercial strip of Bay Street.
- Adjacent the Trafalgar Street pedestrian plaza.
- Opposite the most prominent building in Brighton-Le-Sands, the Novotel Hotel.

Figure 22: Site Opportunity Map

2.10 SITE CONSTRAINTS

- Due to proximity to the Sydney Airport, an OLS limit of 51m AHD applies to the site.
- The foreshore is composed of important heritage and foreshore features including Cook Park, Lady Robinsons Beach and existing ecological communities which must be protected from built form impacts.
- The site is subject to substantial vehicular noise from The Grand Parade, a heavily used freight route.
- There are a series of narrow disconnected lane-ways running through and around the site.
- There are a number of buildings which exceed the current 7 storey height limit.
- Apartment buildings to the south which will be impacted by any increase in building height on the subject site.

Figure 23: Site Constraint Map

3.0

BUILT FORM STUDY

3.1 DESIGN PRINCIPLES

Based on the Background Information and the Site Analysis outlined in Chapters 1 and 2, a list of Design Principles were established for the Council Car Park Block. These were used to inform a site plan and overall design strategy, and then to compare built form options to come to a recommendation.

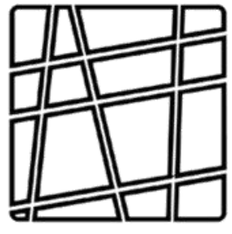
PROTECT THE FORESHORE

Carried over from AJ+C's The Grand Parade Built Form Study, the principle of Foreshore Protection aims to prevent any additional overshadowing of Cooks Park and Lady Robinsons Beach.

The latter is particularly important for this project specifically, as the area of the beach that could be affected is the deepest and so most populated section of the beach, with the most direct connection to the main retail strip of Bay Street.

Design Responses:

- Sculpt building massing to prevent any additional overshadowing of Cooks Park before 2:30pm in mid-winter.
- Sculpt building massing to prevent any overshadowing of Lady Robinsons Beach before 3:00pm.



ENHANCE THE STREET NETWORK

The Council Car Park Block is bisected by a multi-block through-site link between the residential area to the south and the main retail strip of Bay St, as well as a service lane that is crucial to the functioning of the Bay St shop-fronts. The current function of these 'streets' should be protected, with their character improved as much as is possible.

Design Responses:

- Widen Crighton Lane
- Widen and revitalise The Boulevarde Walk
- Work to limit vehicular crossings of the Boulevarde Walk
- Provide active or contributory frontage wherever possible.
- Conceal parking wherever possible.

GATEWAY SITE IDENTIFICATION

The draft master plan for Brighton-Le-Sands proposes significant increases in heights and densities rising from east to west, with the current Council Car Park identified as a Gateway location.

This designation is due to the existing urban form of the area - particularly the Novotel opposite - and its position as a public building. Redevelopment of the Council Car Park Block using a Gateway typology has both built form and use implications.

Design Responses:

- Position the tallest building height at the Council Car Park site, with adjacent buildings reducing in height to transition to the future surrounding character.
- Provide new public-oriented uses where appropriate.
- Expand public parking at the Council Car Park to satisfy unmet demand, in addition to the replacement of existing spaces.

3.2 APPLICATION OF DESIGN PRINCIPLES

- Maintain and improve existing The Boulevarde Walk through site link between Bay Street and Hercules Road.
- Provide activation to all public streets (lane-ways excluded).
- Limit building heights to protect the heritage foreshore from overshadowing.
- Above ground parking must be concealed ('skinned') with other building uses (residential, community or retail), unless providing public parking.
- Position height at Gateway location above public parking.

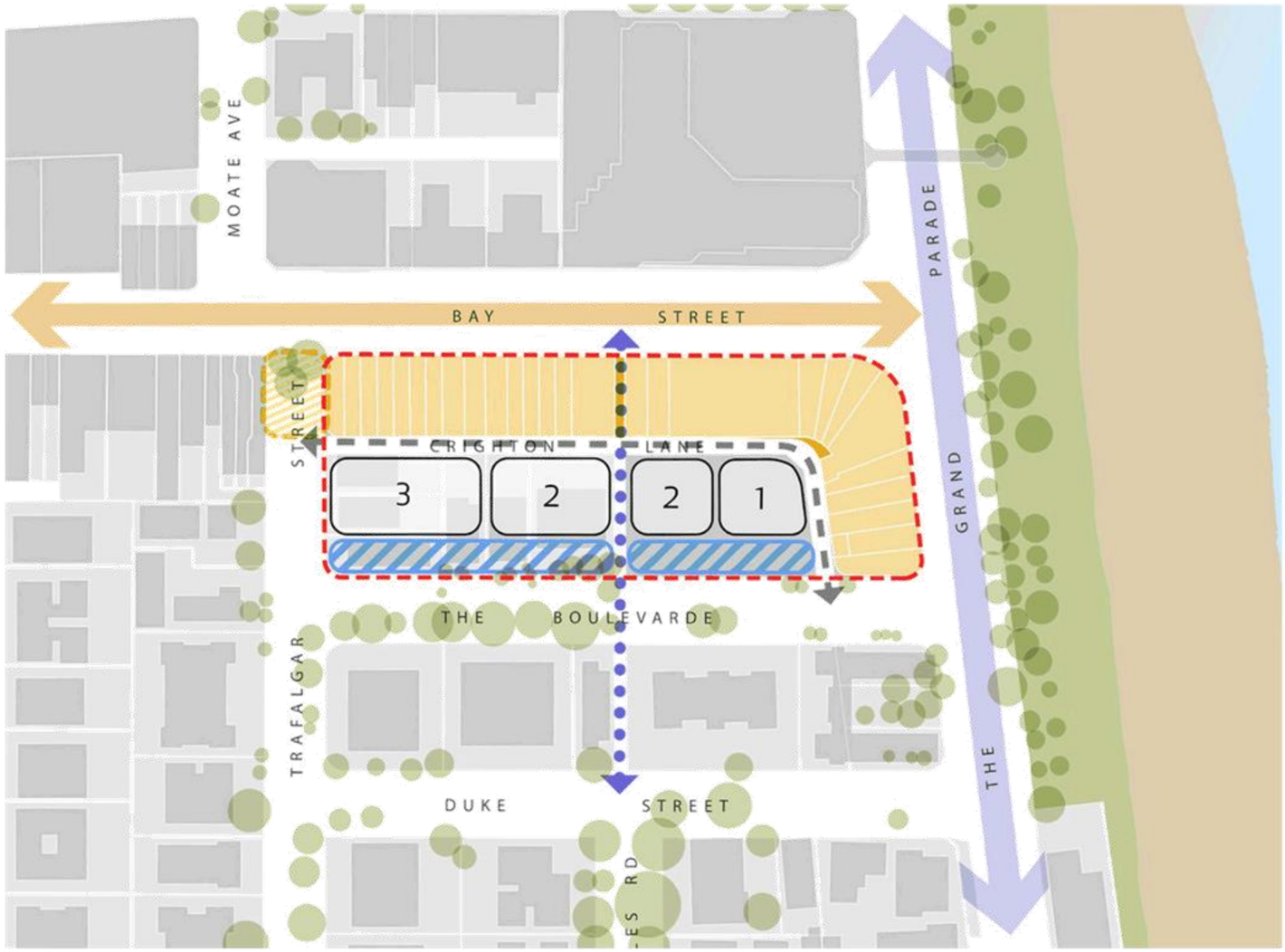


Figure 24: Structure Plan

3.3 INDICATIVE SITE PLAN

The site plan here shows the recommended block and building layout.

The Boulevarde Walk will be upgraded. With re-development of the site there is an opportunity to enhance the space, providing a wider link and casual surveillance at points from community and residential uses adjacent.

Currently the link is just under 3m wide, the recommended option would widen the link to 6m and would be open to the air at both ends with a double-height 7m high void covered section where the parking podium crosses above. This initial upgrade to the pedestrian link will encourage future upgrades to the blocks to the north and south when redevelopment occurs, ultimately providing an upgraded link from Bay Street through to Duke Street.

Crighton Lane is shown similarly widened into a safer and more spatially pleasant street. Vehicular access and exit points into the new buildings are designed to limit crossings of The Boulevarde Walk.

Legend

- Public Car Park Entry/Exit
- Residential Car Park Entry/Exit
- The Boulevarde Walk Upgrade

0 10 20 50m

Figure 25: Indicative Plan 1:1000 @ A3

ALLEN JACK+COTTIER

3.4 BUILT FORM OPTIONS

In order to address the project vision and design principles, four alternative built form options were explored. Each option shares a site plan and a similar podium, with the main changes being the height and massing of the towers above.

Each option was analysed to test their impact in terms of visual bulk and overshadowing, balanced against their strategic merit and public benefit for Brighton-Le-Sands.

OPTION 1

Option 1 explored extending building heights to RL75.6m AHD, reflecting an approval for building intrusions into the OLS control that has been secured by the owner of 1-13 The Boulevarde. This option ignored solar impacts on Cook Park, Lady Robinsons Beach and properties to the south. Shop-fronts along Bay Street and The Grand Parade, are shown with amalgamated with new perimeter buildings built up to their current LEP Height-of-Building limits.

OPTION 2

Option 2 continues the 75.6m overall height limit, but reducing building heights of the towers, as well as the shop-fronts along Bay Street and The Grand Parade, to protect Cooks Park from additional overshadowing until 2:30pm and Lady Robinsons Beach until 3pm.

OPTION 3 (RECOMMENDED)

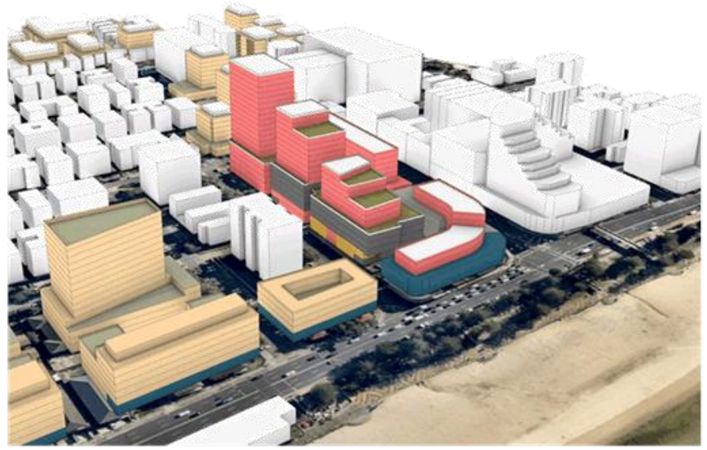
Option 3 lowers the height of the western tower to accentuate a 'gateway' height point at the car park site, and respond to the lower massing proposed in the Brighton-Le-Sands Master Plan for the properties to the west.

OPTION 4 (ALTERNATIVE RECOMMENDATION)

Option 4 removes the eastern tower above the Council Car Park site, in order to provide better morning solar amenity to the residential properties directly south.

The pages that follow detail each Option's impact, and summarise the yield achieved. A design matrix is provided to compare each design option against the design principles stated earlier.

OPTION 1



OPTION 2

OPTION 3

OPTION 4

3.5 INDICATIVE SECTIONS

The indicative Sections show the character of the podium, shared across all options, and the potential scales of the different built form options.

Note that above ground parking is shown unsleeved at the Council Car Park. As outlined in the Recommendations Chapter, this will have a negative impact on the streetscape. It is recommended that this be allowed only at the Council Car Park, in recognition of its role as a public asset. Above-ground private residential or commercial parking should be required to be sleeved with active or contributory uses.

The following pages illustrate the bulk and scale of the different height options, and analyse their impact.

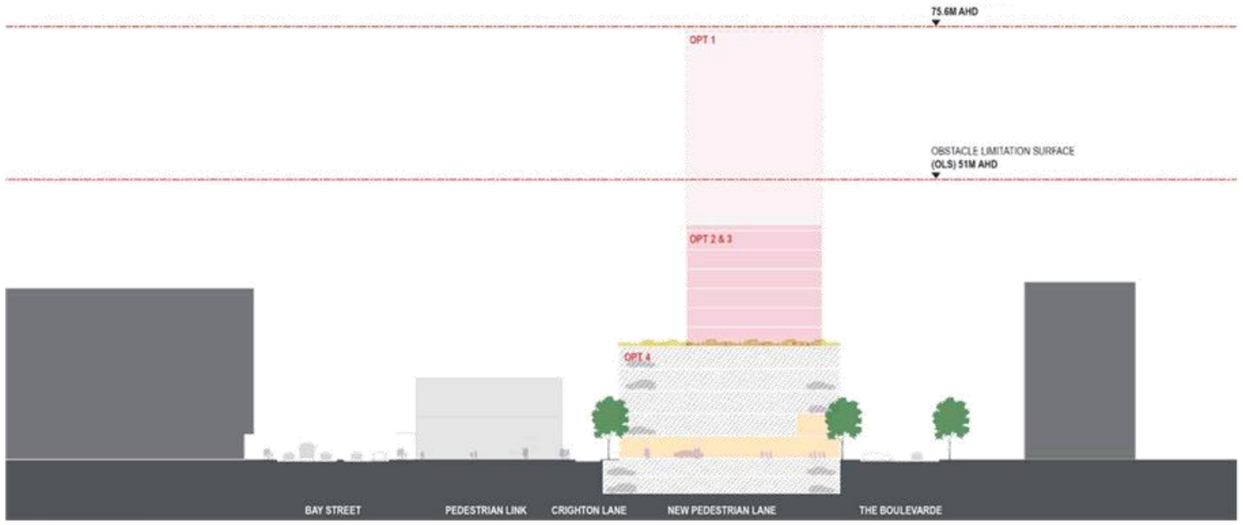


Figure 27: 1:800 Section

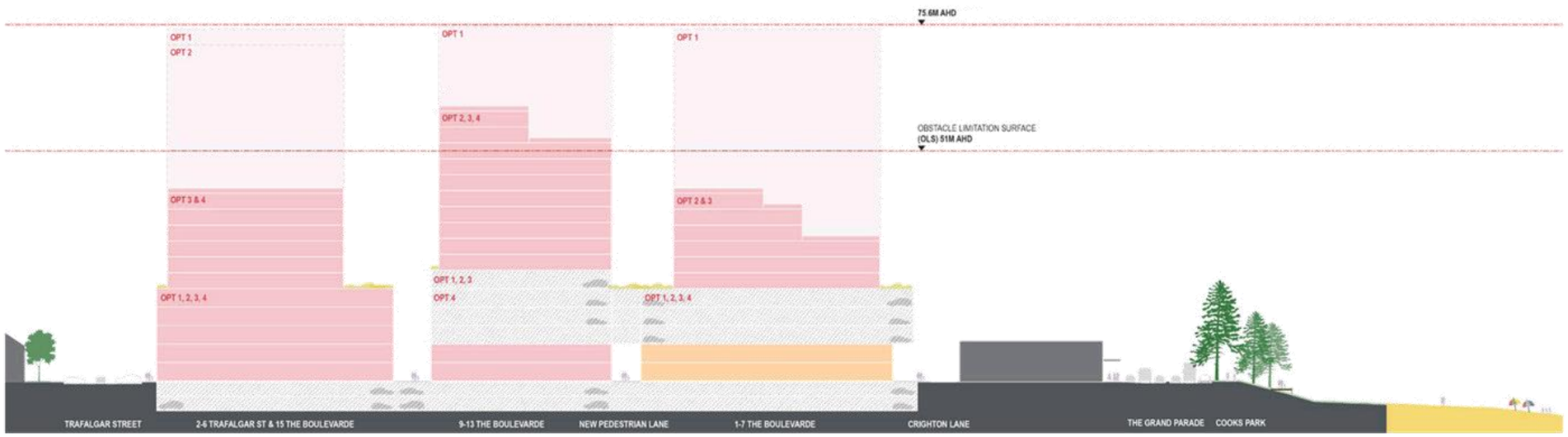


Figure 26: 1:800 Section

3.6 BUILT FORM OPTIONS

3.6.1 OPTION 1

AREA ANALYSIS	Building E (East)	Building C (Central)	Building W (West)	Total
Building Height (Storeys)	21	21	21	
Building Height (1.5m overrun, AHD)	75.1	75.1	74.5	
FSR	5.3	5.5	6.5	5.8
Unit Count	117	95	133	345
Parking Required by New Uses	171	129	187	487
Parking Surplus/ Deficit	186	87	-70	
Public Parking Provision				273

DESIGN MATRIX	
Maintains and improves The Boulevarde Walk through-site-link	Y
Improves Crighton Lane	Y
Creates Gateway urban marker at Council Car Park	N
Protects Cook Park from additional overshadowing before 2:30pm	N
Protects Beach from overshadowing before 3pm	N
Provides sufficient car spaces to service additional uses	N
Replaces existing public car spaces	Y
Provides additional public car spaces to service unmet demand	N

3.6.2 OPTION 2

AREA ANALYSIS	Building E (East)	Building C (Central)	Building W (West)	Total
Building Height (Storeys)	11	16	20	
Building Height (1.5m overrun, AHD)	44.1	59.6	71.4	
FSR	1.8	3.5	6.2	3.8
Unit Count	32	60	133	219
Parking Required by New Uses	56	81	179	303
Parking Surplus/ Deficit	301	135	-62	
Public Parking Provision				436

DESIGN MATRIX	
Maintains and improves The Boulevarde Walk through-site-link	Y
Improves Crighton Lane	Y
Creates Gateway urban marker at Council Car Park	N
Protects Cook Park from additional overshadowing before 2:30pm	Y
Protects Beach from overshadowing before 3pm	Y
Provides sufficient car spaces to service additional uses	N
Replaces existing public car spaces	Y
Provides additional public car spaces to service unmet demand	Y

3.6.3 OPTION 3

AREA ANALYSIS	Building E (East)	Building C (Central)	Building W (West)	Total
Building Height (Storeys)	11	16	11	
Building Height (1.5m overrun, AHD)	44.1	59.6	43.5	
FSR	1.8	3.5	3.7	2.9
Unit Count	32	60	79	171
Parking Required by New Uses	56	81	106	243
Parking Surplus/ Deficit	301	135	11	
Public Parking Provision				436

DESIGN MATRIX	
Maintains and improves The Boulevarde Walk through-site-link	Y
Improves Crighton Lane	Y
Creates Gateway urban marker at Council Car Park	Y
Protects Cook Park from additional overshadowing before 2:30pm	Y
Protects Beach from overshadowing before 3pm	Y
Provides sufficient car spaces to service additional uses	Y
Replaces existing public car spaces	Y
Provides additional public car spaces to service unmet demand	Y

3.6.4 OPTION 4

AREA ANALYSIS	Building E (East)	Building C (Central)	Building W (West)	Total
Building Height (Storeys)	5	16	11	
Building Height (1.5m overrun, AHD)	25.5	59.6	43.5	
FSR	0.5	3.5	3.7	2.4
Unit Count	0	60	79	132
Parking Required by New Uses	15	81	106	201
Parking Surplus/ Deficit	343	135	11	
Public Parking Provision				478

DESIGN MATRIX	
Maintains and improves The Boulevarde Walk through-site-link	Y
Improves Crighton Lane	Y
Creates Gateway urban marker at Council Car Park	Y
Protects Cook Park from additional overshadowing before 2:30pm	Y
Protects Beach from overshadowing before 3pm	Y
Provides sufficient car spaces to service additional uses	Y
Replaces existing public car spaces	Y
Provides additional public car spaces to service unmet demand	Y

3.7 OVERSHADOWING: GROUND IMPACT

3.6.5 OPTION 1

Figure 28: 9am

Figure 29: 10am

Figure 30: 11am

Figure 34: 12noon

Figure 31: 1pm

Figure 32: 2pm

Figure 33: 3pm

3.7.1 OPTION 2

Figure 35: 9am

Figure 36: 10am

Figure 37: 11am

Figure 41: 12noon

Figure 38: 1pm

Figure 39: 2pm

Figure 40: 3pm

3.7.2 OPTION 3

Figure 42: 9am

Figure 43: 10am

Figure 44: 11am

Figure 48: 12noon

Figure 45: 1pm

Figure 46: 2pm - NO ADDITIONAL OVERSHADOWING

Figure 47: 3pm

3.7.3 OPTION 4

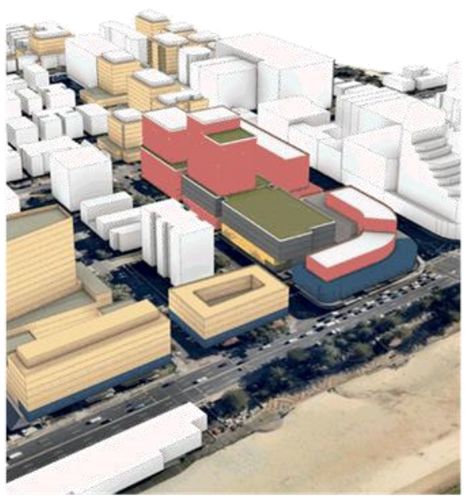


Figure 49: 9am

Figure 50: 10am

Figure 51: 11am

Figure 55: 12noon

Figure 52: 1pm

Figure 53: 2pm - NO ADDITIONAL OVERSHADOWING

Figure 54: 3pm

3.8 OVERSHADOWING: ELEVATIONAL IMPACT

3.8.1 EXISTING OVERSHADOWING

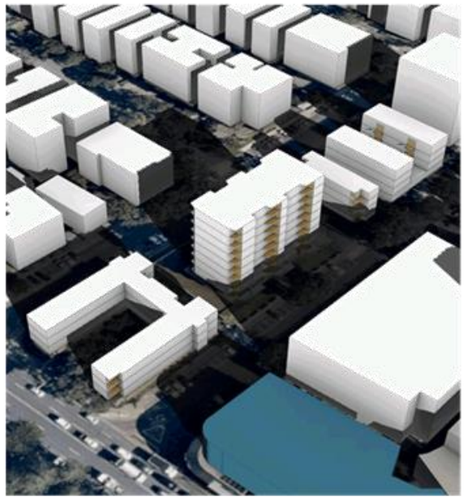


Figure 56: 9am

Figure 57: 10am

Figure 58: 11am

Figure 62: 12noon

Figure 59: 1pm

Figure 60: 2pm

Figure 61: 3pm

3.8.2 OPTION 1

Figure 63: 9am

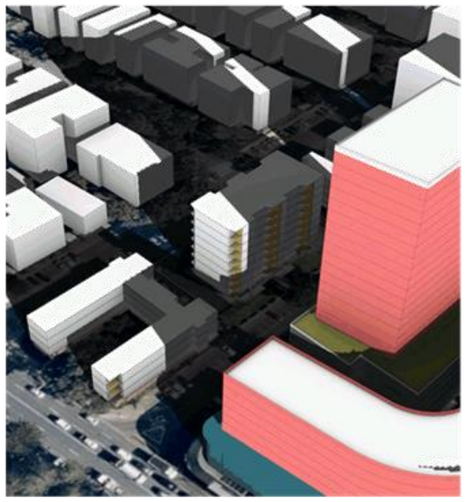


Figure 64: 10am

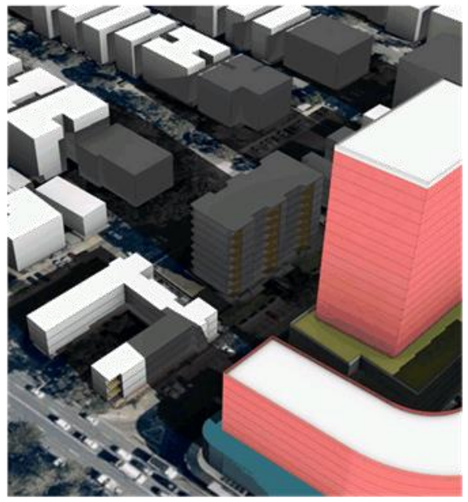


Figure 65: 11am

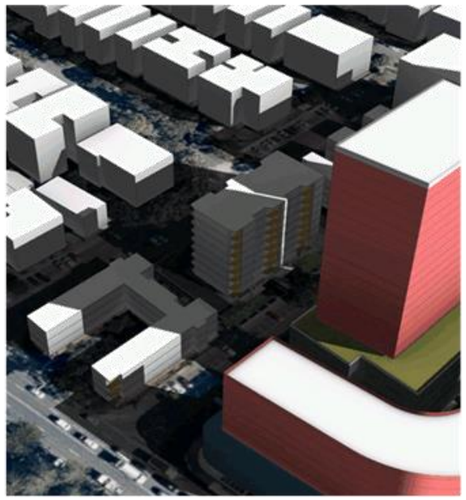


Figure 69: 12noon

Figure 66: 1pm

Figure 67: 2pm

Figure 68: 3pm

3.8.3 OPTION 2

Figure 70: 9am

Figure 71: 10am

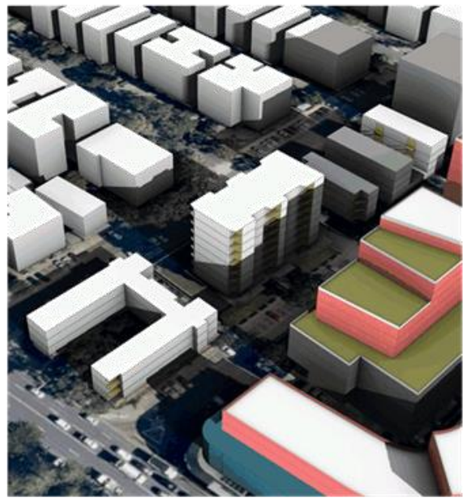


Figure 72: 11am

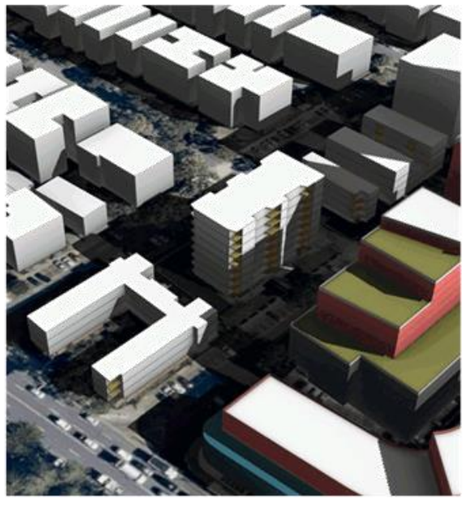


Figure 76: 12noon

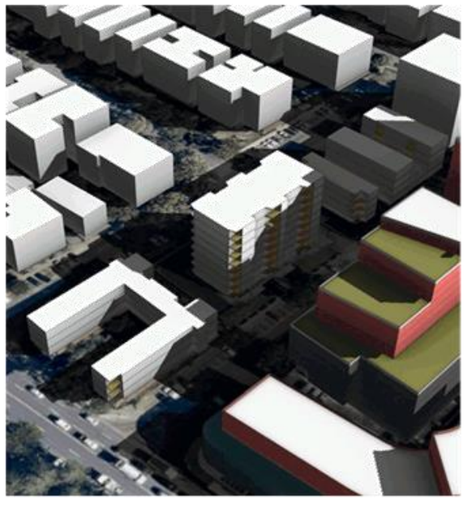


Figure 73: 1pm

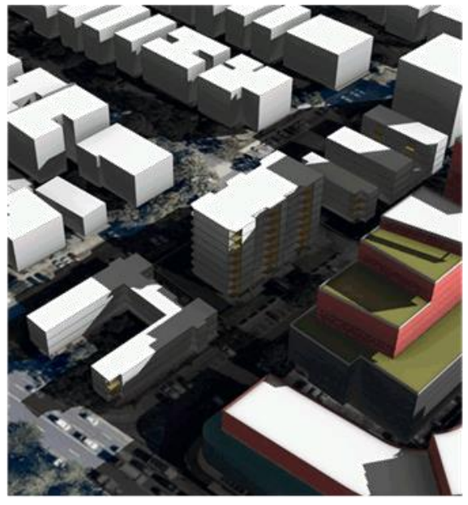


Figure 74: 2pm

Figure 75: 3pm

3.8.4 OPTION 3

Figure 77: 9am

Figure 78: 10am

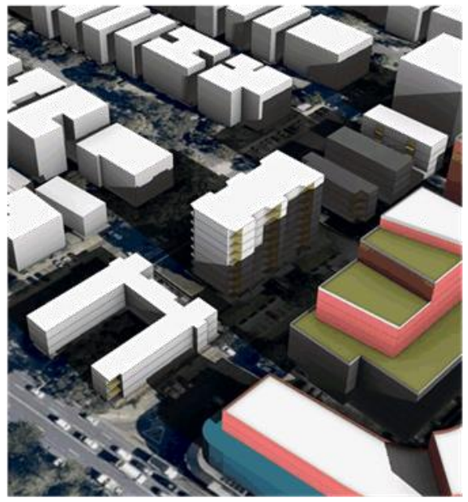


Figure 79: 11am

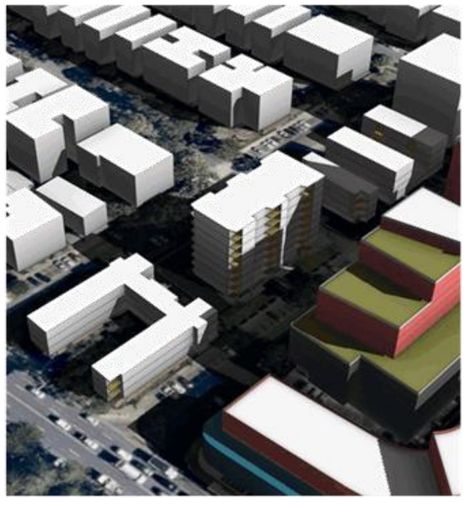


Figure 83: 12noon

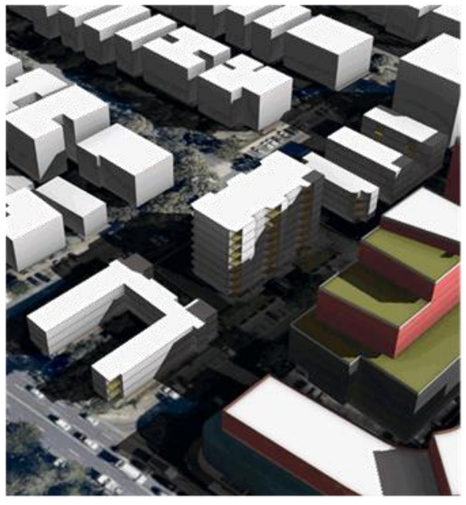


Figure 80: 1pm

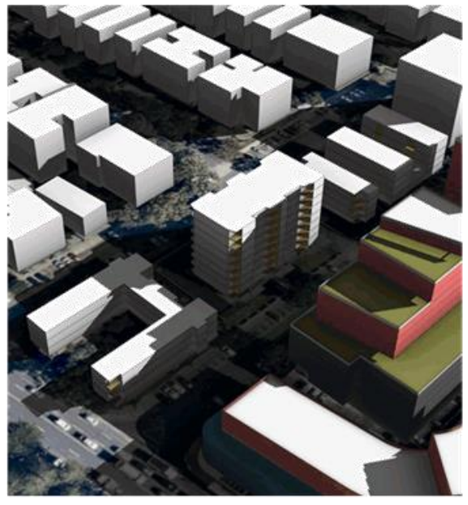


Figure 81: 2pm

Figure 82: 3pm

3.8.5 OPTION 4

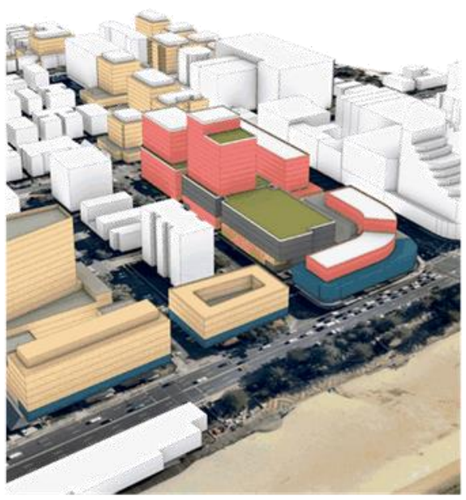


Figure 84: 9am

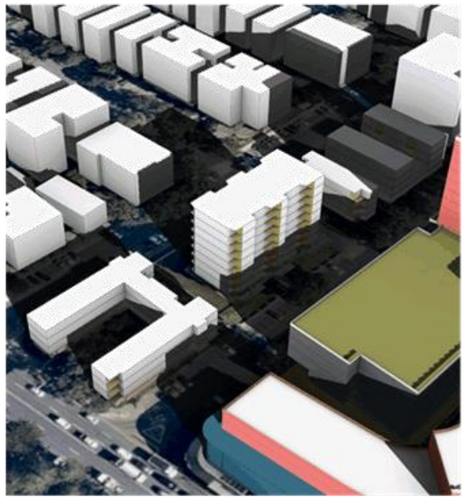


Figure 85: 10am

Figure 86: 11am

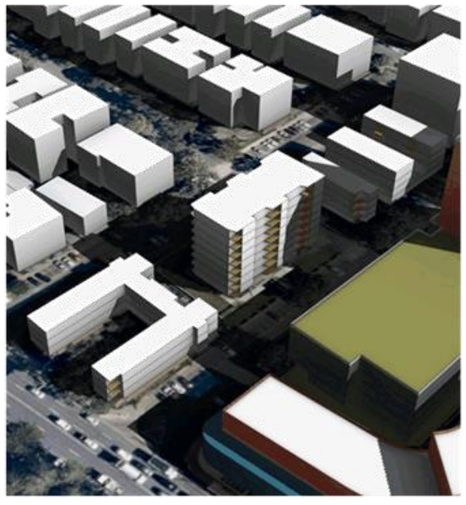


Figure 90: 12noon

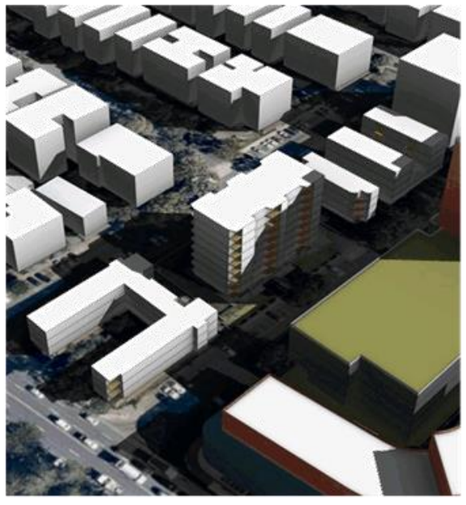


Figure 87: 1pm

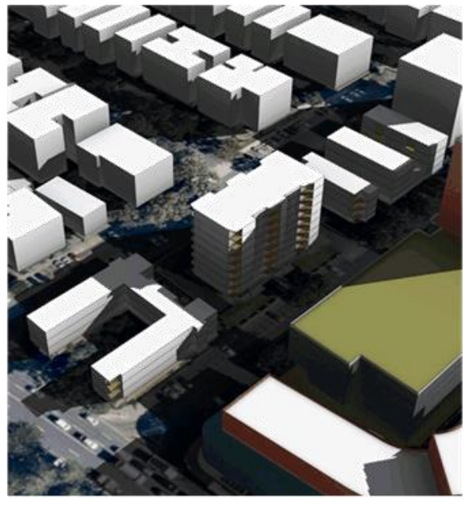


Figure 88: 2pm

Figure 89: 3pm

4.0

RECOMMENDATION

4.1 RECOMMENDATION

Of the four alternate design options explored, Option 3 is the recommended option in the context of a suburb-wide rezoning.

Public Benefit

- The 2-level basement and 5- to 6-level podium is estimated to provide enough (within 5%) public parking to satisfy Council's target at Brighton-le-Sands, in addition to any additional parking required to meet DCP rates for the new floor space.
- The amalgamated sites form an appropriate Gateway location: positioned opposite the existing tallest tower in BLS on either side of the main retail street, with the new towers proposed above the 'key public site' of the structured parking building.
- Despite the significant increase in building height, the foreshore is protected from additional overshadowing - before 2:30pm for Cooks Park and 3pm for Lady Robinsons Beach.
- The Boulevarde Walk through-site link is widened and improved, including with active community frontage.
- Crighton Lane is widened and improved, with vehicular entry/exits designed to avoid crossing The Bouelvarde Walk as much as is possible.

Impact

- There will be a reduction in solar amenity to residential dwellings to the south, in excess of the 20% impact recommended as acceptable under the NSW Apartment Design Guide.
- Unsleeved/covered above ground parking for the expanded Council Car Park will have a negative impact on the streetscape.
- The Boulevarde Walk through-site link will be partially covered by building form above, which departs from best urban design practice although is considered acceptable.

It is our view that the overshadowing of southern neighbours, despite being in excess of ADG recommendations, is nevertheless acceptable if it occurs as part of a major suburb-wide rezoning of Brighton-le-Sands. Many properties will be necessarily impacted in any rezoning that turns a low-to-medium density neighbourhood into a high-density environment. If this precinct-wide rezoning is designed on a property-by-property basis that meets the ADG's 20% overshadowing recommendation, it is unlikely that this or many other surrounding sites will be able to support much additional development to their existing condition.

If Council instead wishes to proceed with a 'spot rezoning' of only the study area - for instance, through a Planning Proposal targeting the Council Car Park and adjacent properties in advance of the suburb-wide master plan - we would recommend that Option 4 be explored instead.

Option 4 satisfies the same list of public benefits as above, but aligns better with ADG solar access objectives in relation to the affected southern properties.

Designing Car Parks for Future Adaptability

While Brighton-Le-Sands requires significant additional parking to meet existing unmet demand, current trends and expectations around future technology indicate car parking built today is unlikely to be utilised for its full design life. It is therefore critical that any car parking, in any project, is designed with future adaptability in mind.

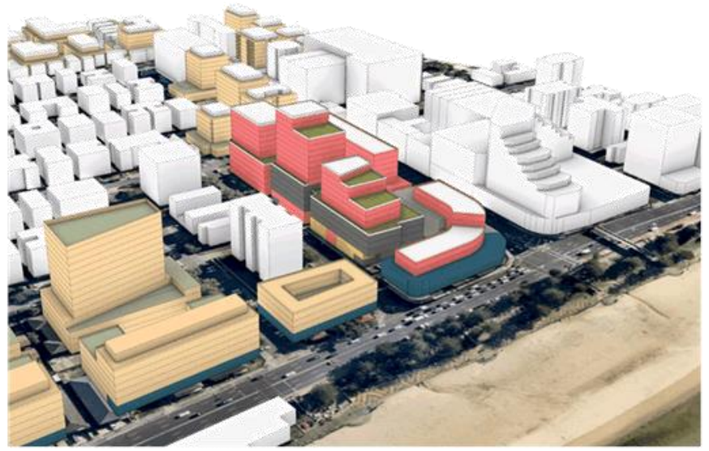
Basement parking for projects with significant residential components can be designed to be adaptable to future resident storage space, with relatively few design implications.

Above ground parking requires greater upfront investment, including:

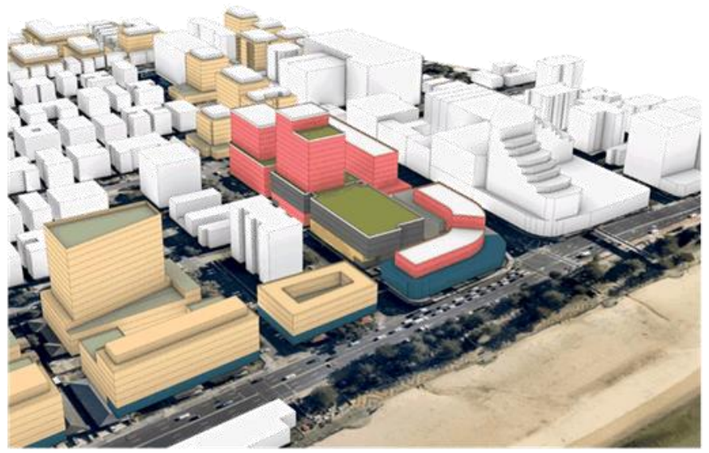
- Larger floor-to-floor heights to permit future (for example) office fit-outs.
- The avoidance of 'park on ramp' or 'split level' parking solutions, with flat-floor area maximised and ramping minimised through the use of speed ramps only.
- Where possible, design layouts around a central speed ramp that can be removed to create an atrium in future (while noting that this is often not possible in a mixed-use development where a tower is positioned above).
- Greater structural support to be built in, with structural sizing designed to support the live loads of office uses rather than only the lesser dead loads of car parking.
- Deliver car parking with complete or partial building façades, in character with their future adaptive reuse.

Recommendations

- Proceed with Brighton-Le-Sands master planning process to establish a suburb-wide rezoning.
- In that process, continue to identify the Council Car Park as a Gateway Site.
- Either use height and floor space bonuses tied to public parking in the LEP, or establish an outline for a future Planning Proposal.
- Do not provide as-of-right HOB or FSR allowances beyond those given to surrounding sites to ensure the public benefits described above are provided if the Gateway typology bonuses are to be pursued.
- Any Planning Proposal should provide a complete car parking layout to outline how both public parking and parking for new uses can be provided on a constrained site.
- Car park design should respond to future changes in travel mode, by being adaptable to other uses.
- Allow public parking only be 'unsleeved' above ground, designed with façades that at least partially conceal this use.
- Parking provided to service private uses such as residential or commercial should be sleeved with contributory floor space.



RECOMMENDATION A: OPTION 3
Recommended as part of a suburb-wide rezoning.

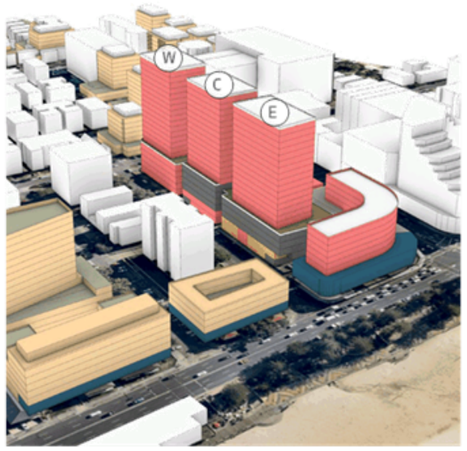


RECOMMENDATION B: OPTION 4
Recommended as a 'spot rezoning' alternative.

5.0

APPENDIX 1:
AREA SCHEDULES

5.1 OPTION ONE



AREA SUMMARY	Building E / East	Building C / Centre	Build W / West	Total
Community GFA	*513*	*0*	*0*	*513*
Residential GFA	*10,980*	*8,450*	*12,320*	*31,750*
Total GFA	**11,493**	**8,450**	**12,320**	**32,263**
Site Area	2,160	1,525	1,900	*5,585*
Resulting FSR	**5.32**	**5.54**	**6.48**	**5.78**
Dwelling Units	**117**	**95**	**139**	**351**
Total Parking (Estimate)	**357**	**216**	**117**	**691**
Community Parking Required	*13*	*0*	*0*	*13*
Residential Parking Required	*158*	*129*	*187*	*474*
Subtotal, New Parking Demand	*171*	*129*	*187*	*487*
Parking Surplus/Deficit	*186*	*87*	*-70*	*203*
Public Parking				**273**

ASSUMPTIONS	GBA (< GEA)	GFA (<GBA)	NSA/NLA (<GFA)
EFFICIENCIES			
Residential, Ground Floor	95%	65%	75%
Residential, Typical	95%	75%	85%
Community	95%	90%	90%
Parking	100%	0%	N/A
parking efficiency per space	35	sqm	

UNIT MIX	NSA	GFA	Mix
Studio	42	49	0%
1-Bed	52	61	15%
2-Bed 2-Bth	77	91	70%
3-Bed 3-Bth	97	108	15%
Average	76	89	100%

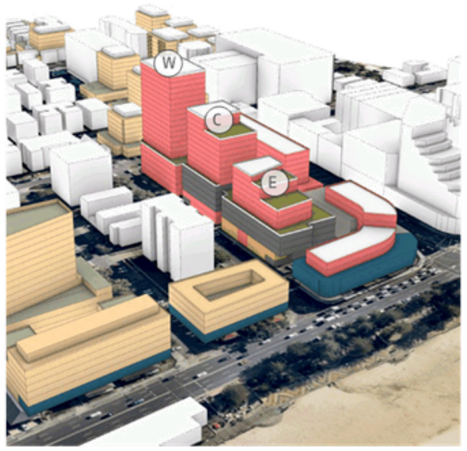
PARKING REQUIREMENTS

	Residential	*Community*		
1	per studio	1 per	40	sqm GFA
1	per 1-Bed			
1	per 2-Bed	*Public*		
2	per 3-Bed	Replacement	219	spaces
0.2	visitor per unit	Additional	221	spaces
1.35	*average per unit*			

				FLOOR AREA					PARKING				
				USE	GEA	GBA		GFA	Apts	GEA	GBA		Parking
	RL	#2F	Level		sqm	Eff.	sqm	Eff. sqm	d.u.s	sqm	Eff.	sqm	Eff. spaces
Building E / East			Basement 1	Parking						2,075	100%	2,075	35 99
(Council Car Park)			Basement 2	Parking						2,075	100%	2,075	35 99
	6	3.6	Ground	Community	680	95%	570	90% 513					
				Residential	80	100%	80	65% 52	0				
				Parking						1,040	100%	1,040	35 30
	9.6	3.6	Level 1	Void/Parking						1,430	100%	1,430	35 41
	13.2	3.6	Level 2	Parking						1,960	100%	1,960	35 56
	16.8	3.6	Level 3	Parking						1,960	100%	1,960	35 56
	20.4	3.6	Level 4	Parking						1,960	100%	1,960	35 56
	24	3.1	Level 5	Residential	860	95%	817	75% 613	7				
	27.1	3.1	Level 6	Residential	860	95%	817	75% 613	7				
	30.2	3.1	Level 7	Residential	860	95%	817	75% 613	7				
	33.3	3.1	Level 8	Residential	860	95%	817	75% 613	7				
	36.4	3.1	Level 9	Residential	860	95%	817	75% 613	7				
	39.5	3.1	Level 10	Residential	860	95%	817	75% 613	7				
	42.6	3.1	Level 11	Residential	860	95%	817	75% 613	7				
	45.7	3.1	Level 12	Residential	860	95%	817	75% 613	7				
	48.8	3.1	Level 13	Residential	860	95%	817	75% 613	7				
	51.9	3.1	Level 14	Residential	860	95%	817	75% 613	7				
	55	3.1	Level 15	Residential	860	95%	817	75% 613	7				
	58.1	3.1	Level 16	Residential	860	95%	817	75% 613	7				
	61.2	3.1	Level 17	Residential	860	95%	817	75% 613	7				
	64.3	3.1	Level 18	Residential	860	95%	817	75% 613	7				
	67.4	3.1	Level 19	Residential	860	95%	817	75% 613	7				
	70.5	3.1	Level 20	Residential	860	95%	817	75% 613	7				
	73.6	1.5	Roof	Overrun	860	95%	817	75% 613	7				
	75.1	<	HOB (AHD)										
Subtotal							14,639	10,982	117			12,800	367
Building C / Central			Basement 1	Parking						1,290	100%	1,290	35 37
(UBP Proponent)			Basement 2	Parking						1,290	100%	1,290	35 37
	6	3.6	Ground	Residential	935	100%	935	65% 218	2				
				Parking						910	100%	910	35 0
	9.6	3.6	Level 1	Residential	435	100%	435	75% 326	4				
				Void/Parking						910	100%	910	0 0
	13.2	3.6	Level 2	Parking						1,245	100%	1,245	35 36
	16.8	3.6	Level 3	Parking						1,245	100%	1,245	35 36
	20.4	3.6	Level 4	Parking						1,245	100%	1,245	35 36
	24	3.1	Level 5	Parking						1,245	100%	1,245	35 36
	27.1	3.1	Level 6	Residential	740	95%	703	75% 527	6				
	30.2	3.1	Level 7	Residential	740	95%	703	75% 527	6				
	33.3	3.1	Level 8	Residential	740	95%	703	75% 527	6				
	36.4	3.1	Level 9	Residential	740	95%	703	75% 527	6				
	39.5	3.1	Level 10	Residential	740	95%	703	75% 527	6				
	42.6	3.1	Level 11	Residential	740	95%	703	75% 527	6				
	45.7	3.1	Level 12	Residential	740	95%	703	75% 527	6				
	48.8	3.1	Level 13	Residential	740	95%	703	75% 527	6				
	51.9	3.1	Level 14	Residential	740	95%	703	75% 527	6				
	55	3.1	Level 15	Residential	740	95%	703	75% 527	6				
	58.1	3.1	Level 16	Residential	740	95%	703	75% 527	6				
	61.2	3.1	Level 17	Residential	740	95%	703	75% 527	6				
	64.3	3.1	Level 18	Residential	740	95%	703	75% 527	6				
	67.4	3.1	Level 19	Residential	740	95%	703	75% 527	6				
	70.5	3.1	Level 20	Residential	740	95%	703	75% 527	6				
	73.6	1.5	Roof	Overrun									
	75.1	<	HOB (AHD)										
Subtotal							11,315	8,463	96			9,380	216
Building W / West			Basement 1	Parking						1,650	100%	1,650	35 47
			Basement 2	Parking						1,650	100%	1,650	35 47
	6	4.5	Ground	Residential	840	95%	798	65% 519	6				
				Parking						810	100%	810	35 23
	10.5	3.6	Level 1	Residential	1,140	95%	1,083	75% 812	9				
	14.1	3.1	Level 2	Residential	1,140	95%	1,083	75% 812	9				
	17.2	3.1	Level 3	Residential	1,140	95%	1,083	75% 812	9				
	20.3	3.1	Level 4	Residential	1,140	95%	1,083	75% 812	9				
	23.4	3.1	Level 5	Residential	700	95%	713	75% 534	6				
	26.5	3.1	Level 6	Residential	700	95%	713	75% 534	6				
	29.6	3.1	Level 7	Residential	700	95%	713	75% 534	6				
	32.7	3.1	Level 8	Residential	700	95%	713	75% 534	6				
	35.8	3.1	Level 9	Residential	700	95%	713	75% 534	6				
	38.9	3.1	Level 10	Residential	700	95%	713	75% 534	6				
	42	3.1	Level 11	Residential	700	95%	713	75% 534	6				
	45.1	3.1	Level 12	Residential	700	95%	713	75% 534	6				
	48.2	3.1	Level 13	Residential	700	95%	713	75% 534	6				
	51.3	3.1	Level 14	Residential	700	95%	713	75% 534	6				
	54.4	3.1	Level 15	Residential	700	95%	713	75% 534	6				
	57.5	3.1	Level 16	Residential	700	95%	713	75% 534	6				
	60.6	3.1	Level 17	Residential	700	95%	713	75% 534	6				
	63.7	3.1	Level 18	Residential	700	95%	713	75% 534	6				
	66.8	3.1	Level 19	Residential	700	95%	713	75% 534	6				
	69.9	3.1	Level 20	Residential	700	95%	713	75% 534	6				
	73	1.5	Roof	Overrun									
	74.5	<	HOB (AHD)										
Subtotal							16,630	12,318	139			4,110	117

Note: prepared for high-level massing analysis and parking capacity only, all projections are approximates.

5.2 OPTION TWO



AREA SUMMARY	Building E / East	Building C / Centre	Build W / West	Total
Community GFA	*513*	*0*	*0*	*513*
Residential GFA	*3,420*	*5,320*	*11,780*	*20,520*
Total GFA	**3,933**	**5,320**	**11,780**	**21,033**
Site Area	*2,160*	*1,525*	*1,900*	*5,585*
Resulting FSR	**1.82**	**3.49**	**6.20**	**3.77**
Dwelling Units	**32**	**60**	**133**	**225**
Total Parking (Estimate)	**357**	**216**	**117**	**691**
Community Parking Required	*13*	*0*	*0*	*13*
Residential Parking Required	*43*	*81*	*179*	*303*
Subtotal, New Parking Demand	*56*	*81*	*179*	*316*
Parking Surplus/Deficit	*301*	*135*	*-62*	*374*
Public Parking				**436**

ASSUMPTIONS	GBA (< GEA)	GFA (<GBA)	NSA/NLA (<GFA)
EFFICIENCIES			
Residential, Ground Floor	95%	65%	75%
Residential, Typical	95%	75%	85%
Community	95%	90%	90%
Parking	100%	0%	N/A
parking efficiency per space	35	sqm	

UNIT MIX	NSA	GFA	Mix
Studio	42	49	0%
1-Bed	52	61	15%
2-Bed 2-Bth	77	91	70%
3-Bed 3-Bth	97	108	15%
Average	76	89	100%

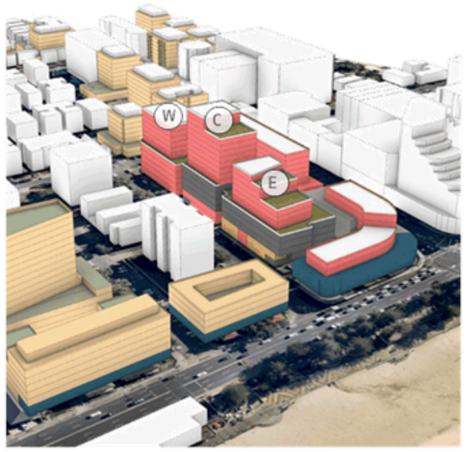
PARKING REQUIREMENTS

	Residential	*Community*		
1	per studio	1 per	40	sqm GFA
1	per 1-Bed			
1	per 2-Bed	*Public*		
2	per 3-Bed	Replacement	219	spaces
0.2	visitor per unit	Additional	221	spaces
1.35	*average per unit*			

				FLOOR AREA						PARKING				
				USE	GEA	GBA		GFA		Apts	GEA	GBA		Parking
	RL	#2F	Level		sqm	Eff.	sqm	Eff.	sqm	d.u.s	sqm	Eff.	sqm	Eff.	spaces
Building E / East			Basement 1	Parking							2,075	100%	2,075	35	59
(Council Car Park)			Basement 2	Parking							2,075	100%	2,075	35	59
	6	3.6	Ground	Community	600	95%	570	90%	513						
				Residential	80	100%	80	65%	52	0					
				Parking							1,040	100%	1,040	35	30
	9.6	3.6	Level 1	Void/Parking							1,430	100%	1,430	35	41
	13.2	3.6	Level 2	Parking							1,960	100%	1,960	35	56
	16.8	3.6	Level 3	Parking							1,960	100%	1,960	35	56
	20.4	3.6	Level 4	Parking							1,960	100%	1,960	35	56
	24	3.1	Level 5	Residential	880	95%	817	75%	613	7					
	27.1	3.1	Level 6	Residential	880	95%	817	75%	613	7					
	30.2	3.1	Level 7	Residential	880	95%	817	75%	613	7					
	33.3	3.1	Level 8	Residential	680	95%	523	75%	392	4					
	36.4	3.1	Level 9	Residential	680	95%	523	75%	392	4					
	39.5	3.1	Level 10	Residential	320	95%	304	75%	228	3					
	42.6	1.5	Roof	Overrun											
	44.1	<	HOB (AHD)												
Subtotal							4,460		3,414	32			12,606		367
Building C / Central			Basement 1	Parking							1,290	100%	1,290	35	37
(LEP Proponent)			Basement 2	Parking							1,290	100%	1,290	35	37
	6	3.6	Ground	Residential	935	100%	935	65%	218	2					
				Parking							910	100%	910	35	0
	9.6	3.6	Level 1	Residential	435	100%	435	75%	326	4					
				Void/Parking							910	100%	910	0	0
	13.2	3.6	Level 2	Parking							1,245	100%	1,245	35	36
	16.8	3.6	Level 3	Parking							1,245	100%	1,245	35	36
	20.4	3.6	Level 4	Parking							1,245	100%	1,245	35	36
	24	3.1	Level 5	Parking							1,245	100%	1,245	35	36
	27.1	3.1	Level 6	Residential	740	95%	703	75%	527	6					
	30.2	3.1	Level 7	Residential	740	95%	703	75%	527	6					
	33.3	3.1	Level 8	Residential	740	95%	703	75%	527	6					
	36.4	3.1	Level 9	Residential	740	95%	703	75%	527	6					
	39.5	3.1	Level 10	Residential	740	95%	703	75%	527	6					
	42.6	3.1	Level 11	Residential	740	95%	703	75%	527	6					
	45.7	3.1	Level 12	Residential	740	95%	703	75%	527	6					
	48.8	3.1	Level 13	Residential	740	95%	703	75%	527	6					
	51.9	3.1	Level 14	Residential	990	95%	371	75%	278	3					
	55	3.1	Level 15	Residential	990	95%	371	75%	278	3					
	58.1	1.5	Roof	Overrun											
	59.6	<	HOB (AHD)												
Subtotal							7,195		4,318	60			9,360		216
Building W / West			Basement 1	Parking							1,650	100%	1,650	35	47
			Basement 2	Parking							1,650	100%	1,650	35	47
	9	4.5	Ground	Residential	840	95%	798	65%	519	6					
				Parking							810	100%	810	35	23
	10.5	3.6	Level 1	Residential	1,140	95%	1,083	75%	812	9					
	14.1	3.1	Level 2	Residential	1,140	95%	1,083	75%	812	9					
	17.2	3.1	Level 3	Residential	1,140	95%	1,083	75%	812	9					
	20.3	3.1	Level 4	Residential	1,140	95%	1,083	75%	812	9					
	23.4	3.1	Level 5	Residential	760	95%	713	75%	534	6					
	26.5	3.1	Level 6	Residential	760	95%	713	75%	534	6					
	29.6	3.1	Level 7	Residential	760	95%	713	75%	534	6					
	32.7	3.1	Level 8	Residential	760	95%	713	75%	534	6					
	35.8	3.1	Level 9	Residential	760	95%	713	75%	534	6					
	38.9	3.1	Level 10	Residential	760	95%	713	75%	534	6					
	42	3.1	Level 11	Residential	760	95%	713	75%	534	6					
	45.1	3.1	Level 12	Residential	760	95%	713	75%	534	6					
	48.2	3.1	Level 13	Residential	760	95%	713	75%	534	6					
	51.3	3.1	Level 14	Residential	760	95%	713	75%	534	6					
	54.4	3.1	Level 15	Residential	760	95%	713	75%	534	6					
	57.5	3.1	Level 16	Residential	760	95%	713	75%	534	6					
	60.6	3.1	Level 17	Residential	760	95%	713	75%	534	6					
	63.7	3.1	Level 18	Residential	760	95%	713	75%	534	6					
	66.8	3.1	Level 19	Residential	760	95%	713	75%	534	6					
	69.9	1.5	Roof	Overrun											
	71.4	<	HOB (AHD)												
Subtotal							16,618		11,783	133			4,110		117

Note: prepared for high-level massing analysis and parking capacity only, all projections are approximates.

5.3 OPTION THREE



AREA SUMMARY	Building E / East	Building C / Centre	Build W / West	Total
Community GFA	*513*	*0*	*0*	*513*
Residential GFA	*3,420*	*5,320*	*6,970*	*15,710*
Total GFA	**3,933**	**5,320**	**6,970**	**16,223**
Site Area	*2,160*	*1,525*	*1,900*	*5,585*
Resulting FSR	**1.82**	**3.49**	**3.67**	**2.90**
Dwelling Units	**32**	**60**	**79**	**171**
Total Parking (Estimate)	**357**	**216**	**117**	**691**
Community Parking Required	*13*	*0*	*0*	*13*
Residential Parking Required	*43*	*81*	*106*	*230*
Subtotal, New Parking Demand	*56*	*81*	*106*	*243*
Parking Surplus/Deficit	*301*	*135*	*11*	*447*
Public Parking				**436**

ASSUMPTIONS	GBA (< GEA)	GFA (<GBA)	NSA/NLA (<GFA)
EFFICIENCIES			
Residential, Ground Floor	95%	65%	75%
Residential, Typical	95%	75%	85%
Community	95%	90%	90%
Parking	100%	0%	N/A
parking efficiency per space	35	sqm	

UNIT MIX	NSA	GFA	Mix
Studio	42	49	0%
1-Bed	52	61	15%
2-Bed 2-Bth	77	91	70%
3-Bed 3-Bth	97	108	15%
Average	76	89	100%

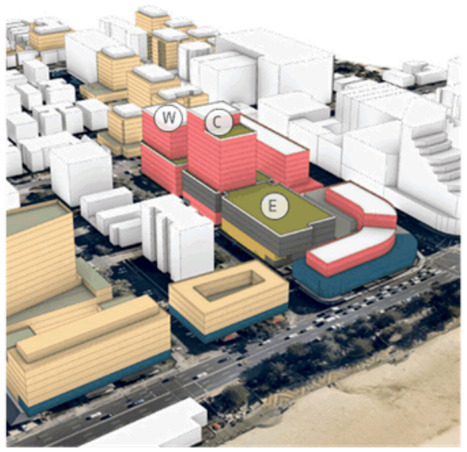
PARKING REQUIREMENTS

	Residential	*Community*		
1	per studio	1 per	40	sqm GFA
1	per 1-Bed			
1	per 2-Bed	*Public*		
2	per 3-Bed	Replacement	219	spaces
0.2	visitor per unit	Additional	221	spaces
1.35	*average per unit*			

				FLOOR AREA						PARKING				
				USE	GEA	GBA		GFA		Apts	GEA	GBA		Parking
	RL	#2F	Level		sqm	Eff.	sqm	Eff.	sqm	d.u.s	sqm	Eff.	sqm	Eff. sqm/park
Building E / East			Basement 1	Parking							2,075	100%	2,075	35 59
(Council Car Park)			Basement 2	Parking							2,075	100%	2,075	35 59
	6	3.6	Ground	Community	600	95%	570	90%	513					
				Residential	80	100%	80	65%	52	0				
				Parking							1,040	100%	1,040	35 30
	9.6	3.6	Level 1	Void/Parking							1,430	100%	1,430	35 41
	13.2	3.6	Level 2	Parking							1,960	100%	1,960	35 56
	16.8	3.6	Level 3	Parking							1,960	100%	1,960	35 56
	20.4	3.6	Level 4	Parking							1,960	100%	1,960	35 56
	24	3.1	Level 5	Residential	860	95%	817	75%	613	7				
	27.1	3.1	Level 6	Residential	860	95%	817	75%	613	7				
	30.2	3.1	Level 7	Residential	860	95%	817	75%	613	7				
	33.3	3.1	Level 8	Residential	660	95%	523	75%	392	4				
	36.4	3.1	Level 9	Residential	660	95%	523	75%	392	4				
	39.5	3.1	Level 10	Residential	320	95%	304	75%	228	3				
	42.6	1.6	Roof	Overrun										
	44.1	<	HOB (AHD)											
Subtotal							4,460		3,414	32			12,680	367
Building C / Central			Basement 1	Parking							1,290	100%	1,290	35 37
(LEP Proponent)			Basement 2	Parking							1,290	100%	1,290	35 37
	6	3.6	Ground	Residential	935	100%	935	65%	218	2				
				Parking							910	100%	910	35 0
	9.6	3.6	Level 1	Residential	435	100%	435	75%	326	4				
				Void/Parking							910	100%	910	0 0
	13.2	3.6	Level 2	Parking							1,245	100%	1,245	35 36
	16.8	3.6	Level 3	Parking							1,245	100%	1,245	35 36
	20.4	3.6	Level 4	Parking							1,245	100%	1,245	35 36
	24	3.1	Level 5	Parking							1,245	100%	1,245	35 36
	27.1	3.1	Level 6	Residential	740	95%	703	75%	527	6				
	30.2	3.1	Level 7	Residential	740	95%	703	75%	527	6				
	33.3	3.1	Level 8	Residential	740	95%	703	75%	527	6				
	36.4	3.1	Level 9	Residential	740	95%	703	75%	527	6				
	39.5	3.1	Level 10	Residential	740	95%	703	75%	527	6				
	42.6	3.1	Level 11	Residential	740	95%	703	75%	527	6				
	45.7	3.1	Level 12	Residential	740	95%	703	75%	527	6				
	48.8	3.1	Level 13	Residential	740	95%	703	75%	527	6				
	51.9	3.1	Level 14	Residential	990	95%	371	75%	278	3				
	55	3.1	Level 15	Residential	990	95%	371	75%	278	3				
	58.1	1.9	Roof	Overrun										
	59.6	<	HOB (AHD)											
Subtotal							7,135		4,318	60			9,380	216
Building W / West			Basement 1	Parking							1,650	100%	1,650	35 47
			Basement 2	Parking							1,650	100%	1,650	35 47
	9	4.5	Ground	Residential	840	95%	798	65%	515	6				
				Parking							810	100%	810	35 23
	10.5	3.6	Level 1	Residential	1,140	95%	1,083	75%	812	9				
	14.1	3.1	Level 2	Residential	1,140	95%	1,083	75%	812	9				
	17.2	3.1	Level 3	Residential	1,140	95%	1,083	75%	812	9				
	20.3	3.1	Level 4	Residential	1,140	95%	1,083	75%	812	9				
	23.4	3.1	Level 5	Residential	760	95%	713	75%	534	6				
	26.5	3.1	Level 6	Residential	760	95%	713	75%	534	6				
	29.6	3.1	Level 7	Residential	760	95%	713	75%	534	6				
	32.7	3.1	Level 8	Residential	760	95%	713	75%	534	6				
	35.8	3.1	Level 9	Residential	760	95%	713	75%	534	6				
	38.9	3.1	Level 10	Residential	760	95%	713	75%	534	6				
	42	1.9	Roof	Overrun										
	43.5	<	HOB (AHD)											
Subtotal							9,405		6,974	79			4,110	117

Note: prepared for high-level massing analysis and parking capacity only, all projections are approximates.

