

# **Tzannes**

Cnr Bay St and New South Head Rd, Double Bay

Urban Design and Development Envelope Study



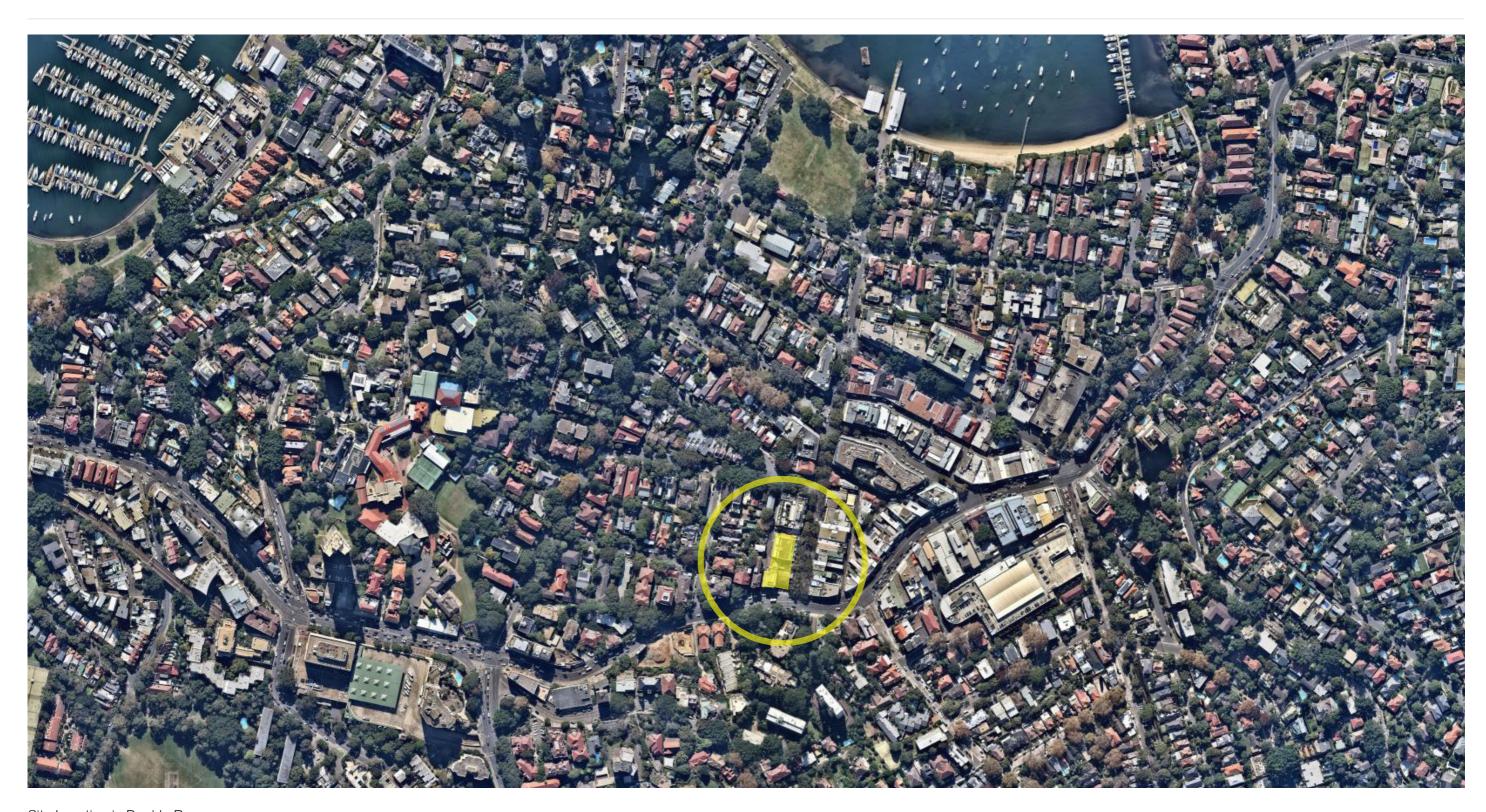
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# Introduction





Site Location in Double Bay

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#### Loftex

In late 2016 Loftex acquired control of a number of commercial properties at the western end of Bay Street and on New South Head Road with a view to undertake a new redevelopment that has potential to transform this significant corner in Double Bay.

Loftex engaged Tzannes as architects and City Plan Strategy and Development as town planners with a brief centred on a number of clear objectives:

Design of a new landmark "gateway" building, that is responsive to its context and informed by a detailed urban design analysis and comprises a mixed use project including retail, commercial and residential uses to help revitalise the Double Bay Village and improve the public domain.

- The design should incorporate and provide an integrated response to Woollahra Council's greater urban design strategies for Double Bay.
- 2. The development should protect and enhance the unique village environment of this part of Double Bay and Bay Street in particular.
- 3. Maintain and increase commercial floor space to maximise opportunity for employment generation and livelihood of Double Bay.
- 4. New residential buildings should offer a variety of smaller dwelling types that appeal to a broader range of potential residents, not just very large and exclusive 'executive' homes.

This urban design report accompanies a planning proposal for the subject site and provides an overview of the design thinking and analysis.

The report consists of four sections.

#### Section 1 Double Bay in Context

This section provides a brief introduction to Double Bay and certain issues that it faces in the future. It also includes an overview of the key urban elements that have been identified as contributing to the unique and vibrant village character of the Double Bay Commercial Core.

#### Section 2 Vision

Following from the introduction to Double Bay, a set of overarching urban design objectives are proposed to be implemented in the design development of the subject site.

#### Section 3 Area of Study

This part of the report examines in greater detail the immediate urban design context for the site by looking at the two precincts that define the site context: Bay Street and New South Head Road. In addition, we set out the current planning controls relating to the site as well as the immediate site constraints and opportunities.

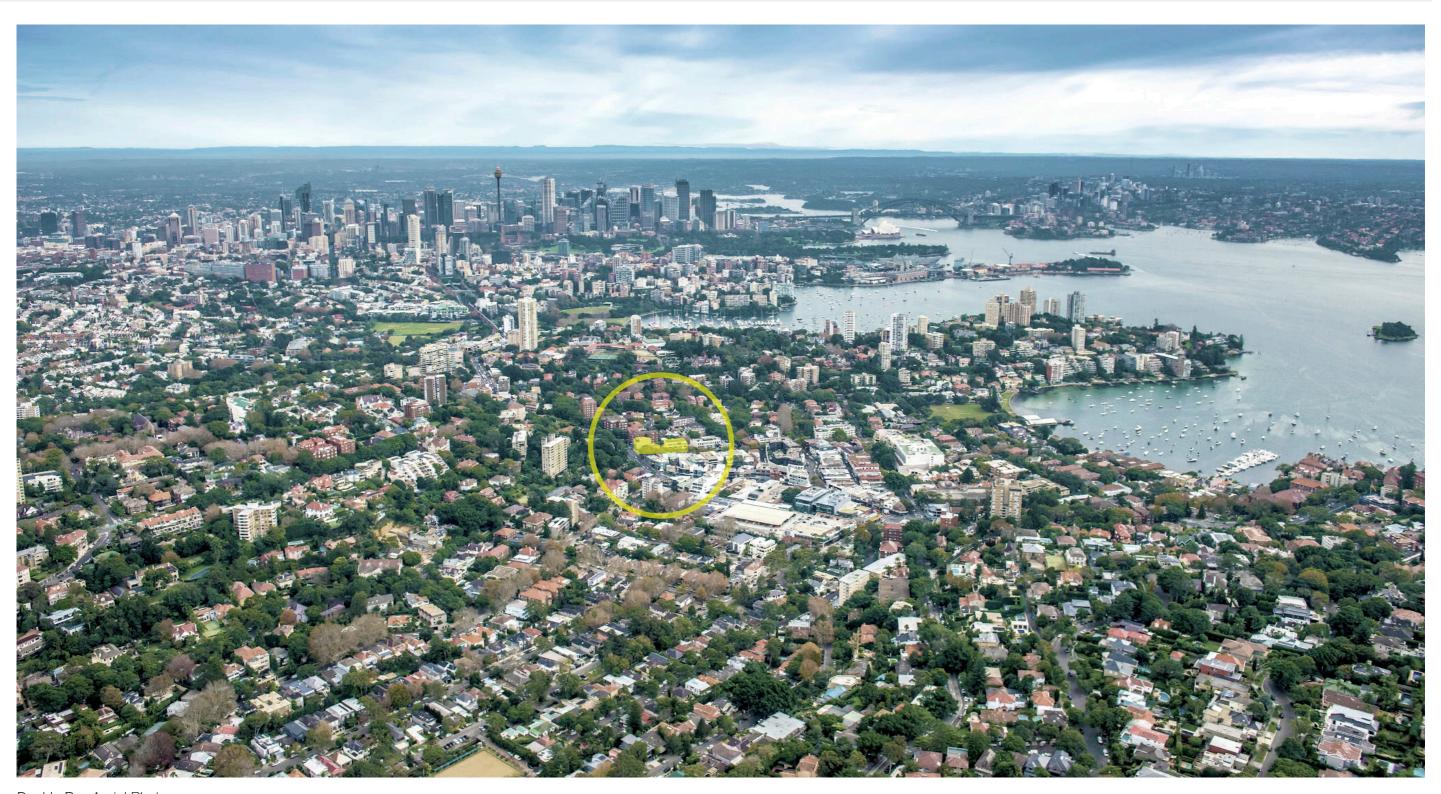
#### Section 4 The Proposed Envelope

In regards to the wider strategic context, the proposal responds to the changing nature of the Centre which is undergoing a transition with larger scale mixed developments being introduced which are up to six storeys in height. The Kiaora Lands Development, The Stamford Cosmopolitan Centre, Hunters Lodge, 20-26 Cross Street and The Gallery are key examples of where larger scale buildings have been introduced in the Centre.

