

21-41 CANBERRA AVE + 18-32 HOLDSWORTH AVE ST LEONARDS SOUTH

**PLANNING PROPOSAL
URBAN DESIGN, ARCHITECTURE AND LANDSCAPE REPORT
DOCUMENT NO. S12199-001**

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BATESSMART™

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	CONTENTS	
1.0	INTRODUCTION	02
2.0	PLANNING CONTEXT	04
3.0	SITE AND CONTEXT ANALYSIS	06
4.0	DESIGN CONCEPT	10
5.0	PROPOSED MASTERPLAN	12
6.0	APARTMENT LAYOUTS	14
7.0	LOWER GROUND	16
8.0	UPPER GROUND	18
9.0	LANDSCAPE	20

APPENDICES

A – Architectural drawings

B – Landscape design report

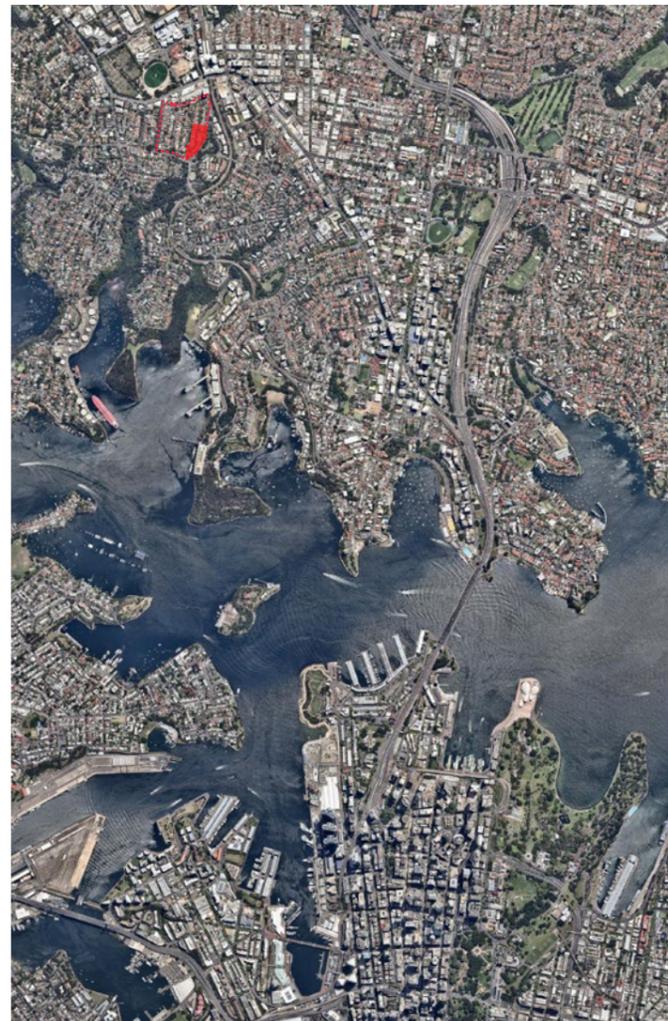


1.0 INTRODUCTION

Our vision is for a sustainable and permeable residential precinct that celebrates the site's location at the transition from the high-density transit-oriented development around St Leonards station to the bushland corridor of Berrys Creek in Wollstonecraft.

Our massing approach proposes a series of stepped and staggered forms which adopt the street alignment of the local area but present an open and expressive form to Newlands Park.

Townhouse typologies activate a highly connected ground plane which includes two east-west accessible links connecting Holdsworth and Canberra Avenues, and proposes to increase the size of council's Holdsworth Avenue Pocket Park.



DEVELOPMENT SUMMARY

Floor Space

Total Site Area	12,653 m ²
Allowable FSR	2.75:1 / 3.00:1
Maximum Residential GFA	35,882 m ²

Indicative Residential Mix

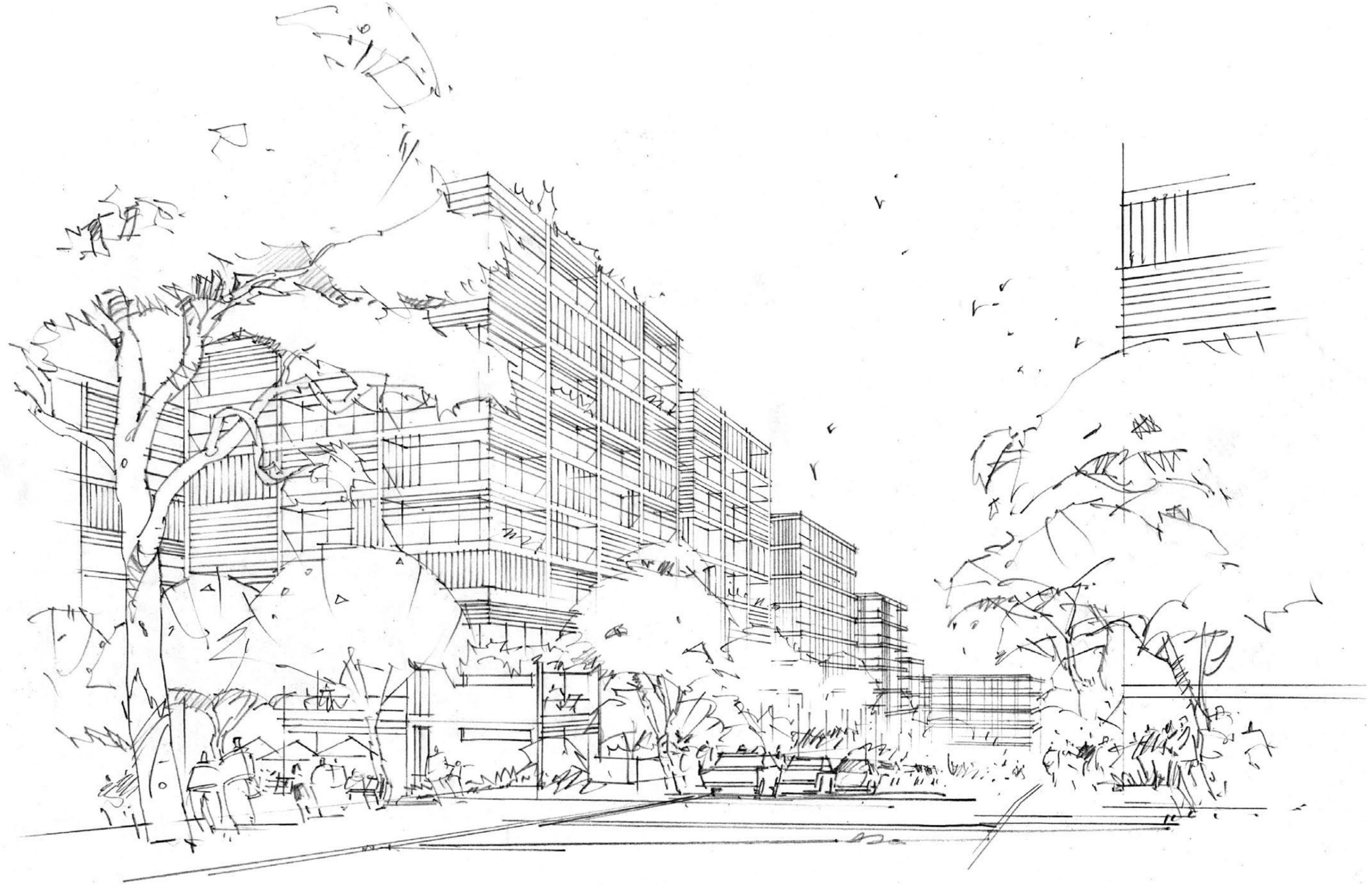
Dwellings	350 - 375 units
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Indicative Car Parking

Parking spaces	387 - 518 spaces
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This design report has been prepared by Bates Smart Architects for Top Spring Australia and forms part of the Planning Proposal for 21-41 Canberra Avenue and 18-32 Holdsworth Avenue within the St Leonards South precinct in Lane Cove.

This report should be read in conjunction with the Planning Proposal prepared by Mecone and supporting documentation.



VIEW FROM HOLDSWORTH AVENUE LOOKING SOUTH

2.0 PLANNING BACKGROUND

2.1 REGIONAL CONTEXT

2.1.1 A METROPOLIS OF THREE CITIES – THE GREATER SYDNEY REGION PLAN

A Metropolis of Three Cities was finalised in March 2018 and outlines a vision for the Greater Metropolitan Sydney region to 2056 with a 20 year plan to support this vision. The Plan states that Greater Sydney is growing and that by 2036, the NSW Government will need to deliver over 725,000 new homes for an additional 1.36 million people, and places for 817,000 additional jobs.

The Plan outlines directions for:

- / Providing housing supply, choice and affordability with access to jobs, services and public transport;
- / Delivering integrated land use and transport for a 30 minute city;
- / Creating and renewing great places and local centres;
- / Increasing urban tree canopy and delivering Green Grid connections;
- / Growing targeted economic sectors and preserving employment lands;
- / Reducing carbon emissions and managing energy water and waste efficiently; and,
- / Planning for a city supported by infrastructure.

The Plan proposes that in order to deliver these new homes, housing and infrastructure, policy will need to adapt to ensure that Sydney is:

- / A city of housing choice, with homes that meet our needs and lifestyles. Urban renewal is essential to meet the demand for new housing in Sydney;
- / Supported by local centres which are a focal point for neighbourhoods, integrate public transport access and provide day-to-day services for local populations; and
- / A great place to live with communities that are strong, healthy and well connected and where streets are streets and public places are activated.

Growth centred around strategic centres is essential for the successful delivery of the Plan's priorities and objectives. The Plan includes a focus for strategic centres to support residents through the provision of accessible retail, employment and services available with walkable catchment and with good levels of accessibility.

St Leonards is located in the North District of Greater Metropolitan Sydney. St Leonards is identified as a Strategic Centre and major asset along the well-connected Eastern Economic Corridor from Macquarie Park to Sydney Airport.

2.1.2 NORTH DISTRICT PLAN

In March 2018, the Greater Sydney Commission also finalised the North District Plan, setting out priorities and actions for Greater Sydney's North District.

The proposed priorities and actions for a productive and liveable North District focused on planning a city of people and of great places as well as a supply of a range of housing and employment opportunities. It is guided by the aim of establishing 30-minute cities, where people are 30 minutes from jobs and services by public transport and 30 minutes from local services by active transport. This is projected to be achieved by responding to the planning priorities outlined in the District Plan.

St Leonards is identified in the District Plan as a Strategic Centre and as a health and education precinct. The Centre is anticipated to have job growth from an estimated 47,100 jobs in 2016 to between 54,000 and 63,500 jobs by 2036. The relevant approaches set to strengthen St Leonards include:

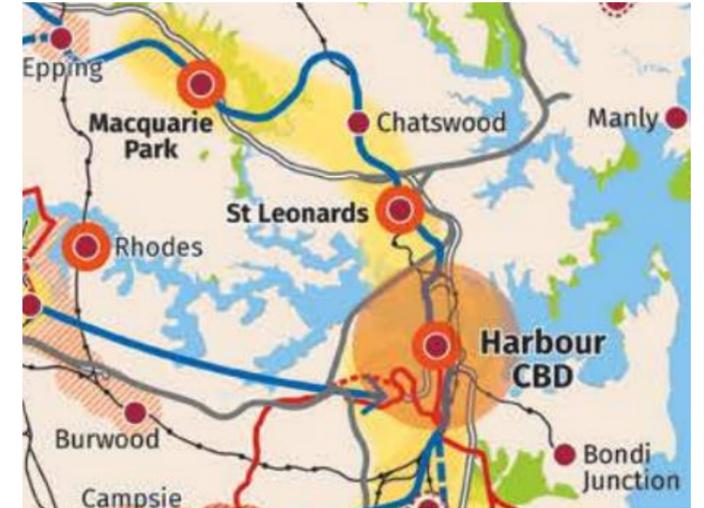
- / Leverage the new Sydney Metro Station at Crows Nest to deliver additional employment capacity;
- / Grow jobs in the centre;
- / Reduce the impact of vehicle movements on pedestrian and cyclist accessibility; and
- / Deliver new high quality open space, upgrade public areas, and establish collaborative place-making initiatives.

While the St Leonards Strategic Centre is outlined for commercial and services growth, the District Plan also outlines the need for additional housing in close proximity to centres and services. A housing supply target is set for the Lane Cove LGA for an additional 1,900 dwellings to be delivered between 2016 and 2021, which includes the dwellings identified by Lane Cove Council to be delivered in the St Leonards South precinct.

Relevant Planning Priorities outlined in the District Plan include:

- / Planning Priority N1: Planning for a city supported by infrastructure
- / Planning Priority N2: Working through collaboration
- / Planning Priority N3: Providing services and social infrastructure to meet people's changing needs
- / Planning Priority N4: Fostering healthy, creative, culturally rich and socially connected community
- / Planning Priority N5: Providing housing supply, choice and affordability with access to jobs, services and public transport
- / Planning Priority N6: Creating and renewing great places and local centres, and respecting the District's heritage
- / Planning Priority N8: Eastern Economic Corridor is better connected and more competitive
- / Planning Priority N9: Growing and investing in health and education precincts
- / Planning Priority N12: Delivering integrated land use and transport planning and a 30-minute city
- / Planning Priority N19: Increasing urban tree canopy cover and delivering Green Grid connections
- / Planning Priority N20: Delivering high quality open space
- / Planning Priority N21: Reducing carbon emissions and managing energy, water and waste efficiently
- / Planning Priority N22: Adapting to the impacts of urban and natural hazards and climate change

Both Council's existing strategic planning priorities for St Leonards South, and the subject Planning Proposal are strongly consistent with the above Planning Priorities, which is demonstrated in the subject Planning Proposal report.



GREATER SYDNEY REGION PLAN 2018
Source: Greater Sydney Commission

Legend

- Metropolitan Centre
- Metropolitan Cluster
- Health and Education Precinct
- Strategic Centre
- Economic Corridor
- Trade Gateway
- Western Sydney Employment Area
- Land Release Area
- Transit Oriented Development
- Urban Renewal Area



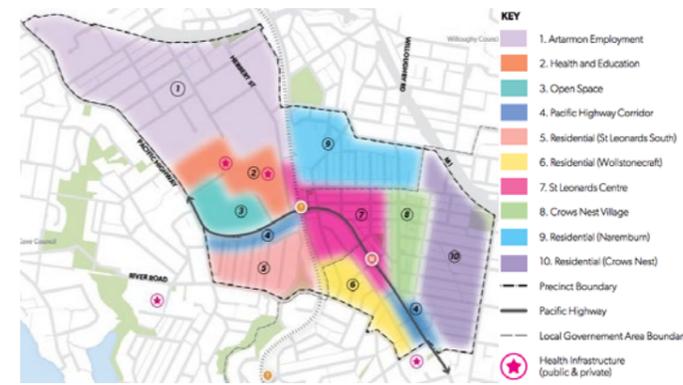
ST LEONARDS STRATEGIC CENTRE
Source: Greater Sydney Commission

Legend

- Train station
- Committed Sydney Metro station
- Public open space
- Indicative location of existing jobs and services in centre



PROPOSED BUILDING ENVELOPES FOR THE ST LEONARDS SOUTH RESIDENTIAL PRECINCT
Source: Lane Cove Council



PROPOSED CHARACTER AREAS IN INTERIM STATEMENT
Source: DPE

2.2 STRATEGIC PLANNING CONTEXT

2.2.1 ST LEONARDS SOUTH RESIDENTIAL PRECINCT PLAN (COUNCIL LED)

A Masterplan Study was undertaken by an external consultant on behalf of Lane Cove Council in December 2014 to recommend a development strategy for the area of land bounded by the Pacific Highway, Greenwich Road, River Road and the railway line – an existing low rise residential precinct within immediate proximity of St Leonards Station. The precinct was recognised as an appropriate location to accommodate growth, aligned with the then Sydney Metropolitan Strategy directions for housing growth close to services and transit-oriented development.