5.4 OPTION FOUR



AREA SUMMARY	Building E / East	Building C / Centre	Build W / West	Total
Community GFA	*581*	*0*	*0*	*581*
Residential GFA	*580*	*5,320*	*6,970*	*12,870*
Total GFA	**1,161**	**5,320**	**6,970**	**13,451**
Site Area	2,160	1,525	1,900	*5,585*
Resulting FSR	**0.54**	**3.49**	**3.67**	**2.41**
Dwelling Units	**0**	**60**	**79**	**138**
Total Parking (Estimate)	**357**	**216**	**117**	**691**
Community Parking Required	*15*	*0*	*0*	*15*
Residential Parking Required	*0*	*81*	*106*	*187*
Subtotal, New Parking Demand	*15*	*81*	*106*	*201*
Parking Surplus/Deficit	*343*	*135*	*11*	*489*
Public Parking				**478**

ASSUMPTIONS	GBA (< GEA)	GFA (<GBA)	NSA/NLA (<GFA)
EFFICIENCIES			
Residential, Ground Floor	95%	65%	75%
Residential, Typical	95%	75%	85%
Community	95%	90%	90%
Parking	100%	0%	N/A
parking efficiency per space	35	sqm	

UNIT MIX	NSA	GFA	Mix
Studio	42	49	0%
1-Bed	52	61	15%
2-Bed 2-Bth	77	91	70%
3-Bed 3-Bth	97	108	15%
Average	76	89	100%

PARKING REQUIREMENTS

Residential		*Community*		
1	per studio	1 per	40	sqm GFA
1	per 1-Bed			
1	per 2-Bed	*Public*		
2	per 3-Bed	Replacement	219	spaces
0.2	visitor per unit	Additional	221	spaces
1.35	*average per unit*			

				FLOOR AREA					PARKING			
				USE	GEA	GBA	GFA	Apts	GEA	GBA	Parking	
	RL	#2F	Level		sqm	Eff. sqm	Eff. sqm	d.u.s	sqm	Eff. sqm	Eff. sqm	spaces
Building E / East			Basement 1	Parking					2,075	100% 2,075	35	59
(Council Car Park)			Basement 2	Parking					2,075	100% 2,075	35	55
	6	3.6	Ground	Community	680	55% 646	90% 581					
				Parking					1,040	100% 1,040	35	30
	9.6	3.6	Level 1	Void/Parking					1,430	100% 1,430	35	41
	13.2	3.6	Level 2	Parking					1,960	100% 1,960	35	56
	16.8	3.6	Level 3	Parking					1,960	100% 1,960	35	56
	20.4	3.6	Level 4	Parking					1,960	100% 1,960	35	56
	24	1.8	Roof	Overrun								
	25.8	<	HOB (AHD)									
Subtotal						646	581	0			12,600	367
Building C / Central			Basement 1	Parking					1,290	100% 1,290	35	37
(USP Proponent)			Basement 2	Parking					1,290	100% 1,290	35	37
	6	3.6	Ground	Residential	335	100% 335	65% 218	2				
				Parking					910	100% 910	35	0
	9.6	3.6	Level 1	Residential	435	100% 435	75% 326	4				
				Void/Parking					910	100% 910	0	0
	13.2	3.6	Level 2	Parking					1,245	100% 1,245	35	36
	16.8	3.6	Level 3	Parking					1,245	100% 1,245	35	36
	20.4	3.6	Level 4	Parking					1,245	100% 1,245	35	36
	24	3.1	Level 5	Parking					1,245	100% 1,245	35	36
	27.1	3.1	Level 6	Residential	740	95% 703	75% 527	6				
	30.2	3.1	Level 7	Residential	740	95% 703	75% 527	6				
	33.3	3.1	Level 8	Residential	740	95% 703	75% 527	6				
	36.4	3.1	Level 9	Residential	740	95% 703	75% 527	6				
	39.5	3.1	Level 10	Residential	740	95% 703	75% 527	6				
	42.6	3.1	Level 11	Residential	740	95% 703	75% 527	6				
	45.7	3.1	Level 12	Residential	740	95% 703	75% 527	6				
	48.8	3.1	Level 13	Residential	740	95% 703	75% 527	6				
	51.9	3.1	Level 14	Residential	390	95% 371	75% 278	3				
	55	3.1	Level 15	Residential	390	95% 371	75% 278	3				
	58.1	1.8	Roof	Overrun								
	59.6	<	HOB (AHD)									
Subtotal						7,106	4,318	60			9,360	216
Building W / West			Basement 1	Parking					1,650	100% 1,650	35	47
			Basement 2	Parking					1,650	100% 1,650	35	47
	6	4.5	Ground	Residential	840	95% 798	65% 519	6				
				Parking					810	100% 810	35	23
	10.5	3.6	Level 1	Residential	1,140	95% 1,083	75% 812	9				
	14.1	3.1	Level 2	Residential	1,140	95% 1,083	75% 812	9				
	17.2	3.1	Level 3	Residential	1,140	95% 1,083	75% 812	9				
	20.3	3.1	Level 4	Residential	1,140	95% 1,083	75% 812	9				
	23.4	3.1	Level 5	Residential	760	95% 713	75% 534	6				
	26.5	3.1	Level 6	Residential	760	95% 713	75% 534	6				
	29.6	3.1	Level 7	Residential	760	95% 713	75% 534	6				
	32.7	3.1	Level 8	Residential	760	95% 713	75% 534	6				
	35.8	3.1	Level 9	Residential	760	95% 713	75% 534	6				
	38.9	3.1	Level 10	Residential	760	95% 713	75% 534	6				
	42	1.8	Roof	Overrun								
	43.8	<	HOB (AHD)									
Subtotal						9,406	6,974	79			4,110	117

Note: prepared for high-level massing analysis and parking capacity only, all projections are approximates.

6.0

APPENDIX 2:
LOT AMALGAMATION TESTING

6.1 OPTION 1: COUNCIL CAR PARK SITE & 9-13 THE BOULEVARDE

AREA ANALYSIS	Building E (East)	Building C (Central)	Total
Building Height (Storeys)	21	21	
Building Height (1.5m overrun, AHD)	75.1	75.1	
FSR	5.3	5.5	5.4
Unit Count	117	95	213
Parking Required by New Uses	171	129	300
Parking Surplus/ Deficit	186	87	
Public Parking Provision			273

DESIGN MATRIX	
Maintains and improves The Boulevarde Walk through-site-link	Y
Improves Crighton Lane	Y
Creates Gateway urban marker at Council Car Park	Y
Protects Cook Park from additional overshadowing before 2:30pm	N
Protects Beach from overshadowing before 3pm	N
Provides sufficient car spaces to service additional uses	Y
Replaces existing public car spaces	Y
Provides additional public car spaces to service unmet demand	N

6.2 OPTION 2 & OPTION 3 (RECOMMENDED): COUNCIL CAR PARK SITE ONLY

AREA ANALYSIS	Building E (East)
Building Height (Storeys)	11
Building Height (1.5m overrun, AHD)	44.1
FSR	1.8
Unit Count	32
Parking Required by New Uses	56
Public Parking Provision	301

DESIGN MATRIX	
Maintains and improves The Boulevarde Walk through-site-link	Y
Improves Crighton Lane	Y
Creates Gateway urban marker at Council Car Park	?
Protects Cook Park from additional overshadowing before 2:30pm	Y
Protects Beach from overshadowing before 3pm	Y
Provides sufficient car spaces to service additional uses	Y
Replaces existing public car spaces	Y
Provides additional public car spaces to service unmet demand	N

6.3 OPTION 2 & OPTION 3 (RECOMMENDED): COUNCIL CAR PARK SITE & 9-13 THE BOULEVARDE

AREA ANALYSIS	Building E (East)	Building C (Central)	Total
Building Height (Storeys)	11	16	
Building Height (1.5m overrun, AHD)	44.1	59.6	
FSR	1.8	3.5	2.5
Unit Count	32	60	92
Parking Required by New Uses	56	81	137
Public Parking Provision	301	135	436

DESIGN MATRIX	
Maintains and improves The Boulevarde Walk through-site-link	Y
Improves Crighton Lane	Y
Creates Gateway urban marker at Council Car Park	Y
Protects Cook Park from additional overshadowing before 2:30pm	Y
Protects Beach from overshadowing before 3pm	Y
Provides sufficient car spaces to service additional uses	Y
Replaces existing public car spaces	Y
Provides additional public car spaces to service unmet demand	Y

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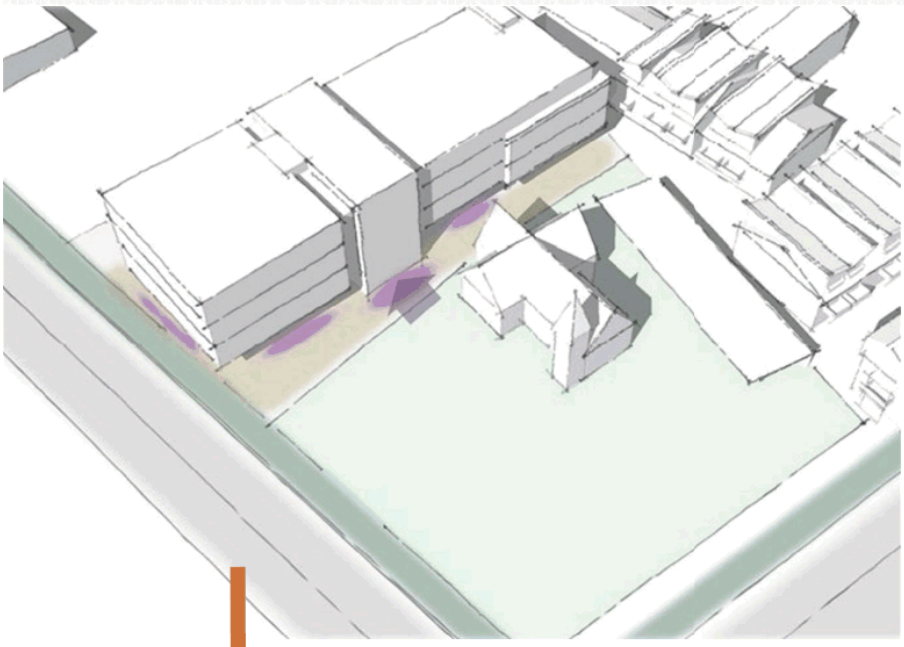
Bayside Council

CITY PLAN SERVICES



Planning Proposal

Site Specific Amendment to BBLEP 2013

1-3 Lord Street
Botany NSW

Submitted to Bayside Council
On Behalf of The Orth Botany Trust, The Fuz Botany Trust & The Hendrix Botany Trust

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January 2020 | 18-161

Report Revision History

Revision	Date Issued	Prepared by	Reviewed by	Verified by
01	13/07/18	**Sonny Embleton** *B Env Des UWA* *Grad Dip Urb Des Curtin University*	**Helen Deegan** *Grad Dip, Urban Estate Management, UTS* *B Town Planning, (Hons1) UNSW*	**Helen Deegan** H. Deegan.
02 Final	19/07/18	**Sonny Embleton** *B Env Des UWA* ***Grad Dip Urb Des Curtin University***	**Helen Deegan** *Grad Dip, Urban Estate Management, UTS* ***B Town Planning, (Hons1) UNSW***	
03 Final Updated	10/10/18	**Sonny Embleton** *B Env Des UWA* ***Grad Dip Urb Des Curtin University***	**Helen Deegan** *Grad Dip, Urban Estate Management, UTS* ***B Town Planning, (Hons1) UNSW***	
04 For exhibition	7/01/20	**Sonny Embleton** *B Env Des UWA* ***Grad Dip Urb Des Curtin University***	**Helen Deegan** *Grad Dip, Urban Estate Management, UTS* ***B Town Planning, (Hons1) UNSW***	

This document is preliminary unless approved by a Director of City Plan Strategy & Development

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CERTIFICATION
This report has been authorised by City Plan Strategy & Development, with input from a number of other expert consultants, on behalf of the Client. The accuracy of the information contained herein is to the best of our knowledge not false or misleading. The comments have been based upon information and facts that were correct at the time of writing this report.

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Appendix	Document	Prepared by
Appendix A	Urban Design Review/ Assessment (updated September 2018)	BuiltConsult Pty Ltd (Architects)
Appendix B	Draft Site Specific DCP	BuiltConsult Pty Ltd (Architects)
Appendix C	Economic Impacts Statement	AECgroup
Appendix C-1	Addendum to Economic Impacts Statement	AECgroup
Appendix D	Traffic and Parking Impacts Assessment	McLaren Traffic Engineering
Appendix D-1	Addendum to Traffic and Parking Impacts Assessment	McLaren Traffic Engineering
Appendix E	Heritage Impacts Statement	Tropman & Tropman Architects
Appendix F	Flood Advice	WMAwater
Appendix G	Site Survey	Crux Surveying Australia Pty Ltd
Appendix H	Table of SEPPs	City Plan
Appendix I	Table of s9.1 Directions	City Plan

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Executive Summary

This report constitutes a Planning Proposal request (PP) prepared by City Plan Strategy & Development (City Plan) on behalf of The Orth Botany Trust, The Fuz Botany Trust & The Hendrix Botany Trust. The PP seeks amendments to the Botany Bay Local Environmental Plan 2013 (BBLEP 2013). This PP is submitted to Bayside Council for assessment and determination under Part 3 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The intent of the PP is to facilitate increased commercial and industrial development capacity close to the Botany Town Centre and in close proximity to the major international trade gateways of Sydney Airport and Port Botany, consistent with current state and regional planning policies.

The proposal applies to land at 1-3 Lord Street, Botany (subject site). The site is legally described as Lot 2 in DP 593463 and Lot 4 in DP 593463. A site survey is provided at Appendix F. Refer Figure 1.

Figure 1 Location context of the subject site (Source: BuiltConsult Pty Ltd)

The intent of this PP is to seek amendments to the BBLEP 2013 to increase the maximum building height and floor space ratio applicable to the subject site. The intent of these amendments is to facilitate a commercial and industrial development that will support an increase in employment related land uses in a manner that is consistent with the BBLEP 2013 objectives for development in the existing B7 Business Park zone. The PP seeks the following specific amendments to the BBLEP 2013:

- An increase in the maximum height of building (HOB) limit from the current 10m under the height designation of 'K' to 16.5m under a new height designation of 'O'.
- An increase in the maximum floor space ratio (FSR) limit from the current 1:1 under the FSR designation of 'N', to 1.75:1 under a new FSR designation of S1.

This PP is supported by an Urban Design Review at Appendix A, which has informed the requested amendments to the BBLEP 2013 as well as providing an urban design strategy that demonstrates that a built form can be accommodated in accordance with the proposed controls that results in an acceptable level of impact on the surrounding locality, particularly in relation to the adjacent to the heritage listed St Matthew's church. A draft site-specific development control plan has been prepared as a means of implementing the intended outcomes of the Urban Design Review. This is provided as Appendix B.

This PP is supported by a Heritage Impacts Statement prepared by Tropman & Tropman Architects. This statement concludes the PP is both reasonable and positive as its design is respectful of the adjacent heritage listed St Matthew's Church with only minor impacts to its heritage significance.

Traffic and parking impacts assessment undertaken by McLaren Traffic Engineers concludes that the PP will not result in any unmanageable traffic impacts and is capable of accommodating the necessary parking for the intended use at the scale proposed.

The PP seeks to retain and make more efficient and effective use of the subject site's existing B7 Business Park land use zoning. This PP has been prepared with the purpose of amending the BBLEP 2013 to increase the maximum permissible building height and FSR. This will enable future employment and industrial land uses on the subject site that is of a scale consistent with the context of the site and its strategic location close to the Botany Town Centre, South Sydney employment lands, and major international trade gateways of Port Botany and Sydney Airport. In this regard, the PP is consistent with current state government strategic planning policy as demonstrated further in this PP.

As Sydney's population intensifies, the state government's strategic framework seeks to focus growth efficiently within existing urban areas and to protect and make better use of Sydney's strategically located employment lands. The subject site is ideally located close to the identified Sydney Airport and Port Botany trade gateways within the Greater Sydney Plan with ready access to the future WestConnex Motorway, which will duplicate the M5 and provide a link between Botany and the M4.

Continued strong economic growth in Sydney has provided significant benefits to Sydney and NSW through the increased volume of trade. Forecasted economic growth will only serve to increase the demand placed on Sydney's trade gateways in Port Botany and Sydney Airport. As a result, AEC's has confirmed there is a pressing need for land located near these trading gateways to support and complement business trade through the provision of warehousing and commercial land uses.

Land that is close to existing employment centres and public transport networks is scarce and valuable. As cities grow there is commensurate pressure on scarce lands to be developed to their fullest potential and for a variety of uses. The benefits of enabling more intensive use of land, which is a finite asset, are certain.

AEC has examined a variety of comparable employment areas and concludes that the Botany Precinct and its surrounds experienced very modest employment growth over the 2006-2016 period, averaging a mere 0.5% average annual growth compared to 1.5% to 3.4% in comparison areas. Employment growth in the Botany Precinct and its surrounds has been weak despite strong market demand and occupier interest.

AEC advises that in order to respond to this situation, opportunities to accommodate greater intensity of employment are needed. AEC's investigations highlight a lack of commercial floorspace opportunities in the Botany Precinct and broader South Sydney Region. Given the Botany Precinct's proximity to key centres and Trade Gateways, it is necessary to ensure commercial opportunities are available to attract new business but also facilitate growth and expansion in a diverse range of business activities.

In the case of the subject site, State government policy has focused equally on intensifying employment opportunities and accommodating changing requirements for businesses and how these businesses use land and floorspace. This PP seeks to meet these objectives by providing commercial opportunities for a range of business activity and importantly, maximising the economic intensity of the subject site. In doing so, the PP demonstrates alignment with the objectives and aspirations of overarching local and state planning policies and strategies.

AEC's Economic Impacts Statement at Appendix C has informed the preparation of this PP and concludes that it will result in a net positive economic impact and presents a compelling case for consideration in this regard.

Following its lodgement in July 2018, the PP was considered by Council's independent planning assessor Mecone. A further meeting with Council and its appointed independent planning assessor Mecone was held on 4 September 2018 to discuss an clarify preliminary issues identified. Formal feedback was provided in correspondence dated 4 September 2018. Matters raised related to urban design, heritage, flooding, traffic and economics. These matters have now been addressed in this updated PP and supporting documentation. In response to additional information requested, updates were made to the Urban Design Review at Appendix A, the Draft DCP at Appendix B. Flood advice has now being provided as Appendix F as well as addenda to the Economics and traffic inputs, provided as Appendix C-1 and Appendix D-1 respectively.

1. [Part 1] Objectives and Intended Outcomes

This PP seeks an amendment to the BBLEP 2013 that will enable higher commercial and industrial densities on land that is located within walking distance of a well-established and revitalising town centre, which is in in close proximity to the significant employment and trading hubs of Sydney Airport and Port Botany.

The PP seeks to amend the BBLEP 2013 to establish the necessary development controls that will facilitate the future development of a multi-storey commercial/ industrial building to deliver on the objectives of the subject site's B7 Business Park zone efficiently and effectively. Ultimately, the intended outcome of this PP is to provide the necessary development controls that will enable the future development of a building that will include:

- ground floor warehouse/commercial floorspace (621sqm);
- commercial floorspace (3,750sqm) on the upper levels; and
- a combination of basement and at-grade parking for 92 cars.

The intent of this PP is to provide more high-quality opportunities for commercial and industrial development in a highly strategic employment-oriented location. The site is located within an existing urban area that has the capacity to accommodate the needs of Sydney's growing population and maximise access to employment in existing urban areas with access to public transport, education, health and shops as well as a wide range of other services and facilities.

The site is currently zoned B7 Business Park, with a Floor Space Ratio (FSR) of 1:1 and a maximum building height of 10m within the BBLEP 2013. The PP seeks the following amendments to the BBLEP 2013:

- An increase in the maximum height of building (HOB) limit from the current 10m under the height designation of 'K' to 16.5m under a new height designation of 'O'.
- An increase in the maximum floor space ratio (FSR) limit from the current 1:1 under the FSR designation of 'N', to 1.75:1 under a new FSR designation of S1.

In doing so the PP would:

- provide an opportunity to develop and intensify existing employment lands to provide additional opportunities for warehousing and commercial uses adjacent to the Sydney Airport and Port Botany international trade gateways;
- result in net positive economic impacts by protecting and enabling a more efficient use of available employment lands to ensure commercial opportunities are available to attract new business but also facilitate growth and expansion in a diverse range of business activities;
- provide additional commercial/ industrial floor space to support the significant freight and logistics industries in the Eastern City District that will benefit from competitive advantages and efficiencies afforded by proximity to trade gateways and the District's four intermodal terminals;
- maximise opportunities to increase floor space available to support industrial and commercial uses, while acknowledging the site's location adjacent to a local heritage item, as well as neighbouring residential development;
- facilitate a building form that is respectful to the adjacent heritage listed St Matthew's Church with only minor impacts to its heritage significance;
- enable a future building on the site to be developed in a manner that minimises additional solar overshadowing on existing residential buildings adjacent to the site consistent with the objectives and principles of the Apartment Design Guide;
- result in acceptable and manageable traffic impacts on the local road network as well as enabling the development of a building that can provide sufficient car parking for the intended use; and
- result in acceptable and manageable flooding impacts in the local catchment.

2. [Part 2] Explanation of Provisions

2.1.1 The Planning Proposal

This PP has been prepared in accordance with the requirements of Section 3.33 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and addresses the guidelines set out in 'A guide to preparing local environmental plans' and the subsequent 'A guide to preparing planning proposals'. These guidelines were prepared by the NSW Department of Planning and Environment (DPE) in 2016.

The PP has been prepared with the purpose of amending the BBLEP 2013 to increase maximum height and floor space ratio (FSR) controls for the subject site. No change to the existing B7 Business Park land use zoning for the site is proposed.

Table 1 summarises the amendments to the BBLEP 2013 requested by this PP.

Table 1 Proposed Amendments to the BBLEP 2013

	Existing	Proposed
LZN - Land use zone	B7 Business Park	No change
HOB - Height of Buildings	10 metres	16.5 metres
FSR – Floor Space Ratio	1:1	1.75:1

The above will require amendments to mapping within the BBLEP 2013.

This PP is supported by the following technical documentation:

- Urban Design Review/ Assessment prepared by BuiltConsult Pty Ltd (Architects) - Appendix A.
- Site Specific Draft DCP prepared by Built Consult - Appendix B.
- Economic Impacts Statement by AECgroup - Appendix C and addendum Appendix C-1.
- Traffic and Parking Impacts Assessment by McLaren Traffic Engineering - Appendix D and addendum Appendix D-1.
- Heritage Impacts Statement prepared by Tropman & Tropman Architects - Appendix E.
- Flooding Impacts Statement by WMAwater - Appendix F
- Site Survey – Appendix G.

The above studies confirm that the PP can be achieved with an acceptable level of impact and will in fact result in significant opportunities to establish more employment opportunities in a well-positioned and highly accessible location.

3. [Part 3] Justification

3.1 Section A – Need for the Planning Proposal

3.1.1 Q1 - Is the planning proposal a result of any strategic study or report?

a) Does the proposal have strategic merit? Is it:

- **Consistent with the relevant regional plan outside of the Greater Sydney Region, the relevant district plan within the Greater Sydney Region, or corridor/precinct plans applying to the site, including any draft regional, district or corridor/precinct plans released for public comment; or**
- **Consistent with a relevant local council strategy that has been endorsed by the Department; or**
- **Responding to a change in circumstances, such as the investment in new infrastructure or changing demographic trends that have not been recognised by existing planning controls.**

The strategic merits of this PP have been demonstrated by a number of supporting technical studies. The Economic Impacts Statement prepared by AEC at Appendix C (supported by AEC's addendum at Appendix C-1) takes into account the site's location in close proximity to Sydney Airport and Port Botany and demonstrates significant strategic and economic benefits that will be brought into effect as a result of this PP. The Urban Design Review at Appendix A has been prepared as a key guide for determining the preferred FSR and height and the various urban design measures intended to ensure an appropriate response to local context and the adjacent heritage item, which is supported by the Heritage Impacts Statement at Appendix E.

The PP has been developed with consideration for state level and local strategic plans. The Botany Bay Planning Strategy 2031 was prepared in 2009 and sought to addresses the (then) Draft East Subregional Strategy dwelling and job targets and provides a framework for growth and development to 2031. The Botany Bay Planning Strategy 2031 also guided the preparation of the Botany Bay LEP 2013 (now implemented).

Since the preparation of Botany Bay Planning Strategy 2031, a new suite of state level strategic metropolitan and district plans has come into effect. These include:

- Greater Sydney Region Plan - A Metropolis of Three Cities 2018; and
- Eastern City District Plan.

These new plans contain strategies and objectives that achieve alignment on many levels with the Botany Bay Planning Strategy 2031 and are addressed in detail in Section 3.2.1.

An economic analysis prepared by AEC and provided as Appendix C, demonstrates the need for employment land and supports the proposed increase in building height and FSR to achieve greater business/ industrial floorspace in this location. A summary of key strategic and economic matters taken into consideration in the preparation of this PP are outlined in commentary derived from AEC's Economic Impacts Statement below. The following confirms the specific strategic circumstances that warrant the need for this PP.

Business and Industrial Activity

A range of factors influence business activity and land uses in the immediate Lord Street Precinct and other areas in Sydney's inner ring. Some of these are central to the local area while many are not. Significant influences on business activity are driven at the global and national level. Understanding the broader context in which the business activity within the Lord Street Precinct operates is essential to understanding future demand and the nature of that demand for employment on the subject site.

Traditional manufacturing in Australia is rapidly changing in a bid to survive on the global market. Manufacturers are redefining their operations and the scope of their activities through the use of technology and knowledge. A structural shift in Australian business is affirmed by

historical declines in employment in traditional industry sectors and the rise of employment in the service sectors.

Diversification of Function and Uses

In order to remain competitive, businesses recognise the need to leverage technology and knowledge and embrace new ways of doing business.

Many high-tech and creative industrial businesses are located in the South Sydney area (specifically Alexandria, Zetland, Rosebery and Waterloo) where they are able to collocate various functions under one roof. This has led to a proliferation of new development types that combine factory and industrial space with commercial suites, high-tech industrial units and warehouse space.

The collocation of warehouse and office functions is an increasing trend observed across employment areas, particularly those close to Sydney's urban centres. This is in line with the clustering of multiple business functions within the same premises. Warehouses with floorspaces circa 300-700sqm have a notable presence in the Botany Precinct, which is notable given that contemporary requirements for occupants do not necessarily require large floorplates, but rather, smaller spaces to accommodate commercial showrooms and wholesalers, niche manufacturing and small-scale production, as well as retailers and sales support services.

This trend is emerging in the Botany Precinct and presents an opportunity for the subject site to facilitate more business activity and employment, also allowing tenants to combine a variety of functions under one roof.

Service Industry/Urban Services

As Sydney continues to grow, population growth will be a major driver of household and business consumption. In response to consumption growth it is likely that trend for growth of imports will continue, leading increasing local demand for warehousing, transport and logistics industries to service imports growth. Continued growth in e-commerce has implications for demand to accommodate time-critical supply chain logistics across metropolitan Sydney.

Many urban support services have time critical requirements for delivery to inner/middle ring locations. Owing to service delivery standards (particularly where there are cold storage requirements), this industry requires accommodation in easily accessible locations in proximity to key markets.

There are numerous service industry businesses within the Botany Precinct that service a local market. Many of these businesses are locally owned and operated as small businesses. AEC advises that there will always be a role for local service industry to play in the Botany area, given the proximity to Sydney CBD, Sydney Airport, Port Botany and its central locality to the rest of metropolitan Sydney.

Intensification of Commercial Floorspace

Over the years, the economic theory of agglomeration has been increasingly examined to understand the benefits that firms enjoy when collocating in areas with a higher density of economic and employment activity. Taking up premise in an area of dense economic activity encourages the flow of knowledge and spill-on effects, is more efficient in resource-matching and enables businesses to take advantage of economies of scale.

The Lord Street Precinct's proximity to key economic assets (Sydney CBD, Sydney Airport, Port Botany and populous catchments) and affordability make it a popular choice for businesses who need commercial floorspace but not a CBD location. The large commercial floorplates provide opportunities for a wide range of businesses to take up accommodation on the subject site. As businesses are increasingly preferring to locate their business functions in one location rather than dispersed in multiple smaller locations, more commercial floorspace opportunities are needed.

Permitting a greater amount of commercial floorspace on the subject site, as proposed by this PP, will enable accommodation of mixed business activity and some industrial-type activity and will respond to occupier need.

b) Does the proposal have site-specific merit, having regard to the following:

- **the natural environment (including known significant environmental values, resources or hazards); and**

There are no known natural hazards affecting the subject site The PP is for land in an existing urban commercial and industrial precinct and therefore the environment significance of the site is minimal. The site is currently built upon with a large-scale warehouse storage facility. While the PP will enable more intensive use of the site for existing permissible uses, it is not expected that the PP would result in any additional impacts on the natural environment.

- **the existing uses, approved uses, and likely future uses of land in the vicinity of the proposal; and**

The PP does not seek to amend the land use zoning for the subject site. It seeks to support increased employment related floor space consistent with the existing B7 Business Park zoning of the site in close proximity to the Sydney Airport and Port Botany international trade gateways. Given that local and state government policies are clear in seeking to retain existing strategic employment lands in existing urban areas such as Botany, the likelihood that the existing use of the surrounding precinct for business purposes will continue in the long term is without question.

In terms of its relationship with the immediate surrounding context, the subject site is part of a cluster of commercial, industrial, and warehousing land uses commensurate with the permissible uses in a B7 Business Park zone. This PP will maintain the site's existing zoning and establish building height and floor space ratio development controls that enable more effective and efficient use of available employment land whilst ensuring a compatible built form outcome in relation to existing and likely future surrounding land uses.

While the subject site is zoned for B7 Business Park uses, it is situated in a transitional location adjacent to R3 Medium Density Residential zoned land, which accommodates the St Mathews Church to the west and residential flat buildings to the south. This PP and supporting Urban Design Review at Appendix A is predicated on the assumption that the adjacent R3 Medium Density Residential will remain and that impacts of a future built form of the subject site will need to be appropriately managed to respond to those ongoing uses.

As this PP seeks an increase in building height and FSR is proposed adjacent to residential zoned land, the Urban Design Review at Appendix A seeks to demonstrate that a built form outcome that would result from applying the proposed development controls to maximum effect can be achieved with an acceptable and manageable level of impact on adjacent uses.

We note that the planning proposal does not seek approval for a specific built form on the site. It is intended that in seeking to amend height and FSR controls, the planning proposal will provide sufficient flexibility to allow for a number of different built form massing configurations to be considered as part of detailed design and development application processes.

A draft site specific DCP has been prepared to appropriately guide the future development of the site and is provided as Appendix B. The draft DCP seeks to establish design principles and criteria to manage impacts between a future built form on the subject site and the adjacent Church and residential buildings.

In relation to the Church, the DCP sets out design principles to ensure that a future built form on the site is sympathetic with the church as well as providing an appropriate backdrop and reinforcing its visual prominence.

In relation to the adjacent residential buildings, the draft DCP aims to facilitate appropriate levels of solar access for the adjacent residential buildings in accordance with Objective 3B-2 of the Apartment Design Guide. The solar analysis diagrams provided in the Urban Design Review demonstrate that a built form solution can be achieved that result in a similar levels

of solar overshadowing as that currently results from the existing warehouse building located on the subject site. This is achievable by applying the proposed development controls and with consideration of southern setbacks.

As provided for above, the site specific merits of the proposal are adequately demonstrated in the Urban Design Review at Appendix A, supported by a draft DCP which will ensure that the outcomes are implemented with an appropriate level of certainty and design quality.

- **the services and infrastructure that are or will be available to meet the demands arising from the proposal and any proposed financial arrangements for infrastructure provision.**

The PP is for land in an existing metropolitan urban area, which is already serviced by the existing road network and serving infrastructure. The Traffic Impacts Statement at Appendix D and the addendum to the Traffic Study at Appendix D-1 demonstrates that the PP will not result in any unmanageable traffic impacts that would necessitate infrastructure upgrades.

The subject site presently has good access to the existing M1 and M5 motorways. The future development of the subject site will also benefit from planned WestConnex upgrades being in close proximity to the following major projects:

- New M5 from Beverley Hills to St Peters (planned to be open to traffic early 2020); and
- M4-M5 Link from Haberfield to St Peters (planned to be open to traffic in 2023).

The above projects will significantly increase the capacity of the metropolitan road network, which will further support the accessibility and operation of business/ industrial uses in the locality.

Specific infrastructure and servicing are more appropriately addressed as a part of a future development application process, when the servicing needs of a particular development outcome and any necessary infrastructure contribution requirements under s7.11 of the EP&A Act will be assessed and considered. Refer also to Section 3.4.1.

3.1.2 Q2 - Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

In this circumstance, where there is a suitable large-scale site under single ownership, that is located adjacent to two international trade gateways of Sydney Airport and Port Botany with limited available land to support business and industrial land uses, facilitating a more efficient and intensive use of the land represents an appropriate and logical approach to land use planning in a well-located business and employment area.

Given the overarching local and state government strategy is to retain business and industrial land in existing urban areas, making better use of the site's existing zoning is the best means of ensuring ongoing availability of employment opportunities.

Noise related constraints associated with development adjacent to a major airport render the subject site less suitable for sensitive residential uses. Intensifying the use of site under its existing zoning will ensure that the most appropriate land uses with the least sensitivity to noise to maintain ongoing operations in an existing business and industrial agglomeration.

Amending the building height and floor space ratio controls under the BBLEP 2013 is the only possible means to achieve the intended outcome of this PP.

It is therefore considered that amending the BBLEP 2013 to increase maximum allowable building height and FSR as proposed is the most appropriate, efficient and effective means of achieving the intended outcomes of the PP.

3.2 Section B – Relationship to Strategic Planning Framework

3.2.1 Q3 - Is the planning proposal consistent with the objectives and actions contained within the applicable regional or sub-regional strategy (including exhibited draft strategies)?

Greater Sydney Region Plan - A Metropolis of Three Cities 2018

The Greater Sydney Region Plan - A Metropolis of Three Cities has been prepared by the GSC and was adopted in March 2018. It is 20-year plan to manage growth and change and is built on a 40-year vision where the people of Greater Sydney live within 30 minutes of their jobs, education and health facilities, services and great places. This vision is consistent with the 10 Directions established in the Directions for a Greater Sydney that are a set of common guiding principles that will assist in navigating Greater Sydney's future as follows:

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

Within the Greater Sydney Region Plan these Directions are presented via the three cities concept, with the cities being the Western Parkland City, Central River City and Eastern Harbour City. District Plans have also been developed to support the three cities concept at a more localised level.

The subject site is located in the Eastern Harbour City and is located in close proximity to Botany Town Centre, Port Botany and Sydney Airport, with the two latter being identified as major international trade gateways under the plan, as shown in Figure 2 below. The plan notes the importance of supporting trade and transport whilst enhancing connectivity and employment growth.

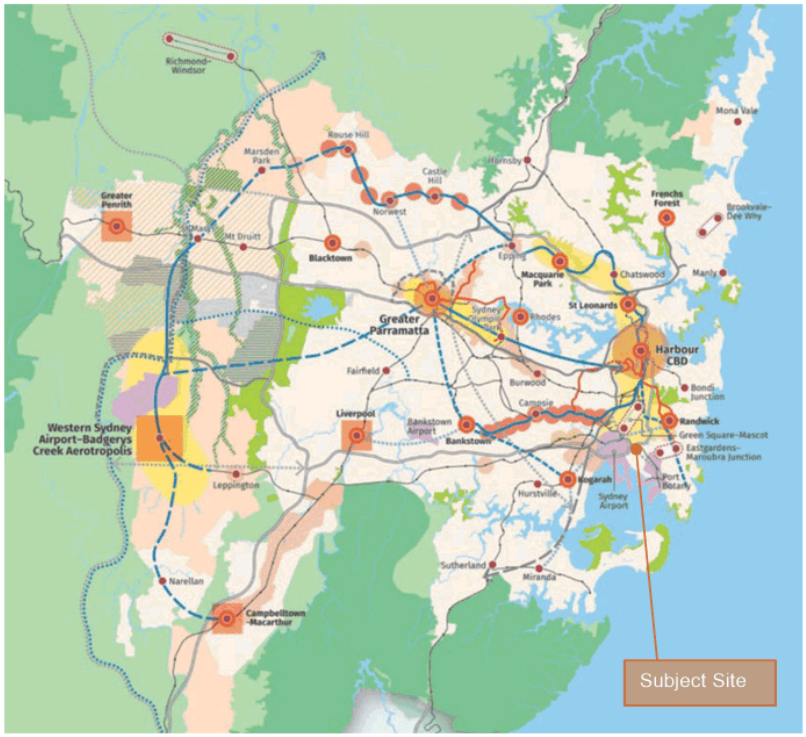

Figure 2 Metropolis of 3 Cities Vision to 2056 (Source: Greater Sydney Region Plan 2018)

The PP is consistent with the following objectives of the Plan:

Objective 4 Infrastructure use is optimised in that it provides for the intensification and efficient use of land by collocating employment and services in close proximity to Sydney's trade gateways. This will assist in achieving better utilisation of existing assets and infrastructure and minimise the need for additional infrastructure.

Objective 13 Environmental heritage is identified, conserved and enhanced in that the proposed development controls for the subject site have been developed to respond sympathetically to the form and scale of the adjacent heritage item as provided for in the Urban Design Review at Appendix A, draft DCP at Appendix B and Heritage Impacts Statement at Appendix E.

Objective 14 A Metropolis of Three Cities – integrated land use and transport creates walkable and 30-minute cities in that it will intensify employment and business uses in a well-connected location in close proximity to existing residential areas, and soon to be enhanced arterial road network. This will assist in reducing the time people spend travelling, increasing people's access to jobs and business access to workers. As the subject site is in proximity to major trade gateways, it will also assist in supporting an internationally competitive freight and logistics sector.

Objective 15: The Eastern, GPOP and Western Economic Corridors in that it will strengthen economic activity in an economic corridor. Greater Sydney's Eastern Economic Corridor is a vital part of the economic ecosystem, with high concentrations of jobs and good road and transport links. The Greater Sydney Region Plan seeks to strengthen economic opportunities in existing and developing Economic Corridors, to optimise agglomeration

benefits and boost productivity with ongoing investment and new opportunities for businesses in the Eastern Harbour City. Major assets in the Eastern Economic Corridor include the emerging Green Square, Sydney Airport and Port Botany Trade Gateways. Trade Gateways are major ports and airports of national or State significance, which are supported by on-site industrial lands and in nearby areas. The subject site is situated close to Sydney Airport and Port Botany trade gateways. The PP will thereby make a significant contribution to accommodate businesses extending from the trade gateways within the freight and logistics network.

Objective 16 Freight and logistics network is competitive and efficient in that it will preserve and enhance employment land in the immediate environs of Port Botany and Sydney Airport creating opportunities to provide support services critical to operations. This objective seeks to retain industrial lands for port, intermodal and logistics uses. The growth of Port Botany and Sydney Airport requires the efficient use of nearby employment and light industrial lands to support freight and logistics from Sydney's trade gateways. The PP will increase the provision of available business and employment floor space in support of this objective.

Objective 22 Investment and business activity in centres in that it proposes a more efficient and intensive use of a presently underutilised site in proximity to the existing local Botany Town Centre and Sydney's trading centres and trade gateways, which are well connected with existing and improving arterial road infrastructure. The PP will assist in supporting local business by providing increased employment opportunities and therefore employment population in proximity to the revitalising Botany town centre.

Objective 23 Industrial and urban services land is planned, retained and managed in that B7 zoned land is managed in a manner which optimises for future development in close proximity to existing infrastructure and Sydney's trade gateways, which supports freight and logistical services. Industrial and urban services land refers to employment lands identified in the Employment Lands Development Monitor (DPE) and includes industrial zoned land and some business zoned land which permits a number of industrial uses. This land can include a range of activities from major freight and logistics and heavy manufacturing to light industry, urban services, integrated enterprises with a mix of administration, production, warehousing, research and development and new economy or creative uses. Employment lands in Botany are depicted in Figure 3.

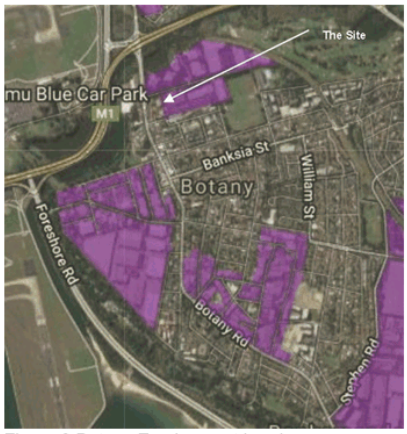

Figure 3 Botany Employment Lands

Objective 32 The Green Grid links parks, open spaces, bushland and walking and cycling paths in that it will provide for increased employment opportunities on an identified Priority Green Grid Corridor where an existing track/ trail is available.

Objective 33 A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change in that the PP proposes improved building efficiency on a presently underutilised site in an existing urban area.

The Greater Sydney Region Plan states that management of industrial and urban services lands should evolve in response to changing business practices and needs and manage uses to allow sites to transition to higher-order employment activities to maximise business productivity, efficiency and competitiveness.

Factors considered in review of changing business practices and needs take into account the evolution in industries which impact the changing demand for land, the changing nature of industries, and current levels of industrial and urban services land supply. By enabling greater areas of floorspace to be achieved on an underutilised site, the PP will deliver on this Objective.

As demonstrated above, the PP will directly deliver on numerous Objectives outlined within the Greater Sydney Region Plan and is therefore consistent with its aims and directions.

Eastern City District Plan (March 2018)

As a part of Bayside Council, Botany is identified in the GSC's Eastern City District Plan which outlines a 20-year vision, priorities and actions for the Eastern District for LGAs, including Bayside.

The subject site is located in close proximity to Botany Town Centre, Port Botany and Sydney (Kingsford Smith) Airport and therefore has the ability to facilitate increased commercial density, given its location close to public transport infrastructure. In addition, broader scale objectives of this plan to maintain Sydney Airport and Port Botany as major trading gateways further emphasises the strategic impetus for increasing commercial density in this location.

Under the Eastern City District Plan, the subject site is identified as being in close proximity to the two major international trade gateways being Sydney Airport and Port Botany. Refer to Figure 4.

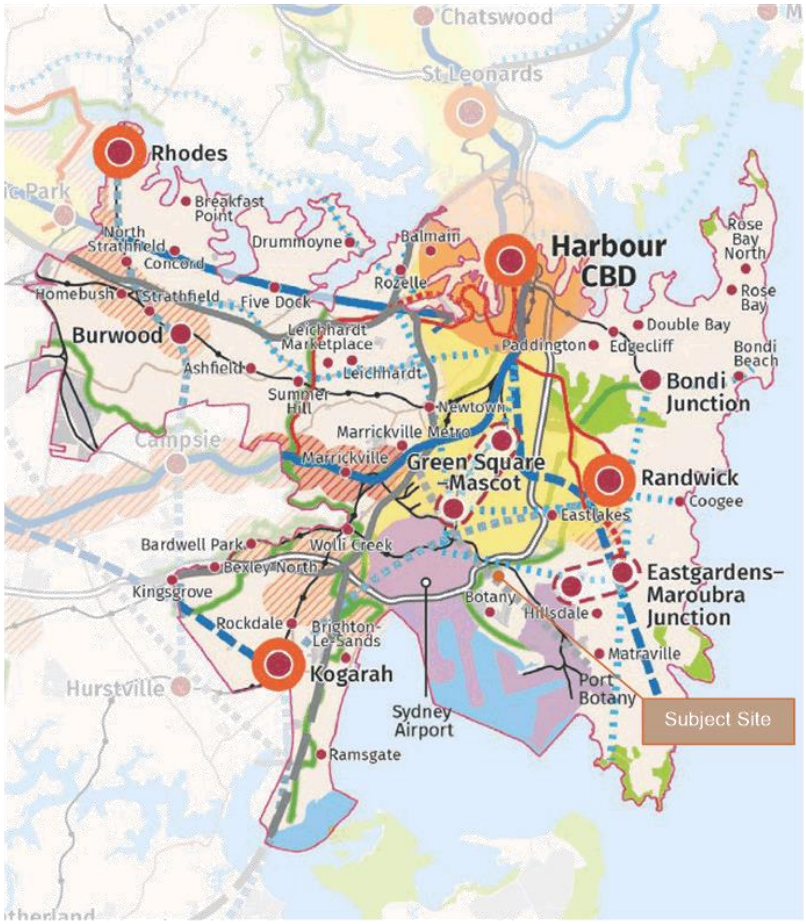

Figure 4 Eastern City District Plan (source GSC)

To respond to population growth and future planning challenges, the Eastern City District Plan focuses on a number of Planning Priorities. The PP is consistent with the Eastern City District Plan with respect to the following planning priority areas:

Planning Priority E5: Providing housing supply, choice and affordability, with access to jobs and services

This priority seeks to facilitate a higher quality of life, reduce commute time through collocation of housing, employment, services and public transport. Under this priority, the Plan recognises housing supply must be coordinated with local infrastructure to create liveable, walkable and cycle-friendly neighbourhoods with shops, services and public transport.

While this PP does not propose to create new housing opportunities near an employment zone, it seeks to intensify employment uses in close proximity to existing residential areas. The PP seeks to facilitate increased employment floorspace in close proximity to existing and emerging high density residential areas of Botany, Mascot, Green Square, Waterloo and

Zetland. The PP will protect and enhance opportunities for people to live in proximity to employment, community, civic, cultural residential and open space opportunities.

The PP is aligned with the Eastern City District Plan and will contribute to delivering its envisaged outcomes, by retaining the existing land use zoning and amending the BBLEP 2013 height and FSR controls to accommodate higher density employment land, which will assist Bayside Council in protecting and improving available employment lands. This will enhance the relationship between those land uses and nearby existing and future housing.

Planning Priority E6: Creating and renewing great places and local centres, and respecting the District's heritage

The Eastern City District Plan recognises heritage as an important component of local identity and great places. It also notes that local heritage items and heritage streetscapes form part of the character of a particular locality. The Plan states:

> *"Sympathetic built form controls and adaptive re-use of heritage are an important way to manage the conservation of heritage significance. Respectfully combining history and heritage with modern design achieves an urban environment that demonstrates shared values and contributes to a sense of place and identity. This is particularly important for transitional areas and places experiencing significant urban renewal, where it is necessary to take account of the cumulative impacts of development on heritage values. Improved public access and connection to heritage through innovative interpretation is also required."*

The PP is consistent with this planning priority in that it seeks to a sympathetic response to heritage by improving the relationship between development on the subject site and the adjacent heritage listed St Matthew's church. As provided for in the Heritage Impact Statement at Appendix E, the proposed built form concept underpinning this PP takes advantage of the existing opportunities on site without compromising any existing views and vistas to and from the existing church building. The Urban Design Review at Appendix A demonstrates that the PP would enable an improved backdrop to the church building and a higher level of interaction and activation between the subject site and the church grounds to be achieved.

The proposed setback between the site and the church will establish a new laneway, which will provide access and thoroughfare through the site and church grounds, which is intended to provide an active interface with the adjacent church grounds. In addition, the building height proposed by this PP has been carefully and methodically considered to ensure its compatibility with the height of the church building's spire.

This interface between the church and a future development on the subject site will be guided through the principles and design criteria set out in the draft DCP in Appendix B.

Planning Priority E9: Growing international trade gateways

This priority recognises the role of Sydney Airport and Port Botany as Sydney's main trading gateways to Australia as well as internationally. These international trade 'trade gateways' generate significant opportunities for employment and industry as places that distribute business resources and freight across Sydney, NSW and interstate. More significantly, there are plans for these trade gateways to undergo rapid expansion. The Eastern City Plan forecasts container traffic at Port Botany projected to grow from 2.4 million to 8.4 million containers by 2050 and passenger trips at Sydney Airport forecast to grow from 39 million to 74 million passengers by 2033.

The Eastern City District Plan acknowledges that a significant freight and logistics industry will remain in the Eastern City District due to the competitive advantages and efficiencies afforded by proximity to these gateways and the District's four intermodal terminals.

To ensure the ongoing growth of these international trade gateways, the Eastern City District Plan seeks to retain and strengthen the role of existing employment land in the district. This PP is consistent with this aim in that it seeks to retain and intensify the existing B7 Business Park zoning that allows for business and industrial uses.

Planning Priority E12 Retaining and managing industrial and urban services land

Industrial and urban services land in the Eastern City District provides cost competitive and well-located land for industries and services that support businesses in the Harbour CBD, other centres and Greater Sydney's two existing international trade gateways of Port Botany and Sydney Airport.

Urban services include activities such as motor vehicle services, printing, waste management, courier services and concrete batching plants. These activities serve local communities and businesses across the Eastern City District.

Figure 5 shows the subject site in relation to Eastern City District's employment lands.

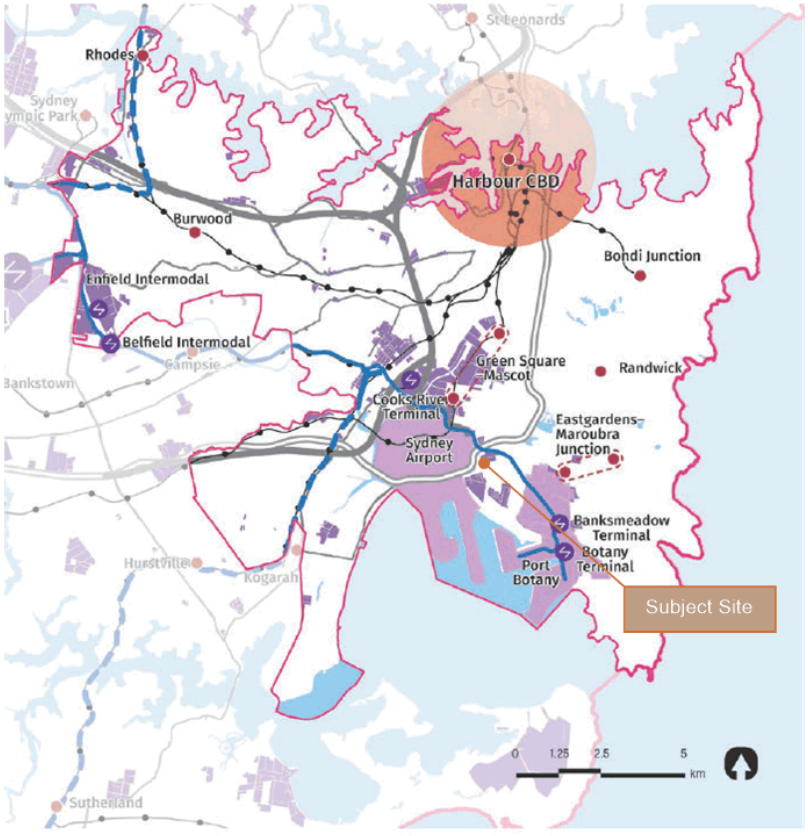

Figure 5 Eastern City District Employment Lands

Demand for urban services land will increase commensurate with population growth. Good local access to these services reduces the need to travel to other areas, minimising congestion on the transport system. Industrial and urban services land in the Eastern City District is highly constrained due to the development of residential dwellings and large-scale retail, which are higher-return land uses, and the lack of opportunities for new supply. There is strong competition for space from non-urban services industries that seek proximity to Sydney Airport, Port Botany, Sydney CBD and health and education precincts. While these businesses must be supported in a service-oriented modern economy, capacity for industrial and essential urban services must be retained.

Future employment growth across all industries and urban services will require additional floor space, additional land or both. Urban services are often less able to increase their floor space efficiency or locate in multi-storey buildings. Therefore, the retention, growth and enhancement of industrial and urban services lands in the Eastern City, as proposed by this PP, reflects both the city's needs and the subject site's local context.

The Eastern City District Plan states that Councils and relevant planning authorities have the responsibility to facilitate the contemporary adaptation of industrial and warehouse buildings through increased floor to ceiling heights.

The PP is consistent with this priority in that it will result in a more efficient, higher density use of existing industries and urban services land adjacent to the major international trade gateways of Port Botany and Sydney Airport.

3.2.2 Q4 - Is the planning proposal consistent with the local council's Community Strategic Plan or other local strategic plan?

Botany Bay Planning Strategy 2031

The Botany Bay Planning Strategy 2031 (Planning Strategy) for Botany Bay Council (now Bayside Council) was adopted in 2009 and identifies the long-term vision for the LGA to 2031. The Planning Strategy informed the preparation of the BBLEP 2013 and sets out the LGA's future through seven key strategic directions with their own goals as follows:

1. Enhancing Housing Choice and Liveability.
2. Revitalising Botany Road and Traditional Centres.
3. Managing Growth in the Eastern Centres.
4. Reviving the Local Economy.
5. Maintaining Sydney Airport as a Global Gateway.
6. Maintaining Port Botany as a Global Gateway.
7. Protecting the Natural Environment.

Specifically, the PP will make a direct contribution to the delivery of the following strategic directions and objectives:

2 - Revitalising Botany Road and Traditional Centres:

This strategic direction seeks to:

- Reinforce the role of Botany Road as a major high amenity and activity spine through the LGA.
- Support and reinforce the centres along the Botany Road spine.
- Advocate for a light rail connection along Botany Road.

Identified objectives and actions to deliver the above outcomes include:

Objective 2.2 Support and reinforce the centres along the Botany Road spine.

With regard to the above objective, the strategy notes that Botany is deemed unsuitable for residential intensification (ANEF constrained) and will be more suited to employment intensification with a greater commercial and regional retail role. It notes that the concept of

this centre needs to be extended to include the Lord Street business park commercial activities to the north, and part of the Hale Street industrial area to the west, which can become a larger format retail cluster.

The strategy encourages links between the Lord Street business park activities and Botany centre, so that the centre provides the ancillary retail and service activities for the tenants of the business park. Accordingly, the strategy discourages significant ancillary retail in the business park area in favour of an interrelationship between town centre and business park uses.

The PP will result in increased density on existing employment lands in close proximity to the Botany Town Centre. In doing so it will assist in increasing the local population during business hours to support local businesses along the Botany Road spine and within the town centre. As the subject site's existing B7 Business Park zoning will be retained, the PP will only result in an intensification of uses already permissible in that zone.

4 - Reviving the Local Economy

This strategic direction seeks to response to the decrease in local employment by:

- Focusing local light and service industry activities in existing industrial areas where these are currently the predominant uses (Botany South, Hale Street north, Baker Street and Hillsdale).
- Providing for additional retail and service activities in existing centres and a new retail area adjacent to Botany Centre.
- Promoting the Botany Road and Gardeners Road corridors as locations for new enterprise and commercial activities (in centres and in business areas south of Rosebery, north of Botany centre, in Botany South and west of Banksmeadow).

Identified objectives and actions to deliver the above outcomes include:

Objective 4.1 Focus local light and service industry activities in existing industrial areas where these are currently the predominant uses (Botany South, Hale Street (north), Baker Street and Hillsdale).

The strategy recognises the need for employment lands in the Botany Bay LGA to accommodate the wider East Sub region's future land demand for both Local Light Industry and Urban Support and Urban Services activities. The strategy notes the capacity for intensification and economies of scale in these land use activities.

The PP is for land in the Botany locality and will assist in achieving this strategic direction by allowing for increased height and FSR to facilitate higher density commercial and residential mixed-use development, to enable more effective and efficient use of limited available commercial/ industrial land.

5. Maintaining Sydney Airport as a Global Gateway

This strategic direction seeks to:

- Protect existing employment areas near the Airport for related activity.
- Support the development of new off-site employment locations near the Airport to accommodate the growth in demand for Airport related activity.
- Develop the Mascot Station precinct as a major retail and commercial centre.
- Develop O'Riordan Street precinct as a major City / Airport gateway.
- Ensure future expansion of Airport activities does not further compromise residential amenity.

Identified objectives and actions to deliver the above outcomes include:

Objective 5.1 Protect existing employment areas near the Airport for related activity.

Objective 5.2 Support the development of new offsite employment locations near the Airport to accommodate the growth in demand for Airport-related activity.

Sites within one kilometre of Sydney Airport are preferred for accommodating Airport-related land demand.

It is noted that the above objectives are also aligned with the key directions of the Eastern City District Plan, which advocates for protection and more effective use of employment lands adjacent to the Sydney Airport 'International Trade Gateway'.

The PP is for land within 1 kilometre of Sydney Airport. The PP will make a direct contribution to achieving the above objectives by retaining the site's existing B7 Business Park land use zoning and enabling the intensification of already permissible uses on the subject site. The PP will allow for increased height and FSR to facilitate higher density commercial and industrial development, in an appropriate location adjacent to the Sydney Airport Global Gateway identified under this strategy.

6. Maintaining Port Botany as a Global Gateway

This strategic direction seeks to:

- Ensure employment areas near the Port are protected and able to accommodate Port related activity and business.
- Ensure local and regional road networks are configured to support Port related activity.
- Ensure Port activities do not further compromise residential amenity.

Identified objectives and actions to deliver the above outcomes include:

Objective 6.1 Ensure employment areas near the Port are protected and able to accommodate Port- related activity and business.

It is noted that this strategic direction is also aligned with the key directions of the Eastern City District Plan, which advocates for protection and more effective use of employment lands adjacent to the Port Botany 'International Trade Gateway'.

The PP will assist in achieving this by retaining and intensifying the site's existing B7 Business Park land use. The PP will allow for increased height and FSR to facilitate higher density commercial and industrial mixed-use development, in an appropriate location adjacent to the Sydney Airport and Port Botany trade gateways.

3.2.3 Q5 - Is the planning proposal consistent with applicable State Environmental Planning Policies?

There are no existing State Environmental Planning Policies (SEPPs) or known draft policies that would prohibit or restrict the PP. A summary table of relevant State Environmental Planning Policies (SEPPs) is provided at Appendix B, while an assessment against the key relevant SEPPs is provided below:

State Environmental Planning Policy No 55 - Remediation of Land

Clause 6 of SEPP 55 states:

> *6 Contamination and remediation to be considered in zoning or rezoning proposal*
>
> *(1) In preparing an environmental planning instrument, a planning authority is not to include in a particular zone (within the meaning of the instrument) any land specified in subclause (4) if the inclusion of the land in that zone would permit a change of use of the land, unless:*
>
> *(a) the planning authority has considered whether the land is contaminated, and*
>
> *(b) if the land is contaminated, the planning authority is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for all the purposes for which land in the zone concerned is permitted to be used, and*

(c) if the land requires remediation to be made suitable for any purpose for which land in that zone is permitted to be used, the planning authority is satisfied that the land will be so remediated before the land is used for that purpose.

The existing development on the sites comprises of light industrial/ commercial development. The PP does not seek to change the zoning of the sites from the existing B7 Business Park zone and therefore will not permit any additional sensitive land uses. Therefore, a site contamination report is not necessary in this circumstance.

If required by a Gateway determination a site contamination report can be prepared for the site. Otherwise any land contamination matters can be appropriately addressed as a part of a future development application as necessary.

3.2.4 Q6 - Is the planning proposal consistent with applicable Ministerial Directions (s.9.1 directions)?

The PP is consistent with all applicable Ministerial Directions. A summary table of the Ministerial Directions under Section 9.1 of the EP&A Act that are relevant for consideration as part of this PP is provided at Appendix C, while an assessment against the relevant Ministerial Directions is provided below:

S.9.1 Direction - 1.1 Business and Industrial Zones

The PP will affect land within an existing business zone being the B7 Business Park zone and therefore this Direction is applicable to the PP and must be considered as part of the strategic planning assessment.

Objectives

(1) The objectives of this direction are to:

(a) encourage employment growth in suitable locations,

(b) protect employment land in business and industrial zones, and

(c) support the viability of identified strategic centres.

Where this direction applies

(2) This direction applies to all relevant planning authorities.

When this direction applies

(3) This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).

What a relevant planning authority must do if this direction applies

(4) A planning proposal must:

(a) give effect to the objectives of this direction,

(b) retain the areas and locations of existing business and industrial zones,

(c) not reduce the total potential floor space area for employment uses and related public services in business zones,

(d) not reduce the total potential floor space area for industrial uses in industrial zones, and

(e) ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning.

Consistency

(5) A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the planning proposal that are inconsistent are:

(a) justified by a strategy which:

(i) gives consideration to the objective of this direction, and

(ii) identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and

(iii) is approved by the Director-General of the Department of Planning, or

(b) justified by a study (prepared in support of the planning proposal) which gives consideration to the objective of this direction, or

(c) in accordance with the relevant Regional Strategy or Sub-Regional Strategy prepared by the Department of Planning which gives consideration to the objective of this direction, or

(d) of minor significance.

Direction - 1.1 aims to ensure the economic and efficient development of existing business areas and centres and related public services and in doing so, it encourages employment growth in suitable locations.

The PP is consistent with the objectives of this Direction as follows:

(a) encourage employment growth in suitable locations,

The subject site currently contains a freestanding warehouse, accommodating approximately 29 jobs. The PP envisages development of the subject site to accommodate: 3,750sqm of commercial floorspace and 621sqm of commercial/industrial floorspace. This floorspace combined will accommodate 196 jobs on Site, representing a net increase of 167 direct jobs.

(b) protect employment land in business and industrial zones, and

The amendment sought to the BBLEP 2013 would lead to an increase in land zoned for employment generating land uses in the Bayside LGA. The total number of jobs generated on the subject site is estimated at 196 jobs (representing an increase of 167 direct jobs).

(c) support the viability of identified strategic centres.

The subject site is not identified as a strategic centre, hence this Objective is of no direct relevance to this PP.

As demonstrated above, the PP is consistent with the objectives of Direction 1.1 given that it seeks to retain and intensify the existing B7 Business Park zone. By retaining the B7 Business Park zoning, the provision of employment opportunities in this strategic location is retained and improved. Therefore, consistency with this Direction is upheld.

S.9.1 Direction – 2.3 Heritage Conservation

The PP proposes to increase permissible building height and floor space ratio adjacent to a St Matthew's Anglican Church, which is identified as a Local Heritage Item according to the BBLEP 2013. The following extract outlines criteria for assessing consistency with this Direction.

Objective

(1) The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance.

Where this direction applies

(2) This direction applies to all relevant planning authorities.

When this direction applies

(3) This direction applies when a relevant planning authority prepares a planning proposal.

What a relevant planning authority must do if this direction applies

(4) A planning proposal must contain provisions that facilitate the conservation of:

(a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area,

(b) Aboriginal objects or Aboriginal places that are protected under the National Parks and Wildlife Act 1974, and

(c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people.

Consistency

(5) A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that:

(a) the environmental or indigenous heritage significance of the item, area, object or place is conserved by existing or draft environmental planning instruments, legislation, or regulations that apply to the land, or

(b) the provisions of the planning proposal that are inconsistent are of minor significance.

The subject site is not listed as a heritage item. The PP is does not propose to create remove any heritage listing of a heritage item. Therefore, the PP is not inconsistent with this

Direction. Heritage impacts of the PP on the adjacent heritage are addressed at a later stage of this report and in the Heritage Impacts Statement at Appendix E.

S.9.1 Direction – 3.4 Integrating Land Use and Transport

The PP seeks to amend the height and FSR for land zoned for commercial purposes, which will facilitate an increase available employment related floor space in an existing urban area. Therefore, consideration has been given to this Direction.

Objectives

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

(a) improving access to housing, jobs and services by walking, cycling and public transport, and

(b) increasing the choice of available transport and reducing dependence on cars, and

(c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and

(d) supporting the efficient and viable operation of public transport services, and

(e) providing for the efficient movement of freight.

Where this direction applies

(2) This direction applies to all relevant planning authorities.

When this direction applies

(3) This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.

What a relevant planning authority must do if this direction applies

(4) A planning proposal must locate zones for urban purposes and include provisions that give effect to and are consistent with the aims, objectives and principles of:

(a) Improving Transport Choice – Guidelines for planning and development (DUAP 2001), and

(b) The Right Place for Business and Services – Planning Policy (DUAP 2001).

Consistency

(5) A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the planning proposal that are inconsistent are:

(a) justified by a strategy which:

(i) gives consideration to the objective of this direction, and

(ii) identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and

(iii) is approved by the Director-General of the Department of Planning, or

(b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or

(c) in accordance with the relevant Regional Strategy, Regional Plan or Sub-Regional Strategy prepared by the Department of Planning which gives consideration to the objective of this direction, or

(d) of minor significance.

Improving Transport Choice – Guidelines for planning and development was prepared by the (then) Department of Urban Affairs and Planning in 2001 to provide guidelines, principles, initiatives and best practice examples for locating land uses and designing development that encourages viable and more sustainable transport modes than the private car such as public transport, walking and cycling.

The PP proposes to increase the height and FSR for land in an existing B7 Business Park zone. This will result in the more efficient use of land in an area already zoned for business and employment related uses. It does not propose to amend the land use zone or permissibility of land uses to be carried out in the existing B7 Business Park zone. Therefore, the PP is not inconsistent with this Direction.

S9.1 Direction - 3.5 Development Near Licensed Aerodromes

The subject site is located within the prescribed airspace for Sydney (Kingsford Smith) Airport. As the PP proposes to amend building height and FSR controls in the vicinity of a licenced aerodrome, this Direction applies.

Based on the site survey provided as Appendix F

Flood Advice

Appendix , the existing ground level of the subject site is in the order of 5.0m to 5.5m AHD. Considering the proposed 16.5 metre maximum high limit, this would result in an overall AHD of approximately 22m.

