



**Planning &
Environment**

***SECTION 75W MODIFICATION REQUEST
(MP 06_0162 MOD 8)
Barangaroo Concept Plan
Hickson Road, Barangaroo***



Secretary's
Environmental Assessment Report
Section 75W of the
Environmental Planning and Assessment Act 1979

March 2016

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EXECUTIVE SUMMARY

This report provides an assessment of a section 75W modification application to the Barangaroo Concept Plan (MP06_0162 MOD 8) lodged by Lend Lease (Millers Point) Pty Limited (the 'Proponent'). The Department notes that the proposed modifications to the Barangaroo Concept Plan (as exhibited) related to Barangaroo South. The Headland Park is not affected by this modification application (hereafter referred to as MOD 8).

MOD 8 as publicly exhibited sought approval for the following:

- increase the total maximum gross floor area (GFA) at Barangaroo from 563,965 sqm to 605,911 sqm;
- increase the maximum height of Block Y from 170 to 275 metres and Block 4A from 41.5 to 250 metres;
- reduce the maximum height of Block 1 from 80 metres to 25 metres;
- amend the development block configurations of Block Y and Block 4;
- amend the GFA allocated to various land uses within Barangaroo, including to increase the maximum tourist uses GFA from 50,000 sqm to 76,000 sqm and to increase the maximum residential GFA from 128,763 sqm to 183,000 sqm;
- amend the Barangaroo site boundary due to the north-eastern relocation of the hotel from the water to the land (Block Y) and southern relocation of the Pier;
- amend public domain areas;
- reduce the size of the Southern Cove (now known as Watermans Cove);
- a new set of Design Guidelines to guide the future development within Barangaroo South; and
- increase car parking to align with the proposed increases in GFA.

The Proponent has advised that part of MOD 8 is a direct and purposeful response to a key recommendation of the 2011 Sussex Penn Review into Barangaroo by relocating the hotel from a pier over Sydney Harbour back on land.

The Department exhibited the modification application between 18 March 2015 and 1 May 2015. A total of 50 submissions, including nine agency submissions and 39 public submissions, of which 35 object, including the Local Member, Mr Alex Greenwich MP, were received. Submissions objecting to the proposal were also received from the City of Sydney Council and Leichhardt Council. Key issues raised in submissions include built form, loss of public open space, amenity impacts, and traffic and parking impacts.

On 11 September 2015, the Proponent submitted their Response to Submissions and Preferred Project Report addressing issues raised in submissions. The response also addressed the Barangaroo Design Advisory Panel's preliminary review report into the proposal.

The Barangaroo Design Advisory Panel (DAP), was established in April 2015 to provide independent expert urban design advice to assist the Department in its assessment of MOD 8. The DAP's final report into MOD 8 was submitted to the Department on 27 October 2015 and made 20 recommendations. The key recommendations include:

- the podium footprint, scale and height of Block Y is reduced and adjusted to retain a single and continuous waterfront public domain;
- review the bulk and scale of the Block Y tower (upper and lower elements);
- reconsideration of the arrangement of Hickson Park to ensure a strong and coherent relationship to the Central Parklands; and
- the promenade adjacent to Block Y (both west and south) be significantly more generous.

On 13 November 2015, Lend Lease and the Barangaroo Delivery Authority submitted their responses to the DAP's 20 recommendations. In respect to the key recommendations noted above, Lend Lease and BDA did not agree with the DAP's key findings nor its recommendations. Consequently, no changes were made to Block Y or the waterfront promenade. Other more minor recommendations were supported.

Having considered all the issues relating to MOD 8, submissions, the DAP's recommendations and the Proponent's response to the DAP's recommendations, the Department initially recommended that the podium of Block Y should be further setback at its northern and southern ends in order to reduce its bulk and scale, to improve the visual and physical connectivity between Hickson Road, the Central Parklands and the waterfront, to improve the spatial quality of Watermans Cove, and to reduce the length of the podium generally.

In response to the Department's recommendations, the Proponent submitted an amended design solution. This design solution reduces the perceived visual bulk of the Block Y podium, reconfigures Watermans Cove to improve the physical dimension of the promenade, and incorporates an east/west view corridor to the north of Block Y to improve the physical and visual connectivity between the Hickson Park and the waterfront and its integration with Barangaroo Central.

The Proponent's response has indicated that amended design solutions can be achieved to address the intent of the Department's recommendations. Accordingly, the Department has recommended a number of modifications to the Concept Plan approval to align with the amended design submitted by the Proponent. The Department has also recommended a number of future environmental assessment requirements in regard to built form and open space quality, traffic and access, and other amenity issues for subsequent development applications.

Subject to above modifications and future environmental assessment requirements, the Department concludes that the changes proposed (urban structure, building height, GFA and land-use mix and public domain) are generally reasonable and acceptable and will continue to result in significant public benefits associated with the redevelopment of the site and will align with key State strategies. It is therefore recommended that the modification application be approved, subject to the recommendations outlined in this report.

1. BACKGROUND

1.1 The Site

Barangaroo is located on the north-western edge of the Sydney CBD. The site is bounded by the Sydney Harbour foreshore to the north and west, Hickson Road and Millers Point to the east, and King Street Wharf/Cockle Bay/Darling Harbour to the south. Barangaroo has a site area of approximately 22 hectares, a significant harbour foreshore frontage, and is prominently located on the north-western edge of the Sydney CBD.

Barangaroo has been divided into three distinct redevelopment areas (from north to south), comprising the Headland Park, Barangaroo Central and Barangaroo South (see **Figure 1**). Barangaroo South extends over land generally identified in the Barangaroo Concept Plan as Blocks 1, 2, 3, 4, X and Y (development blocks) and includes the land immediately adjacent to the blocks and foreshore which is proposed for public domain/recreation uses.

Lend Lease proposes (as exhibited) to amend the Barangaroo Concept Plan as it relates to Barangaroo South, including the built form and urban design outcomes on the site. A key proposed amendment is the relocation of the hotel from the water to the land and adjustment to the site boundary, as illustrated in **Figure 2** below.