On 13th July 2015, Council resolved to amend and support the St Leonards South Master Plan, and the proposed Lane Cove Local Environmental Plan (LEP) amendment, to permit the rezoning of a portion of the precinct for the purposes of higher density residential development (bounded by Canberra Avenue, Marshall Avenue, Park Road and River Road). The draft LEP amendments were endorsed by the State Government's 'Gateway' process in September 2016, subject to a number of supporting studies being undertaken. These studies were undertaken for Design, Transport and Accessibility, Heritage, Economic Review, Contributions, Community Facilities and other factors. Public exhibition for the St Leonards South Residential Precinct Draft Plans (the Draft Plan) and supporting studies was held in late 2017 through to January 2018.

In March 2018, a Gateway extension to complete the St Leonards South Planning Proposal was granted to Council to allow for the release and consideration of the 'St Leonards / Crows Nest Planned Precinct Draft Lane Use Infrastructure and Implementation Plan'. This amended Gateway approval required that the NSW Government's then-titled 'Land Use and Infrastructure Plan' (LUIP) for the wider lands within the Crows Nest and St Leonards 'Planned Precinct' be publicly exhibited.

Draft Lane Cove LEP, DCP and Landscape Masterplan

The proposed controls within the draft LEP and DCP include the following key changes to the precinct:

- / Rezoning of the land from R2 Low Density Residential Zone to R4 High Density Residential and some RE1 Public Recreation;
- / Incentive Height and FSR controls triggered by:
 - Nominated amalgamation packages; and
 - Land dedication to community infrastructure including pedestrian paths, roads, open space and facilities.
- / Revised built form controls for setbacks, height in storeys, open space and landscaping, basement parking, and pedestrian and vehicle access.

The key draft controls specific to the subject land for this Planning Proposal are:

Control	Areas 7 & 8	Areas 9, 10 & 11
Zoning	R4 High Density Residential	R4 High Density Residential
Incentive height	37m	15m to 31m
Incentive FSR	3:1	2.75:1
Amalgamation of lots	Area 7: 21, 23, 25 Canberra Ave Area 8: 18, 20, 22, 24 Holdsworth Ave	Area 9: 27, 27A, 29, 31 Canberra Avenue Area 10: 26, 28, 30 Holdsworth Ave Area 11: 33, 35, 37, 39, 41 Canberra Ave + 32 Holdsworth Avenue
Public benefit outcomes	15m wide east-west through-site link at Area 7 & 8 northern boundary New north-south green spine connection through centre of site	6m wide east-west pedestrian pathway in Area 9 between Canberra Avenue and Holdsworth Avenue New north-south green spine connection through centre of site

It is also noted that the subject Planning Proposal assumes that the current draft DCP controls for the St Leonards South precinct will progress and demonstrates its ability to be generally consistent with these DCP controls, including:

Control	Areas 7 & 8	Areas 9, 10 & 11
Minimum lot sizes	Area 7 - 2,500 m ² Area 8 - 2,500 m ²	Area 9 - 2,500 m ² Area 10 - 1,500 m ² Area 11 - 4,000 m ²
Public benefit outcomes	15m wide east-west through-site link at Area 7 & 8 northern boundary New north-south green spine connection along Area 7 and 8 shared boundary	6m wide east-west pedestrian pathway in Area 9 New north-south green spine connection along Area 9 and 10 shared boundary
Building setbacks	Fronting Canberra Avenue and Holdsworth Avenue: 4m on street level +3m at and above Level 6	Fronting Canberra Avenue and Holdsworth Avenue: 4m on street level +3m at and above Level 6 Fronting River Road: 10m on street level +7m at Level 4 and 5 +7m at and above Level 6

2.2.2 ST LEONARDS AND CROWS NEST PLANNED PRECINCT (STATE GOVERNMENT LED)

In July 2016, the then Minister for Planning announced the strategic planning investigation of the St Leonards and Crows Nest Station Precinct ('the Precinct'). The Precinct is identified as a Strategic Centre in the North District Plan, and holds a unique opportunity for renewal and activation due to its importance as a key employment centre in Sydney and the new Sydney Metro station set to open in 2024. The Department of Planning and Environment (DPE) has been progressing a precinct wide strategy to guide future development in the area.

Exhibition of the planning statement in Sept. 2017

In August 2017, DPE released an Interim Statement for the St Leonards and Crows Nest Precinct, identifying the key assets, employment review, draft vision, objectives, guiding principles, character areas,

The key opportunities and key considerations for the Residential - St Leonards South character area (Area 5 opposite) were outlined as:

- / St Leonards South is proposed to be a higher density residential area over time;
- / Increased densities will be focused on those areas closest to St Leonards station; and
- / Key matters for consideration include traffic, access and connections, provision of open space, schools and minimising overshadowing

Second Exhibition – 2036 plan – November 2018 (originally a LUIP)

As noted above, the most recent Gateway approval for the St Leonards South precinct required further exhibition of the wider LUIP for St Leonards and Crows Nest 'Planned Precinct'.

This draft planning package for St Leonards and Crows Nest 2036 Plan was placed on exhibition from October 2018 until 8th February 2019. The draft planning package includes:

- / Draft Local Character Statement
- / Draft 2036 Plan
- / Draft Green Plan
- / Draft Special Infrastructure Contribution
- / Draft proposed rezoning for the Crows Nest Metro station site

Critically, the draft 2036 Plan recommends that Lane Cove Council's Planning Proposal for St Leonards South Residential Precinct be sent for review by the Independent Planning Commission (IPC) to ensure consistency with the wider Priority Precinct directions.

The Plan recommends the following Design Principles be considered by the independent panel:

- / Consider accessibility to St Leonards and Crows Nest Stations;
- / Minimise overshadowing of public open space and streets with a significant public domain function within and outside of the Plan boundary;
- / Minimise overshadowing of Heritage Conservation areas and residential areas outside of the Plan boundary;
- / Ensure new open spaces improve connections to existing surrounding open spaces;
- / Improve active transport connections;
- / Consider cumulative traffic impacts; and
- / Transition buildings appropriately to lower scale buildings.

In a letter issued from the Minister to IPC dated 20 December 2018, the following was requested for consideration:

- / To provide advice on the planning proposal's consistency with the vision and design principles of the draft 2036 Plan having regard to matters raised in public submissions as well as the need for the proposal to meet Council's housing targets;
- / To consider the scale of residential development contained in the proposal and whether the whole site needs to be rezoned to meet housing targets identified by the Greater Sydney Commission;
- / To provide advice on whether some staging of the proposal is appropriate; and
- / To consider holding a public meeting after the closure of exhibition of the draft 2036 Plan given the public interest in the planning proposal and draft 2036 Plan.

The next steps in the process for the St Leonards and Crows Nest precinct include the following:



PROPOSED NEXT STEPS FOR THE PRECINCT
Source: DPE

3.0 SITE + CONTEXT ANALYSIS



- Key
- St. Leonards South Masterplan
 - Site Boundary
 - Railway line

LOCAL CONTEXT

St Leonards South is a 6 hectare precinct located immediately south-west of the St Leonards Strategic Centre. It is proposed to be rezoned from a low density residential precinct to R4 High Density Residential. The existing housing precinct is bounded by the rail line south of St Leonards Station, Marshall Avenue, the eastern side of Park Road and the northern side of River Road.

The local open space context includes the following areas of existing open space in close proximity to the site:

- / Gore Hill Oval (3.3 Ha): a sports oval surrounded by mature trees which is subject to a potential upgrade by Willoughby Council including play area, half court, fitness equipment, picnic shelter and possible indoor multi-use sports facility;
- / Newlands Park (1 Ha): including open lawn areas and a playground within a setting of mature trees;

The existing character of the site is largely determined by its topography, vegetation and built form. The significant grade changes both north-south and west-east provide for varied views, elevated in places. The existing tree cover, in both public and private ownerships, creates a green, leafy character. Street tree planting, where well established, tends to limit expansive views in some directions whilst focusing views down the streets. The suburb generally has a leafy and relatively tranquil character which will be retained through retention of significant tree planting along streets and in public and private open space.



PICTURED

- 1 / Canberra Avenue looking south
- 2 / Newlands Park
- 3 / 39/41 River Road property
- 4 / Southern end of Holdsworth Avenue
- 5 / Canberra Avenue looking south
- 6 / 19 Canberra Avenue
- 7 / Southern end of Canberra Avenue
- 8 / Holdsworth Avenue looking north



THE SITE

The site is approximately 1.26 hectares in size and currently accommodates 20 residential lots, comprising a mix of one to two storey dwellings fronting Canberra Avenue and Holdsworth Avenue to the north.

Immediately to the north and west of the site are other similar one to two storey residential dwellings. Newlands Park lies to the south east.

The lot ownership is consistent with Areas 7-11 defined in Lane Cove Council's planning proposal and draft rezoning, with the exception of 19 Canberra Avenue and 16 Holdsworth Avenue which have not been acquired.

TOPOGRAPHY

The site has considerable level change falling over 9m west to east and 21m north to south. Holdsworth Avenue, on the western boundary falls 8.6m while the Long Canberra Avenue frontage falls 10.4m.



PUBLIC DOMAIN ENHANCEMENTS

The existing site is bounded by River Road, Canberra Ave, Holdsworth Ave, and a pedestrian link connecting Holdsworth Ave to River Road.

Council's draft rezoning includes a series of public domain upgrades to enhance the landscape character of the local area. The end of Holdsworth Avenue is to be closed and turned into a pocket park, and a new east/west through site link will connect Berry Road and Holdsworth Ave to Newlands Park. Council's draft rezoning proposes a 15m wide link on the land immediately north of the site.



COUNCIL'S DESIRED FUTURE CONTEXT

The draft DCP prepared for Lane Cove Council's proposed rezoning includes indicative massing shown above. While the draft DCP proposed 8 storeys on Areas 9-11 and 10 storeys on Areas 7-8, it allows for any area lost due to the steep crossfalls to be transferred to the top of the buildings. This results in 8-12 storey buildings which are set back 4m from street frontages, with a further 3m setback above level 5. Massing on areas 7-10 is aligned with the street frontage while massing on area 11 – a triangular site – shows a largely orthogonal floorplate stepped away from Canberra Avenue.

4.0 DESIGN CONCEPT



OPEN SPACE STRATEGY

The ground level open space offers a mix of public, private and communal open space. Alongside council's proposed pocket park, an additional area of open space is provided in the location of several retained significant trees. Flanking these spaces is a 6m wide through site link connecting Holdsworth Avenue to Newlands Park. To the north of the link is communal open space for residents' use. Along the northern edge of the site, buildings have been set back to provide a 15m link to be dedicated to council. In future, this link could be consolidated with council's proposed link to provide a 30m wide park. Council's draft rezoning includes an arborists assessment of existing trees. The diagram above identifies significant trees recommended for retention.

- Significant trees to be retained
- Significant tree to be removed



STEPPED AND STAGGERED FORM

The proposed building form continues the massing strategy further up the hill, with a series of small scale forms stepped and staggered down the hillside. Buildings retain the alignment of the suburb's street grid, stepping only in section on Holdsworth Ave but in both plan and section on Canberra Ave. At the northern end of the site, potential massing has been relocated from the 15m link to provide a defined edge to the southern edge of the potential park. This stepped form presents a series of open corners to the Newlands Park frontage, a more outward looking expression than the more formal streetwalls within the masterplan street network.



HUMAN SCALED STREET INTERFACE

At the base of the buildings, a two-storey townhouse expression provides activation and human scale to the street network and park frontage.



PROPOSED ENVELOPES

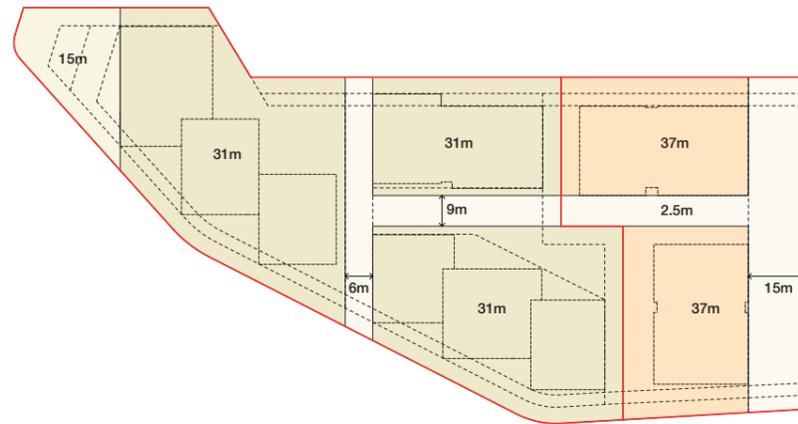
The proposed height controls are consistent with Council's draft rezoning. The three southern blocks proposed a height limit of 31m while the northern sites propose a maximum height limit of 37m. The proposed envelopes will be set back 4m from each of the street frontages and a further 3m above Level 5. Along the River Road frontage the envelope is stepped further to mitigate overshadowing of the residential area to the south.

5.0 PROPOSED MASTERPLAN

In keeping with the massing approach of the broader St Leonards South precinct, the masterplan proposed a series of small footprint rectangular forms which stagger in plan and step down the hillside. Building heights vary from 7-11 storeys as the massing steps down the hill, however all are accommodated below the 31m and 37m height limits.

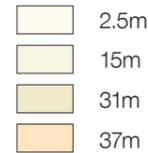
Consistent with the proposed building envelopes, buildings are set back a minimum of 4.5m from side boundaries and 4m from street frontages. The buildings are arranged to present an open outlook of expressed corners towards Newlands Park and a more structured streetwall to Holdsworth Avenue.

The landscape strategy proposes an extension of the Holdsworth Avenue Pocket Park, a 6m wide through site link connecting Newlands Park to the Pocket Park, a 15m through site link on the northern edge, a communal open space in the green spine and a series of private garden terraces fronting Canberra Avenue and Holdsworth Avenue. The stepped roof profile provides seven distinct roof terraces for communal use by the residents.