The provisions of this Direction are set out as follows:

Objectives

(1) The objectives of this direction are:

(a) to ensure the effective and safe operation of aerodromes, and

(b) to ensure that their operation is not compromised by development that constitutes an obstruction, hazard or potential hazard to aircraft flying in the vicinity, and

(c) to ensure development for residential purposes or human occupation, if situated on land within the Australian Noise Exposure Forecast (ANEF) contours of between 20 and 25, incorporates appropriate mitigation measures so that the development is not adversely affected by aircraft noise.

Where this direction applies

(2) This direction applies to all relevant planning authorities.

When this direction applies

(3) This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to land in the vicinity of a licensed aerodrome.

What a relevant planning authority must do if this direction applies

(4) In the preparation of a planning proposal that sets controls for the development of land in the vicinity of a licensed aerodrome, the relevant planning authority must:

(a) consult with the Department of the Commonwealth responsible for aerodromes and the lessee of the aerodrome,

(b) take into consideration the Obstacle Limitation Surface (OLS) as defined by that Department of the Commonwealth,

(c) for land affected by the OLS:

(i) prepare appropriate development standards, such as height, and

(ii) allow as permissible with consent development types that are compatible with the operation of an aerodrome

(d) obtain permission from that Department of the Commonwealth, or their delegate, where a planning proposal proposes to allow, as permissible with consent, development that encroaches above the OLS. This permission must be obtained prior to undertaking community consultation in satisfaction of section 57 of the Act.

(5) A planning proposal must not rezone land:

(a) for residential purposes, nor increase residential densities in areas where the ANEF, as from time to time advised by that Department of the Commonwealth, exceeds 25, or

(b) for schools, hospitals, churches and theatres where the ANEF exceeds 20, or

(c) for hotels, motels, offices or public buildings where the ANEF exceeds 30.

(6) A planning proposal that rezones land:

(a) for residential purposes or to increase residential densities in areas where the ANEF is between 20 and 25, or

(b) for hotels, motels, offices or public buildings where the ANEF is between 25 and 30, or

(c) for commercial or industrial purposes where the ANEF is above 30, must include a provision to ensure that development meets AS 2021 regarding interior noise levels.

Consistency

(7) A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the planning proposal that are inconsistent are:

(a) justified by a strategy which:

(i) gives consideration to the objectives of this direction, and

(ii) identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and

(iii) is approved by the Director-General of the Department of Planning, or

(b) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or

(c) in accordance with the relevant Regional Strategy, Regional Plan or Sub-Regional Strategy prepared by the Department of Planning which gives consideration to the objective of this direction, or

(d) of minor significance.

With consideration for the above Direction, the following matters are relevant to this PP:

Obstacle Limitation Surfaces

Figure 6 illustrates the location of the subject site in relation to Sydney Airport's Obstacle Limitation Surface (OLS). Sydney Airport Master Plan 2033 defines OLS as:

'a series of surfaces in the airspace surrounding an airport. The OLS defines the airspace to be protected for aircraft operating during the initial and final stages of flight, or manoeuvring in the vicinity of the airport.'

Figure 6 illustrates the subject site's location within the Inner Horizontal Surface on the OLS map, which is 51.0m AHD.

The PP proposes building heights that are within the prescribed Obstacle Limitation Surfaces (OLS) for Sydney Airport.

Figure 6 OLS Mapping for Sydney Airport

The overall AHD of 22m that would result from this PP is considerably lower than the 51m AHD OLS. Therefore, the PP will not result in any penetration of OLS surfaces and the objectives of this Direction in that regard are upheld.

Procedures for air navigation services – aircraft operations (PANS-OPS) surfaces

As illustrated in Figure 7, the subject site is identified in Procedures for Air Navigation Services Operations (PANS-OPS) surface mapping for Sydney Airport. The site is located adjacent to runway approaches where a horizontal plane of above 60-70 AHD applies. Permanent controlled activities are not permitted to penetrate the PAN-OPS component of the prescribed airspace. As provided for in the Botany Bay DCP 2013, 'a permanent controlled activity is considered to be any structure erected for a period of more than 3 months'. While this PP does not propose a specific development, it seeks to establish new height and FSR controls above those already permissible on the site.

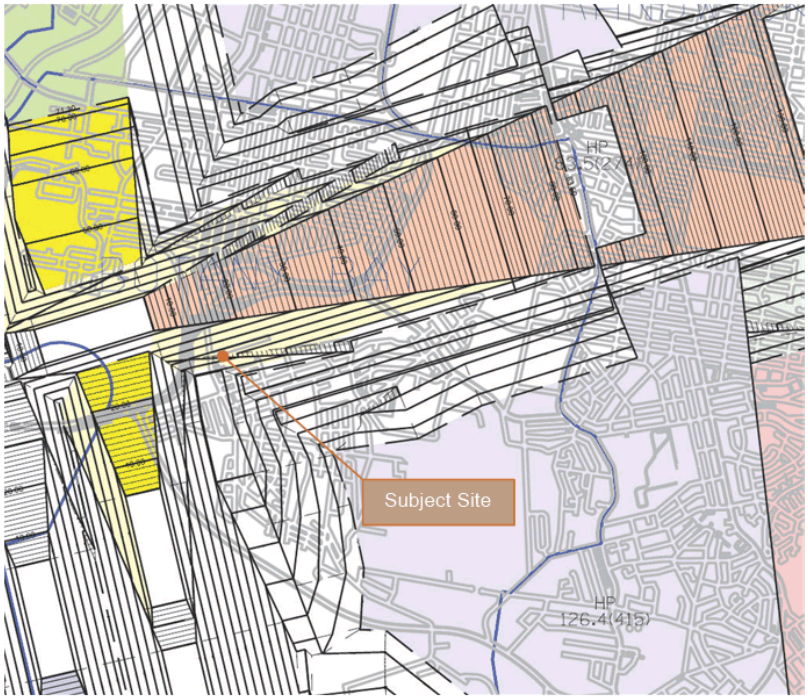

Figure 7 PANS-OPS for Sydney Airport

The overall AHD of 22m that would result from this PP is considerably lower than the 60-70 AHD PANS-OPS. Therefore, the PP will not result in any penetration of PANS-OPS surfaces and the objectives of this Direction in that regard are upheld.

Noise Impacts – ANEF

SAMP 2033 considers that the Airports Act 1996 requires Sydney Airport to manage aircraft noise intrusion and mitigate noise impacts associated with airport traffic. SAMP 2033 states:

> *'Sydney Airport helps to achieve this outcome by preparing the ANEF, a process that involves engagement with the NSW and local governments (see Section 14.4). The ANEF, which is designed to create a land use planning tool to manage noise sensitive land uses around the airport, provides guidance for the NSW Department of Planning and Infrastructure (NSWDPI) and councils to make informed planning and development decisions. The system underpins Australian Standard AS2021-2000 Acoustics – Aircraft Noise Intrusion – Building Siting and Construction. The standard defines areas where construction of certain building types is "acceptable", "conditionally acceptable" and "unacceptable".'*

The subject site is located in a zone between 25 and 30 ANEF, as illustrated in Figure 8.

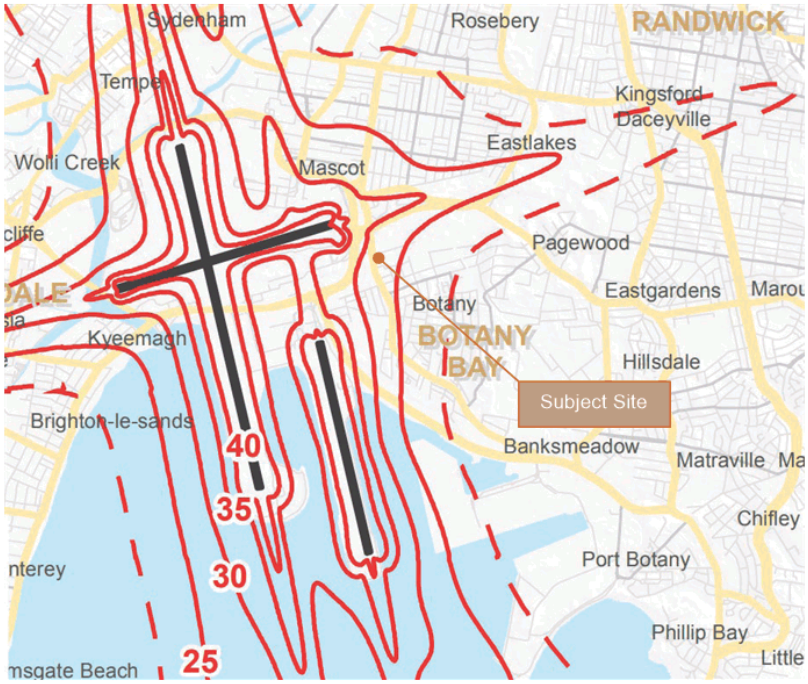

Figure 8 ANEF Contours for Sydney Airport (SAMP 2033)

According to SAMP 2033 and the requirements of this Direction, any zone above 25 ANEF is unsuitable for residential purposes but is suitable for commercial and industrial land uses below 30 ANEF.

The PP does not propose to amend the site's existing land use zoning and therefore does not propose to introduce any additional or sensitive land uses beyond those already permissible on the subject site. In that regard, the objectives of this Direction are upheld.

Given the PP does not propose any penetration of the OLS or PANS-OPS surfaces and will not introduce any sensitive land uses on the subject site, the PP is considered to be consistent with this Direction.

Should a future Gateway determination consider there to be sufficient merit for the PP to proceed to exhibition, the PP would be referred to relevant aviation authorities for comment, including:

- Sydney Airport Authority.
- Civil Aviation Safety Authority (CASA).
- Commonwealth Department of Infrastructure and Regional Development (DIRD).

Should any aspect of this PP be considered to present a risk to aviation practices and procedures other than those identified in this report, the above authorities would advise of any potential safety concerns or mitigation measures via the referral process, following which further detailed investigations may be undertaken.

It is noted that referral to aviation authorities would also be undertaken as a part of a DA process if necessary.

S.9.1 Direction - 4.1 Acid Sulfate Soils

The subject site is identified on the BBLEP 2013 Acid Sulfate Soils map as being located in an area with an Acid Sulfate Soils classification of Class 4. Refer to Figure 9.

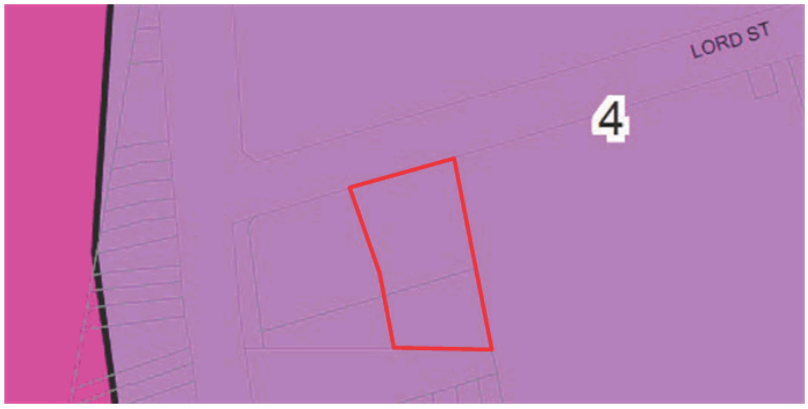

Figure 9 BBLEP 2013 Mapping - Acid Sulfate Soils

Under the BBLEP, Class 4 areas require development consent for works more than 2 metres below the ground level under BBLEP 2013 section 6.1 Acid Sulfate Soils.

The relevant objectives and requirements set out under this Direction are provided for as per the following extract:

Objective

(1) The objective of this direction is to avoid significant adverse environmental impacts from the use of land that has a probability of containing acid sulfate soils.

Where this direction applies

(2) This direction applies to all relevant planning authorities that are responsible for land having a probability of containing acid sulfate soils, as shown on Acid Sulfate Soils Planning Maps held by the Department of Planning.

When this direction applies

(3) This direction applies when a relevant planning authority prepares a planning proposal that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps.

What a relevant planning authority must do if this direction applies

(4) The relevant planning authority must consider the Acid Sulfate Soils Planning Guidelines adopted by the Director-General of the Department of Planning when preparing a planning proposal that applies to any land identified on the Acid Sulfate Soils Planning Maps as having a probability of acid sulfate soils being present.

(5) When a relevant planning authority is preparing a planning proposal to introduce provisions to regulate works in acid sulfate soils, those provisions must be consistent with:

(a) the Acid Sulfate Soils Model LEP in the Acid Sulfate Soils Planning Guidelines adopted by the Director-General, or

(b) such other provisions provided by the Director-General of the Department of Planning that are consistent with the Acid Sulfate Soils Planning Guidelines.

(6) A relevant planning authority must not prepare a planning proposal that proposes an intensification of land uses on land identified as having a probability of containing acid sulfate soils on the Acid Sulfate Soils Planning Maps unless the relevant planning authority has considered an acid sulfate soils study assessing the appropriateness of the change of land use given the presence of acid sulfate soils. The relevant planning authority must provide a copy of any such study to the Director-General prior to undertaking community consultation in satisfaction of section 57 of the Act.

(7) Where provisions referred to under paragraph (5) of this direction have not been introduced and the relevant planning authority is preparing a planning proposal that proposes an intensification of land uses on land identified as having a probability of acid sulfate soils on the Acid Sulfate Soils Planning Maps, the planning proposal must contain provisions consistent with paragraph (5).

Consistency

(8) A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the planning proposal that are inconsistent are:

(a) justified by a study prepared in support of the planning proposal which gives consideration to the objective of this direction, or

(b) of minor significance.

This Direction has been considered as the PP involves an increase in FSR and height for the purpose of enabling a development form that is intended to include basement car parking, which may involve excavation below 2 metres below ground level. Note that this PP does not propose an actual built form, rather the applicable controls that will enable a built form to occur.

While paragraph (6) of this Direction requires that an acid sulfate soils study be undertaken to demonstrate the appropriateness of the change of land use (in this case, not a change of use but an intensification of the existing land use), the PP is not of such a significant scale to warrant such investigations being undertaken at this strategic stage of the planning process. While the intent of this PP is to establish controls that allow for a single level of basement parking in a future built form on the site, this is an outcome that could potentially occur under the current controls provided that the impacts on acid sulfate soils are appropriately addressed as part of a future development application process.

As outlined in paragraph (8) of this Direction, a PP is permitted to be inconsistent with this direction where the provisions of the PP that are inconsistent are of minor significance.

Given that a single level of basement car parking is already a possible to achieve under the current controls, it is reasonable for investigations relating to acid sulfate soils to be undertaken as part of a future detailed design and development application process at which point the specific impacts can be better assessed at a stage of the process where the actual depth of excavation is known.

Given the above, the PP is justifiably inconsistent with this Direction as the PP is of minor significance in terms of impacts relating to acid sulfate soil impacts. Further investigation of

acid sulfate soils and mitigation measures are more appropriately addressed as part of a detailed design phase when such matters can be specifically and directly addressed to an appropriate level of resolution.

If required by a Gateway determination, an acid sulfate soils study can be prepared for the site. Otherwise any acid sulfate soil related matters can be appropriately addressed as a part of a future development application as necessary.

S.9.1 Direction - 4.3 Flood Prone Land

The subject site is not identified on BBLEP 2013 mapping or within Council's DCP as being located within a flood planning area. It is understood that Council is in the process of preparing a flood management study and that the findings of this study may result in amendment to the BBLEP 2013 to identify land that is flood affected. Council has provided preliminary advice in relation to the subject site, which indicates that the subject site is identified as flood affected, albeit to a minor extent.

The PP proposes to amend building height and FSR controls in a manner intended to facilitate the future redevelopment of flood affected land as defined by Direction 4.3. As such this Direction applies and has been given due consideration in the preparation of this PP.

Investigations into flooding affecting the site were undertaken by WMAwater and their advice is provided as Appendix F.

WMAwater confirms that a sag point exists on Lord Street in the vicinity of the site. This causes water to pond on the road and extend into properties north and south of the road in events as frequent as a 5 year Average Recurrence Interval (ARI). The subject site is affected by this ponded water to depths of 0.5 m in the 1% Annual Exceedance Probability (AEP) event and 0.8 m in the Probable Maximum Flood (PMF) event.

In the 1% AEP event, the front 8 m - 15 m along the subject site's boundary is flood affected to varying depths. The remainder of the lot is largely flood free, with the exception of some shallow ponding on the western boundary (less than 150 mm deep). It is noted that the shallow ponding on the western site boundary is not expected to form a major constraint, as it is classified as 'flood fringe' in the 1% AEP event, however this area would need to be taken into account during a detailed design phase, and would possibly require confirmation via a flood impact assessment depending on the proposed footprint.

Parts of the site, mainly at the front of the site, are classified as 'flood storage', indicating that if an obstruction is placed in this area it is likely to cause flood impacts elsewhere.

WMAwater advises that where a setback from the front boundary of between 8-15m cannot be achieved so as to locate a future built form outside of the 'flood storage' area, an engineering solution to prevent flood level impacts is possible. This may occur through the use of pier-footings for construction, or solutions relating to at-grade open carparking and landscaping.

WMAwater concludes that it would be possible to design a building footprint that does not impact on flood behaviour outside of site. In response to WMA's advice at Appendix F, a future detailed design and development application would be prepared in conjunction with the preparation of a flood impact assessment. This would ensure that any future built form and engineering solution would be tested in terms of proposed site configuration (i.e. building envelope, open space/landscaping and access), site levels and construction methods to determine whether the building envelope is likely to change flood behaviour. This would confirm whether any special design considerations are required and provide a design and engineering solution that contains the flood behaviour within the subject site.

As matters relating to detailed design would be addressed through a later development application process and WMAwater have confirmed that it is possible to achieve an appropriate engineering solution through proper site planning, the objectives and requirements of this Direction should not preclude this PP from proceeding to the Gateway for determination.

S.9.1 Direction - 6.3 Site Specific Provisions

The objective of this direction is to discourage unnecessarily restrictive site-specific planning controls. The PP is consistent with this direction as it does not seek to impose any development standards or requirements in addition to those already contained in the standard environmental planning instrument.

Objective

(1) The objective of this direction is to discourage unnecessarily restrictive site specific planning controls.

Where this direction applies

(2) This direction applies to all relevant planning authorities.

When this direction applies

(3) This direction applies when a relevant planning authority prepares a planning proposal that will allow a particular development to be carried out.

What a relevant planning authority must do if this direction applies

(4) A planning proposal that will amend another environmental planning instrument in order to allow a particular development proposal to be carried out must either:

(a) allow that land use to be carried out in the zone the land is situated on, or

(b) rezone the site to an existing zone already applying in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone, or

(c) allow that land use on the relevant land without imposing any development standards or requirements in addition to those already contained in the principal environmental planning instrument being amended.

(5) A planning proposal must not contain or refer to drawings that show details of the development proposal.

Consistency

(6) A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the planning proposal that are inconsistent are of minor significance.

The PP does not seek to unnecessarily restrict the subject site, instead it seeks to enhance the capacity and development opportunities. The PP is consistent with paragraph (4) of this s9.1 Direction in that it:

- seeks to retain existing land use zoning on the site; and
- proposes to amend only a height and FSR standard via the PP, which is a development standard commonly used throughout NSW.

The PP does not contain or refer to drawings that show details of the development proposal. Any detailed design guidance is intended to be provided via a site-specific development

control plan as provided for in Appendix B. This is an appropriate mechanism for providing detailed guidance for site planning and built form on a site-specific level and is a primary means of providing such guidance across NSW.

As outlined above, the PP is consistent with this Direction.

S.9.1 Direction - 7.1 Implementation of A Plan for Growing Sydney

The objective of this direction is to give legal effect to the planning principles; directions; and priorities for subregions, strategic centres and transport gateways contained in A Plan for Growing Sydney.

In March 2018, A Plan for Growing Sydney was superceded by the Greater Sydney Region Plan - A Metropolis of Three Cities, which is given affect via Part 3 of the Environmental Planning and Assessment Act 1979.

Discussions with the Department of Planning on 9 April 2018 confirmed the redundancy of s9.1 Direction - 7.1 Implementation of A Plan for Growing Sydney. At the time of writing this report, Direction 7.1 had yet to be revoked and as such has been addressed in this PP.

3.3 Section C – Environmental, Social and Economic Impact

3.3.1 Q7 - Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

No. Given the site's urban locality and both past and existing developments, there is no likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats will be adversely affected as a result of the PP and its proposed BBLEP 2013 amendments.

3.3.2 Q8 - Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

There are no direct environmental effects as a result of this PP, especially given it is for land that is situated in an existing urban context and the site is currently developed for warehousing purposes. This PP proposes to amend the BBLEP 2013 to increase maximum height and FSR to enable future development to occur in a manner that is consistent with the existing objectives of the B7 Business Park zone. The potential environmental impacts and mitigation measures have been demonstrated in the Urban Design Review at Appendix A and the Heritage Impact Study at Appendix E.

The key impacts that have been considered and addressed in this planning proposal are discussed as follows:

Visual impact and interface with adjacent heritage building

The Urban Design Review at Appendix A utilises a number of urban design measures to demonstrate that a built form can be accommodated on the site that achieves an appropriate level of integration with surrounding land uses, particularly with respect minimising visual, and physical impacts of building bulk on the adjacent heritage listed St Matthew's church. This is further supported by the site specific DCP at Appendix B and the Heritage Impact Statement at Appendix E.

Specifically, the Urban Design review includes a number of urban design initiatives that have been thoughtfully and methodically considered by BuiltConsult to respond appropriately to and mitigate impacts on the adjacent heritage listed St Matthew's Church. These are outlined as follows:

- Limiting the height of the building on the subject site to the height of the church spire of 16.5m. This is illustrated as Figure 10.

- Providing architectural articulation, especially to the western façade facing the church grounds, to establish a high quality visual backdrop for the heritage item. This is illustrated as Figure 11 and Figure 13 .
- Orienting the future built form on the site to face toward both Lord Street and the St Matthew's Church grounds and providing a pedestrian laneway along the western edge of the site to enable an interrelationship between the future development on the site and the church grounds to occur.
- Activating the new pedestrian laneway along western boundary with commercial uses (e.g café) and building entrances. This is illustrated as Figure 12 and Figure 10.

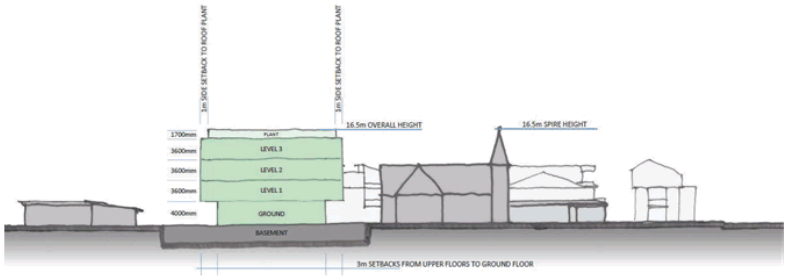

Figure 10 Proposed Building Height

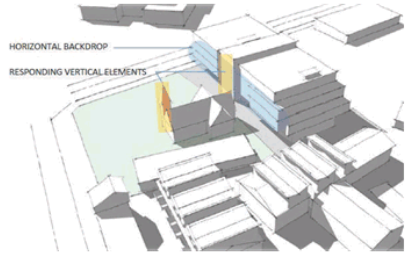

Figure 11 Establishing a visual backdrop (BuiltConsult)

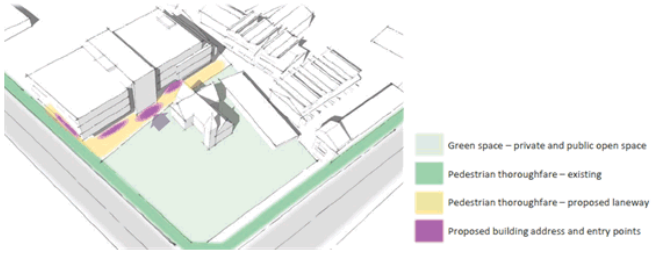

Figure 12 Building siting and orientation (BuiltConsult)

Figure 13 Activation of Lord Street and the pedestrian lane (BuiltConsult)

The Heritage Impacts Statement at Appendix E notes that the proposed setback between the existing church and the proposed building has created an opportunity for the activation of the existing street frontage to Lord Street as well as the new pedestrian laneway. The setback also preserves existing light and amenities to the church. Careful consideration for the placement of complementary land uses that will facilitate ground floor activation will further enhance this zone in addition to the thoroughfare created for public access. The proposed spaces on the ground floor will create a positive impact to the surrounding public amenities (church, multi-function centre and neighbourhood). Refer Figure 14 and Figure 15, which illustrate proposed setbacks to ground floor and upper levels. It is proposed that these setbacks be guided via a site specific DCP, a draft of which is provided as Appendix B.

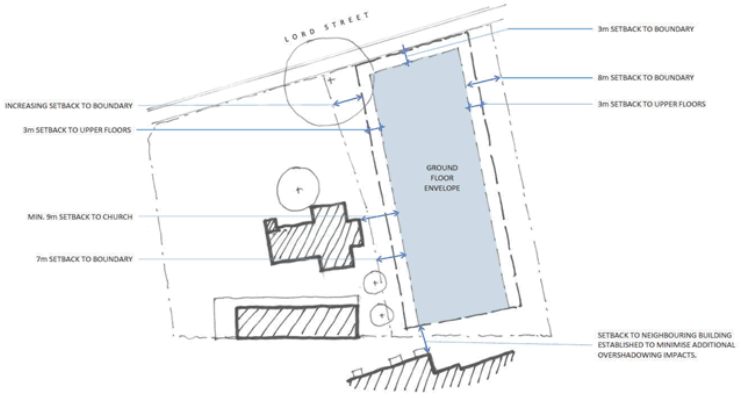

Figure 14 Ground Floor Setbacks (BuiltConsult)

Figure 15 Upper Floors Setbacks (BuiltConsult)

As articulated in the Heritage Impacts Statement at Appendix E, the PP and proposed design concept appropriately considers the heritage significance of the church in relation to its form and massing. The careful articulation of the proposed form, spatial planning of the building envelope and intended rationale for its detailed design seeks to create a form that is sympathetic and respectful to the heritage significance of the church and its surroundings. The following summary provides an overview of conclusions reached within the Heritage Impacts Statement:

- The proposed development is reasonable and positive as its design is respectful to the adjacent church with only minor impacts to its heritage significance.
- The intended built form is consistent with the existing neighbourhood and contributes to the public interaction at ground level between the church, the multipurpose building and neighbourhood.
- The intended built form outcome is not conjectural and is identifiable as contemporary in accordance with the Burra Charter.
- The PP could generally be achieved in compliance with the Botany Bay DCP 2013 and the requirements of the Botany Bay LEP 2013 (pending the requested LEP amendments).
- The PP and supporting urban design review has provided a well-considered design rationale for the intended built form.

As qualified heritage specialists, in its Heritage Impacts Study at Appendix E, Tropman & Tropman Architects confirm that the approach adheres to the Burra Charter principals.

As such the PP will have minimal impact to the heritage significance of the church and will in fact improve the visual quality of the local environs in the immediate vicinity of the church. In their Heritage Impacts Statement, Tropman & Tropman supports the PP on heritage grounds and have identified no heritage matters that may otherwise preclude the PP from proceeding to Gateway for determination.

Building Height

The PP seeks an increase in permissible building height on the subject site. The proposed maximum building height has been nominated based on analysis of nearby building form and its compatibility with the neighbouring context.

The Heritage Impacts Statement at Appendix E notes the following key points with respect to the proposed building height:

- The PP is based on an indicative development concept that proposes a form that is 'non-dominating'.
- The proposed building height does not exceed existing church height of 16.5m.
- Size and mass of intended built form outcome reflected in the Urban Design Review at Appendix A does not compromise light, views and amenities to and from the church and its grounds.

Figure 16 demonstrates the subject site and proposed height of 16.5m in relation to the building height of the surrounding local area. As illustrated in Figure 16, the proposed heights are compatible with the nearby 16 metre commercial building and 10 metre residential built form.

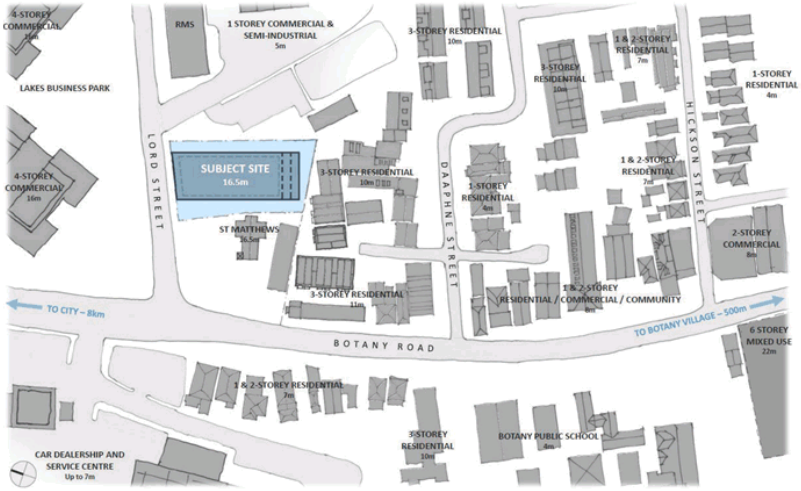

Figure 16 Building Height Context (source Built Consult)

The PP is supported by an urban design review that has carefully considered the context of the intended built form outcome. To assist with better understanding the potential impact of height, consideration has been given to the PP in relation to the objectives outlined under BBLEP 2013 Clause 4.3 Building Height. Refer Table 2.

Table 2 Assessment of the PP against cl 4.3 Building Height Objectives

Clause 4.3 Objective	PP Justification
(a) to ensure that the built form of Botany Bay develops in a coordinated and cohesive manner,	The PP proposes to amend building height controls to allow 16.5m, a height that is compatible in scale with the surrounding commercial and medium density residential precinct.
(b) to ensure that taller buildings are appropriately located,	The proposed amendments to building height controls have been considered in conjunction with the surrounding local context and will result in a compatible built form in relation to the local building height context, especially the adjacent heritage item.

Clause 4.3 Objective	PP Justification
(c) to ensure that building height is consistent with the desired future character of an area,	The proposed building height is consistent with nearby 16 metre high commercial buildings and reflects the height of the spire of the adjacent heritage item. Therefore, the proposed building height is consistent with the desired future character of the locality.
(d) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development,	The proposed increase in height and intended massing elements as outlined in the Urban Design Review at Appendix A demonstrates that the proposed massing will not result in detrimental impacts to existing neighbouring residential development. Shadow diagrams demonstrate that within the proposed building height and FSR controls, a design solution can be achieved is capable of resulting in a similar level of solar overshadowing to adjacent residential development as currently results from the existing warehouse building on the site. Detailed design considerations at DA stage can further address this, which will be supported by the design principles and criteria set out in the draft DCP at Appendix B.
(e) to ensure that buildings do not adversely affect the streetscape, skyline or landscape when viewed from adjoining roads and other public places such as parks, and community facilities.	The proposed increase in height and intended massing elements as outlined in the Urban Design Review at Appendix A demonstrates that the PP will result in an outcome that improves the visual outlook particularly in relation to the adjacent heritage item. This heritage item is situated within an open space setting and is visually prominent particularly as viewed from the Botany Road frontage. The draft DCP at Appendix B will provide appropriate guidance for a future built form on the subject site to establish a well design backdrop to the church that maintains its visual prominence.

Building Bulk and Density

To assist with better understanding the potential impact of bulk and scale, consideration has been given to the objectives outlined under BBLEP 2013 Clause 4.4 Floor Space Ratio. Refer Table 3.

Table 3 Assessment against cl 4.4 Floor Space Ratio Objectives

Clause 4.4 Objective	PP Justification
(a) to establish standards for the maximum development density and intensity of land use,	The FSR increase has been based upon a carefully considered built form analysis to propose a suitable FSR for the subject site within its context. The PP proposes to increase the maximum FSR controls applicable to the site. It does not seek to remove any FSR standard and therefore is consistent with this objective.
(b) to ensure that buildings are compatible with the bulk and scale of the existing and desired future character of the locality,	The achievable bulk as illustrated in the Urban Design Review at Appendix A is consistent with many of the existing commercial buildings in the locality. Particular consideration has been given to the relationship with the adjoining heritage listed church.
(c) to maintain an appropriate visual relationship between new development and the existing character of areas or locations that	The intended built form outcome as illustrated in the Urban Design Review at Appendix A has been methodically considered in terms of its relationship with adjacent built form, particularly the adjacent heritage item which is likely

Clause 4.4 Objective	PP Justification
are not undergoing, and are not likely to undergo, a substantial transformation,	to remain a permanent feature of the locality. The draft DCP at Appendix B will provide appropriate guidance for a future built form on the subject site to ensure a compatible relationship between a future development on the subject site and adjacent church and residential buildings. This includes managing setbacks, overshadowing, articulation and materials to facilitate land use compatibility and an appropriate response to solar access and heritage values of the adjacent sites.
(d) to ensure that buildings do not adversely affect the streetscape, skyline or landscape when viewed from adjoining roads and other public places such as parks, and community facilities,	The proposed building height and mass has been considered to respond to the height of the church and considers the visual quality of the backdrop to this important heritage item as viewed from the church grounds. The design of facades of the intended built form have been considered in the Urban Design Review at Appendix A to establish an appropriate relationship to the open grounds of the adjacent heritage item. This is further reinforced via the draft DCP at Appendix B, which is intended to ensure that any development on the site provide an appropriate backdrop to the church as viewed from Botany Road.
(e) to minimise adverse environmental effects on the use or enjoyment of adjoining properties and the public domain,	The proposed built form massing will not impact on the usability of the adjacent public realm. The PP will enable the development of a built form that better defines and interfaces with the adjacent church grounds enhancing its visual quality and useability. In terms of the enjoyment of adjacent residential properties, the Urban Design Review at Appendix A and draft DCP at Appendix B provide guidance for southern setbacks to the adjacent residential buildings. The Urban Design Review demonstrates that within the proposed development controls, a design solution can be achieved that result s in an equivalent impact on adjacent properties and therefore is capable of achieving consistency with Objective 3B-2 of the Apartment Design Guide.
(f) to provide an appropriate correlation between the size of a site and the extent of any development on that site,	The PP proposes to increase industrial/ commercial FSR on the site, to an extent where impacts can be appropriately managed in relation to neighbouring properties. The site planning and urban design measures considered to mitigate impacts of the PP are outlined in the Urban Design Review at Appendix A and intended to be facilitated via the draft DCP. The proposed FSR is appropriate for the proposed use of the site for commercial/ industrial purposes. Design measures relating to the transition between business and residential uses are reflected in the draft DCP and seek to establish an active interface between the subject site and adjacent church.
(g) to facilitate development that contributes to the economic growth of Botany Bay.	The PP proposes to increase FSR on the site, which will allow for increased commercial/ industrial floorspace and a more efficient use of a presently underutilised site to accommodate greater employment opportunities adjacent to the Port Botany and Sydney Airport International Trade Gateways.

The Heritage Impacts Statement at Appendix E notes the following key points with respect to the proposed building massing:

- The proposed design considers the heritage significance of the church in relation to its form and massing.
- The careful articulation of the proposed form and spatial planning of the intended built form outcome and site seeks to respect and complement the siting and the expression of the design is sympathetic to the surroundings.

The Heritage Impacts Statement acknowledges that the massing of the intended built form outcome comprises three main elements that correspond with the context and proportion of the church. This approach works to visually reduce the mass of the intended built form outcome to complement the massing of the adjacent church. This is illustrated in Figure 17 and within the Urban Design Review at Appendix A.

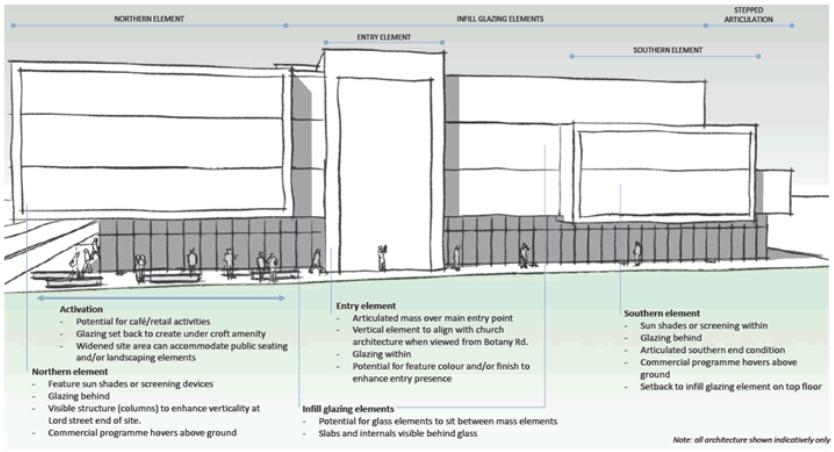

Figure 17 Indicative Building Articulation (BuiltConsult)

As such, the PP and intended built form outcome will have minimal impact to the heritage significance of the church and will result in improved visual environs that will more appropriately frame the church building and define its grounds. It will also provide an opportunity for the necessary changes to occur in the precinct to enable greater integration and interaction between the various existing and potential land uses envisaged for the site.

The draft DCP seeks to facilitate the desired level of articulation, which will be further considered and implemented via later detailed design and DA processes.

Traffic and parking

As the PP proposes to increase the maximum allowable building height and FSR, this will enable greater commercial floorspace to be accommodated on the site. As such the car parking and traffic implications of the increased floorspace have been considered in the Traffic and Parking Impacts Assessment undertaken by McLaren Traffic Engineering and provided as Appendix D. An addendum to the traffic study is provided as Appendix D-1.

In summary, the Traffic and Parking Impacts Assessment concludes that that the subject site is capable of accommodating the necessary car parking requirements for the intended development form, which would generate the need for 85 car parking spaces. As confirmed by the Urban Design Review at Appendix A, a total of 92 car parking spaces is achievable comprising up to 74 spaces in a single basement level plus 18 at-grade spaces. McLaren Traffic Engineering further concludes that the PP will not result in any unmanageable or detrimental traffic impacts.

The addendum to the traffic study at Appendix D-1 provides additional clarification relating to the underpinning the nominated car parking demand assumptions.

It is noted that assumed car parking demand differs to the required car parking rates that would be required under strict application of the DCP. McLaren advises the following:

> *"it is reasonable to assume that the on-site parking demand for the commercial areas of the site will be similar to or in the range of one space per 48m2 to one space per 84m2. The applied rate of 1 space per 55m2 for the upper floors of the development is therefore appropriate and commensurate with the context. The use of a higher rate of parking demand for the ground floor commercial floor area provides some flexibility for future development applications on the site and, if it were confined purely to office area, would have a similar 1 space per 55m2 parking demand."*

As per the above discussion, car parking and traffic issues for a development of the intended scale can be appropriately addressed as a part of a future detailed design and development application process and should not preclude the PP from proceeding.

3.3.3 Q9 - How has the planning proposal adequately addressed any social and economic effects?

Social and economic considerations relating to this PP have been integrated into previous sections of this PP. This proposal is to increase the maximum height and FSR controls and allow for increased business and employment related floor space. As the subject site is located adjacent to Port Botany and Sydney Airport interactions trade gateways, the PP will directly facilitate an increase in potential employment opportunities in a highly strategic location.

Assessment of Economic Impacts

The following sections examine the estimated economic activity supported through the operations of businesses locating to the Site if it was redeveloped under proposal compared to if it remained in its existing use.

Base Case: assumes the subject site continues its current operations accommodated in the existing improvements and assesses the economic impacts should the Site remain in its existing use.

Proposal Case: assumes the subject site is redeveloped under the Proposal's amended planning controls to facilitate higher intensification use on site, with increased height and commercial floorspace.

The economic impacts have been assessed at the Bayside Local Government Area (LGA) level.

Economic Impacts During Construction

The construction phase associated with the PP is expected to support the following economic activity for the Bayside LGA, including businesses and workers through direct and flow-on impacts (over the course of the construction phase):

- $10.4 million in output (including $4.8 million in direct activity).
- $3.9 million contribution to GRP (including $1.2 million in direct activity).
- $2.1 million in incomes and salaries paid to households.
- 28 FTE jobs (including seven directly employed in the construction activity).

Net Economic Activity During Operations

The economic impacts/contribution of the PP can be traced through the economic system via:

- Direct Impacts, which are the first round of effects from direct operational expenditure on goods and services.
- Indirect Impacts (Flow-on Impacts), which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales.

The PP is anticipated to result in a net increase in economic activity compared to what the existing improvements support in the Base Case through the direct and flow-on impacts associated (per annum):

- $117.9 million in output (including $47.5 million in direct activity).
- $52.6 million contribution to GRP (including $18.7 million in direct activity).
- $30.6 million in incomes and salaries paid to households.
- 439 FTE jobs (including 167 additional jobs directly related to activity on the subject site).

Table 4 summarises the outcomes in the Base Case and Proposal Case.

Table 4 Economic Activity, Base Case v Proposal Case

Impact	Output ($M)	Gross Regional Product ($M)	Incomes ($M)	Employment (FTEs)
Base Case				
Direct	$11.4	$5.1	$2.9	29
Type I Flow-On	$3.2	$1.5	$0.8	10
Type II Flow-On	$6.9	$3.7	$2.0	30
Total	**$21.5**	**$10.3**	**$5.7**	**69**
Proposal Case				
Direct	$58.9	$23.8	$14.8	196
Type I Flow-On	$36.6	$15.4	$8.9	120
Type II Flow-On	$43.9	$23.7	$12.6	192
Total	**$139.5**	**$62.9**	**$36.3**	**509**
Net Increase in Economic Activity				
Direct	$47.5	$18.7	$11.9	167
Type I Flow-On	$33.4	$13.9	$8.1	110
Type II Flow-On	$37.0	$20.0	$10.6	162
Total	**$117.9**	**$52.6**	**$30.6**	**439**

Source: AEC

Land that is close to existing employment centres and public transport networks is scarce and valuable. As cities grow there is commensurate pressure on scarce lands to be developed for a variety of uses. The benefits of enabling more intensive use of land which is a finite asset are therefore obvious.

In comparison to the other employment areas examined, the Botany Precinct and its surrounds experienced very modest employment growth over the 2006-2016 period, averaging a lacklustre 0.5% average annual growth compared to 1.5% to 3.4% in comparison areas. Employment growth in the Botany Precinct and its surrounds has been weak despite strong market demand and occupier interest.

Opportunities to accommodate greater intensity of employment are needed. Investigations suggest a lack of commercial floorspace opportunities in the Botany Precinct and broader South Sydney Region. Given the Botany Precinct's proximity to key centres and Trade

Gateways, it is necessary to ensure commercial opportunities are available to attract new business but also facilitate growth and expansion in a diverse range of business activities.

In the case of the subject site, state government policy has focused equally on intensifying employment opportunities and accommodating businesses' changing requirements for how they use land and floorspace. The PP seeks to meet these objectives by providing commercial opportunities for a range of business activity and importantly, maximising the economic intensity of the Subject Site. The PP demonstrates alignment with the objectives and aspirations of state planning policies and strategies.

The PP is intended to be a catalyst for positive change in the local business environment provides for new business opportunities that will support economic growth and sustainability within Sydney's existing urban footprint.

The PP will result in a net community benefit as it will allow future development to take full advantage of its location in close proximity to transport infrastructure and trade gateways, which has wider benefits than that of the immediate local community. The proposal to increase the density of existing business zoned land will facilitate a more efficient use of available commercial land for business and employment uses.

AEC advises that the economic considerations are favourable with the future development of the site providing improved and revitalised facilities for business. The amendments to the BBLEP 2013 Height of Buildings and FSR development standards on the site would deliver a number of positive of community benefits with a particular focus on increasing employment opportunities and efficient use of available business lands.

Net Community Benefit

As provided for in AEC's Economic Impacts Statement, Table 5 identifies the economic impacts and derives a total score for PP using the Base Case as the starting point of '0'. The higher the positive score the greater the net positive economic impact from a community perspective, the lower the score the greater the adverse economic impact.

Table 5 Economic Impact, Base Case v Proposal Case

Impact	Base Case	Rating	Proposal Case	Rating
Employment & Economic Impact				
Output ($M)	$21.5	+1	$139.5	+3
GRP ($M)	$10.3	+1	$62.9	+3
Incomes ($M)	$5.7	+1	$36.3	+3
Employment (FTE)	69	+1	509	+3
Construction				
Output ($M)	n.a.	0	$10.4	+3
GRP ($M)	n.a.	0	$3.9	+3
Incomes ($M)	n.a	0	$2.1	+3
Employment (FTE)	n.a	0	28	+3
Total		**4**		**24**

Source: AEC

As demonstrated above and in AEC's Economic Impacts Statement at Appendix C, in comparison to the Base Case, the Proposal Case (i.e. PP) clearly exhibits a positive economic impact. As the Lord Street business park precinct continues to evolve in response to industry trends, the economic impact identified in this Assessment would be even more pronounced.

The above is discussed in greater detail in the Economic Impacts Assessment at Appendix C and further supported by the addendum prepared by AEC at Appendix C-1, which considers the economic impact of the PP to be net positive and thereby presenting a compelling case for consideration.

3.4 Section D – State and Commonwealth Interests

3.4.1 Q10 - Is there adequate public infrastructure for the planning proposal?

The site is currently used for urban purposes and is connected to existing infrastructure services. More detailed engineering studies and plans for public utilities and infrastructure connections would be carried out as part of a future development application for detailed design and construction of development and any requirements for infrastructure contributions considered in accordance with s7.11 of the EP&A Act as necessary.

As demonstrated in the traffic impacts statement at Appendix D, the site has access to existing public transport services. The subject site will benefit from planned WestConnex upgrades being located in close proximity to the following major projects:

- New M5 from Beverley Hills to St Peters (planned to be open to traffic early 2020);
- M4-M5 Link from Haberfield to St Peters (planned to be open to traffic in 2023).

The above projects will significantly increase the capacity of the metropolitan road network, which will further support the operation of business uses, particularly for freight and logistics operations in the locality. This PP provides an opportunity for enhanced business operations in a well-connected urban locality.

3.4.2 Q11 - What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

No State or Commonwealth authorities have been consulted yet by the proponent of the PP. It is anticipated that the planning authorities in Bayside Council and Department of Planning and Environment will consult relevant public authorities in accordance with the provisions of the EP&A Act and Regulations and any specific requirements of the Gateway Determination.

4. [Part 4] Mapping

4.1 The Site

4.1.1 Site Location

The site is located at 1-3 Lord Street Botany. The site is situated in southern Sydney to the north of the Botany Town Centre and is approximately 50m to the east of Botany Road. A two-storey building containing warehouses, a loading dock, sales centre and offices for Marine Product Marketing is currently located on the subject site.

The site has an area of approximately 2,555.7m^2 in area and has a frontage to Lord Street to the north and the church building and grounds of the St Matthews Anglican Church to the west.

The subject site is accessible via major arterial roads including Botany Road and the M1 Motorway.

4.1.2 Legal Description

The site is legally described as Lot 2 in DP 593463 and Lot 4 in DP 593463. A site survey is provided at Appendix F. The cadastral setting of the site is further described in Figure 18.

Figure 18 Cadastral setting of the site (Source: Spatial Information Exchange (SIX) Maps)

4.2 Context

The subject site is on the western-most of fringe of the Lord Street B7 Business Park Zone and borders an R3 Medium Residential zone. It is situated between St. Matthew's Anglican church, and Service NSW on Lord Street.

4.2.1 Site Features and Existing Development

A two storey (3 storeys in bulk) warehouse is currently located on the subject site. The subject site has a frontage and has vehicular access to Lord Street to the north. The adjacent church also owns the two lots to the west of the site existing development and uses located on the sites differ in nature and are outlined below.

It is noted that the existing warehouse facility presently provides minimal setback to the church building, which significantly impacts on access to light to windows on the eastern façade of the church.

The key features are demonstrated in Figure 19 below.

Figure 19 Existing warehouse on the site and heritage church in the background.

4.2.2 Surrounding Land Use Context

The site is located approximately 100m north of the Botany Town Centre, which is a linear centre extending along both sides of Botany Road between Daphne Street to the north and Hastings Street to the south. The centre is generally focused around the intersection of Banksia Street and Botany Road, with two storey terraced shop top housing being the predominant built form in the town centre. Examples of contemporary apartment development in the centre provides evidence of the Botany Town Centre's ongoing revitalisation.

Botany Road is the predominant road linking the town centre with its surrounds, which are predominately low density residential to the south east of the site, whilst general and light industrial uses are located south and east beyond the town centre. The subject site is located in a wider area of B7 zoned land, with both sides of Lord Street carrying this zoning towards the east. The suburb of Botany is demarcated from Mascot with the M1 freeway and Kingsford Smith Airport to the north of the site.

The site is located in an existing urban area in proximity to a range of convenience, community and educational services such as those listed below:

- Botany Town Centre (various);

- Botany Public School;
- St Bernard's Catholic Primary School;
- Botanic Aquatic Centre;
- Botany Town Hall; and
- St Matthews Anglican Church.

A variety of open space opportunities are located within short walking distance of the sites, Booralee Park, located approximately 200m to the east of the subject site along Lord Street, is the main recreational area for Botany.

Figure 20 to Figure 25 below illustrate the land uses and development that surround the sites.

Figure 20 The St Matthews Church is heritage listed and provides a strong character reference in the locality. The existing warehouse on the subject site can be seen in the background.

Figure 21 Residential development on Botany Road adjacent to the St Matthews Church site. Source Google

Figure 22 Business park uses opposite the site on Lord Street. Source Google

Figure 23 Service NSW operations opposite the subject site. Source Google

Figure 24 Residential Development on Daphne Street. Source Google

Figure 25 Large Scale warehousing on Lords Street. Source Google

Lord Street accommodates a wide range of businesses and activity, predominantly contained within two business parks, the Lakes Business Park and Sir Joseph Banks Corporate Park. The presence of these prominent business park complexes on Lord Street contributes to elevating the area's profile as a key employment area in the South Sydney region. Figure 26

shows the Lakes Business Park and Sir Joseph Banks Corporate Park with respect to the subject site. Commentary relating to these precincts below is extracted from AEC's Economic Impacts Statement at Appendix C.

Figure 26 Lord Street Major Business Park Complexes (source AEC)

Lakes Business Park

Commercial and warehouse floorspace along Lord Street is dominated by the Lakes Business Park (2-13 Lord Street), an eight-hectare business park containing approximately 44,000m^2 in net lettable area (NLA) of commercial and warehouse floorspace across seven freestanding buildings. The business park is bisected by Lord Street, forming a north precinct (approximately 29,000m^2 NLA) and south precinct (14,000m^2 NLA) on either side of Lord Street, with the majority of businesses located in the north precinct.

Dexus secured planning approval for partial redevelopment of the north precinct which will increase commercial floorspace to 44,000m^2 across seven 6 storey buildings (Urbis, 2015). Subsequent to this, rezoning approval was obtained to facilitate redevelopment of the south precinct into a mixed use creative hub, Botany Quarter to incorporate creative office suites, high-tech industrial units, storage units, and retail facilities.

The business park accommodates a broad range of businesses: freight and logistics companies, warehousing, small-scale manufacturers, distributors, and providers of corporate services. Utilisation of floorspace is divided between warehousing and commercial uses. The warehousing component is utilised for distribution of goods, and general storage whilst commercial uses provide space for general offices and meeting and/or training rooms.

Sir Joseph Banks Corporate Park

Sir Joseph Banks Corporate Park is situated at the eastern end of Lord Street (28-30 Lord Street). The corporate park comprises in the order of 31,700m^2 of commercial and warehouse floorspace across three buildings. Major businesses include Schindler Lifts Australia (lifts manufacturers and maintenance), Konami Australia (computer and arcades manufacturer), and Sims Metal Management (metal collection and processing).

4.2.3 District Context

1-3 Lord Street Botany (the Site) is located approximately 12 kilometres south of the Sydney CBD. It is situated in close proximity to critical economic infrastructure (Port Botany and Sydney Airport) and the major employment region of South Sydney. The subject site's location in relation to its district context is illustrated in Figure 27.

Figure 27 District context of the subject site (Source: Google/ AEC)

Port Botany and Sydney Airport

Port Botany is located approximately 6 kilometres south-east of the subject site and is accessible via Botany Road and Foreshore Road. Port Botany accommodates Sydney's largest port, and is a major employment area, forming a vital part of logistics and supply chain network in NSW. In addition to housing NSW's largest container facility it is also the NSW's primary bulk liquid and gas port, and Australia's largest dedicated common user facility of this type.

Facilities at Port Botany include: three independently operated container vessels, liquids and gas facilities, and eight kilometres of road network, warehousing, container packing and unpacking facilities, Customs facilities and container packing and unpacking facilities. Port Botany operates 24 hours a day, seven days a week (NSW Ports).

Sydney Airport is approximately two kilometres west of the subject site and is one of the longest continuously operated commercial airports internationally (Sydney Airport, 2018). Sydney Airport has a total of four terminals, three passenger terminals and one freight terminal, dedicated to international freight operations.

South Sydney Employment Region

The South Sydney employment region is the economic engine that provides critical support to Sydney Airport and Port Botany, servicing population and businesses across metropolitan Sydney. Significant intensification over the last decade is observed across the South Sydney region in line with business requirements and utilisation trends.

4.2.4 Accessibility and Transport

Road Network

The sites are well connected to the regional road network with Botany Road to the west of the site, which links Port Botany to the south with Kingsford Smith Airport to the north west and the CBD to the north. Botany Road also provides a good connection to the M1/Southern Cross Drive, which forms part of the Sydney Orbital freeway network. The M1 provides ready access to the M5 Motorway, General Holmes Drive and the A38/Princes Highway.

As previously mentioned the subject site will benefit from major upgrades to Sydney's motorway network providing better connectivity to the M4 and M5 motorways.

Public Transport

The site is well located to public transport as it is located within close proximity to Botany Road, a major regional road in Sydney's south with regular and frequent bus services. The nearest bus services run along Botany Road in both directions with the nearest stops located on either side of the road within 250m walking distance of the site. Bus routes M20, 309, 310, L09, X09 and X10 provide services from Matraville or East Gardens to Central Station. The bus routes connect well with the wider public transport network at East Gardens bus interchange, Green Square Railway Station and multiple CBD railway stations.

Metrobus are high frequency and high capacity bus routes that link key employment and growth centres throughout Sydney. In the case of the M20, this route links Botany with Mascot, Green Square, Sydney CBD and North Sydney. Metrobuses have a frequency of one bus every 10 minutes during peak periods, 15 minutes during off-peak weekday periods, and 20 minutes on weekends. Other bus routes link the subject site with other surrounding areas in the Eastern Suburbs such as Eastgardens, Matraville and Port Botany.

The location of the site relative to the surrounding public transport infrastructure is shown in Figure 28.

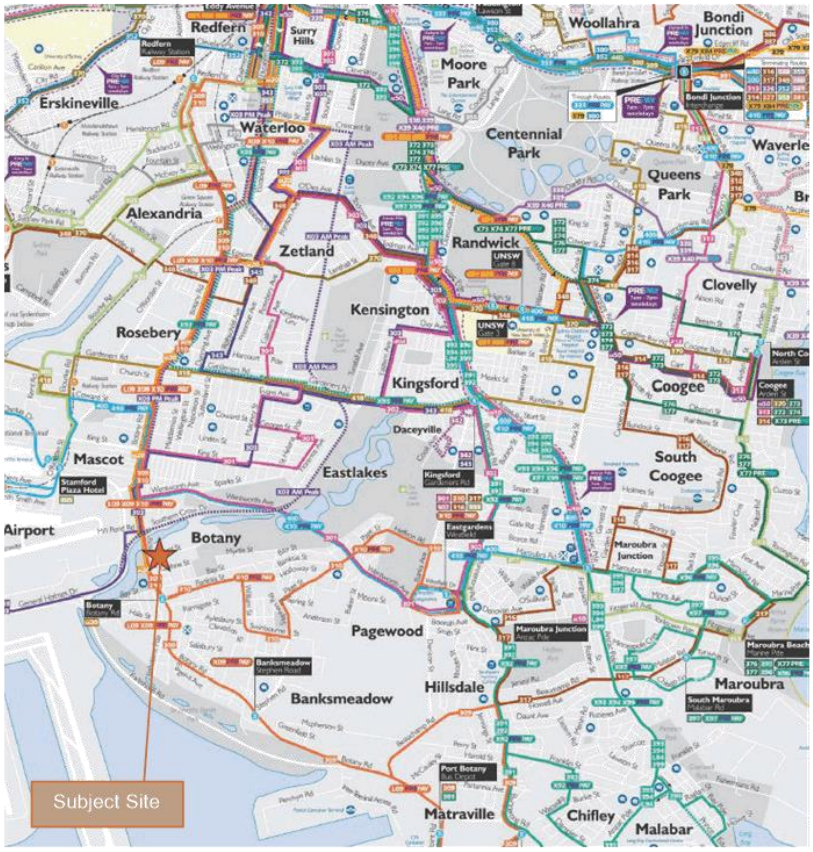

Figure 28 Public Transport Routes (TfNSW/ McLaren)

Active Transport

A search of Roads and Maritime Services (RMS) web-based 'cycleway finder' confirms that the subject site is located in close proximity to a variety of cycleways of varying degrees of ease and difficulty. These cycleways and routes provide active transport options for commuters to the subject site and local employment precincts. An extract of the 'cycleway finder' is provided as Figure 29.

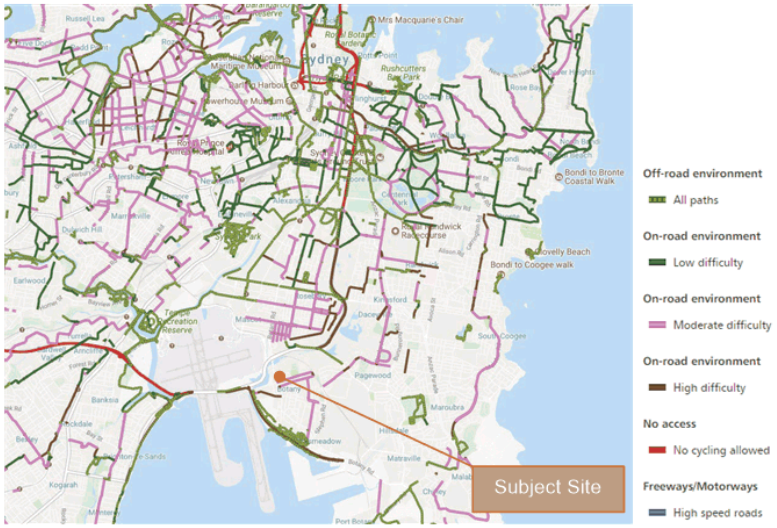

Figure 29 Local Cycling Routes (RMS)

Refer to Appendix D and Appendix D-1 for further information pertaining to traffic and transport.

4.3 Current Planning Provisions

The BBLEP 2013 is a statutory planning document that sets the standards for development in the Botany Bay LGA. The BBLEP 2013 applies to the subject site and its current provisions are set out below.

4.3.1 Land Use

In accordance with the BBLEP 2013 the site is zoned B7 Business Park. Figure 30 below illustrates the land use zones that apply to the sites under the BBLEP 2013. The following objectives and land use permissibility apply within the B7 Business Park zone:

Zone B7 Business Park

1 Objectives of zone

- *To provide a range of office and light industrial uses.*
- *To encourage employment opportunities.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.*
- *To encourage uses in the arts, technology, production and design sectors.*

2 Permitted without consent

Home occupations

3 Permitted with consent

Centre-based child care facilities; Dwelling houses; Food and drink premises; Garden centres; Hardware and building supplies; Home industries; Light industries; Neighbourhood shops; Office premises; Passenger transport facilities; Respite day care centres; Roads; Vehicle sales or hire premises; Warehouse or distribution centres; Any other development not specified in item 2 or 4

4 Prohibited

Advertising structures; Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Biosolids treatment facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Entertainment facilities; Environmental facilities; Environmental protection works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home-based child care; Home occupations (sex services); Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Research stations; Residential accommodation; Resource recovery facilities; Restricted premises; Retail premises; Rural industries; Sewage treatment plants; Sex services premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Waste disposal facilities; Water recreation structures; Water recycling facilities; Water supply systems; Wharf or boating facilities

Warehousing for commercial uses is permissible with consent on the site as land zoned B7 Business Park as it is not specified in items 2 or 4 of the above extracts. Figure 30 illustrates the sites and the respective Land Use Zone mapping. No change to the site's land use zoning is proposed by this PP.

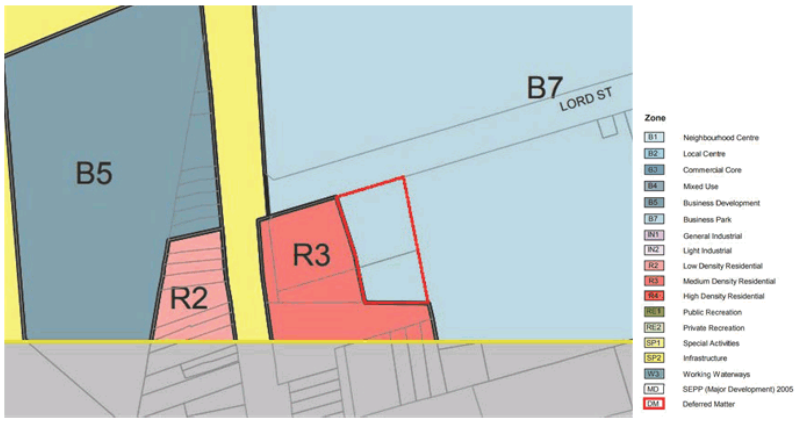

Figure 30 BBLEP 2013 Land Use Zoning Map extract (Source: NSW Legislation)

4.3.2 Building Height

The BBLEP 2013 designates a maximum building height of 10 metres for the subject site. Figure 31 is an extract of the Height of Buildings Map from BBLEP 2013.

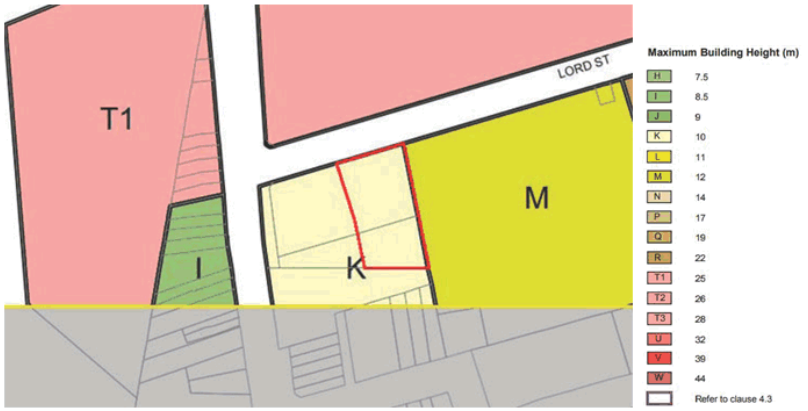

Figure 31 BBLEP 2013 Height of Buildings Map extract (Source: NSW Legislation)

4.3.3 Floor Space Ratio

The BBLEP 2013 designates a maximum FSR of 1:1 for the subject site under the BBLEP 2013. Figure 32 is an extract of the Floor Space Ratio Map from BBLEP 2013.

Figure 32 BBLEP 2013 FSR Map extract (Source: NSW Legislation)

4.4 Proposed Planning Provisions

This PP seeks to amend the planning controls in the BBLEP 2013 for the subject site. The PP seeks to revise the allowable maximum building height and FSR commensurate with the subject site's planning and urban design context to allow for the development of warehousing for commercial use. This PP specifically proposes to amend the BBLEP 2013 as follows:

4.4.1 Proposed Building Height

This PP seeks to amend the BBLEP 2013 maximum height map 001 to set a maximum height of 16.5m under a new height designation of 'O'. Refer Figure 33.

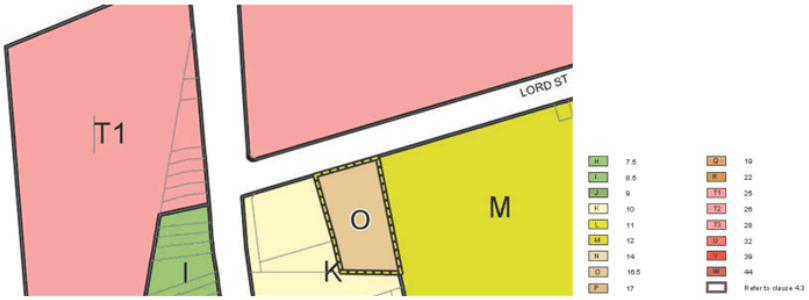

Figure 33 Proposed amendment to the BBLEP 2013 Height of Buildings Map (Source: NSW Legislation/City Plan)

4.4.2 Proposed Floor Space Ratio

This PP seeks to amend the BBLEP 2013 maximum FSR map 001 to set a maximum FSR of 1.75:1 under a new FSR designation of S1. Refer Figure 34.

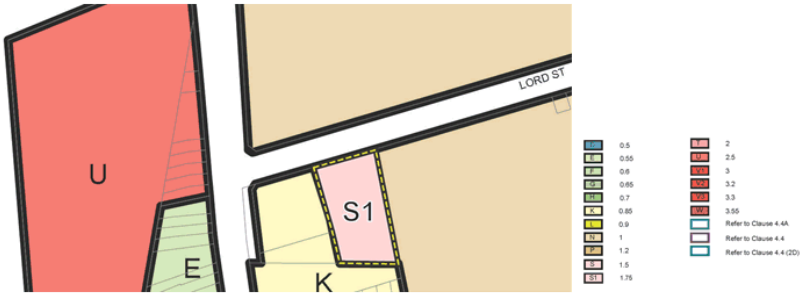

Figure 34 Proposed amendment to the BBLEP 2013 FSR Map (Source: NSW Legislation/ City Plan)

5. [Part 5] Community Consultation

It is anticipated that the planning authorities in Botany Bay Council and Greater Sydney Commission will conduct community consultation in accordance with the relevant provisions of the EP&A Act and Regulation which includes newspaper advertisement, public exhibition at Council offices and on Council's website and notification letters to adjacent property owners.

