Moore Point Masterplan

Gateway Revised Planning Proposal
Urban Design Report

The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

Prepared for
Coronation and Leamac

Issued
12 July 2024

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SJB acknowledges the Traditional Custodians of the lands, waters, and skies, and their perpetual care and connection to Country where we live and work. We support the Uluru Statement from the Heart and accept its invitation to walk with Aboriginal and Torres Strait Islander people in a movement of the Australian people towards a better future.

We believe that inequity enshrined in our society continues to significantly disadvantage our First Nations colleagues, friends, and community. Following the referendum, we are personally and professionally recommitting our support of Aboriginal and Torres Strait Islander people. We will continue to strive for (re)conciliation by acting with integrity and passion, in an effort to address this imbalance in our country and create lasting generational change.

Issued

V1	Draft for review	06/05/2024
V2	Final Draft	15/05/2024
V3	Final Report	12/07/2024

CERTIFICATION #NC423
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Certified Management Systems

ISO 9001:2015 Quality Management System
ISO 45001:2018 Occupational Health & Safety Management System
ISO 14001:2015 Environmental Management System

Version: 03

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1.1 Project overview & timeline

This Gateway Revised Urban Design Report is, which is recognised in state and local policy, supports the lodged Planning Proposal for rezoning of the site. The scheme has been collaboratively shaped over several years with Liverpool City Council and more than thirty specialist consultants, the core ones being:

- SJB (urban design)
- Mecone (urban planning)
- Hatch Roberts Day (placemaking)
- ATX Consulting (Open Space)
- Turf (landscape architects)
- Ramboll (transport and traffic)
- Northrop (civil engineering & riparian)
- Advisian (flooding)
- Mott McDonald (sustainability & services)
- Yerrabingin (connecting to country)
- GBA (heritage)

Moore Point in Sydney's south west is a peninsula next to the Liverpool central business district, train station and Liverpool Innovation Precinct. It is surrounded by the Georges River and major public parks and is an opportune location for development. This site encompasses the entire peninsula, including landholdings on the northern side of Newbridge Road which are outside the ownership of Leamac and Coronation. The structure plans, design concepts and recommendations cover this broader area, and reflect a holistic approach to the planning of the area identified in the GSC Place Strategy.

The adjacent diagram depicts the trajectory of the project over the past several years. Building on strategic studies such as the Liverpool Collaboration Area Plan in 2018, the Moore Point Planning Proposal was lodged in 15 April 2020. Over the subsequent two years the design team progressed into detailed design considerations as the Masterplan was refined. The Gateway Determination was issued on 3rd April 2023 and alongside the Letter from Council (18th August 2023) provides a list of topics which the scheme has addressed in this Gateway Revised Urban Design Report.

The Masterplan scheme has been prepared according to NSW Government Architect (GANSW) guidance on mixed use high density precincts. The principles that underpin the Masterplan have been based on the analysis of regeneration precincts in CBD-fringe locations, at both a local, national and international perspective. This work has guided the scale of development, land use mix, provision of open space, community infrastructure and approaches to movement and connectivity.

The long timeframe of this project mean it will be several decades before the transformation of this precinct is complete. This requires the foundation of the masterplan to be robust enough to withstand unforeseen changes in the way we plan, develop, construct and live. We've therefore sought to strike a balance between certainty (i.e. provision of open space, upper limits in yield, access and circulation), whilst allowing some flexibility to accommodate the inevitable change (i.e. reliance on cars and parking).

In summary this Urban Design Report has been undertaken based on the following spatial and strategic reasons:

- The site is adjacent to Liverpool City Centre and Liverpool Train Station
- The site is the nearest subregional centre to the Aerotropolis and the focus of significant state and national investment in transport and other infrastructure
- The site is surrounded by Georges River, Haigh Park and Lake Moore which are unique natural assets
- The site can supply additional dwellings addressing the pressure for housing in the area
- The proposal will contribute significant public benefit such as a significant riverfront park and plazas, new public facilities, adaptively reused heritage sheds, recreational paths and space for primary school and bus interchange
- The establishment of site-specific precinct plans based on a holistic approach can ensure cohesive design excellence for the place
- The site offers the opportunity to connect Liverpool to its to the river by establishing Moore Point as a riverfront for people

The fundamental aim of the Masterplan is to create a riverfront development that supports Liverpool as being a significant metropolitan CBD. A place that references its unique cultural, natural and built heritage, and ensures this once-in-a-generation opportunity is properly secured and celebrated.

GOVERNMENT STRATEGIC STUDIES

COUNCIL MEETINGS & PLANNING PROPSAL SUBMITTED

2020

DETAILED MASTERPLAN & S1DA TESTING

Council endorsement of Structure Plan
21st November 2021

2020 - 2022

GATEWAY CONDITIONS & COUNCIL LETTER

3rd of April
20x Gateway Conditions

2023

THIS REPORT

GATEWAY REVISED URBAN DESIGN REPORT

Series of DPE meetings forthcoming lodgement

2024

FUTURE S1DA & DAS

forthcoming S1DAs and DAs

2024 onwards

1 Project Background

This section outlines the urban design approach for Moore Point and addresses the Gateway Conditions provided by the Department of Planning.

1.1 Report structure

This report structure holistically outlines the urban design approach for Moore Point and specifically address the Gateway Conditions provided by DPE on the 3rd of April 2023. It reflects the key requirements for a Planning Propoal by detailing the strategic merit and site specific merit of the place. The report is structured as follows:

(1) Background provides and overview of the timing, planning and where the report addresses the urban design specific gateway conditions.

(2) Strategic Framework provides the planning, policy and spatial context for the Masterplan.

(3) Site Analysis analyses, investigations and key spatial attributes of the city and site which are a compilation of all the consultant work.

(4) Vision & Concept details the vision, principles and broad conceptual design approach underpinning Moore Point.

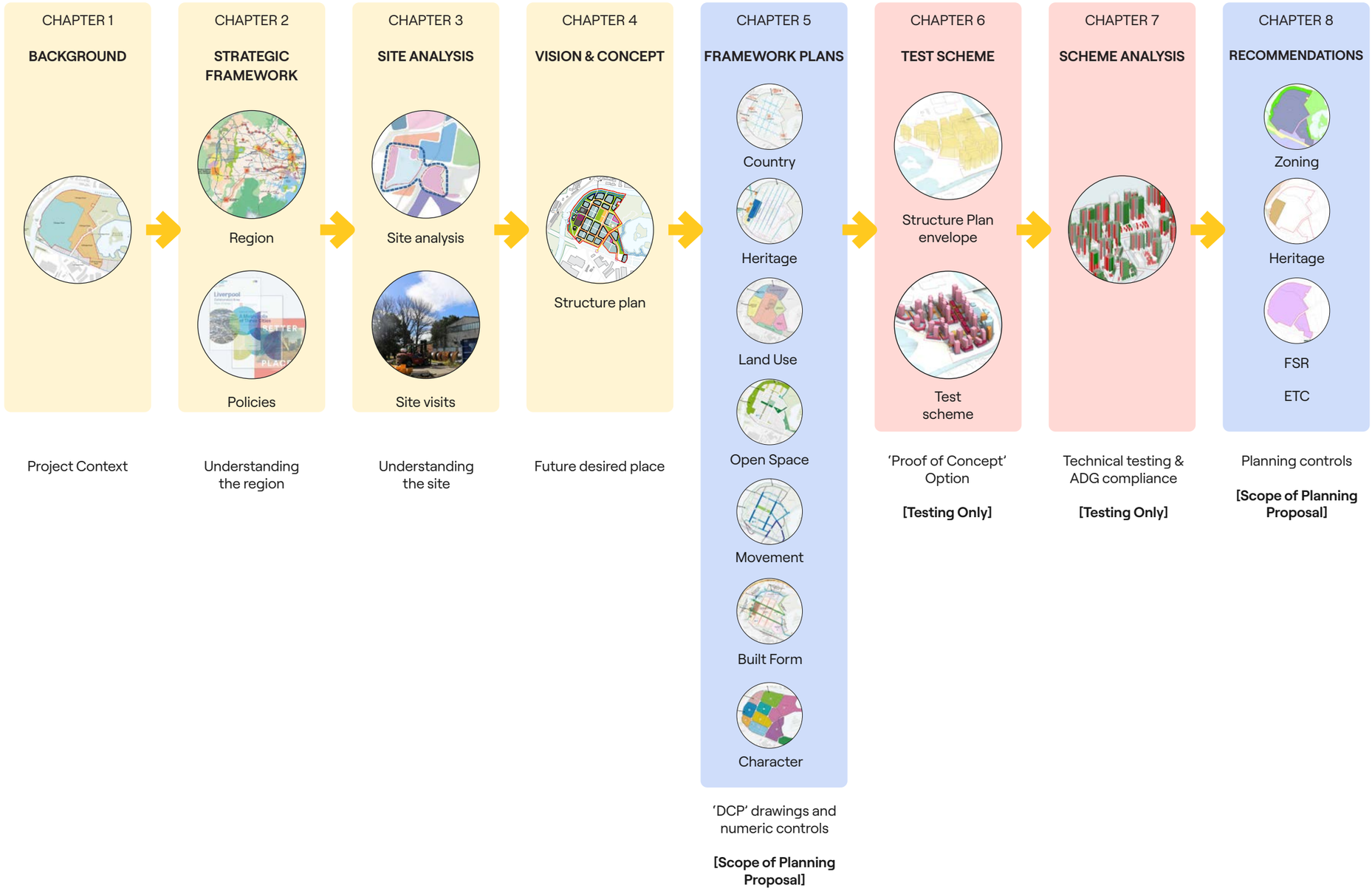
(5) Framework Plans thematically outline the framework for future development of the precinct. It is anticipated work in this chapter will be used for the site specific DCP.

(6) Test Scheme documents a detailed potential scheme which conforms to the structure plans. This is one possible permutation of many and has been drawn to address the detailed technical requirements of the gateway conditions.

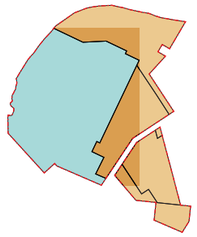
(7) Scheme Analysis is an analyis of the test scheme to understand compliance relative to pertinent policies such as the ADG and the Gateway Conditions.

(8) Recommendations proposed planning maps which are derived from the structure plans and test scheme.

Appendices additional supporting information to support future discussions and collaboration.



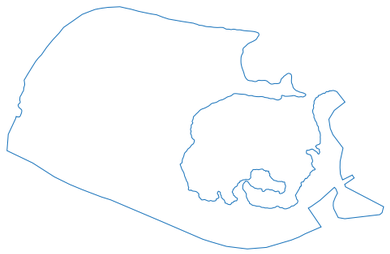
1.2 Site boundary definitions



Planning Proposal boundary (Subject Site)

Moore Point sits east of the Liverpool city centre across the Georges River in the suburb of Moorebank, as illustrated in the adjacent map. The Georges River wraps along its western and northern edge and into Lake Moore which defines its eastern edge. The southern boundary of the site is defined by Newbridge Road which bridges the river and links into Liverpool.

The site is adjacent to Liverpool Train Station and Lighthorse Park to the west. Over the river to the north sits Liverpool Hospital, light industrial factories, equine sheds and a sewerage treatment plant. To the east of Lake Moore is the suburb of Chipping Norton which comprises mostly of detached houses. Light industrial sheds and suburban houses sit to the south of the site. Historically Moore Point was an alluvial bushland peninsula, which was transformed into colonial era farmland and later industrial factories.



Georges River North boundary (Strategic)

In addition to the subject site, the boundary also encapsulates lots owned by other landholders and surrounding green spaces. The inclusion of open space within the strategic boundary describes the amenities accessible from the subject site. The boundary is also broadly consistent with Liverpool City Council's strategic plans for George River North.

- Other landholders
- Leamac sites
- Coronation sites
- Planning Proposal boundary
- Georges River North Boundary

1.3 Lodged Planning Proposal

This overarching structure plan from the Lodged Planning Proposal (24th June 2020) spatially summarises the now superseded scheme. Key attributes of this superseded Masterplan were:

Site area
319,000 m²

Dwellings
12,220

383 dw/ha

Open Space*
76,995m²

FSR
4.2 : 1

People
24,440

Open Space* %
24%

Res / Non-res split
77% / 23%

Source : Moore Point Lodged PP Report and reference scheme (24 June 2020). Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.

* Note open space denotes any space which is publicly accessible not including street reserves. Refer to landscape report (Turf) for analysis and design of open spaces.

- Planning Proposal boundary
- Heritage
- Residential / mixed use
- Education
- Showrooms / mixed use
- Bus interchange
- Public space
- Open space interface with building
- Connector street
- Riparian interface with building
- Bridge

Note that this Structure Plan has been endorsed by Council with the intent to guide future proposals in the area.

1.4 Revised Planning Proposal

This structure plan from the Gateway Revised Planning Proposal spatially summarises the updated scheme. Key attributes of this Masterplan are:

Site area
314,381 m²
(new survey)

Dwellings
10,742
-1,478
342 dw/ha

Open Space[1]
108,604m²
+31,609m²

FSR
4.0 : 1

People
21,484
-2,956
2 ppl / dw

Open Space* %
34.5%
+10.5%

Res / Non-res split
72.5% / 26%
-4.5% +3%

Turf Open Space[2]
16.2ha
51.58%

- Planning Proposal boundary
- Heritage
- Development blocks
- Education
- Mixed Use[2]
- Community facilities
- Public space
- Vehicle access
- Pedestrian arrival point
- Potential future development (outside PP)
- Connector street
- Connector avenue
- Neighbourhood street
- Vegetated Riparian Zone (VRZ Northrop)

Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.

[1] The open space definition is explained later in this report. Also refer to Mecone planning report for relationship between this report and the Turf open space analysis.

[2] Mixed Use - Potential to accommodate urban school subject to future detailed investigations

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

1.5 Key spatial revisions

Lodged Planning Proposal Master Plan

The revised planning proposal has been revised in response to the Gateway Conditions, Design Excellence comments and other commentary as follows:

1. School next to Haigh Park
2. Heritage administration building integrated into podium of new building
3. Portion of existing factory 1 and 2 retained
4. Several Factory outbuilding structures removed
5. 3x bridges
6. Prelimiary civil, flooding and landscape advice on ground plane
7. No significant central open space
8. Small pavilions along Lake Moore

Dwellings
12,220
383 dw/ha

Open Space
76,995m²
24%

FSR
4.2 : 1

People
24,440

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

Revised Planning Proposal Master Plan

The revised planning proposal has been revised in response to the Gateway Conditions as follows:

1. School moved to central location
2. Heritage administration building, landscape forecourt and entrance column form part of new public space entrance sequence
3. Larger portion of existing factory 1 and 2 retained
4. Factory outbuilding structures adaptively reused
5. 2x bridges with refined alignments to acommodate heritage, civil engineering and flooding parameters
6. New central open space of more than 8,500m²
7. New flood responsive public space and removal of pavillions and expansion of public space along Lake Moore to accommodate levels
8. Ground plane levels fully coordinated between specialist flooding, civil and landscape advice
9. New and increased central public space and triangular space, which contributes to the increase in open space from 76,995m² to 108,604m²
10. Blocks redrafted to optimise built form and public space
11. Increased north-south pedestrian spine from 14m wide to 20m wide
12. Dwellings have reduced from 12,220 to 10,742 as a result of wider streets and larger open spaces

*Upgrades to Haigh Park do not form part of the Planning Proposal

Dwellings
10,742
342 dw/ha
-1,478

Open Space
108,604m²
34.5 %
+31,609m²

FSR
4.0 : 1

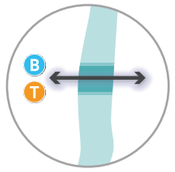
People
21,484
-2,956

Moore Point Public Benefit

Georges riverfront

1km

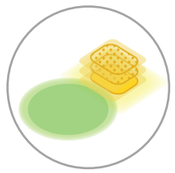
A cohesive link along Georges River improving condition, amenity and local ecology. 8km+ of connected waterfront linked through 1km of new recreational zone.



Active transport bridges

2x

Cross-river bridges connect Moore Point to Liverpool CBD



Central school

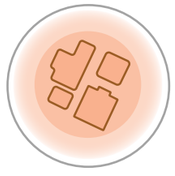
10,100 sqm

A school at the heart of the precinct close to amenity, public space and directly connected to a central park.

Community facilities

6,000sqm

A community hub in the heritage precinct and a recreational indoor space next to Haigh Park.



Heritage precinct

4.5ha

A creative hub embedded in the heritage area of the site, connecting the community to the past and place.

Pedestrian and city spines

2x

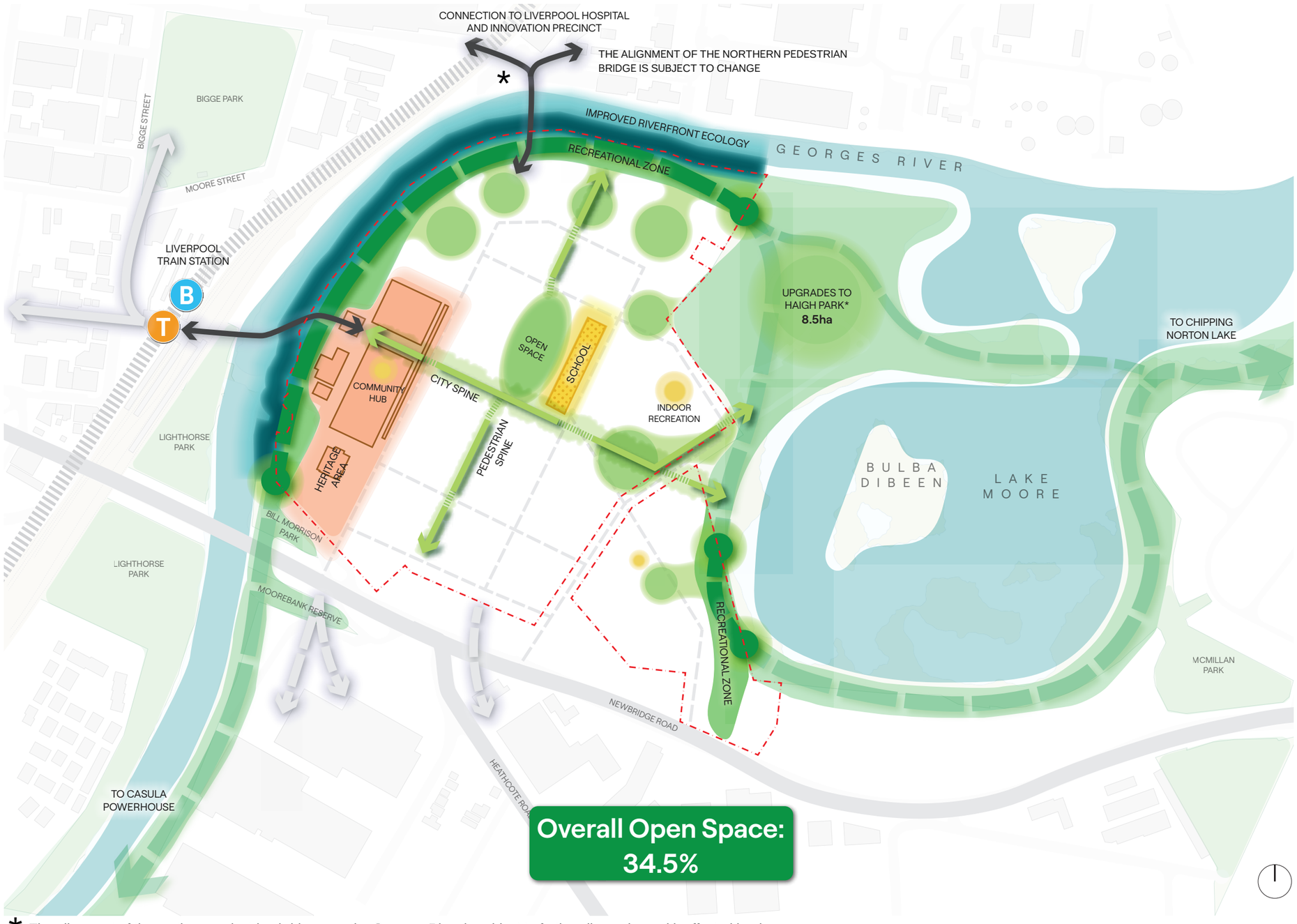
A central north to south pedestrian spine and east to west city spine connects people safely to key spaces which includes car free zones and shared spaces.

Pocket parks

1.8ha

Public spaces, accessible from the waterfront and green network, support and provide amenity.

* Upgrades to Haigh Park do not form part of the Planning Proposal



* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

1.6 Gateway Conditions Response

The revised Planning Proposal responds to the Gateway Conditions and feedback from Council and DPE workshops and associated letters. The table below details on where the response to each gateway conditon can be found.

No.	Gateway Condition	Response
1.f.i.	Amend the Height of Buildings Map to show building heights in meters	Refer to Mecone Height of Building recommendations plan.
1.f.ii.	Amend the FSR map in accordance with the findings of the Urban Design study referred to below	Refer to Test scheme yield plan and Mecone FSR recommendations plan.
1.f.iii.	Amend the zoning map to show the RE1 applicable to riparian zones to be at least 40m wide, and other open spaces as appropriate zones	Refer to Test scheme layout plan and Mecone zoning recommendations plan.
1.f.iv.	Propose any amendments to the heritage map	Refer to Mecone Heritage recommendations plan.
1.f.v.	Propose a key sites map showing the location of any school sites	Refer to Mecone recommendations plan.
3.a.i.	Master Plan must include ground and building levels in RLs and height in metres	Refer to Test scheme layout plan, height plan, envelope diagram and sections.
3.a.ii.	Master Plan must include new ground levels and ground levels on adjoining land	Refer to Northrop civil engineering drawings.
3.a.iii.	Master Plan must include Development envelopes / massing and building heights in metres and storeys	Refer to Test scheme envelope diagram, test scheme massing.
3.a.iv.	Master Plan must include open space and public domain	Refer to test scheme plan and layout plan.
3.a.v.	Master Plan must include street layout with block measurements	Refer to layout plan.
3.a.vi.	Master Plan must include Land use, including indicative car parking entry, design and levels	Refer to layout plan.
3.a.vii.	Master Plan must include accompanying GFA schedule by building and stage, that shows dwelling numbers, and includes assumptions for the calculation of GFA dwelling size and mix.	Refer to test scheme schedule and assumptions.
3.b.i.	The Master Plan must demonstrate that residential floors be above PMF level and all other uses to be above 1% AEP (plus 0.5m freeboard)	Refer to the Northrop and Advisian documentation in combination with the Test scheme layout plan, height plan and sections.
3.b.ii.	The Master Plan must demonstrate that all streets to be at least above the 1% AEP	Refer to the Northrop and Advisian documentation in combination with the Test scheme public space and streets plan.
3.b.iii.	The Master Plan must demonstrate that bridges, streets, building, and car parking is consistent with the recommendations of the updated Evacuation Plan.	Refer to evacuation documentation in combination with all test scheme plans.
3.c.	The Urban Design Report is to address the requirements of the Local Environmental Plan Making Guideline September 2022 – Attachment C for Urban Design - Urban setting / urban renewal sites/ infill site – Complex.	Addressed throughout this report especially in structure plans chapter 6 and test scheme technical drawings.
3.d.i.	The Urban Design Report is also to include: justification for proposed height and FSR	Addressed in chapter 4,5 and 6 of this report.
3.d.ii.	The Urban Design Report is also to include: propose a transition of FSR/height controls to minimise impact on heritage items, Georges River, Moore Lake and existing and proposed open spaces.	Addressed in chapter 4 vision and concept ,5 structure plans and 6 test scheme of this report.
3.d.iii.	The Urban Design Report is also to include: a public domain strategy, with levels, areas, use, and that is consistent with the Evacuation Plan (refer to Condition 2(b) above and Open Space Needs Assessment (refer to in Condition 6 below).	Refer to evacuation documentation in combination with all test scheme plans.
3.d.iv.	The Urban Design Report is to include: ability to comply with SEPP 65 and the ADG, particularly, solar access.	Refer to Test scheme analysis chapter especially block by block ADG testing.
3.d.v.	Detailed shadow diagrams are to be provided which demonstrate the impact on existing parks and waterway as well as proposed parks, schools and residential units.	Refer to Test scheme analysis chapter especially shadow studies and eye of sun diagrams.
3.d.vi.	The Urban Design Report is also to include A bulk earthworks/cut and fill plan, that demonstrates compliance with the Evacuation Plan	Addressed in Northrop engineering documentation.
3.d.vii.	The Urban Design Report is also to include section plans, including sections at various locations along the river to show levels (current and proposed) and relationships between river, embankment and future buildings.	Addressed in Turf landscape documentation.
3.d.viii.	Recommendations for detailed design controls required to be included in the DCP.	Addressed in Chapter 6 Structure plans which is the spatial basis for a forthcoming site specific DCP. Also refer to Mecone planning documentation.
3.d.ix.	High level Crime Prevention Through Environmental Design analysis	Refer to CPTED statement in Test scheme chapter and Mecone planning documentation.
3.d.x.	High level waste and servicing strategy	Refer to other PP documentation.
3.d.xi.	Provide further information regarding the design of car parking to ensure it is flood proof and can withstand flood and debris loading to avoid structural failure. Car parking, along with street activation, needs to be designed in a way that does not compromise public amenity.	Refer to Northrop engineering and Advisian flooding documentation.
6.a	Provide an Open Space Needs Assessment that addresses the quantum, size, locations and type of open space required to support the new population. Consideration should be given to the location of a significant portion of the open above the 1% AEP, clarifying how much open space is proposed to be located on flood prone land.	Refer to Open Space structure plan and test scheme plans in combination with Turf landscape documentation and Hatch Placemaking documentation.
6.b	Demonstrate that the active recreation needs of the future population can be accommodated	Refer to ATX social infrastructure documentation.
6.c	Update the plans to identify a minimum 40m width of the river foreshore for public use;	Refer to Test scheme public domain and streets plan and Mecone recommendations plans.
6.d	Identify the location of a park in the southern end of the precinct to ensure all residential development is located within 200m of public open space and ensure it is at least 0.5ha in size;	Refer to Test scheme drawings for open space catchments. A new central open space of more than 8,500m^2 has been provided.
6.e	Provide options to accommodate the additional 1.5ha open area adjacent Haigh Park and provide at least one district level sports field within this area;	Refer to Open Space structure plan and Test scheme drawings for open space detail. The Project Background chapter demonstrates an increase of approximately 3ha of open space.
6.f	Ensure 50% of every park receives a minimum of 4 hours solar access between 9am to 3pm on the 21 of June and 20% of each park is protected from direct sunlight on 21 December, private and publicly accessible, private open space	Refer to Structure plans chapter and test scheme analysis chapter especially solar insolation diagram.
6.g	Provide a dedication plan of all public spaces	Refer to Test scheme dedication plan and Mecone recommendations zoning plan.

1.7 Design Excellence Panel Response

The revised Planning Proposal responds to the feedback from Design Excellence panels minutes. The table below details on where the response to each recommendation can be found.

No.	DEP miutes	Response
1.f.i.	DEP raises concerns that some of the streets may not receive 2-hour solar access at the appropriate times (mid-winter). It is recommended the project team explore further opportunities to calibrate and improve solar access to all the main streets. This improvement would also help to facilitate the growth of canopy trees forming a critical part of the overall urban framework strategy and required for the success of this proposal.	Refer to Test Scheme Analysis chapter, especially the solar access to ground plane drawing. Driven by the desired future character of the precinct, the open space comparison appendix demonstrates proposed open spaces have optimal solar access when compared to other broadly equivalent and spaces in Sydney. Also refer to the Turf documentation which comments on appropriate growing conditions for trees.
1.f.ii.	The North-South (N-S) Linear Park, currently proposed at a width of 14m-15m, is considered ambiguous and perhaps too narrow. It is recommended to reconsider and enhance its identity as a City Spine, which may be of varying dimensions and provide a generous park space and at the same time address access requirements to the eastern and western adjacent uses, whilst improving solar access to the public domain. The N-S Linear Park must be designed to incorporate appropriate urban horticultural standards to ensure strong, sustainable, and healthy tree/plant growth.	The north-south 'Pedestrian Spine' has a vibrant, enclosed, paved desired future character. This spine has been enlarged from 14m to 20m wide in addition to a significant enlargement of the central open space. Refer to the solar access to ground plane drawing in the test scheme analysis chapter and section 8.6 street types for detailed sections of this space. Also refer to the Turf documentation which comments on appropriate growing conditions for trees.
1.f.iii.	The DEP recommends the main east-west link that joins to the pedestrian/cycle bridge to the train station have the same highest order street priority as the main North-South links (ie: consider 28m in width). This should be deep soil, tree lined. It is likely to be one of the main pedestrians and cycle-way streets of Moore Point.	The east-west 'City Spine' is the primary green link in Moore Point and has a broad, vibrant, and green desired future character. It is 24m wide which is approximately the same width as Martin Place in the Sydney CBD and wider than George Street. Refer to the solar access to ground plane drawing in the test scheme analysis chapter and section 8.6 street types for detailed sections of this space..
1.f.iv.	The DEP also questions the proposed through site links highlighting issues related to insufficient solar access and the absence of deep soils. It is suggested that the project team reconsider these secondary streets and provision of deep soil. The DEP notes the existing "Meehan Grid "of the existing CBD and suggests this and the model of the "Hoddle grid "and tartan pattern of lanes and through site links should be further explored.	A range of through site links are proposed as shown on the through-site links Structure Plan. Block lengths of 50 to 70m throughout the central grid create a system of finer pedestrian oriented laneways which is consistent with best practice precincts throughout Sydney. Refer to the deep soil structure plan and test scheme drawings which clearly distinguish between deep soil expected in the public domain and private lots which is in excess of the ADG expectations. The street and laneway geometry is consistent with site specific heritage approach to the grid which was endorsed by Council in 2020 and is a fundamental assumption underpinning the masterplan.
1.f.v.	The DEP recommends the central park open space should be a minimum of 8,000 to 10,000 m^2 and have solar access plane defined to ensure 4 hours minimum solar access, between 11am to 3pm, in mid-winter (solstice) for 70% of the park. The area calculated as part of the open space area should not include any adjoining pedestrian / travel paths and should be a contiguous space.	The Central Park Open Space has been reshaped and increased in size to more than 8,500m^2. Refer to the Open space Structure Plan and Test scheme drawings for more detail. The Solar access to ground plane drawing (Test scheme analysis chapter) demonstrates the central open space receives 2 hours of direct sunlight on the winter solstice between 9am and 3pm.
3.a.i.	It is noted that the 30% tree canopy coverage includes areas where no deep soil is provided. The DEP requires the project team to provide adequate deep soil for all main streets as well as adequate deep soil within the cross streets (east-west) of super lots to facilitate the growth of mature trees to the required urban horticultural standard.	Refer to Deep Soil, Tree Canopy and Green Cover Structure plans and Test Scheme Drawings which have been updated and refined accordingly. In combination these controls and demonstrative drawings exceed minimum expectations of the ADG and employ a site specific approach informed by GANSW best practice guidelines.
3.a.ii.	The DEP inquired whether any cultural anchors were being considered as part of the proposal. The Project team confirmed that approximately 250,000m2 is proposed for non-residential uses, some of which could be for community uses. We note the non-residential uses in the documents is 350,000m2.	Refer to test scheme schedule and Mecone documentation for detail on the proposed land use mix.
3.a.iii.	The DEP supports the co-location of the school and the central park and acknowledges more negotiation and collaboration will be required with government agencies both to the location and quantum of the spaces. The DEP recommends the relocation of the School from the Central Park, allowing it to achieve the desired 8,000-10,000m^2 target. The DEP suggests the exploration of locating the school between the central park and Haigh Park with the necessary stake holders, to best leverage the uses of both for the school.	The shape and size of the Central Open Space and School has been refined to ensure the school sits alongisde an open space of approximately 8,500m^2. A second, urban school site has been nominated although its necessity and exact location is subject to further investigation and discussions with SINSW. Refer to ATX and Mecone documentation for further information on the approach to schools.
3.a.iv.	Whilst the DEP understands that the mix of other non-residential uses such as retail, hotels, student housing, aged housing, commercial, entertainment uses will be market driven at the relevant stage it would be prudent to ensure the specific quantity and quality of these uses.	Refer to test scheme schedule and Mecone documentation for detail on the proposed land use mix.
3.a.vi.	The DEP recommends that commercial floor depths are design for best practice maximum employee well-being (access to light and air) It is noted that commercial Floor-to-Floor heights are documented as residential floor heights and not the higher Floor-to-Floor heights required of commercial uses. Please refer to the ADG, and The Property Council of Australia guidelines.	Refer to the Urban Design assumptions page. These assumptions correspond to relevant standards (e.g. ADG or BCA) and where appropriate exceed these. At the Urban Design scale Property Council of Australia guidelines are only used in discussions relating to NSA or NLA which is not part of this planning proposal.
3.a.vii.	The DEP recommends all residential towers above podiums to be independently tested for down-draft to maintain safe and equitable pedestrian and habitable streetscape environments.	Addressed in Mecone's planning report.

2

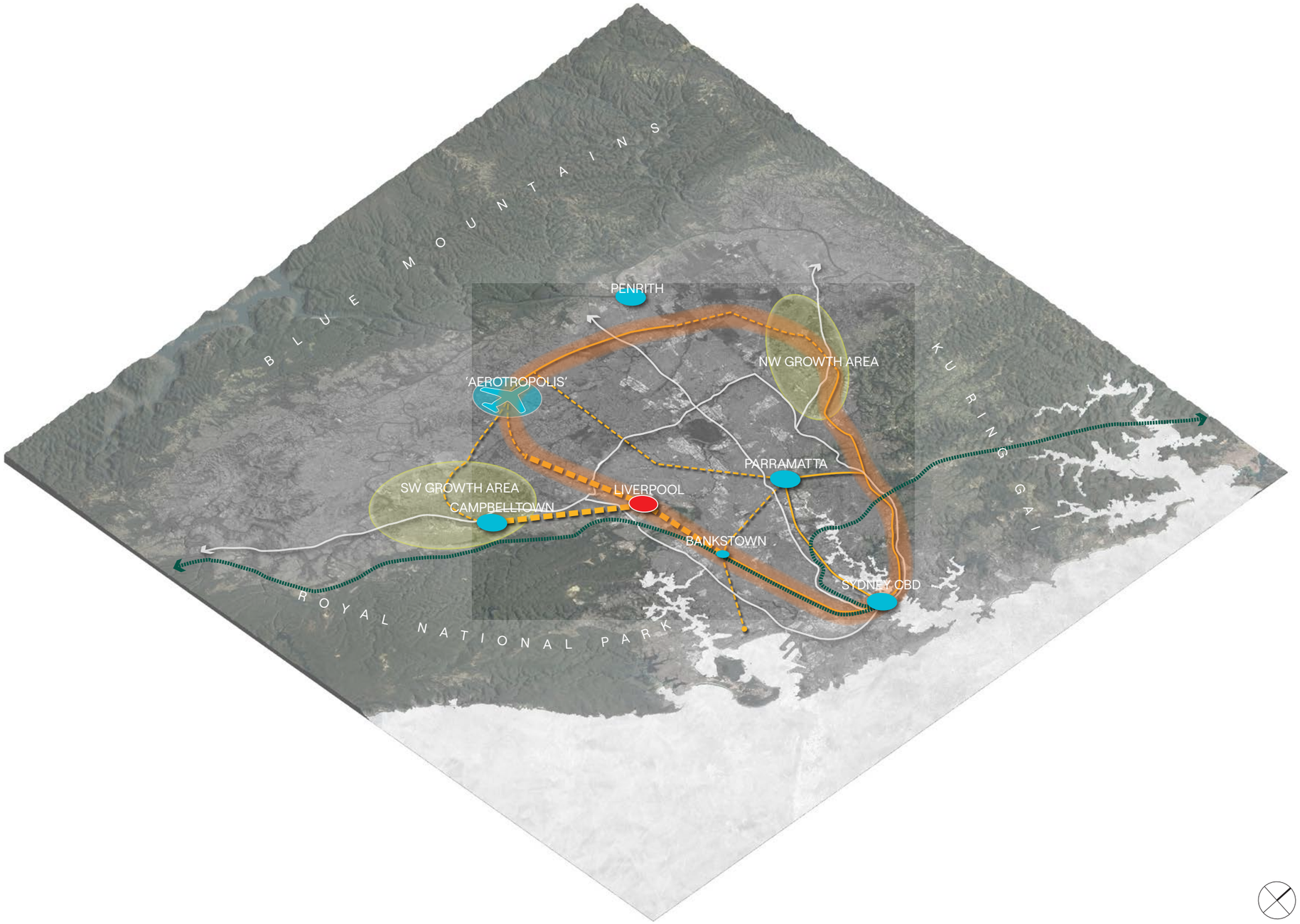
Strategic Framework

Liverpool has a critical role to play in the future of the Western Parkland City and through its ongoing revitalisation, will become ‘the next great global River City’.

2.1 Metropolitan context

Liverpool sits at the intersection of Sydney's urban growth areas in the south west and the Sydney CBD. It is the gateway to the Western Sydney Aerotropolis as well as the south-west growth corridor. The NSW government is currently investigating the extension of Sydney Metro westwards from Bankstown to Liverpool which will eventually complete the outer metro loop, as well as creating a minor secondary loop through Campbelltown. Liverpool is also a gateway to the Royal National Park to the south and the Georges River Corridor, which extends eastwards to Botany Bay.

The focus of infrastructure investment and surrounded by natural assets including the Georges River and Royal National Park, Liverpool is an opportune metropolitan centre to accommodate the significant housing and population growth in Sydney. Moore Point is well placed as an area available for regeneration and revitalisation to support Liverpool as an emerging CBD.



2.2 Strategic Framework overview

This strategic framework underpins the Moore Point masterplan and establishes a common understanding of what is collectively sought for the future of the region across local and state government. A thorough understanding of existing government strategies and policies will establish the base assumptions and drivers for the project, and enable the masterplan to incorporate and respond to the higher level thinking that has already taken place.

The masterplan will become a vehicle for the implementation through combining aspirations for the project with an understanding of the planning context which supports its delivery.

The policies and plans shown to the right have been considered as part of the masterplan's strategic framework. Select documents have been explored in more detail in the following pages.

Glossary of abbreviations:

GSC: Greater Sydney Commission

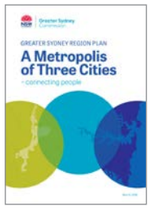
LCC: Liverpool City Council

TfNSW: Transport for NSW

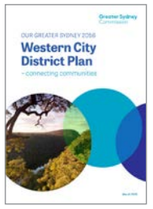
GANSW: Government Architect NSW

DPIE: NSW Department of Planning, Industry and Environment

Strategic Policies and documents



Greater Sydney Region Plan (GSC)



Western City District Plan (GSC)

Liveropool Place Strategy (GSC)

Connected Liverpool 2050 - Local Strategic Planning Statement (LCC)

Public Domain Masterplan (LCC)

Community Strategic Plan (LCC)

Draft Georges River Precinct Plan (LCC)

Transport Strategy

Future Transport 2056

(TfNSW)

Design Guidance

Better Placed (GANSW)

Creating Places for People

Local Character and Place Guideline (DPIE)

Implementing Good Design

Greener Places

Design Guide for Heritage

Good Urban Design

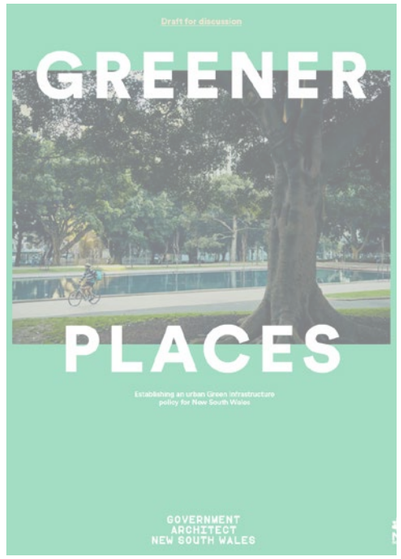
Aligning Movement and Place

2.3 Government design policy

The policies referenced below have been prepared by the Government Architect of NSW to guide and improve the design process from the outset. Both the overriding intent and the specific principles within them have shaped the masterplan.

Better Placed is the overarching policy by the Government Architect of NSW. It establishes seven criteria which define a 'good built environment'.

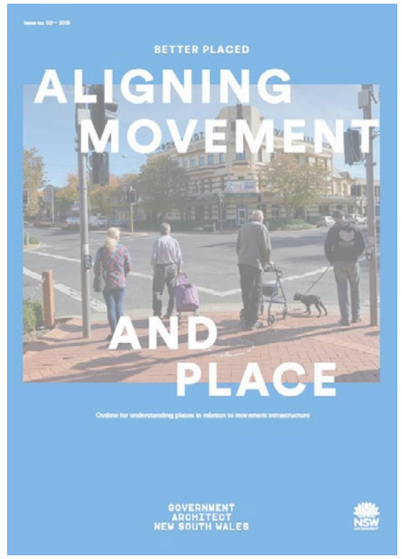
Implementing Good Design is the complementary policy to Better Placed and outlines the approach for measuring places and spaces to assess whether they meet the expectations and requirements of GANSW policy.



The draft Greener Places policy outlines the importance of green spaces in towns and cities and the approach to integrating them into broader connected networks which support recreation for people and biodiversity in the urban environment.

The Design Guide for Heritage is a guideline for preserving, restoring and integrating heritage into spaces, buildings and precincts. Formulated in collaboration with the Heritage Council of NSW it defines heritage places and thematically unpacks key practical considerations for design.

The Good Urban Design Guidance note builds on the Draft Urban Design Guide which is currently being updated. It builds on the objectives in Better Placed and focuses on the strategic scale and design process for running masterplanning projects.



Aligning Movement and Place seeks to outlay the functional, aesthetic and communal importance of roads and streets. It has been produced in collaboration with Transport for NSW and provides advice and a toolkit for approaching transit oriented development at many scales.

- Better fit
- Better performance
- Better for community
- Better for people
- Better working
- Better value
- Better look and feel

2.4 State policy and studies

The Greater Sydney Region Plan establishes the vision for a metropolitan region consisting of the western parkland city, central river city and eastern harbour city anchored by Penrith, Parramatta and the Sydney CBD respectively. The plan designates Liverpool as part of the Western Parkland City Metropolitan Cluster.

The Western City District Plan also illustrates Liverpool as a Metropolitan Cluster and at the intersection of the Upper Georges River, a train line and a city serving transport corridor. The plan identifies Liverpool as an area which has high housing demand and specifies a 0-5 year housing supply target of 8,250 dwellings. It states Liverpool should support the Badgerys Creek Aerotropolis and should have a 2036 baseline target of 36,000 jobs. It will be part of a 'Collaboration Area' in addition to the following actions (42);

a. protect and develop the commercial core

b. improve and coordinate transport and other infrastructure to support jobs growth

c. develop smart jobs around the health and education precinct

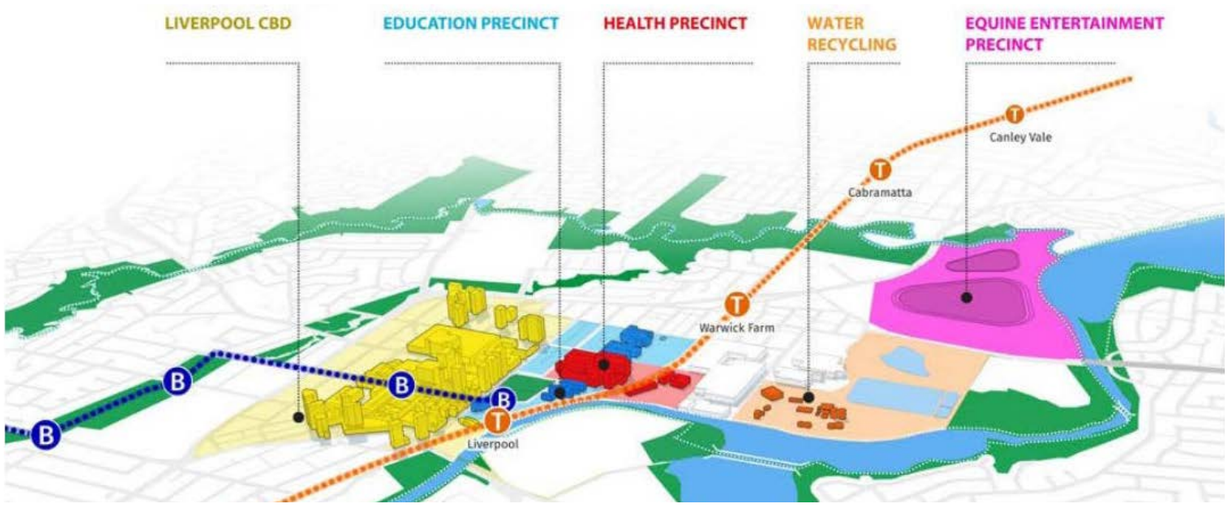
d. build on the centre's administrative and civic role

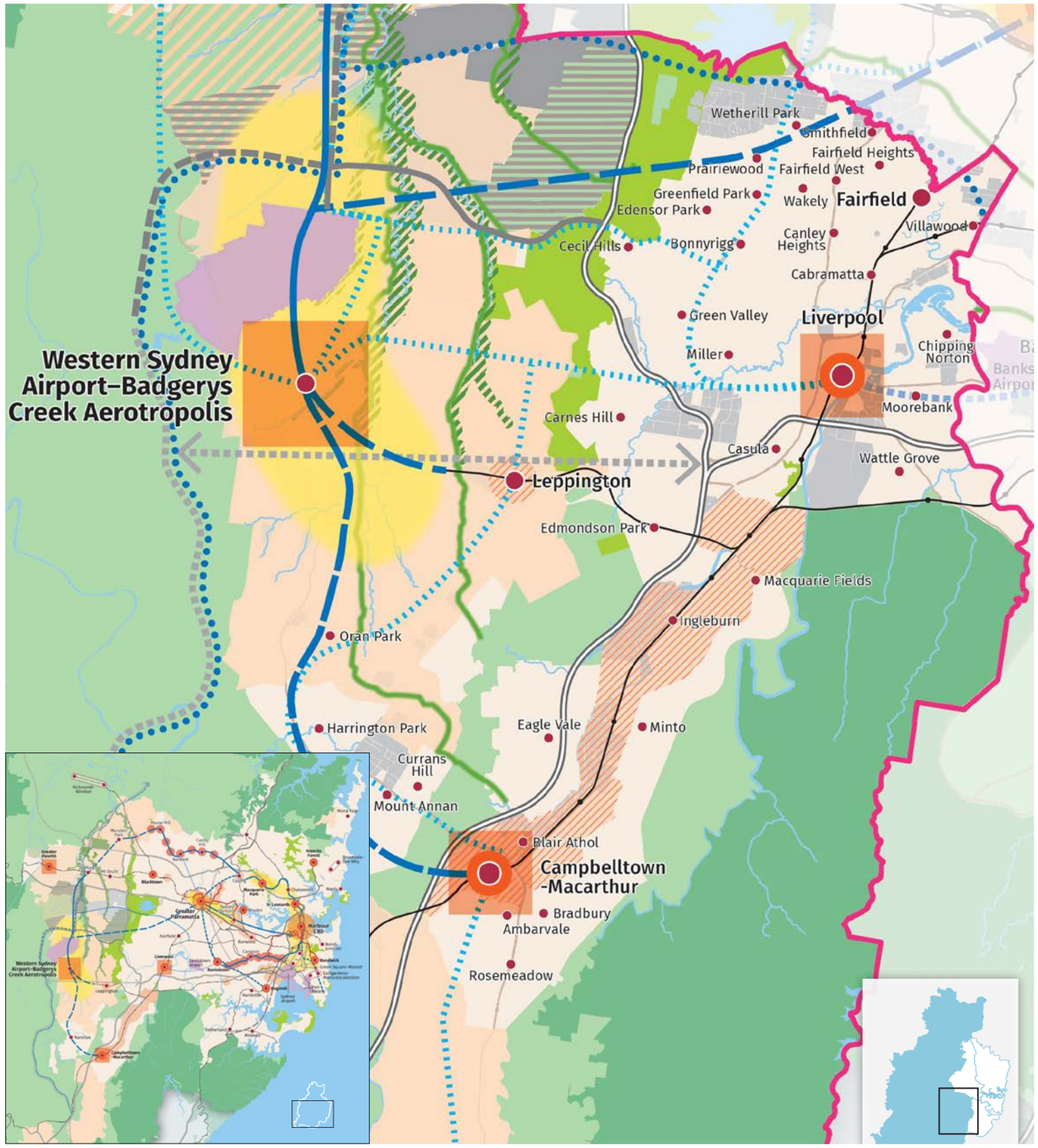
e. improve public domain including tree-lined, comfortable open spaces and outdoor dining

f. improve connectivity and links to the Georges River and prioritise pedestrian, cycle and public transport facilities

g. encourage a vibrant mix of uses, new lifestyle and entertainment uses to activate streets and grow the night-time economy

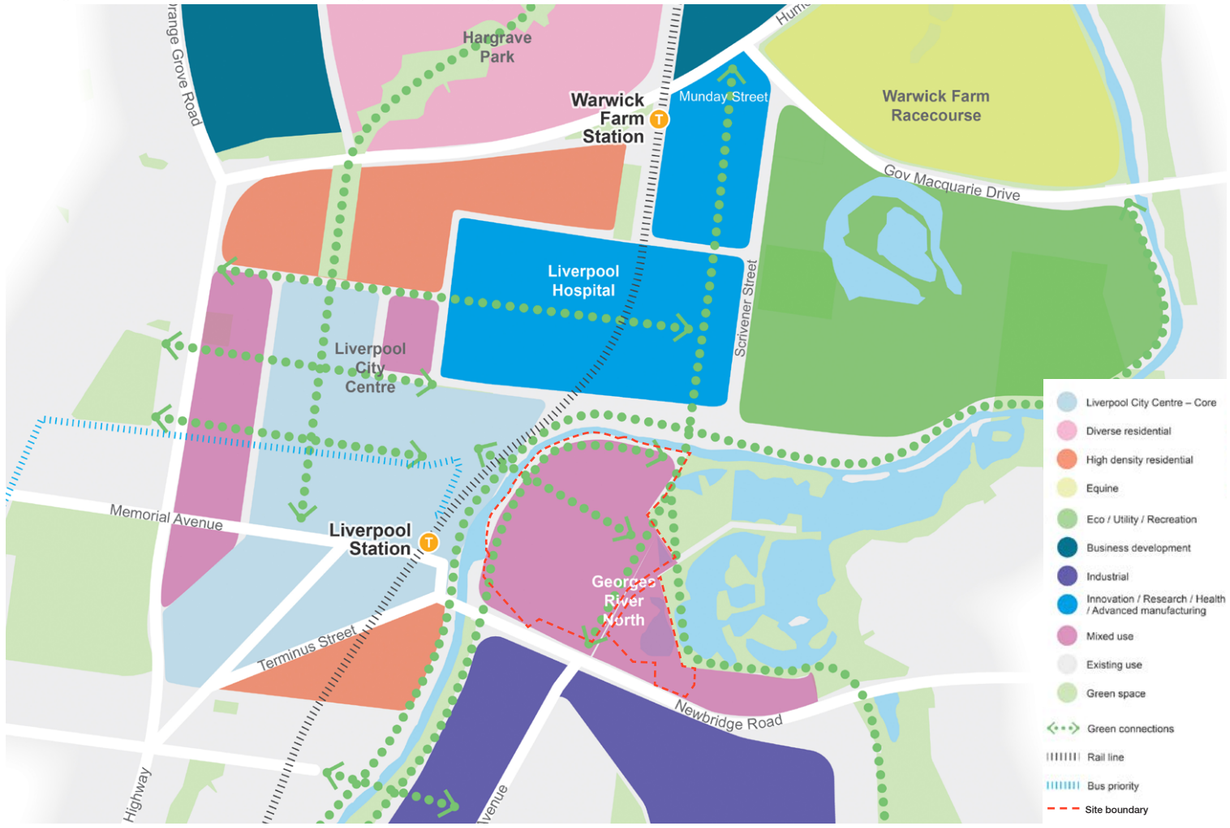
h. capitalise on the Western Sydney Airport and Western Sydney City Deal initiatives.

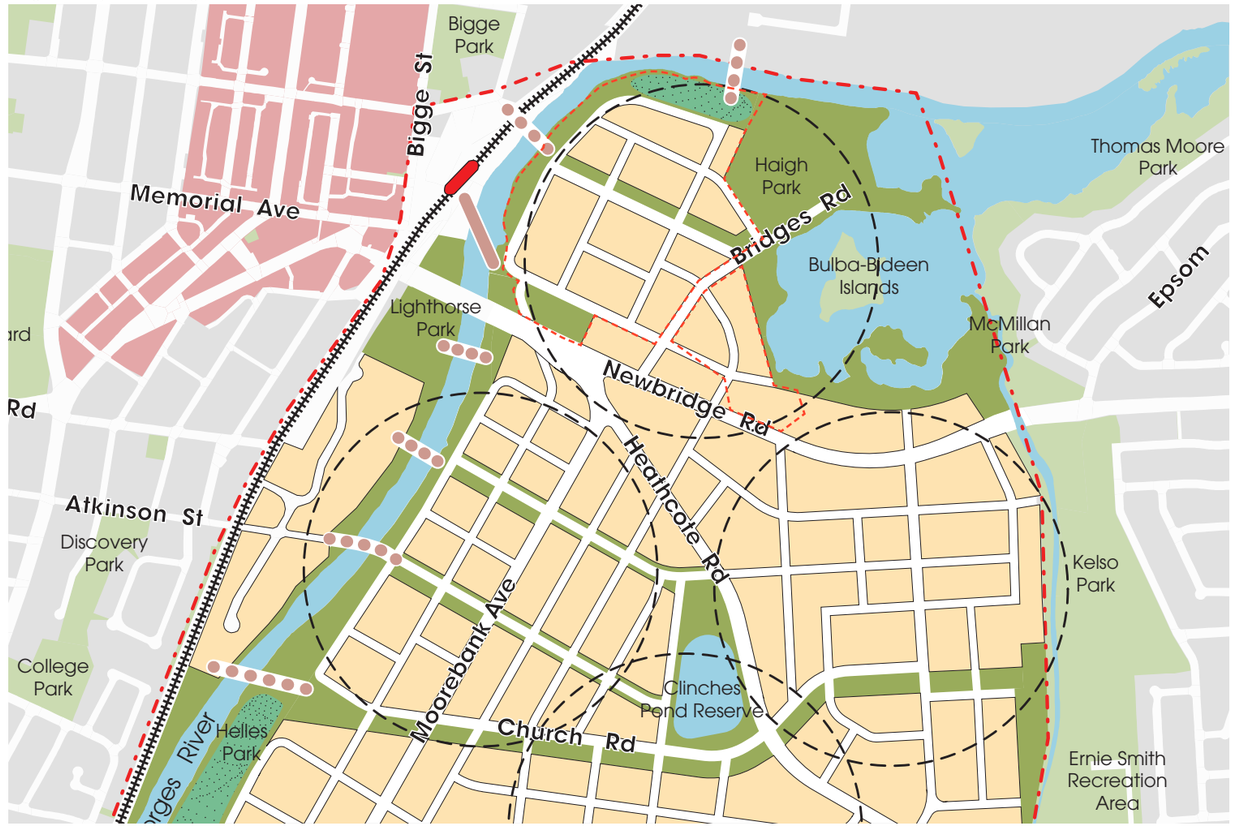




2.5 Subregional strategic studies

*The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change





The Liverpool Collaboration Area Place Strategy

2018, September Greater Sydney Commission

The study aims to inform public and private investment decisions by identifying and recognising complex, place-specific issues. The vision statement for Liverpool is as follows:

"By 2036, Liverpool is a rejuvenated river city, offering diverse and growing residential and employment opportunities underpinned by global leadership in health, education, research and innovation." p.9

The plan shown above indicates Moore Point as 'mixed use' which is defined as "a mixture of commercial, retail, residential and community uses that provide sustainable employment that is complementary to, and not in competition with the commercial core."

Page twelve and thirteen of the document summarises the nine priorities of the plan, all of which can be facilitated with the coordinated development of Moore Point. Further information on the Place Strategy is provided in the accompanying Planning Report by Mecone.

Georges River Precinct Plan

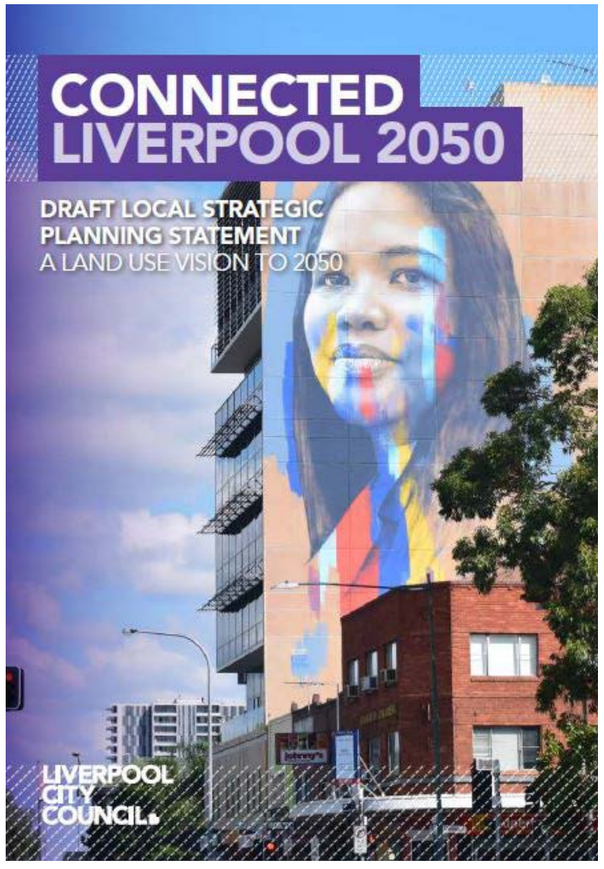
2016, Liverpool City Council, Group GSA

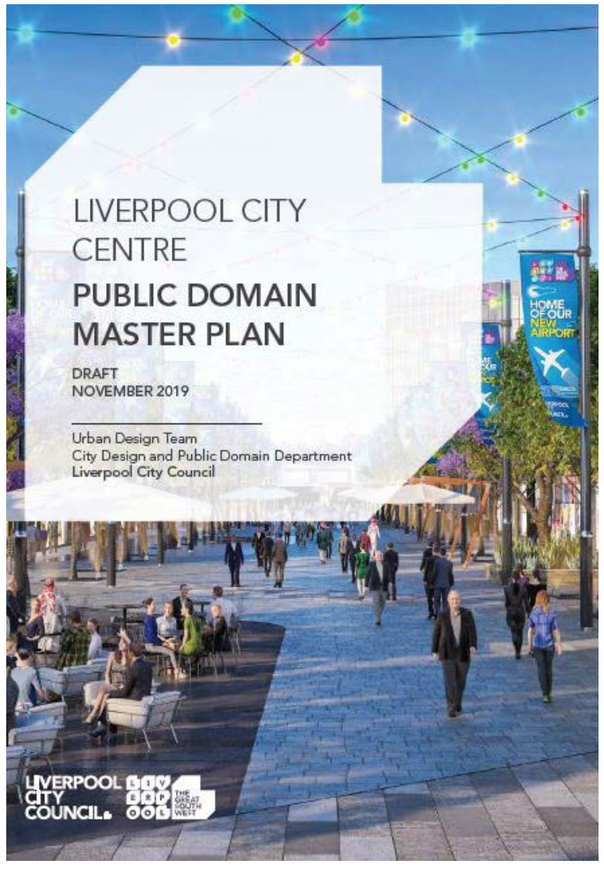
The site sits in the Georges River Precinct and several key drivers of the The Draft Georges River Precinct Plan (GRPP) justify intensifying land uses in the area and have direct implications for the site:

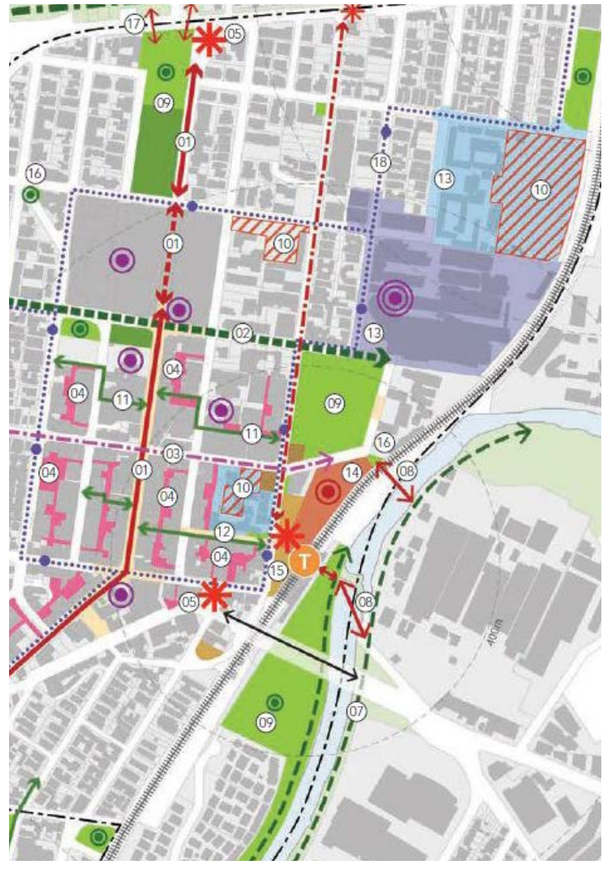
- Access to Airports: Liverpool is uniquely positioned within the Sydney metropolitan context to be equally accessible from Sydney Airport and Western Sydney Airport.
- Southwest Metro Line Extension: The potential extension of the Metro line to Liverpool will improve its integration with the rest of Sydney, helping to sustain growth in the area and enhance its liveability. Vice versa, the ability of the site to accommodate population growth strengthens the case for the extension of the Metro to Liverpool.
- Upgrades to Regional Roads: Future upgrades to regional road infrastructure have the potential to alleviate traffic volumes within the Precinct, laying the foundations for sustaining higher densities.
- Highest and Best Use: Existing riverfront areas are dominated by industrial uses, under-utilised, and/or difficult to access.
- Re-development of riverfront sites for mixed use residential development can open up the river for everybody to enjoy and capitalise on existing amenity and proximity to Liverpool CBD.

2.6 Local policy and studies

*The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change







Connected Liverpool 2050 - Liverpool Strategic Planning Statement (LSPS)

Prepared by Liverpool CIty Council, the LSPS will inform the review of Liverpool CIty Council's LEP and guide future development, housing mix, the provision of jobs as well as public open space, community facilities and maintenance of the natural environment.

The LSPS outlines a number of objectives which should be considered in the Moore Point Masterplan:

- Investigate amendments to LEP to rezone River precinct north of Newbridge Road (Moore Point) as a mixed-use zone to support the Liverpool CBD and Innovation Precinct, with an extensive open space system and cross-river linkages (short to medium term).

- Investigate cross-river links and improve community access to the Georges Riverfront to provide cool, clean, green spaces in which to connect, play, swim and relax.
- Refocus Liverpool City Centre around the amenity of a healthy Georges River, connected to Parkland and open space with development that is of appropriate scale which respects the natural character of the river environment.
- Foster a 24-hour economy with a lively and well-integrated mix of activities.

Draft Public Domain Masterplan

Prepared by Liverpool City Council, the draft masterplan outlines the 10 year plan for public domain improvements across Liverpool City Centre. The principles and strategies outlined within this document should be considered as part of the Moore Point Masterplan.

High level strategies which permeate through the masterplan include:

- Street designs that encourage active and public transport, and provide increased pedestrian amenity.
- Improve serviceway/laneways to support service requirements, as well as activation and events.
- Upgrade existing, and provide new, open spaces to
- Increase amenity and facilities.
- Improve water quality, and increase access to, and
- Activation of, the Georges River and Brickmakers Creek.
- Conserve, enhance and promote Liverpool's heritage.

Objectives that specifically relate to Moore Point include:

- Improving the condition of the Georges River to support biodiversity and the ecological community.
- Providing pedestrian and bicycle tracks along the Georges River.
- Establishing new pedestrian connections across Georges River.

2.7 Strategic priorities

Following a review of the state guidance, local policies and interrogation of similar precincts across NSW, there are twelve key considerations that underpin the Masterplan and future revitalisation of Moore Point. Many of these considerations have also been identified through our early engagement with Council at the officer level, which has enabled the design team to incorporate them into the foundations of the Masterplan.

Diverse Uses

Establish Moore Point as a mixed use precinct to support Liverpool CBD and Innovation Precinct

Diverse Housing

Deliver a mix of residential typologies and tenancies

Local Connectivity

Connect to Liverpool City Centre and the health and education precinct through new cross-river connections

Enhanced River Access

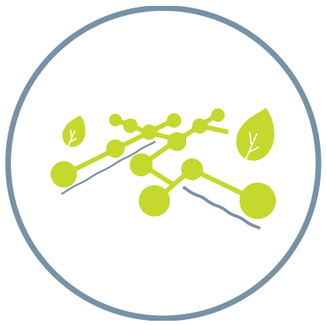
Unlock public access to Georges River, Lake Moore and waterfront land

Enhanced Transport Links

Capitalise on the delivery of significant public transport infrastructure including Western Sydney Airport and South-west Metro

Celebrating Historic Context

Embed and celebrate the indigenous and non-indigenous history of the site, connecting communities to the past and place



Green Network

Create an interconnected network of open space combined integrated with urban development

Movement Hierarchy

Balance the need for movement with the creation of places for people and communities

Connecting with Country

Re-imagining of how we engage with Country and cultural landscapes through sustainable land and water practices, valuing and respecting cultural knowledge, and creating culturally sensitive solutions

Regeneration and Transit Orientated Design

Maximize the amount of residential, business and leisure space within walking distance of public transport

Complementing the City Context

Deliver a mixed-use zone to support the Liverpool CBD and Innovation Precinct

Enhancing the Riverfront Amenity

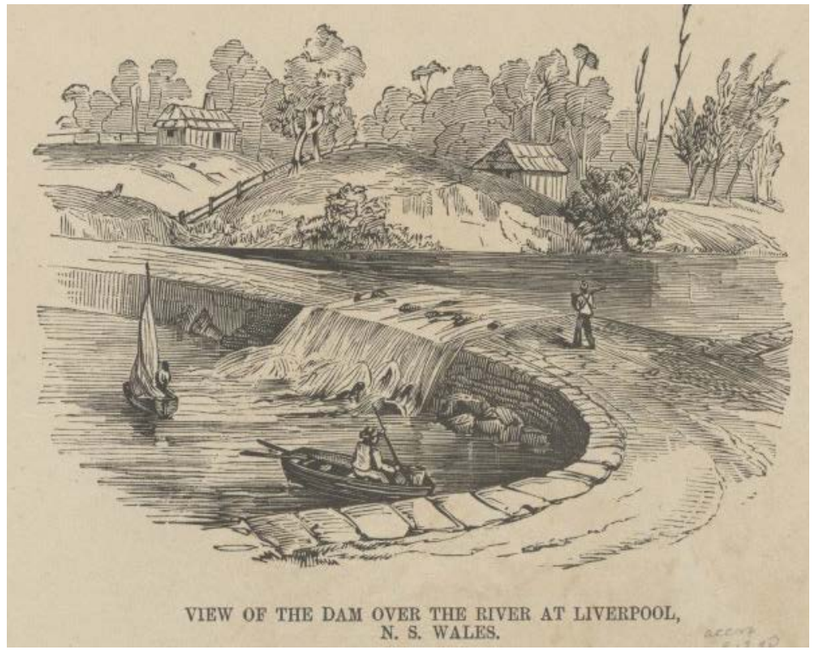
Enhance the condition and amenity of the Georges River

3

Site Analysis

This Masterplan is based on a deep understanding of the site, its immediate context and relationship to the city centre through ongoing analysis of the site's history and character.

3.1 Site history



Precolonial

Some 40,000 years before European settlement, the land was known as Gunyungalung and was occupied by the Darug people. The Georges River was once regarded as the natural (east-west) boundary between the Darug and neighbouring tribes of the Tharawal and the Gandangara people (west of the river, inland). The river was a natural demarcation of these Indigenous groups, functioning as a key mobility corridor that enabled transport, communication, economic and cultural interaction up, down and across the river.

References

"Aboriginal culture of the Georges River" https://georgesriver.org.au/learn-about-the-river/aboriginal-culture

Goodall, H & Cadzow, A. 2009, Rivers and Resilience: Aboriginal People on Sydney's Georges River, p.21

Liverpool Weir https://apps.environment.nsw.gov.au/dpcheritageapp/ViewHeritageItemDetails.aspx?ID=5060394

Early Moorebank https://simta.com.au/early-moorebank/

Colonial

The area surrounding the Georges River felt the impact of European settlement in the 1790s, when early settlers from Parramatta began cultivating fertile soil, moving south along Prospect Creek to the alluvial flats around Liverpool. The first land grants in the Moorebank area were given to settlers from 1798, and this continued to penetrate slowly into the 1790s. In 1809, Thomas Moore was awarded 1300 acres of land along the Georges River's eastern bank. Naming the property Moore Bank, he supplied the fledgling Colony with meat and timber from his rich land. Moore became the first citizen of Liverpool and was commissioned by Governor Macquarie to oversee the building of the Liverpool township. Moore acquired great wealth through his property, building, farming, banking and business interests.

The Liverpool Weir was constructed in 1836 to supply water to local farmers and the town of Liverpool, as well as to serve as a causeway across the George's River. This greatly impact Aboriginal groups' use of the river as a communication channel. Construction of the weir also changed the ecology of the river.

20th Century

The weir now plays an important role in stabilising the upstream riverbanks and maintaining the hydraulic regime of the upper part of the Georges River estuary. The reaches of river under the influence of the weir have drastically changed since construction in 1836. The construction of a fishway in 1997 provides native fish passage past the weir and improves the ecology of the Upper Georges River, modified by the weir's construction.

Moorebank became a military site in the early 1900s, and was a temporary home to many thousands of personnel being trained for battle, as well as military industrial workers and engineers during the World Wars. The 20th Century continued to see many other technical innovations that allowed the area to develop as a key industrial site, including the railway line. Built in 1917, the Liverpool to Holsworthy railway used second-hand steel and rails due to war-time materials shortages. Stretching east from Liverpool across the Georges River, it formed one of the most important connections between the military site and the town. Other representations of the area's post-war industry and employment include the Pirelli Power Cables and Systems Building, built by Cable Makers Australia around 1943.

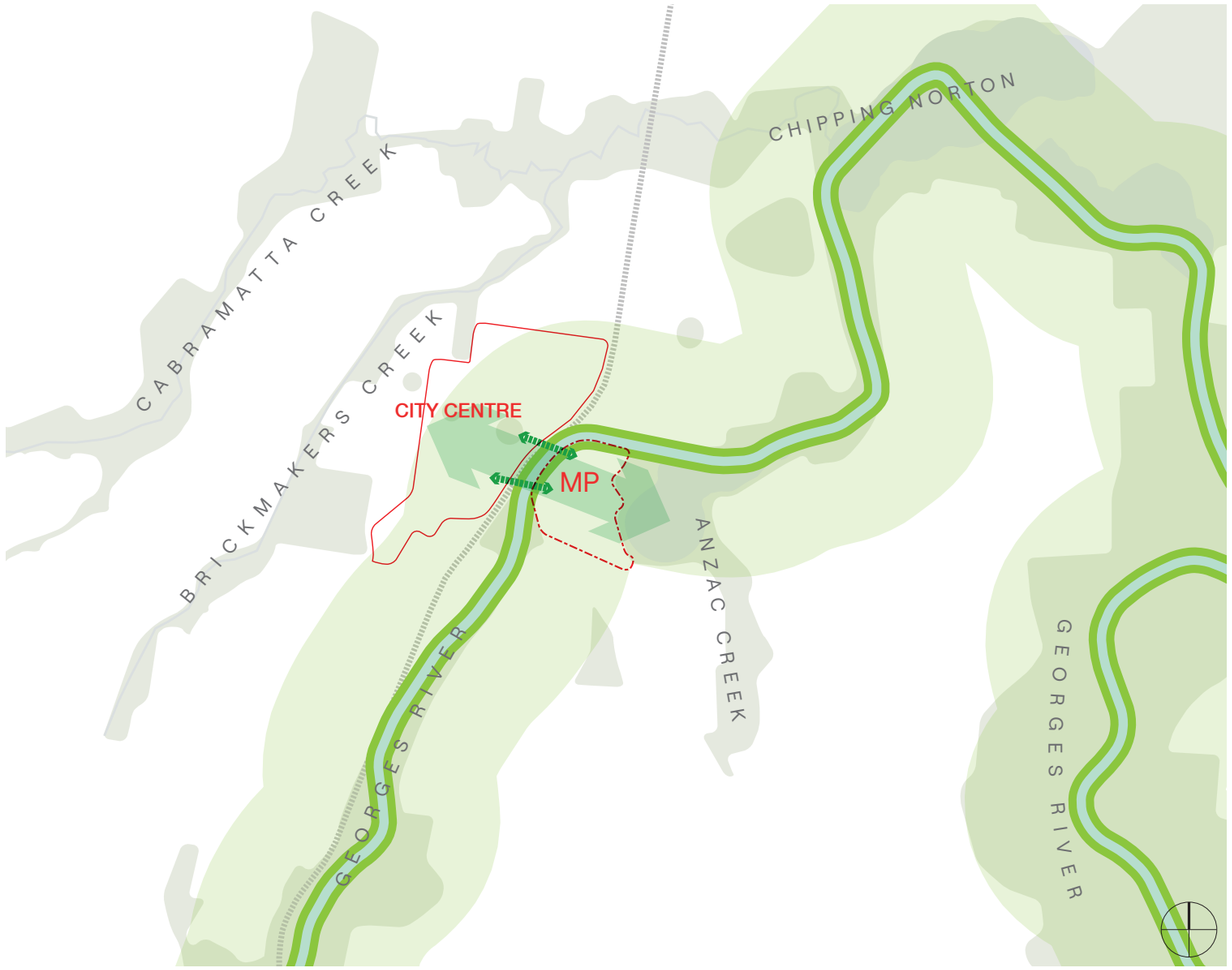
3.2 The site and city today

Moore Point sits east of the Liverpool City Centre across the Georges River in the suburb of Moorebank, as illustrated in the adjacent map. The Georges River wraps along its western and northern edge and into Lake Moore which defines its eastern edge. The southern boundary of the site is defined by Newbridge Road which bridges the river and links into Liverpool.

The site is adjacent to Liverpool Train Station and Lighthorse Park to the west. Over the river to the north sits Liverpool Hospital, light industrial factories, equine sheds and Sydney Water facility. To the east of Lake Moore is the suburb of Chipping Norton which comprises mostly of detached houses. Light industrial sheds and suburban houses sit to the south of the site.

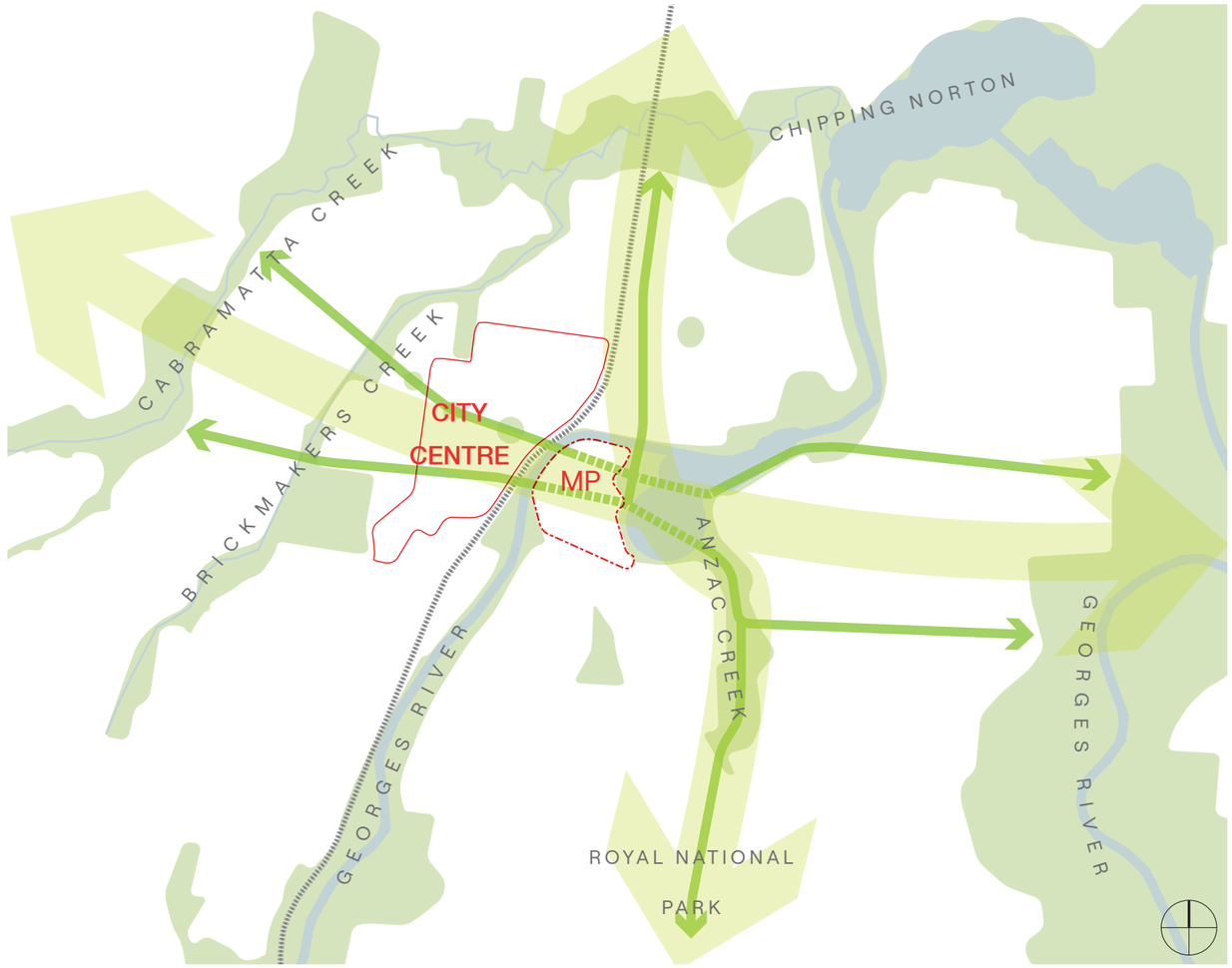
This broader area of Liverpool, beyond the extent of the CBD and encompassing Moore Point, has been addressed in the Liverpool Collaboration Area Place Strategy which describes Moore Point as a *'High amenity mixed use precinct complementing city centre and health and education' p.28*

3.3 Subregional analysis



River corridors

There is an opportunity to reinstate the Georges River corridor as the pre-eminent recreational arterty through south-western Sydney. Historically, transportation, culture, economy and leisure for local people was focused along the river which connects the the broader system of creeks and joins Liverpool to Botany Bay and broader Sydney.



Riparian fingers

Linking green corridors is a policy priority in the GSC ‘Blue and Green Grid Strategy’. Moore Point presents the opportunity to connect two of four riparian fingers which lead into the Georges River and significantly strengthen the subregional network of open spaces as has been demonstrated at Shepherd Street precinct to the south.

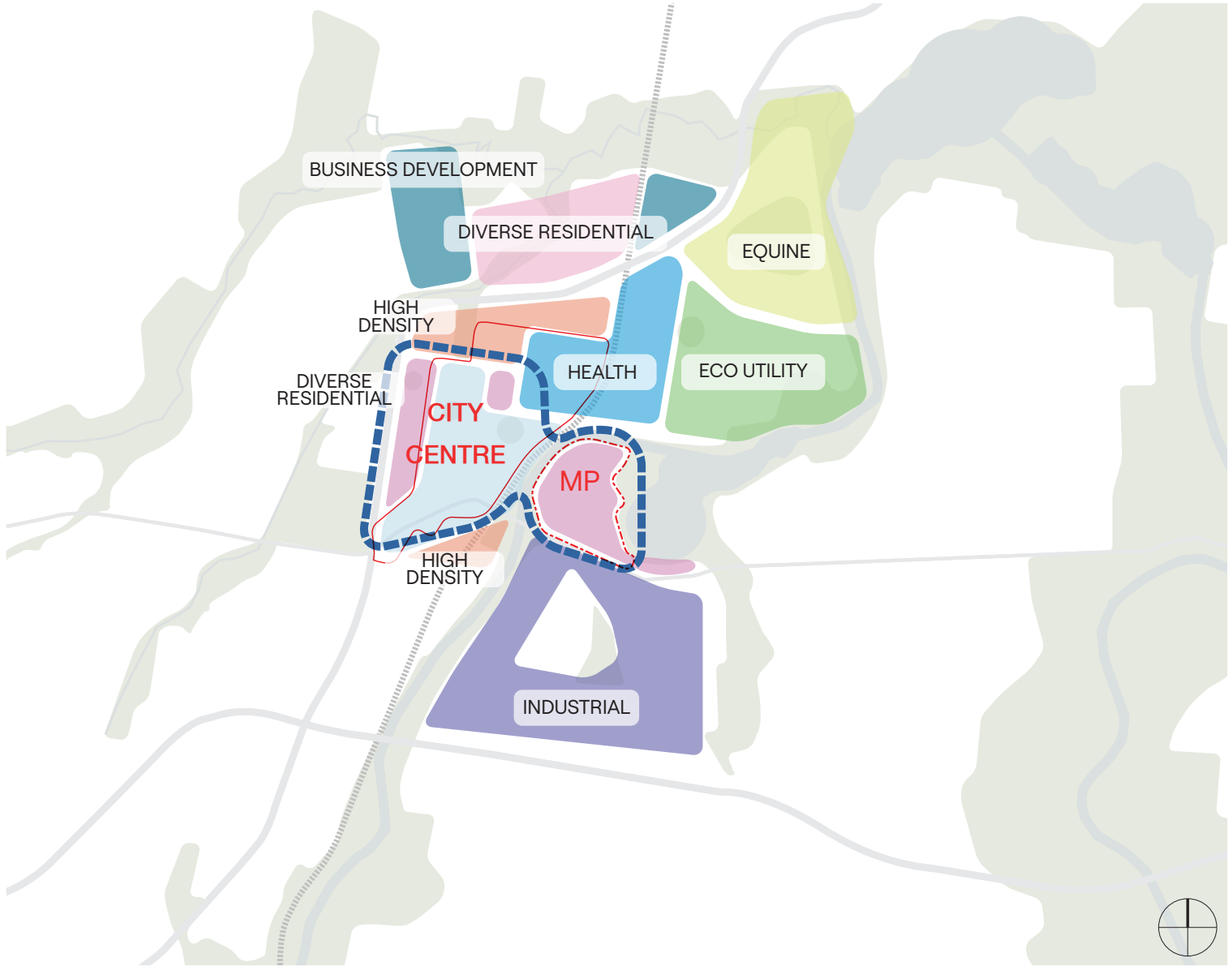
3.4 Subregional analysis

Emerging ring of height

There is an emerging ring of current and proposed building heights around the edge of the Liverpool City Centre. This ring of landmarks reinforces the visual legibility of the place and is clearly visible on major roads into the centre as well as the Georges River. Moore Point can complement this distribution of height and frame the River to complement the distribution of height.

primary focus of height

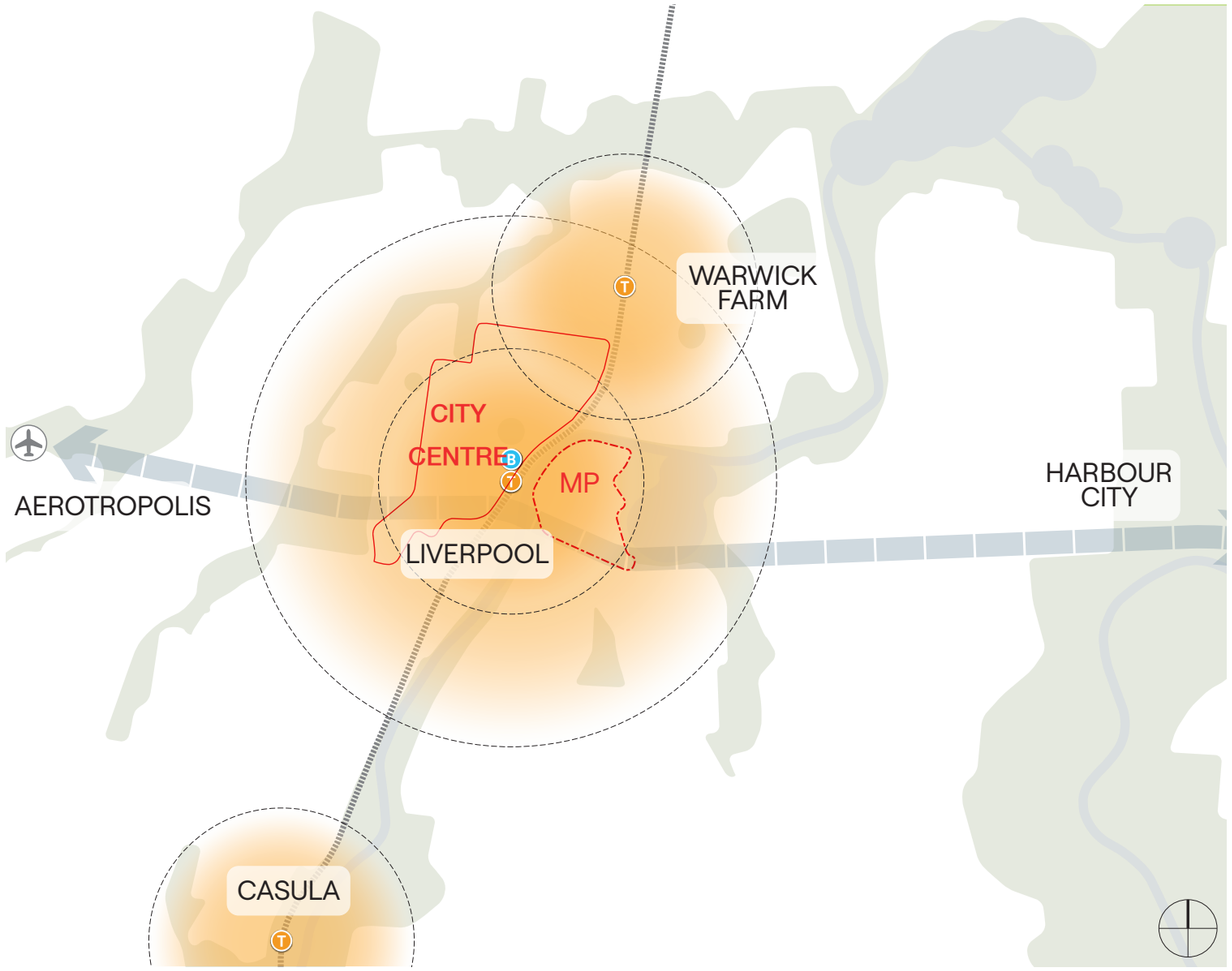
secondary focus of height



Envisaged character areas

Liverpool is consolidating itself as a significant metropolitan CBD which is highlighted in the Liverpool Collaboration Area Place Strategy which classifies Moore Point as 'diverse residential.' As part of this maturation Moore Point will complement, and not compete with Liverpool and support adjacent character areas such as the commercial centre and health and innovation/education precincts to the east and to the north.

