

Telopea

SSDA Response to Submissions II

Frasers Property Australia

SSDA Response to Submissions Report 2

25 November 2022

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Summary of Feedback

DPIE Letter 28 July 2022

The recently renamed Department of Planning and Environment (DPE) (formerly DPIE) wrote to the Land and Housing Corporation (LAHC) on 28 July 2022 requesting additional information in response to feedback received from Parramatta City Council and various NSW Government agencies, and to support the DPE’s ongoing assessment of the Concept Plan and Stage 1A Project Application. The feedback is reproduced in its entirety on the following pages (with the exception of the referenced Attachment B).

Frasers (as LAHC’s project delivery partner) has prepared a Response to Submissions Report which addresses the DPE correspondence. This document is one component of the Response to Submissions Report and has been prepared to respond to design related matters. This document should be read in conjunction with the Response to Submissions Report and supporting appendices. Issues which have been addressed in this report are highlighted in blue

Latter sections of this document has been structured as follows:

Section 2.0 - Concept Plan Benefits Summary

Section 3.0 - Heights Summary

Section 4.0 - Urban Design Rationale

Section 5.0 - Clause 4.6 Technical Justification

Section 6.0 - Design Guidelines Response

1. Voluntary Planning Agreements (VPA)

Council VPA

- Continue working with Council to resolve the outstanding issues raised in relation to the VPA offer prior to lodging the additional RtS.

State VPA

- Continue working with the Department’s Infrastructure Partnerships and Agreement Team to resolve any outstanding issues prior to lodging the additional RtS.

2. Social Impacts

- The Department does not support the potential loss and closure of Council’s community facility at 21 Sturt Street, unless a full replacement facility is provided as part of the development.

3. Design Excellence

Design Excellence & Design Excellence Strategy

- Obtain a waiver from Council for an architectural design competition for the Concept and Stage 1A proposal in accordance with clause 6.12(6) of the Parramatta Local Environmental Plan 2011 (PLEP 2011).
- Amend the Design Excellence Strategy (DES) to identify the PLEP 2011 thresholds for architectural design competitions and include an architectural design competition for Building C4.
- Amend the composition of Jury members in the DES to comprise of one nominee from the consent authority, one nominee from City of Parramatta Council and one nominee from the Applicant.
- Amend the DES to address the design excellence processes for both buildings and the public domain. The DES should reference the Public Domain Plan (see Appendix B) as well as the Design Guidelines.

- Amend the DES to ensure that buildings which feature a key integrated public space component (for example Blocks C1 and C2) and are subject to a competitive design process, include the public space components in the competition scope to ensure an integrated design response is achieved. Landscape expertise will be essential to design teams as part of any future endorsed brief.
- Amend the DES to include design integrity and post competition processes. This should include the retention of winning design teams and the implementation of a Design Integrity Panel (DIP) process. Regular review and endorsement from the DIP from competition to completion shall be outlined.
- Amend the DES to reference that the public domain will be delivered in accordance with a precinct-wide Public Domain Plan. A precinct-wide Public Domain Plan will be required prior to the next stage of development.

Design Guidelines

- [Amend the Design Guidelines in accordance with the recommendations outlined Attachment B.](#)
- [Amend the Design Guidelines to reference that the public domain will be delivered in accordance with a precinct-wide Public Domain Plan rather than localised PDPs for individual buildings over a certain height \(see Attachment B\)](#)
- [Amend the Design Guidelines to ensure a robust design excellence process is put in place to deliver a good public domain design outcome in accordance with the requirements of the Parramatta Public Domain Guidelines and precinct-wide Public Domain Plan.](#)
- [Amend the Design Guidelines to reference the Apartment Design Guide.](#)
- [Amend the Design Guidelines to clearly identify what provisions apply to the Core, the Precincts, or both.](#)

- [Update the terminology in the Design Guidelines to refer to the Core and Precincts.](#)
- [Amend the Concept and Stage 1A design drawings to be consistent with the recommendations outlined in Attachment B.](#)

4. GFA / FSR

- Amend the clause 4.6 variation request to identify the FSR variation being sought with reference to clause 4.5 of PLEP 2011, including in the scenario where land transfer/ swap arrangements do not proceed.
- [Amend the Clause 4.6 variation request to focus on the aspect or element of the development that contravenes the development standard.](#)
- [Provide updated indicative scheme drawings and indicative GFA diagrams for the Concept proposal to demonstrate how the proposed GFA can be accommodated in the building envelopes.](#)
- Confirm the total GFA of the Concept proposal, including updating Table 17 of the EIS to provide a breakdown of the maximum GFA, site area, and applicable bonus for each building.
- Confirm the GFA of the new retail precinct.
- Clarify if the GFA generated by the Telopea Station Plaza area, which is zoned RE1 Public Recreation, has been applied to the GFA for the Stage 1A proposal.

5. Concept Plan Layout

Height

- [Provide an updated Clause 4.6 variation request that focuses on the aspect or element of the development that contravenes the development standard and outline the extent to which the additional height is attributed to the bonus FSR available under the PLEP 2011,](#)

- SEPP (Affordable Rental Housing) 2009, and SEPP (Housing for Seniors or People with a Disability) 2004.
- Amend the building envelope heights of Buildings N1, S3 and S7 (as shown in the Response to Submissions, Appendix E – Concept Masterplan Drawings) to comply with the PLEP 2011 height controls.
 - Provide revised maps illustrating building height exceedances as per Appendix J of the EIS Concept Design Report.

Building Separation

- Outline how the proposal complies with the building separation design criteria in the ADG for the proposed buildings and neighbouring properties and provide clear justification for any non-compliances. The Department has identified at least 7 buildings in the Core and 18 buildings in the north and south precincts which do not comply with the ADG minimum separation distances.
- The Department requests that building separation in the North and South Precincts be amended so that building separations distances comply with the ADG building separation design criteria.

Urban Design

The Department recommends that all plans are updated to comply the Design Guidelines and the recommendations outlined in Attachment B, specifically:

- Buildings greater than 45 m in length should contain two or more building breaks. The Department notes the following buildings are greater than 45 m in length and contain no or insufficient building breaks: Building C1.1, C1.2, C2.1, C2.2, C5.1B, C6.1B, E1, N1, N3, N4, N5, N6.1, N7.1, N7.2, N8, N9.1B, N9.2, S1, S2, S3, S4, S5, S6, S7, S8.

- Building breaks should be provided on each façade greater than 45 m in length and provided to all levels of the building. All building breaks must be identified on the plans.
- Consider breaking up Building E1 (measuring 76 m) into two separate building envelopes.
- Through-block connections should be open to the sky and read as safe, accessible public spaces.
- Buildings in the Core should adopt a podium and tower typology with a street wall height of 2-4 storeys and a minimum tower setback of 3 metres.
- Ensure buildings in the Precincts adopt a streetwall and upper-level setback compatible with the Parramatta DCP 2011.
- Update all plans to identify building lengths and depths for podiums and towers.
- Provide the area of typical floorplates for all development blocks.

6. Isolated Lots

- Confirm and provide evidence of the process undertaken to amalgamate isolated lots as part of the proposed redevelopment. Given the scale and timeframe of the proposed concept, the Department considers the creation of isolated lots should be avoided for reasons of amenity impacts and building separation.
- Amend the Isolated Sites Study to include the property at 11 Cunningham Street and which addresses Council's concerns.

7. Setbacks

- Update plans to include all podium and tower setbacks and any upper-level setbacks.
- Update the street wall heights and tower setbacks for the Core in accordance with the recommendations outlined in Attachment B.

- Amend setbacks in the North and South precincts to provide:
 - street setback between 4 metres and 6 metres
 - side setback of 3 metres and 6 metres where habitable rooms face side boundaries
 - rear setback of 10 metres/15% of the total length of the site.

8. Open Space, Trees and Deep Soil

- Confirm the total amount of public open space and communal open space for the Concept proposal for the Core, North and South Precincts, as well as the Stage 1A proposal.
- Investigate further opportunities for tree retention in the Concept proposal and Stage 1A proposal.
- Address Council's concerns regarding tree removal and revise documentation to show tree removal consistently in all plans.
- Provide further information on the public domain as requested by Council.
- Provide a detailed breakdown of the quantity of deep soil proposed for each development block for the Concept proposal. The Department prefers a contiguous deep soil network rather than reliance on deep soil within road corridors (for example Wade Lane and portions of the Mews loop road).

9. Traffic and Car Parking

- Review and respond to the traffic issues raised in TfNSW's submissions, including providing updated warrants assessments, further assessment of Adderton Road/New Link intersection, further assessment of impacts on the light rail and providing updated SIDRA modeling and traffic surveys.
- Review and respond to the traffic issues raised in Council's submission including providing further information for the Stage 1A proposal,

- providing warrants assessments for the Concept proposal, addressing inconsistencies in plans, resolving outstanding road and intersection design issues.
- Confirm what road upgrades are proposed as part of the concept proposal.
- Confirm what road upgrades are proposed as part of the Stage 1A proposal.
- Confirm the number of loading bays proposed for Stage 1A proposal.

- 10. Biodiversity Development Assessment Report (BDAR)**
- The Environment and Heritage Group have determined that a BDAR is required. Provide a BDAR that considers the entire Concept proposal area as well as the Stage 1A proposal.

- 11. Stage 1A: Built Form and Amenity**
- Outline how the proposal complies with the building separation design criteria in the ADG for the proposed buildings and neighbouring properties and provide justification for any non-compliances.
 - Amend or justify articulation zones that are non-compliant with the Design Guidelines, noting these should be a minimum of 3m x 3m as measured from façade edge to façade edge.

- 12. Other Matters**
- Confirm the site boundary for the Concept proposal and Stage 1A proposal.
 - Confirm the number of construction and operational jobs for the Stage 1A proposal.
 - Provide an updated ADG assessment for the Concept proposal and Stage 1A proposal which clearly details how each building meets the criteria in the ADG and justify any non-compliances, including any specific design solutions.

1.0 Schedule of Design Changes

General

- 1. Typical floor to floor heights increased from 3100mm to 3150mm
- 2. Envelopes refined to show ADG building separation criteria (non-habitable)
- 3. Reference design plans updated to show relationship to envelopes
- 4. GFA drawings describe typical floorplan areas
- 5. Reference design and mix updates to accommodate increased street setbacks, built form changes etc.

Stage 1a

- 6. Refer to Stage 1A SSDA RTS2 design Report
- 7. Street setbacks increased to 4m
- 8. Additional storey to Building B setback from rooftop level
- 9. Envelope heights increased by 3m to Building B

Core + East Precincts

- 10. Envelope heights adjusted to capture increased building heights
 - Lot C1.1 increased from 70m to 72m
 - Lot C1.2 and C2.1 increased from 86m to 87m
 - Lot C6.1a increased from 35m to 36m
- 11. Envelope heights adjusted to capture increased number of levels
 - Lot C5.1c increased from 24m to 30m
 - Lot E1 (Moffats Drive) increased from 12m to 15m

- 12. Building breaks (articulation zones) added to; C1.1, C2.1, C5.1b, C6.1b, C8, E1
- 13. Building heights redistributed across the precincts
 - Building C5.1c increased by two storeys
 - Building E1 2-3 storey terraces on Moffats Drive wing replaced with 4-storey apartments
- 14. Ground level through site links removed from lots C8 and C6.2

North Precinct

- 15. Street setbacks increased from 3m to 4m
- 16. Deep soil increased from 25% to 30%
- 17. Basements setback from streets to maximise deep soil opportunities to street (50% assumed deep soil)
- 18. Upper level setbacks provided to 8-storey buildings (N3, N5 and N8)
- 19. Building breaks (articulation zones) added to; N3, N4, N7.2, N9.1 and N9.2
- 20. N6.1 redesigned
 - a. 1x AA1 tree removed
 - b. Courtyard building with consistent streetwall to Shortland Street (previously stepped around tree)
- 21. Rear Boundary Setbacks
 - N8, N9, N10 rear boundary setbacks increased from 3- 4m to 6m to maximise amenity to southern neighbours

- 22. Building heights redistributed
 - N6.1 level 7 part-storey, upper level setback
 - N9 rear wings increased from 3 to 4 storeys
 - N9 streetwall height increased from 4 to 5 storeys
 - N10 stepped height (4-5 storeys) increased to 5 storeys

South Precinct

- 23. Street setbacks increased from 3m to 4m
- 24. Deep soil increased from 25% to 30%
- 25. Basements setback from streets to maximise deep soil opportunities to street (50% assumed deep soil)
- 26. Building breaks (articulation zones) added to S2
- 27. S3 redesigned:
 - 1x AA1 tree removed
 - Courtyard building with consistent streetwall to Chestnut Avenue (previously stepped around tree)
 - 4-storey streetwall to southern wing with upper level setbacks increased to 5-storey streetwall with upper level setbacks
- 28. S1 and S3 redesigned to treat 11 Cunningham Street as an isolated lot
 - S1 redesigned with 6m boundary setback to 11 Cunningham street
 - S2 redesigned as 21.5m deep building with nil boundary setback to 11 Cunningham Street (to enable future streetwall extension)



Key
Schedule of Design Changes

2.0

Summary of Benefits

2.0 Summary of Benefits

Key Changes to LAHC Scheme



Key
Key Changes to LAHC Scheme

Bates Smart's review of the LAHC Master Plan which informs the controls that apply to the site under the Parramatta Local Environmental Plan LEP 2011 highlights the following issues:

- Apartment towers are predominately orientated to the east and west, presenting a major impediment to achieving good solar amenity for residents;
- There is no connection between Manson Street and Marshall Road which would provide improved connectivity to the Telopea Public School, along the natural contours of the site
- Eyles Street provides poor pedestrian access due to the site's steep topography that does not meet relevant standards for pedestrian pathways due to crossfall and is largely free of buildings, resulting in a street that is avoided by the community and remains inactivated.

Frasers and LAHC accordingly took the opportunity to redistribute density particularly across the Core Precinct to secure improved urban design and planning outcomes while retaining the underlying strategic planning objectives established during the rezoning stage for the site. More specifically, the reappraisal was undertaken to respond to the significant urban consolidation opportunity presented by the proximity of the Telopea Public School, Telopea Light Rail Station, and associated bus routes, access to employment opportunities in Greater Parramatta and the potential to provide a network of public open space and other recreational opportunities, without creating any greater adverse impacts upon surrounding properties in terms of overshadowing, view loss, visual impact or privacy.

The benefits of the revised urban structure and resulting redistribution of built form and GFA proposed by the current Concept Plan when compared against the LAHC Master Plan is summarised following.

1. Trees
Celebrating the site's most significant trees

The Concept Plan prioritises the retention of the site's most significant trees clustered around new open spaces.

2. Open Space:
More Publicly Accessible Open Space

At key nodes in the Concept Plan, new publicly accessible open spaces are proposed around the site's most important retained trees; including the Station Plaza, Neighbourhood Park, Eyles Street Pedestrian Link, Retail Courtyard, Library Plaza as well as pocket parks in the precincts at prominent street corners.

3. Accessibility
Pedestrianised Eyles Street Link

A stepped sequence of public spaces run along the Eyles Street Pedestrian Link, connecting the community to the hill-top transport plaza and containing stairs, ramps and lifts to ensure an accessible, equitable and enjoyable journey for all.

4. Solar Access
Existing And New Open Spaces

Building heights and orientations have been designed to maximise amenity to existing and new open spaces.

5. Connectivity
Streets and Through Site Links

New streets and laneways, running along flatter topographies, stitch the Telopea's core into surrounding residential areas - creating a sense of connectivity and cohesion between new and existing residential areas, and maximise the retention of significant trees.

Two new mid-block links (N5 and N7) are provided in the North Precinct to increase permeability and reduce longer street blocks.

6. Stage 1 Amenity
New Neighbourhood Park

The first stage of development includes the previously envisaged Station Plaza and through site link to Manson Street, as well as a publicly accessible north facing Neighbourhood Park

7. Heights Lowered and Raised
for Diversity and Amenity

Building heights have been adjusted in the Core Precinct to increase diversity, amenity to residents, improve solar access to existing and proposed open spaces, improve the transition of heights to neighbours and improve the silhouette on the skyline. In the precincts heights have been reduced in key locations to minimise overshadowing to communal open spaces and neighbouring properties.

8. Building Orientations Rationalised
to Maximise Amenity

Lots and building orientations have been designed to maximise amenity for residents, minimising south facing apartments.

9. Greener Precincts
Open Space, Deep Soil & Trees

New publicly accessible open spaces are proposed around retained trees at important nodes in the Concept Plan: Shortland Fig Tree Avenue corner; Fig Tree Avenue and The Parade Corner; and at the main bend in the Parade. The proposed deep soil network in the precincts has increased from 25% to 30% of the site area, maximising amenity for residents and ensuring a strong connection to landscape is maintained.

10. Future Context
Isolated Lot Approach

Consideration has been provided to the future development of potentially isolated lots, setting the framework for them to develop in a manner consistent with the Concept Plan approach.

3.0

Heights Summary

3.0 Heights Summary

Consistency with 2017 Masterplan




This section of the document:
Demonstrates that the Concept Plan maintains or improves the principles of the built form strategy established by the LAHC Master Plan; and
Summarises the implications of amendments to the National Construction Code that have been introduced since the Concept Plan and Stage 1A Project Application's public exhibition.


The key principles of the built form strategy are:

1	2	3	4	5	6
Density	Transitioning Heights	Urban Structure	Tall Buildings	Setbacks	Streetscapes
Place density where there is best access to public transport, retail and community services to maximise convenience and opportunities for activity and surveillance. This corresponds with the area in greatest need of urban renewal.	The transition area allows for a change in height between the high rise core and the low rise outer areas of Telopea.	Encourage an urban structure that works with the topography transitioning down in scale as distance increases from the core. This structure and form maximises solar access and retention, and creation of views.	Locate taller buildings on the ridge line to frame the arrival plaza as a visual marker, and support activation and surveillance.	Setbacks should balance activation, surveillance and retention of existing trees.	Create consistent streetscapes where possible.
		Enhanced by height amendments	Enhanced by height amendments		

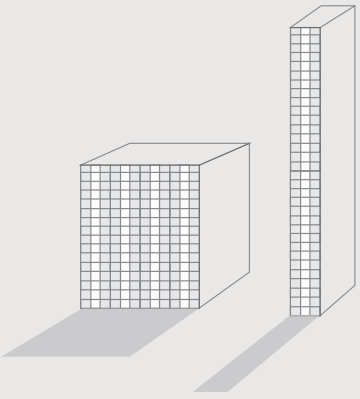
In comparison to an LEP compliant scheme, the additional height proposal better celebrates the built form principles established in the 2017 Telopea Master Plan.



Taller built form on the ridge gives better views, reinforces land form and balances solar access

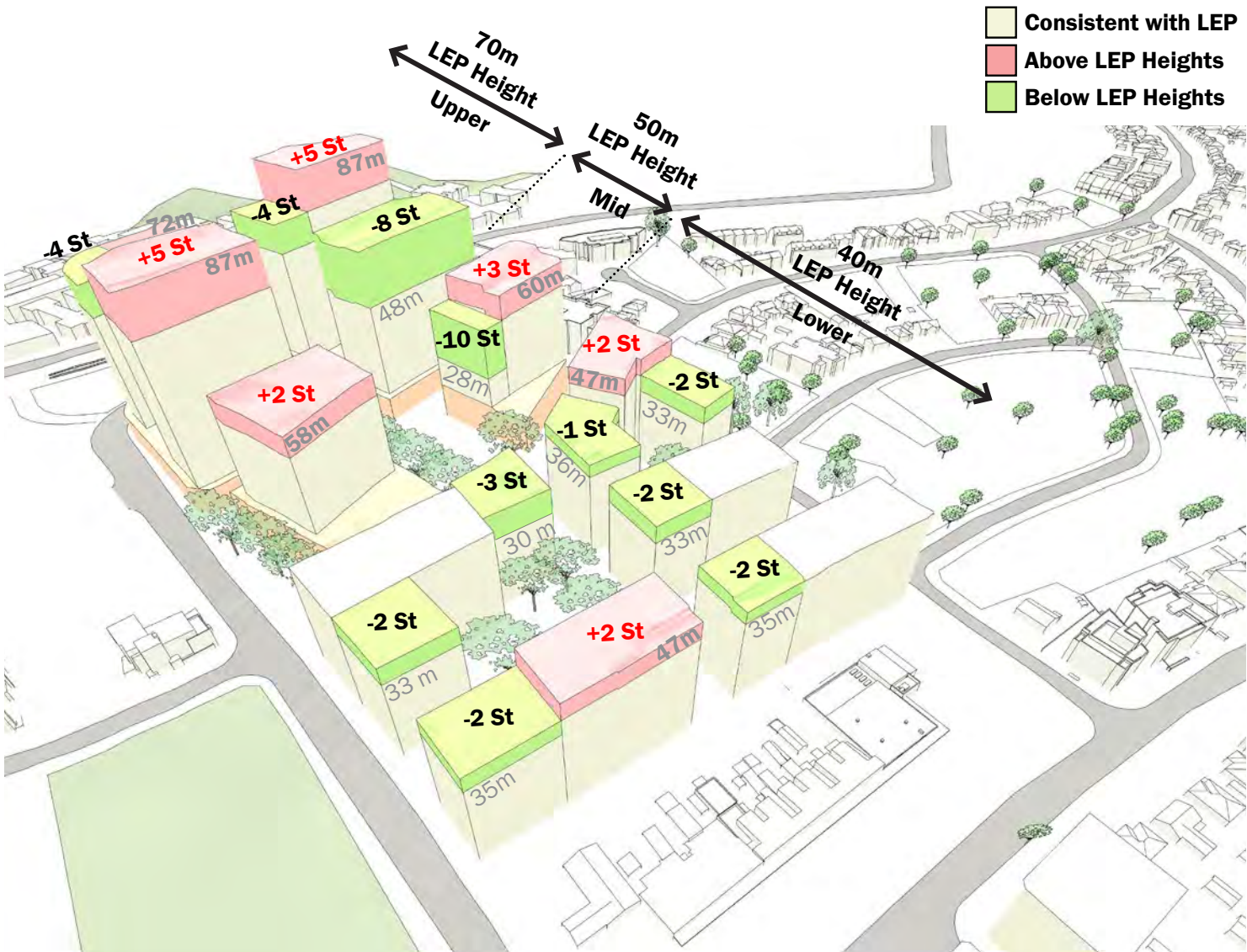


Homogeneous height built form will obstruct views and solar access



Thinner and taller built form casts longer fast moving shadows compared to short but thicker built form

2017 Telopea Master Plan - Built Form Principles



The proposed envelope heights deviate from the LEP height controls. The adjacent diagram represents in green where the proposed envelope height is less than the LEP height control and in pink where the proposed envelope height is greater than the LEP height control for any given site.

It is noted that 1,000m² of the height increase is to accommodate an increase in the library from 3,000m² to 4,150m² as requested by Council.

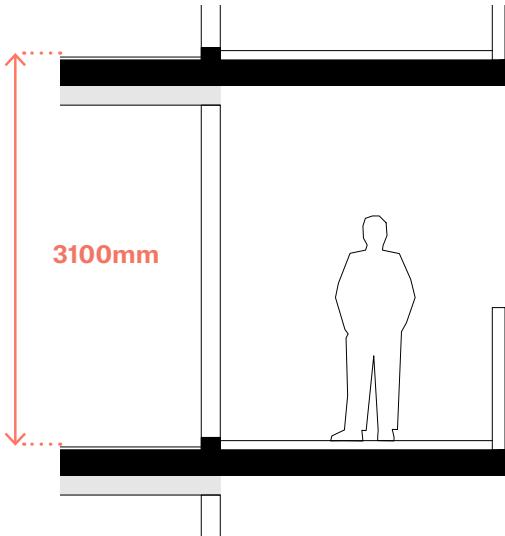
- Unutilised GFA below LEP Heights:**
21,000m² GFA
- Approximate GFA above LEP Heights:**
16,000m² GFA

Building Heights
The above diagram summarises the building heights proposed. The following Chapter 3.0 establishes how the building envelopes have amended in response to feedback received.

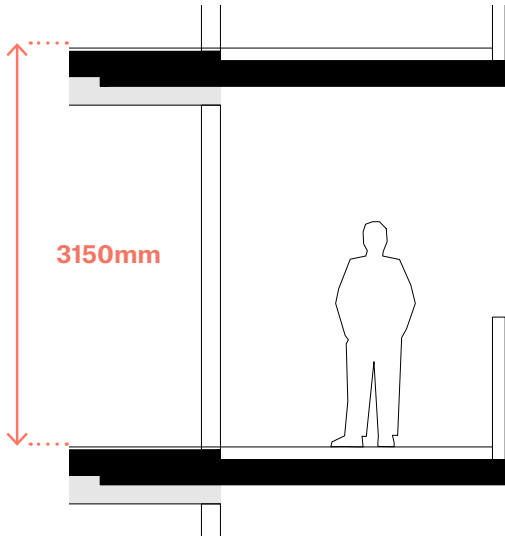
Floor to Floor Heights

Changes to the National Construction Code (NCC) since the proposed Concept Plan work was publicly exhibited has seen an industry shift from a minimum 3,100mm floor to floor heights to 3,150mm or greater to ensure compliance. The increased floor to floor heights ensure compliance and accommodate improvements in relation to;

- Servicing
- Insulation
- Bathroom Setdowns
- Fire ratings
- Balcony thresholds



Previous - 3100mm



Proposed - 3150mm

Floor to floor heights have increased from 3100mm to 3150mm to ensure compliance with the National Construction Code and accordingly envelope heights have been adjusted in key locations to accommodate the minor increases in building heights

Envelope Amendments from NCC changes

Minor amendments have been made to envelope heights in key areas as a result of the increased floor to floor levels impacting the total height of the buildings.

In the Core Precinct the following adjustments to envelope heights have been made in response to the NCC amendments;

- C1.1 Increased from 70m to 72m
- C1.2 & C2.1 Increased from 86m to 87m
- C6.1a Increased from 35m to 36m

Other envelope amendments

C5.1c envelope has been increased from 24m to 30m but still remains well below the LEP height limit. All other building envelopes within the Core Precinct, as well as all building envelopes with the Precincts remain unaltered as sufficient contingency had already been designed into the exhibited envelopes.



Envelopes - As exhibited



Envelopes - Proposed

4.0 Urban Design Benefits

This section of the document summarises the key benefits of the Concept Plan, when compared to an LEP compliant scheme. The analysis has been prepared primarily for the Core Precinct where the greatest degree of non-compliances with the LEP is proposed.

The analysis demonstrates that the Concept Plan is a better urban design response to the site and will deliver enhanced outcomes in all areas investigated, thereby supporting the proposed density and building heights.

4.1 Building Height and Massing

Taller But Fewer Towers

When compared to the exhibited proposal, the number of tall buildings in the upper core has reduced from 4 to 3. Two towers have increased in height by 5 storeys, to enable one of the tower forms to reduce in height by half, introducing a new street wall mid-rise typology into the upper core, maximising solar access and improving amenity to both the public domain and residential compliance.

The building heights schedule articulates that the proposed adjustments to the envelopes create a greater diversity and range of building heights and types.

Building Height	Number Of Buildings	Mix
> 65m	4	21%
40 - 65m	2	11%
35 - 40m	12	63%
< 35m	1	5%

Compliant Building Heights Schedule



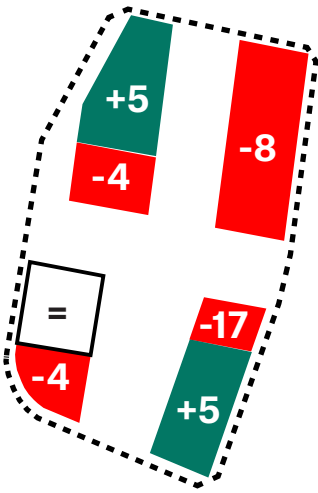
LEP Compliant Envelopes

Building Height	Number Of Buildings	Mix
> 65m	3	16%
40 - 65m	5	26%
35 - 40m	4	21%
< 35m	7	37%

Proposed Building Heights Schedule

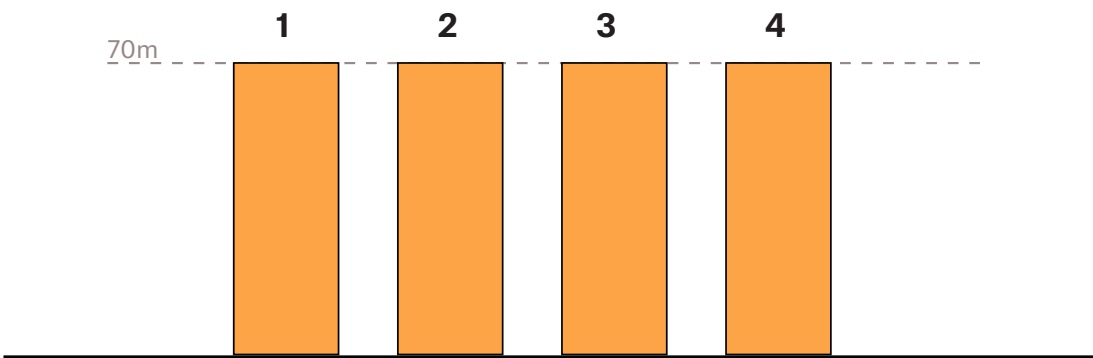


Proposed Envelopes



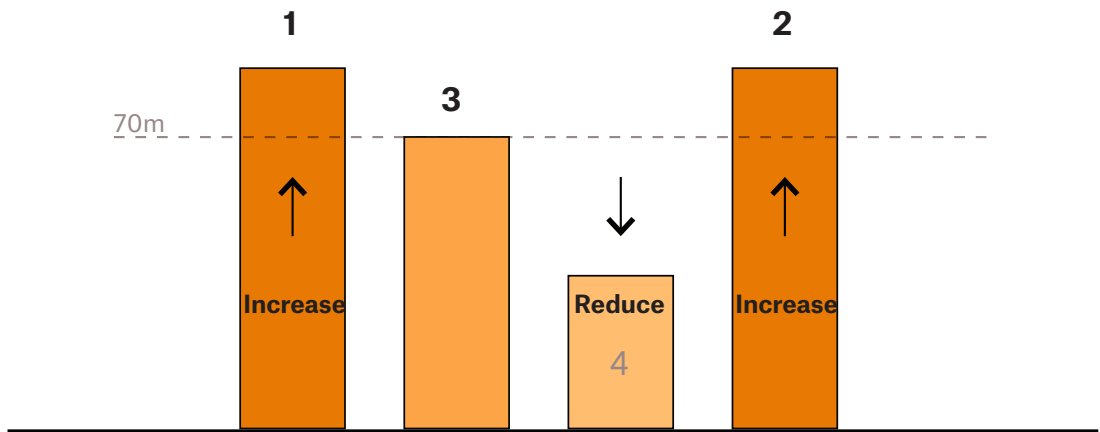
Amended Tower Heights

4 Equal Towers



LEP Upper Core Skyline

Diverse Heights



Proposed Upper Core Skyline

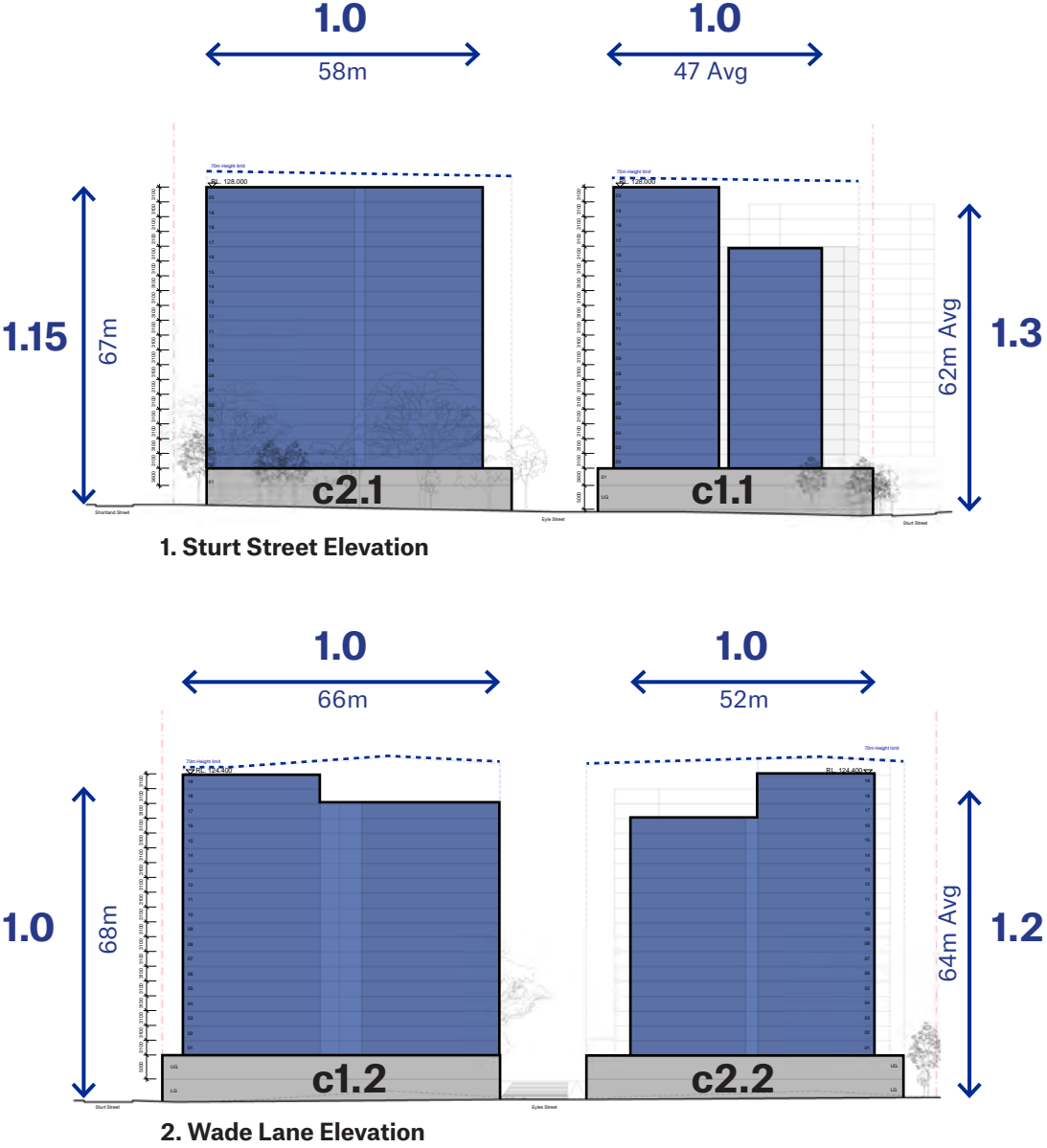
4.1 Slenderness Ratio

The LEP compliant scheme proposed four towers at the top of the hill that had similar proportions to one another and each was maximised in height.

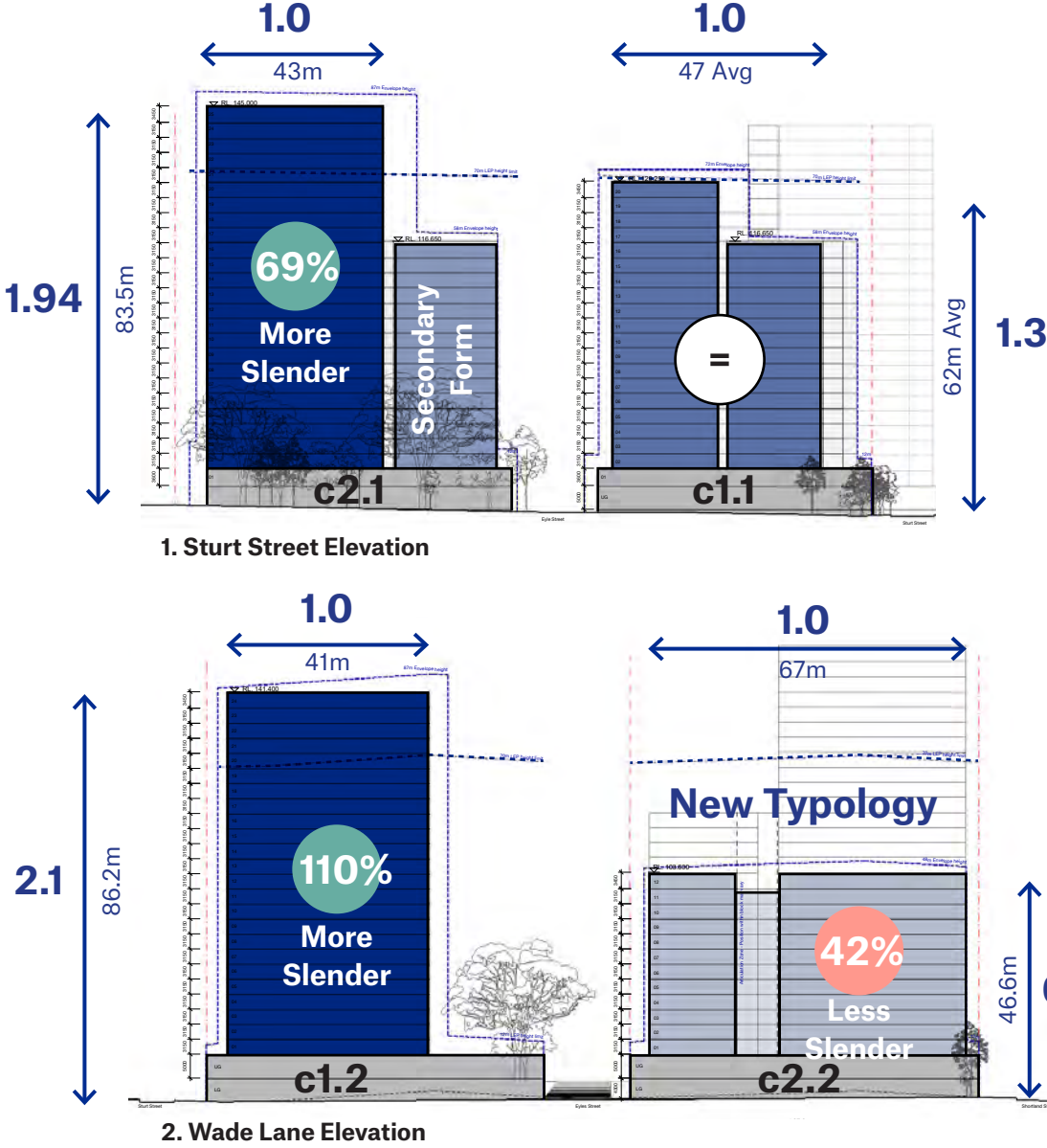
The proposed proportions of three of the four upper core buildings have changed, celebrating diversity and tower form variation;

- c1.1 is unchanged and has a four storey skyline step
- c2.1 has partially increased in height and partially reduced in height, the secondary form is expressed as a setback 'shoulder' from the primary tower volume.
- c1.2 has reduced in length and depth and increased in height
- c2.2 has reduced significantly in height and increased in length, creating a new mid-rise street Wall typology in the upper core

Building	Location	Slenderness Ratio		
		LEP Compliant	Proposed	Variance
c1.1	Sturt South	1.30	1.30	100%
c2.1	Sturt North	1.15	1.94	169%
c1.2	Wade South	1.0	2.1	210%
c2.2	Wade North	1.2	0.7	58%



LEP Compliant Envelopes



Proposed Envelopes

4.1 Reduced Tower Footprints

When compared to the exhibited proposal, the floorplates have reduced significantly in size.

An LEP compliant scheme included six large footprint towers in the upper core, all of which had typical floorplates larger than 1000sqm.

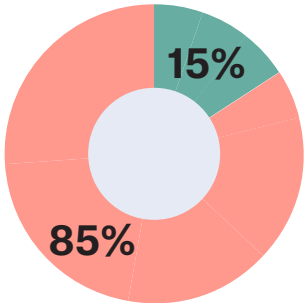
Significantly, three of the tower forms that were above 1,000sqm have been reduced to less than 1,000sqm.