It is noted that confirmation of the public exhibition period and requirements for the PP will be given by the Minister as part of the LEP Gateway determination.

Any future DA for the sites would also be exhibited in accordance with Council requirements, at which point the public and any authorities would have the opportunity to make further comments on the proposal.

A meeting was undertaken on 1 March 2018 with Bayside Council's planning officers to discuss the proposal, its intended outcomes and impacts. The purpose of this meeting was to enable Council to provide feedback prior to the preparation and lodgement of a PP for the site.

Feedback from Council was generally positive. Feedback provided has been addressed in the preparation of this PP, as well as supporting concepts and technical studies.

Following its lodgement, the PP was considered by Council's independent planning assessor Mecone. A further meeting with Council and its appointed independent planning assessor Mecone was held on 4 September 2018 to discuss an clarify preliminary issues identified. Formal feedback was provided in correspondence dated 4 September 2018. Matters raised related to urban design, heritage, flooding, traffic and economics. These matters have now been addressed in this updated PP and supporting documentation. In response to additional information requested, updates were made to the Urban Design Review at Appendix A, the Draft DCP at Appendix B. Flood advice has now being provided as Appendix F as well as addenda to the Economics and traffic inputs, provided as Appendix C-1 and Appendix D-1 respectively.

6. [Part 6] Project Timeline

The following project timeline is provided in accordance with 'A guide to preparing planning proposals' prepared by the Department of Planning and Environment (2012).

		2	0	1	9					2	0	2	0			
Month	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O
Council Endorsement	■															
DPE Assessment		■	■	■												
Gateway Determination					■											
Agency Consultation							■	■								
Community Consultation							■	■								
Consideration of Proposal Post Exhibition								■	■	■						
Council Assessment										■	■					
Submission to DP&E to finalise LEP												■				
DPE Assessment													■	■		
Plan Making															■	■

7. Conclusion

The Planning Proposal is considered to have strategic planning merit and is justified as it:

- is consistent with the Botany Bay Planning Strategy 2031 in that it will enable the more efficient and effective use of employment land in proximity to two major international trade gateways of Sydney Airport and Port Botany;
- is considered the best means of achieving the objectives and intended outcomes as it proposes planning controls that allow for increased business and employment capacity on the site within the site's current land use zoning;
- is consistent with the Greater Sydney Region Plan and the Eastern City District Plan priorities, including in particular protecting and making better use of business and employment land in strategic locations;
- meets the requirements of relevant s9.1 Ministerial Directions including those numbered 1.1 Business and Industrial Zones; 2.3 Heritage Conservation; 3.4 Integrating Land Use and Transport; 3.5 Development Near Licensed Aerodromes; 4.1 Acid Sulfate Soils; and 4.3 Flood Prone Land; 6.3 Site Specific Provisions; and 7.1 Implementation of A Plan for Growing Sydney;
- is consistent with the desired future scale and character and of built form in the locality as demonstrated within the Urban Design Review at Appendix A and is compatible with surrounding land uses;
- is respectful of the adjacent heritage listed St Matthew's Church with only minor impacts to its heritage significance;
- be a catalyst for positive change in the local business environment provides for new business opportunities that will support economic growth and sustainability within Sydney's existing urban footprint;
- will result in a net increase in economic activity in an existing employment precinct that is strategically located in close proximity to Sydney's two key international trade gateways through direct and flow-on impacts (over the course of the construction phase):
  - $10.4 million in output (including $4.8 million in direct activity).
  - $3.9 million contribution to GRP (including $1.2 million in direct activity).
  - $2.1 million in incomes and salaries paid to households.
  - 28 FTE jobs (including seven directly employed in the construction activity).
- provides a well-considered design rationale that appropriately responds to its heritage context and adheres to the Burra Charter principals as demonstrated in Appendix E;
- is in a location where transport and utility infrastructure are available, and there will be no public infrastructure cost on the community; and
- is in a location where environmental planning issues and potential impacts are not of such significance as to preclude the proposal, and can be managed in the planning and design of future Development Applications.

Given the above strategic planning merit and justification, it is requested that Council proceed in forwarding this planning proposal to the Minister or his delegate for a Gateway determination under section 3.34 of the EP&A Act to enable the proposal to be exhibited for public, community and stakeholder input.

Appendix A

Urban Design Review/ Assessment

Appendix B

Draft Site Specific DCP

Appendix C

Economic Impacts Statement

Appendix C-1

Addendum to Economic Impacts Statement

Appendix D

Traffic and Parking Impacts Assessment

Appendix D-1

Addendum to Traffic and Parking Impacts Assessment

Appendix E

Heritage Impacts Statement

Appendix F

Flood Advice

Appendix G

Site Survey

Appendix H

Table of SEPPs

SEPP	Not Relevant	Justifiably Inconsistent	Consistent
SEPP 1 - Development Standards			✓
SEPP 19 - Bushland in Urban Areas	✓		
SEPP 21 - Caravan Parks (formerly Movable Dwellings)	✓		
SEPP 30 - Intensive Agriculture	✓		
SEPP 33 - Hazardous and Offensive Development	✓		
SEPP 36 - Manufactured Home Estates	✓		
SEPP 44 - Koala Habitat Protection	✓		
SEPP 47 - Moore Park Showground	✓		
SEPP 50 - Canal Estates	✓		
SEPP 52 - Farm Dams and Other Works in Land and Water Management Plan Areas	✓		
SEPP 55 - Remediation of Land			✓
SEPP 62 - Sustainable Aquaculture	✓		
SEPP 64 - Advertising and Signage	✓		
SEPP 65 - Design Quality of Residential Flat Development	✓		
SEPP 70 - Affordable Housing (Revised Schemes)	✓		
SEPP (Affordable Rental Housing) – 2009	✓		
SEPP (Building Sustainability Index: BASIX) 2004	✓		
SEPP (Coastal Management) 2018	✓		
SEPP (Educational Establishments and Child Care Facilities) 2017	✓		
SEPP (Exempt and Complying Development Codes) 2008	✓		
SEPP (Housing for Seniors or People with a Disability) 2004	✓		
SEPP (Infrastructure) 2007			✓
SEPP (Integration and Repeals) 2016	✓		
SEPP (Kosciuszko National Park—Alpine Resorts) 2007	✓		

SEPP	Not Relevant	Justifiably Inconsistent	Consistent
SEPP (Kurnell Peninsula) 1989	✓		
SEPP (Mining, Petroleum Production & Extractive Industries) 2007	✓		
SEPP (Miscellaneous Consent Provisions) 2007	✓		
SEPP (Penrith Lakes Scheme) 1989	✓		
SEPP (Rural Lands) 2008	✓		
SEPP (State and Regional Development) 2011	✓		
SEPP (Sydney Drinking Water Catchment) 2011	✓		
SEPP (Sydney Region Growth Centres) 2006	✓		
SEPP (Three Ports) 2013	✓		
SEPP (Urban Renewal) 2010	✓		
SEPP (Western Sydney Employment Area) 2009	✓		
SEPP (Western Sydney Parklands) 2009	✓		

Appendix I

Table of s9.1 Directions

	Ministerial Direction	Not Relevant	Justifiably Inconsistent	Consistent
1.	**Employment & Resources**			
1.1	Business and Industrial Zones			✓
1.2	Rural Zones	✓		
1.3	Mining, Petroleum Production and Extractive Industries	✓		
1.4	Oyster Aquaculture	✓		
1.5	Rural Lands	✓		
2	**Environment & Heritage**			
2.1	Environmental Protection Zones	✓		
2.2	Coastal Protection	✓		
2.3	Heritage Conservation	✓		
2.4	Recreation Vehicle Areas	✓		
2.5	Application of E2 and E3 Zones and Environmental Overlays in Far North Coast LEPs	✓		
3	**Housing, Infrastructure and Urban Development**			
3.1	Residential Zones	✓		
3.2	Caravan Parks and Manufactured Home Estates	✓		
3.3	Home Occupations	✓		
3.4	Integrating Land Use and Transport			✓
3.5	Development Near Licensed Aerodromes			✓
3.6	Shooting Ranges	✓		
4	**Hazard and Risk**			
4.1	Acid Sulfate Soils		✓	
4.2	Mine Subsidence and Unstable Land	✓		
4.3	Flood Prone Land			✓
4.4	Planning for Bushfire Protection	✓		
5	**Regional Planning**			
5.1	(Revoked 17 October 2017)	✓		
5.2	Sydney Drinking Water Catchments	✓		

	Ministerial Direction	Not Relevant	Justifiably Inconsistent	Consistent
5.3	Farmland of State and Regional Significance on the NSW Far North Coast	✓		
5.4	Commercial and Retail Development along the Pacific Highway, North Coast	✓		
5.5	(Revoked 18 June 2010)	✓		
5.6	(Revoked 10 July 2008)	✓		
5.7	(Revoked 10 July 2008)	✓		
5.8	Second Sydney Airport: Badgerys Creek	✓		
5.9	North West Rail Link Corridor Strategy	✓		
5.10	(Revoked 17 October 2017)	✓		
6	**Local Plan Making**			
6.1	Approval and Referral Requirements	✓		
6.2	Reserving Land for Public Purposes	✓		
6.3	Site Specific Provisions			✓
7	**Metropolitan Planning**			
7.1	Implementation of A Plan for Growing Sydney	Superceded		
7.2	Implementation of Greater Macarthur Land Release Investigation	✓		
7.3	Parramatta Road Corridor Urban Transformation Strategy	✓		
7.4	Implementation of North West Priority Growth Area Land Use and Infrastructure Implementation Plan	✓		
7.5	Implementation of Greater Parramatta Priority Growth Area Interim Land Use and Infrastructure Implementation Plan	✓		
7.6	Implementation of Wilton Priority Growth Area Interim Land Use and Infrastructure Implementation Plan	✓		
7.7	Implementation of Glenfield to Macarthur Urban Renewal Corridor	✓		

1-3 Lord Street, Botany
Urban Design Review
Planning Proposal - September 2018
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SITE SHOWN IN RED

Aerial Photo

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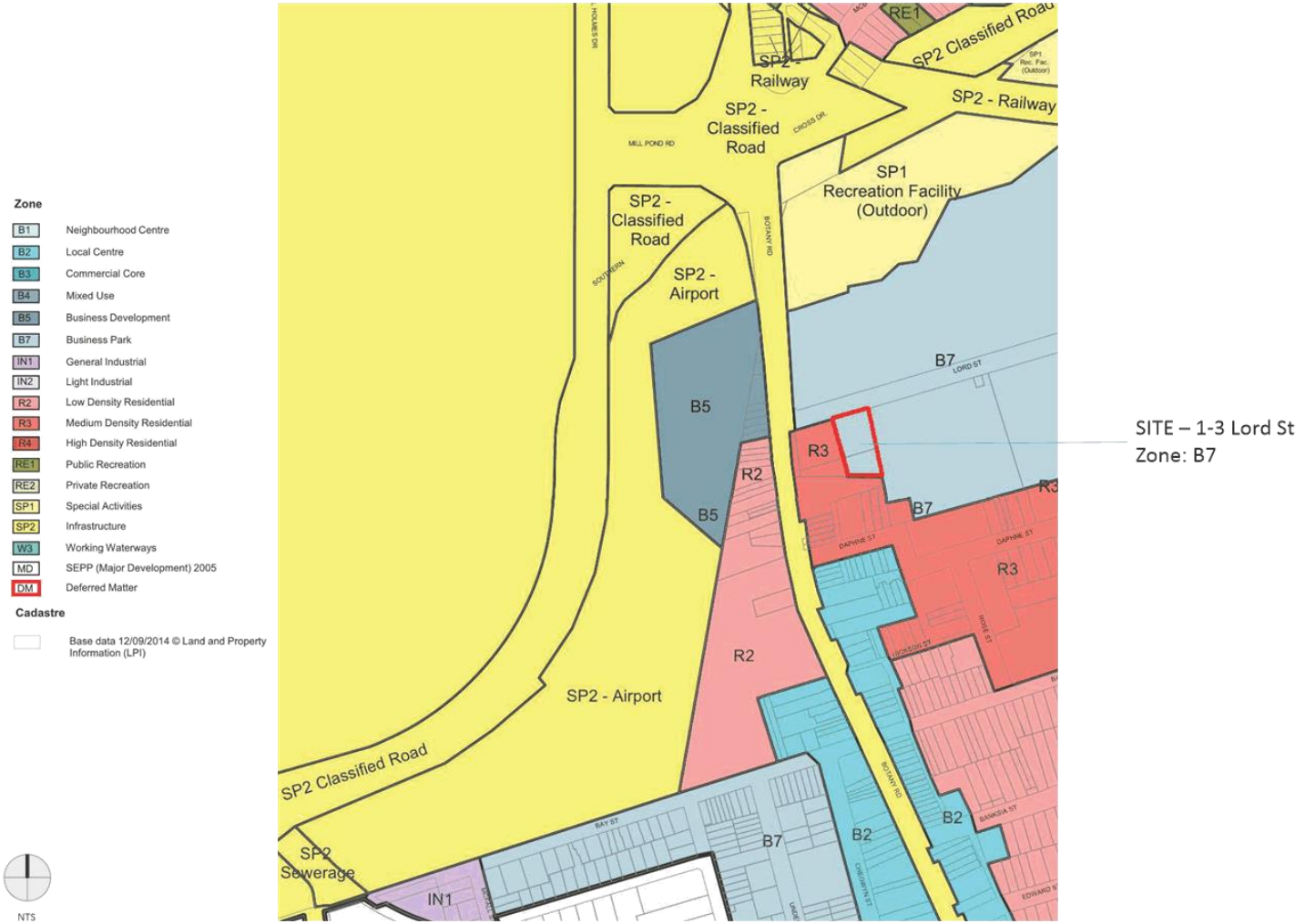

Zoning Map

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FSR Map

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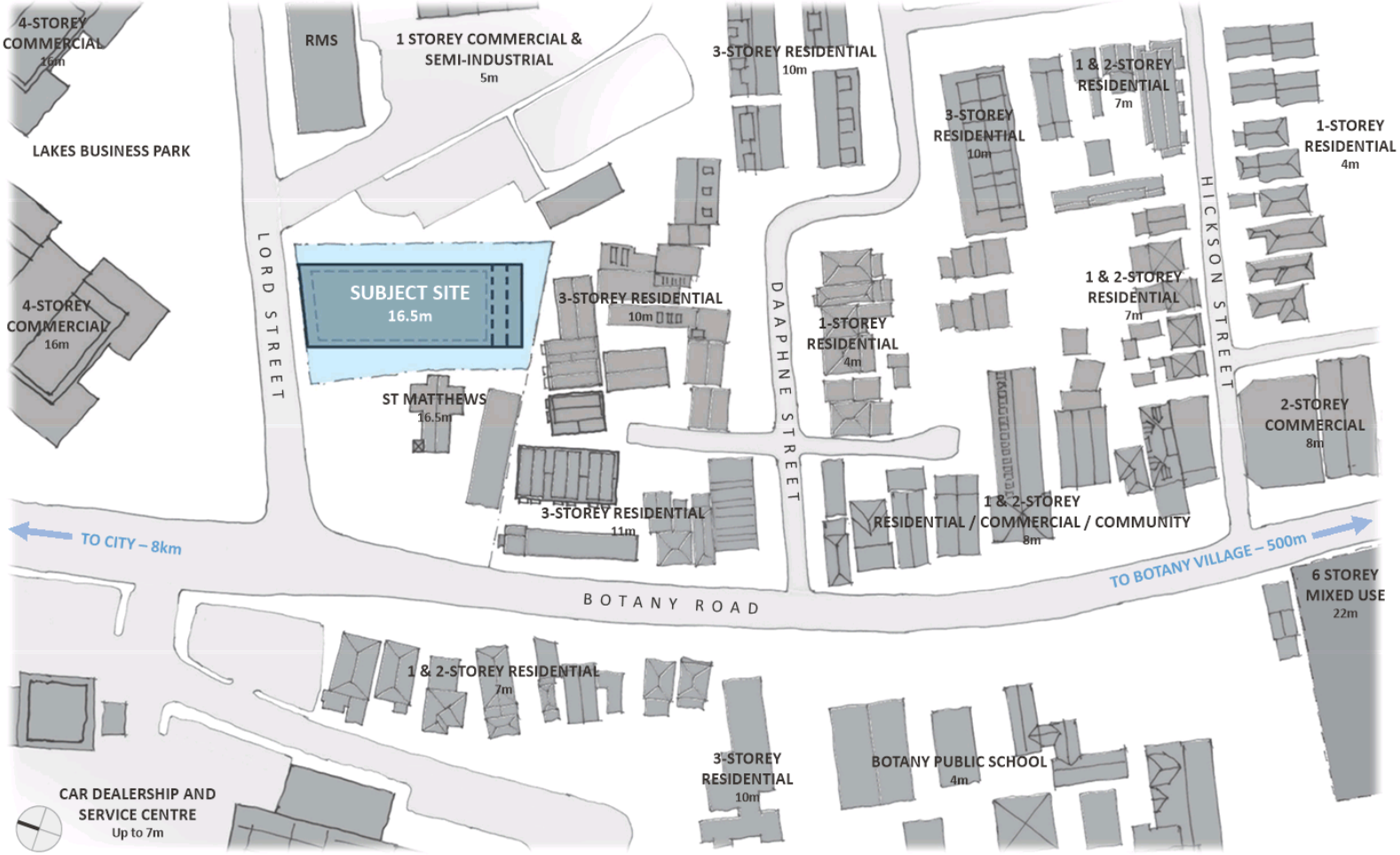

Context Plan

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Site Plan

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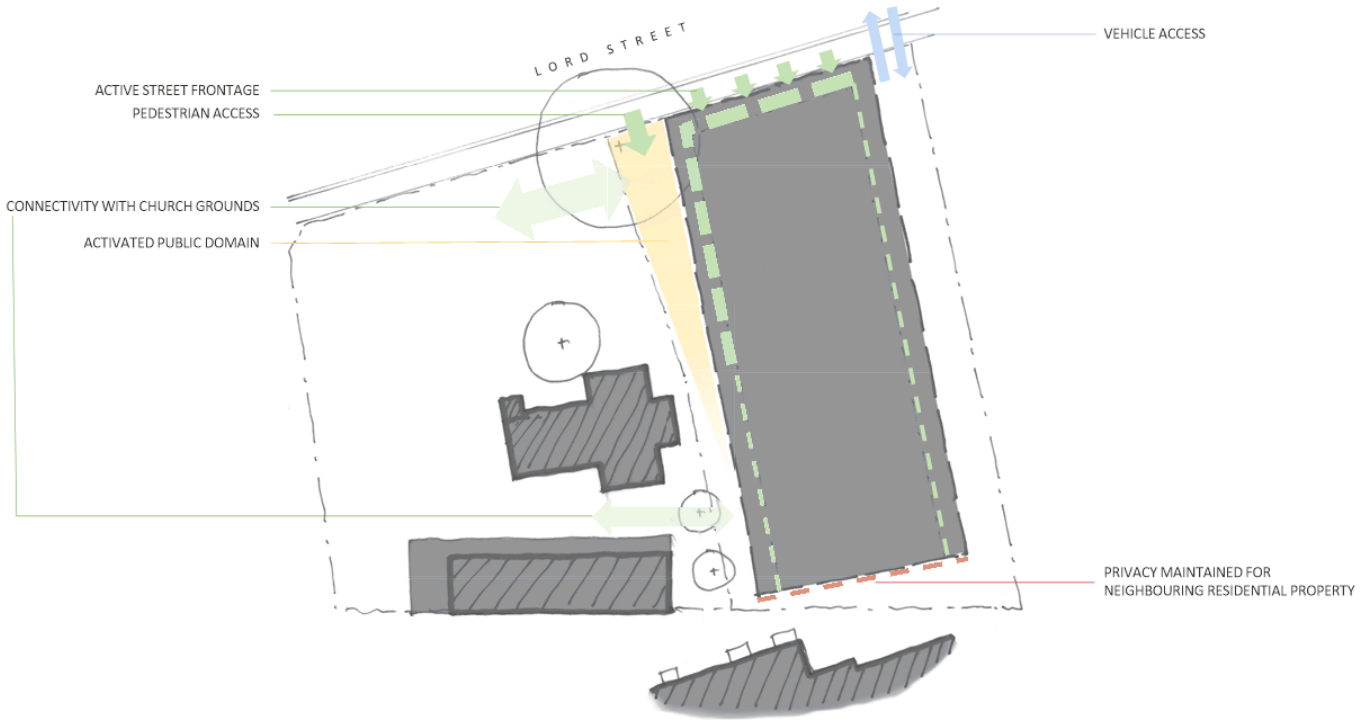

Access and Activation

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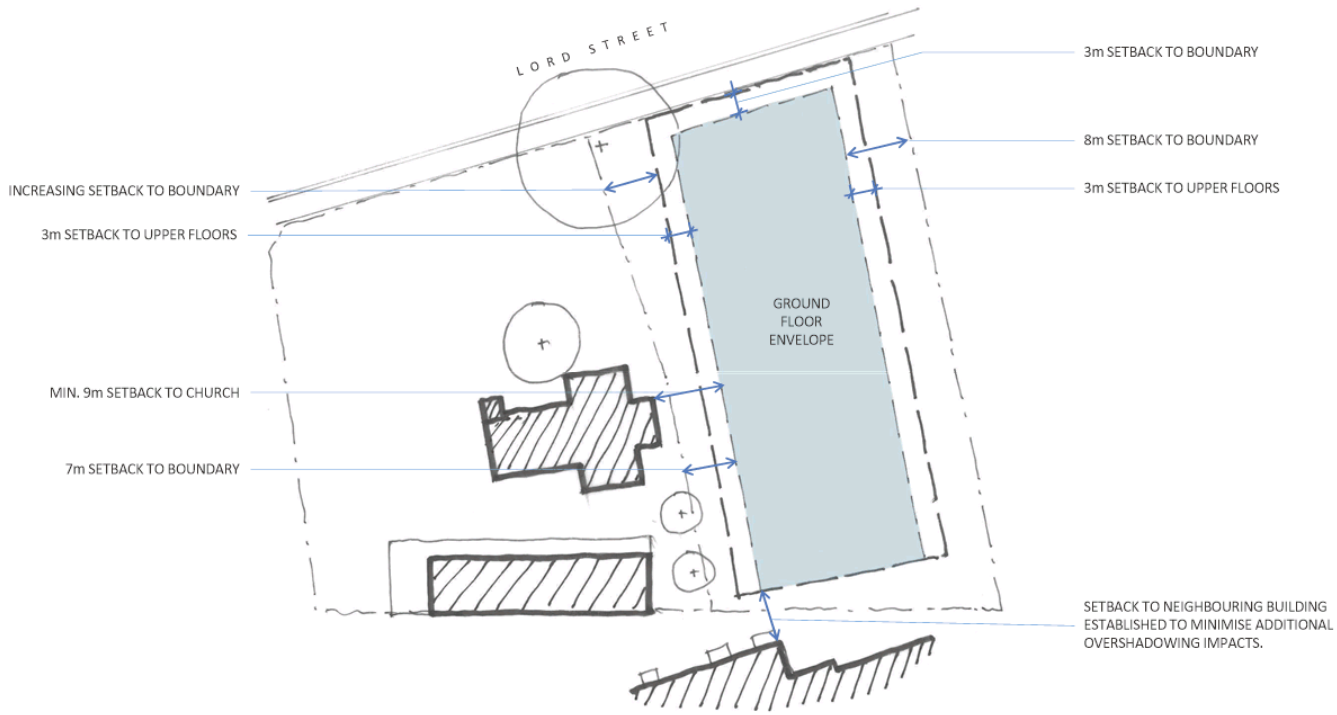

NTS

Revised Envelope Setbacks – Ground Floor

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Revised Envelope Setbacks – Upper Floors

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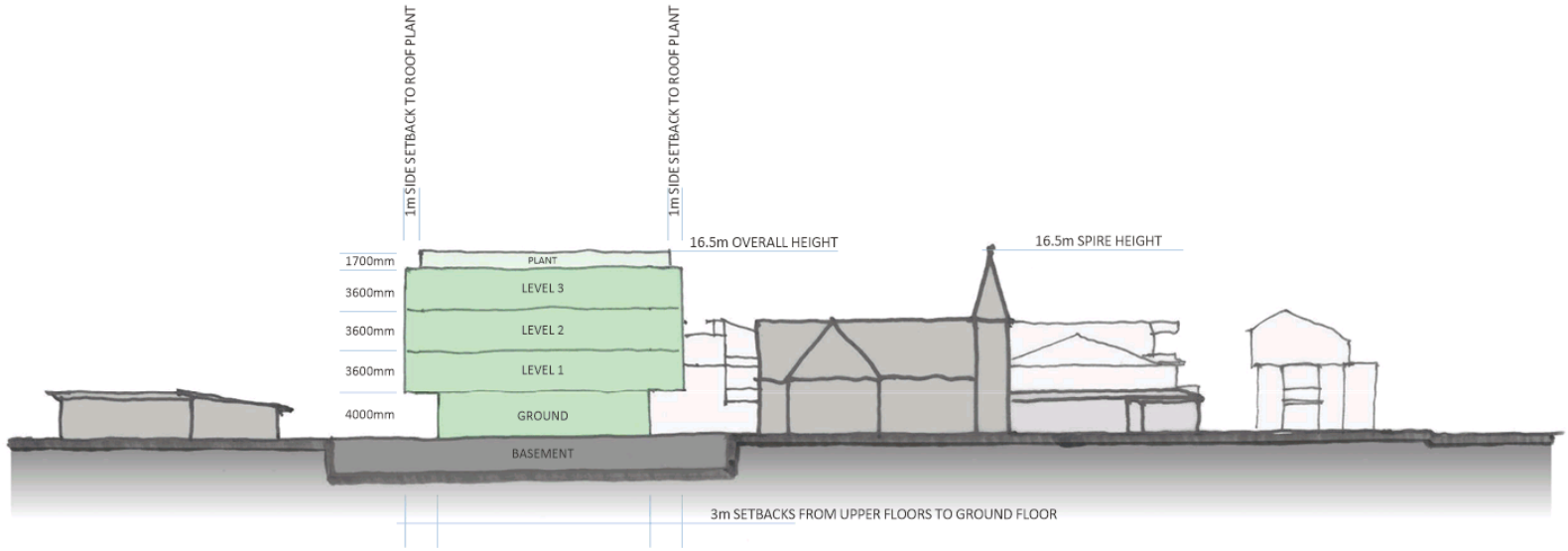

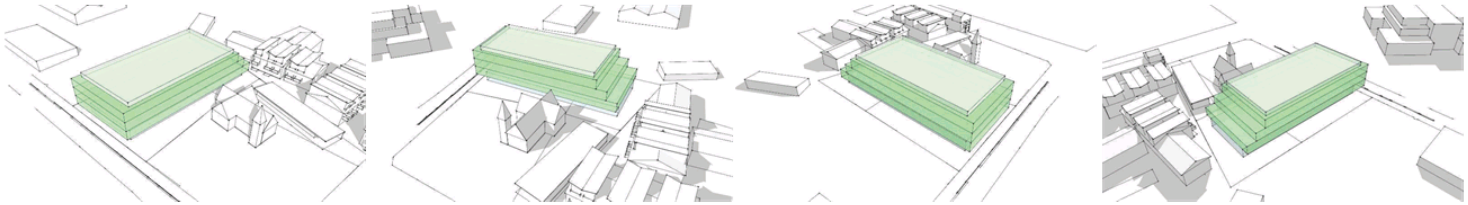

Proposed Envelopes

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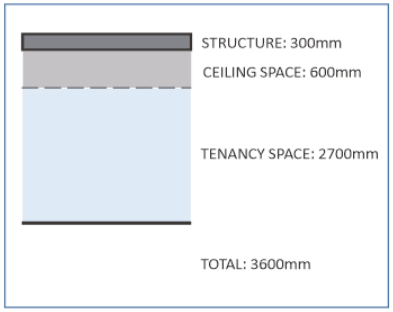
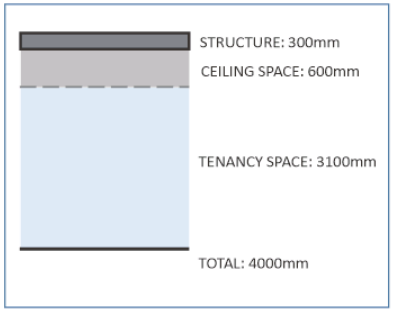
PROPOSED DEVELOPMENT AREAS

Floor	Height	Use	Area
Basement 1	(3m)	Car parking	N/A
Ground	4.0m	Commercial/Warehouse Lobby Retail/Cafe	522sqm 100sqm 99sqm
Level 1	3.6m	Commercial	1350sqm
Level 2	3.6m	Commercial	1250sqm
Level 3	3.6m	Commercial	1150sqm
Roof	1.7m	*Plant/Overrun*	
Total	16.5m		4471sqm

3.6M FLOOR-TO-FLOOR



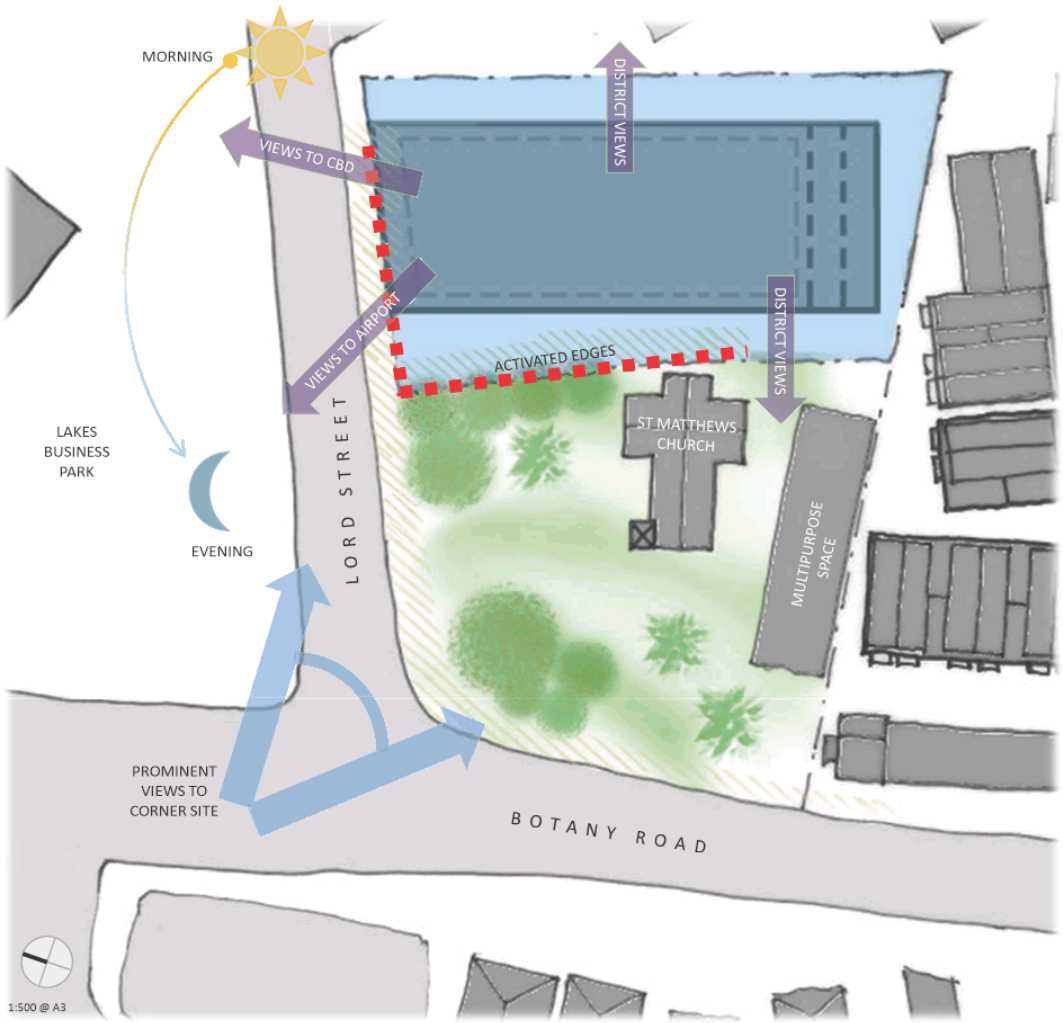
4.0M FLOOR-TO-FLOOR



KEY DEVELOPMENT CONTROLS

Site Area	2555sqm
Existing FSR (LEP)	1:1
Proposed FSR	1.75:1
Proposed GFA	4471sqm
- Ground Floor Commercial/Warehouse	*522sqm*
- Ground Floor Commercial Lobby	*100sqm*
- Ground Floor Café/Retail/Ancillary	*99sqm*
- Level 1 Commercial	*1350sqm*
- Level 2 Commercial	*1250sqm*
- Level 3 Commercial	*1150sqm*
Existing Height Limit (DCP)	10m
Proposed Height Limit	16.5m
Zone B7 Business Park	No change proposed.
Parking Requirement	85 Spaces
- Ground Floor Commercial 1:40	*13*
- Ground Floor Café/Retail 1:28	*4*
- Upper Floor Commercial 1:55	*68*
Proposed Basement 1 Parking	74 spaces
Proposed Ground Level Parking	18 spaces
Proposed Total Parking	92 Spaces

Note: Refer to Traffic and Parking Impact Assessment for information on parking requirements



Siting:
This site offers a unique opportunity to address the corner of Lord St and Botany Rd, and as a backdrop to St Matthews Church and the Church Grounds, this site also serves as a visual cue as an entry or gateway to the Botany village area.

Urban Context:
The corner is initially met with a view of St Matthew's Church, which was constructed in 1862 and is adorned with manicured lawn space and large palm trees. The church is now also flanked by a newly built multipurpose centre and provides a historic and important landmark for Botany, but renders the site somewhat closed off and is relatively inactive for a prominent corner site.

Activation:
The proposed development seeks to activate along its western edge, providing an outdoor space that will bring with it lighting, access, pedestrian amenity, and enhanced visibility and security. This also creates the opportunity to connect with the church grounds whilst maintaining security to the site.

Urban Design:
A building on this site will firstly provide a contemporary urban backdrop to the historical church site, and become a defacto street corner, with the church and church grounds in the foreground.
The building's mass will be somewhat linear, providing comfortable setbacks along the long edges of the site and will seek to minimise the overshadowing profile for the neighbouring residential property.

Views and Amenity:
Key views from the site sweep from west to north-east, capturing aspects across the district and the airport, and further across to the CBD.
Whilst privacy will be maintained on the southern side, district views will be prominent to the east and west sides.

Development Opportunities

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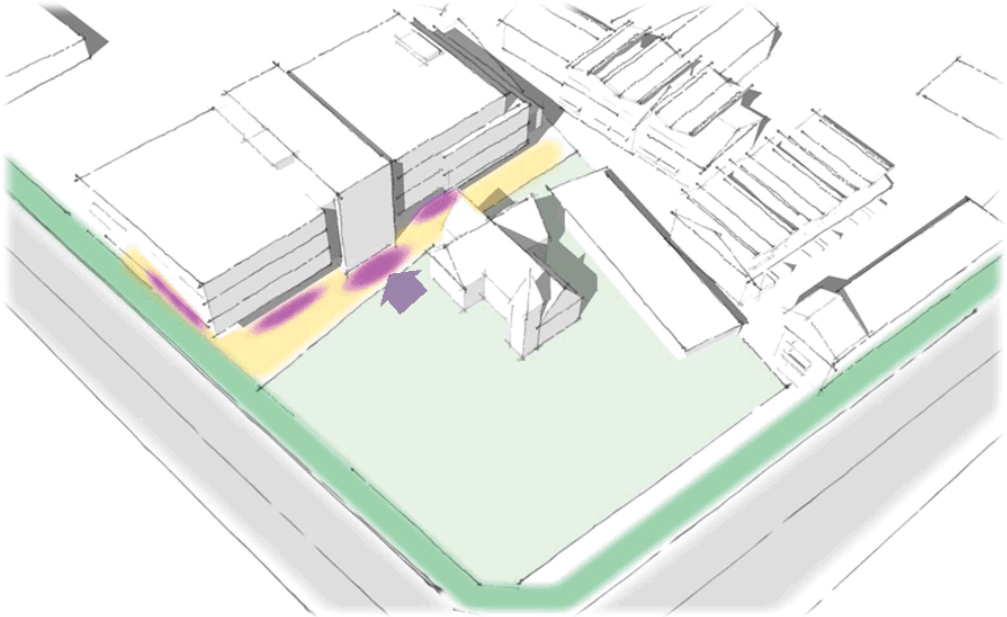

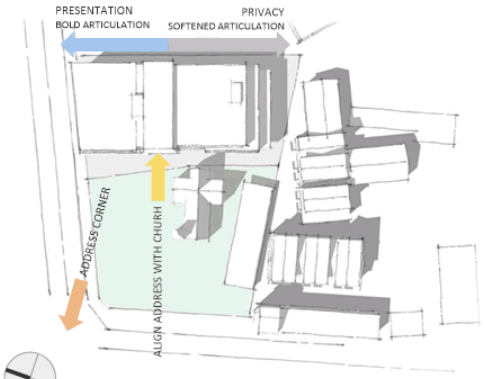

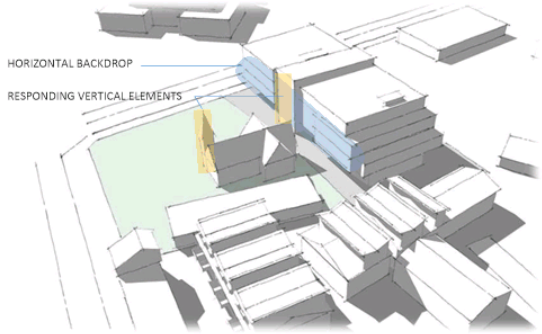

Concentrate mass to Lord Street:
- Maintain a street address and presence along Lord Street
- Articulate built form to address adjoining functions, including the active street edge.
- Minimise visual, overshadowing, and privacy impacts on the residential development at rear.
- Introduce a commercial aesthetic to the edge of the B7 zone, addressing a convergence of uses.

Reinstate the corner of Botany Road and Lord Street:
- The enormous setbacks of the church do not adequately define the street corner.
- The corner of Lord St and Botany Road are prominent in that they identify the entry to the Botany Village area.
- Create a backdrop to the church, and a bookend to Lord Street and the Business Park precinct.

Address historical church site:
- Create new pedestrian access zone along the western boundary of the site, adjoining the church.
- Activate new pedestrian access zone to reinvigorate the corner and the Church grounds
- Provide community amenity (such as commuter bicycle parking) with direct access from the newly created pedestrian access zone.
- Provide commercial entry and address off new pedestrian access zone.

Green space – private and public open space
Pedestrian thoroughfare – existing
Pedestrian thoroughfare – proposed laneway
Proposed building address and entry points

Design Principles

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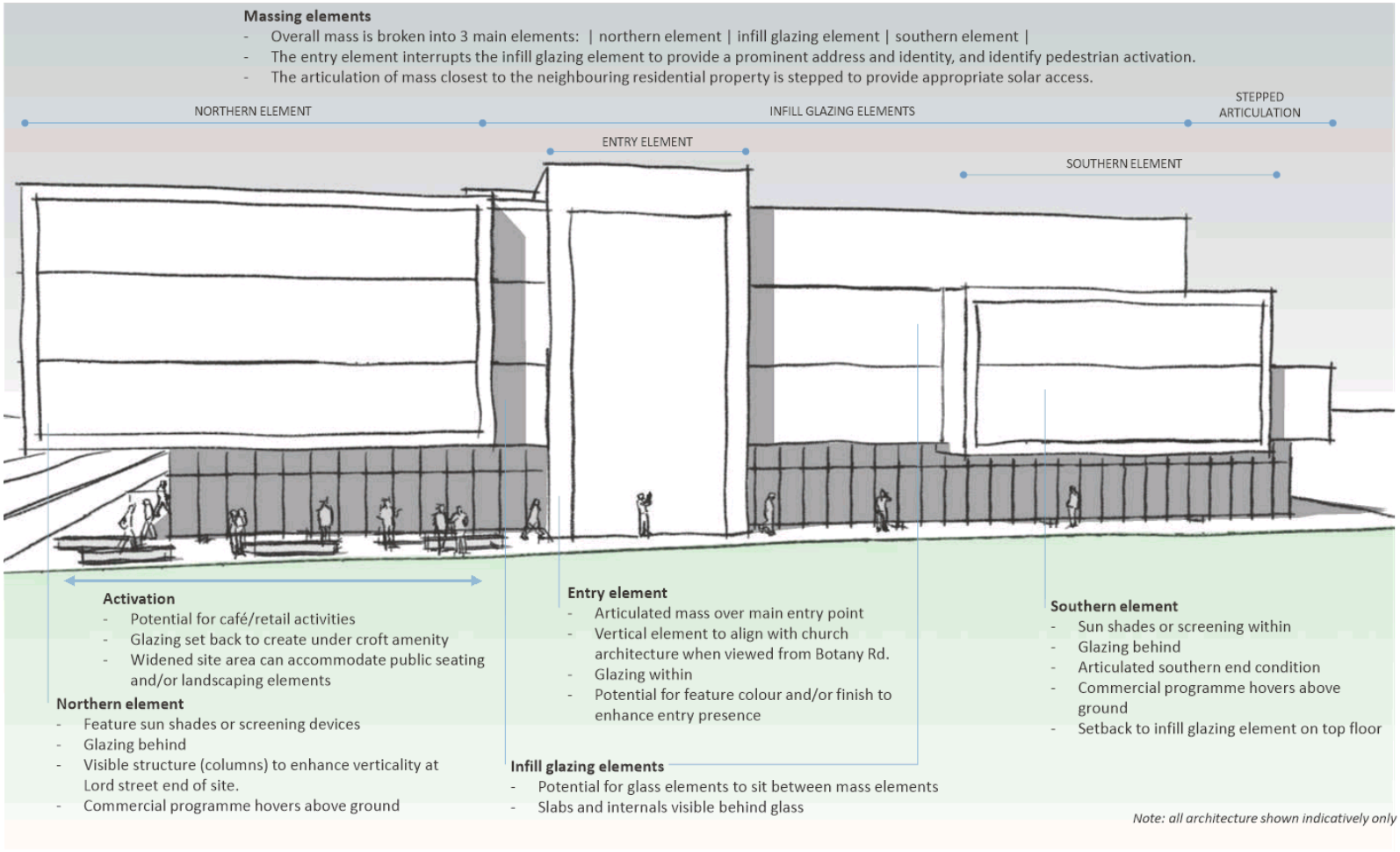

Indicative Western Façade Composition

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Indicative View from Botany Road

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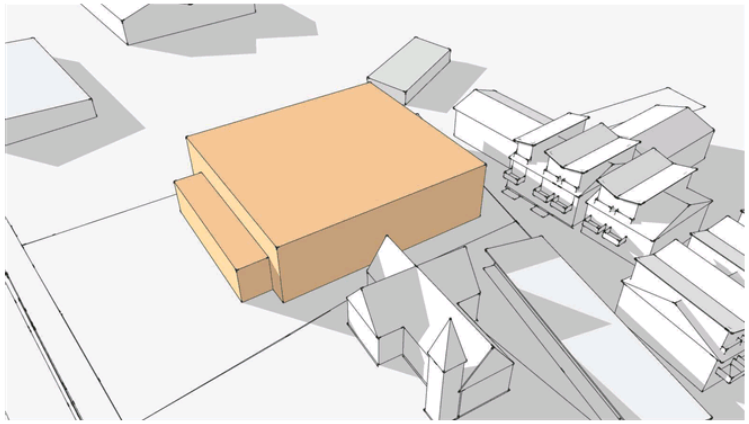
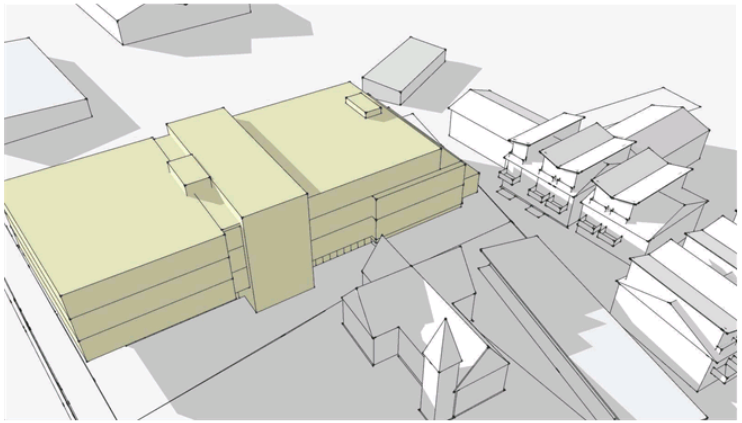


EXISTING 0900



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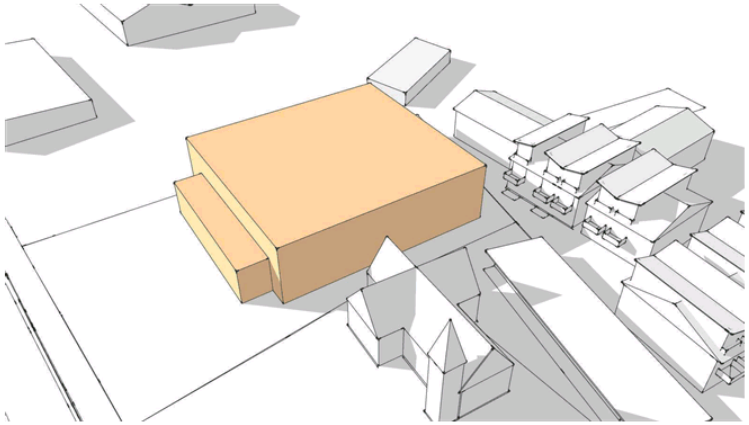

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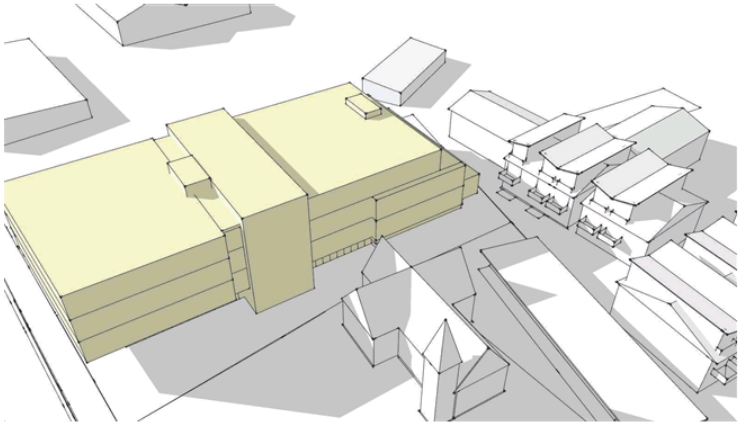

PROPOSED 1000

Note: Building design, architecture, and articulation shown indicatively only.

Shadow Analysis – June 21, 0900-1000

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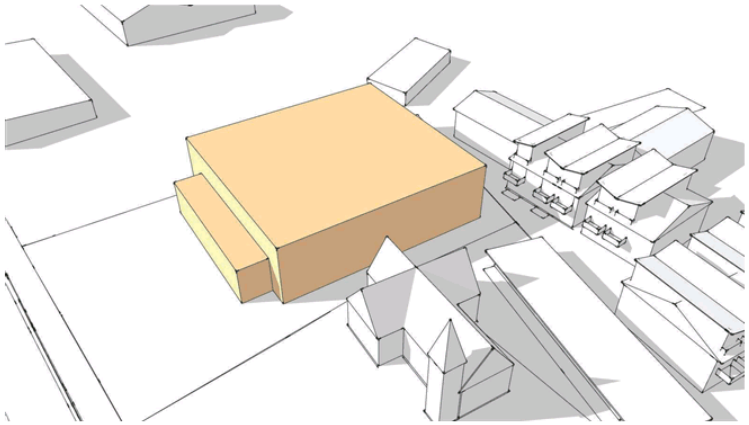
September 2018



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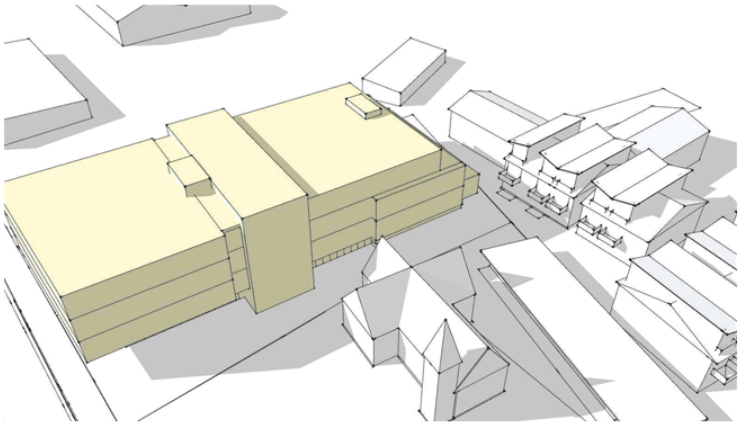
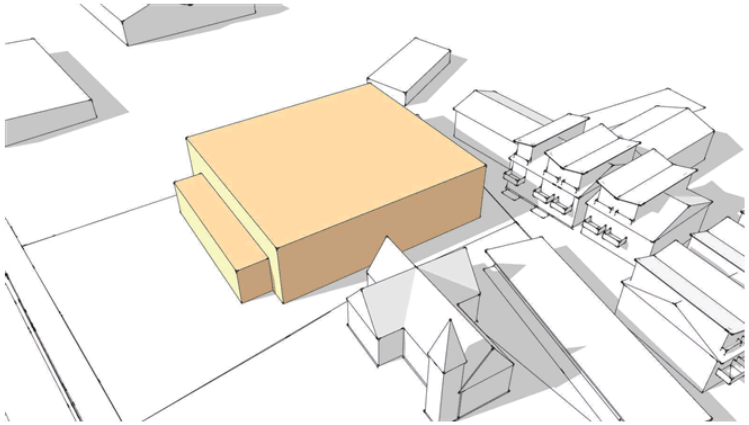
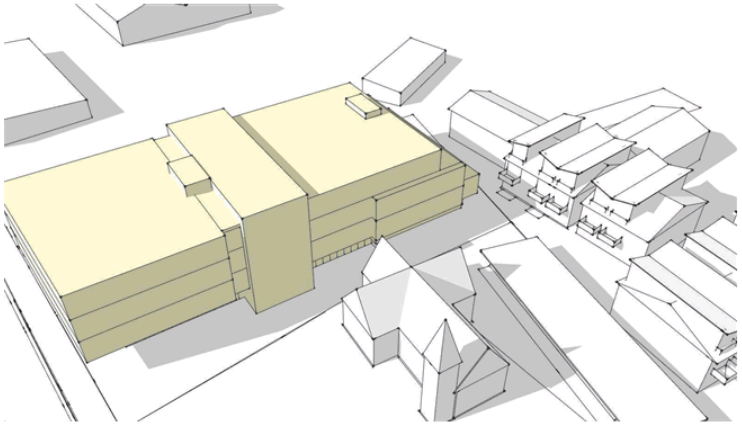


PROPOSED 1100



EXISTING 1200



PROPOSED 1200

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Shadow Analysis – June 21, 1100-1200

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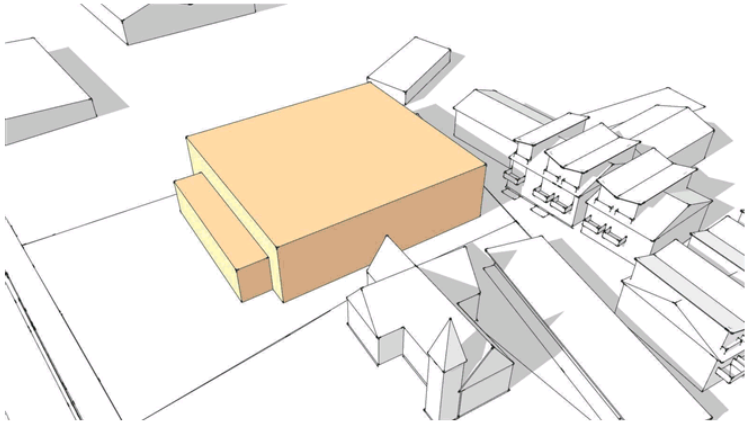
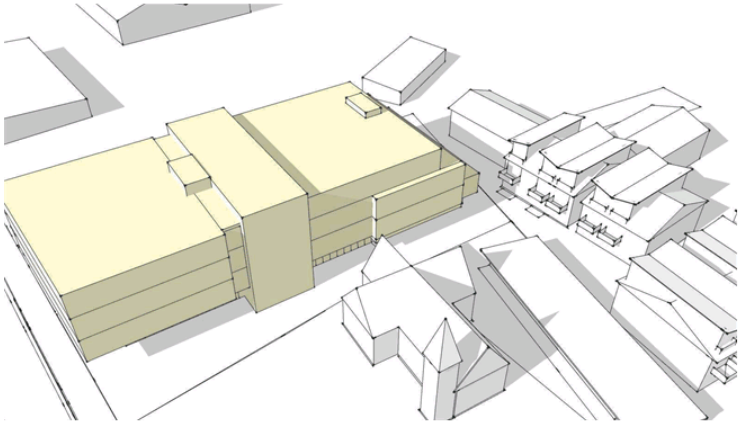
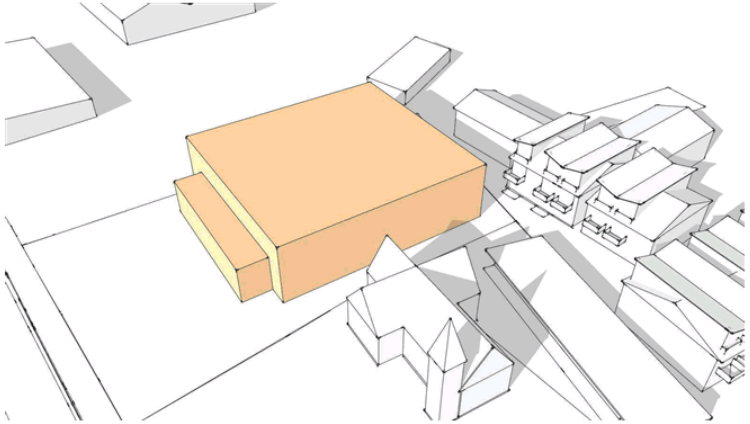


EXISTING 1300



PROPOSED 1300



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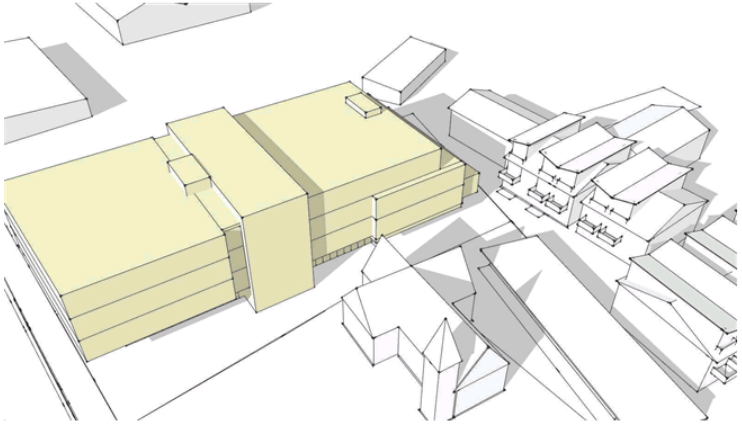

PROPOSED 1400

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Shadow Analysis – June 21, 1300-1400

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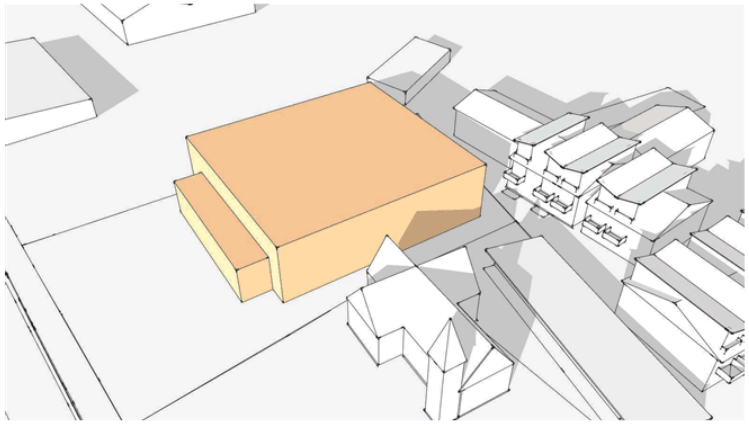

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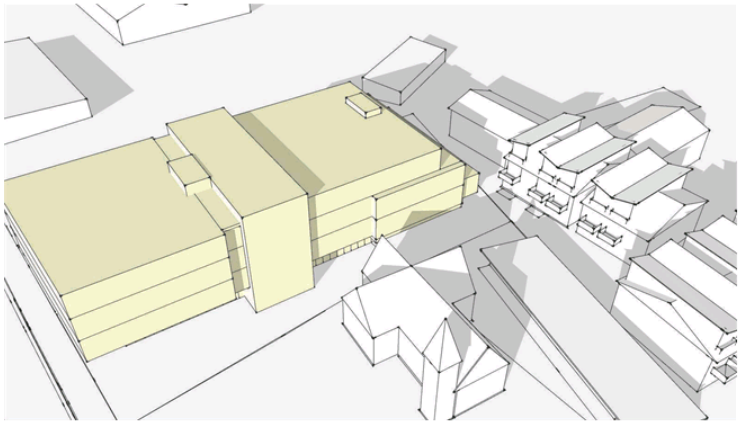

PROPOSED 1500

Note: Proposed building design, architecture, and articulation shown indicatively only.

Shadow Analysis – June 21, 1500

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1-3 Lord Street, Botany
Envelope and Shadow Commentary
16 August 2018

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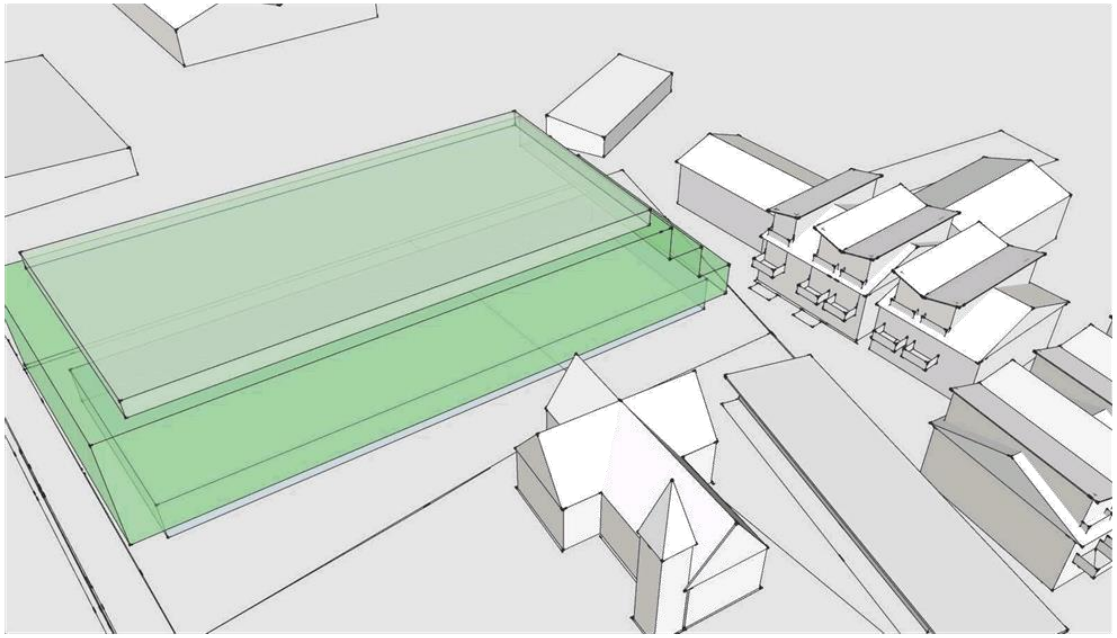

Comments:

- Revised envelope to address overshadowing of neighbouring residential properties.
- Stepped envelope adopted.
- Envelope depicts the area in which a 1.75:1 FSR will be achieved.
- DCP required and architectural façade and building articulations are not demonstrable.
- Fenestrations and external features may protrude in some areas.

Revised Envelope

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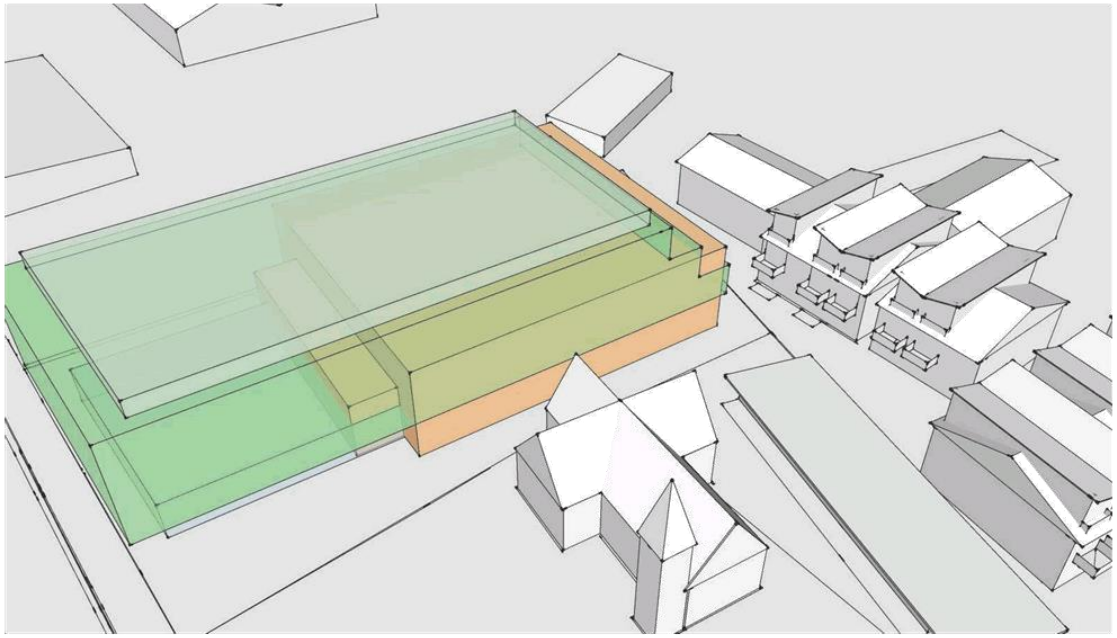
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



Comments:

- Existing building
- Proposed Envelope (upper floors)
- Proposed Envelope (ground floor)
- Proposed Envelope (plant/rooftop)

Revised Envelope and Existing Building Envelope

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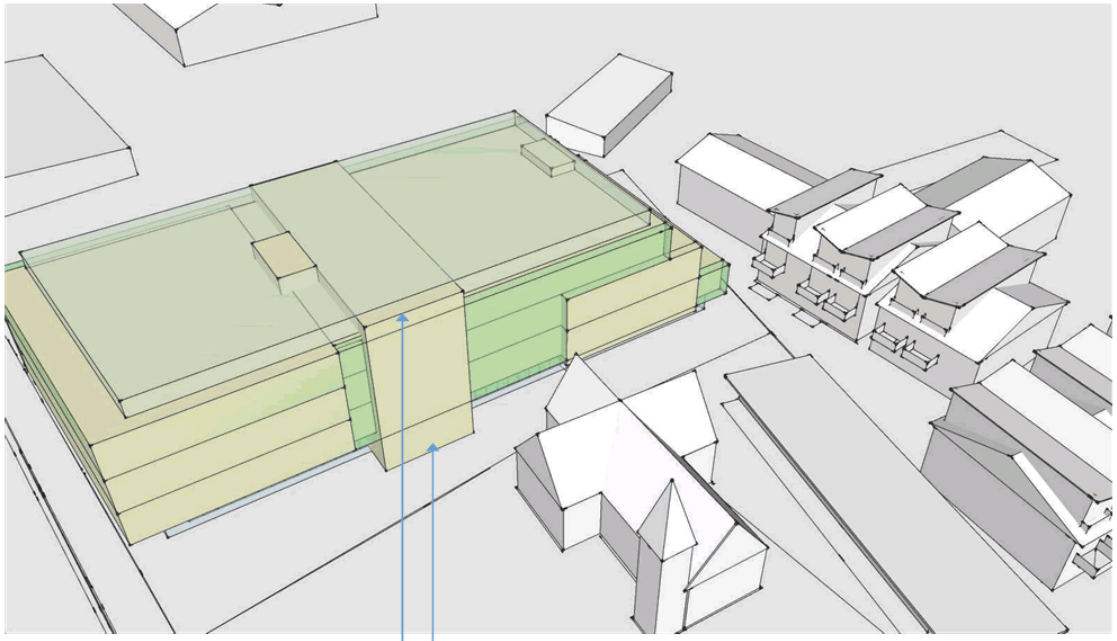
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



Note: Building design, architecture, and articulation shown indicatively only.

Note: Some elements such as entries or colonnade spaces (non-GFA spaces) may protrude through the envelope to provide amenity through building articulation. Whilst shown here as solid masses, these elements may be transparent, permeable, and/or trafficable.