PROPOSED HEIGHT MAP

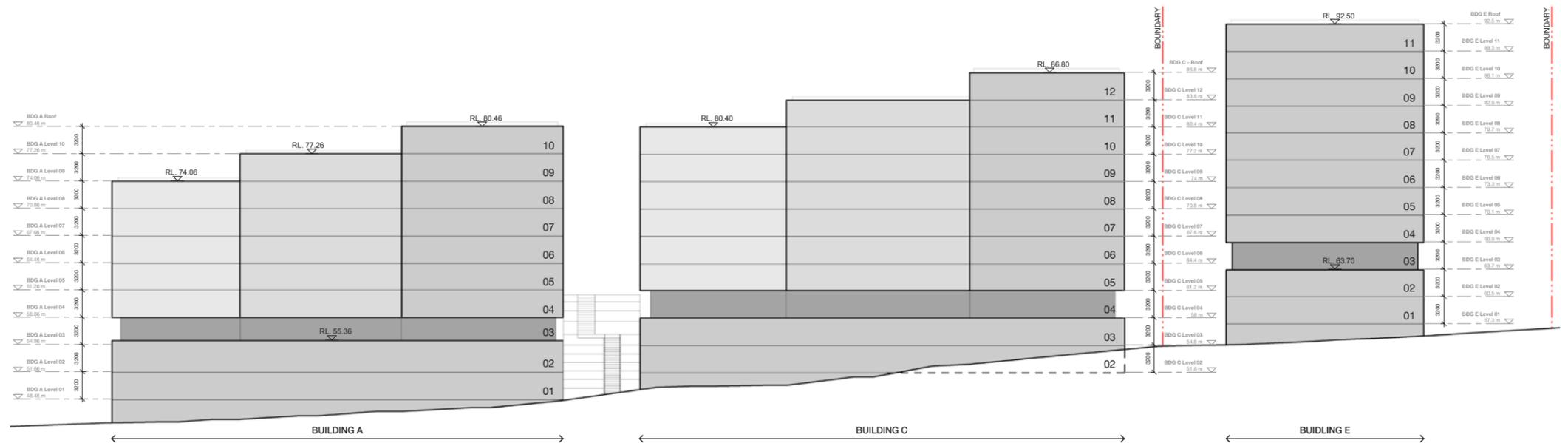
While this planning proposal includes a well-developed reference design, the submitted LEP height maps include additional tolerance to allow some flexibility for future development applications. The proposed height controls respect the plans set out in Lane Cove council's draft LEP. The maximum envelope heights are 2.5m, 15m, 31m and 37m with setbacks along the River Road frontage to minimise overshadowing of the southern properties. The envelope is split in three to accommodate the through site links and communal open space within the green spine.



BUILDING SEPARATION

At some locations on the site, buildings have 9m and 12m separation, but due to the pinwheel arrangement of buildings and the selective use of screening, ADG compliant window and balcony separations will be achieved.

Screened Openings



CANBERRA AVENUE ELEVATION



6.0 APARTMENT LAYOUTS

On a typical level, multi-core floorplates minimise the number of apartments sharing a single lift, reduce the length of common corridors and maximise the number of apartments which are naturally cross ventilated.

Located at the bottom of the hill and overshadowed by taller buildings to the north, the site has limited exposure to direct sunlight on the winter solstice. In order to maximise residential amenity, the stepped floorplate has been developed to deliver 27 apartments on a typical floor with a corner balcony.

The staggered heights and multiple lifts ensure each lift core is provided with access to its own communal roof terrace, an opportunity to build community in spaces shared by a smaller group of residents.



SOLAR ACCESS

A total of 71% of dwellings receive 2 hours sun to living rooms and balconies between 9am and 3pm on June 21st

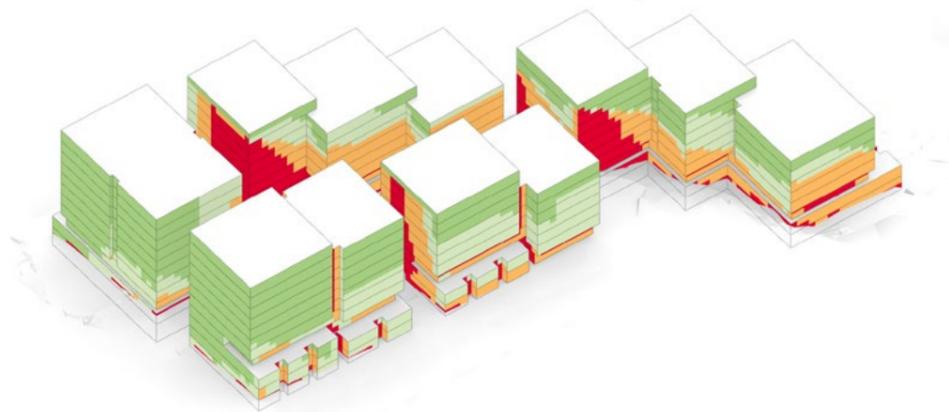
A total of 71% of dwellings receive 2 hours solar access between 9am and 3pm on June 21st



CROSS VENTILATION

To improve residential amenity, the scheme has been designed to maximise the number of dwellings which are naturally cross-ventilated. A total of 71% of dwellings have more than one aspect and are therefore deemed to be naturally cross-ventilated.

Dwellings with two or more aspects, deemed to be naturally cross ventilated



SOLAR ACCESS HEAT MAPS

The diagrams above show the number of hours of direct sunlight reaching the building facades between 9am and 3pm on the winter solstice. These images have been used to assess the number of dwellings (and number of hours) receiving direct sunlight.



LEGEND

	>3 hours	} Hours of solar access on June 21st
	2 - 3 hours	
	1 - 2 hours	
	<1 hour	

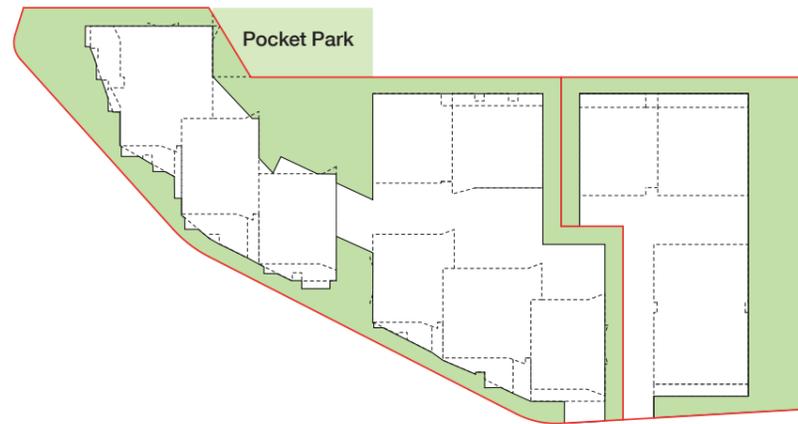


7.0 LOWER GROUND

Fronting Canberra Avenue, the indicative scheme proposes a sequence of two storey townhouses to provide passive surveillance and activation of the park frontage. The townhouse entries are split every second dwelling by an apartment lobby or through site link. The two storey townhouses 'sleeve' the lower levels of the basement carpark, with the lowest basement floor aligning with the lowest residential level.

The basement extent has been carefully considered to allow retention of existing significant trees and provide extensive deep soil, in particular alongside council's pocket park and at the perimeter of the site. The carpark has been split in two to allow for simple staging.

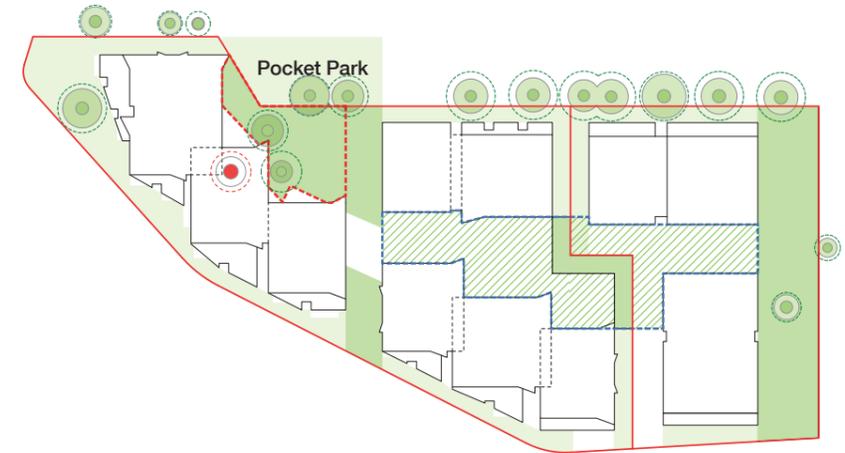
Two separate vehicle entries are proposed from Canberra Avenue, toward the northern end of the site where there is minimal flooding. Each vehicle entry gives access to a loading turntable for garbage and removalists and 3-4 levels of car parking.



DEEP SOIL

36% of the site will be provided as deep soil zone, with no basement underneath. This is well in excess of the ADG requirement of 7% and ensures the existing landscaped quality of the site will be retained.

■ Deep soil zone

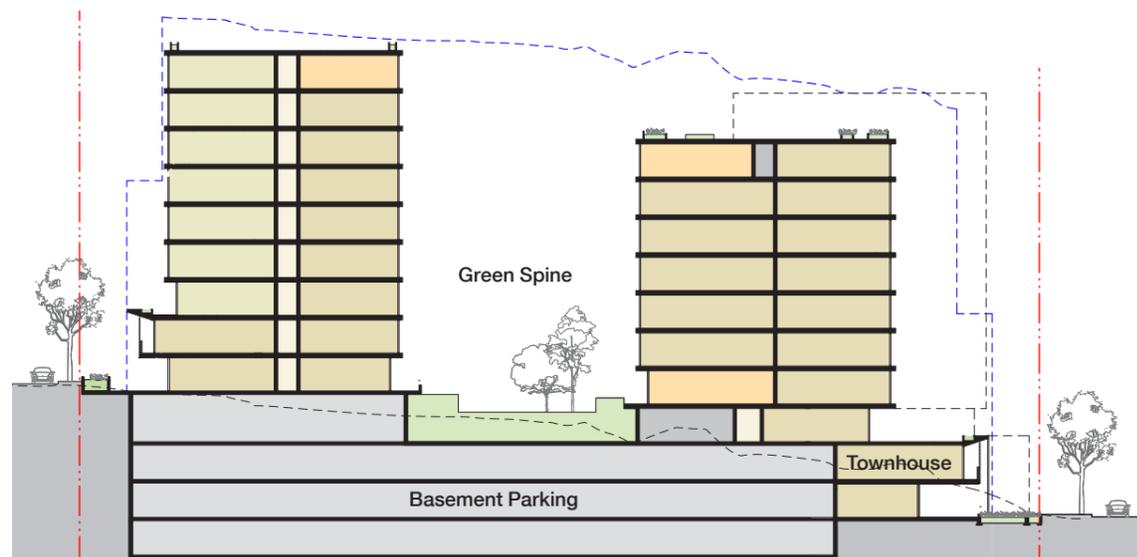


SIGNIFICANT TREES AND GREEN SPINE

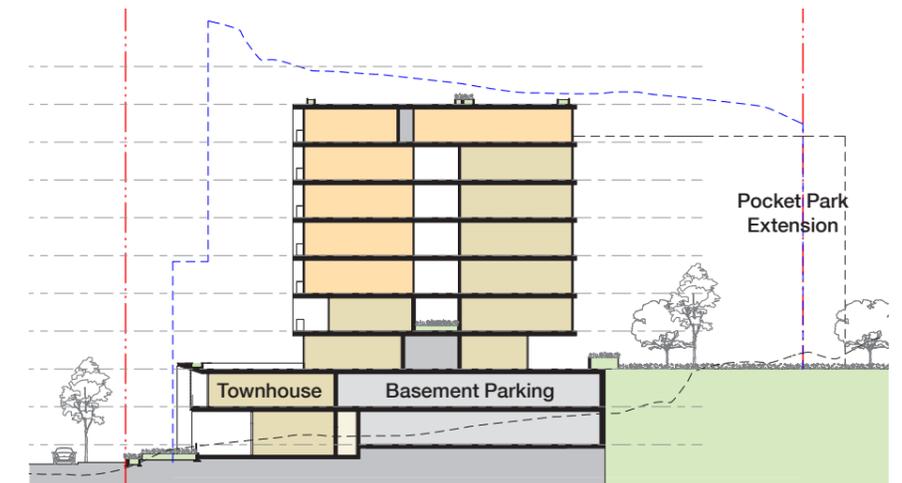
Council's arborist identified several significant trees on and around the site. Only one of these is proposed for removal, an improvement on four that would be required to be removed if the draft DCP massing were adopted.

Deep soil has been proposed in the zones of tree retention and around the perimeter landscaped setbacks. Within the green spine, above basement carpark, ADG compliant soil depths will provide good conditions for mature tree growth.

- Green Spine
- Extension of Pocket Park
- Deep soil within Pocket Park / Green Spine / Links
- ADG compliant soil depth within the green spine (above basement)
- Significant trees to be retained
- Significant tree to be removed



INDICATIVE SECTION 01



INDICATIVE SECTION 02

8.0 UPPER GROUND

The upper ground level plan shows two storey townhouses fronting Holdsworth Avenue and elevated roof terraces above the Canberra Ave townhouses.

The Holdsworth Avenue plan shows the 6m wide through site link, council's proposed pocket park, and an extension of the pocket park at the intersection of these two spaces. At the north of the site, a 15m link will be dedicated to council. Between the two links, the green spine is imagined as communal open space for resident use. Apartment lobbies are designed to provide both street address and direct access into the communal open spaces, often at different levels.



STREET ACTIVATION

The ground level plans have been developed to maximise the number of residential street entries, both into apartment building lobbies and townhouse dwellings. Repeated front doors improves site safety through passive surveillance and builds community through neighbourly interactions.

- Terrace House Entry
- Apartment Entry
- Carpark Entry

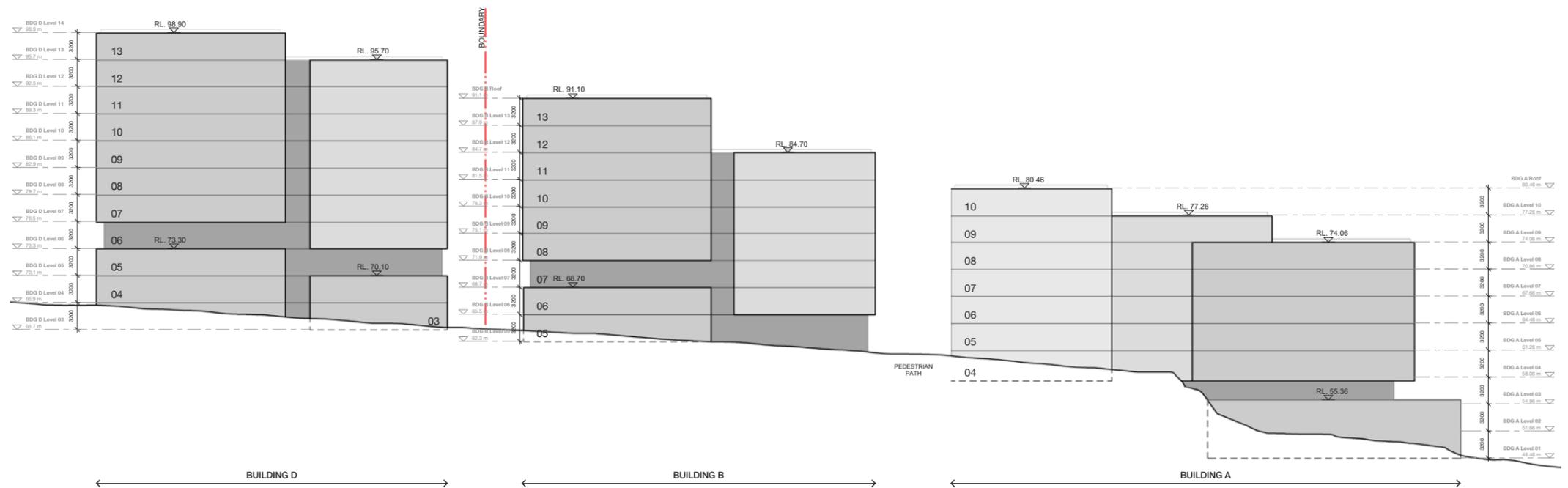


FLOODING MITIGATION

Preliminary modelling shows flood protection is required near the intersection of River Road and Canberra Avenue. Entries to residential lobbies and townhouses have been raised appropriately. The carpark entries have been shown towards the northern end of Canberra Avenue to minimise the need for ramped flood protection.