3.5 Subregional analysis



Transit oriented consolidation and development

Moore Point is adjacent to the Liverpool Train Station and Bus Interchange and on the route (under investigation) for a future metro line making it a key node between the Aerotropolis and the 'Harbour City' and Sydney CBD. The Aerotropolis will drive the development of the south-west of Sydney making this key transport nexus a prime opportunity for transit oriented development.

Key local destinations

The Liverpool subregion has an evolving series of key cultural and leisure destinations. Alongside the services and facilities in Liverpool City Centre (i.e. Woodward Park, Civic Centre, hospital), Warwick Farm Racecourse, and the Casula Powerhouse Arts Centre are significant drawcards for visitors to the area. As the exemplar of active mixed-use precincts supported by high-quality amenity and services Moore Point can support Liverpool as a great river city and focus of culture in Sydney's south-west.

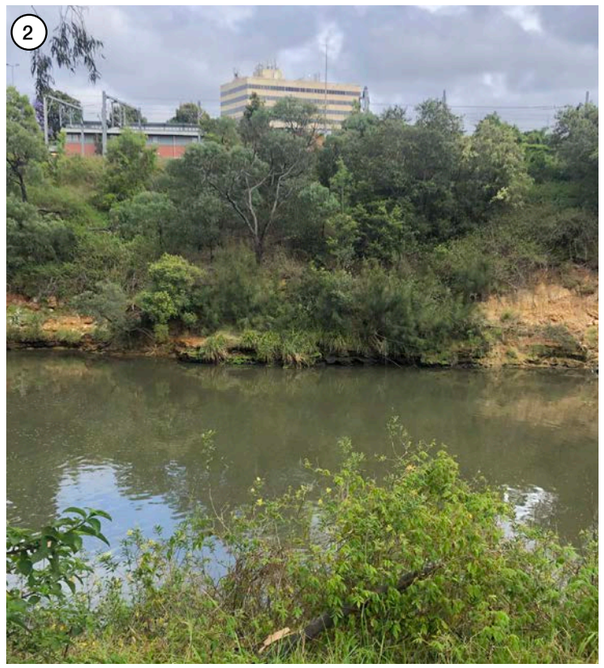
3.6 The site and surrounds

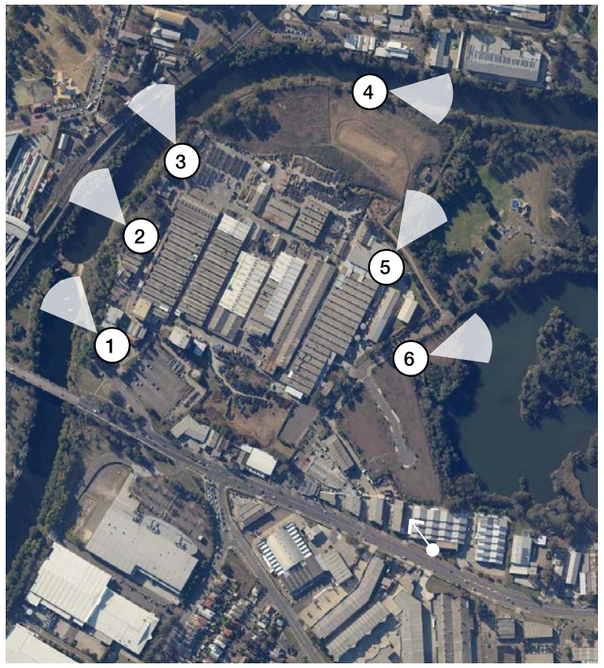
The 31.4ha site is bound to the north by the Georges River which is lined with mature riparian vegetation. The river wraps around the site to the east into Lake Moore, adjacent to Haigh Park . To the south Newbridge Road, a six lane carriage way bounds the site. Bridges Road bisects the existing industrial warehousing, establishing a 25 degree off north axis.

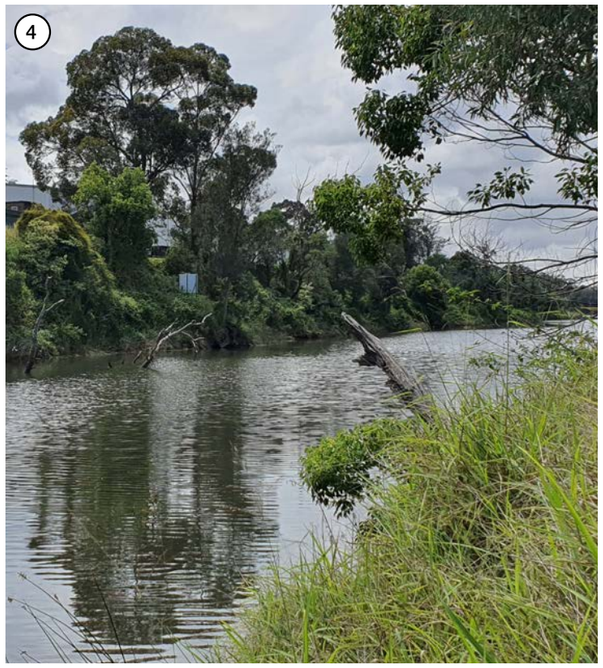
Planning proposal boundary
Cadastre

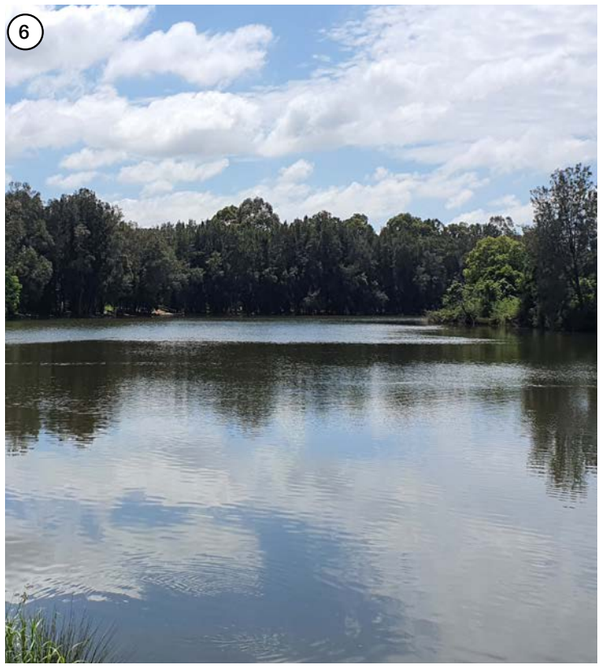
3.7 Site photographs

1. Remnant train pylons going in the Georges River with river weir to the right. Note Liverpool Train station concourse and steep riverbanks in the background.
2. Condition of the northern riverbank looking east along the Georges River. Note the steep angle of the bank, poor condition and mature vegetation.
3. Distant views to the Old Liverpool Hospital heritage building from Moore Point riverbank
4. View from the Coronation 'access road' looking north east through the understorey of a stand of trees defining the south west edge of Haigh Park.
5. Significantly eroded condition of the western side Georges Riverbank with train line visible above the scrub.
6. View of Lake Moore and waterfront with mature riparian vegetation around its edge.



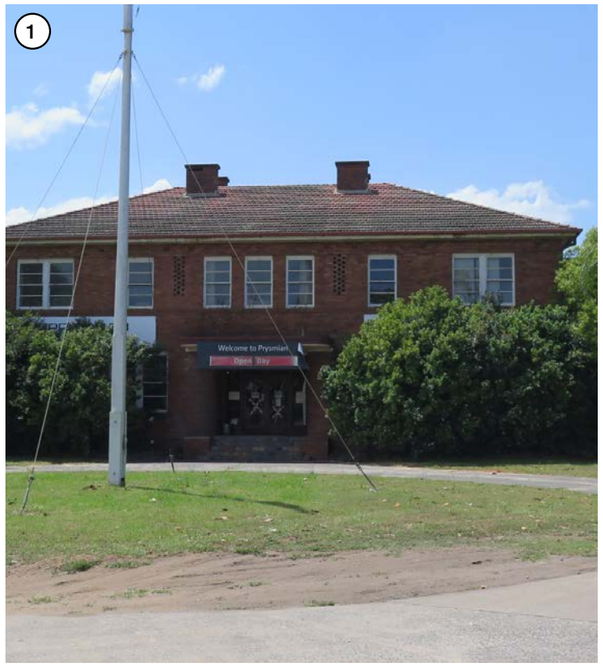


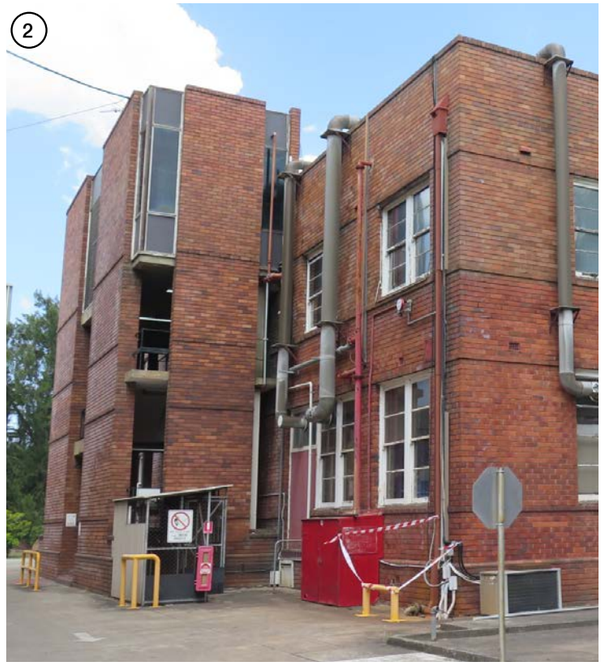


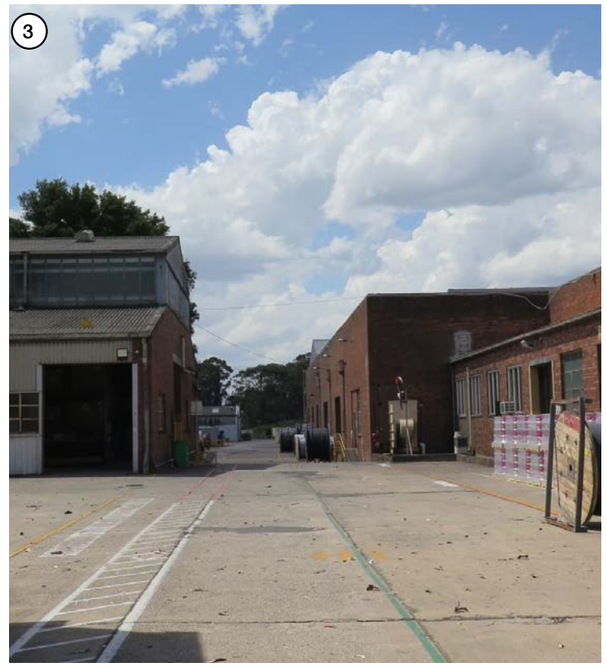


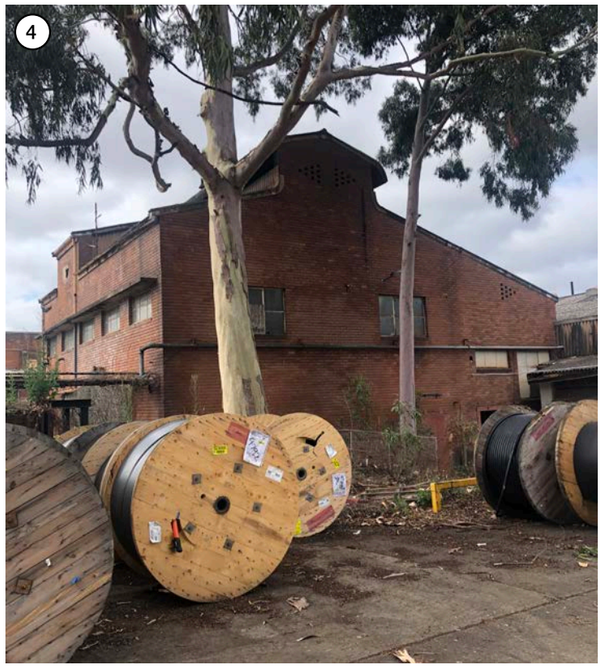
3.8 Site photographs

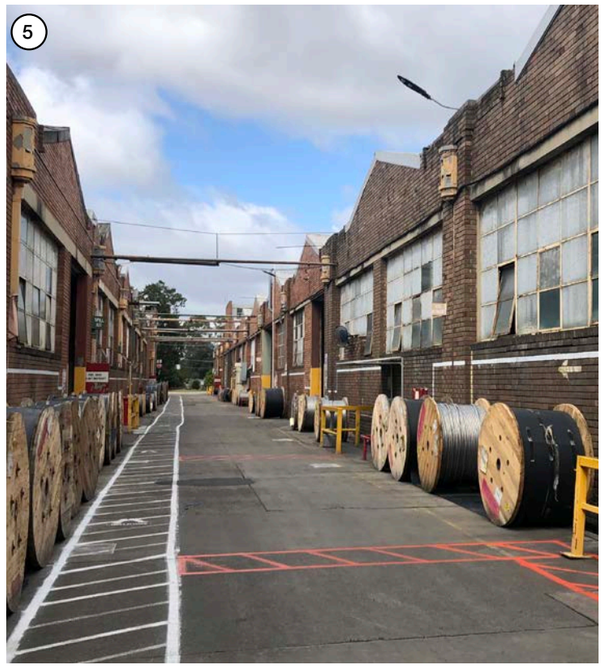
1. Site entrance view to the Prysmian factory site highlighting the facade of the Administration Building and entrance roundabout courtyard.
2. Back side of the Factory Administration building showing fire stair core added after the original building was constructed.
3. View north along the western edge of factory one with factory outbuildings on the left.
4. View from riverbank towards the later addition of a factory outbuilding.
5. View of the lane between factory one and factory two showing industrial signage, delineating linework and distinctive steel windows and brick forms.
6. Internal laneway between factory one and factory two. This distinctive roofline and strong linear frontage is a definitive characteristic of the site.











3.9 Reading Country

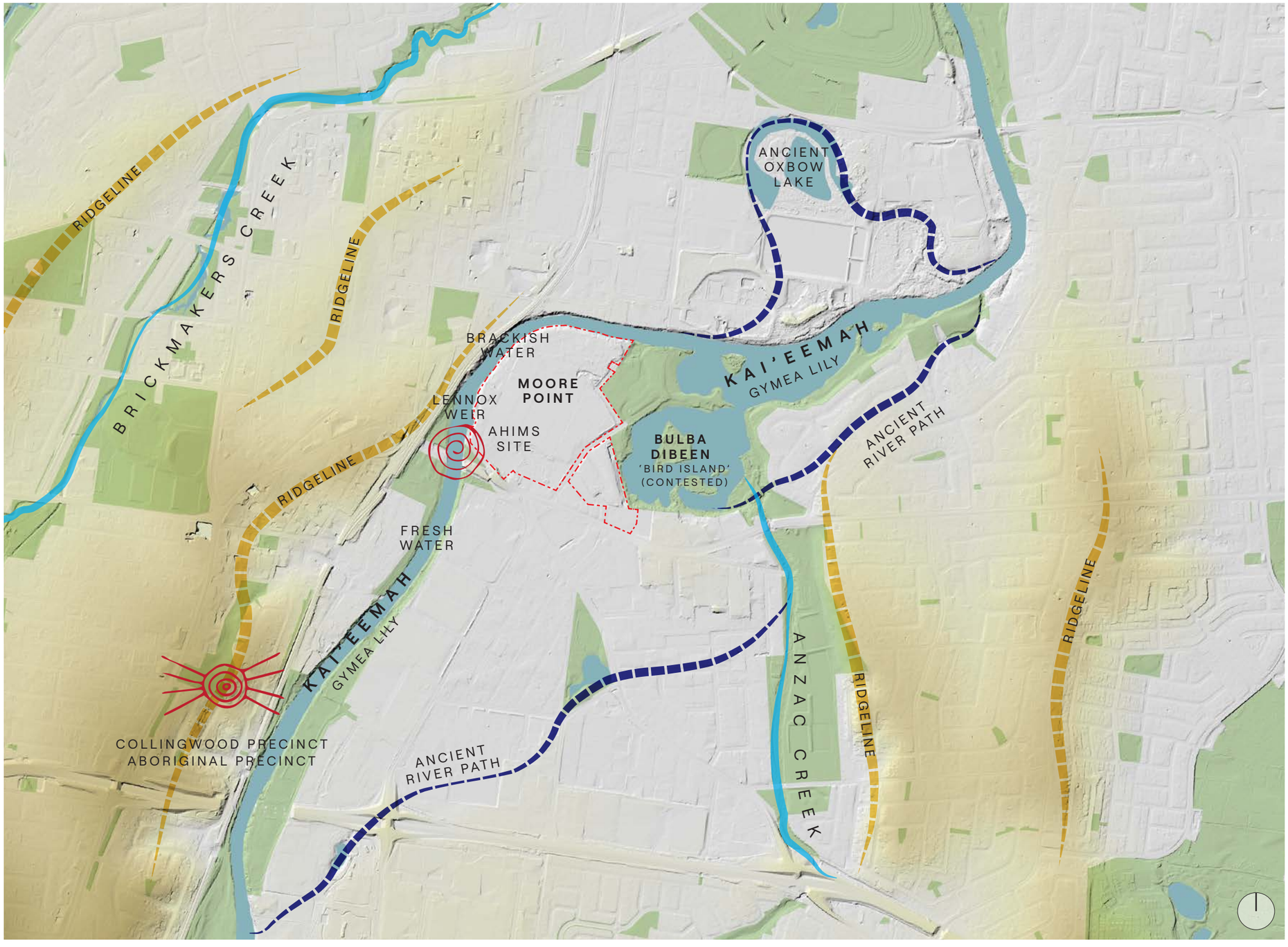
Cabrogal Country is made up of both tangible heritage items, such as places, objects and artefacts, as well as intangible heritage such as stories, spirituality and language. For example, the name Cabrogal comes from the shipworms, or cahbro in Darug language, which the people of the Liverpool area harvested and ate from submerged trees and logs that had fallen into the river.

Cabrogal Country was a known meeting place, with historic and contemporary references noting the land in the Liverpool LGA was used by the Darug, Dharawal and Gandangara people. Cabrogal Country has always been a place of diversity. Its placement on the Georges River allowed for easy transport via canoe and would later provide refuge for Aboriginal people throughout various periods of colonisation. Significant figures such as Pemulwuy, Biddy Giles, Ellen Anderson and Lucy Leane would go on to utilise the river as a staunch beacon of hope, resistance and resilience, inspiring generations of Aboriginal rights activists.

The swamps, lagoons and wetlands of Cabrogal Country were a good place to hunt and could be used to gather medicines and fibres. Many different tools were used to obtain food and raw materials, including spears, spear-throwers, hooks and lines,stone hatchets, shields, clubs, diggings sticks, traps and baskets. The plan to the right illustrates some key elements of Country which have been observed during site visits and highlighted in collaboration with indigenous consultants Yerrabingin.

Key findings

- Kai'eemah (aka Georges River) was and is central to the indigenous significance of this Country.
- Ridges and watercourses are oriented to the north east and drain into the Kai'eemah river basin.
- Ancient river patterns and Oxbow lakes flank the current location of the river indicating it has changed course many times over thousands of years.
- AHIMS site near Lennox weir which is the current transition point between fresh water and brackish water
- Indigenous names such as Bulba Dibeen.
- Collingwood Indigenous Precinct is a significant meeting place for several tribes and continues to be to this day.



- Planning Proposal boundary
- river or watercourse
- topographic prominence
- open space
- ridgeline
- ancient river path
- place of known indigenous significance

3.10 Movement and access

Moore Point is defined on its southern edge by Newbridge Road which is the major east-west road into Liverpool City Centre. Access to the site is off Newbridge Road via Haigh Avenue (underpass) and Bridges Road which provides access to Haigh Park. Light industrial premises that sit outside the site boundary get access directly from Newbridge Road.

Riverfront pedestrian pathways run through Lighthorse Park and terminate at the Weir, as well as eastwards from Haigh Park along the Georges River. Moore Point waterfront presents a significant opportunity to link these paths.

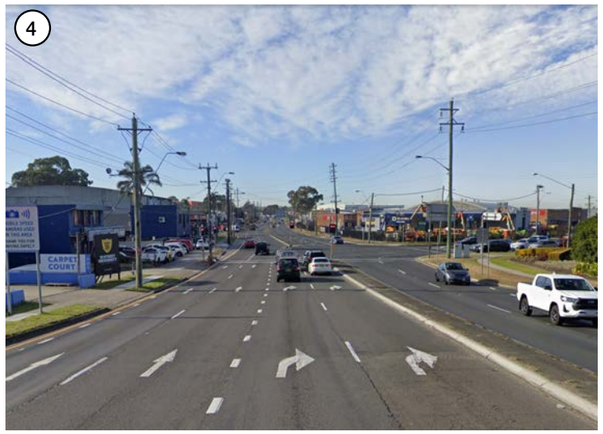
Key findings

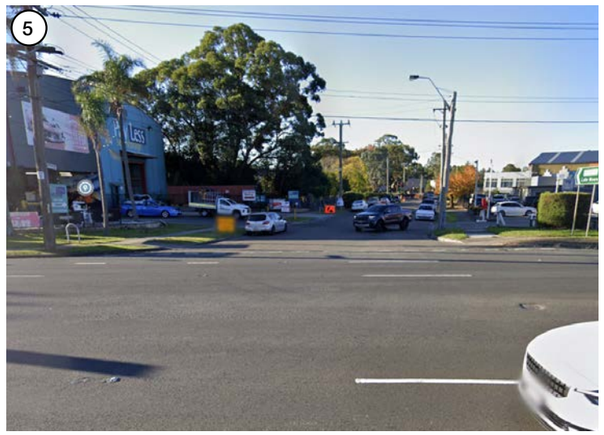
- Site could accommodate bus interchange to alleviate bus traffic crossing the bridge.
- Site access from Newbridge Road potentially along Bridges Road.
- Opportunity to explore additional pedestrian connections between the site and Liverpool CBD.
- Riverfront pedestrian pathway could be linked around Moore Point foreshore to provide a seamless route from Chipping Norton, around Lake Moore and Haigh Park to Moore Point and into Liverpool CBD.

- Planning Proposal boundary
- major road
- primary street
- secondary street
- tertiary street
- pedestrian pathway
- access
- pedestrian stairway
- traffic light junction
- bus terminus (layover and stops)
- train station
- proposed pedestrian bridge

3.11 Site movement photographs

1. View looking across the southern Liverpool Station exit.
2. Newbridge Road looking east across the 4 lane bridge crossing Georges River, bounded by pedestrian crossings.
3. Haigh Avenue underpass to the right and connection up to Newbridge Road to the left.
4. Newbridge Road looking east, lined with industrial one and two story buildings.
5. View looking across Newbridge Road into the southern entrance of Bridges Road.
6. Bridges Road looking north-east showing wide two-way roadway lined with trees and one and two story industrial buildings.
7. Northern end of Bridges Road acrsoss connection into Haigh Park.
8. View from Lighthorse Park across the weir with the remenent train pylons in the foreground.
9. View looking north between existing single story heritage factory buildings.





3.12 Landscape and open space

The site is surrounded by natural assets, bound by the Georges River to the north and west and Lake Moore to the east. Significant open spaces ring the site including Haigh Park to the east and Lighthorse Park to the south west. The site remains relatively flat with a gentle slope from a central high point to the south west down to the respective water bodies.

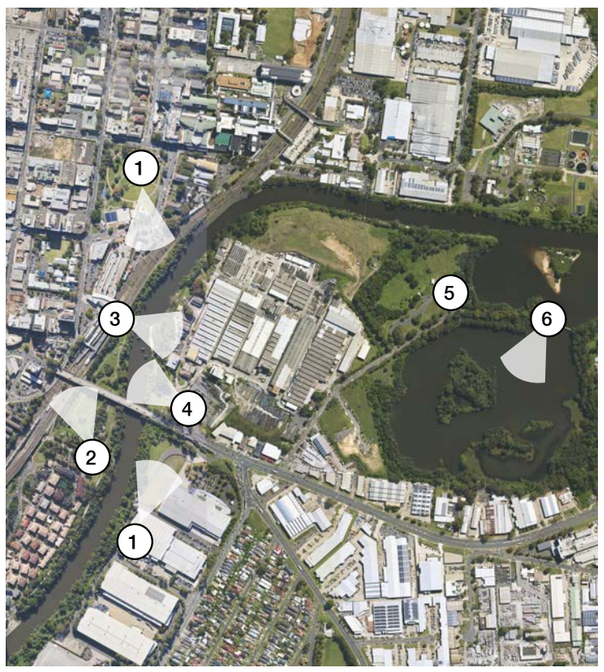
Distinctive landscape zones can be found on the borders of the site, namely the riparian edges along Georges river on the northern and eastern edges, which are distinguished by its denser native tree canopies. Haigh Park also contains a small beach along its eastern edge which has significant future potential.

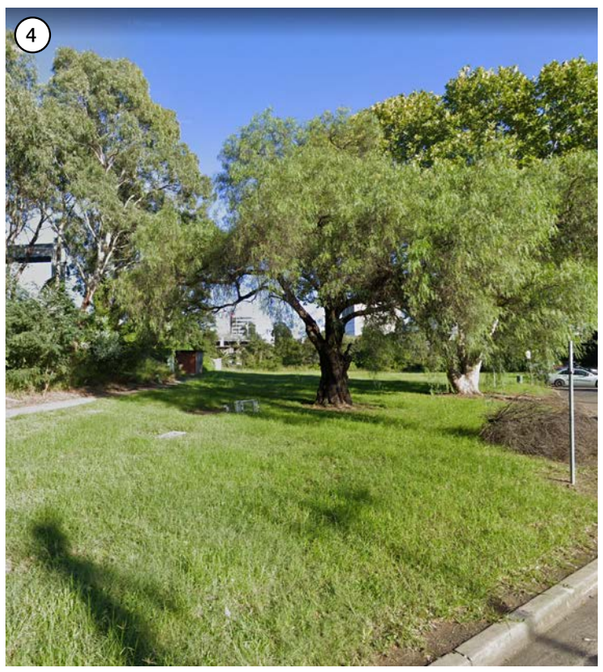
Key findings

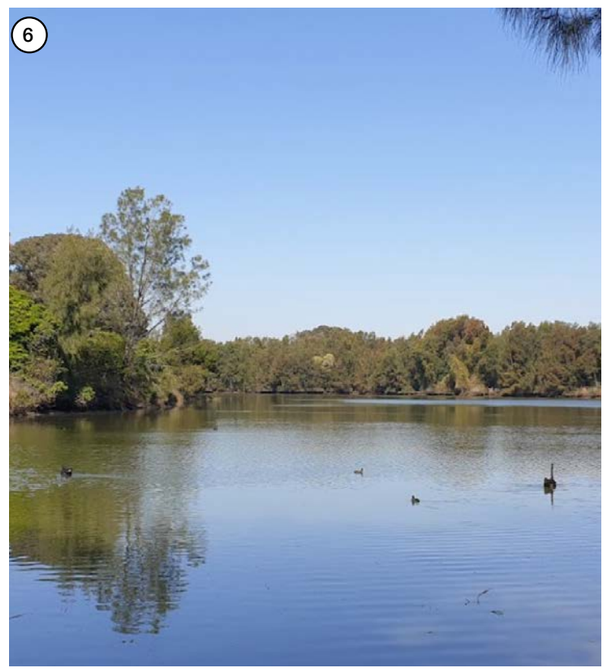
- Site has direct access to open public space and outdoor facilities, including playing fields, playgrounds and outdoor dining.
- Haigh Park is currently difficult to access and has poor visibility from major roads and residential areas.
- Potential to connect surrounding open space around the river foreshore and through the site via a series of green links, spaces and destinations.

3.13 Landscape and open space photographs

1. Bigge Park features a modern water play area, two children's playgrounds and tennis courts. The park is articulated with several wide pedestrian pathways and large, manicured grass areas for leisure with moderate canopy cover around the perimeter.
2. Lighthorse Park offers a large open field of grass, dotted with trees. This view illustrates a children's playground on the left hand side in the distance.
3. View looking east from Lighthorse Park across the, riparian banks of Georges River weir onto the site.
4. Bill Morrison Park is a small, triangular grass open space bounded by Georges River to the south-west and Haigh Road to the north.
5. Haigh Park offers an open grassland surrounded by a dense fringe of trees, but is currently limited in connections to the wider public.
6. View across Lake Moore towards Bulba Dibeen.







3.14 Land use and built form

The site is comprised of low rise industrial buildings with areas of vacant land to the north and east. The Liverpool City Centre and train station are located to the west. This mixed use zone is broadly comprised of major retail anchors, local services, community facilities, health and education services.

Light industrial areas can be found both to the north and south of the site. The residential neighbourhoods to the south and east consist of single and semi-detached housing as well as residential flat buildings and apartments. Other notable features include:

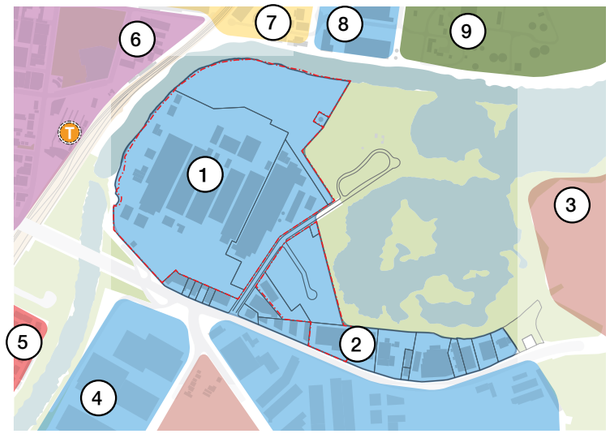
- Liverpool Hospital, located approximately 500m from Liverpool Station
- Sydney Water recycling plant and utilities to the north of the site
- Haigh Park provides a key recreational area for the site, overlooking both Lake Moore and the Georges River

Key findings

- The site is an ideal location for a range of high-density uses (residential, commercial, community) to complement the adjacent Liverpool CBD as it progressively develops.
- Opportunity for connections to key service provisions to the north, namely Liverpool Hospital and Liverpool Innovation Precinct.
- Potential adaptive reuse of heritage and/or industrial buildings currently on the site to provide a unique retail, commercial and community offering that isn't currently available in Liverpool.

3.15 Land use and built form photographs

1. Existing 1940's factory buildings sited within the distinctive cadastral, crop and factory grid of the site.
2. One and two story industrial buildings lining Newbridge Road.
3. Low density residential area characterised by wide streets and nature strips with off-street parking.
4. One and two story industrial buildings of varying scale with generous streets and open space between built form.
5. High density red-brick residential housing estate with open space dominated by private access roads and parking.
6. Tafe NSW encompassing the state heritage listed Liverpool College building surrounded by manicured, tree-lined open spaces set behind high walls.
7. Liverpool hospital dominates the area on the opposite bank of Moore Point with a mixture of 3-10 storey institutional buildings of varying materiality.
8. Industrial streetscapes with low-lying manufacturing warehouses.
9. Industrial equipment (waste-water treatment) set within fields of private open space.



3.16 Heritage

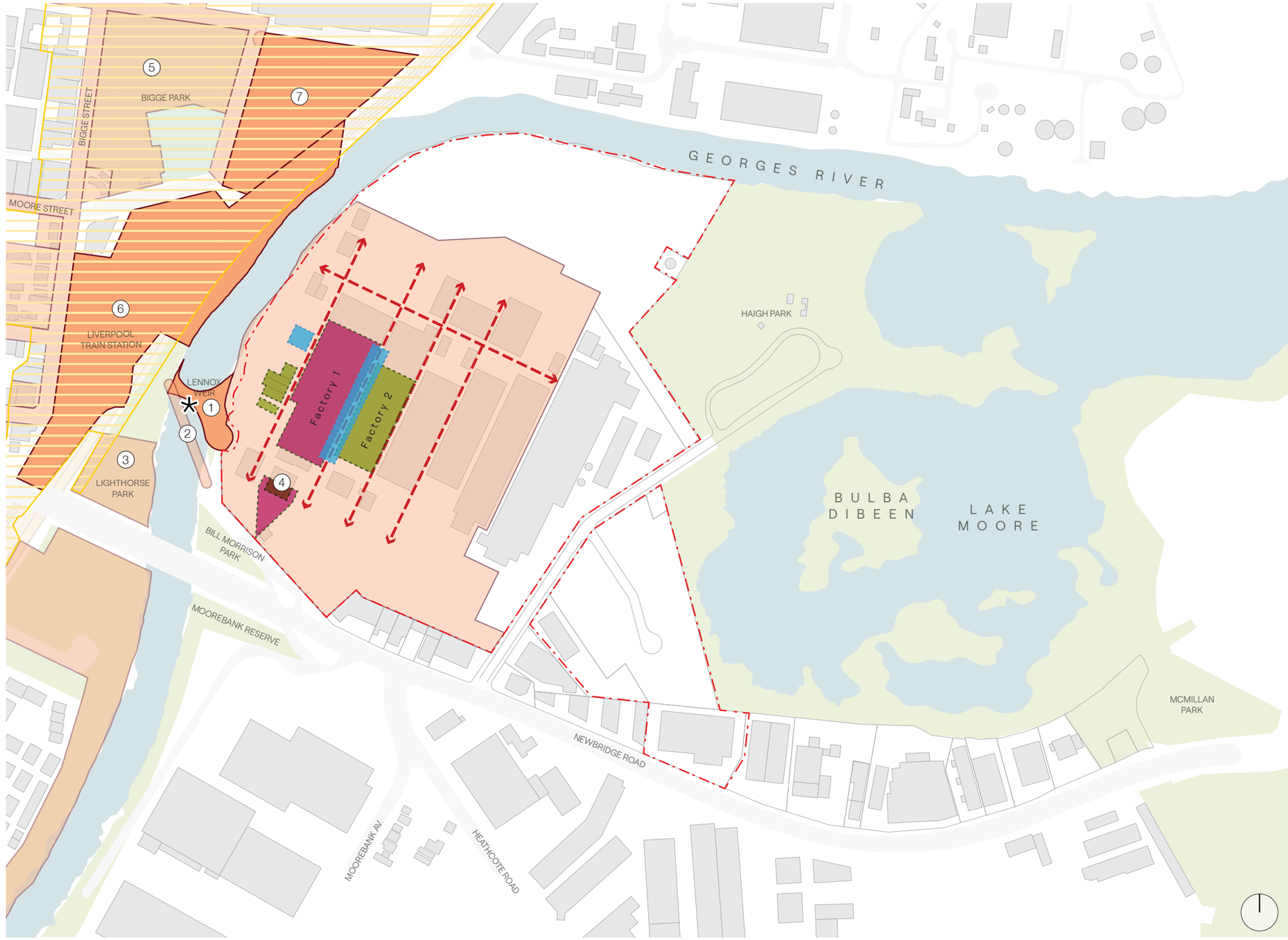
The site and its context feature a number of heritage items and conservation area designations. Liverpool Weir is one of the oldest structures in NSW and was constructed in 1836 as a source of fresh water for the town and hinterland. The site itself was occupied by Pirrelli Power Cables and MM Cables, which were the first electrical factories in Australia, and were important for manufacturing during WWII. In addition to the heritage listed street grid of Liverpool, key items include:

1. Lennox Weir (LEP87)
2. Bridge Pylons (LEP86)
3. Lighthorse Park (LEP70)
4. MM Cables Admin Building (LEP76)
5. Bigge Park (LEP82)
6. Old Liverpool Railway Station (LEP72)
7. Liverpool College (LEP80)

The Liverpool Weir has also been identified as a significant artefact under the Aboriginal Heritage Information Management System, as a former camp site. Information on this page is informed by the work of GBA heritage consultants and their reports (2016 & 2021).

Key findings

- Potential to maintain the footprints of factory buildings on site by maintaining references to the existing grid. This could be achieved through integrating the proposed built form, streets, spaces and reinterpretation in the public domain.
- While Liverpool Weir has long ceased its primary function, it is a major placemaking opportunity as a leisure space with historical references.
- Potential for adaptive reuse and interpretation of the MM Cables Administration Building (4), riverfront factory buildings Factory 1.



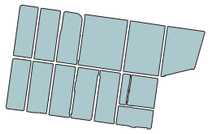
- Planning Proposal boundary
- heritage listed (LEP)
- state heritage listed
- conservation area
- ‘high’ significance structures (GBA 2023)
- ‘moderate’ significance structures (GBA 2023)
- structures of value (SJB 2023)
- Aboriginal heritage significance
- existing grid

3.17 Urban form and heritage

The gridded street layout of Liverpool is a definitive element of Liverpool's urban form and its associated heritage listing. James Meehan as well as Robert Hoddle had roles in surveying and documenting the original grid respectively.

"Although key elements of the new town of Liverpool had been decided upon in 1810 [by James Meehan] and surveyed in 1814-1815, the first full plan of the town was not presented to Governor Macquarie for his approval and signature until 1819. The 1819 plan, by an unamed surveyor, shows a fully developed street system, in an L shape enforced by the great bend on Georges River. Some of the names must have been newly introduced in 1819 (Bigges Square, Bigges Street and Scott Street), but others, such as Elizabeth, Macquarie and George Streets, had been common in other new towns from 1811 onwards. The two areas shown as reserved public squares both lie, unusually, on the periphery of the town" (p.18 Maquarie's Towns by Ian Jack 2010).

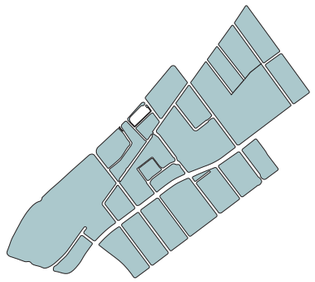
Moore Point has a grid which differs from the adjacent Liverpool City Centre grid, as it is more aligned to the Georges River. The grid was established according to crop rows and field delineations which later defined the form of the cadastral grid and factories. The diagrams to the right illustrate a range of grid orientations highlighting the fact that the 'Hoddle grid' has no specific orientation and grids are usually a product of their immediate landscape, topographic features and prevailing planning theories of their time (i.e. Vitruvian principles).



Liverpool

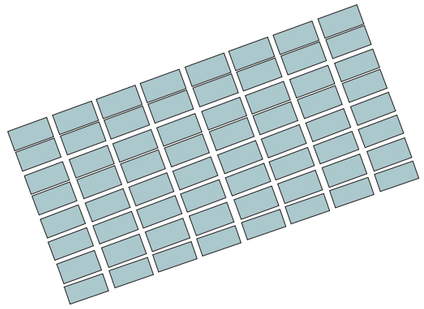
8° off north 'Meehan grid'

(later documented by Hoddle)



Campbelltown

35° off north 'Hoddle grid'



Melbourne

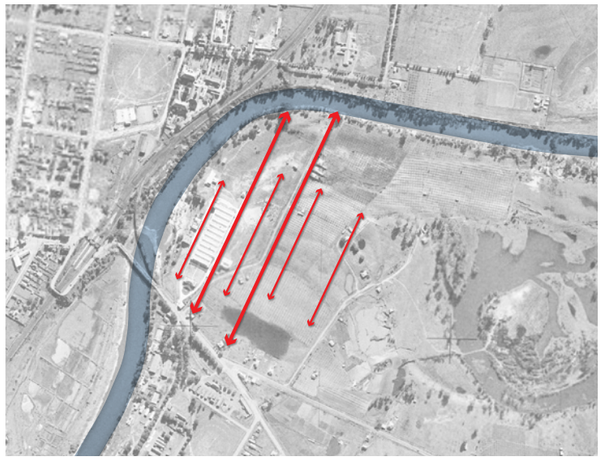
20° off North 'Hoddle grid'

Barcelona

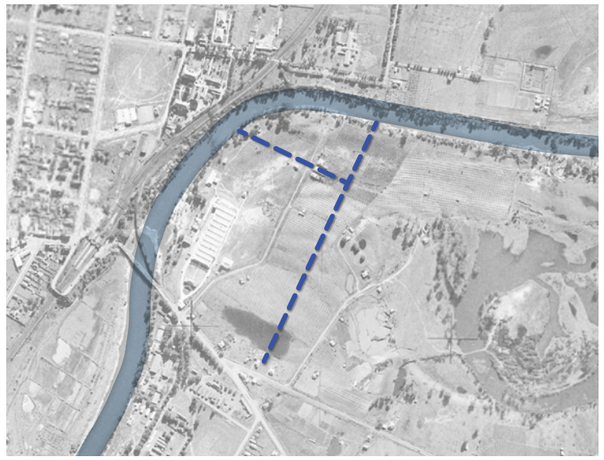
45° off north 'Cerda grid'

Key findings

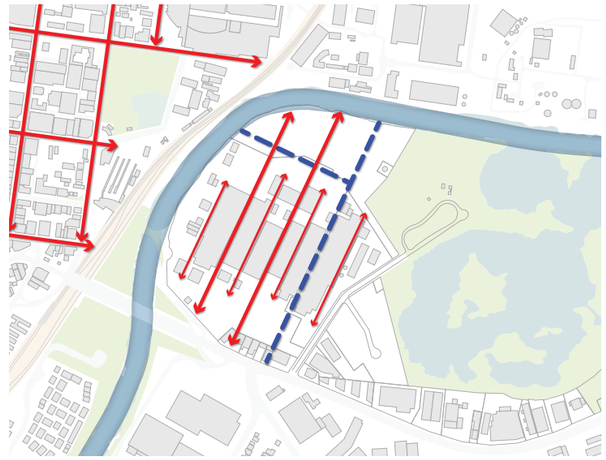
- Urban street grid of Liverpool is 8° off north.
- Moore Point crop, factory and cadastral grid is 25° degrees off north.
- Liverpool grid is perceptually indiscernible when standing on the Georges River Bank of Moore Point.
- Moore Point grid originates from place-specific factors and should be kept as intact as possible.



[1] Moore Point 1943 factory, crop and orchard rows on 25° degrees off north. Note Lake Moore and Haigh Park were originally Oxbow lakes and wetlands which became sandmines



[2] Moore Point 1943 original cadastral grid also on 25° degrees off north

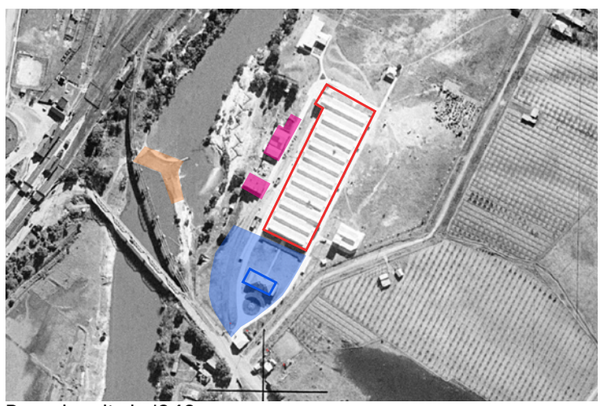


[3] Current Moore Point grid originates from the crop rows, factory grid and responds to the Georges River in contrast to the Liverpool grid

3.18 Heritage site principles

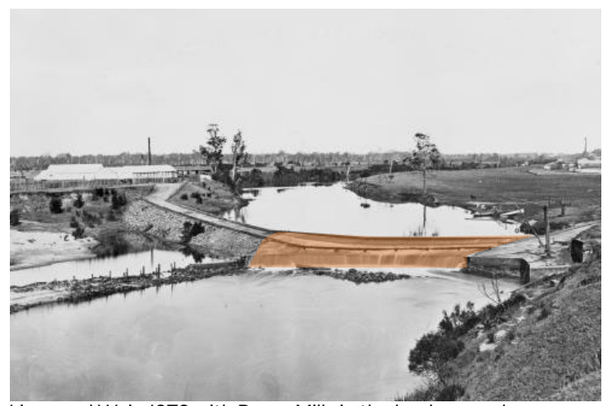
Please refer to the GBA heritage report (2021) for further detail on site principles outlined below. Note further heritage investigation will be pursued at detailed DA stage to corroborate and realise principles outlined below.

Prysmian site in 1943



Prysmian site in 1943

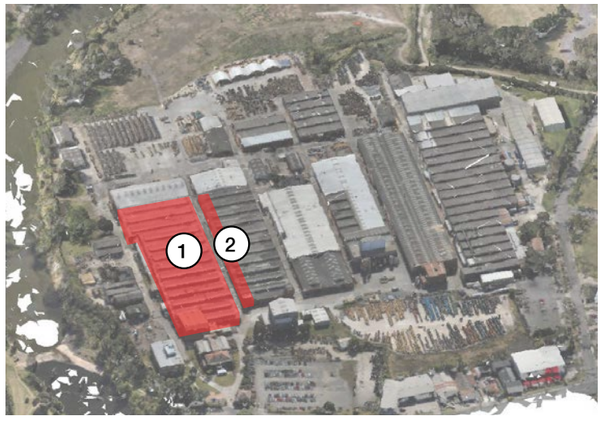
Site in 1975 as industrial activity expands throughout the area



Liverpool Weir, 1876 with Paper Mills in the background

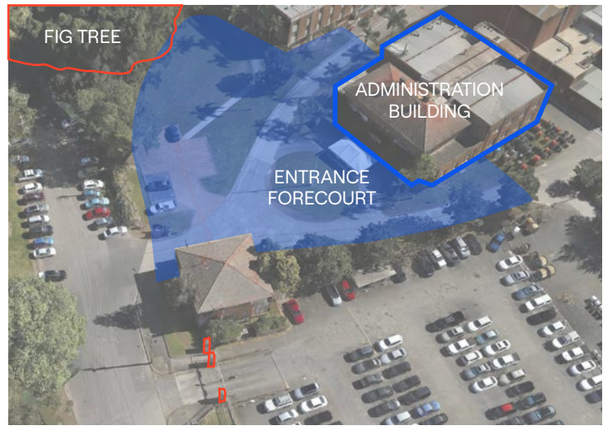
Site grid, factory laneways and Lake Moore

- Distinctive cadastral, crop and factory grid of the site should be referenced in the built form and public domain.
- Man made Lake Moore (former sandmine) should be enhanced and celebrated.
- Two easternmost factory laneways should be retained and restored where appropriate. This includes elements such as:
    - Significant facades of adjacent buildings (see 2).
    - Concrete laneway floor.
    - Signage and industrial equipment.
    - Other distinctive elements of the streetscape.



Early factory buildings

- The original easternmost 1940's factory building (1) should be retained, restored and adaptively reused where appropriate.
- A sliver of the less significant factory building (2) should be kept to retain the condition of the laneway.
- Where possible, machinery within the factories should be kept on site and moved to an appropriate location if necessary.
- Less significant elements or facades can be restored or removed subject to heritage report.



Factory administration building, forecourt and heritage columns

- Both portions of the administration brick building should be retained and adaptively reused.
- Less significant elements or facades (i.e. rear fire stair) can be restored or removed subject to heritage report.
- Large fig tree near boundary should be retained.
- Heritage columns at the entrance should also be retained.

Ancillary factory outbuildings

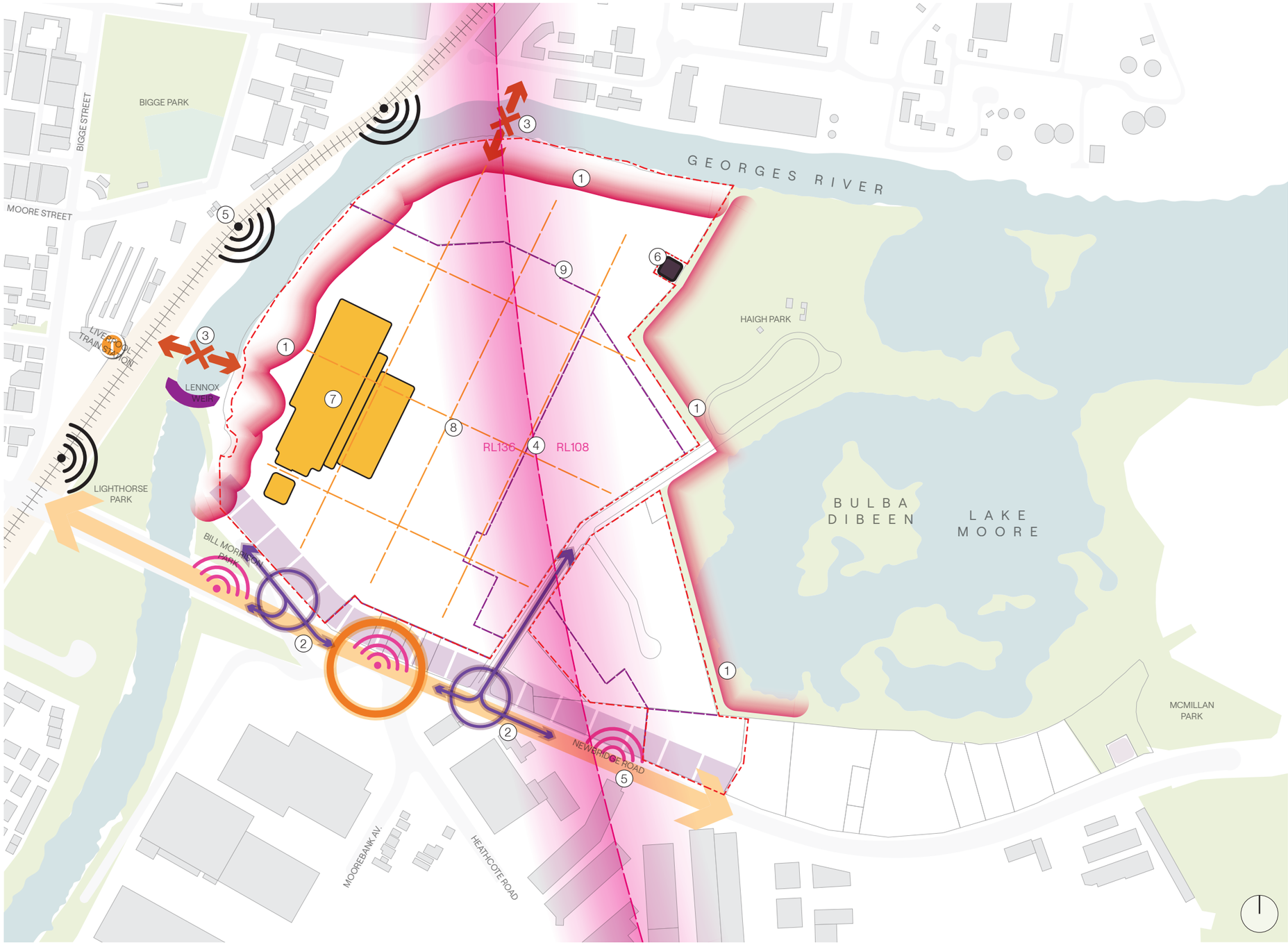
- The distinctive outbuildings (pink) should be retained and adaptively reused if possible.
- The two northernmost outbuildings (yellow) are in poor condition, clad in asbestos and do not contribute to the fine grain nature of the laneway. Further inspection at detailed DA stage should confirm whether these buildings should be retained especially relative to bank stablisation works.

3.19 Constraints summary

The drawing to the right spatially illustrates the site-specific parameters and constraints. Each feature requires an approach to address or solve the issue. Constraints can often be interpreted as having a positive resolution, and careful consideration of their attributes often results in place-specific design solutions. Constraints for Moore Point include:

1. Flooding - The site is prone to flooding from the Georges River and Lake Moore. A 'building limit line' according to engineering and ecological advice should be established to ensure development is appropriately located relative to the vegetated riparian zone along both sides of the river.
2. Vehicular accessibility - Access to the site is currently limited to Haigh Avenue and Bridges Road. Future site access relative to anticipated traffic movements should be considered.
3. Pedestrian accessibility - The site currently has poor pedestrian connections to its surrounding northern and western context.
4. Height restrictions - Aeronautical advice has identified the site has Pans Ops constraints which should be considered with any development.
5. Noise impact - mitigating noise from vehicles along Newbridge Road and trains through Liverpool train station should be considered.
6. Infrastructure - a pumping station located on the north-eastern corner of the site and adjacent to Haigh Park sets constraints on the surroundings.
7. Heritage - Heritage buildings within the site provide unique constraints and opportunities.
8. Heritage grid -A site grid derived from the heritage elements provides constraints on configuration and orientations of the site.
9. Land ownership - Division and distribution of land ownership on the site provides challenges in delivering desirable outcomes in an equitable manner due to factors such as differeing site conditions.

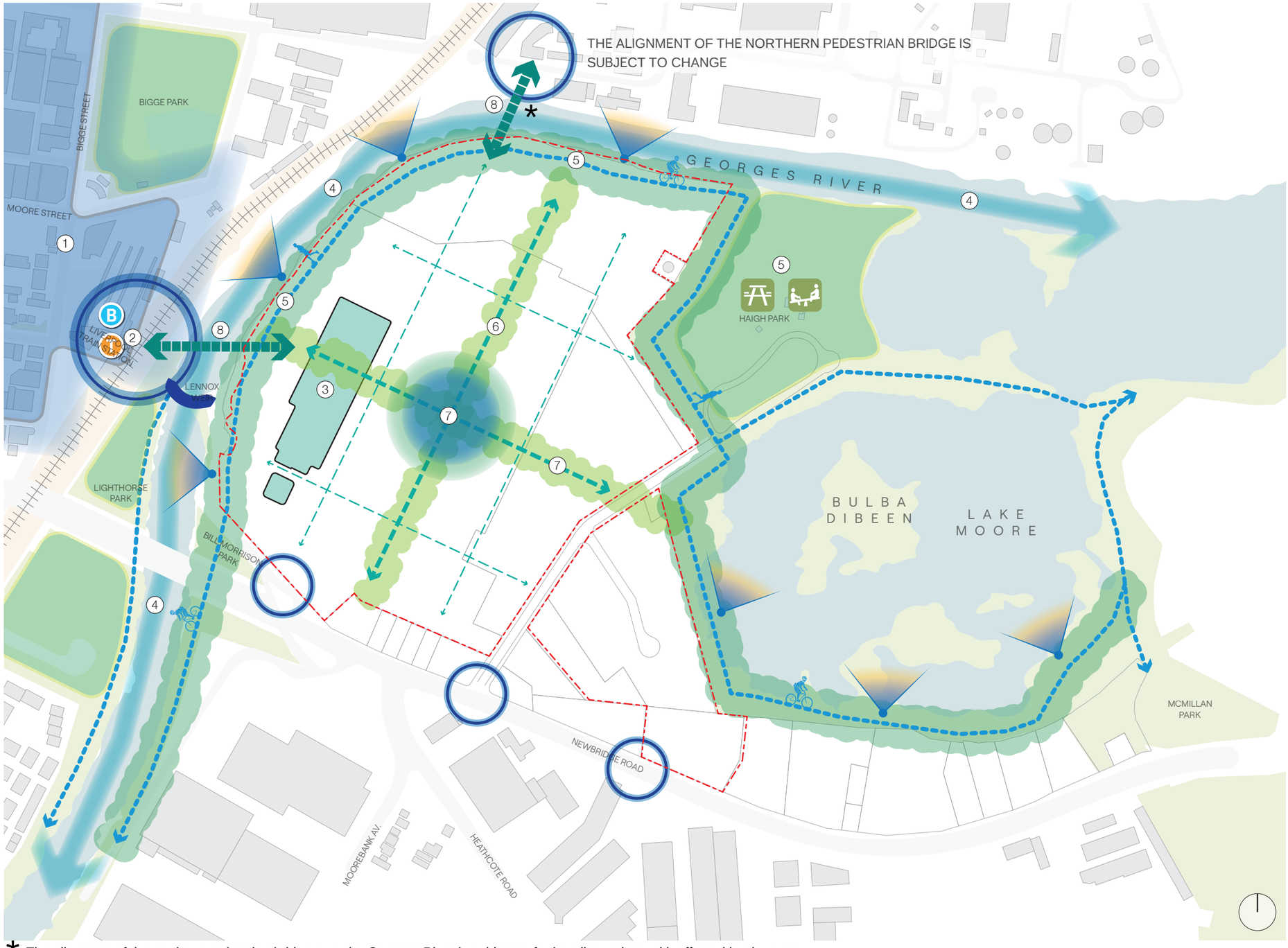
- Planning Proposal boundary
- Liverpool city centre
- Train station
- Liverpool Weir (heritage)
- Poor Connection
- Noise from train
- Noise from traffic
- 1% AEP flooding & Lake Moore flooding
- Major intersection
- Minor intersection
- Heritage factory
- Pumping station
- Newbridge road setback
- Cadastral boundaries
- Aeronautical height limitation
- Heritage grid



3.20 Opportunities summary

Moore Point has an array of opportunities which should be integrated into the masterplan. Key opportunities include:

1. Proximity to Liverpool City Centre - Moore Point is adjacent to Liverpool City Centre and associated employment opportunities and services such as Liverpool Hospital.
2. Liverpool Train Station and bus Interchange - located on the adjacent bank offer fast train services to the Sydney CBD and an array of regional bus routes. Improved connections across the river could establish direct connections from the site to the station.
3. Heritage - remnant factories, river weir, viaduct pylons and especially the existing factory and crop grid are significant historical elements to be integrated into the masterplan.
4. Reconnect to the Georges River - The river and vegetated banks wrap the eastern and northern edge of the site which offers an immense opportunity for riparian recreational spaces. For aboriginal peoples and colonial settlers the River was a vital source of food, transport route and place of leisure. Moore Point can reconnect the residents and workers of both Liverpool and Moorebank to the Georges River.
5. Lake Moore and Haigh Park - Together these natural assets provide sporting pitches, playgrounds, kilometres of recreational pathways which join into the broader Moorebank and Liverpool recreational path network.
6. Public green spine - A north-south and east-west connection through a green spine provides the public with accessibility to amenity, the waterfront, Haigh Park and the greater context.
7. Communal heart - A central 'heart' the meeting point of the green spines provide the opportunity for a community hub that benefits the local public.
8. Cross-river connections - Cross-river connections provide the opportunity to link Moore Point to the Liverpool City Centre. Note these are conceptual and subject to detailed design investigation.



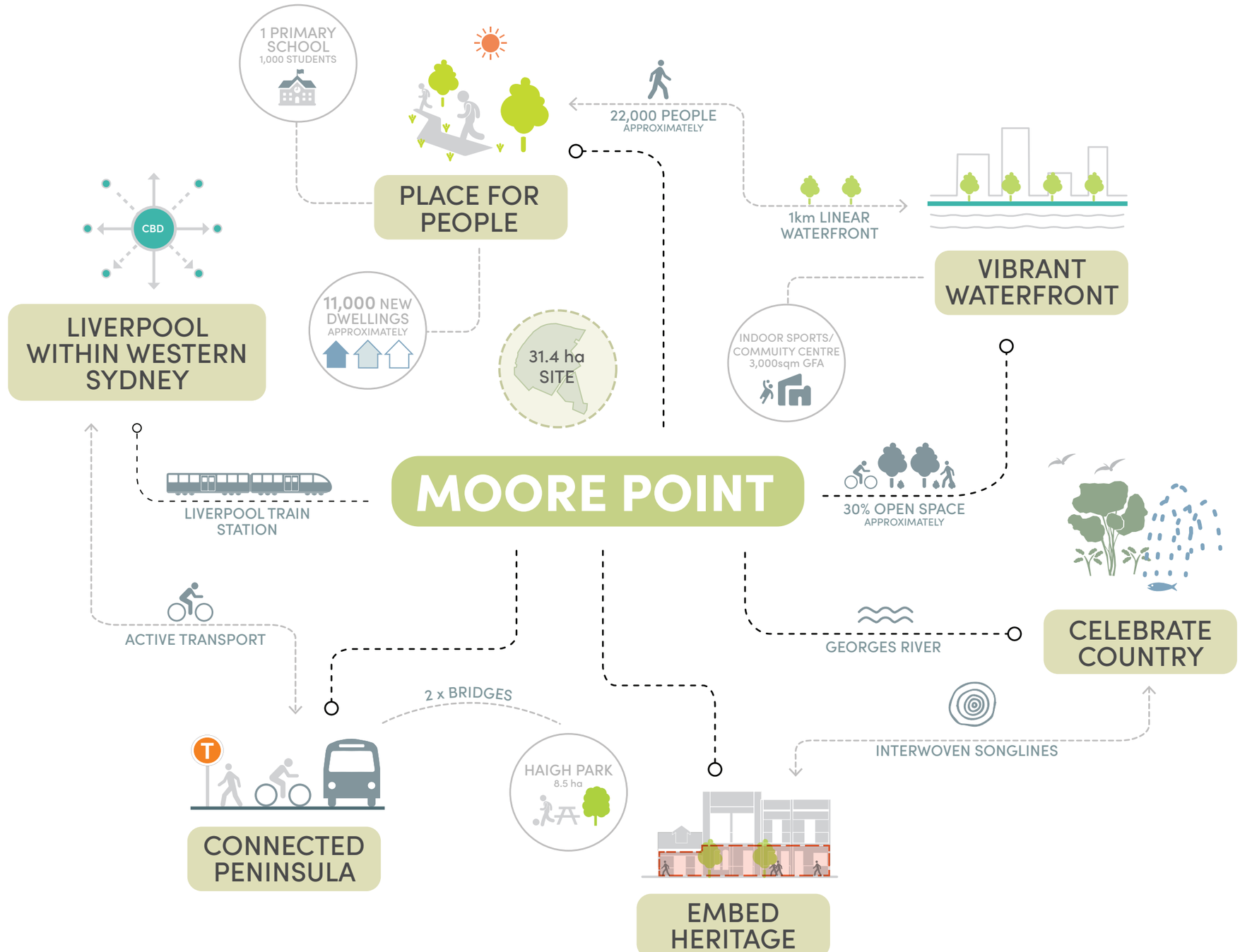
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

4 Vision and Concept

This section outlines the Vision for Moore Point as a vibrant waterfront development that strengthens Liverpool City Centre by transforming and enhancing country, landscape and heritage.

4.1 Vision

This diagram serves as a visual representation of the overarching urban design vision. It conveys the essence of the framework, providing insight into how the key principles and elements intersect to guide the transformation of Moore Point.



4.2 Design principles

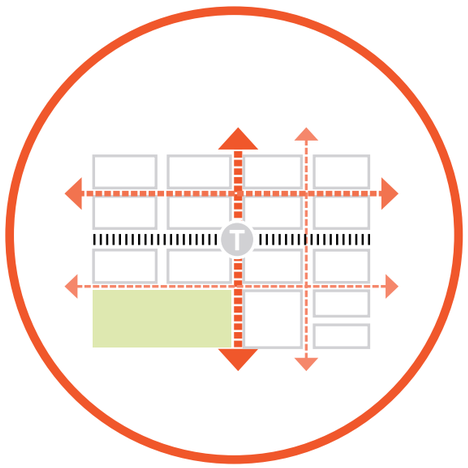
These design principles should guide development throughout the Georges River North Precinct.

01.

A memorable place for everyone

- Public spaces should be designed to accommodate day and night events as well as temporary and informal activities.
- Buildings, streets and spaces should be arranged to promote passive surveillance in the public domain, according to principles of CPTED.
- Indigenous, colonial and landscape history should inspire design at all scales especially detailing of public domain and building facades.
- Public art, such as murals, sculptures, mosaics and interactive art should be integrated into the public domain to create a rich 'sense of place'.
- Heritage elements, structures and infrastructure should be repaired and integrated into the built form and public domain.

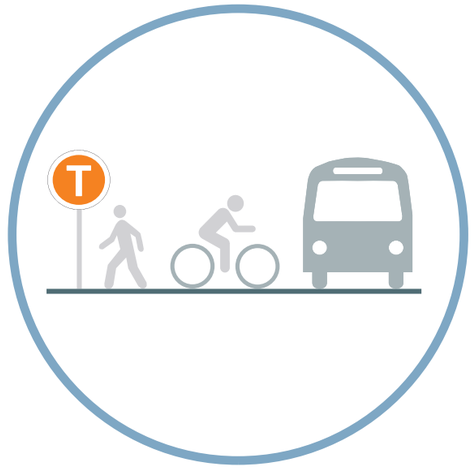
02.



Strengthens Liverpool City Centre

- The urban structure of Moore Point should form a connected sequence of streets and spaces, which complement and integrate with Liverpool City Centre.
- The proposed Moore Point skyline should consider the current and future growth of Liverpool City Centre, and desired future character for the Greater City of Liverpool.
- Streets and landscape should encourage east-west movement from Liverpool City Centre, through the train station to the Georges River corridor, Lake Moore and the green spaces beyond.
- Commercial, retail, civic and institutional buildings should complement the existing landuse configuration of Liverpool City Centre.

03.



Transport oriented development

- New transport infrastructure should be considered proportional to the expected population of the precinct (i.e. bus interchange) and improve access to Liverpool City Centre.
- Streets and spaces should connect the train station, and bus interchange, and harness the associated pedestrian movement to activate the public domain.
- New connections such as bridges should be established over the Georges River and major roads into surrounding areas to improve regional connectivity.
- Bike and pedestrian paths should create loops linking the Georges River and Lake Moore to public transport and the broader network of green public spaces and recreational facilities.

04.

Connected and repaired landscape

- Public spaces should harness the unique existing natural aspects of the site such as the Georges River, Lake Moore, Haigh Park and surrounding spaces.
- Streets and spaces should consider the site, climate, aspect, topography, vegetation and watercourses to create microclimates to encourage pedestrian activity throughout the year.
- Native vegetation should be prioritised, although evergreen and deciduous trees can be used in site specific conditions.
- Planting should strengthen the legibility of the grid and complement the interfaces with buildings and public spaces to shade them at appropriate times.
- Water should be harnessed according to WSUD principles to improve the environmental performance of streets, promote biodiversity, improve pedestrian amenity and filter runoff to improve the water quality of the Georges River Catchment.
- Remnant pollution such as acid sulfate should be removed, capped or treated and rehabilitated using appropriate vegetation.

4.3 Design principles

These design principles should guide development throughout the Georges River North Precinct.

05.

A mix of strategically located land uses

- Functional requirements such as entrances and servicing associated with different landuses should be appropriately highlighted or screened to complement the streetscape.
- A mix of complementary landuses should be clustered and stacked to create a vibrant public domain throughout the day and night.
- Compact, commercial frontages should be clustered around public spaces to promote activity.
- Landuses should satisfy the needs and requirements of the surrounding neighbourhood, mitigating negative aspects, such as noise and protecting visual privacy.

06.

Variety of site specific building typologies

- The built form must respond to the scale and density of existing context and desired future character.
- Buildings should define the public realm through articulation, and facade detailing and the interface should reflect and establish the desired street character.
- Building setbacks and podiums should be used to minimise visual bulk where possible and create fine grain street frontages, especially on streets that experience significant movement.
- Massing should be carefully designed to ensure solar access in accordance with the Apartment Design Guidelines as well as ensure privacy and amenity of dwellings is not compromised.
- Built form and facade articulation should create a comfortable microclimate for dwellings and the public domain.
- Built form should clearly delineate public spaces, internal communal spaces and private spaces and ensure dwellings provide passive surveillance where appropriate.

07.

Public streets and spaces for people

- Street design and detailing should prioritise pedestrians and cyclists by slowing vehicular movement to promote cycling and walking.
- Pedestrian links and cycle routes should be shaded and visually interesting to encourage physical activity and create and integrated active transport network.
- Details and materials of footpaths, cycling routes, crossovers, entry thresholds and public furniture must be suitable for the elderly, disabled and children during all weather conditions.
- Public domain structures, elements, lighting, signage and furniture should encourage tactile engagement and encourage intuitive wayfinding.

08.

Staged development to unlock new pieces of the city

- The development sequence of sites should consider access to public transport such as the pedestrian bridge to Liverpool Train Station.
- Development of lots should be staged to ensure the viability of retail and commercial landuses relative to the number of new residents and connections to Liverpool CBD.
- Multifunctional structures that can be adaptively changed should be considered to accommodate different uses such as commercial offices, retail and carparking to provide flexibility over time.
- Development should be staged to create unified streets and ensure infrastructure and public amenities are provided alongside residential development.
- Catalyst developments and programming can promote a range of small and large businesses, events and different financing models could be considered throughout the development.

4.4 Complementing the city

The Georges River is the focus of the place and 'public living room' for visitors and residents. As it sits at the interface between the CBD and Moore Point, it is a natural attribute that needs investment and attention, and a project of this scale has the capacity to breathe new life into this natural asset and establish Liverpool as one of the world's great River Cities.

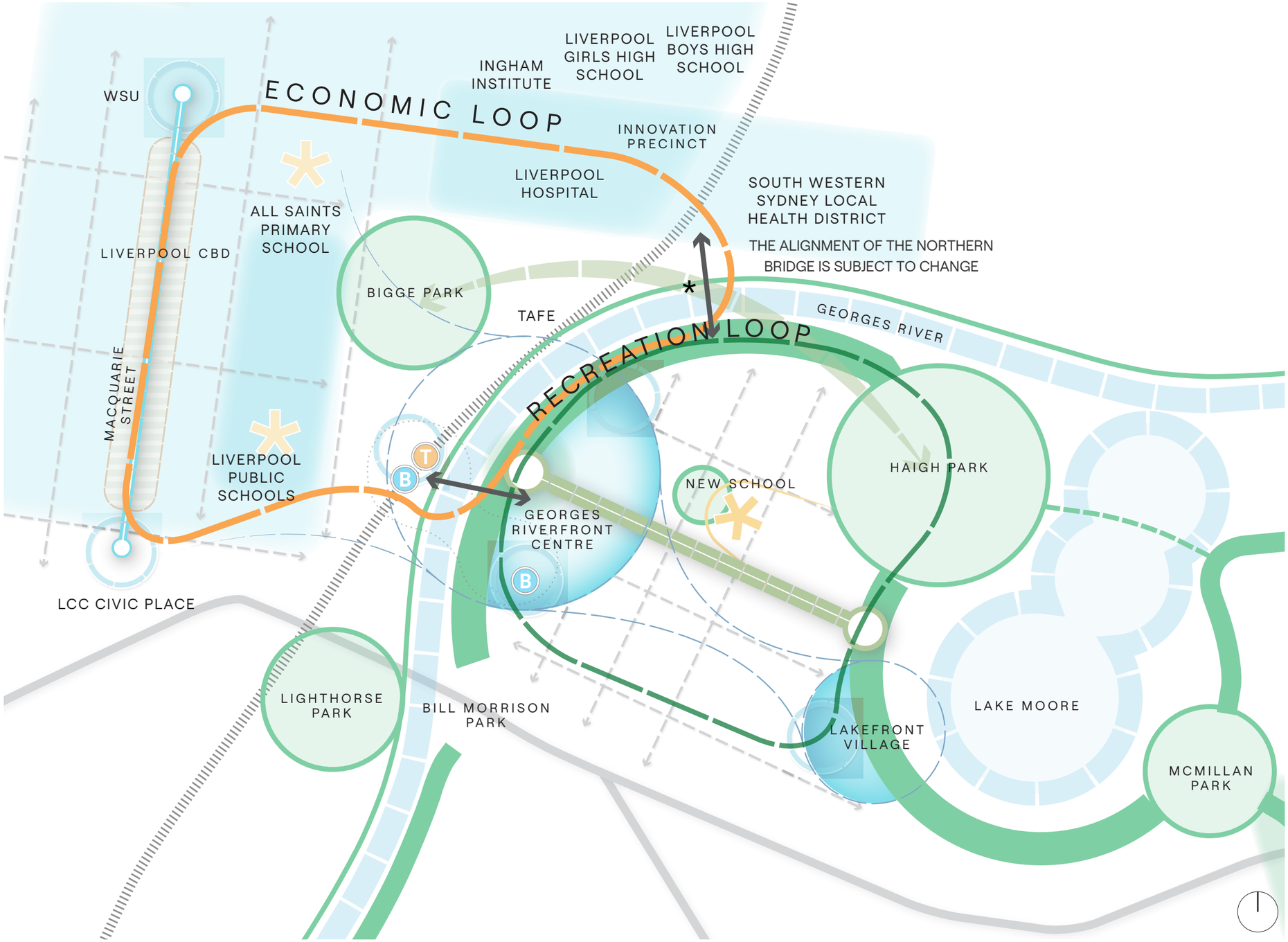
Moore Point will complement and strengthen the Liverpool City Centre with two intersecting 'loops' enabled by bridges over the Georges River.

The 'Economic Loop' will connect the vibrant riverfront of Moore Point through the innovation Precinct to the main spine of Macquarie Street and Liverpool Train Station. This connects institutions including WSU, primary schools, commercial and retail core, Liverpool Council Civic Place , Liverpool Hospital, Ingham Institute, and UoW.

The 'Recreation Loop' establishes Liverpool as a 'river city'. It links the existing and proposed places in Liverpool to the revitalised waters edge of the Georges River which winds eastwards to Haigh Park and Lake Moore. Establishing this dual loop relationship ensures Liverpool City Centre gains access to the latent amenity of the river and major parklands while Moore Point gets good access to services, employment and transport in the City Centre.

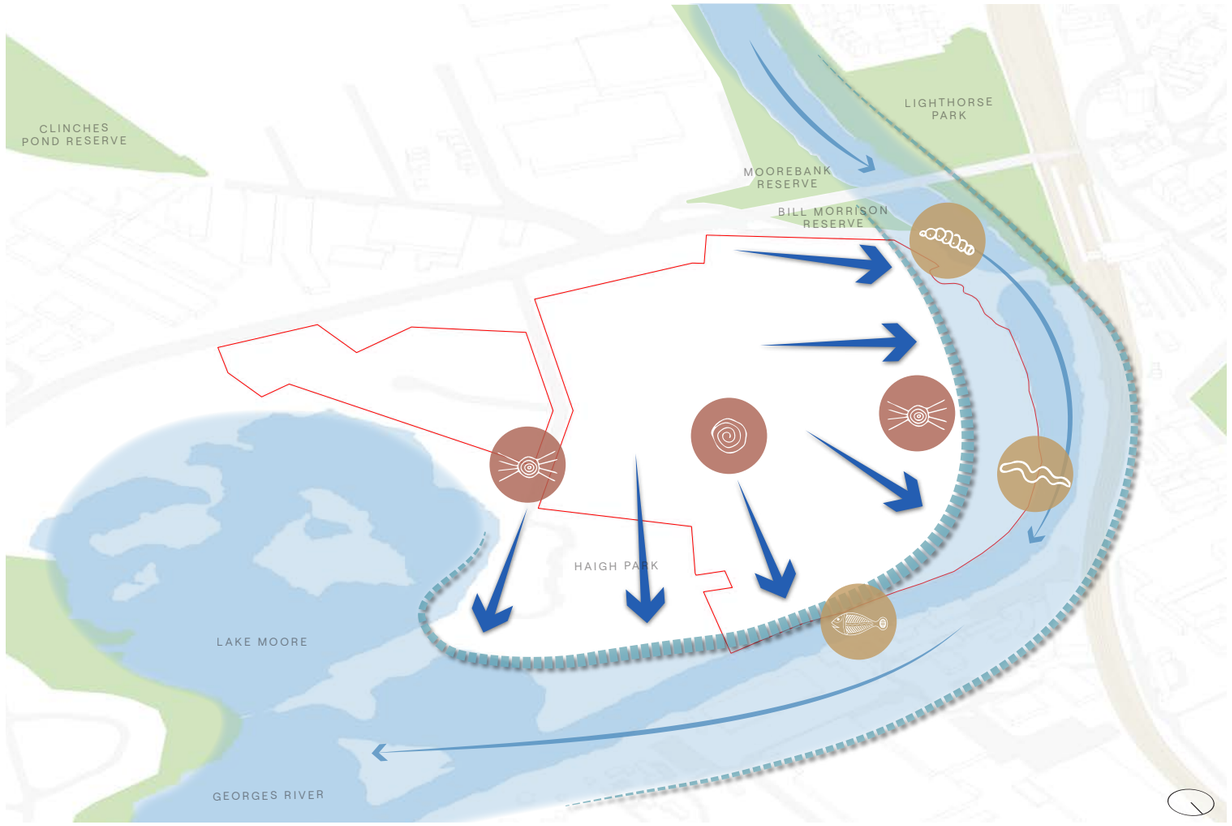
Place-specific experiences, destinations and spaces will support the needs of the Moore Point community and Greater Liverpool. These can be embodied in the adaptive reuse of the heritage buildings, opening up the riverfront to the public for the first time in more than a century, and creating a series of new and re-imagined spaces that activate the river, the peninsula and surrounding neighbourhoods.

The following pages summarise the key conceptual moves which have been guided by the vision and principles to shape the masterplan.



*The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

4.6 Masterplan big moves



1. Refocus the river and embed Country

- Incorporate Indigenous perspectives into the design of public spaces in Moore Point, ensuring that Aboriginal identity is embedded as a holistic concept.
- Celebrate the river and surrounding riparian environments through culturally responsive public art, wayfinding measures or the reinstatement of endemic vegetation species.

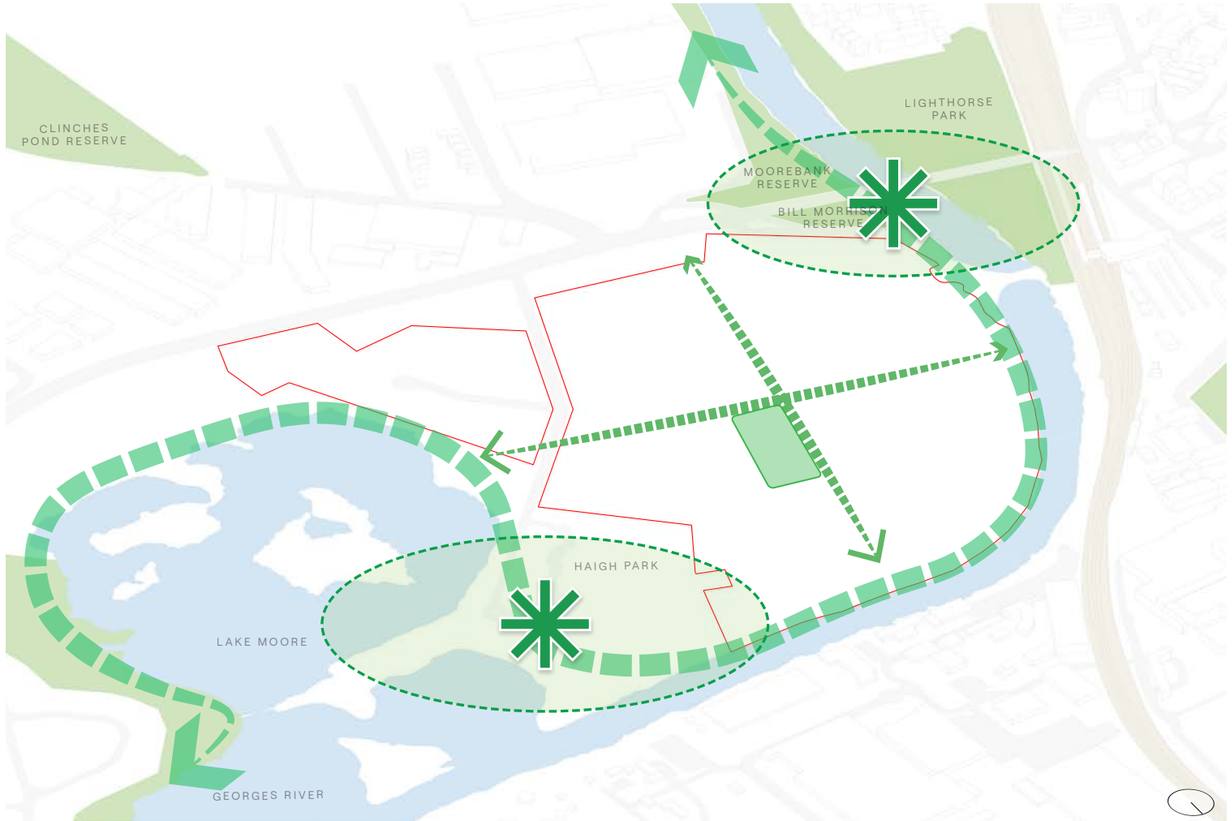
Gosford Waterfront Leagues Park

2. Celebrate heritage and align Moore Point to site grid

- The Moore Point urban grid originates from farming and factory uses that date back to the early nineteenth century. The street layout is parallel to the bend in the Georges River which segments the differing street grids of Liverpool, Bigge Park and the hospital precinct.
- The Moore Point grid is 25° off north compared to the colonial street grid of Liverpool, which is 8° off north.