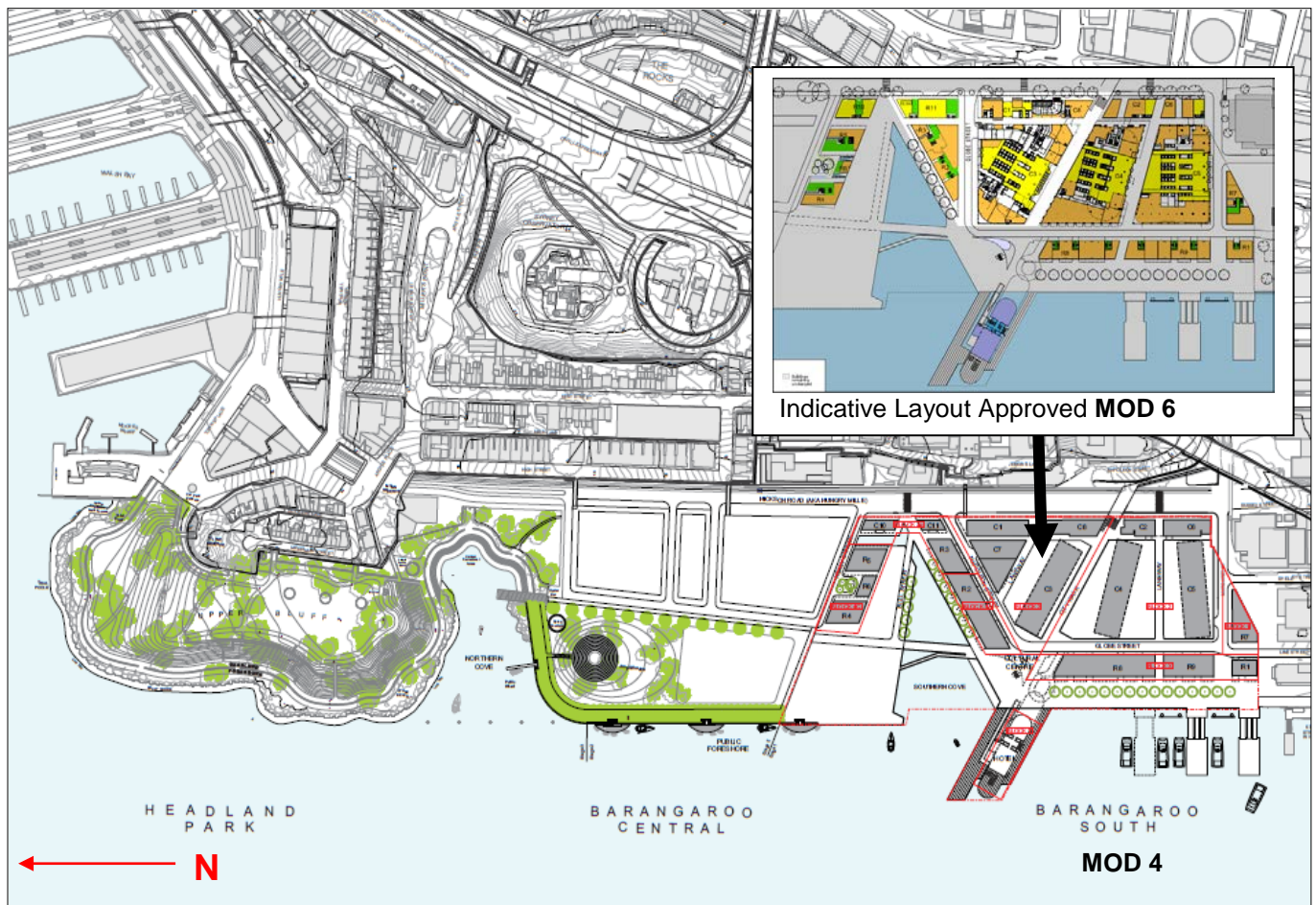


Figure 1: Approved Barangaroo Precincts (MOD 4 and MOD 6): The Headland Park, Barangaroo Central and Barangaroo South (outlined in red)

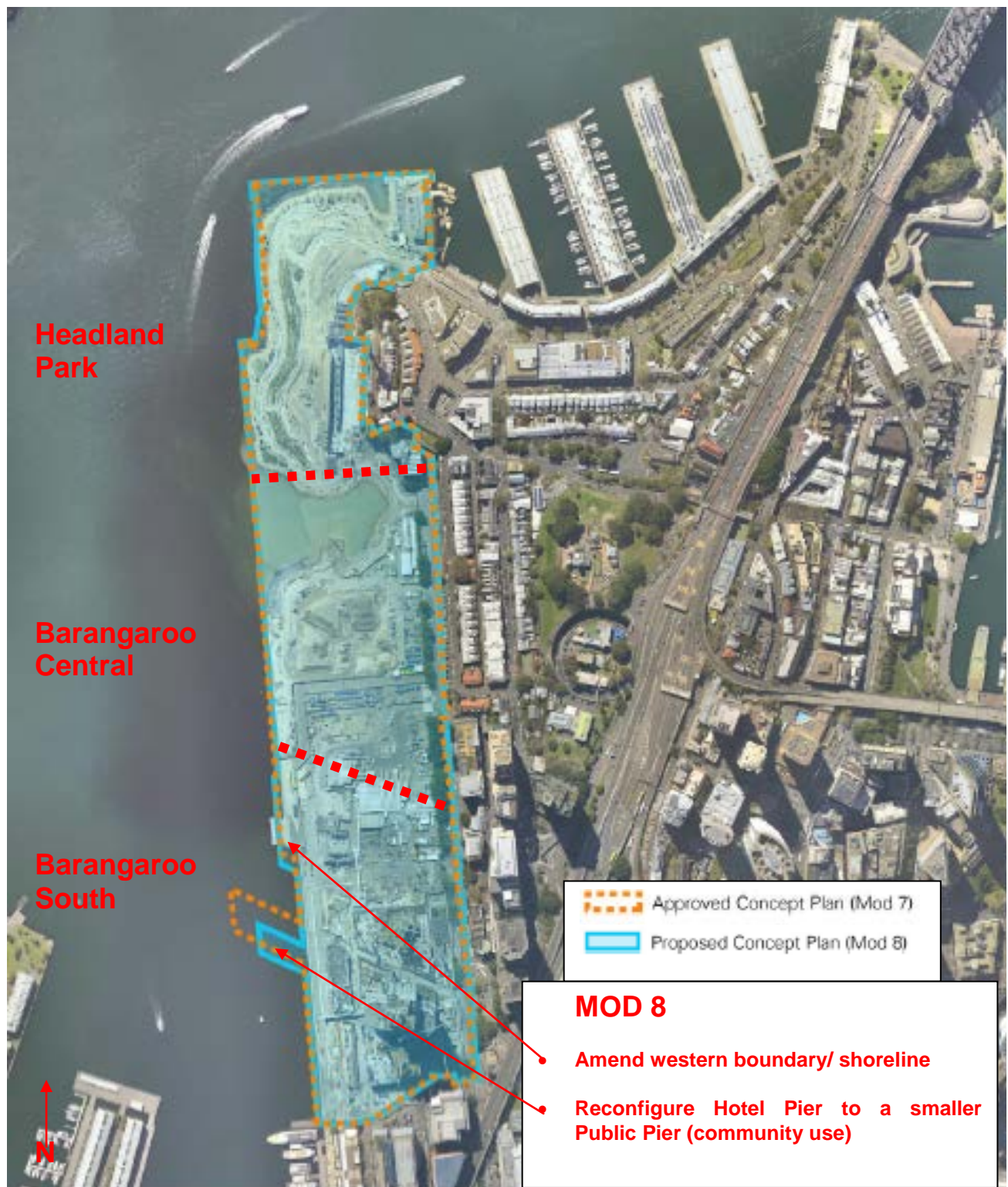


Figure 2: Approved Barangaroo Site Boundary - Concept Plan (MOD 7) and proposed Concept Plan (MOD 8) (Source: JBA)

1.2 Previous Approvals

MP06_0162- Barangaroo Concept Plan

On 9 February 2007, the then Minister for Planning approved the Barangaroo Concept Plan (MP 06_0162) to guide the renewal of the Barangaroo site for a mix of land uses including residential, retail and commercial and public recreation.