Comments:

- Indicative building
- Proposed Envelope (upper floors)
- Proposed Envelope (ground floor)
- Proposed Envelope (plant/rooftop)
- The indicative building mass shown is capable of achieving an FSR of 1.75:1.

Revised Envelope and Revised Indicative Building Envelope

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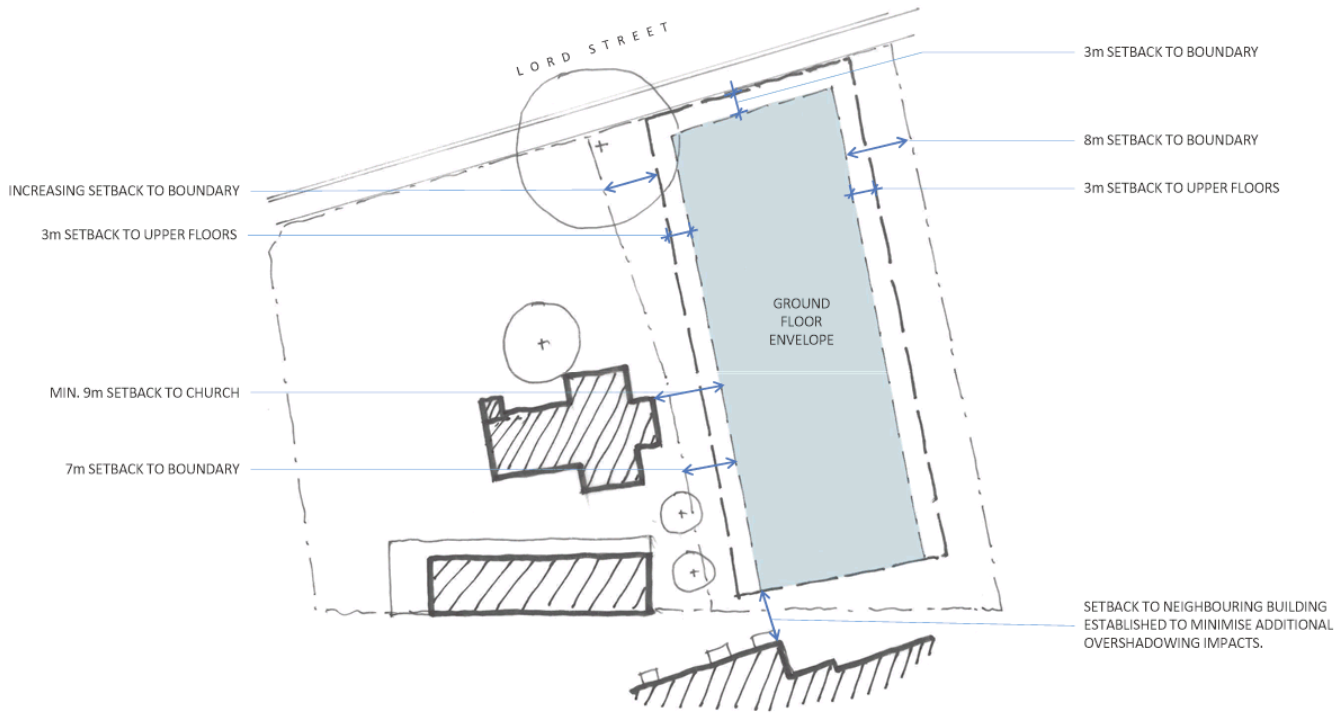
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



NTS

Revised Envelope Setbacks – Ground Floor

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1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018

Revised Envelope Setbacks – Upper Floors

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1-3 Lord St Botany – Envelope and Shadow Commentary
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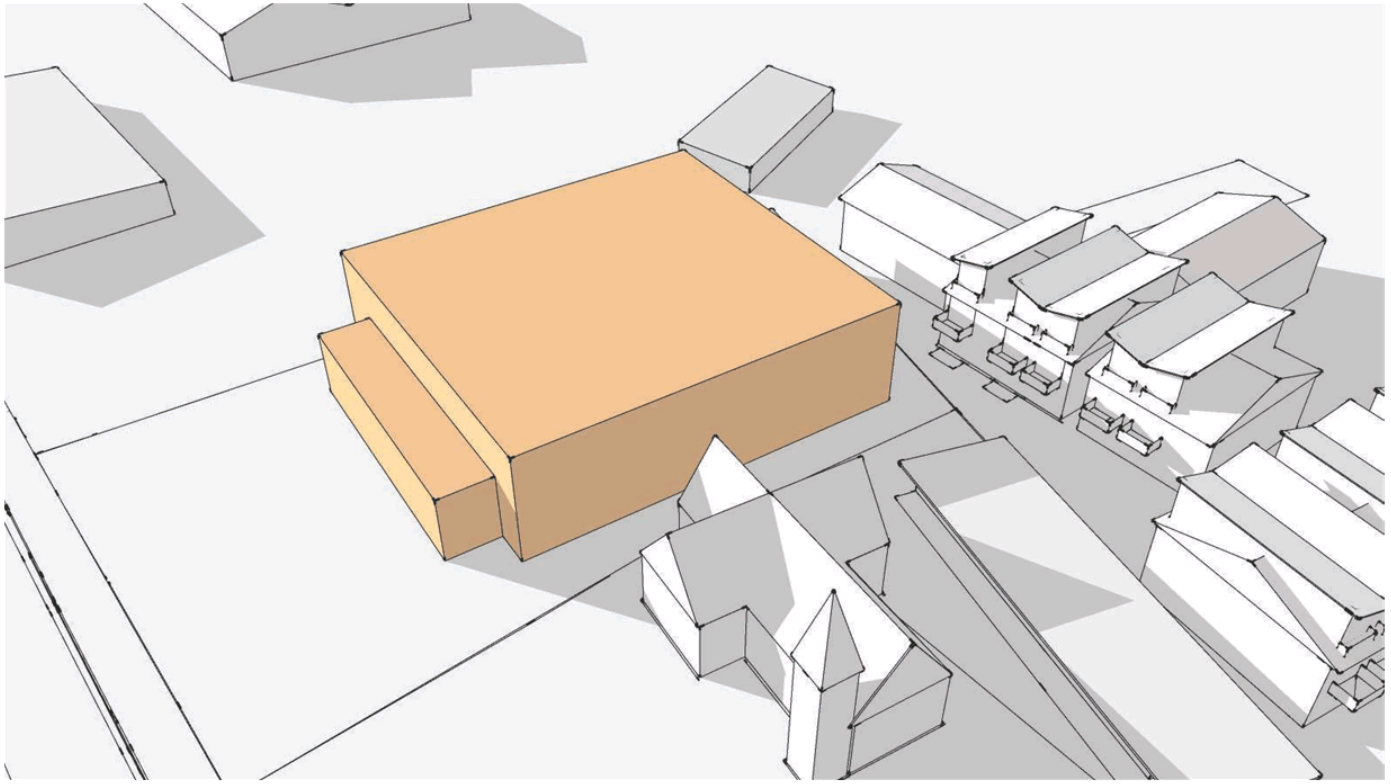

Existing Building Envelope – June 21, 0900

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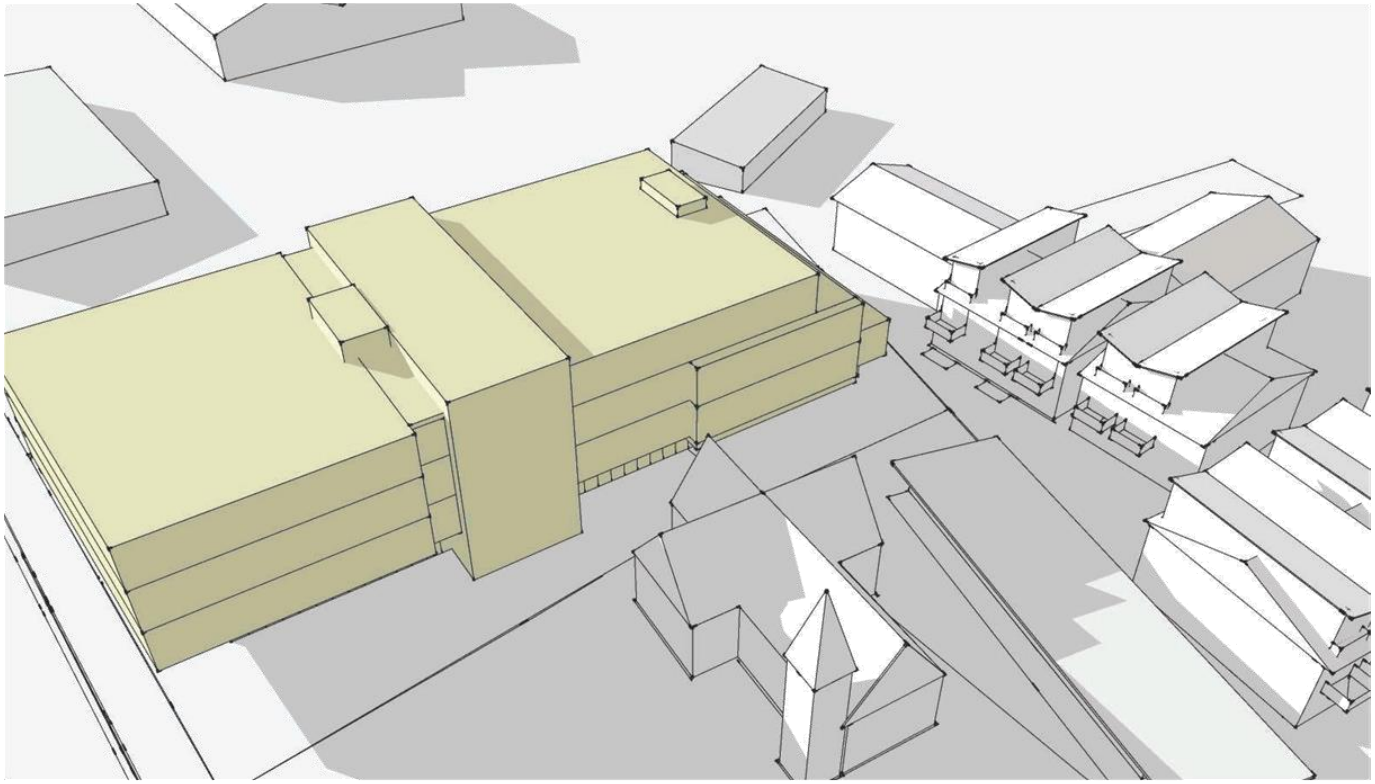
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



Note: Building design, architecture, and articulation shown indicatively only.

Revised Indicative Building Envelope – June 21, 0900

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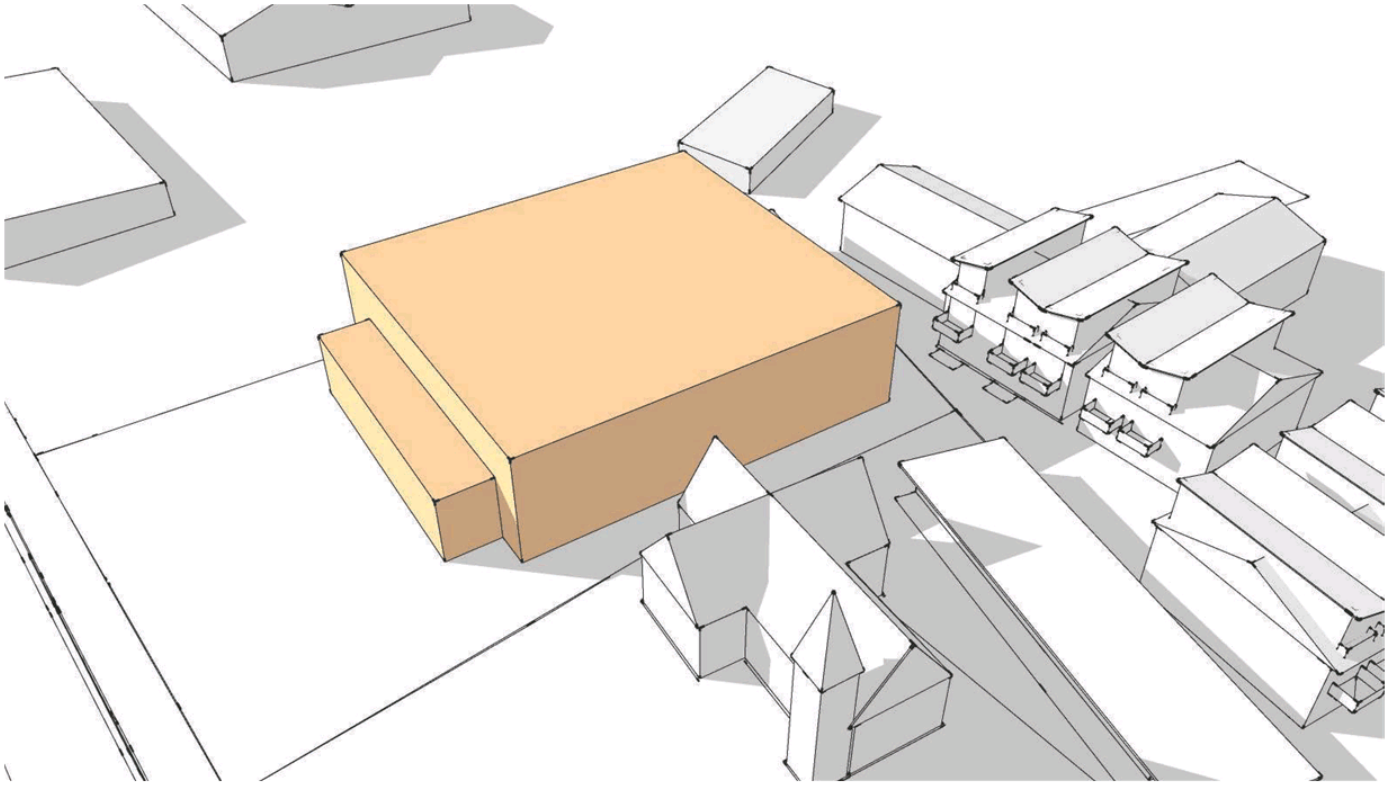
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



Existing Building Envelope – June 21, 1000

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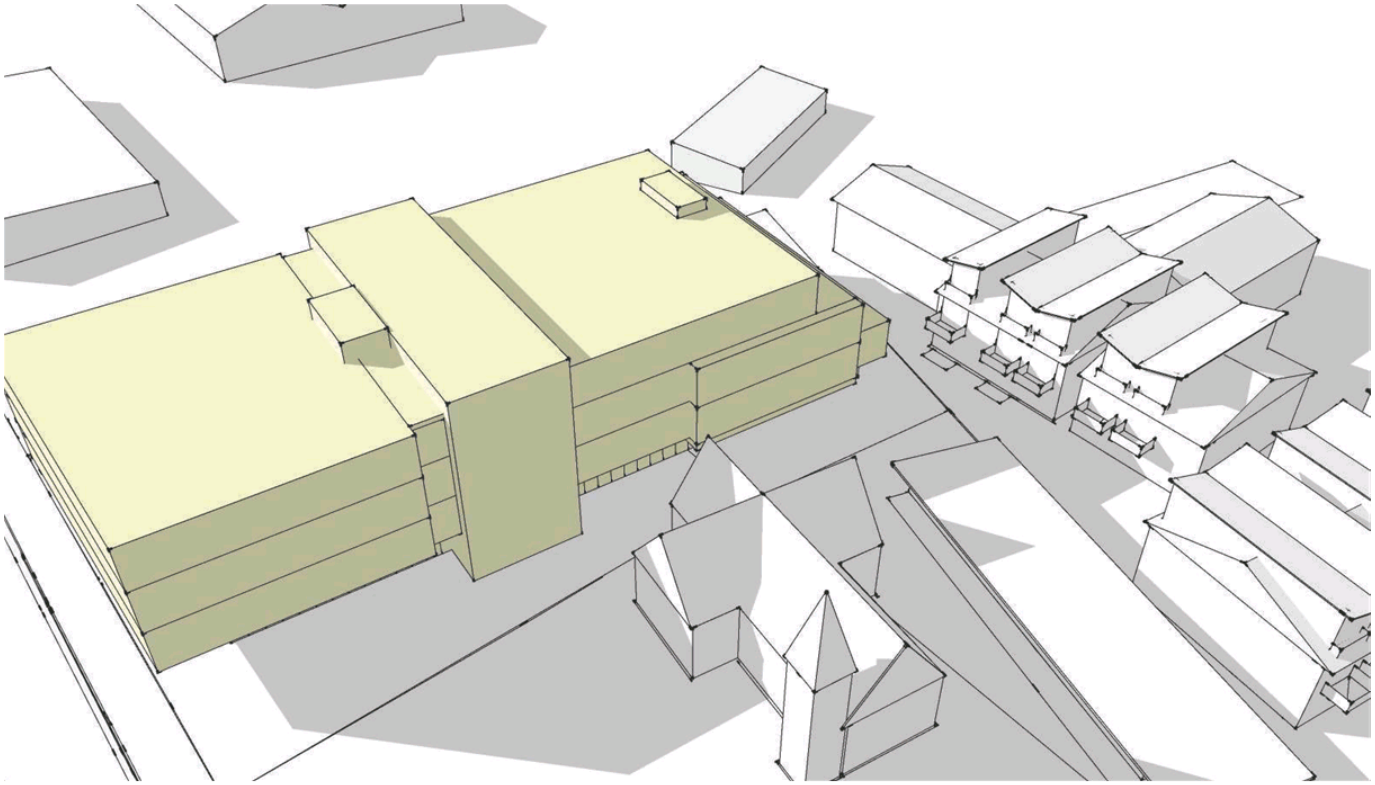
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



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Revised Indicative Building Envelope – June 21, 1000

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1-3 Lord St Botany – Envelope and Shadow Commentary
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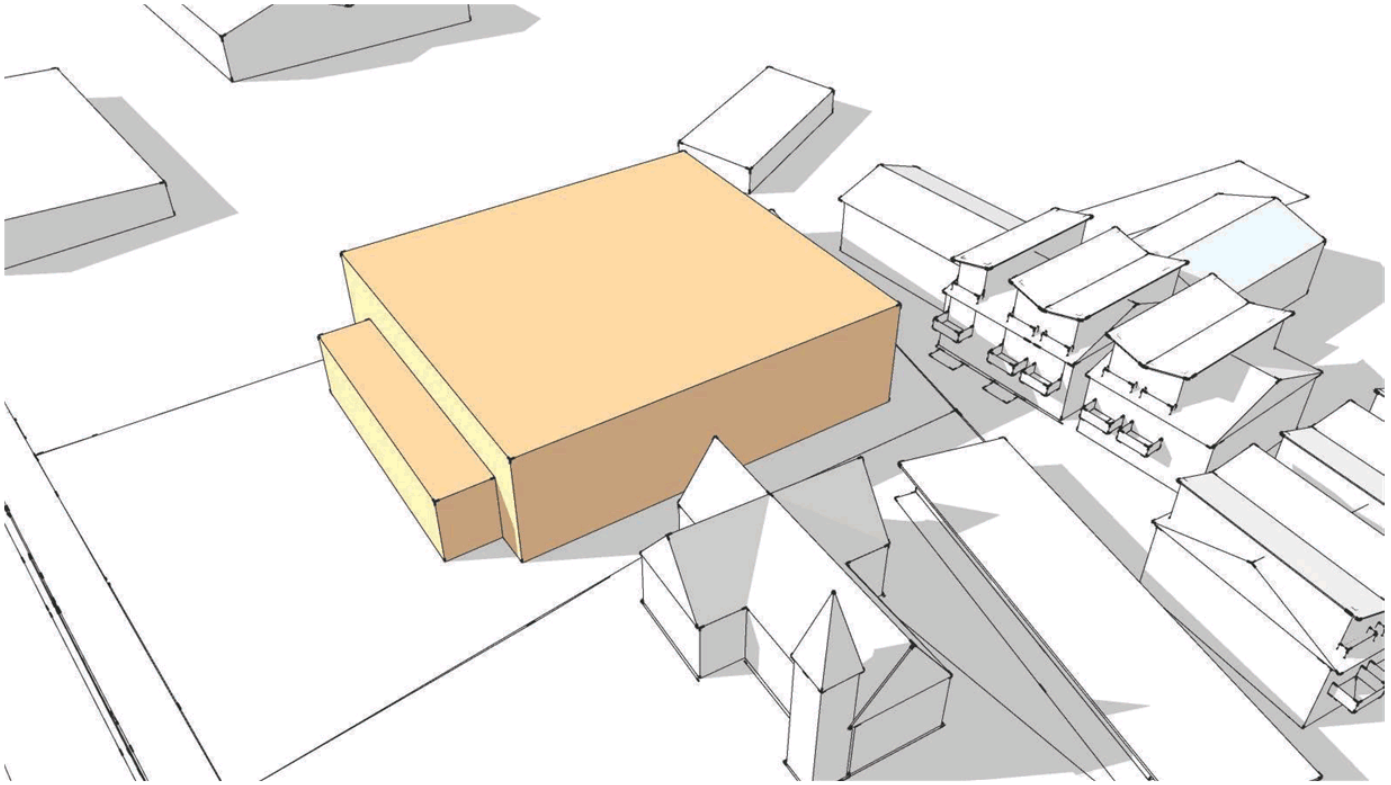

Existing Building Envelope – June 21, 1100

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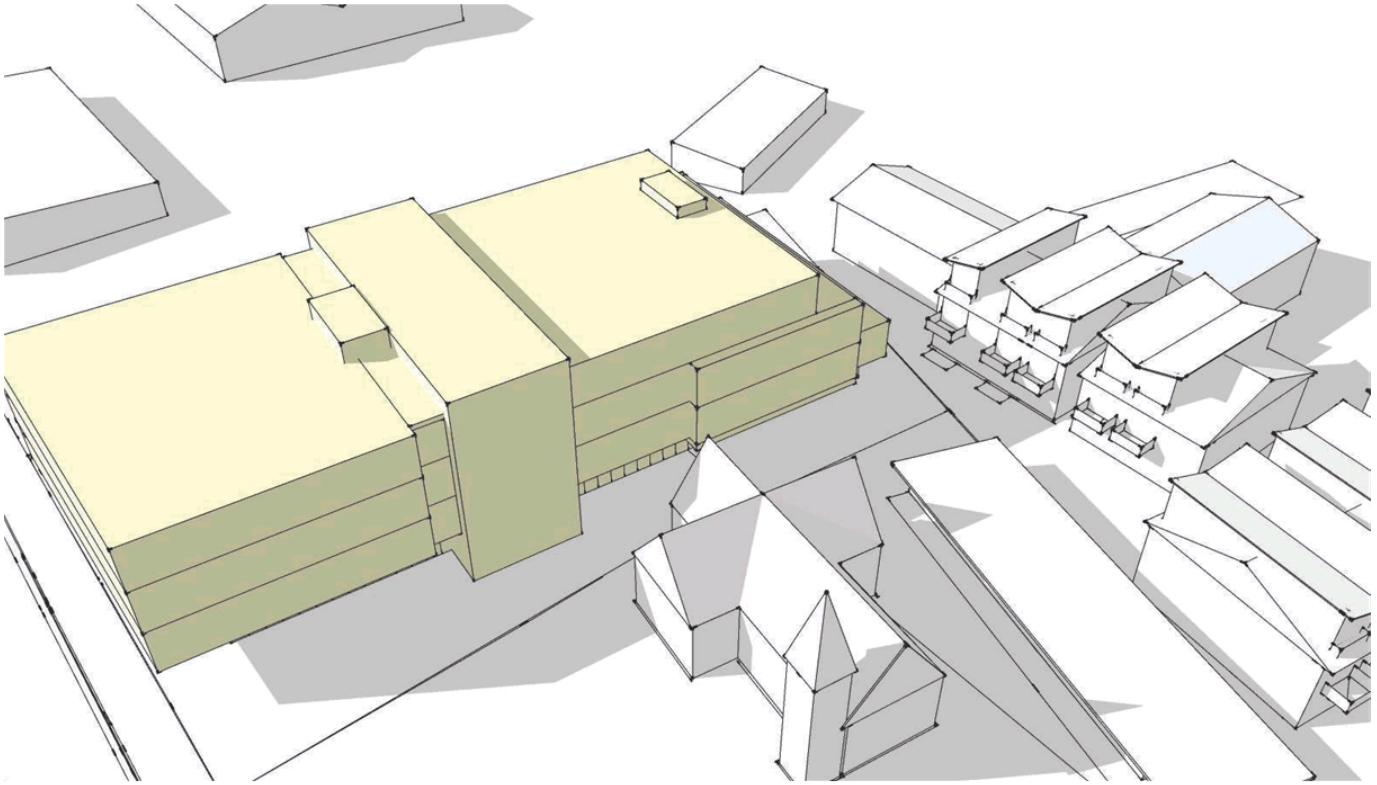
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



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Revised Indicative Building Envelope – June 21, 1100

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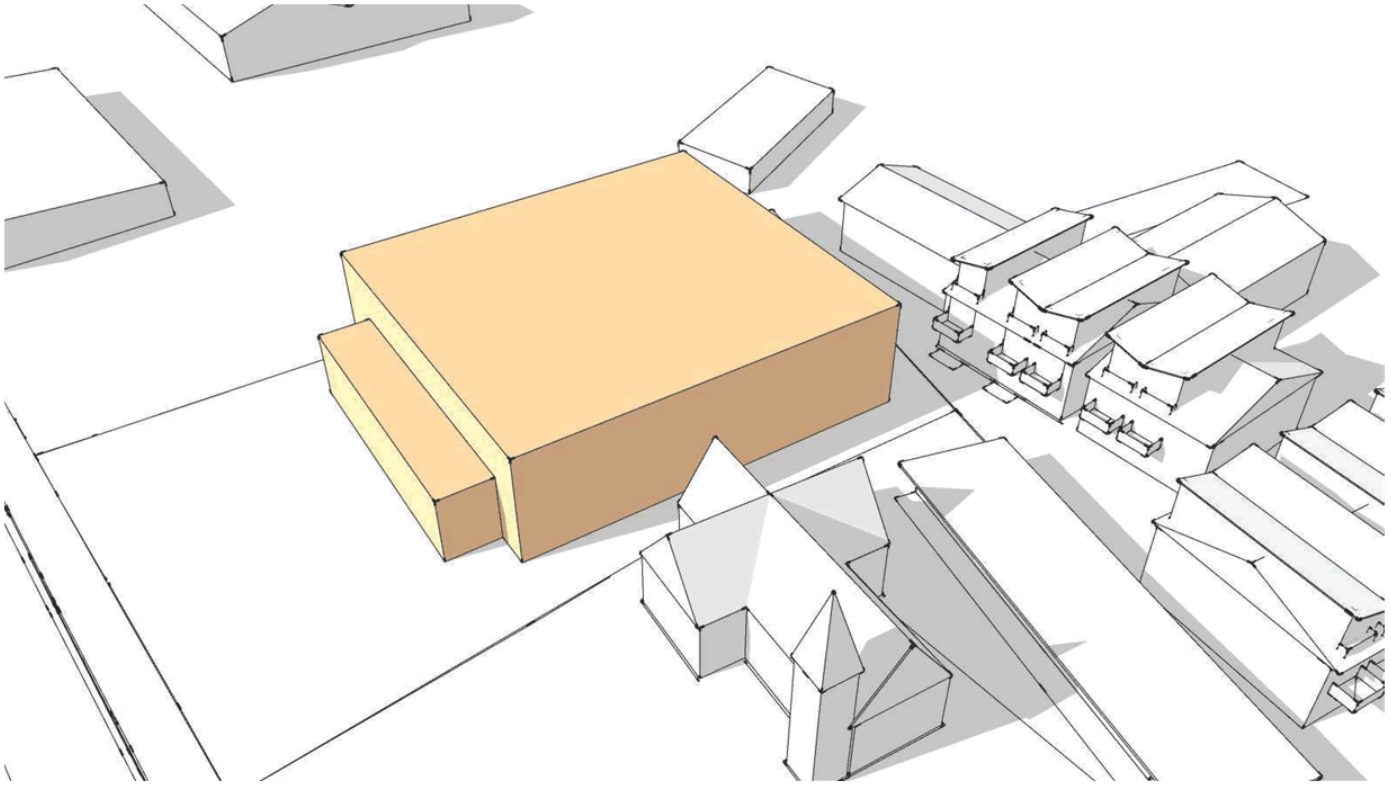
1-3 Lord St Botany – Envelope and Shadow Commentary
16 August 2018



Existing Building Envelope – June 21, 1200

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1-3 Lord St Botany – Envelope and Shadow Commentary
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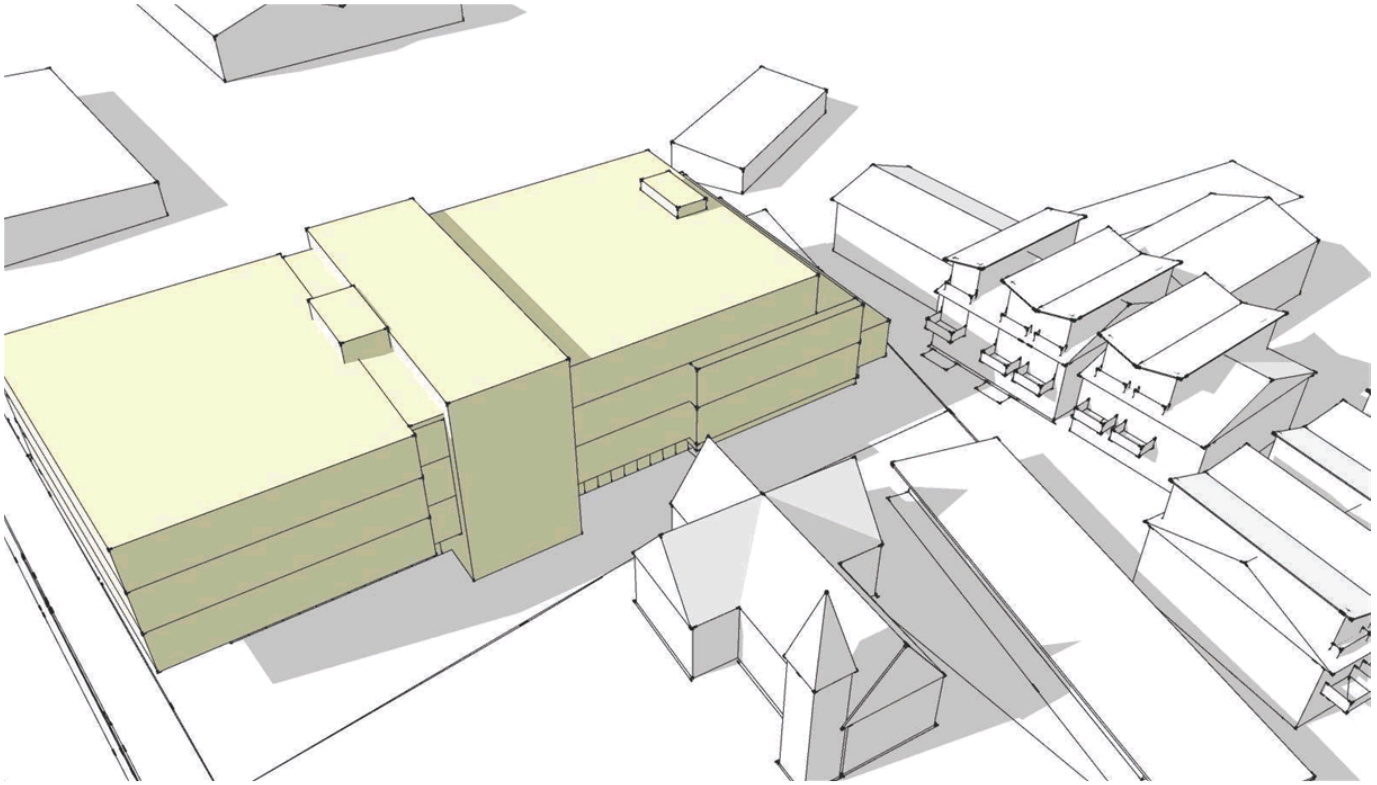

Note: Building design, architecture, and articulation shown indicatively only.

Revised Indicative Building Envelope – June 21, 1200

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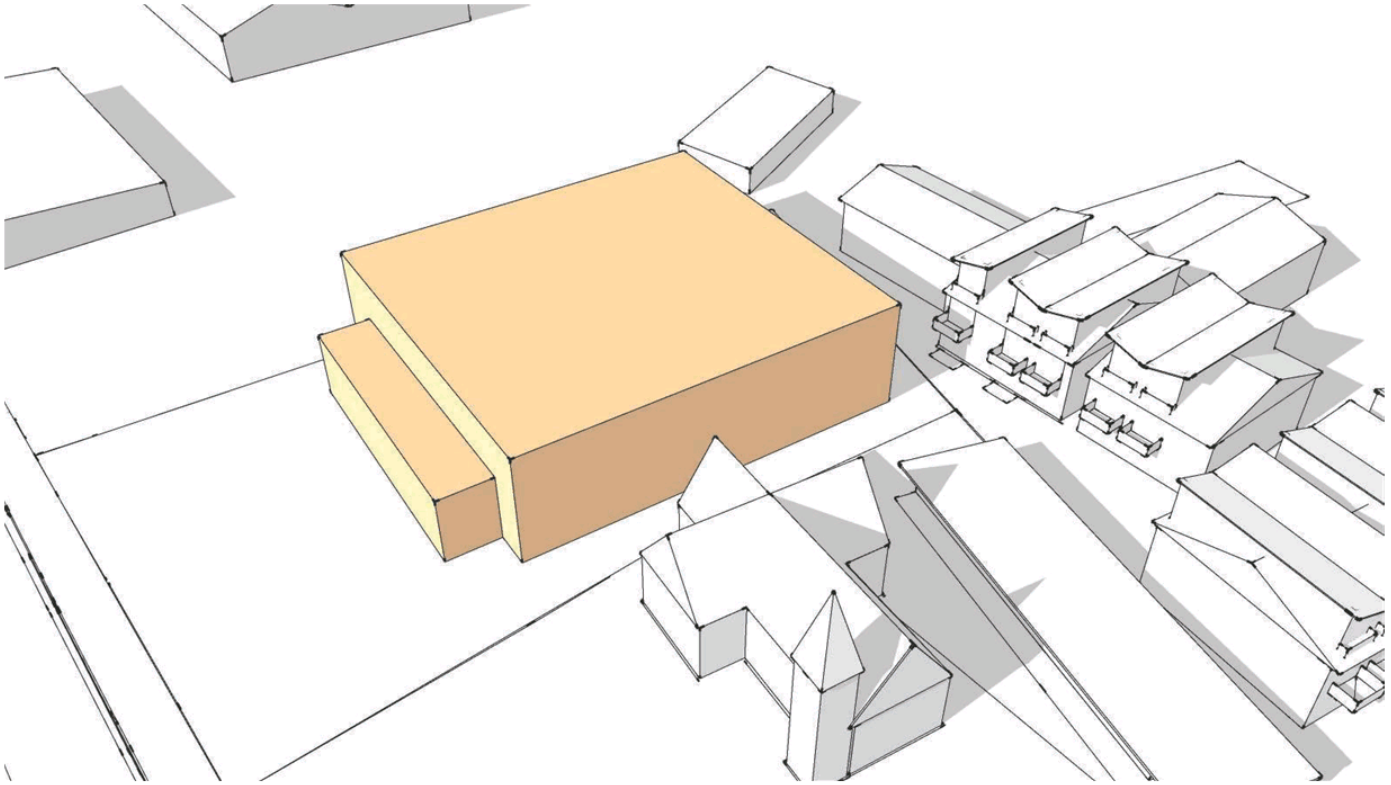

Existing Building Envelope – June 21, 1300

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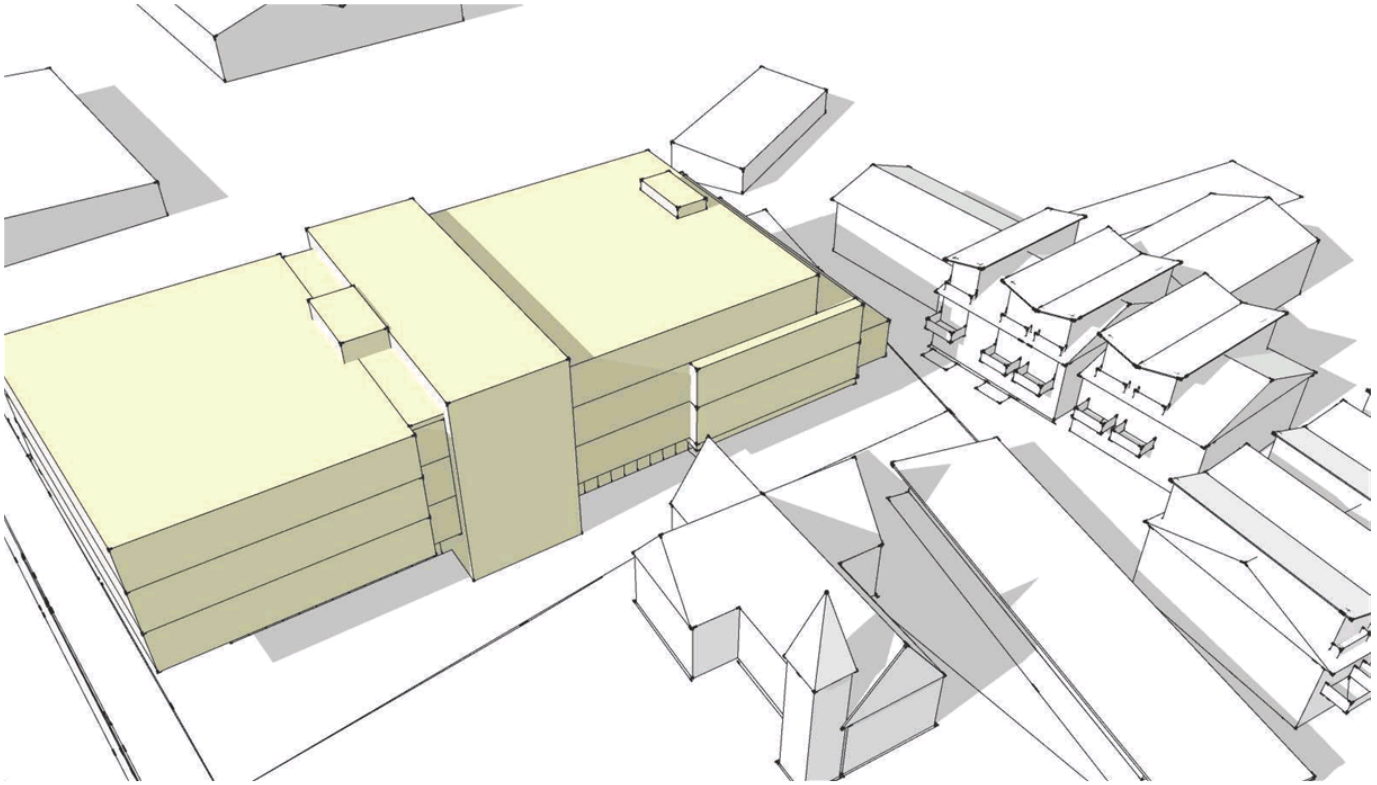

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Revised Indicative Building Envelope – June 21, 1300

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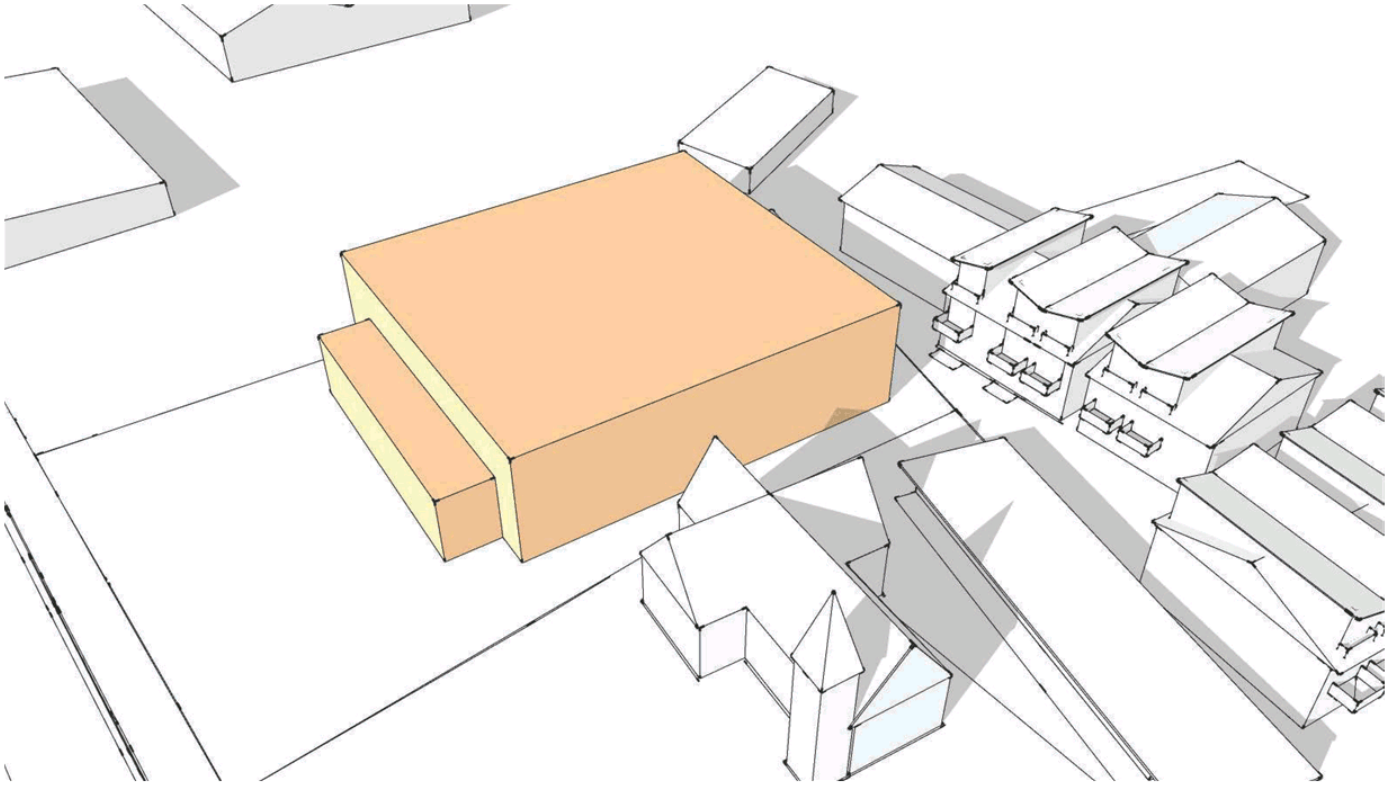

Existing Building Envelope – June 21, 1400

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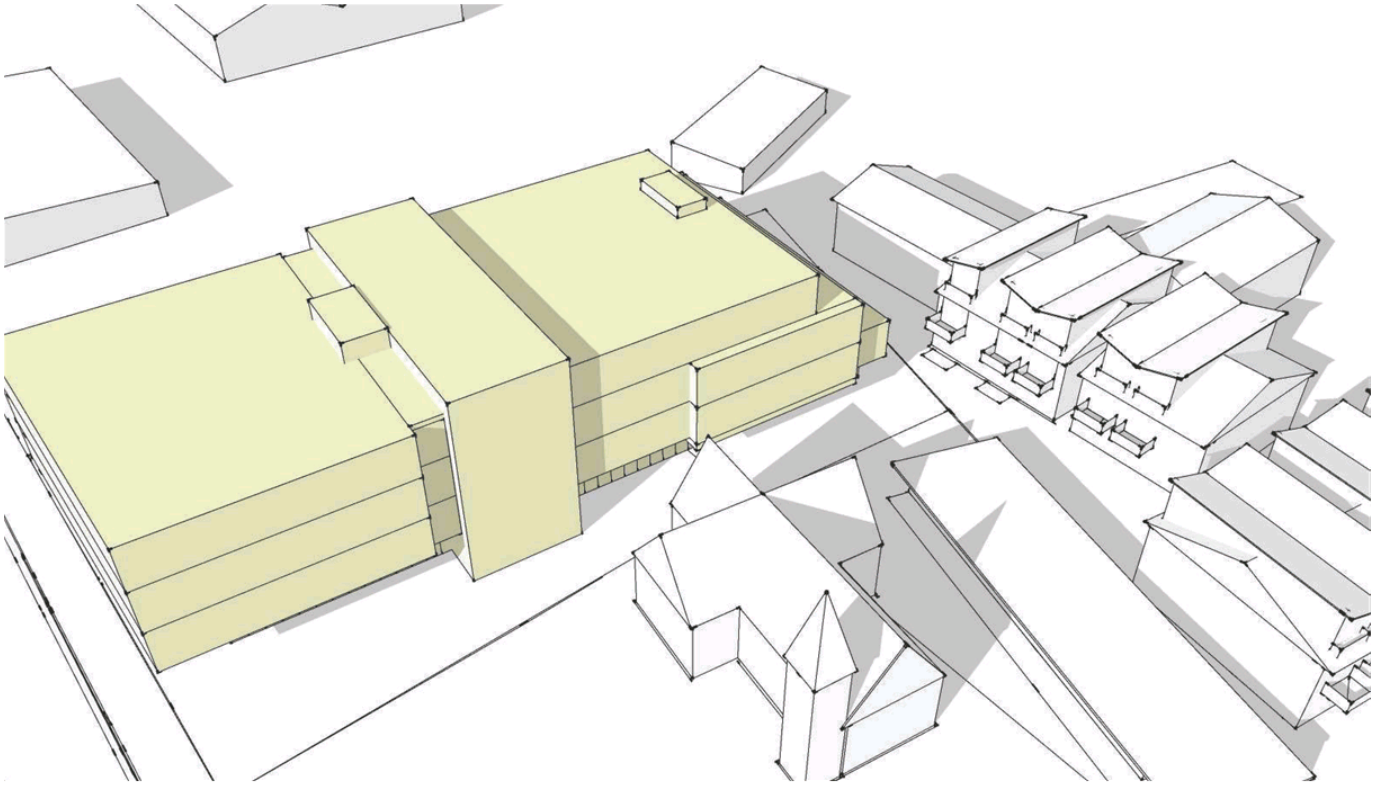

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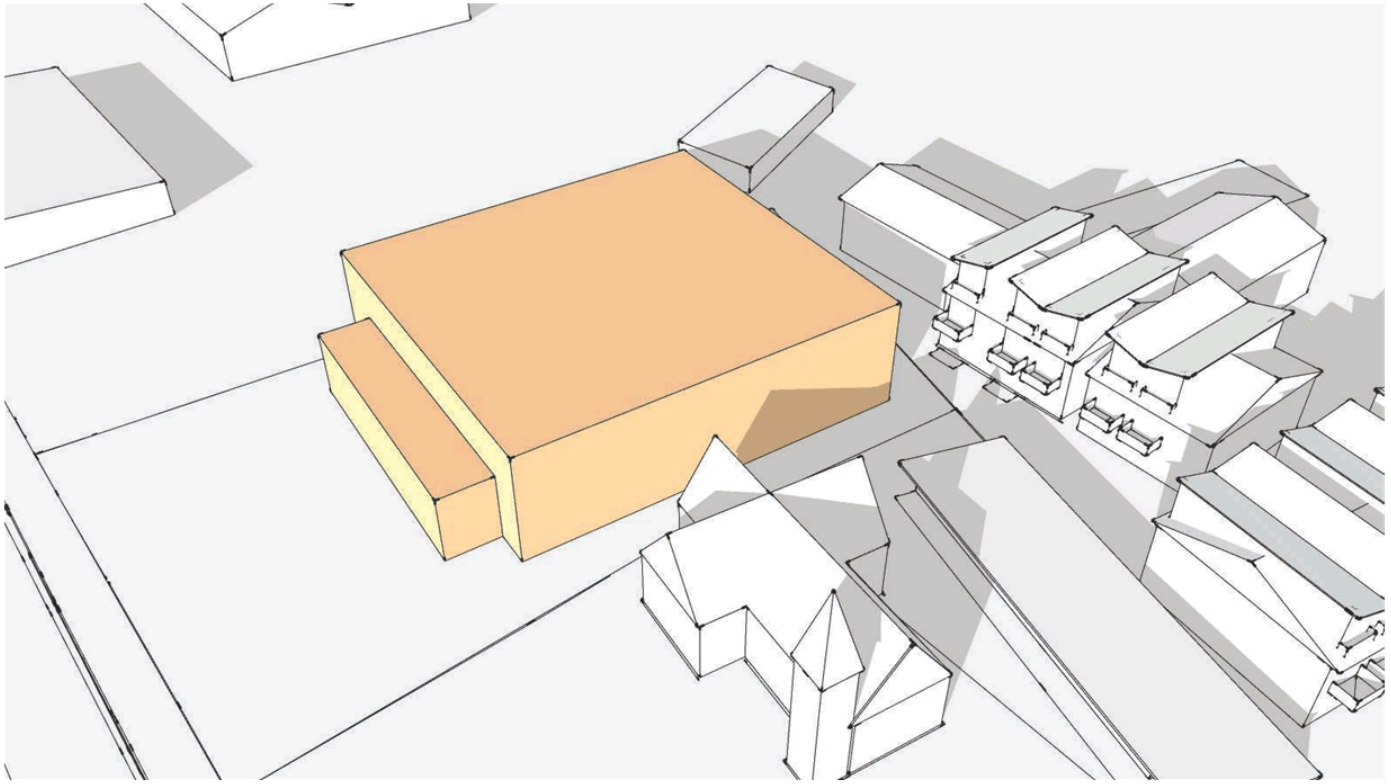

Existing Building Envelope – June 21, 1500

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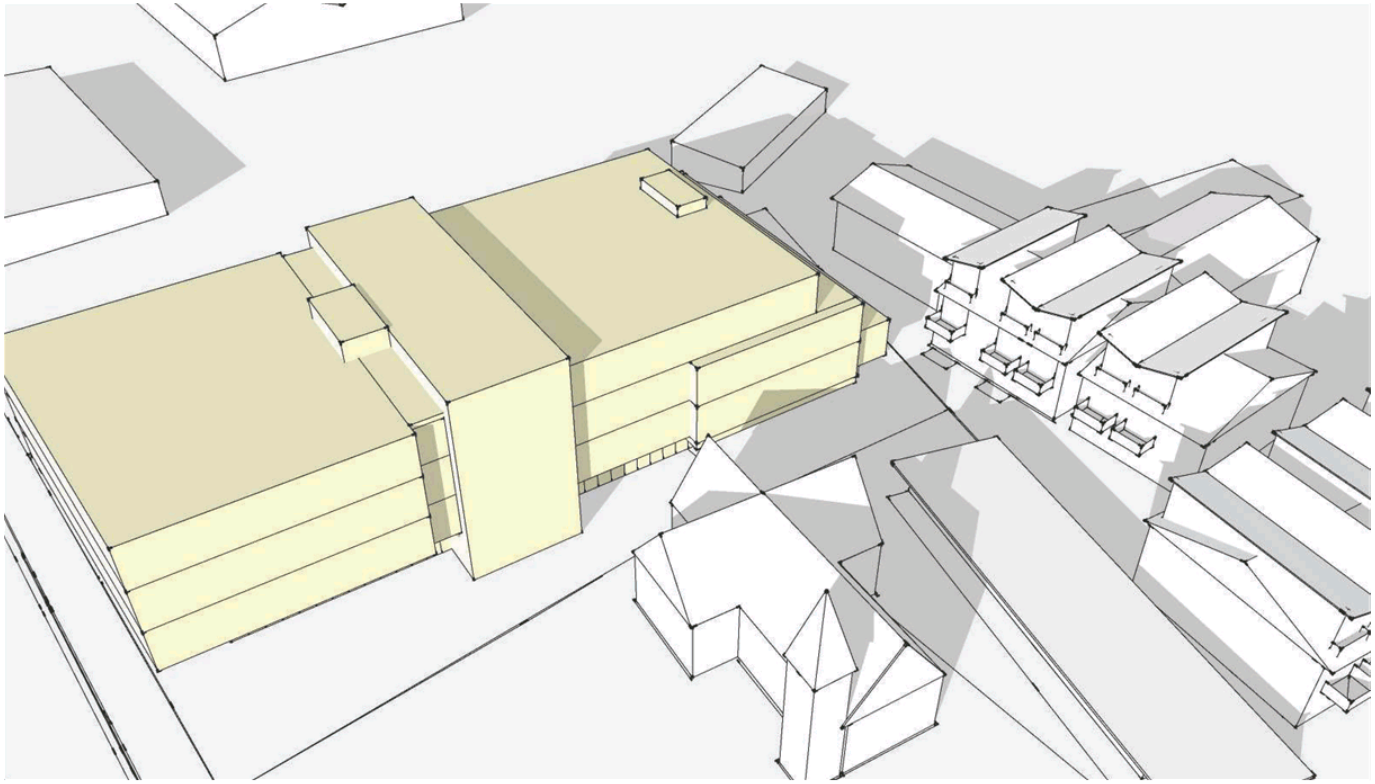

Note: Building design, architecture, and articulation shown indicatively only.

Revised Indicative Building Envelope – June 21, 1500

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16 August 2018

City Plan Strategy & Development P/L
ABN 58 133 501 774

8 November 2018

Our Ref: P18-161

Jeremy Dwyer
Mecone
Level 12, 179 Elizabeth St
Sydney NSW 2000
jdwyer@mecone.com.au

Dear Jeremy,

RE: REPONSE TO IDENTIFIED URBAN DESIGN AND HERITAGE ISSUES RELATING TO PLANNING PROPOSAL FOR 1-3 LORD STREET BOTANY

This correspondence is in response to recent comments and recommendations received from Bayside Council (Council) on 31 October 2018 and 1 November 2018 in relation to identified urban design and heritage issues associated with the Planning Proposal (PP) for 1-3 Lord Street, Botany.

Further to Council's review and assessment of the PP, Council has requested the following refinements and additional information relating to the PP:

1. Additional eye levels perspectives

Council has requested additional perspectives to illustrate the intended future development of the site in a manner, which demonstrate an appropriate level of impact with relation to the neighboring the St Mathew's Anglican Church (heritage Item I71) as viewed from Botany Road. These have been prepared and are provided as Attachment A.

2. Amendments to the draft site-specific Development Control Plan

Various minor amendments to the draft site-specific Development Control Plan, which seek to strengthen various aspects of the future development of the of the site including matters relating to activation, articulation and finish. These amendments have been undertaken and are provided as Attachment B.

3. Increase the setback to the western boundary of the subject site adjacent to the church by 3m.

Recommendations by Council's urban designer and heritage consultant seek to increase the proposed setback to the western boundary of the subject site by an additional 3 metres to provide a minimum separation of 9 metres between the church and a future built form on the subject site. It is understood that this is recommendation seeks to minimise perceived impacts in relation to the curtilage of the adjacent heritage item. Previous heritage advice provided to City Plan by Council's heritage consultant in August 2018 also advises that a non-traditional building envelope represented by the indicative overhang may lead to an unsympathetic building form.

At this strategic stage of the planning process the PP and supporting urban design concept is not intended to represent an actual detailed built form outcome. It is intended to provide a framework via which a range of built form outcomes could potentially be achieved. The built form concepts supporting the PP seek to

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demonstrate the impact of proposed building massing in a configuration that would be achievable through application of the proposed height and FSR controls. Taking into account the floor space needs of commercial/industrial land uses that are proposed to be occupied within the building, the PP will not preclude the development of a building where the upper level overhang is supported by columns to create a colonnade rather than a cantilever. This would provide a more traditional 'cloistered' relationship between a future built form on the site and to the adjacent church grounds.

Removing the colonnade and increasing the upper levels setbacks will result in a loss of amenity as it will remove any relief from weather and sun. Further, there would be negligible gains in terms of overshadowing or privacy. More importantly, the views through the laneway are not perceivably enhanced by the additional setback.

The PP, supported by a site specific DCP, seeks to facilitate a new development that will be oriented and designed to provide an appropriate visual relationship with and high-quality backdrop to the church. The building setbacks have been carefully arranged to facilitate a more congruent visual connection between the two buildings. The proposed setback to the western boundary of the subject site is consistent with the existing building on the site. However, a built form developed in accordance with the PP and proposed site specific DCP will result in a substantial improvement to the current situation in terms of built form quality and interrelationship between development on the subject site and the adjacent church and church grounds.

The PP seeks to achieve the following specific outcomes in relation to the church and is curtilage. These outcomes are consistent with the objectives and controls as set out in section 3B.3.2 Curtilage under the Botany Bay Development Control Plan 2013.

- To protect and enhance the key viewpoint to the church from Botany Road.
- To facilitate the visual prominence of the church from the Botany Road frontage through form and materials.
- To improve the visual quality of the backdrop the church and the relationship between the built form on the site and the lawn area surrounding the church building.

The proposed site specific DCP will facilitate high quality development on the site that maintains the prominence of the church. The DCP will ensure that a future built form appropriately responds to its contextual setting to ensure that, at detailed design at the DA stage, matters including the articulation of building frontage in relation to the church grounds.

Eye level perspective images provided in Attachment A provide a comparison between the proposed setback and the recommended 9m building to building separation. As can be seen from these images:

- increasing the setback to the church boundary by 3 metres will not be visually discernable from the key vantage point at the corner of Botany Road and Lord Street;
- increasing the setback by an additional 3m would not result in any discernable improvement in the visual relationship between the two buildings;
- the view to the church is largely disrupted by trees and a large sign, however it is recognised that these trees are deciduous and the view towards the church is less obstructed in winter months;
- notwithstanding the impact of vegetation on the view towards the church, the church spire would be read above the building on the subject site in either circumstance; and
- with appropriate consideration for building materiality as provided for within the draft site-specific DCP, the diagrams at Attachment A demonstrate that the visual prominence of the church will be maintained, and indeed improved.

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We highlight the following technical matters associated with accommodating a future built form of the intended nature and orientation on the subject site:

- The western façade is intended to be the primary point of entry and address for pedestrian movements and an additional setback to the upper floors will leave the ground level with minimal cover from an overhang or colonnade. The result is a net loss of amenity for pedestrians traversing the activated western edge.
- As demonstrated on the 'Revised Envelope Setbacks – Upper Floors' page of the Urban Design Review: the current 6m minimum building to building separation relates to the nave of the church, which extends closest to the subject site, but only has a width of approximately 6m, constituting approximately one third of the Church building's eastern facade. The rear of the nave is not visible from Botany Road and is not significantly visible from Lord Street.
- The church transept constitutes a greater proportion of the Church building's eastern façade (approximately two thirds), and has an aggregate width of approximately 9m. The north-western side of the transept is visible from Botany Rd and is already set back a further 2.9m (approximately) from the boundary to the subject site, which equates to approximately 9 metres of separation distance between a future built form on the site and the majority of the church building.

Figure 1 is a photographic image extracted from Google maps and demonstrates that the nave is not visible from the majority of the Lord Street frontage. This is further supported by Figure 2.

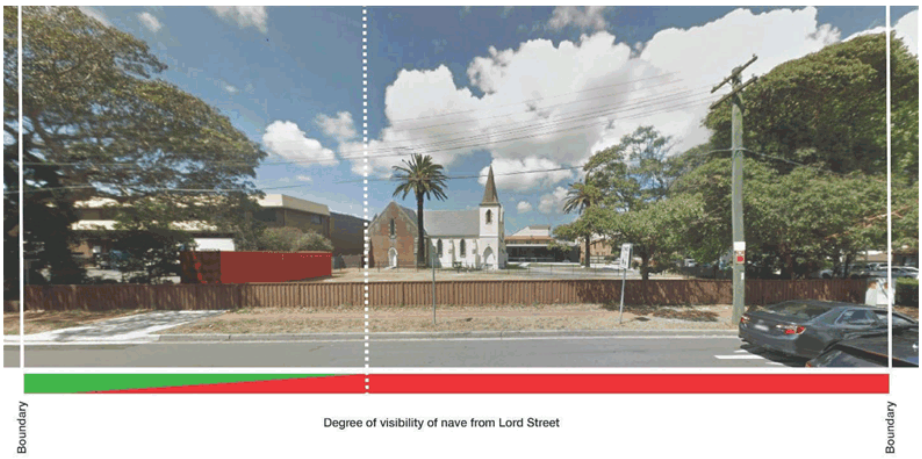

Figure 1 Visibility of nave from Lord Street

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Figure 2 illustrates that the church nave is only visible from approximately a third of the church's frontage with Lord Street. As such the proximity of the nave is not considered to be a significant visual factor in relation to establishing an appropriate relationship between the two adjacent buildings between these sites.

Figure 2 Angle of visibility towards the church nave (note that the aerial photo predates the development of additional building adjacent to the southern boundary of the church site)

A setback greater than that proposed will result in a significant reduction in Floor Space Ratio of approximately 0.2:1. Considering that the PP seeks to facilitate a development form that includes basement car parking, this will significantly erode the feasibility of a future development form on the site, and will undermine the entire intent of the PP. The discernable urban design and heritage benefits of the recommended 9 metres separation distance are negligible in comparison to the significant impacts that increased setbacks would have on feasibility and clear floor space to accommodate commercial/industrial uses.

We note that the church is set back significantly from the street within its lot boundary. This should not disadvantage the development potential of adjacent land parcels. This is especially the case in a B7 Business Park zone, which is generally characterised by larger format buildings. The setback proposed to the western boundary of the subject site exceed the side setback requirements set out in Table 1 of Section 6.3.5 Setbacks under the of the BBDCP 2013. In circumstances where Council believes there are possible

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streetscape issues where, a minimum side set back of 3m is required and this PP makes allowance for a minimum 4m setback to the boundary. In addition, other recent additions to the curtilage of the church (i.e. the community building) demonstrate the suitability of buildings being within the immediate setting of the church.

Due to the reasons outlined above, the Applicant requests that Council proceed with the PP based on the setback currently proposed.