LEP Compliant	Floorplates > 1000sqm	85%
Proposed	Floorplates > 1000sqm	48%

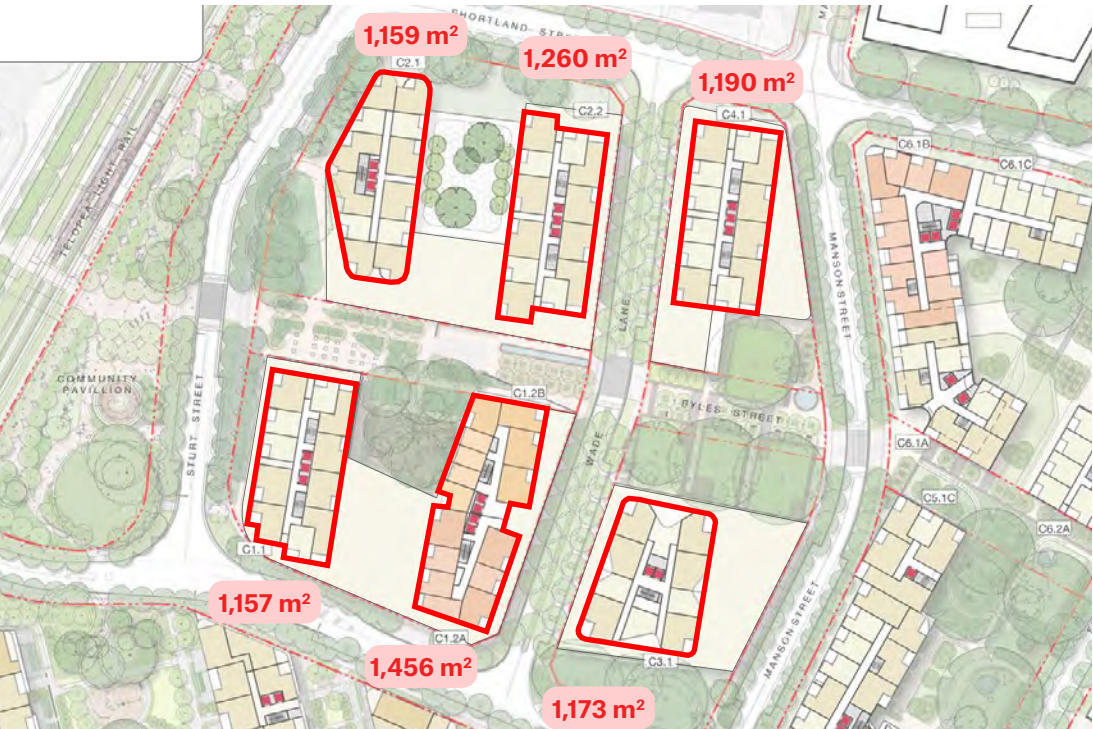


- Notes
- c4 podium form (RACF) not included in total
 - Below 1000sqm floorplate
 - Above 1000 sqm floorplate

Building	Typical Envelope Area	Typical Footprint (GBA)	Number of Levels
c1.1 Lower	1390	1157	16
c1.1 Upper	1390	579	4
c1.2 Lower	1673	1456	17
c1.2 Upper	1673	702	2
c2.1 Lower	1610	1159	18
c2.1 Upper	1610	927	2
c2.2 Lower	1478	1260	15
c2.2 Upper	1100	680	5
c3	1216	1173	11
-	-	-	-
c4.1lower	1845	1814	4
c4.2 Lower	1241	1190	7
c4.2 Upper	1241	595	2
Total			99

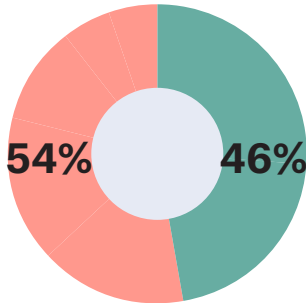


15 % Less than 1,000 sqm
85 % More than 1,000 sqm

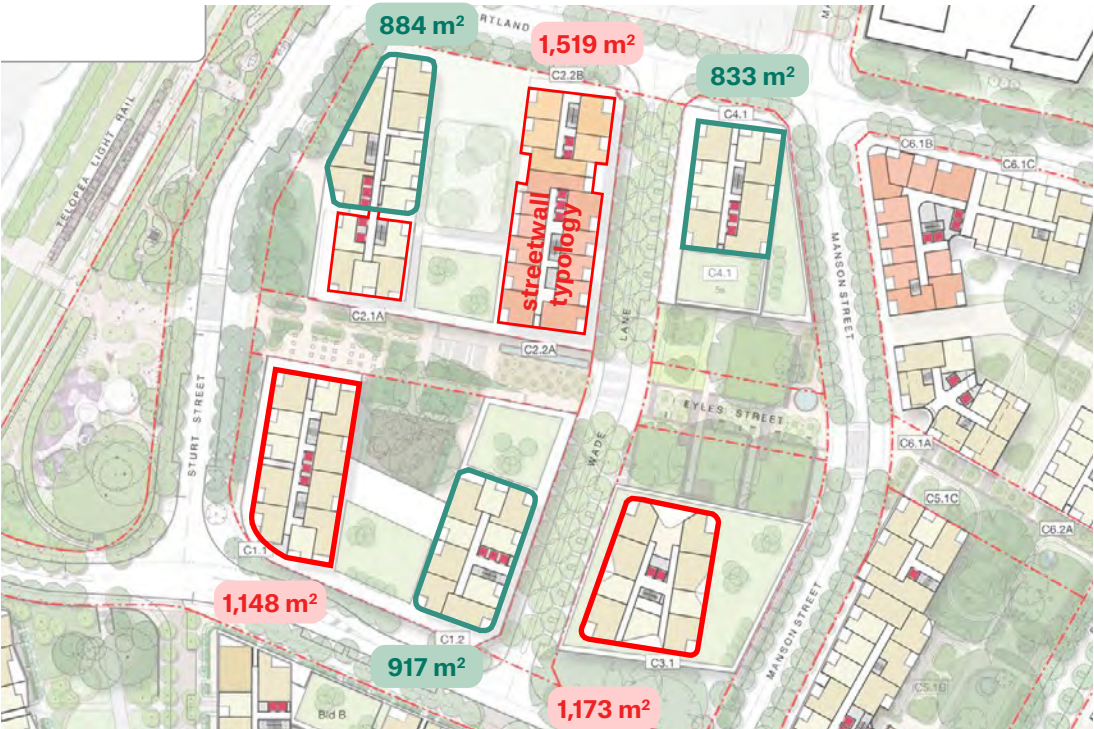


LEP Compliant Typical Level

Building	Typical Envelope Area	Typical Footprint (GBA)	Number of Levels
c1.1 Lower	1282	1148	16
c1.1 Upper	769	579	4
c1.2	1012	917	24
-	-	-	-
c2.1 Lower	1728	1365	17
c2.1 Upper	1128	884	8
c2.2	1629	1519	12
-	-	-	-
c3 lower	1216	1173	11
c3 upper	608	587	2
c4.1lower	1727	1566	4
c4.2 Lower	988	833	11
c4.2 Upper	494	416.5	1
Total			106



54 % Less than 1,000 sqm
46 % More than 1,000 sqm



Proposed Typical Level

4.1 Fewer Apartments per Core

Fewer apartments per core improves the ability for residential compliance, smaller floorplates, better daylight to lift lobbies and shorter wait times for residents.

Greater diversity of core types and floorplates have been achieved as a result of the proposed additional heights. An LEP compliant scheme with larger floorplates equated to 6 towers with central cores, which has reduced to 3 central core towers, two multi-core buildings and 1 side core typology.

The number of lift cores in the upper and mid core has increased from **7 to 8 lift cores**.

The average apartments per lift core has reduced from **10.3 to 8.4 apartments per core**

The reference design establishes the potential to achieve an improved built form outcome with smaller building footprints and fewer apartments per core. The proposed envelopes and building depths ensure a diverse range of floorplate and core typologies can be achieved in the upper core.

Building	Location	Core Type	Typical Apt's Per Core
c1.1	Sturt South	Central Core	11
c1.2a	Wade South	Central Cores	7
c1.2b	Wade South		8
c2.1	Sturt North	Central Core	12
-	-	-	-
c2.2	Wade North	Central Core	12
-	-	-	-
c3	Above Library	Central Core	10
c4	Above Church	Central Core	12
Total			72

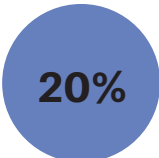


Average Apartments Per Core

Building	Location	Core Type	Typical Apt's Per Core
c1.1	Sturt South	Central Core	11
c1.2	Wade South	Side Core	9
-	-	-	-
c2.1a	Sturt North	Multi Core	5
c2.1b	Sturt North		8
c2.2a	Wade North	Multi Core	11
c2.2b	Wade North		5
c3	Above Library	Central Core	10
c4	Above Church	Central Core	8
Total			67



Average Apartments Per Core



fewer apartments per floor



LEP Compliant Typical Level

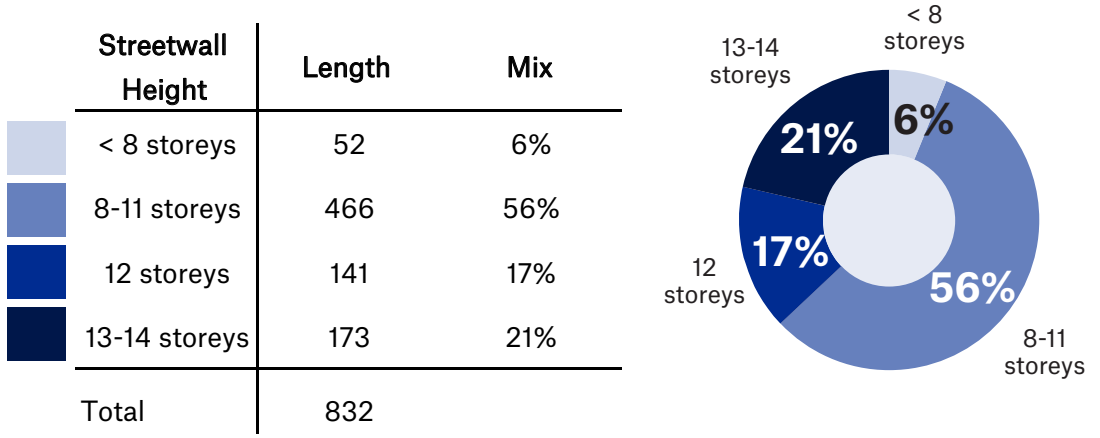
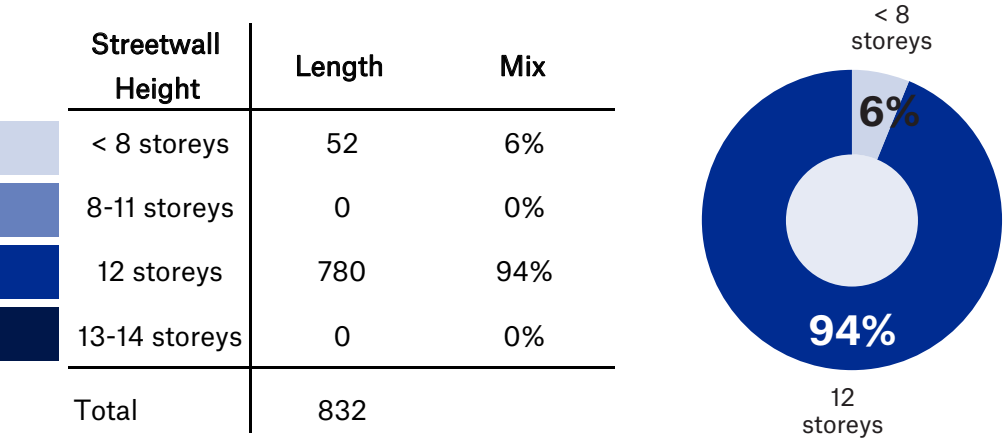


Proposed Typical Level

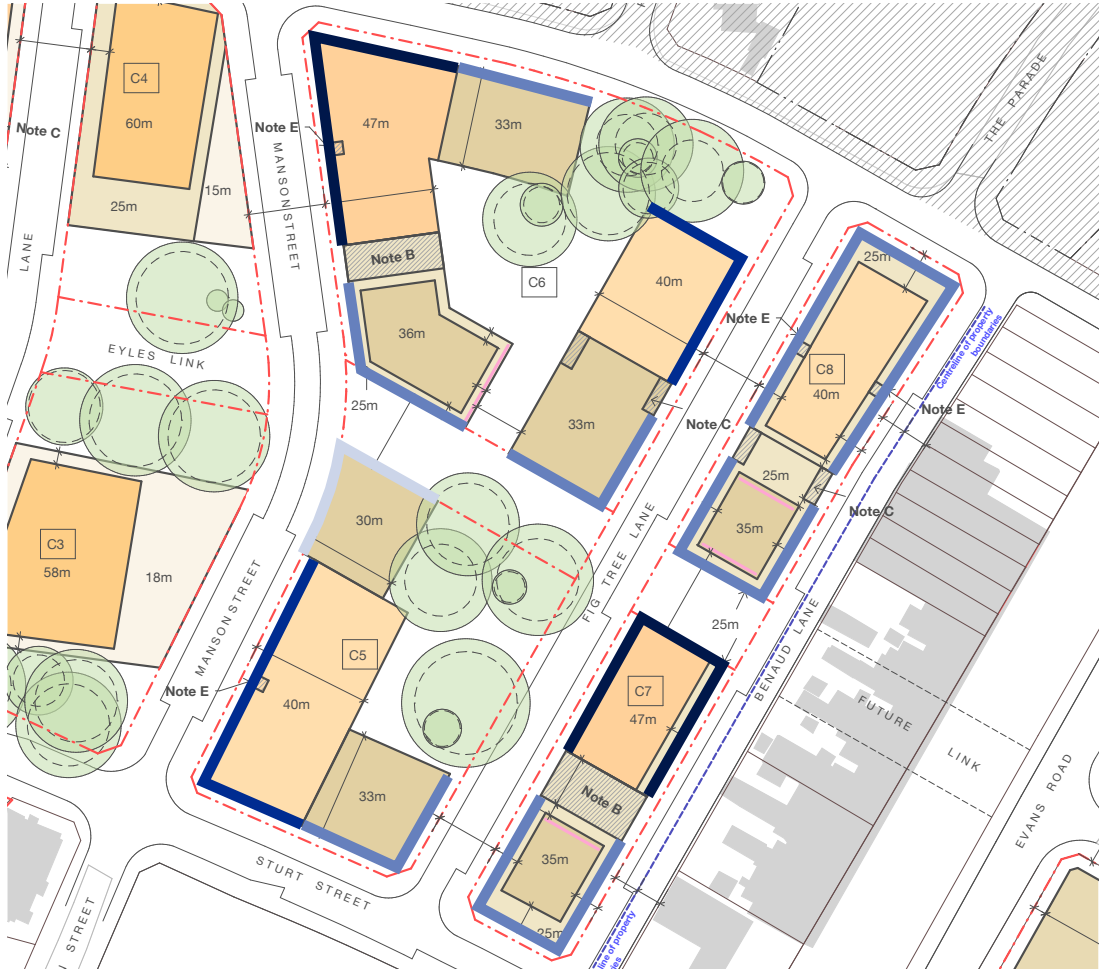
4.1 Reduced Street Wall Heights

A greater mix of street wall and building heights have been proposed to create a diverse neighbourhood with a range of building heights and types. Heights have been reduced to benefit the public domain and improve solar access to open space. Upper level setbacks are also proposed in key locations to further enhance streetscale diversity.

The revised envelopes have reduced in height, committing to a varied street wall approach consistent with the proposed reference design.



LEP Compliant Envelopes



Proposed Envelopes

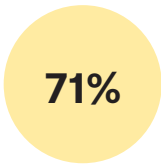
4.2 Residential Amenity Solar Access

As a result of the increased building heights, solar access to residential apartments has improved from **71% to 76%**

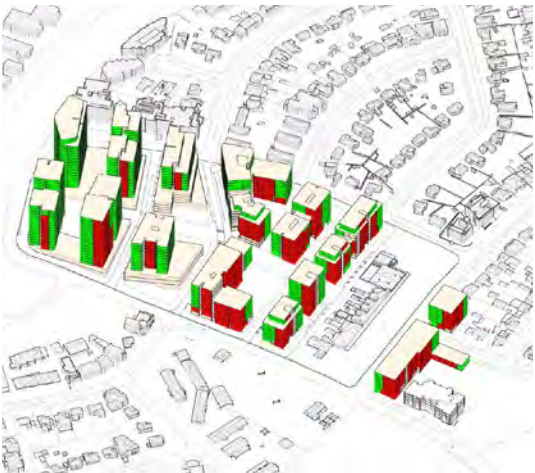


Improvement

Lot	Units	2 hours Sun	
		%	Lot Totals
C1.0			
C1.1	194	160 82.5%	69.9%
C1.2a	147	76 51.7%	
C1.2b	164	117 71.3%	
C2.0			
C2.1	227	214 94.3%	88.3%
C2.2	218	179 82.1%	
C3.0			
C3.1	110	78 70.9%	
C4.0			
C4.1	126		
C4.2	92	85 92.4%	
C5.1a	48	31 64.6%	70.4%
C5.1b	110	78 70.9%	
C5.1c	31	24 77.4%	
C6.1a	60	38 63.3%	75.2%
C6.1b	141	120 85.1%	
C6.1c	73	48 65.8%	
C6.2a	65	40 61.5%	70.4%
C6.2b	77	60 77.9%	
C7.1	73	51 69.9%	
C7.2	61	44 72.1%	
C8.1a	45	16 35.6%	70.2%
C8.1b	30	23 76.7%	
C8.1c	76	67 88.2%	



2 hours sun
mid winter



South

LEP Compliant Reference Design

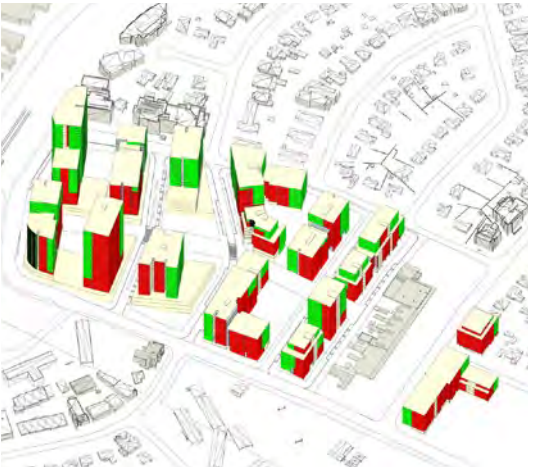


West

Lot	Units	2 hours Sun	
		%	Lot Totals
C1.0		80.0%	
C1.1	194	55.6%	75.9%
C1.2	216		
C2.0		82.4%	
C2.1a	84	62.5%	93.0%
C2.1b	189	51.8%	
C2.2a	145	82.6%	
C2.2b	81		
C3.0		60.0%	
C3.1	125		
C4.0			
C4.1	97	62.5%	
C4.2	96	62.0%	72.1%
C5.1a	71	61.7%	
C5.1b	110	61.0%	
C5.1c	41	95.8%	71.2%
C6.1a	61	61.8%	
C6.1b	161	49.3%	
C6.1c	73	72.9%	72.5%
C6.2a	65	72.9%	
C6.2b	77		
C7.1	73	57.4%	71.5%
C7.2	71	65.2%	
C8.1a	45	81.0%	
C8.1b	30	74.1%	71.5%
C8.1c	76	51.8%	



2 hours sun
mid winter



South

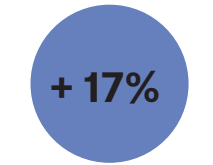
Proposed Reference Design



West

4.2 Views

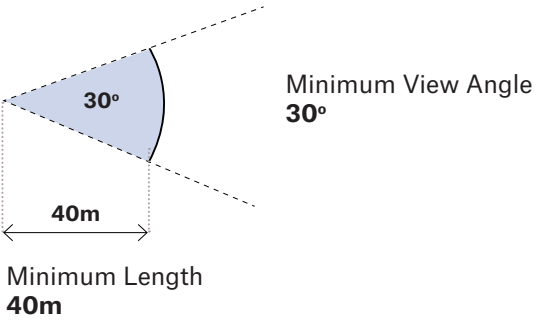
As a result of the increased building heights, the proportion of facades in the mid-upper core which have a view greater than 40m and within a 30 degree view cone has increased from **59% to 76%**



Improvement
(facade length)

Assessment Criteria

The assessment criteria for view analysis has been established by measuring any frontage of a building that has a view angle of no less than 30 degrees perpendicular to its facade and minimum unobstructed view length of 40m, which improves on minimum building separation (24m) by 166%

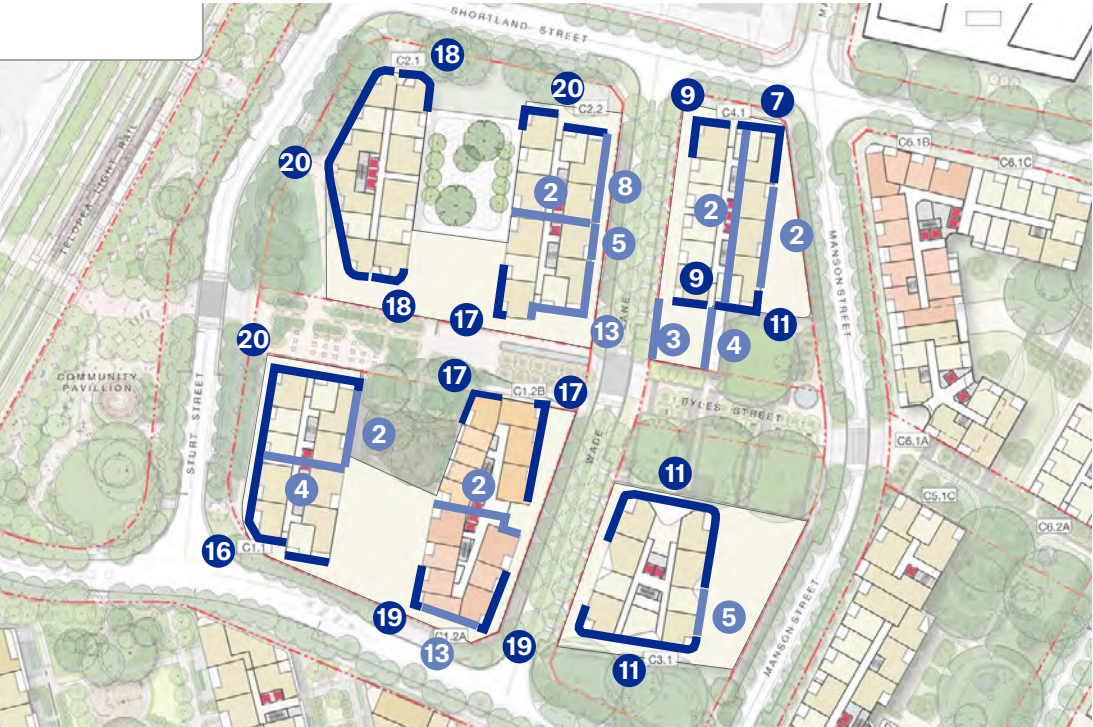


- Key**
- Views to full height of frontage
 - Views to partial height of frontage

Frontage				
Building	Location	Facade Length (m)	Storeys	Total (m)
c1.1	Lower	150	16	2,400
	Upper	97	4	388
Total				2,788
c1.2	Lower	186	17	3,162
	Upper	110	2	220
Total				3,382
c2.1	Lower	151	18	2,718
	Upper	130	2	260
Total				2,978
c2.2	Lower	164	17	2,788
	Upper	104	3	312
Total				3,100
c3	Typical	131	11	1,441
Total				1,441
c4	Lower	200	4	800
	Upper	150	7	1,050
	Top	131	2	
Total				1,850
Grand Total				15,539

Frontage with Views					
Building	Aspect	Facade Length (m)	Storeys	Total (m)	% with Views
c1.1	NE/NW	48	20	960	
	S / W	45	16	720	
	S	24	4	96	
	E	25	2	50	
Total				1,826	65%
c1.2	NE / NW	48	17	816	
	SE / SW	32	19	608	
	S	17	13	221	
	N	30	2	60	
Total				1,705	50%
c2.1	NE	20	18	360	
	SE	11	18	198	
	W	74	20	1,480	
				0	
Total				2,038	68%
c2.2	N	29	20	580	
	E	25	8	200	
	E	10	5	50	
	E / SE	30	13	390	
	W	15	17	255	
	S	24	2	48	
Total				1,523	49%
c3	N	60	11	660	
	E	13	5	65	
	S	40	11	440	
Total				1,165	81%
c4	NW	19	9	171	
	NE	29	7	203	
	E	30	2	60	
	SE	18	11	198	
	S high	11	9	99	
	E high	51	2	102	
	E low	18	4	72	
	W low	17	3	51	
Total				956	52%
Grand Total				9,213	59%

LEP Compliant Views >40m

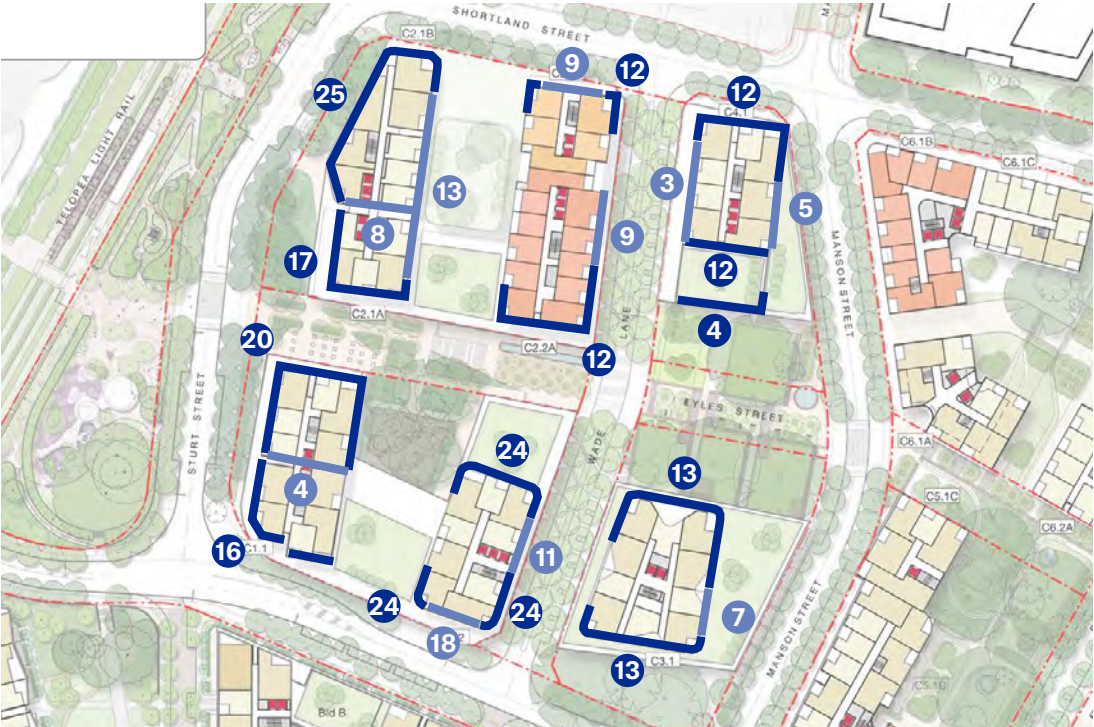


LEP Compliant Reference Design

Frontage				
Building	Location	Facade Length (m)	Storeys	Total (m)
c1.1	Lower	150	16	2,400
	Upper	97	4	388
Total				2,788
c1.2	Typical	120	24	2,880
Total				2,880
c2.1	Lower	170	17	2,890
	Upper	125	8	1,000
Total				3,890
c2.2	Lower	180	12	2,160
Total				2,160
c3	Typical	131	13	1,703
Total				1,703
c4	Lower	164	4	656
	Upper	118	12	1,416
Total				2,072
Grand Total				15,493

Frontage with Views					
Building	Aspect	Facade Length (m)	Storeys	Total (m)	% with Views
c1.1	NE/NW	73	20	1,460	
	S / W	45	16	720	
	S	24	4	96	
Total				2,276	82%
c1.2	N	36	24	864	
	E	16	11	176	
	SE	19	24	456	
	S	16	18	288	
	W	11	24	264	
Total				2,048	71%
c2.1	N / W	73	25	1,825	
	E	52	13	676	
	S / W	57	17	969	
	S / W	15	8	120	
Total				3,590	92%
c2.2	NE / NW	24	12	288	
	N	18	9	162	
	E	21	9	189	
	SE / SW	52	12	624	
Total				1,263	58%
c3	N	60	13	780	
	E	13	7	91	
	S	40	13	520	
Total				1,391	82%
c4	N	43	12	516	
	E	20	5	100	
	S Low	37	4	148	
	S High	24	12	288	
	W	31	3	93	
Total				1,145	55%
Grand Total				11,713	76%

Proposed Views >40m



Proposed Reference Design

4.3 Public Domain Improvements

Mid-Block Link Added to Lower Core

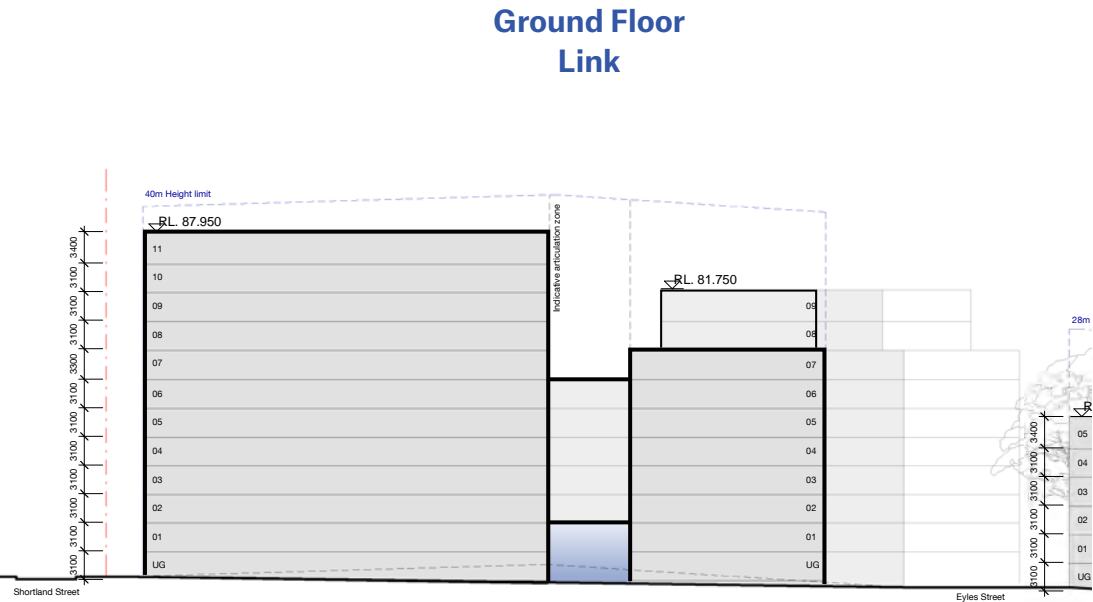
As a trade off for additional height, a new open-to-sky link is proposed in the lower core connecting Manson Street to the c6 lot residential courtyard and Shortland Street.

The new open-to-sky link benefits the public domain by;

- Visually connecting open spaces and existing trees
- Reducing streetwall lengths
- Improving daylight to the ground floor link

And improves residential amenity by;

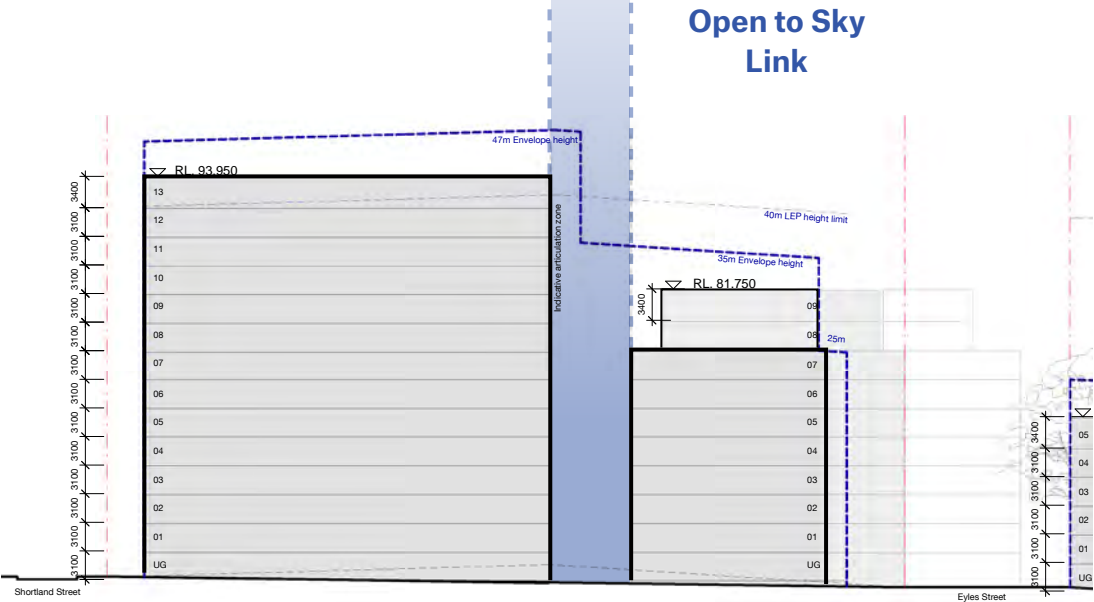
- Increasing solar access to residential apartments
- Reducing building footprints



Manson Street Elevation - LEP Compliant Scheme



LEP Compliant Envelopes - c6 Block



Manson Street Elevation - Proposed



Proposed Envelopes - c6 Block

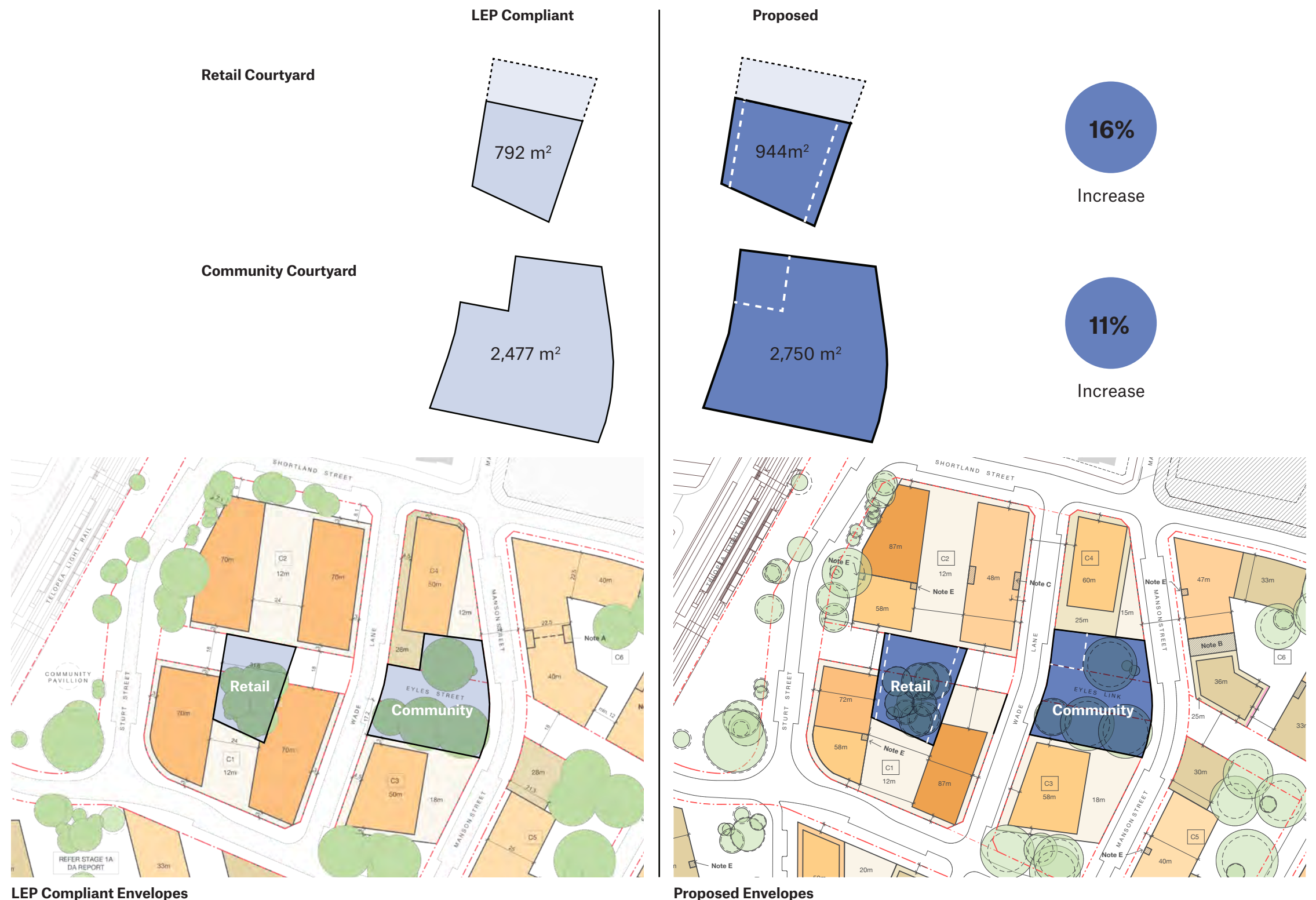
4.3 Additional Open Space

As a result of the increased building heights, additional open space has been provided to the retail courtyard in the upper core and to the Community Courtyard adjacent the library and church.

Visual connectivity has also been improved between these two open spaces, resulting from the c2.2 floorplate reducing in size

Retail Courtyard Increase	16%
Community Courtyard Increase	11%

The community courtyard has increased in size by 250sqm and adjacent building setbacks increased, creating a more contiguous open space that increases open-to-sky areas around existing tree's, improves solar access and improves the visual connectivity within the public domain.



4.3 Visual Connectivity of Open Spaces

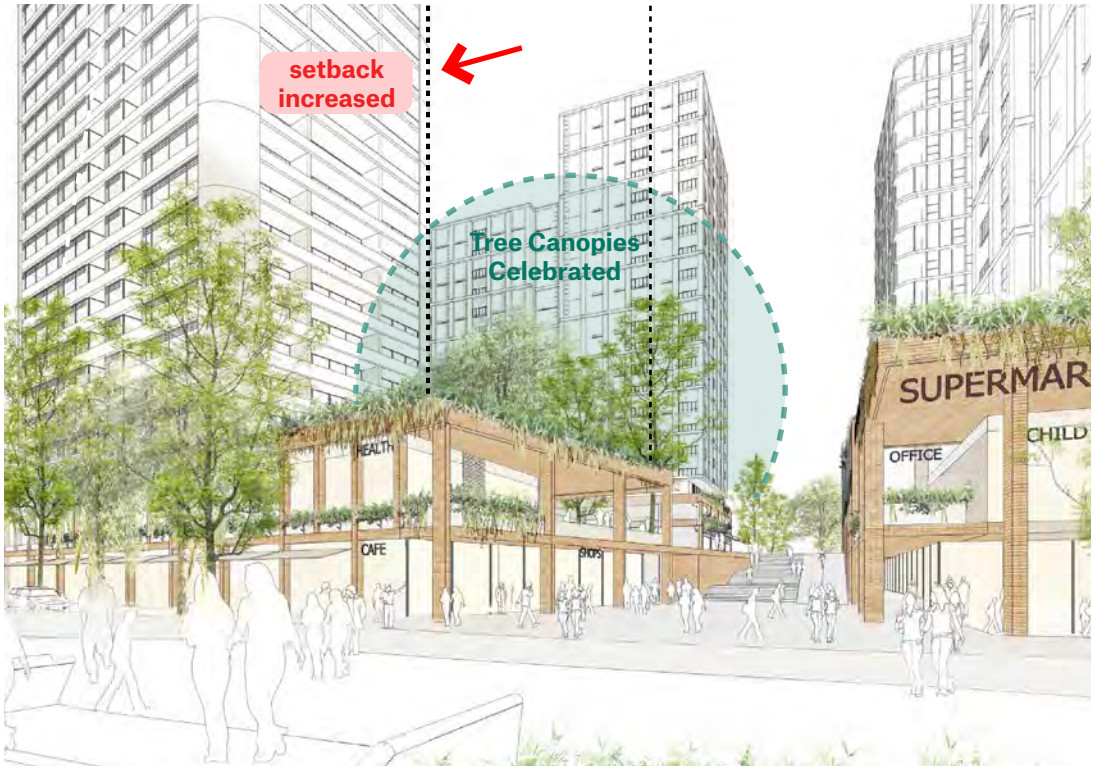
Visual Connectivity between Eyles Link, the community courtyard and the retail courtyard has been enhanced by reducing the building footprint of c1.2 tower and increasing its northern setback from Eyles Street Pedestrian Link.