With regards to the strategic planning context, the Greater Sydney Region Plan identifies Double Bay as a local centre within the Eastern Harbour City. The Region Plan seeks to colocate residential and commercial activities within local centres to strengthen and support their role as important places for day-to-day access to goods and services. The Eastern City District Plan provides the basis for the strategic planning for the Eastern subregion and recognises the importance of local centres in providing local employment. The District Plan identifies that centres should protect or expand retail and/or commercial floor space, as well as protect or expand employment opportunities and seeks to encourage additional housing in local centres to help create walkable local centres. The planning proposal will be consistent with the District Plan and will provide housing to assist in achieving the Woollahra Local Government Area housing targets and will encourage additional housing whilst protecting and increasing the amount of commercial floor space across the site.

# Double Bay in Context





Double Bay Aerial Photo

### Double Bay as a vibrant village

Double Bay is a cosmopolitan village highly valued by local residents and visitors alike

As a local centre Double Bay enjoys a unique and excellent position on the southern shore of Sydney Harbour at the base of a large natural amphitheatre. Its accessibility, distinctive landscape and vibrant village atmosphere contribute to its cosmopolitan character that is highly valued by local residents and visitors alike.

#### Enhancing its vitality and viability

Greater vitality to be provided through increased commercial floorspace, housing opportunities and choice of dwellings

Woollahra Council is currently seeking to enhance the vitality and viability of the Double Bay Commercial Centre by increasing residential development within the Centre through increased housing opportunities and housing choice, whilst maintaining employment.

### Rejuvenating the commercial centre

Increased height and FSR within Double Bay key to the viability of future residential developments

In May 2015, Council commissioned Hill PDA to undertake an economic feasibility study to assess the demand for, supply of and financial viability of smaller sized apartments within the Centre. The 'Double Bay Economic Feasibility Study July 2015' was reported to the Urban Planning Committee on 7 September 2015 and recommended that Council reviews its existing planning controls to allow for increased building heights and FSR within Double Bay with each site to be "considered on its merits... dependent on urban design testing and other environmental considerations" (Hill 2015, p.71). The study also recommended that prior to any LEP amendments being made, a detailed review of urban design options and building envelopes is required to demonstrate that increased development will not compromise village character and urban amenity. The findings of the Hill PDA Study create an important opportunity to rejuvenate the centre by increasing its density and population diversity through the provision of broader mix of apartment types whilst maintaining and protecting its distinct character.

### Enhancing the public domain

All new developments represent an opportunity to improve the public domain

This report adopts the methodology recommended by the Hill PDA report in that it looks at five adjoining sites and analyses their potential to accommodate increased density while enhancing the character of the public domain, protecting the amenity of the surrounding residential buildings and promoting sustainable mixed use development.

Hill, S, 2015, Double Bay Economic Feasibility Study. Ver 1, HillPDA, Sydney.

#### Introduction

Double Bay is a very unique urban environment defined equally by its position in the city and its built environment and by its human scale and social connectivity. We identified a number of physical, social and environmental factors which define its character and in our view, should inform and underpin the urban design approach for any site within the commercial core.



# Sunlight

Double Bay offers many opportunities for people to enjoy the sun in an attractive and active public space. There are a range of parks which include Steyne and Guilfoyle Park as well as the tree sheltered environment of Bay St and Cross Street.



# People

Double Bay offers numerous opportunities and places to pause, relax and socialise within its richly textured public domain.



# Street Village Character

Double Bay's street village character is characterised by a distinctive public domain with active frontages, significant street trees, appropriately scaled built form and pedestrian infrastructure supporting foot traffic.

# Through Site Links and Built Form

Double Bay's built form is characterised by a range of building types, which generally deliver a cohesive street wall. The built form that supports Double Bay's village character is designed to enhance the tree lined streets and street life. The diversity comes from a range of lot sizes which result in both large and finer grain developments.





# Human Scale

The public domain of Double Bay affords many opportunities for a rich urban lifestyle by offering a diverse amenity of spaces for people to enjoy. The village character creates a sense of community and integration.

#### **Current Issues**

Woollahra Council has identified a number of issues that impact on the success of Double Bay as an urban precinct.

The significance of Double Bay as a commercial centre is being eroded by the impact of Bondi Junction

While Bondi Junction is a much larger and more significant retail centre, it is essentially a version of an American model of the indoor shopping mall. Double Bay as a retail destination offers a unique street level experience that appeals to a more discerning clientele looking for a different, more outdoor street based European feel.

#### There is a problem with the high vacancy rate and low foot traffic

If Double Bay is to continue to model itself on a European shopping street as a model, residential density and rich urban amenity are key to its success.

There is a lack of urban amenity and infrastructure to encourage foot traffic

New residential developments in Double Bay represent an excellent opportunity to improve the urban amenity of the city centre and create new opportunities for a well connected, walkable town centre.

Lack of diverse housing stock that would encourage a more varied demographic within the area

Due to its excellent position and its unique village character, Double Bay is a highly desirable and very expensive residential area. An improved supply and greater variety of housing stock will no doubt have a positive effect in attracting younger people and families to Double Bay.



Commercial significance of Double Bay eroded by impact of Bondi Junction



High vacancy rates and low foot traffic - Double Bay

#### 2 Double Bay in Context

#### 2.4 Design Principles

# Design Principles

Taking the current issues into consideration, the Design Principles below are proposed for the five sites. These principles respond to the Hill PDA Report and aim to achieve the following outcomes.

Living, working and shopping overlay is the key to success of Double Bay Commercial Centre

New development is essential to reposition Double Bay as an attractive place to shop, work and live.

Revised building envelopes must provide for increased density and improve the urban amenity, connectivity and village character.

Greater housing choices will encourage a more diverse population and more active and vibrant public domain.

Increased density must not lead to traffic congestion; not all sites will be equally suitable.



Identify opportunities to increase density while protecting public amenity - Knox St



Make a better place for living - weekday street market at Guilfoyle Park

# Vision



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3 Vision

3.1 Design Vision

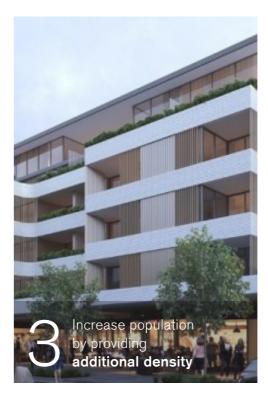


# Vision Statement

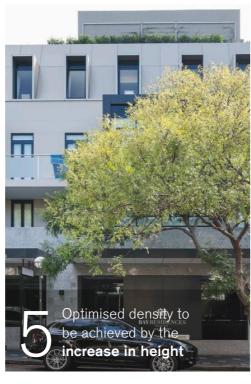
The design objectives for our sites are to protect and enhance the Double Bay village character, improve public domain, increase commercial floor space, increase housing choice and promote sustainable development.

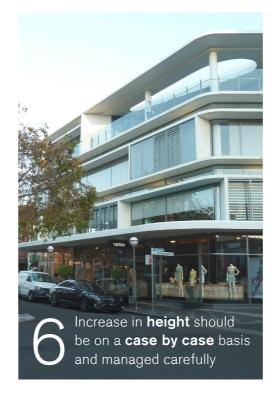


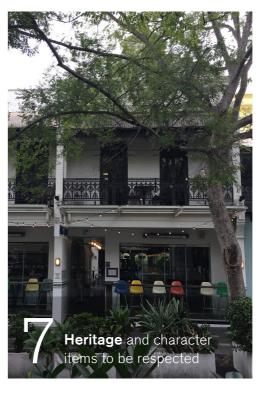














# Area of Study



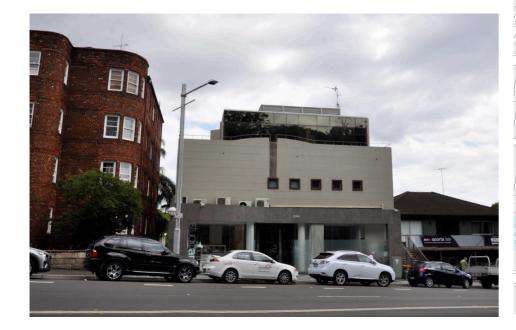
#### 4.1 Precinct Context

# Introduction

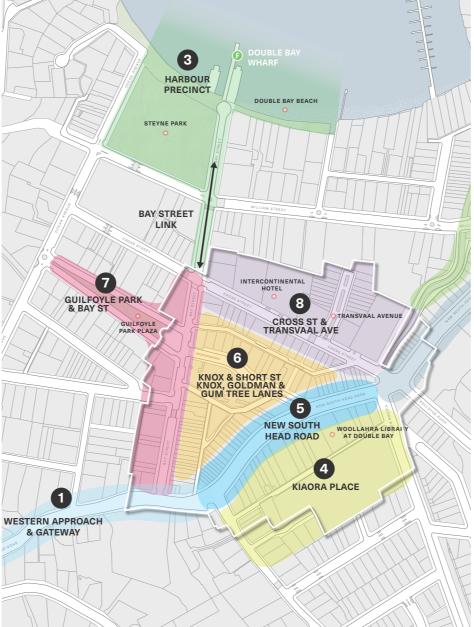
This part of the report includes an overview of the existing planning controls, a summary of the future strategic planning ambitions and an analysis of the immediate urban design context for the site along Bay St and New South Head Rd.