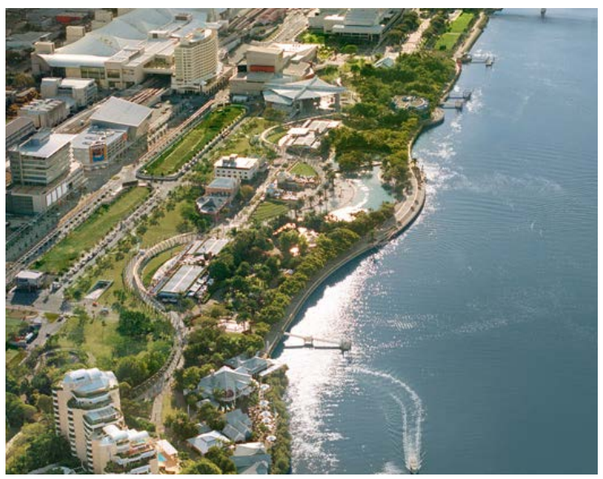
Eveleigh Carriage Works

4.7 Masterplan big moves

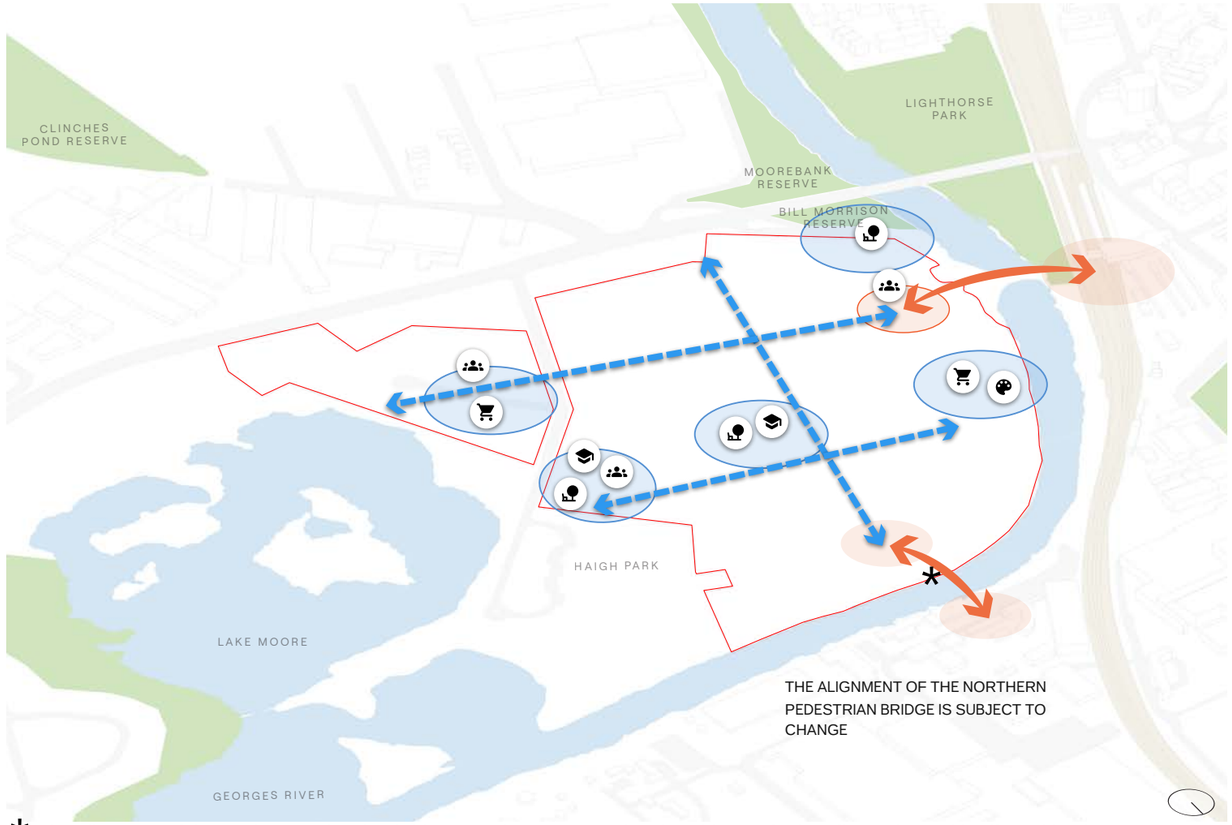


3. Establish a network of open space

- Parks create sensitive riparian buffers around the edge to the Georges River and Lake Moore.
- Streets terminate with views to open space, landscape and public plazas.
- Green spine runs through the centre of the precinct connecting 'river-to-lake'.
- Landscaped streets support rain gardens and a dense canopy to cool the city.
- New recreational links to connect the regional waterfront recreational path network.



South Bank Riverside, Brisbane



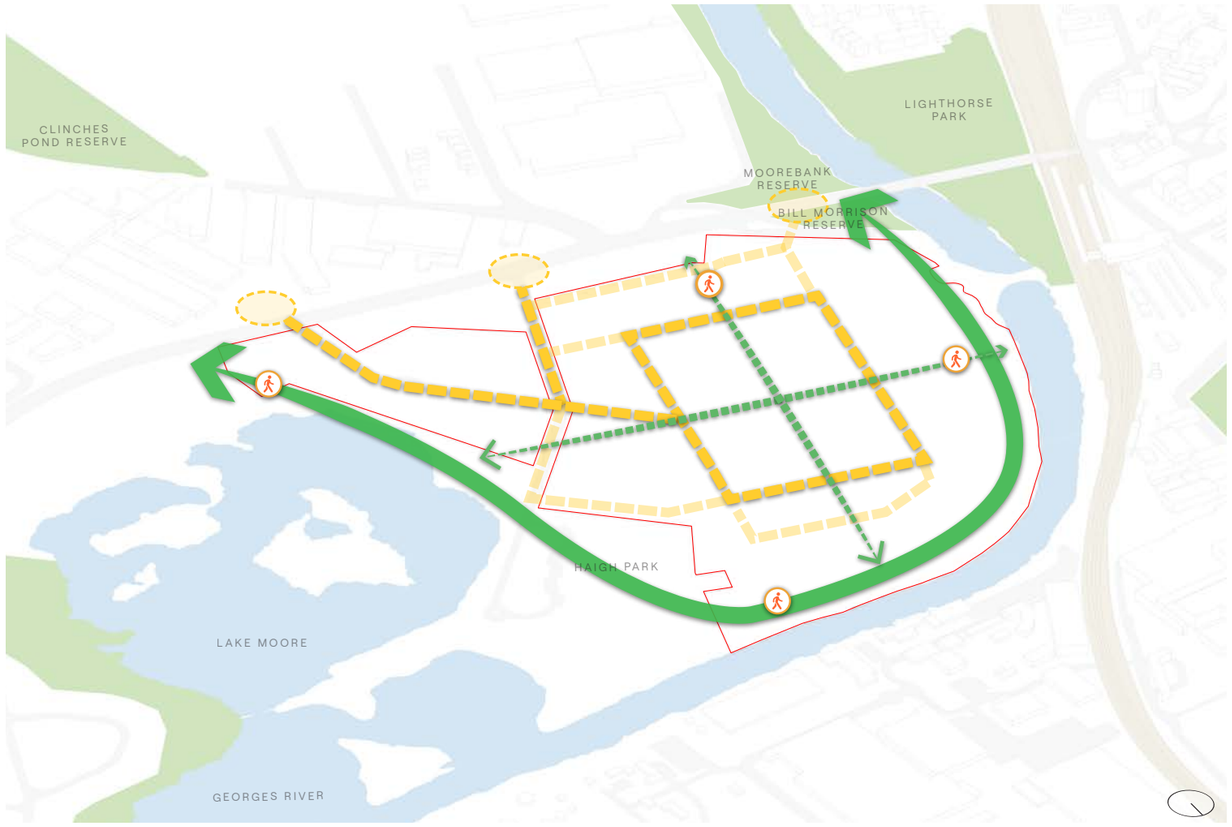
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

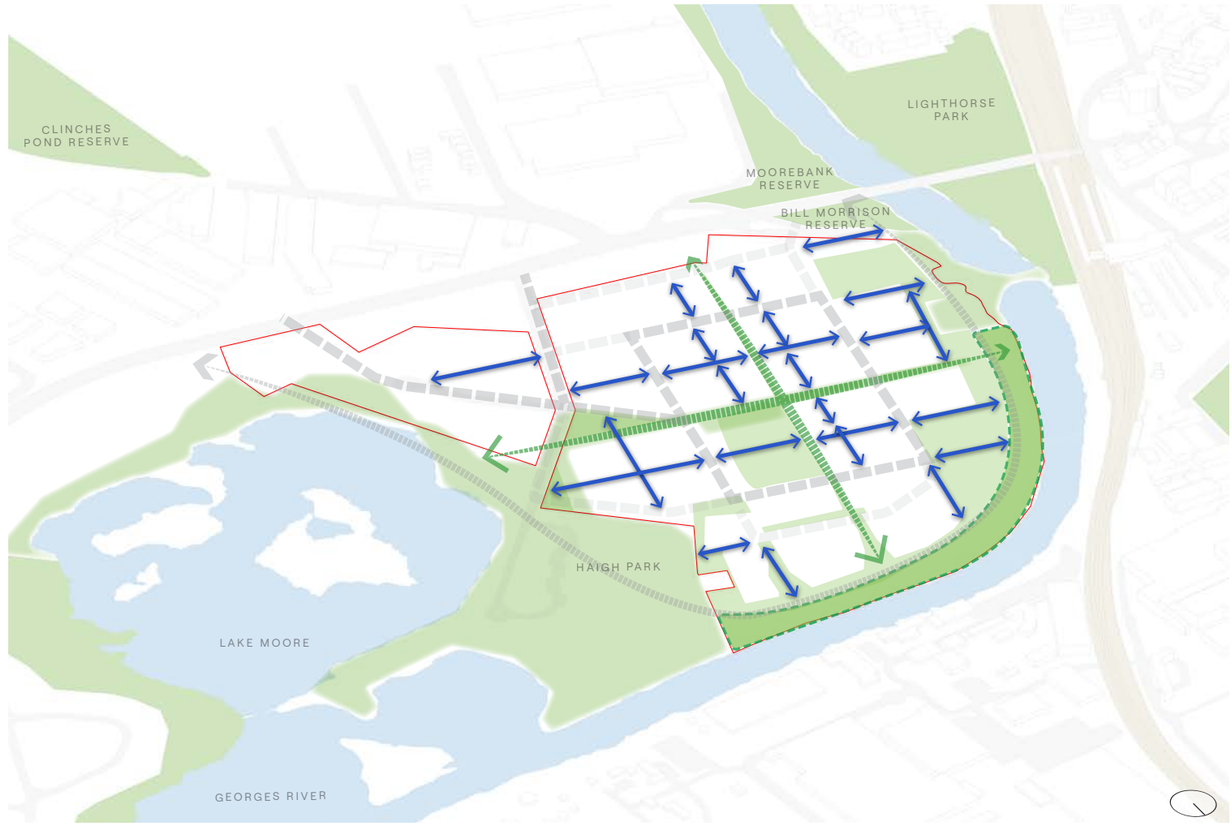
4. Bridge the river and create community anchors

- School as the anchoring piece of infrastructure that forms the heart of the community at Moore Point, providing a multi-purpose space that can also be utilised outside of school hours.
- The school and associated open space fronts the central green spine, a pedestrian oriented thoroughfare that is activated by retail and food and beverage options.
- Additional infrastructure and amenity throughout the precinct will support the school, including larger centres adjacent to Lake Moore and the Georges River on the eastern and southern banks, accessible along the main pedestrian routes.

Circlebroen, Copenhagen

4.8 Masterplan big moves





5. Street hierarchy and boulevards

- Three main axes emerge from the heritage grid to link major elements within and around Moore Point, offering opportunities to reconnect commercial, educational and institutional centres back to the waterfront, as well as creating structure and legibility for the precinct. They include:
  - Linking Haigh Park which is the major green space on Moore Point to the Innovation District to the north of the Georges River.
  - Linking Lake Moore, the intertidal basin to the Georges River next to Liverpool City Centre to make a direct connection along the green spine.
  - Linking the Georges Riverfront Centre, the major new civic space to the Lakefront Village Centre which is the secondary civic space.

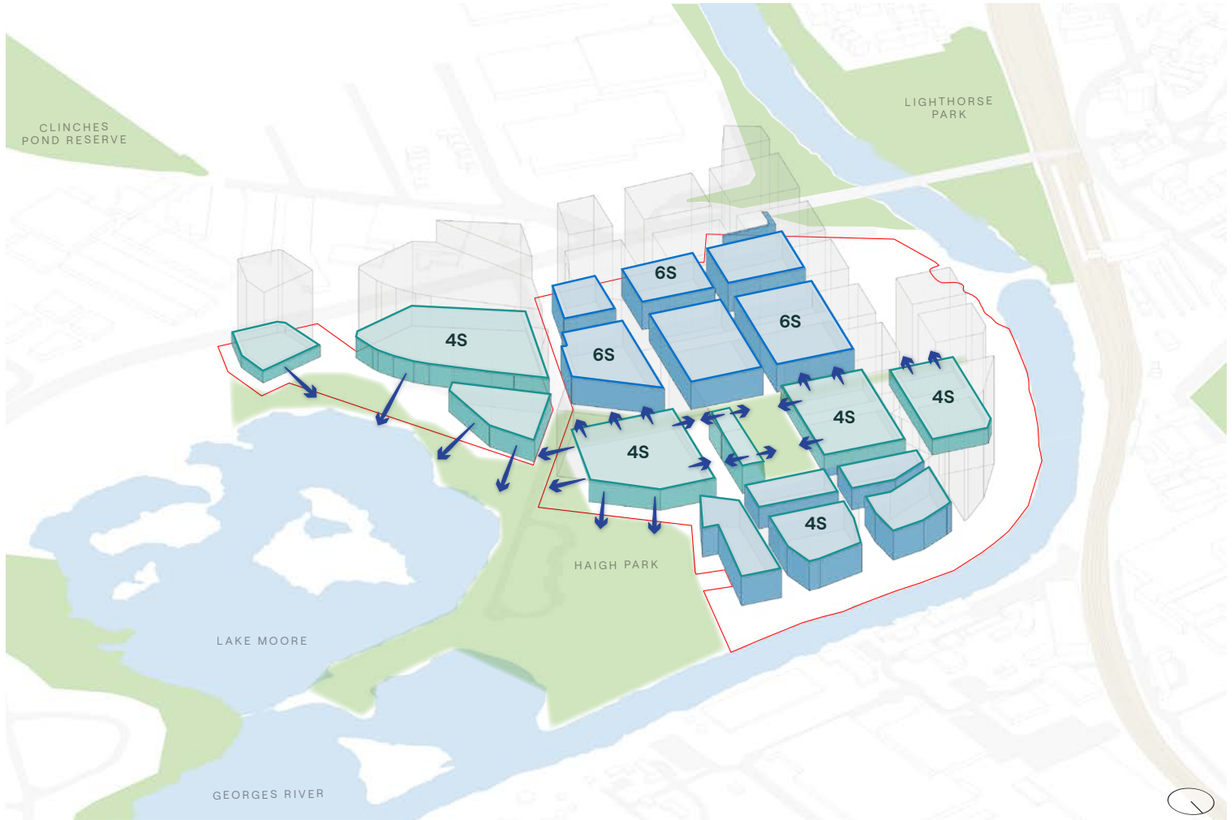
George Street, Sydney

6. Pedestrian lanes and pocket parks

- Access to Newbridge Road via the main collector loop which anchors the hierarchical street grid.
- Three pedestrian bridges connect Moore Point to Liverpool City Centre, Train Station and Liverpool Hospital Precinct.
- Several pedestrian loops are created linking Lake Moore, through the precinct, to Georges Riverfront Centre and over the bridges to Liverpool City Centre.

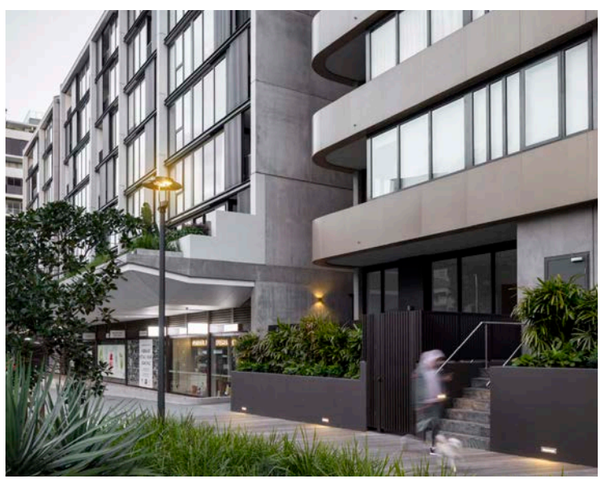
Steam Mill Lane, Sydney

4.9 Masterplan big moves



7. Active and defining podium envelopes

- Activity is promoted at all frontages along the ground plane, with key routes and corners between the eastern edge and western edge of Moore Point public spaces.
- Street wall heights and podium envelopes to address surrounding program and create a variety of amenity.
- Main commercial ground floor space along the western edge, functioning as an identifiable activity hub that activates the riverfront throughout the day and into the evening.
- Program and orientation favours:
    - Haigh Park and Lake Moore as an east facing morning space.
    - Riverfront Park and Lake Moore as a north facing all-day spaces.
    - Georges Riverfront Centre as a west facing evening space.



Waterloo, Sydney

8. Flexible tower envelopes

- Built form is sculpted around the school at the centre of the site, with height transitioning down to Lake Moore, Haigh Park and Georges River and back up to Liverpool City Centre.
- Significant building setback line from riparian waterfront to define public domain.
- Central north-south primary street depressed to maximise solar access into centre of precinct.
- East-west primary street depressed to maximise solar access to green spine.

Waterloo, Sydney

4.10 Moore Point structure plan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

4.11 Illustrative masterplan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

4.12 Future Liverpool illustrative masterplan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

Visualisation

The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

The long riverfront park connects the train station and heritage precinct to Haigh Park and wraps the built form of the precinct

5

Framework Plans

Chapter 5 forms the basis for the DCP controls. The framework plans build on the Moore Point Structure Plan to provide the design and development approach for country, heritage, land use, public space, movement, built form and character.

Framework Plans

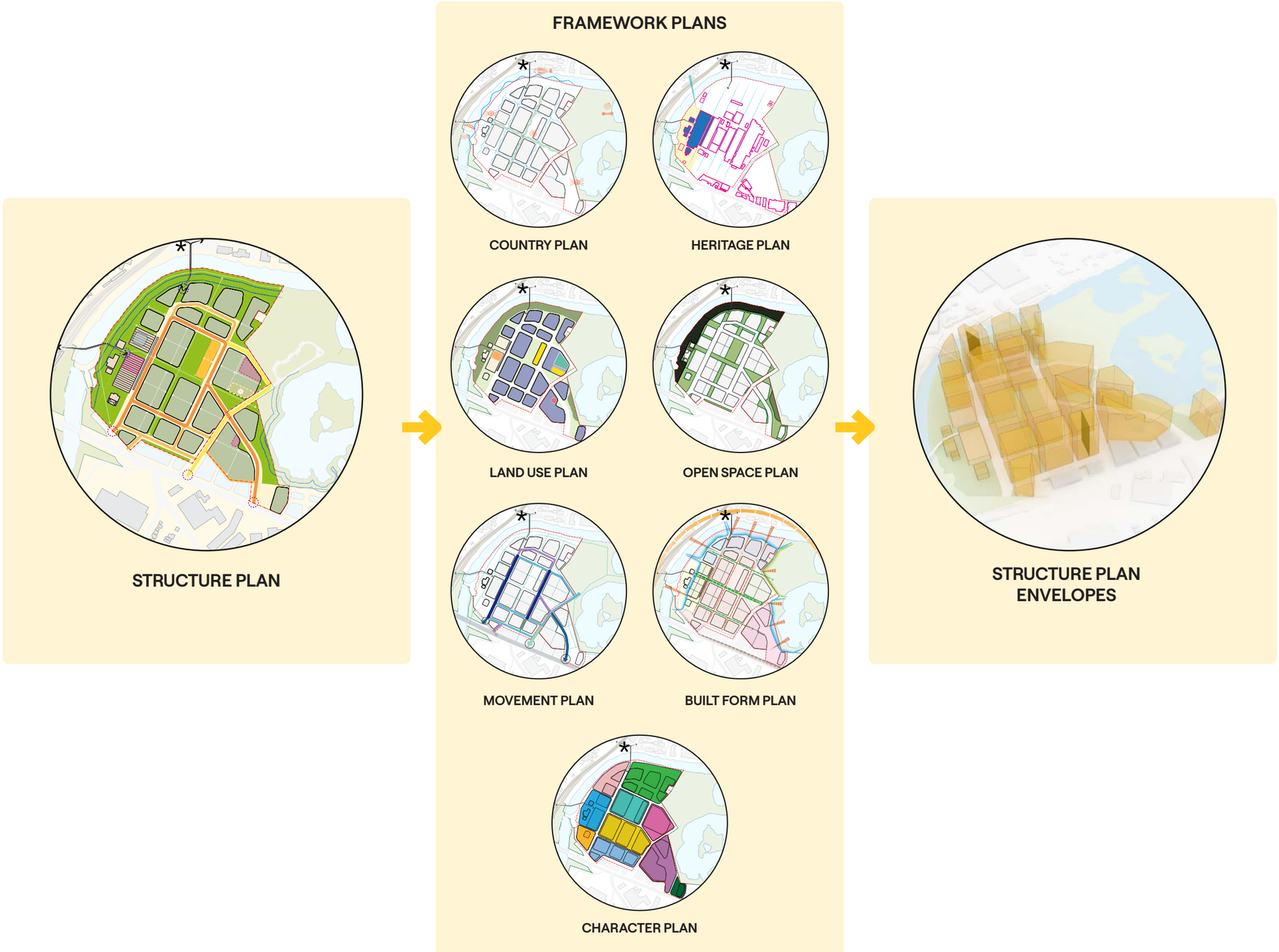
This chapter thematically outlines the framework plans which build on the Moore Point Structure Plan. Each framework plan chapter has important supporting evidence which provides detail and contextualises the approach.

Framework plans include:

- Country
- Heritage
- Land Use
- Public space
- Movement
- Built form
- Character

It is anticipated these framework plans will be:

1. Used as the basis for the framework which will function as a site specific DCP.
2. Underpin the future planning controls alongside other testing and analyses in the planning proposal.
3. Used to derive envelopes which would inform future development proposals in the precinct.



* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

6

Country

The Moore Point Connecting to Country approach has been guided by indigenous perspectives to celebrate the unique landscape of the site.

6.1 Country framework plan

This plan is informed by the work of Indigenous Consultants Yerrabingin and their reading of Moore Point and surrounding Country. Key areas and places which should be guided by indigenous perspectives include:

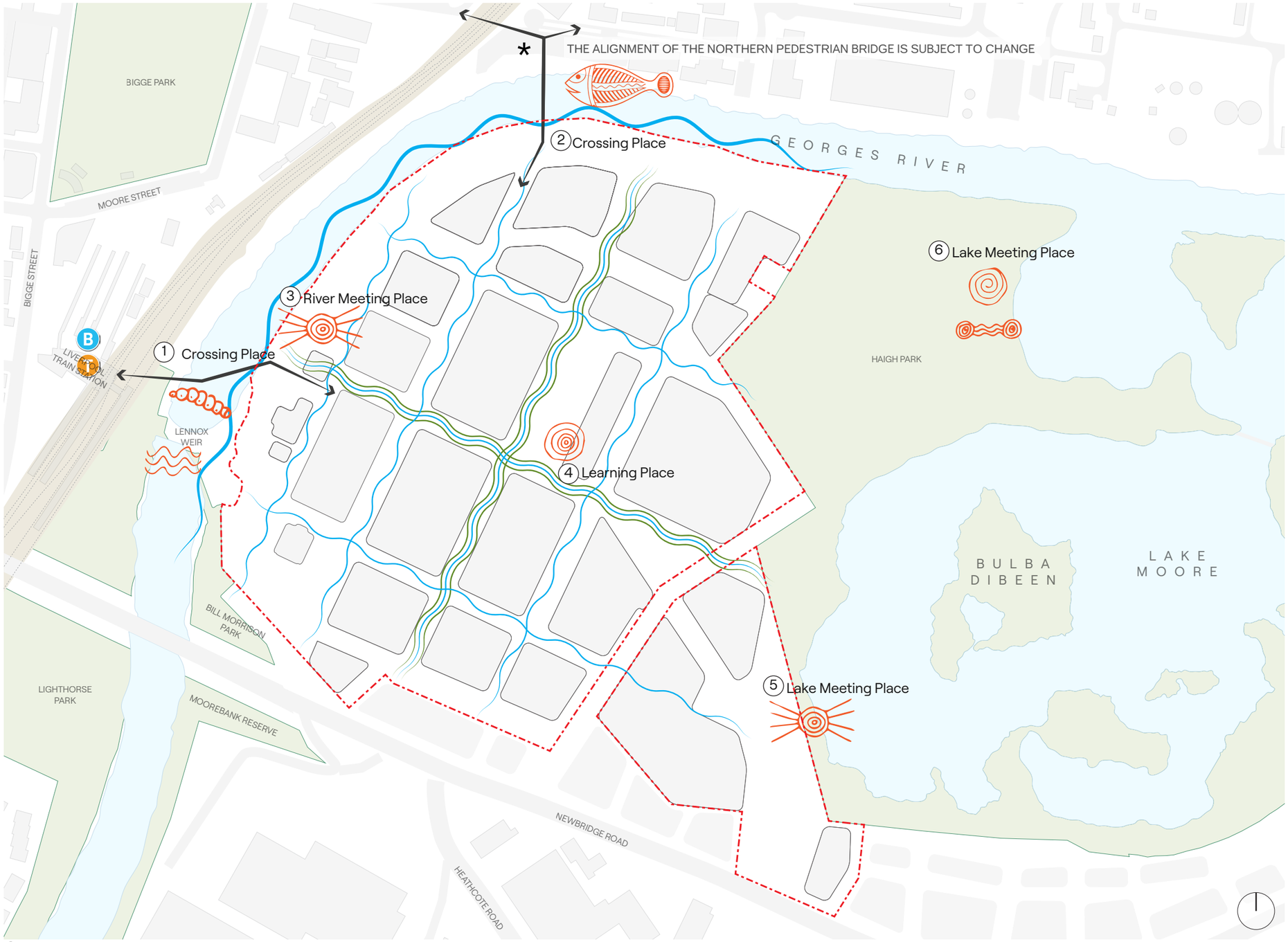
1	Crossing place	Bridge to Liverpool Train Station
2	Crossing place	Bridge to Liverpool Hospital
3	River Meeting place	Georges Riverfront centre
4	Learning place	School and community centre
5	Lake Meeting place	Lakefront centre
6	Lake Meeting place	Haigh Park community spaces

Where possible natural waterflow should be collected, filtered and transmitted to the river via water sensitive street infrastructure (blue lines) and raingardens.

Where possible and appropriate it is expected that the delivery of each element should include:

- Culturally responsive public art & wayfinding
- Indigenous place names (subject to LALC/GNB assent)
- Locally endemic vegetation species
- Enrich and support biodiversity particularly along the waterfront edges

Active consultation with traditional custodians of the land is encouraged for all future DAs and public works. Refer to the work of Yerrabingin (Indigenous consultants) and Austral (archaeological consultants) for further information regarding the indigenous approach to Moore Point. Also note the Turf (Landscape Architects) and Hatch Roberts Day (Placemaking) reports have complementary information on indigenous approaches to the waterfront and spaces throughout the masterplan.



Place which should integrate indigenous perspective
WSUD in street grid
Connection to and regeneration of Georges River
Green connections

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

6.2 Country places

These place concepts have been informed by the work of Indigenous Consultants Yerrabingin. They are solely indicative and should be refined in future stages of design and development alongside the local Indigenous Community.

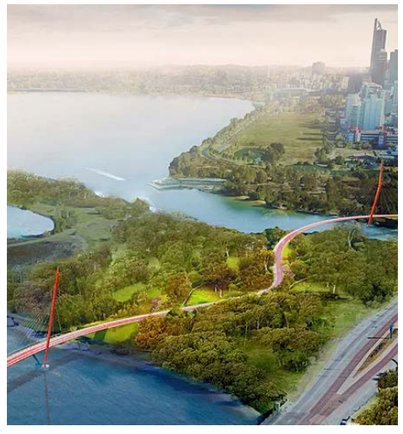
[1] Crossing place (bridge)

Burrowing Clam inspiration

As the primary bridge connection between Liverpool Train Station and Moore Point, this bridge could be inspired by the Burrowing Clam which is the namesake of the Cahbro people of the area. This bridge crosses over Lennox Weir which is significant for its Colonial origins and indigenous history as a crossing and meeting place.

Photo precedent:

Matagarup Bridge, Perth, WA



[2] Crossing place (bridge)

Native local fish

This bridge connects the northern portion of Moore Point to Warwick Farm, Innovation Precinct and hospital to the north. This bridge could be inspired by any of the local fish which inhabit the Georges River.

Photo precedent:

Proposed Whadjuk Noongar bridge, Perth, WA

[3] River meeting place

Indigenous meeting place

As the primary riverfront public space facing Liverpool the CBD this place should be enriched by indigenous stories and culture. Adaptively reused buildings, public domain design and planting should accommodate indigenous practices and ceremonies.

Photo precedent:

Yagan Square, Perth, WA

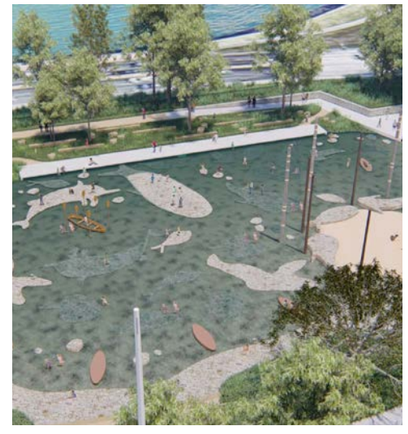
[4] Education place (school & community centre)

Local indigenous people

This centrally located school and/or community centre could be a place of learning inspired by local indigenous people such as Pemulwuy, Biddy Giles, Ellen Anderson and Lucy Leane. It could also function as a place of contemporary indigenous cultural and artistic expression.

Photo precedent:

Brambuk Living Cultural Centre, Grampians, VIC



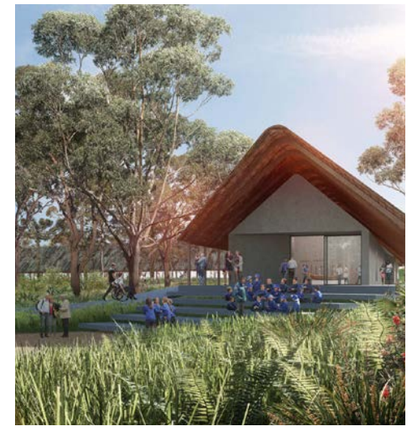
[5] Lake meeting place

Microbat or native birds

This lakefront centre overlooks Lake Moore with a large public active waterfront. The island 'Bulba Deen' meaning bird island offers the opportunity for spaces to celebrate birdlife and their relationship with local indigenous people.

Photo precedent:

Gosford Leagues Club Field, Gosford, NSW



[6] Lake meeting place

Local indigenous flora (mangrove saltmarsh)

This waterfront meeting place outside the landowner area in Haigh Park is known as Haigh Beach. This place could be inspired by the local mangrove salt marsh and offers an opportunity for a community function space with amenities and services associated with recreation in the adjacent park and beach.

Photo precedent:

Kamay Botany Bay Visitors Centre, Kurnell, NSW

7

Heritage

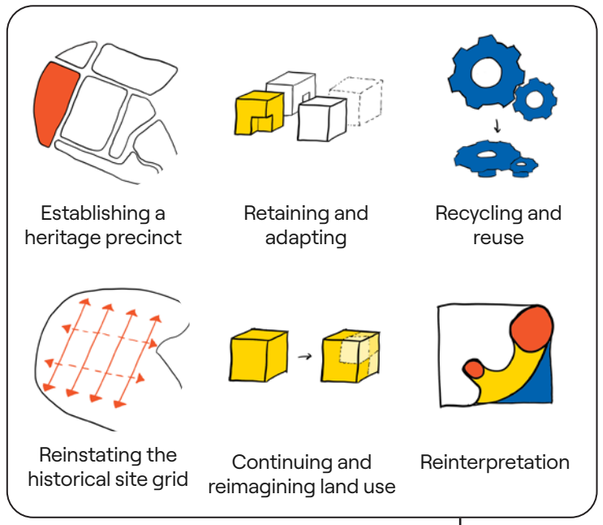
The heritage framework plan draws upon the physical industrial layers of the site by reinforcing the historical site grid, establishing a heritage precinct and retaining and adapting a number of key built elements.

7.1 Heritage framework plan

Moore Point has a history of indigenous, colonial and modern industrial interaction. The existing the peninsula is predominantly physically defined by heavy industrial factories such as the Prysmian cable factory and Joyce foam factory.

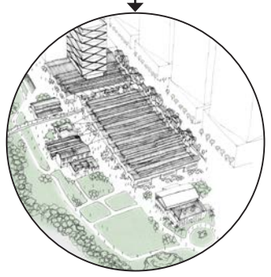
The proposed strategy and adjacent plan is informed by the work of GBA heritage, although, it is anticipated that further heritage studies will underpin detailed work on Moore Point.

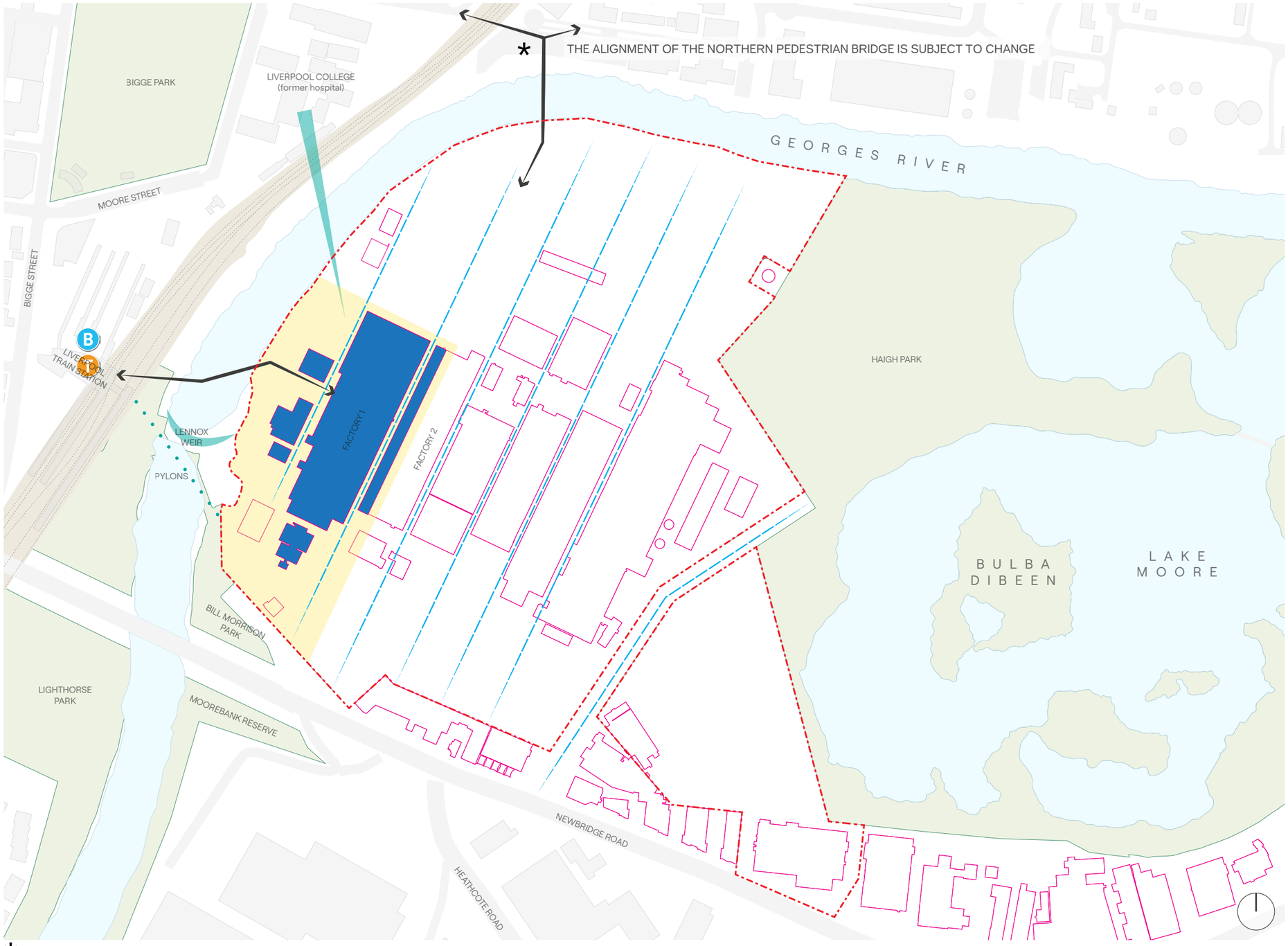
Six key approaches have been developed to guide the treatment of heritage fabric within and adjacent to Moore Point:



These approaches have been integrated into the design of the following heritage study areas:

- Surrounding heritage
- Factory outhouses
- Factory 1
- Factory 2 and laneway
- Admin building & forecourt



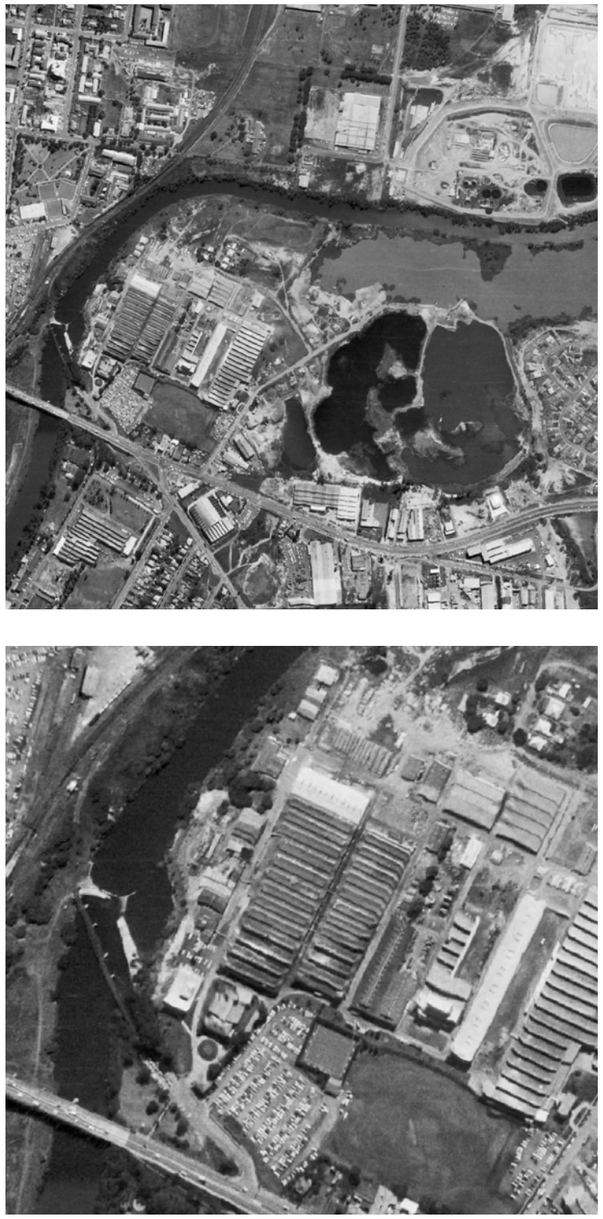


- Planning Proposal boundary
- Structures to be retained and adaptively reused where appropriate
- Heritage precinct zone
- Significant adjacent heritage
- Cadastral grid
- Existing buildings and structures
- Proposed pedestrian bridge
- Structures to be removed

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

7.2 Historic site context

1943
- Agricultural fields sprawl throughout the area.
- MM Cables establish the first electrical cable factory in Australia and construct infrastructure along a clear axis.

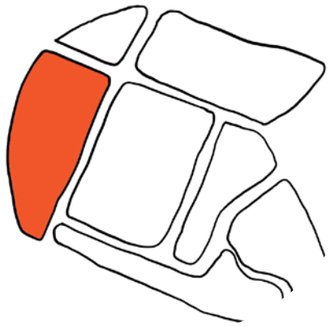


1975
- Topsoil and sand mining erode the riverbank which separate Georges River and Lake Moore.
- Industrial activity expands throughout the area.

2005
- Liverpool railway bridge is converted into a footbridge.
- Complete erosion of the riverbank leads to the expansion of the Georges River and creation of Haigh Beach.

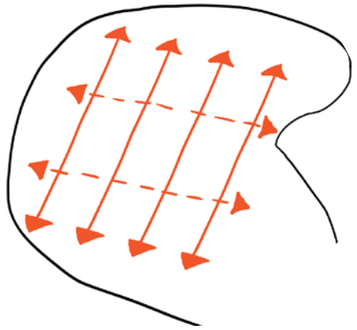
2023
- Liverpool footbridge is dismantled due to concerns of structural integrity and only pylon structures remain.

7.3 Approach to heritage



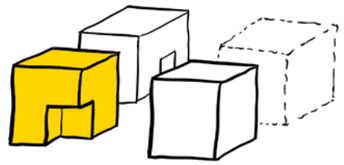
Establishing a heritage precinct

- Reinvigorate the heritage character by creating connections to surrounding heritage.
- Design a public domain which weaves through a network of heritage structures to celebrate the industrial history of the site.
- New structures should be designed with sensitivity towards heritage elements
- Counterpoint new developments with historic structures to reflect the evolution of the area.



Reinstate the historical site grid

- The urban grid of Moore Point originates from farming and factory uses that date back to the early 19th Century. These are valuable place-specific qualities that should be retained.
- Development should respond to the site grid of 25° off north rather than the Liverpool 8° off north.

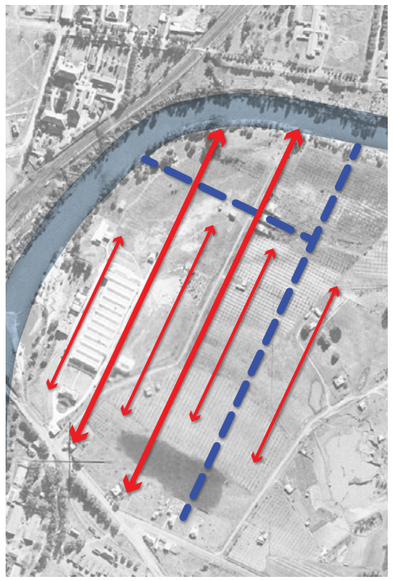


Retaining and adapting

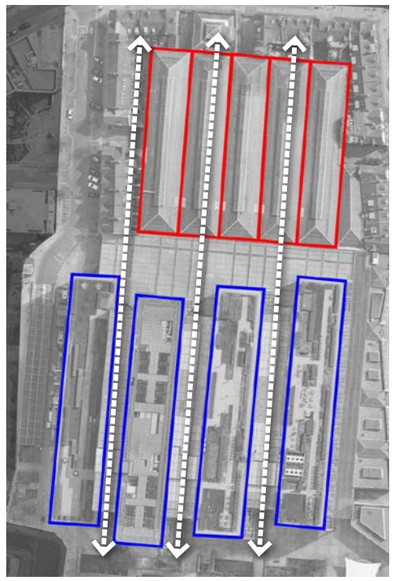
- Retain and expose heritage fabric where appropriate to reduce unnecessary materials and waste.
- Retain structural elements where appropriate.
- Adapt heritage structures where appropriate to facilitate contemporary needs and uses.

Paper Mill, Liverpool
The Paper Mill is an early 20th Century industrial building adaptively reused for dining and retail experiences.

Sunset Heritage Precinct, Perth
The former Sunset Hospital is undergoing revitalisation as a riverfront location for arts, cultural and community purposes.

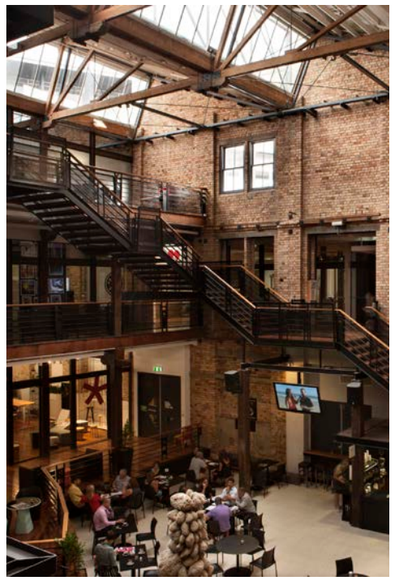


Historical Moore Point 1943
The factory, crops and orchard rows of Moore Point were oriented 25 degrees off north.



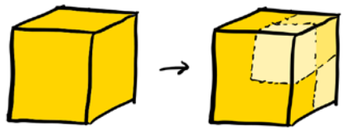
Spitalfields Market, London
New commercial development replaced the market hall on the west of the site yet retained the existing grid on site.

Little Creatures Brewery, Geelong
Distinctive red Geelong brick and industrial structure of the historic textile mill shines through in the adapted brewery complex.



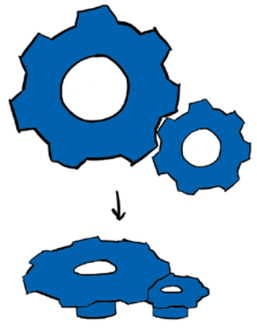
Saatchi & Saatchi, Auckland
The large brick waterfront warehouse has transformed into a thriving office space with unique historic character and materiality.

7.4 Approach to heritage



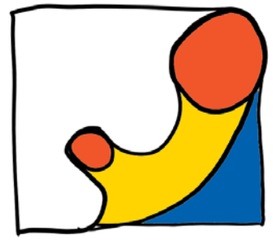
Continuing and reimagining land use

- Continue industrial uses to celebrate the history of the site.
- Reimagine industrial uses in a modern context, such as professional services in electrical engineering.
- Encourage land use which reflects the history of the site.



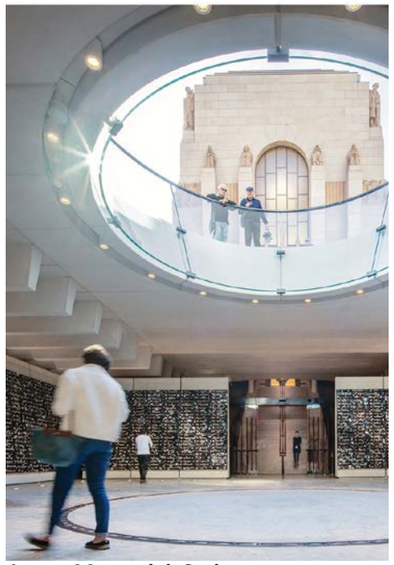
Recycling and reuse

- Recycle building materials collected from demolition in new contexts.
- Repurpose on-site industrial equipment.
- Repurpose materials in a visible way which strengthens the identity of the precinct.

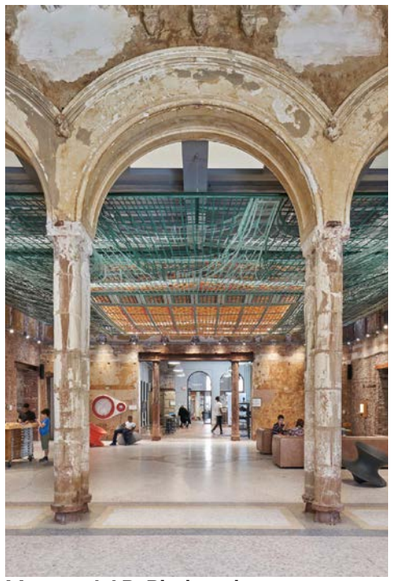


Reinterpretation

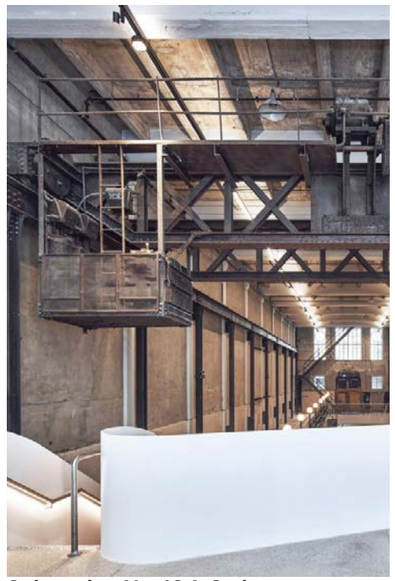
- New developments should incorporate colour palettes and materiality original to the site.
- Built form should be sensitive to heritage structures.
- Implement consistent wayfinding to unite the character of the precinct.



Anzac Memorial, Sydney
An installation by artist Fiona Hall adorns the walls and floors of the Hall of Service with minimal intervention into the space.

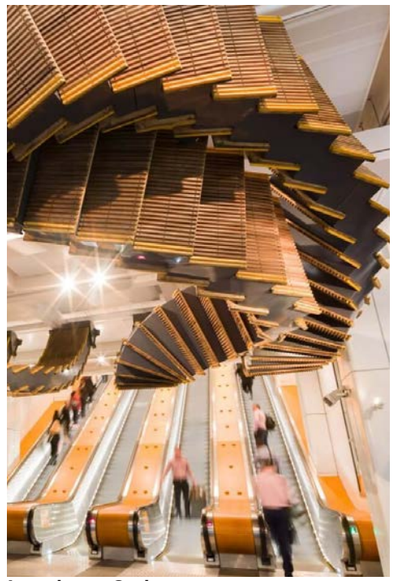


MuseumLAB, Pitsburgh
Modern additions to the interior pay homage the history of the building, both in architecture and in program.

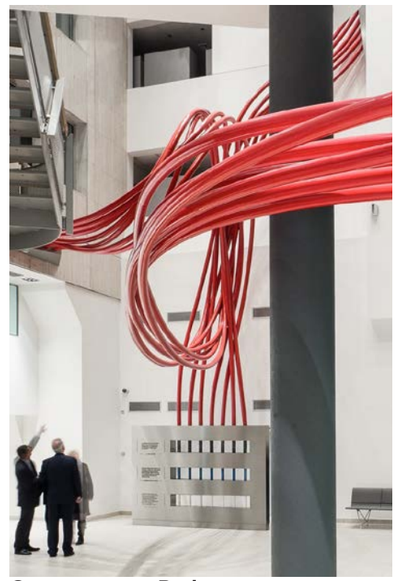


Substation No. 164, Sydney
Timber flooring was repurposed into formwork for concrete floor slab as well as wall panelling in the interiors.

Ningbo Historic Museum, Ningbo
The museum is partially constructed with recycled materials using local techniques that reflect regional stratified geology.



Interloop, Sydney
The sculpture weaves in 244 wooden treads and four combs from the original escalators, paying homage to the past.



Convergence, Paris
In the lobby of Global Switch's Paris Data Centre, sculpture gives a material dimension to digital operations.

Visualisation

Adaptive reuse of the historic factory structures will create vibrant lanes which will be distinctive, shopping, food and community destinations.

7.5 Relationship to surrounding heritage

Tanderrum Bridge, Melbourne

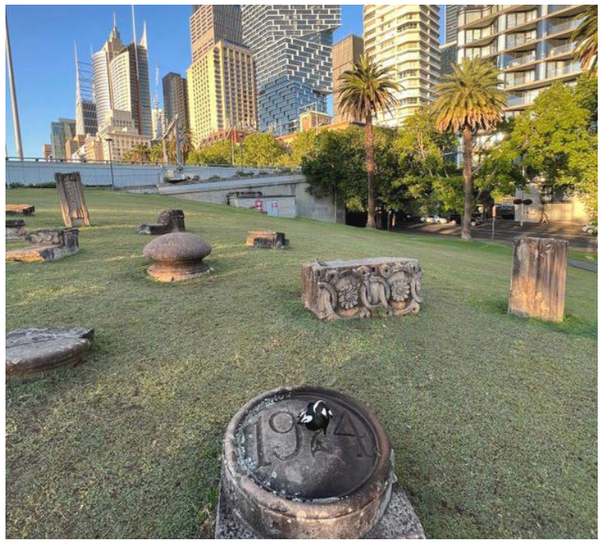
The bridge is a civic instrument, revealing the city's history, orienting to civic markers, stitching together errant landscapes and connecting public space.

What Becomes of Clouds, Brisbane

The installation celebrates country by commemorating the creek which once ran through the site and reflecting the waterflow of the river through the undulating forms.

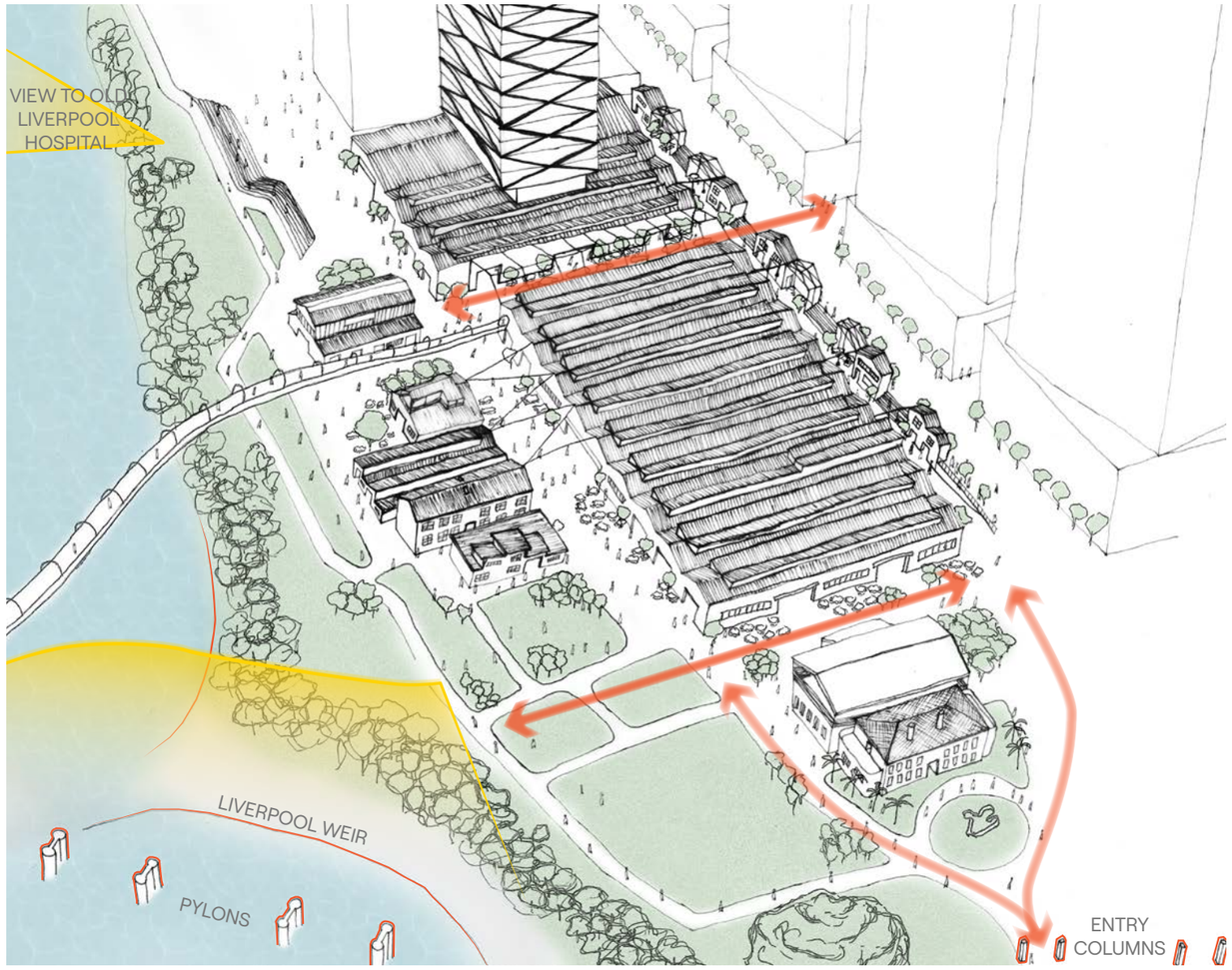
Knostrop Weir, West Yorkshire, UK

Construction of a pedestrian and cycle link bridge, integrated with a new floor control weir as part of a wider flood alleviation scheme.



Memory is Creation without End, Sydney

Relics from demolished buildings and structures around Sydney are arranged in a spiral to symbolise a circular connection to between the history and evolution of the city.



- Celebrate the weir and pylons as standalone objects with minimal additional physical interventions, allowing for appropriate view curtilage in their surroundings.
- Heritage grid creates east-west connections to historic railway station and weir. The bridge is oriented to maximise aerial views of the weir, pylons and Old Liverpool Hospital
- Opportunity to celebrate the industrial heritage of the site and serve as a reminder of historical associations.
- Celebrate Indigenous culture and significance of the river, reconnecting the community back to the waterfront.
- Ecological opportunity to integrate outdoor learning and educational elements.

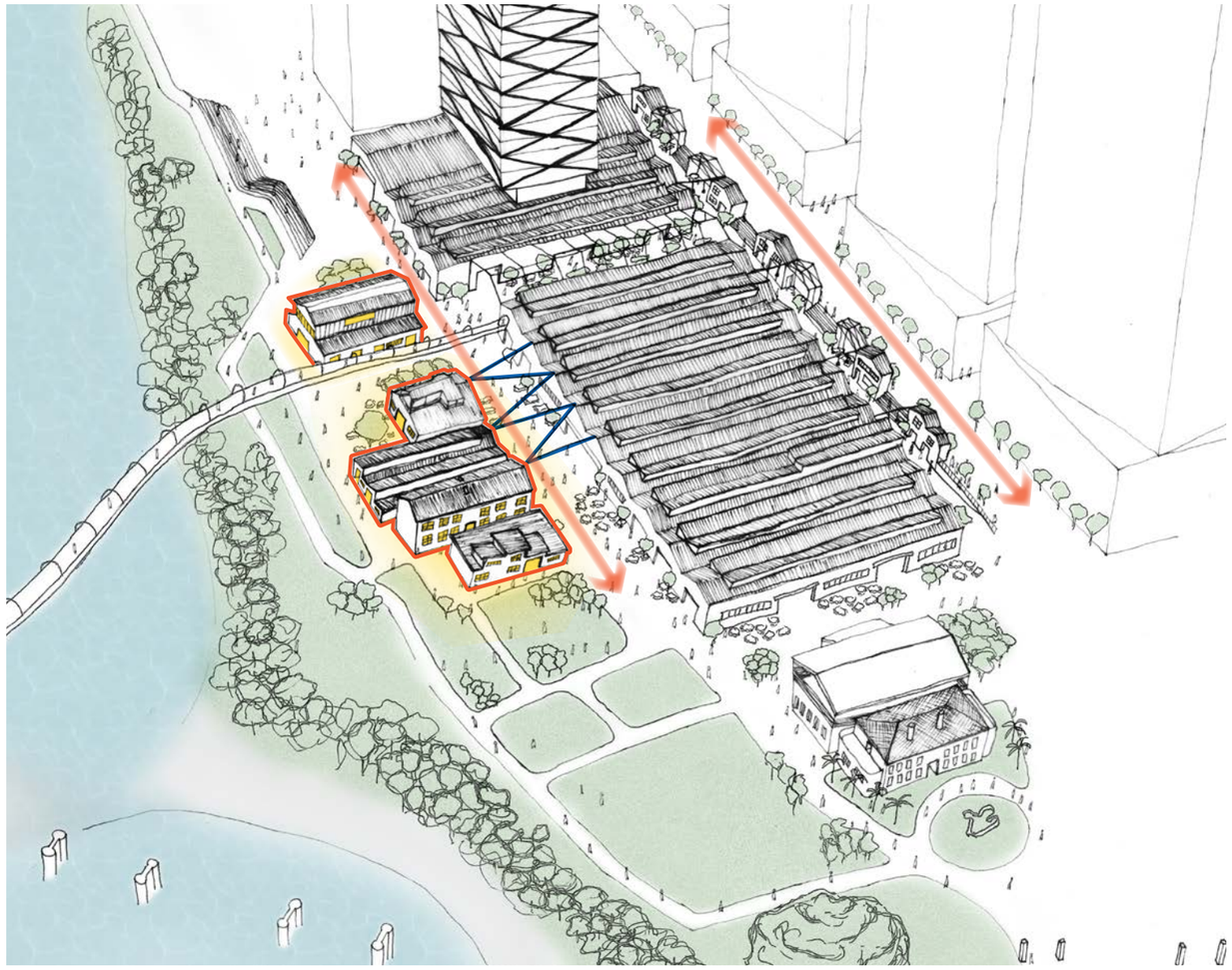
7.6 Factory outbuildings

Signal Box, Queens Wharf, Newcastle

Adaptive reuse of an old railway signal box on the fringe of the CBD into a new bar and restaurant. Existing elements were restored with new elements carefully attached and inserted.

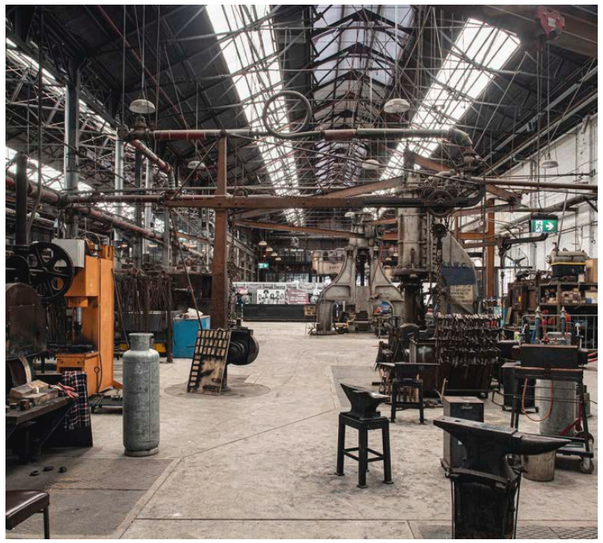
New Bazaar, Tirana, Albania

Fifteen cultural heritage buildings have been revitalised to form a lively pedestrian area. At the heart, a modern glass pavilion contrasts the historic precinct and houses the main bazaar.



Grounds of Alexandria, Sydney

Series of converted industrial sheds and outbuildings into a network of lanes and food and beverage vendors.



Eveleigh Works, South Eveleigh, Sydney

Sydney Blacksmiths have occupied the historic railyards, continuing the craft of metalwork on this industrial site. The original roof structures remain exposed.

- Retain the unique industrial aesthetic of the factory outhouses. Repurpose and integrate materials such as pipes, signs or other structural elements into the public domain.
- Spaces between outhouses to be integrated into the network of streets and urban fabric.
- Sensitively remove structural elements to allow for adaptive and functional reuse, such as community maker spaces, that allow users to be inspired by the site's history of cable manufacturing.

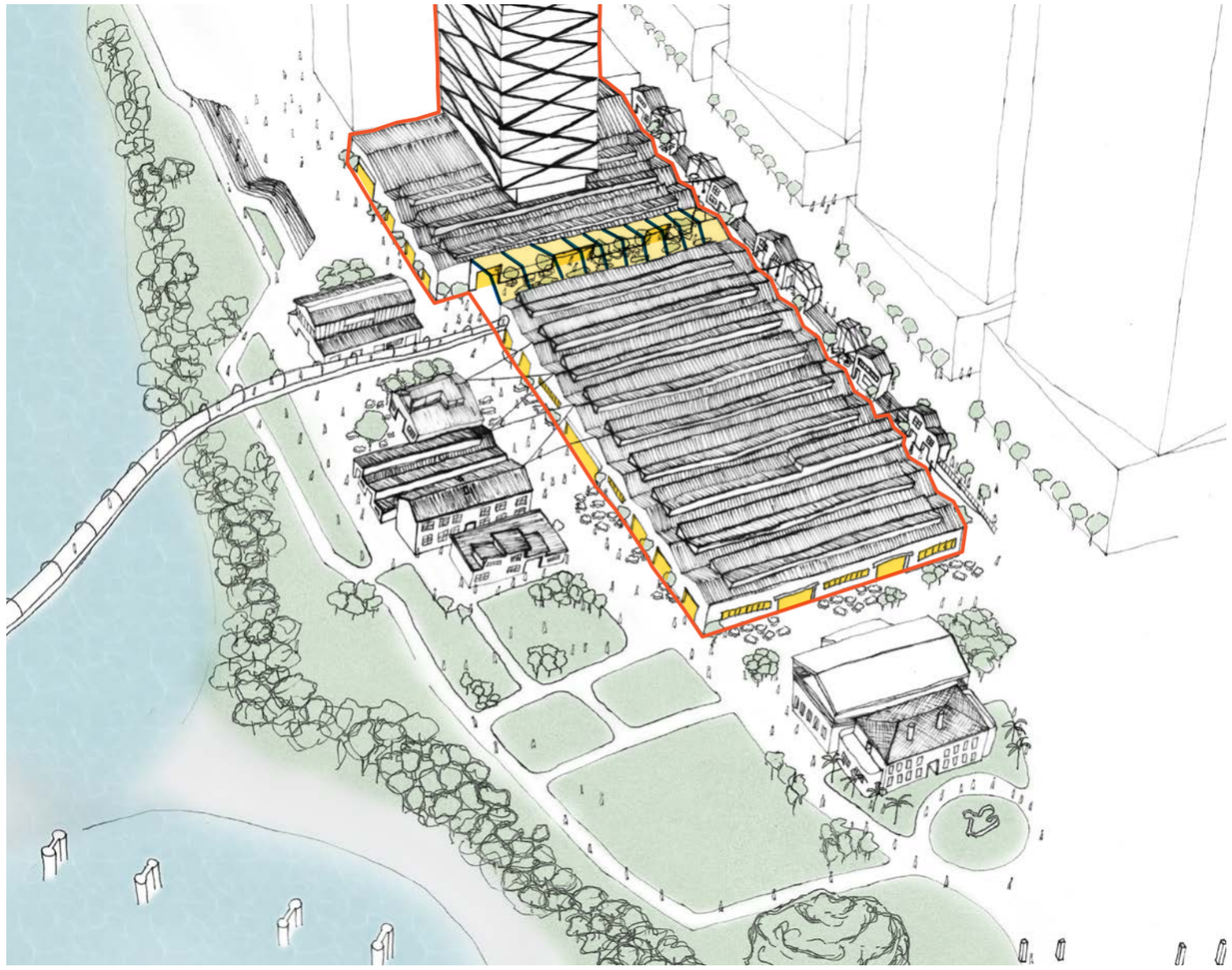
7.7 Factory 1

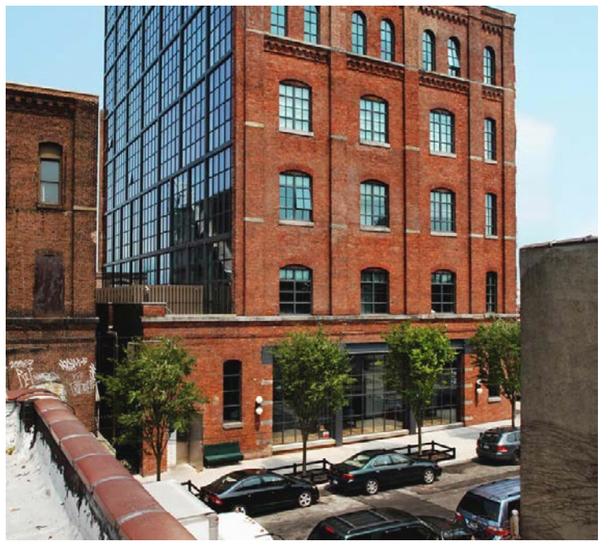
Tramsheds, Harold Park, Sydney

Adaptively reused Victorian tramsheds with supermarket, food and beverage stalls, community hall and medical suites. The original structure informed the layout of the tenancies.

Tonsley Innovation Precinct, Adelaide

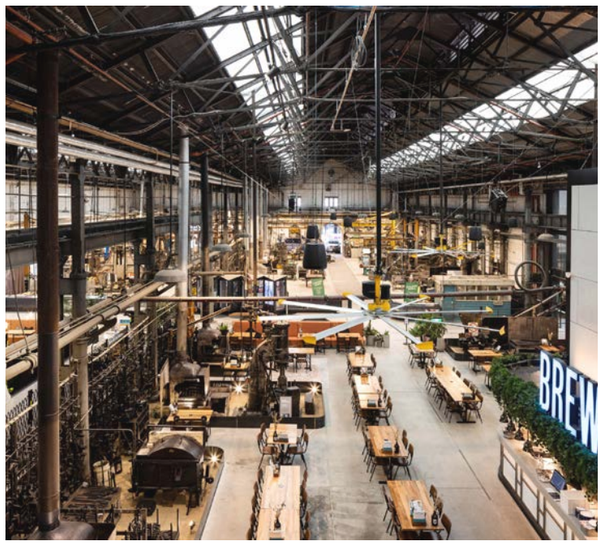
Repurposing of the former car factory saved 90,000 tonnes of embodied carbon and now houses a vibrant knowledge precinct focused on clean technologies and sustainable industries.





Wythe Hotel, Brooklyn, New York

Factory building converted to house a hotel, restaurant, bar and event spaces. Preservation of the factory structure has been emphasised by reusing historic details throughout the hotel.



Locomotive Workshop, South Eveleigh, Sydney

Collections of machinery used for railway servicing remain on site and emphasise the site's history. Food and beverage offerings welcome patrons to enjoy the building's unique character.

- The original easternmost 1940's factory building (1) should be retained, restored and adaptively reused where appropriate, to accommodate a flexible, wide variety of active uses e.g. market stalls, offices, events and food and beverage offerings.
- A sliver of the less significant factory building (2) should be kept to retain the condition of the laneway.
- Where possible, machinery within the factories should be kept on site and moved to an appropriate location if necessary.
- Less significant elements or facades can be restored or removed subject to heritage report.

7.8 Factory 2 facade & laneway

Paddington Reservoir, Sydney

Retention of the reservoir's structure has imbued the gardens with a strong connection to the site's history. Original materials have also been recycled throughout the project.

Olderfleet, Melbourne

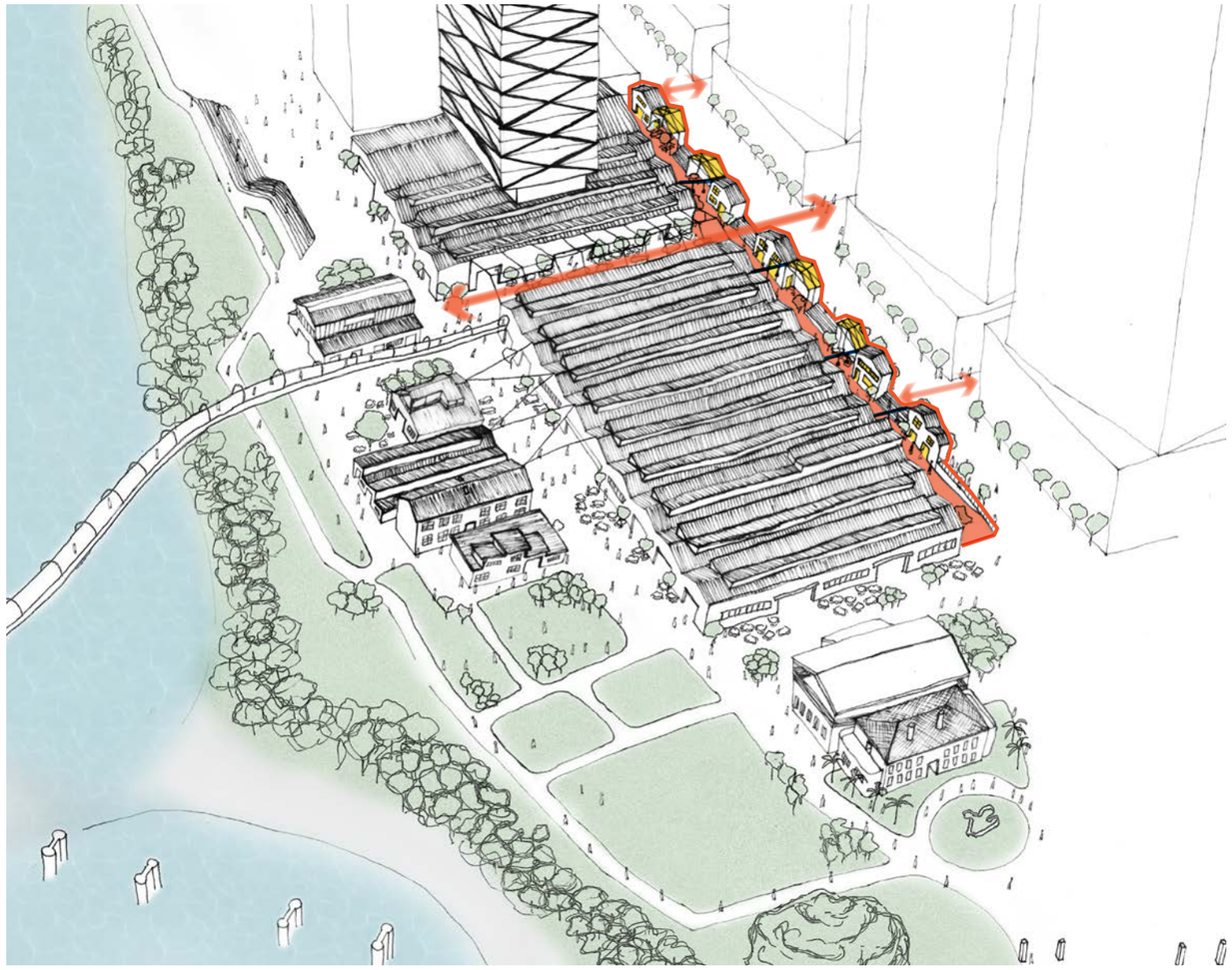
The commercial tower presents a permeable face to the heritage buildings to create an active urban frontage that provides through-site connection to Flinders Lane.

Albert Park Environmental Arts, Melbourne

Removal of later additions to the heritage listed Post Office exposes the original layout and intent of the historic structure to create an open courtyard that celebrates the heritage materiality.

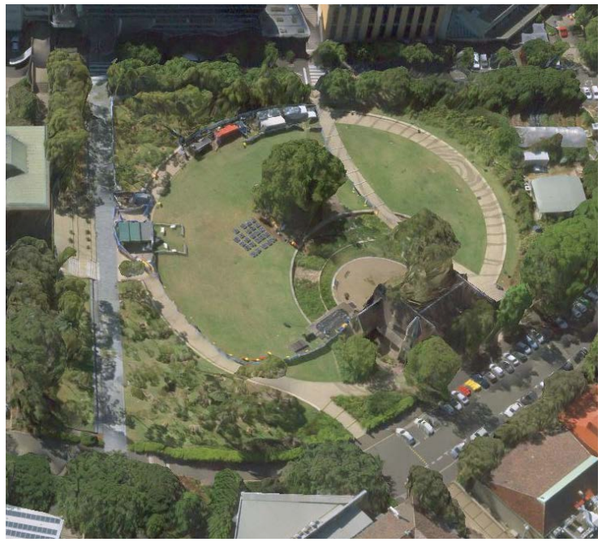
Coal Drops Yard, London, United Kingdom

Derelict industrial yards have been transformed into a lively shopping district through sensitive additions of soaring roofs and gangways.



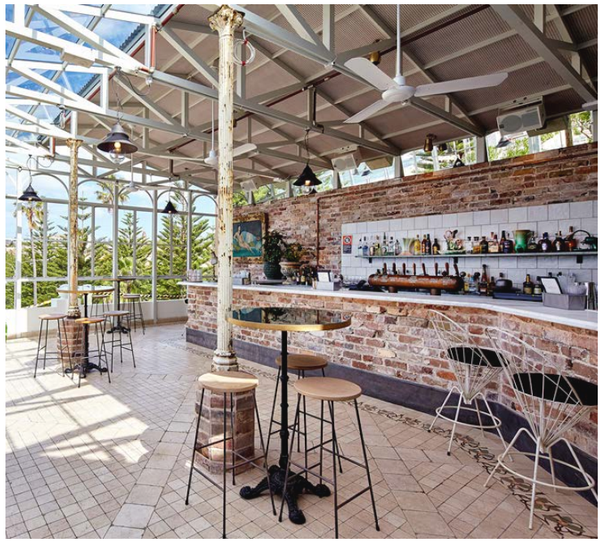
- Retention of the western elevation of the building and removal of the eastern portion of the building to accommodate the main north south street.
- Retain distinctive industrial elements that can be integrated within the public domain.
- Structural elements to be able to function as distinguishable objects within the street that are able to flexibly accommodate public uses e.g. bus shelters, temporary market stalls.
- New buildings should be sensitively designed to reduce potential impacts on the heritage structures.

7.9 Administration building



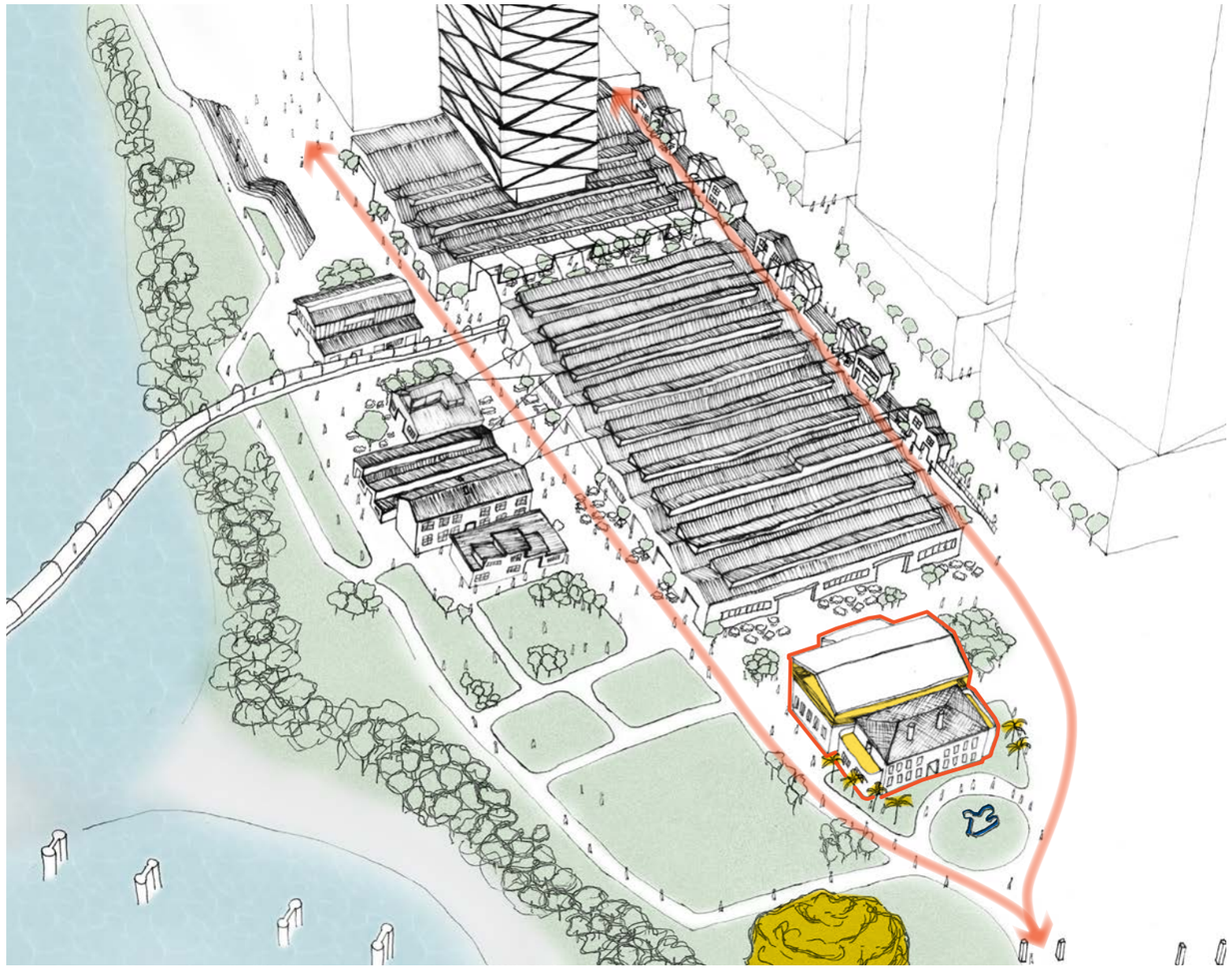
Old Darlington School, Sydney Uni, Sydney

Restored school building used by Sydney University. Circular garden provides curtilage around the structure and angled green focuses attention on the building.



Coogee Rooftop Pavilion, Coogee, Sydney

The original structure of 'Coogee Palace' is celebrated by removing cladding and later additions. Its worn materiality achieves a weathered look suited to its beachfront location.



Serpentine Gallery, Belgravia, London

Early nineteenth century military magazine which was converted in the 1970's into an art gallery in Hyde Park. Zaha Hadid did a later addition to the building.

Anzac Memorial, Sydney

Renovations to the Anzac Memorial emphasise its axial orientation by introducing a cascading waters above the entry to the subterranean museum.

- Adaptive reuse of administration building to accommodate food and beverage offerings or other active functions.
- Maintain a connection to the water through the public domain.
- Adaptively reuse entrance gates where possible, as per GBA report, to retain axial entrance view of the building and associated flanking palm trees.
- Less significant elements or facades (i.e. rear fire stair) can be restored or removed subject to heritage report.
- Retain large fig tree and palm trees which flank the entry

8

Open Space

This section outlines the diverse open spaces which flank Moore Point and provide amenity to future residents, visitors and workers.

8.1 Open space framework plan

Moore Point is defined by natural features and large areas of open space such as the Georges River, Haigh Park and Lake Moore. The landscape and public domain network of the site aims to connect these unique assets while reinforcing the urban grid of the site.

The solar and visual amenity of each space can be ensured by locating the majority of open space around the edge of the precinct along the waterfront. This contributes to the broader network of spaces and enriches the riparian ecology of the place.