The Concept Plan approved a set of built form principles and urban design controls to guide the future development of Barangaroo. In summary, six modifications have been approved since the Concept Plan was originally approved (refer **Appendix A**).

Approved Development- Barangaroo South

Major Project approvals and development consents have also been issued for a number of buildings and associated works within Barangaroo South. These include the following key projects:

- MP10_0023 – construction of a basement carpark;
- MP10_0025 - construction of Commercial Building C4;
- MP10_0227 - construction of Commercial Building C5;
- MP11_0002 - construction of Residential Buildings R8 and R9;
- MP11_0044 - construction of Commercial Building C3;
- SSD 6623 - construction of Retail Building R7;
- SSD 6425 - construction of Commercial Building C6; and
- SSD 6303 - Stage 1A public domain works.

In addition to the above, on 24 August 2015, the Minister of Planning approved a State significant infrastructure application (SSI 6727) for the construction and operation of the Barangaroo ferry hub comprising three ferry wharves in the waters off Barangaroo South.

A substantial portion of development at Barangaroo South, particularly south of Watermans Cove, is completed or under construction.

1.3 Applications under Assessment

A number of State significant development applications are currently under assessment by the Department for various developments which are located within Barangaroo South. These applications include the following:

- SSD 6513 - construction and use of Retail Building R1;
- SSD 6957- construction of the Crown Sydney Hotel Resort (CSHR) (see **section 1.4** below); and
- SSD 6956 - Stage 1C remediation and earthworks.

The current status of development at Barangaroo is illustrated in **Figure 3** below, including to show the locations of the approved (currently under construction) and proposed development at Barangaroo South.

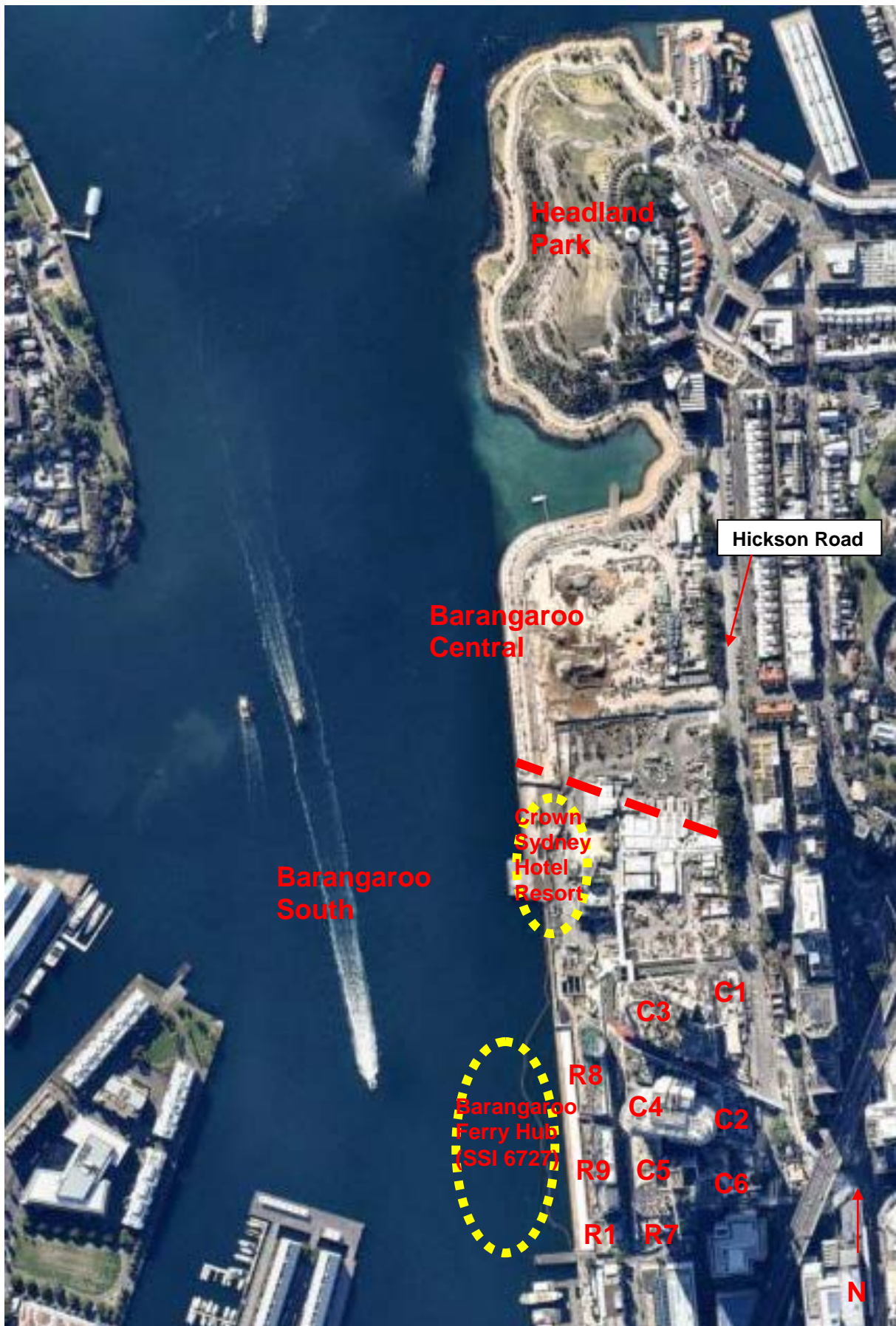


Figure 3: Aerial photograph of the Barangaroo site showing approved buildings (under construction), proposed building locations (Source: Nearmaps July 2015)

1.4 Crown Sydney Hotel Resort

A key component of the MOD 8 proposal is to facilitate the construction of the Crown Sydney Hotel Resort State significant development proposal currently under assessment by the Department (SSD 6957). The application seeks approval for the construction, fit-out and use of a 71-storey (RL 275 metre) building, providing for a hotel, restricted gaming facility, residential and retail uses, basement car parking and signage. The proposal has a Capital Investment Value (CIV) of \$1,127,374,000.

The key components and features of the proposal are provided in **Table 1** below and are shown in **Figure 4**.

Table 1: Key components of the SSD application

SSD APPLICATION (SSD 6957)	
Aspect	Description
Built form	<ul style="list-style-type: none"> construction of a 71 storey, 271.1 metre (RL 275 metre) tower including podium. bulk excavation to RL -10.3 metres and construction of three basement levels.
Gross floor area	<ul style="list-style-type: none"> total GFA of 77,500m², comprising: <ul style="list-style-type: none"> 48,200 sqm tourist uses 22,600 sqm residential uses 6,700 sqm retail uses
Hotel use	<ul style="list-style-type: none"> hotel located at levels 6-26 and 66-69
Residential use	<ul style="list-style-type: none"> total of 66 residential apartments, located on levels 34 to 65
Restricted Gaming	<ul style="list-style-type: none"> restricted gaming facility at levels 1-2 within the podium (VIP Gaming) and levels 25-26 within the tower (Crystal Club VIP Sky Gaming).
Outdoor licensed area	<ul style="list-style-type: none"> total of 1,385 sqm licensed area GFA at ground floor level
Vehicle parking	<ul style="list-style-type: none"> total of 610 car parking spaces
Bicycle parking	<ul style="list-style-type: none"> total of 188 bicycle parking spaces
Signage	<ul style="list-style-type: none"> business and building identification signage and signage zones



Figure 4: View looking north-east towards the Crown Sydney Hotel Resort

1.5 Barangaroo Review

On 26 May 2011, the then Minister for Planning announced a review of the Barangaroo development. The review was undertaken by Ms Meredith Sussex and Ms Shelley Penn and the terms of reference for the review (which were developed in consultation with key stakeholders) included compliance with the planning approval processes and decision making. On August 2011, the review known as the Sussex Penn Review was completed.