Bay St Public Domain



New South Head Rd - The Fortress



Double Bay Precincts (Aspect Public Domain Report, 2016)

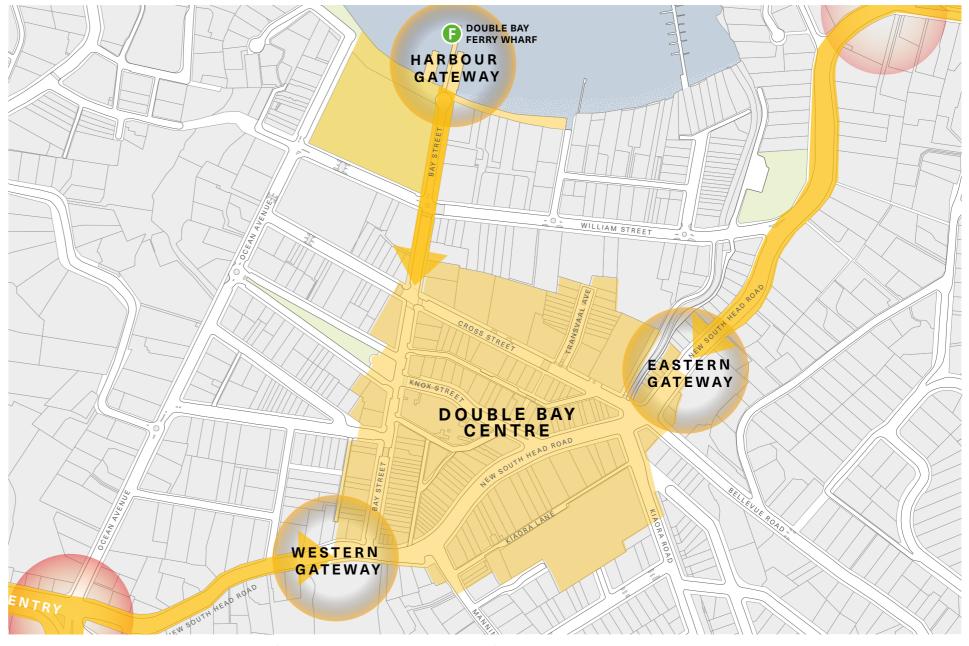


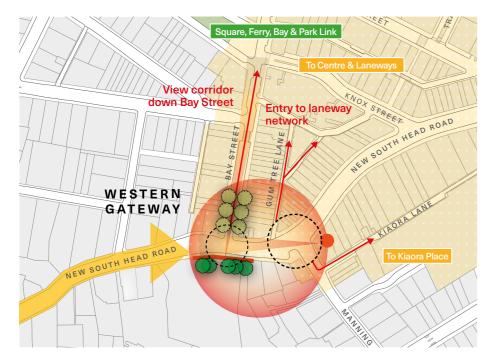
Bay St and extended area of study

- 4 Area of Study
- 4.1 Precinct Context
- 4.1.1 Double Bay Commercial Centre

# Area of Study

The subject site and its immediate context are defined by the intersection between Bay St and New South Head Rd. The intersection sits at the western entry point into the Double Bay Commercial Centre and is topographically the highest point within the Centre. The site has been indicated as the Western Gateway into Double Bay by Aspect in the 2016 Public Domain Report.



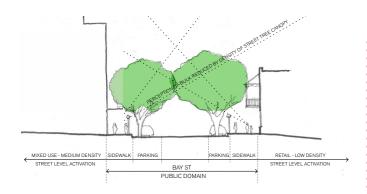


Double Bay Centre and gateways (Aspect Public Domain Report, 2016)

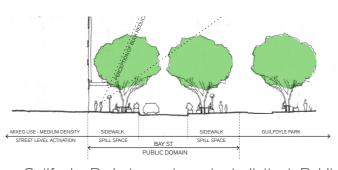
Western gateway in relation to subject site (Aspect Public Domain Report, 2016)

### Four distinct characters

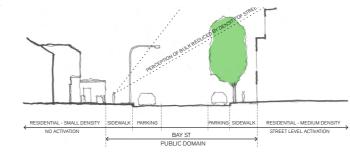
Bay Street connects New South Head Road with the harbour and is one of the most significant elements of the Double Bay public domain. It is also unusual in that its street wall and uses change along its length forming four distinct characters. The drawings locate and describe each of the four sections.



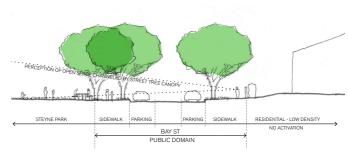
 Mix of both fine grain allotments and larger mixed use developments including Appropriately scaled retail reinforce the street village character



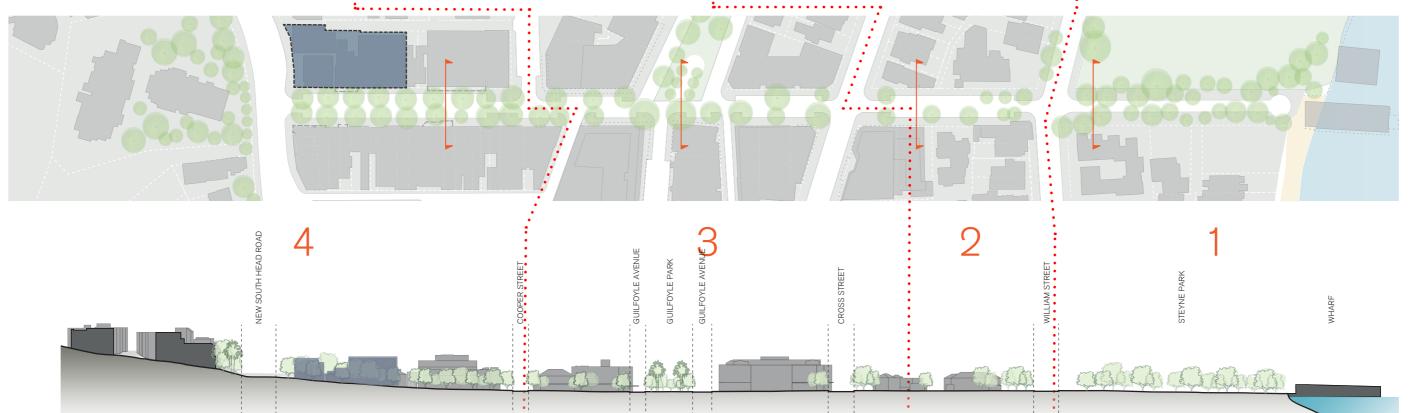
 Guilfoyle Park is an important distinct Public Domain zone on Bay St sitting adjacent sensitively scaled retail and hospitality offerings activating the street



 Predominant residential character, large grain single family housing with little street activation



 Significant natural amenity defined by trees, waterfront and beach with large grain single family housing with little street activation

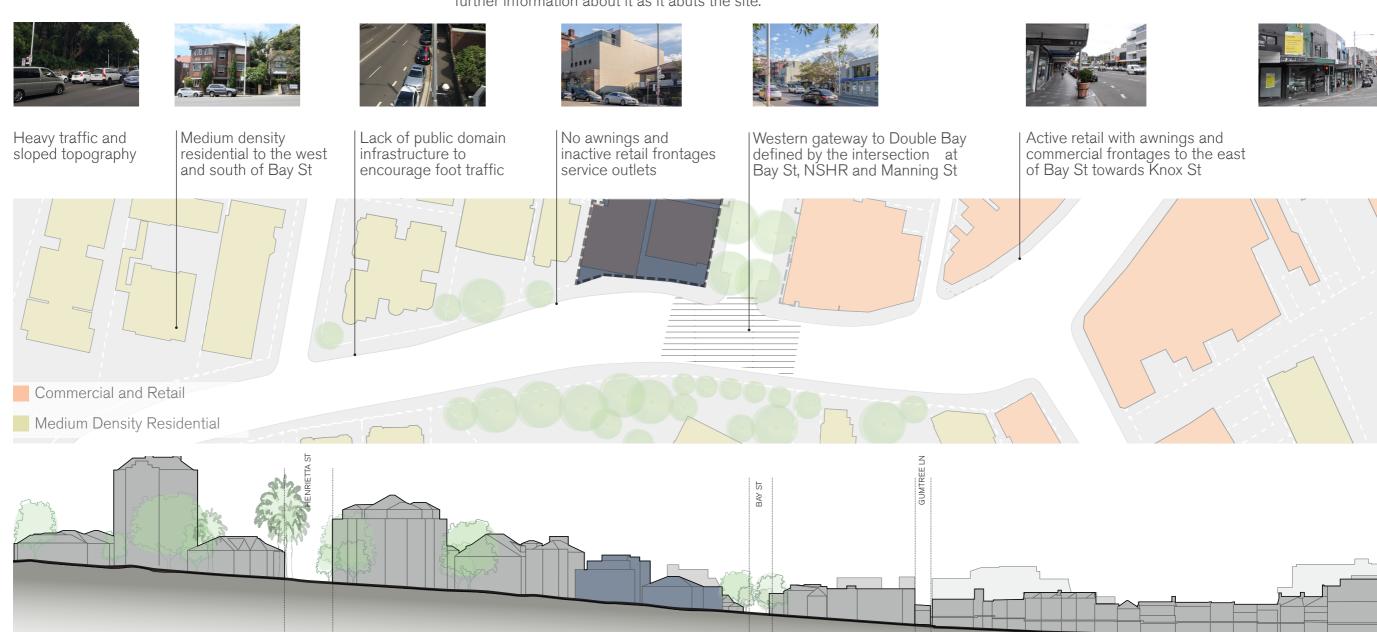


Bay St Promenade - Double Bay Wharf to New South Head Road

- 4 Area of Study
- 4.1 Precinct Context
- 4.1.3 New South Head Road

# Major road yet to reach its potential

As noted in DCP 2015, New South Head Road is a historically significant connection between the city and South Head. It traverses the Double Bay Centre where it has a strong curved form punctuated with vistas of green at either end. The quality and scale of existing buildings do not yet realise the potential of the space. The drawings below provide further information about it as it abuts the site.