Key open spaces include:

	Area		
1	19,666m²	17	7,381m²
2	19,290m²	18	1,357m²
3	14,472m²	19	1,604m²
4	1,371m²	20	969m²
5	1,886m²	21	898m²
6	2,359m²	22	846m²
7	2,586m²	23	983m²
8	1,281m²	24	398m²
9	2,712m²	25	869m²
10	819m²	26	750m²
11	213m²	27	401m²
12	8,579m²	28	1,857m²
13	1,819m²	29	773m²
14	4,272m²	30	188m²
15	3,846m²	31	1,540m²
16	2,600m²		

Total area 10.86 ha
% of site 34.5%

Note any future calculations should be generally in accordance with specified numbers as they are approximate areas only. Please refer to the documentation prepared by Turf (landscape architects) which will elaborate on the conceptual intent and indicative design of these spaces.

Planning Proposal boundary
Solar protection zone
Public recreation
Other open space
Proposed pedestrian bridge

The Moore Point Structure Plan delivers 34.5% of the site as publicly accessible open space. When considering the numerical criteria and open space function set out in policy (draft Greener Places and Movement and Place Framework), the Moore Point Public Domain Plan prepared by Turf rationalises the 34.5% open space area and shows 32.1% of the site are as open space (parks) in accordance with policy frameworks.

The 2.4% difference is attributed to characterisation of these spaces more accurately defined as urban places and squares, which still function as a form of open space. Based on the analysis from Turf, streets, urban places and plazas account for 19.84% of the site area.

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

8.2 Visualisation

Proposed primary school located at the intersection of two pedestrian spines to form the heart of the precinct.

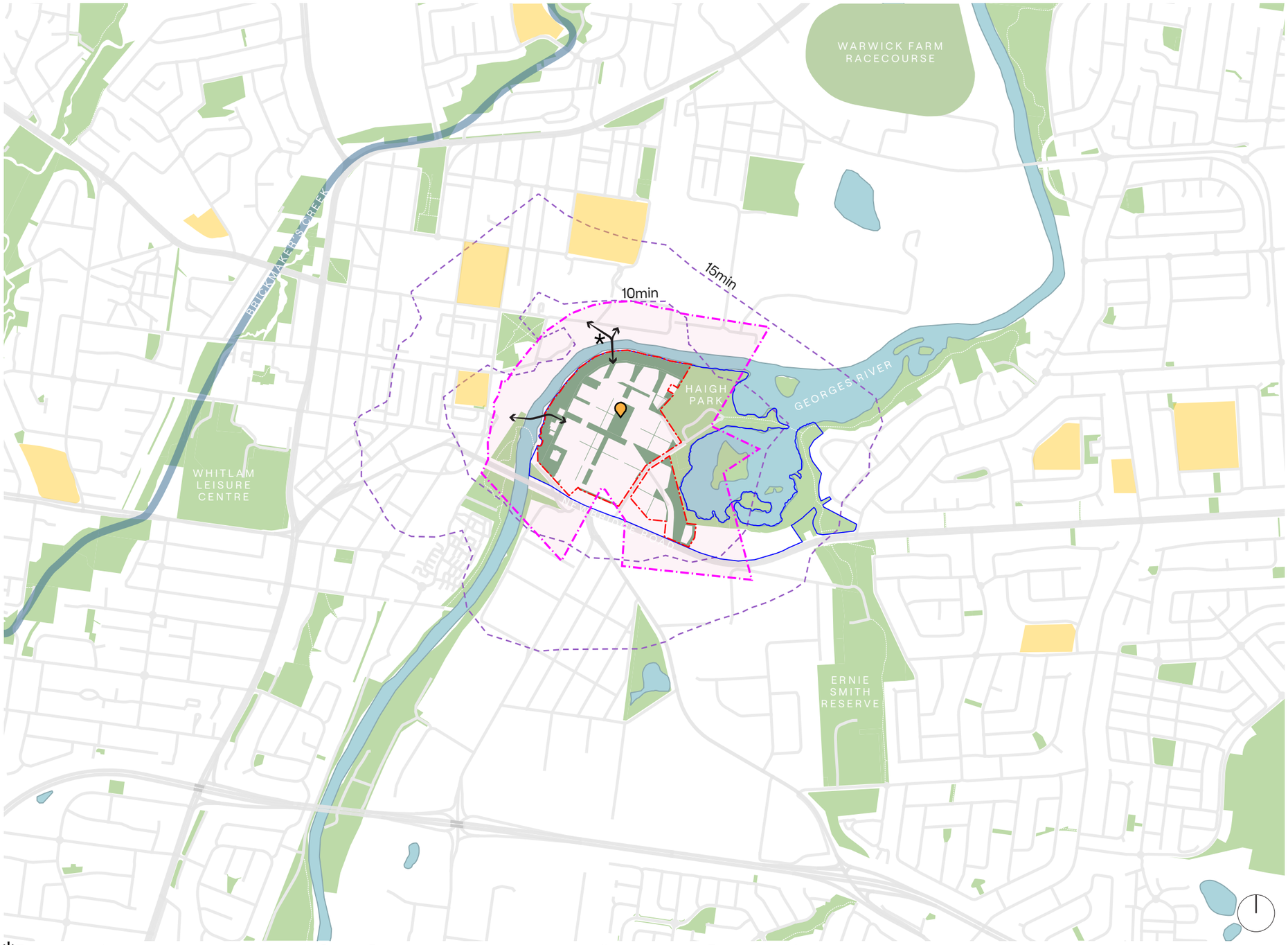
8.3 Liverpool's green network

Liverpool has a variety of green spaces located within the district. Moore Point is within a 10 minute driving radius to several major sporting fields. Greenspaces of a smaller scale are not conveniently accessible from the precinct. There are several schools in the area which offer sporting fields, however, these are not publicly accessible.

Georges River is a major waterway that passes through Liverpool and flanks Moore Point. The proposed public space creates a continuous riparian corridor along the river to strengthen its ecological function. The riverfront greenspace is also accessible by residents and can be used as public space.

Haigh Park currently sits in isolation on the peninsula. The proposed bridges drastically improve access to the district public space and expand the pedestrian network. Measuring from the school at the heart of the precinct, an isochrone study reveals signifcant improvement to accessibility.

Moore Point is situated within a unique setting of rich public space that is complemented by the Georges River. The transformation of Moore Point into a mixed use residential area will alter the demand for public space in the area.



Planning Proposal boundary
Georges River North Boundary
Future walking radius
Origin point
Proposed bridges
Schools
Existing open space
Proposed open space
Connected riparian corridor
Proposed open space 200m catchment

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

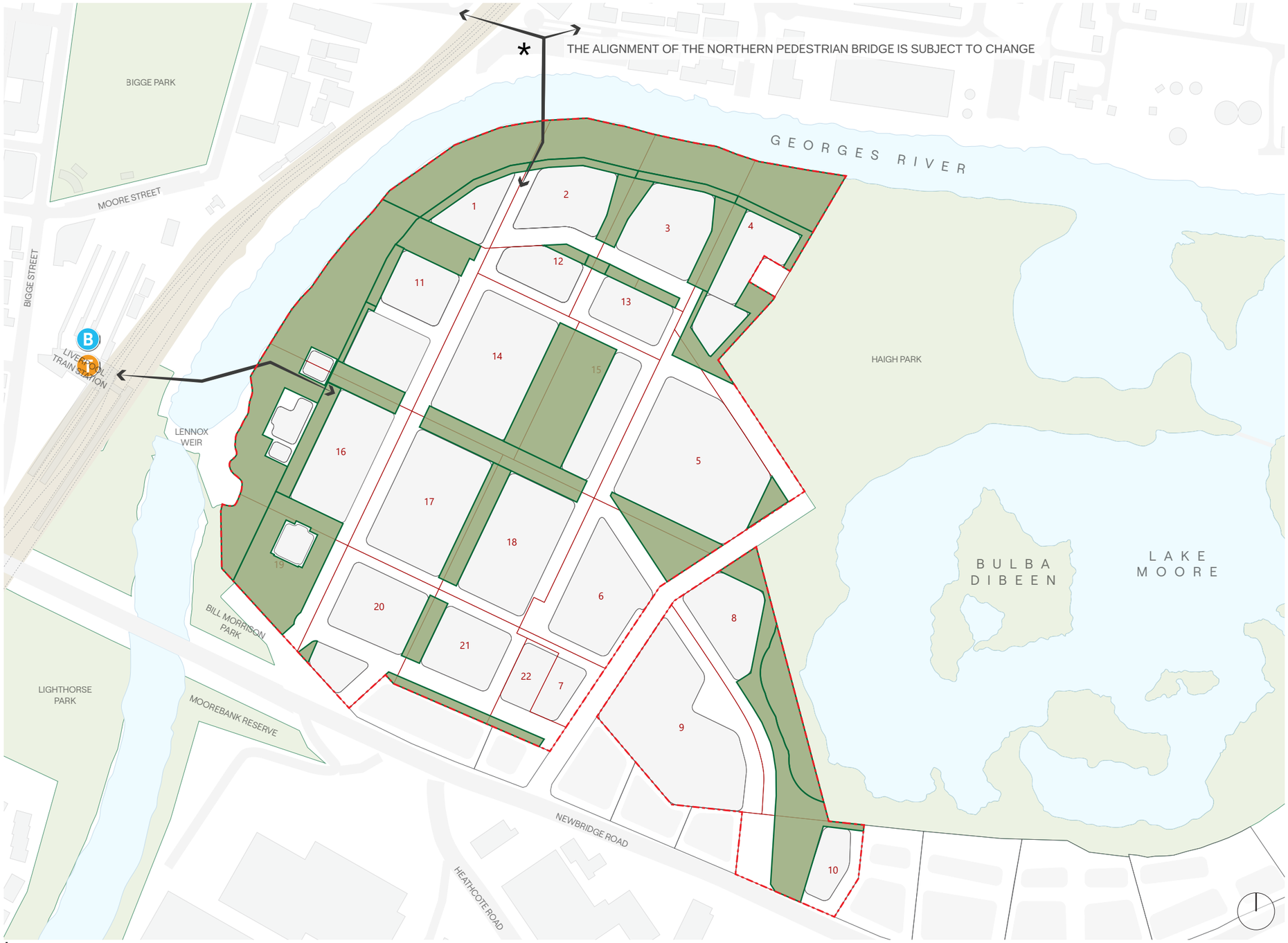
8.4 Deep soil and tree canopy framework plan

Deep soil and tree canopy zones for open space are addressed at the masterplan scale. The table below demonstrates proportional targets for each of the 'deep soil zones' and 'tree canopy zones' which are illustrated on the adjacent plan. This precinct wide approach to open space exceeds the 15% ADG recommendation to achieve 17% deep soil for large precinct sites and aligns with the Draft Greener Places Design Guide recommendation of 25% tree canopy for high density sites.

Tree canopy can also be achieved within development lots in the communal open spaces of roofs and podiums. Each development lot will be subject to the 7% deep soil zone minimum required by the ADG. This will result in a total precinct deep soil minimum of 24%. Please refer to tree canopy drawings in the testing and compliance chapter for more information.

Masterplan Lot	Deep soil		Tree canopy	
	Area	% of Lot	Area	% of Lot
1	5,517m²	50%	4,707m²	43%
2	3,916m²	27%	5,320m²	37%
3	3,950m²	24%	5,509m²	34%
4	6,184m²	33%	6,911m²	37%
5	2,078m²	9%	4,039m²	18%
6	2,402m²	15%	5,445m²	35%
7	428m²	12%	1,107m²	31%
8	6,956m²	39%	8,604m²	48%
9	831m²	4%	2,043m²	10%
10	2,493m²	25%	3,006m²	30%
11	8,584m²	20%	9,620m²	37%
12	532m²	10%	1,236m²	23%
13	644m²	10%	1,621m²	26%
14	1,953m²	11%	4,298m²	24%
15	5,914m²	42%	6,365m²	45%
16	5,343m²	22%	5,753m²	25%
17	999m²	6%	2,753m²	18%
18	916m²	6%	3,385m²	22%
19	6,982m²	45%	5,813m²	50%
20	1,265m²	9%	3,353m²	25%
21	1,436m²	13%	3,158m²	29%
22	513m²	11%	1,368m²	31%
Total	69,836m²	**22.2%**	**95,391m²**	30.3%

Planning Proposal boundary
Masterplan lots boundary
Deep soil and tree canopy zones
Potential structured tree canopy zones
Development lots
Proposed pedestrian bridge

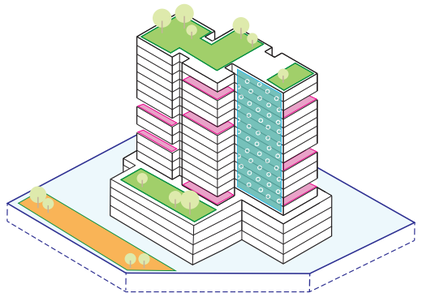


* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

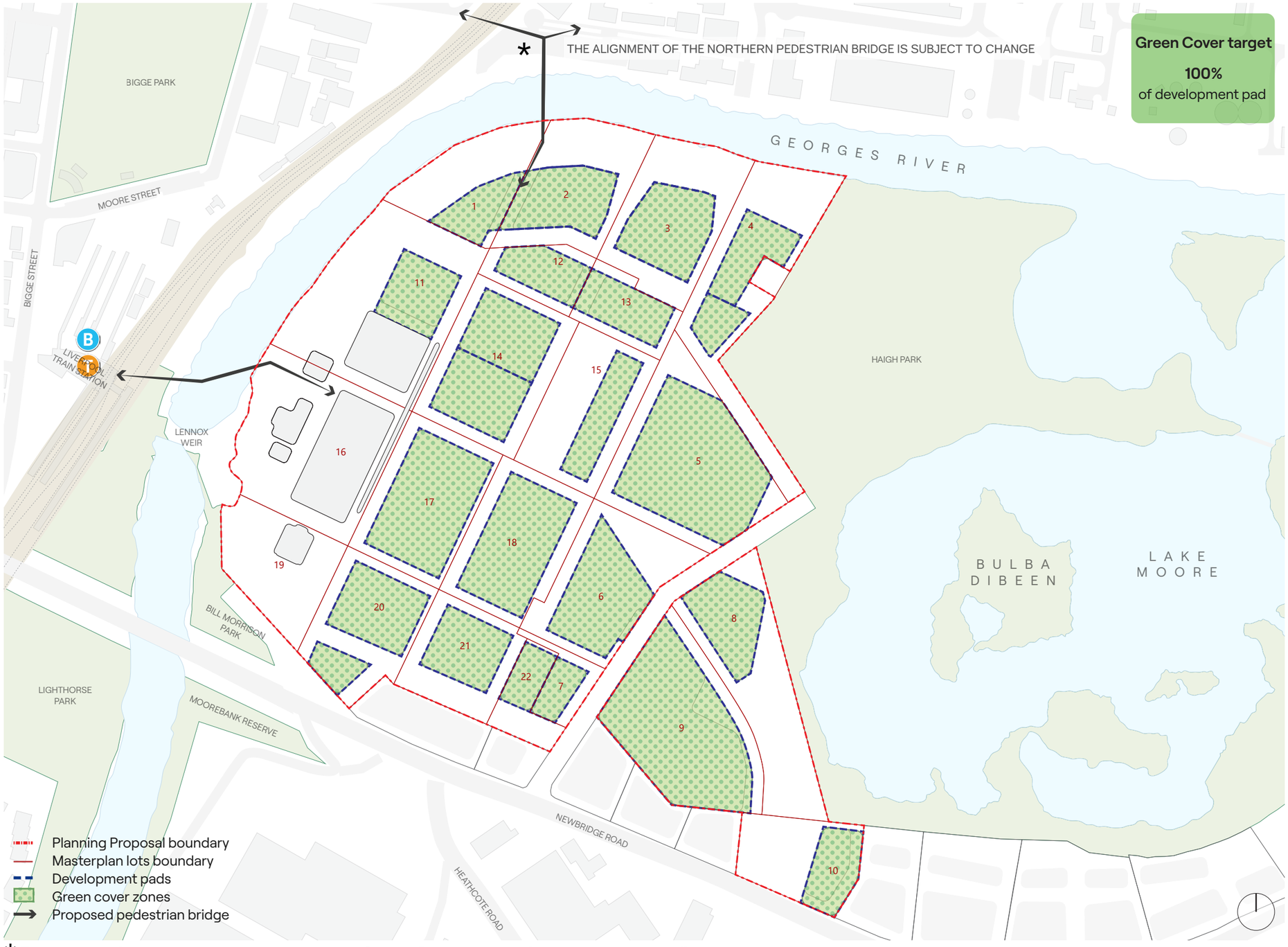
8.5 Green cover framework plan

Moore Point will feature extensive green cover on development pads (built form) to maximise the benefits of vegetation and planting. This is to be equivalent to minimum 100% of the development lot and include a combination of the following:

- landscaped area (through site links, lot wedges)
- layered planting on structure (including small and medium trees, as per ADG)
- green roofs / communal green spaces
- permanent plants on balconies / podiums
- green awnings / green walls



Masterplan Lot	Green cover area
1	3,422m²
2	6,227m²
3	6,677m²
4	6,174m²
5	16,551m²
6	8,226m²
7	1,971m²
8	5,486m²
9	17,810m²
10	3,870m²
11	4,600m²
12	3,655m²
13	4,203m²
14	11,256m²
15	4,020m²
16	n/a
17	10,920m²
18	9,620m²
19	n/a
20	7,613m²
21	4,891m²
22	2,236m²
Total	139,428m²

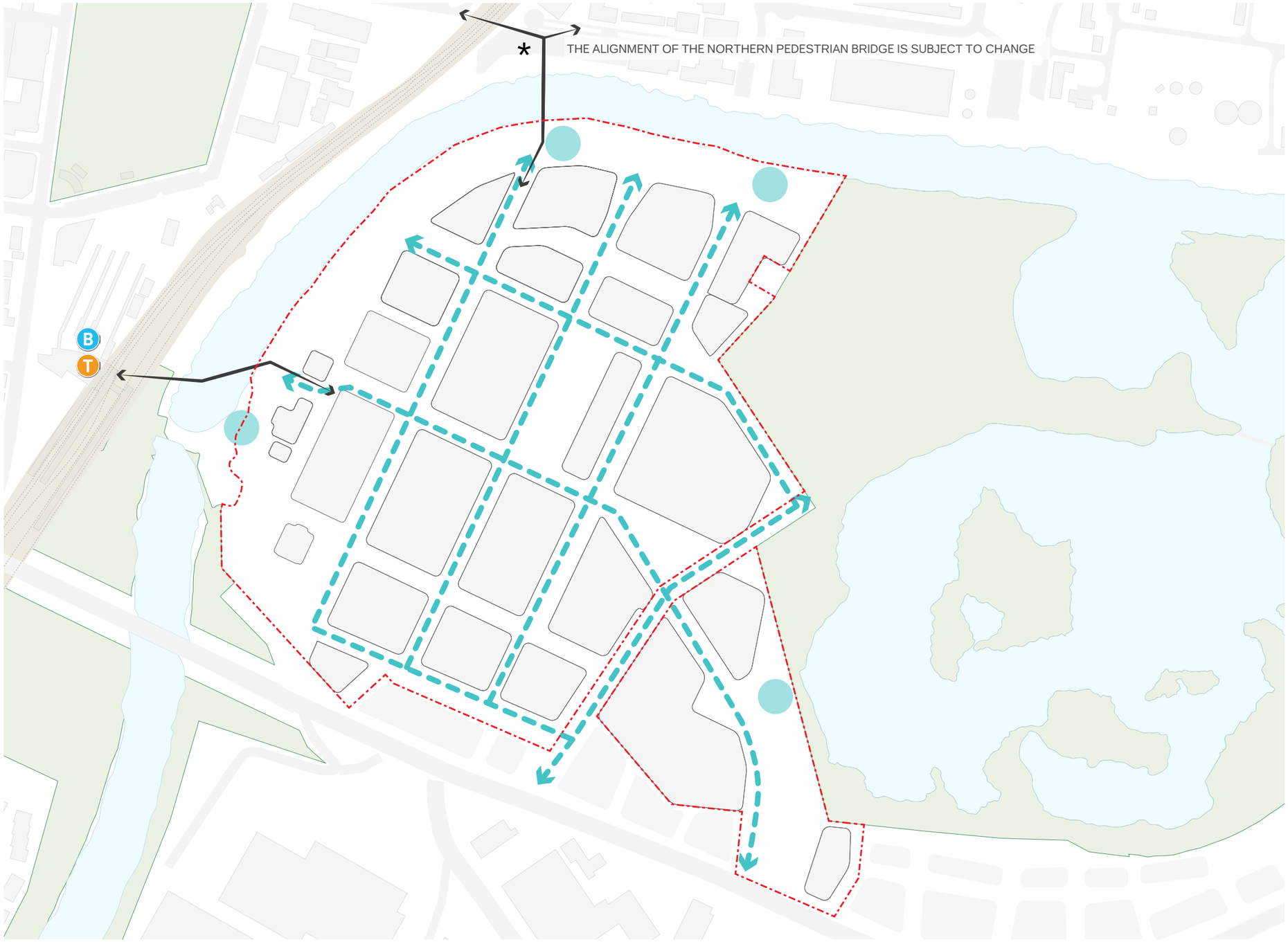


* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

8.6 Water Cycle Management Strategy

Moore Point will feature a suite of water cycle management interventions (Refer to Appendix B of the Northrop Riparian Report for further detail). Various design measures are proposed which deliver on these outcomes, including:

- Subcatchment delineation to compartmentalize runoff flows
- Drainage system design to collect and drain all flows up to the 5% AEP event delivering treated runoff directly to the Georges River and Lake Moore (where stormwater currently drains to)
- A treatment train comprising selections of the following:
    - Rainwater harvesting on each of each lot with harvested water used for irrigation and other non-potable uses
    - Chamber water quality treatment on each lot with Ocean Protect filter cartridges
    - Gross Pollutant Traps
    - Bioretention basins, WSUD street trees and bioswales for polishing/treatment of stormwater prior to discharge
    - Possible stormwater harvesting - harvested water used for landscape irrigation providing urban cooling
- Sewage directed to Liverpool Sewage Treatment Plant. If recycled water becomes available, it may be used
- Water supply from Sydney Water, and augmented with rainwater and possibly stormwater harvesting as outlined above



Planning Proposal boundary
Opportunity for Water Sensitive Urban Design
Opportunity for bio basin
Proposed pedestrian bridge

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

8.7 Understanding open space

SJB's approach to the provision of open space at a precinct scale has been informed by the concept of open space from an urban design perspective. The definition of open space is "open land that accommodates recreation or provides relief from the built environment" (Draft Greener Places Design Guide). In summary:

From an ownership perspecitve

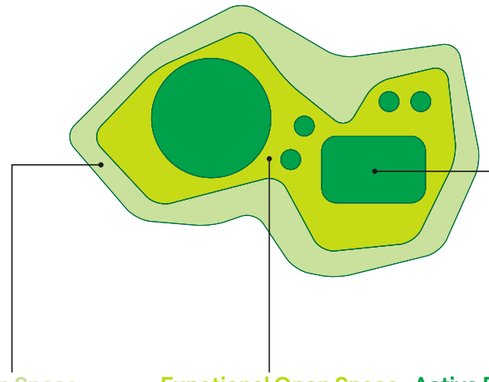
Public open space is open space which is publicly owned and managed by local, State or Federal government and is accessible to the public. (GANSW Greener Places)

Private open space is on private property which is not always accessible to non-owners and non-members, such as privately owned golf courses and racecourses

From a planning perspecitve

Open space can be delivered on a range of NSW Land Zoning categories although is most commonly delivered on RE1 Public Recreation and RE2 Private Recreation

From a strategic design perspective



Green Space

All space covered by vegetation. This includes accessible areas such as lawns or playing fields as well as inaccessible areas such as forests, mangroves and rocky areas.

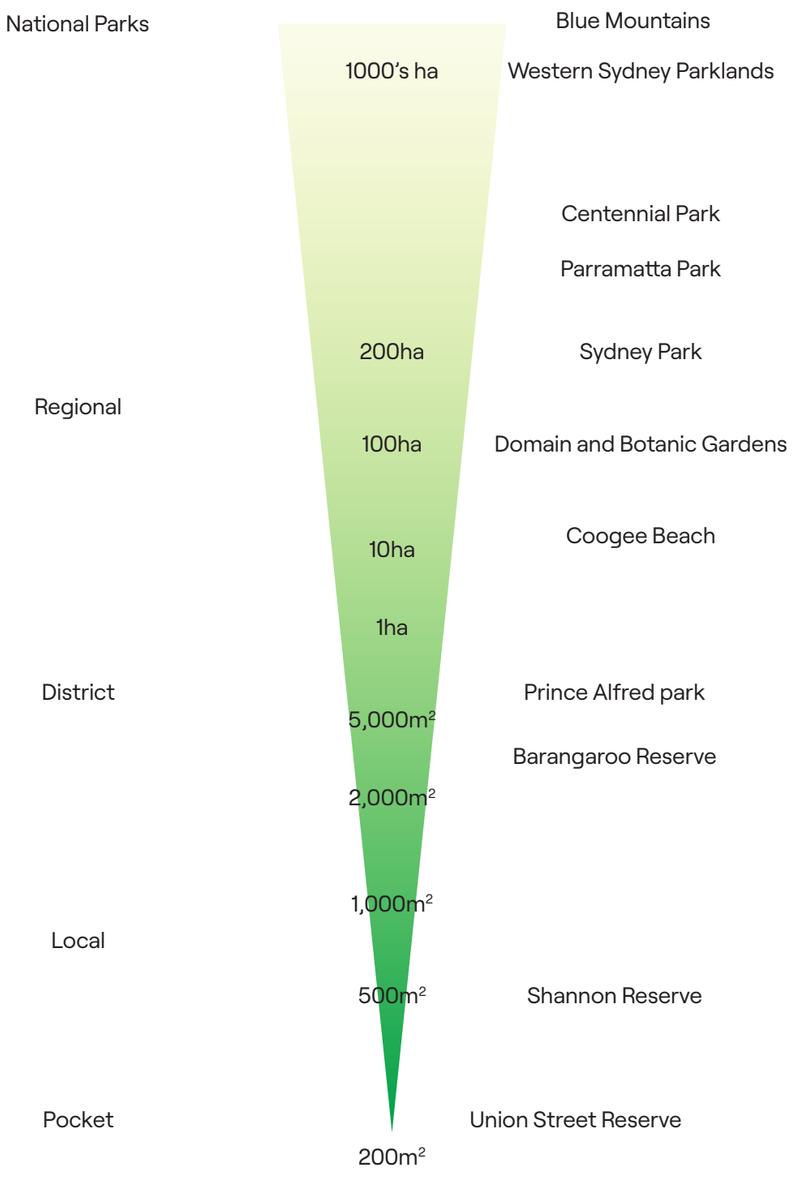
Functional Open Space

Space which is publicly accessible to people. Which can support both passive and active recreation. This is a key comparable metric.

Active Recreation Space

Areas formal or informal outdoor sports, exercise and recreation such as lawns, playing fields, cycling tracks, swimming pools, outdoor gyms and hard courts. This is a key comparable metric.

Open Space Examples



Open Space Design Considerations

Other

	Guidance
Type, size and shape	**Small open spaces** – serve local neighbourhoods or city cores. These small spaces serve a variety of functions. Examples include pocket parks, civic plazas and building forecourts. **Local open spaces** – serves a local neighbourhood area in urban areas where people predominantly walk or cycle because it is reasonably close to residences. **District open spaces** – serve catchments of less than one local government area (LGA), or several neighbourhoods, but can service a catchment spanning across two LGAs. People will be prepared to drive up to 30 minutes to access district open spaces in urban areas. Sporting facilities mostly operate at district level. **Regional open spaces** – serve cities, metropolitan districts, or one or more LGAs; or a regional centre and multiple towns and villages in non-metropolitan areas. People will be prepared to drive significant distances to access regional open spaces and recreation facilities. Regional open spaces can be managed by State agencies, trusts, local governments, and other public bodies.
Distribution and accessibility	• High density areas (>60dw/ha) 200m to local open space (3 min walk) • Medium / low density areas (<60dw/ha) 400m to local open space (5 min walk) • 2km to district open space (25 minutes walk) • 30 minutes travel time to regional open space • Schools should have open space within 400m • Workplaces should have open space within 400m
Program	• local play for the very young (LPY) • local children's play (LPC) • older children's activity space (OCA) • youth recreation space (YRS) • local recreation space (LRS) • active recreation space (ARS) • large community outdoor recreation area (LCOR) • fitness and exercise space (FES) • trail and path-based recreation (TPR) • organised sport and recreation (OSR) • off-leash dog exercise area (DEA)
Qualities	• Country and character • visual and physical access • landscape setting, vegetation and shade • demographic, cultural, and community demand • topography, tree canopy and deep soil • solar access • ownership & maintenance • Water movement and flooding • size, shape, and topography • adjacent land uses • park facilities and program meets users needs • ecology, biodiversity • safety • sustainability
Quantity	Each site should aim to provide 15% to 30% of site area as open space. This is a guide only and depends on a range of factors noted above.

9

Movement

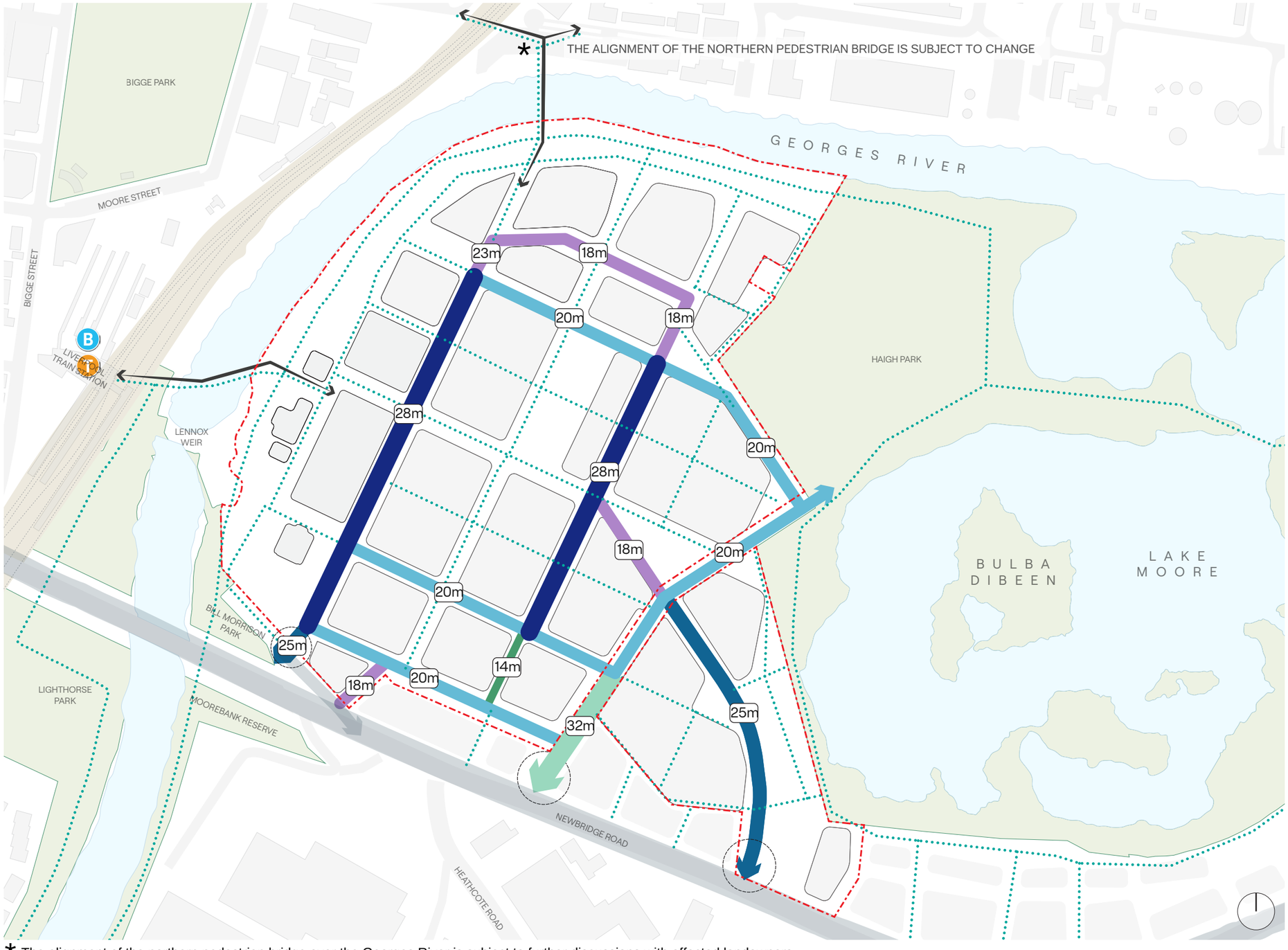
The street network has been defined by the original site grid, with road reservations and through site links allowing for optimal pedestrian, cycling and vehicular movement throughout Moore Point.

9.1 Street hierarchy plan

The proposed movement network of Moore Point is defined by a grid of streets which reflect the original grid of the site. Vehicular site access comes from a series of points off Newbridge Road while pedestrian and cyclists can also enter the site over two bridges which connect to the Liverpool City Centre and Innovation Precinct to the north.

Road reservations throughout Moore Point as illustrated in the plan include:

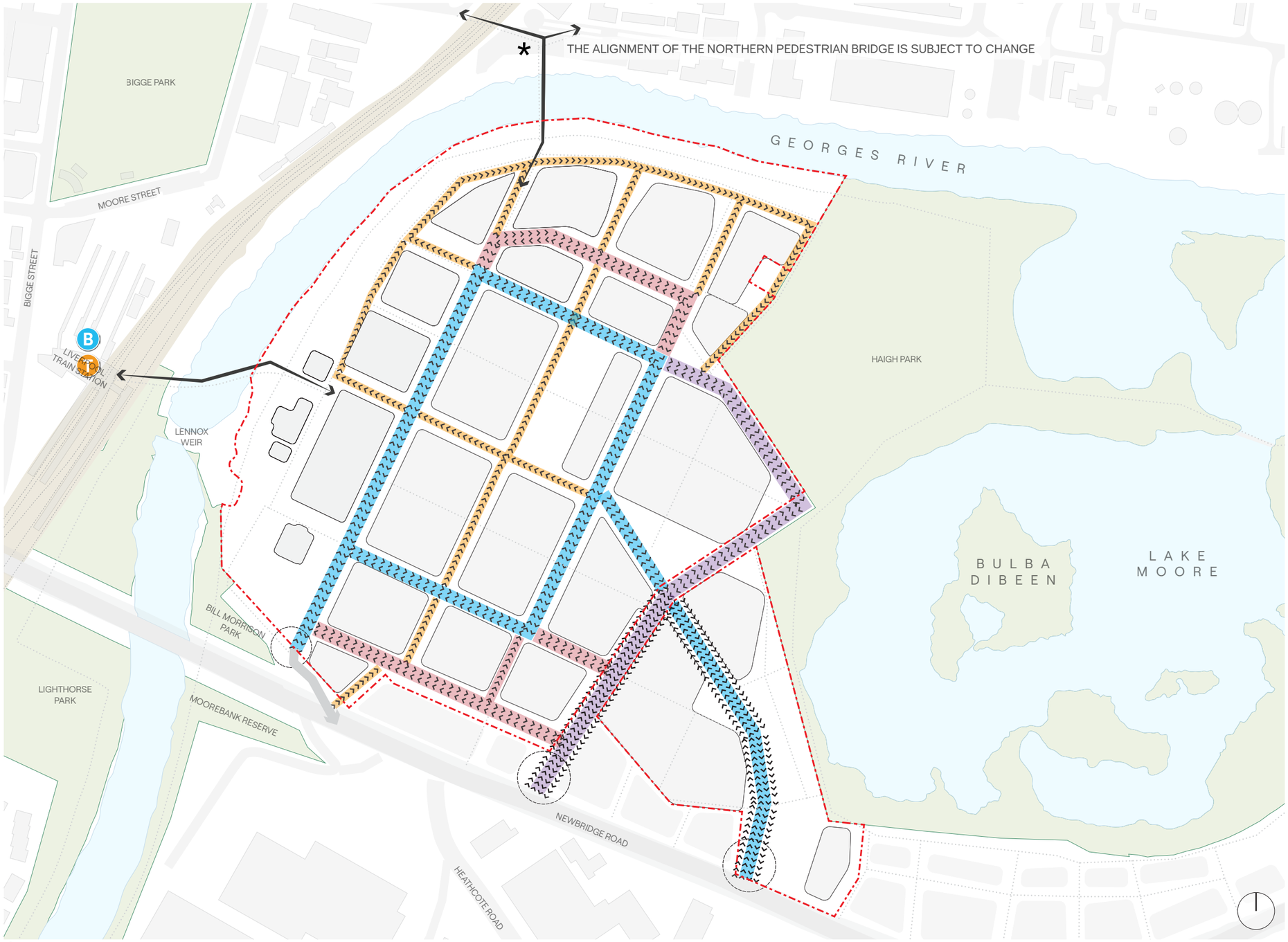
- Main street reservation width of 28m
- Primary street reservation width of 20m
- Secondary street reservation width of 18m
- Entry and exit street reservation width of 25-32m



Planning Proposal boundary
32m street
28m street
25m street
20m street
18m/23m street
14m street
Pedestrian and cycling route
Site access
Bus terminus (layover and stops)
Train station
proposed pedestrian bridge

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

9.2 Vehicular movement plan



- Planning Proposal boundary
- 30km/ph
- 20km/ph
- 10km/ph
- Pedestrian only with emergency vehicle access
- Carriageway & vehicular direction
- Traffic light junction
- Bus terminus (layover and stops)
- Train station
- Proposed pedestrian bridge

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

Active transport plan

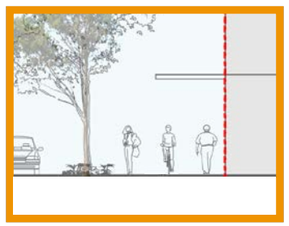
This plan illustrates the movement of cyclists and active transport along each street throughout Moore Point. The four types of active movement routes are shown below:

Dedicated cycle path

Path separated from carriageway and pedestrian path with bidirectional movement.

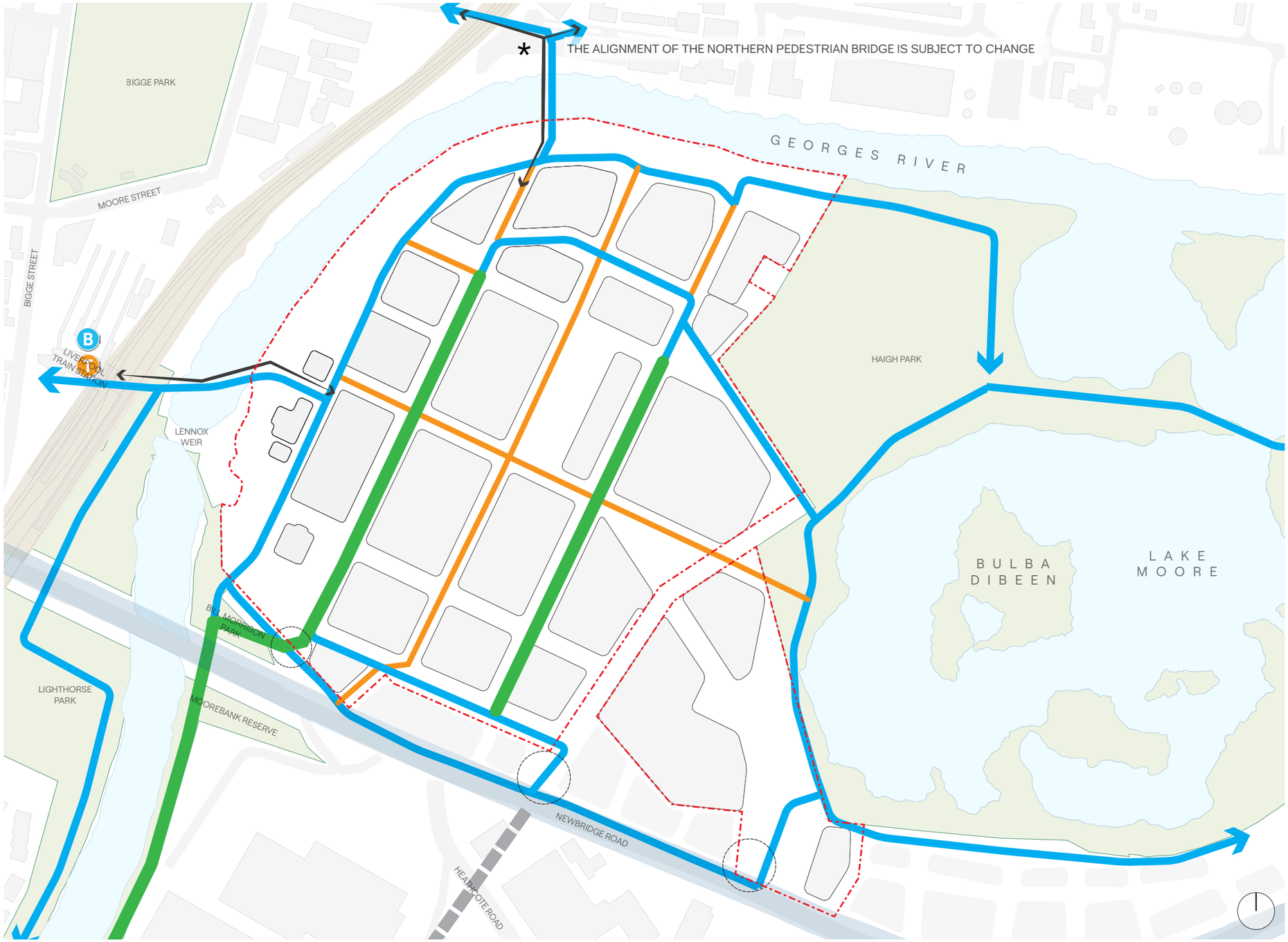
Shared pedestrian space with cycle path zone

Bidirectional flush cycle path in the street/space zoned with material difference or blisters.



Shared pedestrian and cyclist path

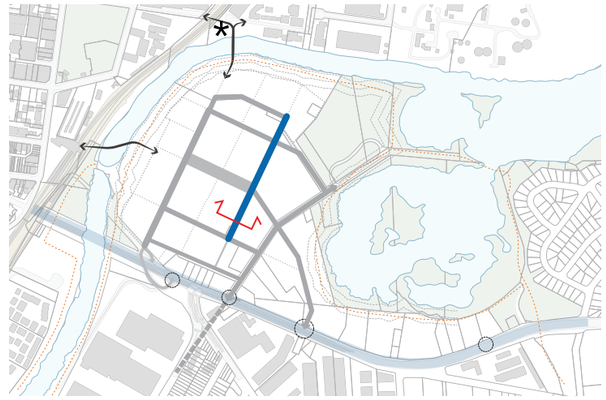
Shared footpath/space with ability for slow cyclist movement.

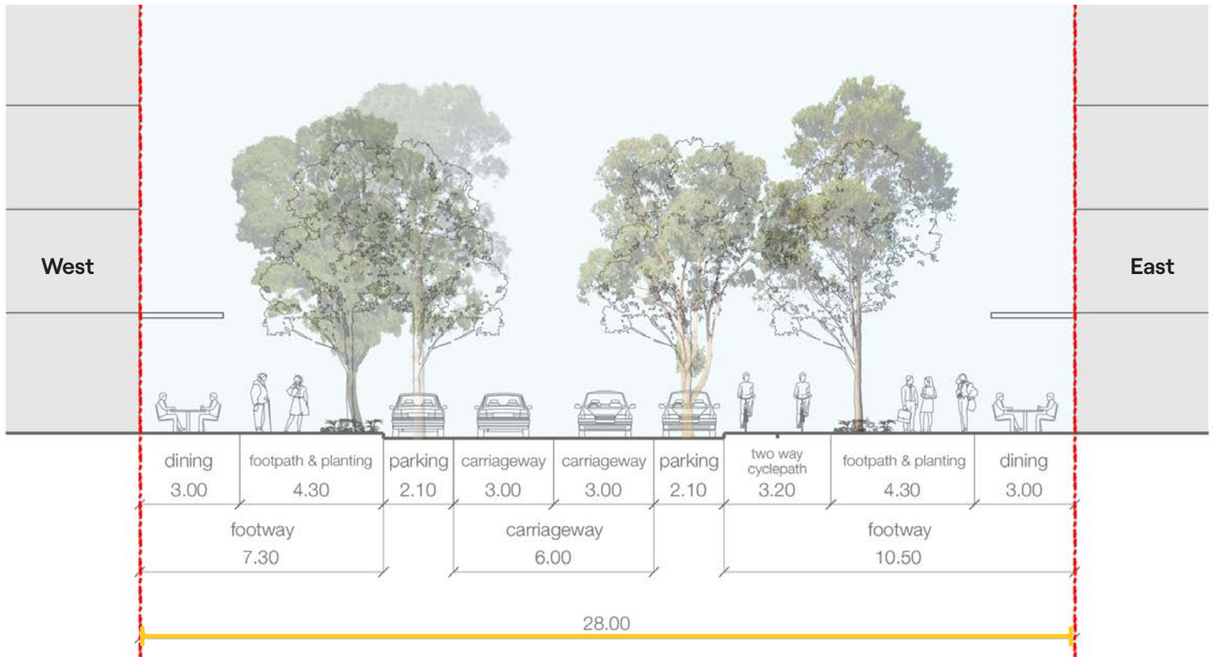


- Planning Proposal boundary
- Pedestrian space with cycle path zone
- Shared pedestrian and cycle path
- Separated dedicated cycle path
- Site access
- Bus terminus (layover and stops)
- Train station
- Proposed bridge

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

9.3 Street types - main street east (28m)





Main street East (28m)

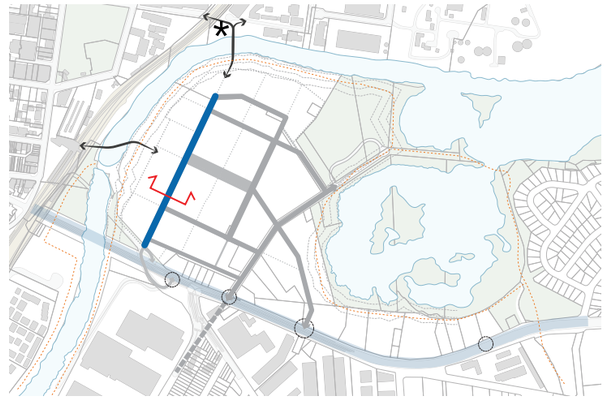
Design considerations

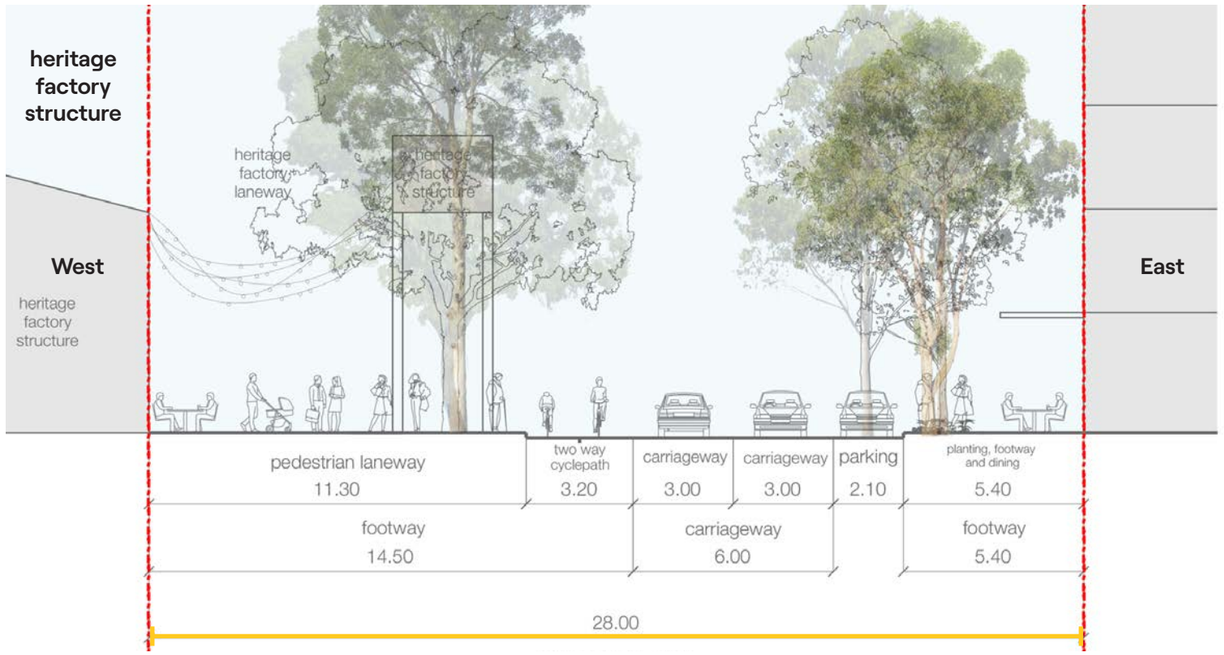
- Slow street
- Potential for rollover kerbs
- Dedicated bicycle lanes
- Parking interspersed with tree pits
- Appropriate for bus route
- In-lane bus stops where appropriate

Precedent examples

Development pad boundary
Street reservation
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

Street types - main street west (28m)





Main street West (28m)

Design considerations

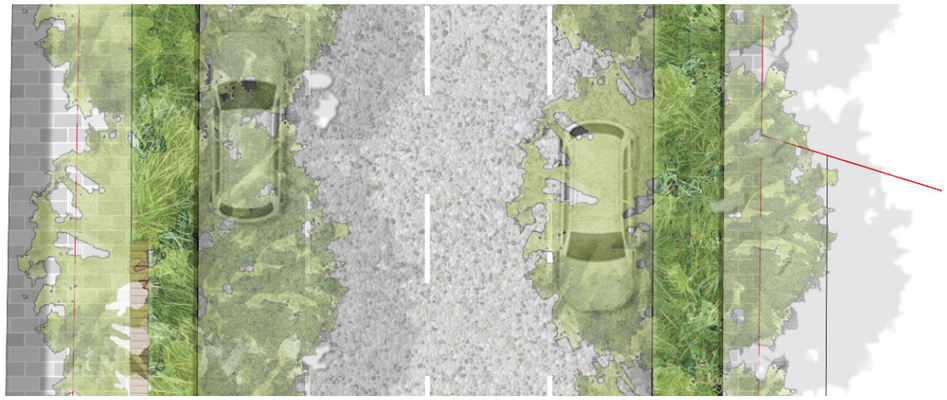
- Slow street
- Potential for rollover kerb
- Dedicated bicycle lane
- Parking interspersed with tree pits
- Appropriate for bus route
- In-lane bus stops where appropriate

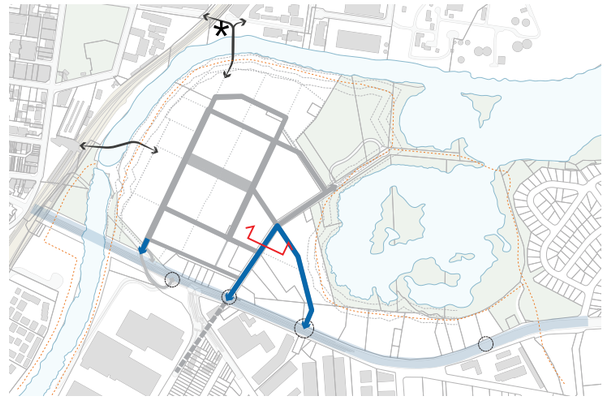
Precedent examples

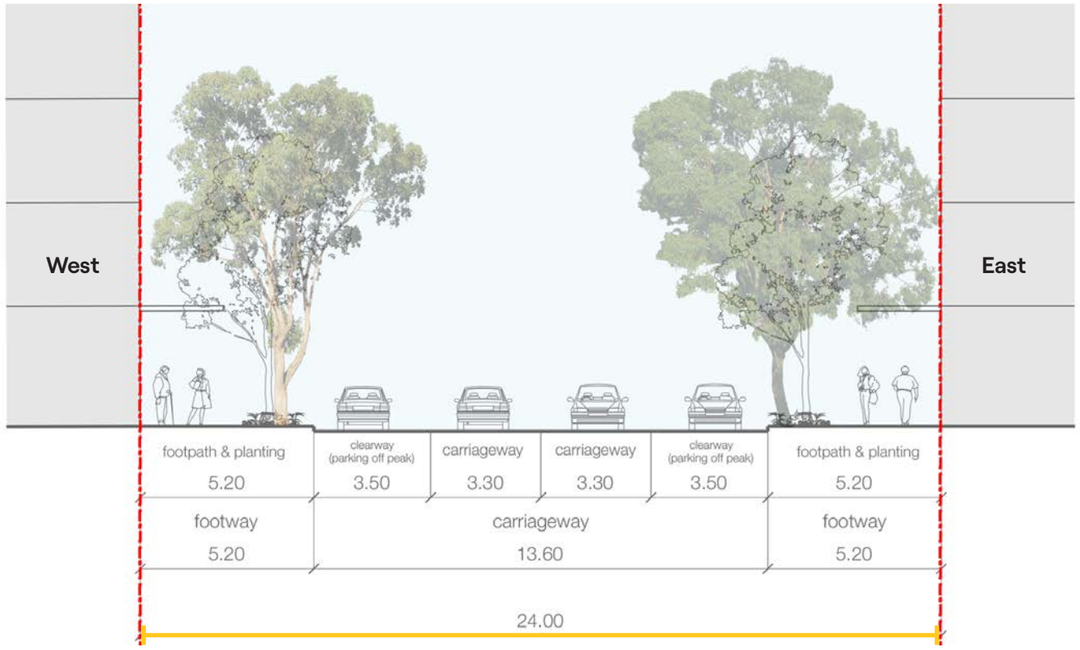
1. Albert Park Environmental Arts Hub, Melbourne
2. Jardin des Fonderies, France
3. Paddington Reservoir, Sydney

Development pad boundary
Street reservation
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

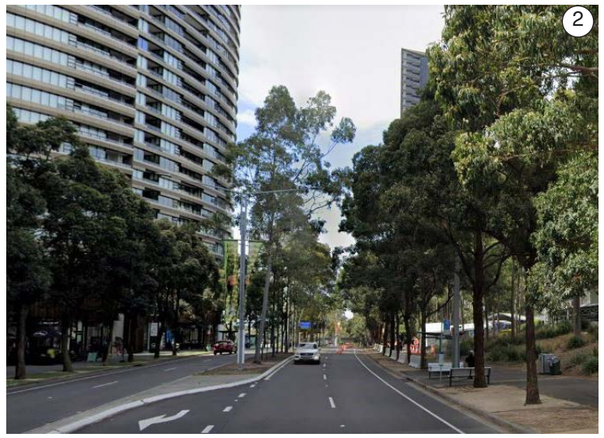
Street types - entry and exit streets (24m)







Entry and exit streets (24m)



Design considerations

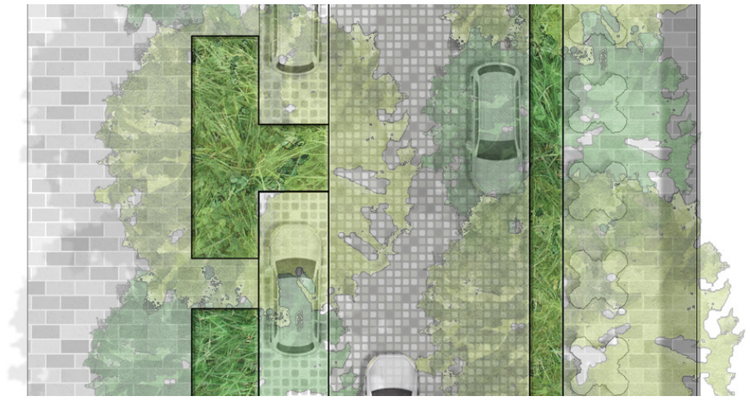
- Slow street
- Potential for rollover kerbs
- Parking interspersed with tree pits
- Appropriate for bus route
- In-lane bus stops where appropriate

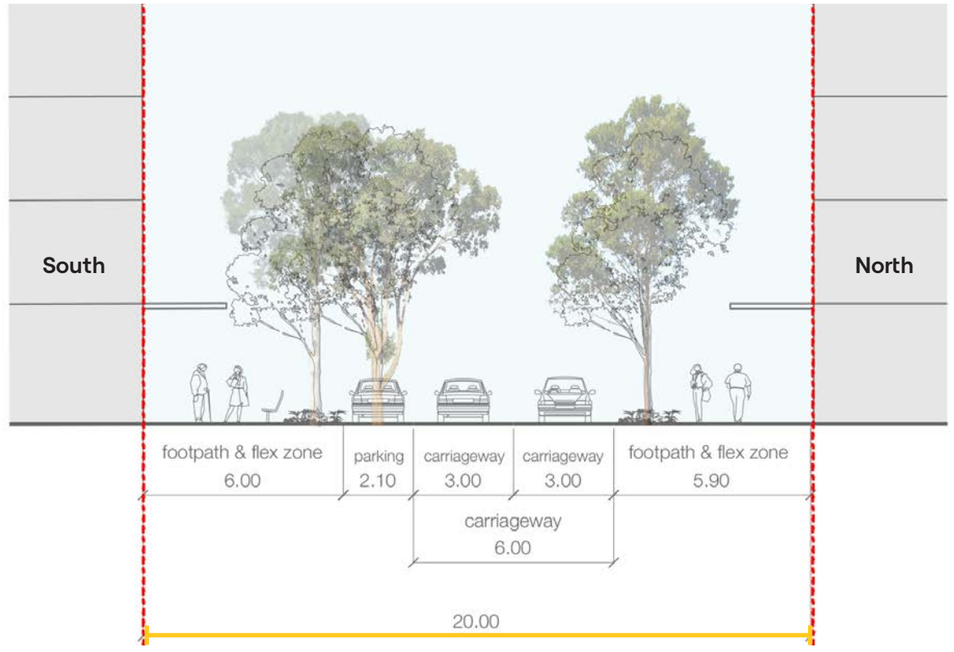
Precedent examples

1. Collins Street, Melbourne
2. Australia Avenue, Sydney Olympic Park
3. Victoria Avenue, Chatswood

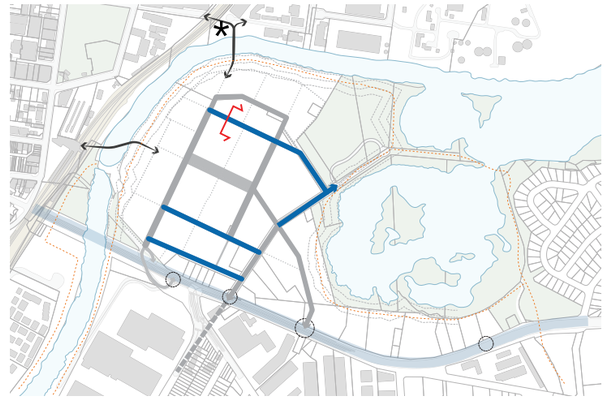
Development pad boundary
Street reservation
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

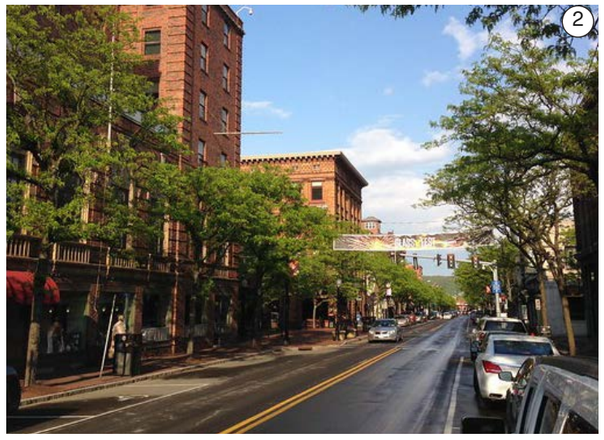
Street types - primary street (20m)





Primary street (20m)





Design considerations

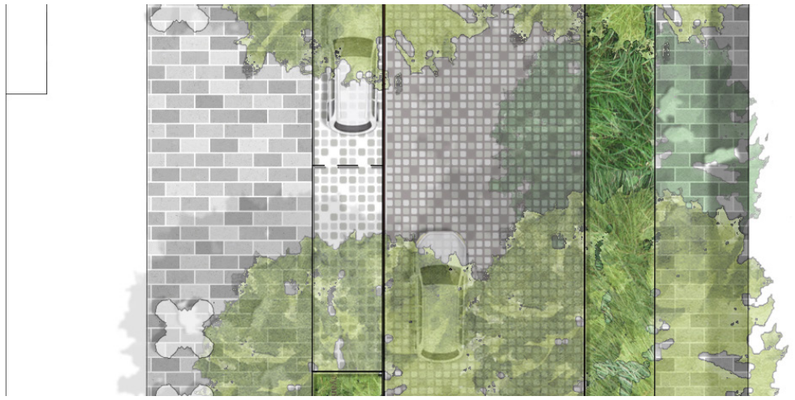
- Slow street
- Kerbless carriageway
- Potential for shared cycle and pedestrian paths
- Parking interspersed with tree pits

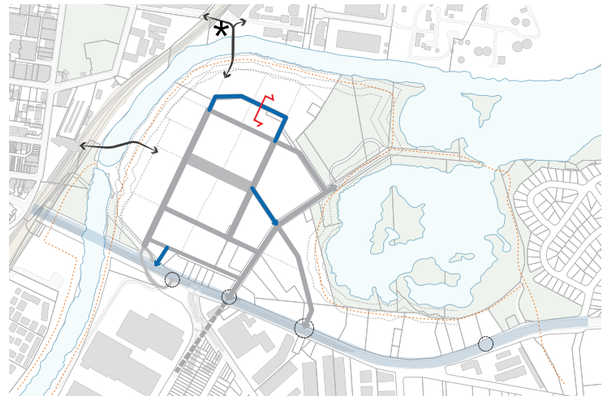
Precedent examples

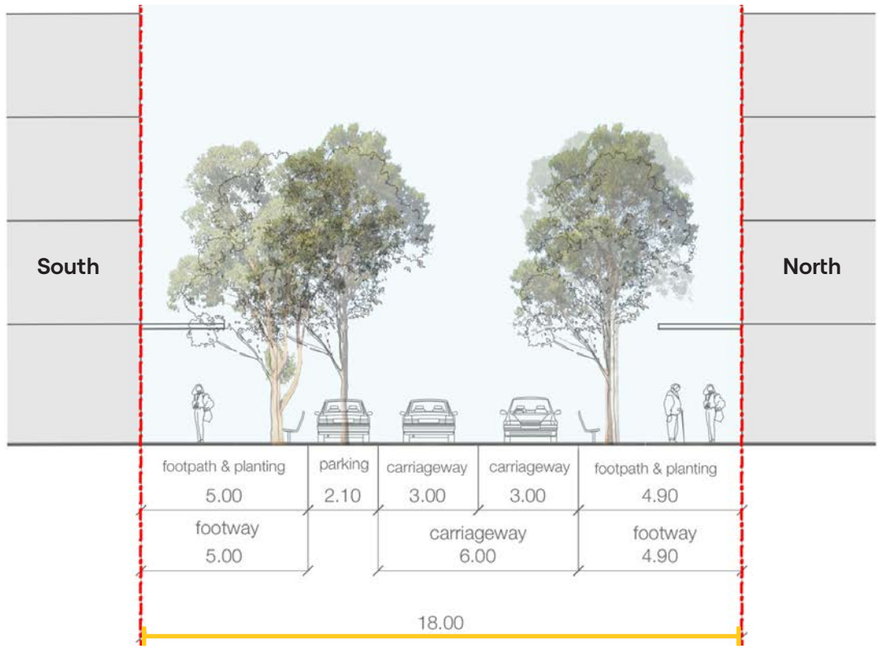
1. Crown Street, Sydney
2. Market Street, Corning, New York
3. Swanston Street, Melbourne

Development pad boundary
Street reservation
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

Street types - secondary street (18m)







Secondary street (18m)

Design considerations

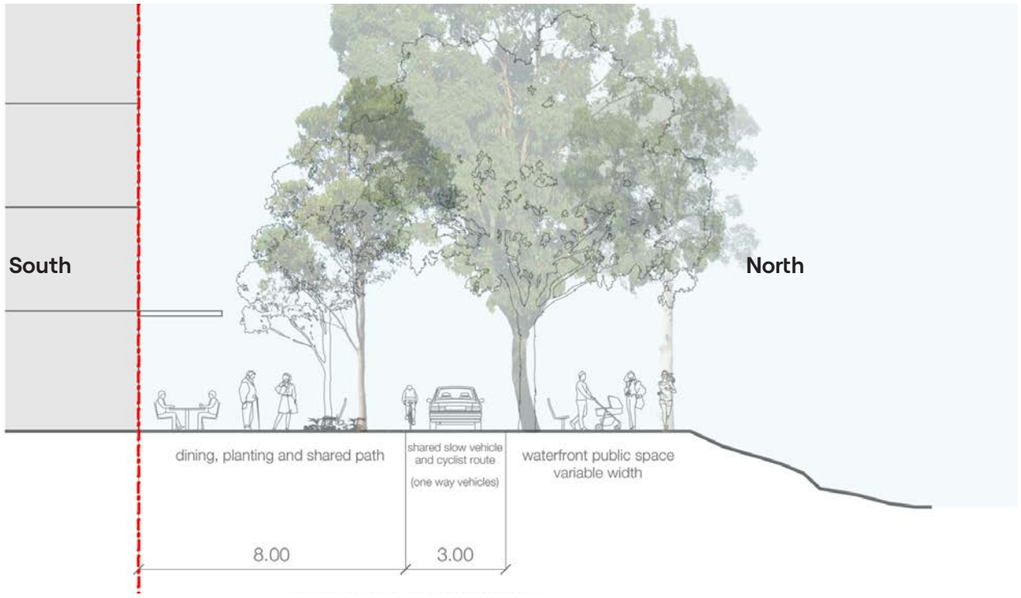
- Slow street
- Potential for kerbless carriageway
- Parking interspersed with tree pits
- Pedestrian and cyclist priority
- Potential for full shared street

Precedent examples

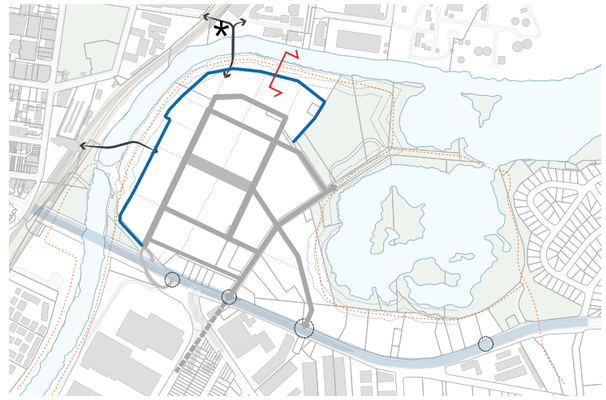
1. Charenton-Le-Ponte
2. Avenue 16 de Septiembre, Mexico City
3. New Road, Brighton

Development pad boundary
Street reservation
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

Street types - Riverfront promenade (variable width)



Riverfront promenade (variable width)



Design considerations

- Pedestrian oriented street and space
- Slow one way vehicular movement shared with cyclists
- Kerbless carriageway with traffic calming measures such as cobbles, raised thresholds and bollards
- Active frontages line this promenade
- Extensive tree planting and potential for deep soil

Precedent examples

1. Wharf Road Gardens, London
2. Barangaroo Headland Park, Sydney
3. Southbank waterfront, Brisbane

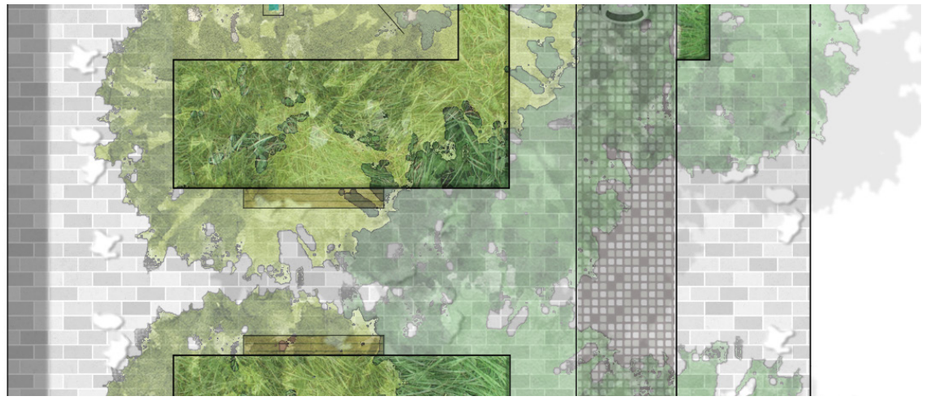
Development pad boundary

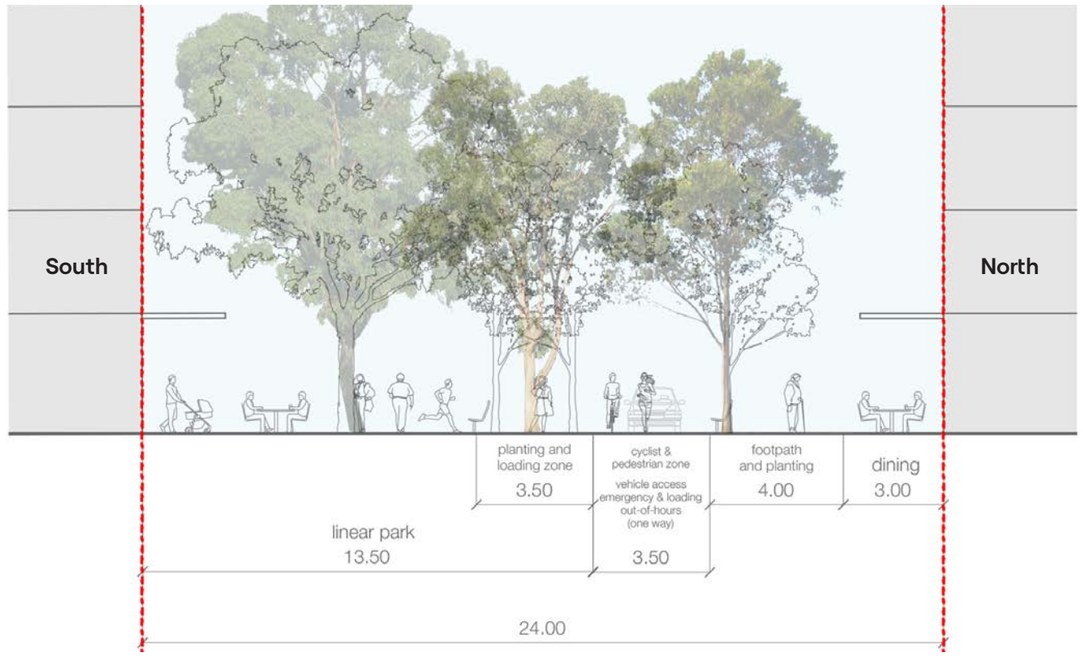
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

Northern foreshore space

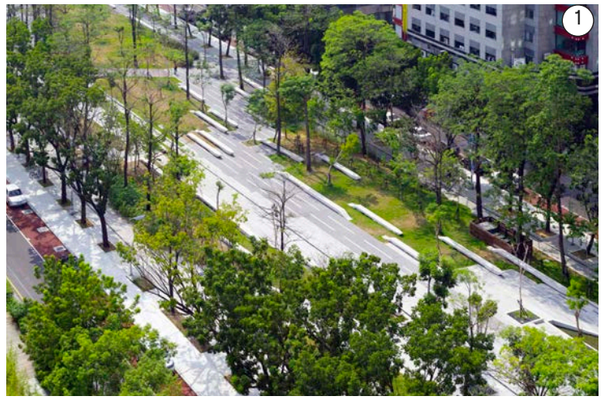
The northern foreshore edge is part of the larger riverfront park which is both a space for pedestrian and cyclist movement as well as passive and active recreation.

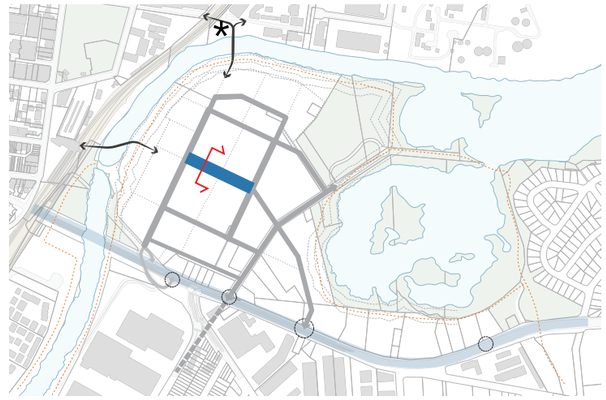
9.4 Street types - green spine (24m)

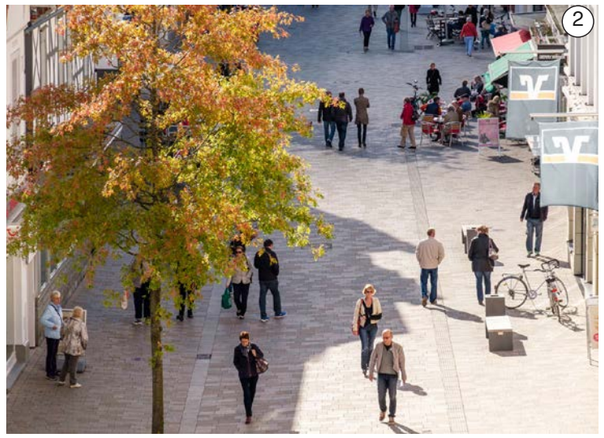


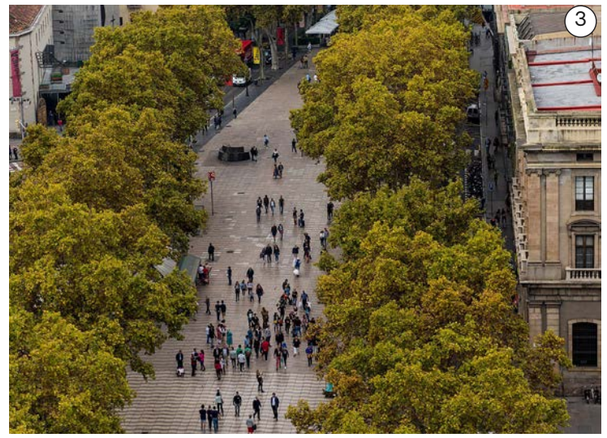


Green spine (24m)









Design considerations

- Pedestrian and cyclist shared public domain
- Kerbless carriageway
- Potential for slow traffic at certain times of day
- Active frontages line this space
- Extensive tree planting and potential for deep soil
- Potential for community facilities along this street such as outdoor gyms, playgrounds and water sensitive design swales

Precedent examples

1. Calligraphy Greenway, Taiwan
2. Bad Salzuflen, Germany
3. La Rambla, Barcelona

Development pad boundary

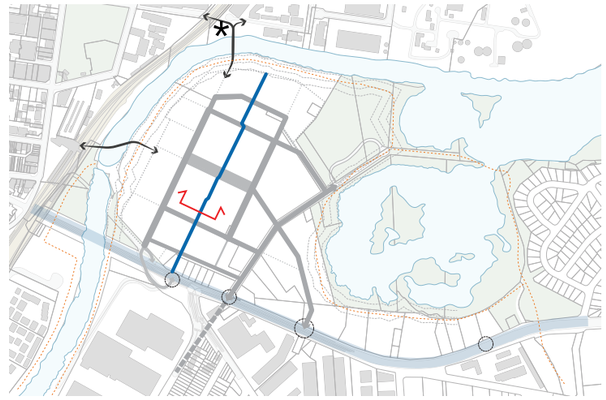
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

East-west pedestrian connection/space

The city spine will be activated by people moving east-west through the precinct to and from the train station and Liverpool City Centre.

9.5 Street types - pedestrian spine (20m)

Pedestrian spine (20m)



Design considerations

- Pedestrian and cyclist shared public domain
- Emergency vehicle access only with kerbless carriageway
- Fine grain active frontages line this space
- Extensive tree planting and potential for deep soil

Precedent examples

1. Steam Mill lane, Sydney
2. Kensington lane, Sydney
3. Pitt Street Mall, Sydney

Development pad boundary

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

9.6 Through site connections strategy

Moore Point will have a range of through site connections with different spatial conditions as illustrated in the plan to the right. These links are:

- Through building link (indicative)
- Through building link or laneway (internalised or open to sky)
- Laneway (open to sky) with opportunity for slow vehicular servicing or movement where appropriate

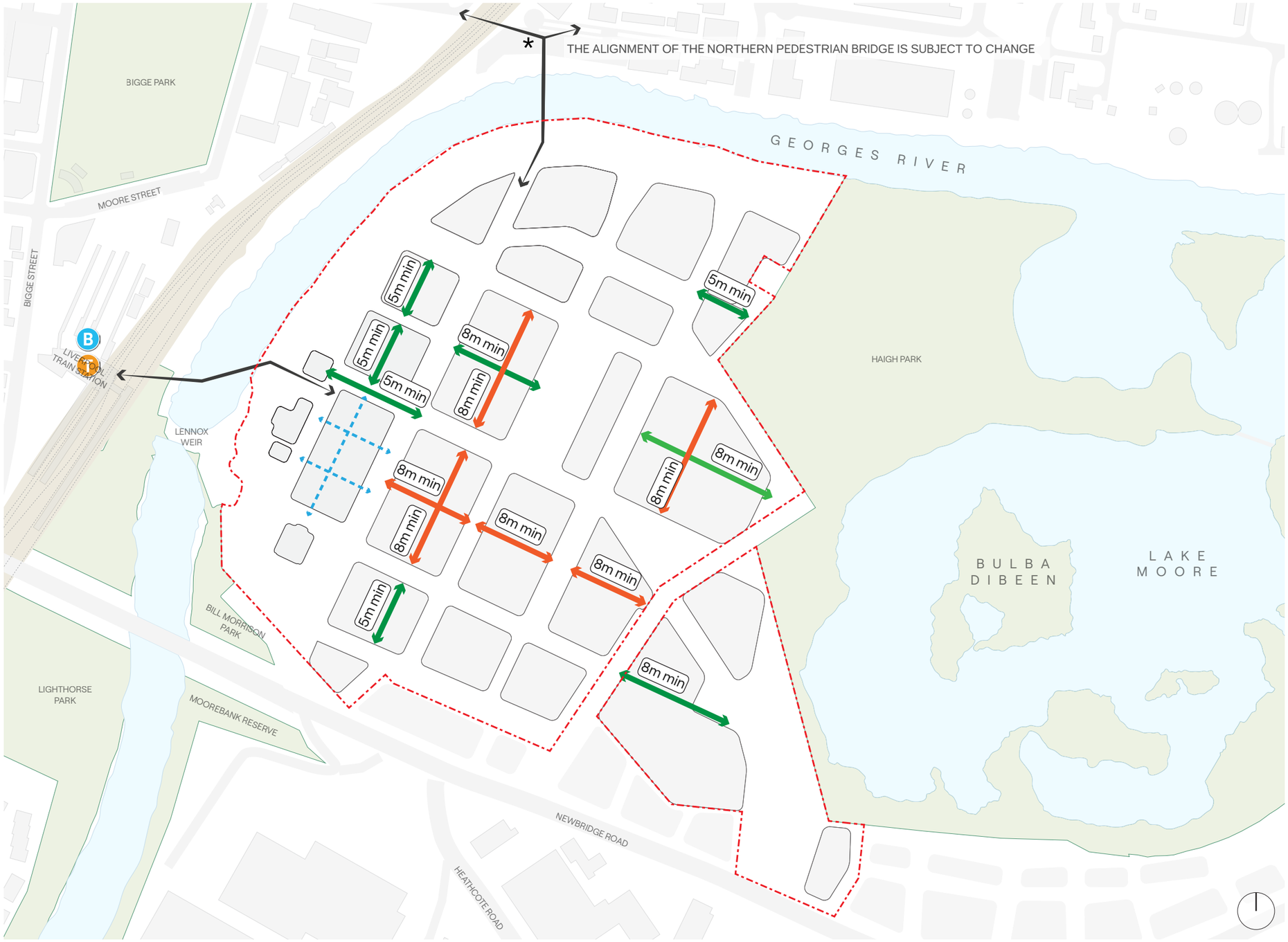
The plan indicatively illustrates the approximate alignment which should be interrogated in future development applications. The identified connection should be delivered in principle although the alignment may be refined.

Development priorities for these links include:

- Publicly accessible but privately owned
- Good passive surveillance from adjacent commercial and residential uses
- Accessible to the public throughout daylight hours and appropriate evening hours
- Some links can be used 24 hours a day
- School through site link should open out of school hours

Through site links for pedestrians and shared pedestrian and vehicular lanes are to:

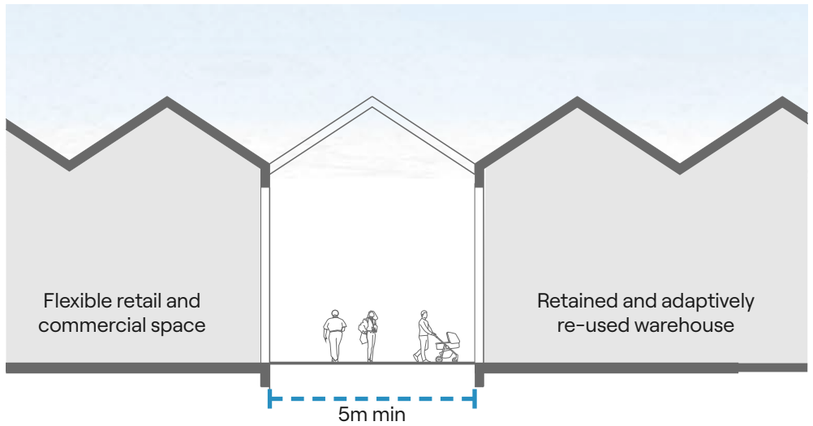
- Maximise active ground floor frontage (refer to active frontages strategy)
- Be legible and direct throughways
- Provide public access at all business trading times when the link is through a development and at all times for lanes.
- Where active frontages are not provided, other means of engagement with pedestrians are encouraged, such as artworks, landscaping, and installations

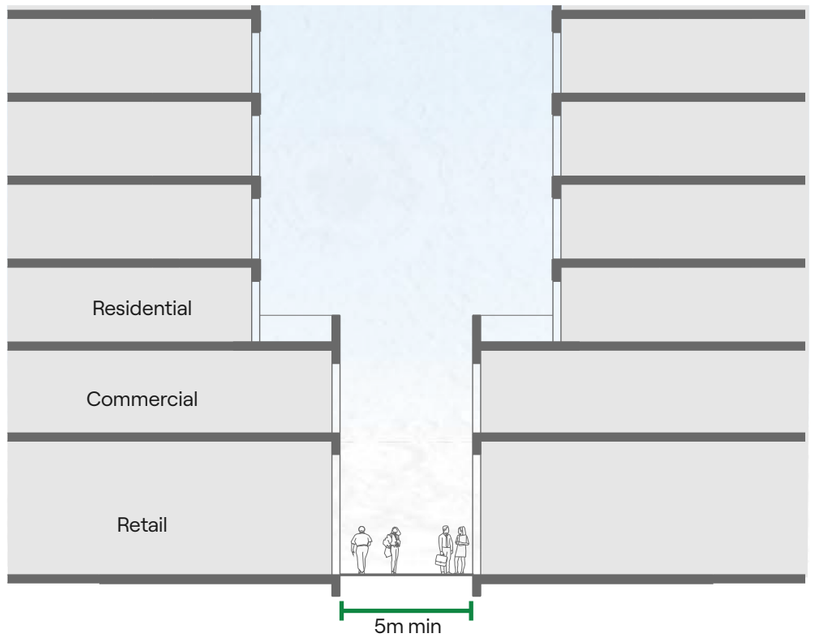


Planning Proposal boundary
Through building link (indicative)
Through building link or laneway (internalised or open to sky)
Laneway (open to sky)
Through school link
proposed pedestrian bridge

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Through site connections strategy





Through building link

- Publicly accessible
- Direct covered connection through existing buildings accessible during daylight hours and appropriate evening hours
- Facilitation of heritage and/or finer grain adaptive re-use

Laneway

- Publicly accessible
- Development directly addresses the laneway with the encouragement of active uses at ground
- Shared vehicular and pedestrian lanes with traffic calming measures to ensure slow speeds
- Prioritise tenancies on corners and fronting public spaces

Laneway/Through building link

- Publicly accessible
- Clear sense of legibility and ample apertures to enable views up, down and through the link
- Active frontages and other means of engagement to emphasise pedestrian oriented character

9.7 Parking strategy

Moore Point will have a range of parking rates to accommodate the changing transport and movement needs of residents businesses over decades of anticipated development. The parking rates which relate to the categories listed below are prescribed in the Mecone Planning Package of work.