As relevant to the current modification application (MOD 8), the key conclusions and recommendations of the Sussex Penn Review included the following:

- the hotel over the harbour should be reviewed by negotiation with Lend Lease;
- there has been a lack of independent expert design advice; and
- opportunities for doubling the amount of affordable housing on the site should be examined (2.3% currently).

Matters relevant to the proposed location for the hotel, independent expert design advice and the provision of affordable housing are detailed in **Section 1.6** and **Section 5** of this report.

1.6 Barangaroo Design Advisory Panel

The Barangaroo Design Advisory Panel (DAP) was established in April 2015 to provide independent expert design advice to assist the Department with its assessment of the modification application.

The DAP comprises three experts: Mr Peter Poulet (NSW Government Architect), Ms Shelley Penn and Ms Meredith Sussex. Ms Penn and Ms Sussex co-authored the Sussex Penn Review in 2011.

Both a Preliminary Report and Final Report has been prepared by the DAP following its consideration of the modification application and the Proponent's Response to Submissions, respectively (**Appendix D** and **G**). These Reports are summarised in **Section 4** of this report and the comments and recommendations of the DAP are given further consideration in **Section 5** and **Appendix H**.

1.7 Proposed SEPP Amendment- State Environmental Planning Policy Amendment (Barangaroo) 2015

A proposed SEPP amendment to modify the relevant planning and development controls applying to part of the Barangaroo site and the waters of Sydney Harbour was exhibited concurrently with MOD 8. The proposed *State Environmental Planning Policy* (the 'proposed SEPP') mirrors the MOD 8 changes and proposes to rezone parts of the Barangaroo site and waters of Sydney Harbour and modify relevant development controls by amending *State Environmental Planning Policy (State Significant Precincts) 2005* ('SSP SEPP'), *State Environmental Planning Policy (State and Regional Development) 2011* ('S&R SEPP') and *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005* ('SREP Sydney Harbour').

The proposed SEPP does not seek to make any changes to Barangaroo Central or the Headland Park.

The proposed SEPP includes amendments to GFA (wintergardens included), building height, site area, block boundaries and land-uses to align with MP06_0162 MOD 8. The proposed SEPP maps, illustrating the amendments detailed above, are provided at **Appendix O**.

2. PROPOSED MODIFICATION

MOD 8 (as exhibited) seeks approval to modify the Barangaroo Concept Plan approval as summarised below:

- to increase the total maximum gross floor area (GFA) at Barangaroo from 563,965 sqm to 605,911 sqm by adjusting the GFA allocated to Barangaroo South;
- to amend the maximum height limits (RL) of certain development blocks at Barangaroo South;
- to amend the Barangaroo South site boundary and urban structure;
- to amend the indicative layout and various land uses distribution within Barangaroo South;
- to amend the location, design and size of the open space and public domain areas, including Watermans Cove and the foreshore promenade to the north of Watermans Cove;
- to increase the car parking to align with the proposed increases in GFA; and
- to propose a new set of Design Guidelines to guide the future development within Barangaroo South.

The Proponent has advised that the modifications detailed above are the result of the on-going design development of Barangaroo South and specifically, provide a conscious response to the Sussex Penn Review (refer **Section 1.5**) and its key finding that recommended that it would be a significant demonstration of goodwill to relocate the hotel building (Block Y) to elsewhere on the site (i.e. off the water to the land).

The key changes to the approved built form and urban design outcomes proposed in MOD 8 are illustrated in **Figures 5** and **Figure 6** below. A photomontage illustrating the approved Concept Plan (indicative design) and the proposed modification to the Concept Plan (indicative design) is provided at **Figures 7** and **8**.

Modifications to GFA:

MOD 8 seeks approval to increase the maximum permissible GFA at Barangaroo from 563,965 sqm to 605,911 sqm or an increase of 7.4%. This additional GFA would result in the maximum permissible GFA in Barangaroo South's development blocks increasing from 490,240 sqm to 531,686 sqm.

In summary, the GFA proposed in MOD 8 for Barangaroo South (which also includes changes to the GFA distribution for areas outside of the development blocks) would comprise the following:

- 531,686 sqm within the *B4 Mixed Use* zone (i.e. within amended development Blocks 1, 2, 3, 4A, 4B, X and Y equivalent to an increase of 41,446 sqm); and
- up to 3,500 sqm within the *RE1 Public Recreation* zone for active and community uses (an increase of 500 sqm).

For comparative purposes, the current approved and proposed GFA for each development block is detailed in **Table 2** below. The location of the approved and proposed development blocks are illustrated in **Figures 5** and **Figure 6** below.