### **Double Bay Character**

The Double Bay Centre is located in a large natural amphitheatre close to, but visually separated from the harbour foreshore. It sits at the base of a valley, cradled between the two ridges of Darling Point/Edgecliff and Bellevue Hill.

The principal entry into Double Bay is New South Head Road which traverses the centre. Other significant streets within the centre include Bay Street, Cross Street and Knox Street. Buildings along these major streets are typically larger in scale and built to the street boundary to provide spatial definition. The unusual street geometry of Double Bay creates prominent corner sites and significant urban spaces. Woollahra Council recognises the importance of these places and encourages well designated buildings built to the street boundary which contribute to their spatial definition.

The building stock in and around the centre reveals a cross section of architecture of varying quality. The built form of the centre reflects a mix of periods, building types and scale with no particular period predominating. The amalgamation and redevelopment of some sites within the centre have created buildings of different height and bulk to the predominant building stock with an increase in six storey buildings.

The recently approved six storey development at 374-382 New South Head Road on the corner of Knox Street provides a precedent of the desired Double Bay Centre character.

Our proposed site is identified as a prominent corner site sitting along two significant streets. Its position forms the entry to Double Bay Centre and provides the opportunity for a gateway building of five to six storeys to enhance to the spatial definition of the precinct.



Approved 6 storey corner site 374 - 382 New South Head Road

View from New South Head Road



Approved 6 storey corner site 374 - 382 New South Head Road

View from Knox Street

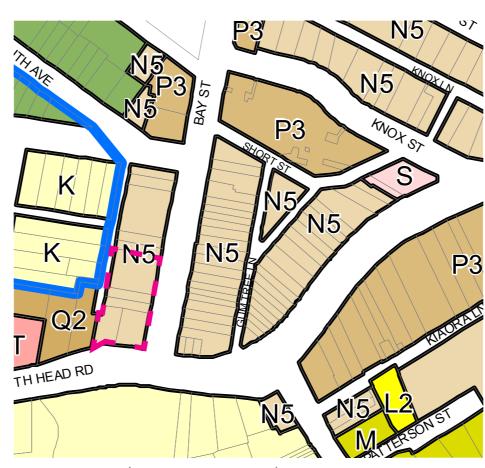
- 4 Area of Study
- 4.1 Precinct Context
- 4.1.4 Double Bay Character



4.2.1 Existing LEP

# LEP Maps

Woollahra LEP 2014 stipulates the maximum building height, maximum floor space ratio and the zoning of the site. Images below extract the relevant sections of the LEP maps.



Building Height (Woollahra LEP 2014)

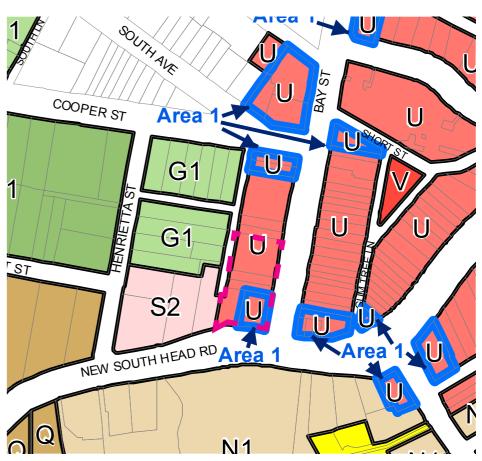
#### Maximum Building Height (m)

N5 14.7

P3 18.1

S 23.5

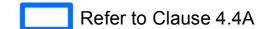




FSR (Woollahra LEP 2014)

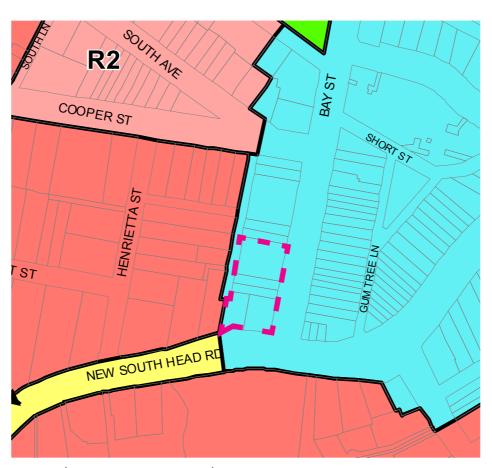
#### Maximum Floor Space Ratio (n:1)

U 2.5



4.4A - Selected corner buildings are eligible for an additional 0.5:1 of FSR under Woollahra LEP 2014, subject to meeting certain requirements. (DCP 2015)

- 4 Area of Study4.2 Site Controls4.2.1 Existing LEP



Zoning (Woollahra LEP 2014)

### Zone

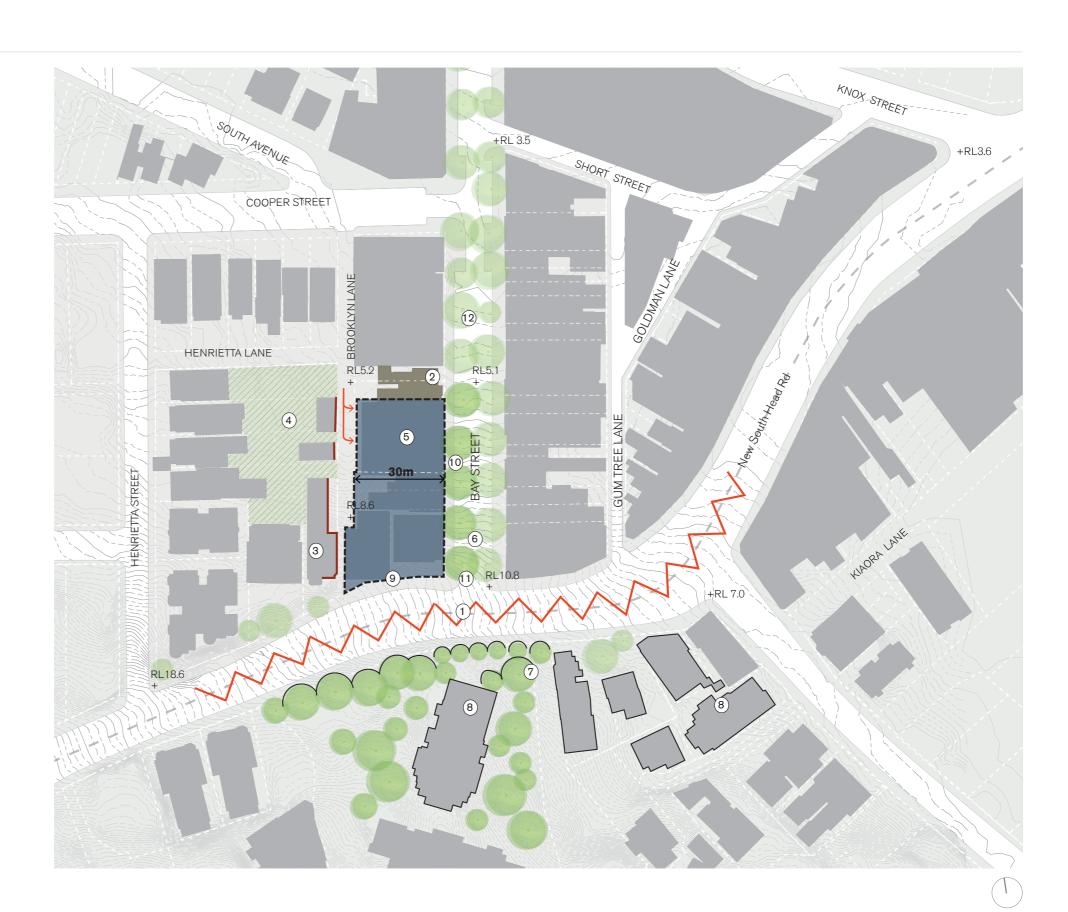
Local Centre

#### 4.3 Site Constraints

### Constraints

- 1. NSHR is busy and noisy
- 2. Scale and character of the adjoining terraces on Bay St needs to be respected
- 3. Amenity of adjoining 5 storey apartment building on NSHR site needs to be protected
- 4. Amenity of the free-standing houses on Henrietta St and Brooklyn Ln needs to be protected
- 5. Orientation and depth of the site between Brooklyn Ln and Bay St
- 6. Need to protect established trees on Bay St
- 7. Preservation of Heritage trees along NSHR
- 8. Need to protect amenity of existing apartment buildings across NSHR
- 9. No vehicular access from NSHR and no additional traffic on Bay St
- 10. Must maintain retail on Bay St
- 11. Stepping topography