By doing so, visual connectivity between the open spaces has been enhanced, opening up views between two key open spaces and improving sight lines to significant existing tree canopies.

The retail courtyard has increased in size by 150sqm and adjacent building setbacks increased, visually connecting open spaces, improving solar access, providing more space around tree canopy's and enhancing flexibility in it's detailed design



View to Courtyard Obstructed



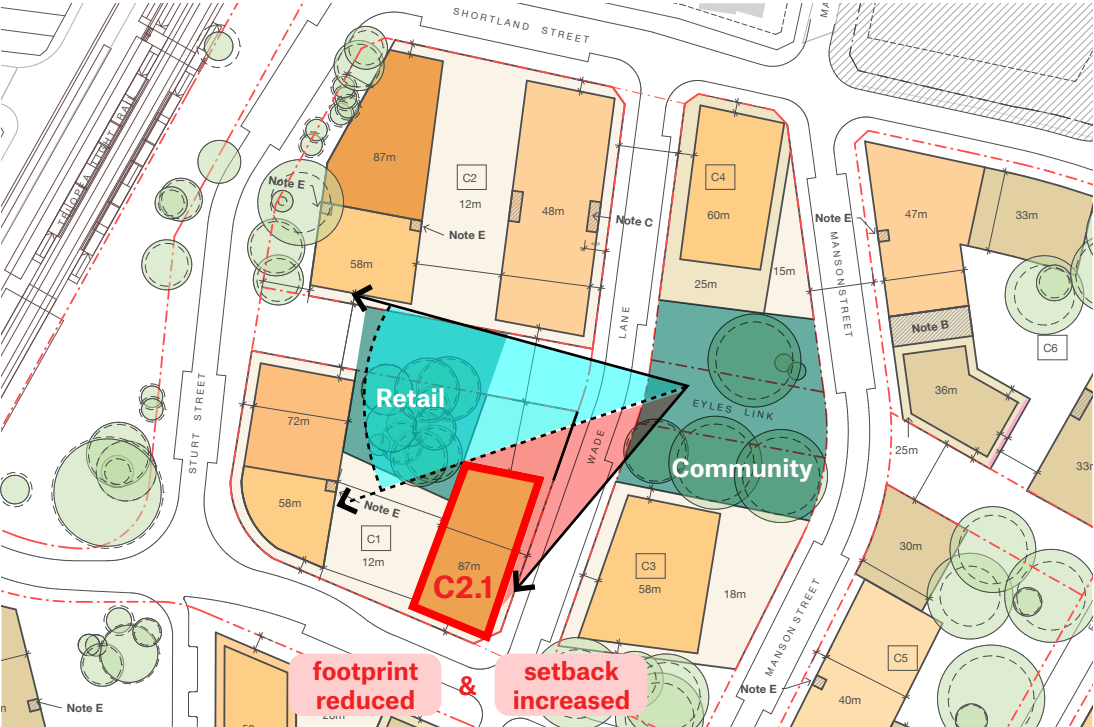
View to Courtyard Enhanced



Retained Trees frame Retail Courtyard



LEP Compliant Envelopes



Proposed Envelopes

5.0

Clause 4.6 Height of Buildings and Floor Space Ratio Justification

This section of the document has been prepared to support the Clause 4.6 variation requests that support the Concept Plan and Stage 1A Project Application for height and floor space.

It demonstrates how height has been distributed across the site to respond to floor space bonuses that are available across the site subject to the provision of affordable and social housing and community facilities.

It also provides a design related response to each of the PLEP objectives for the height and floor space ratio controls.

5.1 Additional Height

Relationship of Height and Bonus Floorspace

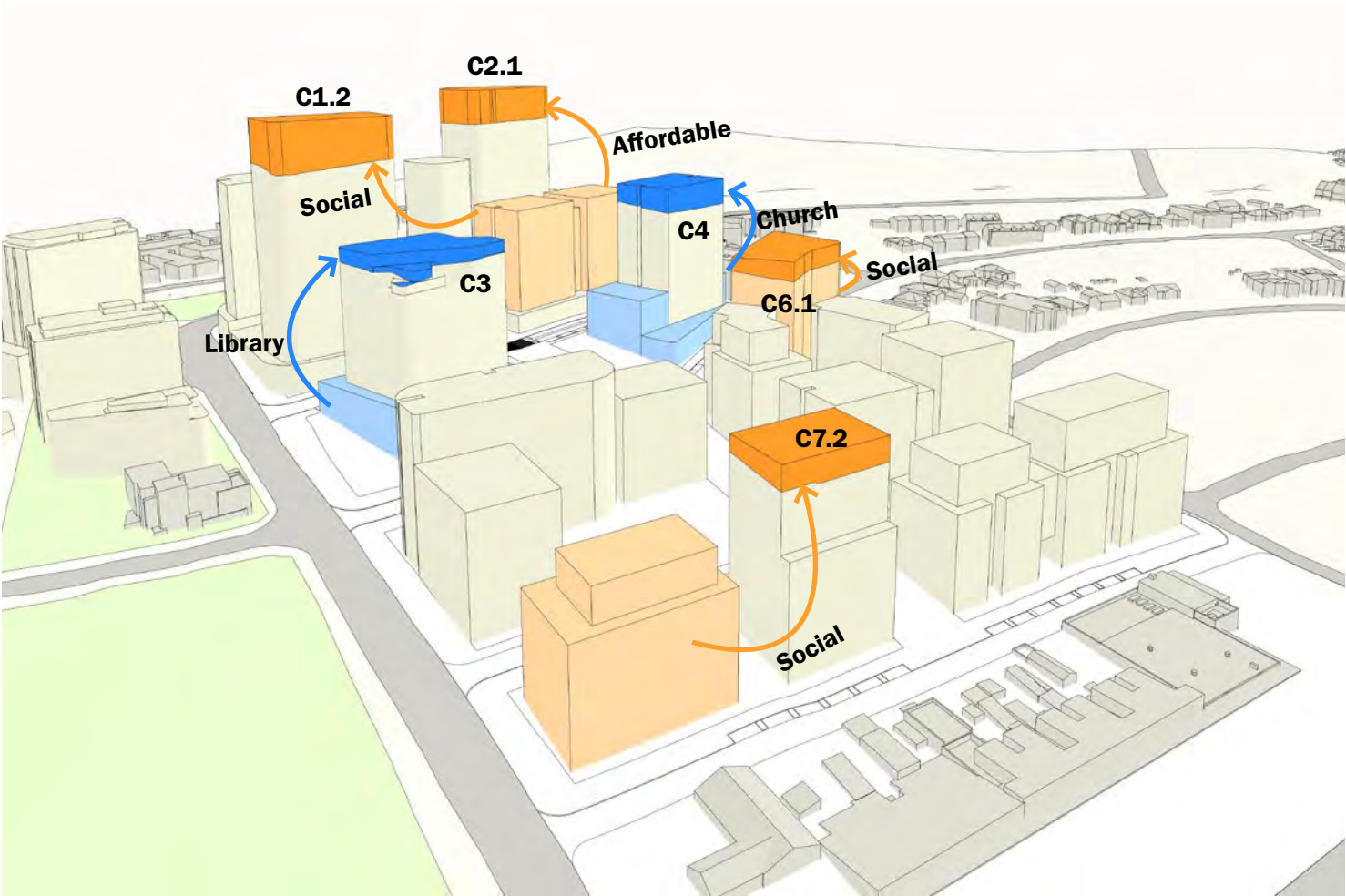
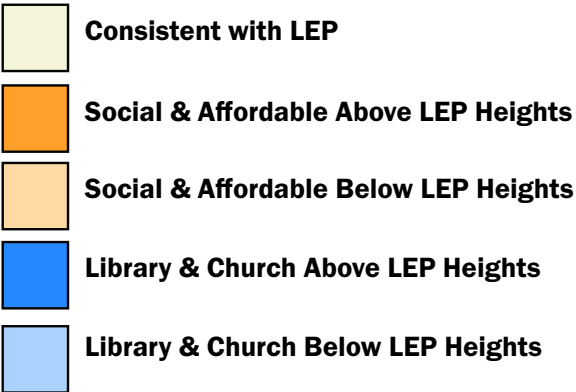
The Core Precinct (as well as the entire Telopea site) benefits from floor space bonus controls which provide that affordable housing developments can achieve 20% more floor space than the underlying LEP controls. In addition, there are additional floor space bonus provisions available under the LEP, Seniors SEPP and ARH SEPP.

The potential additional floor space is unable to be accommodated laterally / horizontally - building lengths and depths determine how large an efficient and functional floor plate should be for different uses. The additional floor space is therefore proposed to be accommodated vertically, through additional height.

This diagram illustrates how the proposed additional height sought for buildings C1.2, C2.1, C3, C4, C6.1 and C7.2 is directly attributed to the bonus floor space provisions available when development includes social housing and affordable housing. Floor space bonuses available subject to providing community facilities are illustrated in buildings C3 and C4.

The following pages provide further details through section diagrams.

The proposed redistribution of height as described in the following pages is limited to the Core Precinct. The remainder of the Concept Plan Area complies with the applicable height controls.



5.2 Built Form Transition Station Plaza and Stage 1a

Station Plaza and Stage 1a

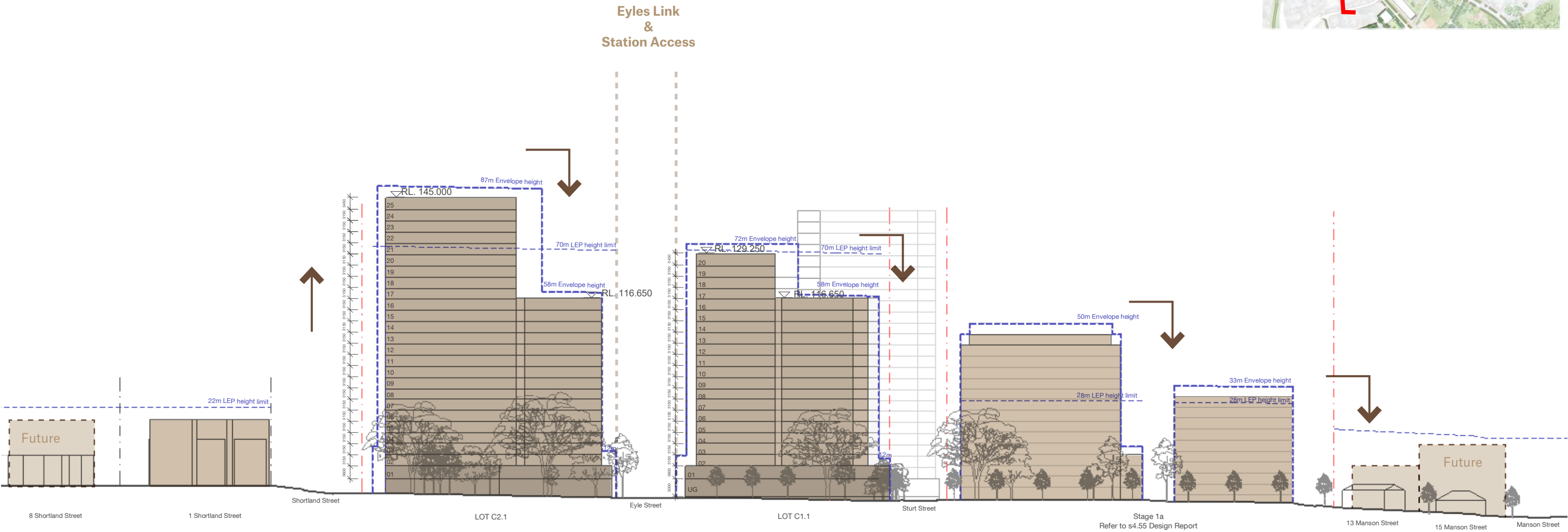
PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

The tallest buildings are located nearest the Telopea Light Rail station and step down towards the South, transitioning heights to the lower density areas further from the town centre.

Key

- LEP Height Limit
- Proposed Envelope
- Proposed Reference Design
- Floorspace above LEP Height
- Floorspace below LEP height (unused)
- Height - Non Residential Use
- Height - Residential Use (Market)
- Height - Social or Affordable Housing



5.2

Sturt Street Looking East

Lots C1 + C2

PLEP Clause 4.3 Height of Buildings Objective (a)

to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)

to provide a transition in built form and land use intensity within the area covered by this Plan,

The tallest buildings are located nearest the Telopea Light Rail station and step down towards the South, transitioning heights to the lower density areas further from the town centre.

Key

LEP Height Limit

Proposed Envelope

Proposed Reference Design

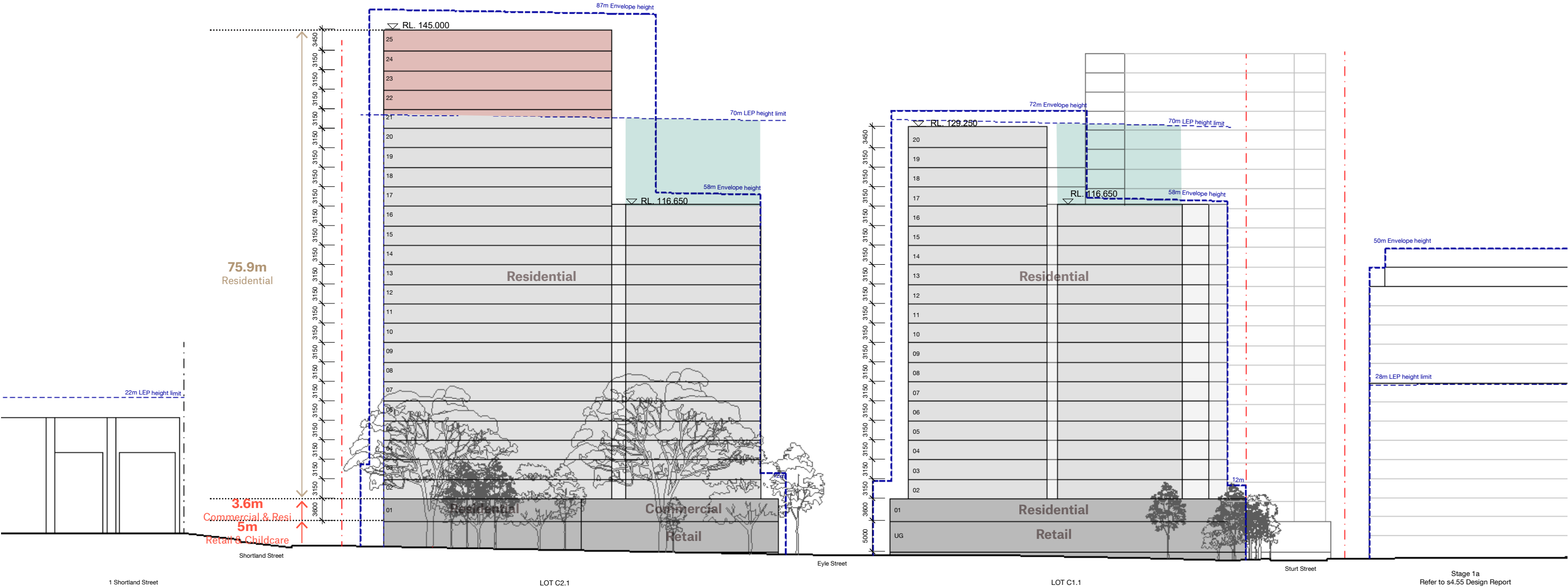
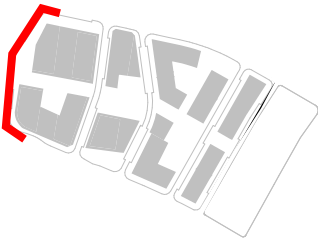
Floorspace above LEP Height

Floorspace below LEP height (unused)

Height - Non Residential Use

Height - Residential Use (Market)

Height - Social or Affordable Housing



1:250 @a3

5.2

Wade Lane Looking West

Lots C1 + C2

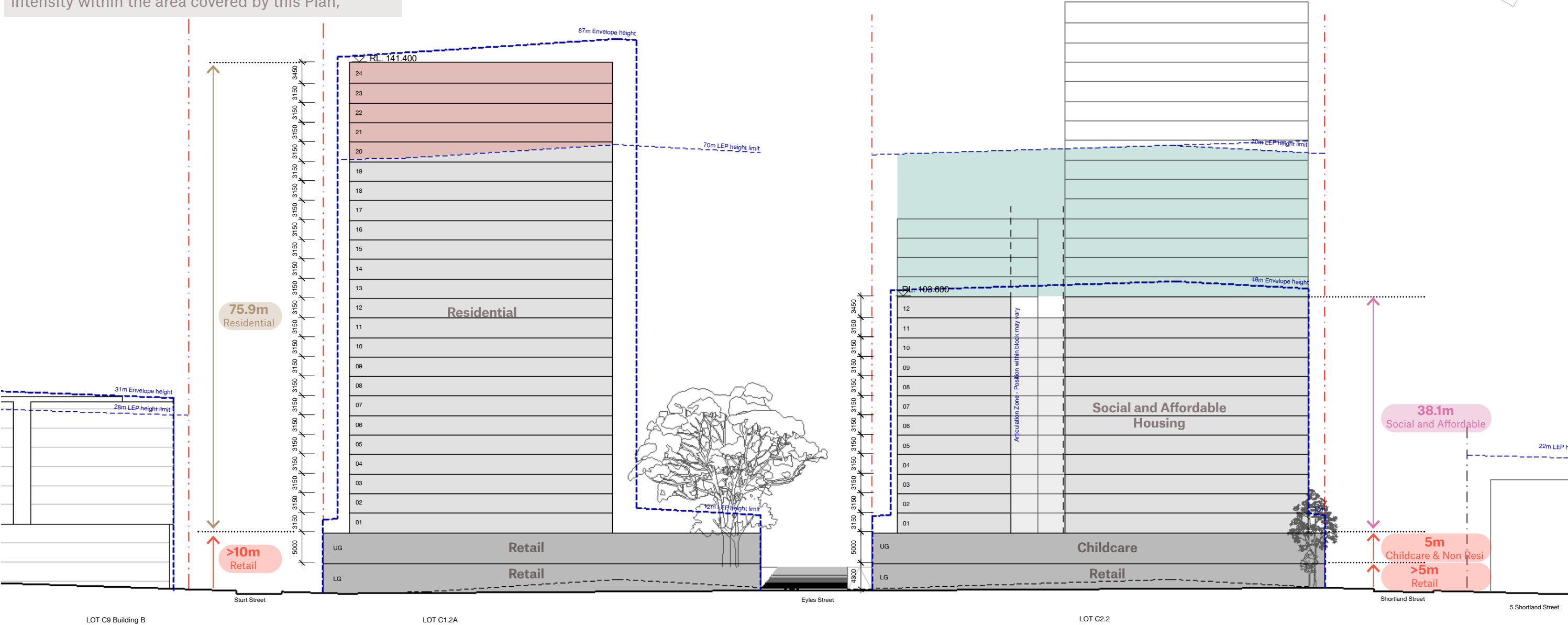
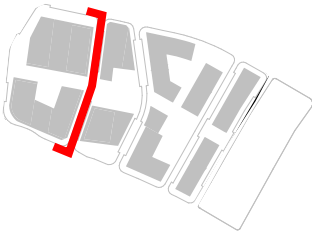
PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

Reduced building heights to C2.2 respond to lower buildings north of Shortland Street

Key

LEP Height Limit

Proposed Envelope

1:250 @a3

5.2

Manson Street Looking West

Lots C3 + C4

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

Additional storeys to C3 and C4 accommodate non-residential uses in the podiums.

Key

LEP Height Limit

Proposed Envelope

Proposed Reference Design

Floorspace above LEP Height

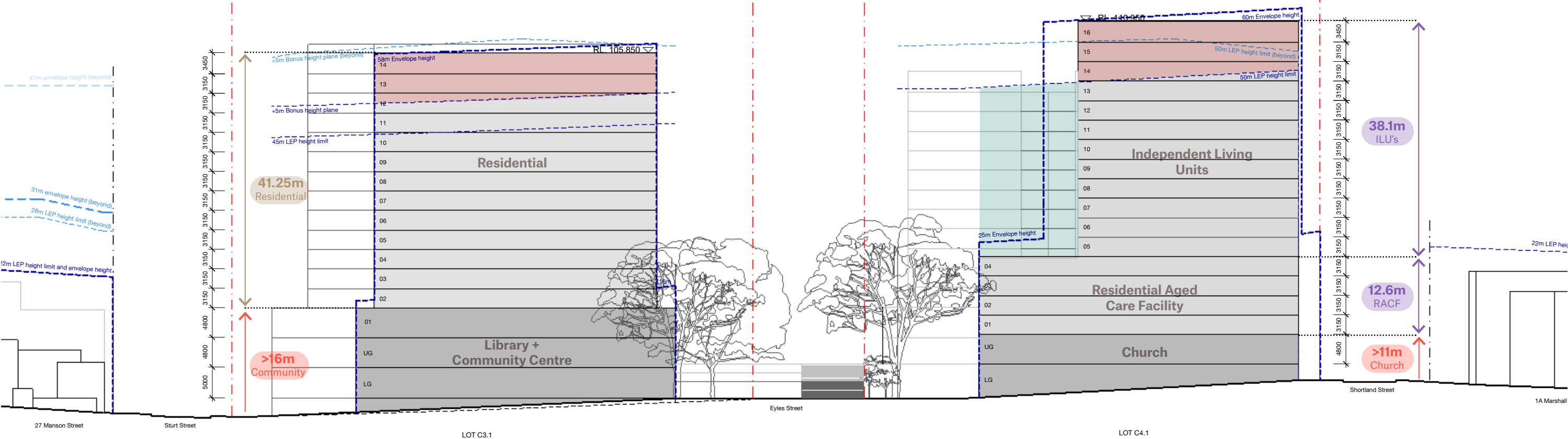
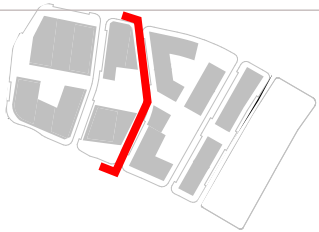
Floorspace below LEP height (unused)

Height - Non Residential Use

Height - Residential Use (Market)

Height - Social or Affordable Housing\

Height - Aged Care



1:250 @a3

5.2

Manson Street Looking East

Lots C5 + C6

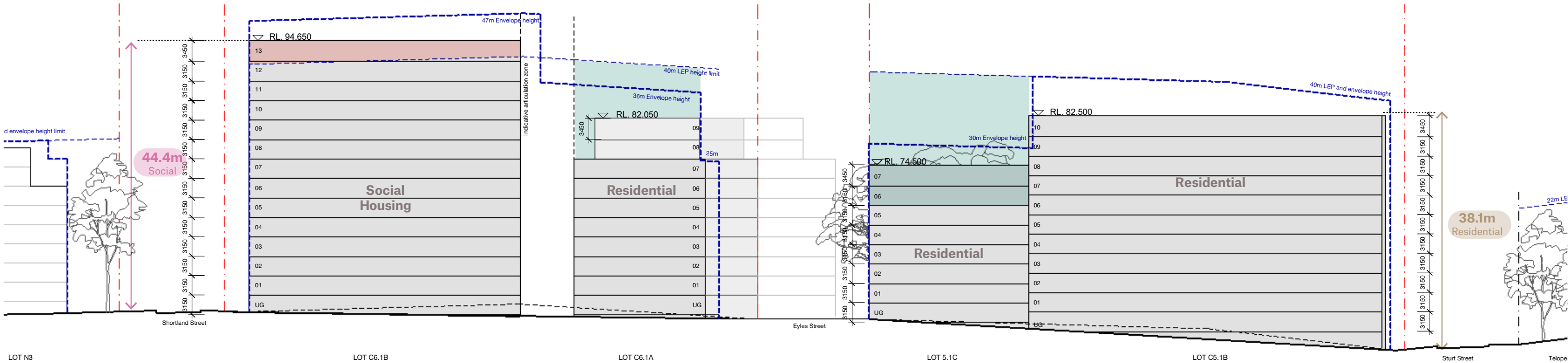
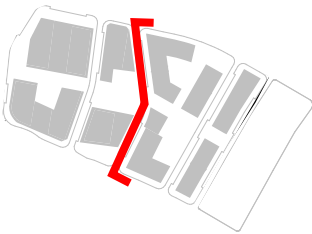
PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

Lower Core building heights are reduced alongside open space next to Eyle Street Pedestrian Link

Key

LEP Height Limit

Proposed Envelope

1:250 @a3

5.2

Benaud Lane Looking West

Lots C7 + C8

PLEP Clause 4.3 Height of Buildings Objective (a)

to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

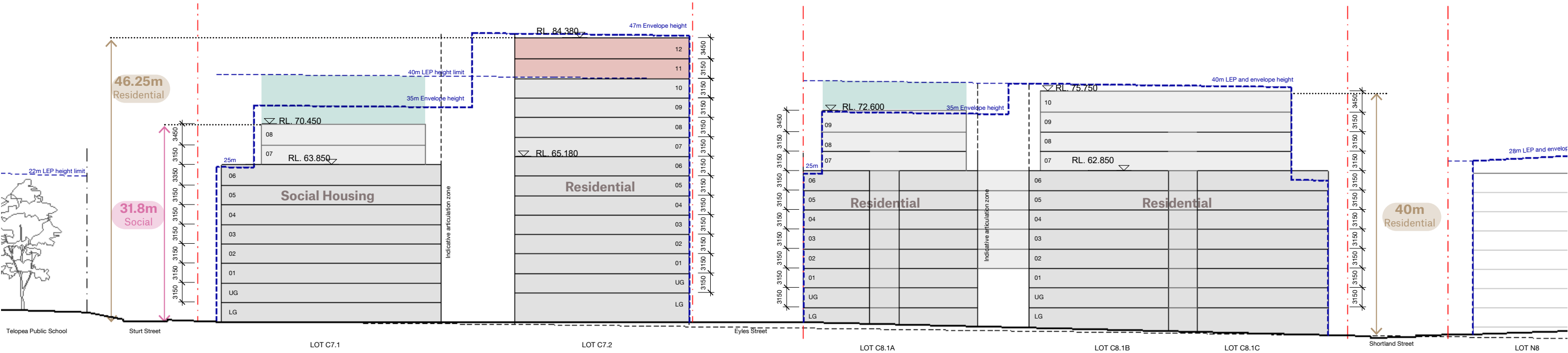
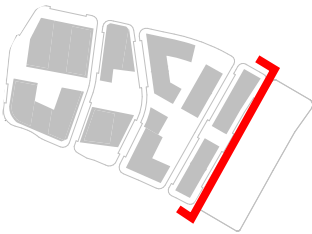
PLEP Clause 4.4 Floor Space Ratio Objective (b)

to provide a transition in built form and land use intensity within the area covered by this Plan,

Lots C7 and C8 offer reduced height north of public open sapce with additional height accommodated in a single taller building.

Key

LEP Height Limit

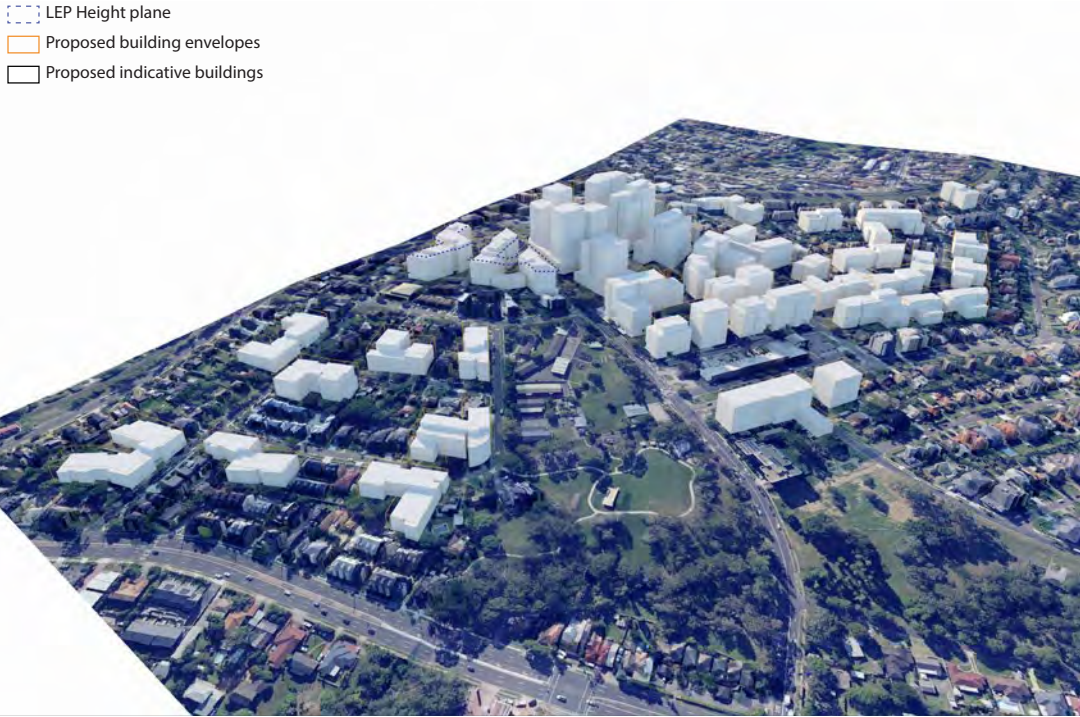
Proposed Envelope

5.3 Visual Impact Introduction

The following pages compare the visual impact of an LEP compliant building envelope and the proposed building envelope, as assessed in Urbis, Visual Impact Assessment.



Visual Impact Assessment - Urbis
Telopea Concept Plan Area & Stage 1a
July 2021



LEP Compliant Scheme

Visual Effects

Additional height for tower forms C1.2, C2.1, C3 and C4.2 as well as lower built forms located more on the periphery for example C6 and C7, will not generate any significant visual impacts in all cases. This is because in the majority of views modeled the additional built form sought does not block views to scenic features and predominantly blocks views of open sky.
- Urbis, VIA 2021



Proposed Scheme

5.3 Adderton Road Near Station



Analysis of existing vs proposed views from existing development comparing a compliant building envelope and the proposed building envelope.

VIA View 27



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,
PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

5.3 Adderton Road North



VIA View 25

Analysis of existing vs proposed views from existing development comparing a compliant building envelope and the proposed building envelope.



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,
PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

5.3 Marshall Road



VIA View 43

Analysis of existing vs proposed views from existing development comparing a compliant building envelope and the proposed building envelope.



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,
PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

5.3 Evans Road Near Shops



Analysis of existing vs proposed views from existing development comparing a compliant building envelope and the proposed building envelope.

VIA View 41



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,
PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

5.4 Disruption of Views

Sturt Park



VIA View 38



Compliant

Key Findings

There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,
PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

5.4 Moffats Drive



Analysis of existing vs proposed views from nominated vantage points comparing a compliant building envelope and the proposed building envelope.

VIA View 40



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,
PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

5.4

Stage 1a from Station



Analysis of existing vs proposed views from nominated vantage points comparing a compliant building envelope and the proposed building envelope.

VIA View 45



Compliant

Key Findings

The overall rating of significance of visual impact on the view was medium for the previously proposed EIS envelope. The visual effects generated by the refined building massing are compared to the previous scheme and there is no significant change proposed in visual terms and therefore the overall visual impact rating remains medium.

PLEP Clause 4.3 Height of Buildings Objective (a)

to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)

to provide a transition in built form and land use intensity within the area covered by this Plan,



Proposed

5.4

Stage 1a from Sturt Street



VIA View 46

Analysis of existing vs proposed views from nominated vantage points comparing a compliant building envelope and the proposed building envelope.



Compliant

Key Findings

The overall rating of significance of visual impact on the view was medium for the previously proposed EIS envelope. The visual effects generated by the refined building massing are minor compared to the previous scheme and there is no significant change proposed in visual terms and therefore the overall visual impact rating remains medium.



Proposed

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,
PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

5.5 Privacy

This figure identifies the proposed separation distances across the Core Precinct and Stage 1A Project Application areas between:

- individual building envelopes within the Core Precinct: and
- building envelopes within the Core Precinct and adjoining existing development.

The figure illustrates that the minimum building separation distances required by the ADG are satisfied for the heights proposed.

Building separation distances for the East, South and North Precincts have been generally increased as a result of increased boundary and street setbacks.

PLEP Clause 4.3 Height of Buildings Objective (a)

to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)

to provide a transition in built form and land use intensity within the area covered by this Plan,



5.6 Solar Access and Shadow Studies

Winter Solstice Summary

The proposed Concept Plan provides a balance of building heights which are both above and below the LEP height limits, creating increased shadow (above the LEP height plane) in some areas, and reduced shadow (below the LEP height plane) in others.

Thinner and taller built form casts longer and fast moving shadows.

PLEP Clause 4.3 Height of Buildings Objective (a)
to nominate heights that will provide a transition in built form and land use intensity within the area covered by this Plan,

PLEP Clause 4.4 Floor Space Ratio Objective (b)
to provide a transition in built form and land use intensity within the area covered by this Plan,

Key

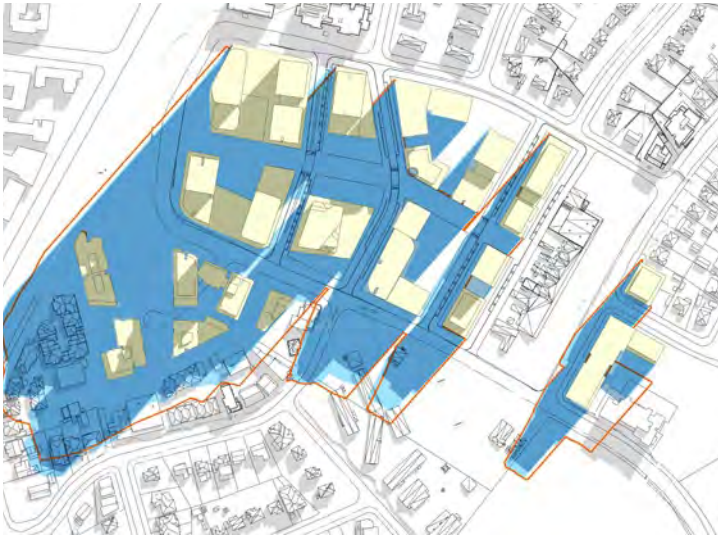
Shadow Cast by Existing Building

Shadow Cast by Indicative Design Scheme

Shadow Cast by Proposed Envelope

Indicative Design Scheme Building Massing

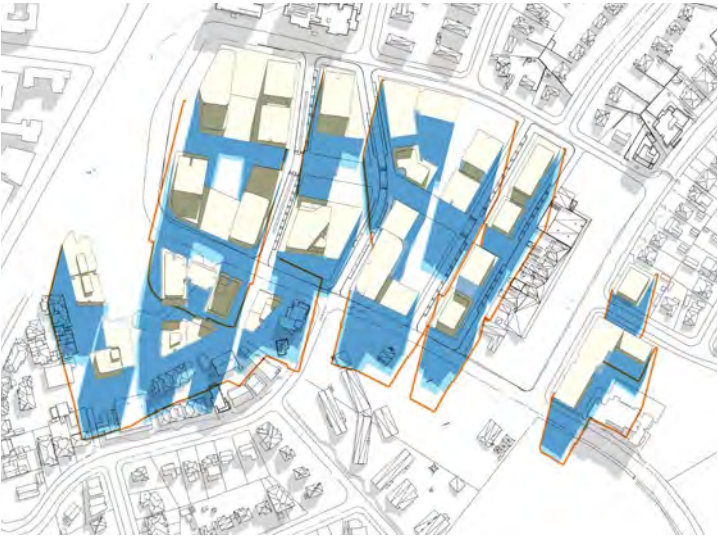
LEP Height Plane



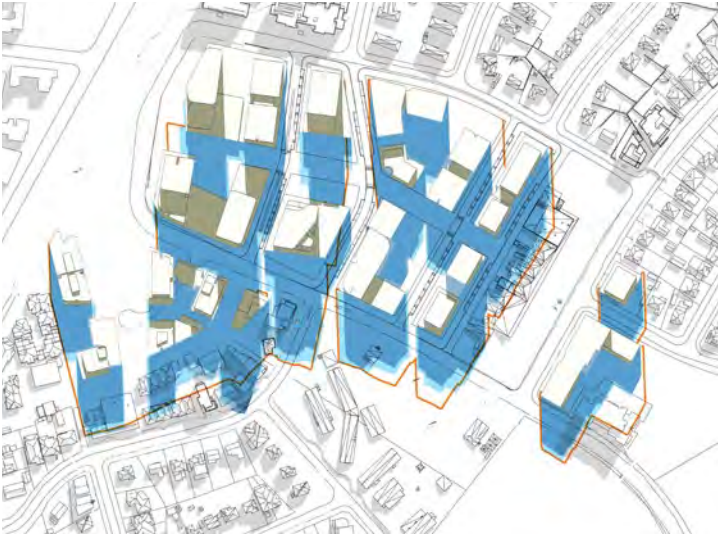
9am



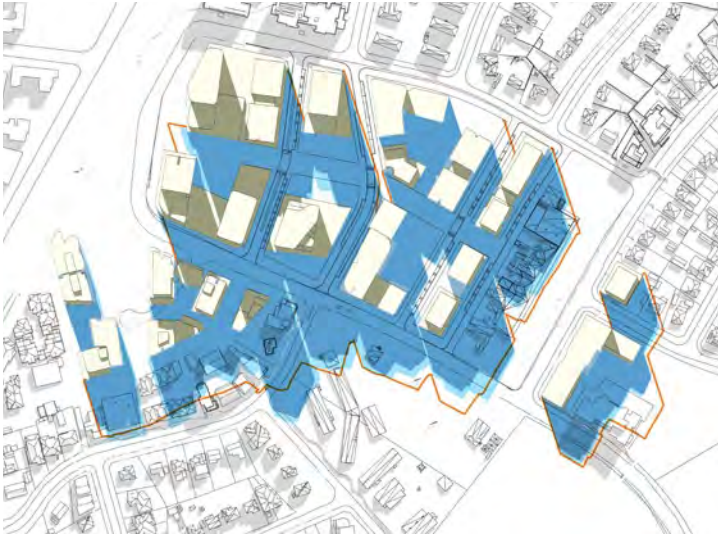
10am



11am



12pm



1pm



2pm



3pm

5.6 Manson Street Precinct

These diagrams illustrate the shadow profile cast by the LEP height plane (shown in red solid line), comparing it to the shadows cast by the proposed (a) Concept Plan envelopes and (b) Reference Scheme. Where additional shadows are cast, these are shown in red and where lesser shadows are cast, the difference is shown in green.

Two tones of each colour are used to differentiate between the Concept Plan Envelopes (lighter tone) and the Reference Scheme massing (darker tone).