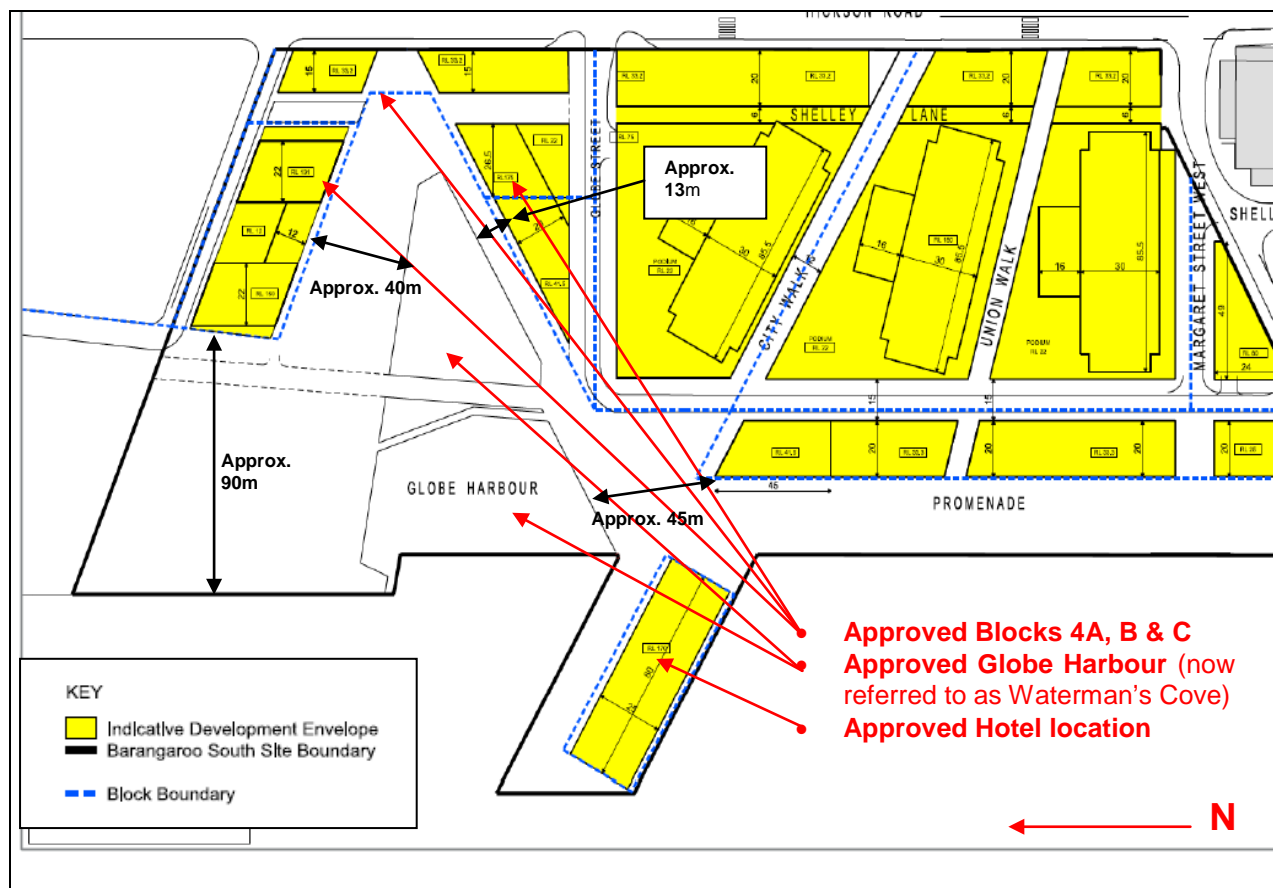


Figure 5: Approved Development Envelope for Barangaroo South (MOD 6) (Source Lend Lease/Virtual Ideas)

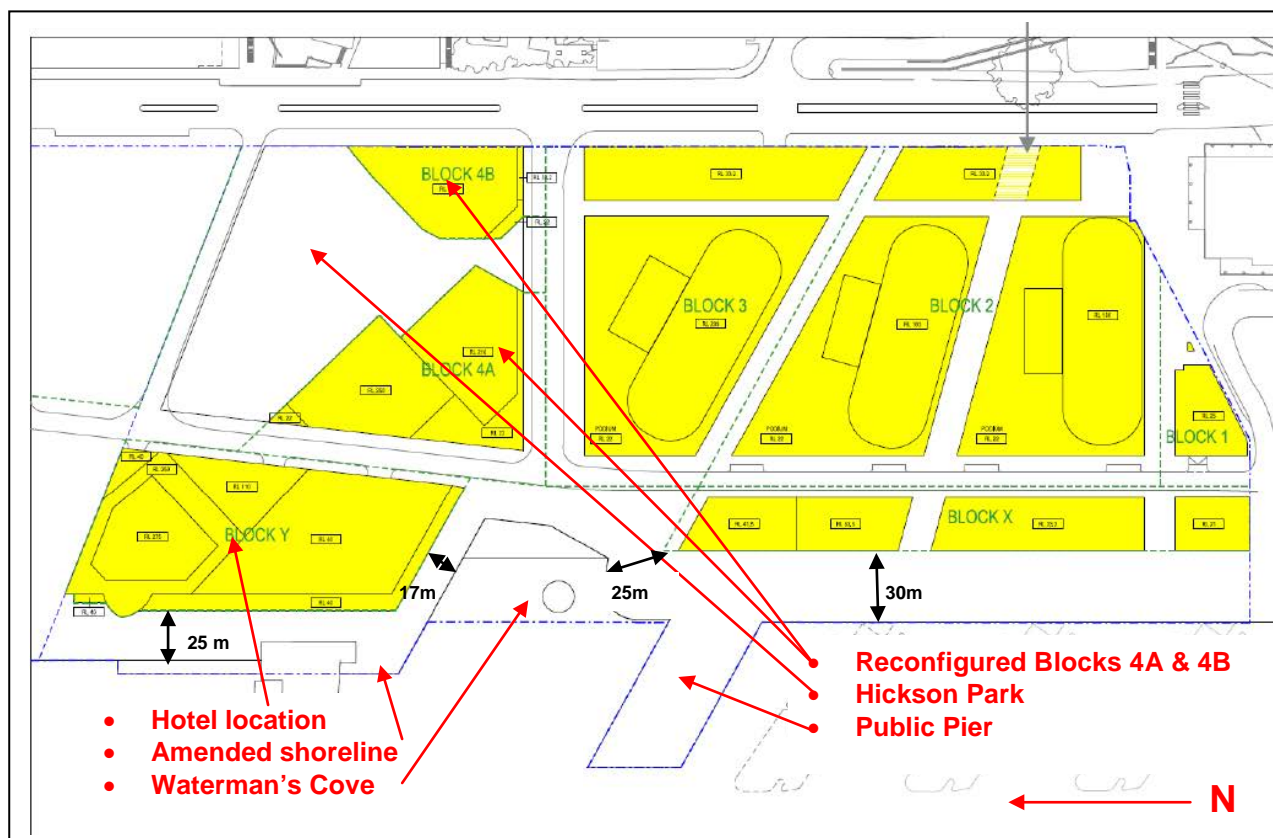


Figure 6: Proposed Development Envelope for Barangaroo South (MOD 8) (Source Lend Lease/Virtual Ideas)



Figure 7: Artist's impression of approved Concept Plan looking north-east (MOD 4)



Figure 8: Artist's impression of proposed Concept Plan looking west (MOD 8)

Modifications to Building Height:

The maximum building heights for the development blocks are proposed to be amended to reflect the proposed locations of the building massing within each development block. The key changes to the building height are illustrated in **Table 3** below:

Table 2: Proposed GFA by Development Blocks and Public Domain (as amended)

Overall Block GFA (sqm)			
Barangaroo Concept Plan			
Development Block	Approved GFA (Concept Plan)	Proposed GFA (Concept Plan MOD 8)	Change
1	9,400	1,927	-7,473
2	209,213	197,280	-11,933
3	142,669	129,934	-12,735
4A	8,150	86,979*	+29,087
4B	29,900	19,158*	
4C	39,000	-	
X	18,908	18,908	-
Y	33,000	77,500*	44,500
Subtotal (A)	490,240	531,686	41,446
5	41,225	-	-
6	3,000	-	-
7	15,000	-	-
Subtotal (B)	59,225	-	-
TOTAL (A) +(B)	549,465	590,911	41,446
Public Domain Subtotal (C)	14,500	15,000 (3,500 maximum in Barangaroo South)	+500
OVERALL CONCEPT PLAN (Barangaroo South (A + B), Central and Headland Park)	563,965	605,911*	41,946

*Note: Wintergardens excluded – refer to **Section 5.6.9** of the report.