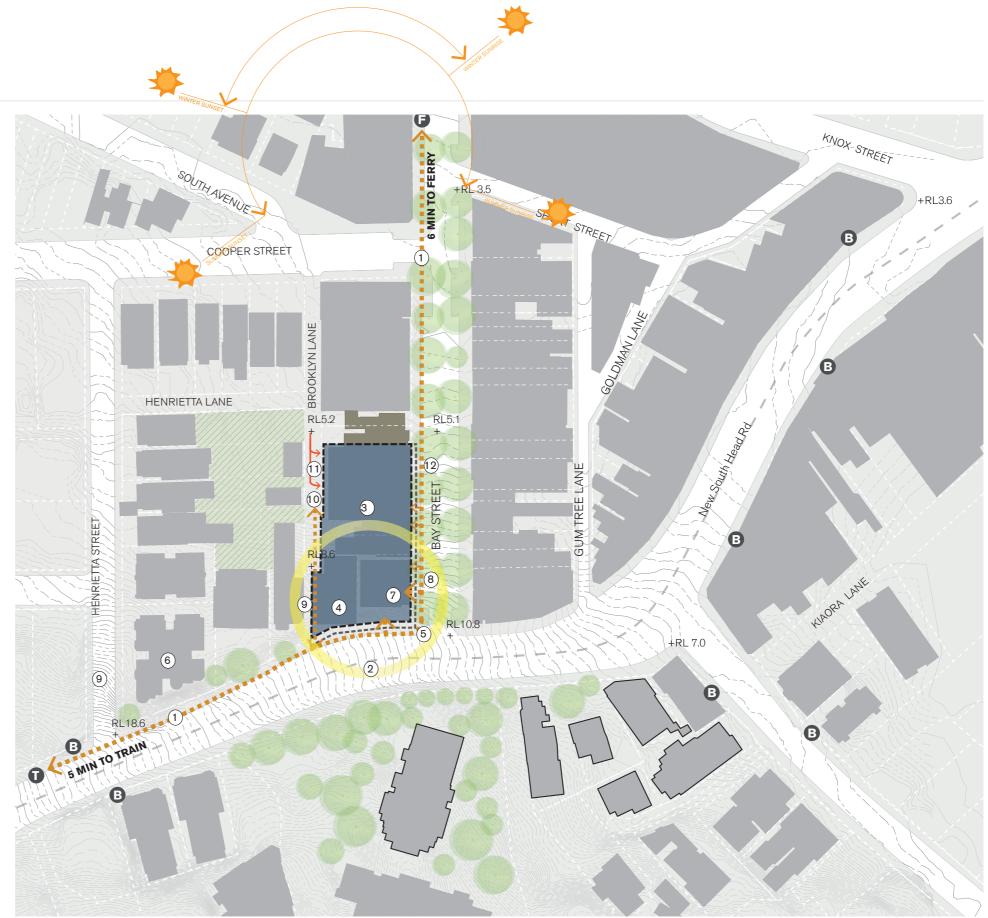
#### 4 Area of Study

#### 4.3 Site Constraints

# **Opportunities**

- 1. Excellent public transport and proximity to the rail, bus and ferry network
- 2. Western Gateway to Double Bay Commercial Centre
- 3 Increase housing diversity in Double Bay
- 4 Increase and improve existing commercial and retail uses on site
- 5. Opportunity for landmark corner retail
- 6. Precedent Multi Residential existing on NSHR
- 7. Bay St/ NSHR corner position has potential for minimum impact on existing surrounding residential buildings whilst providing high amenity north-facing apartments.
- 8. Awnings for improved public domain on Bay St and NSHR
- 9. Pedestrian through-site link from Brooklyn Lane to NSHR
- 10 Vehicular access from Brooklyn Ln and eliminate access from Bay Street
- 11 Use stepping site to accommodate underground carpark/loading
- 12. Mixed use opportunities and extending the premium retail and hospitality offer to the south of Bay St





# Summary Of Key Points

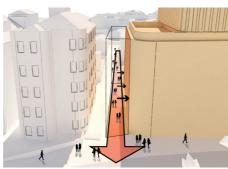
As noted in the introduction, in late 2016 Loftex acquired control of a number of commercial properties at the western end of Bay Street and on New South Head Road with a view to undertake a new redevelopment that has potential to transform this significant corner in Double Bay.

Detailed site analysis confirmed that the site is one of a kind in that it has certain distinctive qualities which make it uniquely suitable for a mixed used development with increased density and heights.

This is consistent with the recommendation contained in the 'Double Bay Economic Feasibility Study July 2015' as reported to the Urban Planning Committee on 7 September 2015 which recommended that Council reviews its existing planning controls to allow for increased building heights and FSR controls within Double Bay with each site to be

"considered on its merits... dependent on urban design testing and other environmental considerations" (Hill 2015, p.71).

The following is a summary of those key site characteristics.



Realising the potential of the Gateway Site

Public domain improvements

on NSHR.

There are sound urban design grounds for increased maximum building height on site - the site has been identified as a location for a gateway building and increased height would cause minimal negative environmental impacts to surrounding residential buildings.

A development is capable of delivering important public domain improvements, including a through site link, to provide pedestrian

connection from NSHR to Brooklyn Lane and widening of footpaths



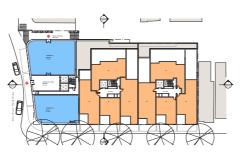
#### Activation of the important street corner

Site is prominent and visible. Opportunity exists to activate a dead corner of NSHR and complete and revitalise the retail in the southern end of Bay Street.



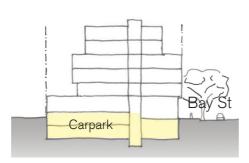
#### Design that integrates retail, residential, and commercial uses

Urban context of the site, its topography and orientation make a building envelope possible that is efficient, suitable for apartments, can maximise the internal amenity and choice of housing, and increase and further improve retail and commercial activation.



#### 4 Area of Study

#### 4.5 Site Analysis



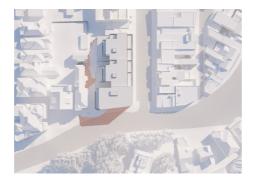
#### Below ground parking is possible

Site topography allows for below ground parking that is above the levels of the ground water and outside of the acid sulphate soils affected land. Many sites in other parts of Double Bay are very restricted in this respect.



#### No additional traffic on Bay St

Brooklyn Lane enables vehicular access to and from the site without adding traffic to Bay Street and the Double Bay Centre area. The subject site is one of the few development sites within Double Bay Centre that is unique in this respect.



#### Minimal impacts on existing residential areas

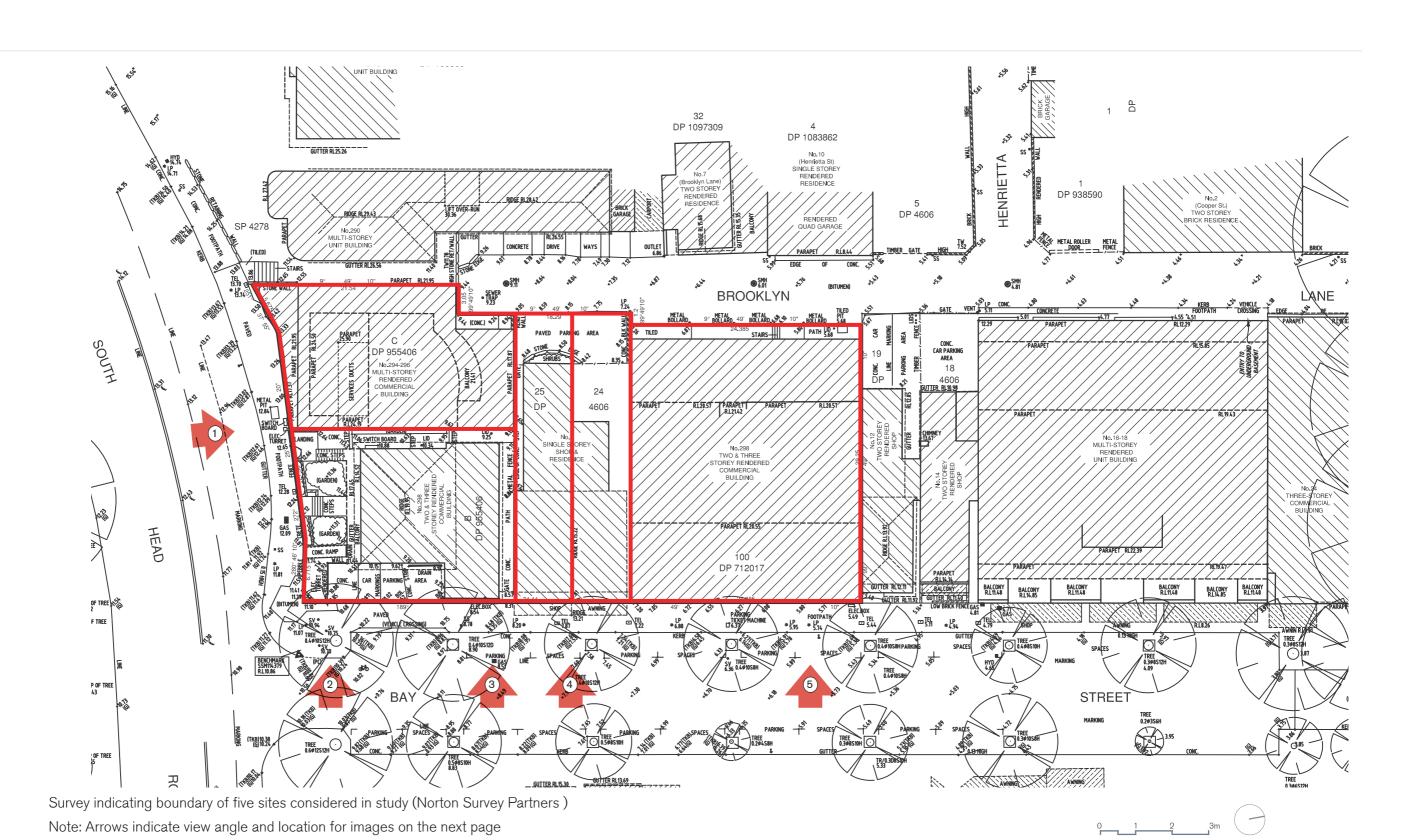
Increased height and density on site can be delivered with minimal environmental impacts on the amenity and the existing street character of Bay Street. Furthermore, the development can rejuvenate the southern end of Bay Street, and deliver a net positive outcome.