The additional building height proposed in Stage 1A and Building C1.2 result in minor additional overshadowing to Manson Street Properties than a shadow cast by compliant LEP envelopes. Analysis of the midwinter shadow diagrams shows:

- Less than one hour of additional morning overshadowing to the rear gardens of: 2 Winter Street and 36 Adderton Road,
- Less than one hour of additional afternoon overshadowing to the roofs and rear gardens of: 8, 10, 12 and 14 Manson Street, and 29-31 Chestnut Ave
- Minor overshadowing to the roofs of the Presbyterian Church at 7-9 Manson Street and 15, 17, 19, 21 and 23 Manson Street

Shadow Below LEP Height (envelopes)

Shadow Below LEP Height (reference design)

Shadow Above LEP Height (envelopes)

Shadow Above LEP Height (reference design)

Key

Shadow Cast by Existing Building

Shadow Cast by Indicative Design Scheme

Shadow Cast by Proposed Envelope

Indicative Design Scheme Building Massing

LEP Height Plane



9am



10am



11am



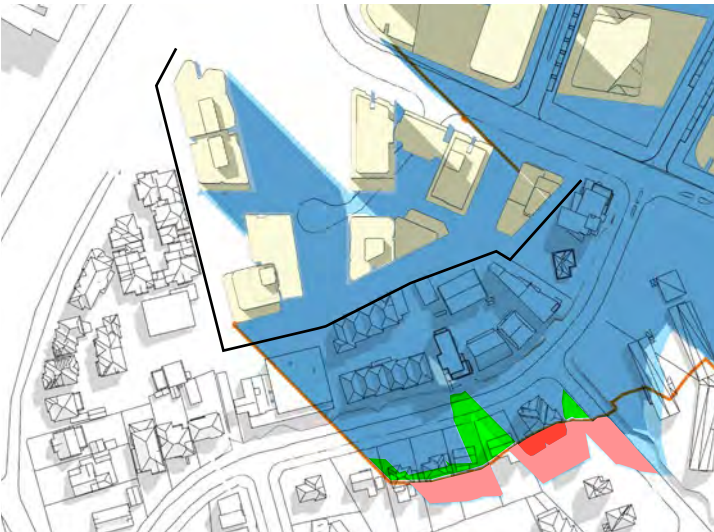
12pm



1pm



2pm



3pm

5.6

Teloopa Public School - Winter Solstice

These diagrams illustrate the shadow profile cast by the LEP height plane (shown in red solid line), comparing it to the shadows cast by the proposed (a) Concept Plan envelopes and (b) Reference Scheme. Where additional shadows are cast, these are shown in red and where lesser shadows are cast, the difference is shown in green.

Two tones of each colour are used to differentiate between the Concept Plan Envelopes (lighter tone) and the Reference Scheme massing (darker tone).

The school is a large area which benefits from reduced overshadowing for parts of the day and increased overshadowing at other times. The diagrams below illustrate less shadow at 9am, 10am, 11am, 12pm and 3pm, and additional shadow at 1pm and 2pm.

The adjacent analysis quantifies the net reduction in shadow when comparing the LEP height plane to the Concept Plan Envelopes (1,645m2 improvement) and the Reference Scheme Massing (7,635m2 improvement).

Envelopes (9-3pm)

The proposed envelopes have a lesser amount of shadow cast above LEP heights relative to below.

Below LEP - Envelope: **5,292m²**
Above LEP - Envelopes: **3,647m²**

1,645m² less shadow

Reference Design (9-3pm)

The proposed reference massing has significantly less shadow cast above LEP heights relative to below.

Below LEP - Ref. Massing: **10,108m²**
Above LEP - Ref. Massing: **2,473m²**

7,635m² less shadow

	9am	%	10am	%	11am	%	12pm	%	1pm	%	2pm	%	3pm	%	Total	%	Difference
Total Site Area = 20232																	
Below LEP - Envelopes	577	2.0	637	3.1	671	3.3	678	3.3	670	3.3	714	3.5	1,356	6.0	5,303	26.2	
Above LEP - Envelopes	134	0.6	-	-	-	-	48	0.2	1,049	5.1	1,786	8.8	630	3.1	3,647	18.0	1,656
Below LEP - Reference Design	1,490	7.0	1,244	6.1	1,302	6.4	1,438	7.1	1,457	7.2	1,139	5.6	1,910	9.4	9,980	49.3	
Above LEP - Reference Design	-	-	-	-	-	-	-	-	755	3.7	1,343	6.6	375	1.8	2,473	12.2	7,507

- Shadow Below LEP Height (envelopes)
- Shadow Below LEP Height (reference design)
- Shadow Above LEP Height (envelopes)
- Shadow Above LEP Height (reference design)
- Key
- Shadow Cast by Existing Building
- Shadow Cast by Indicative Design Scheme
- Shadow Cast by Proposed Envelope
- Indicative Design Scheme Building Massing
- LEP Height Plane



9am



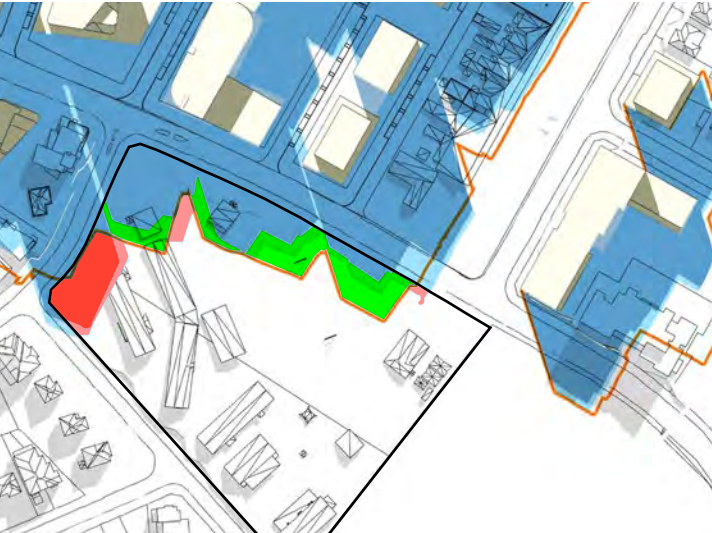
10am



11am



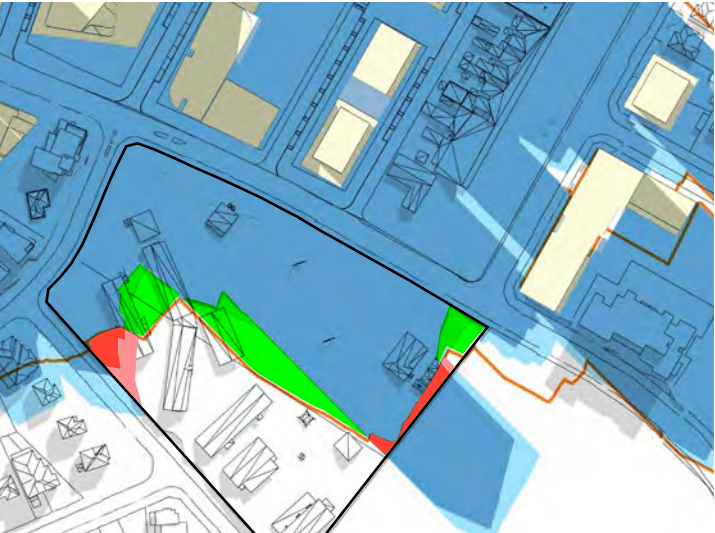
12pm



1pm



2pm



3pm

5.6

Sturt Park - Winter Solstice

These diagrams illustrate the shadow profile cast by the LEP height plane (shown in red solid line), comparing it to the shadows cast by the proposed (a) Concept Plan envelopes and (b) Reference Scheme. Where additional shadows are cast, these are shown in red and where lesser shadows are cast, the difference is shown in green.

Two tones of each colour are used to differentiate between the Concept Plan Envelopes (lighter tone) and the Reference Scheme massing (darker tone).

Sturt Park is a large area which benefits from reduced overshadowing for parts of the day and increased overshadowing at other times. The diagrams below illustrate less shadow from 9am until 2pm and additional shadow at 3pm.

The adjacent analysis quantifies the net increase in shadow when comparing the LEP height plane to the Concept Plan Envelopes (1,993m2 increase) and the Reference Scheme Massing (573m2 increase).

Envelopes (9-3pm)

The proposed envelopes have a greater amount of shadow cast above LEP heights relative to below.

Below LEP - Envelope: **973m²**
Above LEP - Envelopes: **2,966m²**

1,993m² more shadow

Reference Design (9-3pm)

The proposed reference massing has a greater amount of shadow cast above LEP heights relative to below

Below LEP - Ref. Massing: **1,680m²**
Above LEP - Ref. Massing: **2,253m²**

573m² more shadow

	9am	%	10am	%	11am	%	12pm	%	1pm	%	2pm	%	3pm	%	Total	%
Total Site Area = 24003																
Below LEP - Envelopes	275	1.1	78	0.3	72	0.2	42	0.17	28	0.11	15	0.06	463	1.9	973	4.0
Above LEP - Envelopes	-	-	-	-	-	-	-	-	-	-	-	-	2,966	12.3	2,966	12.3
Below LEP - Reference Design	399	1.6	200	0.8	158	0.6	114	0.47	97	0.40	70	0.2	642	2.6	1,680	6.9
Above LEP - Reference Design	-	-	-	-	-	-	-	-	-	-	-	-	2,253	9.3	2,253	9.3

- Shadow Below LEP Height (envelopes)
- Shadow Below LEP Height (reference design)
- Shadow Above LEP Height (envelopes)
- Shadow Above LEP Height (reference design)
- Key
- Shadow Cast by Existing Building
- Shadow Cast by Indicative Design Scheme
- Shadow Cast by Proposed Envelope
- Indicative Design Scheme Building Massing
- LEP Height Plane



9am



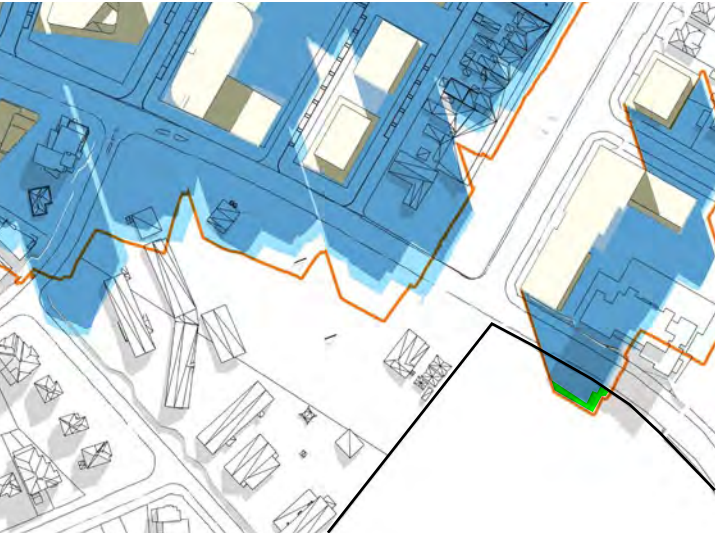
10am



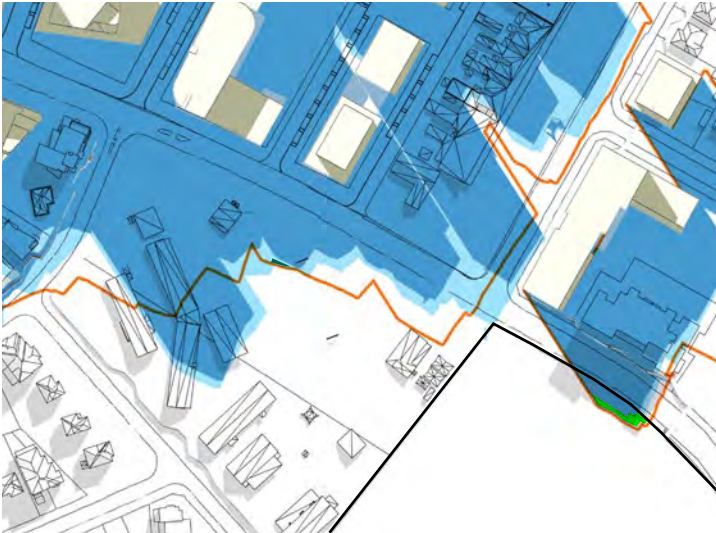
11am



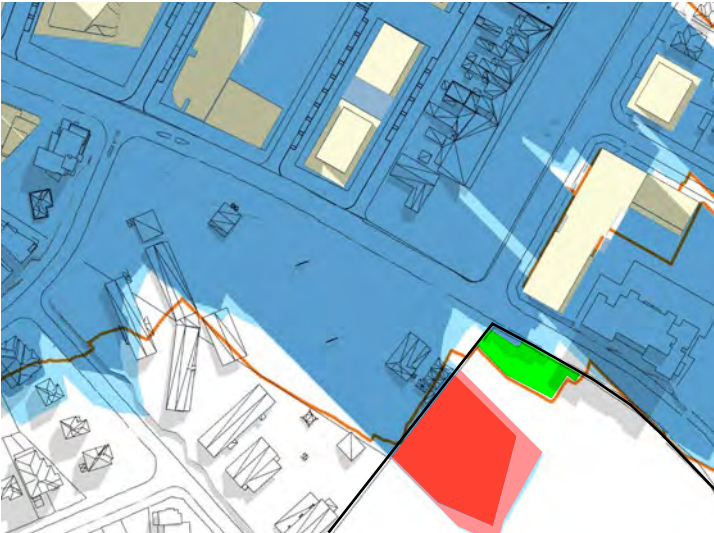
12pm



1pm



2pm



3pm

5.6 Solar Access to Public Domain - Equinox

Solar access to the public domain has increased when compared to an LEP height complete scheme. Significant improvement can be seen during the Equinox or yearly average.

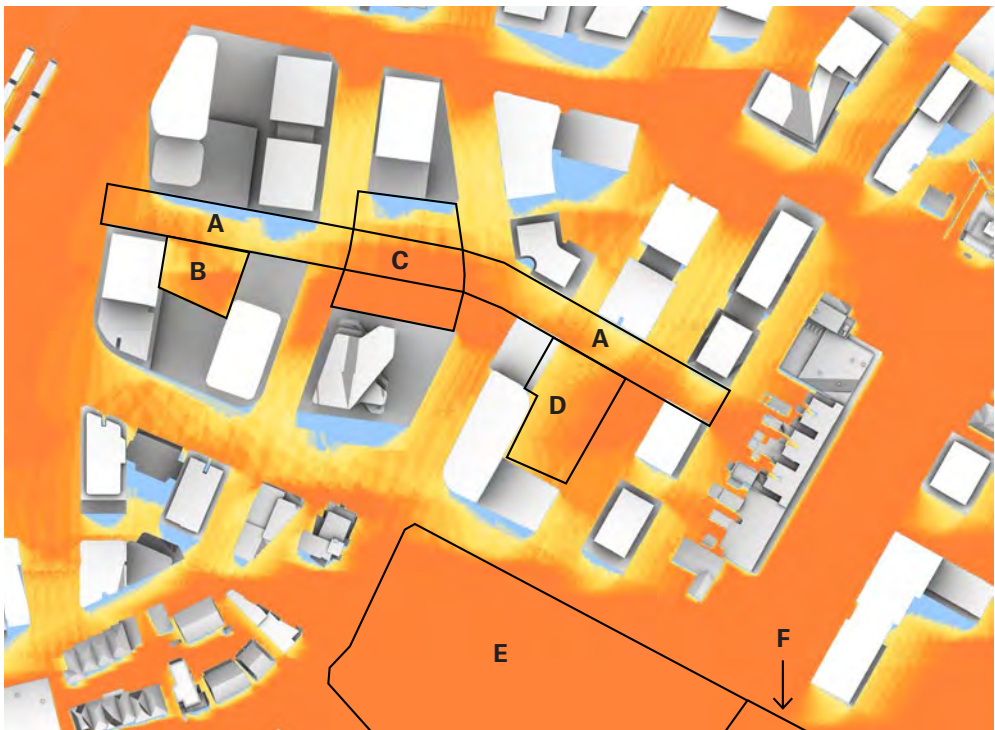
Equinox (9-3pm)

The following pages compare the quantity of sunlight to key open spaces along Eyles Link during the Winter Solstice and the Spring/Autumn Equinox

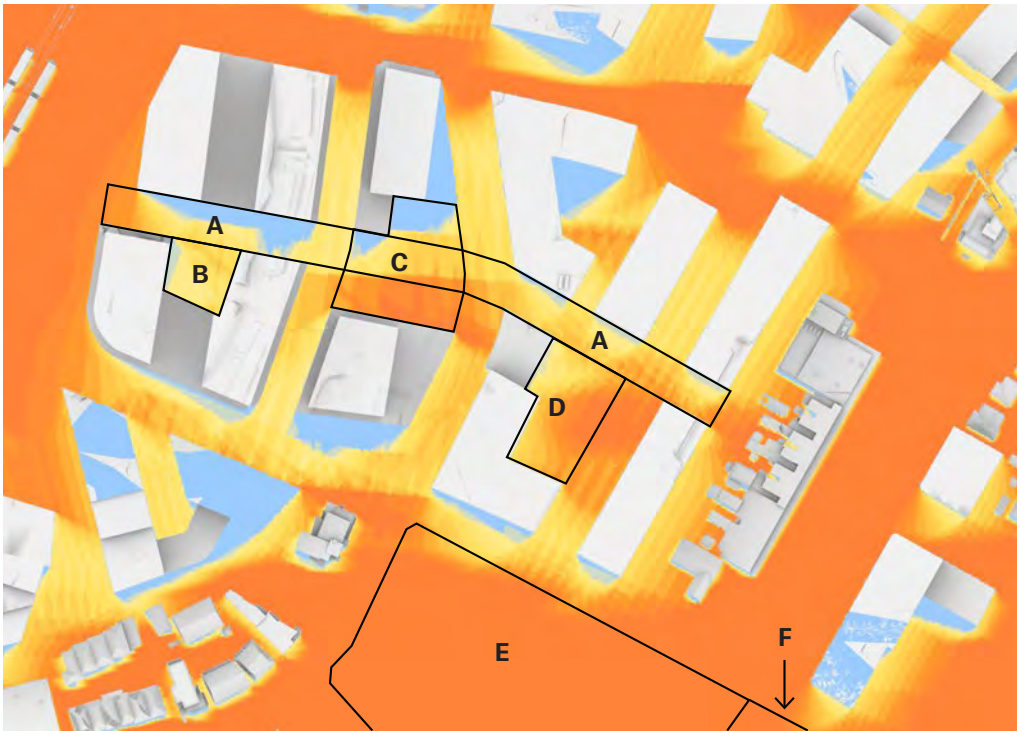
- A Eyles Link
- B Retail Courtyard
- C Community Courtyard
- D The Greens
- E Telopea Public School
- F Sturt Park



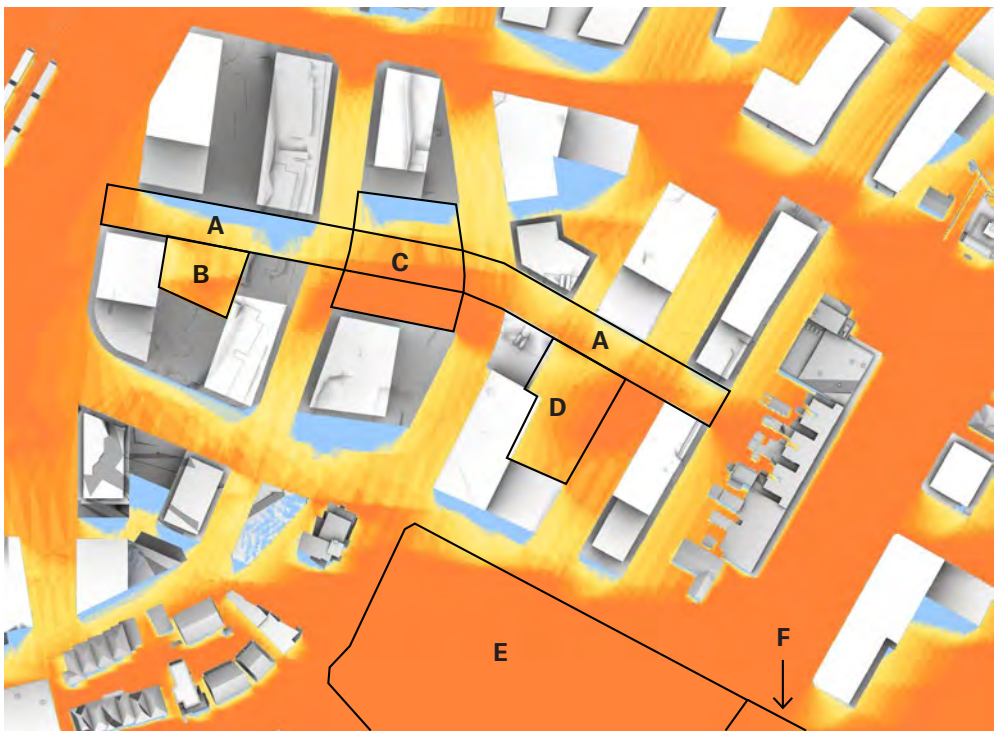
Reference Design



- Key**
- 5-6 hours
 - 4-5 hours
 - 3-4 hours
 - 2-3 hours
 - 1-2 hours
 - 0-1 hours



LEP Compliant



Proposed

5.6 Solar Access to Public Domain - Winter

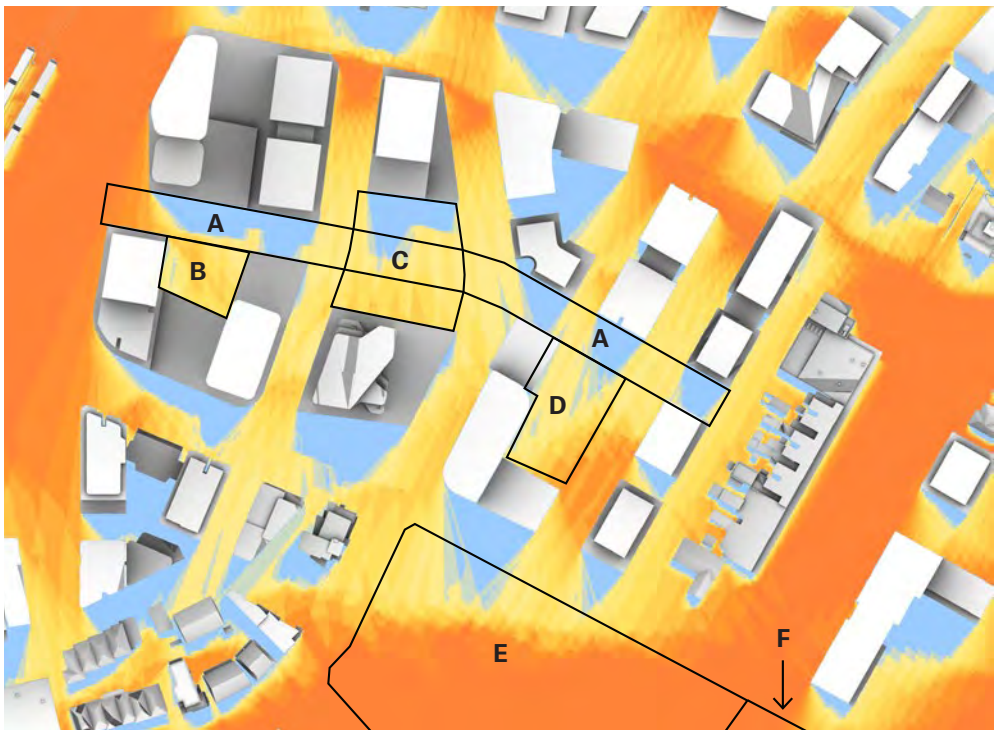
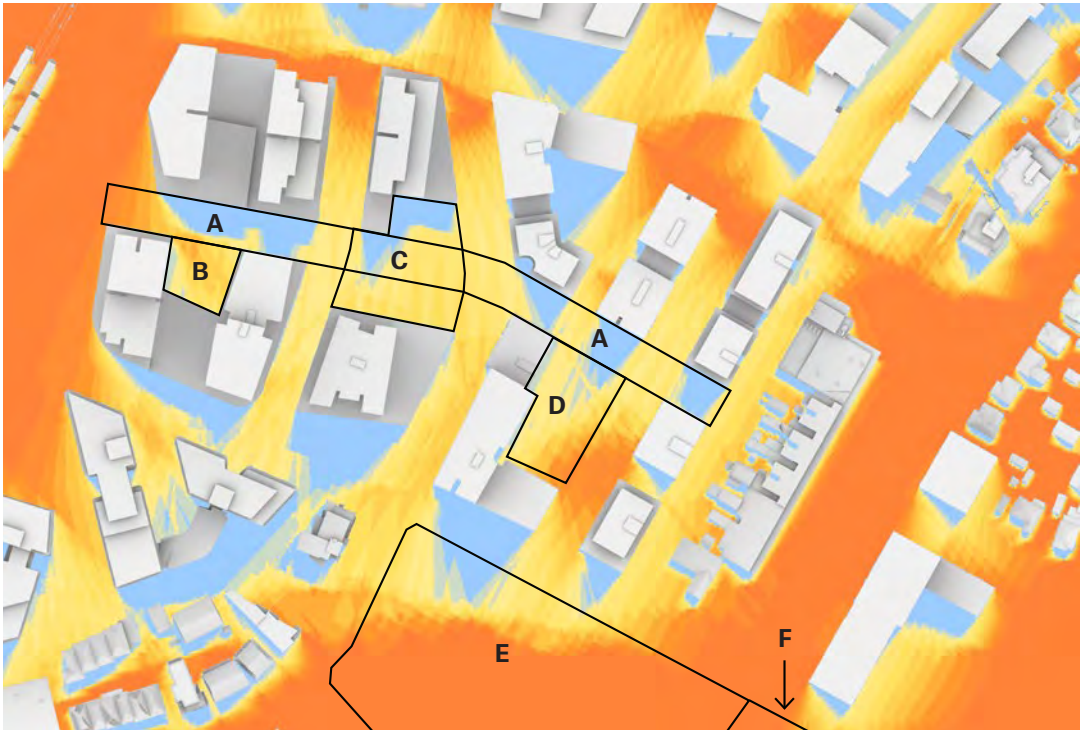
Winter sun is either equally performing or has moderate improvements to key areas

Winter Solstice (9-3pm)

The following pages compare the quantity of sunlight to key open spaces along Eyles Link during the Winter Solstice and the Spring/Autumn Equinox

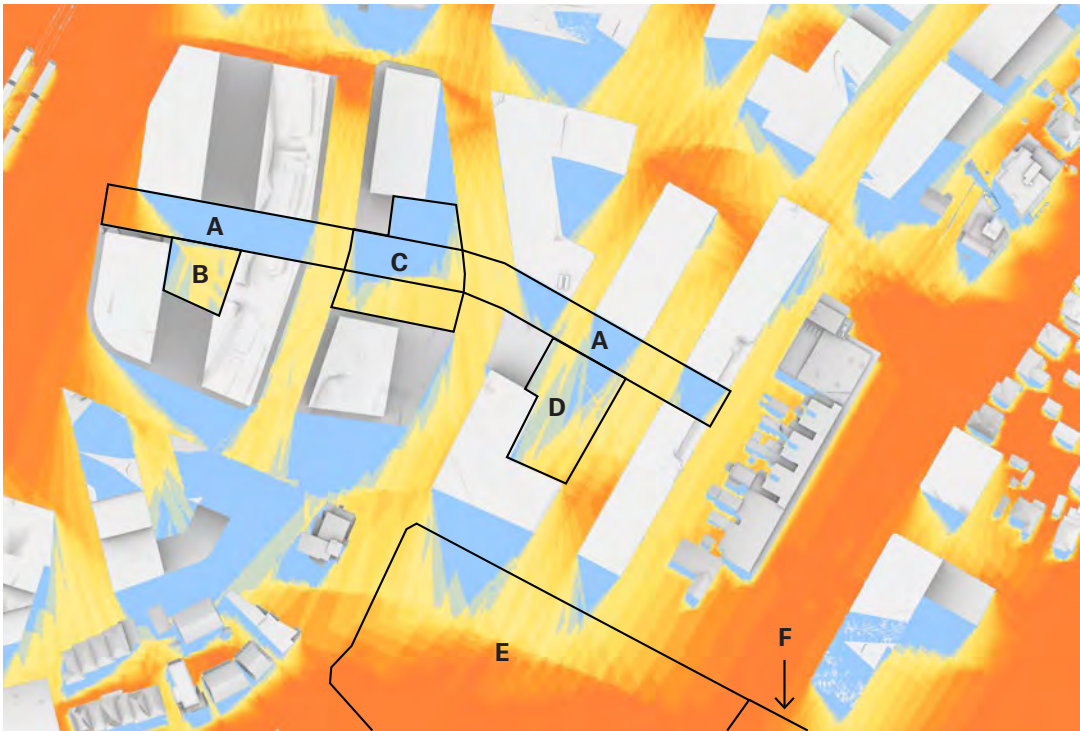
- A Eyles Link
- B Retail Courtyard
- C Community Courtyard
- D The Greens
- E Telopea Public School
- F Sturt Park

Reference Design

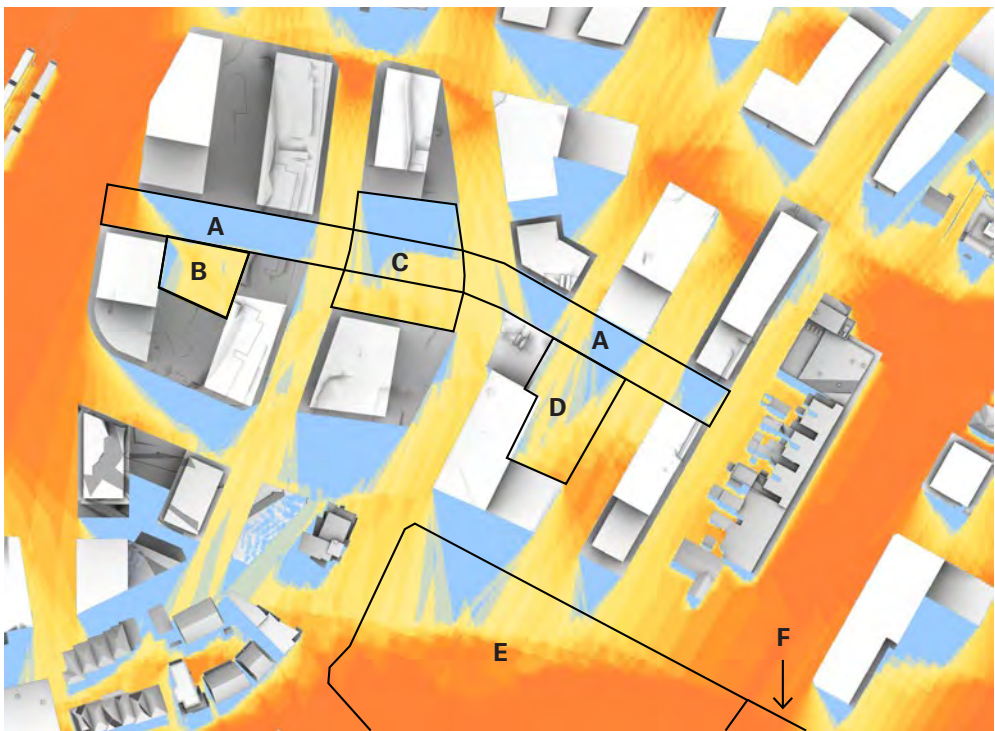


- Key**
- 5-6 hours
 - 4-5 hours
 - 3-4 hours
 - 2-3 hours
 - 1-2 hours
 - 0-1 hours

Envelopes

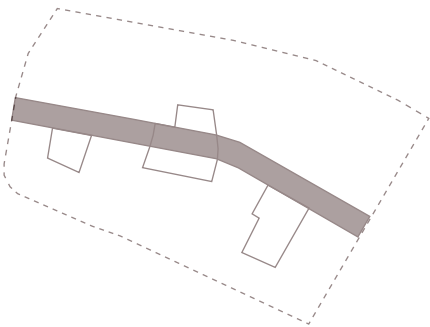


LEP Compliant



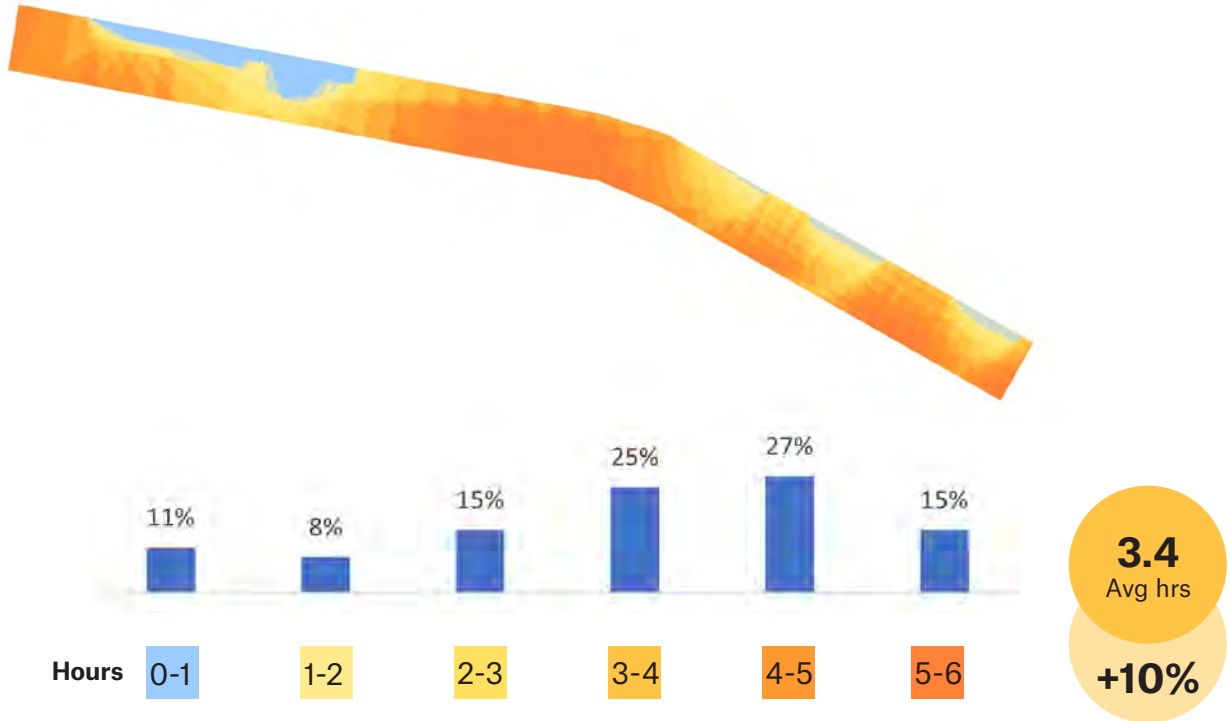
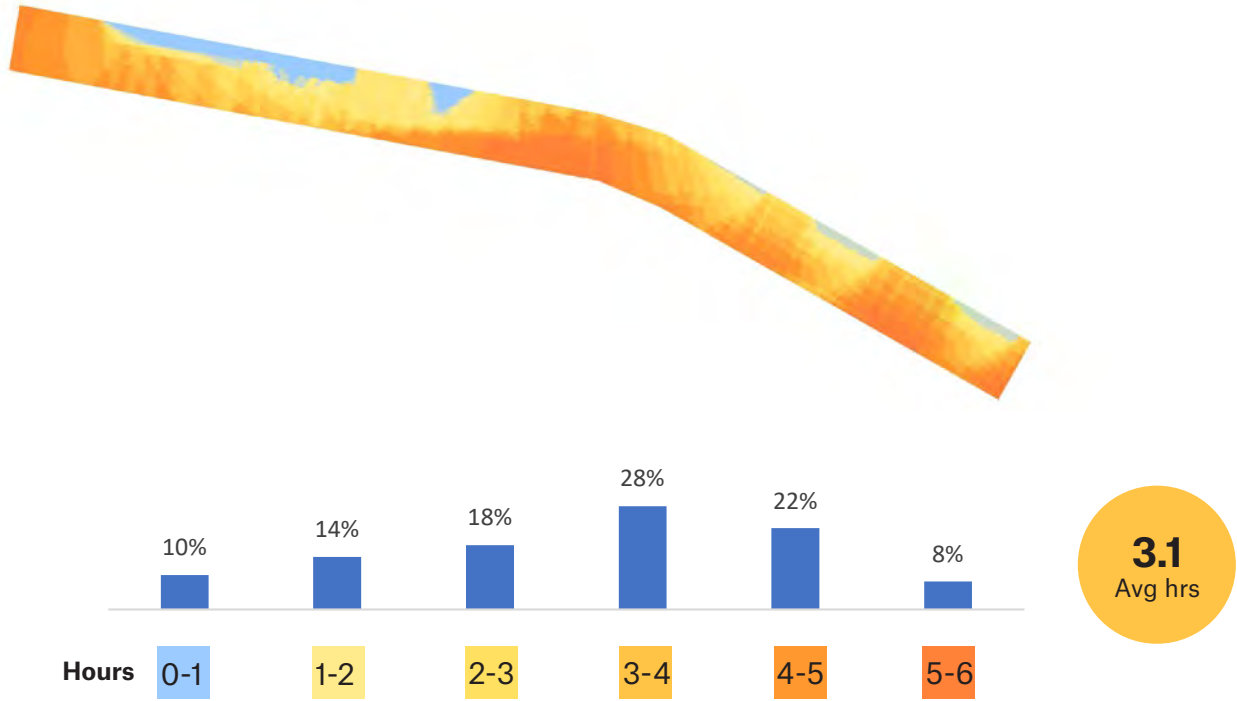
Proposed

5.6
A. Eyles Link
Equinox

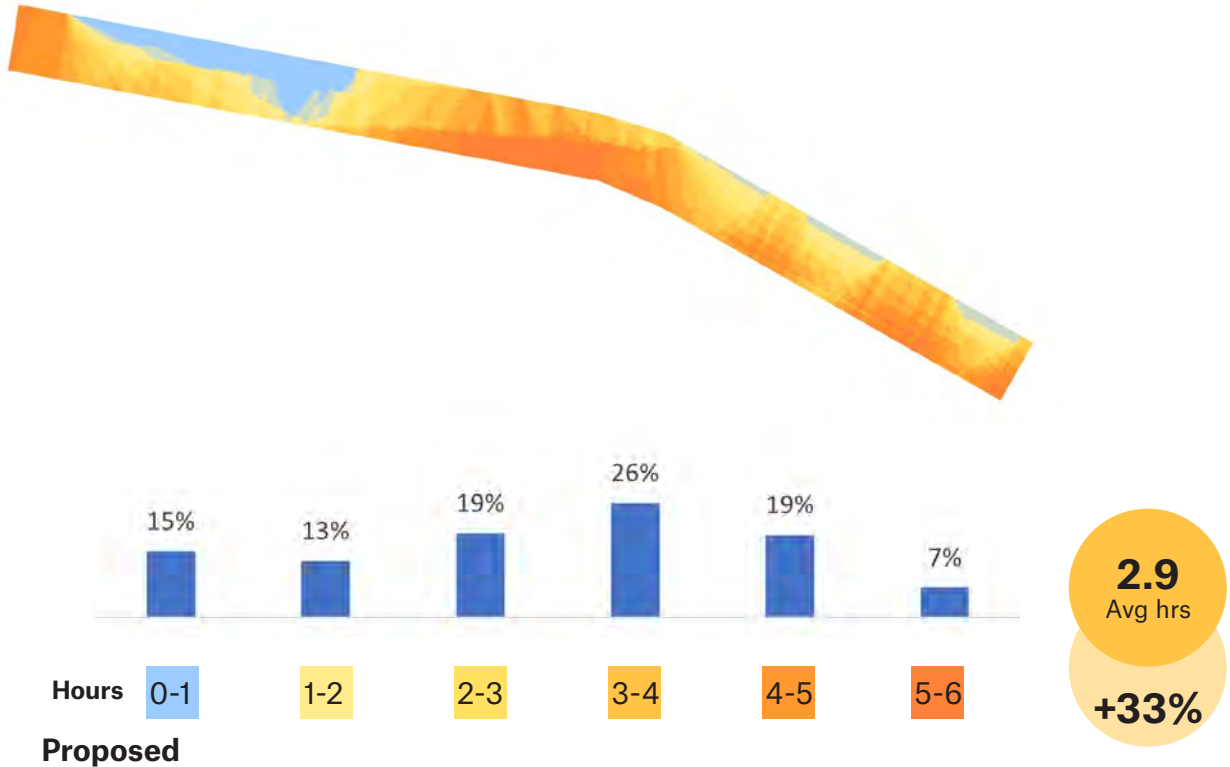
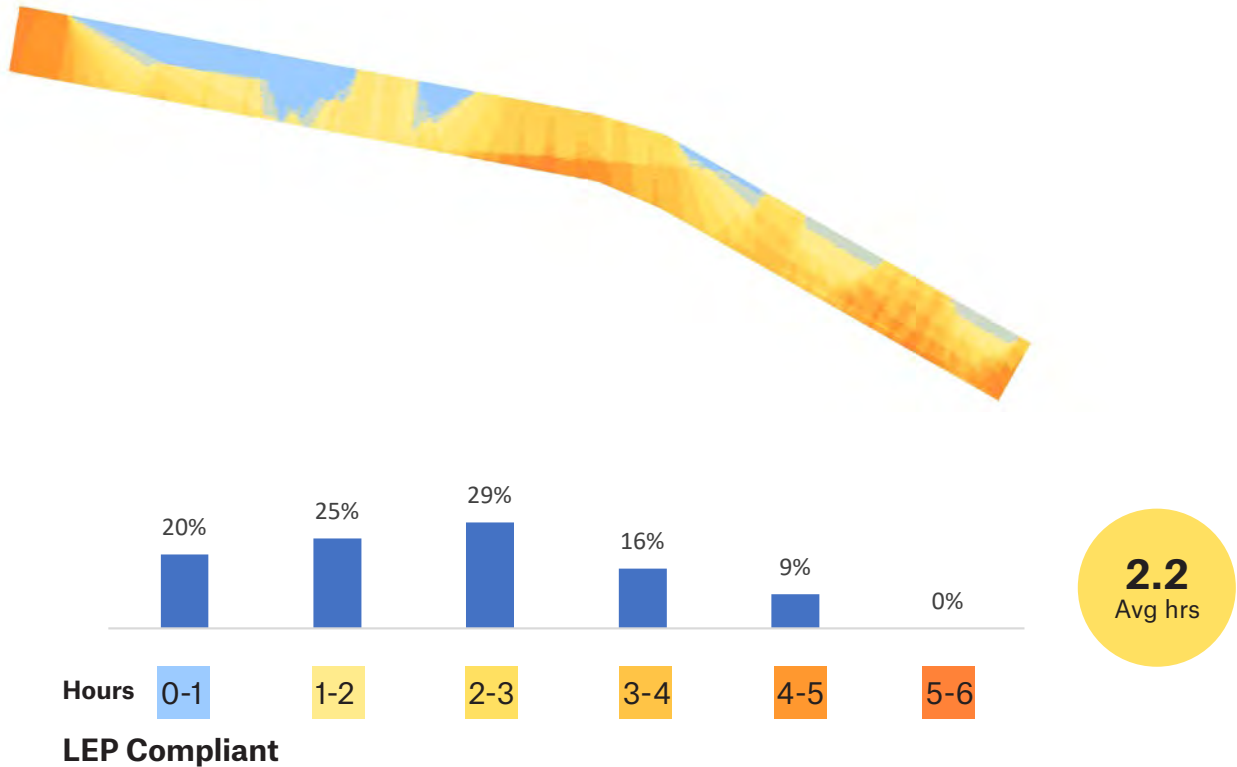


The key area of improvement to Eyles link is focused to the community courtyard along its central spine, where additional open space has been provided, buildings further setback and existing tree’s have been prioritised.