Table 3: Building Heights by Development Blocks (RL in metres)

Building Heights by Block (RL)			
Development Block	Approved Height (Concept Plan)	Proposed Height (Concept Plan MOD 8)	Change
1	80	25	-55
2	180	180	-
3	209	209	-
4A	41.5	250	+208.5
4B	175	107	-68
4C	160	-	-160 (block deleted)
X	41.5	41.5	-
Y (hotel)	170	275	+105
5	34	34	-
6	34 and 29	34 and 29	-
7	35	35	-
Public Recreation	N/A	N/A	-

Amendments to the site boundary:

The total site area of Barangaroo is approximately 22 hectares of which 7.9 hectares comprises Barangaroo South. MOD 8 proposes to reduce the site area of Barangaroo South to approximately 7.6 hectares as result of the following modifications:

- reconfiguration of the hotel pier for public uses due to the hotel being relocated from the water to the land;
- reconfiguration of the Watermans Cove; and
- reconfiguration of the waterfront promenade adjacent to the proposed hotel (Crown Sydney Hotel Resort).

These modifications result in changes to the site area boundary as illustrated in **Figure 2**.

The Department notes that the Proponent's PPR has made adjustments to the public pier location. Refer to further discussion in **Section 4.6** of this report.

Amendment to the urban structure and land-use distribution:

The following key changes to the development blocks and the urban structure are also proposed, as illustrated in **Figure 6**:

- *Blocks 4A-C*: Block 4C is deleted and Blocks 4B and 4C are reconfigured to frame the southern end of the Northern Park;
- *Block Y*- Block Y is relocated from over the water to an area previously identified for public open space adjacent to the waterfront; and
- *Public Pier*- the former hotel pier is reconfigured to a public pier.

No other changes are proposed to the development block boundaries.

Land uses are also proposed to be redistributed to reflect the changes to the urban structure. The key changes to the land use distribution are considered in detail in **Section 5.1.2**, but broadly seek additional residential and tourist GFA.

Amendments to the public domain:

The key amendments proposed to the public domain result for the proposed relocation of the hotel from the water to the land and the subsequent refinement of the site layout. The Proponent has advised that MOD 8 continues to provide 50% of the Barangaroo South site as publicly accessible open space.

The key changes to the public domain include the following, as highlighted in **Figure 9** below:

- relocation of public open space to the eastern side of the site to create a new park referred to as Hickson Park;
- reconfiguration of the Watermans Quay, although the proposal retains approximately the same area of tidal deep-water (refer **Figure 10**);
- the relocation of community facilities onto a new publicly accessible pier over the water. The building is indicated as being two-three storeys in height, comprising a maximum of 2,000 sqm of community uses and a further 1,000 sqm of active uses; and
- revised pedestrian and vehicular connections through the site, including:
 - the provision of a new arrival space at the south-eastern end of the site referred to as Hickson Place;
 - the deletion of the northern extent of Shelley Lane as a result of reconfiguration of Block 4; and
 - the extension of Lime Street to the north all the way through Barangaroo South.

New Design Guidelines:

Condition B5 of the Concept Plan approval requires that future applications in Barangaroo South demonstrate consistency with the approved Built Form Principles and Urban Design Controls.

MOD 8 seeks approval of a new set of Design Guidelines for Barangaroo South prepared by JBA and that will be relevant to the assessment of all future applications in Barangaroo South.

The Proponent has advised that the key differences between the approved and proposed Built Form Principles and Urban Design Controls are as follows:

- **Built Form Principles:**
 - *Built Form Principle 1 (City's New Western Edge)*- the hotel podium is now referenced as part of the development that faces and defines the waterfront;
 - *Built Form Principle 2 (Hickson Road as a Boulevard)*- now makes provision for the park to the north of Block 4B interfacing with Hickson Road; and
 - *Built Form Principle 5 (Marking the City Frame)*- a refinement of the tapering built form principles to allow the tallest building at the northern end of Barangaroo South rather than the centre in order to complete the city frame and book end the city's north western edge.
- **Urban Design Controls:**
 - Block 1 controls have been revised to reflect the removal of the tower form and replacement with a smaller scaler building that relates to the massing of the podium of C5 and R1;
 - Block 2, 3 and X generally remain consistent;
 - Blocks 4A and B have new guidelines to reflect the change in the urban structure; and
 - Block Y has new controls to reflect its relocation onto the land and revised built form.

MOD 8 includes an indicative design to demonstrate how the site could be developed under the proposed modification. Artist's impressions of the indicative design are provided at **Figures 10** and **11** below.

The application and supporting information is provided at **Appendix B**.

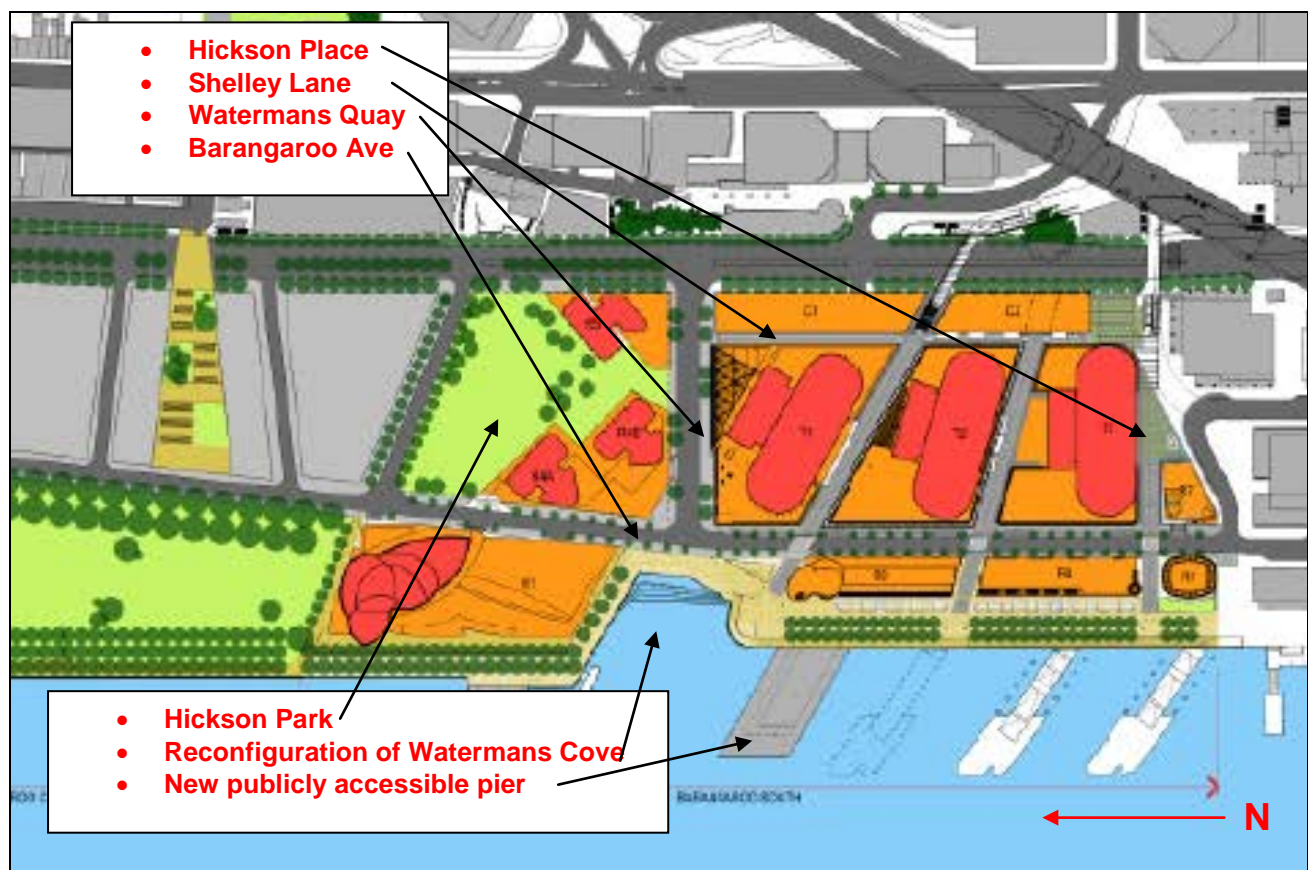


Figure 9: Key public domain modifications



Figure 10: Artist's impression of Watermans Cove looking north (Source Lend Lease/Virtual Ideas)