Source: North Sydney Flood Study 2015. Diagram shows PMF Peak Flood Depths - more significant than the 1% AEP Event.

- 0.0m - 0.15m
- 0.15m - 0.30m
- 0.30m - 0.50m
- 0.50m - 1.00m
- >1.00m



HOLDSWORTH AVENUE ELEVATION



9.0 LANDSCAPE

The open space strategy builds on the requirements of Council's draft rezoning. Council's Holdsworth Avenue Pocket park is extended westward in order to provide a generous landscaped entry around several retained trees. This space is connected to Canberra Avenue with a 6m wide through site link. At the north of the site, a 15m wide link will be dedicated to council and can in future be extended to the north.

Between the two links, the green spine provides communal open space for the residents. Fronting Canberra Avenue, a series of garden terraces provide private open space for the ground level dwellings.

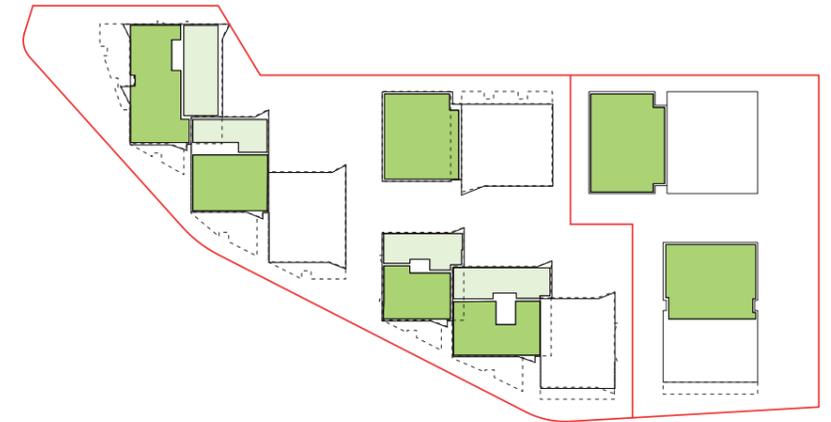
Complementing the ground level open space, the stepped form provides a communal roof terrace for each core.



GROUND LEVEL OPEN SPACE

With the extension of the pocket park and two new through site links, 16% of the site area is proposed as public open space. A further 17% of the site area is proposed as communal open space at ground level.

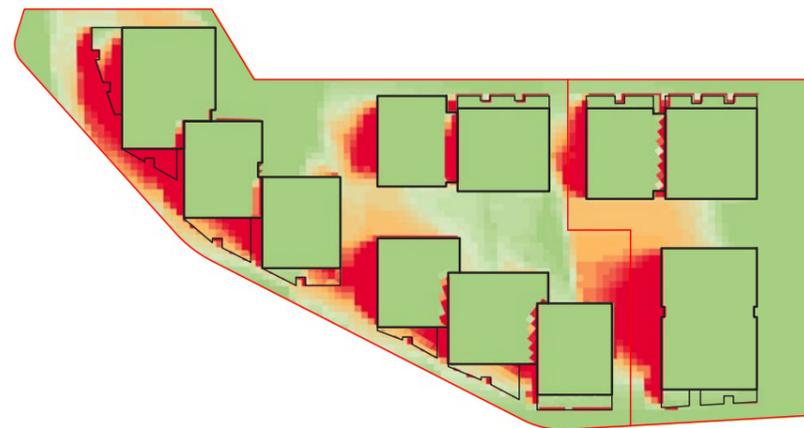
- Private Open Space
- Communal Open Space
- Public Open Space



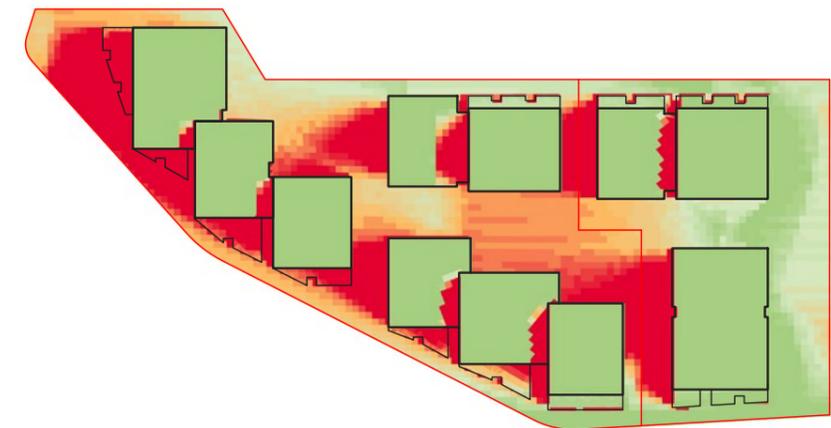
ROOFTOP OPEN SPACE

Over half of the roof area is proposed as roof terraces, in a mix of communal and private roof gardens. 17% of the site area will be provided as communal roof gardens, with a further 8% in private roof gardens.

- Private Open Space
- Communal Open Space



Spring Equinox



Winter Solstice

SOLAR ACCESS TO OPEN SPACE

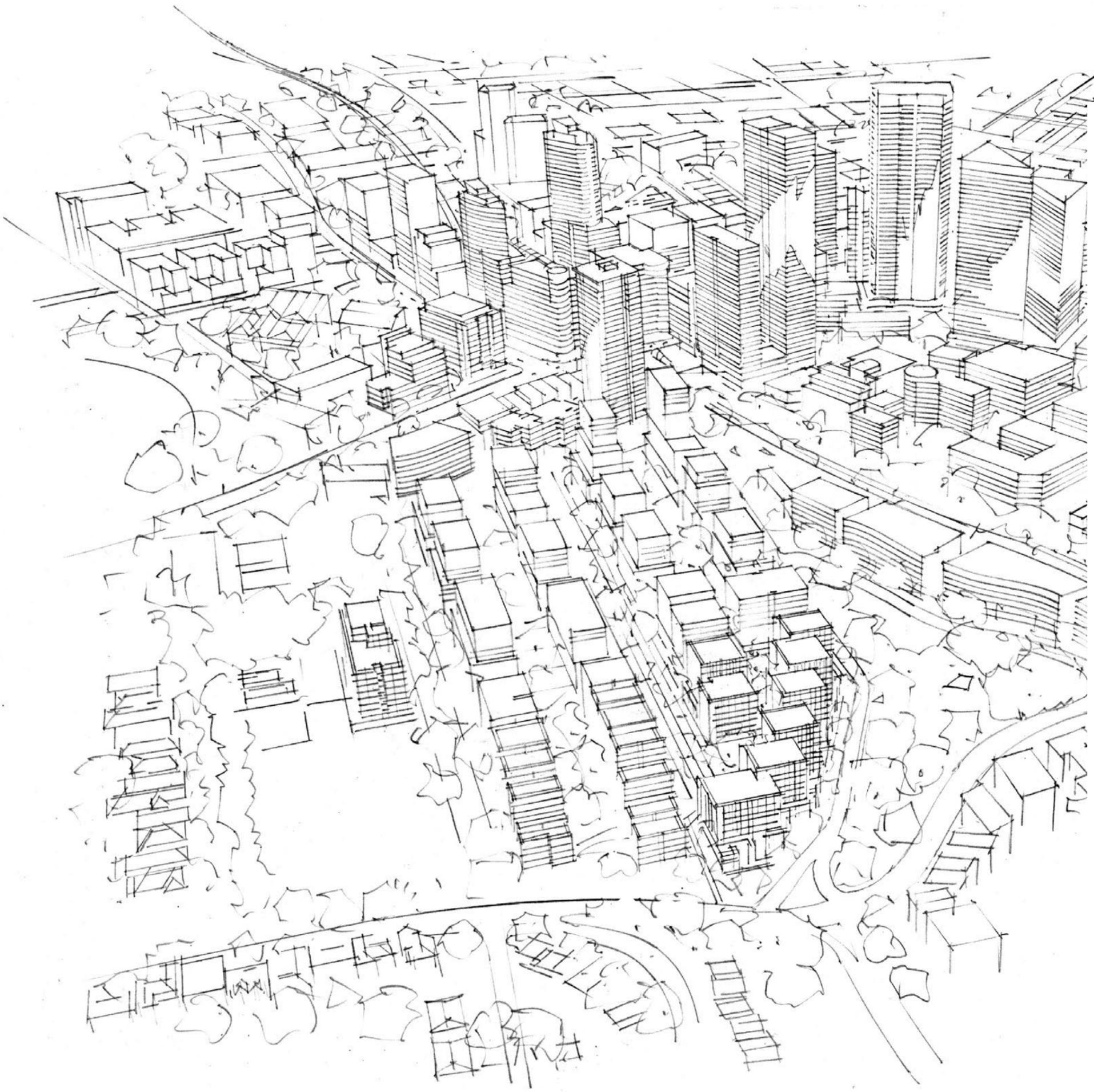
The diagrams above show the number of hours of direct sunlight reaching the open space areas between 9am and 3pm on both the winter solstice, and spring equinox.

With good usable landscaped areas available at both ground and roof level, a variety of sunny and shady areas will be available at all times of year.

LEGEND

- >3 hours
 - 2 - 3 hours
 - 1 - 2 hours
 - <1 hour
- } Hours of solar access on June 21st





APPENDIX A
ARCHITECTURAL
DRAWINGS



- LEGEND**
- BOUNDARY OF THIS DA
 - - - LOT BOUNDARY
 - - - ADJACENT LOT BOUNDARY
 - EXISTING BUILDING
 - EXISTING BUILDING TO BE DEMOLISHED



Revision	Date	Description	Initial	Checked
1	08/02/19	PLANNING PROPOSAL ISSUE		

**21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH**
Existing Site & Demolitions Plan



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Project no.	S12199	
Status	PLANNING PROPOSAL	
Plot Date	6/02/2019 1:01:35 PM	
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Drawing no.	DA.01.104	Revision 1

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LEGEND

- BOUNDARY OF THIS DA
- ADJACENT LOT BOUNDARY
- EXISTING BUILDING
- ADJACENT DCP MASSING

NOTE:
TOPOGRAPHY SHOWN IS EXISTING LEVELS. PROPOSED LEVELS TO BE REVIEWED AND CONFIRMED.

SIGNIFICANT TREES LEGEND:

- ROOT ZONE
- TREE PROTECTION ZONE
- TREE CANOPY
- TREE TO BE REMOVED
- EXISTING TREES WITHIN NEWLANDS PARK

06.02.19 PLANNING PROPOSAL ISSUE				
Revision	Date	Description	Initial	Checked

**21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH**
Proposed Site Plan & Massing

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LEGEND

- BOUNDARY OF THIS DA
- ADJACENT LOT BOUNDARY
- ADJACENT DCP MASSING

NOTE:
TOPOGRAPHY SHOWN IS EXISTING LEVELS.
PROPOSED LEVELS TO BE REVIEWED AND CONFIRMED.

SIGNIFICANT TREES LEGEND:

- ROOT ZONE
- TREE PROTECTION ZONE
- TREE CANOPY
- TREE TO BE REMOVED
- EXISTING (NON-SIGNIFICANT) TREE

Revision	Date	Description	Initial	Checked
4	06.02.19	PLANNING PROPOSAL ISSUE		
3	18.01.20	FOR INFORMATION		
2	19.01.22	FOR INFORMATION		
1	18.01.18	FOR INFORMATION		

**21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH**
Lower Ground Floor Plan

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LEGEND

- BOUNDARY OF THIS DA
- ADJACENT LOT BOUNDARY
- ADJACENT DCP MASSING

NOTE:
TOPOGRAPHY SHOWN IS EXISTING LEVELS. PROPOSED LEVELS TO BE REVIEWED AND CONFIRMED.

SIGNIFICANT TREES LEGEND:

- ROOT ZONE
- TREE PROTECTION ZONE
- TREE CANOPY
- TREE TO BE REMOVED
- EXISTING (NON-SIGNIFICANT) TREE

Revision	Date	Description	Initial	Checked
4	06.02.19	PLANNING PROPOSAL ISSUE		
3	19.01.30	FOR INFORMATION		
2	19.01.22	FOR INFORMATION		
1	19.01.16	FOR INFORMATION		

**21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH**
Upper Ground Floor Plan

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Drawing no.	DA.02.101	Revision 4

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LEGEND

- BOUNDARY OF THIS DA
- ADJACENT LOT BOUNDARY
- ADJACENT DCP MASSING

NOTE:
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PROPOSED LEVELS TO BE REVIEWED AND
CONFIRMED.