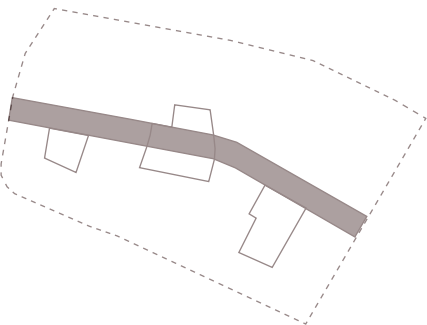
Reference
Design



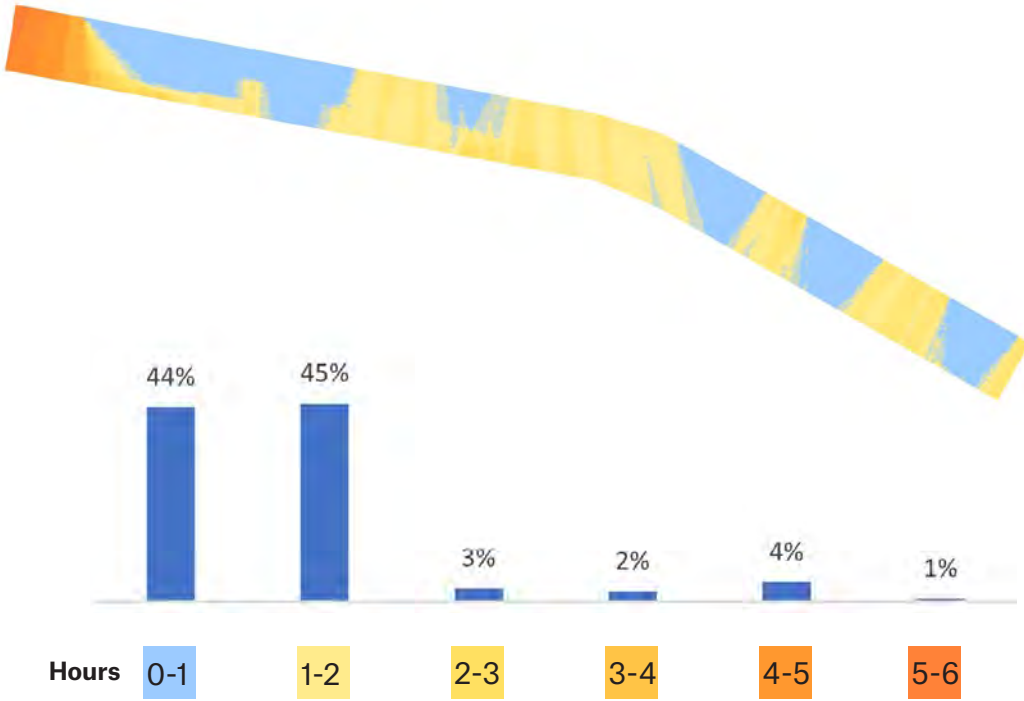
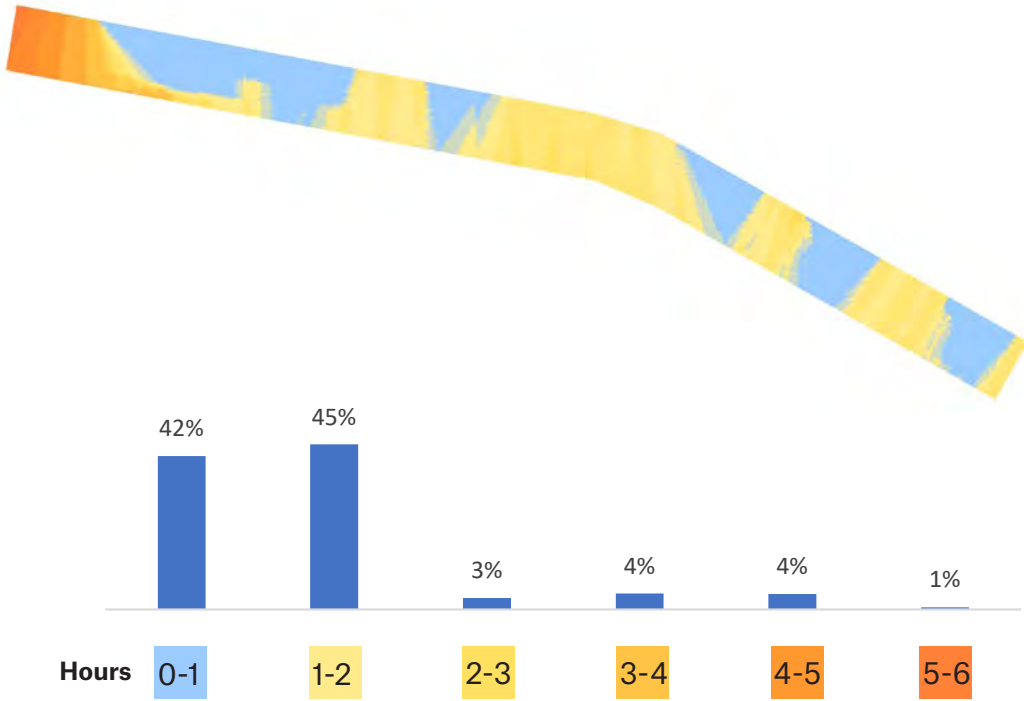
Envelopes



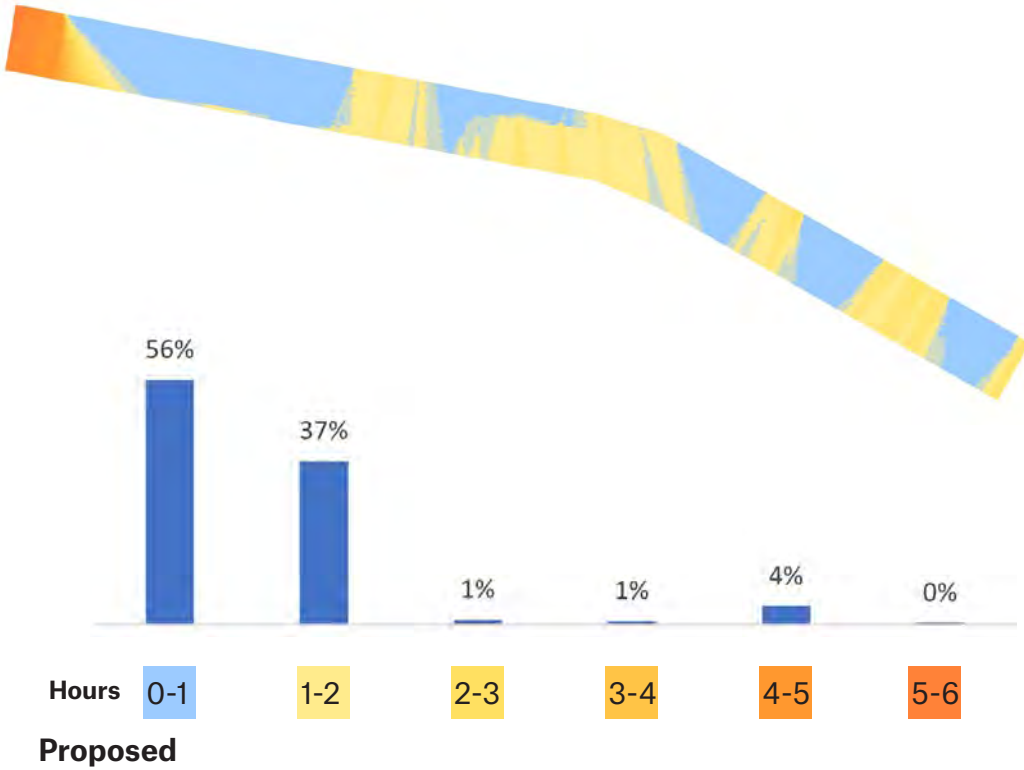
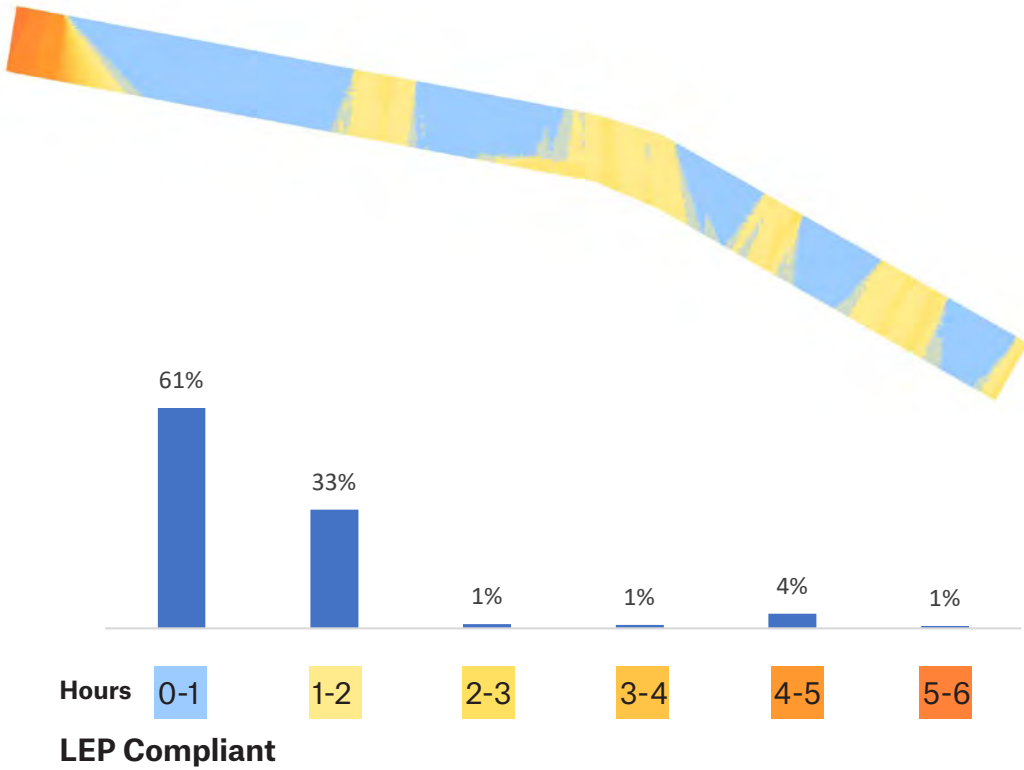
5.6
A. Eyles Link
Winter Solstice



Reference
Design



Envelopes

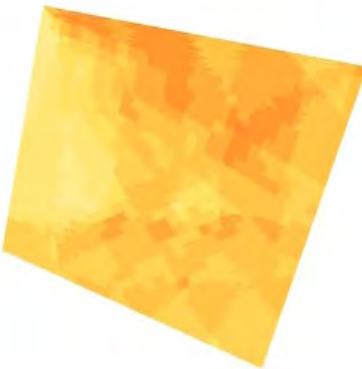
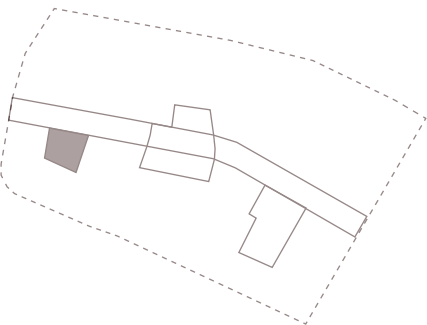


5.6

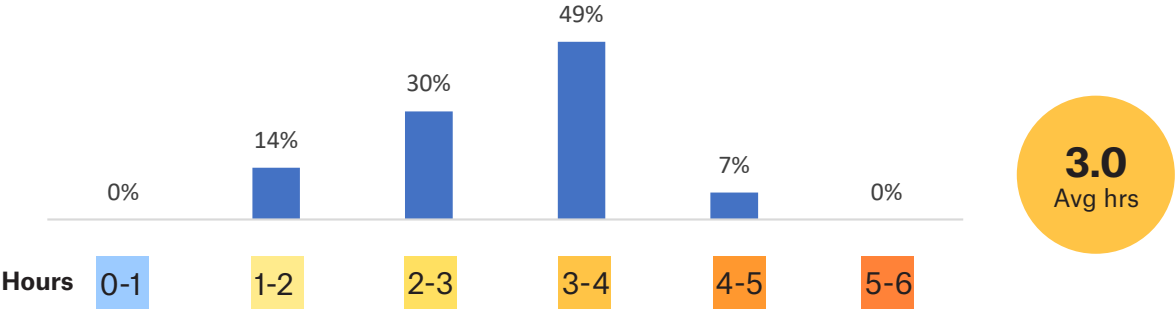
B. Retail Courtyard

Equinox

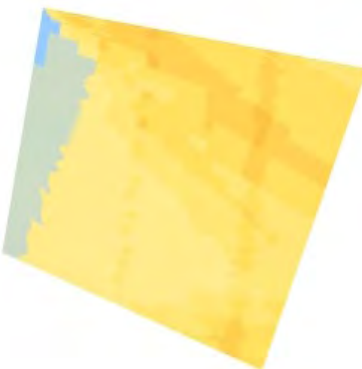
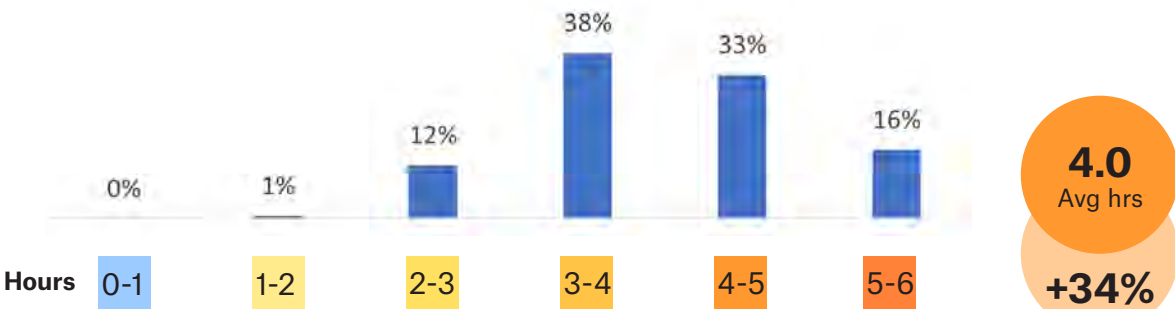
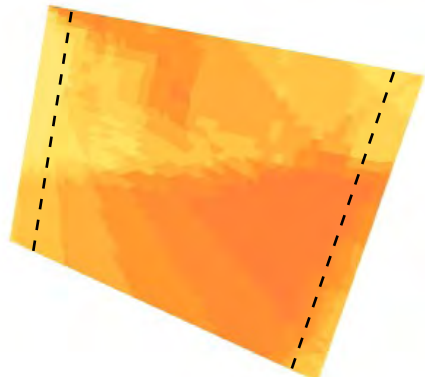
Analysed data compares like for like areas, shown dashed to provide a reasonable comparison of impacts



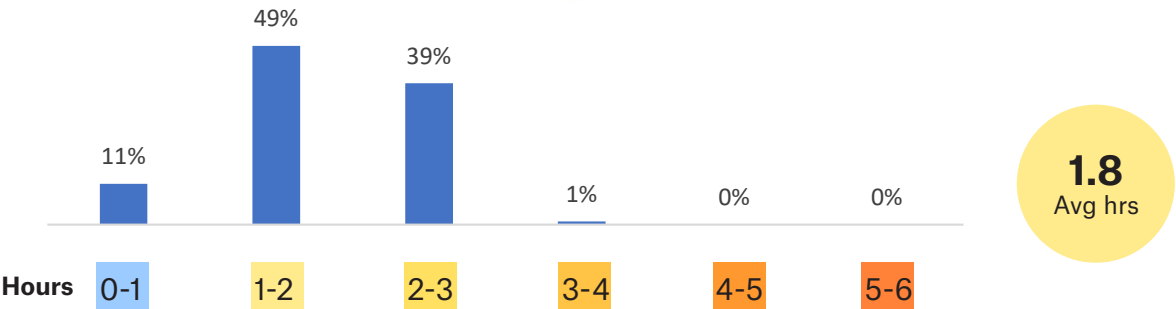
Reference Design



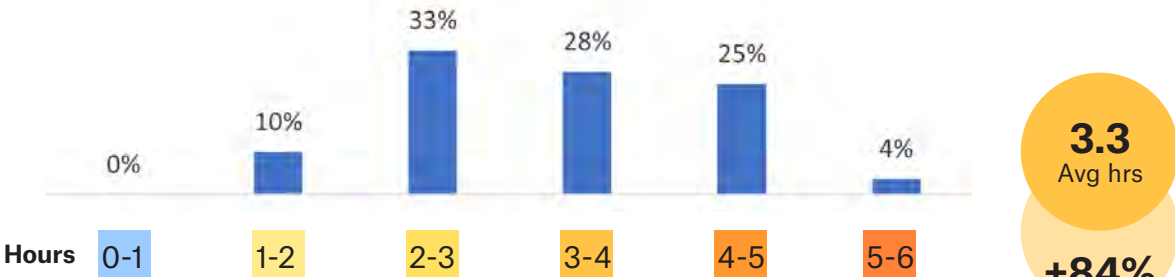
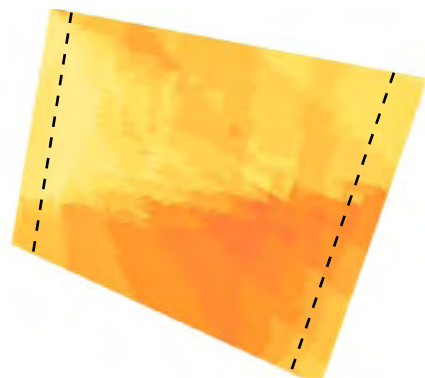
Solar access to the retail courtyard has significantly improved, maximising the opportunity for tree retention, improving the quality of light to public areas and retail shopfronts.



Envelopes



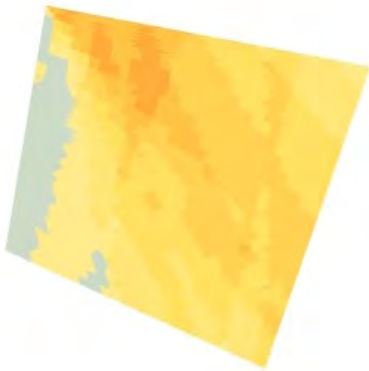
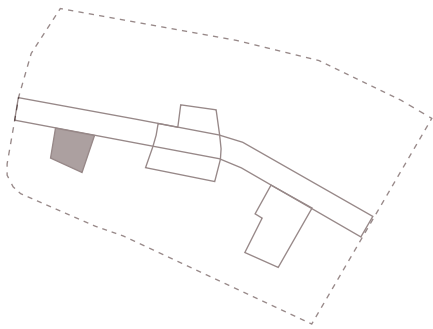
LEP Compliant



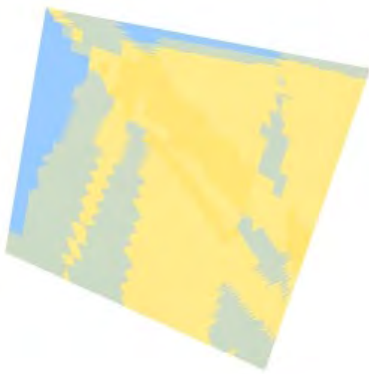
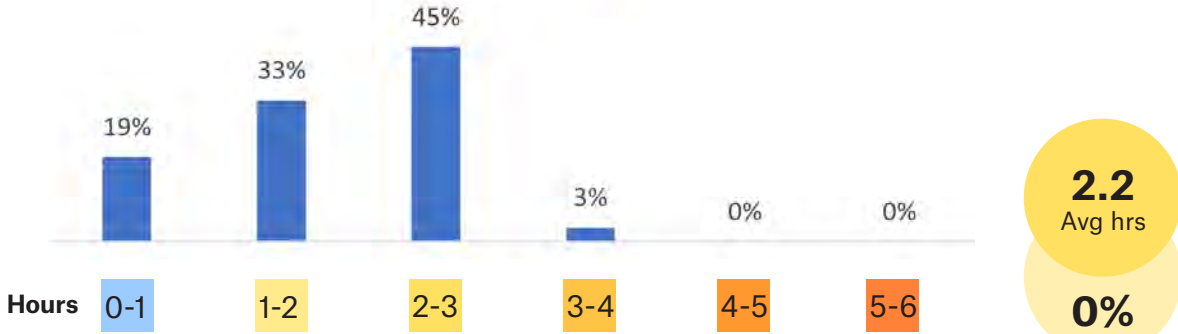
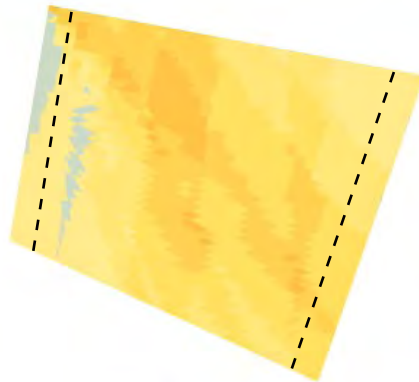
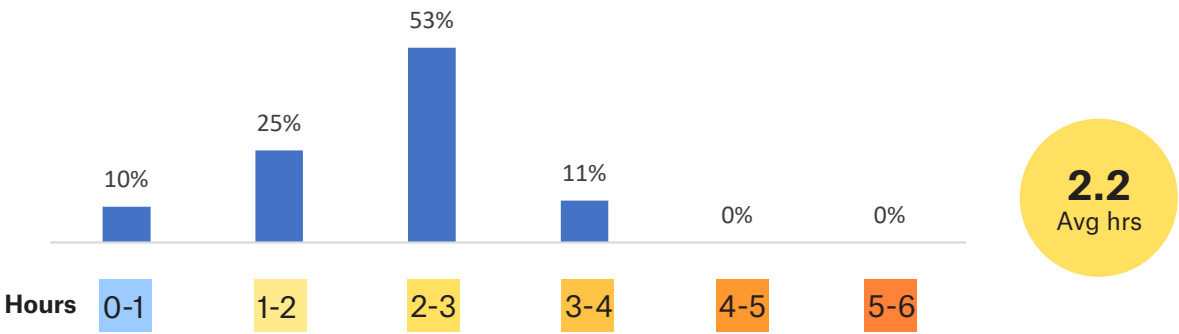
Proposed

5.6
B. Retail Courtyard
Winter Solstice

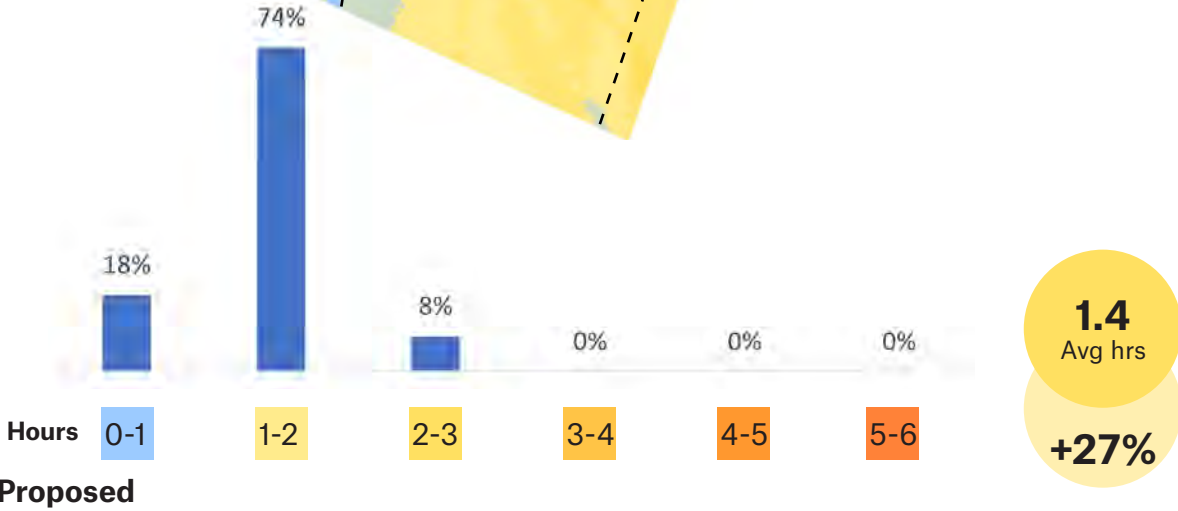
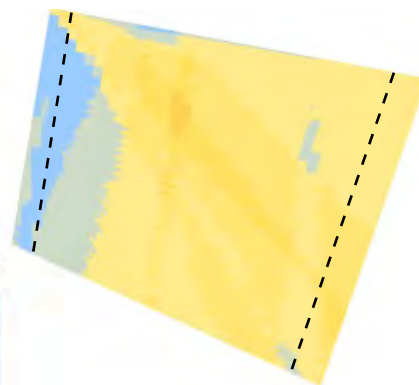
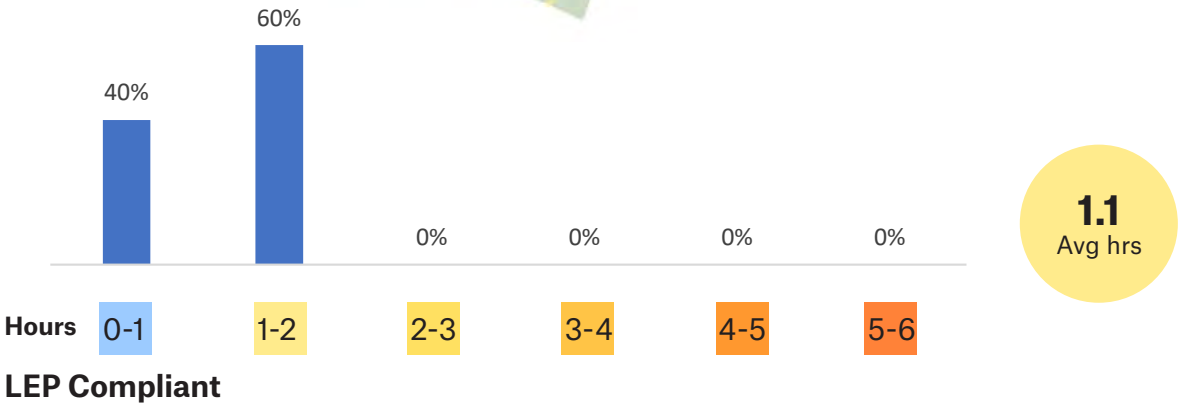
Analysed data compares like for like areas, shown dashed to provide a reasonable comparison of impacts



Reference
Design



Envelopes

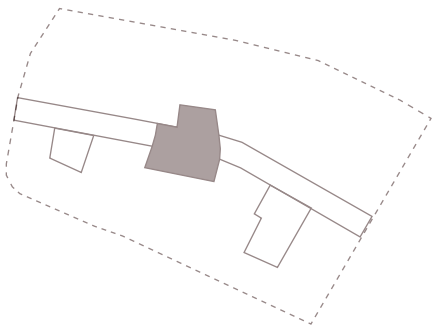


5.6

C. Community Courtyard

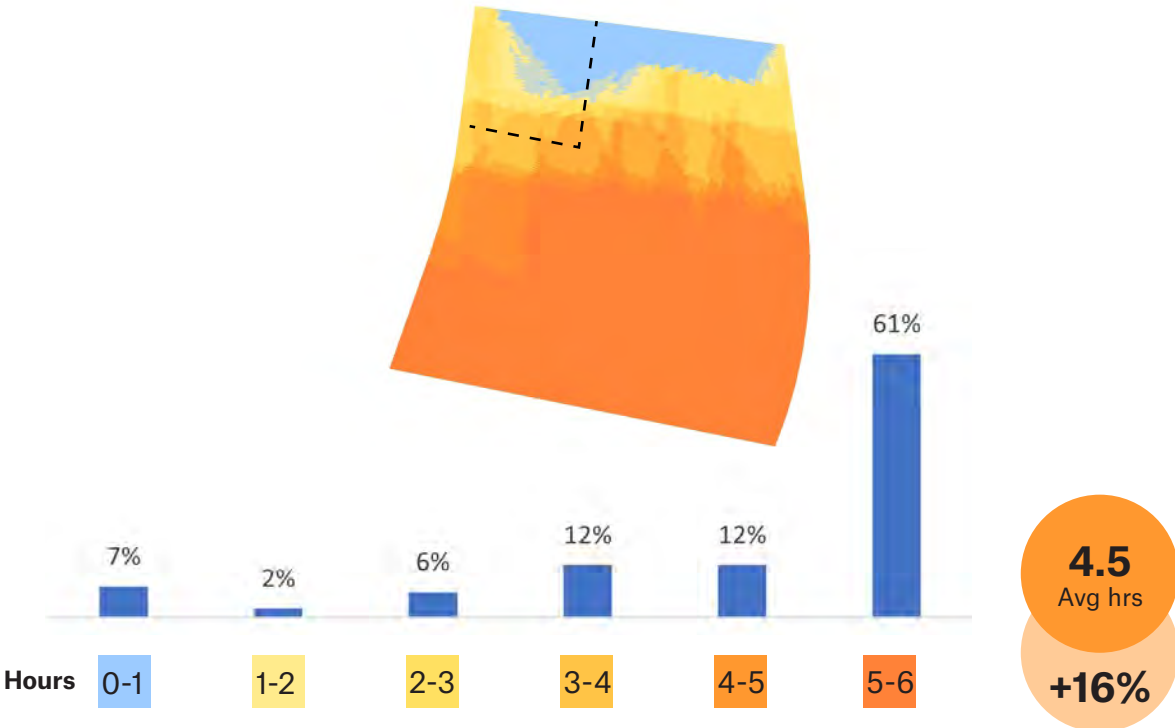
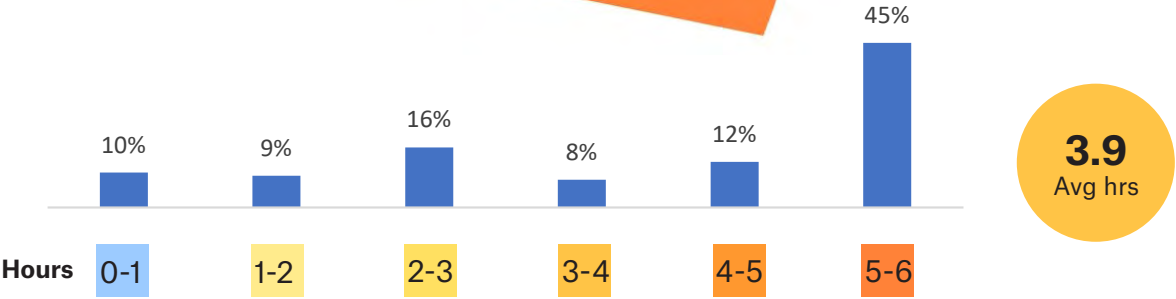
Equinox

Analysed data compares like for like areas, shown dashed to provide a reasonable comparison of impacts

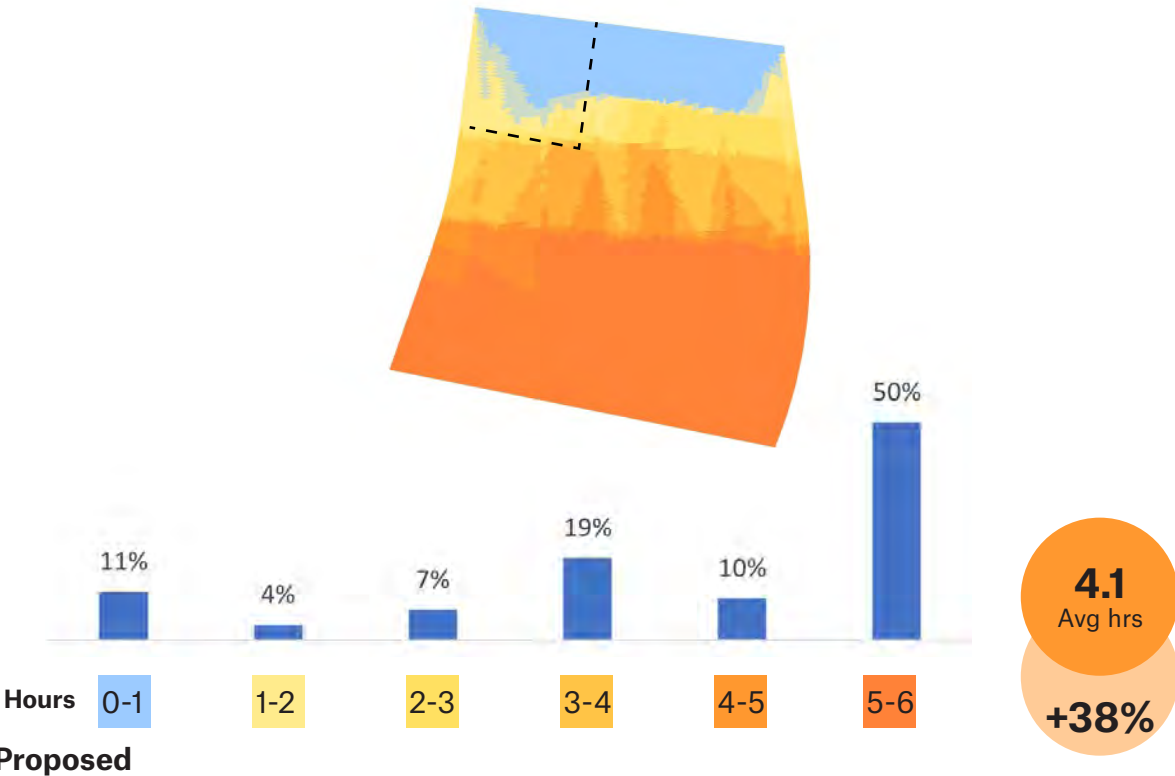
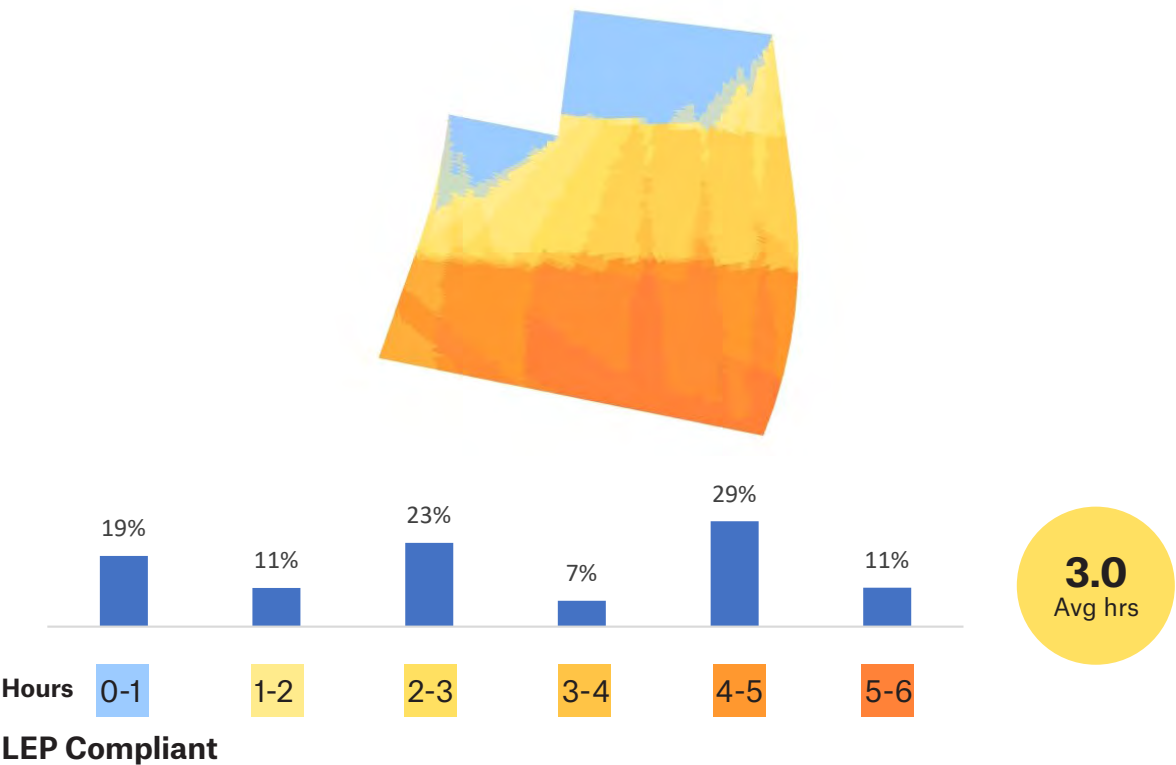


Solar access to the community courtyard has significantly improved, improving the quality of light to the Library interface, central stair and to existing trees.