- Category A parking rates
- Category B parking rates
- Category C parking rates

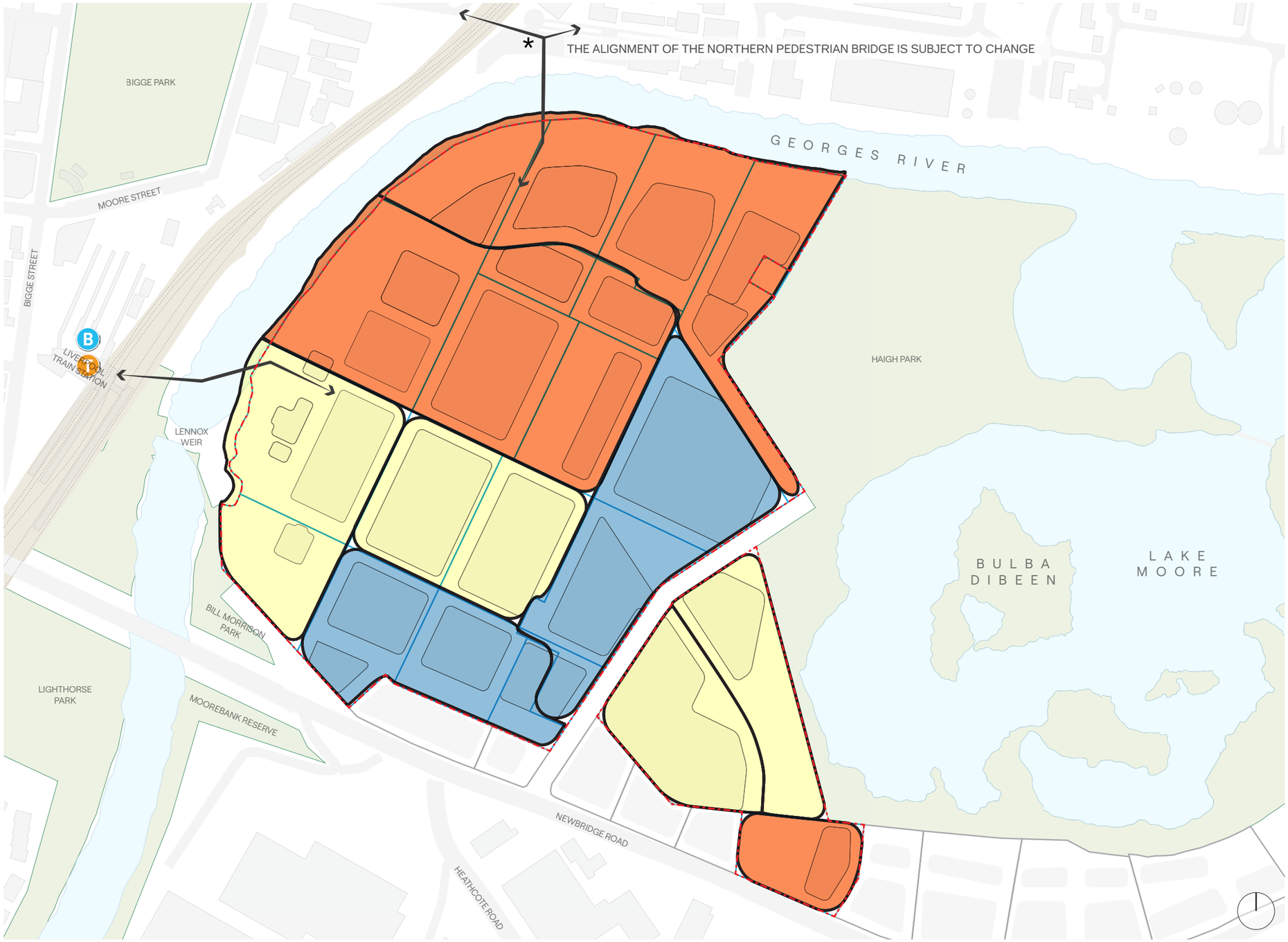
In addition to the pedestrian focused desired future character of Moore Point, the implementation of these parking rates is based on work by Ramboll (transport & traffic) and Mott McDonald (ESD). The approach envisages a reduction in conventional parking rate approaches based on:

- Close proximity to Liverpool Train station and associated modal shift to public transport.
- Active transport opportunities (walking / cycling) associated with new bridges into Liverpool CBD and innovation precinct as well as cycle paths throughout Moore Point.
- Reduction in car ownership associated with lifestyle choices and range of employment opportunities within the site which allow residents to walk to work.
- Envisaged technology driven changes to private vehicle use such as ride share, car stacking and car rental schemes.

It is anticipated that parking will be delivered throughout the precinct in three ways:

- On-street
- Within basements
- Within podia sleeved with other uses

There is a strong preference for minimising on-street parking to maximise the area afforded to pedestrians.



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10

Built Form

This section outlines the range of building typologies and built form controls which combine to create envelopes which underpin masterplan and future development.

10.1 Built form place strategy

The built form place strategy for Moore Point reflects the site's existing natural and built features, historic urban morphology, height transition, solar access to surrounding spaces, street design, views and vistas proximity to Liverpool CBD and the aspirations for this site. Technical studies (Northrop, Motts, Turf etc) on solar access, parking provision, traffic movement and microclimatic analysis have also informed these categorisations.

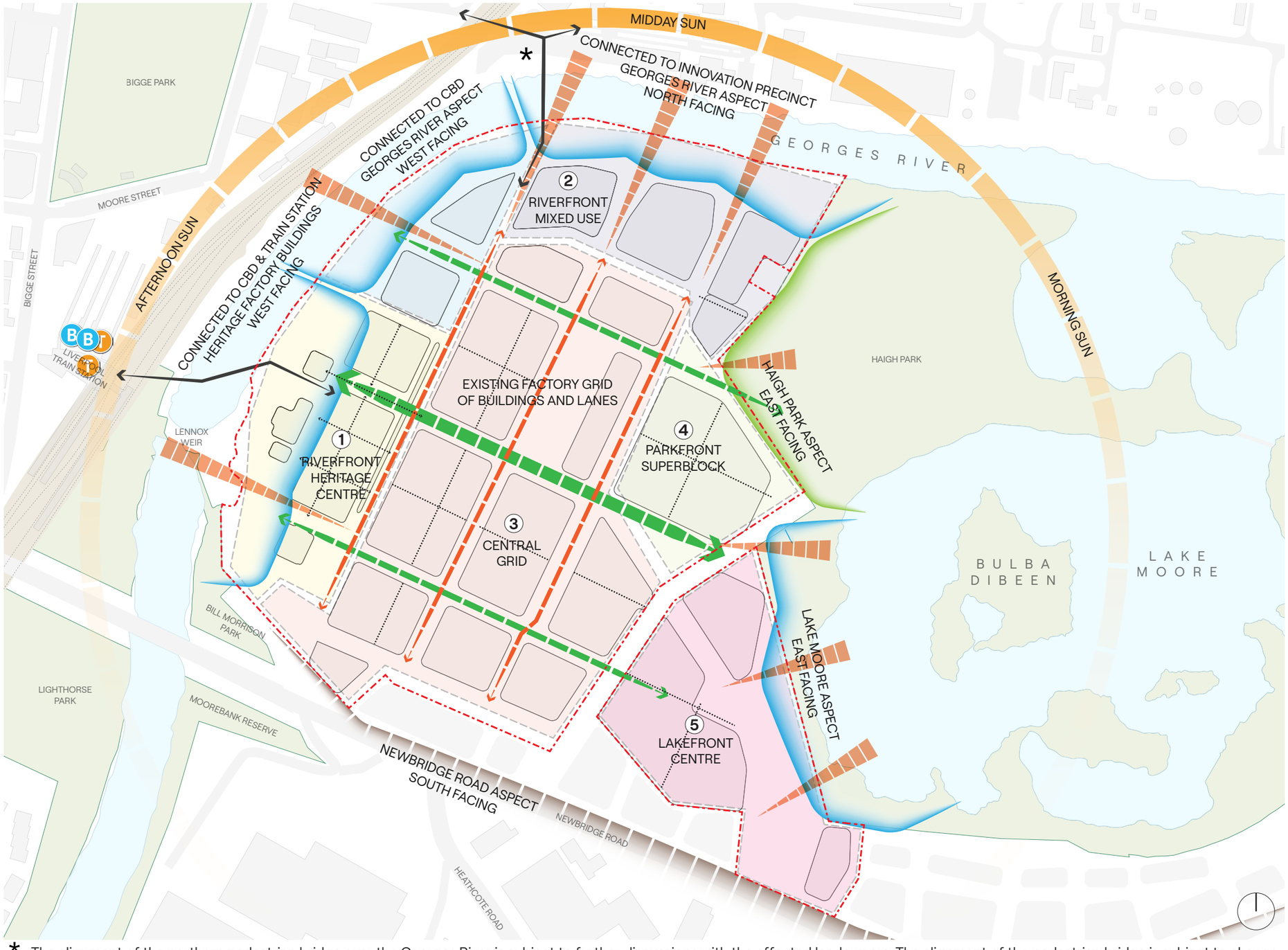
These interrelated elements have been illustrated in the plan to the right which outlines five built form places including:

1. Riverfront heritage centre
2. Riverfront mixed use
3. Central grid
4. Parkfront superblock
5. Lakefront centre

These built form places have informed following suite of built form structure plans and controls including:

- Built form typologies
- Ground plane activation
- Streetwalls and podia
- Cantilever control
- Podium modulation control
- Landmark tower control
- Tower zones control
- Parking

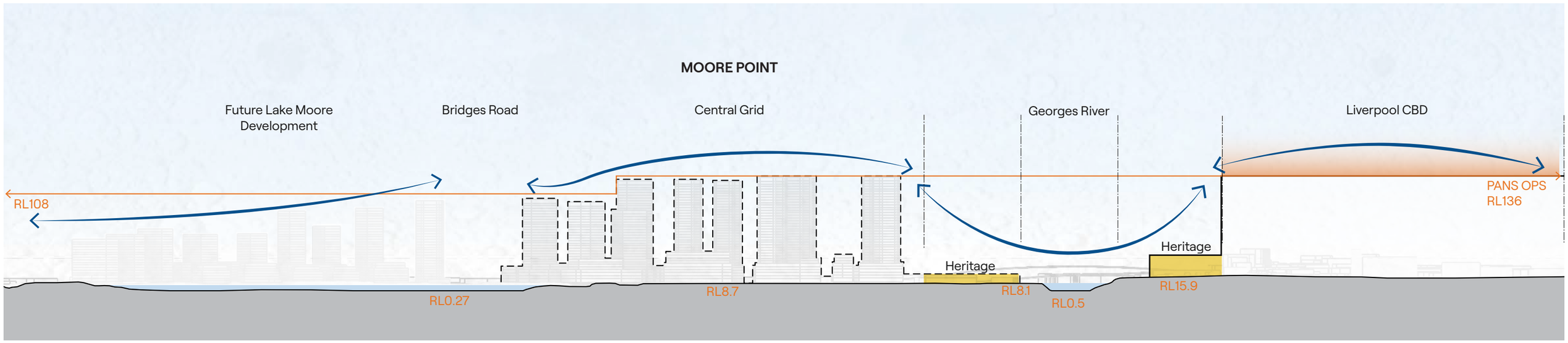
Each of these strategies is unpacked in the following pages.



- Planning Proposal boundary
- East-west mid block connections
- North-south factory grid
- Aspect
- Key view
- Daily path of sun
- Proposed pedestrian bridge
- Through site link

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

10.2 Indicative section



Transition of built form down to Lake Moore waterfront with active frontages

Typical development typologies within the central grid and pedestrian-oriented streets

Retention of heritage factories adjacent to the Georges River, bringing activity down to the riverfront

Commercial focus with views to Liverpool CBD

- Pans Ops (Strategic Airspace)
- Indicative building envelope
- Heritage factory waterfront

Northern Foreshore Park

Food and beverage offerings within podium levels activate the streetscape and complement activity in the riverfront park.

10.3 Frontage strategy

The quality of the streets and pedestrian experience will largely be determined by the characteristics of the building frontages on the ground plane. Moore Point will have a range of frontages with different spatial conditions as illustrated in the plan to the right. These frontages are:

- Active frontage
- Positive frontage with potential for vehicular servicing
- Service frontage with limited opportunities for activation

Active frontage uses are defined as one, or a combination of the following at street level, or at the river frontage:

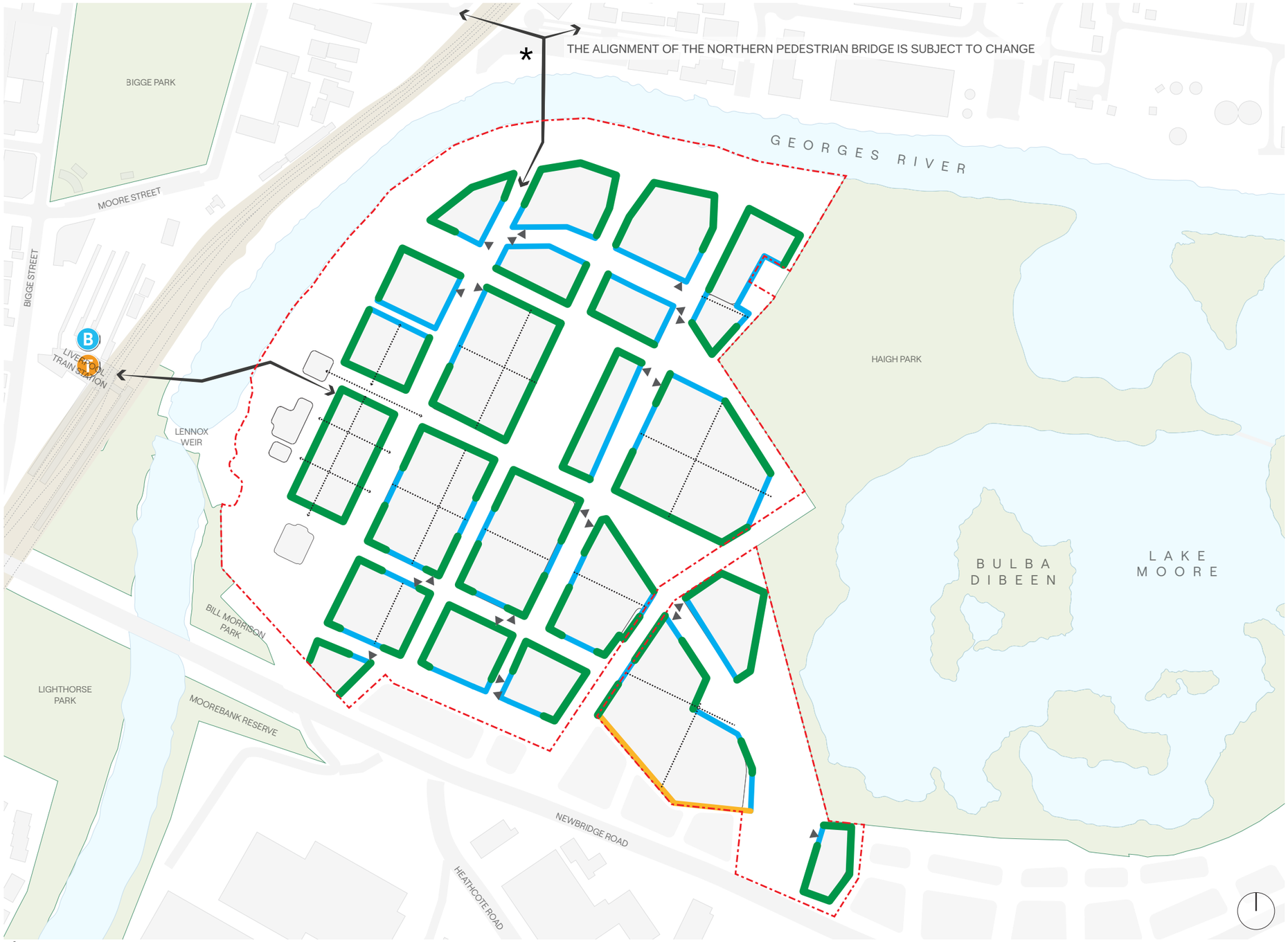
- Entrance to retail
- Shop front
- Glazed entries to lobbies
- Café or restaurant if accompanied by an entry from the street
- Active office uses, such as reception, if visible from the street
- Public building if accompanied by an entry

It is expected that for every frontage designated 'active' a minimum of 5m or 80% (whichever is the greater) should be active. It is anticipated that all active frontages should have a minimum 2m wide awning which should be shaped to accommodate trees and their canopy.

This plan outlines the design intent for the type of frontage noting that some elements for building and street functionality may conflict with this intent such as:

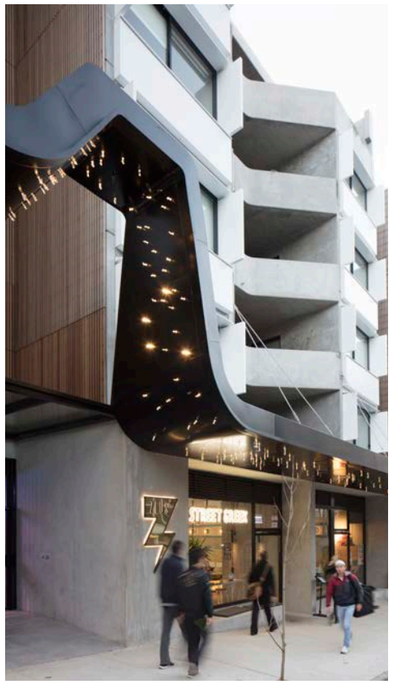
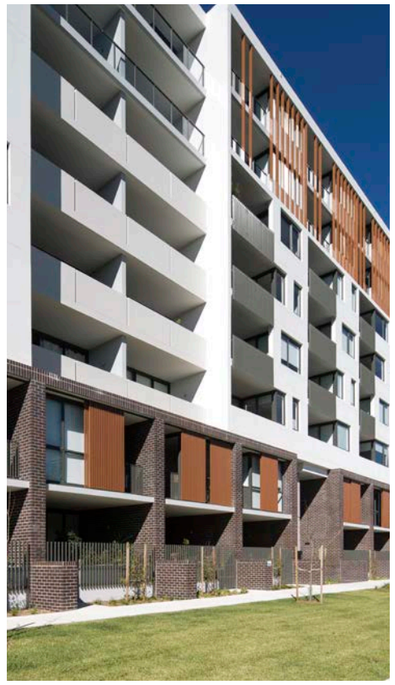
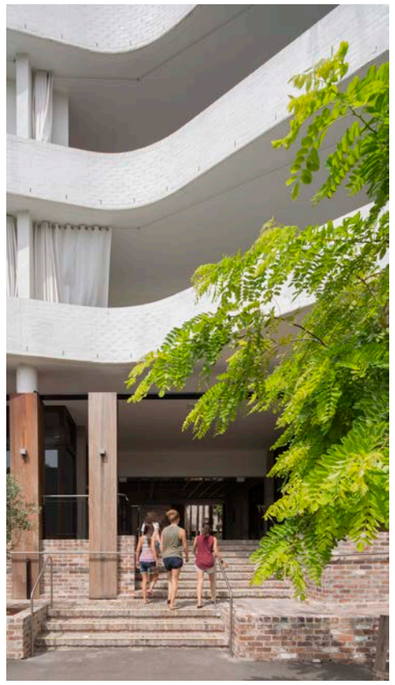
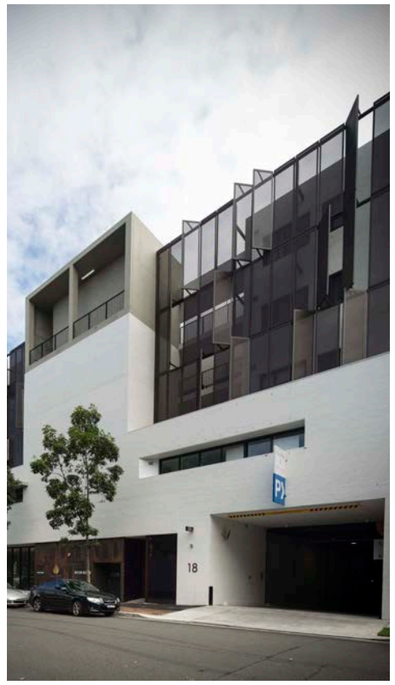
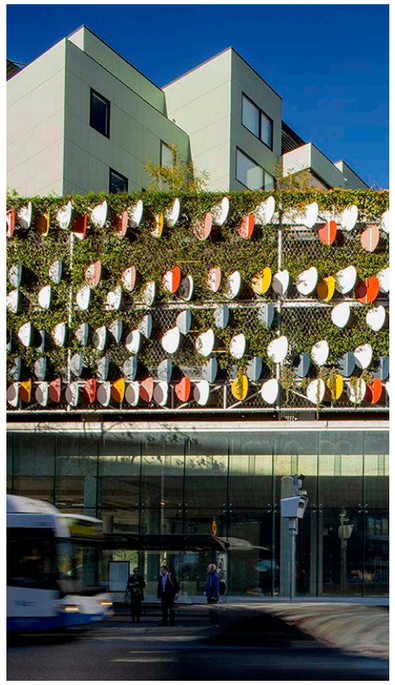
- building services such as boosters, substations
- fire escape access
- ramps and vehicular access points
- on street loading

Building infrastructure and necessary compliance requirements as noted above should be aligned to service frontages and positive frontages as opposed to designated active frontages.



* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Frontage strategy

Active frontage

Active frontages support direct interaction between people and businesses within the building and pedestrians on the footpaths and in the spaces outside the building. They support vibrant streets and spaces and require the right mix of land uses and good visual exposure for shopfronts and food and beverage businesses to be commercially attractive. They also enhance public security, passive surveillance and improve the amenity of the public domain by encouraging pedestrian activity.

Considerations include:

- Position and character of lobbies and entrances i.e. triple height with an open ground plane
- Elevation changes between the building and street need ramps and stairs for integration
- Exposure for tenancies i.e. glass is often used for commercial and retail businesses to entice customers to the premises
- Moveable facade elements - i.e. doors and awnings which can change acording to time of day, weather and season
- Ground floor design should address the outlook of the cafe onto the space or street especially if the entrance is at grade
- Presence of a canopy or trees for shade

Positive frontage

Positive frontages aim to ensure that the street interfaces of mixed-use developments do not impose compromised ground floor outcomes and relationships with the public domain. Positive frontages would ideally allow for a clear distinction between public and private access, as well reducing conflict between pedestrians and vehicles where applicable.

Considerations include:

- Size and desired character of the setback to the street
- Manner of access to the dwelling - i.e. at grade or via a set of steps
- The ground floor can be elevated creating a private terrace for residents inside
- Elevated ground floor can be paired with planting to screen the ground floor to improve privacy for occupants but also ensure passive surveillance of the street for people looking out
- Basement ventilation can also be placed behind vegetation in some circumstances
- Built form above can project over the ground floor setback depending on the desire typology (i.e. integrated terrace/maisonette) which creates an enclosed space and shaded space

Service frontage

Service frontages are designated areas used for vehicular entries, as well as other back of house activities. They consolidate infrastructure to a speciific zone which minimises disruptions to traffic flow along surrounding streets, and maximises opportunity for active and/or positive frontages.

Considerations include:

- Access points should be integrated into the building facade and be as discrete as possible using strategies such as:
    - locating access points at the lowest point of the site to minimise ramp lengths and excavation
    - street trees, planters and green walls should screen entrances where possible
    - materials and colour palette should soften the threshold between street and entrance
    - separating pedestrian access points (i.e. lobbies and through-site links) from vehicular ones
    - good design of entrance doors (i.e. lasercut screens)
- Other servicing requirement such as parking, hydrants, risers, waste collection, loading zones and storage should be clustered and screened where possible

10.4 Waste servicing strategy

Waste servicing will be in accordance with Liverpool City Council's guidelines for waste management and accompanied within new development. This may include the following strategies:

- In the building's basement, or
- At grade within the building in a dedicated collection or loading bay, or
- At grade and off-street within a safe vehicular circulation system where vehicles will enter and exit in a forward direction.

Further consideration of waste strategies will be explored as part of preparing the site-specific DCP for the Precinct post-Gateway. Future DAs will also require preparation of a Waste Management Plan by a suitably qualified waste consultant to ensure compliance with relevant policies, codes and standards.

Planning Proposal boundary

Indicative waste collection access point (subject to further design)

Proposed pedestrian bridge

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Visualisation

Streetwall heights establish a human scale to the precinct and ground the high density residential towers.

10.5 Streetwalls and podia strategy

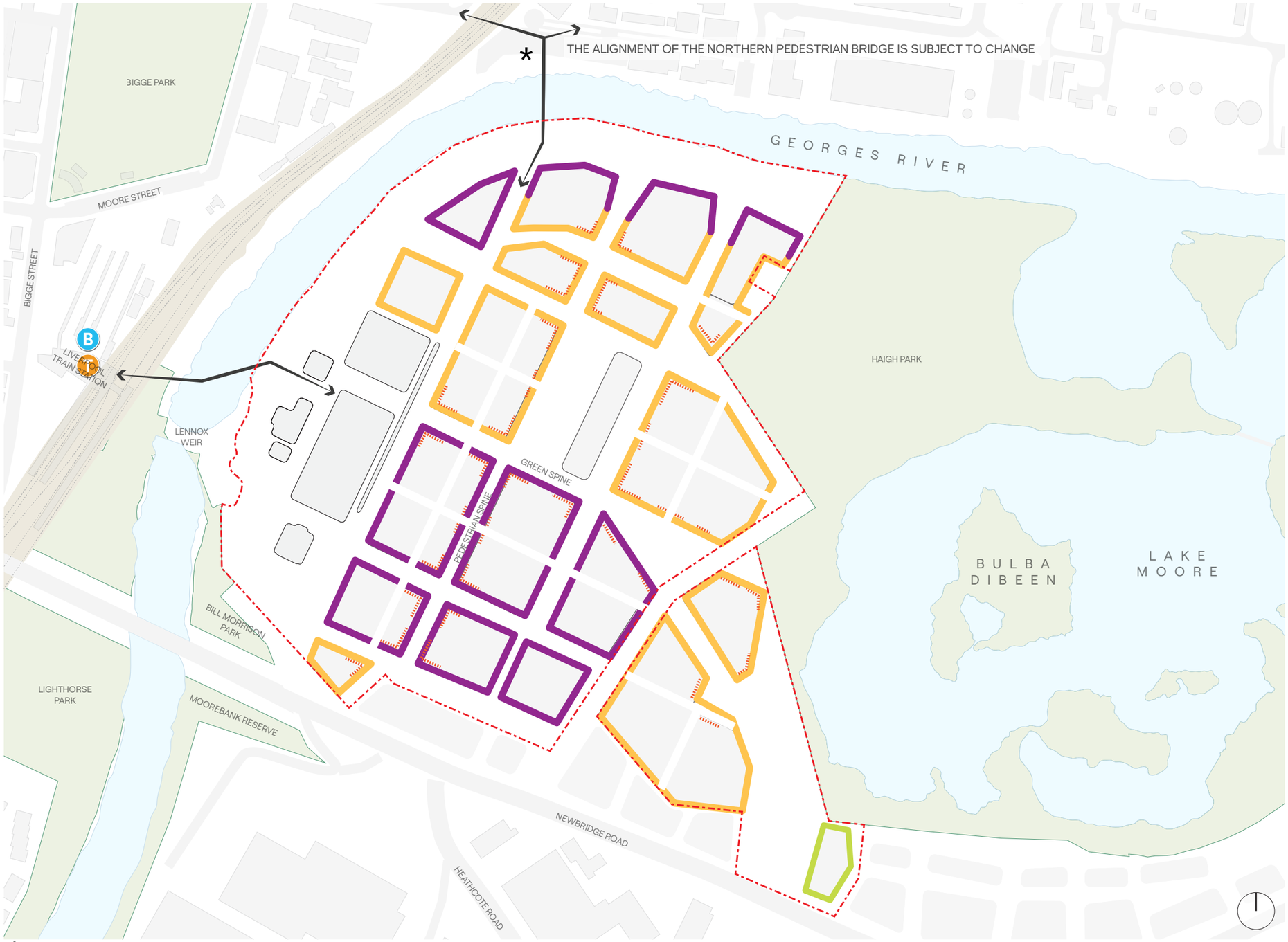
The definition of streets and the public domain will be determined by the scale, separation and treatment of the streetwalls and podia. These built form elements also provide a number of important attributes required to support a development of this type and scale including:

- larger floorplates for non-residential uses
- screened and sleeved above ground parking
- podium rooftop communal open space
- wind impact and downwash mitigation

Moore Point will have a variety of streetwall conditions which are reflective of the desired street character and enclosure. The adjacent plan illustrates the maximum streetwall heights which are as follows:

- Up to 2 storey maximum (9m max)
- Up to 4 storeys maximum (16m max)
- Up to 6 storeys maximum (24m max)

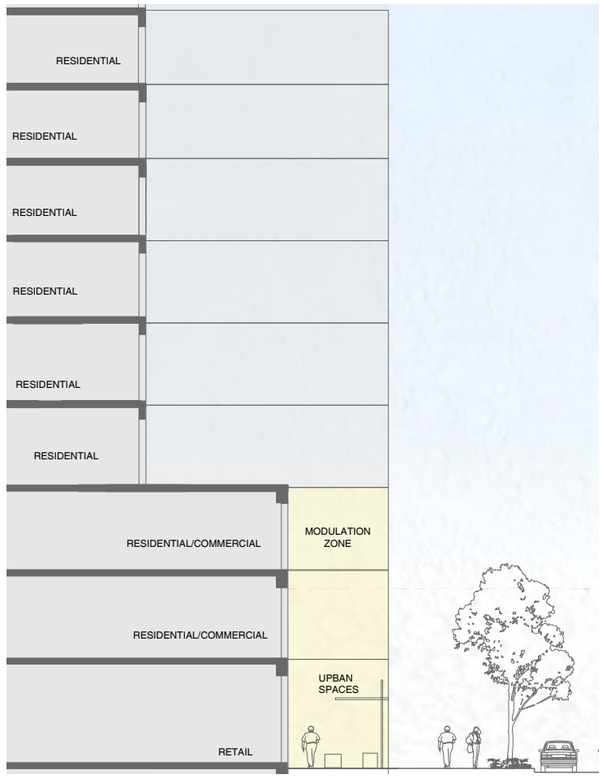
Podium modulation and articulation should be explored throughout the masterplan and especially along the north-south pedestrian spine and open spaces (local and pocket parks) within the built form grid. This should be aligned with building lobbies, public spaces and ground floor commercial tenancies (F&B) to promote visual interest, opportunities for breakout space, personalisation along the building frontage and a vibrant streetscape. Refer to Hatch Roberts Day report for supplementary information.



- Planning Proposal boundary
- 2 storey streetwall (9m above ground floor level)
- 4 storey streetwall (16m above ground floor level)
- 6 storey streetwall (24m above ground floor level)
- Area for podium modulation investigation adjacent to pedestrian spines and parks (local and pocket) within the masterplan grid

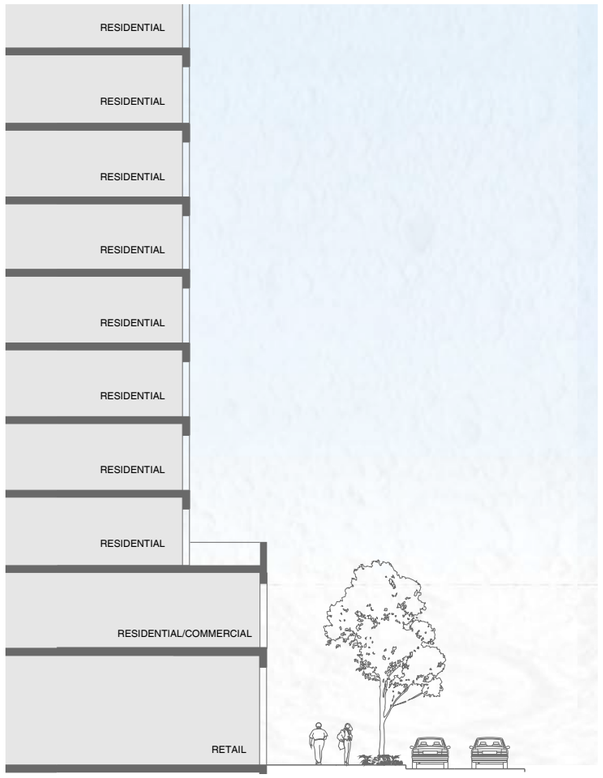
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Streetwalls and podia strategy



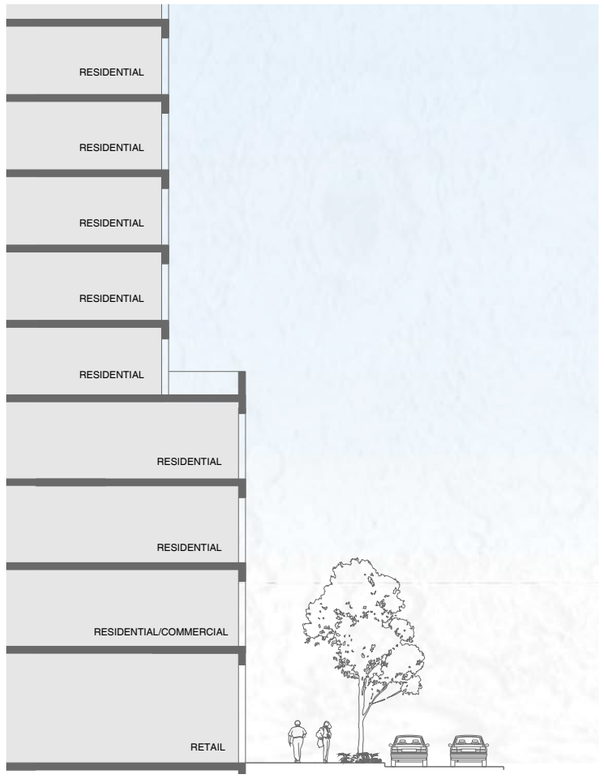
Podium Modulation

Zones stepped back from the built form edge to provide urban space that activates street corners.



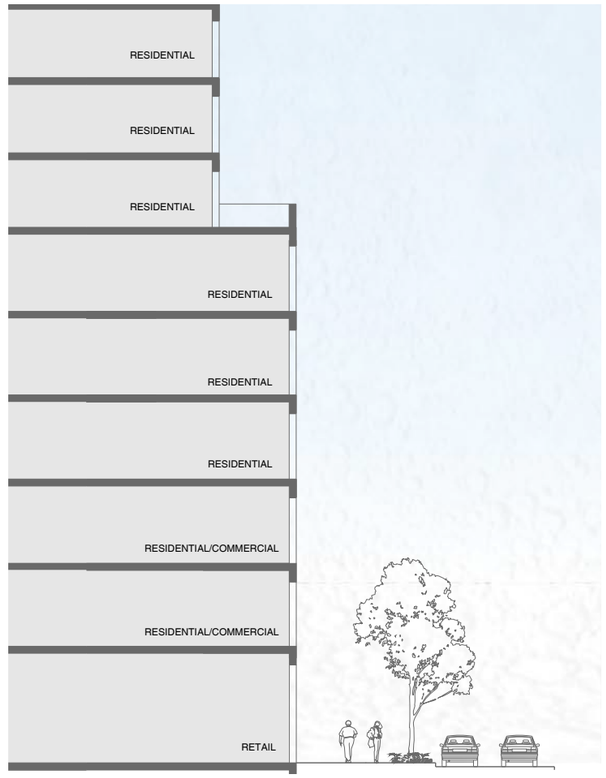
Two storey (9m)

Typical close to and around open space or defining edges of the public domain.



Four storey (16m)

Typical main street condition establishing a more intimate scale for areas with pedestrian activity.



Six storey (24m)

Typical in the south of the precinct along commercial spine and transport interchange, formalising the precinct's edge.

10.6 Above podium setback

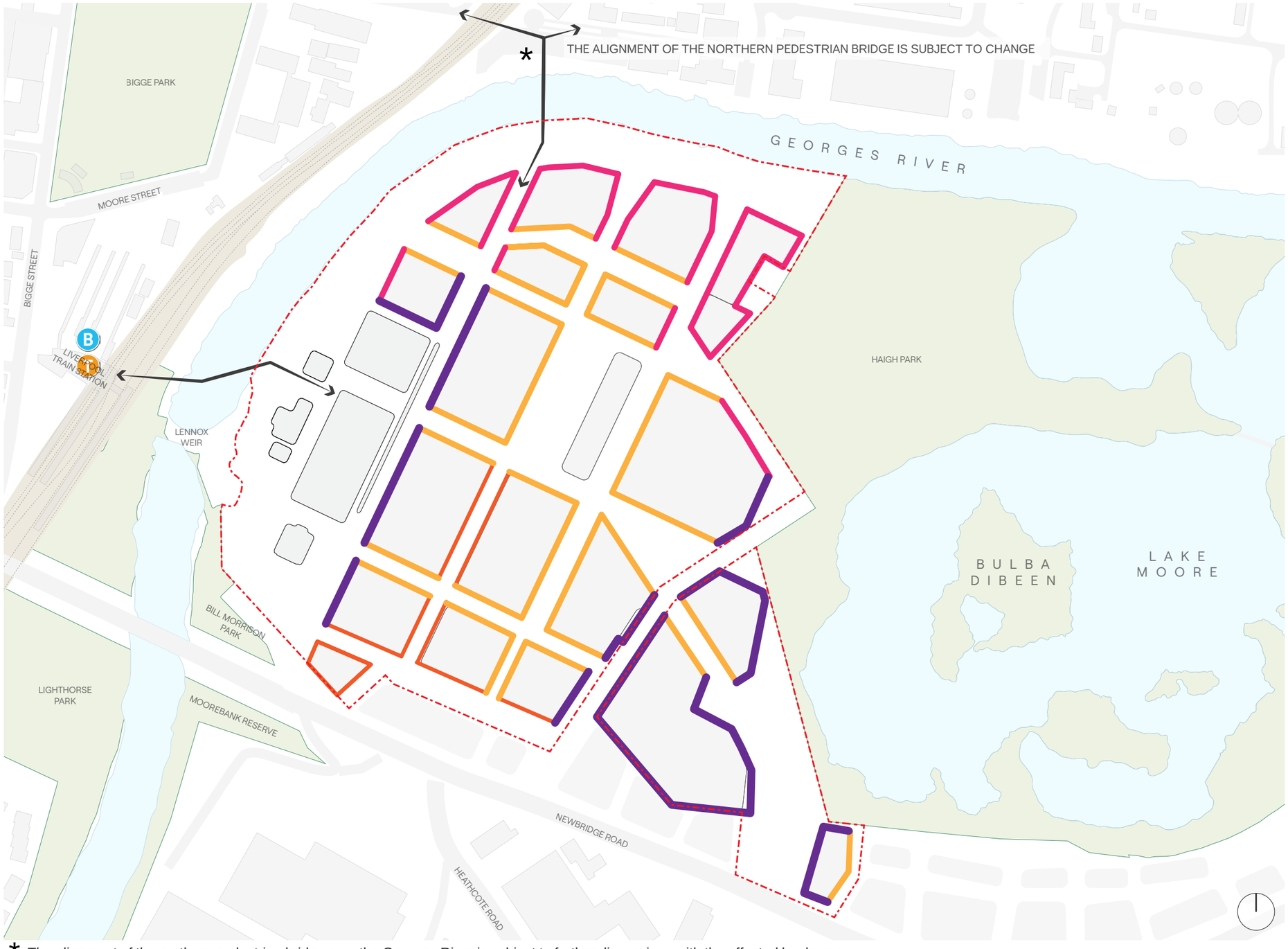
Tower forms are setback from site boundaries to improve the quality of the streetscape by expressing the podia, increasing the amount of daylight in streets and managing wind downdraft.

Moore Point features a variety of tower setback conditions to enhance the desired street character while allowing for architectural expression and flexibility in the built form.

The adjacent plan illustrates the maximum streetwall heights which are as follows:

- 2m above podium setback
- 3m above podium setback
- 4m above podium setback
- 6m above podium setback

Minor encroachments of the above podium setbacks are permissible where necessary to maximise solar access and aspect. A maximum of 10% of the tower mass may intrude upon the setback.



- Planning Proposal boundary
- 2m above podium setback
- 3m above podium setback
- 4m above podium setback
- 6m above podium setback

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

10.7 Structure Plan Envelope

The culmination of the various Built Form strategies has been represented in both plan and volumetrically, and essentially represent the spatial outcome for the future planning and design of buildings on the site.

The plans documented throughout the Built From chapter inform the overarching Structure Plan Envelope, within which the test scheme should be designed.

- Planning Proposal boundary
- Masterplan lots
- Structure plan envelope
- Tower articulation zone
- RL XX — Envelope maximum RL
- RL XX — Height of building
- Development pad RL (Northrop)
- Ground RL of neighbouring lots (Geo Point Surveyors)
- * The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

11

Character and Land Use

Local character is shaped by a combination of community, government and private enterprise while responding to the unique features of the site and its context.

11.1 Land use framework plan

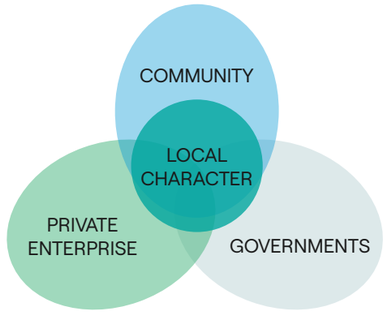
Moore Point will function as a complementary precinct to the Liverpool CBD. The majority of the precinct features mixed use developments to provide high rates of residential use with offerings of business, retail and community facilities on the ground floor of buildings and other strategic locations. Public and private recreation zones will support an ecologically rich and healthy environment. At the heart of the precinct, a local school will operate as integral community infrastructure.

Lot	Social Infrastructure	GFA
15	School	10,100m²
5	Potential to accommodate a second primary school subject to future detailed investigations	
5	Two court indoor recreation facility	3,000m²
16	Multipurpose community hub	2,000m²
9	Local level community facility connected to local park	400m²
Subject to further investigations	Multi-purpose community spaces	250m² each
Offsite	Contributions to library space	1,000m²

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

11.2 Character framework plan

Local character is shaped by a combination of community, government and private enterprise while responding to the unique features of the site and its context. Here, the landowners will play a role in defining the character by designing and delivering land use activities and developments, contributing to the local economy and vibrancy of the area.



Moore Point will have a range of built form typologies which are reflective of the intended use, ground floor condition, outlook, adjacent natural assets and other technical requirements. The built form places and associated typologies are listed below:

The location and form of each built form typology has been informed by a detailed analysis of the context and the spatial requirements for proposed uses.

Key built form design approaches influence:

- Locating retail, commercial and/or residential ground floor
- Ensuring block proportions accommodate ADG tower separation and above podium setbacks
- Designing blocks forms and positioning height to ensure appropriate street widths and good solar access to streets and public spaces
- Integrated 'terraces' over two storeys can form the podium base to provide dwelling diversity
- Residential or commercial podia can wrap (sleeve) parking in the core of the structure
- Range of staggered and differently aligned tower orientations to allow solar access to apartments and communal rooftop spaces
- Potential future adaptive reuse of interior parking structure to alternative land uses

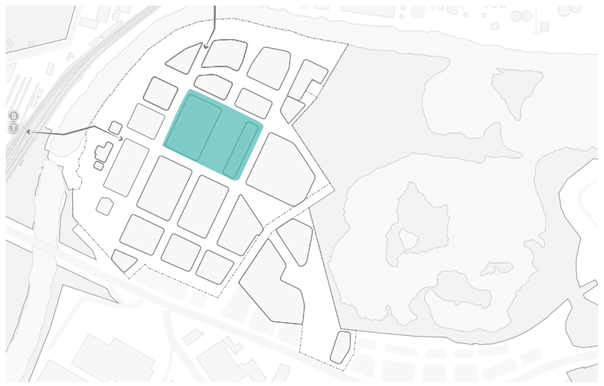
On the following pages we have outlined the prevailing built form and spatial characteristics for each area.

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Civic Village

Moore Point Civic Heart

- The character area is the civic heart of the Moore Point masterplan, housing the school, community hub and a civic park with active and passive recreation opportunities.
- The area is bisected by the pedestrian and green spines, activated by retail, connecting pedestrians to the river and lake.
- Intimate and active through site links run through the mixed use podia providing fine-grain connections to the surrounding public spaces.
- A shared slow movement street wraps around the north edge with wide mixed modal streets bounding the precinct to the east and west.
- The design of built form and landscape should primarily address the central civic public space.
- Podium tops should accommodate communal space and significant vegetation while the towers can align or deviate from the prevailing street grid to maximise views of the river, landscape and park as well as improve solar access to the buildings to the south.

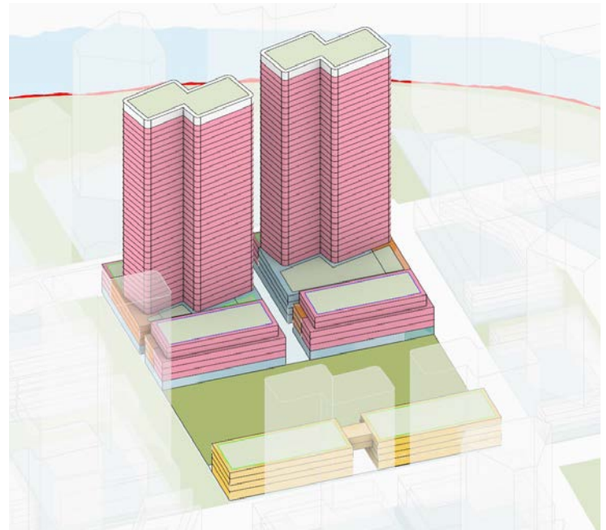


Key plan

Character plan

PRECINCT STATISTICS		32,136m²
Dwellings	Resi GFA	Non - Resi GFA
980+	84,000m² +	17,000m² +
People	Density	Workers
1,970+	308 dw/Ha	435+
School	Multi purpose communal space	
10,574m²	250 sqm	
Public Space*	Lots	
10,111m²	14, 15	

Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.



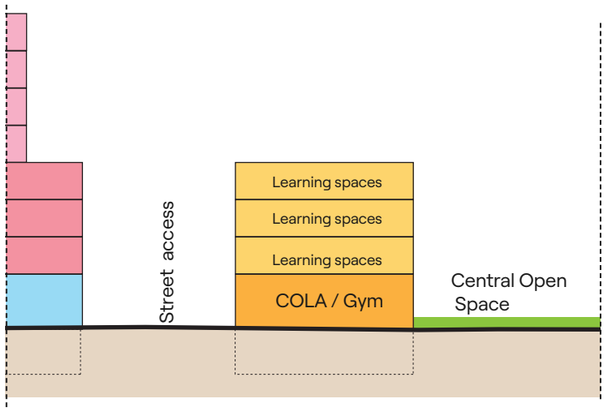
Character axonometric illustrating indicative building use

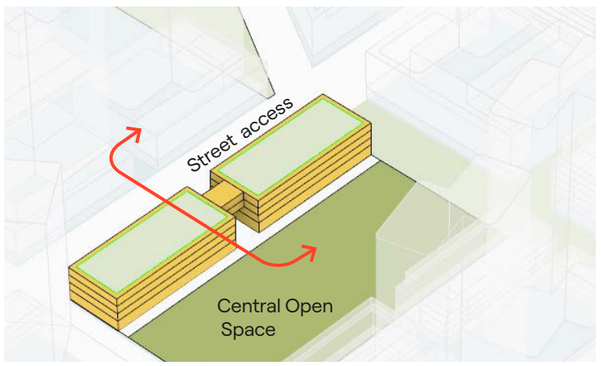
Civic Village - School

The schematic design of the school has been done in accordance with the Draft Urban Design School Guidelines by NSW Department of Education. The design references the "Chassis" or a standardized floor plan constituting modules of general learning spaces (67.5m^2), learning commons 135m^2) and other utilities to maximise the efficiency of the urban primary school.

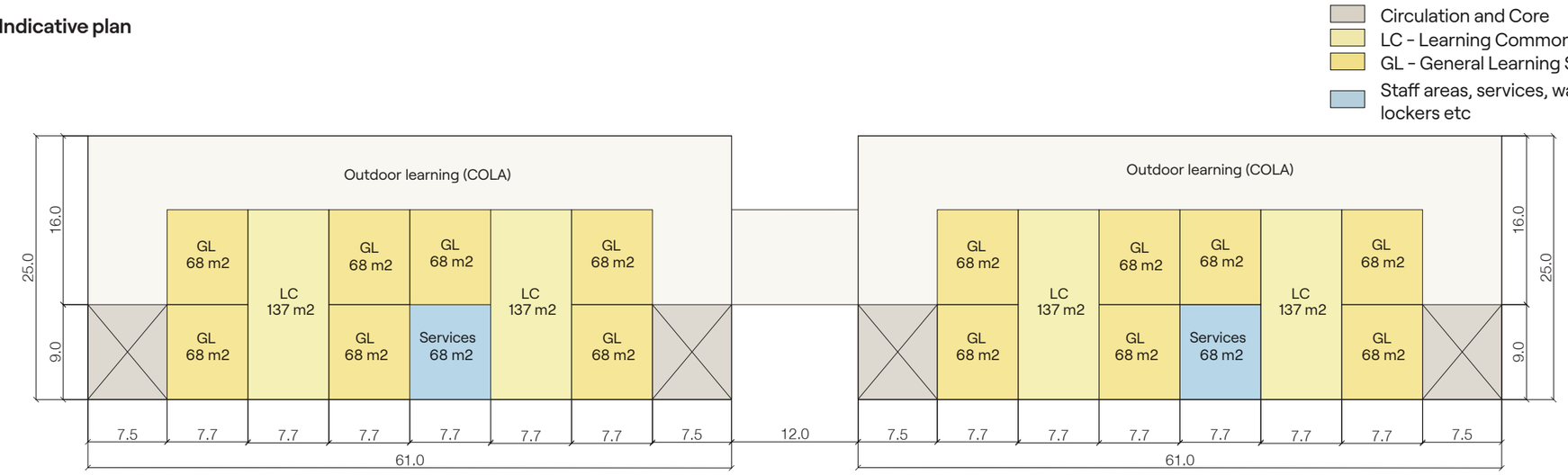
SCHOOL (1) STATISTICS		10,574m^2
Storeys 4 st	General Learning Spaces (GLS) 42	Learning Commons (LC) 12

Indicative section





Indicative plan



Precedents

1. Green Square Public School

Storeys: 4 storeys

GFA: 9,680 sqm

2. Westmead Catholic Community

Storeys: 6 storeys

GFA: Primary school approx. 7,500 sqm
Early Learning Centre: approx. 2000 sqm

2. Marsden Public School

Storeys: 8 storeys, 5 storeys above ground

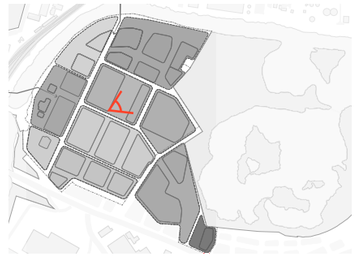
GFA: Public School: 5,782 sqmm

Civic Village

Open Space: Active city park, Aksarben Village, Nebraska

Movement: Green link, Seattle

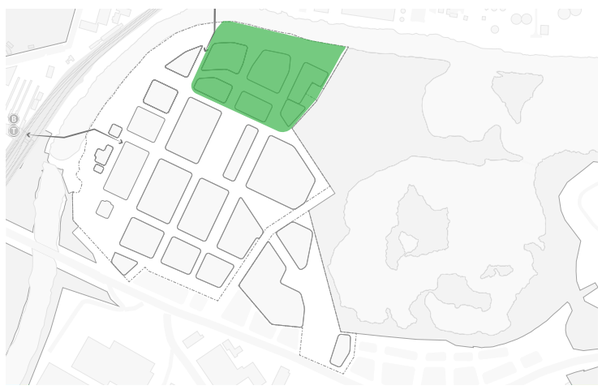
Visualisation illustrating the civic park at two pedestrian spines, framed and activated by the school and podias lined with retail, commercial and residential apartments



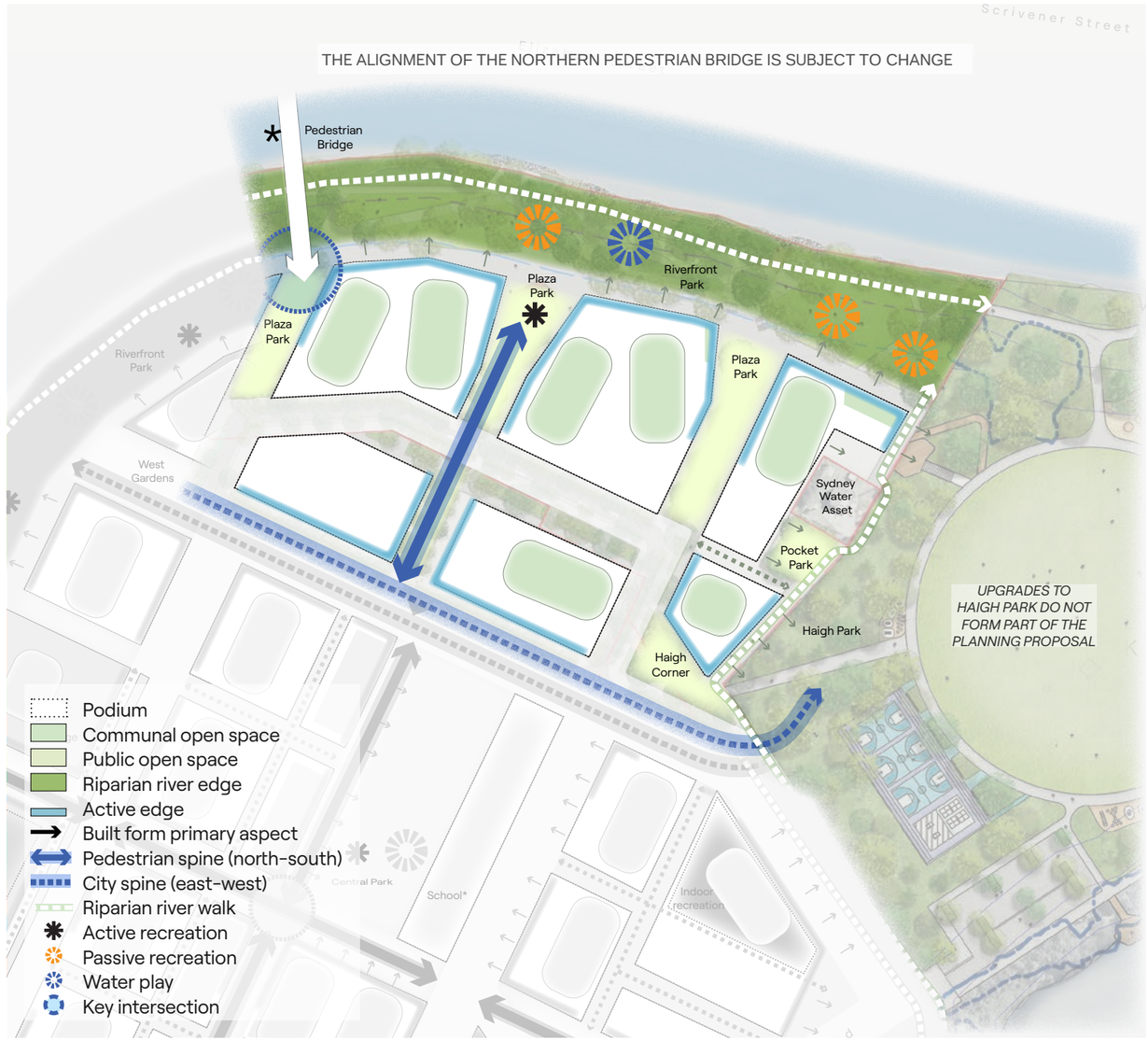
North River Village

Mixed-use river and park village

- The character area is defined by its sweeping river and park frontage, with pocket parks and landscaped plazas within the street grid.
- A pedestrian only side walk bounds the area to the north, spilling over to the riparian rivers edge, lined with opportunities for active and passive recreation.
- Ground floor commercial uses such as F+B, offices and other small and medium commercial functions, particularly along the pedestrian only street running north-south.
- North facing podium should be articulated to define the urban public domain transitioning to naturalised waterfront edge. The towers can align or deviate from the prevailing street grid to maximise views of the river and landscape to the north as well as improve solar access to the buildings to the south.



Key plan



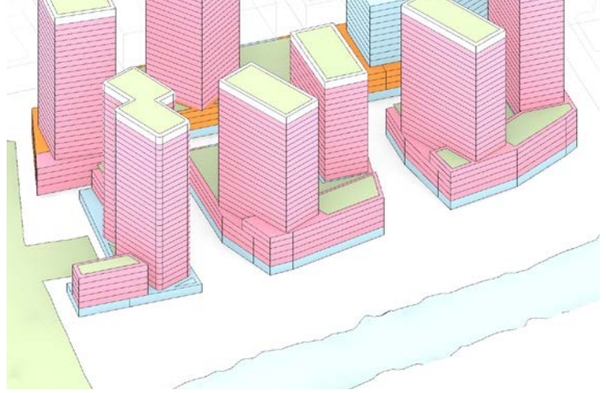
Character plan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

PRECINCT STATISTICS **61,086m²**

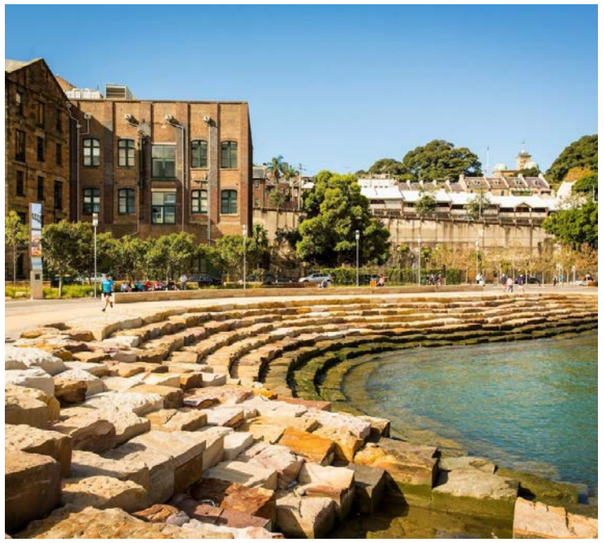
Dwellings	Resi GFA	Non - Resi GFA
1,950+	168,500m² +	59,500m² +
People	**Density**	**Workers**
3,960+	324 dw/Ha +	1,488
Public Space*	**Lots**	
16,247m²	2, 3, 12, 13	

Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.

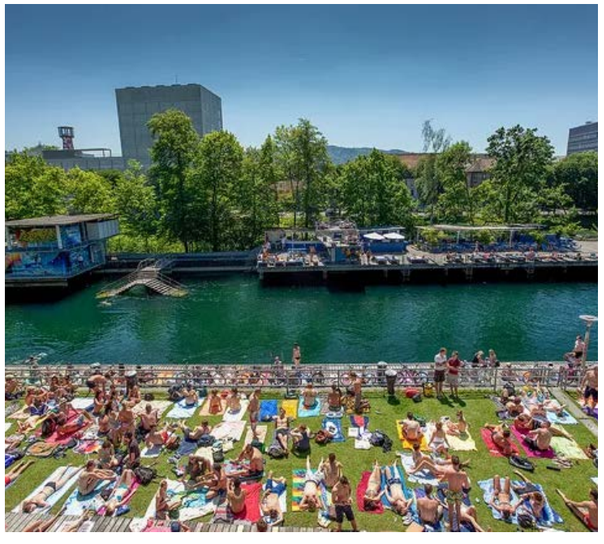


Character axonometric illustrating indicative building use

North River Village

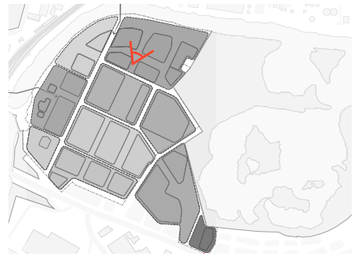


Public Space: Active river edge, Barangaroo, Sydney



Public Space: Active river edge, Zurich

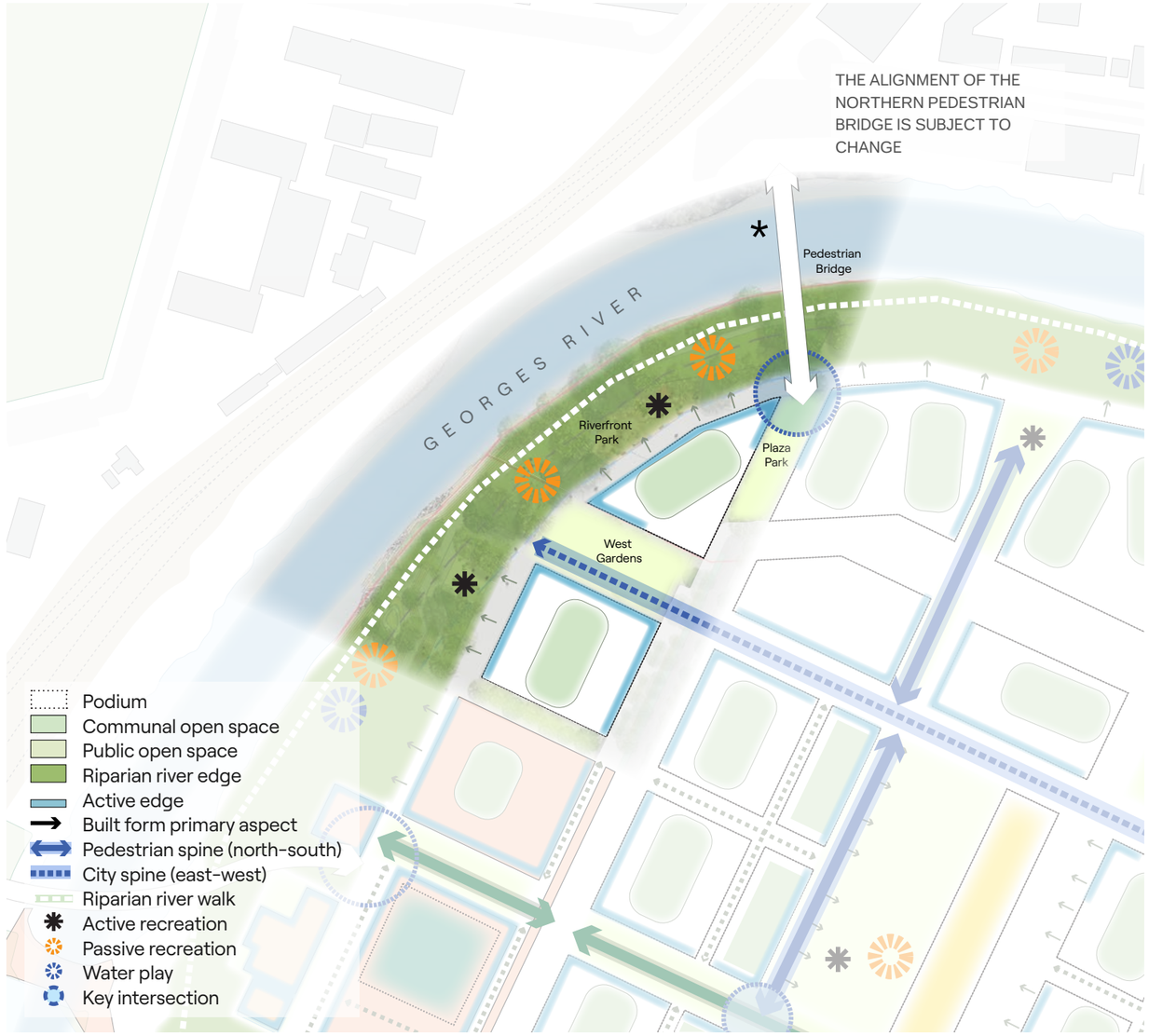
Visualisation illustrating the pedestrian link which opens out towards the rivers edge, a public space framed by active podia and residential towers



North Bank Village

Mixed-use river village with statement towers

- The character area is defined by its sweeping river frontage, activated by F&B and recreation nodes.
- The east-west city spine carries pedestrians through the site from Haige Park.
- A wide mixed modal streets bounds the edge to the west with pocket parks and landscaped plazas nestled between the street grid.
- The area complements Liverpool CBD with good connections to the train station, via a pedestrian bridge, characterised by the riparian edge and heritage factory outhouses.
- Design of built form and landscape should primarily address north facing public riverfront with podium tops accommodating communal space and significant vegetation. Statement mixed use towers should capitalise on proximity to CBD and views of Blue Mountains to the west with the potential for publicly accessible spaces such as F+B decks and viewing platforms.



PRECINCT STATISTICS **37,048m²**

Dwellings	Resi GFA	Non - Resi GFA
930	79,000m² +	30,950m² +
People	**Density**	**Workers**
1,860	**251 du/Ha**	**774**
Public Space*	**Lots**	
16,916m²	**1, 11**	

Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.

Key plan

Character plan

Character axonometric illustrating indicative building use

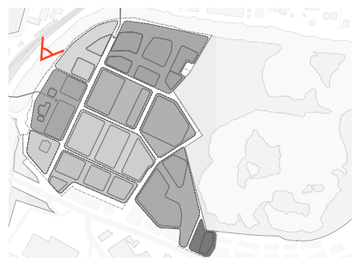
* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

North Bank Village

Movement: Vistula Boulevarde, Warsaw

Movement / Landscape: Barangaroo Headland Park, Sydney

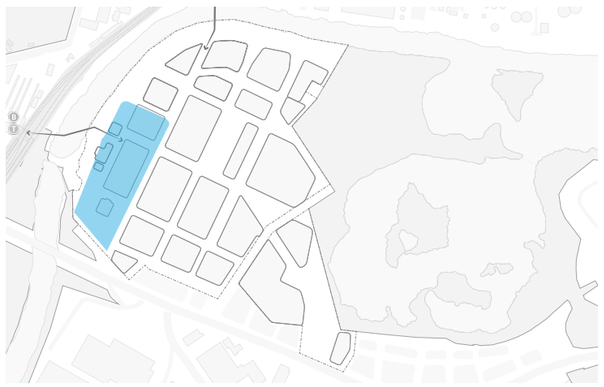
Visualisation illustrating an active open space, cascading down along the rivers edge with adaptive reuse heritage beyond



West Village

Moore Point heritage precinct

- The area is characterised by the repair and adaptive reuse of heritage buildings and active pedestrian only streets. The heritage elements in salvageable condition could accommodate vibrant markets, community functions, commercial, F+B or other uses, drawing people to the social heart of the site.
- The buildings spill out to these laneways and the active pedestrian only riverfront edge with generous F&B, public space and programming.
- A bridge with direct connection between Liverpool St station concourse and the site creates a lively intersection.
- Generous boulevards to the east mark the gateway to the site, lined with retained and new vegetation creating a civic sense of arrival to the wider area.
- Landscape language, particularly in the south, addresses the significant heritage vegetation and structures, achieved through formal axial planting with the retention of existing fig tree and palm trees.



Key plan

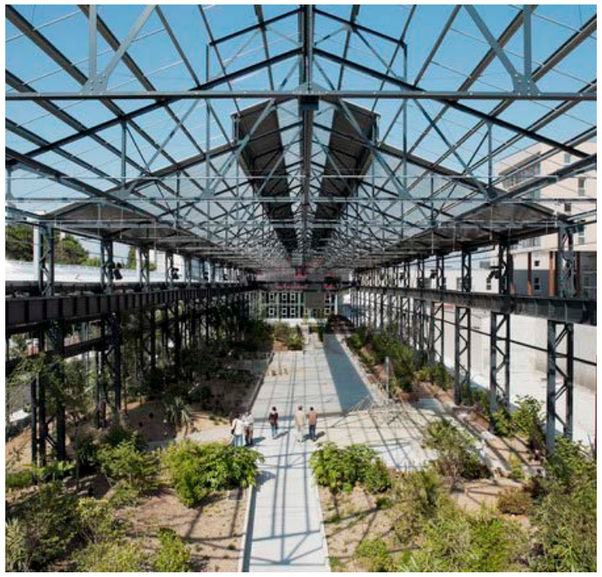
Character plan

PRECINCT STATISTICS		22,910m²
Dwellings	Resi GFA	Non - Resi GFA
-	-	6450m² +
People	Density	Workers
-	- du/Ha	129+
Public Space*	Lots	
25,716m²	16,19	

Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.

Character axonometric illustrating indicative building use

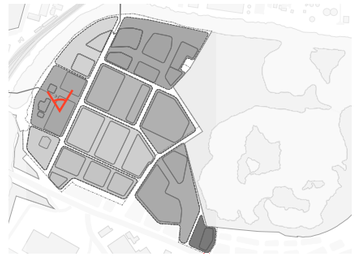
West Village



Built Form: Jardin des Fonderies, Nantes

Movement / Built Form: Carriageworks, Sydney

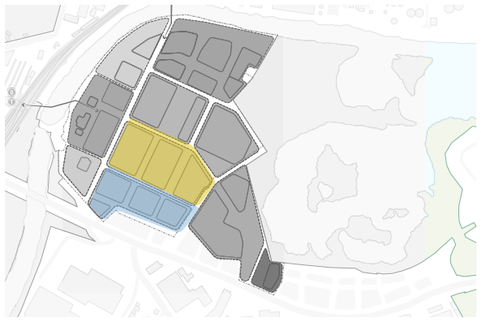
Visualisation illustrating an active pedestrian streetscape lining the adaptive reuse of heritage



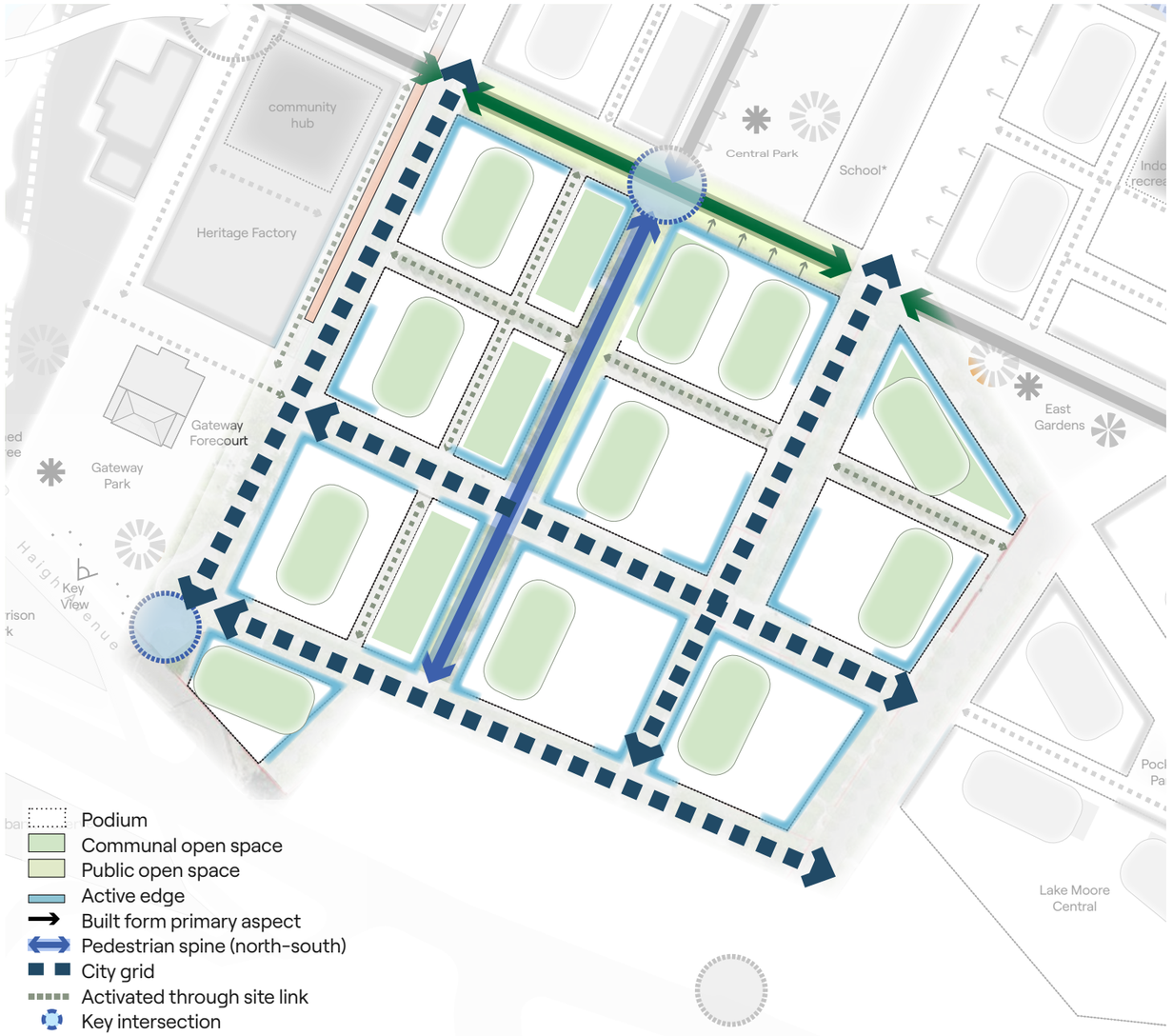
Transit Village & Central Village

Mixed-use Moore Point village

- The character of this area is defined by generous mixed-modal boulevards and pedestrian only streets established from the heritage grid which frames the site.
- A pedestrian spine runs north-south accommodating slow moving foot traffic, contained by active mixed-use podia.
- Through-building links should maximise east-west pedestrian access between the Georges Riverfront and Lake Moore.
- The streetscape intersections should be clearly defined and unique to assist user experience and way-finding.
- Podium and tower tops should accommodate communal space and significant vegetation.
- All streets to have generous canopy cover and a variety of understory planting to complement the built form.
- Maximised active frontages with discreet servicing at mid block locations. Podia should be flexible to accommodate a range of commercial uses and residential dwelling types.
- Potential for internal courtyards which provide a mixture of communal public space and publicly accessible laneways. Distributed towers on corners - Towers can align or deviate from the street grid to maximise views out of the precinct and solar access to other buildings within the precinct.



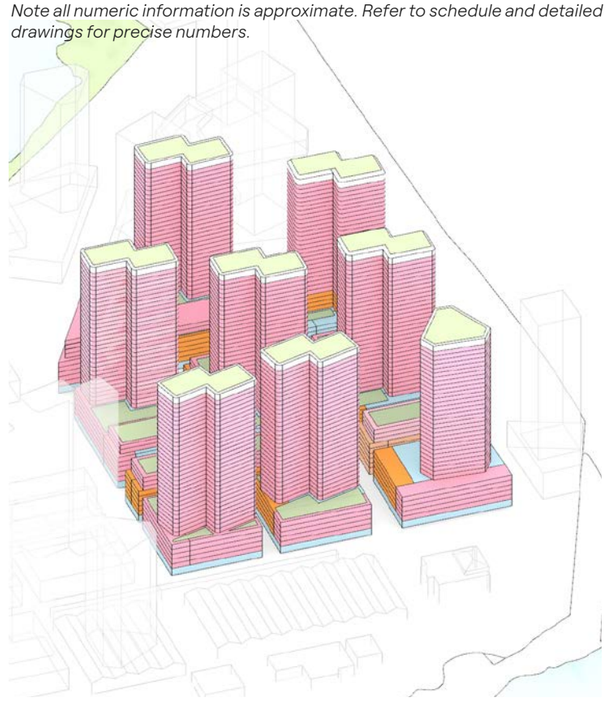
Key plan



Character plan

PRECINCT STATISTICS		78,644m²
Dwellings	Resi GFA	Non - Resi GFA
4,150+	354,250m² +	135,400m² +
People	Density	Workers
8,300+	530 dw/Ha	3,385
Public Space*	Lots	
9,128m²	6, 7,17, 18, 20,	

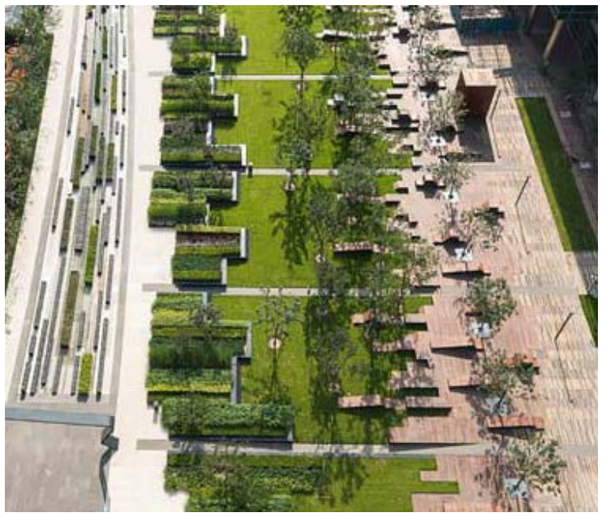
Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.



Character axonometric illustrating indicative building use

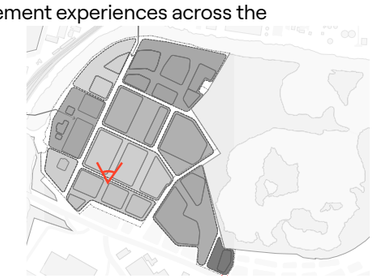
Transit Village & Central Village

Movement / Built Form: Activated laneway, Coal Drop Yard, London



Movement / Public Space: Green through link, Boston

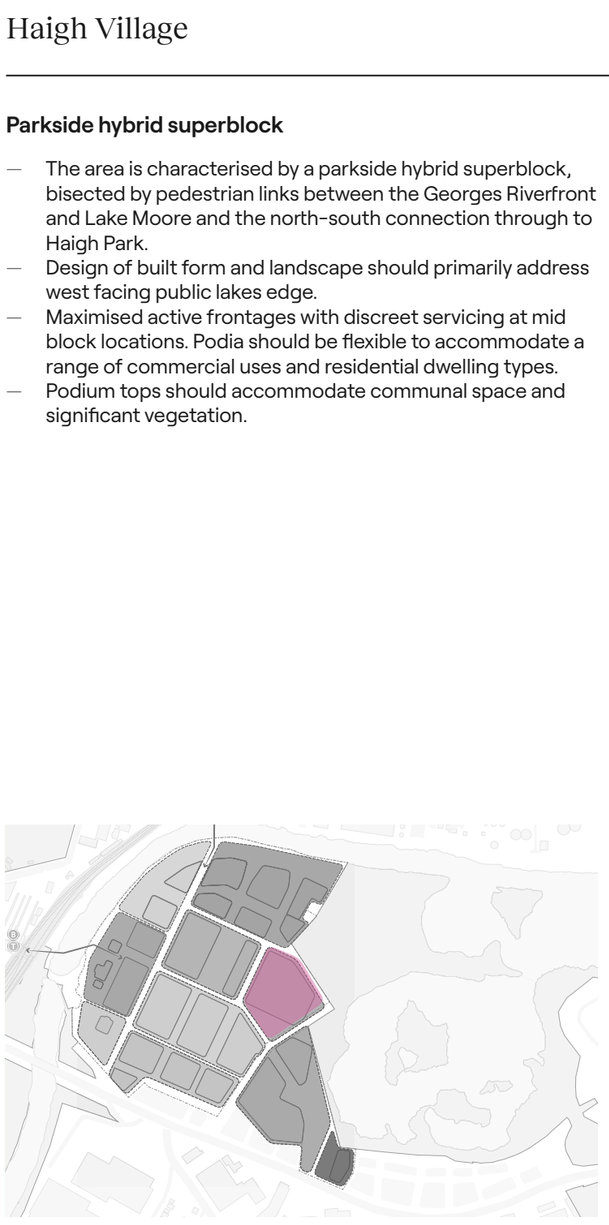
Visualisation illustrating bustling streets lined with vegetation and seating opportunities, framed by active podiums and through site links, creating a variety of movement experiences across the



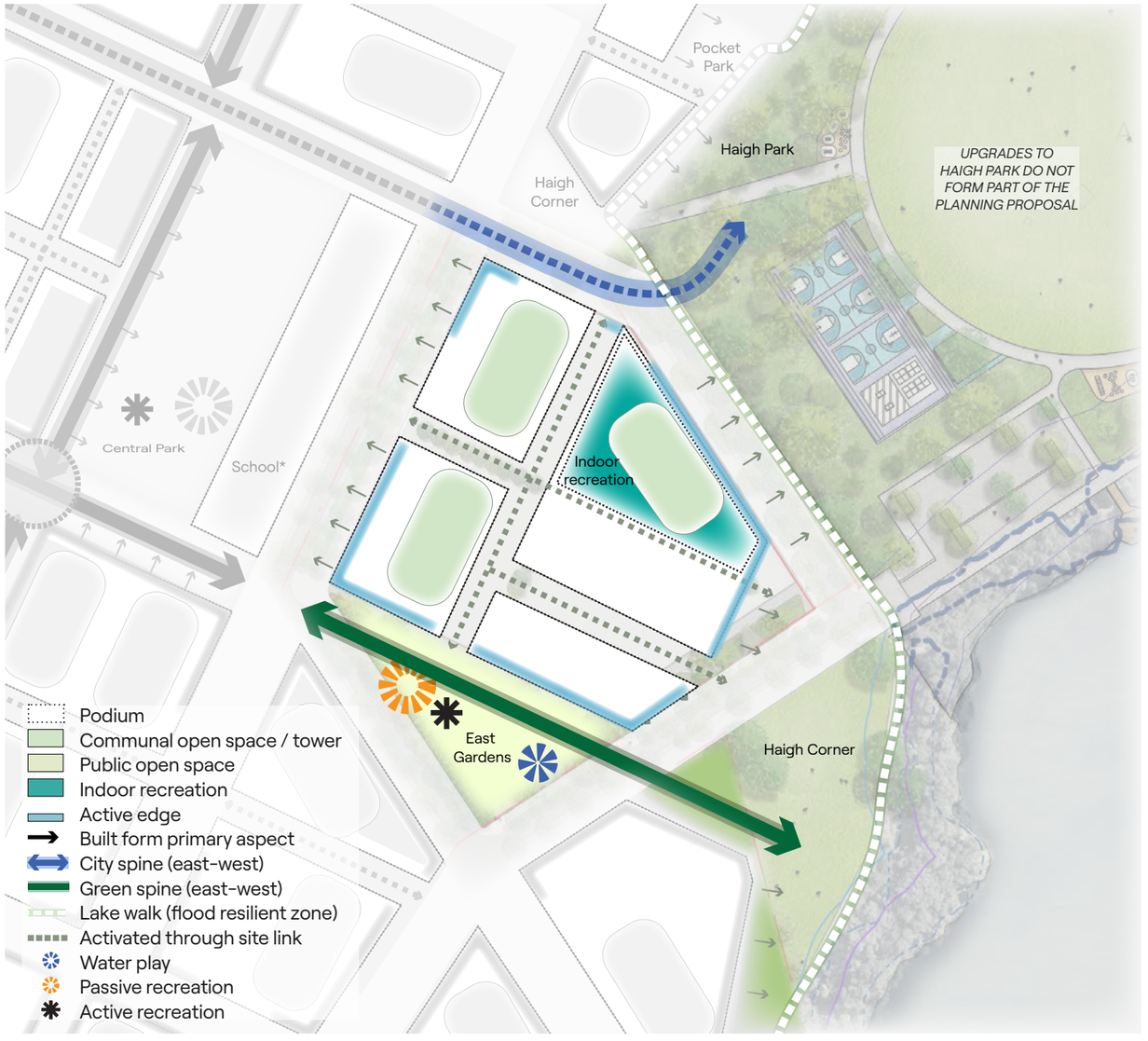
Haigh Village

Parkside hybrid superblock

- The area is characterised by a parkside hybrid superblock, bisected by pedestrian links between the Georges Riverfront and Lake Moore and the north-south connection through to Haigh Park.
- Design of built form and landscape should primarily address west facing public lakes edge.
- Maximised active frontages with discreet servicing at mid block locations. Podia should be flexible to accommodate a range of commercial uses and residential dwelling types.
- Podium tops should accommodate communal space and significant vegetation.