Revision	Date	Description	Initial	Checked
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2	19.01.20	FOR INFORMATION		
1	19.01.19	FOR INFORMATION		

21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH
Typical Floor Plan



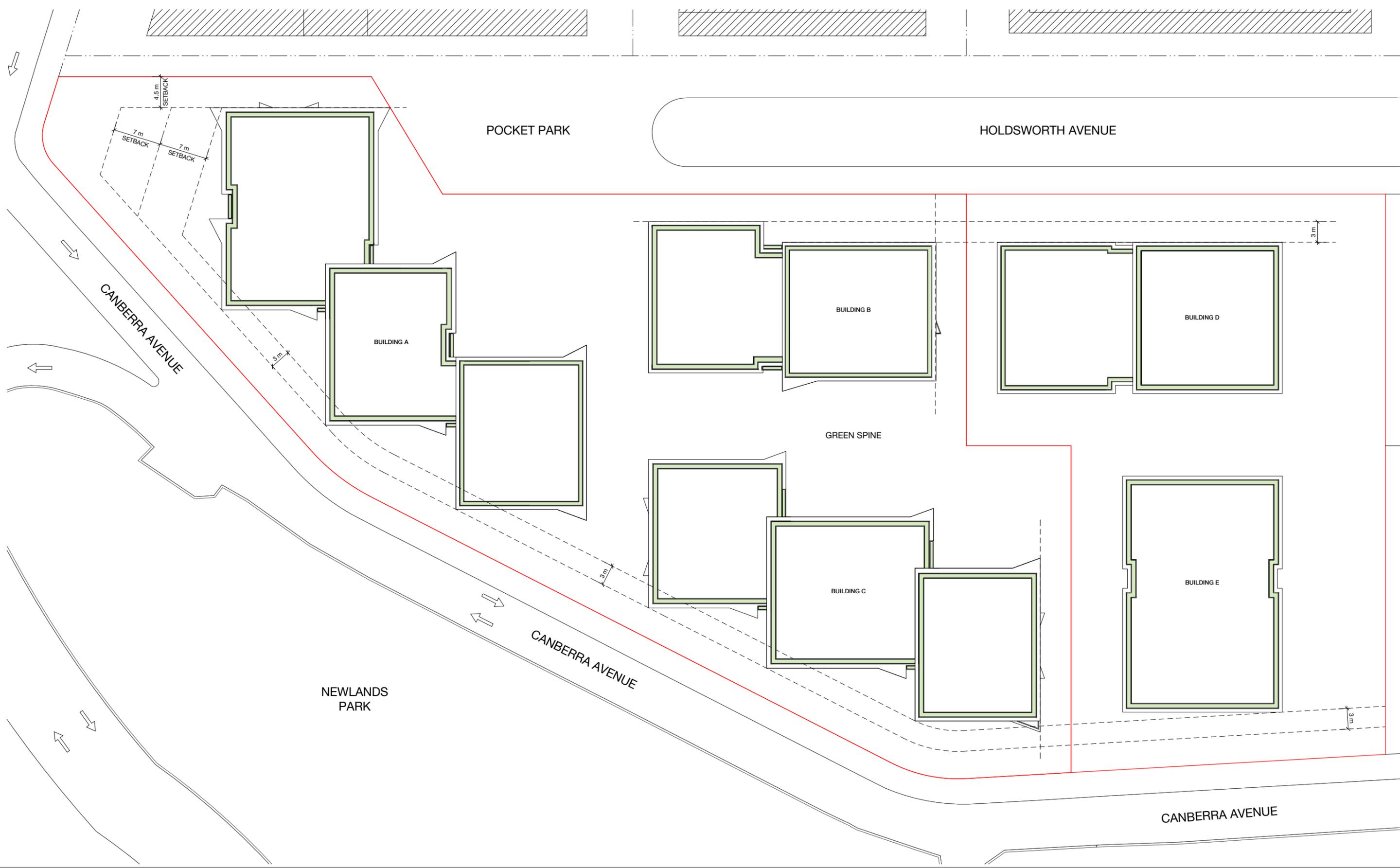
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LEGEND

- BOUNDARY OF THIS DA
- ADJACENT LOT BOUNDARY
- ADJACENT DCP MASSING

NOTE:
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PROPOSED LEVELS TO BE REVIEWED AND
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Revision	Date	Description	Initial	Checked
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2	19.01.20	FOR INFORMATION		
1	19.01.19	FOR INFORMATION		

**21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH**
Roof Plan



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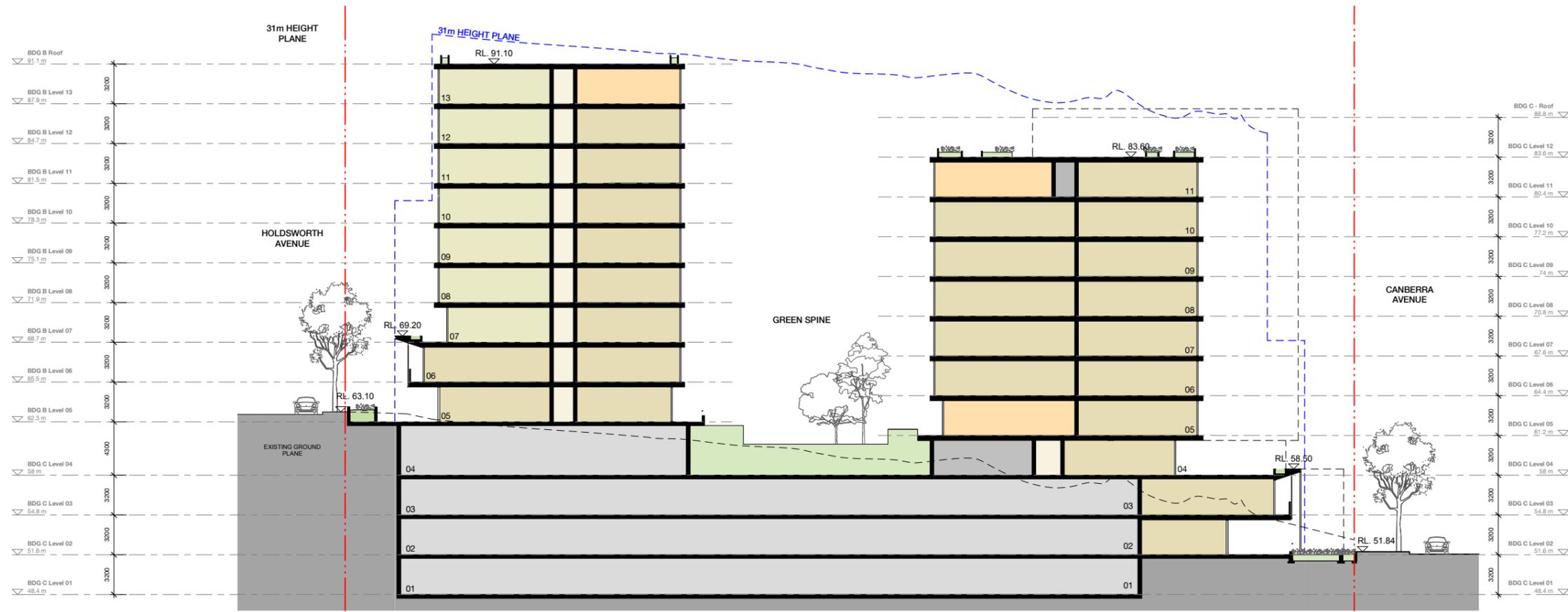
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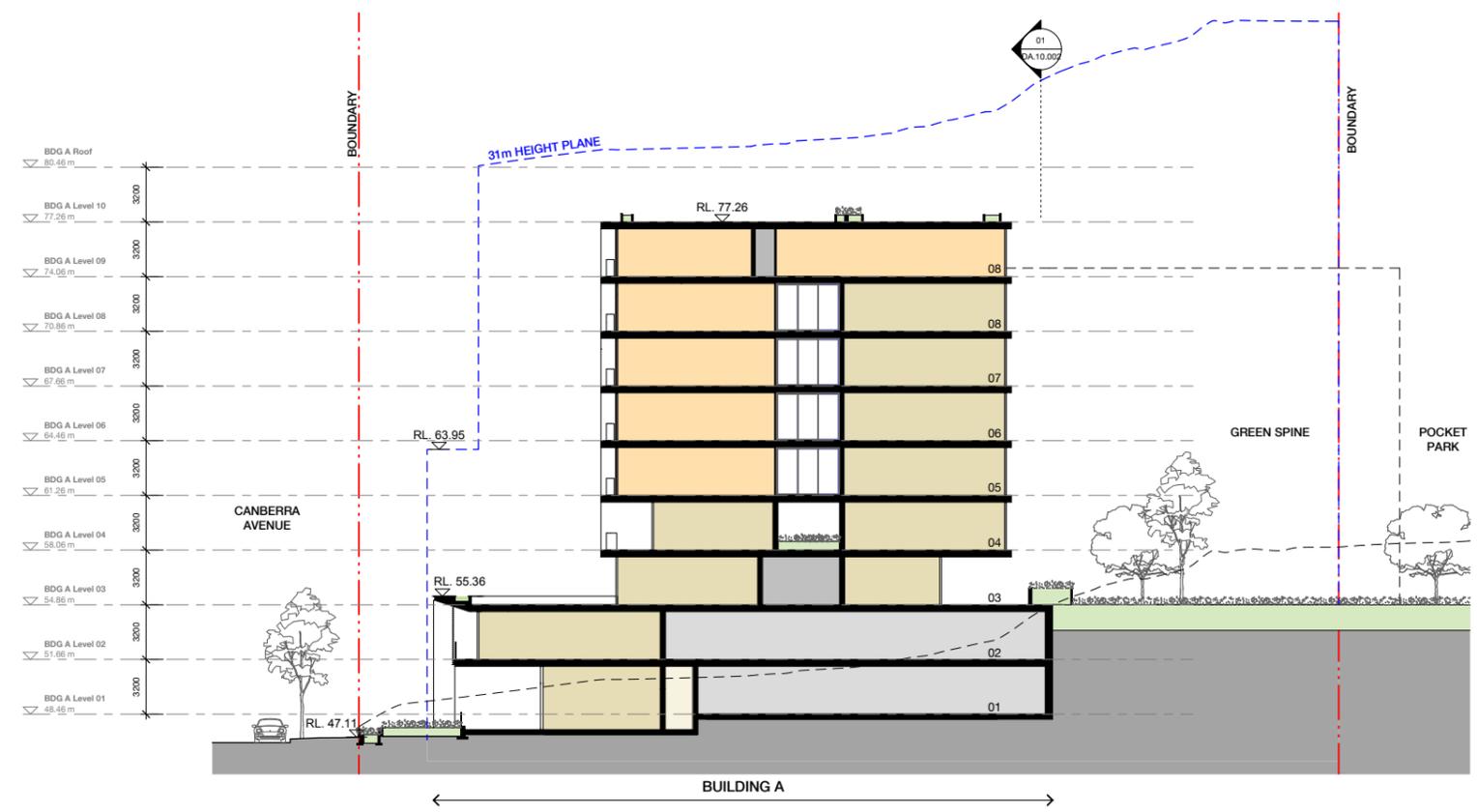
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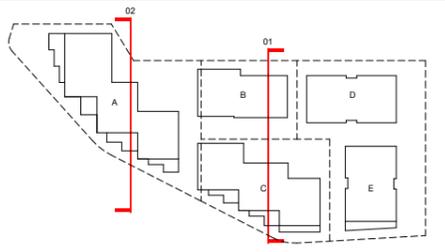




01 Section Through Buildings B & C
1:200



02 Section Through Building A
1:200



KEY PLAN N.T.S.

21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH
Sections

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Plot Date	6/02/2019 12:48:53 PM	
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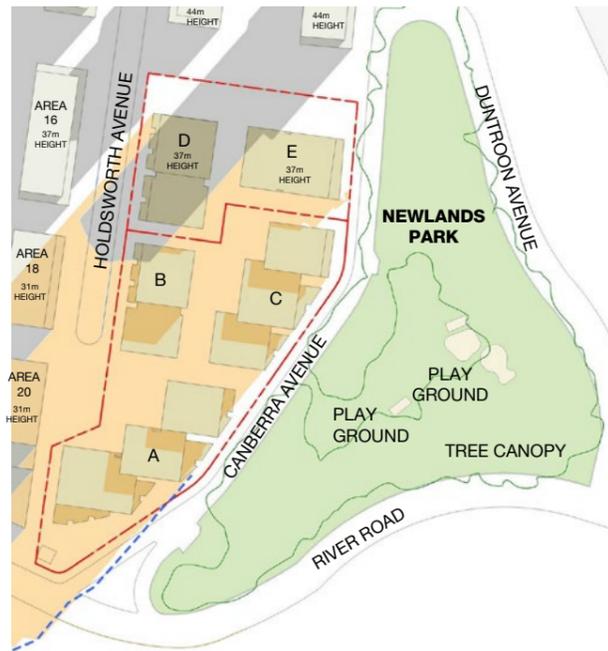
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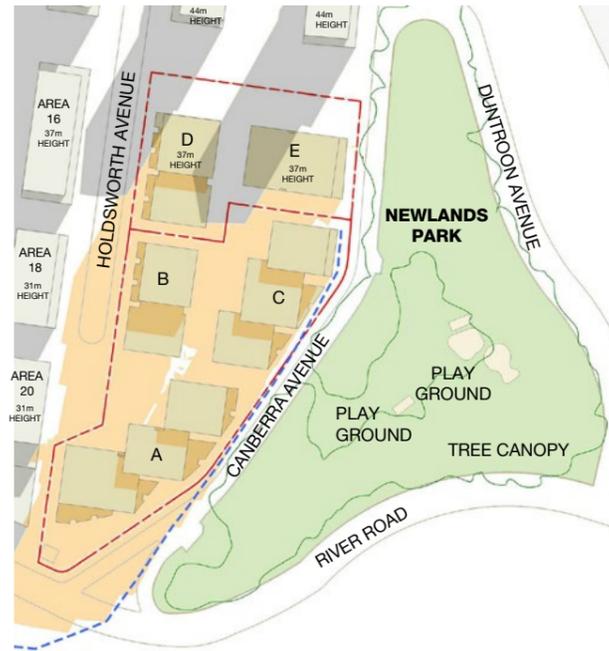
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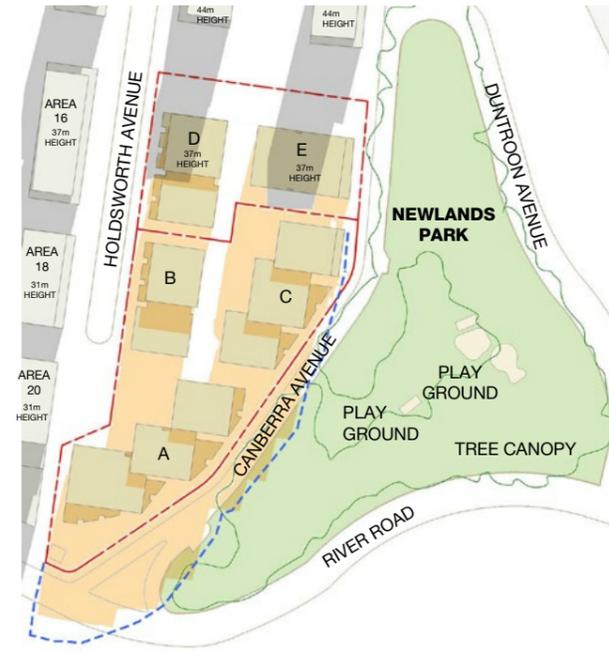
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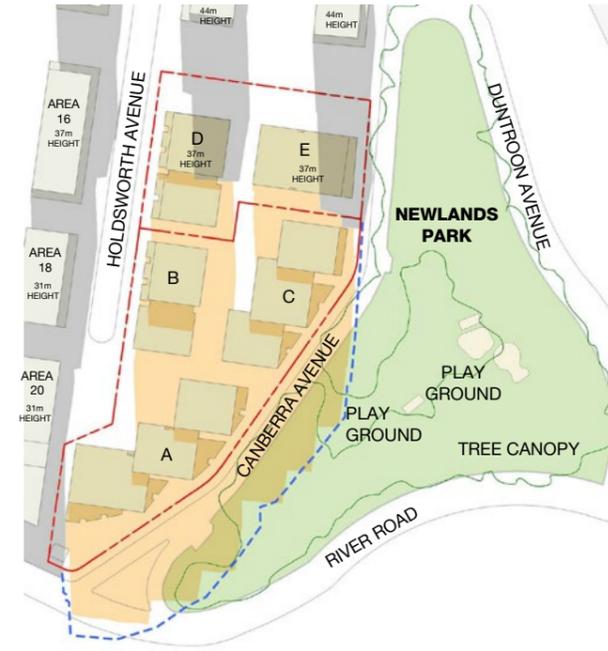
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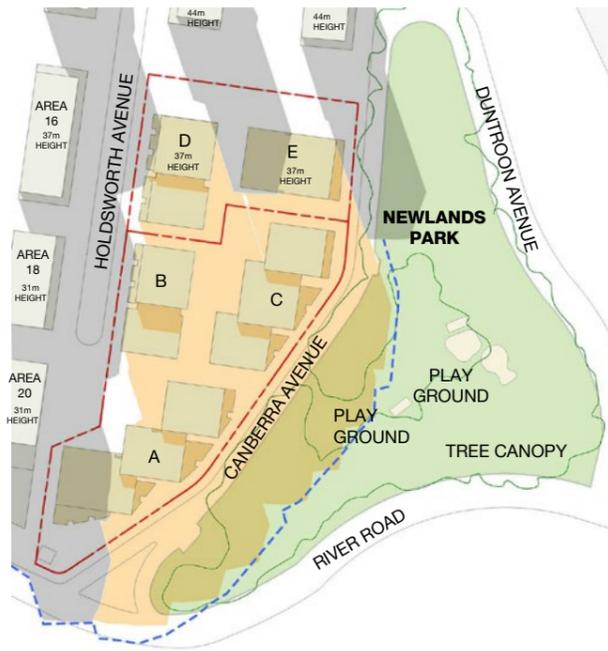
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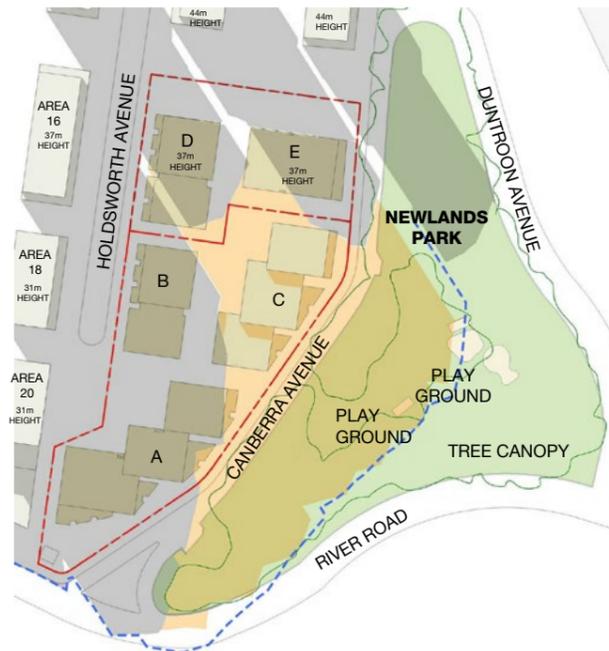
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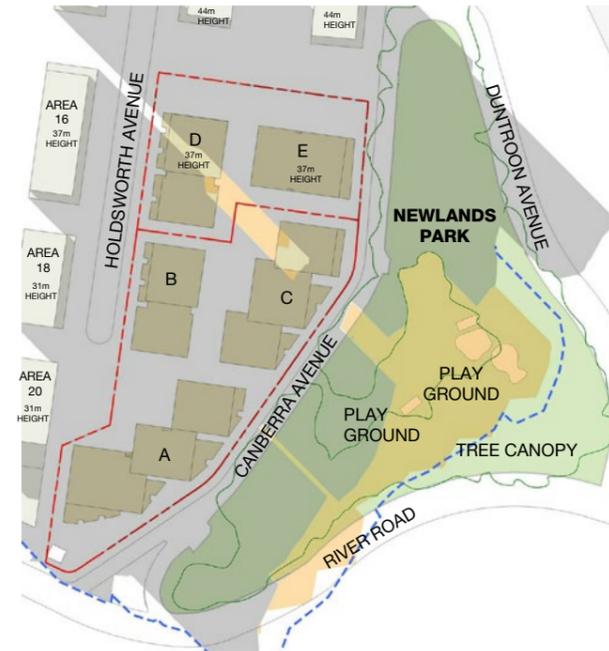
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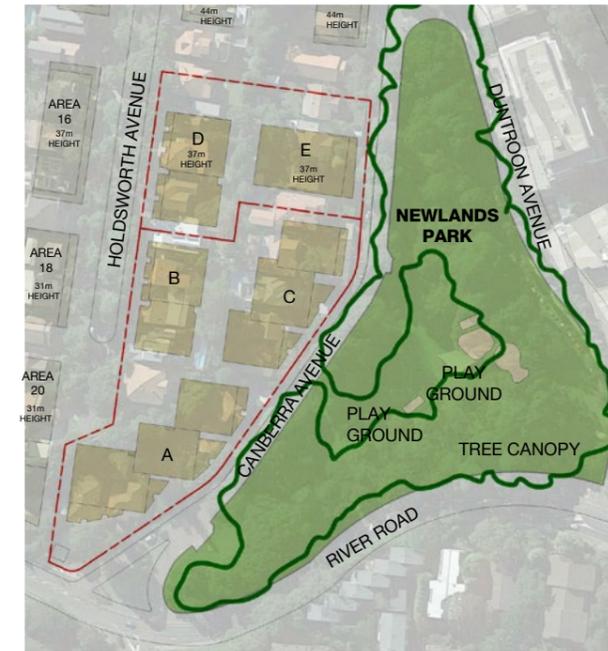
5 1PM JUNE 21