Figure 11: Artist's impression of MOD 8 (indicative only) in the context of the overall Barangaroo site, the CBD and Sydney Harbour (Source Lend Lease/Virtual Ideas)

Amendments to car parking:

The application seeks to increase in car parking to align with the proposed increases in GFA. Detailed consideration of car parking is provided at **Section 5.5**.

3. STATUTORY CONTEXT

3.1 Modification of the Minister's Approval

The proposal is a modification request under section 75W of the EP&A Act to modify the Concept Plan approval for Barangaroo. The Department notes that a number of submissions received in respect of the modification application have suggested that the scope of the modifications proposed in the application are too substantial and therefore cannot reasonably be considered under section 75W of the EP&A Act (refer to **Section 4** of this report).

The Department notes however that the scope of section 75W is broad and is satisfied that the application is within the scope of section 75W for the following reasons:

- that the proposal remains a mixed use development and the Barangaroo Concept Plan, if modified by MOD 8, would remain essentially the same fundamental concept plan; and
- its environmental consequences are limited in nature to those resulting from the existing Barangaroo Concept Plan.

Having regard to the above, the Department recommends that the Planning Assessment Commission can reasonably form the view that the modification request is within the scope of section 75W of the EP&A Act and is capable of being approved as a modification under section 75W of the EP&A Act.

3.2 Environmental Assessment Requirements

In accordance with section 75W(3) of the EP&A Act, the Secretary issued modified environmental assessment requirements on 15 April 2014 with respect to the proposed modification. The Department is satisfied that these modified requirements have been complied with, and relevantly addressed by the Proponent in the application and the Response to Submissions.

3.3 Environmental Planning Instruments

The following environmental planning instruments (EPIs) apply to the site:

- *State Environmental Planning Policy (State and Regional Development) 2011*;
- *State Environmental Planning Policy (State Significant Precincts) 2005*;
- *State Environmental Planning Policy No.55- Remediation of Land*;
- *State Environmental Planning Policy (Infrastructure) 2007*;
- *State Environmental Planning Policy No 64 (Advertising & Signage)*; and
- *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*.

The provisions of these EPIs that would (except of the application of Part 3A) substantially govern the carrying out the project have been taken into consideration in the assessment of the application. An assessment of compliance with these EPIs is provided at **Appendix K**.

As detailed in **Section 1.7** above, a proposed SEPP amendment has been lodged concurrently with MOD 8 and seeks to amend the GFA (wintergardens excluded), building height, site area, block boundaries and land-uses to align MOD 8.

3.4 Objects of the EP&A Act

Decisions made under the EP&A Act must have regard to the objects of the Act, as set out in Section 5 of the Act. The relevant objects are:

“(a) to encourage:

- (i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*

- (ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
- (iii) *the protection, provision and co-ordination of communication and utility services,*
- (iv) *the provision of land for public purposes,*
- (v) *the provision and co-ordination of community services and facilities, and*
- (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
- (vii) *ecologically sustainable development, and*
- (viii) *the provision and maintenance of affordable housing, and*
- (b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- (c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment”.*

The Department has considered the objects of the EP&A Act and considers that the application is consistent with the relevant objects. The assessment of the application in relation to these relevant objects is provided throughout this report.

3.5 Ecologically Sustainable Development

The EP&A Act adopts the definition of Ecologically Sustainable Development (ESD) found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- the precautionary principle;
- inter-generational equity;
- conservation of biological diversity and ecological integrity; and
- improved valuation, pricing and incentive mechanisms.

A detailed assessment of the environmental issues associated with the proposed modification is provided in **Section 5** of this report. On the basis of this assessment, the Department is satisfied that the application is in accordance with the objects of ESD.

3.6 Delegations

The City of Sydney Council has objected to the proposal and there are more than 25 public submissions in the nature of objections.

Consequently, the Department is referring the matter to the Planning Assessment Commission (the PAC) for determination in accordance with the Minister's delegations effective 1 October 2011.

3.7 Strategic Context

The Department considers that the proposal is consistent with the following State/regional/local strategies:

- the objectives of *NSW 2021* (the State Plan) via the future creation of new jobs during construction and operational phases of the development;
- the objectives of *A Plan for Growing Sydney*, including the following key directions and actions:
 - create new opportunities for increased office space in the Sydney CBD, including Barangaroo;
 - facilitate the delivery of Barangaroo as an emerging major tourism and entertainment precinct which would expand upon and diversify Sydney's Cultural Ribbon;
 - suitably manage the impacts of development on the environment;
 - promote new development to accommodate an additional 102,000 new jobs within the Sydney Central subregion; and
 - facilitate the delivery of Barangaroo as part of Global Sydney and increasing capacity for mixed-uses.

4. CONSULTATION AND SUBMISSIONS

4.1 Exhibition

In accordance with section 75X(2)(f) of the EP&A Act, the modification application and accompanying information was made publicly available in accordance with the EP&A Regulation (see **Table 4**).

Table 4: Exhibition Details

Exhibition/Notification	Format	Dates
Publicly Exhibited	DPI Bridge Street office, the City of Sydney Council's One Stop Shop, Leichhardt Council's Administration Centre, North Sydney Council's Customer Service Centre and on the Department's website	18 March 2015 to 1 May 2015
Newspaper Notice	Sydney Morning Herald Daily Telegraph Inner West Courier The Mosman Daily Central Sydney Magazine	18 March 2015 18 March 2015 17 & 24 March 2015 19 March 2015 18 & 25 March 2015
Written Notices	Surrounding landowners, key agencies and Councils (City of Sydney, Leichhardt Council and North Sydney Council)	18 March 2015 to 1 May 2015

4.2 Submissions

The Department received **50 submissions** during and after the public exhibition of MOD 8, including the following:

- submissions from the City of Sydney Council and Leichhardt Council objecting to the proposal;
- nine submissions from agencies, including Roads & Maritime Services, Transport for NSW, the Environment Protection Authority, Department of Primary Industries, Sydney Water, Ports Authority of NSW, Department of Trade and Investment (Sydney Observatory), Office of Environment & Heritage (Heritage Division) and Department of Infrastructure and Regional Development (Aviation Environment); and
- 39 public submissions, comprising 35 submissions in the form of an objection, including one submission from the Local Member, Mr Alex Greenwich MP, three submissions in support and one submission providing general comments.