Key plan

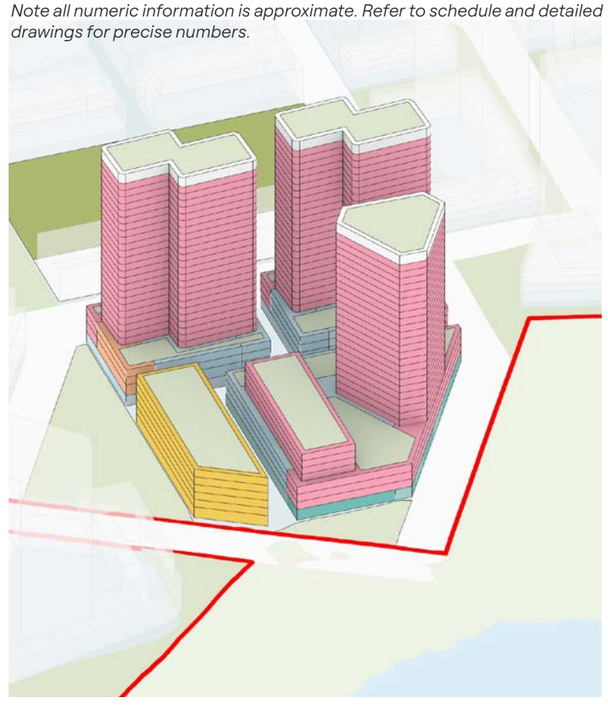


Character plan

PRECINCT STATISTICS **22,665m²**

Dwellings	Resi GFA	Non - Resi GFA
1,220+	104,300m² +	43,823m² +
People	**Density**	**Workers**
2,450+	540 dw/Ha	730+
Public Space*	**Lots**	
2,862m²	5	

Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.



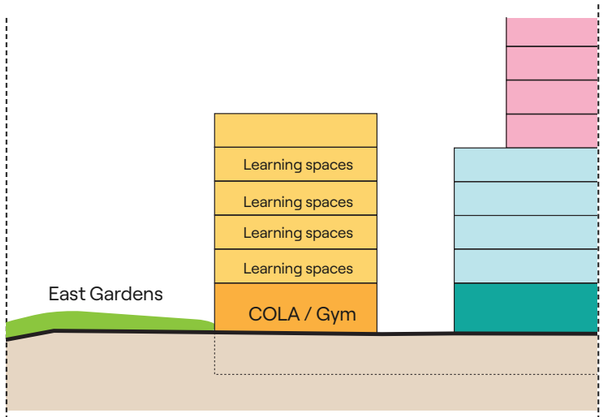
Character axonometric illustrating indicative building use

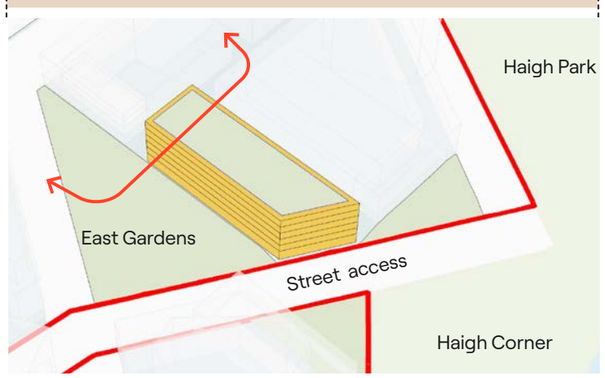
Haigh Village- School

The schematic design of the school has been done in accordance with the Draft Urban Design School Guidelines by NSW Department of Education. The design references the "Chassis" or a standardized floor plan constituting modules of general learning spaces (67.5m^2), learning commons (135m^2) and other utilities to maximise the efficiency of the urban primary school. The image to the right shows an indicative module layout for the proposed school building.

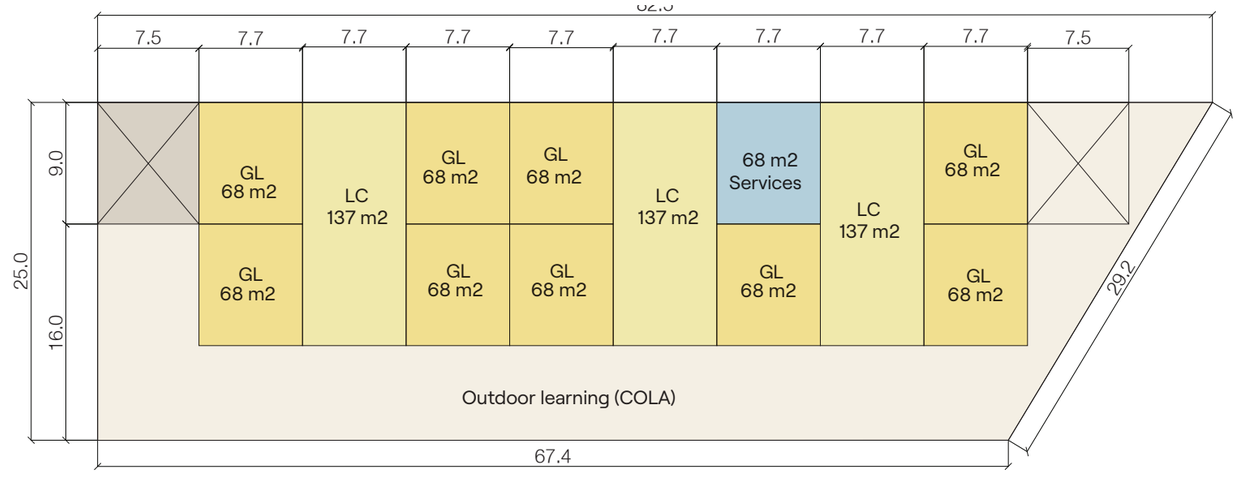
SCHOOL (2) STATISTICS		9,559m^2
Storeys	General Learning Spaces (GLS)	Learning Commons (LC)
6 st	45	15

Indicative section





Indicative plan



Circulation and Core
LC - Learning Commons
GL - General Learning Spaces
Staff areas, services, washrooms, lockers etc

Precedents

1. Green Square Public School

Storeys: 4 storeys

GFA: 9,680 sqm

2. Westmead Catholic Community

Storeys: 6 storeys

GFA: Primary school approx. 7,500 sqm
Early Learning Centre: approx. 2000 sqm

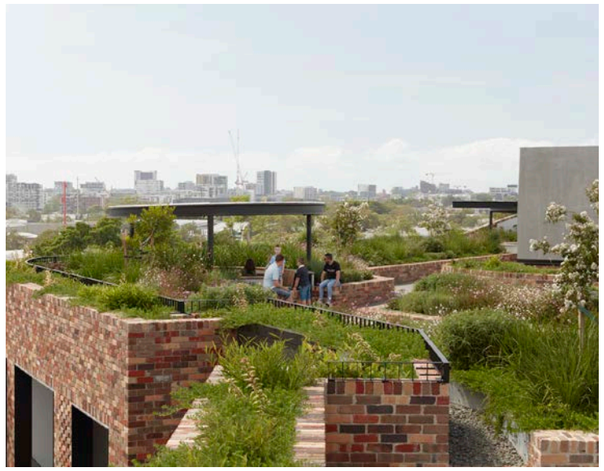
3. Marsden Public School

Storeys: 8 storeys, 5 storeys above ground

GFA: Public School: 5,782 sqm

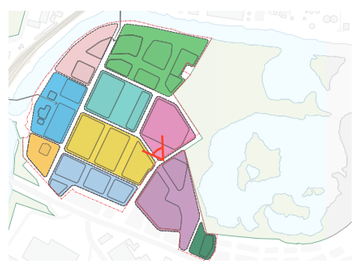
Haigh Village

Public space / built form: Active podium, Singapore



Landscape: Green through link, Boston

Visualisation illustrating a city park lined with residential podiums and towers



Lake Moore Village & East Lake Village

Lakeside hybrid superblock and shopping village

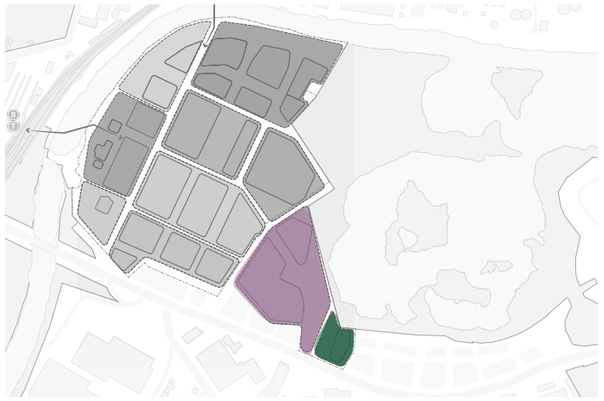
- The area is characterised by **lakeside hybrid superblocks,** orientated towards Lake Moore.
- Design of built form and landscape should primarily address **east facing public lakes edge.**
- Podium and ground plane design should optimise pedestrian experience, prioritise east-west movement and achieve appropriate areas for functional requirements of large commercial uses such as supermarkets.
- **Water responsive public spaces** to be appropriately designed to balance public community.
- **Terraced and sloped** public public space addressing Lake Moore.
- Podium tops should accommodate **communal space** and significant vegetation.

Character plan

PRECINCT STATISTICS		48,447m²
Dwellings	Resi GFA	Non - Resi GFA
1,661	141,160m²	43,823m² +
People	Density	Workers
3,322	343 du/Ha	1,081
Public Space*	Lots	
13,630m²	8,9,10	

Note all numeric information is approximate. Refer to schedule and detailed drawings for precise numbers.

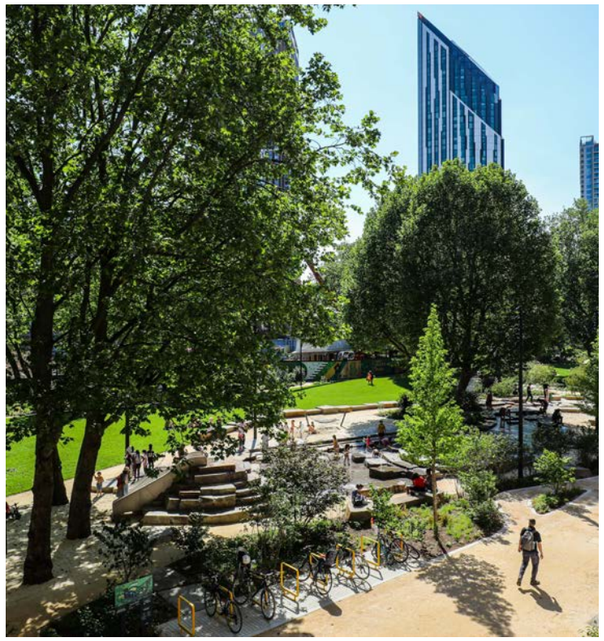
Character axonometric illustrating indicative building use



Key plan

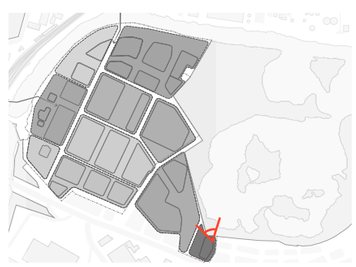
Lake Moore Village & East Lake Village

Built form: Kampung Admiralty, Singapore



Public space: Elephant Park, London

Visualisation illustrating active mixed use podia stepping down towers a landscaped edge with sweeping views across Lake Moore



12

Test Scheme

The Planning Envelope can be considered as the drawn manifestation of planning policy while the Test Scheme can be considered as a more detailed design proposal which will be the basis for future technical design and construction.

12.1 Urban design envelope methodology

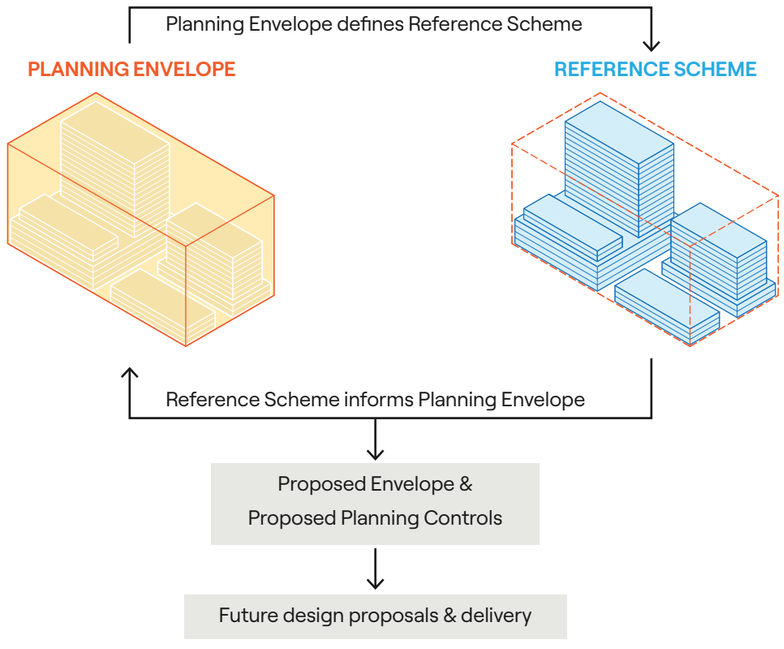
In preparation of new planning controls a balance must be achieved between providing certainty (i.e. environmental, economic and social outcomes) and flexibility to address changing market and landowner requirements. To generate new planning controls or formulate a design proposal, iterative testing is undertaken using the 'Planning Envelope' and the 'Reference Scheme'. The Planning Envelope is the drawn manifestation of planning policy while the Reference Scheme is a detailed design proposal which will be the basis for future technical design and construction.

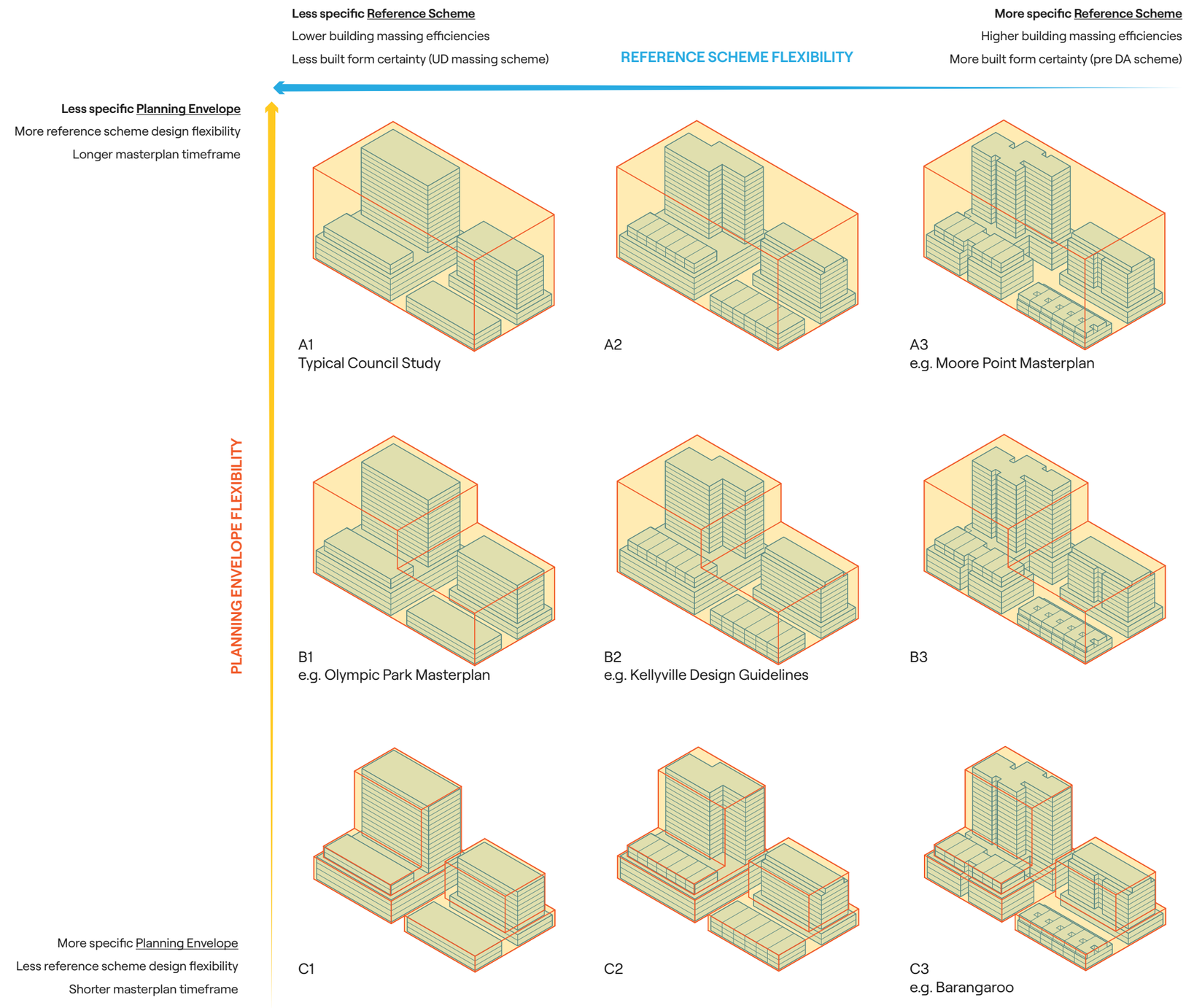
The Planning Envelope is defined by:

- lot (cadastre) pattern
- desired future character
- street reserves and open spaces
- streetwall height
- setbacks (in lot & above streetwall)
- views & topography
- solar access to spaces
- easements and operational needs
- existing context
- existing planning controls (depends)
- a range of other considerations

The Reference Scheme is generated by:

- design concept and intent
- site context and conditions
- land use and building requirements
- internal layout & access
- technical advice (structure etc.)
- building codes and standards
- client brief and expectations
- a range of other considerations



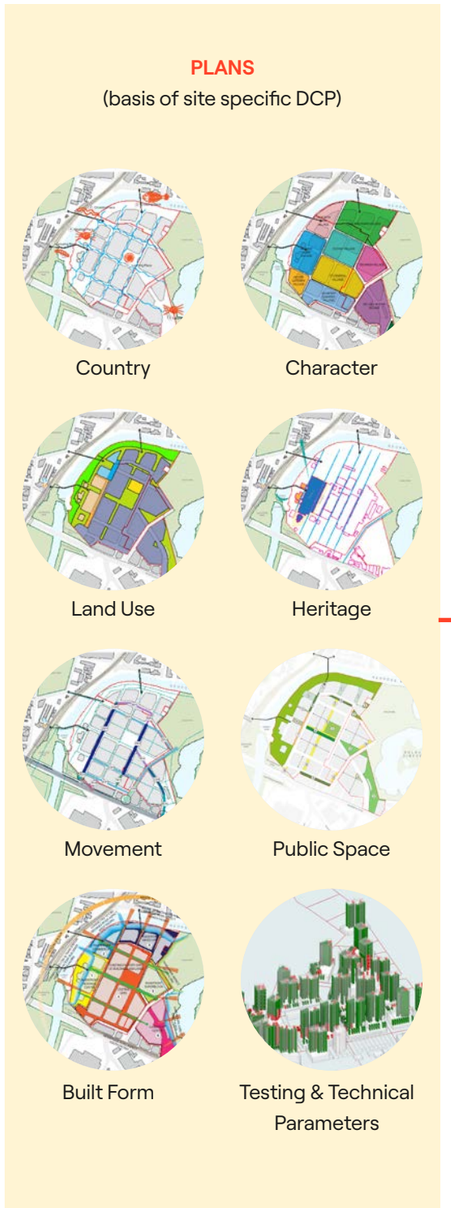


12.2 Moore Point testing approach

The diagrams to the right illustrate the approach to urban design testing and the relationship between the Structure Plans, Envelopes and Test Schemes. From left to right the approach is as follows:

1. Structure Plans outline the general thematic approach to any development in the precinct. These plans form the basis for a future site specific DCP. When drawn spatially they establish the Planning Envelopes.
2. The Planning Envelopes are the point of reference for any future detailed test scheme. Any scheme must stay within the bounds of the envelopes and associated planning controls.
3. Test Schemes are essentially detailed 'Options' for future built form development which have been drafted over several years. A range of schemes have been drawn all of which conform to the planning envelope and therefore broadly have the same arrangement of key streets and spaces although buildings within each envelope have different form, orientation and design character.
4. It is important to note for the purpose of this proposal only Scheme A has been documented however other potential future schemes will be explored in future phases of this project.

Noting the primary aim of the Planning Proposal is to change the LEP controls, this process and associated test schemes respond to the gateway conditions as opposed to any detailed design approvals which will happen in subsequent stages.



Visualisation

Artistic impression of Georges Riverfront with adaptively reused heritge sheds set amongst extensive riverfront parklands

12.3 Test scheme masterplan

- Planning Proposal boundary
- Masterplan lots
- Residential
- Commercial
- Short-term accomodation
- Community
- Education
- Heritage
- Basement
- Bridges
- Public space
- Street reserves
- Vegetated Riparian Zone (VRZ Northrop)
- 1 in 500 flood line (Advisian)
- Minimum 40m Riverfront Park Setback from MHWM

1:2000 0 5 10 15 20 25 50

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.4 Test scheme layout plan

- Planning Proposal boundary
- Masterplan lot
- XX Masterplan lot number
- xxxm² Masterplan area
- Development pad
- xxxm² Development pad area
- Street Reserves
- Public space (public recreation)
- Public space above development pads
- Other public space
- Retained heritage structures (GBA)
- Bridge landing zone (BG&E)
- Vegetated Riparian Zone (VRZ Northrop)
- 1 in 500 flood line (Advisian)

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.5 Test scheme public space and streets plan

- Planning Proposal boundary
- Georges River North boundary
- Masterplan Lots
- Public recreation
- Other public space
- xxm² Public space area
- +RLxx Street RL
- Bridge location zone
- Street Reserves

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.6 Test scheme dedication plan

Master-plan Lot Number	Dedicated public open space	Privately owned publicly accessible space	Dedicated streets	School land to be acquired
1	6,473	1,563	178	
2	4,433	2,528	2,018	
3	4,169	3,433	1,952	
4	4,591	4692	3,323	
5	-	2,636	3,478	
6	-	2,510	5,126	
7	-	-	1,551	
8	4,083	5,367	2,985	
9	-	1,604	2,771	
10	-	5,016	1,880	
11	9,517	5,578	2,474	
12	-	844	1,341	
13	-	1,199	1,433	
14	2,278	1,212	3,194	
15	6,298	924	2,953	4,019
16	7,374	4,044	2,127	
17	-	1,718	3,020	
18	-	3,018	2,613	
19	2,420	5,991	1,726	
20	-	601	5,118	
21	-	1,947	3,917	
22	-	536	1,704	
Total	**51,641sqm**	**56,962 sqm**	**56,882 sqm**	**4,019 sqm**

- Planning Proposal boundary
- Masterplan Lots
- 1 in 100 flood line (TURF)
- Vegetated Riparian Zone (VRZ Northrop)
- Minimum 40m Riverfront Park Setback from MHWM
- Dedicated public open space
- Dedicated streets
- Dedicated school
- Dedicated bridges
- Privately owned publicly accessible space

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.7 Test scheme staging plan

- Planning Proposal boundary
- Masterplan Lots
- Vegetated Riparian Zone (VRZ Northrop)
- Development pads
- Stage A (Stage 1)
- Stage B (Stage 2)
- Stage C (Stage 3)
- Open space
- Streets

12.8 Test scheme height plan

- Planning Proposal boundary
- Masterplan lot
- XX Masterplan lot number
- Development pad
- RLxx Development pad RL (Northrop)
- RLxx Maximum building height RL
- RLxx Maximum building height in metres
- Structure plan envelope

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.9 Test scheme yield plan

Masterplan Lot	Block	Total Lot GFA	Gross FSR	Net FSR
1	A	42,589	3.86	12.45
2	A	57,395	3.98	9.22
3	A	54,482	3.36	8.16
4	A	57,345	3.05	9.29
5	G	122,766	5.42	7.42
6	G	74,427	4.76	9.05
7	G	9,659	2.74	4.90
8	H	44,414	2.48	8.10
9	H	110,228	5.36	6.19
10	H	30,341	3.05	7.84
11	B	67,415	2.59	14.66
12	C	27,302	4.98	7.47
13	C	31,285	5.08	7.44
14	B	101,667	5.67	8.82
15	B	10,574	0.74	2.63
16	D	8,665	0.38	0.38
17	E	111,654	7.13	10.22
18	E	110,060	7.22	11.44
19	D	2,843	0.25	0.25
20	F	85,733	6.43	14.63
21	F	57,155	5.31	11.69
22	F	41,449	9.26	18.54

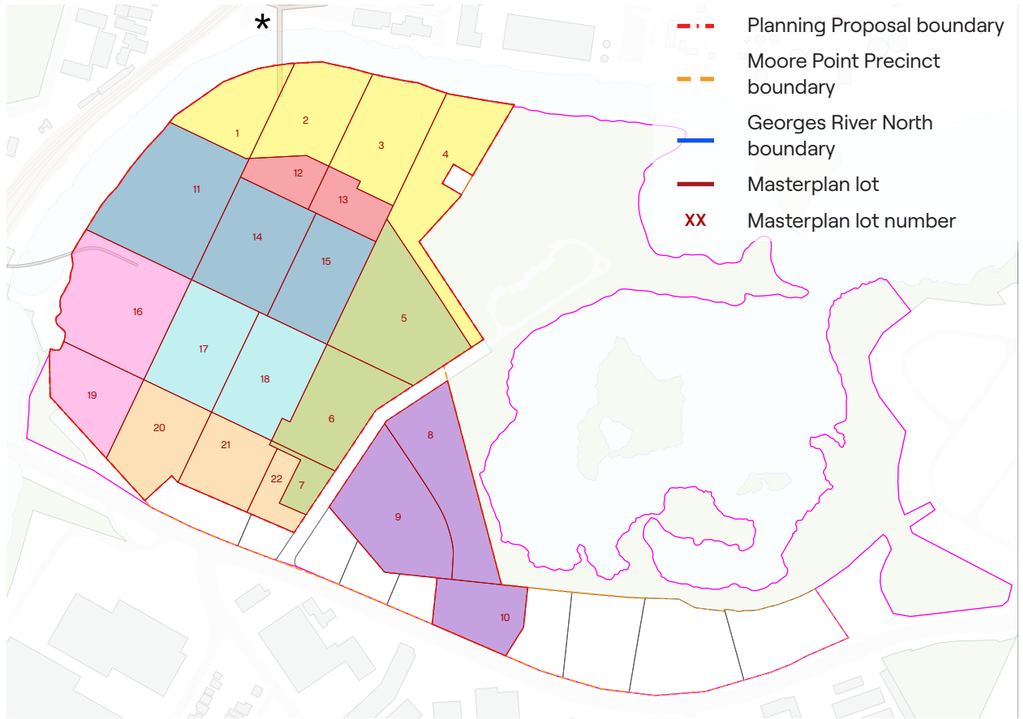
- Planning Proposal boundary
- Masterplan lot
- XX Masterplan lot number
- xxxm² Masterplan lot GFA
- XX:1 Masterplan lot FSR (gross FSR)
- Development pad
- XX:1 Development pad FSR (net FSR)

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.10 Test Scheme Schedule

Masterplan Lot	Block	Land Owner	Stage	Masterplan Lot Area	FSR	Total GFA	Dwellings	People	Resi GFA	Commercial GFA	Other GFA
TOTALS				**314,481**		**1,259,448**	**10,742**	**21,484**	**912,985**	**328,516**	**17,947**
1	A	Coronation	A	11,041	3.86	42,589	338	676	28,736	13,853	-
2	A	Coronation	A	14,431	3.98	57,395	540	1,080	45,895	11,500	-
3	A	Coronation	A	16,231	3.36	54,482	467	934	39,696	14,786	-
4	A	Coronation	A	18,780	3.05	57,345	647	1,294	55,013	2,332	-
5	G	Coronation	C	22,665	5.42	122,766	1,014	2,028	86,201	32,686	3,879
6	G	Coronation	C	15,650	4.76	74,427	579	1,158	49,257	25,170	-
7	G	Coronation	C	3,523	2.74	9,659	-	-	-	9,659	-
8	H	Coronation	B	17,922	2.48	44,414	397	794	33,710	10,704	-
9	H	Coronation	B	20,581	5.36	110,228	926	1,852	78,714	30,928	586
10	H	Coronation	A	9,944	3.05	30,341	338	676	28,736	1,605	-
11	B	Leamac	A	26,007	2.59	67,415	592	1,184	50,317	17,098	-
12	C	Leamac	A	5,481	4.98	27,302	39	78	3,289	24,013	-
13	C	Leamac	A	6,163	5.08	31,285	287	574	24,401	6,884	-
14	B	Leamac	A	17,940	5.67	101,667	989	1,978	84,026	17,407	234
15	B	Leamac	A	14,196	0.74	10,574	-	-	-	-	10,574
16	D	Leamac	B	22,910	0.38	8,665	-	-	-	6,459	2,206
17	E	Leamac	B	15,656	7.13	111,654	1,051	2,102	89,369	22,051	234
18	E	Leamac	B	15,251	7.22	110,060	937	1,874	79,616	30,444	-
19	D	Leamac	C	11,545	0.25	2,843	-	-	-	2,843	-
20	F	Leamac	C	13,333	6.43	85,733	775	1,550	65,852	19,647	234
21	F	Leamac	C	10,755	5.31	57,155	467	934	39,666	17,489	-

	Coronation	Leamac	Other	Planning Proposal	Moore Point Precinct	Georges River North Precinct
Masterplan Lot Area Total	150,768	163,713	69,416	314,481	383,897	569,803
GFA Total	603,646	655,802	239,616	1,259,448	1,499,064	1,499,064
FSR	4.00	4.01	3.45	4.00	3.90	2.63
Residential GFA	445,958	467,027	148,170	912,985	1,061,155	1,061,155
Commercial GFA	153,223	175,293	91,446	328,516	419,962	419,962
Other GFA	4,465	13,482	-	17,947	17,947	17,947
Dwellings	5,246	5,496	1,743	10,742	12,485	12,485
Dwellings / ha	348	336	251	342	325	219
People	10,492	10,992	3,486	21,484	24,970	24,970
People / SQM	69,590	67,142	50,219	68,316	65,043	43,822



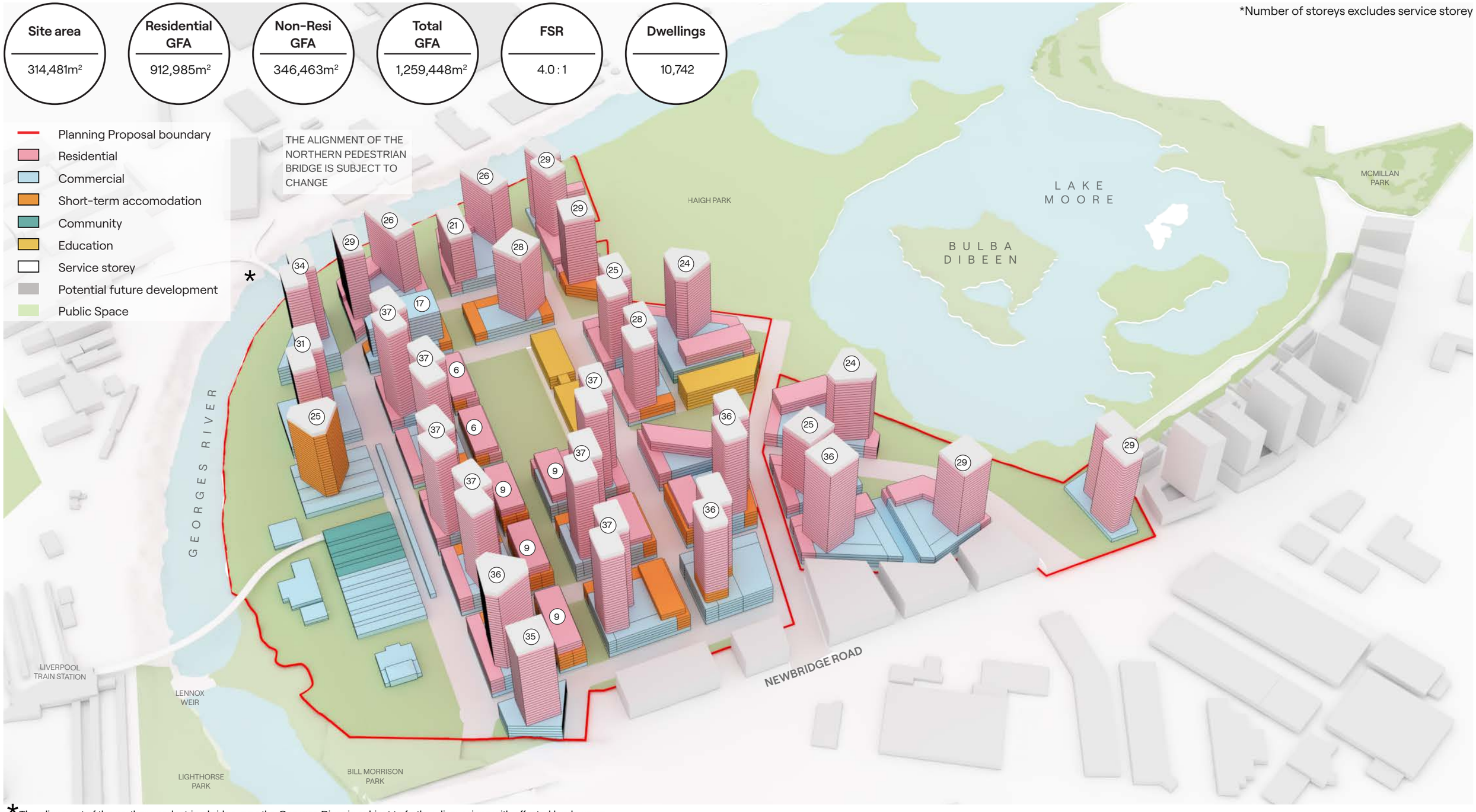
*The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

12.11 Test scheme massing (north east)

Site area	Residential GFA	Non-Resi GFA	Total GFA	FSR	Dwellings
314,481m²	912,985m²	346,463m²	1,259,448m²	4.0 : 1	10,742

*The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.12 Test scheme massing (south west)

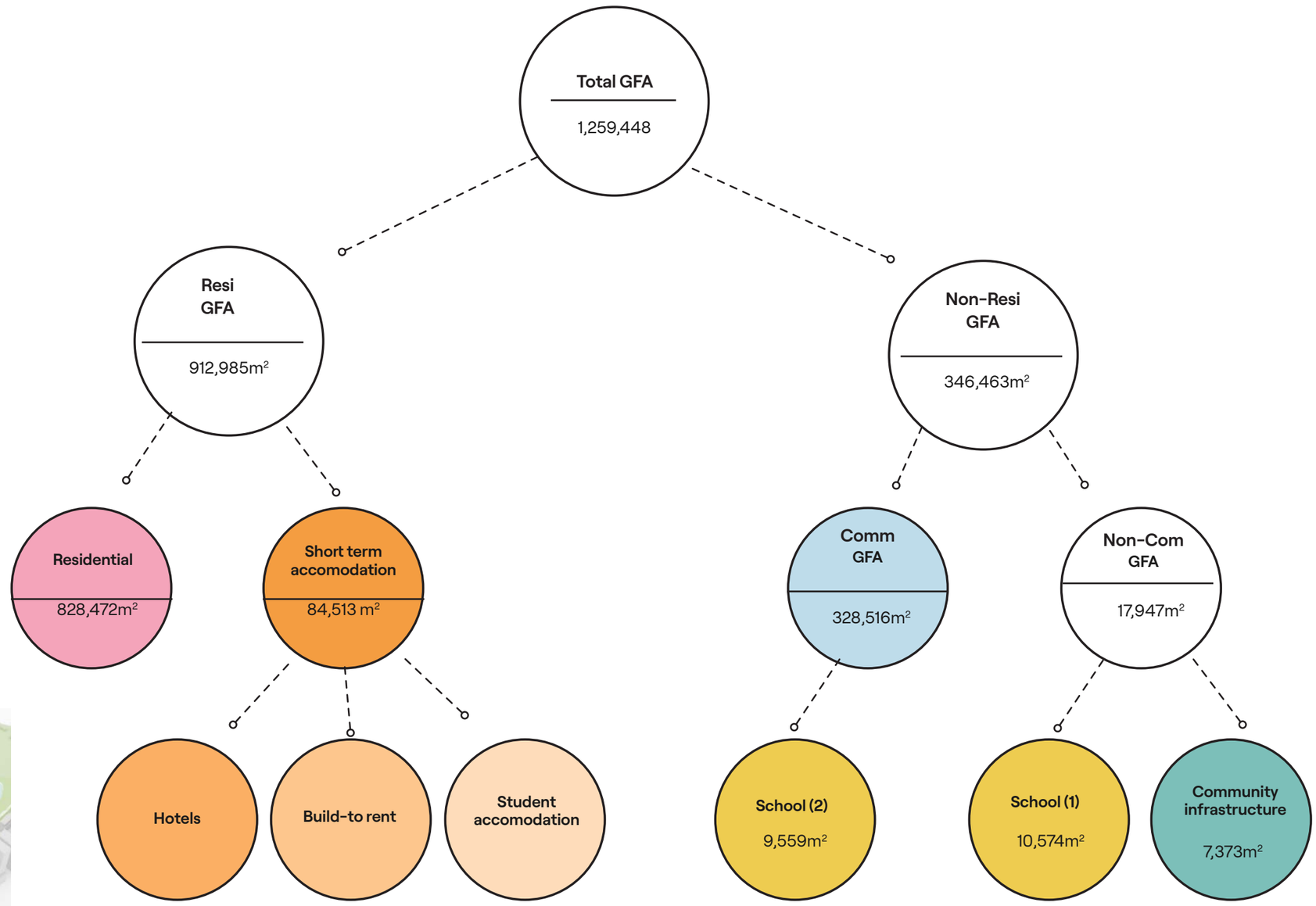


*The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

12.13 Test scheme split

The following outlines the assumptions that have been used to develop the test scheme yield, considering different land uses.

- Planning Proposal boundary
- Residential
- Commercial
- Short-term accomodation
- Community
- Education
- Service storey
- Potential future development
- Public Space

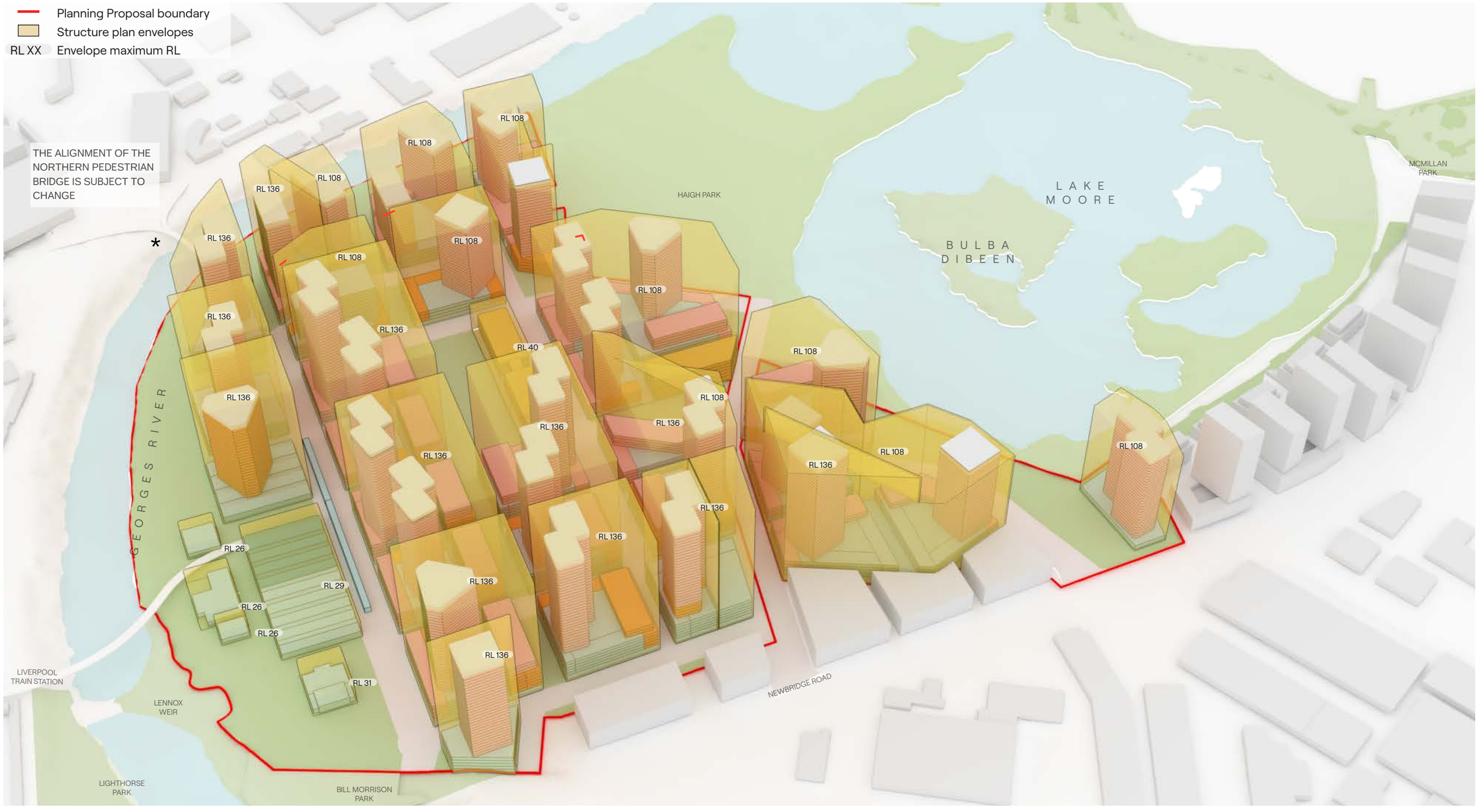


* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners. The alignment of the pedestrian bridge is subject to change

12.14 Test scheme massing (north east)

*The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

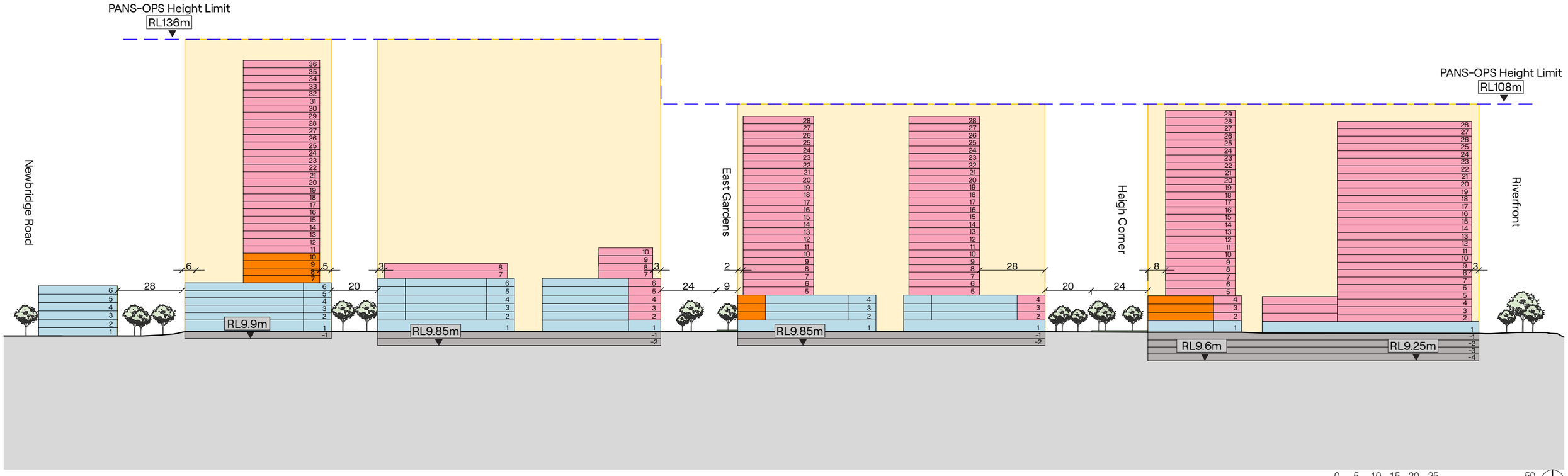
12.15 Test scheme massing (south west)



* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

12.16 Test scheme section

- Planning Proposal boundary
- Structure plan envelope
- Residential
- Commercial
- Short-term accomodation
- Community
- Education
- Heritage
- Basement
- RL9.9m Development pad RL

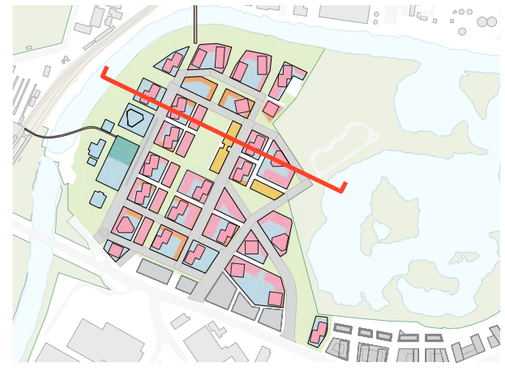


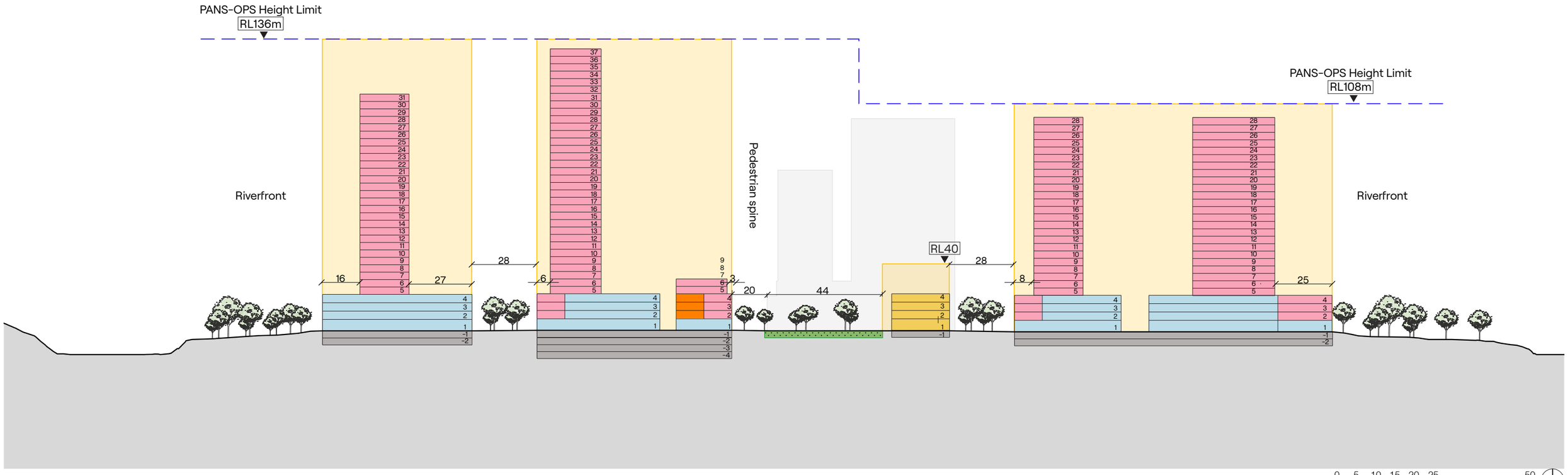
East Section

1:2000 0 5 10 15 20 25 50

Test scheme sections

- Planning Proposal boundary
- Residential
- Commercial
- Short-term accommodation
- Community
- Education
- Heritage
- Basement
- Core
- Tower footprint
- Bridges
- Public Space
- RL9.9m *Development pad RL*





North Section

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12.17 Basement and vehicular servicing plan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

12.18 Ground floor plan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

1:2000 0 5 10 15 20 25 50

12.19 Podium plan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

12.20 Tower plan

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

12.21 Crime Prevention Through Environmental Design (CPTED)

The Moore Point Masterplan has been designed with consideration for the principles of Crime Prevention at a precinct level. Sub precincts, future development lots and individual buildings are capable of achieving built form outcomes which protect and enhance public safety. However, this is required to be demonstrated in further detail as part of respective development applications. The Masterplan contributes to the principles of CPTED as follows:

[1] Natural Surveillance

Natural surveillance is achieved when normal space users can see and be seen by others. This highlights the importance of building layout, orientation and location; the strategic use of design; landscaping and lighting – it is a by-product of well-planned, well-designed and well-used space. It relates to keeping intruders under observation. Natural surveillance allows people to engage in their normal behaviour while providing maximum opportunities for observing the space around them.

This is achieved by:

- Orienting buildings, windows, entrances and exits, car parks, rubbish bins, walkways, landscape trees and shrubs, in a manner that will not obstruct opportunities for surveillance of public spaces;
- The placement of persons or activities to maximise surveillance possibilities; and
- Provide lighting for night-time illumination of car parks, walkways, entrances, exits and related areas to promote a safe environment.

Design Response:

Moore Point precinct has been laid out spatially to maximise natural surveillance, particularly to public spaces including the public streetscape and public open space. With the level of density proposed, the precinct will offer high quality and inviting public spaces which will draw residents and workers out of the buildings and into shared spaces. This encourages natural surveillance and casual interaction which enhances feelings of safety and community ownership of public spaces.

The street network has been purposely oriented to maximise site lines to public open space (primarily the foreshore) and other key pedestrian precincts such as heritage precinct to the west of the site. The size and orientation of the proposed blocks provides ample opportunity for future buildings to contribute to natural surveillance through measures such as tower orientation, placement of windows and openings, treatments to loading areas, location of walkways etc. Lighting will be provided to illuminate the streetscape, public open space and private developments at night as per the appropriate local policy or relevant Australian standards, which can be addressed at development application stage.

[2] Access Control

Access control treatments restrict, channel and encourage people and vehicles into, out of and around the development. Way-finding, desire-lines and formal/informal routes are important crime prevention considerations. Effective access control can be achieved by using physical and symbolic barriers that channel and group pedestrians into areas, therefore increasing the time and effort required for criminals to commit crime. It relates to decreasing criminal accessibility.

This is achieved by:

- Using footpaths, pavement, gates, lighting and landscaping to clearly guide the public to and from entrances and exits; and
- Using of gates, fences, walls, landscaping and lighting to prevent or discourage public access to or from dark or unmonitored areas

Design Response:

At a precinct level, access control considerations relate primarily to the movement of pedestrians and vehicles through the streetscape and public places, and restricting unauthorised access to the private realm and hazardous areas.

Within the streetscape, distinction can be made between vehicle carriageways and pedestrian areas through the use of signage, landscaping and physical barriers such as bollards, street furniture, planter boxes etc. More subtle treatments such as variation in pavement types can also help define pedestrian areas.

One of the key outcomes of Moore Point development is the delivery of an activated and embellished public foreshore which invites people to the water's edge. The public foreshore park will include a shared pedestrian and cyclist pathway and various public recreation infrastructure such as play equipment, seating and shade structures. Treatments will be provided to surrounding streets to prevent unauthorised vehicle access to the park. In locations where there may be hazards, such as steep revetments, utilities or drainage infrastructure, fencing, walls or landscaping treatments may be employed to prevent access and decrease the chances of criminal activity.

[3] Territorial Reinforcement

Territorial Reinforcement uses actual and symbolic boundary markers, spatial legibility and environmental cues to 'connect' people with space, to encourage communal responsibility for public areas and facilities, and to communicate to people where they should/not be and what activities are appropriate. It relates to clearly defining private space from semi-public and public spaces that creates a sense of ownership.

This is achieved by:

- Enhancing the feeling of legitimate ownership by reinforcing existing natural surveillance and natural access control strategies with additional symbolic or social strategies;
- Design of space to allow for its continued use and intended purpose; and
- Use of landscaping and pavement finishes, art, screening and fences to define and outline ownership of space.

Design Response:

The relationship between private and public spaces and how these are defined will vary across the precinct, depending on the specific land uses and types of structures proposed. Within a typical streetscape, ground floor retail and food and beverage premises will adjoin pedestrian areas. The façade of the buildings and building awnings will provide a key distinction between public and private spaces. However, areas of outdoor dining may require additional treatments such as barricades, planter boxes, temporary shade structures etc to reinforce the intended purpose of these zones.

Public through site links will likely feature within sub precincts and future allotments. Residential uses which overlook these spaces will contribute to passive surveillance. Appropriate signage and access control measures shall be adopted as part of individual building design to restrict unauthorised access to residential areas.

[4] Space/Activity Management

Space/Activity Management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control and care of the development. All space, even well planned and well-designed areas need to be effectively used and maintained to maximise community safety. Places that are infrequently used are commonly abused. There is a high correlation between urban decay, fear of crime and avoidance behaviour. The placing activity where the individuals can engage in an activity becomes part of the natural surveillance is known as activity support.

This is achieved by:

- Locating safe activities in areas that will discourage would be offenders;
- Locating activities that increase natural surveillance; and
- Locating activities that give the perception of safety for normal users, and the perception of risk for offenders.

Design Response:

The Moore Point development will include a significant proportion of public open space. Delivering quality public open space which supports a variety of activities has been carefully considered as part of the master planning process. A Place Design Framework has been developed which encourages a variety of activities to create attractive, safe and fun places which are suitable to a variety of users. These activations and place features will draw people from private buildings to public spaces, reinforcing the principle of natural surveillance.

Space/activity management shall be carefully considered in design development at a sub precinct and individual building level, to ensure the safe and functional interaction of private residential and business uses.

12.22 Urban design assumptions

The massing approach and yield calculation method used by SJB Urban Designers is informed by experience working for State Government, Councils and private clients as well as extensive architectural design and delivery experience.

Calculations are based on numeric assumptions and provide a realistic expectation of achievable floor space based on a 3D modelled massing scheme. Massing envelopes should spatially acommodate a broad range of architectural designs and achieve the calculated yield metrics. Thus the designed massing envelopes can be used to understand, test and visualise 'impact' and yield according to planning policy and controls.

SJB Urban uses real-time parametric software to accurately calculate numeric information. Generally Gross Floor Area (GFA) is the primary metric used in urban design because it is specified throughout NSW and Australian planning controls and strategic planning policy.

The diagram on the right summarises the SJB yield calcuation methodology.

Typical GBA to GFA efficiencies used by urban designers are:

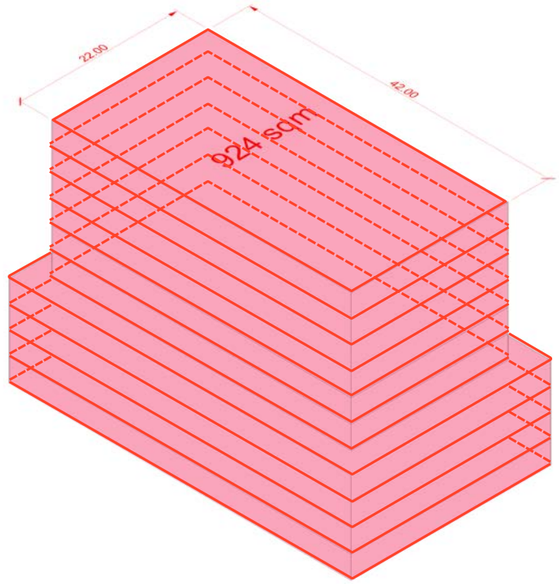
- Between 70 and 83% for residential floor plates
- Between 75 and 90% for commercial floor plates
- Between 60 and 80% for community building floor plates

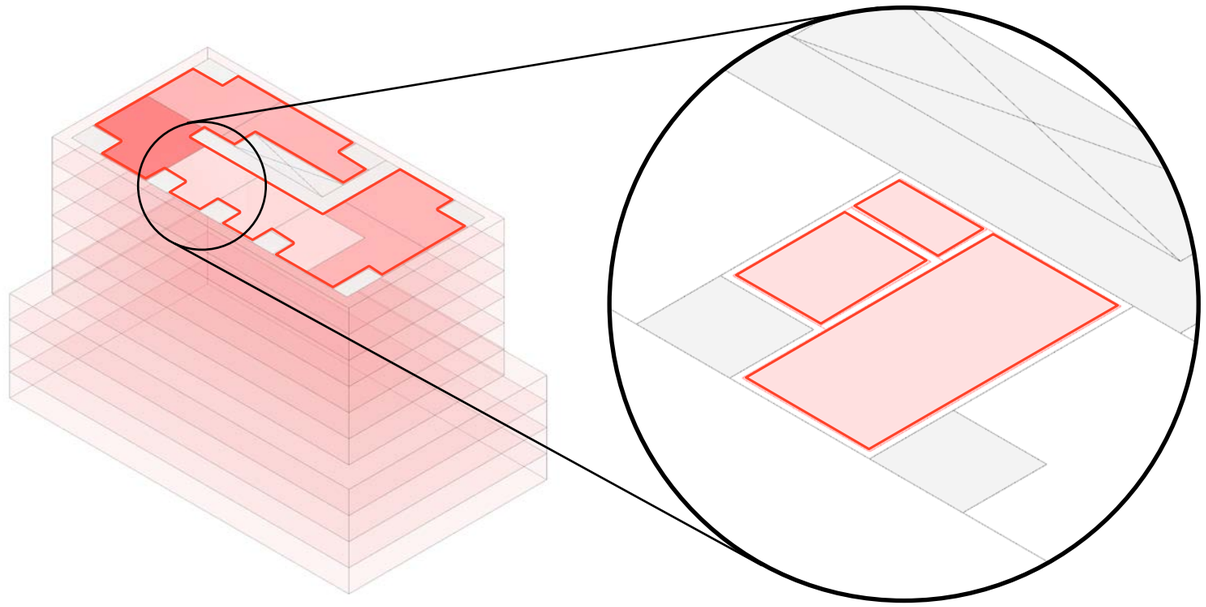
Typical GFA to NSA efficiencies used by urban designers are:

- Between 80 and 85% for residential floor plates
- Between 85 and 95% for commercial floor plates

Note these efficiencies are highly dependent on the design and height of the building. Designers will often modulate the efficiency depending on site or use specific assumptions.

To calculate the number of dwellings the GFA is typically divided by 85 (square metres) which corresponds to the dwelling size assumption of the NSW DPE Urban Feasibility Model as well as an average unit size derived from the ADG when a standard dwelling mix is applied to the specified minimum unit size.





[1] Calculating Gross Building Area (GBA)

Gross Building Area (GBA) is calculated from measuring the area of each floorplate from the outside face of the building storey. Thus the massing envelopes conceptually embody the Gross Building Area.

The dimensions shown in the diagram are indicative and based on ideal sizes. However, the massing should be tailored to suit the unique characteristics of its context.

[2] Calculating Gross Floor Area (GFA)

To calculate the Gross Floor Area (GFA), an *'efficiency'* (percentage multiplication e.g. 70%) is applied to the Gross Building Area (GBA). Each building use has a different efficiency (see table on the left). These efficiencies relate to the definition of GFA within the standard instrument LEP and therefore assumes:

- Area is measured from the internal face of external walls 1.4m above the floor
- Inclusion of habitable rooms, corridors and usable floor space
- Exclusion of lifts, stairs, basement storage, vehicular access, loading areas and servicing zones, mechanical plant, car parking, terraces and balconies (with walls up to 1.4m)

The efficiency also accommodates an 'articulation zone' within the massing envelope to acommodate a range of building elements such as notches, fins, protrusions and anything needed to make a dynamic building which complies with the Apartment Design Guide.

[3] Calculating Net Saleable Area (NSA)

Urban design studies rarely specify Net Saleable Area (NSA) or Net Lettable Area (NLA). In instances where it is required, an *'efficiency'* (percentage multiplication e.g. 90%) is applied to the Gross Floor Area (GFA).

The official document outlining the definition of NSA is the Property Council Australia (PCA) Method of Measurement guidelines (1997). NSA can be conceptually understood as the actual usable space in a dwelling or tenancy which:

- Excludes internal walls (area measured from the inside face of office walls window mullions)
- Excludes structure such as columns
- Excludes servicing such as cupboards

12.23 Urban design assumptions

The following outlines the assumptions that have been utlised to develop the test scheme.

Flood responsive scheme

- Core street grid & bridge locations at 1 in 500 level
- Residential floors to be above PMF level and other uses to be above 1% AEP (plus 0.5m freeboard)

Riverfront Park

- Continuous 40m wide RE1 public open space from Mean High Water Mark

Survey

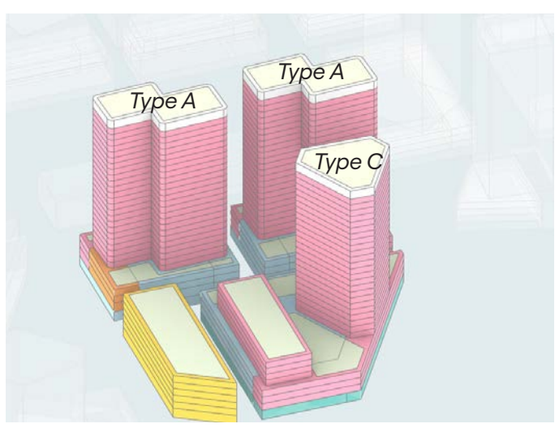
- Composite of 3/11 Bridges Survey & eastern sites
- Applicable only to land within Planning Proposal boundary
- Surveyed by Beveridge Williams and provided by JLG

Aeronautical Planes

- All development must be beneath PANS OPS = RL108 & RL135.9
- Development can exceed OLS = RL79 to RL 109 as per Strategic Aerospace advice

Tower Massing

- The test scheme massing approach utilises 4 typical SJB architectural building footprints with proven yield efficiencies.
- Buildings are orientated and separated within the building envelop to achieve solar and separation compliance for the relevant codes.
- Refer chapter 12 for further details.



Scheme 1 - Massing Efficiency Assumption

Land Use	Program	GBA to GFA
	Residential ground[b]	60%
	Residential typical low rise	80%
	Residential sleeved podium	77%
	Residential tower	83%
	Residential accommodation	77%
	Commercial ground	65%
	Commercial low rise	85%
	Commercial podium	85%
	Community	65%
	School	85%

Storey Heights Assumption[b]

Type	Height
GF Residential (no basement entrance)	4m
GF Residential (basement entrance capable)	4-5m
Above GF Residential	3.2m
GF Commercial	4-5m
Above GF Commercial	3.6m
Parking	3m
Rooftop service zone (2-20 storeys) (height from roof slab with no roof access)	1.5m
Rooftop service zone (2-20 storeys) (height from roof slab allowing roof access)	2.8m
Rooftop service zone (21-40 storeys)(height from roof slab)	4.5m
Rooftop service zone (41+ storeys) (height from roof slab)	8m
Mid level plant required every 15-20 storeys	3.6m

Dwelling Mix[c]

Type	Mix
Studio	20%
1 Bed	30%
2 Bed	40%
3+ Bed	10%

Dwelling Size[d]

$85m^2$

People per Dwelling[e]

2 people per dwelling

Apartment Parking Mix[e]

	A (Lpool CC PP)	B (CoS Cat C)	C (Pmatta CBD PP)
Studio	0.5	0.4	0.1
1 Bed	1	0.5	0.3
2 Bed	1	1	0.7
3 Bed	1.5	1.2	1
Visitor	0.1	0	0

Parking Space per Commercial GFA[e]

A (Lpool CC PP)	B (CoS Cat C)	C (Pmatta CBD PP)
100	175 (above FSR 3.5)	175 (above FSR 3.5)

Parking Efficiency Assumption[e]

Type	Area per Space
Complex (e.g. basement)	$40m^2$

13

Test Scheme Analysis

Assessment of test scheme against NSW Planning and Design Policy and the Apartment Design Guide

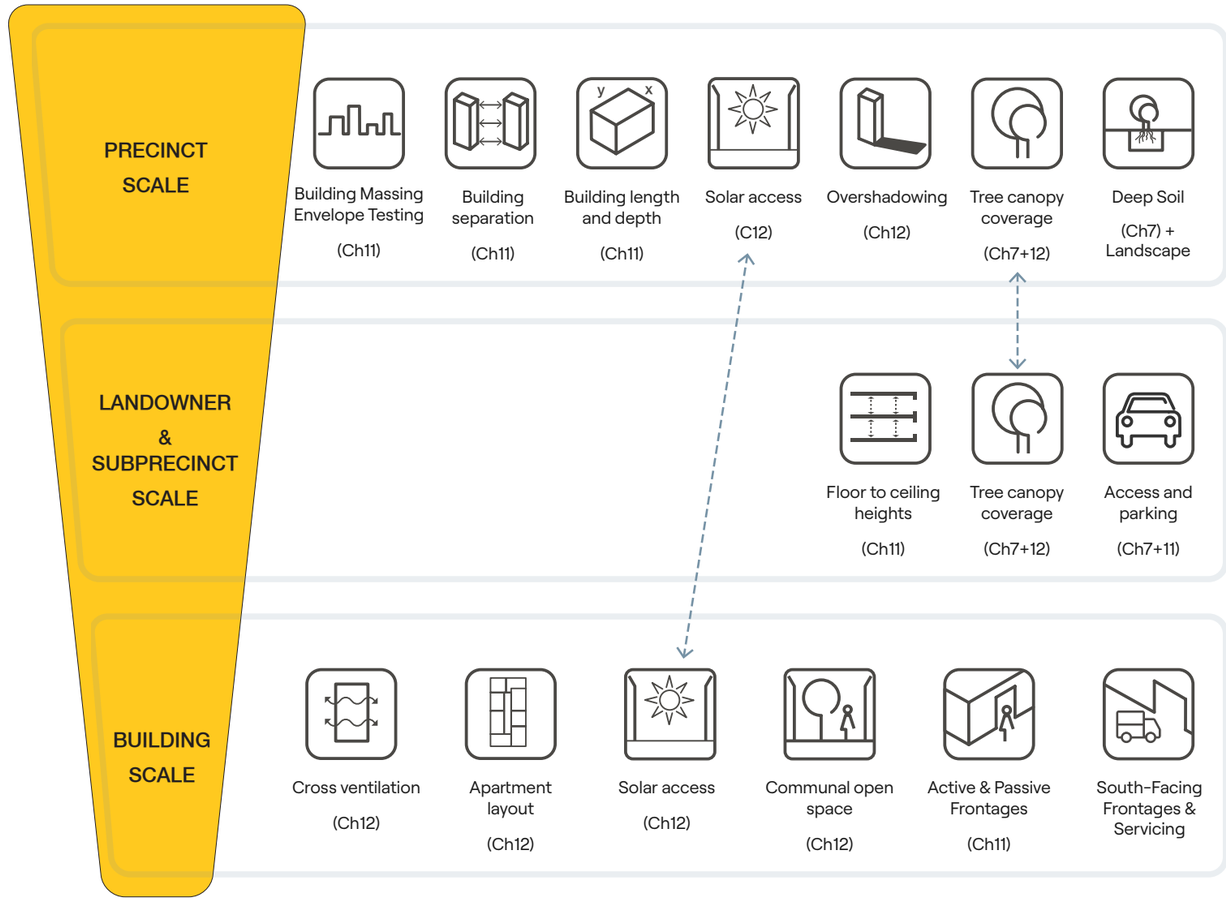
13.1 Testing and compliance approach

This diagram outlines the multi-scalar design testing and compliance approach which is demonstrated in studies and tests on the following pages. The studies have been performed on the illustrative scheme in chapter 6.

The planning and compliance themes identified on the right are from the ADG and other pertinent government policy. They were identified by Mecone (Urban Planners) as key criteria to test in order to satisfy clause 4.22 of the EPA act.

The design team of SJB (urban design), Hatch Roberts Day (placemaking) and Turf (landscape architects) collectively tested these themes in the following ways:

ITEM	COMPLIANT / TESTED	CHAPTER REFERENCE
ADG - 1A Apartment building types	✓	Refer Chapter 9.1 Built form and place strategy
ADG - 1B Local character and context	✓	Refer Chapter 10 Character and Land Use
ADG - 1C Precincts and individual sites	✓	Refer Chapter 10 Character and Land Use
ADG - 2B Building envelopes	✓	SJB coordinated massing model based on survey (geopoint 2021) and ELVIS topography. This model was the basis for all design testing, open space and building
ADG - 2C Building Height	✓	Refer Chapter 9.8 Envelope
ADG - 2D Floor Space Ratio	✓	Refer Chapter 11.5 Test scheme schedule
ADG - 2E Building Depth	✓	Refer Chapter 11.16 Tower plan
ADG - 2F Building Separation	✓	Refer Chapter 11.16 Tower plan
ADG -2G Street Setbacks	✓	Refer Chapter 9.6 and 9.7
ADG -2H Side and rear setbacks	✓	Refer Chapter 9.6 and 9.7
ADG -3B Orientation	✓	Refer Chapter 12.8 Apartment Solar Access and Cross Ventilation Strategy
ADG - 3D Communal and public open space	✓	Refer Chapter 12.4 Communal and public space
ADG - 3E Deep soil zones	✓	Refer Chapter 12.2 Deep soil
ADG -3H Vehicle Access	✓	Demonstrated in illustrative scheme basement plans
ADG - 3J Bicycle and car parking	✓	Refer Chapter 12.8 Apartment Solar Access and Cross Ventilation Strategy
ADG -4A Solar and daylight access	✓	Refer Chapter 12.8 Apartment Solar Access and Cross Ventilation Strategy
ADG - 4B Natural Ventilation	✓	Refer Chapter 12.8 Apartment Solar Access and Cross Ventilation Strategy
ADG - 4C Ceiling Heights	✓	Refer Chapter 11.12 Sections
Greener Places - Tree Canopy	✓	Refer Chapter 12.3 Tree canopy



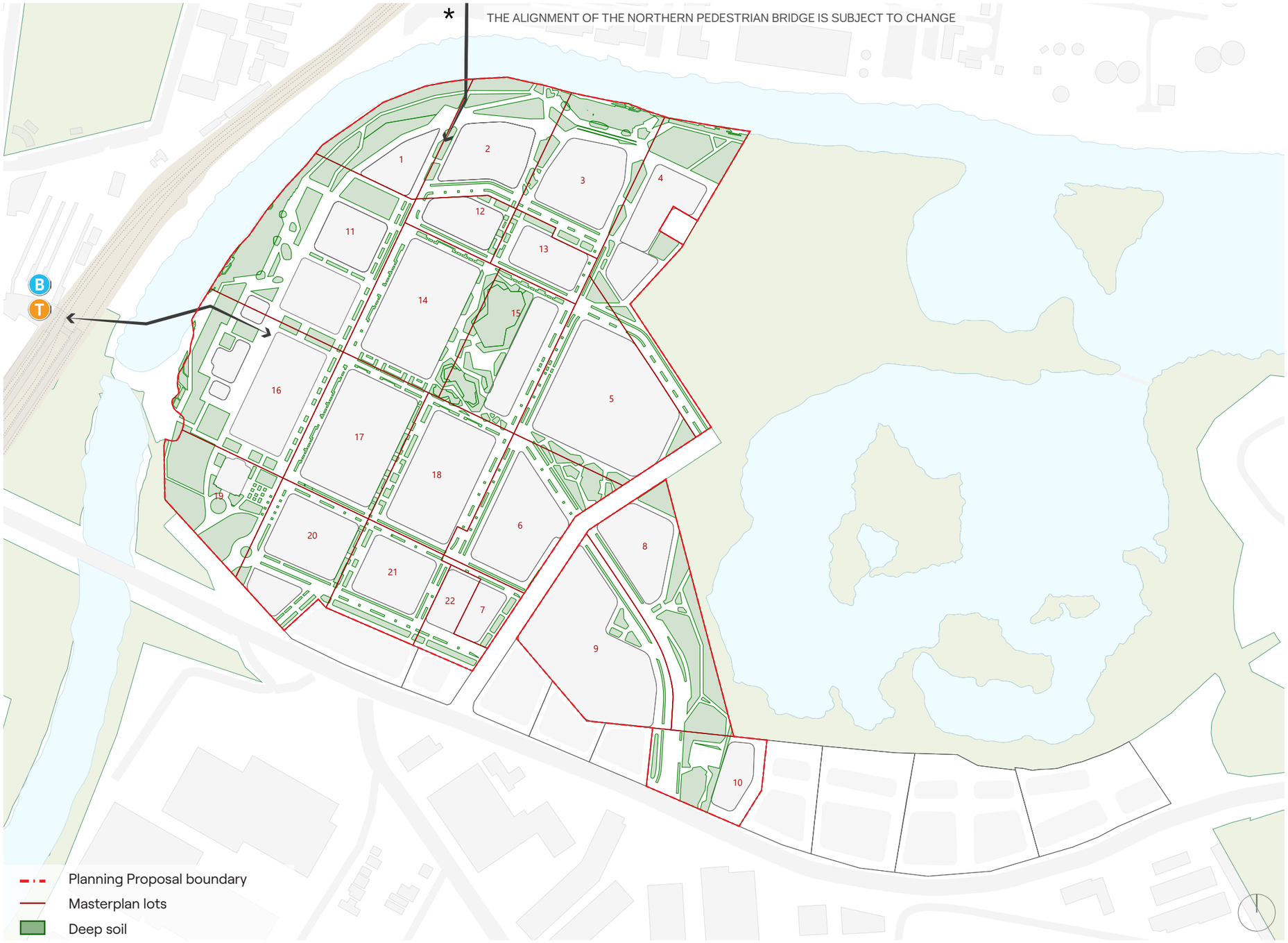
13.2 Deep soil

The plan on the right is an indicative drawing outlining deep soil areas proposed for the test scheme. This precinct wide approach demonstrates Moore Point significantly exceeds the old ADG target of 7%.

Overall Deep Soil

22.2%

Masterplan Lot	Deep Soil Area	% of Lot
1	5,517m²	50%
2	3,916m²	27%
3	3,950m²	24%
4	6,184m²	33%
5	2,078m²	9%
6	2,402m²	15%
7	428m²	12%
8	6,956m²	39%
9	831m²	4%
10	2,493m²	25%
11	8,584m²	33%
12	532m²	10%
13	644m²	10%
14	1,953m²	11%
15	5,914m²	42%
16	5,343m²	23%
17	999m²	6%
18	916m²	6%
19	6,982m²	60%
20	1,265m²	9%
21	1,436m²	13%
22	513m²	11%
Total	**69,836m²**	**22.2%**

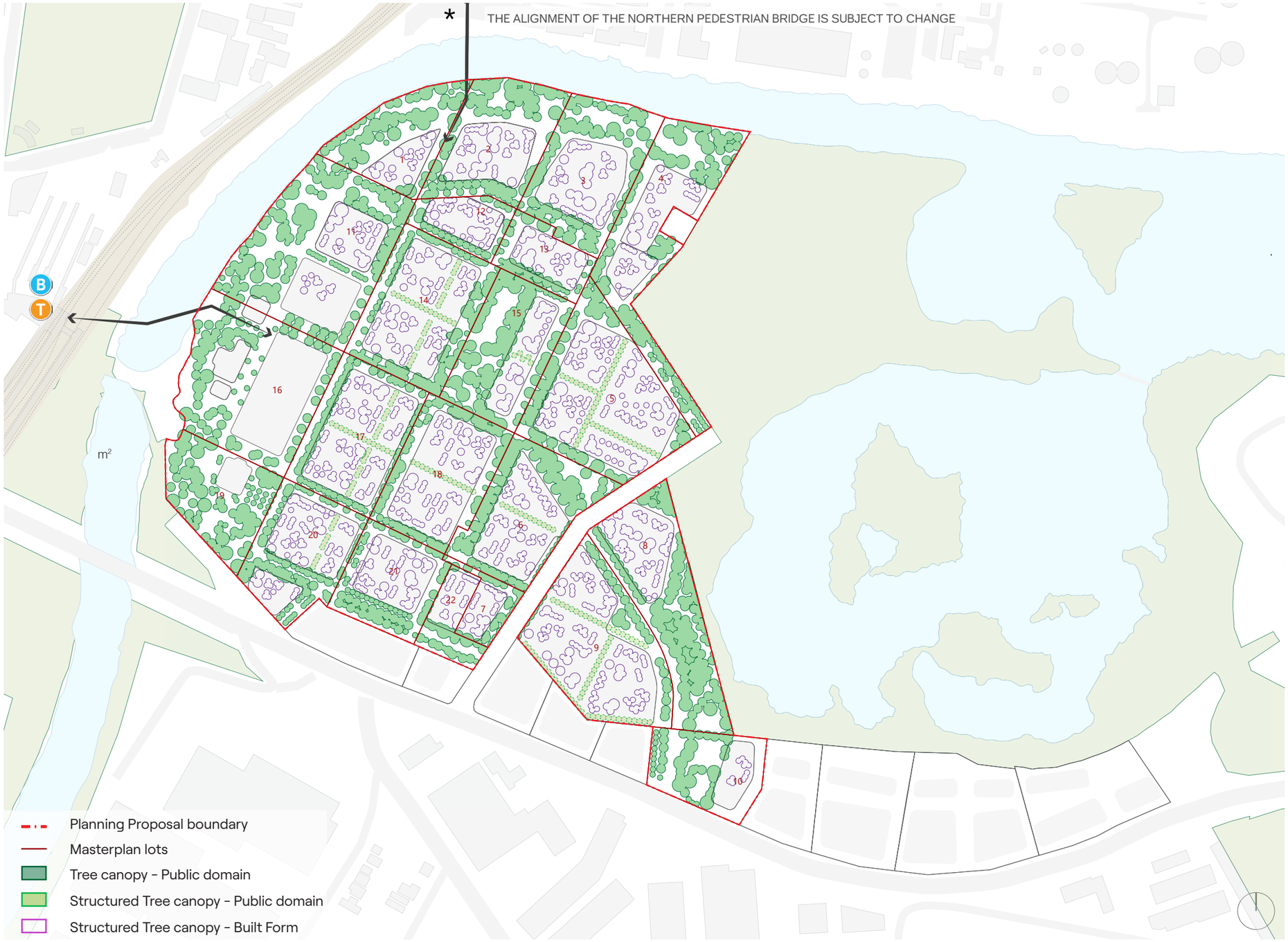


* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

13.3 Tree canopy

Public domain tree canopy	Structured tree canopy (public domain)	Structured tree canopy (built form)
30.3%	1.9%	12%

Masterplan Lot	Public Domain Tree Canopy Area	Structured Tree Canopy area - Public Domain	Structured Tree Canopy area - Built Form
1	4,707m²		886m²
2	5,320m²		1,806m²
3	5,509m²		1,949m²
4	6,911m²		1,797m²
5	4,039m²	1,275m²	4,599m²
6	5,445m²	333m²	1,938m²
7	1,107m²		755m²
8	8,604m²		1,793m²
9	2,043m²	1,689m²	3,886m²
10	3,006m²		277m²
11	9,620m²		1,542m²
12	1,236m²		1,336m²
13	1,621m²		1,313m²
14	4,298m²	936m²	2,629m²
15	6,365m²	141m²	1,115m²
16	5,753m²		
17	2,753m²	936m²	2,812m²
18	3,385m²	388m²	2,457m²
19	5,813m²		
20	3,353m²	298m²	2,293m²
21	3,158m²		1,923m²
22	1,368m²		627m²
Total	**95,391m²**	**5,996m²**	**37,733m²**



* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

13.4 Communal open space

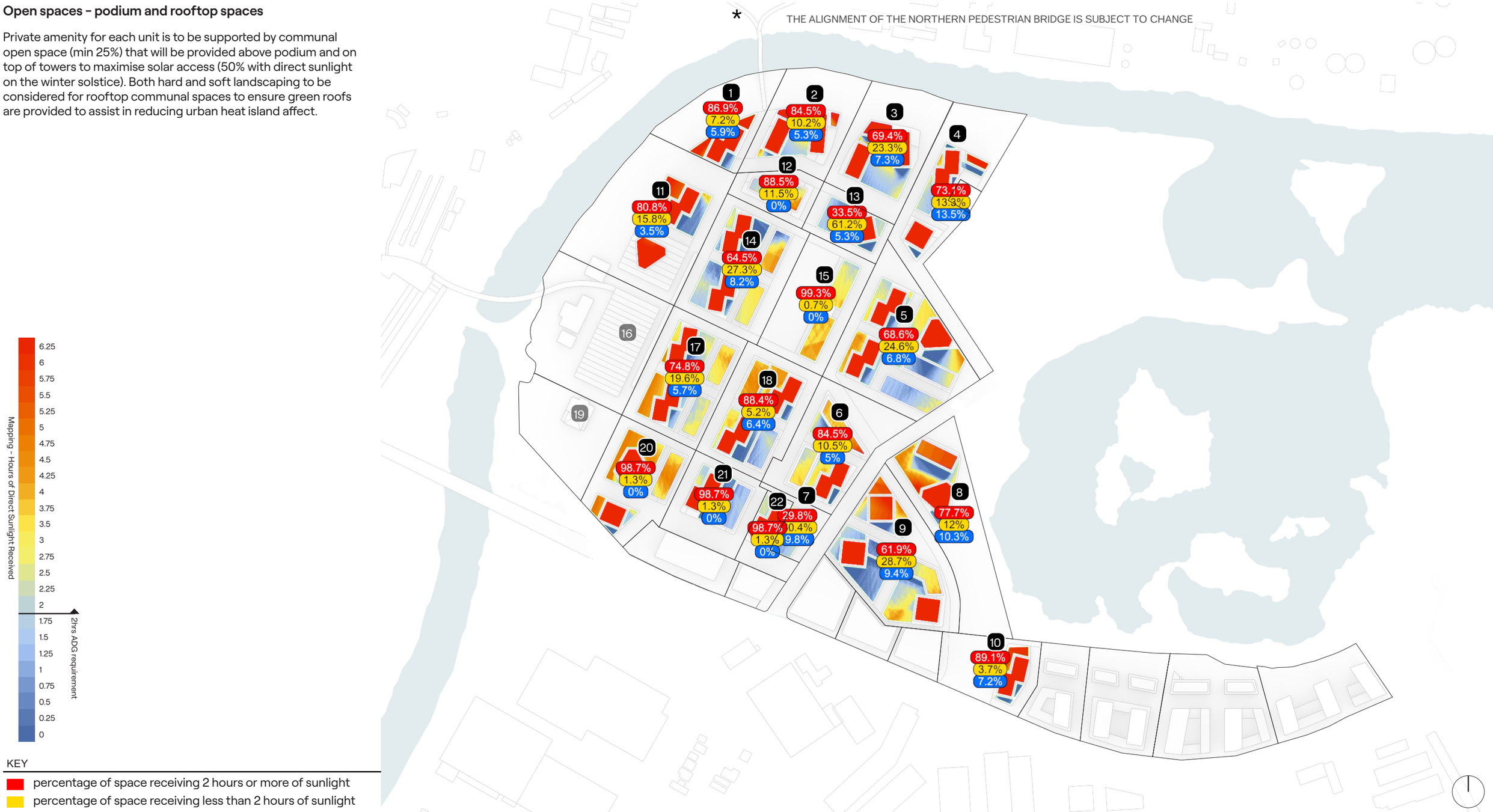
Masterplan Lot	Communal Open Space Area (m^2)	% of Development Pad
1	1201	35%
2	2293	37%
3	3190	48%
4	1923	31%
5	6384	39%
6	2774	34%
7	1156	59%
8	2731	50%
9	6269	35%
10	998	26%
11	2527	55%
12	1151	31%
13	1819	43%
14	4251	38%
15	1676	42%
16	n/a	*n/a*
17	4173	38%
18	3894	40%
19	n/a	*n/a*
20	3365	44%
21	2163	44%
22	945	42%
Total	54883.6	**39%**

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

13.5 Solar access to communal open spaces

Open spaces - podium and rooftop spaces

Private amenity for each unit is to be supported by communal open space (min 25%) that will be provided above podium and on top of towers to maximise solar access (50% with direct sunlight on the winter solstice). Both hard and soft landscaping to be considered for rooftop communal spaces to ensure green roofs are provided to assist in reducing urban heat island affect.