Yours Sincerely,

H. Deegan.

Helen Deegan
Director | PLANNING

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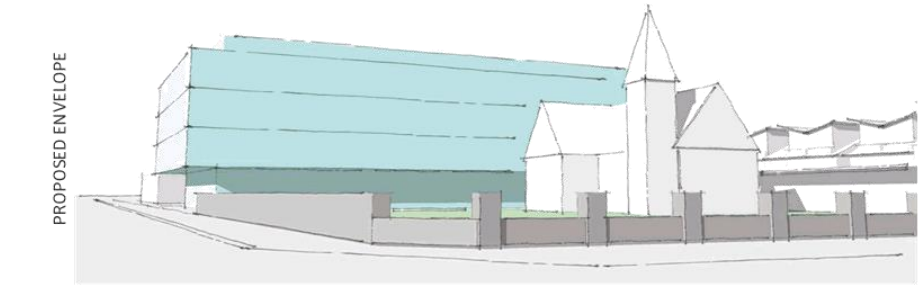
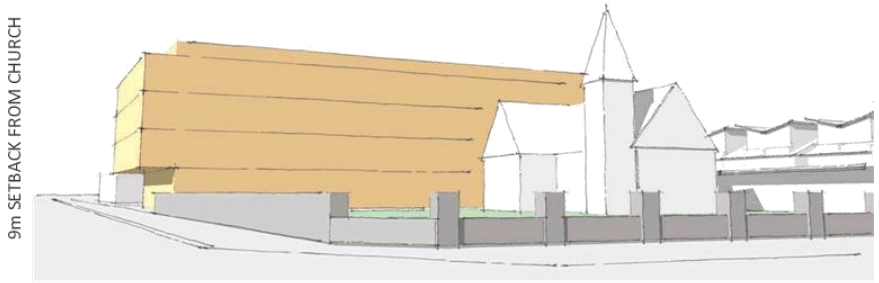
Attachment B: Additional Eye Level Perspectives and Setback Comparisons





PROPOSED ENVELOPE

9m SETBACK ENVELOPE

ADDITIONAL INFORMATION

View from Corner of Botany Rd and Lord St

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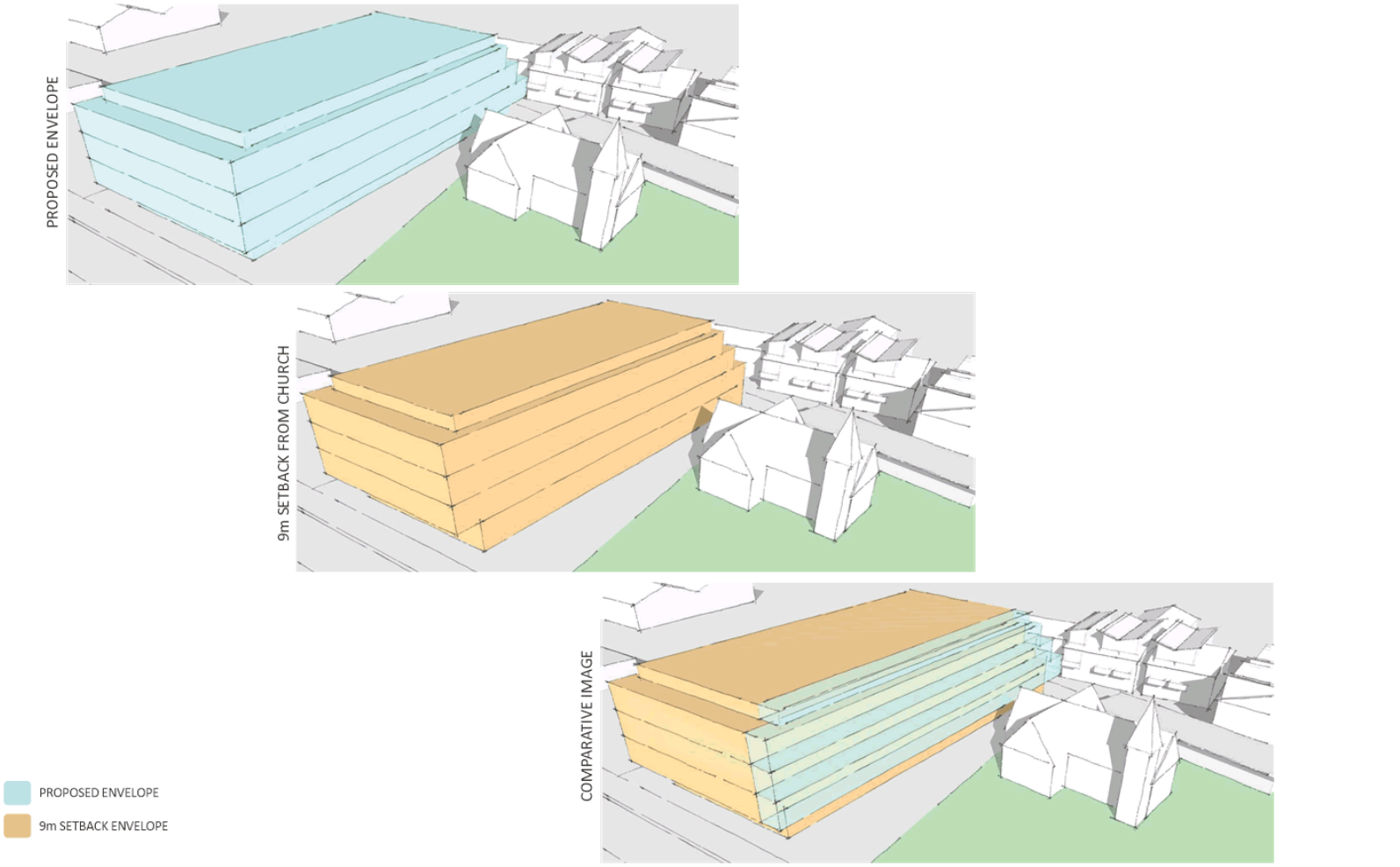

ADDITIONAL INFORMATION

View of proposed new pedestrian access laneway - Aerial

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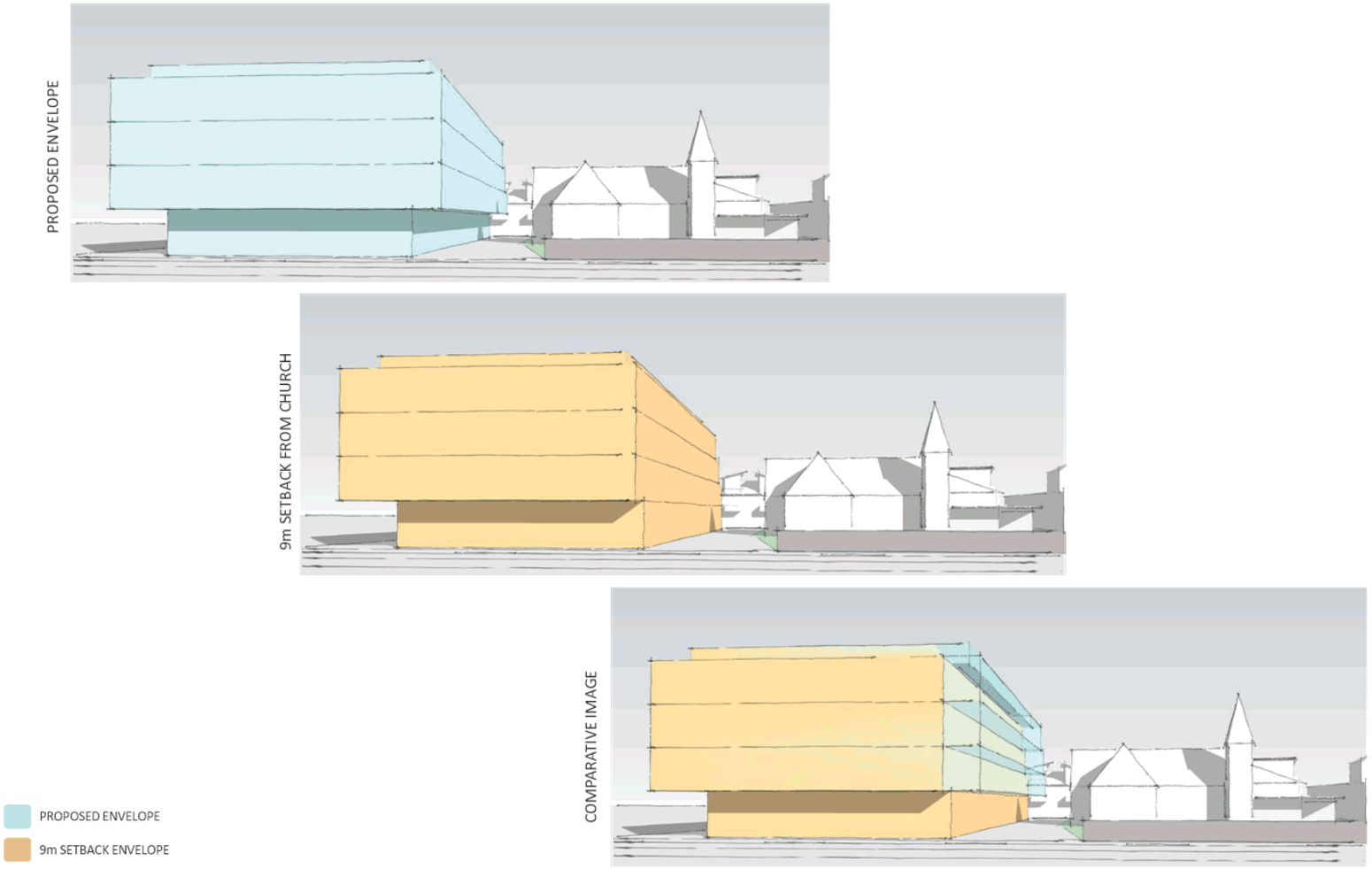

ADDITIONAL INFORMATION

View of proposed new pedestrian access laneway – Street level

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05 November 2018

STREET VIEW FROM CORNER OF LORD ST AND BOTANY RD

ADDITIONAL INFORMATION

COMPARATIVE IMAGE

PROPOSED ENVELOPE

9m SETBACK ENVELOPE

ADDITIONAL INFORMATION

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05 November 2018

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Botany Bay Development Control Plan 2013
[Draft] Site Specific DCP – 1-3 Lord St, Botany
~~26 June~~16 July ~~2019~~2020

This site specific DCP must be read together with other sections of the Botany Bay DCP 2013. In the event of inconsistency between this section and the other sections of the Botany Bay DCP 2013, this section will prevail to the extent of the inconsistency.

1. LAND TO WHICH THIS DCP APPLIES

This site specific DCP applies to land at 1-3 Lord Street Botany being Lot 2 in DP 593463 and Lot 4 in DP 593463 (the site).

The areas to which this DCP applies is illustrated as the land contained within the red boundary of Figure 1.

Figure 1: Area of Application (Source: Spatial Information Exchange (SIX) Maps)

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2. SITE CONTEXT

The site is located within the B7 Business Park zone. It is adjacent to the locally listed heritage item St Matthew's Anglican Church (Item 171 under BBLEP 2013), which is located in a heritage conservation area. The St Matthew's Anglican Church is situated to the west of the site and reflects influences from Victorian Gothic styles.

In 2016, a contemporary steel framed multi-function centre was constructed to the south of the church building. This new building is visually subservient to the Church building.

St Matthew's Anglican Church is primarily viewed from Botany Road, from which any future development on the site will form a backdrop. The Church is visually prominent as viewed from its Botany Road and Lord Street frontages.

3-4 storeys residential development constructed of multi coloured brick and panelling are located to the south of the site and St Matthew's Anglican Church.

The site is uniquely positioned in a transitional location between residential, church and commercial land uses. The interface between any proposed building and the adjoining historic church is of paramount importance. To this end the objectives in this DCP must be carefully incorporated into any design.

3. OBJECTIVES:

The following key objectives are applicable to all future development on the site:

- To provide built form controls that facilitate development consistent with the objectives of the site's B7 Business Park zoning within the Lord Street Business Park precinct.
- To create a bookend style development that visually integrates with and provides an activated edge to the adjoining church.
- To retain and enhance the visual prominence of the St Matthew's Anglican Church as viewed from Botany Road and Lord Street.
- To establish a high quality interface between any future built form on the site and the adjacent St Matthew's Anglican Church and adjoining lawn area.
- To facilitate the transition of use between the site at the edge of the employment precinct and the adjacent St Matthew's Anglican Church.
- To establish a functional building envelope that is capable of meeting employment-based industry operational requirements of the site.
- To maintain appropriate solar access and ensure privacy to residential buildings in the adjacent R3 Medium Density Residential zone.
- To facilitate ongoing safety and security.

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4. DEVELOPMENT CONTROLS

4.1. Building character

A key consideration informing any future built form on the site is establishing an appropriate visual relationship between that built form and the adjacent St Matthew's Anglican Church. The transition and interface between business uses and the St Matthew's Anglican Church as well as establishing a sympathetic design response to the Church are important factors to consider in this regard.

Design Criteria

- Any future built form on the site is to reflect the Business Park character of the precinct as well as providing a sympathetic design response to the adjacent Church through design articulation, modulation of form, variation in texture, finishes and materials.
- Development must be of a high visual quality and must include appropriate architectural articulation and modulation of form particularly to the northern frontage to Lord Street and western frontage to the Church.
- Setbacks to the western façade of the building (i.e. facing the St Matthew's Anglican Church) are to provide space to enable the activation of the ground-floor edge between the site and its boundary with the Church.
- Landscaping of the setback to the western boundary is to facilitate the future integration and transition between the site and the adjoining lawn area within the adjacent Church grounds. Should fencing be proposed between the two properties, ground level setbacks are to ensure the ground floor of the building remains accessible in perpetuity.
- The ground floor of the building is to be designed enable activation of the ground level and is to include outward facing floorspace that is oriented towards the northern and western boundaries of the site.
- Landscaping of the setback to the northern boundary is to be designed so as to contribute positively to the building frontage as viewed from Lord Street and to enhance the visual appearance of the site as a gateway corner to the Lord Street Business Park.

4.2. Building Envelope

The site's transitional location adjacent to the Church and medium density residential uses require careful consideration to establish a functional building envelope that is capable of meeting employment-based industry operational requirements of the site as well as appropriately managing impacts on the church and residential uses. Maintaining appropriate levels of solar access to existing residential dwellings and facilitating a scale of built form that is compatible with neighbouring uses are key considerations in this regard.

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Design Criteria

- Development on the site must not exceed a height of 16.5 metres and RL 21.82 metres (i.e. height of the church spire).
- Setbacks for any future development on the site are to be in accordance with those outlined in Table 1.
- Upper level setbacks are to minimise solar overshadowing impacts to adjacent residential properties.

Table 1 - Building Setbacks

	Front (Lord St North)	Side (East)	Side (West)	Rear (South)
Ground Level	Minimum 3m from site boundary.	Minimum 8m from site boundary.*	Minimum 7m from site boundary.*	Minimum 6m from neighbouring building
Upper Levels 1-3	Minimum 3m from site boundary.	Minimum 3.5m from boundary.*	Minimum 4m from site boundary.*	Setback to increase by one metre for every additional metre in height for the proposed development, above 5 metres in building height.

* Where a setback is increased to the western boundary for the purpose of providing careful articulation of upper levels that improves access to natural light to the east facing church windows, a commensurate reduction may be permitted at any point along the eastern setback to a maximum setback reduction of 0.5m.

4.3. Building Frontage and Façade Design

The site is unique in that each façade of a future building on the site will respond to different contextual conditions and relationships. The site's gateway location adjacent to the St Mathews Church heritage item has a transitional role from the open, garden character of the church grounds to the treed and garden commercial frontages of Lord Street, as well as between commercial uses north and east of the site with residential uses to the south.

This places a high degree of importance on ensuring each façade responds to the unique visual qualities and characteristics of its context. Articulation, materials and finishes of each façade play an important role in ensuring a sympathetic and contextually appropriate response to the surrounding context and maintaining the visual prominence of the church.

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4.3.1. West Façade

Objectives

The open church grounds will enable the western frontage of any future built form on the site to be highly visible from Botany Road and from the western part of Lord Street. Any future built form on the site will form a backdrop to the heritage listed St Mathew's church and will require a sensitive design response to the church.

The intent for the western façade is to provide an active relationship between the Site and the church. Landscaping elements along the north-west corner of the Site can be used to manage the visual relationship between the church and a future building on the Site as well as the visual impact of the north façade on the prominent views to the Church.

The design of this façade is to be consistent with the following objectives:

- To 'bookend' the Lakes Business Park precinct with subtle articulation of form and relatively simple composition of façade elements so as to establish a visually sympathetic relationship with the church.
- To use a material palette~~.~~, building articulation and roof design that provides a backdrop to the church and creates a sympathetic visual relationship between built form on the site and the adjacent church when viewed from Botany Road.
- To provide a contemporary design response that uses high quality materials that work to maintain and enhance the visual prominence of the Church as viewed from Botany Road, with the use of glazing, shading and screening devices, softer articulation and simple composition of façade elements.
- To establish a visual or physical connection between internal ground floor commercial floorspace and external landscaped areas through façade treatments at ground level such as fixed and/or operable glazing.
- ~~To provide a landscape response that accentuates and provides opportunities for activation of the pedestrian laneway at ground level, including setbacks that provide sufficient width for public seating and the inclusion of soft landscaping elements, such as trees and planter beds.~~
- To create an active pedestrian access at ground level between the western façade of the building and the western boundary, including seating, soft landscaping and a visual connection to the historic church.
- To ensure the appropriate access to light is provided to the stained glass windows of the adjoining historic church, through careful consideration of building articulation, building materials, colours and design of façade and roof elements.
- To provide protection to openings from the west sun.

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4.3.2. North Façade

Objectives

The Lord Street frontage is the main address of the site and provides the opportunity for a unique 'gateway' architectural response to enhance the sense of arrival to the precinct. The design of this façade is to be consistent with the following objectives:

- To provide a level of articulation that provides a unique architectural response, accentuates street presence and provides a strong visual identity to the main frontage of the building.
- To create a sense of visual interest and design quality to the façade facing Lord Street by way of modulation of form and the visual articulation of colour, texture, and materials.
- To include materials and finishes that reflect the commercial and industrial context of Lord Street.
- To enhance the visual qualities of the gateway to the Lakes Business Park precinct.
- To include soft landscaping at ground level between the site boundary and the building, to reflect the garden character of Lord Street.

4.3.3. East Façade

Objectives

The east façade of a future building in the site will face towards B7 Business Park zone and will respond primarily to a commercial and industrial context. The design of this façade is to be consistent with the following objectives:

- To provide a high degree of articulation and include a visually interesting composition of materials that reflect the adjacent industrial and commercial context.

4.3.4. South Façade

Objectives

The southern façade will directly face a medium density residential development. The design of this façade needs to respond to domestic styles of articulation and materials to soften the visual appearance and manage privacy issues between commercial and residential uses. The design of this façade is to be consistent with the following objectives:

- To provide articulation and modulation to maintain solar access. To provide appropriate screening devices to manage any potential overlooking from south facing openings or balconies.
- To provide landscaping within the rear setback to screen adjoining residential uses and ameliorate any impacts of development.

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4.4. Safety and Security

The intent of this site specific DCP is to facilitate activation, provide an attractive interface with the public domain (i.e. Lord Street) and also to establish an interrelationship between the site and the adjacent church grounds. It is anticipated that this interrelationship will primarily occur on publicly accessible, private land. As such, consideration for safety and security of these spaces is essential in the design as well as ongoing occupation stages of development.

Design Criteria

- Development on the Site should be supported by a Crime Prevention Through Environmental Design (CPTED) study to demonstrate how the development incorporates 'Safer by Design' principles of:
  - **Surveillance:** maximise visibility and surveillance of the public domain and publicly accessible spaces.
  - **Access Movement and Sight lines:** establish direct connections and sight lines that minimise residual spaces and concealment opportunities.
  - **Activation:** maximise activity in the public domain by providing outward-facing land uses, especially at ground level. Where complementary land uses such as takeway/ food and beverage (e.g. café) are proposed, these should be located at ground level to front onto public streets and/or publicly accessible spaces.
  - **Ownership/ Management:** provide clear definition of public and private areas of the development to ensure that public spaces (e.g. Lord Street/ public street), publicly accessible private space (e.g. laneway link/ lobby spaces) and private space (e.g. commercial premises) facilitate a logical and intuitive understanding of purpose of spaces and the permissibility of access to the public and when.
  - **Management: establish** clearly defined maintenance and management roles between adjoining land (i.e. the Site and adjacent Church) to ensure ongoing upkeep, visual quality and safety of the development on the Site and publicly accessible land.

5. DEVELOPMENT APPLICATION REQUIREMENTS

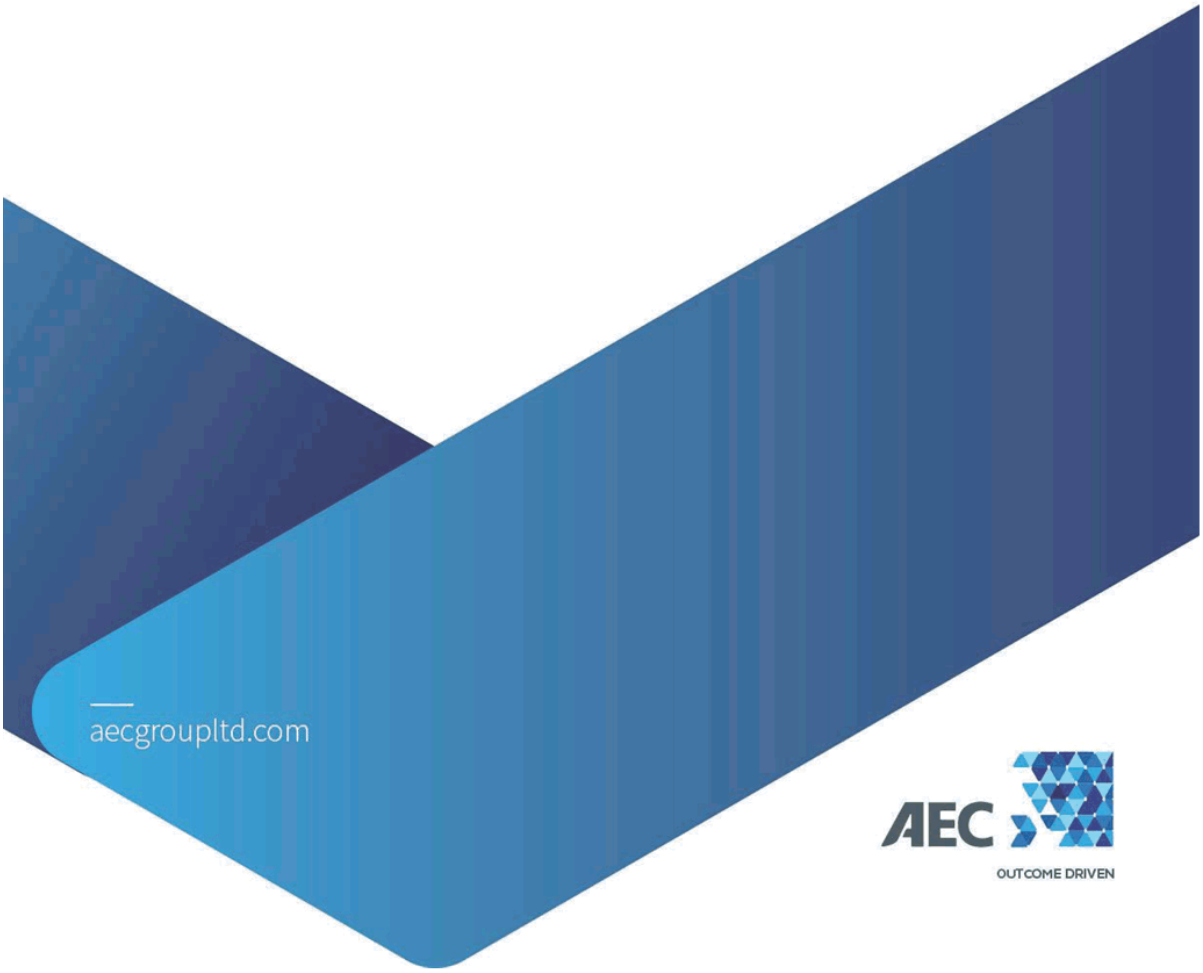
- Any Development Application for the site will need to be supported by a Heritage Impacts Statement, which should consider external materials schedules and colours in order to maintain and enhance the visual prominence of the adjacent Church.

1-3 LORD STREET, BOTANY

ECONOMIC IMPACT ASSESSMENT

FUZ BOTANY, HENDRIKX BOTANY & ORTH BOTANY TRUST

JUNE 2018



DOCUMENT CONTROL

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Job Name:	1-3 Lord Street, Botany EIA
Client:	Fuz Botany, Hendrikx Botany & Orth Botany Trust
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EXECUTIVE SUMMARY

BACKGROUND

The Orth Botany Trust, The Fuz Botany Trust and The Hendrikx Botany Trust are preparing a Planning Proposal (the Proposal) for 1-3 Lord Street Botany (the Site) to amend building height limits and floorspace ratio (FSR) controls. Specifically, the following amendments are proposed:

- Building height from 10 metres to 16.5 metres.
- FSR from 1:1 to 1.75:1.

The Site is strategically located in close proximity to the Sydney Airport and Port Botany Trade Gateways, the Southern Employment Lands and Sydney CBD. Situated within a B7 Business Park zone, the Proposal will work in tandem with neighbouring business parks to elevate the Lord Street business park precinct as a key employment area, enabling higher employment growth and density on Site.

The Proposal envisages the conversion of the existing warehouse and ancillary office spaces on the Site into a multi-storey building including ground floor warehouse/commercial floorspace (621sqm), commercial floorspace (3,750sqm) on the upper levels and basement parking for 92 cars.

The Proposal strives to respond to the changing nature of employment floorspace requirements by intensifying business functions on the Site, enabling the co-location of commercial and warehouse floorspace and provide greater opportunity for commercial uses. The redevelopment serves to encourage an intensification of commercial uses on Site for occupants with diverse floorspace requirements and/or those seeking to combine various functions on one site. The supply of employment lands, and, indeed, land itself is finite and therefore facilitating an intensification of uses on the Site would assist in addressing demand.

The majority of employees in the precinct generally rely on private vehicles to commute to work. An adequate number of car spaces is imperative to accommodate business and employee needs. The Proposal's provision of basement car spaces addresses this requirement.

AEC Group (AEC) is engaged by Orth Botany Trust, The Fuz Botany Trust and The Hendrikx Botany Trust to prepare an Economic Impact Assessment to analyse the economic impacts likely to result from implementation of the Proposal.

PLANNING AND MARKET CONTEXT

Planning Context

Planning policies at both state and local levels recognise the need to respond to economic trends and evolving business requirements. Specific to the Proposal:

- The Greater Sydney Region Plan seeks to increase competitiveness and connectivity along identified Economic Corridors
- The Eastern City District Plan seeks to ensure adequate planning retention, and management of industrial and urban services lands.
- The Botany Bay Planning Strategy 2013 envisages an expansion of commercial activity to Botany's north (Lord Street to Bay Street), by increasing FSR and expanding the business park precinct on Lord Street with the objective of creating a strong commercial cluster.

The Proposal responds directly to the Region Plan and District Plan's objectives and priorities to retain urban services lands, but importantly to facilitate a greater amount of floorspace to accommodate employment growth in an area constrained for future supply.

Market Context

The Botany Employment Precinct (the Botany Precinct) is an important employment area within the broader South Sydney region, and extends well beyond the Lord Street business park precinct and encompasses land that is zoned business park, light industrial, local and neighbourhood centres, mixed use. The Botany Precinct is traditionally an industrial/urban services area accommodating a variety of business activity, also serving as a thoroughfare to key freight nodes. Research into the market context and floorspace requirements affirm the importance of hybrid-type business functions in the Botany Precinct.

The demand profile of industrial and commercial occupants is varying and demonstrating healthy growth, with the main occupants of freestanding warehouses typically being small-scale manufacturers, repairs/servicing technicians and light industrial users. Commercial occupants with smaller floorspace requirements are attracted by the affordability of the area (with office rents achieving between $180/sqm to $350/sqm) and proximity to the Sydney CBD, while those requiring larger floorplates typically locate along Lord Street to cluster with larger, more renowned businesses.

Research investigations into sales activity indicate a tightly held market, with fewer than 10 sites transacted in the past year. Informal discussions with local agents have indicated that interest levels in site sales have been high, with prospective buyers already located in the area and seeking to upgrade to larger premises to allow a hybrid of functions to co-locate.

The redevelopment of Botany Quarter by Dexus Property Group is already met with enthusiasm from industrial and commercial occupants alike. The redevelopment will prove to be a game-changer in the South Sydney region, comprising creative office suites, high-tech industrial units, storage units, neighbourhood retail and onsite lifestyle/recreation facilities (childcare, gym facilities).

ASSESSMENT OF ECONOMIC IMPACTS

The following sections examine the estimated economic activity supported through the operations of businesses locating to the Site if it was redeveloped under proposal compared to if it remained in its existing use.

- **Base Case**: The Base Case assumes the Site continues its current operations accommodated in the existing improvements and assesses the economic impacts should the Site remain in its existing use.
- **Proposal Case**: The Site is redeveloped under the Proposal's amended planning controls to facilitate higher intensification use on site, with increased height and commercial floorspace.

The economic impacts have been assessed at the Bayside Local Government Area (LGA) level.

Economic Impacts During Construction

The construction phase associated with the Proposal is expected to support the following economic activity for the Bayside LGA, including businesses and workers through direct and flow-on impacts (over the course of the construction phase):

- $10.4 million in output (including $4.8 million in direct activity).
- $3.9 million contribution to GRP (including $1.2 million in direct activity).
- $2.1 million in incomes and salaries paid to households.
- 28 FTE jobs (including seven directly employed in the construction activity).

Net Economic Activity During Operations

The economic impacts/contribution of the Proposal can be traced through the economic system via:

- **Direct Impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Indirect Impacts (Flow-on Impacts)**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales.

The Proposal is anticipated to result in a net increase in economic activity compared to what the existing improvements support in the Base Case. through the direct and flow-on impacts associated (per annum):

- $117.9 million in output (including $47.5 million in direct activity).
- $52.6 million contribution to GRP (including $18.7 million in direct activity).
- $30.6 million in incomes and salaries paid to households.
- 439 FTE jobs (including 167 additional jobs directly related to activity on the Site).

Table ES.1 summarises the outcomes in the Base Case and Proposal Case.

Table ES.1: Economic Activity, Base Case v Proposal Case

Impact	Output ($M)	Gross Regional Product ($M)	Incomes ($M)	Employment (FTEs)
Base Case				
Direct	$11.4	$5.1	$2.9	29
Type I Flow-On	$3.2	$1.5	$0.8	10
Type II Flow-On	$6.9	$3.7	$2.0	30
Total	**$21.5**	**$10.3**	**$5.7**	**69**
Proposal Case				
Direct	$58.9	$23.8	$14.8	196
Type I Flow-On	$36.6	$15.4	$8.9	120
Type II Flow-On	$43.9	$23.7	$12.6	192
Total	**$139.5**	**$62.9**	**$36.3**	**509**
Net Increase in Economic Activity				
Direct	$47.5	$18.7	$11.9	167
Type I Flow-On	$33.4	$13.9	$8.1	110
Type II Flow-On	$37.0	$20.0	$10.6	162
Total	**$117.9**	**$52.6**	**$30.6**	**439**

Source: AEC

CONCLUSION

Land that is close to existing employment centres and public transport networks is scarce and valuable. As cities grow there is commensurate pressure on scarce lands to be developed for a variety of uses. The benefits of enabling more intensive use of land which is a finite asset are therefore obvious.

In comparison to the other employment areas examined, the Botany Precinct and its surrounds experienced very modest employment growth over the 2006-2016 period, averaging a lacklustre 0.5% average annual growth compared to 1.5% to 3.4% in comparison areas. Employment growth in the Botany Precinct and its surrounds has been weak despite strong market demand and occupier interest.

Opportunities to accommodate greater intensity of employment are needed. Investigations suggest a lack of commercial floorspace opportunities in the Botany Precinct and broader South Sydney Region. Given the Botany Precinct's proximity to key centres and Trade Gateways, it is necessary to ensure commercial opportunities are available to attract new business but also facilitate growth and expansion in a diverse range of business activities.

In the case of the Site, state government policy has focused equally on intensifying employment opportunities and accommodating businesses' changing requirements for how they use land and floorspace. The Proposal seeks to meet these objectives by providing commercial opportunities for a range of business activity and importantly, maximising the economic intensity of the Site. The Proposal demonstrates alignment with the objectives and aspirations of state planning policy and strategy.

The Study considers the economic impact of the Proposal to be net positive and thereby presenting a compelling case for consideration.

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1. INTRODUCTION

1.1 BACKGROUND

1-3 Lord Street Botany (the Site) is located approximately 12 kilometres south of the Sydney CBD, and approximately five kilometres and seven kilometres from Sydney Airport and Port Botany respectively. The Site is currently occupied by Marine Product Marketing Proprietary Limited, a supplier of frozen food products to food service businesses and retailers.

The Site is zoned B7 Business Development, with a permissible floorspace ratio (FSR) of 1:1 and a building height limit of 10 metres, in accordance with the Botany Bay local environmental plan.

The Orth Botany Trust, The Fuz Botany Trust and The Hendrikx Botany Trust are preparing a Planning Proposal (the Proposal) to amend the Site's building height and floorspace controls. Specifically, the following amendments are proposed:

- Building height from 10 metres to 16.5 metres.
- FSR from 1:1 to 1.75:1.

AEC Group (AEC) is engaged by Orth Botany Trust, The Fuz Botany Trust and The Hendrikx Botany Trust to prepare an Economic Impact Assessment to analyse the economic impacts likely to result from implementation of the Proposal.

1.2 SCOPE AND APPROACH

AEC has been engaged by The Orth Botany Trust, The Fuz Botany Trust and The Hendrikx Botany Trust to the prepare an Economic Impact Assessment (EIA) to analyse the economic impacts likely to result from the proposed planning controls amendments and subsequent redevelopment of the Site.

To assess the economic impacts of the Proposal, a Base Case and Proposal Case were developed.

- **Base Case:** The Site is currently improved by a two storey building which accommodates warehousing/storage uses and ancillary commercial uses. The Base Case assumes the Site continues its current operations accommodated in the existing improvements.
- **Proposal Case:** The Site is redeveloped under the Proposal's amended planning controls to facilitate an intensification of use, with increased height and greater provision of commercial floorspace.

The purpose of the EIA is two-fold:

1 To carry out property market research to consider the need for the Proposal while examining the employment and market profile of the broader precinct as an employment area.

2 To carry out economic modelling to assess the economic impacts of the Proposal.

1.3 STRUCTURE OF THE STUDY

The purpose of the Economic Impact Assessment (EIA) is to consider if direct economic impacts of the Proposal Case are net positive compared to the Base Case. The EIA is structured as follows:

Chapter 2 reviews the Site and its surrounds, and strategic planning policies of relevance to the Site and Proposal.

Chapter 3 analyses the employment and economic activity occurring in and around the Site, to understand the profile of employment and industry activity. This chapter additionally investigates the market context and trends influencing land use in and around the Site.

Chapter 4 assesses the economic impacts of the Proposal against the Base Case.

Chapter 5 undertakes a Policy Assessment of the economic impacts arising from the Proposal.

2. SITE CONTEXT

2.1 LOCATION

1-3 Lord Street Botany (the Site) is located approximately 12 kilometres south of the Sydney CBD, and approximately five kilometres and seven kilometres from Sydney Airport and Port Botany respectively. Botany is located within the Bayside Local Government Area (LGA), which was formed from the amalgamation of Botany Bay and Rockdale LGAs in 2016. The Site is accessible via major arterial roads including Botany Road and the M1 Motorway and is located approximately 250 metres east of the Botany Road and Street intersection.

The Site is currently occupied by Marine Product Marketing Proprietary Limited, a supplier of frozen food products, occupying the freestanding warehouse and office space.

Figure 2.1: The Site

Source: Nearmap

In accordance with the Botany Bay Local Environment Plan (LEP) (2013) the Site is zoned B7 Business Park with a permissible floorspace ratio (FSR) of 1:1 and a building height limit of 10 metres. Existing improvements comprise a freestanding warehouse with a building area of approximately 1,438sqm situated on a site of approximately 2,556sqm in area (RP Data). The Site straddles two allotments.

The Site is on the western-most of fringe of the Lord Street B7 Business Park Zone and borders an R3 Medium Residential zone. It is situated between St. Matthew's Anglican church, and Service NSW on Lord Street.

Lord Street accommodates a wide range of businesses and activity, predominantly contained within two business parks, the Lakes Business Park and Sir Joseph Banks Corporate Park. The presence of these prominent business park complexes on Lord Street contributes to elevating the area's profile as a key employment area in the South Sydney region.

Lakes Business Park

Commercial and warehouse floorspace along Lord Street is dominated by the Lakes Business Park (2-13 Lord Street), an eight-hectare business park containing approximately 44,000sqm in net lettable area (NLA) of commercial and warehouse floorspace across seven freestanding buildings. The business park is bisected by Lord Street, forming a north precinct (approximately 29,000sqm NLA) and south precinct (14,000sqm NLA) on either side of Lord Street, with the majority of businesses located in the north precinct.

Dexus secured planning approval for partial redevelopment of the north precinct which will increase commercial floorspace to 44,000sqm across seven 6 storey buildings (Urbis, 2015). Subsequent to this, rezoning approval was obtained to facilitate redevelopment of the south precinct into a mixed use creative hub, Botany Quarter to incorporate creative office suites, high-tech industrial units, storage units, and retail facilities.

The business park accommodates a broad range of businesses: freight and logistics companies, warehousing, small-scale manufacturers, distributors, and providers of corporate services. Utilisation of floorspace is divided between warehousing and commercial uses. The warehousing component is utilised for distribution of goods, and general storage whilst commercial uses provide space for general offices and meeting and/or training rooms.

Sir Joseph Banks Corporate Park

Sir Joseph Banks Corporate Park is situated at the eastern end of Lord Street (28-30 Lord Street). The corporate park comprises in the order of 31,700sqm of commercial and warehouse floorspace across three buildings. Major businesses include Schindler Lifts Australia (lifts manufacturers and maintenance), Konami Australia (computer and arcades manufacturer), and Sims Metal Management (metal collection and processing).

Figure 2.2 shows the Lakes Business Park and Sir Joseph Banks Corporate Park with respect to the Site.

Figure 2.2: Lord Street Major Business Park Complexes

Source: Nearmap

Both the Lakes Business Park and Sir Joseph Banks Corporate Park are owned by Dexus Property Group. Whilst in a business park setting, however, amenity on Lord Street is modest, with only an on-site café in each and no directly accessible recreational facilities (such as a gym). Employees wishing to pursue leisure activities in their free time are limited to the Botanic Aquatic Centre on Lord Street's eastern fringe.

2.2 SURROUNDING USES

The Site is situated in close proximity to critical economic infrastructure (Port Botany and Sydney Airport) and the major employment region of South Sydney. Figure 2.3 illustrates.

Figure 2.3: The Site and Surrounding Uses

Source: Nearmap

Port Botany and Sydney Airport

Port Botany is located approximately six kilometres south-east of the Site and is accessible via Botany Road and Foreshore Road. Port Botany accommodates Sydney's largest port, and is a major employment area, forming a vital part of logistics and supply chain network in NSW. In addition to housing NSW's largest container facility it is also the NSW's primary bulk liquid and gas port, and Australia's largest dedicated common user facility of this type.

Facilities at Port Botany include: three independently operated container vessels, liquids and gas facilities, and eight kilometres of road network, warehousing, container packing and unpacking facilities, Customs facilities and container packing and unpacking facilities. Port Botany operates 24 hours a day, seven days a week (NSW Ports).

Sydney Airport is approximately two kilometres west of the Site and is one of the longest continuously operated commercial airports internationally (Sydney Airport, 2018). Sydney Airport has a total of four terminals, three passenger terminals and one freight terminal, dedicated to international freight operations.

South Sydney Employment Region

The South Sydney employment region is the economic engine that provides critical support to Sydney Airport and Port Botany, servicing population and businesses across metropolitan Sydney. Significant intensification over the last decade is observed across the South Sydney region in line with business requirements and utilisation trends.

2.3 EMPLOYMENT CHARACTERISTICS

The Botany Employment Precinct (the Botany Precinct) is an important employment area within the broader South Sydney region. In order to understand employment and business activity occurring in the Botany Precinct, ABS Census data was analysed for the period between 2006 and 2016 using statistical geographic boundaries of Destination Zone (DZ).

Figure 2.4: The Botany Employment Precinct Statistical Area of Analysis

Source: ABS

The Botany Employment Precinct area of analysis extends well beyond the Lord Street business park precinct (comprised of the B7 Business Park zoned land to the Botany Precinct's north) and encompasses land that is zoned light industrial, local and neighbourhood centres, mixed use.

Table 2.1 provides an overview of the Botany Precinct's employment profile. The industries with the largest share of employment in 2016 were Construction, Manufacturing, and Transport, Postal and Warehousing. Notably, employment numbers are largely unchanged over the 2011-2016 period.

Table 2.1: Employment Profile, The Botany Precinct

Indicator	Outcome
Total Employment	
2016	7,586
2011	8,461
Key Industries (2016, % of Total Employment)	
Construction	20.8%
Transport, Postal and Warehousing	19.4%
Manufacturing	13.0%
Key Occupations (2016, % of Total Employment)	
Technicians and Trades Workers	21.1%

Indicator	Outcome
Clerical and Administrative Workers	18.0%
Managers	15.7%

Source: ABS (2012, 2017a)

2.3.1 Employment By Industry

Table 2.2 shows the Botany Precinct's employment by industry for the period between 2006 and 2016 at the ANZSIC 1-Digit Level. In that period, the overall workforce experienced growth of approximately 5.1%, or 367 employees.

The notable uptick in Construction (114%, 842 jobs) is in line with trends observed in the area, and the rest of Greater Metropolitan Sydney. By comparison, Bayside LGA experienced an increase of 120%, or 3,944 jobs. The growth in the Construction industry is a trend that has been observed across Greater Metropolitan Sydney for the past decade, driven by a construction boom and government infrastructure investment.

Between 2006 and 2016, the Botany Precinct experienced an increase of 163 jobs (82%) in Professional, Scientific & Technical Services and Health Care & Social Assistance (143 jobs, 70%).

A declining Manufacturing industry is a common trend observed across most parts of Greater Sydney, as the nation has transitioned away from traditional manufacturing towards niche and advanced manufacturing and knowledge-intensive jobs. The Botany Precinct lost 577 jobs (-37%) in Manufacturing between 2006 and 2016.

The Wholesale Trade industry has also experienced a decline of 588 jobs (-58%). Disaggregation of the Wholesale Trade industry to the 3-digit level reveals that no notable sub-sectoral decline and suggests this is an organic transition away from Wholesale Trade in the Botany Precinct.

Surprisingly, Transport, Postal & Warehousing trended downwards in the Botany Precinct. Analysis of the industry at the 3-digit level reveals the main contributor to decline was Road Freight Transport (loss of 304 jobs, -4.6%).

Table 2.2: Employment by Industry ANZSIC 1-Digit, The Botany Precinct

Industry	2006		2011		2016		Change (06-16)	
	No.	%	No.	%	No.	%	No.	%
Agriculture, Forestry and Fishing	2	0.0%	7	0.1%	31	0.4%	30	1799%
Mining	1	0.0%	0	0.0%	0	0.0%	0	-60%
Manufacturing	1,564	21.7%	1,569	18.5%	987	13.0%	-577	-37%
Electricity, Gas, Water and Waste Services	30	0.4%	96	1.1%	70	0.9%	39	129%
Construction	738	10.2%	1,116	13.2%	1,580	20.8%	842	114%
Wholesale Trade	1,016	14.1%	1,408	16.6%	428	5.6%	-588	-58%
Retail Trade	329	4.6%	346	4.1%	412	5.4%	83	25%
Accommodation and Food Services	131	1.8%	151	1.8%	191	2.5%	60	46%
Transport, Postal and Warehousing	1,717	23.8%	1,924	22.7%	1,469	19.4%	-248	-14%
Information Media and Telecommunications	211	2.9%	198	2.3%	267	3.5%	55	26%
Financial and Insurance Services	226	3.1%	155	1.8%	78	1.0%	-149	-66%
Rental, Hiring and Real Estate Services	56	0.8%	63	0.7%	143	1.9%	87	156%
Professional, Scientific and Technical Services	198	2.7%	290	3.4%	361	4.8%	163	82%
Administrative and Support Services	181	2.5%	233	2.7%	390	5.1%	209	115%
Public Administration and Safety	132	1.8%	152	1.8%	191	2.5%	59	45%
Education and Training	104	1.4%	111	1.3%	170	2.2%	66	63%
Health Care and Social Assistance	204	2.8%	278	3.3%	347	4.6%	143	70%
Arts and Recreation Services	53	0.7%	64	0.8%	152	2.0%	99	185%
Other Services	323	4.5%	298	3.5%	317	4.2%	-6	-2%
Total	**7,219**	**100%**	**8,461**	**100%**	**7,586**	**100%**	**367**	**5.1%**

Source: ABS (2012, 2017a)

The marked increase in Professional, Scientific & Technical Services and Health Care & Social Assistance employment has direct implications for the type of floorspace required to accommodate this business activity. The profile of industry growth suggests more commercial floorspace is required.

Comparison of the Botany Precinct's employment growth profile with comparison areas of Bayside LGA, Southern Employment Lands, Port Botany and Sydney Airport shows it (the Botany Precinct) experienced distinctly ***modest*** growth. The Botany Precinct's employment growth over the 2006-2016 period averaged an annual growth of 0.5% while the comparison areas achieved average annual growth of 1.5% at a minimum and up to 3.4%. Table 2.3 illustrates the employment profile of the Botany Precinct against its comparison areas.

Table 2.3: Employment by Industry ANZSIC 1-Digit, The Botany Precinct and Comparison Areas

Area	2006	2011	2016	Change (2006-16)	Avg. Annual Growth
The Botany Precinct	7,219	8,461	7,586	5.1%	0.5%
Bayside LGA	67,352	75,918	77,797	15.5%	1.5%
Southern Employment Lands	38,954	43,121	45,130	15.9%	1.5%
Port Botany	3,136	3,828	4,370	39.3%	3.4%
Sydney Airport	12,554	13,906	16,335	30.1%	2.7%

Source: ABS (2012, 2017a)

Growth in Construction jobs across all areas was observed over the 2006-16 period in line with a construction boom and government infrastructure investment. The Southern Employment Lands' employment profile is considered to bear similarities with that of the Botany Precinct's, comprised of a mix of industrial and business zoned lands.

The Southern Employment Lands (SEL) experienced significant increases in the following industries:

- Construction (1,957 additional jobs, 129%).
- Professional, Scientific and Technical Services (1,820 additional jobs, 120%).
- Retail Trade (2,147 additional jobs, 82%).
- Health Care and Social Assistance (817 additional jobs, 63%).

Industries which have notably declined include:

- Manufacturing (1,623 jobs lost, -37%).
- Wholesale Trade (1,394 jobs lost, -25%).
- Information Media and Telecommunications (215 jobs lost, -20%).

Traditional industrial activity (i.e. heavy and 'dirty' industrial uses) is increasingly no longer undertaken in the area (and indeed Sydney's inner ring suburbs) due to access constraints and the high cost of land, many heavier industrial uses thereby relocating to Sydney's south and western suburbs. There has been a corresponding increase in demand from light industrial, local/urban services and mixed business activity in support of a growing population.

The Botany Precinct's change in employment characteristics indicates a precinct in transition, moving away from industrial activities to a mixed enterprise and services base.

As the South Sydney region continues its transition to light industrial and mixed business activity, there is a noticeable shift in business floorspace requirements with many lighter industrial and business uses (e.g. arts and recreation uses, professional services, food and beverage manufacturing uses) requiring smaller floorplates and a mix of floorspace types.

2.3.2 Employment by Occupation

Between 2006 and 2016, the occupational mix in the Botany Precinct has remained steady, with Technicians & Trades Workers forming the dominant occupational group (23.7%), followed by Clerical & Administrative Workers (16.1%) and Managers (16.1%).

Table 2.4: Employment by Occupation, The Botany Precinct

Occupation	2006		2011		2016	
	No.	%	No.	%	No.	%
Managers	928	18.3%	1,127	18.7%	857	16.1%
Professionals	832	16.4%	1,058	17.5%	846	15.8%
Technicians and Trades Workers	1,021	20.1%	1,179	19.5%	1,265	23.7%
Community and Personal Service Workers	249	4.9%	332	5.5%	362	6.8%
Clerical and Administrative Workers	1,070	21.1%	1,206	20.0%	861	16.1%
Sales Workers	227	4.5%	270	4.5%	303	5.7%
Machinery Operators and Drivers	464	9.2%	534	8.8%	395	7.4%
Labourers	283	5.6%	333	5.5%	449	8.4%
Total	**5,075**	**100%**	**6,039**	**100%**	**5,338**	**100%**

Source: ABS (2012, 2017a),

Notably, the proportion of professionals and managers of total workers declined over the 2011-16 period, conceivably a result of relocation of a significant tenant. Community and personal service workers increased from 4.9% (2006) to 6.8% (2016), reflective of the Botany Precinct's transition to accommodate mixed business and services.

2.3.3 Journey to Work

Table 2.5 shows the top ten LGAs from which employees working in the Botany Precinct travel.

Despite the majority of employees residing within or in neighbour LGAs of Sydney and Randwick (over 75% collectively), the majority of employees travelling to the Botany Precinct for work travel by car (60%).

Table 2.5: Journey to Work by Origin, The Botany Precinct

LGA	Employees (No.)	Employees (%)
Bayside	1,030	31.1%
Sydney	940	28.3%
Randwick	535	16.1%
Inner West	98	3.0%
Waverley	75	2.3%
North Sydney	60	1.8%
Woollahra	57	1.7%
Georges River	50	1.5%
Willoughby	47	1.4%

Source: BTS (2012)

2.4 PLANNING CONTEXT

2.4.1 Greater Sydney Region Plan

The Greater Sydney Region Plan (the Region Plan, GSC, 2018a) sets out a vision, objectives, strategies and actions for a metropolis of three cities across Greater Sydney.

A framework for the liveability, productivity and sustainability of the metropolis of three cities is detailed in the Region Plan. 10 directions, each comprised of a series of objectives to deliver and monitor the Region Plan.

The objectives of direct relevance to the Proposal are:

Objective 15: The Eastern, GPOP and Western Economic Corridors

Greater Sydney's Eastern Economic Corridor is a vital part of the economic ecosystem, with high concentrations of jobs and good road and transport links. The Region Plan seeks to strengthen economic opportunities in existing and developing Economic Corridors, to optimise agglomeration benefits and boost productivity with ongoing investment and new opportunities for businesses in the Eastern Harbour City.

Major assets in the Eastern Economic Corridor include the emerging Green Square, Sydney Airport and Port Botany Trade Gateways. Trade Gateways are major ports and airports of national or State significance, which are supported by on-site industrial lands and in nearby areas.

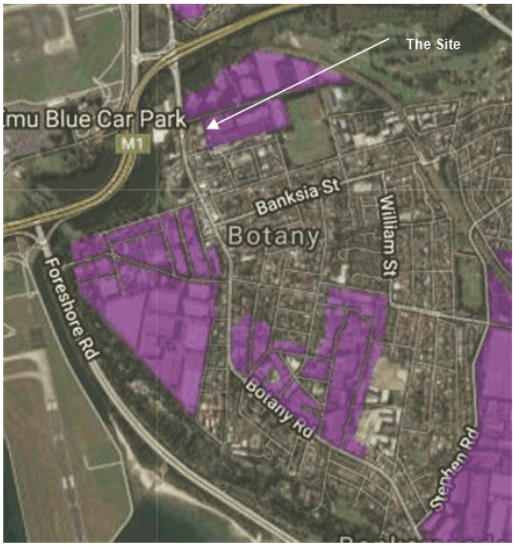
The Site is situated proximate to Sydney Airport and Port Botany Trade Gateways, thereby contributing to accommodate businesses extending from the Trade Gateways within the freight and logistics network.

Objective 23: Industrial and Urban Services Land

Industrial and urban services land refers to employment lands identified in the Employment Lands Development Monitor (DPE) and includes industrial zoned land and some business zoned land which permits a number of industrial uses. This land can include a range of activities from major freight and logistics and heavy manufacturing to light industry, urban services, integrated enterprises with a mix of administration, production, warehousing, research and development and new economy or creative uses.

Employment lands in Botany are depicted in Figure 2.5.

Figure 2.5: Botany Employment Lands



Source: DPE

The Region Plan states that management of industrial and urban services lands should evolve in response to changing business practices and needs and manage uses to allow sites to transition to higher-order employment activities to maximise business productivity, efficiency and competitiveness.

Factors considered in review of changing business practices and needs take into account the evolution in industries which impact the changing demand for land, the changing nature of industries, and current levels of industrial and urban services land supply.

2.4.2 Eastern City District Plan

The Eastern City District Plan (the District Plan) is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney.

The District Plan assists councils to plan for and deliver growth and change and align their local planning strategies to place-based outcomes, through a set of planning priorities and actions. The planning priorities and actions align with the 10 Directions of the Region Plan and their corresponding objectives.

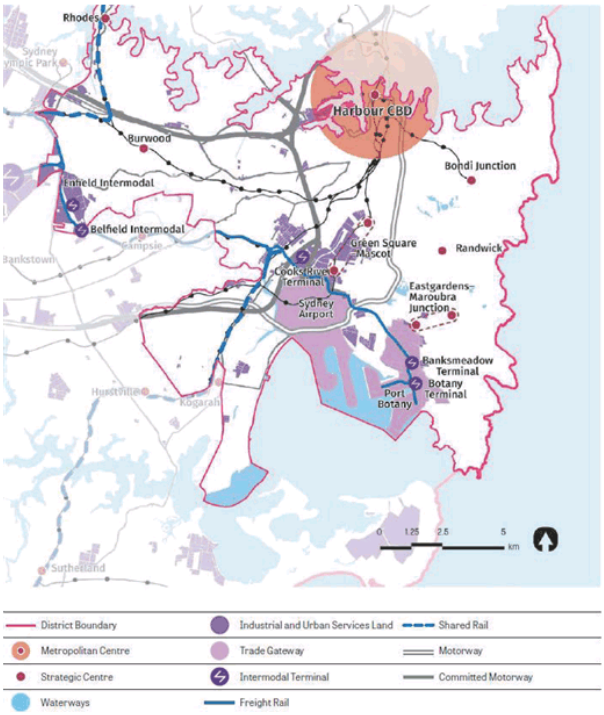
Planning Priority E12: Retaining and managing industrial and urban services land

Industrial and urban services land in the Eastern City District provides cost competitive and well-located land for industries and services that support businesses in the Harbour CBD, other centres and Greater Sydney's two existing international trade gateways of Port Botany and Sydney Airport.

Urban services include activities such as motor vehicle services, printing, waste management, courier services and concrete batching plants. These activities serve local communities and businesses across the District.

Figure 2.6 shows the Eastern City District's employment lands.

Figure 2.6: Eastern City District Employment Lands



Source: GSC, 2018b

Demand for urban services land will increase commensurate with population growth. Good local access to these services reduces the need to travel to other areas, minimising congestion on the transport system. Industrial and urban services land in the Eastern City District is highly constrained due to the development of residential dwellings and large-scale retail, which are higher-return land uses, and the lack of opportunities for new supply. There is strong competition for space from non-urban services industries that seek proximity to Sydney Airport, Port Botany, Sydney CBD and health and education precincts. While these businesses must be supported in a service-oriented modern economy, capacity for industrial and essential urban services must be retained.

Future employment growth across all industries and urban services will require additional floor space, additional land or both. Urban services are often less able to increase their floor space efficiency or locate in multi-storey buildings. Therefore, the retention, growth and enhancement of industrial and urban services lands in the Eastern City should reflect the city's needs and its local context.

The District Plan states that Councils and relevant planning authorities have the responsibility to facilitate the contemporary adaptation of industrial and warehouse buildings through increased floor to ceiling heights.

2.4.3 Local Planning Policy

Botany Bay LEP (2013)

The Site is zoned B7 Business Park in accordance with the Botany Bay Local Environment Plan (LEP) (2013).

The objectives of the B7 zone are to:

- Provide a range of office and light industrial uses.
- Encourage employment opportunities.
- Enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.
- Encourage uses in the arts, technology, production and design sectors.

Permitted uses include: Home occupations, centre-based child care facilities; dwelling houses; food and drink premises; garden centres; hardware and building supplies; home industries; light industries; neighbourhood shops; office premises; passenger transport facilities; respite day care centres; roads; vehicle sales or hire premises; warehouse or distribution centres.

Prohibited uses include: advertising structures; agriculture; air transport facilities; airstrips; amusement centres; animal boarding or training establishments; biosolids treatment facilities; boat launching ramps; boat sheds; camping grounds; caravan parks; cemeteries; charter and tourism boating facilities; correctional centres; crematoria; depots; eco-tourist facilities; electricity generating works; entertainment facilities; environmental facilities; environmental protection works; exhibition homes; exhibition villages; extractive industries; farm buildings; forestry; freight transport facilities; heavy industrial storage establishments; helipads; highway service centres; home-based child care; home occupations (sex services); industrial training facilities; industries; jetties; marinas; mooring pens; moorings; mortuaries; open cut mining; port facilities; recreation facilities (major); recreation facilities (outdoor); registered clubs; research stations; residential accommodation; resource recovery facilities; restricted premises; retail premises; rural industries; sewage treatment plants; sex services premises; tourist and visitor accommodation; transport depots; truck depots; vehicle body repair workshops; vehicle repair stations; waste disposal facilities; water recreation structures; water recycling facilities; water supply systems; wharf or boating facilities.

Botany Bay Planning Strategy 2013 (2009)

The former Botany Bay City Council developed the Botany Bay Planning Strategy 2013 (the Planning Strategy) in 2009 to inform development of the Botany Bay LEP (2013). The Planning Strategy provided an overview of economic activity in the then Botany Bay LGA, addressing housing and employment directions, urban renewal, and reviving and protecting trade gateways.

A number of areas within the LGA were identified in the Planning Strategy and specifically designated with associated directions and strategies to address demand for employment floorspace. These employment areas included Hillsdale, Banksmeadow, Pagewood, Botany, Lord Street, Hale Street, Eastgardens, Rosebery, Mascot, Eastlakes, and the airports and surrounding environs.

The Planning Strategy stated that Botany was deemed unsuitable for residential intensification, more suited to employment intensification with a greater commercial and regional retail role. The concept of the needs of the Botany Road 'spine' should be extended to include the Lord Street business park commercial activities.

Specifically relevant to the Proposal is Action 2.2.5 in the Planning Strategy: Facilitate expansion of commercial activity potential north of Botany centre (Lord Street to Bay Street). This Action considered establishing FSRs

between 1.2:1 and 1.5:1 to expand the business park precinct on Lord Street, and applying a B7 Business Park zone along Lord Street to expand the business park uses with the objective of creating a strong commercial cluster in this location.

Whilst the Planning Strategy was published almost one decade ago, it reflects Council's intention to designate the area as a notable commercial precinct, as even then it was anticipated that an expansion of the B7 Business Park zone to permit higher levels of commercial activity was needed

2.5 THE PROPOSAL

The Orth Botany Trust, The Fuz Botany Trust and The Hendrikx Botany Trust are preparing a Planning Proposal (the Proposal) to amend existing planning controls to increase the FSR and building height limits to facilitate a redevelopment of the Site to include:

- Basement and ground level carparking for 92 vehicles
- Warehouse and commercial floorspaces and a lobby on the ground floor (621sqm).
- Three levels of commercial floorspaces on upper floors (3,750sqm).

Table 2.6: Summary of Existing and Proposed Planning Controls

Planning Control	Existing	Proposed
FSR	1:1	1.75:1
Height Limit (m)	10	16.5 plus plant

Source: BuiltConsult

The Proposal's inclusion of commercial floorspace will facilitate accommodation of a range of businesses and office users who have diverse floorspace requirements not necessarily requiring location within a CBD environment.

The Proposal responds directly to the Region Plan and District Plan's objectives and priorities to retain urban services lands, but importantly to facilitate a greater amount of floorspace to accommodate employment growth.

The District Plan highlights the challenges that face industrial and urban services land in the Eastern City District, as strong competition and tension between land uses constrains the capacity for additional floorspace in the future.

The Site is strategically located in close proximity to the Sydney Airport and Port Botany Trade Gateways. It has the potential to play an important role in accommodating employment growth, particularly businesses who require floorspace in the increasingly competitive South Sydney region.

The next section explores the economic and market context as is relevant to the Proposal.

3. BASELINE RESEARCH

This chapter carries out baseline research to identify economic and market trends that influence land use in the Lord Street business park precinct (referred to hereinafter as 'the Lord Street Precinct') which is within the Botany Employment Precinct (the Botany Precinct) examined in Section 2.3.

3.1 BUSINESS AND INDUSTRY ACTIVITY

A range of factors influence business activity and land uses in the Lord Street Precinct and other areas in Sydney's inner ring. Some of these are centric to the local area while many are not. Significant influences on business activity are driven at the global and national level. Understanding the broader context in which the Lord Street Precinct's business activity operates is essential to understanding future demand and the nature of that demand for employment on the Site.

Traditional manufacturing in Australia is rapidly changing in a bid to survive on the global market. Manufacturers are redefining their operations and the scope of their activities through the use of technology and knowledge. A structural shift in Australian business is affirmed by historical declines in employment in traditional industry sectors and the rise of employment in the service sectors.

Diversification of Function and Uses

In order to remain competitive, businesses recognise the need to leverage technology and knowledge and embrace new ways of doing business.

Many high-tech and creative industrial businesses are located in South Sydney (specifically Alexandria, Zetland, Rosebery, Waterloo) where they are able to co-locate various functions under one roof. This has led to a proliferation of new development types wherein factory and industrial space is combined with commercial suites, high-tech industrial units and warehouse space.

The co-location of warehouse and office functions is an increasing trend observed across employment areas, particularly those close to Sydney's urban centres. This is in line with the clustering of multiple business functions within the same premises. Warehouses with floorspaces circa 300-700sqm have a notable presence in the Botany Precinct, which is unsurprising given that contemporary requirements for occupants do not necessarily require large floorplates, but rather, smaller spaces to accommodate commercial showrooms and wholesalers, niche manufacturing and small-scale production, as well as retailers and sales support services.

This trend is emerging in the Botany Precinct and presents an opportunity for the Site to facilitate more business activity and employment, also allowing tenants to combine a variety of functions under one roof.

Service Industry/Urban Services

As Sydney continues to grow, population growth will be a major driver of household and business consumption. In response to consumption growth it is likely that trend for growth of imports will continue, increasing local demand for warehousing, transport and logistics industries to service imports growth. Continued growth in e-commerce has implications for demand to accommodate time-critical supply chain logistics across metropolitan Sydney.

Many urban support services have time critical requirements for delivery to inner/middle ring locations. Owing to service delivery standards (particularly where there are cold storage requirements), this industry requires accommodation in easily accessible locations proximate to key markets.

There are numerous service industry businesses within the Botany Precinct that service a local market. Many of these businesses are locally owned and operated as small businesses. There will always be a role for local service industry to play in the Botany area, given the proximity to Sydney CBD, Sydney Airport, Port Botany and its central locality to the rest of metropolitan Sydney.

Intensification of Commercial Floorspace

Over the years, the economic theory of agglomeration has been increasingly examined to understand the benefits which firms enjoy when co-locating in areas with a higher density of economic and employment activity. Taking up

premise in an area of dense economic activity encourages the flow of knowledge and spill-on effects, is more efficient in resource-matching and enables businesses to take advantage of economies of scale.

The Lord Street Precinct's proximity to key economic assets (Sydney CBD, Sydney Airport, Port Botany and populous catchments) and affordability make it a popular choice for businesses who need commercial floorspace but not a CBD location. The Proposal's large commercial floorplates provide opportunities for a wide range of businesses to take up accommodation on the Site. As businesses are increasingly preferring to locate their business functions in one location rather than dispersed in multiple smaller locations, more commercial floorspace opportunities are needed.

Permitting a greater amount of commercial floorspace on the Site will enable accommodation of mixed business activity and some industrial-type activity and will respond to occupier need.

3.2 MARKET CONTEXT

This section provides an overview of the industrial and commercial property market in the Lord Street and Botany Precincts and surrounding area to understand the nature and drivers of market activity and land use.

Market Demand and Occupier Profile

The Lord Street Precinct's proximity to key freight nodes and the Sydney CBD make it a popular choice for businesses seeking to locate within an accessible and relatively affordable location. Despite this, a key driver enticing commercial and/or industrial occupants is its affordability of employment floorspace.

Residential encroachment and the conversion of employment lands in the South Sydney region in recent years has seen an exodus of businesses priced out of industrial/commercial floorspaces in a shrinking and increasingly competitive market. The Botany and Lord Street Precincts have been relatively exempt from residential conversions, due its proximity to Sydney Airport and Port Botany. The preservation of these trade gateways and employment and urban services lands in its immediate surrounds is critical in supporting the functions of Sydney Airport and Port Botany and maximising efficiency in the freight and logistics network.

With the exception of Botany Town Centre to the north of Botany Road with accommodates strip retail and upper level offices, the majority of employment floorspace in the Lord Street and Botany Precincts is a hybrid of warehouse and office space. Freestanding warehouses with an office component have a significant presence in the north and south of Botany, and large industrial estates are situated to the west, along Foreshore Drive.

The demand profile of industrial and commercial floorspace occupiers is diverse and is understood to be growing healthily. Occupants in freestanding warehouses are typically small-scale manufacturing, repairs/servicing technicians, and light industrial users. Commercial occupants with smaller footprint requirements are typically small businesses/sole traders who are attracted to the relative affordability of the area, proximity to the Sydney CBD and arterial roads, and not necessarily requiring a prestigious address. Larger businesses, such as Mazda, Service NSW and University of Technology Sydney's Botany Tech Lab, which require larger floorplates are located along Lord Street, which is perceived as a more premium 'business park' precinct.

Sales Activity

A limited number of sales have occurred in Botany over the past 12 months. These are outlined in Table 2.1 below.

Table 3.1: Sales Evidence, 12 Months to June 2018

Address	Floor Area (sqm)	Zone	Sale Price (Sale Date)	Analysis ($/sqm)	Commentary
3/8 Sir Joseph Banks St	356	IN1	$1,350,000 (January 2018)	$4,141	Factory located in a complex of six with first floor office space, roller doors, raised storage areas and internal clearance of 5.1-5.8m. Includes four car spaces.
2-12 Underwood Ave	1,043	B7	$2,750,000 (October 2017)	$2,637	Empty land with a small asbestos unit which was purchased to redevelop into a warehousing/distribution centre for an owner-occupier already located in the area.

Address	Floor Area (sqm)	Zone	Sale Price (Sale Date)	Analysis ($/sqm)	Commentary
11 Erith St	989	IN1	$2,550,000 (October 2017)	$2,578	Free standing warehouse with roller doors and high clearance.
11 Aylesbury St	378	B4	$1,650,000 (August 2017)	$4,435	Boutique freehold warehouse with roller shutter access, air-conditioned office space and outdoor deck.
5-7 Tenterden Rd	720	B7	$2,650,000 (June 2017)	$3,681	Two industrial units sold under one title, comprising onsite parking, loading dock and amenities
9 Tenterden Rd	370	B7	$1,900,000 (June 2017)	$4,146	Industrial unit comprising onsite parking, loading dock and amenities

Source: CoreLogic

Despite a tightly held market, interest levels are observed to have been high. Interested parties tend to already be located in the area and seeking to upgrade to larger premises allowing for co-location of functions. An escalation in sale prices in recent years is testament to the demand levels and competitive nature of the market.

The next section investigates current leasing activity within and in close proximity of Botany.

Leasing Activity

Informal discussions with local agents active in the area have indicated that Botany is well received due to its proximity to the Sydney CBD and key freight nodes, and its relative affordability. Market activity has been relatively stable in the past 12-18 months with healthy levels of enquiries.

The rental market has performed moderately well, owing to the location and relative affordability. Letting agents have indicated that demand for freestanding warehouses is witnessed from a broad range of businesses including, but not limited to: small-scale manufacturers, food storage, equipment repairs/servicing, and tradespeople, who typically require some yard access and attached office spaces with their warehouses. Freestanding warehouses with roller door access, high clearances, and an office component are observed to achieve rents between $220/sqm to $250/sqm.

As the demand for industrial lands is evolving, premises which were once designed and utilised for traditional heavy manufacturing is increasingly seen as accommodation for other light industrial/business occupants (e.g. creative users, sales/marketing, small-scale manufacturers/distributors) who find the features of warehouses on the markets suitable for their hybrid of functions. The main detriment to light industrial occupants is Council's restrictions on container transportation in and around the area, limiting the range of business activities to those who do not require large truck and container access.