6 2PM JUNE 21



7 3PM JUNE 21



8 TREE CANOPY OVERLAY

LEGEND: SHADOW DIAGRAMS

- SHADOWS CAST FROM ADJACENT SITES
- SHADOWS CAST FROM PROPOSED DEVELOPMENT
- SHADOWS CAST FROM DCP ENVELOPE

NOTE: TOPOGRAPHY WITHIN BOUNDARY IS AS PER EXISTING. FURTHER LANDSCAPE INFORMATION WILL BE PROVIDED ON DA SUBMISSION

**21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH**
Shadow Diagrams - Winter Solstice



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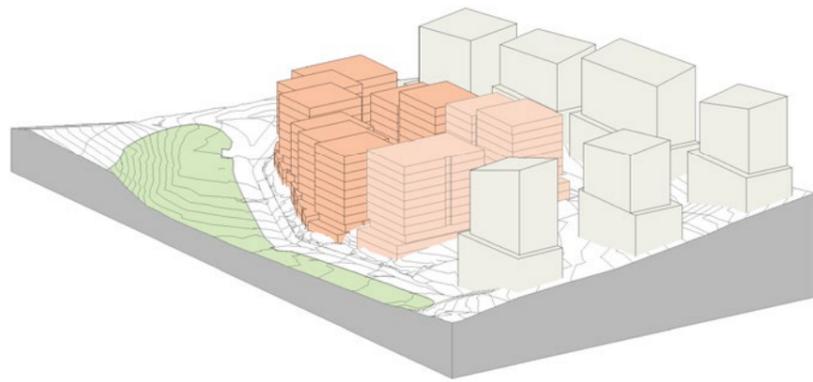
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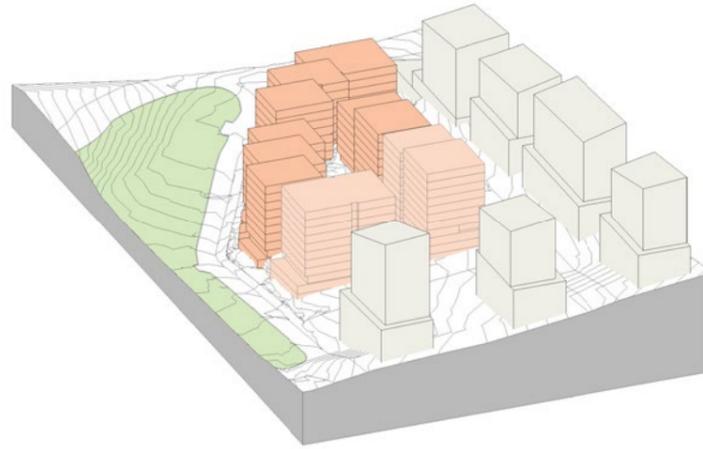
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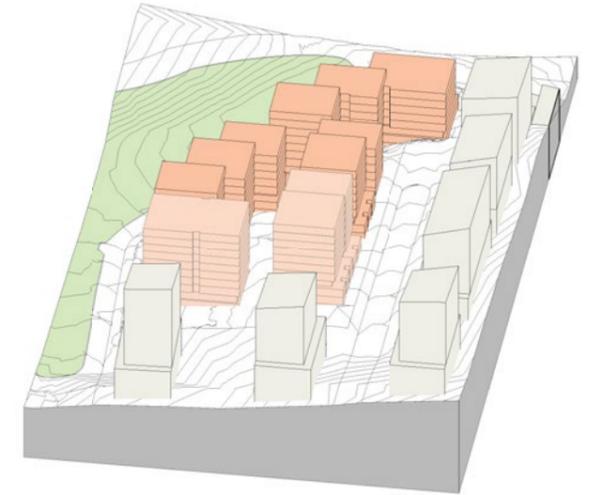
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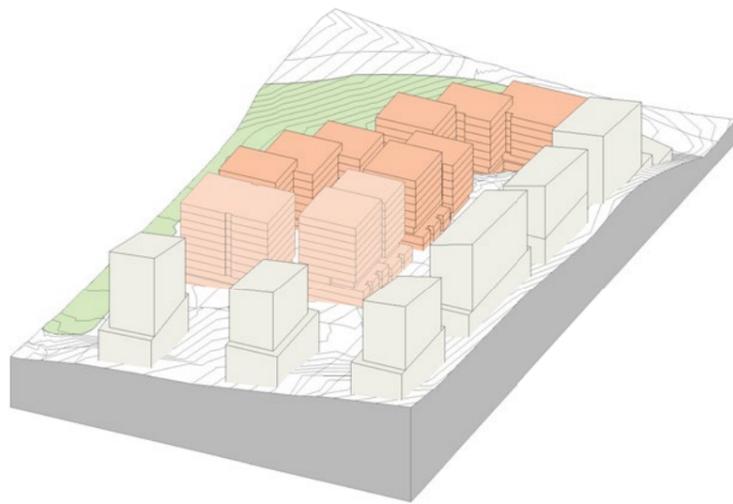
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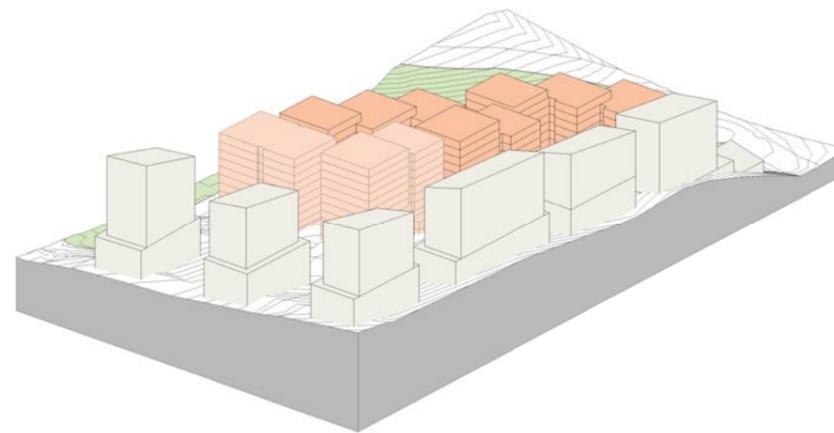
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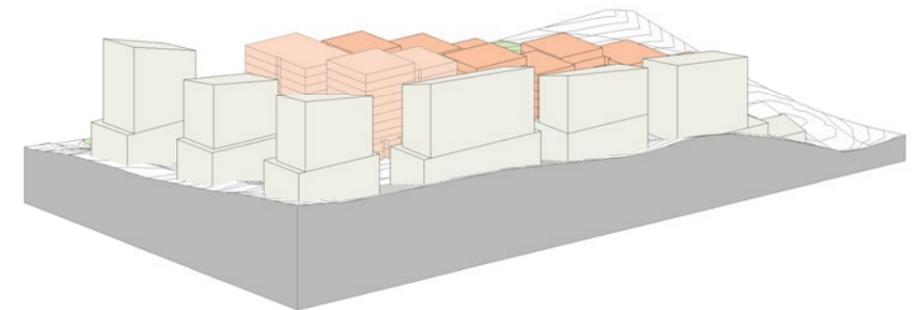
4 12pm June 21



5 1pm June 21



6 2pm June 21



7 3pm June 21

**21 - 41 CANBERRA AVE
18 - 32 HOLDSWORTH AVE
ST LEONARDS SOUTH**
Views from the Sun - Winter
Solstice

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APPENDIX B

ARCADIA

PUBLIC REALM

INFORMATION

ARCADIA

LANDSCAPE ARCHITECTURE

LANDSCAPE PLANNING PROPOSAL
FEBRUARY 2019
PROJECT NO. 18-542
ISSUE NO. A



TOPSPRING
BATESSMART™

ST LEONARDS TOP SPRING

LANDSCAPE PLANNING PROPOSAL

CONTENTS

SECTION 01

Context

History

Historical Character

Journey

Site Analysis

Lots 7/8/9/10/11 Masterplan

SECTION 02

Landscape Plan - Lots 7/8

Levels Diagram

Section

SECTION 03

Landscape Plan - Lots 9/10/11

Levels Diagram

Section

SECTION 01

MASTERPLAN

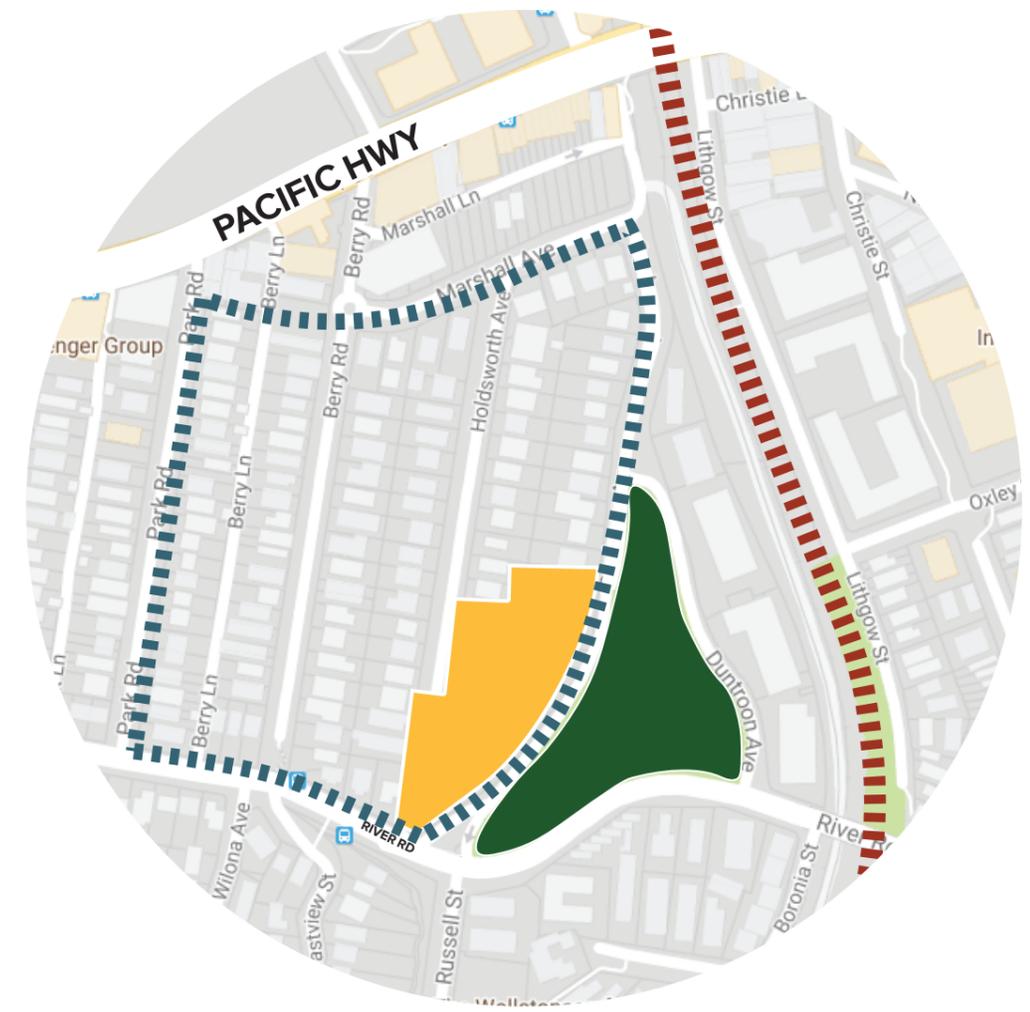
CONTEXT

	HIGH DENSITY		HARBOUR
	SITE		VEGETATION
	PRECINCT		TRAIN LINE



REGIONAL CONTEXT

Located 6kms from Sydney CBD, St Leonards is the 6th largest employment hub in the Sydney Metropolitan area and is in close proximity to mass transit hubs. The site is adjacent to the Northern most section of the Berry Creek green link to Sydney Harbour, less than 1km away.