#### Excellent public transport

The site has access to excellent public transport connections including being within a short walking distance of heavy rail.





## Existing Buildings

Images below illustrate the existing condition of the existing buildings and surrounding buildings on New South Head Road and Bay Street.







View 2 Bay Street



View 3 Bay Street



View 4 Bay Street



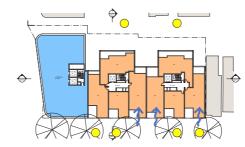
View 5 Bay Street

- Indicative Reference Scheme
- 5.3.1 Design Vision



### Village

Proposed bulk and scale needs to relate to the existing village character of Double Bay. In terms of bulk and scale, this means four storeys on Bay Street, with two storeys set-back above.



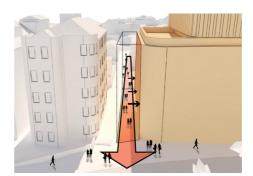
#### Amenity

The site location, orientation and topography, together with the proposed envelope shall be tested and confirmed as being capable of achieving and exceeding the required apartment amenity, as defined by SEPP 65 and ADG.



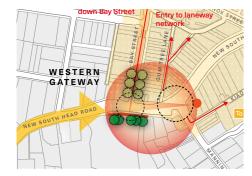
### **Employment**

Existing employment in the town centre must be preserved, protected and improved upon. The design should increase the quality and quantity of commercial floor space that already exists on site.



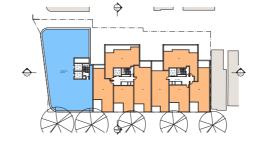
#### Public Benefit

The proposal must include important improvements to the public domain, including increasing the connectivity in the area such as providing a pedestrian link to Brooklyn lane.



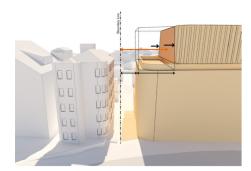
#### Gateway

Building envelope should be designed to optimise the design opportunities for a gateway building and reinforce an important entry to Double Bay retail area with a flagship corner store.



#### **Housing Diversity**

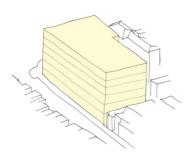
The proposed envelope must accommodate a variety of apartments types and sizes. Increasing housing opportunities to respond to increased population through varied types and sizes.



### Minimum Impact

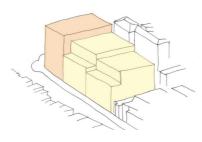
Different urban conditions around the site must be accommodated by varying the envelope appropriately. This includes a generous additional setback to the adjacent building on New South Head Road, stepped building form on Bay Street and Brooklyn Lane and providing a dedicated loading bay off the street. This will ensure minimum impact on surrounding properties whilst achieving SEPP 65 compliance.

5.3.2 Design Methodology



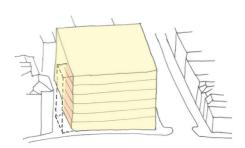
### Six Storey envelope

The site has been identified as generally suitable for a 6 storey building envelope. This forms the starting point.



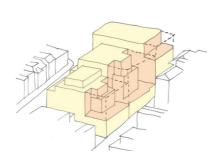
#### Locating Commercial Office Space on Corner

The building envelope must provide an opportunity for a gateway building by maintaining the 5 storeys on the corner. Commercial office space is located on the more suitable south-facing position at NSH Road, reinforcing an important entry to Double Bay retail area and providing an opportunity for a flagship corner store.



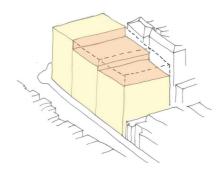
### Public benefit - through site link

The proposal includes important improvements to the public domain, including increasing the connectivity in the area by providing a pedestrian link to Brooklyn lane.



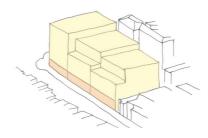
#### Setback on Brooklyn Lane

Different urban conditions around the site have been accommodated by varying the envelope. This includes a generous additional setback to the adjacent building on New South Head Road and stepped building form on Brooklyn Laneto maintain its character. This also ensures apartment layouts are not too deep so SEPP 65 and ADG compliance is achievable.



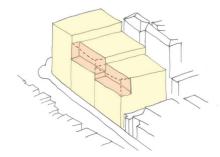
#### Responding to the topography

Sloping sites create a unique opportunity to create an interesting built form that responds to the topography and wider context. The proposed corner site has a slope in two directions along NSHR from west to east, and along Bay Street and Brooklyn Lane in a South to North direction.



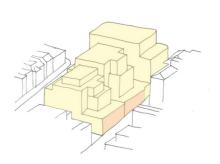
#### Active ground floors

Ground floor activation is emphasised though a series of retail spaces and high quality commercial floor area, positioned along the street frontage of Bay Street, New South Head Road and Brooklyn Lane. This improves pedestrian amenity, connectivity and street vitality of Double Bay.



# Four storeys on Bay Street and two Storeys set back above

The proposed bulk and scale on Bay Street is four storeys on the street, with two storeys set-back above, to maintain its existing village character.

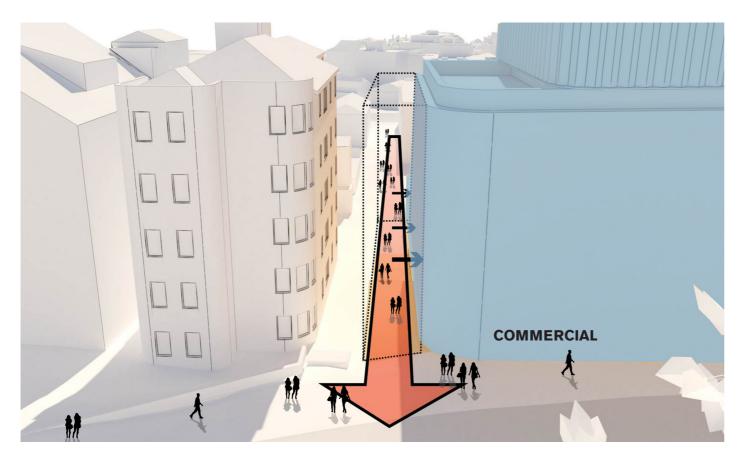


### Vehicular access off Brooklyn Lane

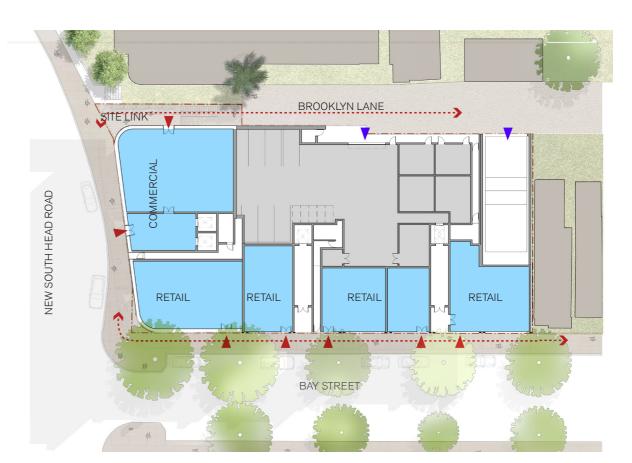
Vehicular access points are located on Brooklyn Lane including a dedicated loading bay and underground carpark entry. This enables uninterrupted retail frontage, removes existing driveways, improves the street parking and reduces traffic on Bay Street.

### Public Domain

The design emphasises ground floor activation through a series of retail zones, starting on the corner of Bay Street and New South Head Road, continuing along the length of the site facing Bay Street. This approach aligns with the vision of improving pedestrian amenity along Bay Street. A new public access pedestrian link between New South Head Road and Brooklyn Lane gives back to the public domain by further promoting connectivity and a walkable city. Commercial street frontages along New South Head Road and Brooklyn Lane enhances ground floor activation. Meanwhile vehicular access points are located on Brooklyn Lane, therefore allowing uninterrupted retail frontage on Bay Street and removing all existing driveways from Bay Street.







Retail and Commercial activation from Brooklyn Lane, New South Head Road and Bay Street

### 5.3 Indicative Reference Scheme

### 5.3.4 Analysis

### Indicative Reference Scheme

There is an opportunity to stimulate the redevelopment and revitalisation of this key site within the Double Bay Local Centre by amending the existing LEP controls for the site.

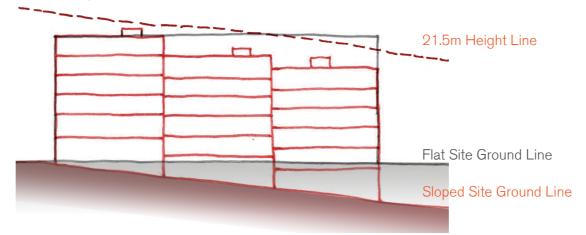
The following reference scheme follows the urban design methodology outlined in this report, and has been developed in reference to the proposed amendments to LEP controls. The purpose of this reference scheme is to demonstrate that an amendment to the controls as outlined herein can unlock the site's potential to enable the development of a sustainable mixed-use precinct.

The reference proposal delivers a sustainable increase in density through a mix of retail, commercial and residential spaces; significant public domain improvements, street activation and an improved corner condition which realises the gateway potential of the site.