Reference Design

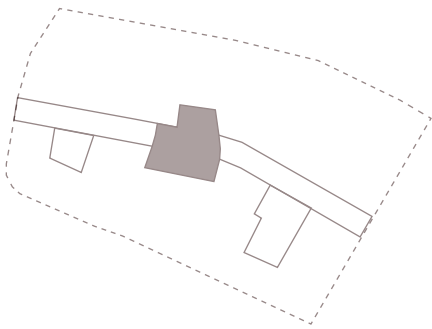


Envelopes

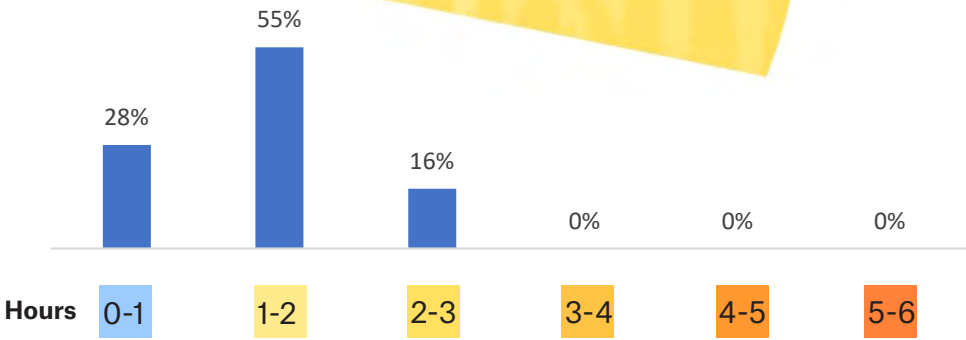


5.6
C. Community Courtyard
Winter Solstice

Analysed data compares like for like areas, shown dashed to provide a reasonable comparison of impacts

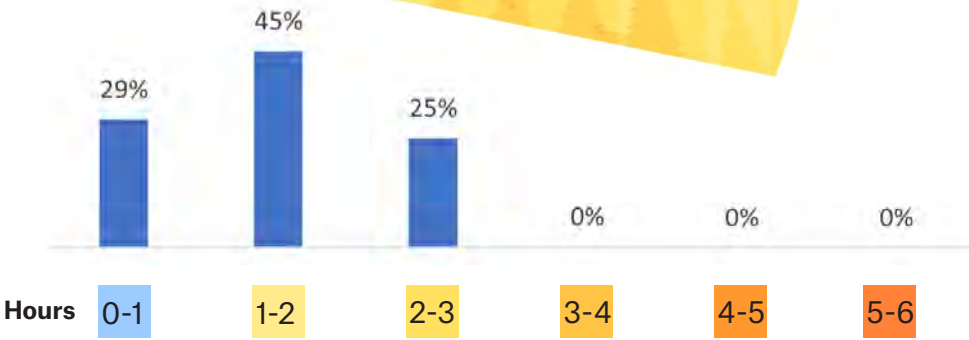


Reference
Design



1.4
Avg hrs

Hours

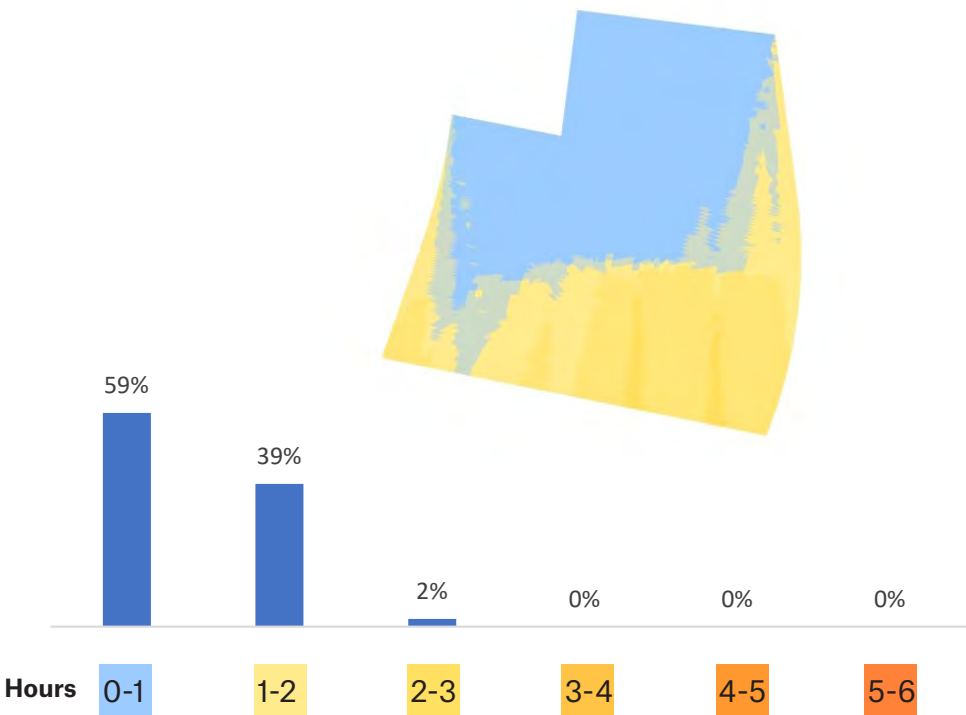


1.5
Avg hrs
+11%

Envelopes

Hours

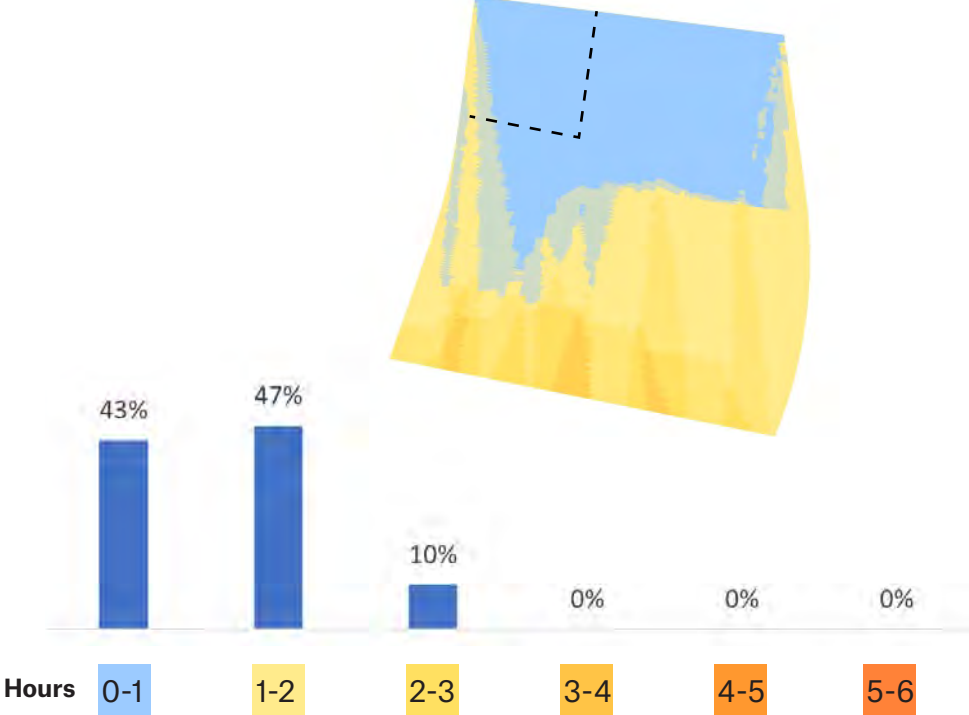
LEP Compliant



0.9
Avg hrs

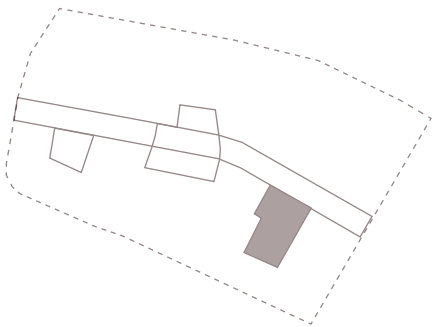
Hours

Proposed



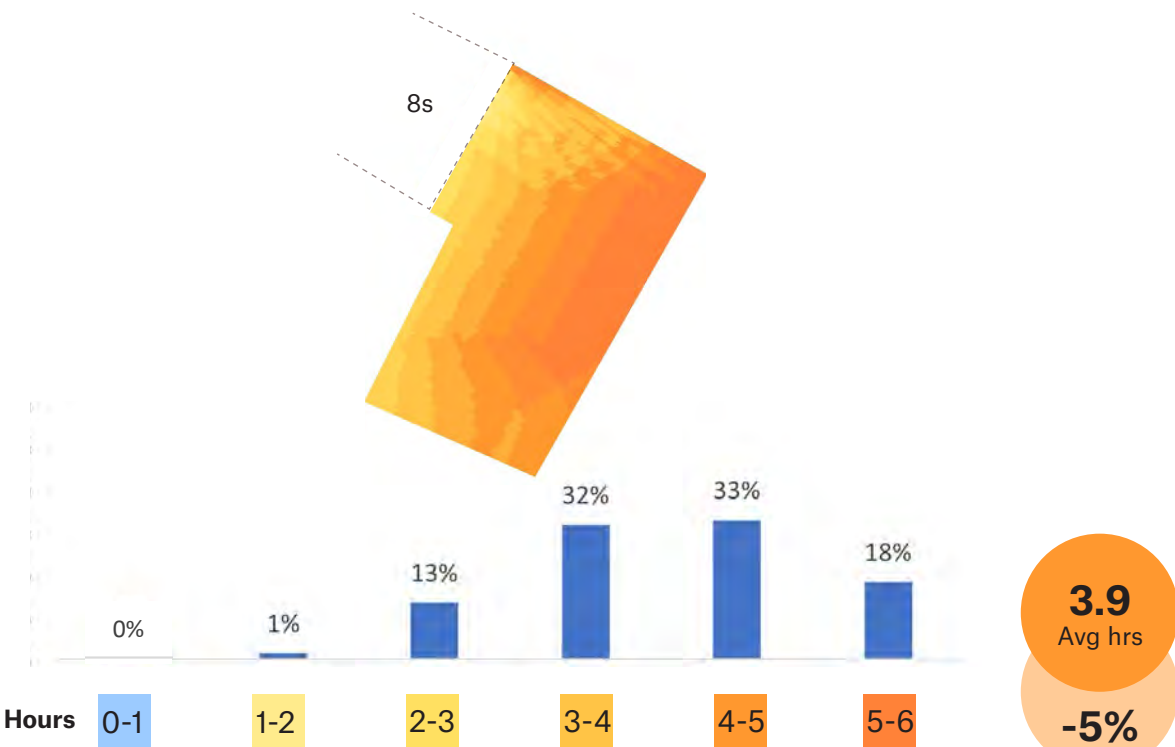
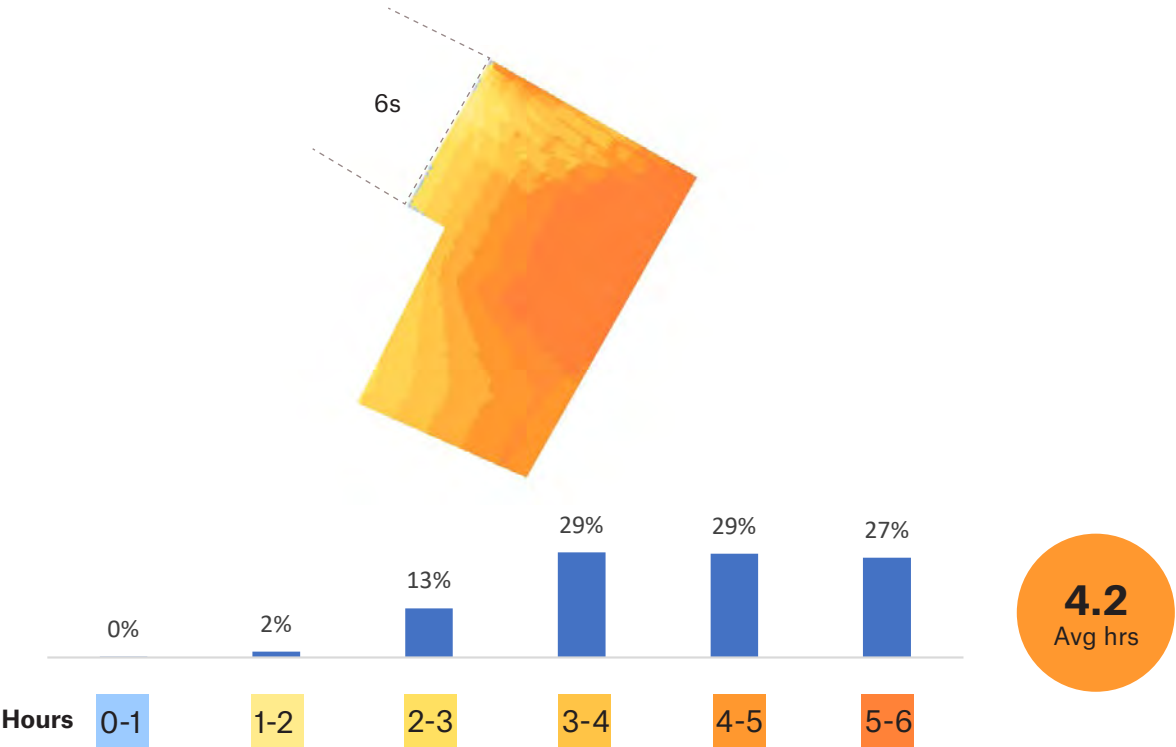
1.2
Avg hrs
+25%

5.6
D. Residential Courtyard
Equinox

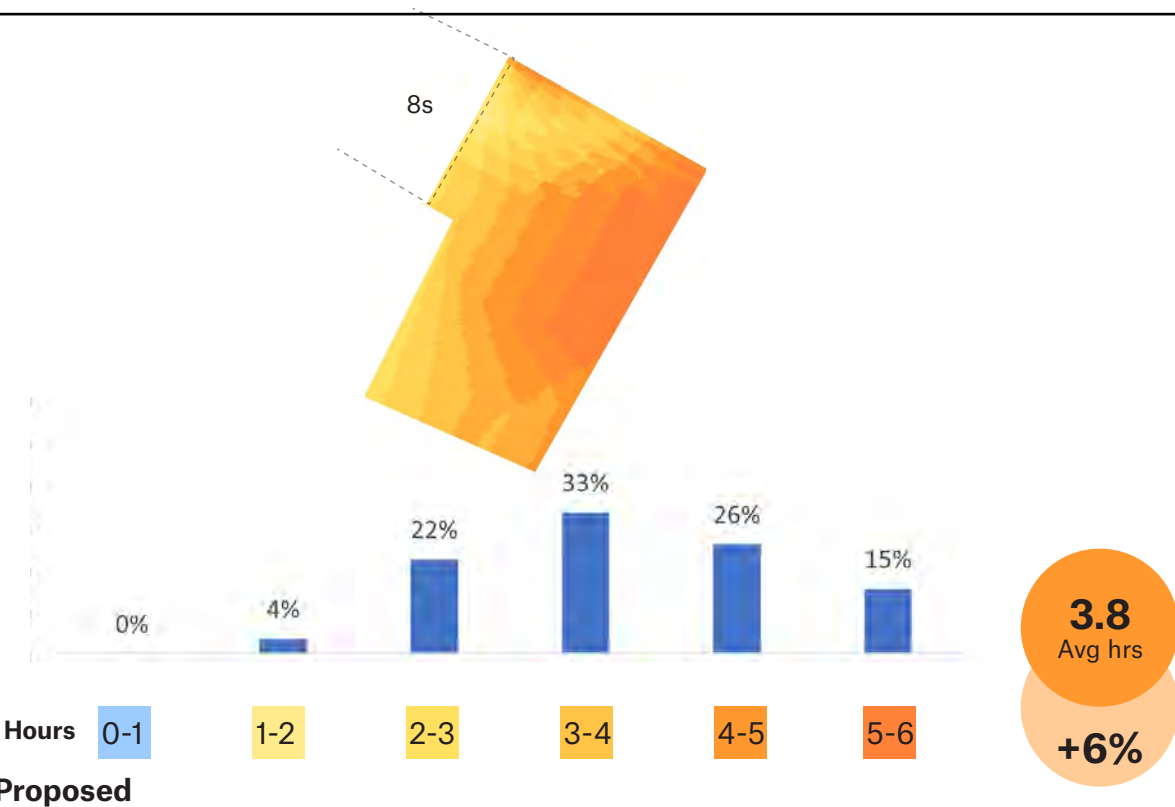
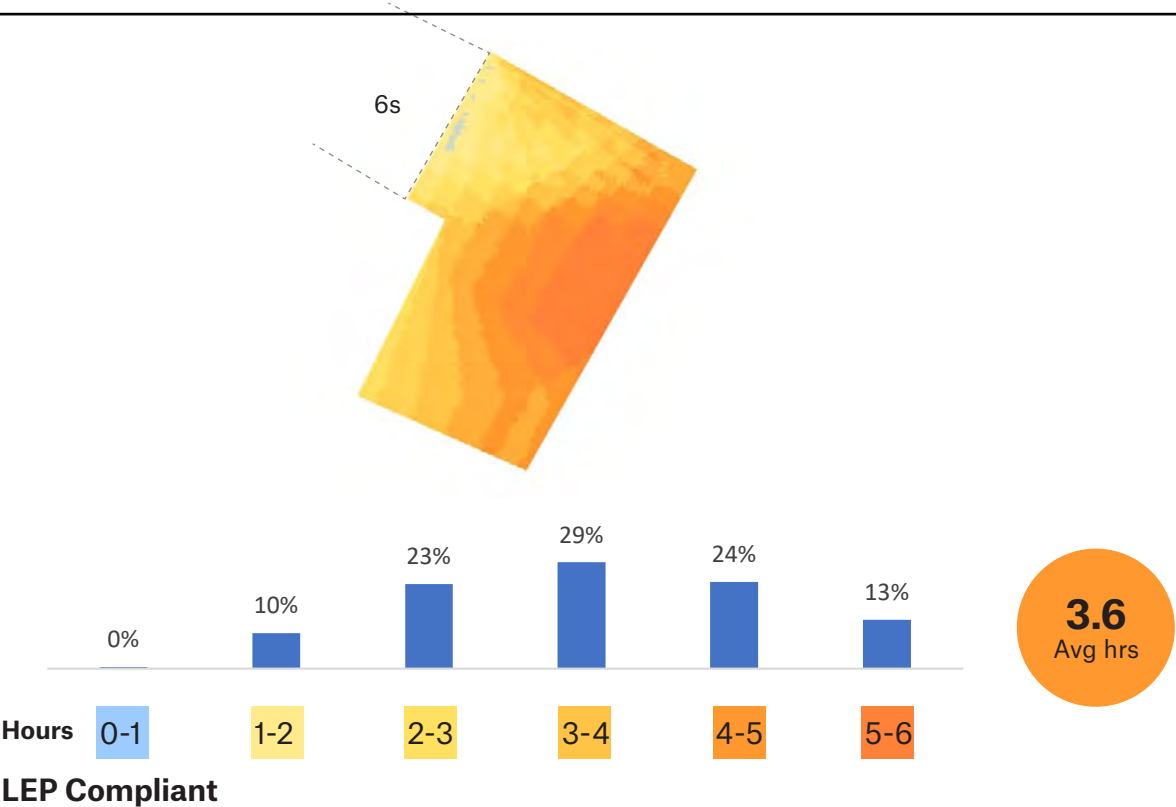


Refining the envelopes and reducing height in key areas has improved the available daylight to the residential courtyard along Fig Tree Avenue, maximising the potential for tree retention and benefiting adjacent landscape areas.

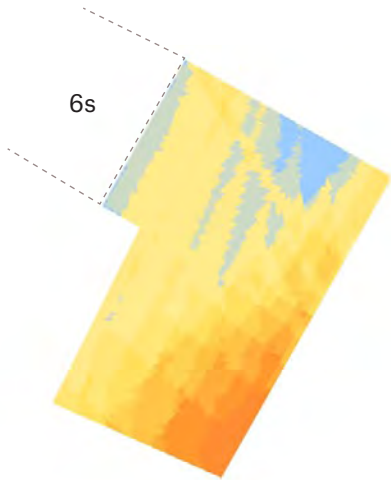
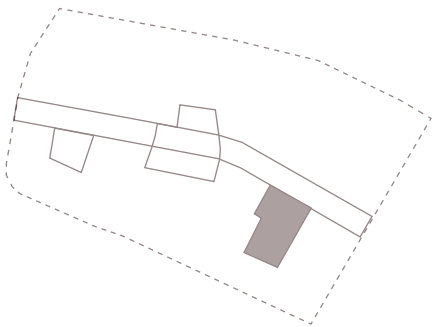
Reference
Design



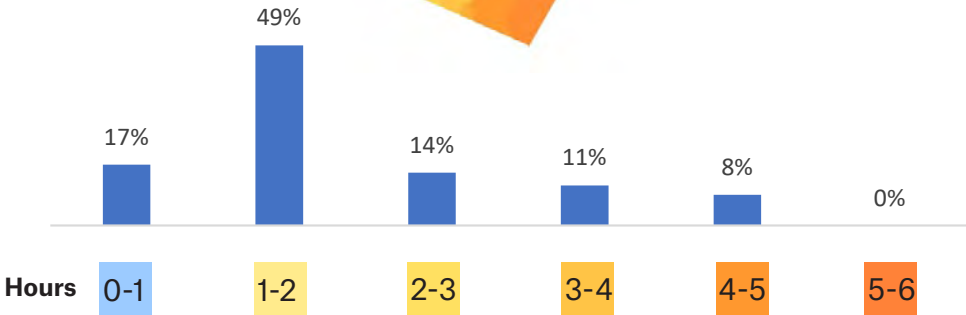
Envelopes



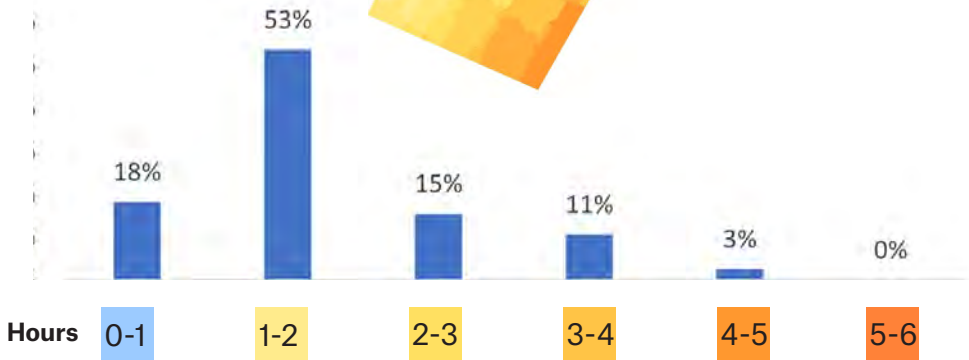
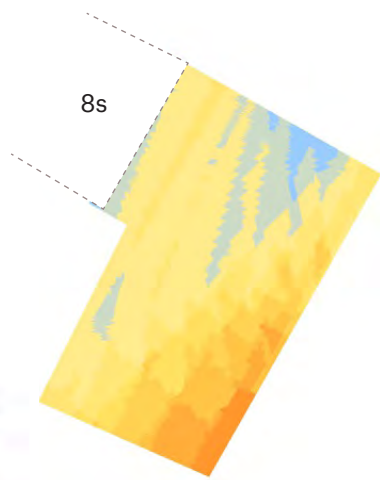
5.6
D. Residential Courtyard
Winter Solstice



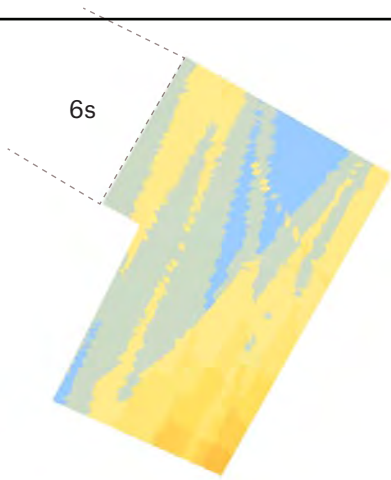
Reference
Design



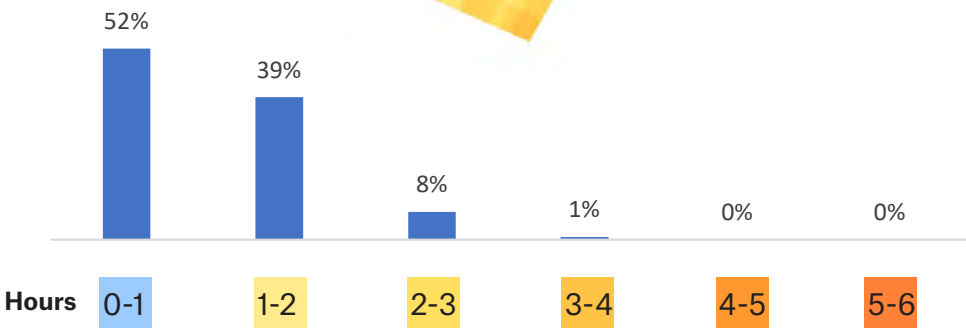
1.9
Avg hrs



1.8
Avg hrs
-10%

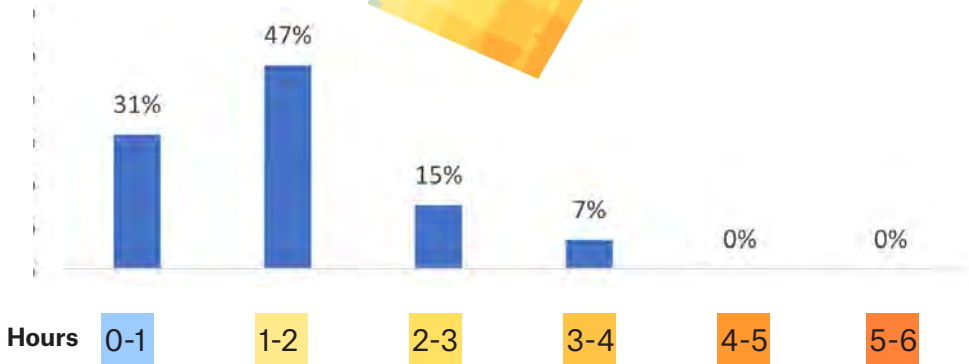
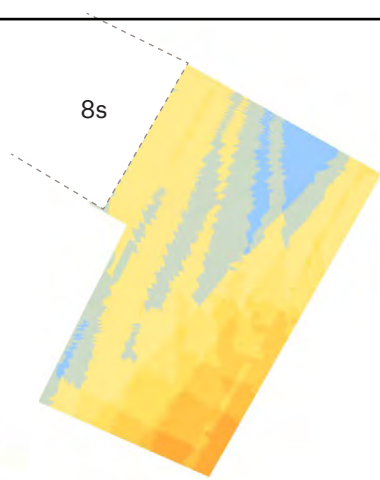


Envelopes



LEP Compliant

1.1
Avg hrs



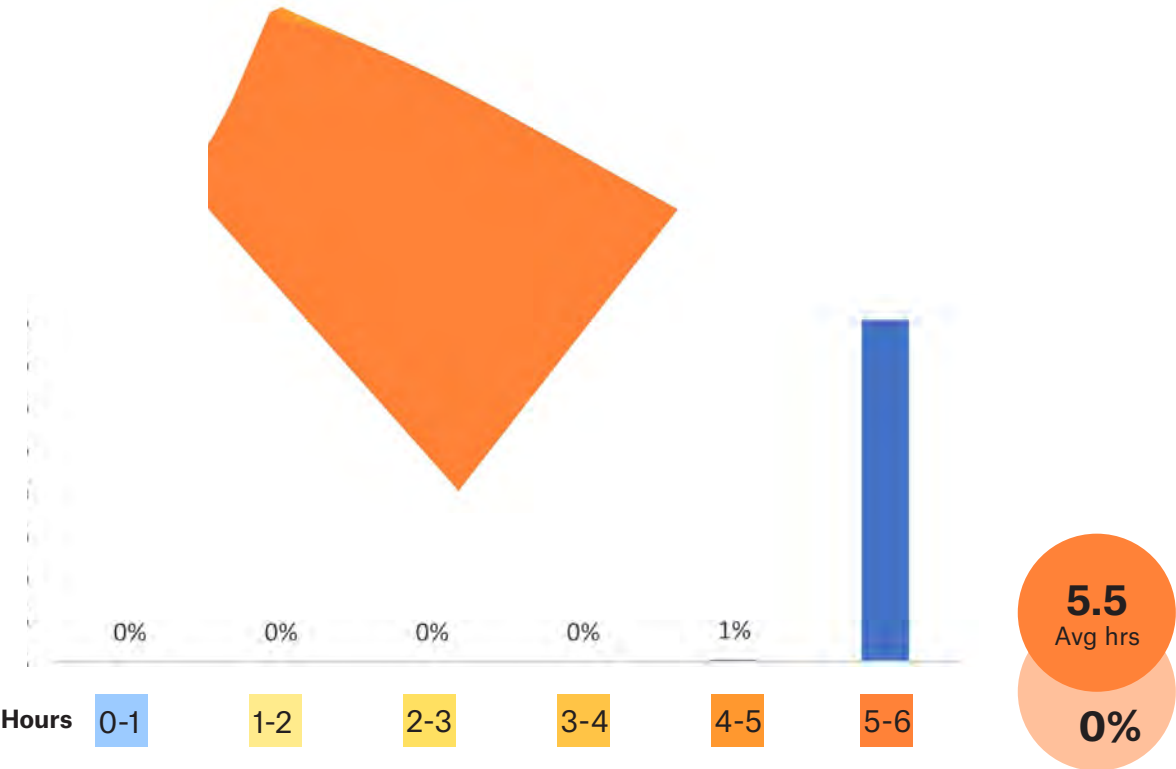
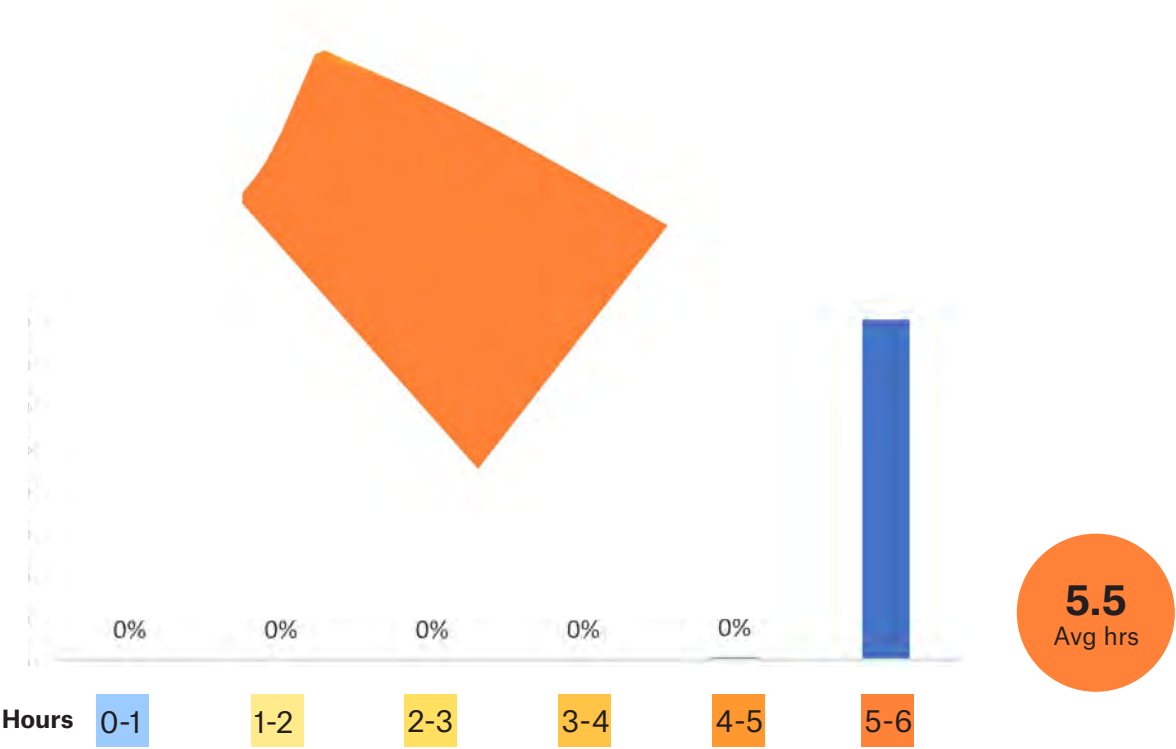
Proposed

1.5
Avg hrs
+38%

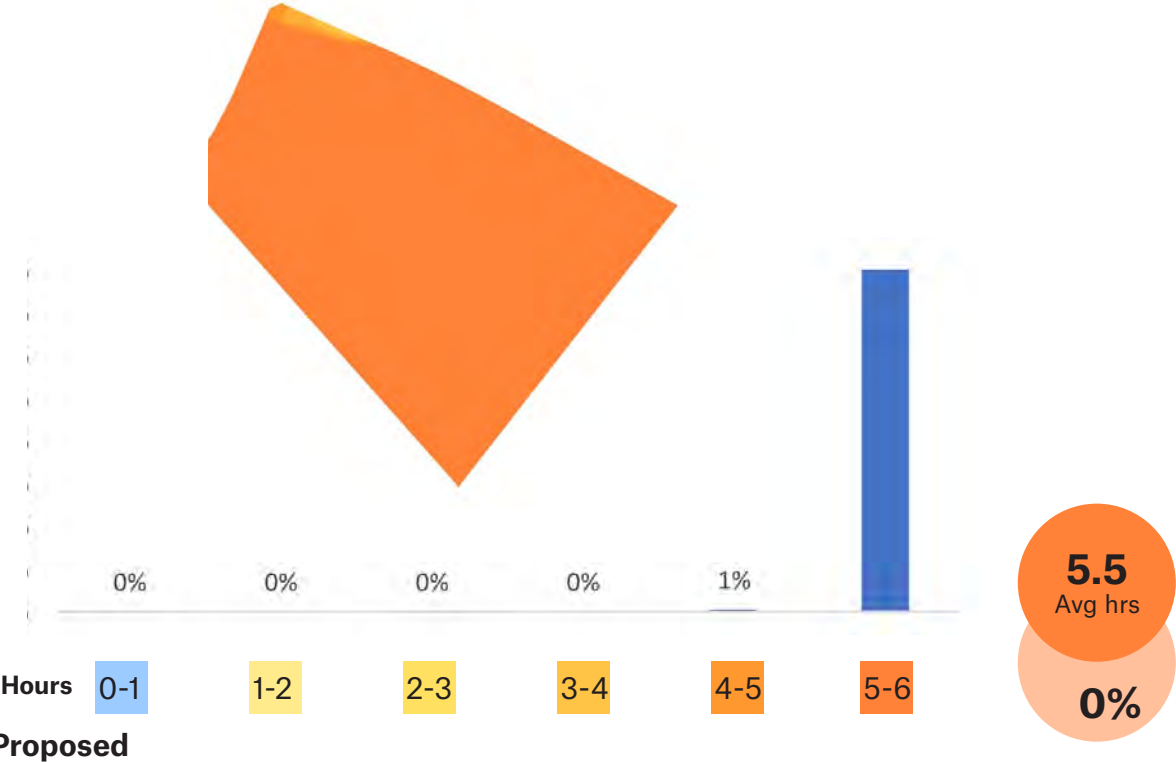
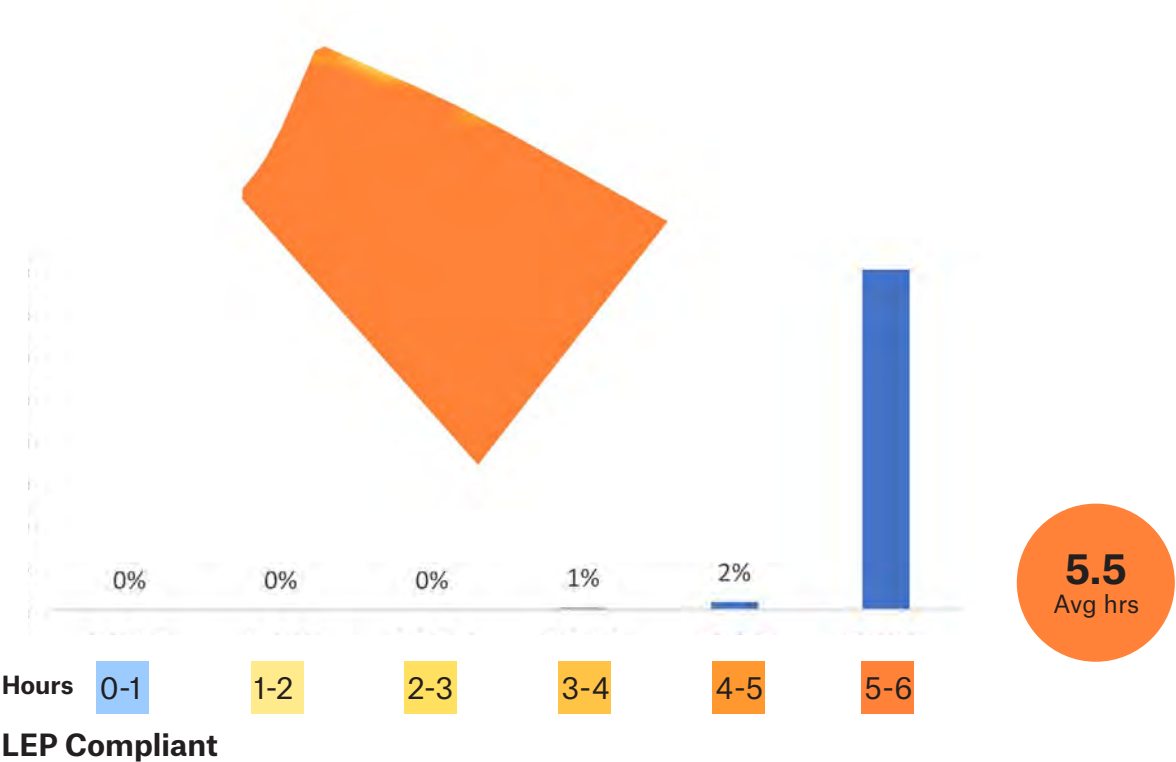
5.6
E. Telopea Public School
Equinox

Solar access to the school is relatively like-for-like in both Winter and the Equinox, additional heights in the Core Precinct having minimal impacts on the amenity of the school grounds.