LOCAL CONTEXT

The site is bound by River Road to the South, Holdsworth Avenue to the West and Canberra Avenue to the East, with Newlands Park adjacent to the site. Located approx. 500m from the St Leonards train station, the site offers convenient commutes and close proximity to retail, parks, plazas and the city CBD.

HISTORY

From the beginning of British settlement, the lower North Shore was seen as Sydney's frontier.



BERRY ISLAND



ST LEONARDS MAP



THOMAS TOWNSHEND



ST LEONARDS STATION



1943 EARLY SUBDIVISIONS

PRE-SETTLEMENT

Aboriginal people frequented this valley and used the creek as a fresh water supply for thousands of years. Shell middens can be found in the area. You can imagine coming down from the hot ridge top to enjoy the sheltered and shady environment by the creek

1818

William Gore was appointed provost-marshal of New South Wales and built a cottage known to become Artarmon House.

1828

Bricks were first made in the area in 1828. By 1889 the Gore Hill brickworks were the largest in NSW. During the mid to late 1800s the brick industry was a primary source of employment in the area. Many "brickies" made a living carting bricks in horse-drawn drays. The railway arrived.

1853

St Leonards was named after English statesman Thomas Townshend, 1st Viscount Sydney of St Leonards. Originally, St Leonards applied to the whole area from the present suburb of North Sydney to Gore Hill.

1868

St Leonards was named after English statesman Thomas Townshend, 1st Viscount Sydney of St Leonards. Originally, St Leonards applied to the whole area from the present suburb of North Sydney to Gore Hill.

1890

The North Shore railway line opened in St Leonards and originally ran to Hornsby

HISTORICAL CHARACTER



INDIGENOUS ART



TIMBER HARVEST



BOAT BUILDERS



RAIL TRANSPORT

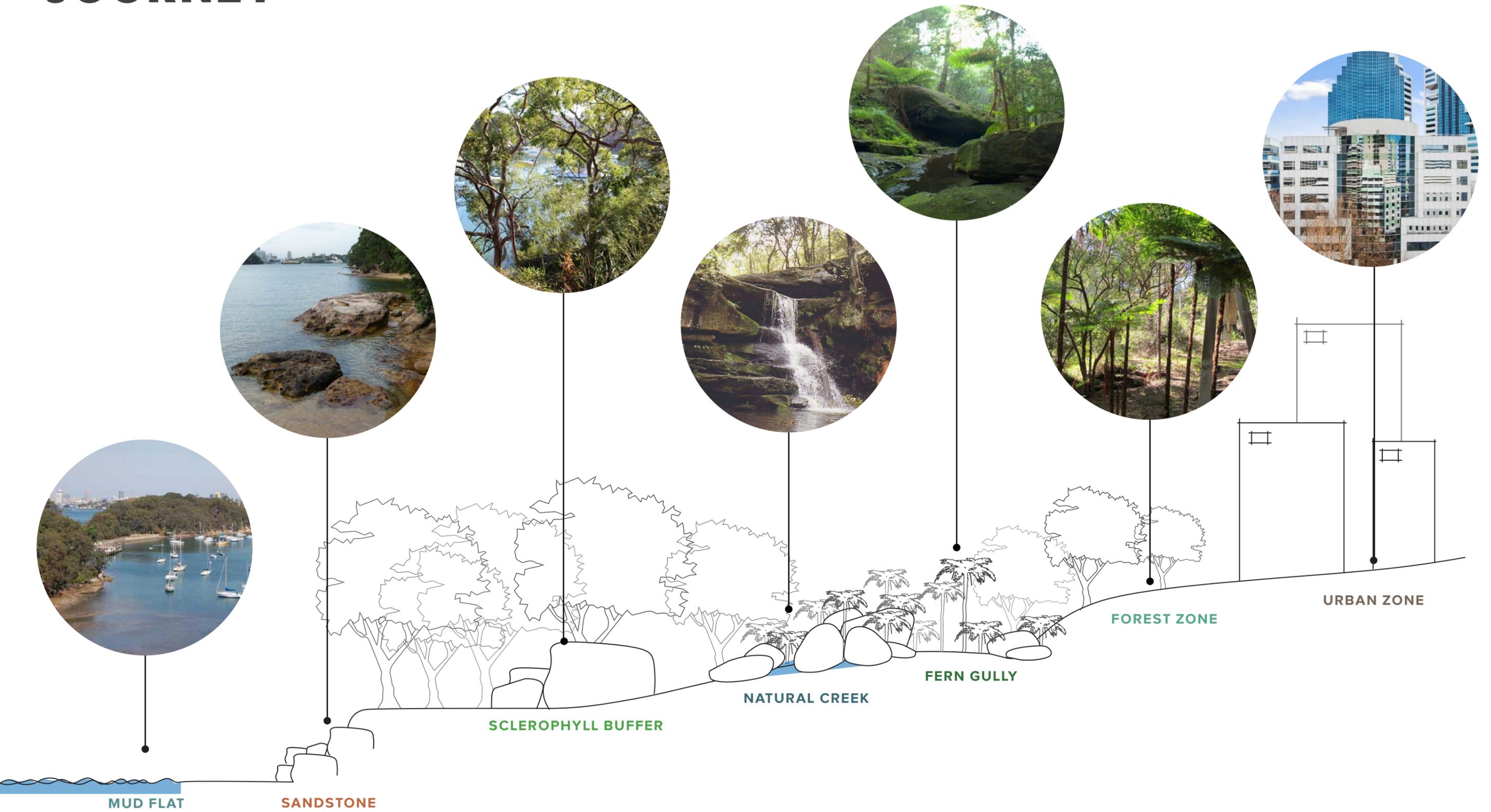


BRICK INDUSTRY



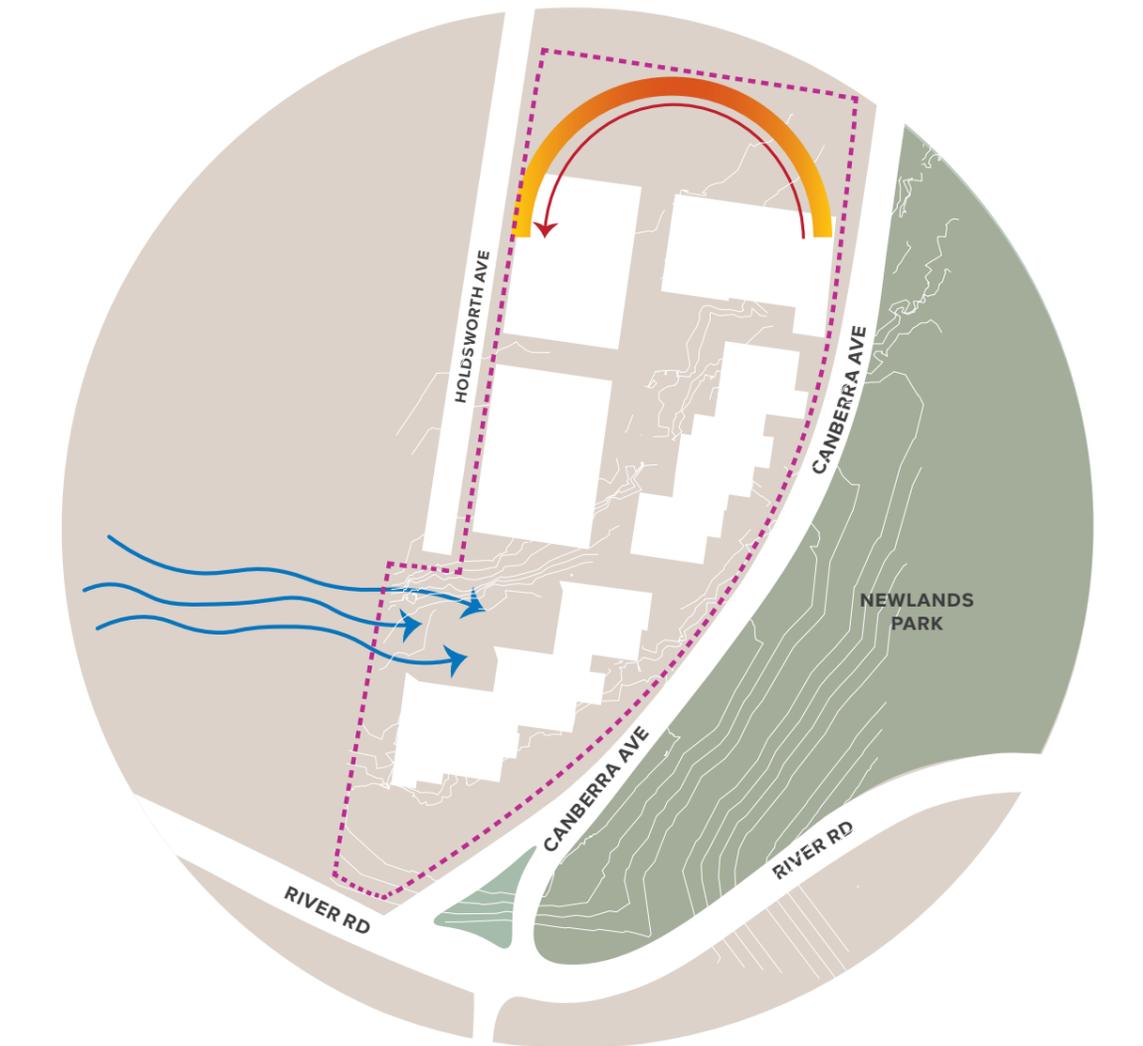
PETROLEUM

JOURNEY



SITE ANALYSIS

MICRO CLIMATE

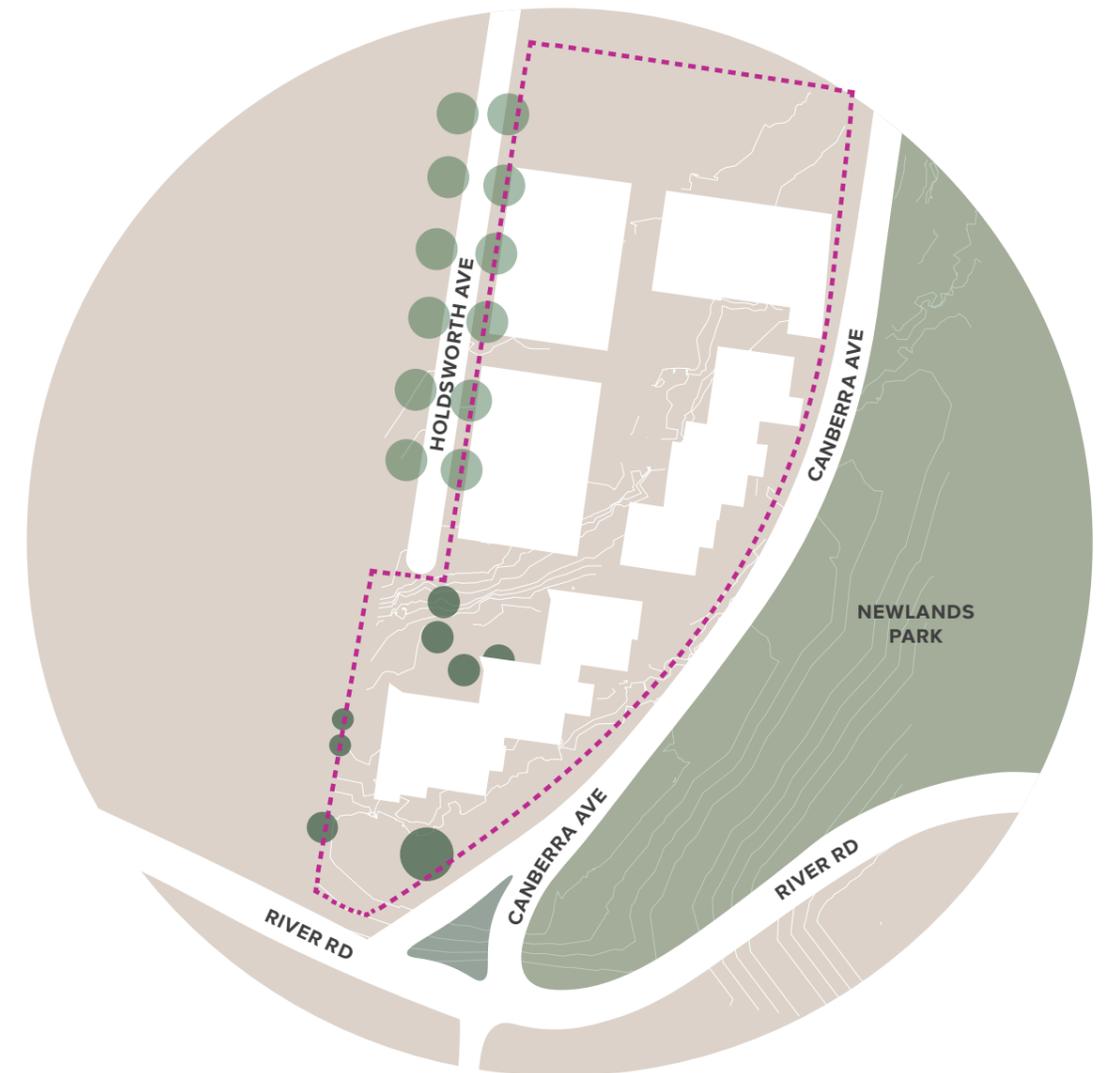


-  WIND
-  SUNPATH



The site has a South Eastern aspect, is relatively enclosed and as a result has limited solar access and is sheltered from the elements. The site's gully location combined with aspect offers higher humidity and presents a cool environment during hot months.