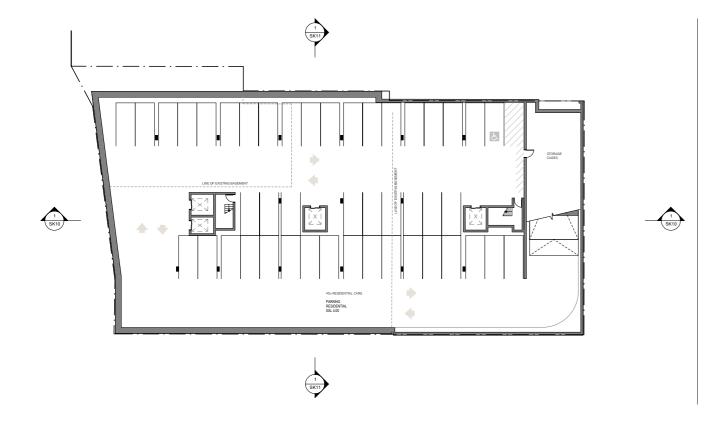
These objectives are achieved within a framework that incorporates appropriate setbacks sensitive to existing conditions with minimal impact to adjoining residential areas, no loss of amenity to the public domain or an increase in traffic to Bay Street.

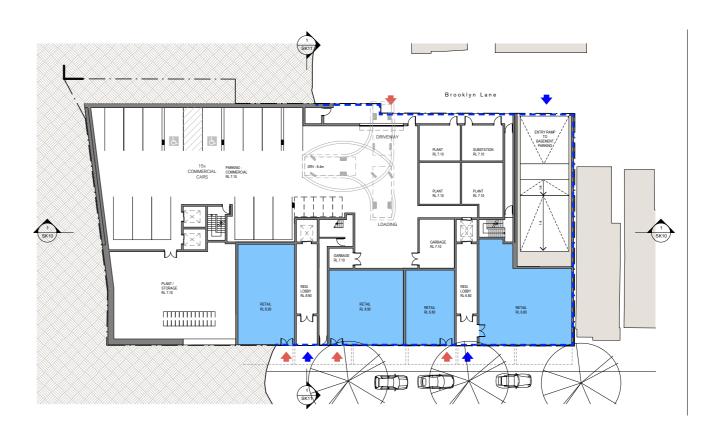
A maximum height limit of 21.5m is proposed for the subject site in order to allow for 6 storey buildings.

#### 21.5m Height Line



- 5.3 Indicative Reference Scheme
- 5.3.5 Indicative Floor Plans





Basement 1 Plan

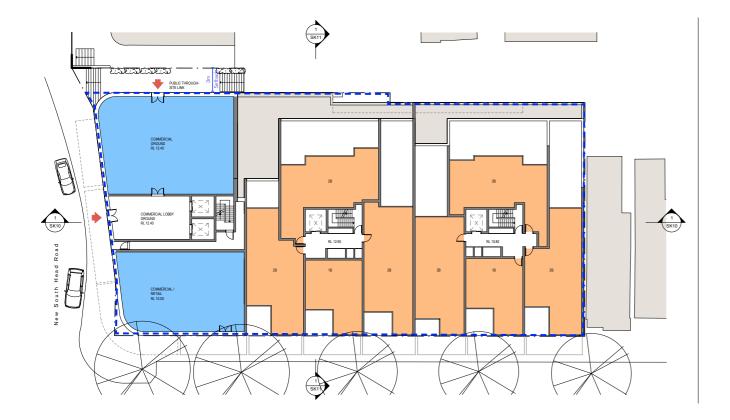
Lower Ground Plan

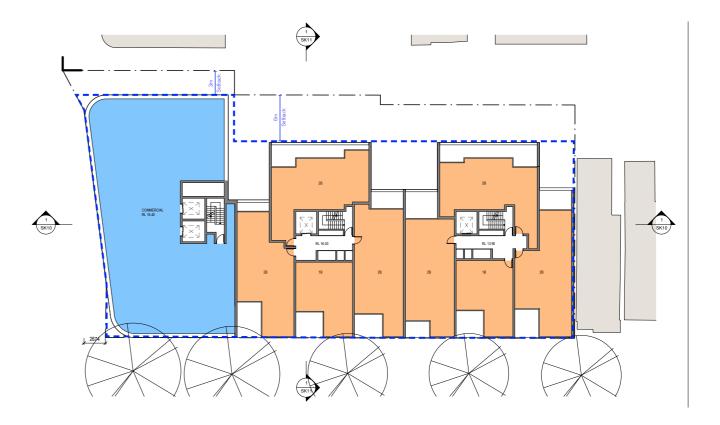
Commercial/Retail

Residential



- 5 Proposed Envelope
- 5.3 Indicative Reference Scheme
- 5.3.5 Indicative Floor Plans

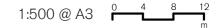




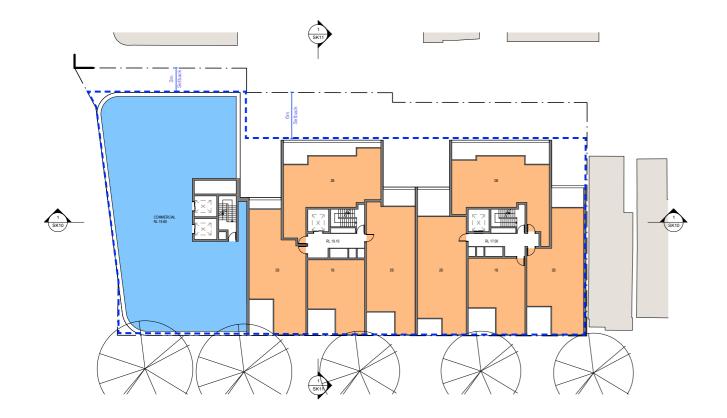
Upper Ground Plan Level 1 Plan

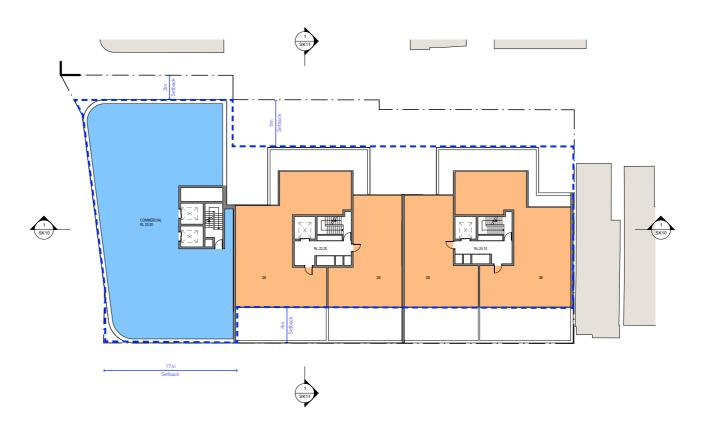
Ocommercial/Retail

Residential



- 5 Proposed Envelope
- 5.3 Indicative Reference Scheme
- 5.3.5 Indicative Floor Plans