Reference
Design

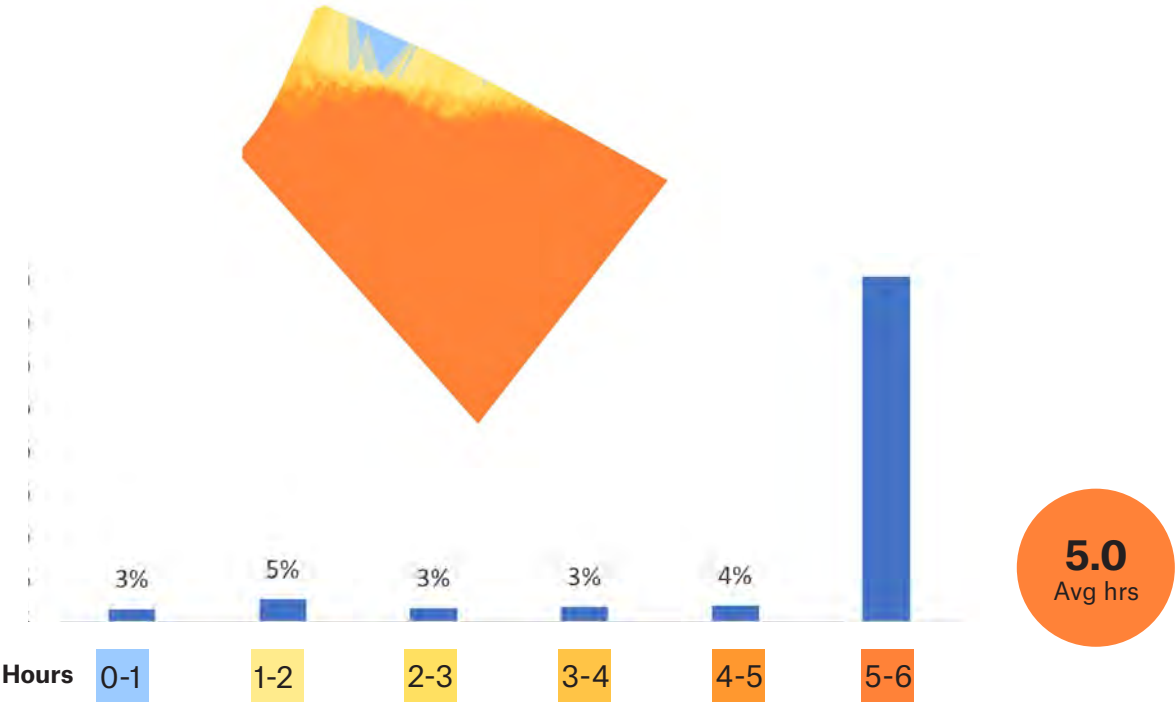


Envelopes

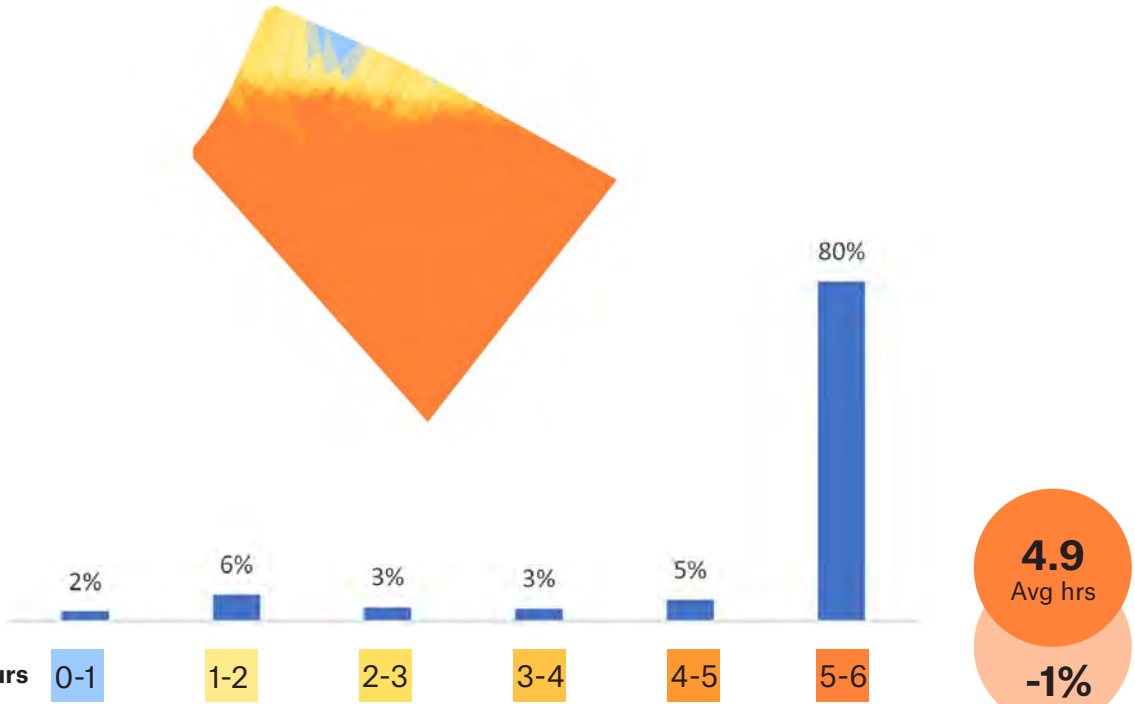


5.6
E. Telopea Public School
Winter

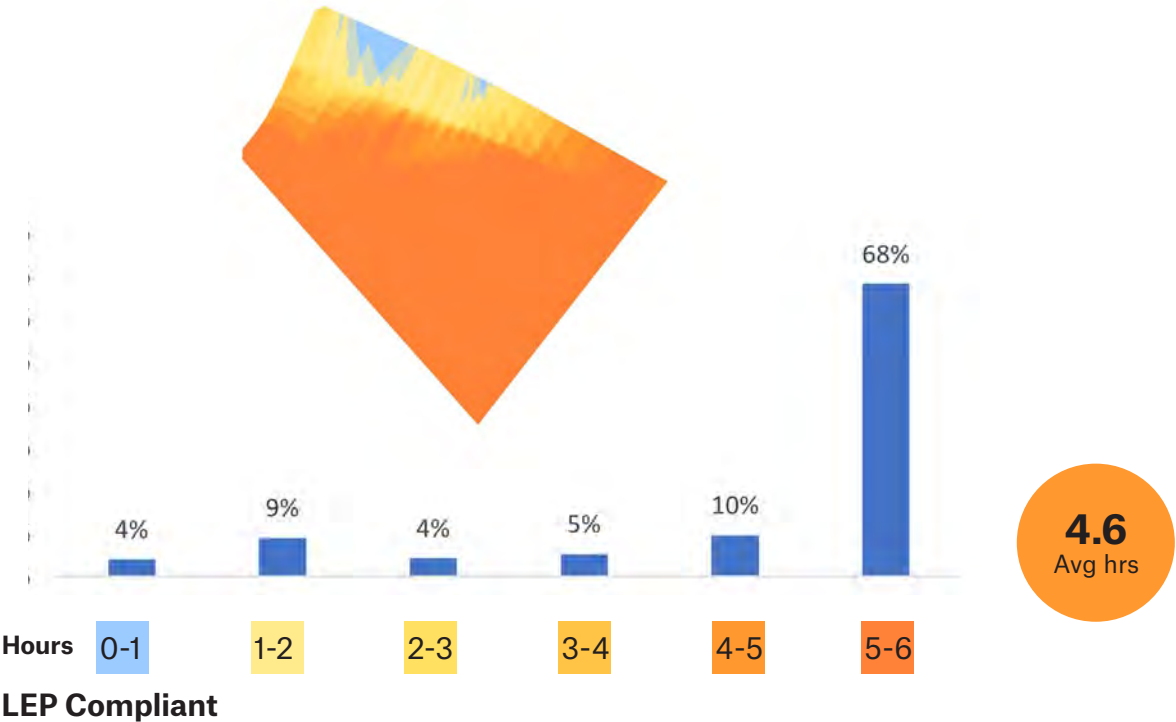
Reference
Design



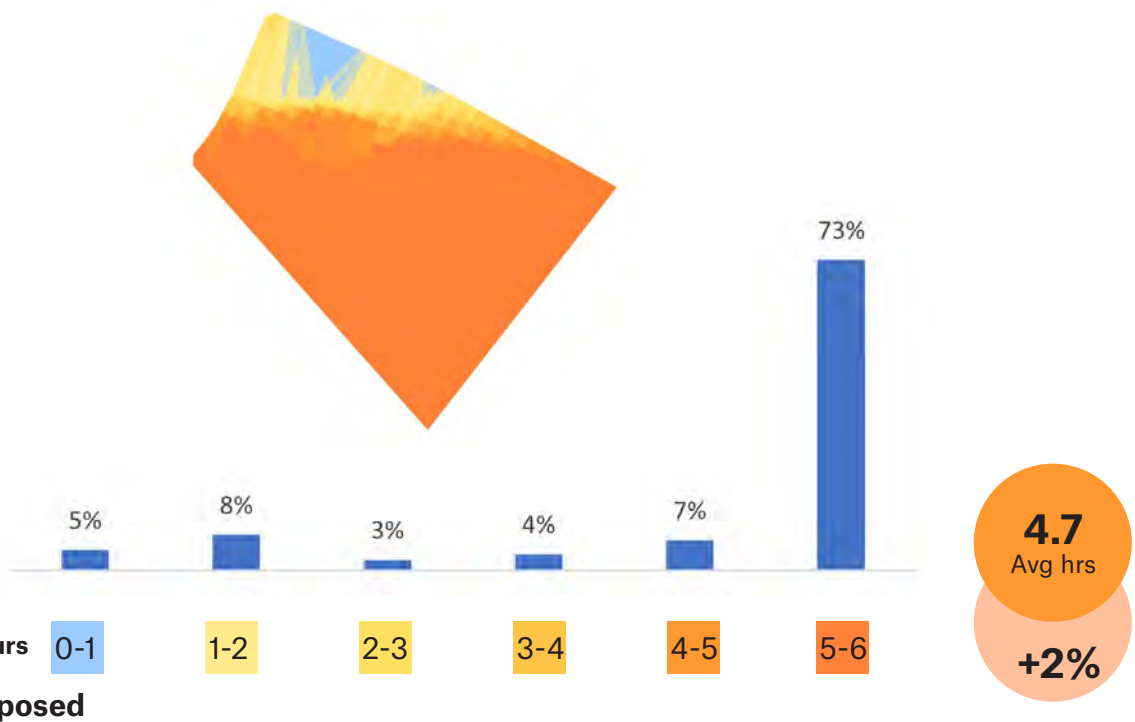
Hours



Envelopes



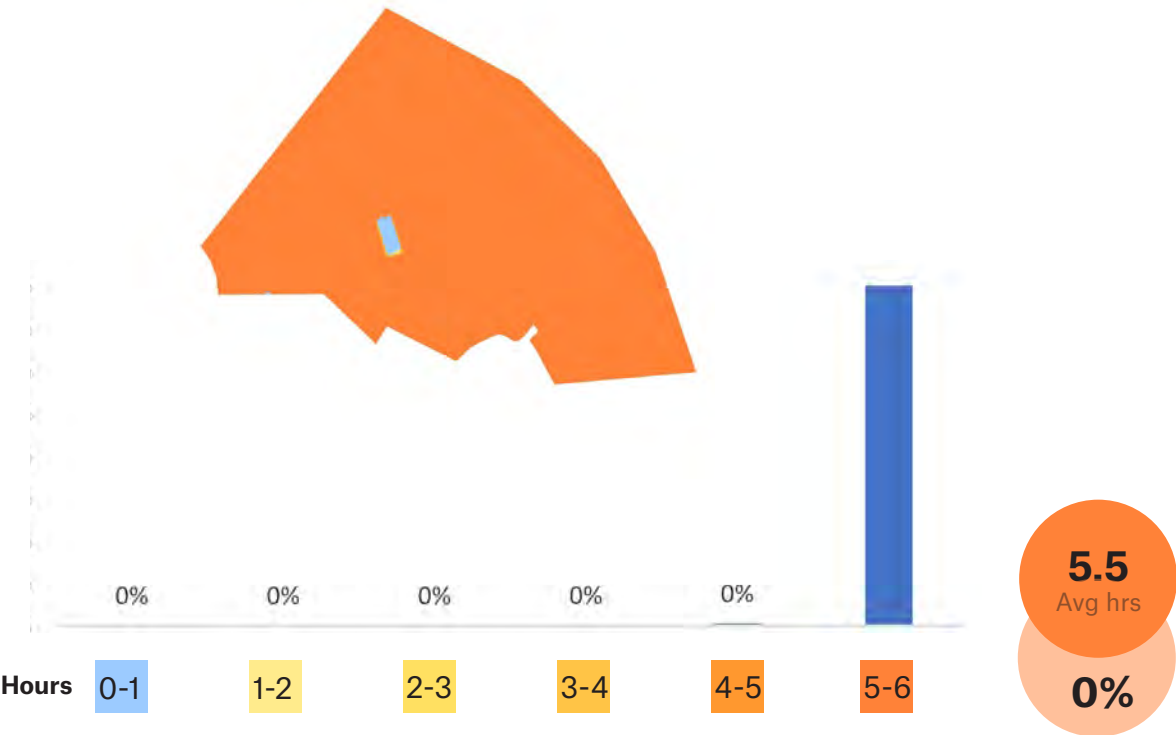
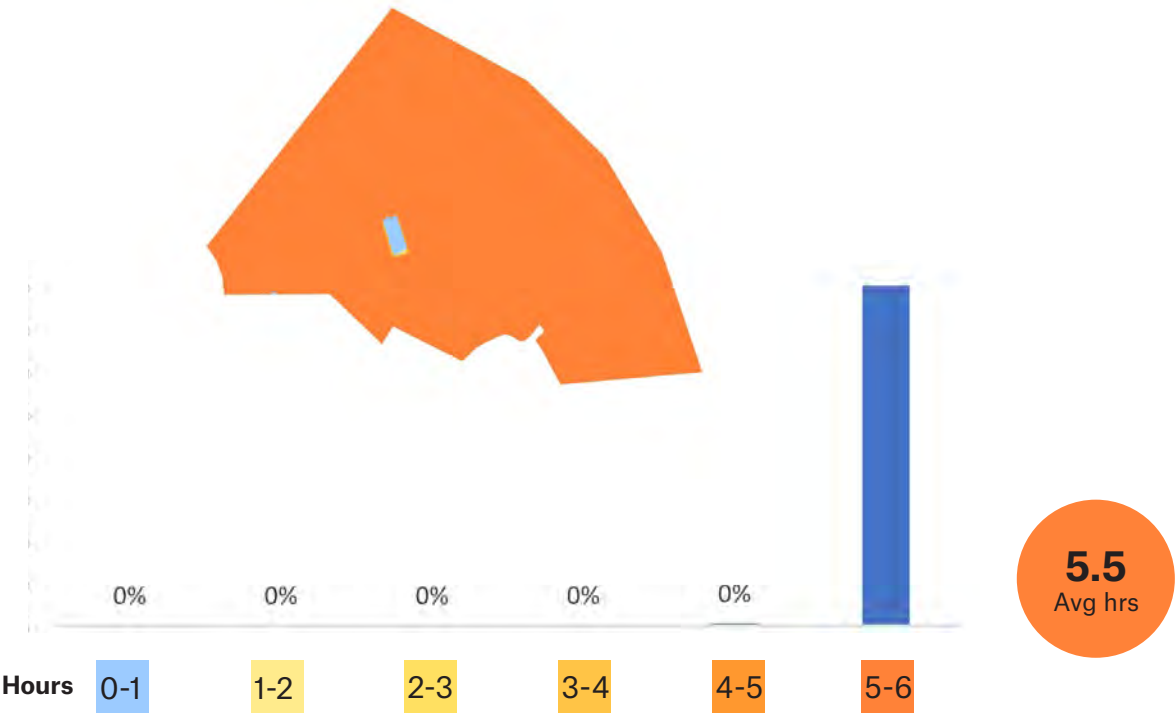
Hours
Proposed



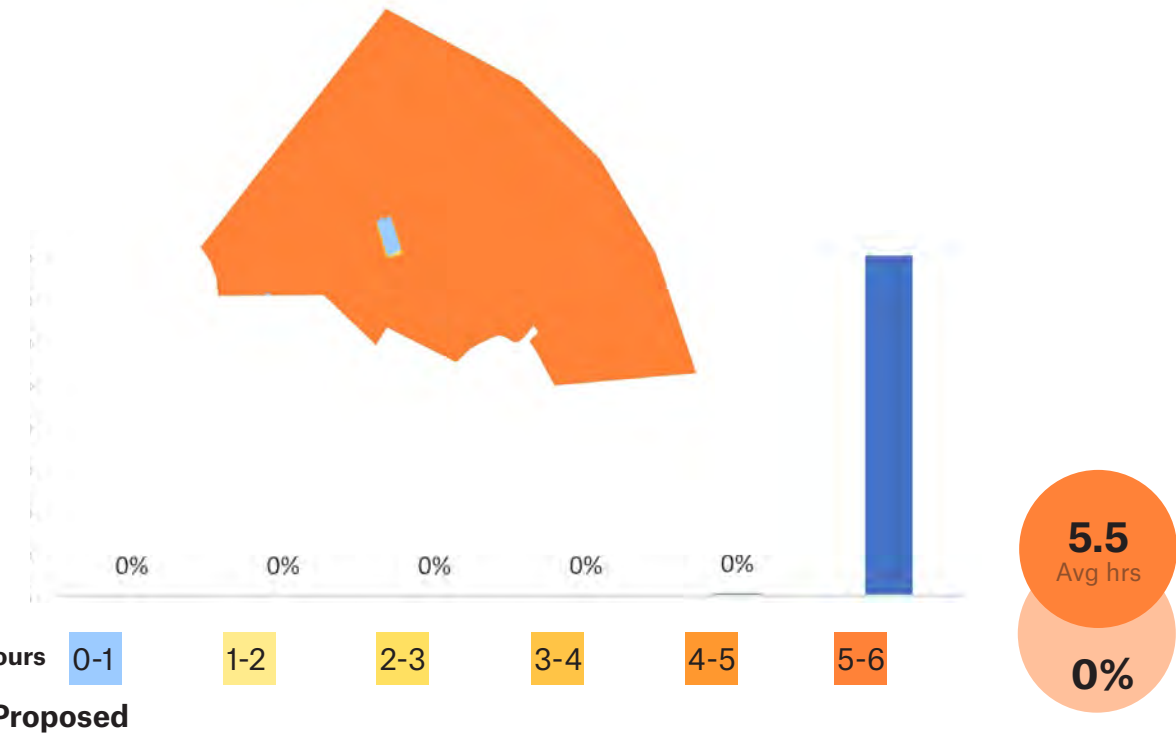
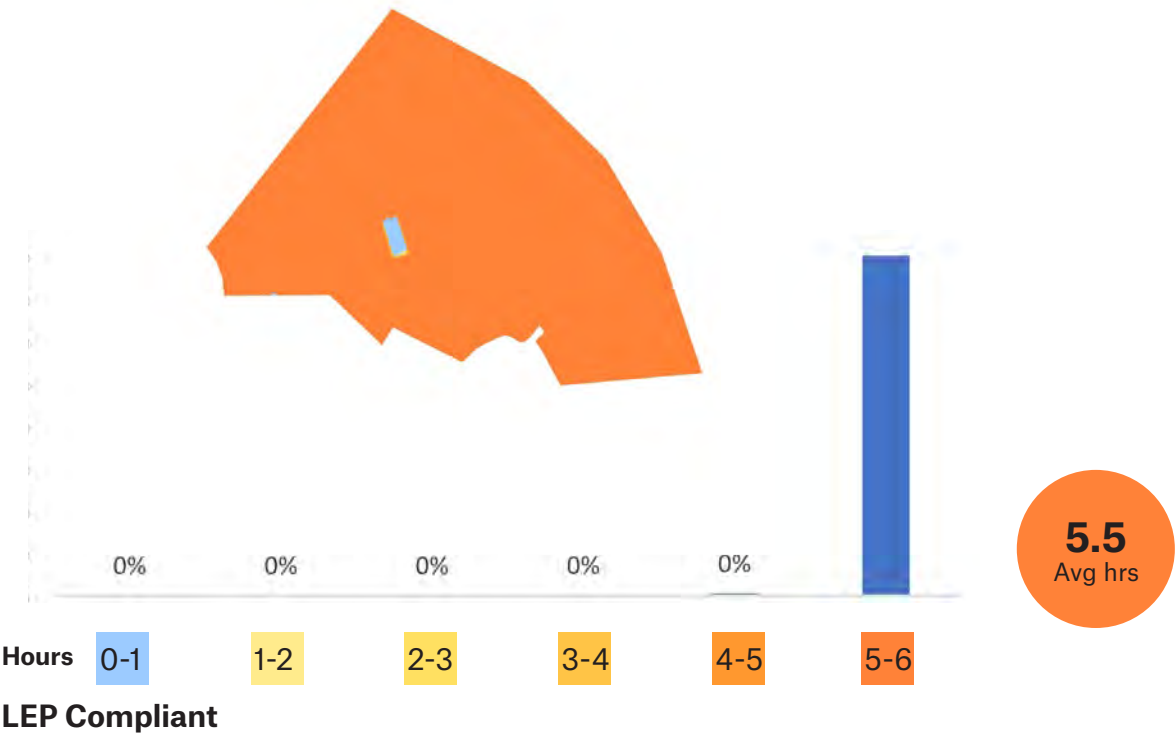
5.6
F. Sturt Park
Equinox

Solar access to the park is like-for-like in both Winter and the Equinox, additional heights in the Core Precinct having minimal impacts on the amenity of the park grounds.

Reference
Design

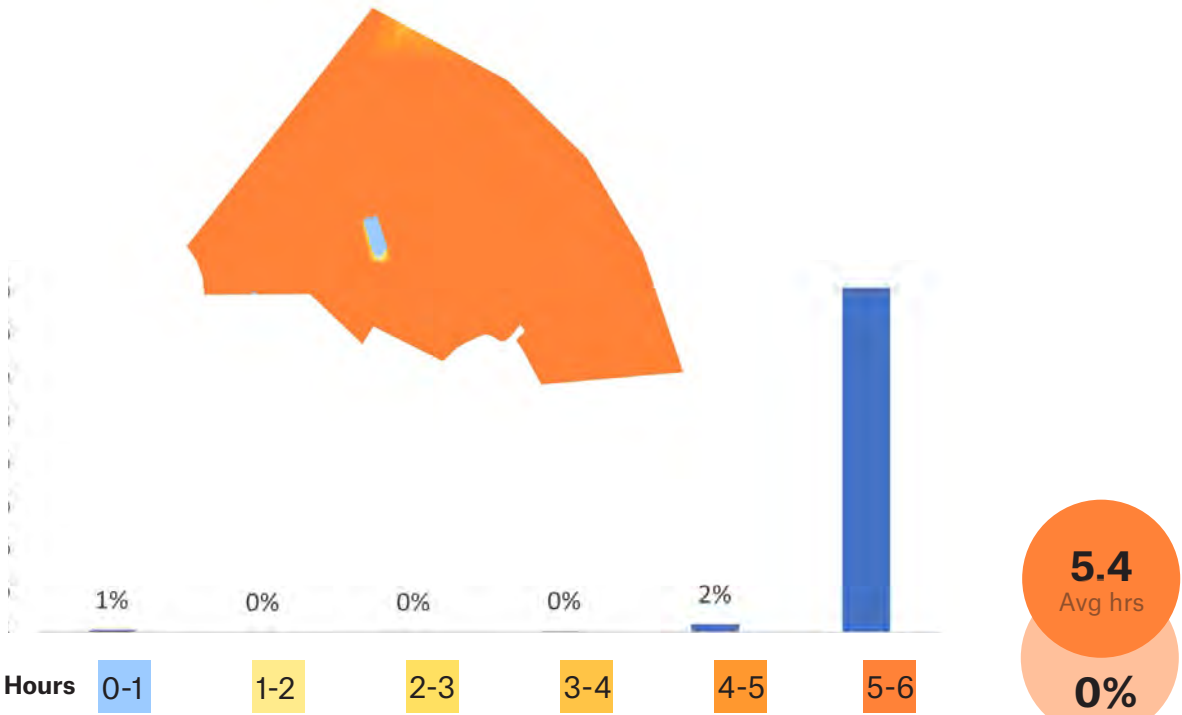
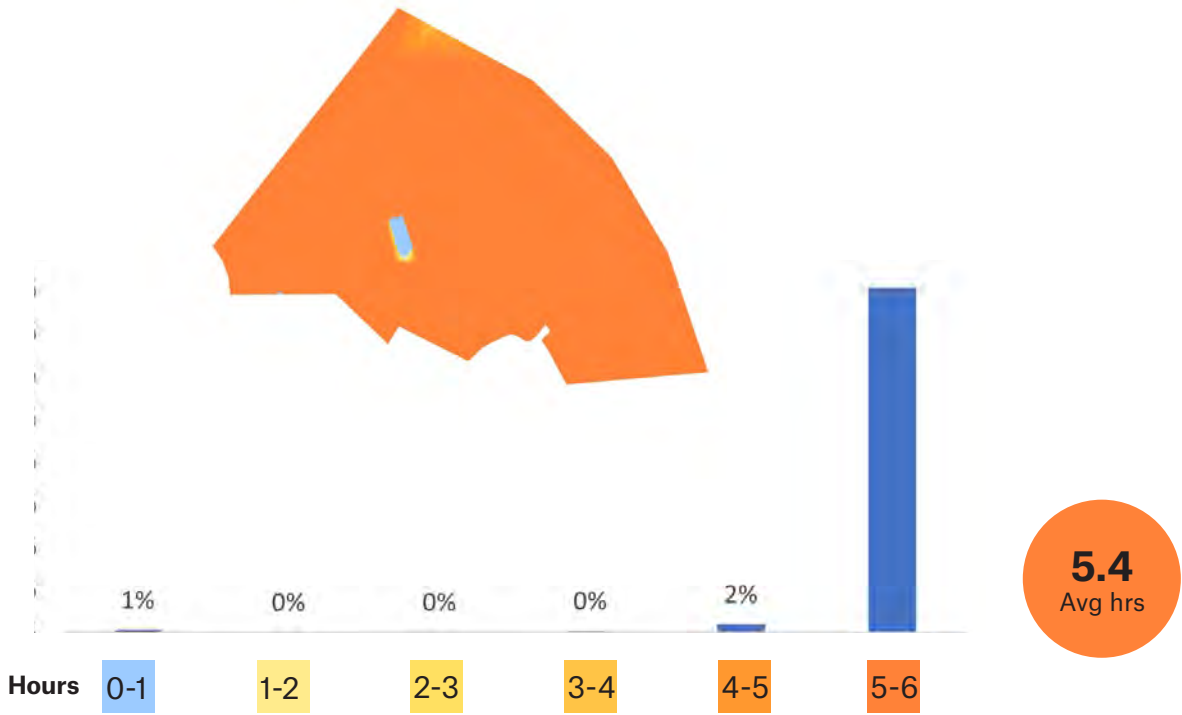


Envelopes

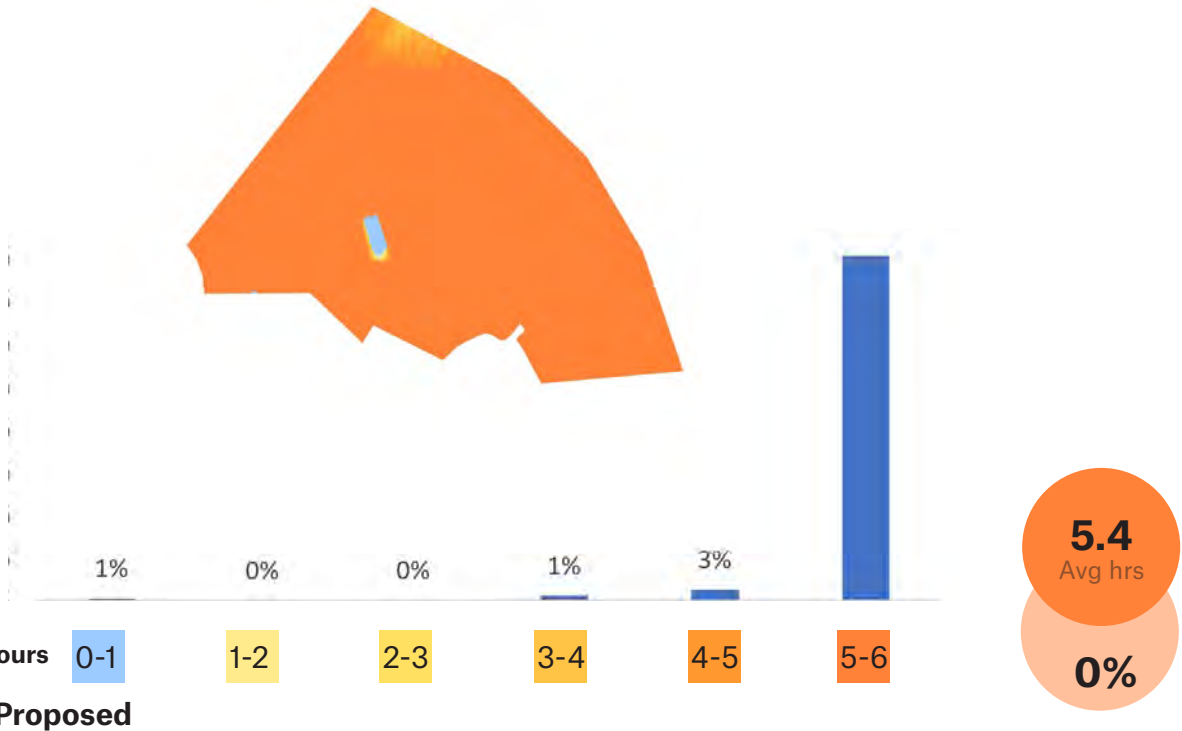
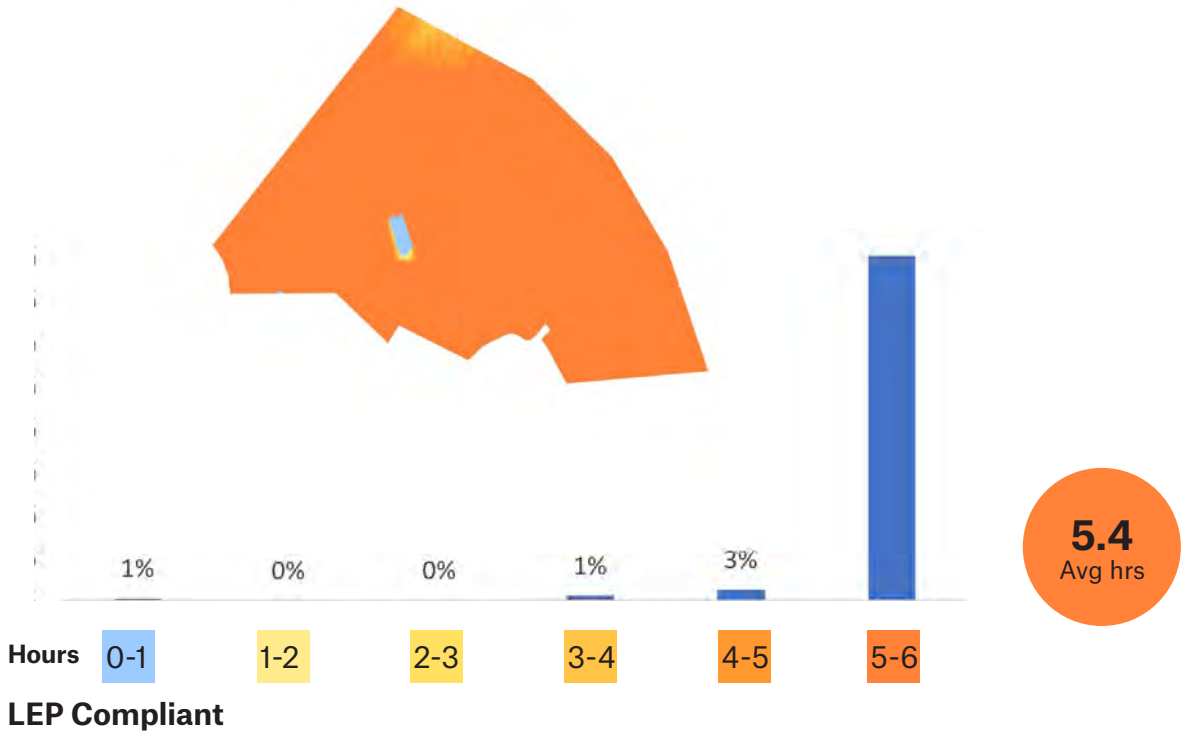


5.6
F. Sturt Park
Winter

Reference
Design



Envelopes



5.7 Heritage

Key Findings from the Heritage Impact Statement

- Overall the Concept Proposal and the detailed design for Stage 1A is considered to provide a compatible response to the character and significance of the Telopea region, and will not result in adverse heritage impacts to the vicinity Redstone heritage item to the south west.
- There are no aspects of the Concept Proposal or the detailed design of Stage 1A proposed works which could have a detrimental impact on the significance of the vicinity Redstone heritage item. There are no other heritage items located within close proximity to the subject sites.
- The Concept Proposal and the detailed design Stage 1A proposed works are acceptable from a heritage perspective and are recommended for approval on built heritage grounds.

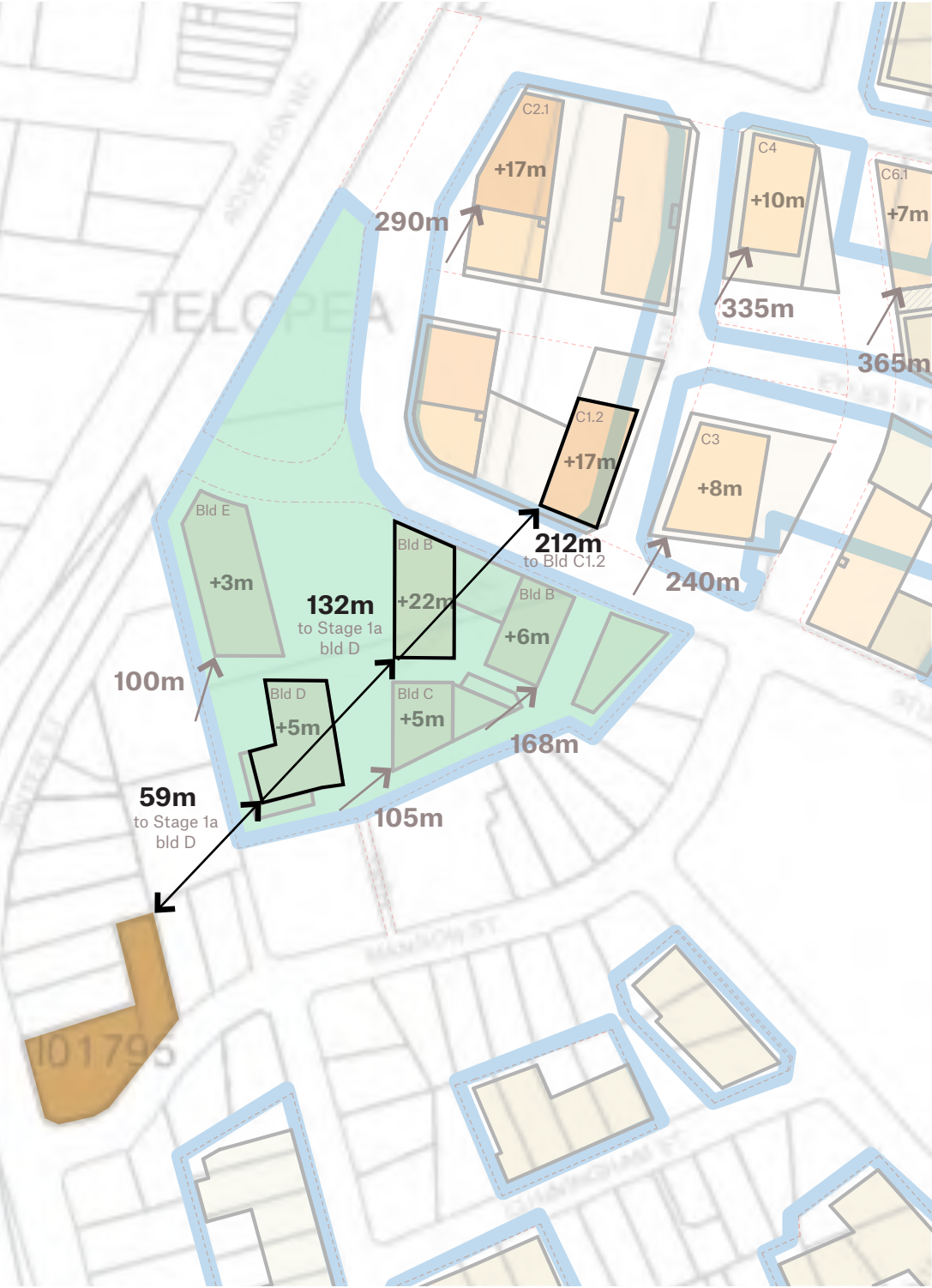
Proposed Height Exceedances and Distances from Redstone House

The heritage assessment that supported the exhibited Concept Plan and Stage 1A Project Application concluded there was no unacceptable heritage impact arising from the proposed building heights and the revised scheme now proposed as a result of the Response to Submissions does not create new or additional heritage issues as a result of the proposed building heights.

The adjacent diagram illustrates the proposed envelope height exceedances and their distances from Redstone House, tabled below.

Three sites have slightly more relevance to Redstone due to their proximity and proposed height increase, however are deemed far enough away to be able to be designed sympathetically and have no detrimental impact.

Building	Above LEP	Distance from Redstone
1a Bld B West	+6m	168m
1a Bld B East	+22m	132m
1a Bld C	+5m	105m
1a Bld D	+5m	59m
1a Bld E	+3m	100m
C1.2	+17m	212m
C2.1	+17m	290m
C3	+8m	240m
C4	+10m	335m
C6.1	+7m	365m



Dimensioned plan showing proposed envelope height exceedances to mapped heritage sites

PLEP Clause 4.3 Height of Buildings Objective (c)

to require the height of future buildings to have regard to heritage sites and their settings,

PLEP Clause 4.3 Height of Buildings Objective (d)

to ensure the preservation of historic views



Figure 2 from Heritage Impact Statement overlaid with proposed envelopes

5.8 Historic Views Near 1 Manson Street

Clause 4.3 Height of Buildings

Objective (d)
to ensure the preservation of historic views,



Analysis of existing vs proposed views focus on Redstone (The Winter House) located at 34 Adderton Road and 1 Manson Street which is the only heritage item in vicinity of the site.

Analysis compares a compliant building envelope and the proposed building envelope.

VIA View 44



Compliant

Key Findings

The spatial separation of taller built forms proposed in relation to Redstone House is such that they will not dominate views to or from the item or significantly impact on the visual setting of it. In this regard the proposed development is rated as having a moderate to high compatibility with Redstone - Urbis, VIA 2021.

The Addendum VIA includes amended photomontages based on the amended height massing. The report provides a comparative analysis of visual effects and impacts of the built forms proposed as part of the Proposed building envelope (EIS July 2021) and the proposed Refined Building Envelopes in relation to RTS V2, Nov 2022. In relation to View 44, in the vicinity of Redstone House, the LEP height controls breached in the refined building massing have little to no additional impacts and the refined proposed development will block only glimpses of open sky.

- Urbis, VIA 2022



Proposed

5.9 Sky Exposure Dundas Park



VIA View 4

Analysis of existing vs proposed views focus on the impacts of height exceedance and sky exposure from the public domain



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

Clause 4.3 Height of Buildings

Objective (f)
to maintain satisfactory sky exposure and daylight to existing buildings within commercial centres, to the sides and rear of tower forms and to key areas of the public domain, including parks, streets and lanes.

5.9

Kissing Point Road



VIA View 18

Analysis of existing vs proposed views focus on the impacts of height exceedance and sky exposure from the public domain



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

Clause 4.3 Height of Buildings

Objective (f)
to maintain satisfactory sky exposure and daylight to existing buildings within commercial centres, to the sides and rear of tower forms and to key areas of the public domain, including parks, streets and lanes.

5.9 Homelands Reserve



Analysis of existing vs proposed views focus on the impacts of height exceedance and sky exposure from the public domain



VIA View 22



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

Clause 4.3 Height of Buildings

Objective (f)
to maintain satisfactory sky exposure and daylight to existing buildings within commercial centres, to the sides and rear of tower forms and to key areas of the public domain, including parks, streets and lanes.

5.9 Adderton Road North



VIA View 25

Analysis of existing vs proposed views focus on the impacts of height exceedance and sky exposure from the public domain



Compliant

Key Findings
There is no discernible or significant change proposed in visual terms and the visual impact remains as per previous advice.



Proposed

Clause 4.3 Height of Buildings

Objective (f)
to maintain satisfactory sky exposure and daylight to existing buildings within commercial centres, to the sides and rear of tower forms and to key areas of the public domain, including parks, streets and lanes.

6.0

Response to Design Guidelines Feedback

The exhibited Design Guidelines (provided under separate cover) have been amended to respond to the DPE's feedback detailed in Attachment B of its letter dated 28 July 2022.

Having carefully considered the DPE's feedback, the following Design Guide controls are proposed to remain as previously exhibited:

- Lower Core Streetwalls
- Precincts Upper Level Setbacks
- Tower Setbacks
- Tree Retention and Removal
- Lot E1 Building Envelope

This section of the document provides the justification for retaining the currently drafted controls and demonstrates that a superior outcome can be achieved under the currently proposed Guideline controls.

6.1 Lower Core Streetwalls

Section 1.1 Building Setbacks, Massing and Articulation

Provision 2

In the upper core area bounded by Sturt Street, Shortland Street and Manson Street, buildings should adopt a podium and tower typology with a street wall of 2-4 storeys and a tower which is generally set back a minimum of 3m (Figure 2).