EXISTING VEGETATION



-  TREES
-  PARKLANDS



The site is located in a green setting nestled between a park and tree lined streets. Existing trees are dotted around the perimeter of the site, however, few significant trees are located within the site. Adjacent to the site is Newland's Park, the local neighbourhood park.

SITE ANALYSIS

CONNECTION & ENTRY POINTS



-  THROUGH SITE LINKS
-  AXIAL PATHWAYS
-  ENTRY POINTS

There are several axial pathways, entry points and through site links proposed as per Design Guidelines.

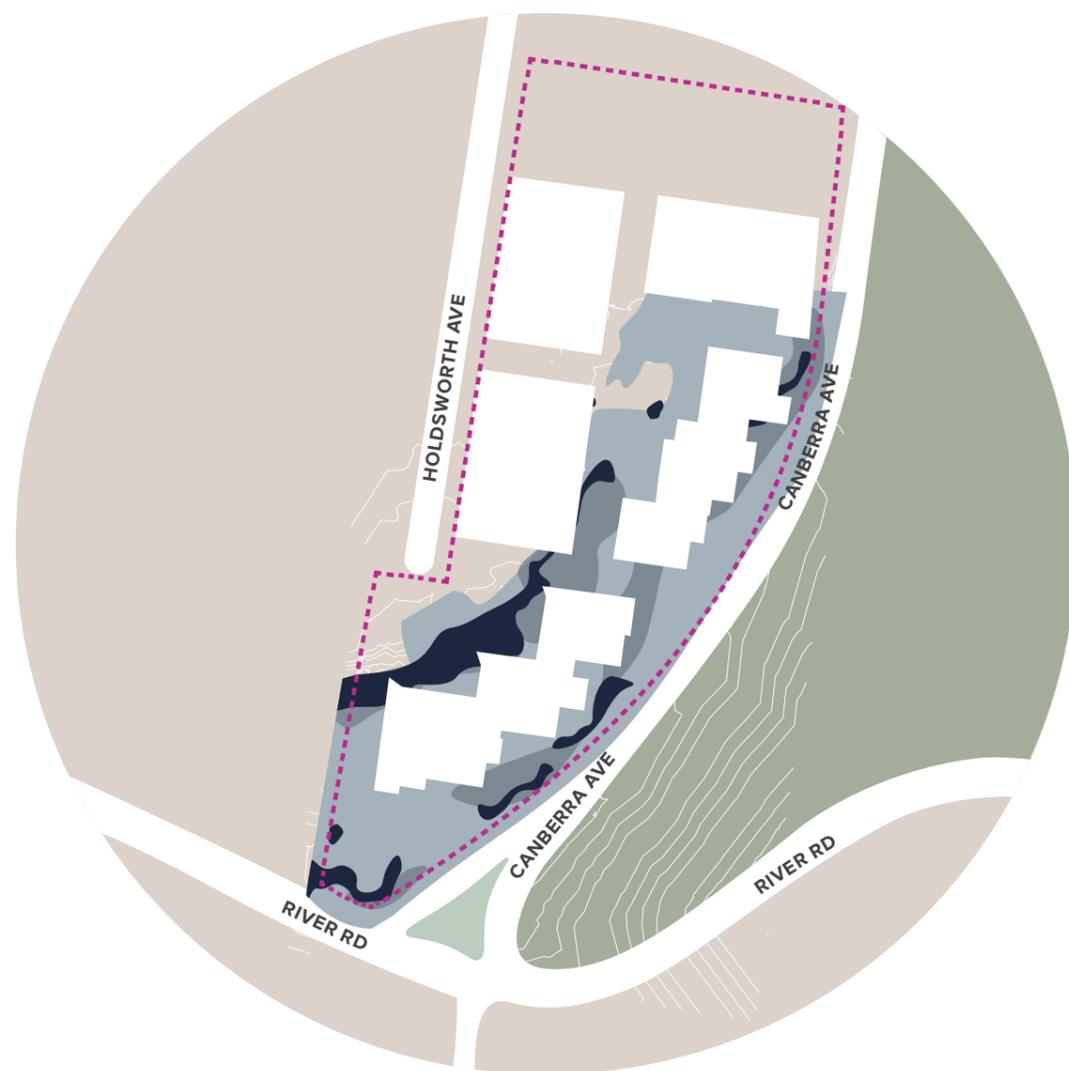
DRAINAGE



-  DRAINAGE PASSAGES
-  DRAINAGE CATCHMENT

Overland drainage from Holdsworth Avenue and adjacent Northern lots drain through the center of the site, towards the lowpoint at the intersection of River road and Canberra Avenue, draining to Berry Creek.

SITE ANALYSIS



SLOPE ANALYSIS



There are steep level changes between Holdsworth and Canberra avenues, with a strong South Eastern aspect. A steep embankment effectively divides the flatter area to the north East of the site and the frontage to River Road and Canberra in the South. the Frontage to Canberra avenue features a steep to medium grade embankment that is presently retained.

LOTS 7/8/9/10/11 MASTERPLAN



- LOT NUMBER
- EAST-WEST THROUGH SITE LINKS
- ENTRY POINTS
- PRIVATE SHARED OPEN SPACE
- EXTENSION OF POCKET PARK/
PUBLIC OPEN SPACE
- PROPOSED POCKET PARK
"LANE COVE COUNCIL PP25"

SECTION 02

LOTS 7/8

LANDSCAPE PLAN - LOTS 7/8

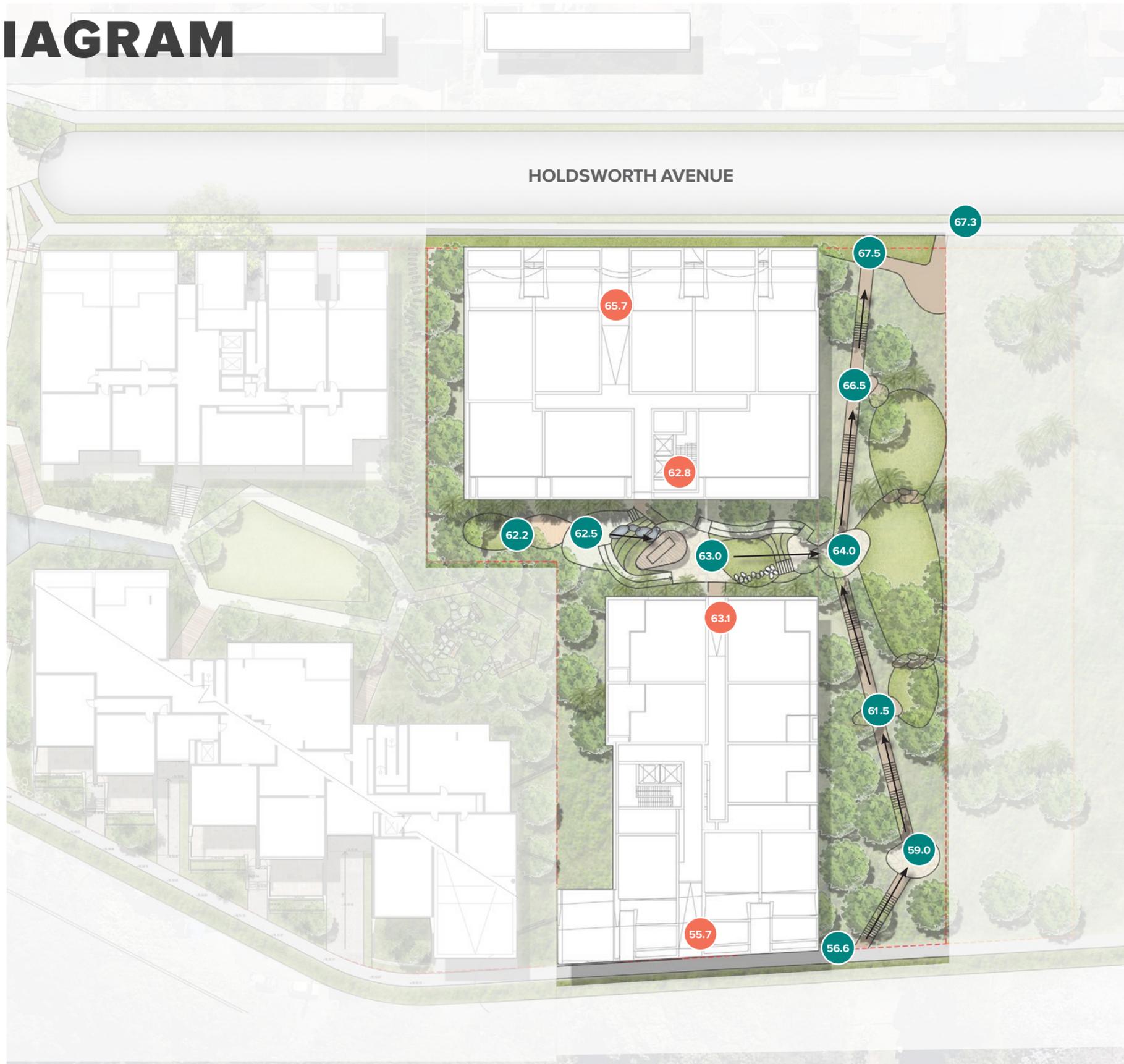
CHARACTER



- 1 COMMUNAL AREA WITH SHELTER
- 2 LOOKOUT
- 3 TIERED OPEN GRASS SPACE
- 4 FLOATING STEPS + PLATFORMS
- 5 SANDSTONE LAYERED BOULDERS
- 6 LAYERED PASSIVE SPACES
- 7 ACCESSIBILITY RAMP
- 8 VEGETATIVE BUFFER ZONES
- 9 FUTURE THROUGH SITE LINK/ PARKLAND
- 10 EAST-WEST THROUGH SITE LINK



LEVELS DIAGRAM

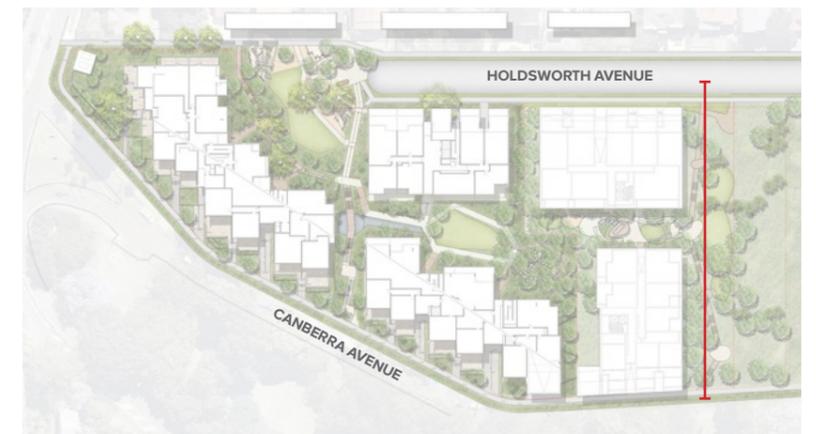


- LOBBY FFL
- FFL
- DIRECTION OF UPWARD SLOPE

SECTION



SCALE 1:200 @ A3 0 1 2 4 6 8M



SECTION 03

LOTS 9/10/11

LANDSCAPE PLAN - LOTS 9/10/11



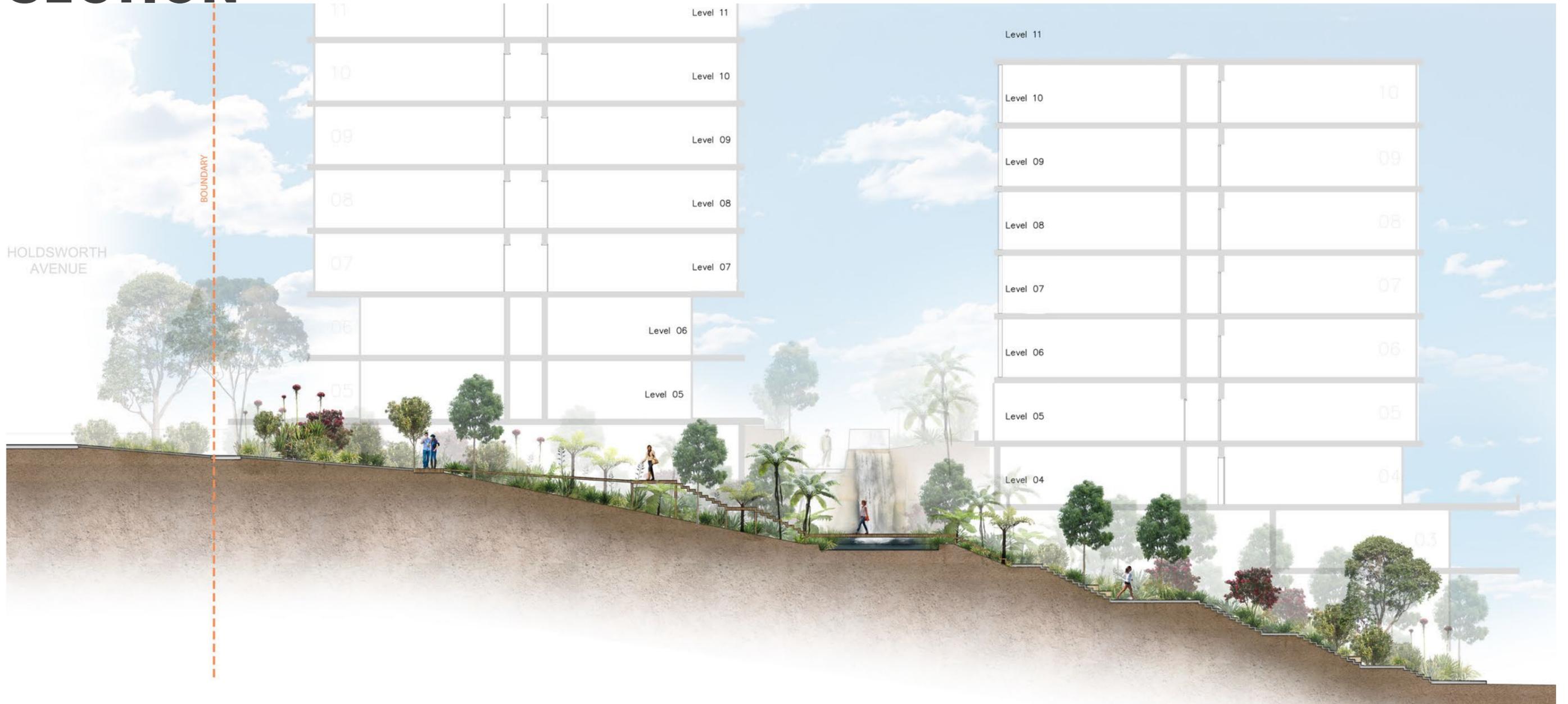
LEVELS DIAGRAM



● LOBBY FFL
● FFL
→ DIRECTION OF UPWARD SLOPE



SECTION



SCALE 1:200 @ A3 0 1 2 4 6 8M



ARCADIA
LANDSCAPE ARCHITECTURE