Leasing agents have revealed that those requiring commercial floorspaces are attracted by the area's relative affordability and proximity to the Sydney CBD. Office rents in the area typically achieve between $180/sqm to $350/sqm (with floor areas ranging from 100sqm-200sqm). By comparison, offices between 100sqm to 200sqm in the Southern Employment Lands (Alexandria, Zetland, Rosebery, etc.) achieve rents between $320/sqm to $500/sqm, indicative of the premium paid by tenants to locate closer to a heavy rail station and the Sydney CBD.

Major commercial developments nearby include the Bayview Tower and the Discovery Cove Industrial Estate in Banksmeadow. Bayview Tower offers modern office spaces approximately 100sqm to 640sqm and is situated adjacent to the Port Botany container terminal. Discovery Cove Industrial Estate enables a hybrid of functions to be accommodated on their site, offering modern warehouse units and office spaces between 477sqm to 3,726sqm. Like Bayview Tower, Discovery Cove Industrial Estate is proximate to Port Botany, and offers an on-site café and parking. Bayview Tower and Discovery Cove Industrial Estate are ideal for businesses in the distribution and logistics sector who would benefit from proximity to major Trade Gateways and the M5 Motorway.

Development Activity

The most notable development project in Botany is 11-13 Lord Street (Lakes Business Park South) by Dexus. Dexus acquired the Lakes Business Park in 2015 with plans to redevelop it into the Botany Quarter mixed-use precinct. Redevelopment of the Lakes Business Park South will facilitate creative office suites, high-tech industrial units, storage units, neighbourhood retail and onsite lifestyle/recreation facilities (childcare, gym facilities), offering Botany a much needed 'face-lift' and rejuvenation.

Botany Quarter will be redeveloped into three buildings.

- Building A (7,657sqm): Building A is to comprise warehousing and commercial floorspaces across two storeys, including six high-clearance warehouses with mezzanine and displays, indoor recreation space, and creative office suites with flexible configurations
- Building B (6,187sqm): Building B overlooks Booralee Park and will comprise of commercial and retail floorspaces across two storeys, and will include 10 high-tech commercial units with mezzanine, 12 food and beverage and retail suites, 14 creative office suites, and a proposed childcare centre.
- Building C: Building C will include high-tech industrial, commercial and storage space across three storeys, comprising 45 high-tech industrial units, 15 high-tech commercial suites and 100 storage units.

The development will accommodate contemporary employment floorspace opportunities, detailed in Table 3.2.

Table 3.2: Employment Floorspace Pricing, Botany Quarter

Building	Type	Floorspace (sqm)	Asking Price ($/sqm)
A	Ground floor industrial unit, mezzanine office, retail display	537sqm - 759sqm	$6,000
A	Industrial unit and recreational space	487sqm - 606sqm	$6,100 - $8,000
A	Commercial units	85sqm - 272sqm	$7,500 - $8,100
B	High-tech industrial units with mezzanine offices	266sqm - 814sqm	$6,200 - $7,000
B	Retail and commercial	84sqm - 98sqm	$8,100 - $8,500
B	Commercial units	49sqm - 167sqm	$7,700 - $8,750
C	High tech industrial units with mezzanine offices	122sqm - 452sqm	$6,200 - $7,500
C	High tech industrial units	116sqm - 165sqm	$6,800 - $7,000

Source: Colliers

Informal discussions with the marketing agents indicate market enquiries have been strong since marketing commenced in June 2018. A lack of commercial office opportunities in the South Sydney region has resulted in a pent-up demand for commercial suites of all sizes. Notable interest is commented to be received from owner occupiers. The mix of business functions which can be accommodated in Botany Quarter meet the demands and trends of the current market, as evident from interest levels. Together with the incorporation of much-needed retail and recreational facilities in a business park setting, the redevelopment is likely to be a game changer for Botany.

3.3 IMPLICATIONS FOR THE SITE

In line with national trends, the Lord Street and Botany Precincts have recorded notable declines in the historically dominant Manufacturing and Wholesale Trade industries, attributable to global and regional economic pressures. Total employment in the Botany Precinct contracted between 2011 and 2016, despite an uptick in Construction and Professional, Scientific and Technical Services industries, suggesting there is a need for existing built form to align with industry trends by providing commercial floorspace opportunities.

Across the Botany Precinct, distinctly modest growth was experienced in the 10 years to 2016 (0.5% average annual growth), relative to comparison areas (SEL, Port Botany, Sydney Airport) which achieved average annual growth ranging 1.5% to 3.4%.

Market research suggests that multi-function business premises are highly sought after in the South Sydney region by prospective tenants and owner-occupiers, as they combine knowledge, technology, logistics and storage in dynamic workspaces that are flexible.

The Proposal's provision of commercial floorspace over three floors aligns with the analysis of the Lord Street Precinct's transition into a mixed enterprise and services base, and aligns well as market demand and activity observed.

4. ECONOMIC IMPACT ASSESSMENT

This chapter examines the economic impacts arising from the Proposal Case as compared to the Base Case.

4.1 DRIVERS OF ECONOMIC IMPACT

The following sections examine the estimated economic activity supported through the operations of businesses locating to the Site if it was redeveloped under proposal compared to if it remained in its existing use.

- **Base Case**: The Base Case assumes the Site continues its current operations accommodated in the existing improvements and assesses the economic impacts should the Site remain in its existing use.
- **Proposal Case**: The Site is redeveloped under the Proposal's amended planning controls to facilitate higher intensification use on site, with increased height and commercial floorspace.

The economic impacts have been assessed at the Bayside Local Government Area (LGA) level. An Input-Output model, including the development of specific regional Input-Output transaction tables, was developed to reflect the economic structure of the Bayside LGA (refer to Appendix A). Input-Output modelling describes economic activity through the examination of four types of impacts which are defined and described in the table below.

Table 4.1: Economic Indicators

Indicator	Description
Output	Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. **Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.**
Gross Product	Refers to the value of output after deducting the cost of goods and services inputs in the production process. **Gross product (e.g., Gross Regional Product) defines a true net economic contribution and is subsequently the preferred measure for assessing economic impacts.**
Income	Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the Project.
Employment	Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow on activity, and is expressed in terms of Full-Time Equivalent (FTE) positions. One FTE job is defined as one person working full time for a period of one year.

Source: AEC

Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow on (industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending. Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).

The following estimates consider both Type I and Type II flow on impacts though it should be noted that Type II impacts are commonly considered to overstate economic activity.

Drivers of Economic Activity

In order to understand the economic impacts likely to result from the Proposal, it is necessary to distinguish economic impacts during the construction phase and those economic impacts that will be more permanent in nature following construction completion and operations commencement.

- **Construction Phase**: Construction activity will draw resources from and thereby generate economic activity in Bayside LGA as well as from outside the LGA. Assumptions are made on the proportion sourced from within and from outside the LGA.
- **Operations Phase**: On completion of development, the Site is expected to generate ongoing economic/ operational activity through the direct turnover generated by the warehousing and commercial operational activities.

4.1.1 Construction Phase

For modelling purposes, construction costs (including contingency) were broken down into their respective ANZSIC industries. This breakdown was developed based on assumptions by AEC regarding the most appropriate ANZSIC industries for each activity.

Table 4.2: Construction Costs Allocations (Inc. Contingency), Proposal Case

Component	Proposal ($M)	ANZSIC
Demolition	$0.3	Construction Services (100%)
Ground Floor Warehouse	$0.97	Non-Residential Building Construction (100%)
Commercial	$7.83	Non-Residential Building Construction (100%)
Site Works/Infrastructure	$0.18	Construction Services (100%)
Professional Fees	$0.91	Professional, Scientific and Technical Services (100%)
Total	**$10.2**	

Source: AEC, BuiltConsults

Only the construction activity expected to be undertaken within the Bayside LGA has been included in the economic impact assessment. For the purposes of this assessment it was assumed:

- Approximately 50% of the direct expenditure on construction-related (i.e. Non-Residential Building Construction and Construction Services) activity would be sourced from local businesses and labour. Of this:
  - Approximately 25% of purchases on goods and services (supply chain related activity) made by construction-related businesses sourced from outside the Bayside LGA would be spent within the local economy (i.e., 25% of the Type I flow on activity associated with non-local construction companies is assumed to represent additional local activity in Bayside LGA).
  - Approximately 5% of wages and salaries paid to construction-related workers sourced from outside the region would be spent on local goods and services, such as food and beverages (i.e., 5% of the Type II flow on activity associated with non-local workers is assumed to represent additional local activity in Bayside LGA).
- Approximately 15% of the direct expenditure on professional, scientific and technical services activity would be sourced from local businesses and labour.
  - Only flow-on activity of locally sourced professional, scientific and technical services activity is included, as it is not anticipated professional, scientific and technical services businesses located outside of Bayside LGA would purchase goods/ services from within Bayside LGA.

4.1.2 Operational Phase

Base Case

For modelling purposes, operational employment levels were broken down into their respective ANZSIC industries. This breakdown was developed based on assumptions by AEC regarding the most appropriate ANZSIC industries for each activity.

The Base Case assumes the existing warehouse space will continue its existing operations, thereby with the capacity to accommodate 29 FTEs.

Table 4.3: Operational FTE Allocation, Base Case

Activity	ANZSIC Allocation	GFA (sqm)	GFA (sqm)/FTE	FTE
Industrial	Transport, Postal and Warehousing (100%)	1,017	70	15
Commercial	Wholesale Trade (83%)	289	20	12
	Administrative and Support Services (17%)			2
Total		**1,306**		**29**

Note: Totals may not sum due to rounding.
Source: AEC

Employment by industry estimates were converted to an output value using a multiplier based on the national transaction table (ABS, 2017b; ABS, 2017c). The resultant estimates of output were modelled as the direct activity associated with the Base Case.

Table 4.4: Operational Output Drivers, Base Case

ANZSIC Sector	Output ($M)
Transport, Postal and Warehousing	$6.6
Wholesale Trade	$4.2
Administrative and Support Services	$0.6
Total	**$11.4**

Source: ABS (2017b, 2017c), AEC

Proposal Case

For modelling purposes, estimated operational employment levels for the Proposal Case (according to uses based off increased FSR and height limits) were broken down into their respective ANZSIC industries. This breakdown was developed based on assumptions by AEC regarding the most appropriate ANZSIC industries for each activity.

The Proposal Case assumes the increase in the commercial floorspace provision will be occupied by an aggregate of industries that have shown growth in the Botany Precinct over the 2006-2016 period.

Table 4.5: Operational FTE Allocation, Proposal Case

Activity	ANZSIC Allocation	GFA (sqm)	GFA (sqm)/FTE	FTE
Industrial	Transport, Postal and Warehousing	621	20	9
Commercial	Agriculture, Forestry and Fishing	3,750	70	188
	Electricity, Gas, Water and Waste Services			
	Construction			
	Retail Trade			
	Accommodation and Food Services			
	Information Media and Telecommunications			
	Rental, Hiring and Real Estate Services			
	Professional, Scientific and Technical Services			
	Administrative and Support Services			
	Public Administration and Safety			
	Education and Training			
	Health Care and Social Assistance			
	Arts and Recreation Services			
Total		**4,371**		**196**

Source: AEC, BuiltConsult

Employment by industry estimates were converted to an output value using a multiplier based on the national transaction table (ABS, 2017b; ABS, 2017c). The resultant estimates of output were modelled as the direct activity associated with the Proposal Case.

Table 4.6: Operational Output Drivers, Proposal Case

ANZSIC Sector	Output ($M)
Agriculture, Forestry and Fishing	$0.9
Electricity, Gas, Water and Waste Services	$1.3
Construction	$34.4
Retail Trade	$0.2
Accommodation and Food Services	$0.8
Information Media and Telecommunications	$1.9
Rental, Hiring and Real Estate Services	$1.8
Professional, Scientific and Technical Services	$5.5
Administrative and Support Services	$5.2
Public Administration and Safety	$1.1
Education and Training	$1.0
Health Care and Social Assistance	$2.4
Arts and Recreation Services	$2.3
Total	**$58.9**

Source: ABS (2017b, 2017c) AEC

4.2 ECONOMIC ACTIVITY AND IMPACTS

The economic impacts/ contribution can be traced through the economic system via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Indirect Impacts (Flow-on impacts)**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
    - **Indirect Impact (Type I)** represents production induced support activity a result of additional expenditure by the industry experiencing the stimulus on goods and services in the intermediate usage quadrant, and subsequent round effects of increased purchases by suppliers in response to increased sales.
    - **Indirect Impact (Type II)** represents the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries paid within the economic system.

The premise behind Type I and Type II indirect impacts applies across both the construction and operations phase, except the impacts on industry will be different. For example, Type I impacts during the construction phase may include professional services (e.g. architects, engineers) and manufacturing (steel, construction materials) while examples of Type I impacts during the operations phase may include manufacturing (food and beverage and related) and administrative and support services (e.g. building cleaning, employment services, travel agencies).

4.2.1 Construction Phase

The construction phase associated with the Proposal is expected to support the following economic activity for Bayside LGA businesses and workers through direct and flow-on impacts (over the course of the construction phase):

- $10.4 million in output (including $4.8 million in direct activity).
- $3.9 million contribution to GRP (including $1.2 million in direct activity).
- $2.1 million in incomes and salaries paid to households.
- 28 FTE jobs (including seven directly employed in the construction activity).

Table 4.7: Construction Impacts, Bayside LGA, Proposal Case

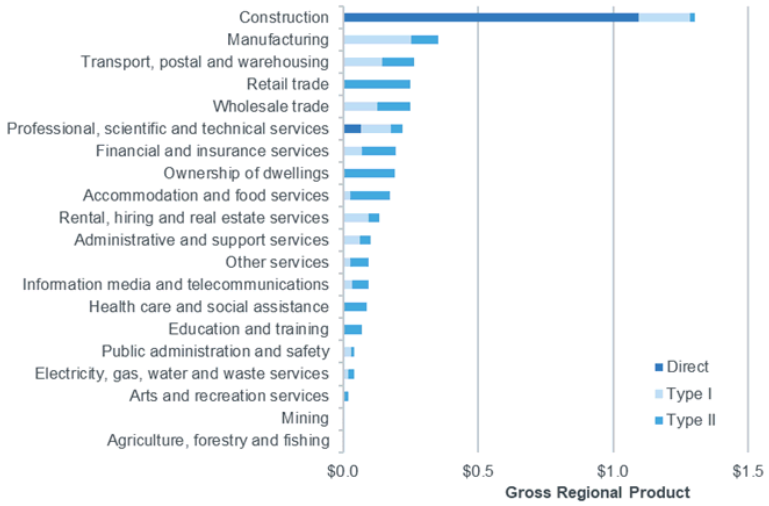
Impact	Output ($M)	Gross Regional Product ($M)	Incomes ($M)	Employment (FTEs)
Direct	$4.8	$1.2	$0.6	7
Type I Flow-On	$2.8	$1.2	$0.7	9
Type II Flow-On	$2.8	$1.5	$0.8	12
Total	**$10.4**	**$3.9**	**$2.1**	**28**

Source: ABS (2017b, 2017c) AEC

Major industry beneficiaries of the construction phase of the development include:

- Construction (GRP of $1.3 million).
- Manufacturing ($0.4 million).
- Transport, postal and warehousing ($0.3 million).

Figure 4.1: Gross Regional Product (GRP) Impacts by Industry, Bayside LGA, Proposal Case



Source: ABS (2017b, 2017c) AEC

4.2.2 Operational Phase

Base Case

The activity associated with the Site based off current operations is estimated to support the following economic activity through direct and flow-on impacts (per annum):

- $21.5 million in output (including $11.4 million in direct activity).
- $10.3 million contribution to Gross Regional Product (GRP, including $5.1 million in direct activity).
- $5.7 million in incomes and salaries paid to households.
- 69 full-time equivalent (FTE) jobs (including 29 direct employees of the Site).

Table 4.8: Operational Impacts, Bayside LGA, Base Case

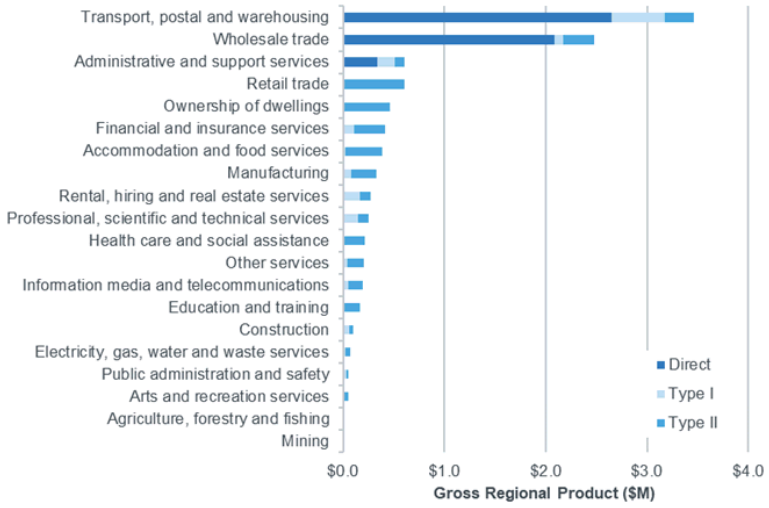
Impact	Output ($M)	Gross Regional Product ($M)	Incomes ($M)	Employment (FTEs)
Direct	$11.4	$5.1	$2.9	29
Type I Flow-On	$3.2	$1.5	$0.8	10
Type II Flow-On	$6.9	$3.7	$2.0	30
Total	**$21.5**	**$10.3**	**$5.7**	**69**

Source: ABS (2017b, 2017c) AEC

Major industry beneficiaries from existing activities on the Site in terms of contribution to GRP include:

- Transport, postal and warehousing ($3.5 million).
- Wholesale trade (GRP of $2.5 million).
- Administrative and support services ($0.6 million).
- Retail trade ($0.6 million).

Figure 4.2: Gross Regional Impacts (GRP) by Industry, Bayside LGA, Base Case



Source: ABS (2017b, 2017c) AEC

Proposal Case

The Proposal is estimated to support the following annual economic activity through the direct and flow-on impacts associated (per annum):

- $139.5 million in output (including $58.9 million in direct activity).
- $62.9 million contribution to GRP (including $23.8 million in direct activity).
- $36.3 million in incomes and salaries paid to households.
- 509 FTE jobs (including 196 directly related to activity from the Site).

Table 4.9: Operational Impacts, Bayside LGA, Proposal Case

Impact	Output ($M)	Gross Regional Product ($M)	Incomes ($M)	Employment (FTEs)
Direct	$58.9	$23.8	$14.8	196
Type I Flow-On	$36.6	$15.4	$8.9	120
Type II Flow-On	$43.9	$23.7	$12.6	192
Total	**$139.5**	**$62.9**	**$36.3**	**509**

Source: ABS (2017b, 2017c) AEC

Significant industry beneficiaries of the Proposal include:

- Construction (GRP $15.4 million per annum)
- Professional, scientific and technical services ($5.2 million)
- Administrative and support services ($4.4 million).

4.2.3 Net Impact on Economic Activity

The Proposal is anticipated to result in a net increase in economic activity through the direct and flow-on impacts associated (per annum):

- $117.9 million in output (including $47.5 million in direct activity).
- $52.6 million contribution to GRP (including $18.7 million in direct activity).
- $30.6 million in incomes and salaries paid to households.
- 439 FTE jobs (including 167 additional jobs directly related to activity on the Site).

The potential increase in ongoing economic activity supported by the Proposal (compared to the Base Case) is presented in Table 4.10.

Table 4.10: Estimated Net Operational Impacts in Bayside LGA

Impact	Output ($M)	Gross Regional Product ($M)	Incomes ($M)	Employment (FTEs)
Direct	$47.5	$18.7	$11.9	167
Type I Flow-On	$33.4	$13.9	$8.1	110
Type II Flow-On	$37.0	$20.0	$10.6	162
Total	**$117.9**	**$52.6**	**$30.6**	**439**

Source: ABS (2017b, 2017c) AEC

5. POLICY ASSESSMENT

5.1 NET COMMUNITY BENEFIT TEST

To compare the outcome of the Base Case versus the Proposal, each of the identified impacts compared to the Base Case are summarised and ranked based on the rating system outlined in Table 5.1.

- **Base Case:** The Site is currently improved by a two storey building which accommodates warehousing/storage and ancillary commercial uses. The Base Case assumes the Site continues its current operations in its existing improvements.
- **Proposal Case:** The Site is redeveloped under the Proposal's amended planning controls to facilitate an intensification of use on site, with increased height and greater provision of commercial floorspace.

Table 5.1: Economic Impact Rating Matrix

Severity of Impact	Score	Explanation
Strong Positive Impact	+3	The scenario would make a strong positive contribution towards this impact compared to the Base Case
Slight Positive Impact	+1	The scenario would make a slight positive contribution towards this impact compared to the Base Case
Neutral Impact	0	The scenario would make neither positive or a negative contribution towards this impact compared to the Base Case
Slight Negative Impact	-1	The scenario would make a slight negative contribution towards this impact compared to the Base Case
Strong Negative Impact	-3	The scenario would make a strong negative contribution towards this impact compared to the Base Case

Source: AEC

Table 5.2 identifies the economic impacts and derives a total score for Proposal using the Base Case as the starting point of '0'. The higher the positive score the greater the net positive economic impact from a community perspective, the lower the score the greater the adverse economic impact.

Table 5.2: Economic Impact, Base Case v Proposal Case

Impact	Base Case	Rating	Proposal Case	Rating
Employment & Economic Impact				
Output ($M)	$21.5	+1	$139.5	+3
GRP ($M)	$10.3	+1	$62.9	+3
Incomes ($M)	$5.7	+1	$36.3	+3
Employment (FTE)	69	+1	509	+3
Construction				
Output ($M)	n.a.	0	$10.4	+3
GRP ($M)	n.a.	0	$3.9	+3
Incomes ($M)	n.a	0	$2.1	+3
Employment (FTE)	n.a	0	28	+3
Total		**4**		**24**

Source: AEC

In comparison to the Base Case, the Proposal Case clearly exhibits a positive economic impact. As the Lord Street business park precinct continues to evolve in response to industry trends, the economic impact identified in this Assessment would be even more pronounced.

5.2 SECTION 117 DIRECTION

The Section 117(2) direction considered relevant in this Assessment is Section 1.1 Business and Industrial Zones. The objectives are identified below together with their consideration in the context of the Proposal.

Table 5.3: Consistency with Section 117(2) Objectives

No.	Objective	Proposal Case
1	Encourage employment growth in suitable locations	The Site currently contains a freestanding warehouse, accommodating approximately 29 jobs. The Proposal envisages development of the Site to accommodate: 3,750sqm of commercial floorspace and 621sqm of commercial/industrial floorspace. This floorspace combined will accommodate 196 jobs on Site, representing a net increase of 167 direct jobs. The Proposal Case complies with this objective.
2	Protect employment land in business and industrial zones	The planning amendment sought would lead to an increase in the quantum of land zoned for employment generating land uses in the Bayside LGA. The total number of jobs generated on the Site is estimated at 196 jobs (representing an increase of 167 direct jobs). The Proposal complies with this Objective.
3	Support the viability of identified strategic centres	The Site is not identified as a strategic centre, hence this Objective is of no direct relevance to the Proposal.

Source: AEC

Section 117 Directions set out five requirements for planning authorities to consider when preparing a planning proposal that will affect land within an existing or proposed business or industrial zone. This are considered below in relation to the Proposal.

Table 5.4: Planning Authority Considerations

Consideration	Achieved?	Explanation
Give effect to the objectives of this direction	Yes	Table 5.3 has established that the objectives of the direction would be achieved via the Proposal.
Retain the areas and locations of existing business and industrial zones	Yes	The land use zone of B7 Business Park would remain unchanged. Overall the planning amendment sought would lead to an increase in the quantum of land zoned for employment generating land uses in the Bayside LGA. The existing improvements on Site provide 289sqm of commercial floorspace and 1,017sqm of industrial floorspace. The Proposal would provide 3,750sqm of commercial floorspace and 621sqm of commercial/industrial floorspace, resulting in a net increase in employment floorspace, in response to the changing industry trends observed.
Not reduce the total potential floor space area for employment uses and related public services in business zones	Yes	See above.
Not reduce the total potential floor space area for industrial uses in industrial zones	No	The Site is not located in an industrial zone.
Ensure that proposed new employment areas are in accordance with a strategy that is approved by the Director-General of the Department of Planning		As established in this EIA, the Proposal Case is consistent with State and local government objectives to support jobs, economic development, efficient and effective use of land and accelerate housing supply in suitable locations. It complies with this condition.

Source: AEC

5.3 CONCLUSION

The Proposal demonstrates alignment with the objectives and aspirations of state planning policy and strategy:

- Greater Sydney Region Plan.
- Eastern City District Plan.

Land that is close to existing employment centres and public transport networks is scarce and valuable. As cities grow there is commensurate pressure on scarce lands to be developed for a variety of uses. The benefits of enabling more intensive use of land which is a finite asset are therefore obvious.

In comparison to the other employment areas examined, the Botany Precinct and its surrounds experienced very modest employment growth over the 2006-2016 period, averaging a lacklustre 0.5% average annual growth compared to 1.5% to 3.4% in comparison areas. Employment growth in the Botany Precinct and its surrounds has been weak despite strong market demand and occupier interest.

Opportunities to accommodate greater intensity of employment are needed. Investigations suggest a lack of commercial floorspace opportunities in the Botany Precinct and broader South Sydney Region. Given the Botany Precinct's proximity to key centres and Trade Gateways, it is necessary to ensure commercial opportunities are available to attract new business but also facilitate growth and expansion in a diverse range of business activities.

In the case of the Site, state government policy has focused equally on intensifying employment opportunities and accommodating businesses' changing requirements for how they use land and floorspace. The Proposal seeks to meet these objectives by providing commercial opportunities for a range of business activity and importantly, maximising the economic intensity of the Site. The Proposal demonstrates alignment with the objectives and aspirations of state planning policy and strategy.

The Study considers the economic impact of the Proposal to be net positive and thereby presenting a compelling case for consideration.

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APPENDIX A: INPUT-OUTPUT METHODOLOGY

Input-Output Model Overview

Input-Output analysis demonstrates inter-industry relationships in an economy, depicting how the output of one industry is purchased by other industries, households, the government and external parties (i.e. exports), as well as expenditure on other factors of production such as labour, capital and imports. Input-Output analysis shows the direct and indirect (flow-on) effects of one sector on other sectors and the general economy. As such, Input-Output modelling can be used to demonstrate the economic contribution of a sector on the overall economy and how much the economy relies on this sector or to examine a change in final demand of any one sector and the resultant change in activity of its supporting sectors.

The economic contribution can be traced through the economic system via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Flow-on impacts**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
- **Industry Support Effects (Type I)**, which represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services in the intermediate usage quadrant, and subsequent round effects of increased purchases by suppliers in response to increased sales.
- **Household Consumption Effects (Type II)**, which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economic system.

These effects can be identified through the examination of four types of impacts:

- **Output:** Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
- **Gross Product:** Refers to the value of refers to the value of output after deducting the cost of goods and services inputs in the production process. Gross product (e.g. Gross Regional Product) defines a true net economic contribution and is subsequently the preferred measure for assessing economic impacts.
- **Income:** Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the project.
- **Employment:** Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow-on activity, and is expressed in terms of full-time equivalent (FTE) positions.

  Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow-on (industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending.

  Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).

Model Development

Multipliers used in this assessment are derived from sub-regional transaction tables developed specifically for this project. The process of developing a sub-regional transaction table involves developing regional estimates of gross production and purchasing patterns based on a parent table, in this case, the 2014-15 Australian transaction table (ABS, 2017b).

Estimates of gross production (by industry) in the study area were developed based on the percent contribution to employment (by place of work) of the study area to the Australian economy (ABS, 2012), and applied to Australian gross output identified in the 2014-15 Australian table.

Industry purchasing patterns within the study area were estimated using a process of cross-industry location quotients and demand-supply pool production functions as described in West (1993).

Where appropriate, values were rebased from 2014-15 (as used in the Australian national IO transaction tables) to current values using the Consumer Price Index (ABS, 2017c).

Modelling Assumptions

The key assumptions and limitations of Input-Output analysis include:

- **Lack of supply-side constraints:** The most significant limitation of economic impact analysis using Input-Output multipliers is the implicit assumption that the economy has no supply-side constraints, so the supply of each good is perfectly elastic. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using Input-Output multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. The system is in equilibrium at given prices, and prices are assumed to be unaffected by policy and any crowding out effects are not captured. This is not the case in an economic system subject to external influences.
- **Fixed ratios for intermediate inputs and production (linear production function):** Economic impact analysis using Input-Output multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. That is, the input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs). As such, impact analysis using Input-Output multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount. Further, it is assumed each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies there is only one method used to produce each commodity and that each sector has only one primary output.
- **No allowance for economies of scope:** The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the "additivity assumption". This generally does not reflect real world operations.
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these limitations, Input-Output techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and provide useful insight into the quantum of final demand for goods and services, both directly and indirectly, likely to be generated by a project.

In addition to the general limitations of Input-Output Analysis, there are two other factors that need to be considered when assessing the outputs of sub-regional transaction table developed using this approach, namely:

- It is assumed the sub-region has similar technology and demand/ consumption patterns as the parent (Australia) table (e.g. the ratio of employee compensation to employees for each industry is held constant).
- Intra-regional cross-industry purchasing patterns for a given sector vary from the national tables depending on the prominence of the sector in the regional economy compared to its input sectors. Typically, sectors that are more prominent in the region (compared to the national economy) will be assessed as purchasing a higher proportion of imports from input sectors than at the national level, and vice versa.

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18 September 2018

Nathan Fuz
Fuz Botany, Hendrikx Botany & Orth Botany Trust

Sent via email: nathan@cdconstruction.com.au

Dear Nathan,

RE: SUPPLEMENTAL ISSUE TO ECONOMIC IMPACT ASSESSMENT OF 1-3 LORD STREET, BOTANY

We refer to the Economic Impact Assessment (EIA) prepared to accompany a planning proposal to amend the planning controls that relate to 1-3 Lord Street, Botany (the Site). Specifically, the Proposal proposed:

- Increase in building height from 10m to 16.5m.
- Increase in FSR from 1:1 to 1.75:1.

Further to submission of the planning proposal, SGS were engaged by Bayside Council (Council) to carry out a peer review of the EIA prepared by AEC.

This supplemental letter responds the issues raised. We outline the key issues raised and respond in turn.

Employment Data Analysis

SGS questions the boundaries selected for analysis of employment profile and characteristics.

The EIA explains on page 5 that the "Botany Employment Precinct" area of analysis is selected to include not just the Lord Street business park (B7) but also to include industrial zones, local and neighbourhood centres and mixed use zones. The intention is to profile employment in not just the business park but its surrounds. The area of analysis excludes the airport and the port; employment therein expected to be subject to different drivers. The area of analysis selected is not the Botany suburb.

SGS question the accuracy of job numbers in the area of analysis, identifying that jobs reported in the EIA in 2011 and 2016 differ from ABS Table Builder. SGS have provided the job numbers from ABS for the suburb of Botany.

The job numbers in ABS Table Builder do not account for the fact there are jobs in 'not fully defined' (nfd) geography components, resulting in an undercount of total jobs across the sum of areas. The DZs selected sum to SA2 Botany.

In the case of the SA2 Botany, the 'nfd' components was very high in 2011. The 'nfd' in 2011 was 1,307 workers, calculated by comparing:

- 6,095 workers for the sum of the DZs that add up to the SA2 Botany, and
- 7,394 workers for the SA2 Botany.

So despite there being 6,095 workers stated for the sum of the DZs in ABS Table Builder, there are actually a large number of workers who are not accounted for (as indicated by the SA2 Botany total workers), meaning the 6,095 workers is an undercount.

AEC's approach accounts for this by re-distributing these 'nfd' geographies back to the individual areas. This includes nfds at the SA2 level, as well as other geography levels. As a result the AEC reported job numbers will differ from those presented in ABS Table Builder.

ABS data at the small area level (such as DZ level) should be reconciled against larger geographies to ensure consistency and to prevent an undercount where there are 'nfd' or industries are 'not stated', etc.

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SGS correctly highlight an error in the job numbers in Table 2.4. These should be identical to the job numbers in Table 2.2.

Historic Growth in Mature Economies

SGS note that areas that have been developed for some time and have mature local economies are less likely to have available developable land or high vacancy rates. As a result, growth will inevitably be lower than other areas because there is less ability to grow. SGS conclude that historic growth as a measure of future demand in an area of fixed supply is of limited value.

It is worth noting that employment growth can occur through *densification* or *intensification* of built form.

- **Densification** refers to an increase in density, typically associated with greater floorspace or building heights. Measures of density can be represented by FSR, building heights and setbacks, site coverage ratios, etc. Building densities vary by region, higher density buildings are generally located on higher value lands.
- **Intensification** of use is not necessary accompanied by an increased density of floorspace. Increased intensification can occur without increased density and measured in any of the following metrics:
  - Increase economic and employment activity (e.g. more employees per sqm, more output per sqm, etc.).
  - More efficient use of land and resources.
  - Extending the lifespan of available industrial lands.

  Intensification can occur in different ways for different sectors, from greater use of technology and automation with higher building ceilings to more intense employee/floorspace ratios (which is generally associated with more office-type floorspace).

As land prices and rents in established areas rise, users who find themselves 'priced out' will relocate to lower cost locations while other users who play a local role and depend on labour/supply inputs from the region will remain.

For those users who remain, there will be a need to either increase productivity and output or reduce cost in order to remain competitive. As such many users will look to achieve increased densities and/or an intensification of use.

In 'successful' employment precincts, employment growth is often witnessed even without an increase in capacity (or supply is "fixed" as SGS put it). This is where intensification of use occurs (i.e. more employees occupy the fixed amount of space, or surplus capacity in height spans are used to accommodate more workers and activity).

Marrickville/Sydenham is an example of a sought after employment precinct. Land use zones comprise a mix of IN1, IN2, B7. Over the 2011-2016 period, despite no increase in supply, the number of workers increased from 8,035 workers to 9,622 workers (representing an almost 20% growth in workers).

Given there was no increase to supply, it is reasonable to conclude there was *intensification of use* that occurred in Marrickville/Sydenham. Rents and prices in Marrickville/Sydenham have experienced robust growth, and accordingly incremental addition of floorspace could present an economic proposition.

Table 1: Employment by Industry, Marrickville/Sydenham (2011-2016)

Industry	2011		2016		Change (2011-2016)	
	No.	%	No.	%	No.	%
Agriculture, Forestry and Fishing	0	0.0%	35	0.4%	34	3,500.0%
Mining	5	0.1%	1	0.0%	-4	-80.0%
Manufacturing	2,739	34.1%	2,519	26.2%	-220	-8.0%
Electricity, Gas, Water and Waste Services	31	0.4%	32	0.3%	1	3.2%
Construction	802	10.0%	1,288	13.4%	486	60.6%
Wholesale Trade	1,270	15.8%	1,068	11.1%	-202	-15.9%
Retail Trade	571	7.1%	621	6.5%	50	8.8%
Accommodation and Food Services	269	3.3%	599	6.2%	330	122.7%
Transport, Postal and Warehousing	466	5.8%	592	6.1%	126	27.0%

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Industry	2011		2016		Change (2011-2016)	
	No.	%	No.	%	No.	%
Information Media and Telecommunications	75	0.9%	139	1.4%	64	85.3%
Financial and Insurance Services	119	1.5%	248	2.6%	129	108.4%
Rental, Hiring and Real Estate Services	48	0.6%	112	1.2%	64	133.3%
Professional, Scientific and Technical Services	291	3.6%	415	4.3%	124	42.6%
Administrative and Support Services	194	2.4%	397	4.1%	203	104.6%
Public Administration and Safety	190	2.4%	265	2.8%	75	39.5%
Education and Training	89	1.1%	160	1.7%	71	79.8%
Health Care and Social Assistance	172	2.1%	263	2.7%	91	52.9%
Arts and Recreation Services	165	2.0%	280	2.9%	115	69.7%
Other Services	541	6.7%	589	6.1%	48	8.9%
Total	**8,035**	**100.0%**	**9,622**	**100.0%**	**1,585**	**19.7%**

Source: ABS (2017, 2012), AEC

Employment growth of other employment precincts in the region were examined in Table 2.3 of the EIA where the Botany Employment Precinct demonstrated the most modest growth.

Market signals are a useful indicator of how functional the planning controls are. Where planning controls are able to accommodate floorspace requirements and industry growth needs, increase in output and/or employment activity will be the result (such as in Marrickville/Sydenham).

Property market research indicates there is robust market demand for industrial/employment floorspace in the South Sydney region (including at Botany). Rising capital values and leasing rates are testament to this.

Where despite strong demand for floorspace in comparable markets, if vacancy rates are high or employment/ economic activity is in decline, a review into the competitiveness of an employment precinct may be necessary to understand if there are any impediments to accommodating industry activity and growth.

In the case of the EIA, the decline in employment over the 2011-2016 period could be an indicator that greater (deliverable) supply capacity is required to cater to market demand. The issue of "deliverability" is considered next.

Development to Existing Planning Controls

SGS query why the Base Case in the EIA does not assume development to the permitted FSR of 1:1.

The Site is currently improved with a 2 storey building (approximately 1,500sqm building area, to an FSR 0.6:1), with a cold room on the ground level and offices on the first level. Owing to the existing building layout and configuration, any addition to floorspace capacity would require comprehensive redevelopment to ensure the total floorspace can be accommodated within the maximum building heights and to provide for the additional parking required in a basement level.

It is for this reason, development to the FSR of 1:1 is not considered a likely scenario. The Proposal provides the opportunity for additional floorspace capacity while ensuring the delivery of net additional floorspace is able to offset the cost of basement parking required.

While the permitted FSR of 1:1 provides some additional capacity for floorspace increase, this additional capacity (1,000sqm) is considered to be theoretical and is not likely to be delivered given the need for demolition and construction of basement parking. It is for this reason the EIA considers the Site's existing operations to be a more realistic representation of the base case.

AEC
OUTCOME DRIVEN

Market Context

Property market investigations in section 3.2 detail sales and leasing activity. SGS note that the information presented is based on anecdotal information and is not independently verified. Table 3.1 presents sales activity of industrial and commercial buildings in Botany, the relatively high prices reflective of its sought-after nature.

Leasing data is typically sourced from commercial databases and verified with respective leasing agents as unlike sales information that is gathered from LPI (Land and Property Information) transactional data, leases in locations such as Botany are not compiled in the same manner. Leases in major CBDs can be sourced from commercial databases such as Cityscope, but in suburban locations, short of searching the leases registered on title, verification through informal discussions with leasing agents is usual and accepted practice.

Limitations of Input-output Modelling

SGS highlight the limitations of the economic modelling, in that it assumes that the economy can respond, i.e. there are no supply-side constraints. The limitation of the modelling is clearly highlighted in Appendix A. The limitations of Type II impacts are also highlighted as often overstating economic activity.

Overall we are comfortable with the approach taken in the EIA and the results and conclusions thereafter drawn.

We trust this assists with your discussion with Council.

Yours sincerely

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TRAFFIC AND PARKING IMPACT ASSESSMENT

PLANNING PROPOSAL (COMMERCIAL)

AT 1-3 LORD STREET, BOTANY NSW

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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

18184.01FC - 13 July 2018

Development Type:	**Planning Proposal (Commercial)**
Site Address:	**1-3 Lord Street, Botany NSW**
Prepared for:	**CD Construction**
Document reference:	**18184.01FC**

Status	Issue	Prepared By	Checked By	Date
Draft	A	CW/PK	TH	5th June 2018
Final	A	TH		2nd July 2018
Final	B	CW	TH	13th July 2018
Final	C	TH		13th July 2018

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1 INTRODUCTION

McLaren Traffic Engineering (MTE) was commissioned by *CD Construction* to prepare a Traffic and Parking Impact Assessment of the Planning Proposal (Commercial) at 1-3 Lord Street, Botany NSW. The relevant plans are reproduced in **Annexure A** for reference.

1.1 Description and Scale of Development

The planning proposal includes amendments to the LEP regarding height and FSR, up to 16.5m and 1.75:1 FSR. This would permit a 4-storey building comprising permitted uses within the existing B7 zoning. No changes to land uses are proposed. An orderly development for assessment purposes, in relation to traffic and parking and assuming approval of the proposal, would comprise the following:

- Food Premises (Café or the like) – 99sqm GFA;
- Ground Floor Commercial – 522sqm GFA;
- Ground Floor Commercial Lobby – 100sqm GFA
- Upper-Level Office/Commercial – 3750sqm GFA.

1.2 State Environmental Planning Policy (Infrastructure) 2007

If the planning proposal were approved, the subsequent development application would qualify as a traffic generating development with relevant size and/or capacity under Clause 104 of the SEPP (Infrastructure) 2007 due to the proximity to Botany Road. Formal referral to the Roads and Maritime Services (RMS) may be required and this traffic report is considered in that circumstance to be suitable for support to be provided by RMS.

1.3 Site Description

1.3.1 Existing Conditions

The subject site is situated at 1-3 Lord Street, Botany NSW and has a total area of approximately 2555.7m^2. The site is surrounded by general business developments, a varied combination of light industrial and offices, with residential development located outside of the Lord Street Business Park Precinct to the south and Sydney Airport to the west. The site fronts Lord Street on its northern boundary and currently has vehicular access to Lord Street via a two-way driveway.

1.3.2 Zoning

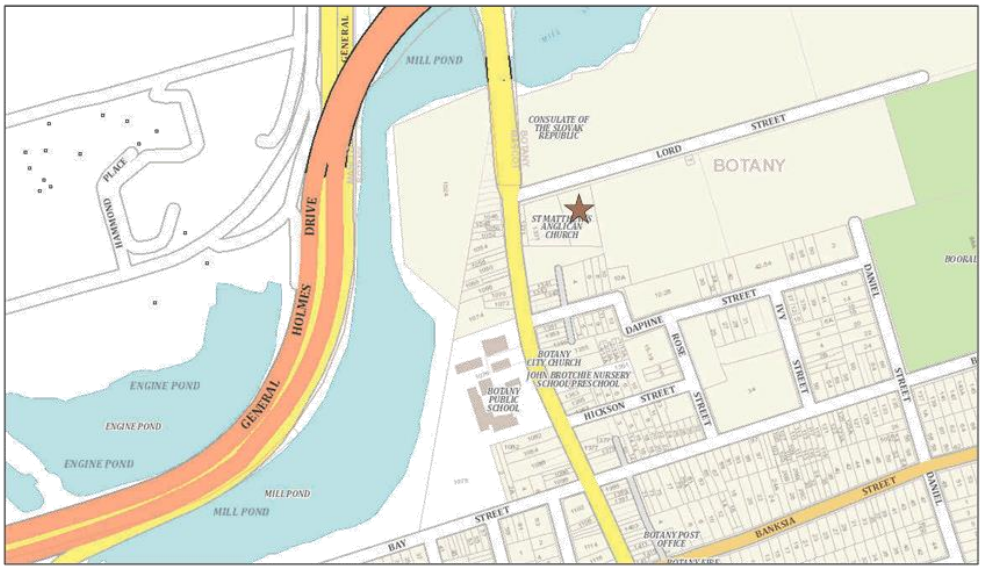
The subject site is currently zoned B7 – Business Park under the *Botany Bay Local Environmental Plan (BBLEP)*. There is no change of zone proposed as part of the proposed development with uses permitted within the B7 zone.

1.4 Site Context

The location of the site is shown on aerial imagery and on a map in **Figure 1** and **Figure 2** respectively.

Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO



Site Location

FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 Road Network

The road network surrounding the site has the following characteristics:

2.1.1 Lord Street

- Unclassified LOCAL street;
- Approximately 12m wide carriageway facilitating two-way passing and kerbside parking;
- Signposted 50km/h speed limit applies;
- Unrestricted parking on both sideways of the street.

2.1.2 Botany Road

- Classified STATE road (No. 170);
- Approximately 17m wide carriageway facilitating four traffic flow lanes (two in each direction) and a 1m wide median;
- Signposted 60km/h speed limit applies;
- "*No Stopping*" signage along the west side of the road, "*No Parking*" signage along the east side of the road.

2.1.3 Intersection Characteristics

- SIGNAL controlled intersection at Botany Road / Lord Street with two phases at peak times and pedestrian crossing movements on the southern and eastern legs

2.2 Existing Traffic and Parking Context

Traffic counts were completed at the intersection of Lord Street and Botany Road on Thursday the 3rd of May 2018 by an independent traffic surveyor during the weekday AM and PM commuter periods. The raw data is attached in **Annexure B** for reference.

Existing intersection performances have been assessed using SIDRA INTERSECTION 8.0, the results of this analysis are summarised in **Table 1.** Detailed movement summaries are provided in **Annexure C.**

TABLE 1: INTERSECTION PERFORMANCE (SIDRA INTERSECTION 8.0)

Intersection	Peak Hour	Degree of Saturation[1]	Average Delay[2] (sec/veh)	Level of Service[3]	Control Type	Worst Movement
EXISTING PERFORMANCE						
Lord Street / Botany Road	AM	0.65	12.4 (Worst: 56.4)	**A** (Worst: D)	Signals (2 Phase)	RT from Lord ST
	PM	0.74	23.5 (Worst: 56.8)	**B** (Worst: E)		LT from Lord ST

NOTES:
(1) Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
(2) The average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
(3) The level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.

As shown, the nearby intersection is currently performing at a high level of efficiency, both with a level of service "A" or "B" conditions in both the AM & PM peak hours. The level of service "A" and "B" performance is characterised by low approach delays and spare capacity.

2.3 Public Transport

The nearest bus services run along Botany Road in both directions with the nearest stops located on either side of the road within 250m walking distance of the site. Bus routes M20, 309, 310, L09, X09 and X10 provide services from Matraville or East Gardens to Central Station. The bus routes connect well with the wider public transport network at East Gardens bus interchange, Green Square Railway Station and multiple CBD railway stations. The location of the site relative to the surrounding public transport infrastructure is shown in **Figure 3**.

FIGURE 3: CONTEXT MAP – PUBLIC TRANSPORT

3 PARKING ASSESSMENT

The proposal will generate demand for parking by visitors and staff. Estimation of the likely demand for parking at the site should be considered in conjunction with local planning policies, contextual effects such as regional location and individual land uses. For the purpose of the assessment comparison is made between the Botany Bay Development Control Plan 2013 (DCP) and the RMS Guide to Traffic Generating Developments (RMS Guide), as amended. The RMS Guide has been undergoing significant change in the past 5 years as new parking surveys are being completed, subsequently increasing the availability of recent and localised data within the greater Sydney metropolitan area.

3.1 Parking Quantum

3.1.1 Council Parking Requirement

Section 3A and Section 6 of the DCP outline a range of controls that need to be considered in terms of design and implementation of off-street parking facilities to support developments within Bayside Council area. The general objectives of the DCP with regards to parking are reproduced in **Figure 4** and the parking requirements for each relevant land use quoted below.

3A 1.2 General Objectives

Objectives

- **O1** To minimise car parking in areas which have good access to public transport to promote sustainable transport;
- **O2** To ensure adequate car and bicycle parking is provided;
- **O3** To minimise the visual impacts of car parks when viewed from the public domain and adjoining sites;
- **O4** To maximise opportunities for consolidated areas of deep soil planting and landscaping;
- **O5** To minimise traffic congestion and ensure adequate traffic safety and management;
- **O6** To ensure parking facilities are safe, functional and accessible to all through compliance with design standards; and
- **O7** To ensure parking provisions and design are compatible with the particular development proposed.

FIGURE 4: BOTANY BAY COUNCIL DCP CAR PARKING OBJECTIVES

Business Premises – 1 space / 40m² GFA

Food and Drink Premises – a) Restaurants and café:

For developments with a gross floor area greater than 100m² the parking provision is to be provided as follows:

1 space / 2 employees; plus

1 space / 3 seats (internal and external); or

1 space / 10m² GFA, whichever is greater

For developments with a gross floor area less than 100m2, the parking provision recommended above is desirable, however applicants can take into account car parking available in adjacent parking areas, including on-street and its time of usage. Alternatively a parking assessment based on survey of similar sized developments can be utilised.

Office Premises – 1 space / 40m² GFA

It is clear then that the applicable parking rates for the development would be:

Office – 1 space per 40sqm

Commercial – 1 space per 40sqm

Café – 1 space 10sqm

For the assumed land uses this would equate to some 130 spaces including 24 for the food premises and 106 for the business uses.

3.1.2 RMS Parking Surveys

The following parking survey information is provided with the RMS Guide for the purpose of traffic and parking demand generation. For the subject site, the following subsections analyse the different land uses and their impact.

3.1.2.1 Food Premises

While restaurants were surveyed by RMS in 1980, and drive through coffee shops more recently, the most applicable land use for food premises at the subject site would be that of an ancillary café or the like. Within large shopping centres, the food premises are surveyed to operate as a secondary attractor, such that they only generate additional staff parking demand since customers are visiting elsewhere in the centre and stop in on the way through. The rate given for such a development is:

Speciality Shops and Secondary Retail – 45 spaces per 1000sqm or 1 per 22.2sqm

An alternate method is examining the stand-alone restaurant rate which states there is one staff per 10 seats and one seat per 2.1sqm GFA. Comparing this to the Journey to Work data for Botany which shows 25% of worked do not drive a car to work, this produces the following RMS equivalent rate for ancillary food premises:

Ancillary Restaurant in Botany – 1 space per 28sqm for staff

This would generate demand for 8.6 spaces.

3.1.2.2 Business Uses

The RMS Guide surveyed business parks and office buildings in the 1980s and again in 2013. The guide provides three sets of rates applicable to the subject site with the 2018 rates forming part of a DRAFT guide which is still subject to public comment:

Current Guide (2002)

Office and Commercial – 1 per 40sqm for unconstrained situation

Business Park Average – 1 per 66.7sqm

Business Park Office – 1 per 55.5sqm

Draft Guide (2018)

Commercial – 1 per 40sqm

Office and Business Park Average – 1 per 66.7sqm

Business Park Office – 1 per 55.5sqm

Comparison between the rates shows that the office component of a business park is likely to be 1 space per 55.5-66.7sqm, with ground floor offices having a slightly higher demand at 1 space per 40sqm. This recognises the potential for ground floors to have some higher generating retail uses combined with lower generating offices.

This would generate demand for 68 to 79 spaces.

3.1.2.3 Combined Parking Demand

Considering the food premises would be drawing patronage generally from the Lord Street Business Park Precinct, it would be generating traffic and parking demand at the same time as the surrounding uses and thus no discount can be given to different overlapping peaks. In that case, the parking demand is the sum of the individual uses or peak demand of 77 to 88 spaces.

3.1.3 Recommended Parking Provision

The site is well located regarding the local and regional traffic networks and has an adjacent high-frequency bus route (5-minute frequency at commuter times) for connectivity to the wider public transport networks. Current journey to work data shows 75% of staff in the Botany area who commute to work do so as a private vehicle driver with the remainder arriving as a passenger or by public transport.

For this planning proposal it is recommended to follow the objectives of the DCP regarding traffic and parking, whereby the development should seek the balance of trying "*To minimise car parking in area which have good access to public transport to promote sustainable transport*" while also trying "*To ensure adequate car and bicycle parking is provided*". The recommend parking rates for future development applications should be:

Food Premises - 1 space per 28sqm

Office/Commercial/Business – 1 space per 40sqm ground floor plus 1 space per 55.5sqm on first floor or higher

Based on the proposed 1.75:1 FSR, 84.1 spaces will be required, this is conservatively rounded up to 85 spaces, as summarised in **Table 2**. Based on the dimensions of the site and proposed structure, approximately 92 spaces can be accommodated and the site will not be limited by its ability to provide for parking.

TABLE 2: SUMMARY OF PARKING DEMAND

Land Use	Scale	Rate	Parking Demand
Commercial (ground floor)	522m^2 GFA	1 space per 40m^2 GFA	13.05
Commercial (first floor or higher)	3750m^2 GFA	1 space per 55.5m^2 GFA	67.57
Commercial Lobby	100m^2 GFA	Ancillary	0
Food Premises	99m^2 GFA	1 space per 28m^2 GFA	3.54
Total	**4471m^2 GFA**		**84.16 (85)**

3.2 Disabled Parking

Council's DCP Part 3C requires disabled parking according to the BCA where applicable. For retail/office/business developments the rate is 2% of parking. The subject planning proposal is likely to provide approximately 50-100 parking spaces and thus 2 spaces must be provided in a convenient location. Design according to AS2890.6 shall be completed at the DA stage.

3.3 Servicing & Loading

Council's DCP Part 3A requires provision for an MRV (8.8m length) for waste collection to service the site including access via forward only movements at the property boundary crossover. It is not anticipated that any vehicle larger than this will be required for the likely uses. Provision for an MRV shall be provided at the DA stage.

3.4 Bicycle Parking

Council's DCP Part 3A designates the following Bicycle Parking Rates:

In every new building, where the floor space exceeds 600m² GFA (except for houses and multi-unit housing) bicycle parking equivalent to 10% of the required car spaces or part therefore as required in Table 1 shall be provided.

The resulting bicycle storage requirements are provided in **Table 3**.

TABLE 3: DCP BICYCLE PARKING REQUIREMENTS

Land Use	Scale	Rate	Bicycle Spaces Required
Food Premises	24	10%	2.4 (3)
Commercial/Office/Business	106		10.6 (11)
Total	**130**	**-**	**14**

As shown above, the site requires the provision of 14 bicycle spaces which shall be provided to promote sustainable transport methods.

3.5 Car Park Design & Compliance

The car parking layout and access thereto, shall be assessed for compliance against the relevant sections of AS2890.1:2004, AS2890.2:2002 and AS2890.6:2009. A preliminary compliance check has been completed and shows ample opportunity to achieve the minimum requirements for design in accordance with the answer.

4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

4.1 Traffic Generation

4.1.1 Existing Site Traffic

The existing commercial/industrial/business uses on the site would be expected to generate traffic according to the RMS surveys in 2012 of *Business Parks and Industrial Estates* which provides the following average generation

0.52 trips per 100sqm of GFA in the AM peak hour

0.56 trips per 100sqm of GFA in the PM peak hour

With existing GFA of approximately 2300sqm, this equates to 12/13 trips in AM/PM peak hours. This should be discounted from the proposed traffic generation to estimate the additional trips for the proposal.

4.1.2 Additional Site Traffic

The estimated traffic generation level for the business park use, based upon the RMS' Guide to Traffic Generating Developments 2002 (as amended), is shown below:

Food Premises – Assume acts as restaurant with 50% reduction due to ancillary nature to business park. 5 trips per 100sqm x 50% = 2.5 trips per 100sqm.

Office/Commercial/Business – Assume acts as office block. 1.6 / 1.2 trips per 100sqm for AM / PM.

Ground Floor Commercial – Assume acts as office block with increase according to recommended increase in parking rate, i.e. 1 per 40sqm compared to 1 per 55.5sqm. 2.2 / 1.7 trips per 100sqm for AM / PM.

A summary of the traffic generation is shown in **Table 4** below.

TABLE 4: ESTIMATED TRAFFIC GENERATION

Use	Scale	AM Peak Hour Rate	PM Peak Hour Rate	AM Peak Hour Generation	PM Peak Hour Generation	Peak Hour Split[1]	
						AM	PM
Food Premises[1]	99sqm GFA	2.5 per 100sqm GFA	2.5 per 100sqm GFA	2	2	1 In 1 Out	1 In 1 Out
Office / Commercial / Business[2]	3750sqm GFA	1.6 per 100sqm GFA	1.2 per 100sqm GFA	60	45	54 In 6 Out	5 In 40 Out
Ground Floor Commercial	522sqm[3]	2.2 per 100sqm GFA	1.7 per 100sqm GFA	11	9	9 In 1 Out	1 In 8 Out
Total	**4,371sqm**	-	-	**73**	**56**	**64 In 7 Out**	**7 In 49 Out**

Notes:
(1) Food Premises assumes 50% inbound and outbound at all times.
(2) Assumes 90% inbound & 10% outbound during AM peak for commercial: Vice versa for PM.

Subtracting the existing estimated site traffic produces the following estimation of new trips, above those surveyed:

- 53/6 trips IN/OUT in the AM peak hour
- 6/37 trips IN/OUT in the PM peak hour

4.2 Traffic Impact

4.2.1 Traffic Distribution

The existing surveys at the Lord Street and Botany Road indicate that traffic accessing the Lord Street Business Park Precinct has the following distribution:

- AM – 15% inbound/outbound south and 85% inbound/outbound north
- PM – 30%/10% inbound/outbound south and 70%/90% inbound/outbound north

It is assumed for the purpose of assessment that new trips will follow the existing distribution.

4.2.2 Intersection Capacity Analysis (Using Sidra Intersection 8.0)

The traffic generation outlined above has been added to the existing traffic volumes recorded. *SIDRA INTERSECTION 8.0* was used to assess the intersection's performance. The purpose of this assessment is to compare the existing intersection operations to the future scenario under the increased traffic load. The results of this assessment are shown in **Table 5**.

As shown in **Table 5**, the nearby intersection remains generally unaltered under the future scenario. The existing LoS has been retained with minimal delays and additional capacity maintained. It is worth noting that average delays of 70 seconds are expected when signal cycle times extend to 120 seconds. Existing surveys show cycle times of 80 to 138 seconds during commuter peak hours and minor road delays to Lord Street should be expected to be near to 70 seconds at peak times as a result.

The routes to and from the site do not utilise any low volume residential precincts and are along local arterial or State roads. Therefore, residential amenity will not be impacted by the traffic generated by the proposed development.

TABLE 5: INTERSECTION PERFORMANCE (SIDRA INTERSECTION 7.0)

Intersection	Peak Hour	Degree of Saturation[1]	Average Delay[2] (sec/veh)	Level of Service[3]	Control Type	Worst Movement
EXISTING PERFORMANCE						
Lord Street / Botany Road	AM	0.65	12.4 (Worst: 56.4)	**A** (Worst: D)	Signals (2 Phase)	RT from Lord ST
	PM	0.74	23.5 (Worst: 56.8)	**B** (Worst: E)		LT from Lord ST
FUTURE PERFORMANCE						
Lord Street / Botany Road	AM	0.67	12.8 (Worst: 56.9)	**A** (Worst: E)	Signals (2 Phase)	RT from Lord ST
	PM	0.76	24.5 (Worst: 56.9)	**B** (Worst: E)		LT from Lord ST

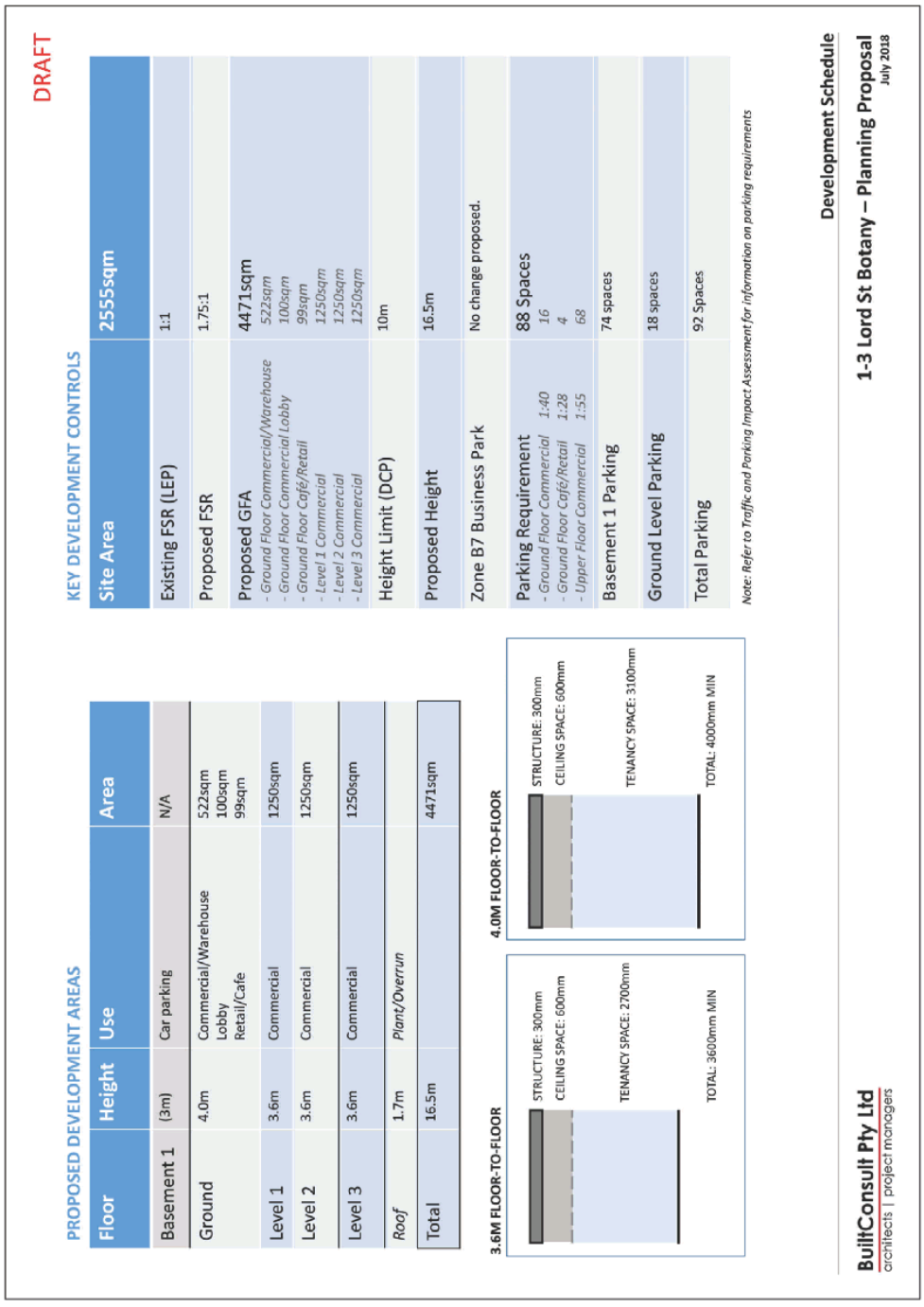
NOTES:
(1) Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
(2) The average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
(3) The Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.

5 CONCLUSION

In view of the foregoing, the development concept that underpins the planning proposal (as outlined in **Annexure A**) is fully supportable in terms of its traffic and parking impacts. The following outcomes of this traffic impact assessment are relevant to note:

- The proposal is for rezoning of the land regarding existing height and FSR controls. No buildings are proposed in this application.
- A subsequent compliant development application would generate parking demand of approximately 85 car spaces. This should guide future massing and capacity constraints for development applications.
- A subsequent compliant development application would generate a maximum of 64 movements in the AM peak hour and 45 trips in the PM peak hour. Intersection capacity analysis shows there is spare capacity at the intersection of Lord Street and Botany Road to accommodate the change with minimal increase to delays and capacity.