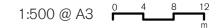




Level 2 Plan Level 3 Plan

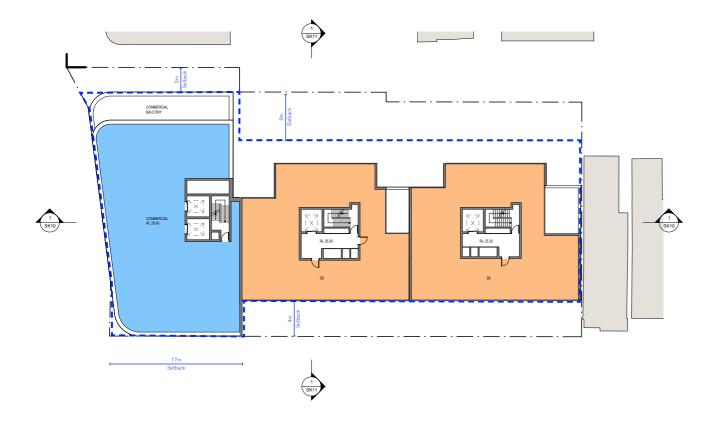
Commercial/Retail

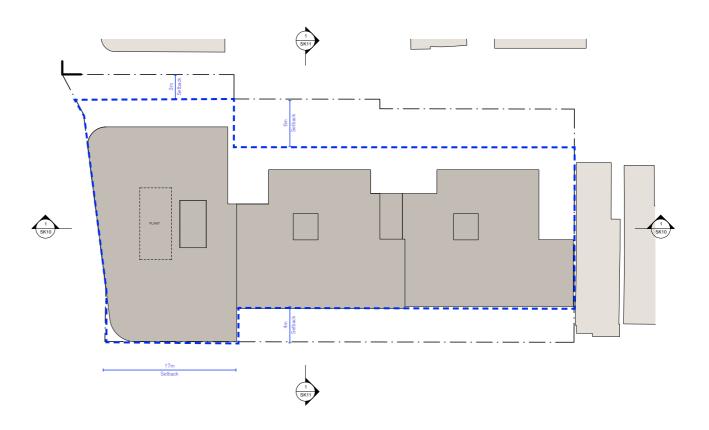
Residential



5.3 Indicative Reference Scheme

5.3.5 Indicative Floor Plans





Level 4 Plan Roof Plan

Ocommercial/Retail

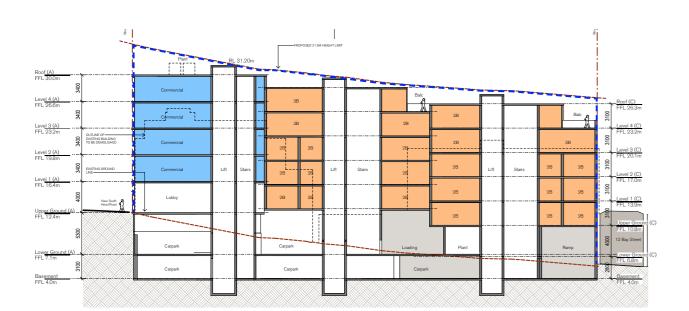
Residential

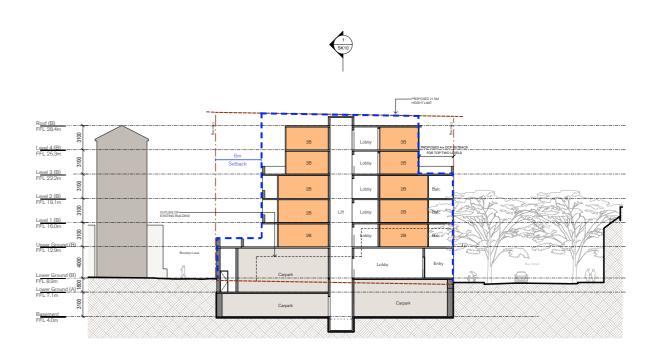
---- Proposed maximum envelope

1:500 @ A3 0 4 8 12

5.3 Indicative Reference Scheme

5.3.6 Indicative Sections

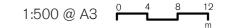




Section A-A East West Section B-B North South

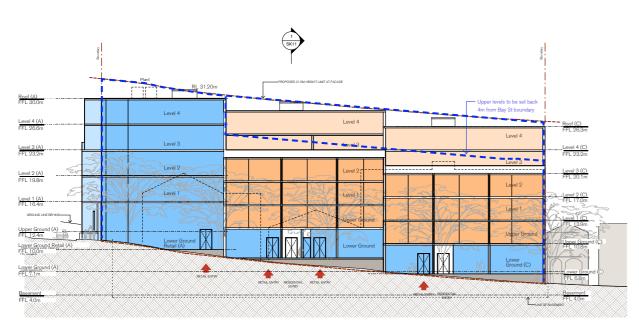
Commercial/Retail

Residential

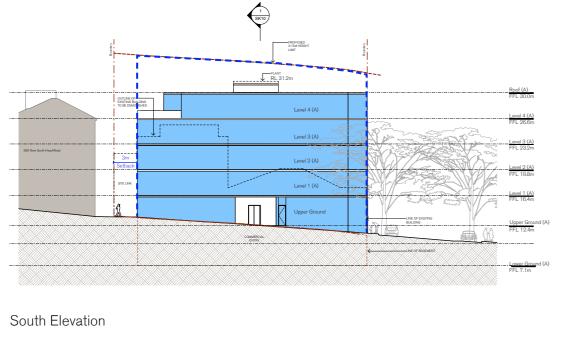


5.3 Indicative Reference Scheme

5.3.5 Indicative Elevations

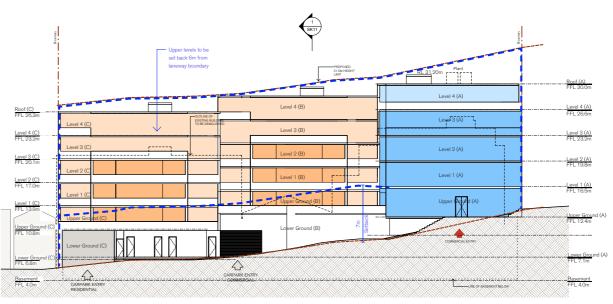


East Elevation

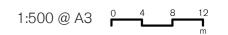


Retail/Commercial

Residential



West Elevation



### 5.3 Indicative Reference Scheme

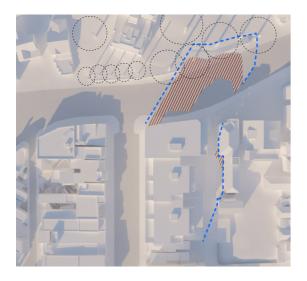
### 5.3.8 Area Schedule

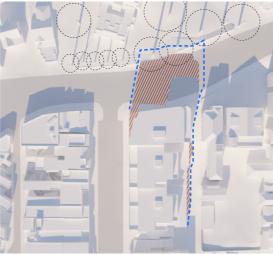
| Commercial (Retail) | Lower Ground | 90  |
|---------------------|--------------|-----|
| Commercial (Retail) | Lower Ground | 90  |
| Commercial (Retail) | Lower Ground | 55  |
| Commercial (Retail) | Lower Ground | 123 |
| Commercial (Retail) | Upper Ground | 135 |
| Commercial          | Upper Ground | 274 |
| Residential         | Upper Ground | 675 |
| Commercial          | Level 1      | 430 |
| Residential         | Level 1      | 675 |
| Commercial          | Level 2      | 430 |
| Residential         | Level 2      | 675 |
| Commercial          | Level 3      | 430 |
| Residential         | Level 3      | 560 |
| Commercial          | Level 4      | 370 |
| Residential         | Level 4      | 535 |

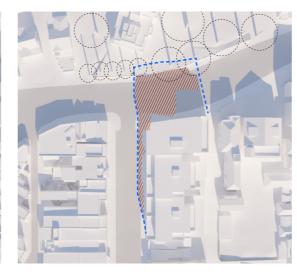
| Commercial                       | 1934 | 1.03:1 |  |
|----------------------------------|------|--------|--|
| Retail                           | 493  | 0.26:1 |  |
| Combined Commercial and Retail   | 2427 | 1.3:1  |  |
| Residential (Including communal) | 3120 | 1.7:1  |  |
|                                  |      |        |  |

5.3 Indicative Reference Scheme

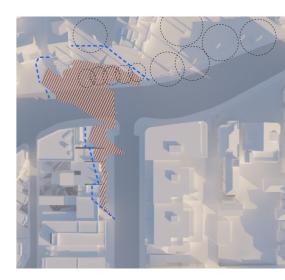
5.3.9 Shadow Study











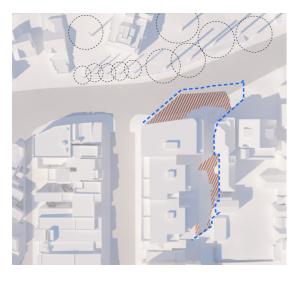
Winter 9am

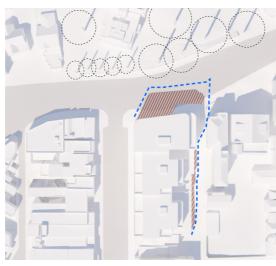
Winter 10:30am

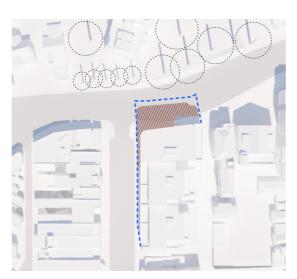
Winter 12pm

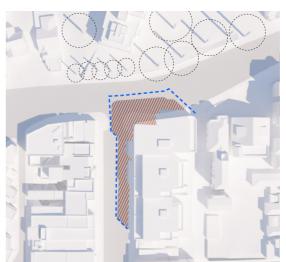
Winter 1:30pm

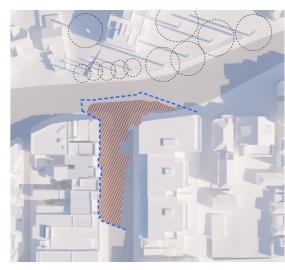
Winter 3pm











Equinox 9am

Equinox 10:30am

Equinox 12pm

Equinox 1:30pm

Equinox 3pm

03. Ensure the building envelope does not cause negative impacts on amenity and neighbouring buildings, maintaining 3hrs of sunlight.

- Concept Scheme Overshadowing
- Maximum Envelope Overshadowing

5.3.10Sepp65 Notes

### Solar access and cross ventilation

With careful apartment layout planning and presentation, the indicative reference scheme will achieve the SEPP 65 requirements for both solar access and cross ventilation.

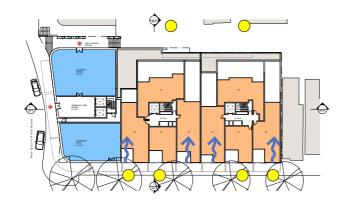
| Upper Ground | 8 | 4 | 6 |
|--------------|---|---|---|
| Level 1      | 8 | 4 | 6 |
| Level 2      | 8 | 4 | 6 |
| Level 3      | 4 | 4 | 4 |
| Level 4      | 2 | 2 | 2 |

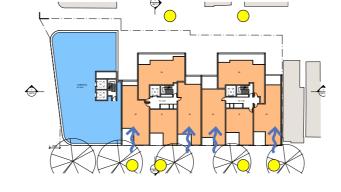
○ Solar access to apartment >2hrs

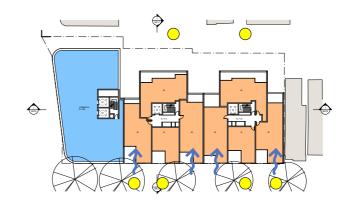
Cross-ventilated apartment

5.3 Indicative Reference Scheme

5.3.10SEPP65 Notes



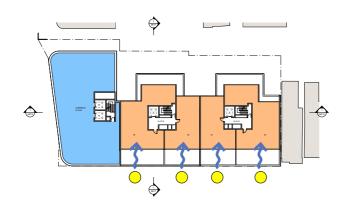


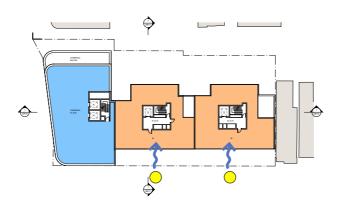


Upper Ground plan

Level 1 Plan

Level 2 Plan





Level 3 Plan

Level 4 Plan



View West from New South Head Road

Concept Scheme Envelope

- Maximum Envelope

5.3 Indicative Reference Scheme

5.3.11 Volumetric Study



View East from New South Head Road

Concept Scheme Envelope

Maximum Envelope