Feedback Received

- This provision should apply to the entire core

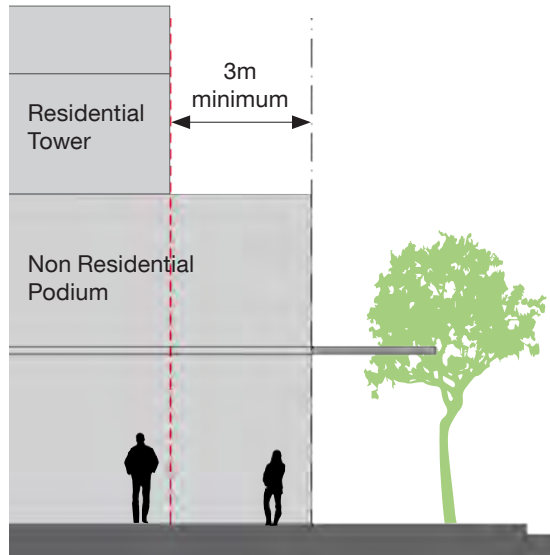


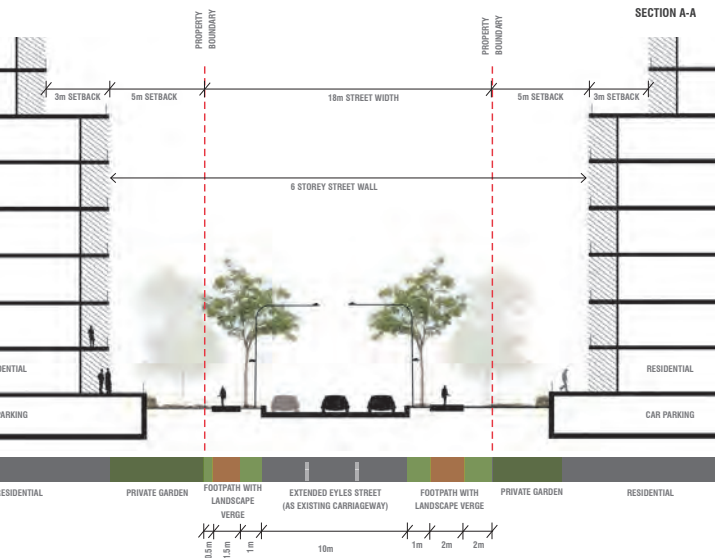
Figure 2
Podium and Tower blocks

Consistency with 2017 Masterplan and DCP

Podium and tower typologies were never envisaged for the entire core area. The lower core was defined by streetwall typologies with a lower scale of 6 storeys and an upper scale of 6 storeys.

The proposed envelopes propose a combination of streetwall buildings with and without upper level setbacks, committing to diversity of streetwall heights to create a diverse range of architectural character and improve solar access and residential amenity.

Refer to Section 4.1 'Reduced Streetwall Heights' of this report for details.

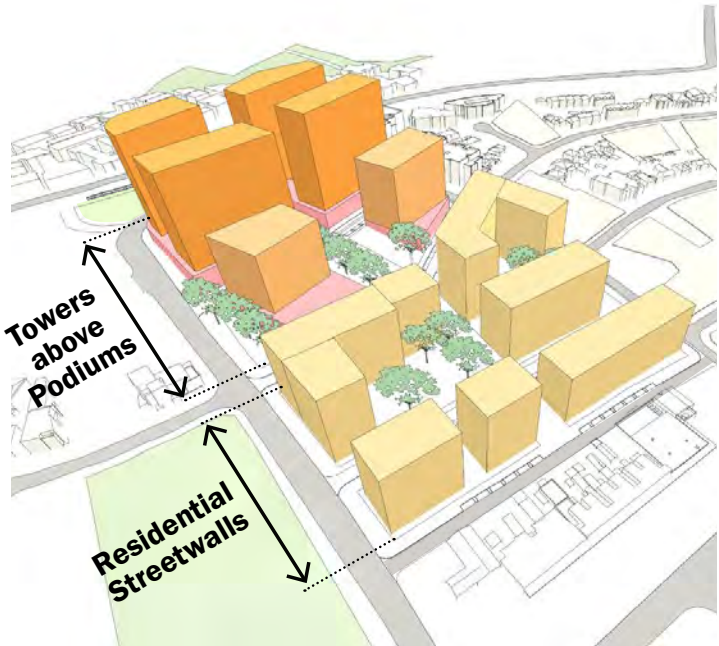


"It is believed that the proposed Master Plan will likely comply with the adopted wind acceptability criteria at pedestrian and public access locations within and around the development." - Wind Assessment, June 2021 (SLR)

Scale and Use

Consistent with the DCP, the upper core proposes towers on podiums where the increased building depth in the podiums can be appropriately utilised by non-residential uses.

The lower core proposes residential streetwall buildings and courtyard blocks, as podium and tower typologies are better suited to mixed use and/or inner CBD contexts. Further, an increased building depth to accommodate a podium and tower typology is not suitable for residential buildings where apartments become too deep and have poor access to natural light.



Wind

A qualitative wind assessment was prepared that analysed the proposed built form and streetwall scales proposed in the masterplan, where many of the recommendations put forward have been taken into account and incorporated into the concept design.

Significant Features

- The proposed building heights will generally have a positive impact on adverse wind conditions, particularly throughout the Core Precinct, with taller western towers serving to shelter eastern buildings from adverse wind conditions.
- The winds along the surrounding footpaths should remain at similar levels providing appropriate landscaping is employed.
- Façade setbacks, plus horizontal and vertical wind breaks are recommended for specified building entries, to protect against potential down-wash and channeling winds, appropriate landscaping is employed.
- Vertical windbreaks to the through site link and retail street of the proposed site. The wind shielding proposed is to be a mix of landscaping and wind screens, with the full extent of required shielding to be assessed further during the development application stage of respective masterplan lots.
- Wind mitigations are recommended to identified balconies from level 4 and above. SLR recommends that all proposed balconies be provided with only a single open aspect.

6.2

Precincts Upper Level Setbacks

Section 1.1

Building Setbacks, Massing and Articulation

Provision 3

In the lower core and non-core areas, buildings should adopt a streetwall or perimeter block typology.

Feedback Received

The Precincts should adopt streetwall heights and upper level setbacks in accordance with the below:

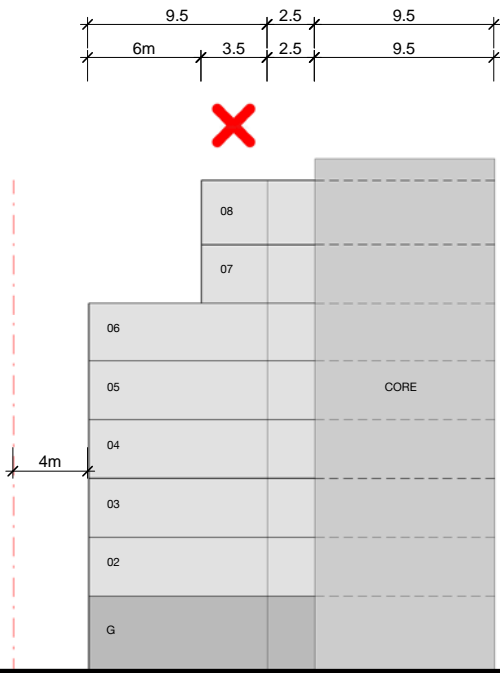
- Development of 3 and 4 storeys should be designed as a street wall building
- Development of 5 and 6 storeys should be designed as a street wall building or provide one upper level storey setback 3 metres from the building line
- Development of 7 and 8 storeys shall provide a 6 storey street wall and provide one upper level storey setback 3 metres from the building line (for 7 storey developments) or two upper level storey setback 6 metres from the building line (for 8 storeys)
- Development of 9 storeys shall provide a 8 storey street wall and provide one upper level storey setback 3 m from the building line or provide a 7 storey street wall and provide two storeys setback 6 m from the building line
- Add provision that ensures upper levels don't extend over lower levels

In the North Precinct, three buildings have an 8 storey height limit (N3, N6 & N8). Due to the site's curved streetscapes and orientation, building envelope depths are 22.5m (21.5 building depth) to maximise solar access and amenity.

Council Recommendation - 8 Storey Buildings
Two Upper Levels Setback 6m

The requested 6m setback to the upper two storeys would result in a 15.5m building depth which is highly inefficient and clashes with the 'rear-core' and 'Corner Core' typologies proposed to maximise amenity in these lots.

A 3.5m deep apartment zone to the two upper setback levels is not feasible.



Council Recommendation - 8 storey upper level setbacks

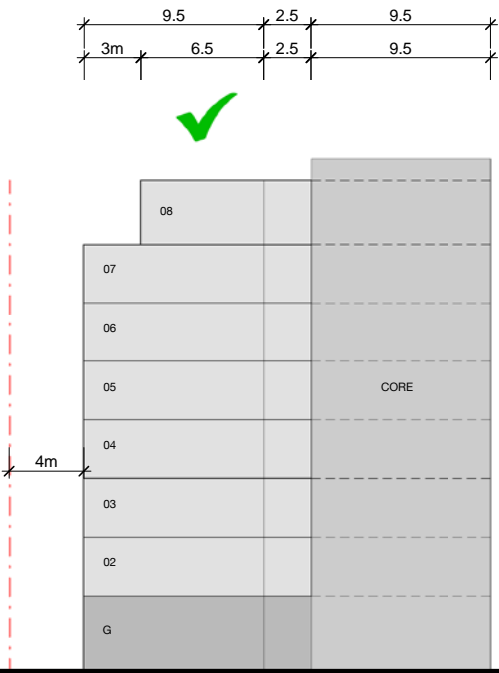
The majority of the buildings comply with the feedback received for upper level setbacks in the precincts.

The 8 storey buildings in the North precinct have been re-designed to accommodate a single storey upper level setback 3m from the building line.

Proposed - 8 Storey Buildings
Upper Level Setback 3m

A 7-storey streetwall is proposed with an upper level setback 3m providing a terrace balcony to the top-most apartments, maximising amenity.

A 6.5m deep apartment zone to the topmost setback level is feasible.



Proposed - 8 storey upper level setbacks

Proposed Envelopes
N3, N6 & N8

The 8 storey building envelopes in the North precinct have been redesigned to accommodate a single storey upper level setback 3m



Proposed Envelopes showing upper level setbacks

6.3 Tower Setbacks

Section 1.1 Building Setbacks, Massing and Articulation

Provision 4

Street setbacks within the Core Area should be as follows:

- Between 0 metres to 3 metres for activated street frontage with retail, community or commercial uses (figure 3); or
- Between 3 metres and 6 metres (or greater) where residential uses are at ground level to allow for landscaping and the protection of significant trees (figure 4).

– The setbacks are measured to the face of the building.

Feedback Received

- Tower setbacks should be at least 3 metres
- Include provision that the maximum balcony projection into the setback space is 400 mm

Nil Tower Setbacks due to Tree Retention

The Concept Plan prioritises the retention of the site's most significant trees clustered around new open spaces.

There are three locations where tower setbacks have been reduced to 0m where existing trees have been retained, maximising amenity to the public domain.

Locations of Nil Tower Setbacks

- C1.1 Nil tower setback to Retail Plaza & Trees
- C1.2 Nil tower setback to Retail Plaza & Trees
- C2.1 Nil tower setback to Sturt Street Open Space



Proposed Envelope Plan - Locations of Nil Tower Setbacks

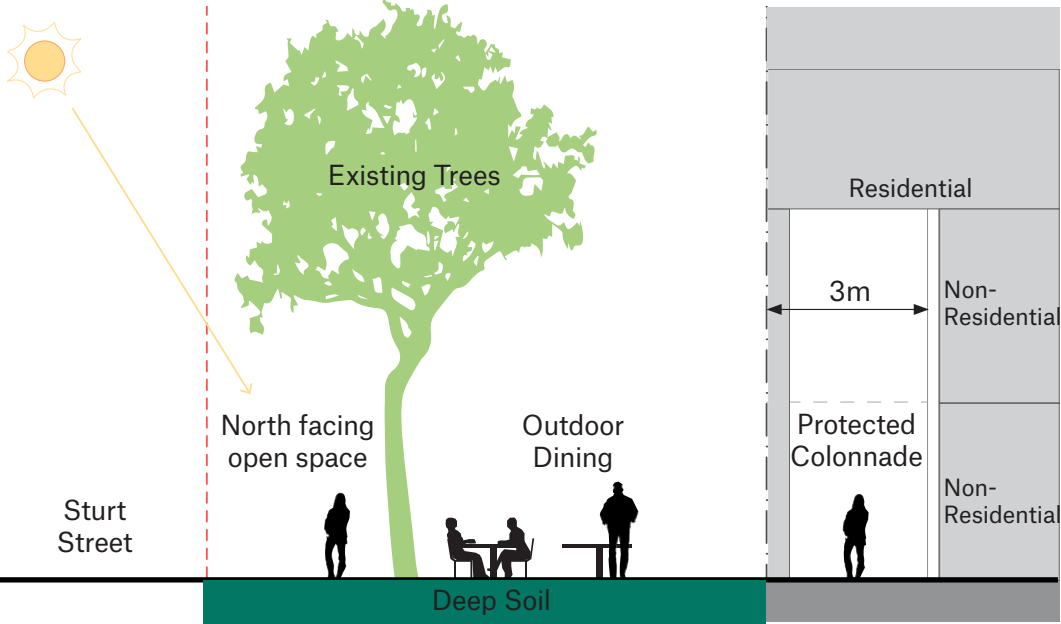
The design strategy provides great amenity to the public domain in a slightly different configuration, creating new north facing open spaces around existing trees

Proposed Colonnade

Lot C2 proposed increased street setbacks (from 0m to 7-13m) creates a new north facing open space around the site's existing trees. A 3m deep, two storey colonnade is proposed, the design strategy provides great amenity to the public domain in a slightly different configuration to the envisaged 0m street setback with towers setback 3m, including;

Key Benefits

- Retained Trees
- North facing Open Space
- Outdoor Dining
- Weather protected colonnade
- Improved Deep Soil



Proposed C2.1 Colonnade

6.4 Tree Retention Core Precinct

The Concept Plan prioritises the retention of the site's most significant trees clustered around new open spaces.

+25%

Category AA
Tree Retention
Improvement

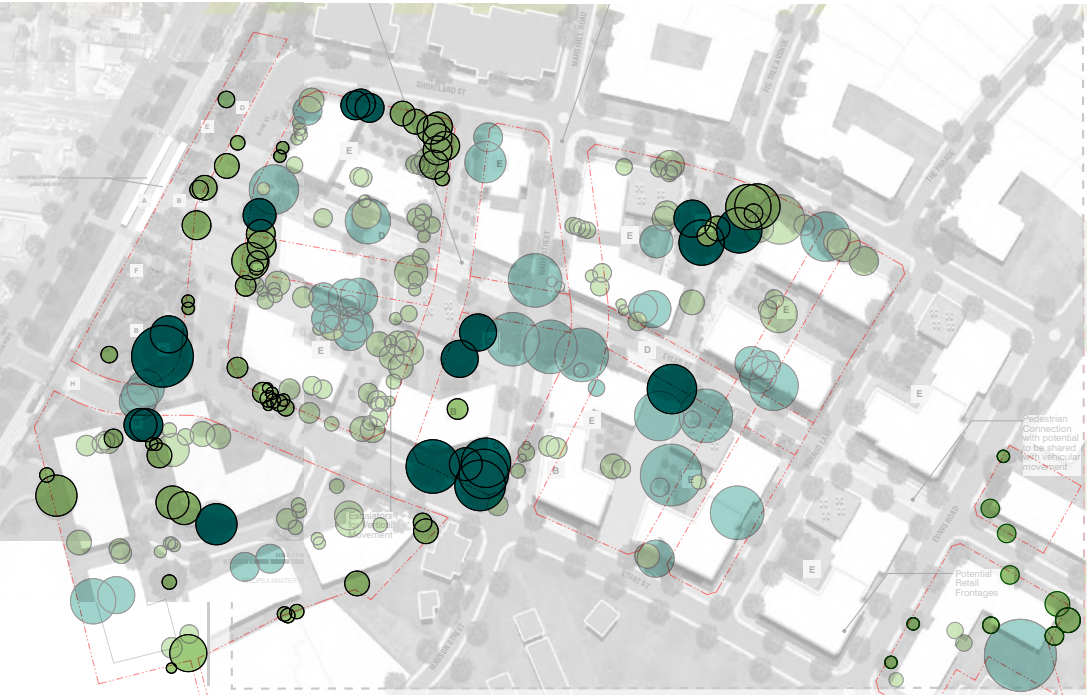
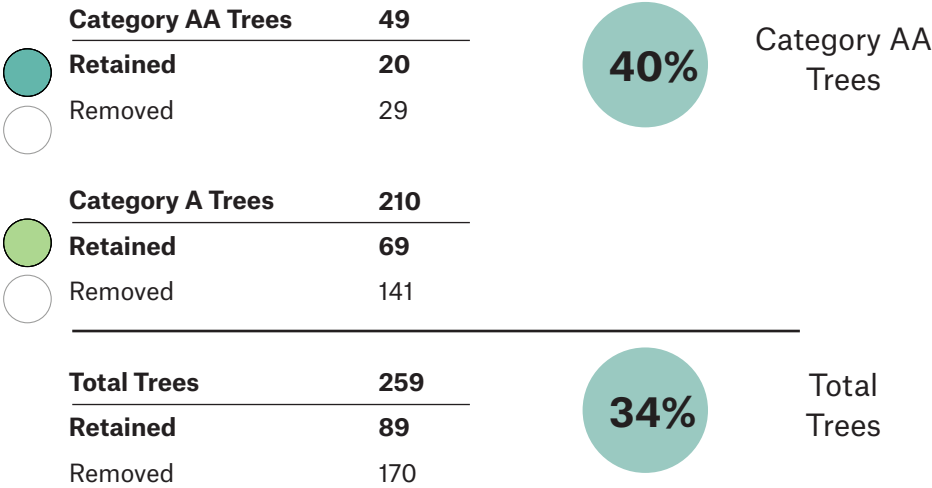
The adjacent tree retention diagrams compare the LAHC masterplan and proposed tree retention strategy against the Arborist report's tree categorisation.

The proposed Concept Plan retains 25% more of the site's most important trees, celebrating and connecting the sites rich existing landscape. The LAHC masterplan retained a slightly higher number of total trees (+2%) by celebrating corners where there are a clusters of less significant trees.

Tree Succession

- Category AA Trees removed are proposed to be replaced at a rate of 10 : 1
- Category A Trees removed are proposed to be replaced at a ratio of 5 : 1

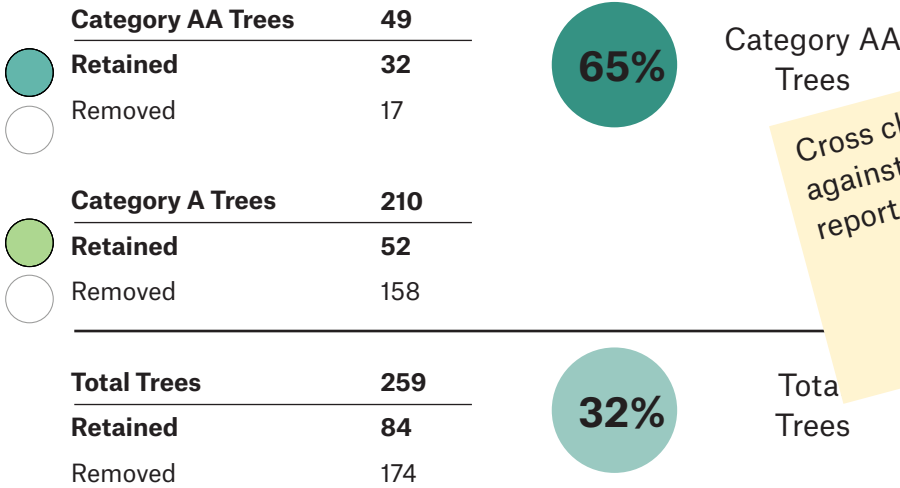
The diagram adjacent illustrates all of the trees identified by the arborist as "Important trees suitable for retention for more than 10 years and worthy of being a material constraint". 49 of which have been categorised with the highest priority (AA).



LAHC Masterplan Tree Retention



LAHC Masterplan Roof Plan



Proposed Tree Retention

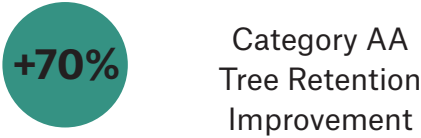


Proposed Roof Plan

Cross check numbers
against Arborist 2022
report

Tree Retention North Precinct

The Concept Plan prioritises the retention of all 6 out of 7 of the sites most significant trees

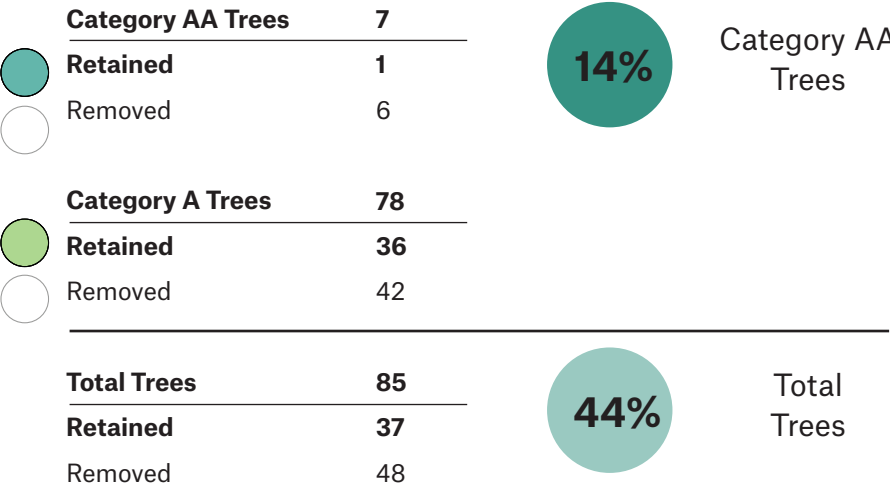


The adjacent tree retention diagrams compare the LAHC masterplan and proposed tree retention strategy against the arborist reports tree categorisation which are like for like in total tree's retained.

Tree Succession

- Category AA Trees removed are proposed to be replaced at a rate of 10 : 1
- Category A Trees removed are proposed to be replaced at a ratio of 5 : 1

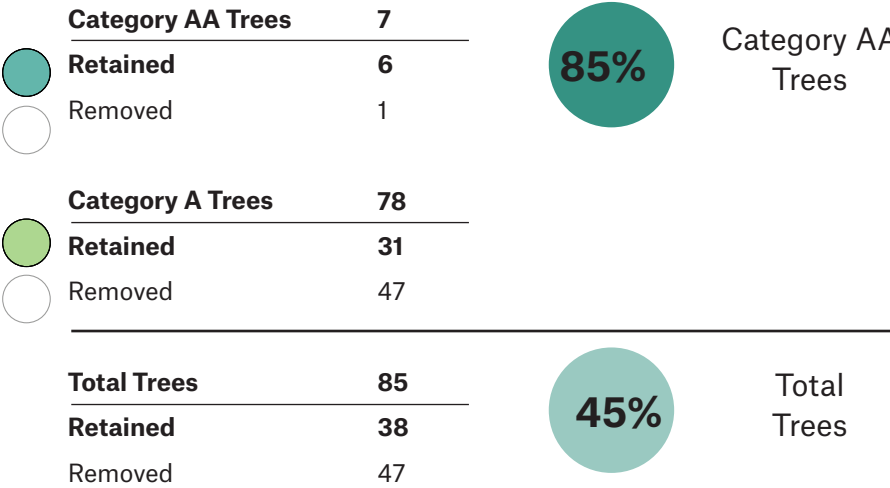
The diagram adjacent illustrates all of the trees identified by the arborist as "Important trees suitable for retention for more than 10 years and worthy of being a material constraint". 7 of which have been categorised with the highest priority (AA).



LAHC Masterplan Tree Retention



LAHC Masterplan Roof Plan



Proposed Tree Retention



Proposed Roof Plan

Deep Soil North Precinct

The North precinct prioritises the retention of significant trees and achieves like-for-like deep soil with DCP requirements



A consistent 10m deep or 15% site length rear setback does not consider a precinct wide tree retention strategy. The below factors have informed the proposed planning approach;

- Significant clusters of existing substantial trees have been retained to create local pocket parks, celebrating the sites existing terrain and landscape.
- Through site links (N5 and N6) and increased side boundary setbacks adjacent to Isolated lots prioritise deep soil zones in areas that benefit neighbouring developments.
- All sites provide some deep soil along rear setbacks, but generally in a stepped form, forming smaller courtyards rather than one large continuous 10m deep soil zone to rear boundaries.
- The proposed deep soil provisions are consistent with the minimum DCP quantitative requirements but have been delivered in a slightly different format.

Measured Deep Soil - DCP					
North DCP					
	4-6m %		>6m %		Total %
N1	461	21%	197	9%	658 29%
N2	379	22%	313	19%	692 41%
N3	557	11%	320	6%	877 18%
N4	346	17%	405	20%	751 36%
N5	705	15%	952	20%	1,657 35%
N6+N7	1,243	10%	2,127	17%	3,370 27%
N8+N9	677	8%	2,147	24%	2,824 32%
N10	303	15%	542	27%	845 42%
Total	4,671		7,003		11,674

30%

Precinct Wide Deep Soil

Minimum 15% 30%

DCP Comparative deep soil diagram with consistent 10m deep soil to rear boundaries, 4m street setbacks and 4m side setbacks



DCP Deep Soil (10m rear boundary)

Feedback Received

- Include provisions that outline the deep soil requirements for Precincts including:
- Deep soil should be designed to create a contiguous deep soil network formed with adjacent lots
- Provide a minimum of 30% of deep soil zone on the site area, with the following requirements:
 - a) A minimum of half of the total deep soil area is located at the rear of the site.
 - b) A minimum of 7% of the total site area which is provided as deep soil area shall be designed to have a minimum dimensions of 6 metres (or greater). The remaining deep soil areas shall provide minimum dimensions of 4 metres (or greater). Noting that a deep soil with a minimum dimension of less than 4 metres does not contribute to the deep soil calculation.

Measured Deep Soil					
North					
	4-6m %		>6m %		Total %
N1	256	11%	508	23%	764 34%
N2	358	21%	301	18%	659 39%
N3	296	6%	1,690	34%	1,986 40%
N4	217	11%	585	28%	802 39%
N5	451	10%	1,110	23%	1,561 33%
N6+N7	923	7%	2,009	16%	2,932 23%
N8+N9	1,146	13%	1,584	18%	2,730 31%
N10	84	4%	486	24%	570 28%
Total	3,731		8,273		12,004

31%

Precinct Wide Deep Soil

Minimum 15% 30%

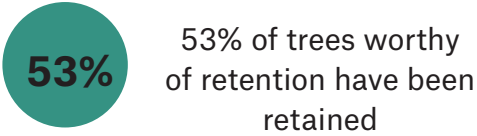


Proposed Deep Soil

Tree Retention

South Precinct

The Concept Plan prioritises the co-location of open space around retained trees.



Category AA Trees		4	50%	Category AA Trees
Retained		2		
Removed		2		
Category A Trees		68	53%	Total Trees
Retained		36		
Removed		32		
Total Trees		72	53%	Total Trees
Retained		38		
Removed		53		

Tree Succession

- Category AA Trees removed are proposed to be replaced at a rate of 10 : 1
- Category A Trees removed are proposed to be replaced at a ratio of 5 : 1

LAHC Master Plan

No precinct scale studies were prepared

The diagram adjacent illustrates all of the trees identified by the arborist as "Important trees suitable for retention for more than 10 years and worthy of being a material constraint". 4 of which have been categorised with the highest priority (AA).



Proposed Tree Retention



Proposed Roof Plan

Deep Soil

South Precinct

The South Precinct prioritises the retention of significant trees and achieves compliant deep soil with DCP requirements



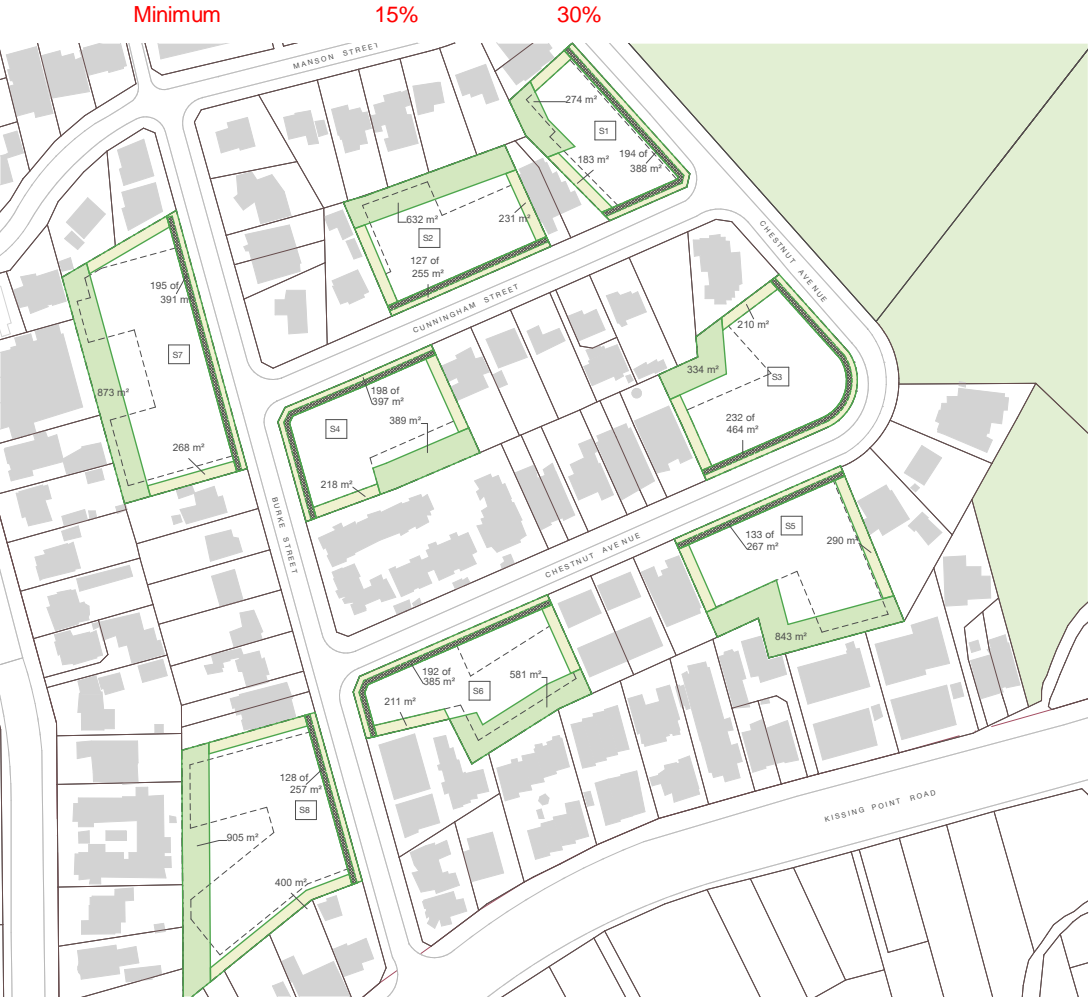
A consistent 10m deep or 15% site length rear setback does not consider a precinct wide tree retention strategy. The below factors have informed the proposed planning approach;

- Significant clusters of existing substantial trees have been retained to create local pocket parks, celebrating the site's existing terrain and landscape.
- Increased side boundary setbacks adjacent to isolated lots prioritise deep soil zones in areas that benefit neighbouring developments.
- All sites provide some deep soil along rear setbacks, but generally in a stepped form, forming smaller courtyards rather than one large continuous 10m deep soil zone to rear boundaries.
- The proposed deep soil provisions are consistent with the minimum DCP quantitative requirements but have been delivered in a manner that better responds to the site's characteristics.

Measured Deep Soil - DCP						
South DCP		4-6m %		>6m %		Total %
S1	377	18%	274	13%	651	30%
S2	358	13%	632	23%	990	36%
S3	442	14%	334	10%	776	24%
S4	416	15%	389	14%	805	29%
S5	423	12%	843	24%	1,266	36%
S6	403	14%	581	20%	984	34%
S7	463	11%	873	20%	1,336	31%
S8	528	12%	905	20%	1,433	32%
Total	3,410	18%	4,831	32%	8,241	



DCP Comparative deep soil diagram with consistent 10m deep soil to rear boundaries, 4m street setbacks and 4m side setbacks



DCP Deep Soil (10m rear boundary)

Feedback Received

- Include provisions that outline the deep soil requirements for Precincts including:
- Deep soil should be designed to create a contiguous deep soil network formed with adjacent lots
- Provide a minimum of 30% of deep soil zone on the site area, with the following requirements:
 - a) A minimum of half of the total deep soil area is located at the rear of the site.
 - b) A minimum of 7% of the total site area which is provided as deep soil area shall be designed to have a minimum dimensions of 6 metres (or greater). The remaining deep soil areas shall provide minimum dimensions of 4 metres (or greater). Noting that a deep soil with a minimum dimension of less than 4 metres does not contribute to the deep soil calculation.

Measured Deep Soil						
South		4-6m %		>6m %		Total %
S1	279	13%	382	18%	661	31%
S2	301	11%	416	15%	717	26%
S3	455	14%	444	14%	899	28%
S4	338	12%	552	20%	890	32%
S5	528	15%	531	15%	1,059	30%
S6	252	9%	804	28%	1,056	37%
S7	158	4%	904	21%	1,062	25%
S8	104	2%	1,278	28%	1,382	31%
Total	2,415	20%	5,311	30%	7,726	



Proposed Deep Soil

6.6 Lot E1 Alternative Massing

The alternative envelope is not supported by the design team as it has significantly poorer amenity, relationship with neighbours, landscape and lacks diversity.

Feedback Received

- Consider breaking up Building E1 (Measuring 76m) into two separate building envelopes



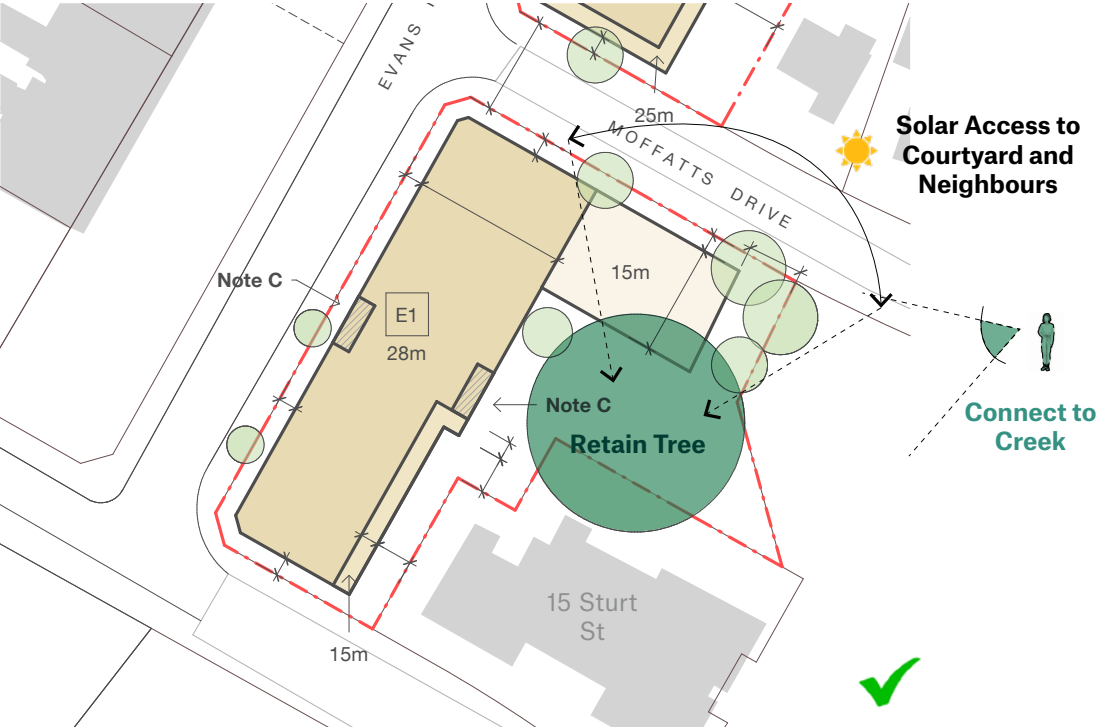
Spotted Gum to rear of Lot E1 (Tree No. 300)

Proposed Envelopes

The proposed envelopes are defined by a linear multi-core 8-storey building fronting east to Evans Road, and a 3-4 storey, narrow rear core building fronting Moffatts Drive. The 8-storey building incorporates articulation zones on east and west facades to break up the building length.

Benefits of proposed envelopes

- Tree Retention Category AA Tree + 1 Retained
Category A Trees +2 Retained
- Landscape A rear courtyard is defined by the retention of a large Spotted Gum (tree No. 300).
Courtyard has good solar access
- Public Domain Visibly connecting landscape to creek,
Spotted Gum visible from Moffatts Drive
- Amenity Improved views, solar access and building separation to 15 Sturt Street
- Diversity Building Heights and Typology,
- One 8 storey building
- One 3-4 storey building



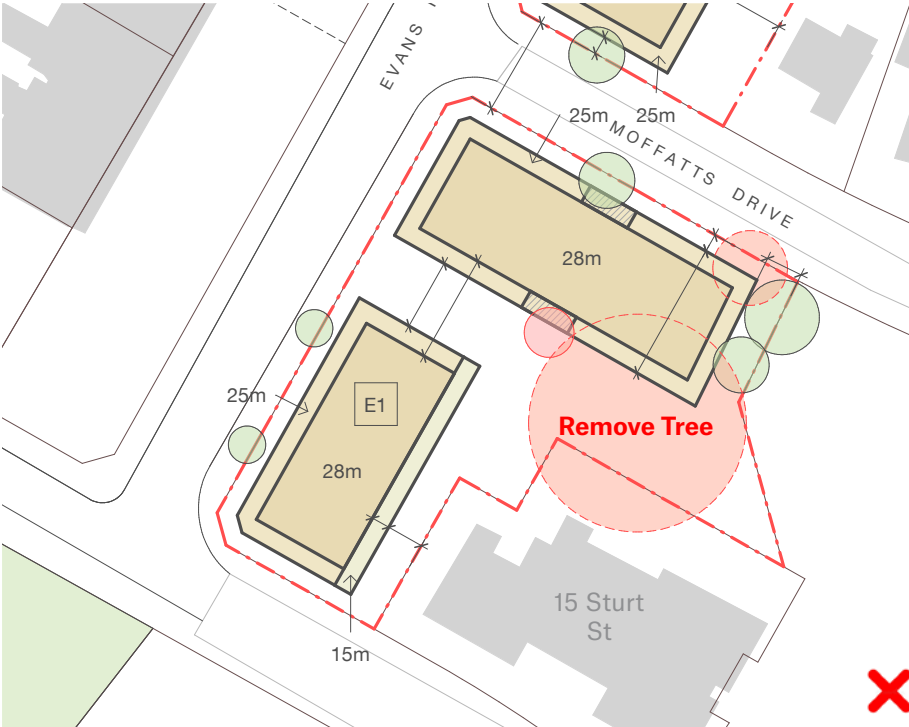
Lot E1 - Proposed Envelope

Alternative Envelope (Two Separate buildings)

An alternative envelope, splitting the core into two buildings sees two 8-storey, 22.5m deep building envelopes that front Evans Road and Moffatts Drive separately. The development yield is like-for-like however comes at significant cost to the amenity of residents and neighbours.

Issues with Alternative Envelope

- Tree Retention Category AA Tree - 1 Removed
Category A Trees -2 Removed
OVERALL THREE TREES LOST
- Landscape Rear courtyard is enclosed and
has poor solar access
- Public Domain No visible connection of landscape to Creek,
Spotted Gum has been removed
- Amenity Poorer views, solar access and building
separation to 15 Sturt Street
- Diversity Poorer diversity
- Two 8 storey buildings



Lot E1 - Alternative Envelope

Appendix A1

Masterplan Drawings

Appendix A2

Area Schedules

Appendix A3

Design Guidelines

Appendix A4

Solar Access and Shadow Analysis

Appendix A5

SEPP 65 ADG Compliance Analysis

Appendix A6

Isolated Lots Study