ANNEXURE A

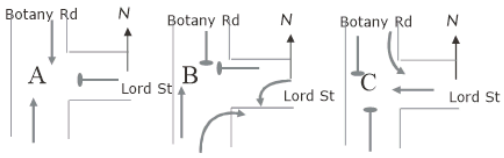

DRAFT
PROPOSED DEVELOPMENT AREAS
Floor | Height | Use | Area
Basement 1 | (3m) | Car parking | N/A
Ground | 4.0m | Commercial/Warehouse | 522sqm
Lobby | 100sqm
Retail/Cafe | 99sqm
Level 1 | 3.6m | Commercial | 1250sqm
Level 2 | 3.6m | Commercial | 1250sqm
Level 3 | 3.6m | Commercial | 1250sqm
Roof | 1.7m | Plant/Overrun
Total | 16.5m | 4471sqm
3.6M FLOOR-TO-FLOOR
STRUCTURE: 300mm
CEILING SPACE: 600mm
TENANCY SPACE: 2700mm
TOTAL: 3600mm MIN
4.0M FLOOR-TO-FLOOR
STRUCTURE: 300mm
CEILING SPACE: 600mm
TENANCY SPACE: 3100mm
TOTAL: 4000mm MIN
KEY DEVELOPMENT CONTROLS
Site Area | 2555sqm
Existing FSR (LEP) | 1:1
Proposed FSR | 1.75:1
Proposed GFA | 4471sqm
- Ground Floor Commercial/Warehouse | 522sqm
- Ground Floor Commercial Lobby | 100sqm
- Ground Floor Café/Retail | 99sqm
- Level 1 Commercial | 1250sqm
- Level 2 Commercial | 1250sqm
- Level 3 Commercial | 1250sqm
Height Limit (DCP) | 10m
Proposed Height | 16.5m
Zone B7 Business Park | No change proposed.
Parking Requirement | 88 Spaces
- Ground Floor Commercial 1:40 | 16
- Ground Floor Café/Retail 1:28 | 4
- Upper Floor Commercial 1:55 | 68
Basement 1 Parking | 74 spaces
Ground Level Parking | 18 spaces
Total Parking | 92 Spaces
Note: Refer to Traffic and Parking Impact Assessment for information on parking requirements
Development Schedule
1-3 Lord St Botany – Planning Proposal
July 2018
BuiltConsult Pty Ltd
architects | project managers

ANNEXURE B: TRAFFIC COUNTS

(4 SHEETS)

Curtis Traffic Surveys **Signal phases**

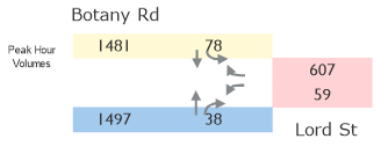
Job: 180503mcl (18_184)
Day, date: 16/05/18
Location: Botany Rd & Lord St
Weather: Fine
Client: McLaren Traffic Engineering



Time Period			Time lights change to green			Duration of phase			Cycle time	
			A	B	C	A	A	B	C	
14:00	to	14:15	14:13:18	x	14:14:11	14:14:33	00:00:53	x	00:00:22	00:01:15
14:15	to	14:30	14:27:10	x	14:28:50	14:29:03	00:01:40	x	00:00:13	00:01:53
14:30	to	14:45	14:40:09	x	14:41:09	14:41:23	00:01:00	x	00:00:14	00:01:14
14:45	to	15:00	14:51:34	x	14:52:32	14:52:50	00:00:58	x	00:00:18	00:01:16
15:00	to	15:15	15:07:09	x	15:08:19	15:08:39	00:01:10	x	00:00:20	00:01:30
15:15	to	15:30	15:27:00	x	15:28:20	15:28:47	00:01:20	x	00:00:27	00:01:47
15:30	to	15:45	15:37:55	x	15:38:53	15:39:17	00:00:58	x	00:00:24	00:01:22
15:45	to	16:00	15:55:28	x	15:56:29	15:56:50	00:01:01	x	00:00:21	00:01:22
16:00	to	16:15	16:08:05	x	16:09:16	16:09:45	00:01:11	x	00:00:29	00:01:40
16:15	to	16:30	16:21:17	x	16:22:53	16:23:16	00:01:36	x	00:00:23	00:01:59
16:30	to	16:45	16:41:07	x	16:42:23	16:42:39	00:01:16	x	00:00:16	00:01:32
16:45	to	17:00	16:53:29	x	16:55:20	16:55:47	00:01:51	x	00:00:27	00:02:18
17:00	to	17:15	17:06:13	x	17:07:15	17:07:41	00:01:02	x	00:00:26	00:01:28
17:15	to	17:30	17:22:07	x	17:23:40	17:24:22	00:01:33	x	00:00:42	00:02:15
17:30	to	17:45	17:37:07	x	17:38:40	17:39:08	00:01:33	x	00:00:28	00:02:01
17:45	to	18:00	17:47:56	x	17:49:34	17:49:58	00:01:38	x	00:00:24	00:02:02
18:00	to	18:15	18:07:05	x	18:08:12	18:08:22	00:01:07	x	00:00:10	00:01:17
18:15	to	18:30	18:16:45	x	18:17:50	18:18:04	00:01:05	x	00:00:14	00:01:19
18:30	to	18:45	18:35:50	x	18:36:50	18:37:05	00:01:00	x	00:00:15	00:01:15
18:45	to	19:00	18:49:33	x	18:51:22	18:51:30	00:01:49	x	00:00:08	00:01:57

Curtis Traffic Surveys **g movement count**

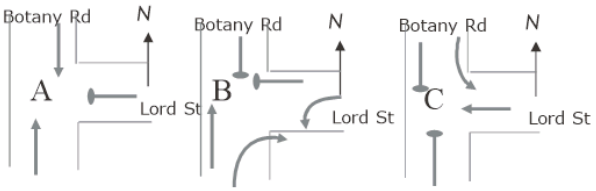
Job: 160503mcl (18_184)
Day, date 16/05/18
Location: Botany Rd & Lord St
Weather: Fine
Client: McLaren Traffic Engineering



Time Period			From Botany Rd south through	From Botany Rd south right	From Lord St left	From Lord St right	From Botany Rd north left	From Botany Rd north through	Total vehicles	Peak
14:00	to	14:15	169	7	9	50	17	282	534	
14:15	to	14:30	166	12	11	64	38	263	554	
14:30	to	14:45	102	10	13	30	27	208	390	
14:45	to	15:00	317	15	13	20	25	306	696	
15:00	to	15:15	309	13	13	94	45	333	807	
15:15	to	15:30	326	10	12	92	26	396	862	
15:30	to	15:45	353	7	14	98	36	303	811	
15:45	to	16:00	286	9	11	99	27	257	689	
16:00	to	16:15	307	8	16	120	25	306	782	
16:15	to	16:30	344	7	15	165	22	335	888	
16:30	to	16:45	341	8	12	120	20	391	892	
16:45	to	17:00	349	9	11	112	21	394	896	
17:00	to	17:15	463	14	21	210	15	361	1084	peak
17:15	to	17:30	285	3	8	107	7	402	812	
17:30	to	17:45	284	3	18	135	12	414	866	
17:45	to	18:00	250	5	13	122	10	407	807	
18:00	to	18:15	255	3	4	94	10	412	778	
18:15	to	18:30	190	4	8	77	3	433	715	
18:30	to	18:45	282	1	2	53	2	382	722	
18:45	to	19:00	119	3	0	11	4	249	386	
Total			5497	151	224	1873	392	6834		
urly summary										
14:00	to	15:00	754	44	46	164	107	1059	2174	
14:15	to	15:15	894	50	50	208	135	1110	2447	
14:30	to	15:30	1054	48	51	236	123	1243	2755	
14:45	to	15:45	1305	45	52	304	132	1338	3176	
15:00	to	16:00	1274	39	50	383	134	1289	3169	
15:15	to	16:15	1272	34	53	409	114	1262	3144	
15:30	to	16:30	1290	31	56	482	110	1201	3170	
15:45	to	16:45	1278	32	54	504	94	1289	3251	
16:00	to	17:00	1341	32	54	517	88	1426	3458	
16:15	to	17:15	1497	38	59	607	78	1481	3760	peak hour
16:30	to	17:30	1438	34	52	549	63	1548	3684	
16:45	to	17:45	1381	29	58	564	55	1571	3658	
17:00	to	18:00	1282	25	60	574	44	1584	3569	
17:15	to	18:15	1074	14	43	458	39	1635	3263	
17:30	to	18:30	979	15	43	428	35	1666	3166	
17:45	to	18:45	977	13	27	346	25	1634	3022	
18:00	to	19:00	846	11	14	235	19	1476	2601	

Curtis Traffic Surveys **Signal phases**

Job: 180503mcl (18_184)
Day, date 16/05/18
Location: Botany Rd & Lord St
Weather: Fine
Client: McLaren Traffic Engineering

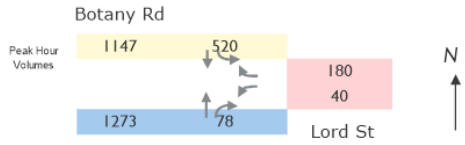


Time lights change to green | Duration of phase | Cycle time

Time Period			A	B	C	A	A	B	C	
07:00	to	07:15	07:11:35	x	07:12:43	07:12:58	00:01:08	x	00:00:15	00:01:23
07:15	to	07:30	07:23:24	x	07:24:41	07:24:59	00:01:17	x	00:00:18	00:01:35
07:30	to	07:45	07:36:25	x	07:37:30	07:37:48	00:01:05	x	00:00:18	00:01:23
07:45	to	08:00	07:51:32	x	07:52:38	07:53:03	00:01:06	x	00:00:25	00:01:31
08:00	to	08:15	08:03:05	x	08:04:23	08:04:46	00:01:18	x	00:00:23	00:01:41
08:15	to	08:30	08:23:10	x	08:25:10	08:25:27	00:02:00	x	00:00:17	00:02:17
08:30	to	08:45	08:33:51	x	08:35:28	08:35:46	00:01:37	x	00:00:18	00:01:55
08:45	to	09:00	08:46:48	x	08:48:57	08:49:09	00:02:09	x	00:00:12	00:02:21

Curtis Traffic Surveys **g movement count**

Job: 180503mcl (18_184)
Day, date 16/05/18
Location: Botany Rd & Lord St
Weather: Fine
Client: McLaren Traffic Engineering



			From Botany Rd south		From Lord St		From Botany Rd north			
Time Period			through	right	left	right	left	through	Total vehicles	Peak
07:00	to	07:15	224	3	5	21	32	156	441	
07:15	to	07:30	251	5	3	30	41	143	473	
07:30	to	07:45	285	10	3	32	65	162	557	
07:45	to	08:00	326	11	6	29	75	230	677	
08:00	to	08:15	347	7	8	49	96	247	754	
08:15	to	08:30	325	25	14	48	166	330	908	peak
08:30	to	08:45	326	20	11	39	119	253	768	
08:45	to	09:00	275	26	7	44	139	317	808	
Total			2359	107	57	292	733	1838		
›urly summary										
07:00	to	08:00	1086	29	17	112	213	691	2148	
07:15	to	08:15	1209	33	20	140	277	782	2461	
07:30	to	08:30	1283	53	31	158	402	969	2896	
07:45	to	08:45	1324	63	39	165	456	1060	3107	
08:00	to	09:00	1273	78	40	180	520	1147	3238	peak hour

ANNEXURE C: SIDRA INTERSECTION ANALYSES

(4 SHEETS)

MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing AM]

Lord St/Botany Road Existing
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1273	3.8	0.571	4.8	LOS A	18.8	135.9	0.38	0.35	0.38	53.5
3	R2	78	1.2	0.386	18.1	LOS B	2.2	15.3	0.69	0.75	0.69	43.0
Approach		1351	3.6	0.571	5.6	LOS A	18.8	135.9	0.40	0.37	0.40	52.6
East: Lord Street												
4	L2	40	0.0	0.505	51.3	LOS D	5.6	39.9	0.98	0.83	1.18	27.0
6	R2	180	4.7	0.505	56.4	LOS D	6.0	43.4	0.98	0.81	1.07	25.6
Approach		220	3.8	0.505	55.5	LOS D	6.0	43.4	0.98	0.81	1.09	25.8
North: Botany Road North												
7	L2	520	0.6	0.648	15.0	LOS B	25.7	183.7	0.58	0.69	0.58	46.4
8	T1	1147	5.4	0.648	10.9	LOS A	26.8	196.3	0.61	0.60	0.61	46.3
Approach		1667	3.9	0.648	12.2	LOS A	26.8	196.3	0.60	0.63	0.60	46.3
All Vehicles		3238	3.8	0.648	12.4	LOS A	26.8	196.3	0.54	0.54	0.55	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	50	9.6	LOS A	0.1	0.1	0.40	0.40
All Pedestrians		100	31.9	LOS D			0.68	0.68

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Organisation: MCLAREN TRAFFIC ENGINEERING | Processed: Tuesday, 5 June 2018 12:41:11 PM
Project: Z:\Jobs\2018\18184\MTE Sidra\18 04 24 Lord St and Botany Road.sip8

MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing AM + Subject Site]

Lord St/Botany Road Existing AM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1273	3.8	0.590	5.0	LOS A	20.0	144.6	0.39	0.36	0.39	53.4
3	R2	86	1.2	0.440	19.4	LOS B	2.6	18.6	0.74	0.77	0.74	42.2
Approach		1359	3.6	0.590	5.9	LOS A	20.0	144.6	0.42	0.39	0.42	52.3
East: Lord Street												
4	L2	41	0.0	0.524	52.3	LOS D	5.8	41.8	0.98	0.84	1.20	26.7
6	R2	187	4.7	0.524	56.9	LOS E	6.2	45.2	0.98	0.81	1.08	25.5
Approach		228	3.9	0.524	56.1	LOS D	6.2	45.2	0.98	0.81	1.10	25.7
North: Botany Road North												
7	L2	566	0.6	0.665	15.3	LOS B	27.2	194.1	0.59	0.70	0.59	46.1
8	T1	1151	5.4	0.665	11.1	LOS A	28.2	206.2	0.62	0.62	0.62	46.0
Approach		1717	3.8	0.665	12.5	LOS A	28.2	206.2	0.61	0.64	0.61	46.1
All Vehicles		3304	3.7	0.665	12.8	LOS A	28.2	206.2	0.56	0.55	0.56	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	50	9.6	LOS A	0.1	0.1	0.40	0.40
All Pedestrians		100	31.9	LOS D			0.68	0.68

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: Z:\Jobs\2018\18184\MTE Sidra\18 04 24 Lord St and Botany Road.sip8

MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing PM]

Lord St/Botany Road Existing PM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1497	2.7	0.669	12.4	LOS A	29.1	208.8	0.62	0.57	0.62	45.7
3	R2	38	0.0	0.199	23.8	LOS B	1.0	6.7	0.78	0.73	0.78	39.9
Approach		1535	2.6	0.669	12.7	LOS A	29.1	208.8	0.63	0.57	0.63	45.5
East: Lord Street												
4	L2	59	0.0	0.741	56.8	LOS E	18.4	128.8	0.98	0.92	1.38	25.7
6	R2	607	0.0	0.741	53.9	LOS D	18.4	128.8	0.98	0.89	1.19	26.1
Approach		666	0.0	0.741	54.2	LOS D	18.4	128.8	0.98	0.89	1.20	26.1
North: Botany Road North												
7	L2	78	0.0	0.737	26.1	LOS B	33.6	239.7	0.81	0.75	0.81	41.2
8	T1	1481	2.5	0.737	20.8	LOS B	33.7	241.0	0.81	0.75	0.81	39.3
Approach		1559	2.4	0.737	21.1	LOS B	33.7	241.0	0.81	0.75	0.81	39.4
All Vehicles		3760	2.1	0.741	23.5	LOS B	33.7	241.0	0.77	0.70	0.80	37.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	45.2	LOS E	0.1	0.1	0.87	0.87
P2	East Full Crossing	50	16.6	LOS B	0.1	0.1	0.53	0.53
All Pedestrians		100	30.9	LOS D			0.70	0.70

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing PM + Subject Site]

Lord St/Botany Road Existing PM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1497	2.7	0.678	13.1	LOS A	29.9	214.2	0.64	0.58	0.64	45.2
3	R2	40	0.0	0.212	24.7	LOS B	1.0	7.3	0.80	0.73	0.80	39.4
Approach		1537	2.6	0.678	13.4	LOS A	29.9	214.2	0.64	0.59	0.64	45.0
East: Lord Street												
4	L2	63	0.0	0.758	56.9	LOS E	19.7	137.8	0.99	0.93	1.39	25.7
6	R2	642	0.0	0.758	54.0	LOS D	19.7	137.8	0.99	0.90	1.20	26.1
Approach		705	0.0	0.758	54.3	LOS D	19.7	137.8	0.99	0.90	1.22	26.1
North: Botany Road North												
7	L2	82	0.0	0.750	26.9	LOS B	34.4	245.5	0.82	0.77	0.82	40.8
8	T1	1481	2.5	0.750	21.7	LOS B	34.5	246.7	0.83	0.76	0.83	38.7
Approach		1563	2.4	0.750	22.0	LOS B	34.5	246.7	0.83	0.76	0.83	38.8
All Vehicles		3805	2.0	0.758	24.5	LOS B	34.5	246.7	0.78	0.72	0.82	36.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	44.3	LOS E	0.1	0.1	0.86	0.86
P2	East Full Crossing	50	17.1	LOS B	0.1	0.1	0.53	0.53
All Pedestrians		100	30.7	LOS D			0.70	0.70

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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M^CLAREN TRAFFIC ENGINEERING

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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

s10 October 2018 Reference: 18591.01FA

CD Construction
Unit 2, Level 2
8 Lord Street
Botany NSW 2019
Attention: Nathan Fuz

**RESPONSE TO PEER REVIEW OF
INDUSTRIAL AND WAREHOUSE DEVELOPMENT
AT 1-3 LORD STREET, BOTANY**

Dear Nathan,

Reference is made to your request to provide a Response to Peer Review by Cardno for the proposed Industrial and Warehouse Development at 1-3 Lord Street, Botany. The relevant plans are provided in **Annexure A** for reference. Each of the comments made is reproduced in italics in the sections below and responded to thereafter.

1 Existing Traffic & Parking Context

1.1 Heavy Vehicle Percentage

> *Cardno Comment: Section 2.2 does not specify what peak hours have been identified from the surveys, however based on Appendix B, the surveys identify an AM peak hour of 8:00-9:00am and a PM peak hour of 4:15-5:15pm. The SIDRA files appear to be set-up for these peak hours however it is unclear how the heavy vehicle percentage was derived.*
>
> *Clarification is requested in regards to the applicable heavy vehicle percentage adopted in the intersection modelling as the survey, nor the report, differentiate between light and heavy vehicles.*

The proportion of heavy vehicles has been adapted from the Traffic Impact Assessment completed by Traffix of a proposed Mixed-Use Development at 11-13 Lord Street, Botany. The relevant pages from this report are provided in **Annexure B**.

1.2 Intersection Operation – Phasing

Cardno Comment: The TCS plan (0565) for the intersection of Lord Street and Botany Road identifies four phases. The survey information provided in Appendix B of the traffic report identifies that only two phases operated during the survey time (Phase A & C). However, the SIDRA modelling has been set-up such that phase A, C & D were activated which does not correspond to Table 1 information of Appendix B survey results.

Clarification is requested in regards to the intersection phasing and cycle times and sequencing. The introduction of an additional phase could modify the performance results reported within the report.

Revised SIDRA modelling using a two-phase arrangement (and all other amendments requested) has been completed, with the detailed results provided in **Annexure C**. There remains negligible change in the operation of the intersection in the existing and future scenarios.

It should be noted that phases B and D are likely to be called if they would result in a higher level of efficiency of operation of the intersection and that their inclusion in the SIDRA Model is generally best practice.

1.3 Length of Northbound Lane

Cardno Comment: There are kerbside parking restrictions along Botany Road (northbound) which appear to be in effect during the afternoon peak hour (3:00pm-6:00pm). This indicates that during the morning peak hour, the northbound kerbside lane is reduced to an effective length of approximately 60m). This is not reflected in the SIDRA geometry.

It is requested that the traffic and transport assessment be updated to reflect current lane arrangements and identify the intersection performance.

Revised SIDRA modelling including the short northbound kerbside lane (and all other amendments requested) has been completed, with the detailed results provided in **Annexure C**. There remains negligible change in the operation of the intersection in the existing and future scenarios.

It should be noted that it is unlikely that vehicles will commonly park along Botany Road, a major thoroughfare, and that the use of a 60m short lane is, therefore, a worst case.

1.4 Pedestrian Priorities

Cardno Comment: The pedestrian priorities within SIDRA have not been set to identify conflict between pedestrians and turning movements. This is required to induce delay on vehicle movements as a result of an activated pedestrian phase. With regard to the Lord Street "Left turn on red", they too are required to giveway to pedestrians crossing Lord Street. This potentially results in increased delay for turning movements.

It is requested that that the traffic and transport assessment be updated to reflect current lane arrangements and identify the intersection performance.

Revised SIDRA modelling including the update to the priorities (and all other amendments requested) has been completed, with the detailed results provided in **Annexure C**. There remains negligible change in the operation of the intersection in the existing and future scenarios.

It should be noted that the SIDRA default setting of 50 pedestrians per hour likely overestimates the volume of pedestrians that will use the intersection at peak hours and that consequently the performance of the turns that conflict with these movements will be slightly better than that reflected by the SIDRA model.

2 Parking Quantum

2.1 Calculation of Parking Provision

> *Cardno Comment: It is unclear how the total of 130 car parking spaces was identified. For example, the number of spaces stated for the food premises is 24, however based on the size of the food and drink premises (99m2), the number of staff (assumed to be 5 based on the alternate RMS methodology identified further within the report) and the number of seats (assumed to be 47 based on the alternate RMS methodology identified further within the report) would result in 18 spaces. Or, adopting the floor space requirement (1 space per 10m2) results in 10 car spaces on top of the staff requirement of 3. Both of which would be less than the 24 identified by the report.*
>
> *It is requested that the traffic report be amended to show calculations on how the 130 spaces has been determined.*

The calculation of 130 referred to a previous scheme which has been superseded, the latest calculation is summarised in **Table 1**, indicating that 119.2 spaces are required for the latest scheme under a strict application of the Council DCP.

TABLE 1: DCP PARKING REQUIREMENT

Land Use	Scale	Rate	Parking Requirement
Food/Drink Premises	99sqm GFA	1/10sqm GFA	9.9 spaces
Commercial/Office	4372sqm GFA	1/40 sqm GFA	109.3 spaces
Total			**119.2 spaces**

2.2 The Validity of Use of Draft Government Agency Documents

> *Cardno Comment: The traffic report makes reference to the Draft 2018 RMS Guide, however clarification has been sought from the RMS, who have advised no such document exists, and the new guideline yet to be release will be a TfNSW document.*
>
> *Clarification is requested in regards to the contents and validity of the draft 2018 RMS Guide as identified in the traffic report.*

The title of the document in question was mistaken in the McLaren Traffic and Parking Impact Assessment. The correct document is titled *Draft Guide to Transport Impact Assessments* by Transport for NSW. The document has been provided to the authors of the Cardno report for consideration.

In terms of the validity of the use of the draft document, the use of the latest survey data is a best practice approach to traffic engineering. The transport characteristics of workers throughout metropolitan Sydney has changed noticeably in the 33 years between the 1980 and 2013 surveys and the use of the most recent data is an appropriate approach to the assessment of development.

2.3 Justification of Parking Demand

Cardno Comment: The traffic report appears to justify the use of 1 space per 55.5m2 for upper floors on the basis that they will be a lower generating land use in comparison to the potential ground floor uses, which are recommended to achieve a parking rate of 1 space per 40m2.

Based on Appendix A, the ground floor spaces are identified as commercial / warehouse whilst the upper three floors are identified as commercial. The potential ground floor use of warehouse would be a lower parking generator whilst the above three levels appear to present themselves akin to an office block, which would require 1 space per 40m2.

Further justification is required on the recommended parking rates identified in the traffic report.

Two of the office sites surveyed to inform the RMS Technical Direction 2013/04a that have similar public transport access to the subject site and are likely to be similar in terms of on-site parking demand. The accessibility scores and recorded on-site peak parking demands of the two sites are compared to the subject sites' in **Table 2**.

TABLE 2: ACCESSIBILITY SCORE AND ON-SITE PARKING DEMAND

Site Location	Accessibility Score	Peak On-Site Parking Demand per 100m² GFA	Equivalent Floor Area Per Space
Olympic Park, Homebush	140	1.19	84m²
Norwest/Bella Vista	164	2.08	48m²
Lord Street, Botany	146	-	-

Further, the journey to work data for each of these locations is provided in **Table 3**. As shown, workers in Botany:

- Have a similar rate of private car use as Homebush and a lower rate than Bella Vista;
- Are more likely to use bus services than workers in either Homebush or Bella Vista;
- Are more likely to walk to work than workers in either Homebush or Bella Vista;
- Are more likely to ride a bike or motorbike to work than workers in either Homebush or Bella Vista.

It is, therefore, reasonable to assume that the on-site parking demand for the commercial areas of the site will be similar to or in the range of one space per 48m² to one space per 84m². The applied rate of 1 space per 55m² for the upper floors of the development is therefore appropriate and commensurate with the context. The use of a higher rate of parking demand for the ground floor commercial floor area provides some flexibility for future development applications on the site and, if it were confined purely to office area, would have a similar 1 space per 55m² parking demand.

TABLE 3: JOURNEY TO WORK TRAVEL MODE SUMMARY

Travel Mode	Baulkham Hills (West) Bella Vista	Botany	Homebush
Bicycle	0.27%	0.87%	0.34%
Bus	2.06%	3.52%	0.76%
Car as driver	79.31%	71.48%	71.10%
Car as passenger	4.35%	3.89%	4.24%
Did not go to work	6.78%	5.48%	6.99%
Ferry	0.00%	0.09%	0.00%
Mode not stated	1.23%	1.36%	1.89%
Motorbike	0.38%	0.88%	0.37%
Other mode	0.16%	0.57%	0.34%
Taxi	0.16%	0.33%	0.22%
Train	1.53%	5.58%	8.85%
Tram	0.02%	0.04%	0.00%
Truck	0.31%	1.96%	1.65%
Walked only	0.82%	2.25%	1.77%
Worked at home	2.62%	1.71%	1.48%

3 Bicycle Parking

Cardno Comment: As per previous comments, a review of the Council DCP parking requirement should be undertaken by the applicant. This may result in a change to the bicycle parking requirement.

The bicycle storage requirement has been recalculated as summarised in **Table 4**.

TABLE 4: DCP BICYCLE PARKING REQUIREMENT

Land Use	Car Parking Requirement	Rate	Bicycle Parking Requirement
Food/Drink Premises	9.9 spaces	10%	1 space
Commercial/Office	109.3 spaces		11 spaces
Total			12 spaces

4 Traffic Generation

4.1 Generation of Existing Site

> *Cardno Comment: Whilst a reduction in forecast trips is warranted to account for the existing site generation, there is opportunity to establish the actual site generation rather than rely on a generic trip rate.*

The scale of the existing development is not sufficient to justify surveys and it is expected there would be negligible difference between the results of traffic modelling based on a generically calculated discount and a discount determined by surveys.

4.2 Appropriate Traffic Generation Rate

> *Cardno Comment: The survey sites identified in the technical direction are more likely to have better transport accessibility.*
>
> *It is requested that the traffic report either review the transport accessibility available to the Botany site in comparison to the RMS surveyed sites, or adopt the higher 2 trips per 100m2 rate. If the higher trip rate is identified to be more applicable, the traffic assessment would require an update.*

The subject site has been compared to two sites surveyed as part of the report to inform the RMS Technical Direction in **Section 2.3**. Similarly, the sites exhibit traffic generation rates of between 1.48 – 2.75 peak hour trips in the AM and 1.41 – 1.17 peak hour trips in the PM. On this basis, the utilised rates of 1.6 trips in the AM peak and 1.2 trips in the PM peak are appropriate considering the context of the site.

5 Traffic Impact

5.1 Cumulative Impacts

> *Cardno Comment: There is no consideration to the cumulative impact of other developments along Lord Street, including 10-13 Lord Street and 28-40 Lord Street.*

It is not the responsibility of the developer to assess cumulative and traffic impacts of developments that are yet to be either approved or completed.

5.2 Future Year Assessment

> *Similarly, as the application is a planning proposal, a design horizon and future year assessment (e.g. 10 years plus) should be assessed to confirm the intersections can sustain traffic growth and the development.*

The subject proposal has a net traffic generation of approximately 59 trips in the AM peak hour and 43 trips in the PM peak hour. Based on existing traffic conditions, the additional traffic would constitute an additional 1.8% in the AM peak hour and 1.1% in the PM peak hour at the intersection of Lord Street and Botany Road. Considering the extremely low impact of the proposal, it is unclear on what basis future year assessment is necessary.

6 Model Parameters

6.1 Minor Grade Change

Cardno Comment: According to the TCS Plan, it is identified as 1%. Therefore the grading should be modified to reflect existing condition.

It is however expected that this would result in minimal impact.

This parameter has been changed to inform the traffic modelling, with the results provided in **Annexure C**.

6.2 Calibration of Queue Lengths

Cardno Comment: It is unclear whether the AM queue lengths were validated against the any observed queues. This may result in a differing intersection performance to what has been reported and ultimately,. May result in the need for mitigating measures post development.

It is unclear how the calibration of queue lengths is of any benefit for the modelling of a signalised intersection when the intersection phasing and general proportion of heavy vehicle traffic is known. As a result, no calibration has been undertaken.

Calibration of queue lengths is typically undertaken for unsignalised intersections to observe the average delay (specifically for right turns out onto high volume two-way roads) and to ensure the SIDRA results accurately reflect the on-site observations, particularly with relation to average delays for turning movements.

6.3 Phasing

Cardno Comment: According to the TCS plan, the B and D phase doesn't seem to run at the nominated peak hours. This could have an impact on the results identified in the report.

See **Section 1.2**.

Please contact the undersigned should you require further information or assistance.

Yours faithfully
McLaren Traffic Engineering

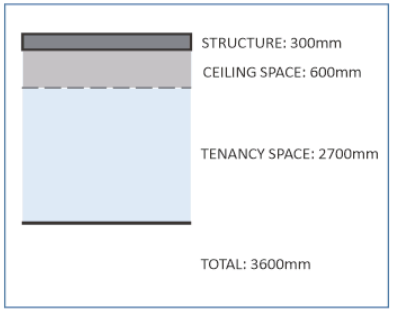
Tom Steal
Senior Traffic Engineer
BE Civil AMAITPM GradIEAust
RMS Accredited Level 1 Road Safety Auditor
RMS Accredited Work Zone Traffic Management Plan Designer and Inspector

ANNEXURE A: SCHEDULE OF AREAS

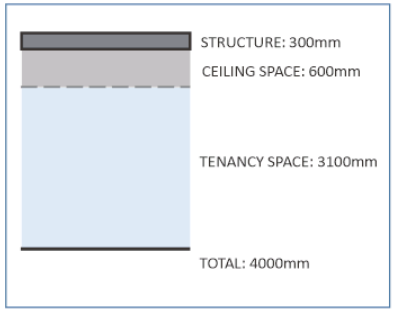
PROPOSED DEVELOPMENT AREAS

Floor	Height	Use	Area
Basement 1	(3m)	Car parking	N/A
Ground	4.0m	Commercial/Warehouse Lobby Retail/Cafe	522sqm 100sqm 99sqm
Level 1	3.6m	Commercial	1350sqm
Level 2	3.6m	Commercial	1250sqm
Level 3	3.6m	Commercial	1150sqm
Roof	1.7m	*Plant/Overrun*	
Total	16.5m		4471sqm

3.6M FLOOR-TO-FLOOR



4.0M FLOOR-TO-FLOOR



KEY DEVELOPMENT CONTROLS

Site Area	2555sqm
Existing FSR (LEP)	1:1
Proposed FSR	1.75:1
Proposed GFA	4471sqm
- Ground Floor Commercial/Warehouse	*522sqm*
- Ground Floor Commercial Lobby	*100sqm*
- Ground Floor Café/Retail/Ancillary	*99sqm*
- Level 1 Commercial	*1350sqm*
- Level 2 Commercial	*1250sqm*
- Level 3 Commercial	*1150sqm*
Existing Height Limit (DCP)	10m
Proposed Height Limit	16.5m
Zone B7 Business Park	No change proposed.
Parking Requirement	85 Spaces
- Ground Floor Commercial 1:40	*13*
- Ground Floor Café/Retail 1:28	*4*
- Upper Floor Commercial 1:55	*68*
Proposed Basement 1 Parking	74 spaces
Proposed Ground Level Parking	18 spaces
Proposed Total Parking	92 Spaces

Note: Refer to Traffic and Parking Impact Assessment for information on parking requirements

ANNEXURE B: EXCERPT FROM TRAFFIX REPORT

MOVEMENT SUMMARY

Site: 1 [Botany Rd x Lord St EX - AM Peak]

Scenario: Existing
Period: AM Peak
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Rd											
2	T1	1028	3.8	0.381	4.7	LOS A	10.5	75.6	0.35	0.31	43.2
3	R2	87	1.2	0.286	12.6	LOS A	1.5	10.3	0.54	0.68	38.9
Approach		1116	3.6	0.381	5.3	LOS A	10.5	75.6	0.36	0.34	42.6
East: Lord St											
4	L2	37	0.0	0.243	32.1	LOS C	2.5	17.6	0.89	0.75	29.3
6	R2	89	4.7	0.243	47.6	LOS D	3.1	22.8	0.92	0.75	26.9
Approach		126	3.3	0.243	43.1	LOS D	3.1	22.8	0.91	0.75	27.5
North: Botany Rd											
7	L2	494	0.6	0.503	12.5	LOS A	16.9	120.2	0.48	0.64	41.2
8	T1	803	5.4	0.503	10.0	LOS A	18.2	133.2	0.53	0.53	36.8
Approach		1297	3.6	0.503	11.0	LOS A	18.2	133.2	0.51	0.57	39.0
All Vehicles		2539	3.6	0.503	10.1	LOS A	18.2	133.2	0.47	0.48	39.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	10.4	LOS B	0.1	0.1	0.42	0.42
All Pedestrians		105	32.4	LOS D			0.68	0.68

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: T:\Synergy\Projects\18\18.002\Modelling\18.002m01v1 TRAFFIX Botany Street and Lord Street, Mascot.sip7

MOVEMENT SUMMARY

Site: 1 [Botany Rd x Lord St EX - PM Peak]

Scenario: Existing
Period: PM Peak
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Rd											
2	T1	1006	2.7	0.463	13.8	LOS A	17.0	121.5	0.59	0.52	34.3
3	R2	31	0.0	0.112	24.9	LOS B	1.0	7.3	0.60	0.68	32.2
Approach		1037	2.6	0.463	14.1	LOS A	17.0	121.5	0.59	0.53	34.2
East: Lord St											
4	L2	43	0.0	0.455	41.4	LOS C	11.8	82.3	0.86	0.83	26.2
6	R2	466	0.0	0.455	41.3	LOS C	12.0	84.1	0.86	0.81	28.7
Approach		509	0.0	0.455	41.3	LOS C	12.0	84.1	0.86	0.81	28.5
North: Botany Rd											
7	L2	64	0.0	0.444	18.0	LOS B	15.7	111.8	0.58	0.56	39.6
8	T1	957	2.5	0.444	13.7	LOS A	16.0	114.4	0.59	0.54	34.1
Approach		1021	2.4	0.444	13.9	LOS A	16.0	114.4	0.59	0.54	34.7
All Vehicles		2567	2.0	0.463	19.4	LOS B	17.0	121.5	0.64	0.59	32.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	40.1	LOS E	0.1	0.1	0.82	0.82
P2	East Full Crossing	53	14.0	LOS B	0.1	0.1	0.48	0.48
All Pedestrians		105	27.1	LOS C			0.65	0.65

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: T:\Synergy\Projects\18\18.002\Modelling\18.002m01v1 TRAFFIX Botany Street and Lord Street, Mascot.sip7

MOVEMENT SUMMARY

Site: 1 [Botany Rd x Lord St EX - Weekend]

Scenario: Existing
Period: PM Peak
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Rd											
2	T1	698	4.2	0.240	4.2	LOS A	5.7	41.3	0.31	0.27	43.9
3	R2	28	0.0	0.056	9.6	LOS A	0.4	2.9	0.39	0.61	40.9
Approach		726	4.1	0.240	4.4	LOS A	5.7	41.3	0.31	0.28	43.7
East: Lord St											
4	L2	28	0.0	0.282	40.1	LOS C	3.2	23.1	0.92	0.76	26.6
6	R2	114	3.7	0.282	49.7	LOS D	3.7	26.5	0.93	0.76	26.4
Approach		142	3.0	0.282	47.8	LOS D	3.7	26.5	0.93	0.76	26.4
North: Botany Rd											
7	L2	114	5.6	0.317	13.1	LOS A	9.4	68.7	0.44	0.48	42.1
8	T1	679	5.7	0.317	8.7	LOS A	9.6	70.7	0.45	0.43	38.2
Approach		793	5.7	0.317	9.4	LOS A	9.6	70.7	0.45	0.44	39.1
All Vehicles		1661	4.8	0.317	10.5	LOS A	9.6	70.7	0.43	0.40	38.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	10.4	LOS B	0.1	0.1	0.42	0.42
All Pedestrians		105	32.4	LOS D			0.68	0.68

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: T:\Synergy\Projects\18\18.002\Modelling\18.002m01v1 TRAFFIX Botany Street and Lord Street, Mascot.sip7

MOVEMENT SUMMARY

Site: 1 [Botany Rd x Lord St FU - AM Peak]

Scenario: Existing
Period: AM Peak
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Rd											
2	T1	1028	3.8	0.383	4.7	LOS A	10.6	76.4	0.35	0.31	43.2
3	R2	96	1.1	0.323	12.9	LOS A	1.7	11.8	0.56	0.69	39.1
Approach		1124	3.6	0.383	5.4	LOS A	10.6	76.4	0.36	0.34	42.6
East: Lord St											
4	L2	44	0.0	0.316	35.0	LOS C	3.2	23.0	0.94	0.77	28.8
6	R2	117	3.6	0.316	49.2	LOS D	4.1	29.9	0.94	0.77	27.1
Approach		161	2.6	0.316	45.3	LOS D	4.1	29.9	0.94	0.77	27.5
North: Botany Rd											
7	L2	526	0.6	0.514	12.2	LOS A	17.2	122.1	0.47	0.65	41.6
8	T1	803	5.4	0.514	10.1	LOS A	18.8	137.5	0.53	0.53	36.8
Approach		1329	3.5	0.514	11.0	LOS A	18.8	137.5	0.51	0.58	39.3
All Vehicles		2615	3.5	0.514	10.7	LOS A	18.8	137.5	0.47	0.49	38.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	10.4	LOS B	0.1	0.1	0.42	0.42
All Pedestrians		105	32.4	LOS D			0.68	0.68

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 1 [Botany Rd x Lord St FU - PM Peak]

Scenario: Existing
Period: PM Peak
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Rd											
2	T1	1006	2.7	0.450	13.2	LOS A	16.2	116.3	0.57	0.51	34.7
3	R2	45	0.0	0.158	20.1	LOS B	1.1	8.0	0.69	0.69	35.9
Approach		1052	2.6	0.450	13.5	LOS A	16.2	116.3	0.58	0.52	34.8
East: Lord St											
4	L2	59	0.0	0.543	45.3	LOS D	14.3	100.2	0.89	0.85	25.5
6	R2	532	0.0	0.543	44.2	LOS D	14.5	101.5	0.90	0.83	28.2
Approach		591	0.0	0.543	44.3	LOS D	14.5	101.5	0.89	0.83	28.0
North: Botany Rd											
7	L2	124	0.0	0.554	25.5	LOS B	21.2	150.6	0.73	0.69	37.1
8	T1	957	2.5	0.554	21.2	LOS B	21.3	152.7	0.73	0.67	29.1
Approach		1081	2.2	0.554	21.7	LOS B	21.3	152.7	0.73	0.68	30.4
All Vehicles		2723	1.9	0.554	23.4	LOS B	21.3	152.7	0.71	0.65	30.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	40.9	LOS E	0.1	0.1	0.83	0.83
P2	East Full Crossing	53	19.9	LOS B	0.1	0.1	0.58	0.58
All Pedestrians		105	30.4	LOS D			0.70	0.70

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 1 [Botany Rd x Lord St FU - Weekend]

Scenario: Existing
Period: PM Peak
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Rd											
2	T1	698	4.2	0.274	6.2	LOS A	7.5	54.5	0.37	0.33	41.4
3	R2	52	0.0	0.119	12.7	LOS A	0.9	6.6	0.49	0.66	41.1
Approach		749	3.9	0.274	6.7	LOS A	7.5	54.5	0.38	0.35	41.4
East: Lord St											
4	L2	52	0.0	0.380	47.4	LOS D	6.3	44.8	0.92	0.80	25.5
6	R2	207	2.0	0.380	50.2	LOS D	6.6	47.3	0.92	0.79	27.4
Approach		259	1.6	0.380	49.7	LOS D	6.6	47.3	0.92	0.79	27.0
North: Botany Rd											
7	L2	207	3.0	0.386	16.6	LOS B	12.6	91.8	0.53	0.61	41.5
8	T1	679	5.7	0.386	12.5	LOS A	13.0	95.4	0.54	0.53	34.9
Approach		886	5.1	0.386	13.4	LOS A	13.0	95.4	0.54	0.55	37.1
All Vehicles		1895	4.2	0.386	15.7	LOS B	13.0	95.4	0.53	0.50	35.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	52.4	LOS E	0.2	0.2	0.94	0.94
P2	East Full Crossing	53	13.6	LOS B	0.1	0.1	0.48	0.48
All Pedestrians		105	33.0	LOS D			0.71	0.71

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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ANNEXURE C: SIDRA INTERSECTION RESULTS

MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing AM]

Lord St/Botany Road Existing
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1273	3.8	0.536	3.6	LOS A	14.7	106.1	0.32	0.29	0.32	55.1
3	R2	78	1.2	0.571	19.5	LOS B	2.8	19.9	0.57	0.76	0.60	42.2
Approach		1351	3.6	0.571	4.5	LOS A	14.7	106.1	0.33	0.32	0.34	53.9
East: Lord Street												
4	L2	40	0.0	0.583	49.9	LOS D	5.6	39.9	1.00	0.81	1.08	27.3
6	R2	180	4.7	0.583	58.1	LOS E	6.5	47.4	1.00	0.80	1.03	25.2
Approach		220	3.8	0.583	56.6	LOS E	6.5	47.4	1.00	0.80	1.04	25.6
North: Botany Road North												
7	L2	520	0.6	0.552	8.5	LOS A	13.2	94.4	0.35	0.57	0.38	51.6
8	T1	1147	5.4	0.552	3.8	LOS A	16.5	121.1	0.36	0.40	0.37	53.6
Approach		1667	3.9	0.552	5.2	LOS A	16.5	121.1	0.36	0.46	0.37	52.9
All Vehicles		3238	3.8	0.583	8.4	LOS A	16.5	121.1	0.39	0.42	0.40	49.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	56.7	LOS E	0.2	0.2	0.96	0.96
P2	East Full Crossing	50	5.3	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		100	31.0	LOS D			0.63	0.63

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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LANE SUMMARY

Site: 1 [Lord St/Botany Road Existing AM]

Lord St/Botany Road Existing
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Botany Road South													
Lane 1	781	3.8	1457[1]	0.536	100	3.9	LOS A	14.7	106.1	Short	60	0.0	NA
Lane 2	492	3.8	918[1]	0.536	100	3.1	LOS A	7.3	52.8	Full	330	0.0	0.0
Lane 3	78	1.2	137	0.571	100	19.5	LOS B	2.8	19.9	Short	25	0.0	NA
Approach	1351	3.6		0.571		4.5	LOS A	14.7	106.1				
East: Lord Street													
Lane 1	111	3.0	190	0.583	100	50.0	LOS D	5.6	39.9	Short (P)	40	0.0	NA
Lane 2	109	4.7	188	0.583	100	63.3	LOS E	6.5	47.4	Full	500	0.0	0.0
Approach	220	3.8		0.583		56.6	LOS E	6.5	47.4				
North: Botany Road North													
Lane 1	835	2.4	1514	0.552	100	6.4	LOS A	13.2	94.4	Full	320	0.0	0.0
Lane 2	832	5.4	1508	0.552	100	4.1	LOS A	16.5	121.1	Full	320	0.0	0.0
Approach	1667	3.9		0.552		5.2	LOS A	16.5	121.1				
Intersection	3238	3.8		0.583		8.4	LOS A	16.5	121.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

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PHASING SUMMARY

Site: 1 [Lord St/Botany Road Existing AM]

Lord St/Botany Road Existing
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

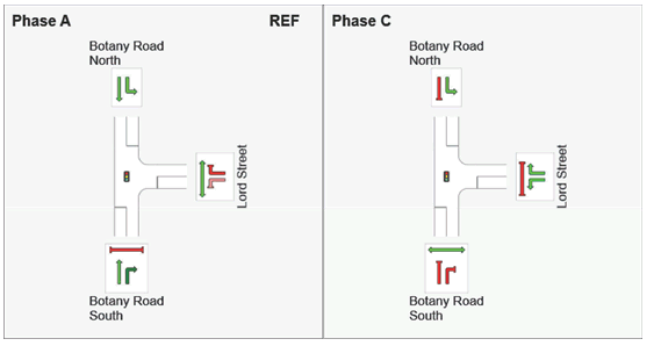
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Reduced Phasing
Reference Phase: Phase A
Input Phase Sequence: A, C
Output Phase Sequence: A, C

Phase Timing Summary

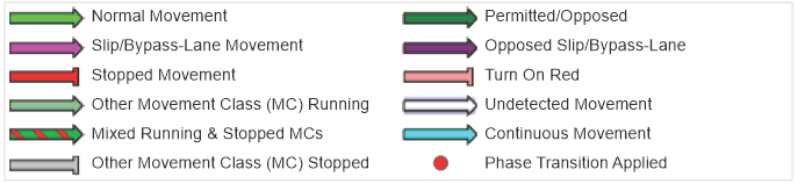
Phase	A	C
Phase Change Time (sec)	0	104
Green Time (sec)	100	13
Phase Time (sec)	106	17
Phase Split	86%	14%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing AM + Subject Site]

Lord St/Botany Road Existing AM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1273	3.8	0.568	3.6	LOS A	15.8	113.9	0.33	0.30	0.33	55.0
3	R2	86	1.2	0.673	29.2	LOS C	4.1	28.8	0.66	0.85	0.83	37.2
Approach		1359	3.6	0.673	5.3	LOS A	15.8	113.9	0.35	0.33	0.36	53.0
East: Lord Street												
4	L2	41	0.0	0.607	51.4	LOS D	5.9	42.1	1.00	0.82	1.11	26.9
6	R2	187	4.7	0.607	58.9	LOS E	6.8	49.5	1.00	0.81	1.06	25.1
Approach		228	3.9	0.607	57.5	LOS E	6.8	49.5	1.00	0.81	1.07	25.4
North: Botany Road North												
7	L2	566	0.6	0.567	8.3	LOS A	13.5	96.0	0.36	0.58	0.38	51.6
8	T1	1151	5.4	0.567	3.8	LOS A	17.4	127.6	0.37	0.41	0.38	53.6
Approach		1717	3.8	0.567	5.3	LOS A	17.4	127.6	0.37	0.47	0.38	52.8
All Vehicles		3304	3.7	0.673	8.9	LOS A	17.4	127.6	0.40	0.44	0.42	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	55.8	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	50	5.3	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		100	30.5	LOS D			0.62	0.62

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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LANE SUMMARY

Site: 1 [Lord St/Botany Road Existing AM + Subject Site]

Lord St/Botany Road Existing AM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Botany Road South													
Lane 1	813	3.8	1432[1]	0.568	100	4.0	LOS A	15.8	113.9	Short	60	0.0	NA
Lane 2	460	3.8	809[1]	0.568	100	3.0	LOS A	6.7	48.2	Full	330	0.0	0.0
Lane 3	86	1.2	128	0.673	100	29.2	LOS C	4.1	28.8	Short	25	0.0	NA
Approach	1359	3.6		0.673		5.3	LOS A	15.8	113.9				
East: Lord Street													
Lane 1	115	3.0	189	0.607	100	51.4	LOS D	5.9	42.1	Short (P)	40	0.0	NA
Lane 2	113	4.7	187	0.607	100	63.7	LOS E	6.8	49.5	Full	500	0.0	0.0
Approach	228	3.9		0.607		57.5	LOS E	6.8	49.5				
North: Botany Road North													
Lane 1	861	2.2	1518	0.567	100	6.4	LOS A	13.5	96.0	Full	320	0.0	0.0
Lane 2	856	5.4	1508	0.567	100	4.2	LOS A	17.4	127.6	Full	320	0.0	0.0
Approach	1717	3.8		0.567		5.3	LOS A	17.4	127.6				
Intersection	3304	3.7		0.673		8.9	LOS A	17.4	127.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

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PHASING SUMMARY

Site: 1 [Lord St/Botany Road Existing AM + Subject Site]

Lord St/Botany Road Existing AM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 123 seconds (Site User-Given Phase Times)

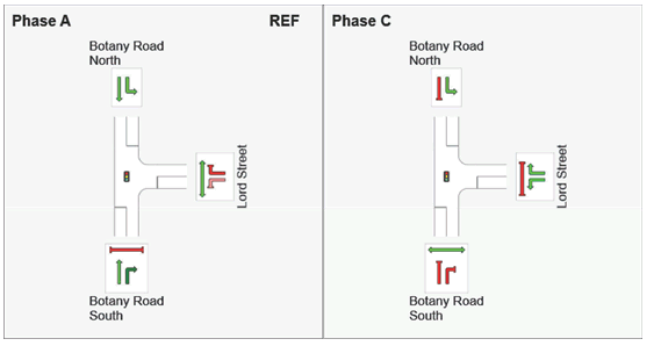
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Reduced Phasing
Reference Phase: Phase A
Input Phase Sequence: A, C
Output Phase Sequence: A, C

Phase Timing Summary

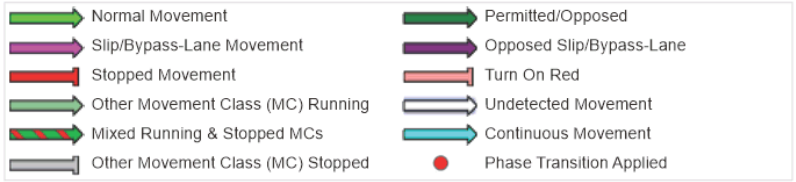
Phase	A	C
Phase Change Time (sec)	0	104
Green Time (sec)	100	13
Phase Time (sec)	106	17
Phase Split	86%	14%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing PM]

Lord St/Botany Road Existing PM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1497	2.7	0.880	24.2	LOS B	27.3	195.9	0.62	0.72	0.82	37.3
3	R2	38	0.0	0.259	25.2	LOS B	1.2	8.2	0.68	0.74	0.68	39.1
Approach		1535	2.6	0.880	24.3	LOS B	27.3	195.9	0.62	0.72	0.81	37.4
East: Lord Street												
4	L2	59	0.0	0.857	53.7	LOS D	16.4	114.9	1.00	1.03	1.61	26.4
6	R2	607	0.0	0.857	51.8	LOS D	16.4	114.9	1.00	1.00	1.44	26.6
Approach		666	0.0	0.857	52.0	LOS D	16.4	114.9	1.00	1.01	1.45	26.6
North: Botany Road North												
7	L2	78	0.0	0.629	15.2	LOS B	19.6	139.9	0.63	0.61	0.70	48.5
8	T1	1481	2.5	0.629	9.7	LOS A	19.8	141.9	0.63	0.59	0.67	48.1
Approach		1559	2.4	0.629	9.9	LOS A	19.8	141.9	0.63	0.59	0.67	48.1
All Vehicles		3760	2.1	0.880	23.2	LOS B	27.3	195.9	0.69	0.72	0.87	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	50	10.8	LOS B	0.1	0.1	0.49	0.49
All Pedestrians		100	25.0	LOS C			0.71	0.71

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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LANE SUMMARY

Site: 1 [Lord St/Botany Road Existing PM]

Lord St/Botany Road Existing PM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Botany Road South													
Lane 1	749	2.7	852[1]	0.880	100	24.2	LOS B	27.3	195.9	Short	60	0.0	NA
Lane 2	748	2.7	850[1]	0.880	100	24.3	LOS B	27.3	195.8	Full	330	0.0	0.0
Lane 3	38	0.0	147	0.259	100	25.2	LOS B	1.2	8.2	Short	25	0.0	NA
Approach	1535	2.6		0.880		24.3	LOS B	27.3	195.9				
East: Lord Street													
Lane 1	335	0.0	391	0.857	100	53.7	LOS D	16.4	114.9	Short (P)	75	0.0	NA
Lane 2	331	0.0	386	0.857	100	50.3	LOS D	16.3	114.2	Full	500	0.0	0.0
Approach	666	0.0		0.857		52.0	LOS D	16.4	114.9				
North: Botany Road North													
Lane 1	780	2.3	1241	0.629	100	10.2	LOS A	19.6	139.9	Full	320	0.0	0.0
Lane 2	779	2.5	1238	0.629	100	9.7	LOS A	19.8	141.9	Full	320	0.0	0.0
Approach	1559	2.4		0.629		9.9	LOS A	19.8	141.9				
Intersection	3760	2.1		0.880		23.2	LOS B	27.3	195.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

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PHASING SUMMARY

Site: 1 [Lord St/Botany Road Existing PM]

Lord St/Botany Road Existing PM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

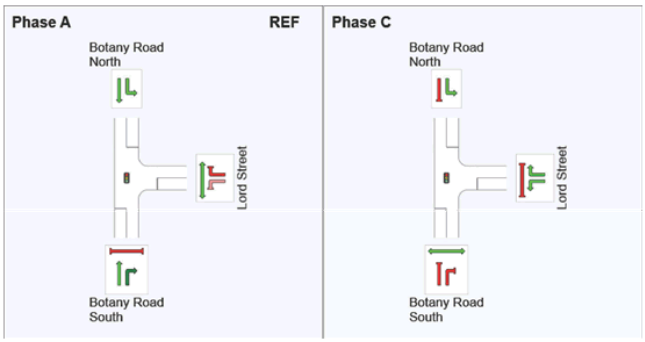
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Green Split Priority has been specified
Phase Sequence: Reduced Phasing
Reference Phase: Phase A
Input Phase Sequence: A, C
Output Phase Sequence: A, C

Phase Timing Summary

Phase	A	C
Phase Change Time (sec)	0	65
Green Time (sec)	59	19
Phase Time (sec)	65	25
Phase Split	72%	28%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

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MOVEMENT SUMMARY

Site: 1 [Lord St/Botany Road Existing PM + Subject Site]

Lord St/Botany Road Existing PM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Botany Road South												
2	T1	1497	2.7	0.889	26.6	LOS B	28.6	205.0	0.62	0.74	0.85	36.0
3	R2	40	0.0	0.274	25.4	LOS B	1.2	8.7	0.69	0.74	0.69	39.0
Approach		1537	2.6	0.889	26.6	LOS B	28.6	205.0	0.62	0.74	0.84	36.1
East: Lord Street												
4	L2	63	0.0	0.902	61.0	LOS E	19.1	133.6	1.00	1.10	1.76	24.8
6	R2	642	0.0	0.902	58.7	LOS E	19.1	133.6	1.00	1.08	1.59	25.1
Approach		705	0.0	0.902	58.9	LOS E	19.1	133.6	1.00	1.08	1.60	25.1
North: Botany Road North												
7	L2	82	0.0	0.630	15.2	LOS B	19.7	140.4	0.63	0.61	0.70	48.5
8	T1	1481	2.5	0.630	9.7	LOS A	19.9	142.5	0.63	0.59	0.67	48.0
Approach		1563	2.4	0.630	10.0	LOS A	19.9	142.5	0.63	0.59	0.67	48.1
All Vehicles		3805	2.0	0.902	25.8	LOS B	28.6	205.0	0.70	0.74	0.91	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	50	10.8	LOS B	0.1	0.1	0.49	0.49
All Pedestrians		100	25.0	LOS C			0.71	0.71

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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LANE SUMMARY

Site: 1 [Lord St/Botany Road Existing PM + Subject Site]

Lord St/Botany Road Existing PM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
South: Botany Road South													
Lane 1	749	2.7	843[1]	0.889	100	26.6	LOS B	28.6	205.0	Short	60	0.0	NA
Lane 2	748	2.7	841[1]	0.889	100	26.7	LOS B	28.6	204.9	Full	330	0.0	0.0
Lane 3	40	0.0	146	0.274	100	25.4	LOS B	1.2	8.7	Short	25	0.0	NA
Approach	1537	2.6		0.889		26.6	LOS B	28.6	205.0				
East: Lord Street													
Lane 1	355	0.0	393	0.902	100	61.0	LOS E	19.1	133.6	Short (P)	75	0.0	NA
Lane 2	350	0.0	388	0.902	100	56.8	LOS E	18.8	131.4	Full	500	0.0	0.0
Approach	705	0.0		0.902		58.9	LOS E	19.1	133.6				
North: Botany Road North													
Lane 1	782	2.2	1241	0.630	100	10.2	LOS A	19.7	140.4	Full	320	0.0	0.0
Lane 2	781	2.5	1238	0.630	100	9.7	LOS A	19.9	142.5	Full	320	0.0	0.0
Approach	1563	2.4		0.630		10.0	LOS A	19.9	142.5				
Intersection	3805	2.0		0.902		25.8	LOS B	28.6	205.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
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SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
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PHASING SUMMARY

Site: 1 [Lord St/Botany Road Existing PM + Subject Site]

Lord St/Botany Road Existing PM + Subject Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

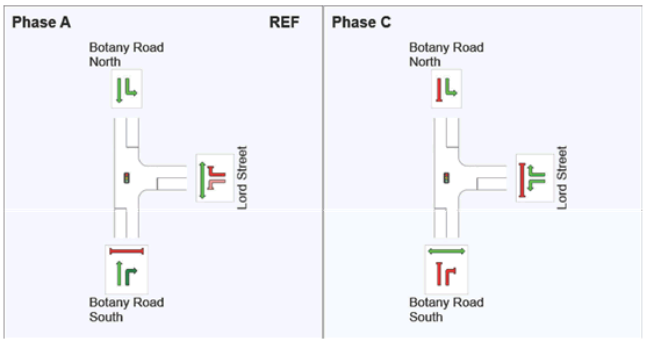
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Green Split Priority has been specified
Phase Sequence: Reduced Phasing
Reference Phase: Phase A
Input Phase Sequence: A, C
Output Phase Sequence: A, C

Phase Timing Summary

Phase	A	C
Phase Change Time (sec)	0	65
Green Time (sec)	59	19
Phase Time (sec)	65	25
Phase Split	72%	28%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

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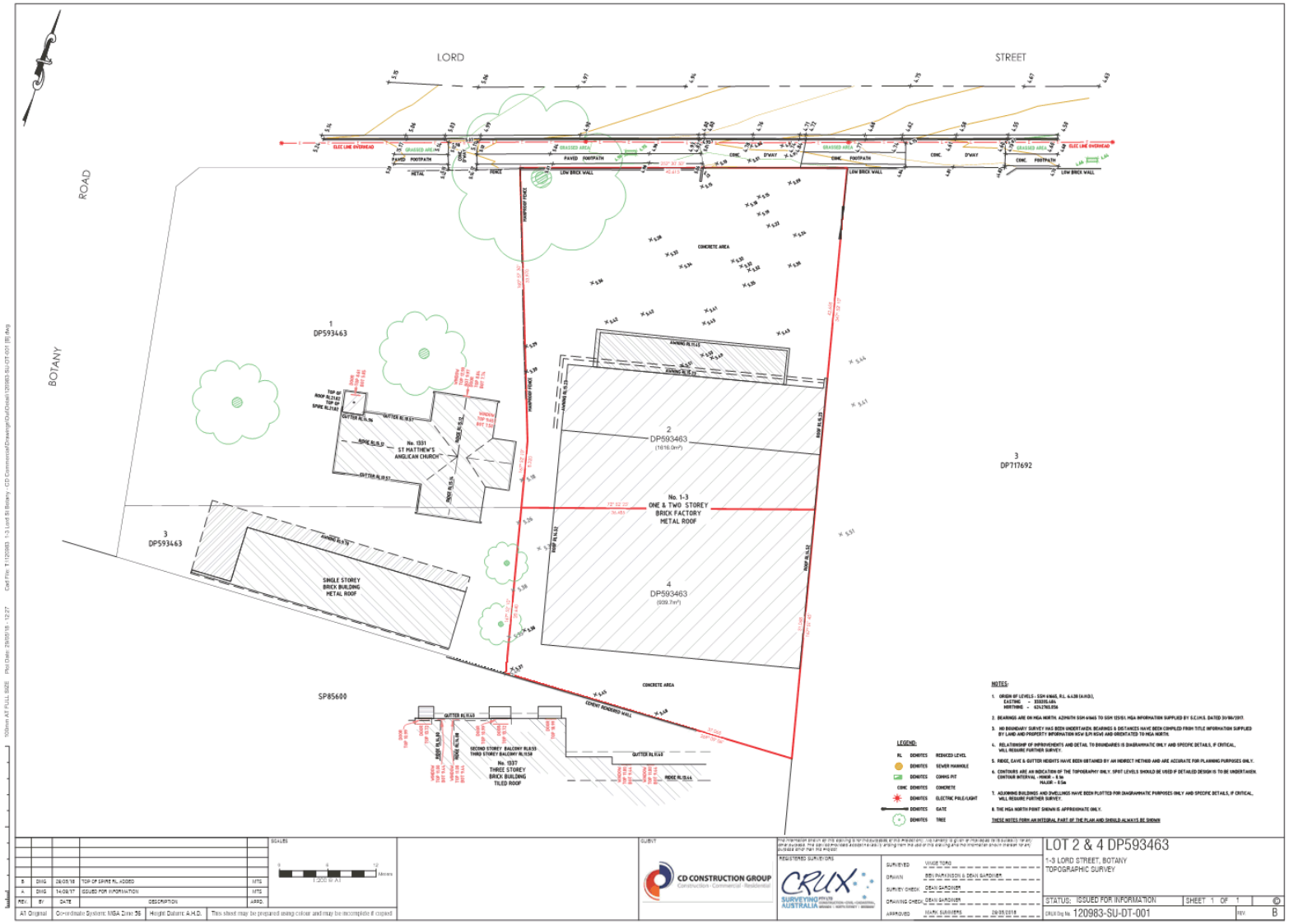
LORD
STREET
ROAD
BOTANY
DP593463
No. 1331
ST MATTHEW'S
ANGLICAN CHURCH
No. 1-3
ONE & TWO STOREY
BRICK FACTORY
METAL ROOF
SINGLE STOREY
BRICK BUILDING
METAL ROOF
SP85600
No. 1337
THREE STOREY
BRICK BUILDING
TILED ROOF
DP717692
LOT 2 & 4 DP593463
1-3 LORD STREET, BOTANY
TOPOGRAPHIC SURVEY
CD CONSTRUCTION GROUP
CRUX SURVEYING AUSTRALIA

SEPP	Not Relevant	Justifiably Inconsistent	Consistent
SEPP 1 - Development Standards			✓
SEPP 19 - Bushland in Urban Areas	✓		
SEPP 21 - Caravan Parks (formerly Movable Dwellings)	✓		
SEPP 30 - Intensive Agriculture	✓		
SEPP 33 - Hazardous and Offensive Development	✓		
SEPP 36 - Manufactured Home Estates	✓		
SEPP 44 - Koala Habitat Protection	✓		
SEPP 47 - Moore Park Showground	✓		
SEPP 50 - Canal Estates	✓		
SEPP 52 - Farm Dams and Other Works in Land and Water Management Plan Areas	✓		
SEPP 55 - Remediation of Land			✓
SEPP 62 - Sustainable Aquaculture	✓		
SEPP 64 - Advertising and Signage	✓		
SEPP 65 - Design Quality of Residential Flat Development	✓		
SEPP 70 - Affordable Housing (Revised Schemes)	✓		
SEPP (Affordable Rental Housing) – 2009	✓		
SEPP (Building Sustainability Index: BASIX) 2004	✓		
SEPP (Coastal Management) 2018	✓		
SEPP (Educational Establishments and Child Care Facilities) 2017	✓		
SEPP (Exempt and Complying Development Codes) 2008	✓		
SEPP (Housing for Seniors or People with a Disability) 2004	✓		
SEPP (Infrastructure) 2007			✓
SEPP (Integration and Repeals) 2016	✓		
SEPP (Kosciuszko National Park—Alpine Resorts) 2007	✓		

SEPP	Not Relevant	Justifiably Inconsistent	Consistent
SEPP (Kurnell Peninsula) 1989	✓		
SEPP (Mining, Petroleum Production & Extractive Industries) 2007	✓		
SEPP (Miscellaneous Consent Provisions) 2007	✓		
SEPP (Penrith Lakes Scheme) 1989	✓		
SEPP (Rural Lands) 2008	✓		
SEPP (State and Regional Development) 2011	✓		
SEPP (Sydney Drinking Water Catchment) 2011	✓		
SEPP (Sydney Region Growth Centres) 2006	✓		
SEPP (Three Ports) 2013	✓		
SEPP (Urban Renewal) 2010	✓		
SEPP (Western Sydney Employment Area) 2009	✓		
SEPP (Western Sydney Parklands) 2009	✓		

	Ministerial Direction	Not Relevant	Justifiably Inconsistent	Consistent
1.	**Employment & Resources**			
1.1	Business and Industrial Zones			✓
1.2	Rural Zones	✓		
1.3	Mining, Petroleum Production and Extractive Industries	✓		
1.4	Oyster Aquaculture	✓		
1.5	Rural Lands	✓		
2	**Environment & Heritage**			
2.1	Environmental Protection Zones	✓		
2.2	Coastal Protection	✓		
2.3	Heritage Conservation	✓		
2.4	Recreation Vehicle Areas	✓		
2.5	Application of E2 and E3 Zones and Environmental Overlays in Far North Coast LEPs	✓		
3	**Housing, Infrastructure and Urban Development**			
3.1	Residential Zones	✓		
3.2	Caravan Parks and Manufactured Home Estates	✓		
3.3	Home Occupations	✓		
3.4	Integrating Land Use and Transport			✓
3.5	Development Near Licensed Aerodromes			✓
3.6	Shooting Ranges	✓		
4	**Hazard and Risk**			
4.1	Acid Sulfate Soils		✓	
4.2	Mine Subsidence and Unstable Land	✓		
4.3	Flood Prone Land			✓
4.4	Planning for Bushfire Protection	✓		
5	**Regional Planning**			
5.1	(Revoked 17 October 2017)	✓		
5.2	Sydney Drinking Water Catchments	✓		

	Ministerial Direction	Not Relevant	Justifiably Inconsistent	Consistent
5.3	Farmland of State and Regional Significance on the NSW Far North Coast	✓		
5.4	Commercial and Retail Development along the Pacific Highway, North Coast	✓		
5.5	(Revoked 18 June 2010)	✓		
5.6	(Revoked 10 July 2008)	✓		
5.7	(Revoked 10 July 2008)	✓		
5.8	Second Sydney Airport: Badgerys Creek	✓		
5.9	North West Rail Link Corridor Strategy	✓		
5.10	(Revoked 17 October 2017)	✓		
6	**Local Plan Making**			
6.1	Approval and Referral Requirements	✓		
6.2	Reserving Land for Public Purposes	✓		
6.3	Site Specific Provisions			✓
7	**Metropolitan Planning**			
7.1	Implementation of A Plan for Growing Sydney	Superceded		
7.2	Implementation of Greater Macarthur Land Release Investigation	✓		
7.3	Parramatta Road Corridor Urban Transformation Strategy	✓		
7.4	Implementation of North West Priority Growth Area Land Use and Infrastructure Implementation Plan	✓		
7.5	Implementation of Greater Parramatta Priority Growth Area Interim Land Use and Infrastructure Implementation Plan	✓		
7.6	Implementation of Wilton Priority Growth Area Interim Land Use and Infrastructure Implementation Plan	✓		
7.7	Implementation of Glenfield to Macarthur Urban Renewal Corridor	✓		