KEY

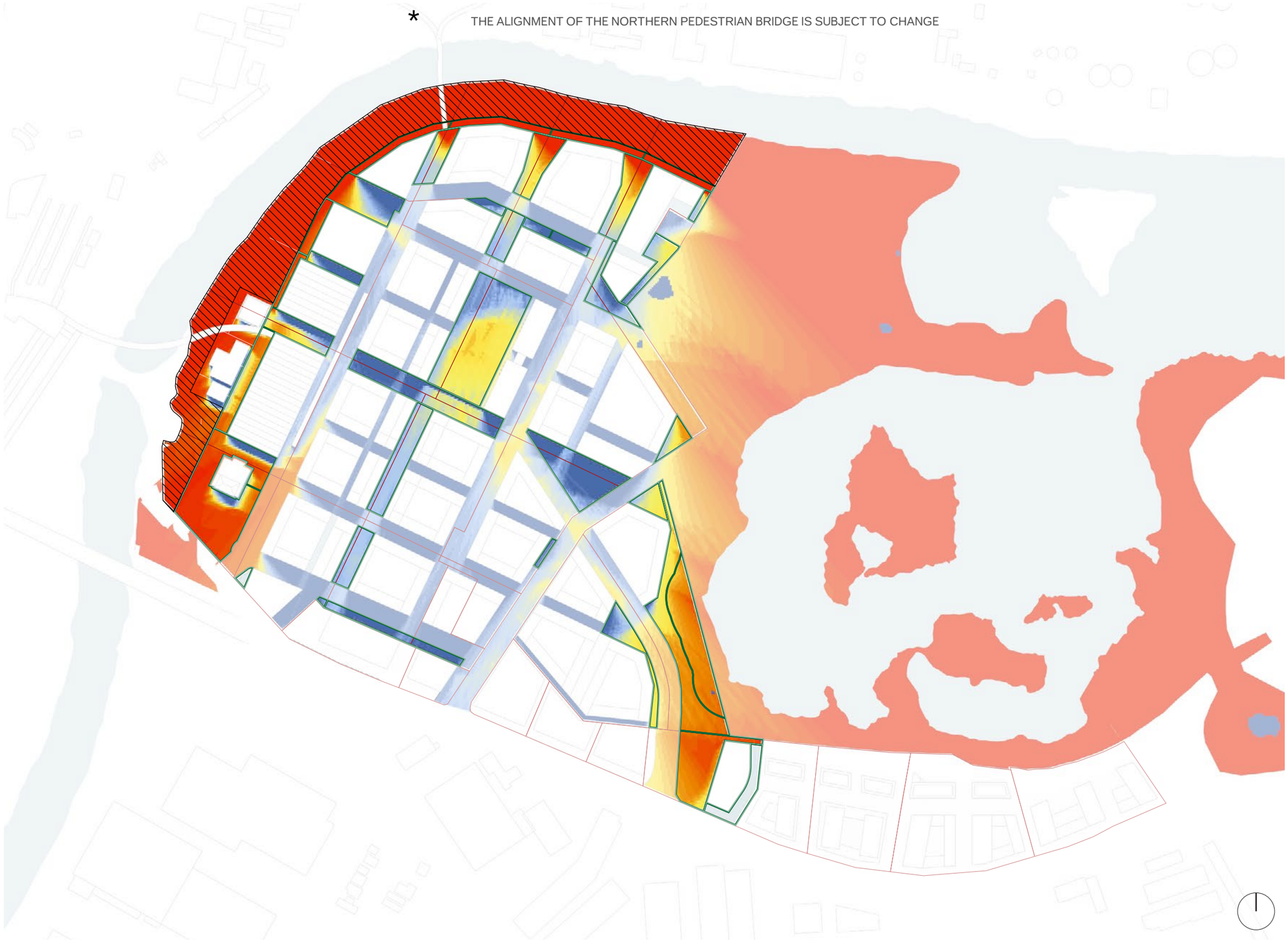
- percentage of space receiving 2 hours or more of sunlight
- percentage of space receiving less than 2 hours of sunlight
- percentage of space receiving less than 15 minutes of sunlight

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

13.6 Solar access to ground plane

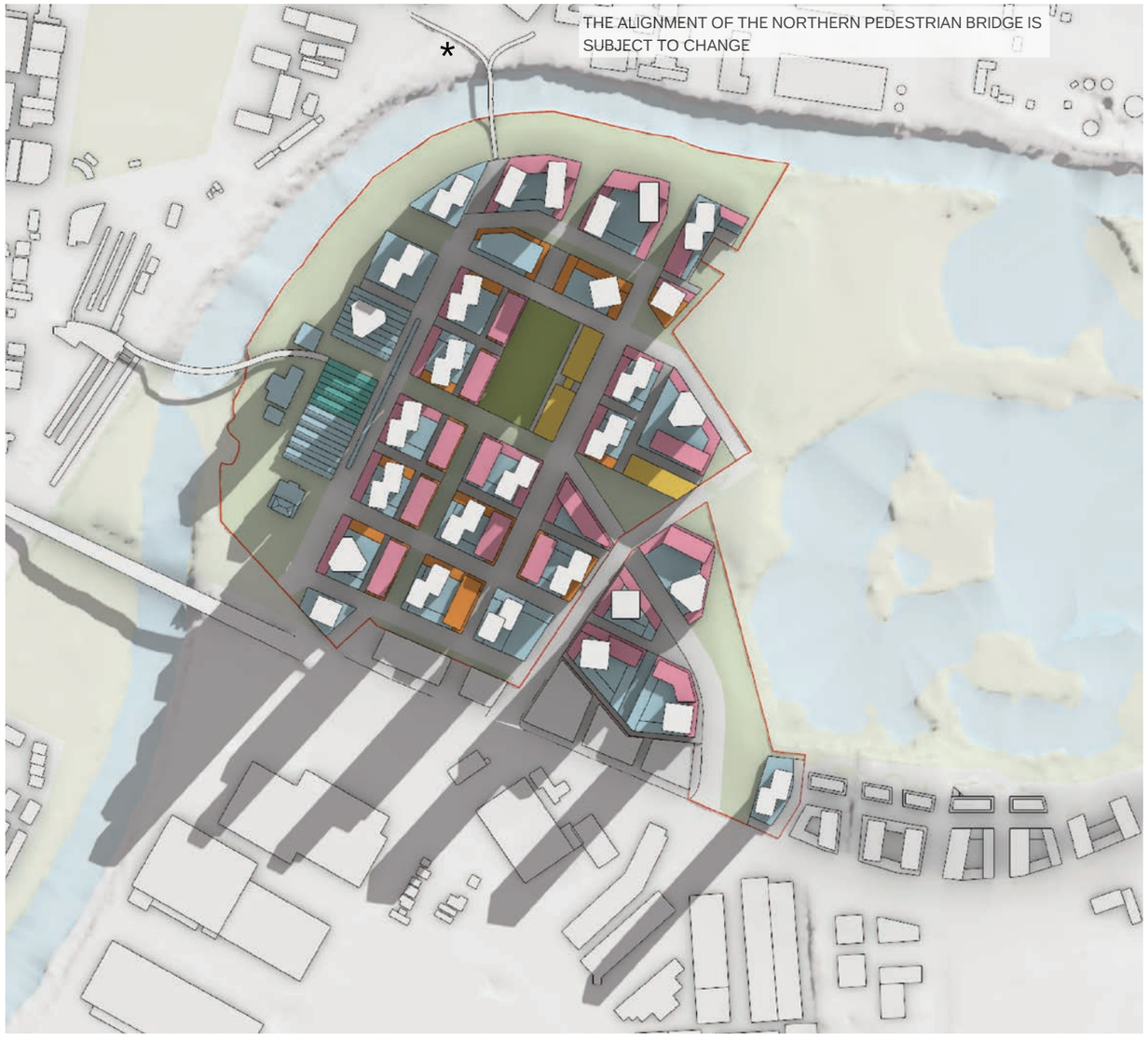
The quantum, quality and usability of public open space across the precinct has been a central consideration for the masterplan. **Seventy percent (70%) of the central open space recieves more than two (2) hours of solar on the winter solstice (June 21st) between 9am and 3pm.**

One way to protect the amenity of the newly formed foreshore public space is a 'sun protection area' which must receive a minimum of 3 hours of direct sunlight on the winter solstice (typically June 21st) between 9am and 3pm.



* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

13.7 Shadow Study (Winter Solstice)



9am

10am

Shadows

Site boundary

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Shadow Study (Winter Solstice)

11am

12pm

Shadows

Site boundary

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Shadow Study (Winter Solstice)

1pm

2pm

Shadows

Site boundary

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Shadow Study (Winter Solstice)

3pm

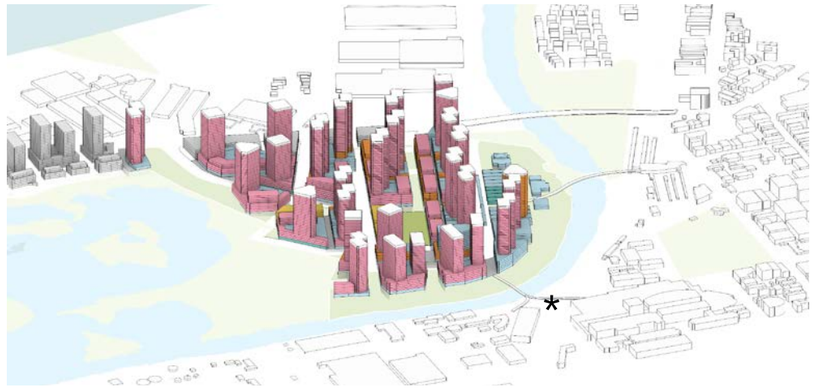
Shadows

Site boundary

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

Eye of the sun - Winter solstice (22 June)

9am



10am

11am

12pm

1pm

2pm

3pm

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

Eye of the sun - Summer solstice (22 December)

9am

10am

11am

12pm

1pm

2pm

3pm

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

Eye of the sun - Equinox (22 September)

9am

10am

11am

12pm

1pm

2pm

3pm

* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners. The alignment of the pedestrian bridge is subject to change

13.8 Apartment Solar Access and Cross Ventilation Strategy

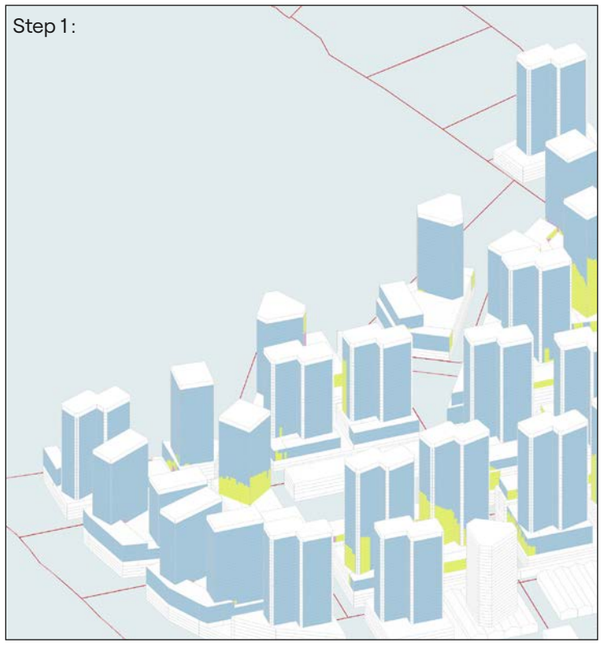
Methodology and summary

Design testing for solar access is a best practice and compliance requirement of SEPP65 and the Apartment Design Guide. The diagram on the right demonstrates the process to achieving solar compliance for the illustrative scheme (Ch 6) under SEPP65. This methodology has been developed to test and refine solar access at a precinct scale taking into consideration the following:

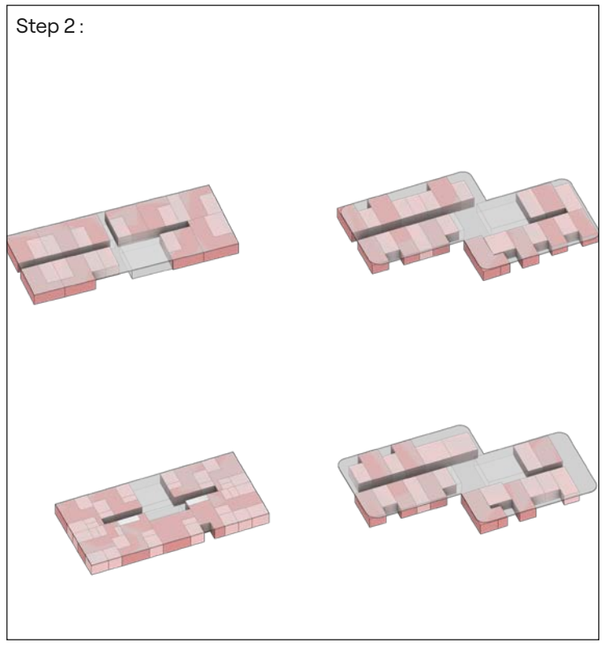
1. The grid orientation of the masterplan (25 degrees NE) is a place based response to the heritage character of the precinct which is technically not optimal for solar compliance (due north). This approach has been supported by Council as it provides a strong link to the site's former uses and history.
2. The adopted site grid creates the challenge of achieving solar compliance on an individual building basis, as only two tower façades per tower will receive the 2 hours of direct sunlight in mid-winter, as compared to a north-south oriented tower where three façades per tower would receive direct sunlight.
3. Moore Point will be delivered over a period of more than fifty years.
4. Demonstrating ADG solar compliance for the entire precinct is impractical for the site which is larger than 30 hectares.
5. Moore Point is an 'edge-of-CBD' condition as opposed to an individual residential building which is the envisaged subject for the ADG.
6. The ADG will change over the coming fifty years.

In summary the evolution of the masterplan has included extensive solar testing to provide certainty of solar compliance across the site by applying a number of principles;

- Orient towers as close to north as possible (11 degree tolerance), whilst maintaining podiums on the alignment of streets (25 degrees).
- Maximise the number of units along elevations receiving 2 hours of direct sunlight.
- Reducing the number of dwellings on lower levels of towers that receive less solar access but with good internal amenity from additional living space and greater opportunity for natural ventilation.
- Explore alternative uses such as commercial, communal spaces, temporary accommodation and build to rent in podiums and south-facing façades, particularly in blocks within the southern extent of the precinct.

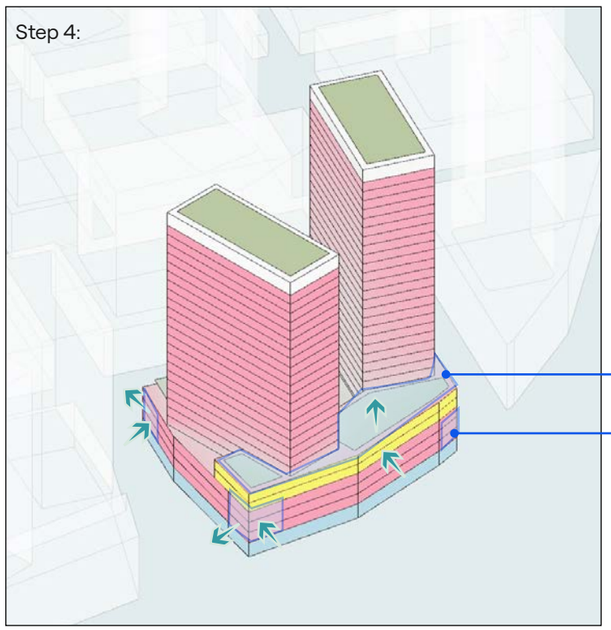


Test solar insolation on massing



Refine floorplates

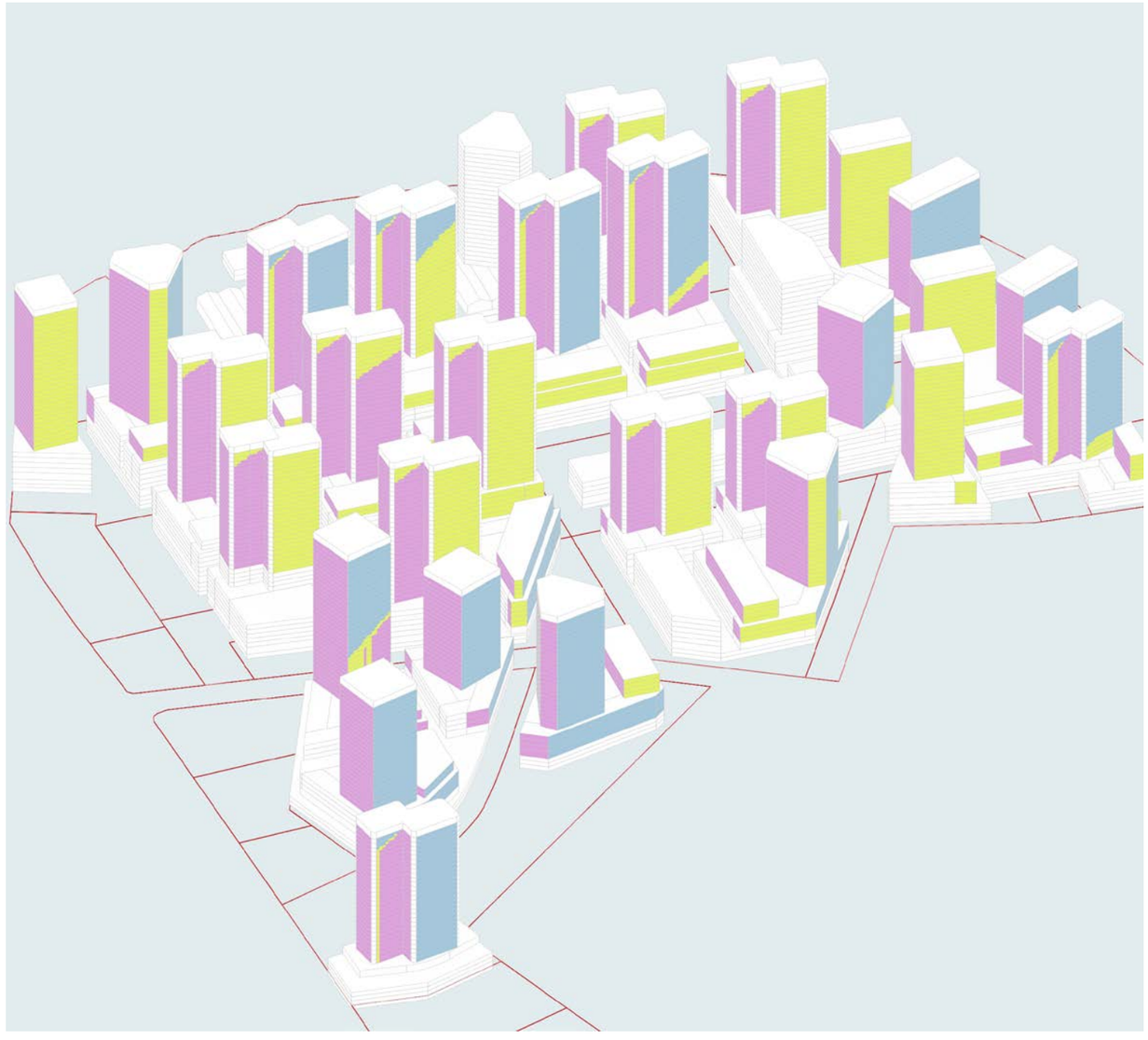
Test solar insolation on floorplates



Cross Ventilation Strategy

13.9 Test Scheme Mass Solar Insolation Study

Axonometric view of the site from north-west



Axonometric view of the site from south-east

mass receiving less than 15 minutes of sunlight (no sunlight)
mass receiving between 15 minutes and 2 hours of sunlight
mass receiving 2 hours or more of sunlight

This diagram illustrates the number of hours of direct sunlight received by the reference scheme mass facade between 9am and 3pm on the winter solstice (typically June 21st) taking into consideration the cumulative impact of surrounding developments.

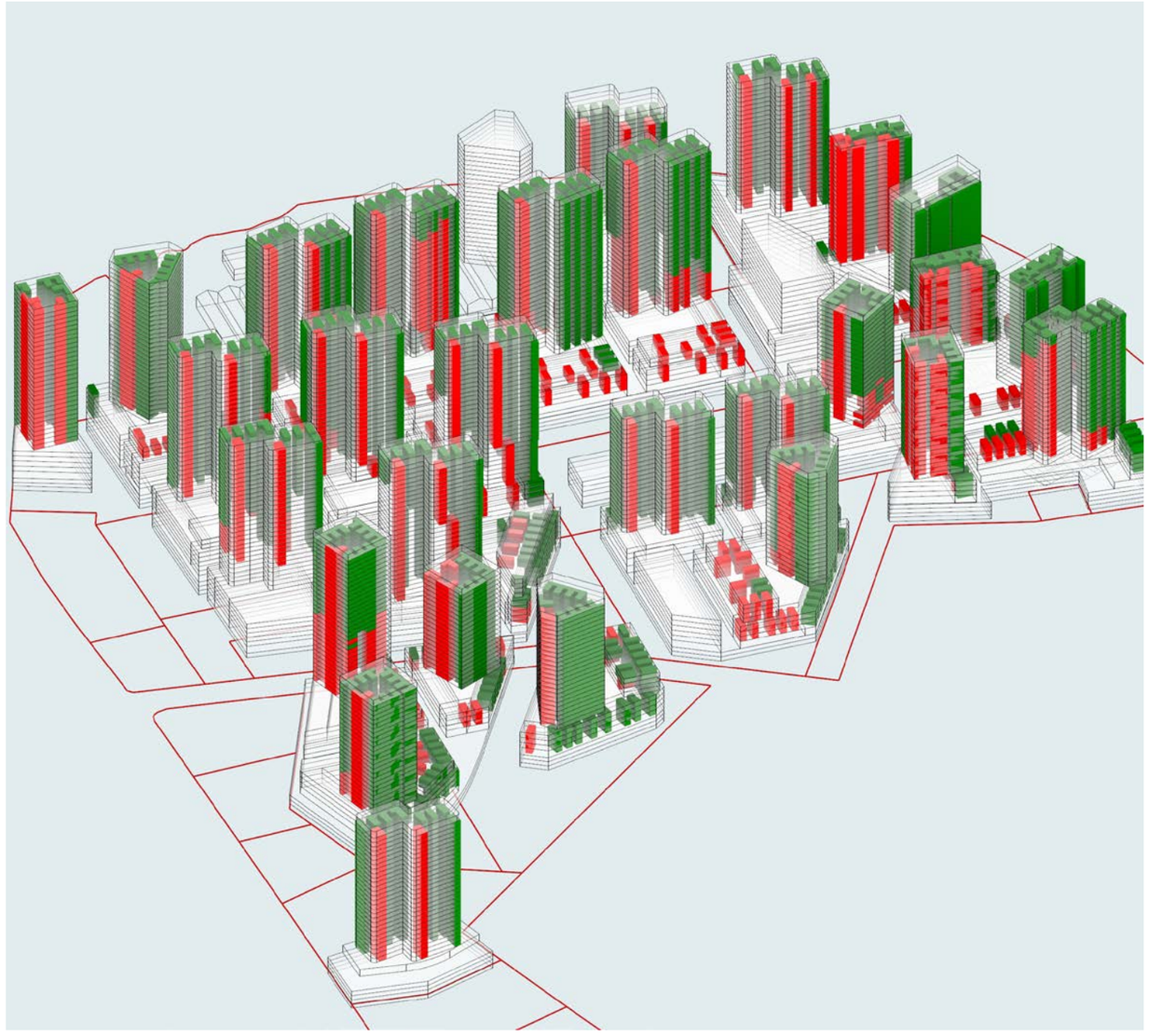
This initial test forms the basis for refining the floorplates which sit inside the mass shown on subsequent pages.

13.10 Test Scheme Solar Insolation Study

Axonometric view of the site from north-west

This diagram illustrates the number of hours of direct sunlight received by reference scheme apartments. As per the Apartment Design Guidelines the study highlights which do (green) and do not (red) meet the ADG threshold of 1m2 of direct sunlight to private open spaces and bedrooms measured at 1m above floor level between 9am and 3pm on the winter solstice (typically June 21st). This takes into consideration the cumulative impact of surrounding developments.

This test is used to calculate the ratio of apartments per building which meet ADG requirements outlined on subsequent pages.



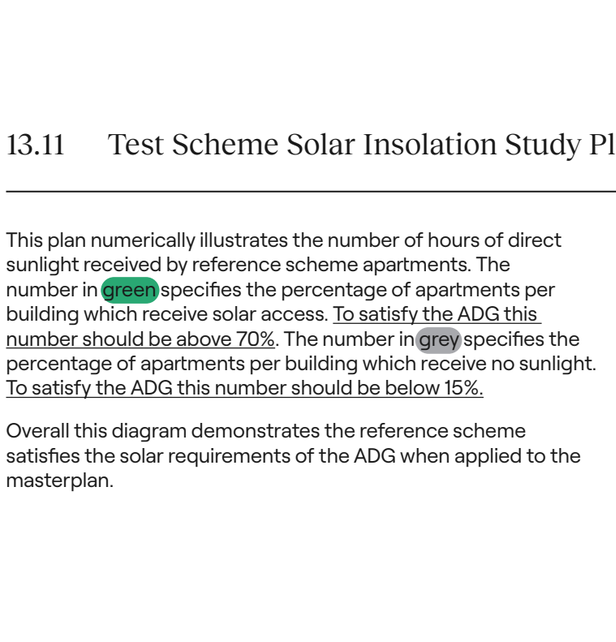
Axonometric view of the site from south-east

- Reference scheme apartments which receive 2 or more hour of sunlight
- Reference scheme apartments which receive less than 2 hours of sunlight

13.11 Test Scheme Solar Insolation Study Plan

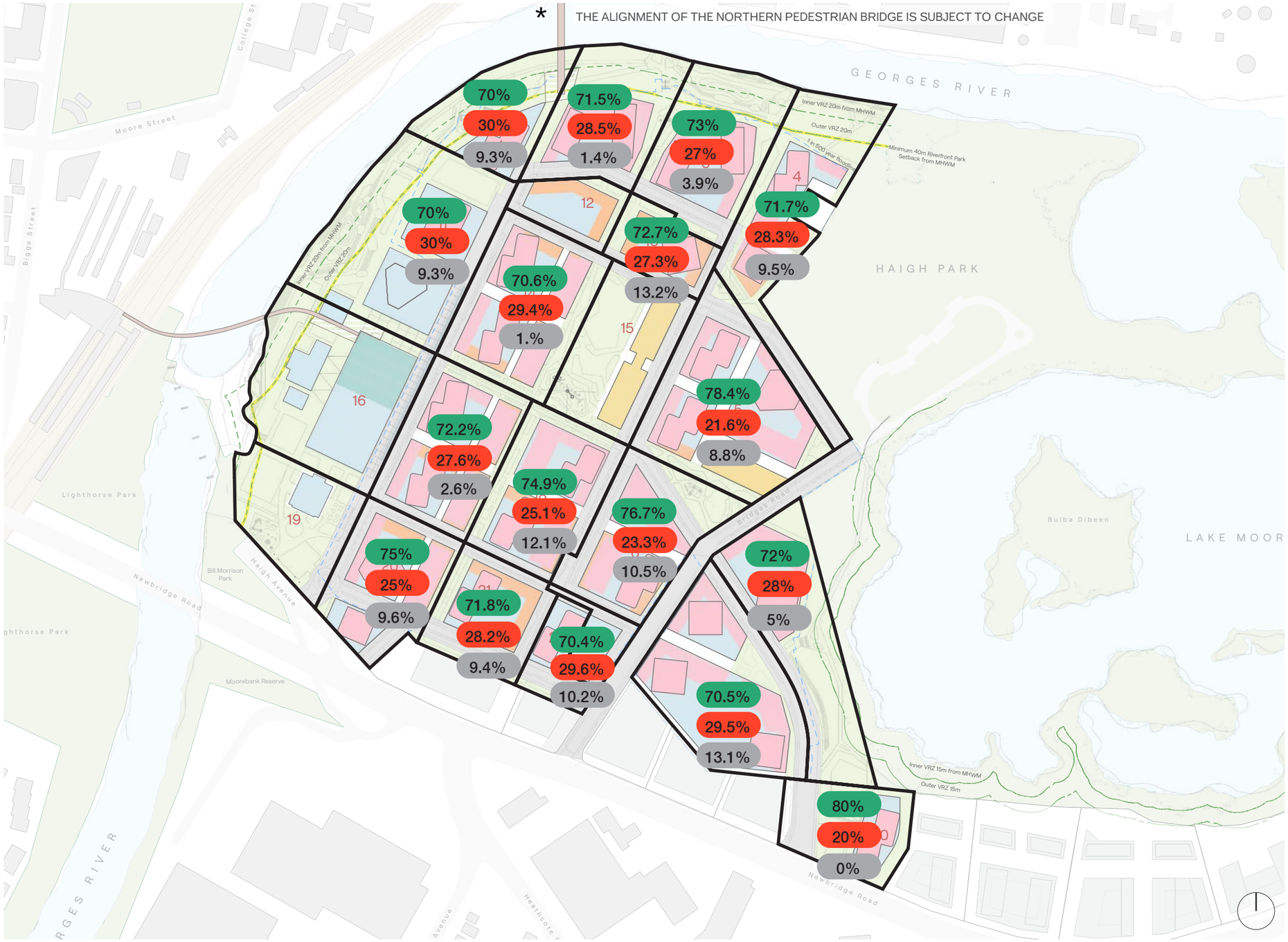
This plan numerically illustrates the number of hours of direct sunlight received by reference scheme apartments. The number in green specifies the percentage of apartments per building which receive solar access. To satisfy the ADG this number should be above 70%. The number in grey specifies the percentage of apartments per building which receive no sunlight. To satisfy the ADG this number should be below 15%.

Overall this diagram demonstrates the reference scheme satisfies the solar requirements of the ADG when applied to the masterplan.



KEY

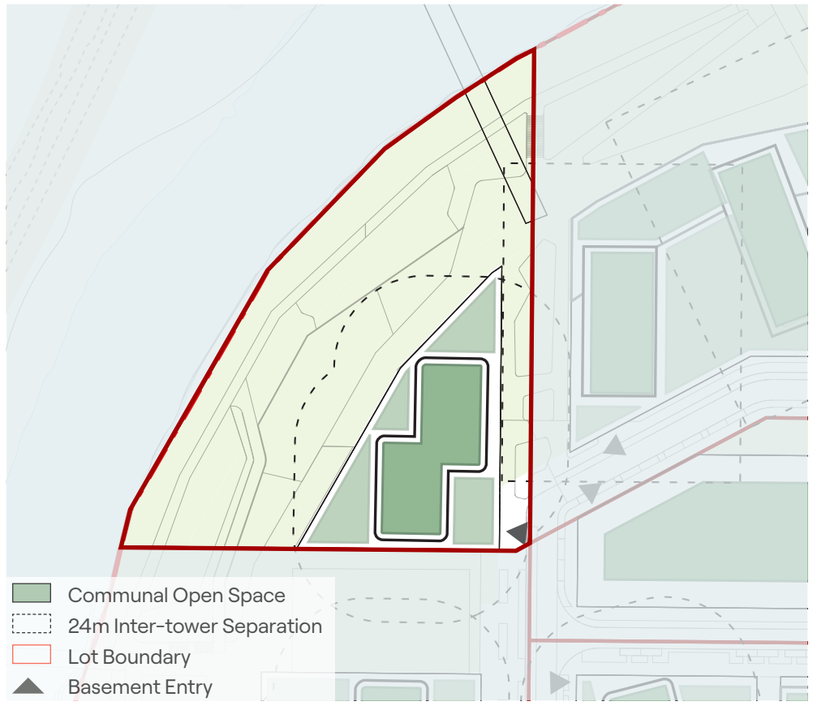
- mass receiving 2 hours or more of sunlight
- mass receiving less than 2 hours of sunlight
- mass receiving less than 15 minutes of sunlight



* The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with the affected landowners.

13.12 ADG Lot Testing: Lot 1

Roof Plan - Communal Open Space



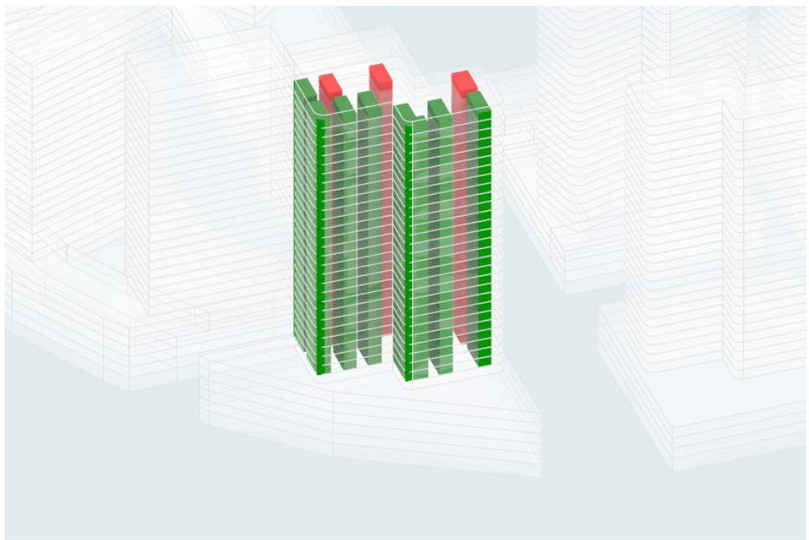
Program Axononometric

Summary Table - ADG Test Scheme

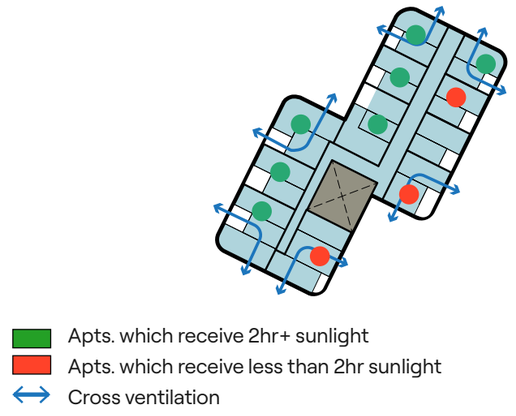
MASTERPLAN LOT AREA	11,041
DEVELOPMENT PAD AREA	3,422
DWELLINGS RECEIVING 2HR+ SUNLIGHT	237 (70%)
DWELLINGS RECEIVING NO SUNLIGHT	31 (9.3%)
DWELLINGS RECEIVING CROSS-VENT[3]	18 of 30 (60%)
COMMUNAL OPEN SPACE	1715sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	88.1%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

Tower Facade Solar Test (South East)

Tower Facade Solar Test (North West)



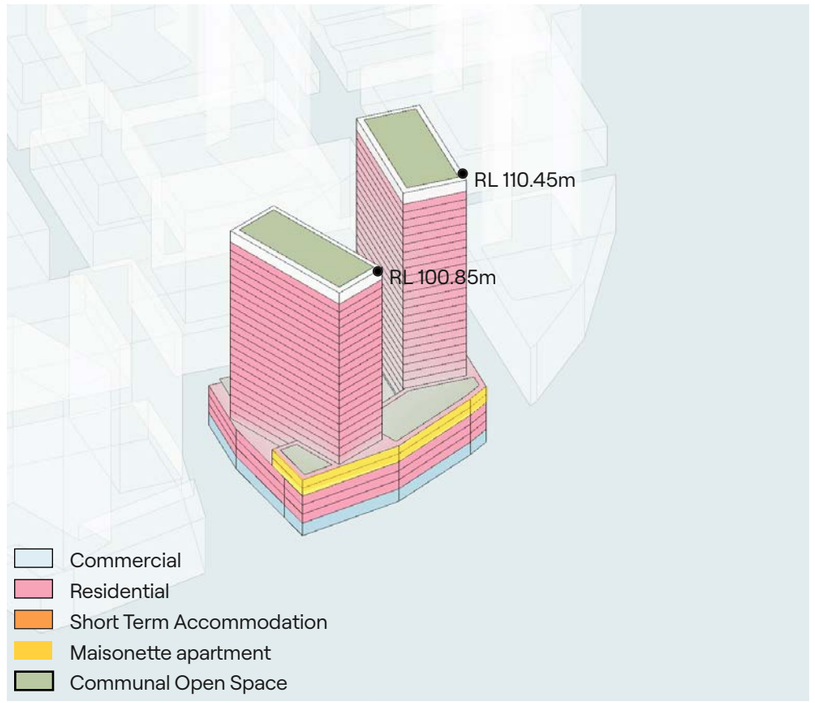
Typical Tower Layouts



Lot 2 ADG Testing

Roof Plan - Communal Open Space

Program Axononometric (North East)

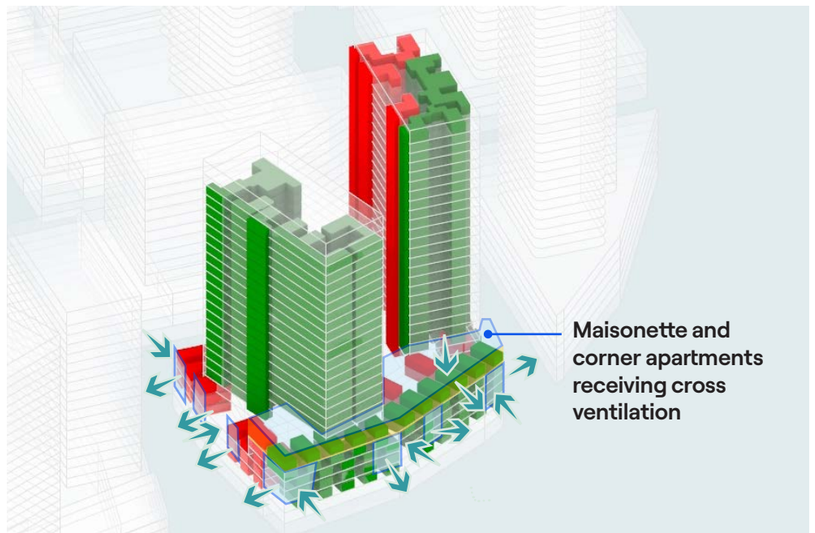


Summary Table - ADG Test Scheme

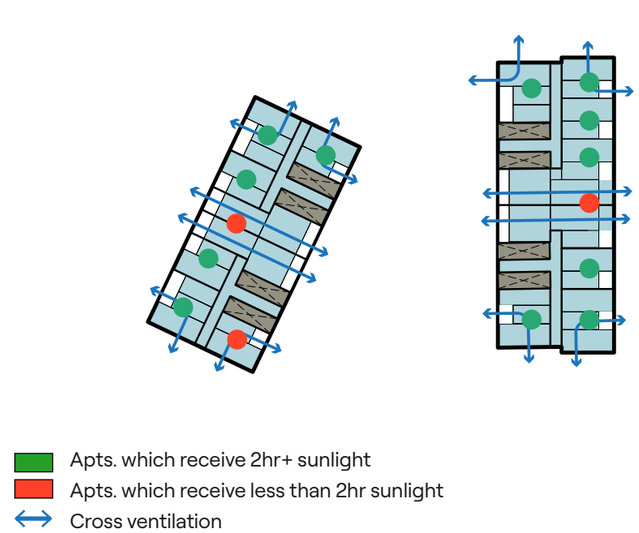
MASTERPLAN LOT AREA	14,431
DEVELOPMENT PAD AREA	6,227
DWELLINGS RECEIVING 2HR+ SUNLIGHT	386 (71.3%)
DWELLINGS RECEIVING NO SUNLIGHT	8 (1.5%)
DWELLINGS RECEIVING CROSS-VENT[3]	96 of 149 (64%)
COMMUNAL OPEN SPACE	3633sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	78.9%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

Tower Facade Solar Test (South East)

Tower Facade Solar Test (North East)

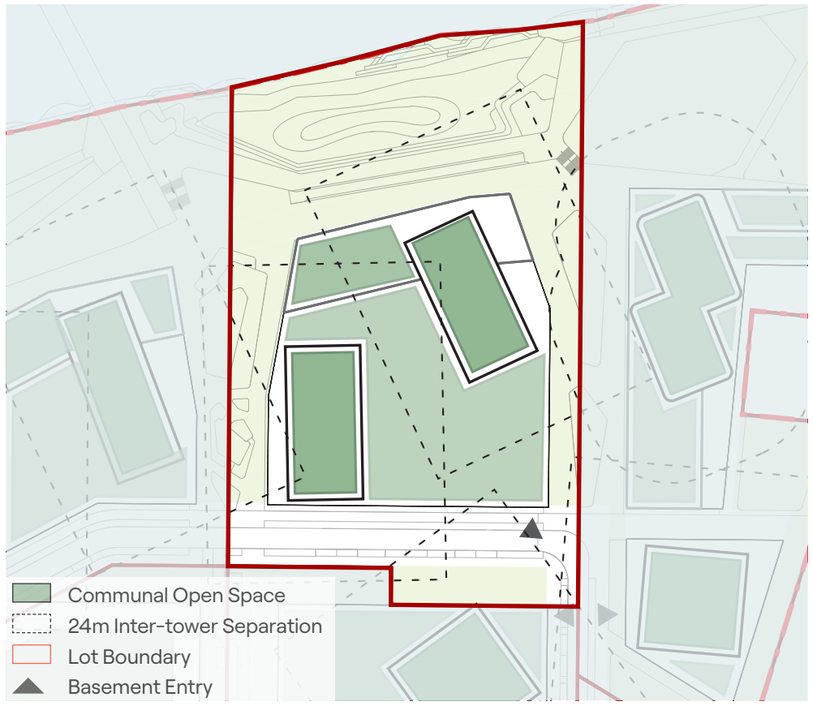


Typical Tower Layouts

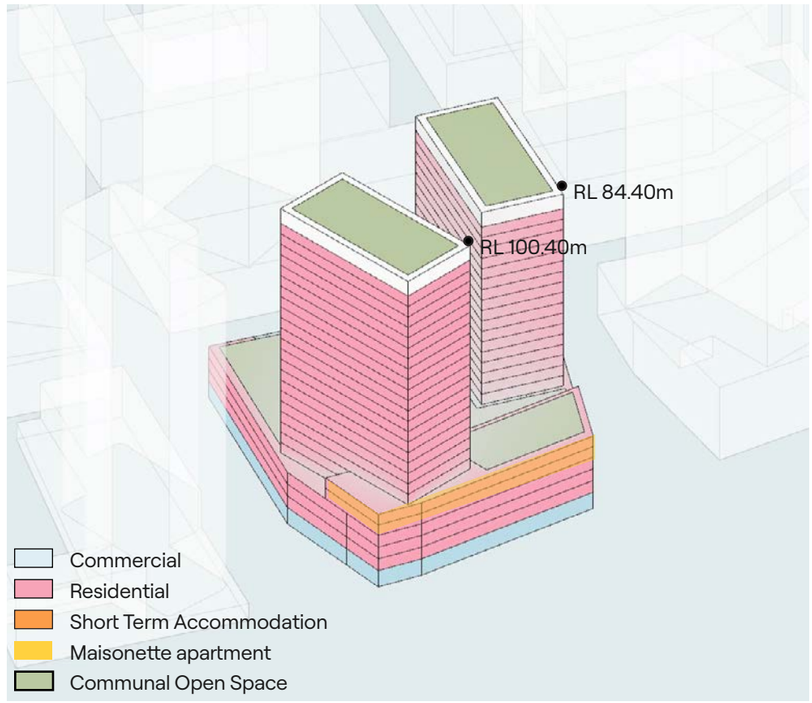


Lot 3 ADG Testing

Roof Plan - Communal Open Space



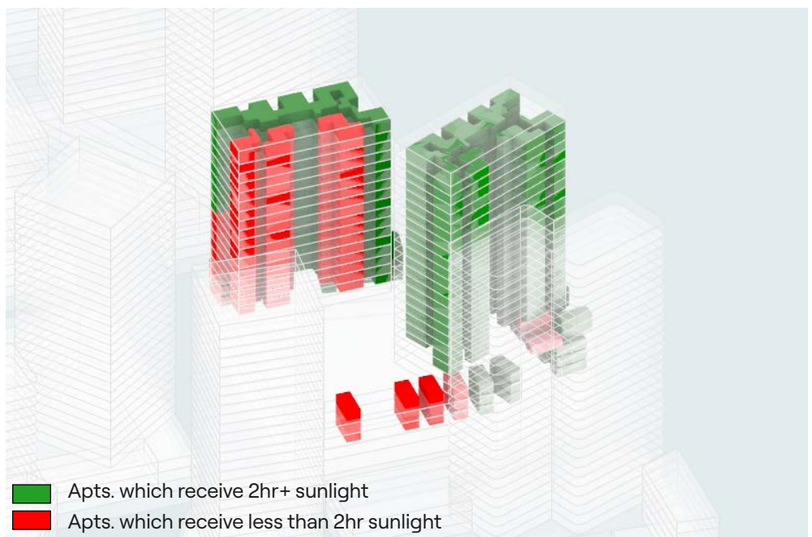
Program Axononometric



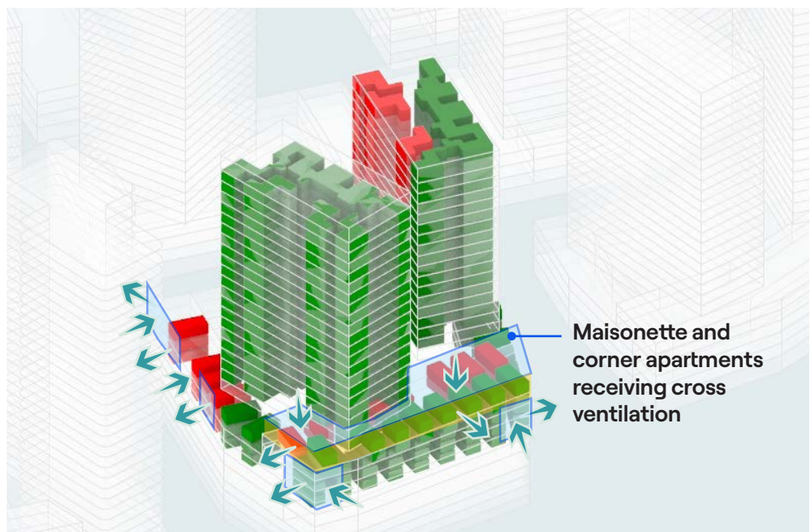
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	16,231
DEVELOPMENT PAD AREA	6,677
DWELLINGS RECEIVING 2HR+ SUNLIGHT	340 (73%)
DWELLINGS RECEIVING NO SUNLIGHT	18 (3.9%)
DWELLINGS RECEIVING CROSS-VENT[3]	94 of 149 (63%)
COMMUNAL OPEN SPACE	4785sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	74.5%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

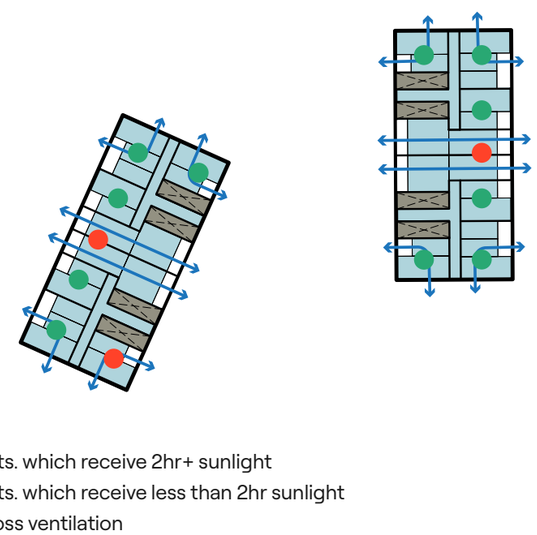
Tower Facade Solar Test (South East)



Tower Facade Solar Test (North East)

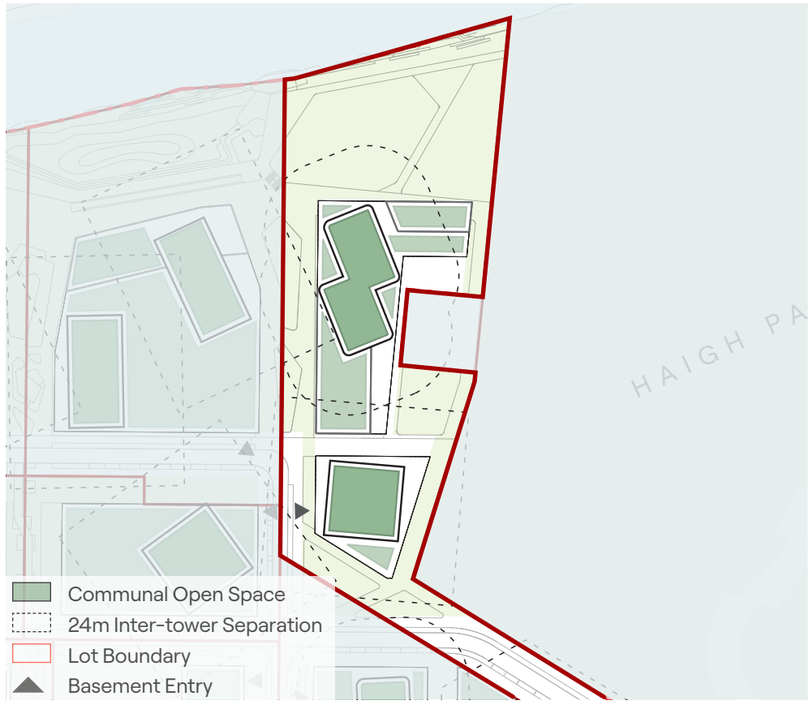


Typical Tower Layouts

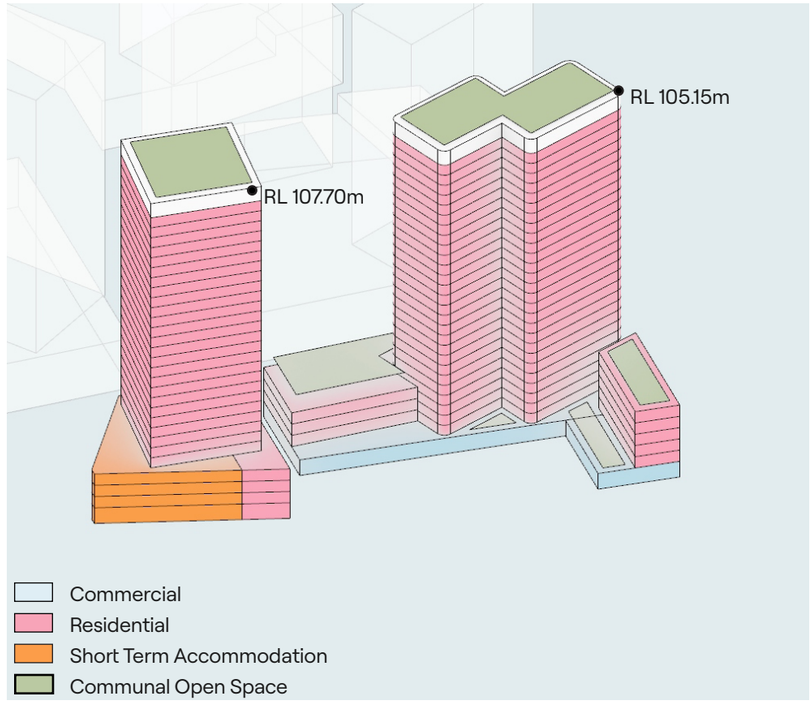


Lot 4 ADG Testing

Roof Plan - Communal Open Space



Program Axononometric

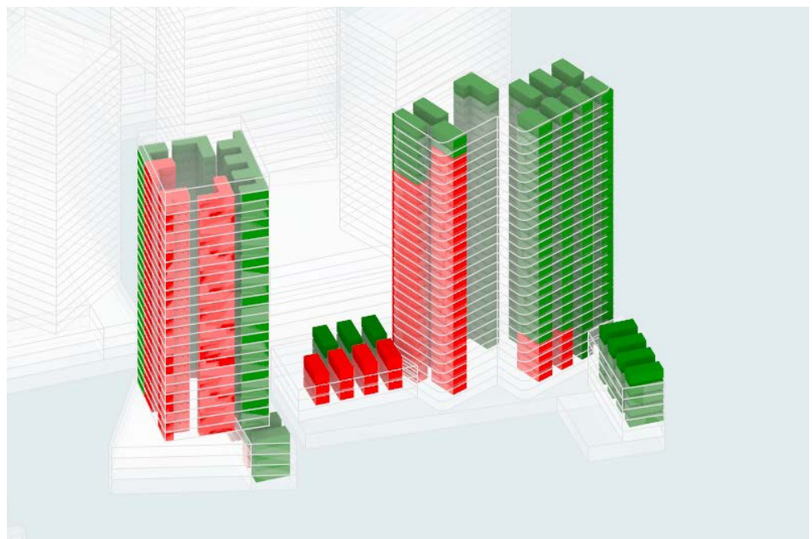


Summary Table - ADG Test Scheme

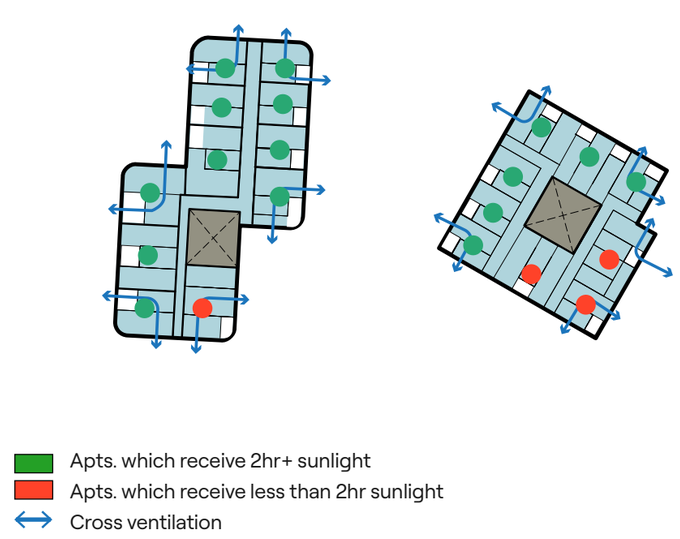
MASTERPLAN LOT AREA	18,780
DEVELOPMENT PAD AREA	6,174
DWELLINGS RECEIVING 2HR+ SUNLIGHT	464 (71.7%)
DWELLINGS RECEIVING NO SUNLIGHT	61 (9.4%)
DWELLINGS RECEIVING CROSS-VENT[3]	110 of 176 (63%)
COMMUNAL OPEN SPACE	2747sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	74.9%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

Tower Facade Solar Test (North West)

Tower Facade Solar Test (South East)

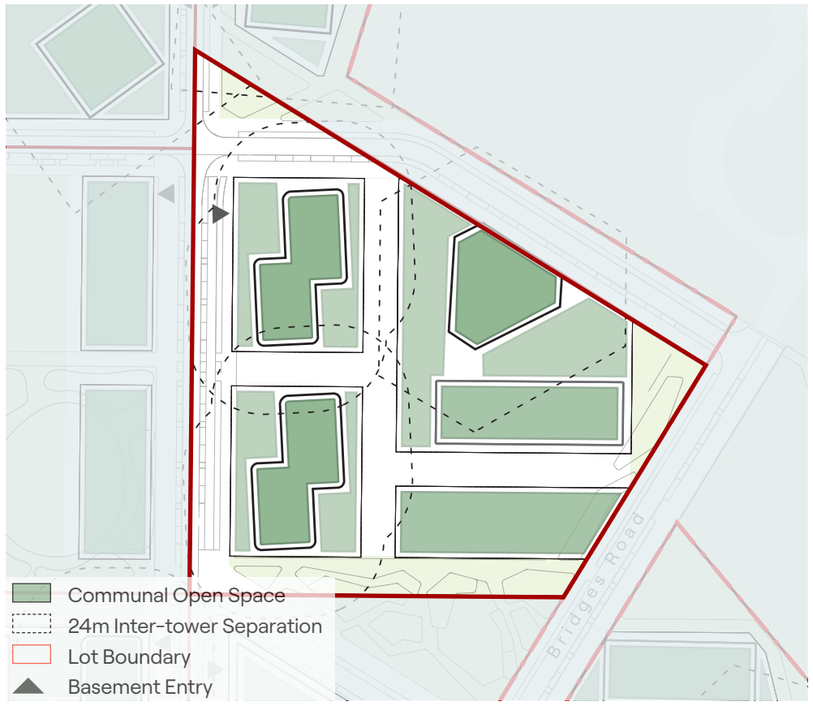


Typical Tower Layouts

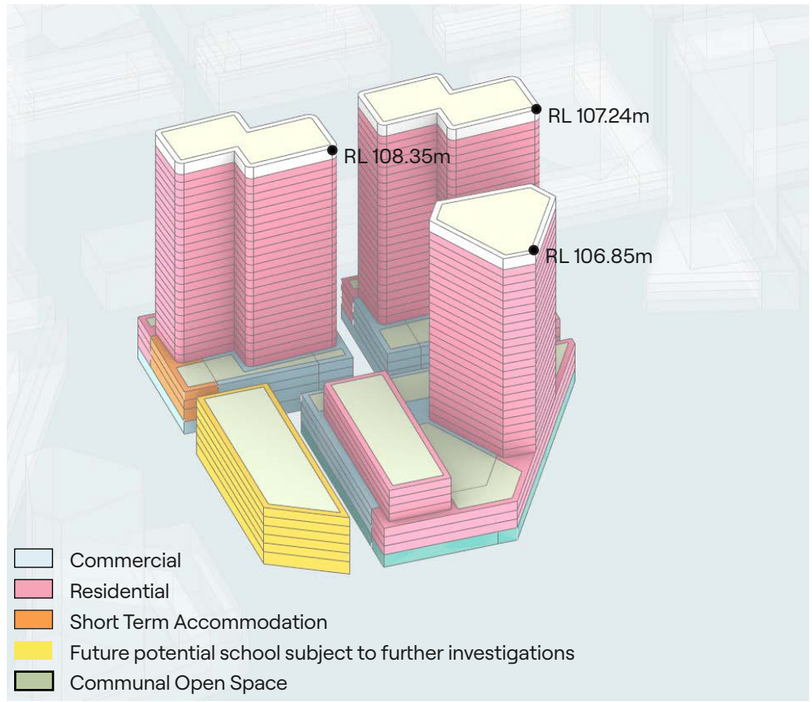


Lot 5 ADG Testing

Roof Plan - Communal Open Space



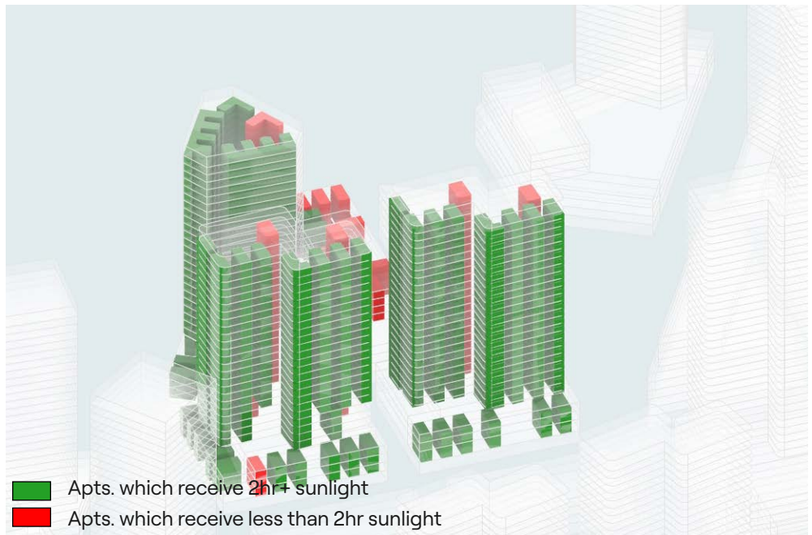
Program Axononometric



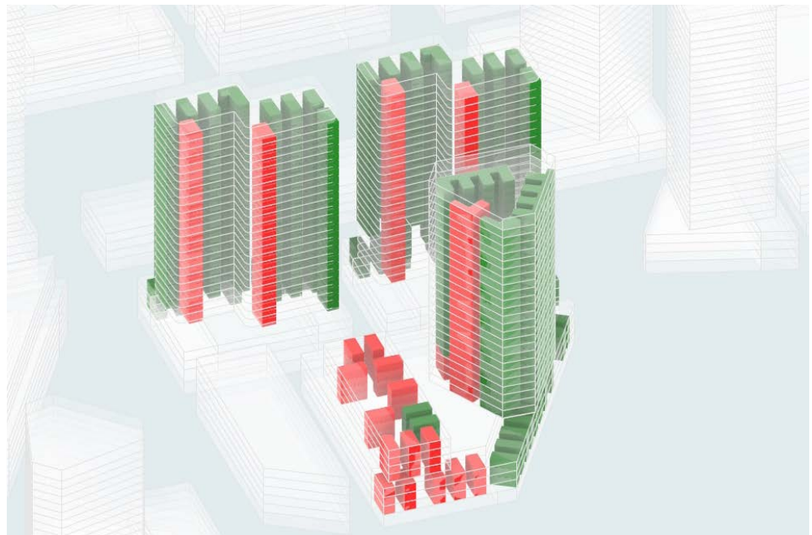
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	22,665
DEVELOPMENT PAD AREA	16,324
DWELLINGS RECEIVING 2HR+ SUNLIGHT	858 (78.4%)
DWELLINGS RECEIVING NO SUNLIGHT	76 (8.8%)
DWELLINGS RECEIVING CROSS-VENT[3]	172 of 287 (60%)
COMMUNAL OPEN SPACE	8972sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	65%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

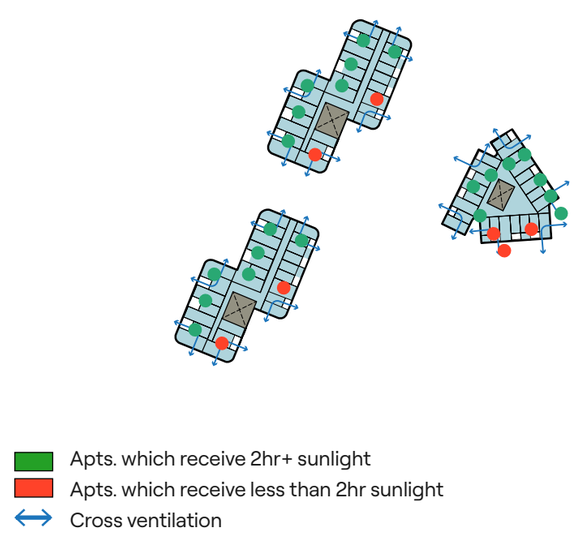
Tower Facade Solar Test (North West)



Tower Facade Solar Test (South East)

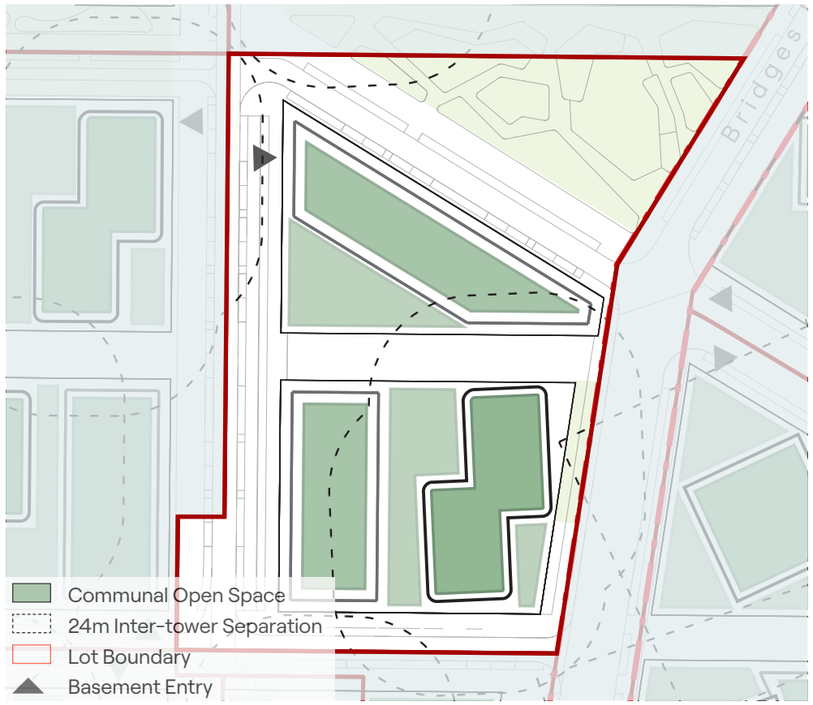


Typical Tower Layouts

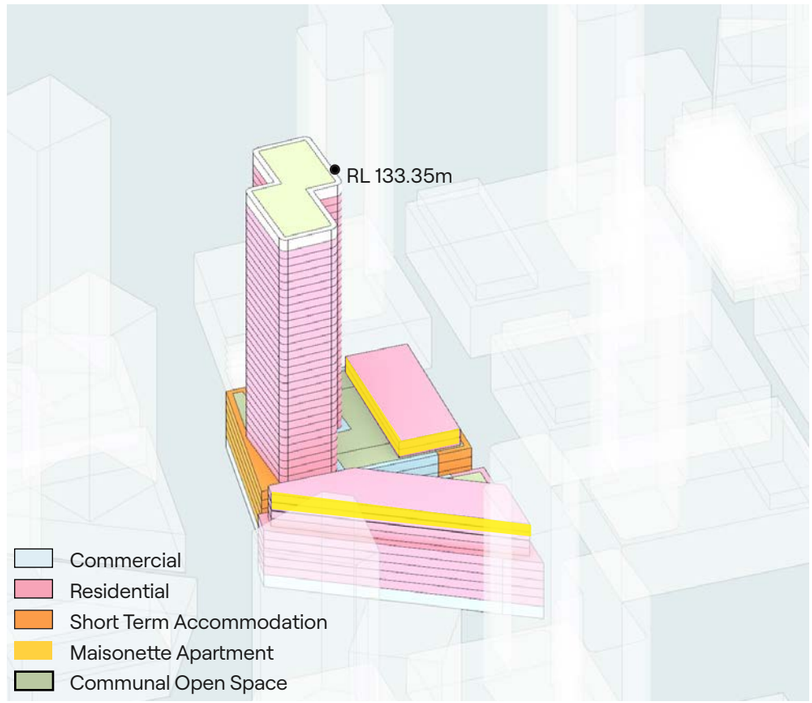


Lot 6 ADG Testing

Roof Plan - Communal Open Space



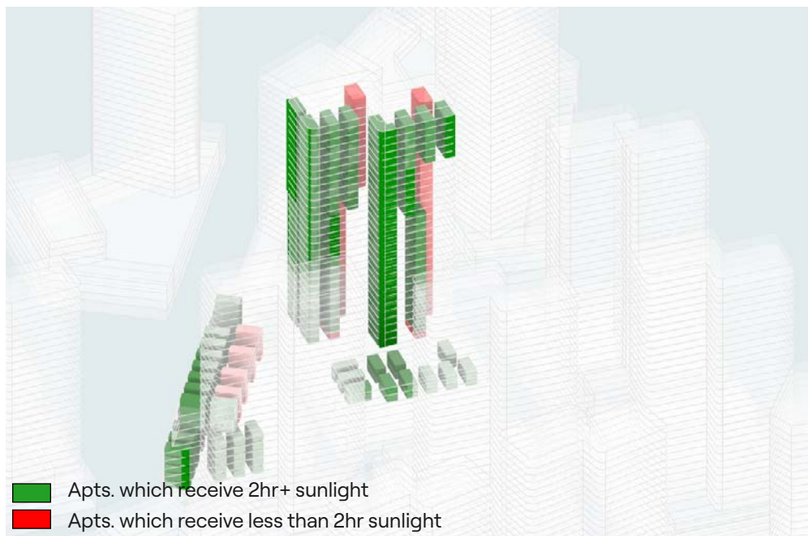
Program Axononometric (North East)



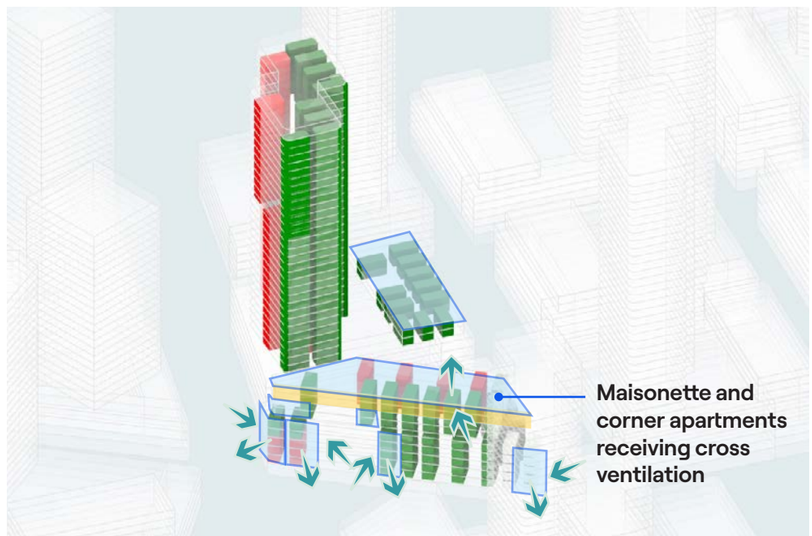
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	15,650
DEVELOPMENT PAD AREA	8,226
DWELLINGS RECEIVING 2HR+ SUNLIGHT	444 (76.7%)
DWELLINGS RECEIVING NO SUNLIGHT	61 (10.5%)
DWELLINGS RECEIVING CROSS-VENT[3]	65 of 107 (61%)
COMMUNAL OPEN SPACE	3964sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	84%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

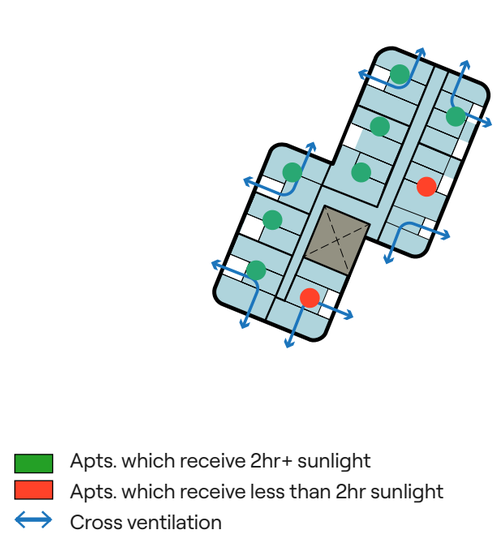
Tower Facade Solar Test (North West)



Tower Facade Solar Test (North East)



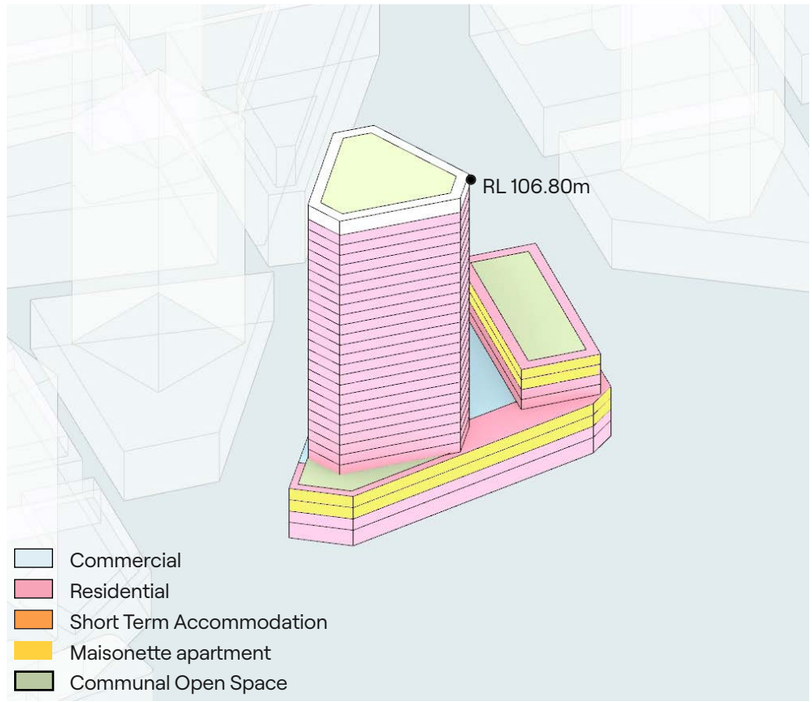
Typical Tower Layouts



Lot 8 ADG Testing

Roof Plan - Communal Open Space

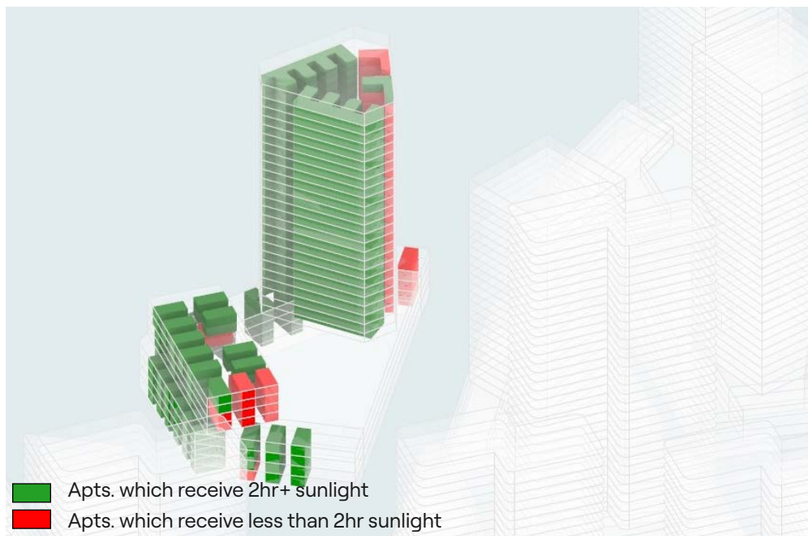
Program Axononometric (South East)



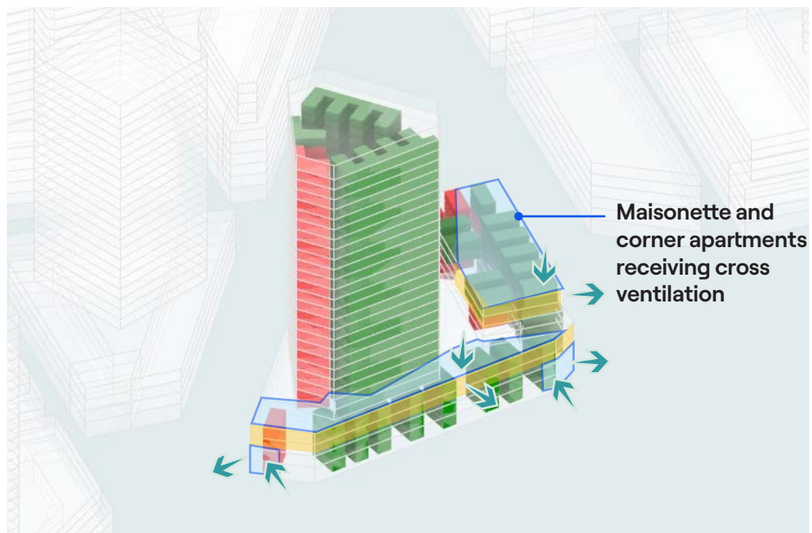
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	17,922
DEVELOPMENT PAD AREA	5,486
DWELLINGS RECEIVING 2HR+ SUNLIGHT	286 (72%)
DWELLINGS RECEIVING NO SUNLIGHT	20 (5.0%)
DWELLINGS RECEIVING CROSS-VENT[3]	129 of 215 (70%)
COMMUNAL OPEN SPACE	3902sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	69.5%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

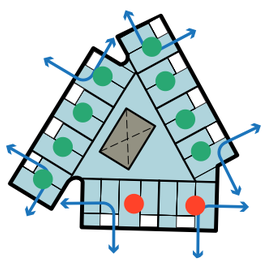
Tower Facade Solar Test (North West)



Tower Facade Solar Test (South East)

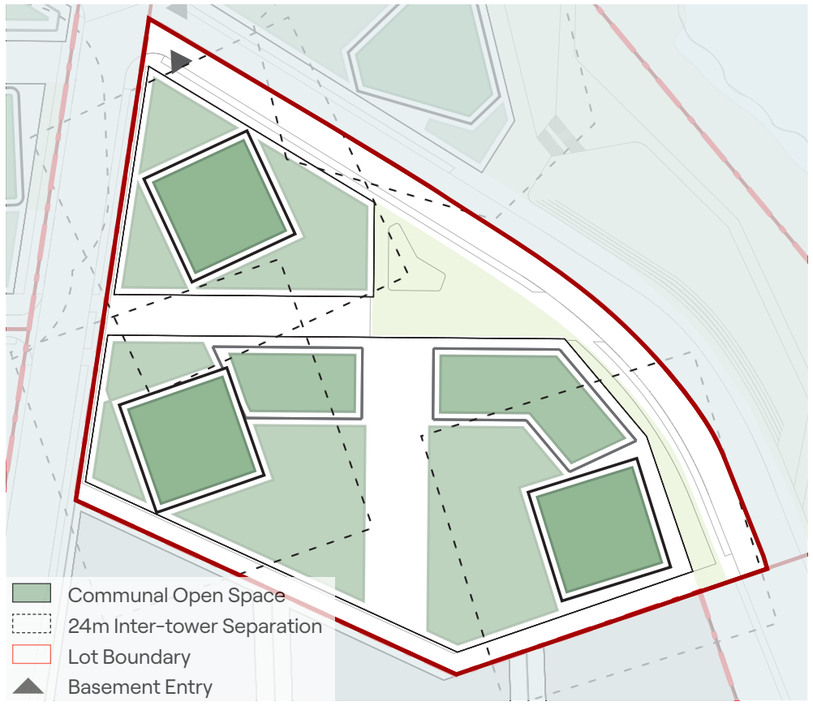


Typical Tower Layouts

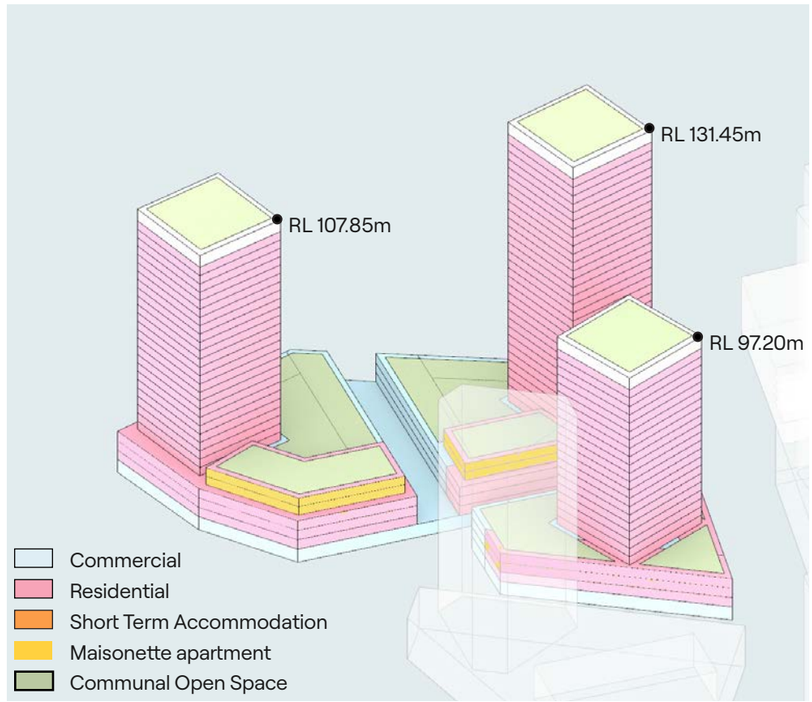


Lot 9 ADG Testing

Roof Plan - Communal Open Space

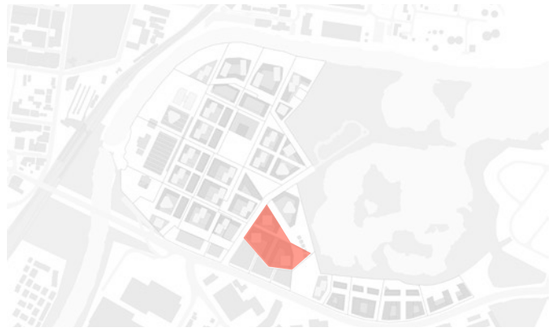


Program Axononometric

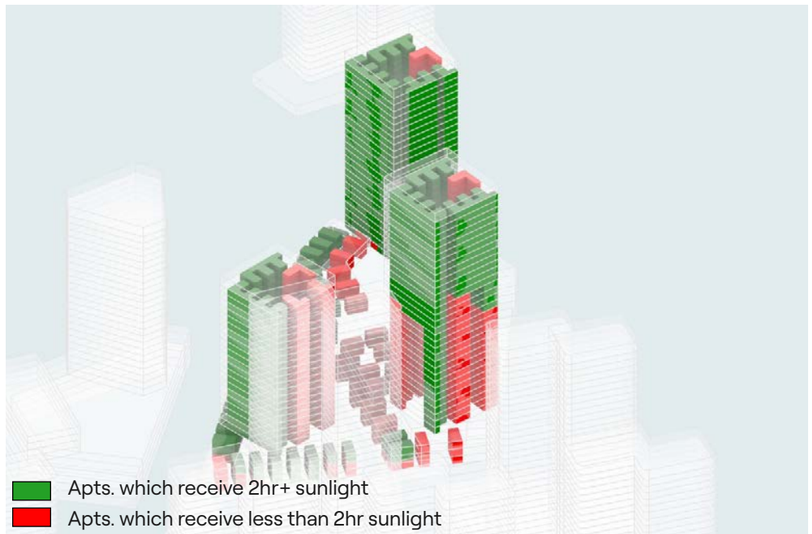


Summary Table - ADG Test Scheme

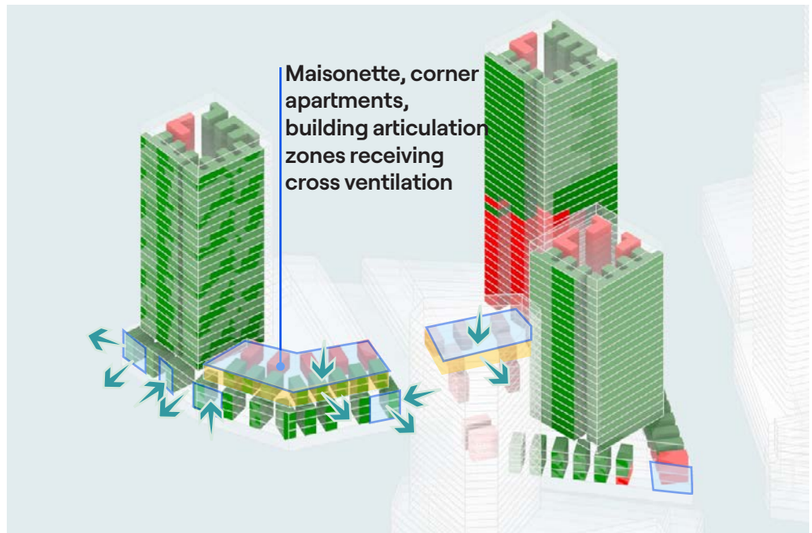
MASTERPLAN LOT AREA	20,581
DEVELOPMENT PAD AREA	17,810
DWELLINGS RECEIVING 2HR+ SUNLIGHT	653 (70.5%)
DWELLINGS RECEIVING NO SUNLIGHT	20 (5.0%)
DWELLINGS RECEIVING CROSS-VENT[3]	108 of 180 (70%)
COMMUNAL OPEN SPACE	8956sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	61.6%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT



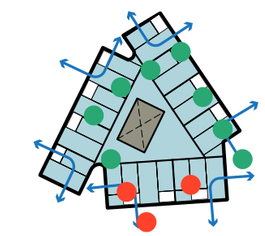
Tower Facade Solar Test (North West)



Tower Facade Solar Test (NorthEast)



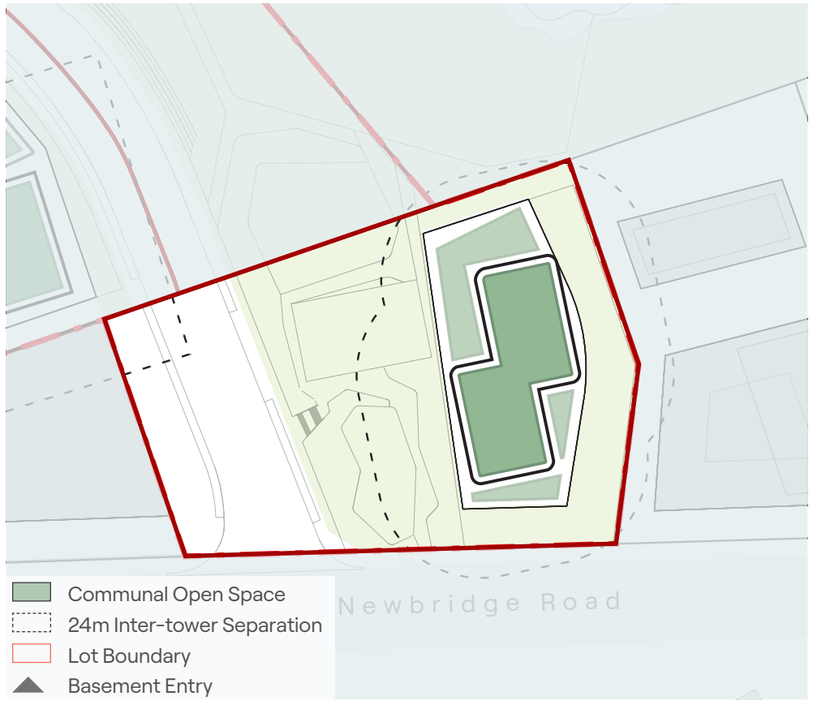
Typical Tower Layouts



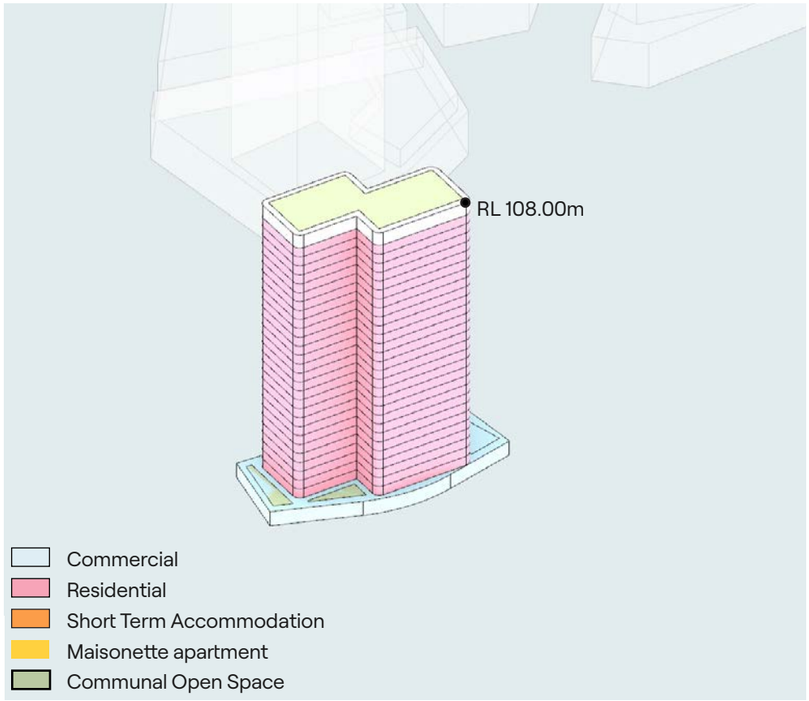
Apts. which receive 2hr+ sunlight
Apts. which receive less than 2hr sunlight
Cross ventilation

Lot 10 ADG Testing

Roof Plan - Communal Open Space



Program Axononometric

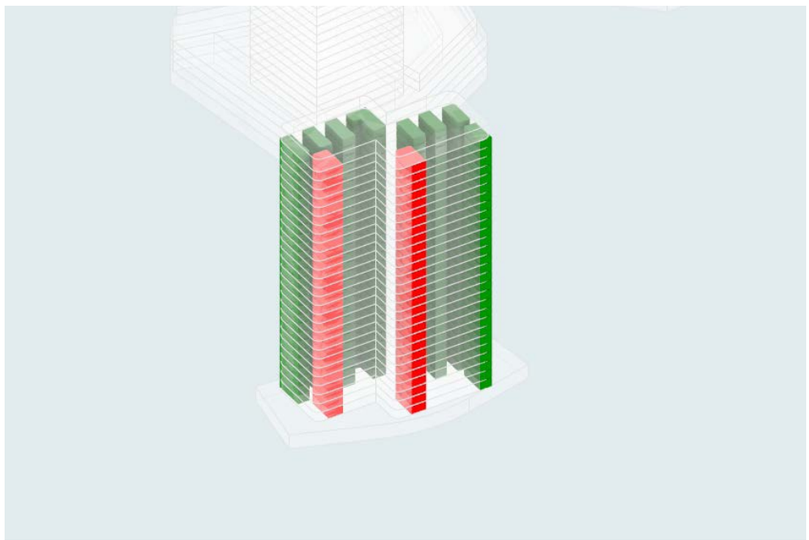


Summary Table - ADG Test Scheme

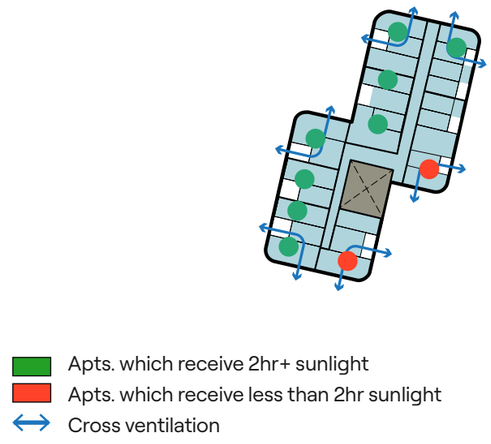
MASTERPLAN LOT AREA	9,944
DEVELOPMENT PAD AREA	3,870
DWELLINGS RECEIVING 2HR+ SUNLIGHT	270 (80%)
DWELLINGS RECEIVING NO SUNLIGHT	0 (0%)
DWELLINGS RECEIVING CROSS-VENT[3]	48 of 80 (60%)
COMMUNAL OPEN SPACE	1426sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	88.7%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

Tower Facade Solar Test (North West)

Tower Facade Solar Test (South East)



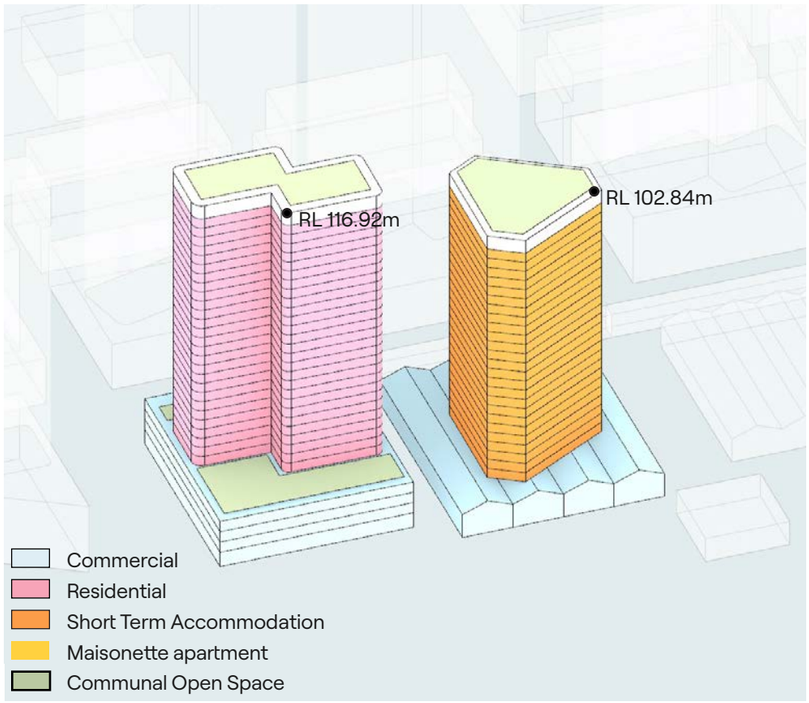
Typical Tower Layouts



Lot 11 ADG Testing

Roof Plan - Communal Open Space

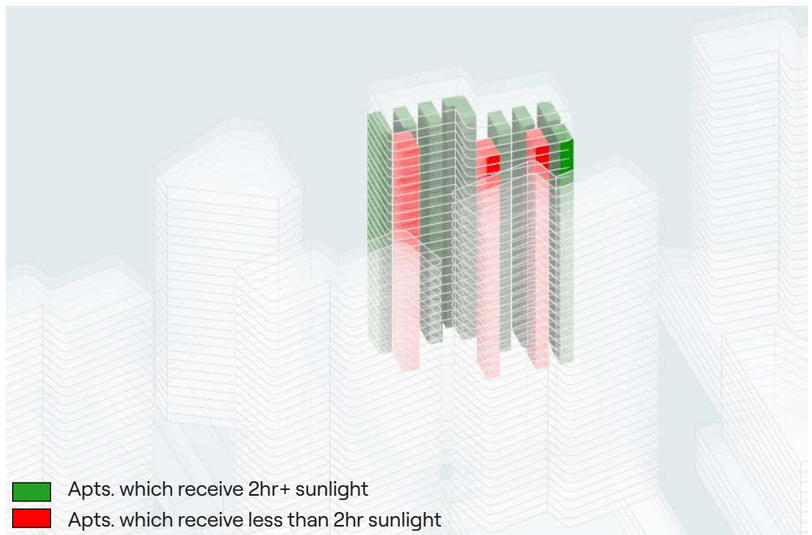
Program Axononometric



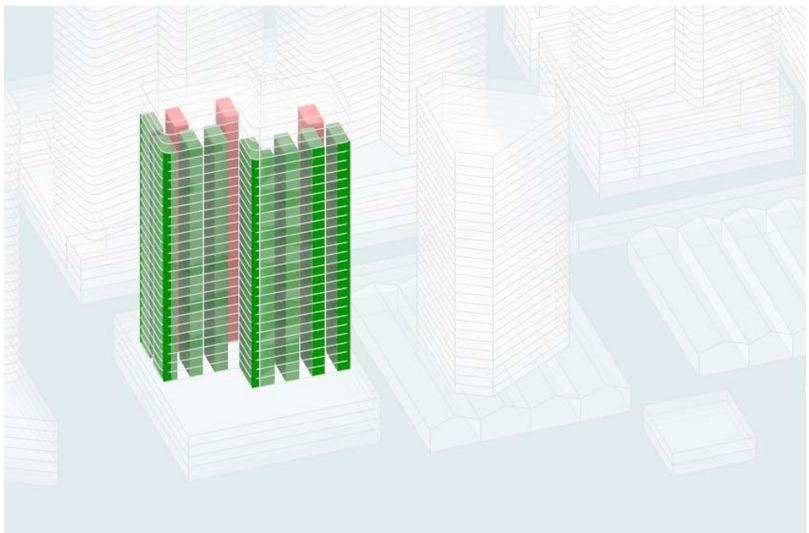
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	26,007
DEVELOPMENT PAD AREA	4,600
DWELLINGS RECEIVING 2HR+ SUNLIGHT	414 (70.0%)
DWELLINGS RECEIVING NO SUNLIGHT	55 (9.3%)
DWELLINGS RECEIVING CROSS-VENT[3]	30 of 50 (60%)
COMMUNAL OPEN SPACE	3610sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	80%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

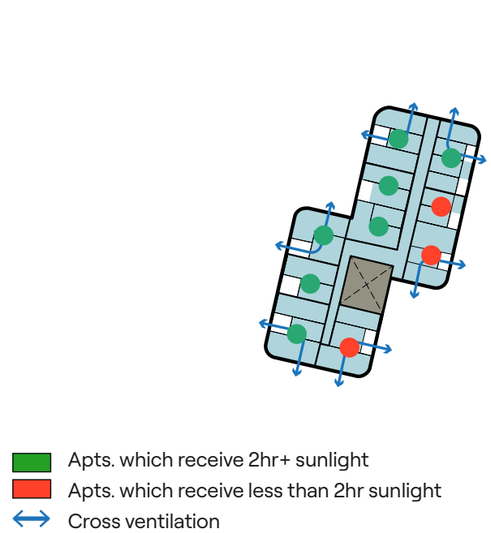
Tower Facade Solar Test (South East)



Tower Facade Solar Test (North West)

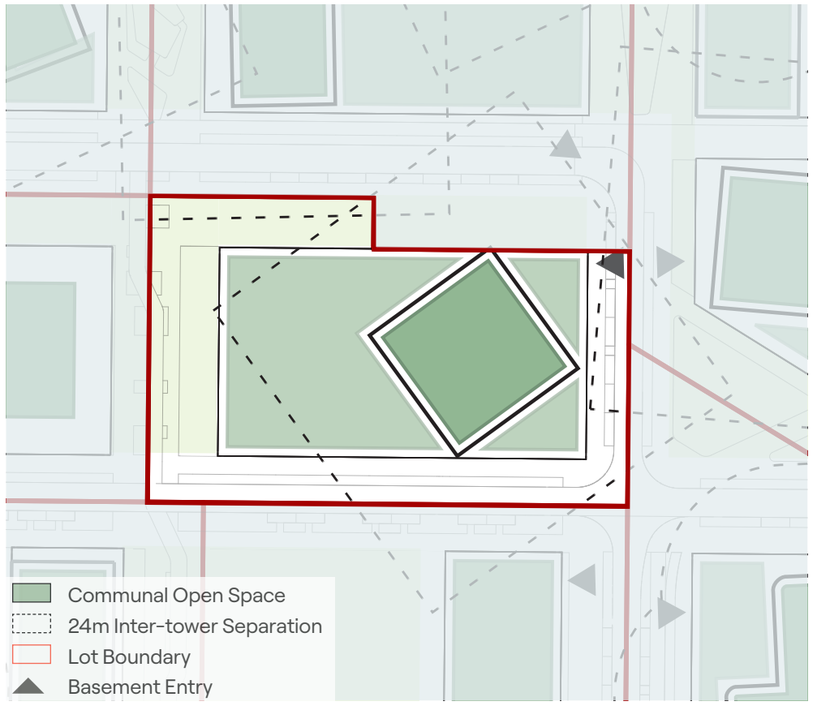


Typical Tower Layouts

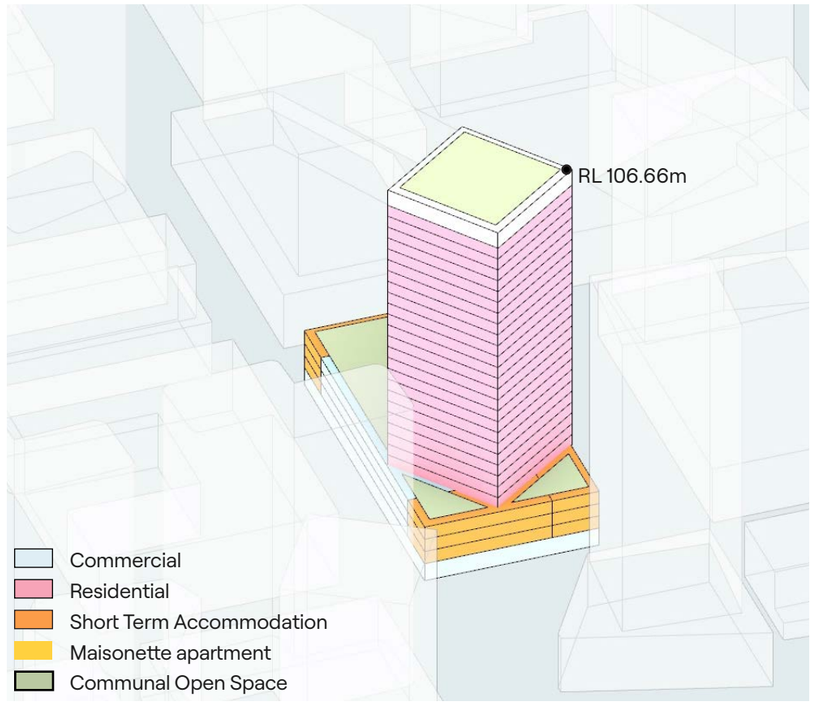


Lot 13 ADG Testing

Roof Plan - Communal Open Space



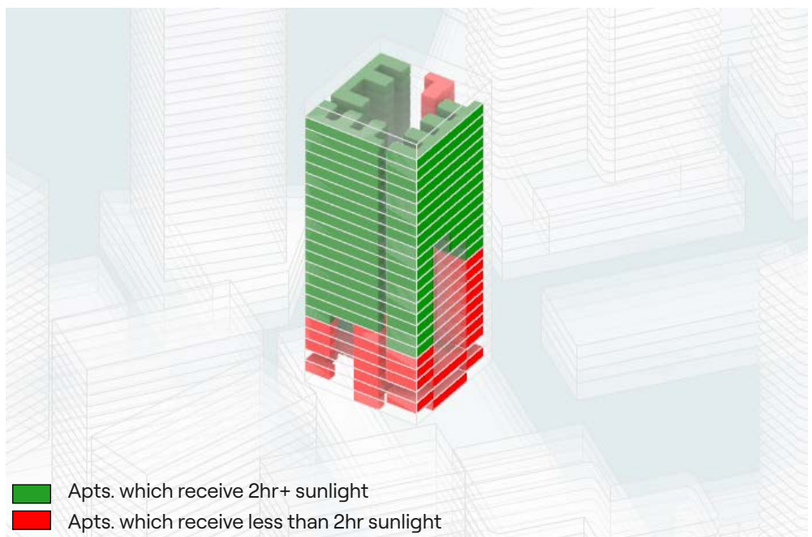
Program Axononometric



Summary Table - ADG Test Scheme

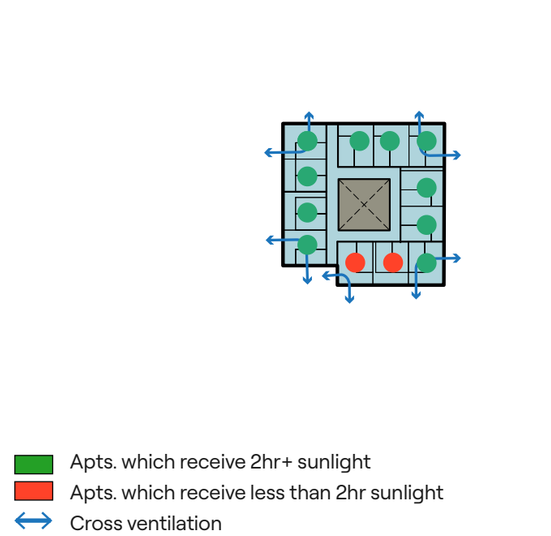
MASTERPLAN LOT AREA	6,163
DEVELOPMENT PAD AREA	4,203
DWELLINGS RECEIVING 2HR+ SUNLIGHT	211 (72.7%)
DWELLINGS RECEIVING NO SUNLIGHT	38 (13.2%)
DWELLINGS RECEIVING CROSS-VENT[3]	33 of 25 (65%)
COMMUNAL OPEN SPACE	2425sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	36.5%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

Tower Facade Solar Test (North West)



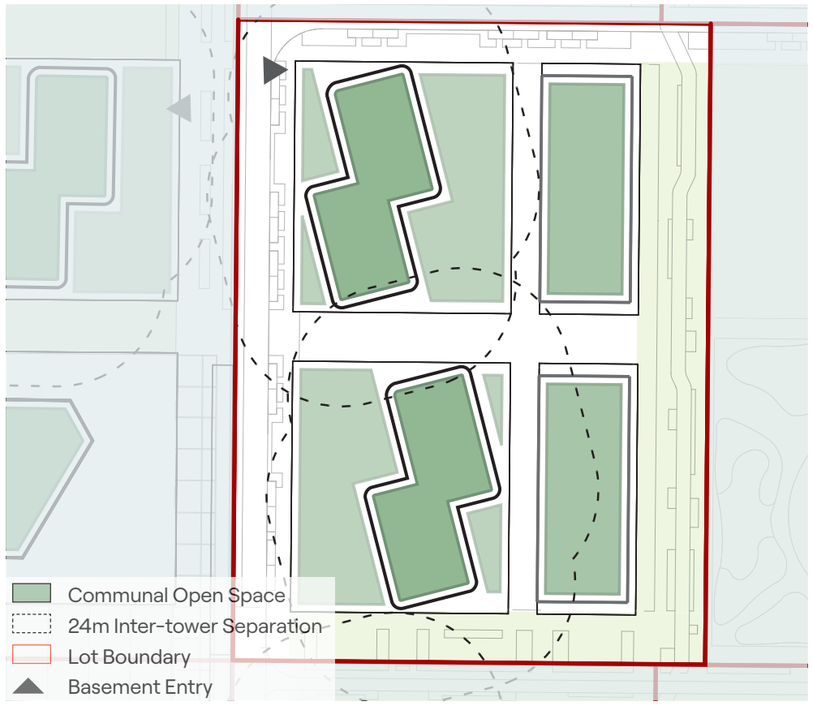
Tower Facade Solar Test (South East)

Typical Tower Layouts

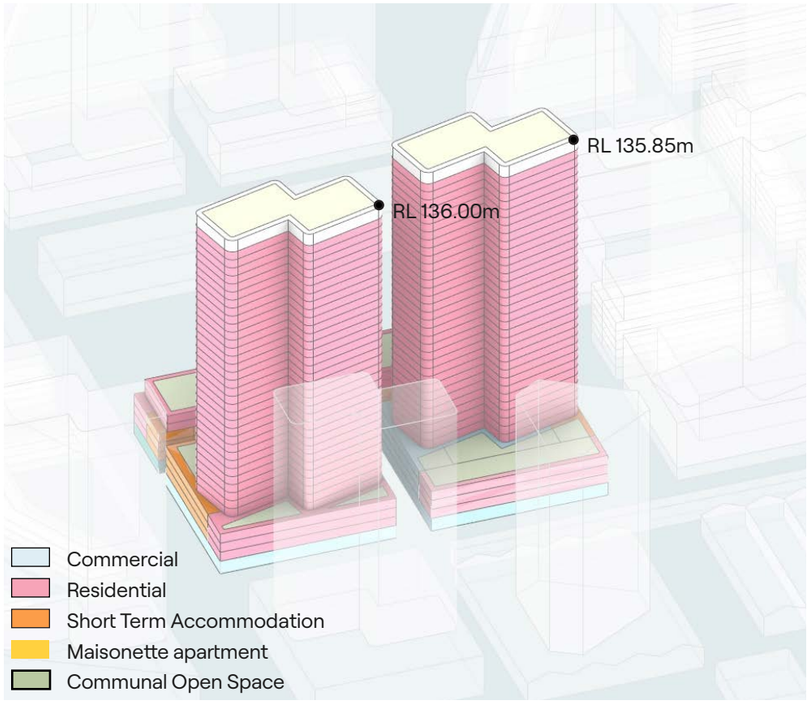


Lot 14 ADG Testing

Roof Plan - Communal Open Space



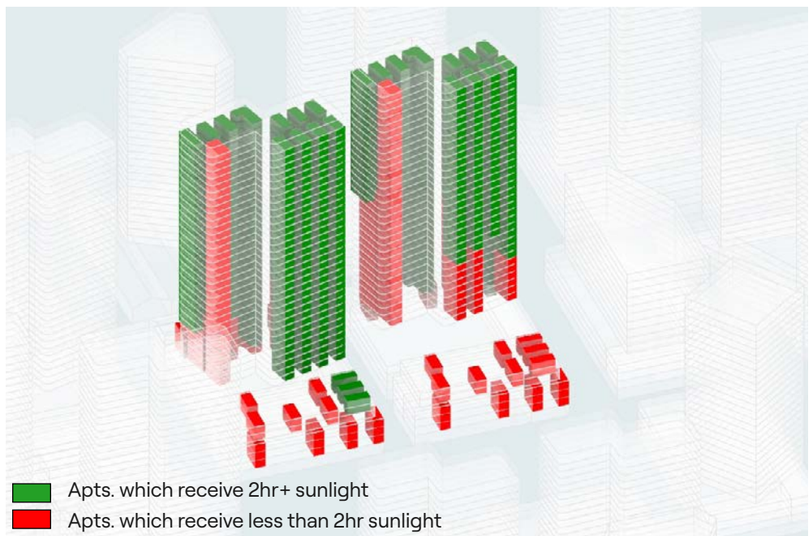
Program Axononometric



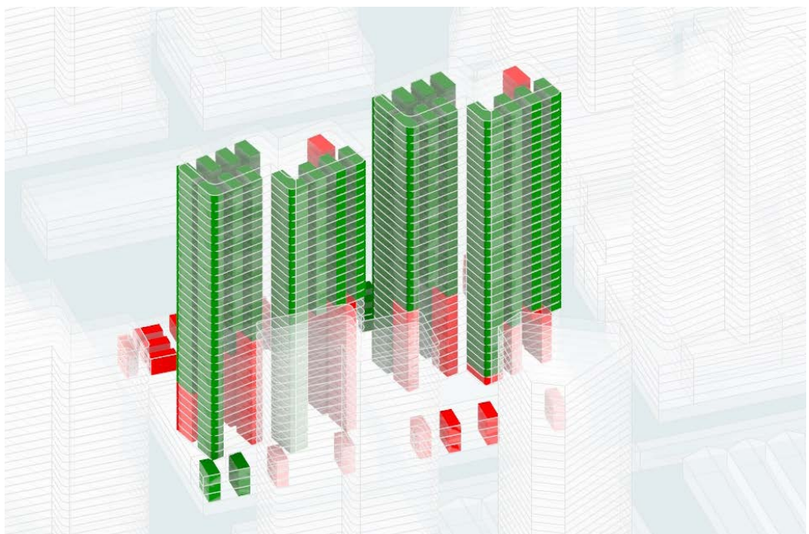
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	17,940
DEVELOPMENT PAD AREA	11,524
DWELLINGS RECEIVING 2HR+ SUNLIGHT	563 (70.6%)
DWELLINGS RECEIVING NO SUNLIGHT	8 (1%)
DWELLINGS RECEIVING CROSS-VENT[3]	132 of 202 (65%)
COMMUNAL OPEN SPACE	6073sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	65.9%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

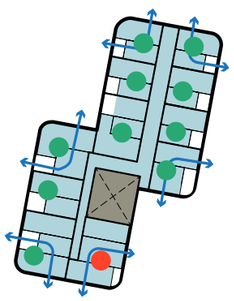
Tower Facade Solar Test (South East)



Tower Facade Solar Test (North West)

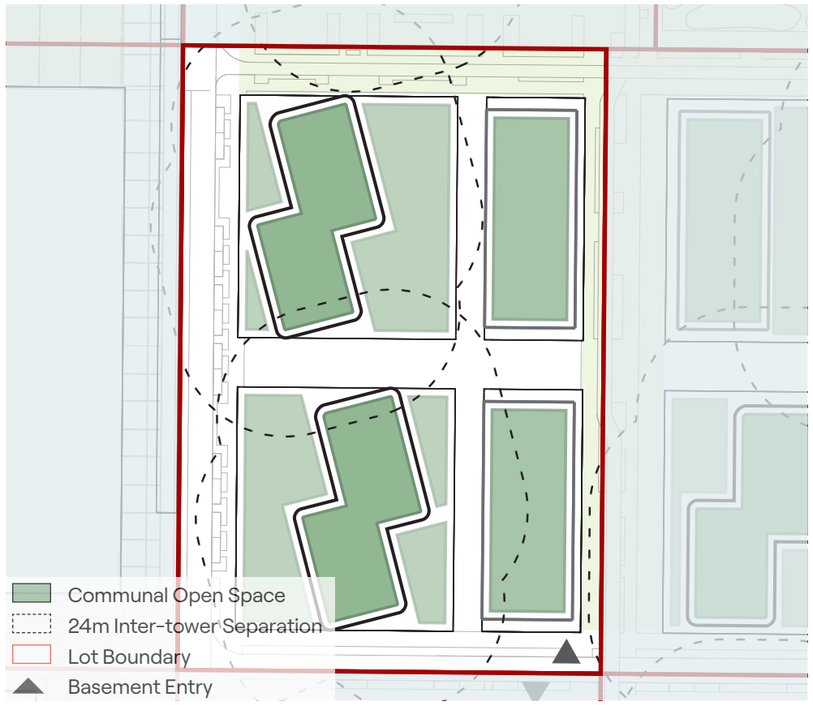


Typical Tower Layouts

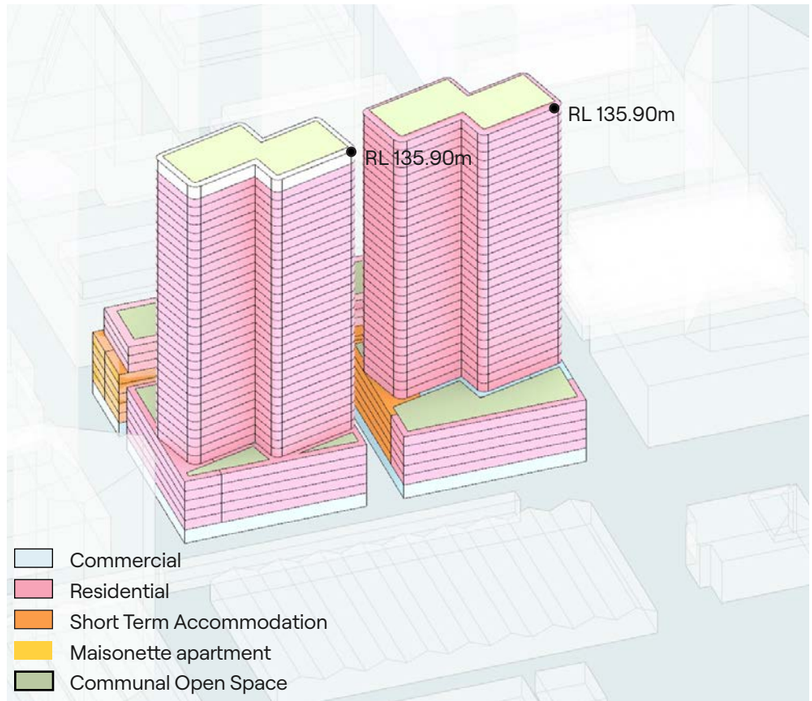


Lot 17 ADG Testing

Roof Plan - Communal Open Space



Program Axononometric (North West)



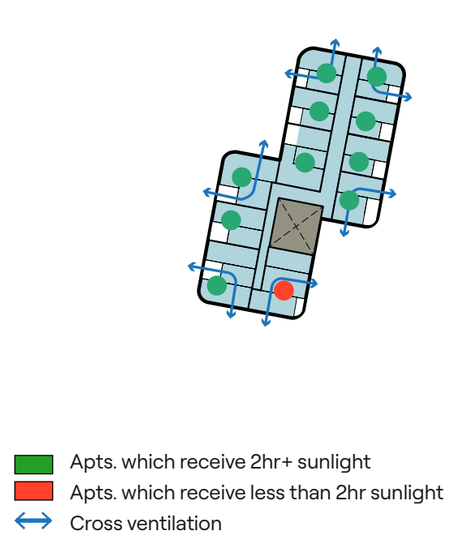
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	15,656
DEVELOPMENT PAD AREA	10,920
DWELLINGS RECEIVING 2HR+ SUNLIGHT	759 (72.2%)
DWELLINGS RECEIVING LESS THAN 2HR SUNLIGHT	27 (2.6%)
DWELLINGS RECEIVING CROSS-VENT[3]	127 of 183 (69%)
COMMUNAL OPEN SPACE	5962sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	77.2%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

Tower Facade Solar Test (South East)

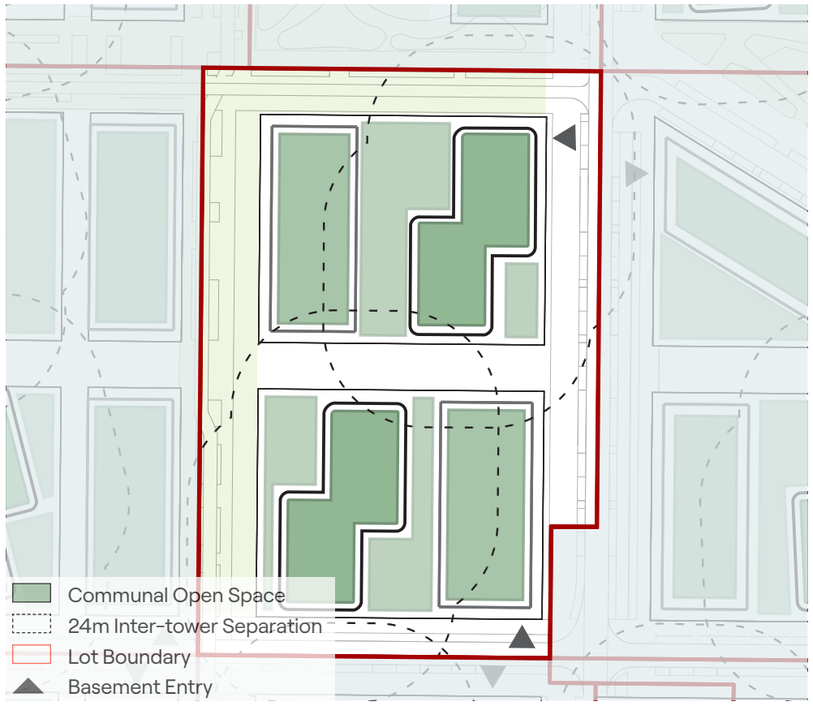
Tower Facade Solar Test (North West)

Typical Tower Layouts



Lot 18 ADG Testing

Roof Plan - Communal Open Space

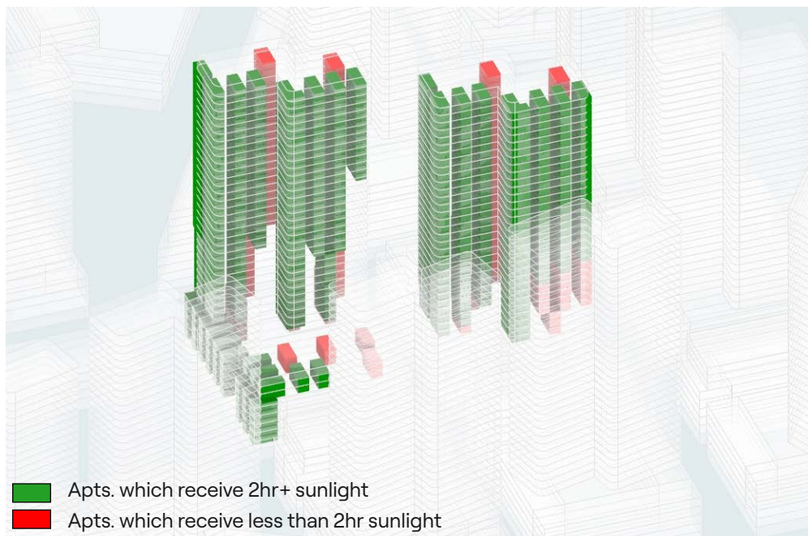


Program Axononometric (South East)

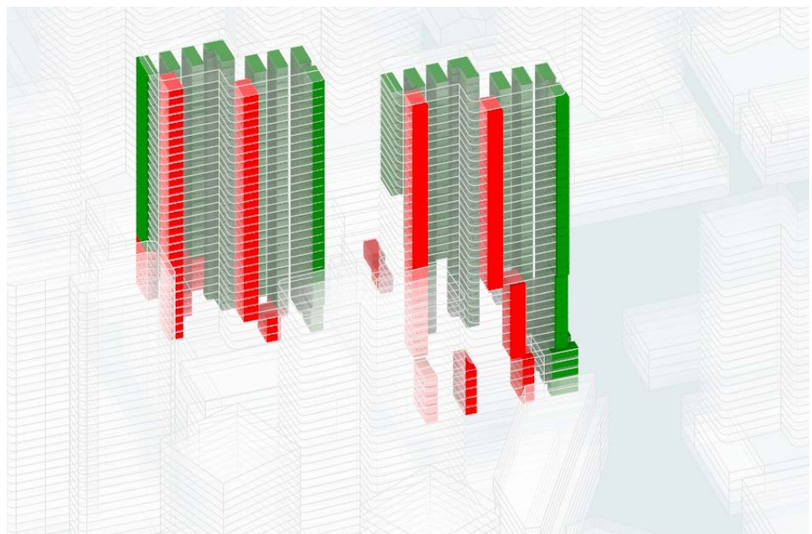
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	15,251
DEVELOPMENT PAD AREA	10,270
DWELLINGS RECEIVING 2HR+ SUNLIGHT	687 (74.9%)
DWELLINGS RECEIVING LESS THAN 2HR SUNLIGHT	113 (12.1%)
DWELLINGS RECEIVING CROSS-VENT[3]	81 of 120 (68%)
COMMUNAL OPEN SPACE	6113sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	88.7%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

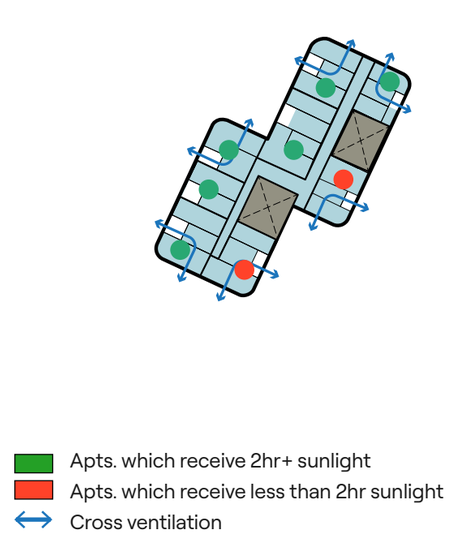
Tower Facade Solar Test (North West)



Tower Facade Solar Test (South East)

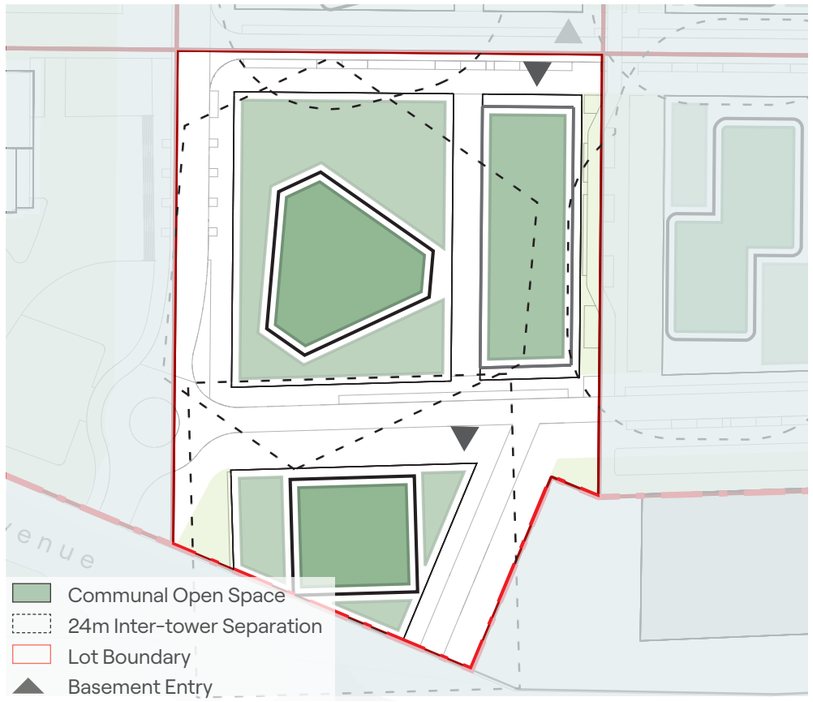


Typical Tower Layouts

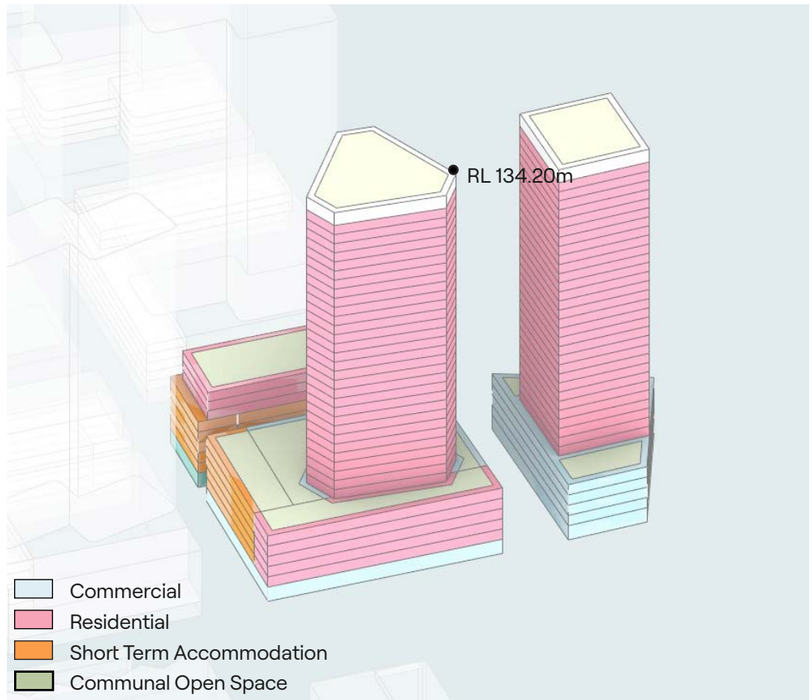


Lot 20 ADG Testing

Roof Plan - Communal Open Space



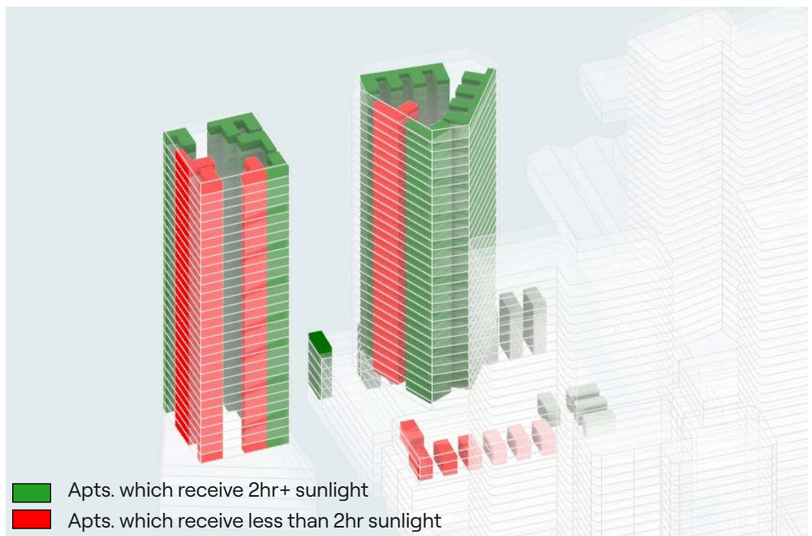
Program Axononometric (North West)



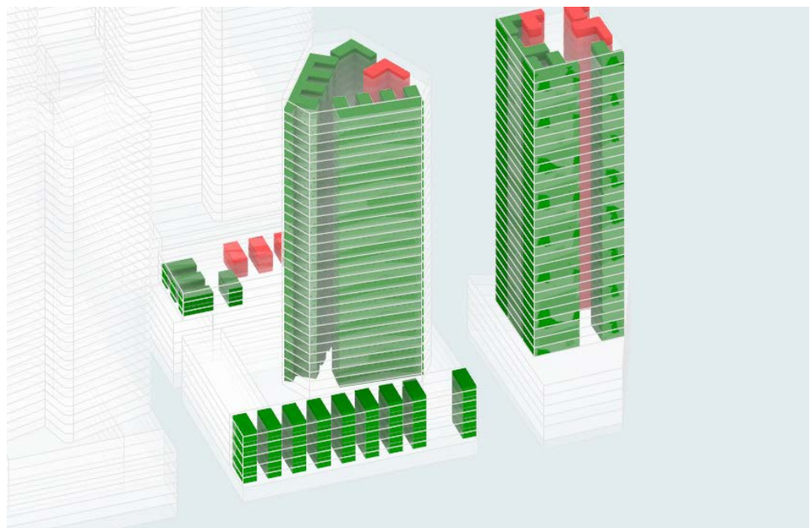
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	13,333
DEVELOPMENT PAD AREA	5,862
DWELLINGS RECEIVING 2HR+ SUNLIGHT	585 (75%)
DWELLINGS RECEIVING LESS THAN 2HR SUNLIGHT	75 (9.6%)
DWELLINGS RECEIVING CROSS-VENT[3]	72 of 121 (60%)
COMMUNAL OPEN SPACE	4807sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	84.6%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

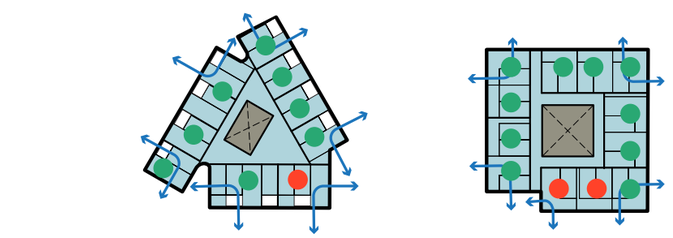
Tower Facade Solar Test (South East)



Tower Facade Solar Test (North West)

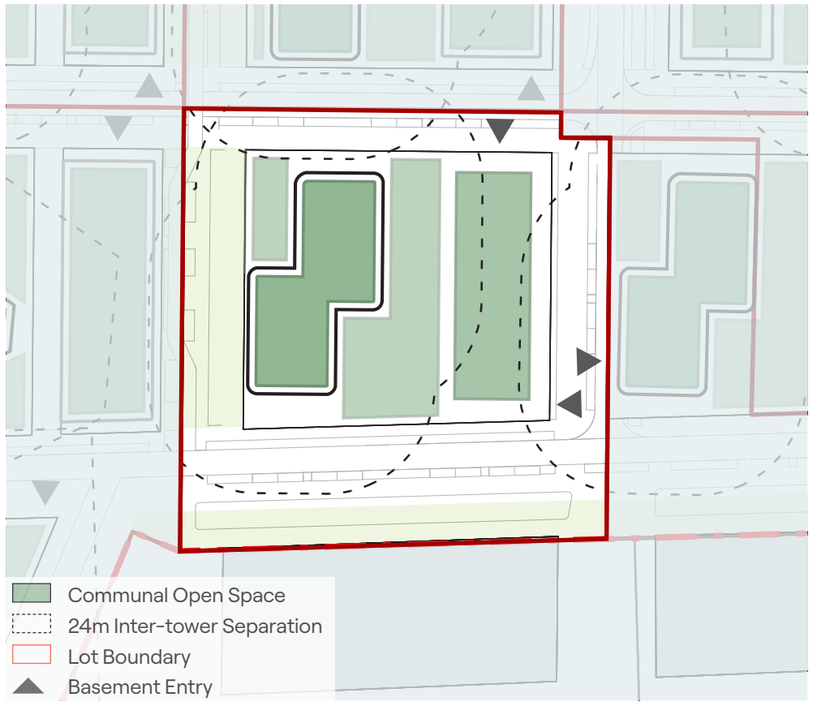


Typical Tower Layouts



Lot 21 ADG Testing

Roof Plan - Communal Open Space

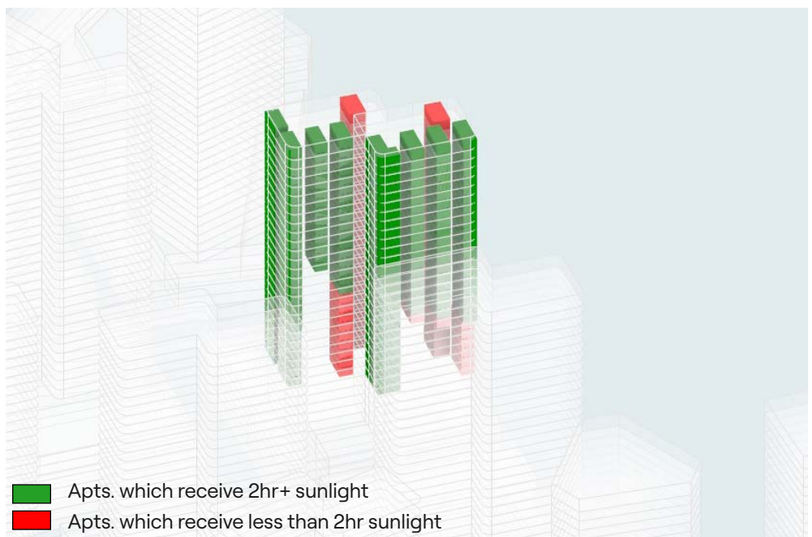


Program Axononometric (South East)

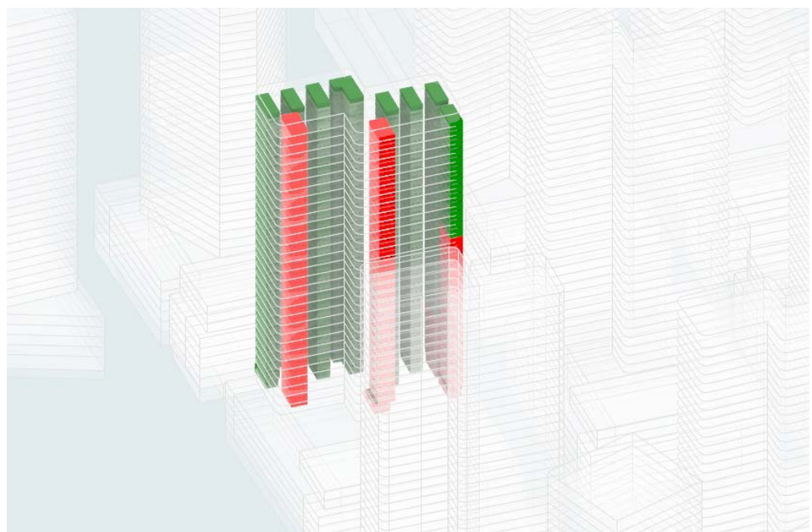
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	10,755
DEVELOPMENT PAD AREA	5,228
DWELLINGS RECEIVING 2HR+ SUNLIGHT	337 (71.8%)
DWELLINGS RECEIVING LESS THAN 2HR SUNLIGHT	44 (9.4%)
DWELLINGS RECEIVING CROSS-VENT[3]	18 of 29 (62%)
COMMUNAL OPEN SPACE	3212sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	84.6%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

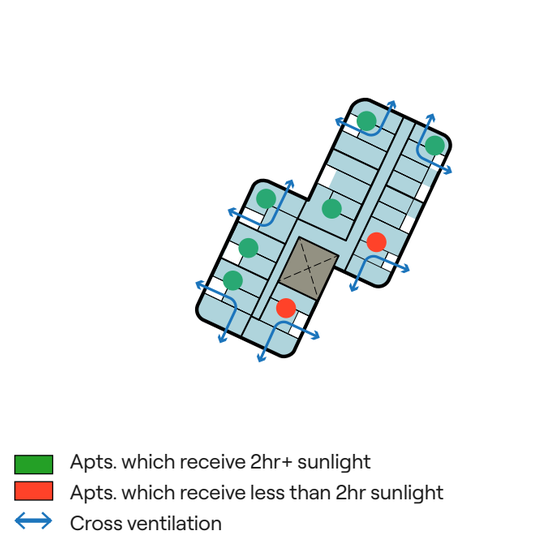
Tower Facade Solar Test (North West)



Tower Facade Solar Test (South East)

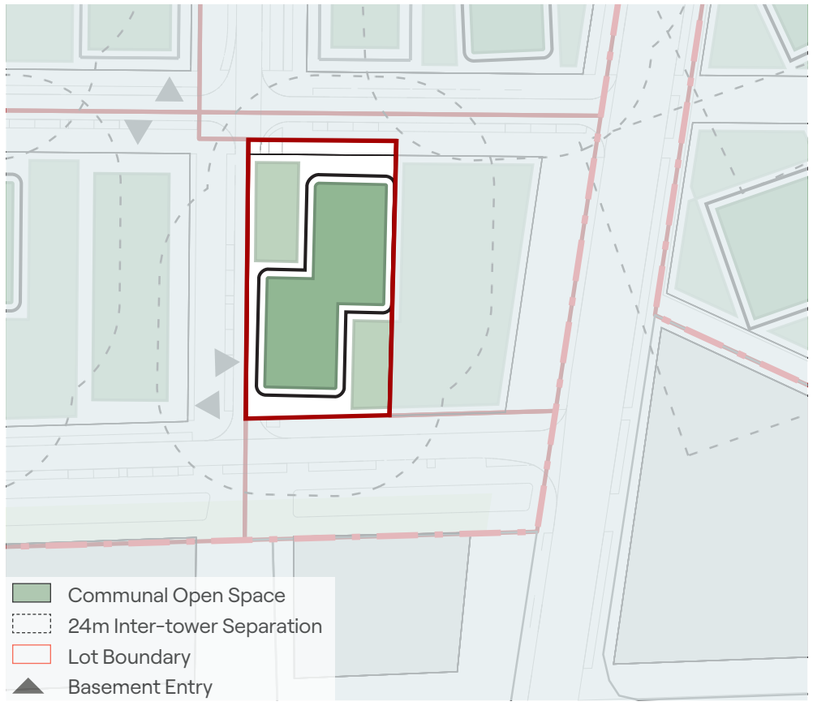


Typical Tower Layouts



Lot 22 ADG Testing

Roof Plan - Communal Open Space

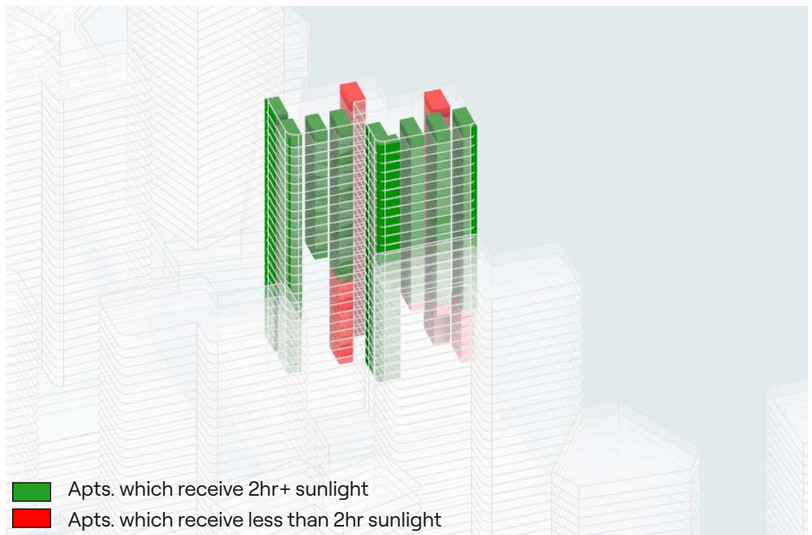


Program Axononometric

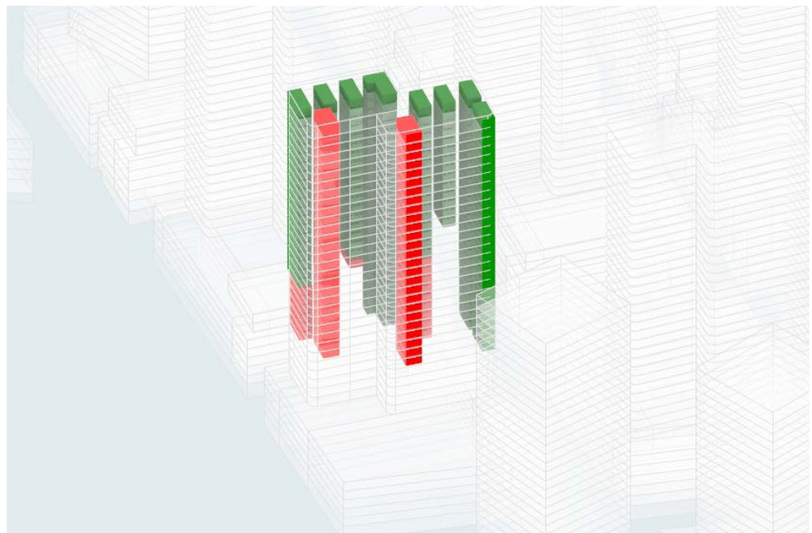
Summary Table - ADG Test Scheme

MASTERPLAN LOT AREA	4,476
DEVELOPMENT PAD AREA	2,236
DWELLINGS	359
DWELLINGS RECEIVING 2HR+ SUNLIGHT	253 (70.6%)
DWELLINGS RECEIVING LESS THAN 2HR SUNLIGHT	37 (10.2%)
DWELLINGS RECEIVING CROSS-VENT[3]	N/A
COMMUNAL OPEN SPACE	1350sqm
COMMUNAL OPEN SPACE RECEIVING 2HR+ SUNLIGHT	84.6%
DEEP SOIL / TREE CANOPY COVER	✓PRECINCT

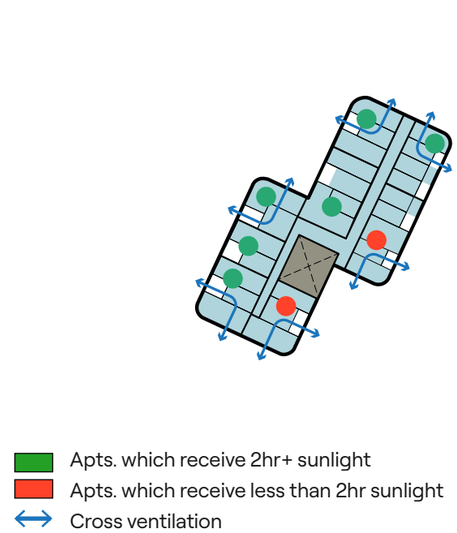
Tower Facade Solar Test (North West)



Tower Facade Solar Test (South East)



Typical Tower Layouts



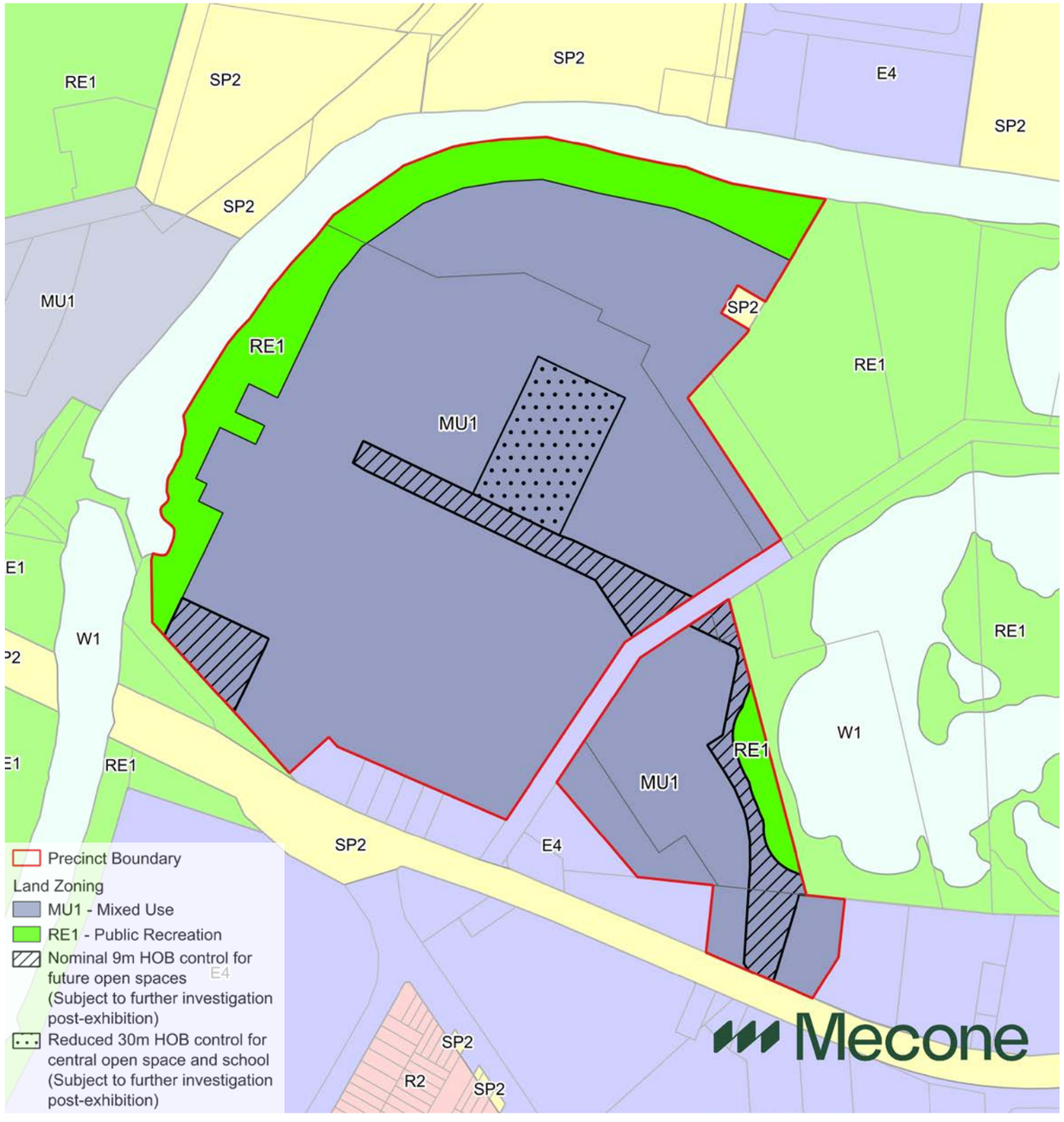
14

Recommendations

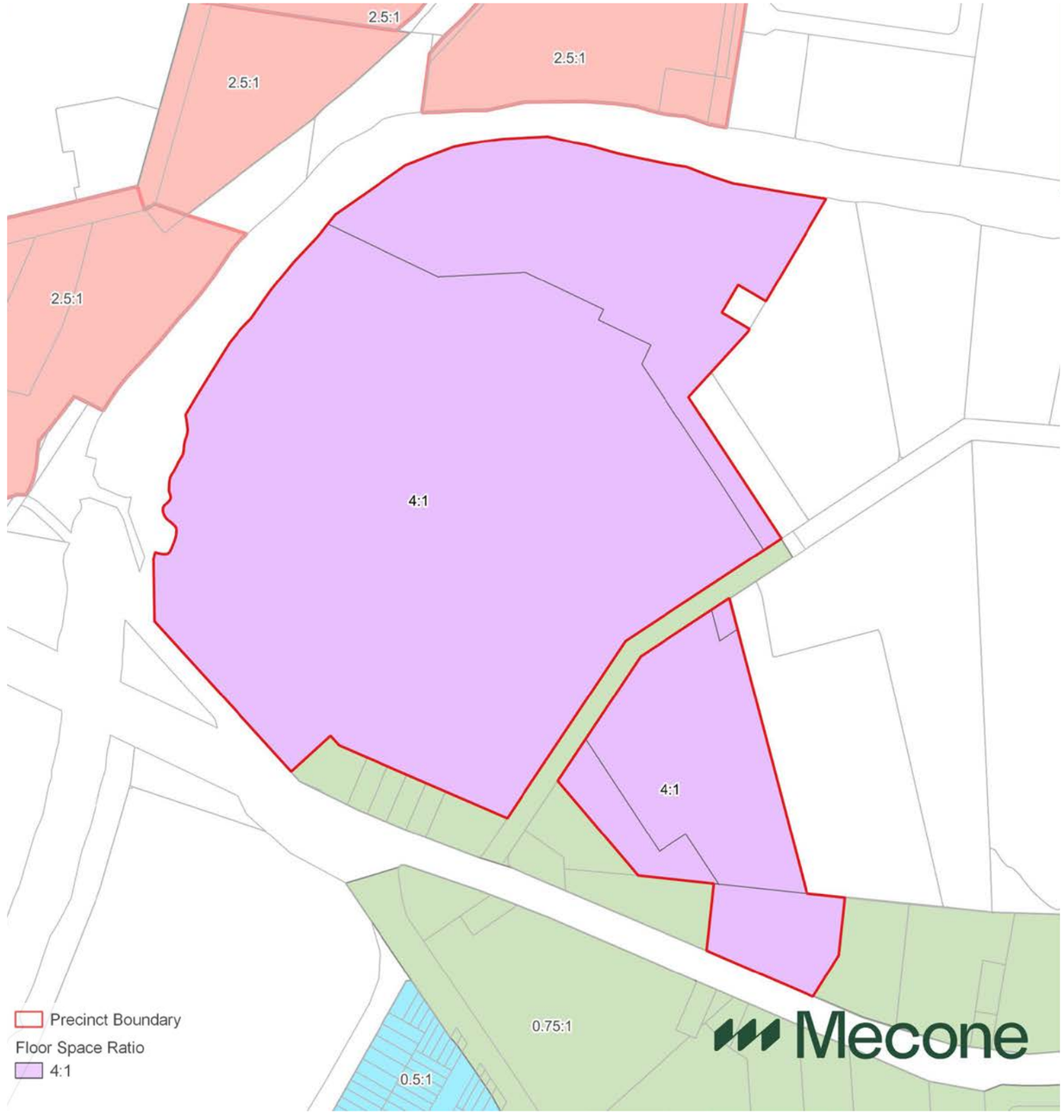
The following planning maps are the product of the Masterplan documented within this report.

Recommendations

Land Use Zoning

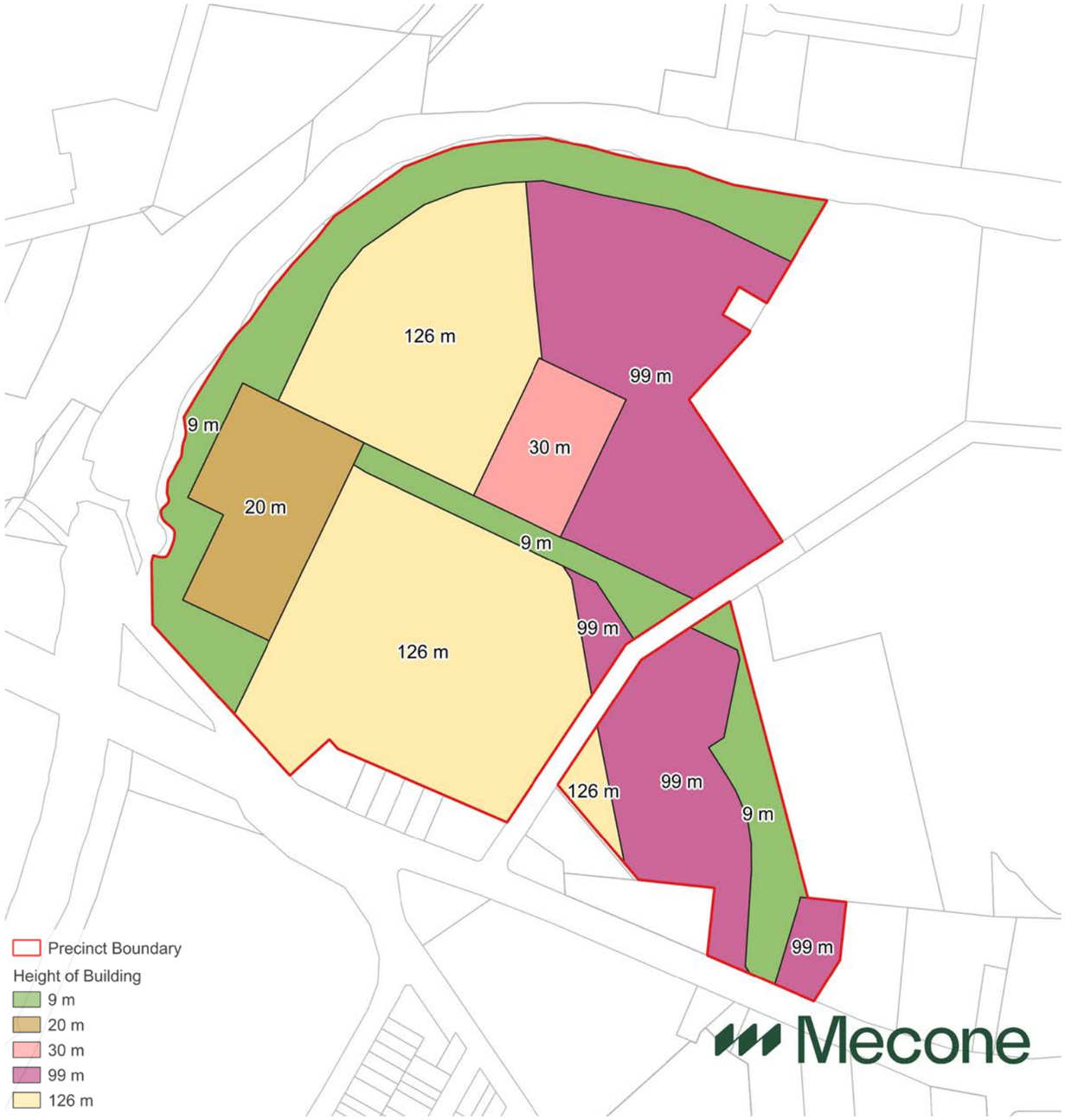


FSR

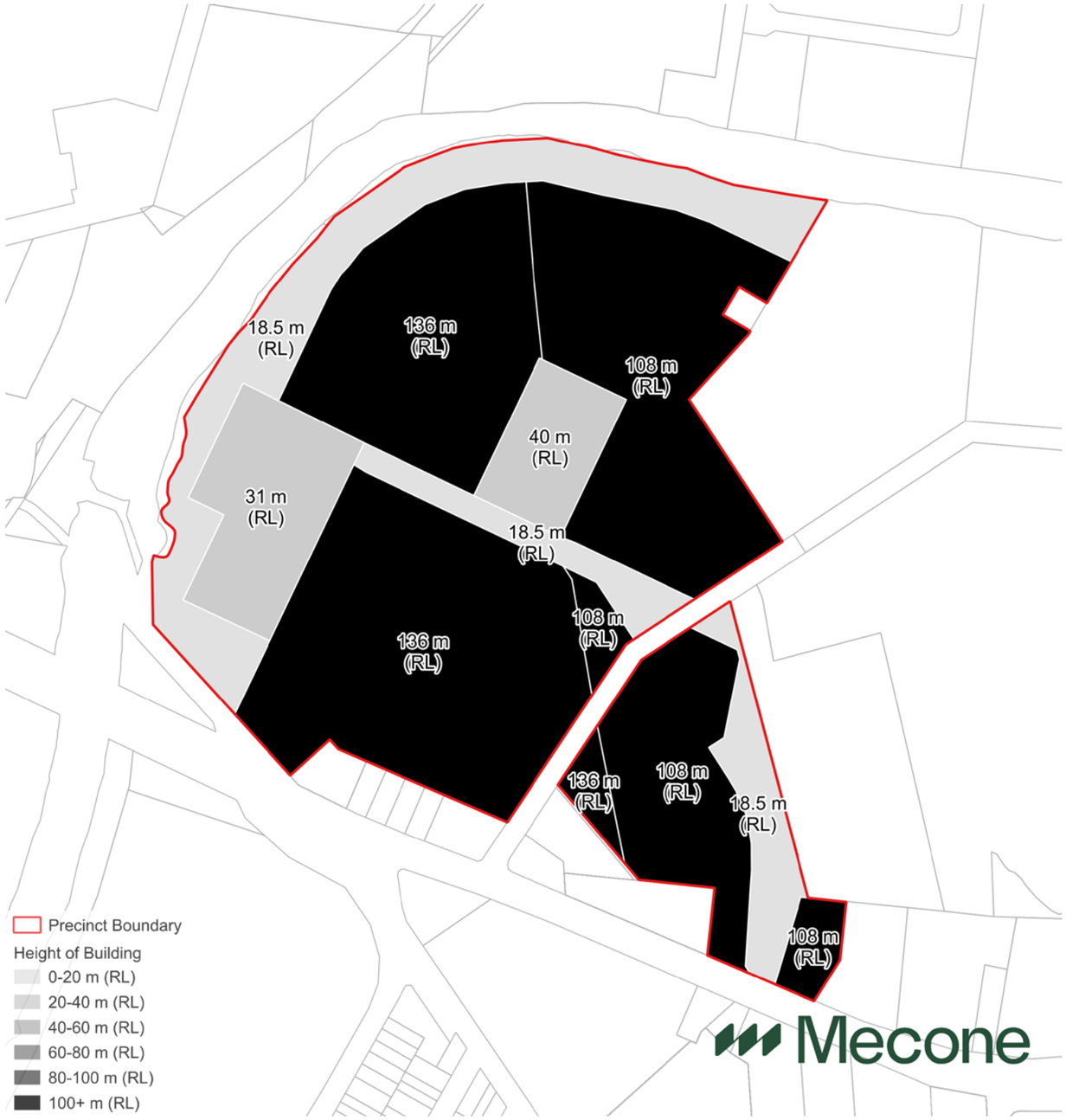


Recommendations

HOB (m)

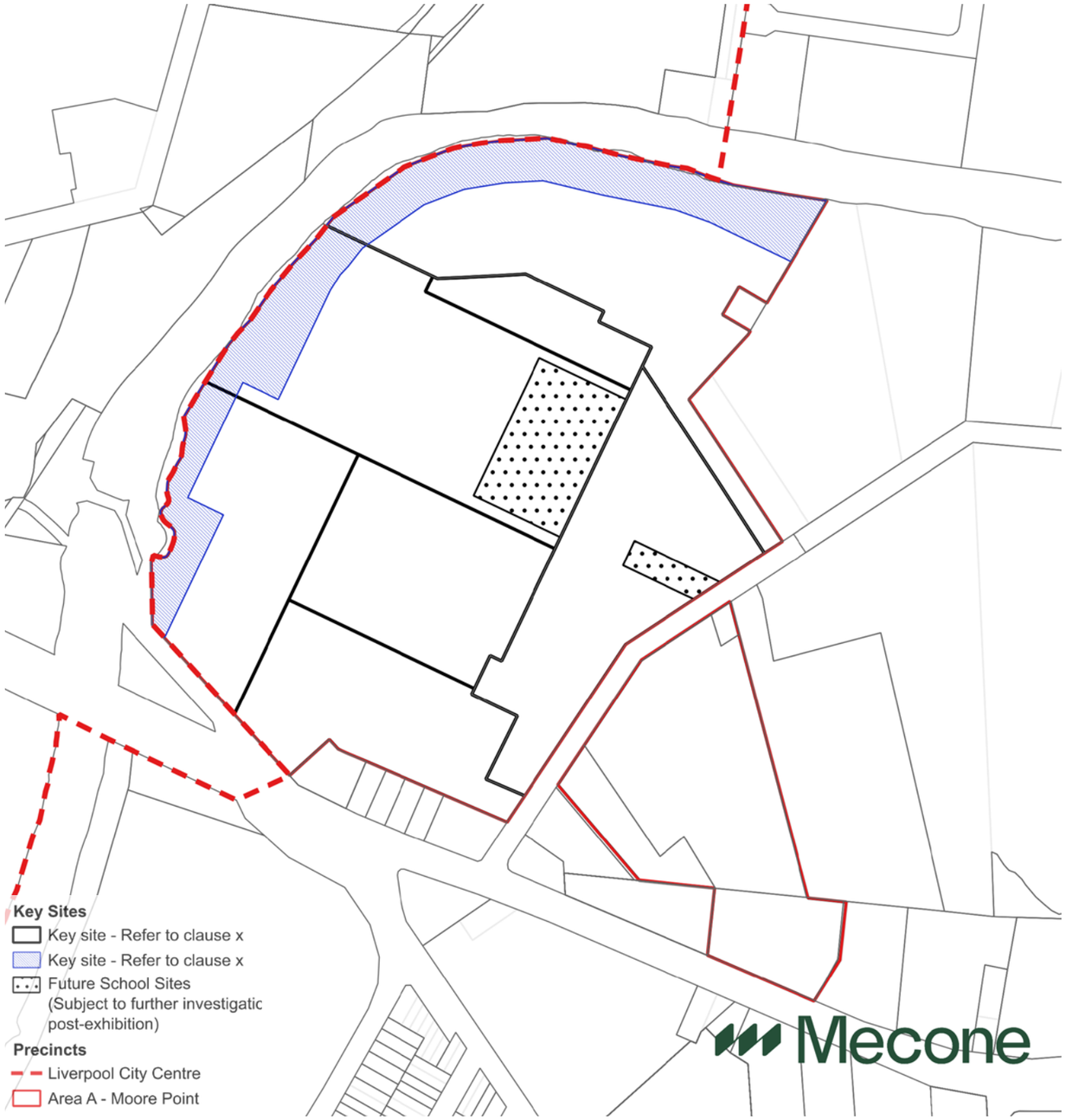


HOB (RL)

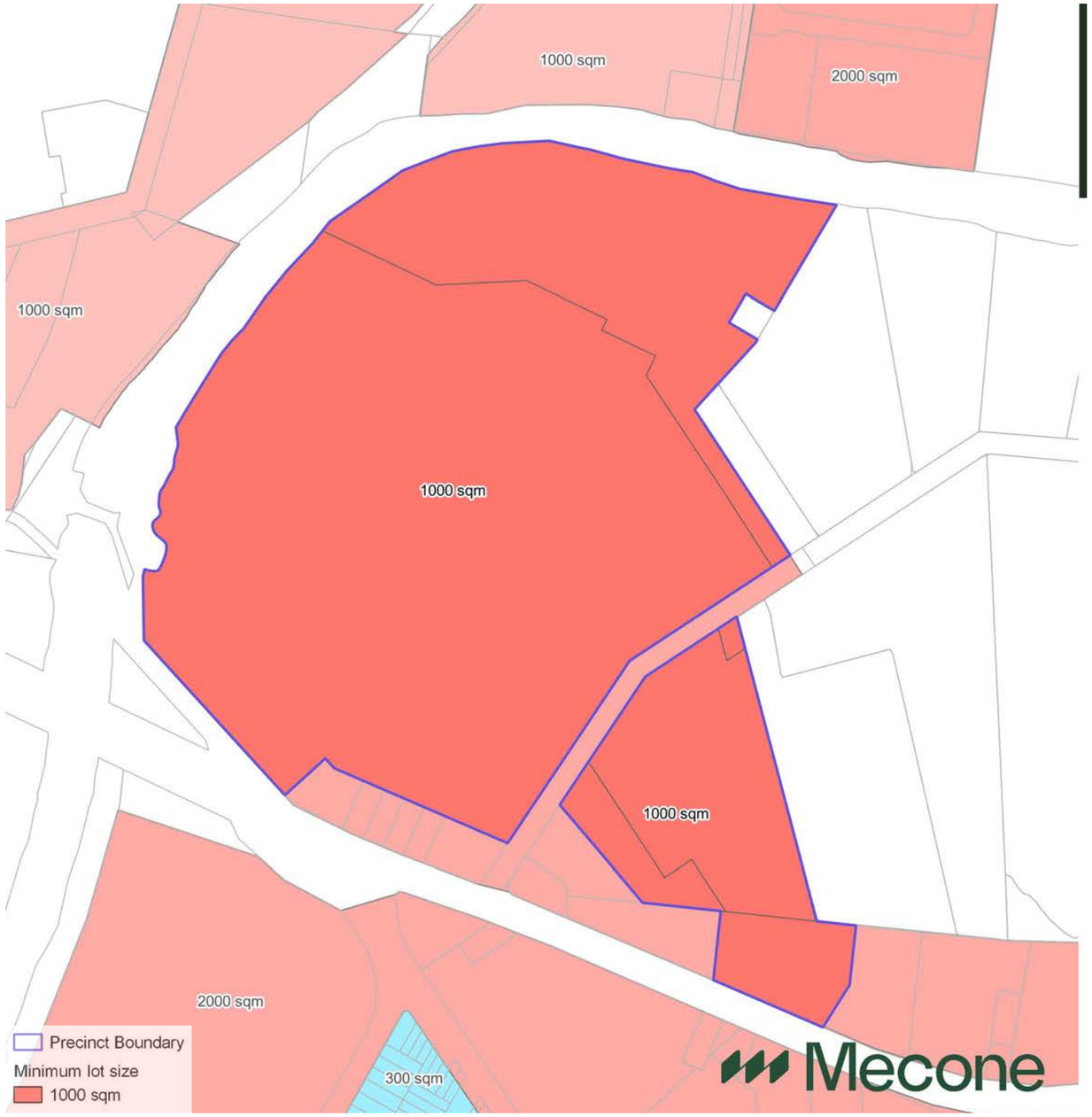


Recommendations

Key sites



Minimum Lot Size



Recommendations

Heritage