The Department notes that the modification application was also referred to the Independent Liquor & Gaming Authority (ILGA) and the Department of Families and Community Services (FACS) for consideration. Subsequently, FACS advised that they had no comment to make on the proposal. A submission has not been received from ILGA.

A summary of the issues raised in submissions is provided below.

4.3 Public Authority Submissions

The City of Sydney Council (Council)

Council advise that it objects to the application (and the SEPP amendment) on the following grounds:

Planning Process:

- the application must be measured against the original approval and not the incremental modifications made to date;

- the City does not support 'planning creep' as the changes in MOD 8 are so significant as to re-write the existing zoning laws, change the boundaries, swap the development guidelines and significantly alter the detailed planning parameters in the existing concept plan;
- the request to vary the concept plan and the State planning legislation (to facilitate the hotel relocation) is unreasonable as a modification and is a misuse of the former Part 3A powers;
- a new planning process and concept plan should be required with a more transparent and accountable assessment, with checks and balances equivalent to those under Part 4 of the Act;
- the pre-determination of the unsolicited proposals process and any land-owner or developer agreements should not be seen to reduce the planning risk in the assessment and should not compromise the governance arrangements; and
- in order to ensure public trust in the planning process (and removed any perceived bias), MOD 8 should be externally assessed by a suitably qualified and experienced planning consultant independent of the NSW State Government and the application should be determined by the Planning Assessment Commission.

General comments:

- there is a lack of additional public benefits associated with the significant uplift in development potential and questions the emphasis on private gain over public interest associated with the modification;
- the proposed bulk and scale will reduce the integrity of the current scheme and will fail to deliver any beneficial design outcomes. The planning framework should reflect the original Concept Plan principles; and
- MOD 8 will result in:
 - eroded delineation between the restricted development line to the east of Globe Street (now Watermans Quay) and the public open space. This also results in the loss of the uninterrupted views corridor from the south to the north and the division of the legibility of the waterfront;
 - reversal of the gradual progression of CBD heights from the south to the north;
 - reduction in the quantity and quality of open space;
 - loss of a consistent public foreshore promenade;
 - significant overshadowing of the public domain;
 - the block structure creates negative wind effects on the waterfront promenade and the internal street network; and
 - disconnection between the waterfront promenade and the parkland.

Bulk and scale:

- qualitative and quantitative changes:
 - the proposed relocation of the casino/hotel creates an abrupt ending to the progressive heights of the towers and results in an undesirable imbalanced built form composition and urban scale uplift. Taller buildings should be away from the water's edge; and
 - the development density from cumulative increases in GFA results in significant changes in the Concept Plan vision and the proposed infrastructure will be challenged to meet increasing demand in the escalation of the development footprint.
- waterfront bulk and scale:
 - the incremental increase in building height towards the north is contradictory to historical planning principles for Sydney CBD, introduced in the 1971 Strategic Plan and is not supported;
 - the additional height required to recreate a 'landmark' building is unreasonable. By siting the tower forward of every other taller building in the precinct, 'landmark' attributes are artificially and unreasonably generated without the need for additional height;
 - the combined effect of Block Y and Block 4A is to present a 'wall of development' when viewed from the west at Balmain East and White Bay;
 - the base of the tower is bulky and dominates the entire western waterfront, the north-eastern parkland and the eastern street frontage; and

- the building envelopes for the hotel/casino and the future residential towers are larger than illustrative designs- the building envelopes should accurately reflect the proposed outcomes.
- Hickson Road bulk and scale:
 - the proposed envelope does not continue the scale of the development adjacent on Hickson Road, specifically the lower scale of Buildings C1 and C2/6. This is contrary to the design intent for Hickson Road.
- architectural expression:
 - the proposed indicative towers do not demonstrate a unifying identity for Barangaroo South.
- wind effects:
 - the proposed casino/hotel location creates negative wind effects on the waterfront promenade and Globe Street (now Watermans Quay);
 - there are no recommended wind mitigation measures; and
 - negative wind impacts should be addressed at the concept stage.

Public Open Space:

- quality and quantity
 - roads and laneways should not be included in the calculation of public open space. If they are, the amount of public open space is clearly less than the commitment of 50%;
 - the relocation of the Northern Park away from the foreshore compromises the clear hierarchy of public space; and
 - the casino/hotel block now interrupts the continuity of the foreshore experience and completely blocks views to the Headland Park and the harbour beyond.
- Northern Park
 - the Northern Park is poorly integrated into Barangaroo South and its intended use should be fully assessed i.e. has this type of park (passive open space) reached saturation in Barangaroo? The Park should not just provide a forecourt to the casino/hotel and the apartment buildings;
 - a minimum of 1.8 metres above any basement car park structure is needed to support landscaping; and
 - overshadowing impacts from Barangaroo Central should be modelled.
- Globe Harbour (now Watermans Cove)
 - the reduction in the size of Globe Harbour (Watermans Cove) undermines the intent of the concept plan and the urban structure of Barangaroo with water connections between the foreshore and Hickson Road; and
 - Globe Harbour is currently the key public space in Barangaroo South. Under Mod 8, the significance of this valuable waterfront built-edge and public space will be lost and can no longer support the scale of development proposed.

Affordable housing and key workers housing:

- at least 10% but preferably 20% of the residential floor space should be 'key worker housing' (affordable housing) owing to the uplift in residential GFA across the site.

Traffic and Transport:

- traffic impacts from the proposal should be thoroughly tested and mitigation strategies agreed before any determination of MOD 8;
- Council notes the following changes since MOD 4:
 - commercial GFA has declined 3.3% and parking for commercial has increased 0.7%;
 - tourist GFA has increased 46% and tourist parking has increased 220%;
 - residential GFA has increased 43% and residential parking has increased 89%; and
 - morning (am) traffic would increase 6% and PM 5%;
- traffic modelling does not consider the redistribution of traffic arising from changed conditions as a result of the light rail or the RMS Traffic Capacity Improvements Plan;
- the TMP should be revised to include a full parking demand and traffic impacts resulting from the casino/hotel, broken down into land uses;
- the impacts on the loss of on-street parking (reduction from 275 to 40 spaces), including on the future character of the streets should be considered;

- Council question whether Barton Street should be delivered in two stages. No details have been provided to confirm the design solution for Barton Street and it is not addressed in the design guidelines;
- vehicle access to the basement parking and loading areas should be minimised to reduce adverse impacts on the public domain;
- all internal streets and the foreshore paths should be accessible to bicycle riders and end-of-trip facilities and how they relate to each building should be clarified;
- the Proponent should establish a Green Transport Committee and implement Green Travel Plans focusing on behaviour change towards sustainable active transport choices, including increased cycling and walking in the precinct;
- the Proponent should confirm the location of new bus stops to service the development in line with the Barangaroo Integrated Transport Plan; and
- the acceptability of increased floor area and increased population in and around Wynyard is tied to the public transport improvements to rail capacity. A light rail corridor should be preserved on Hickson Road and an analysis of the timing and delivery of long term public transport heavy rail improvements should be completed prior to the determination of MOD 8.

Heritage:

- the proposed amendments will have an adverse impact on the heritage significance of the Millers Point Conservation Area, the individual heritage items within this precinct, Observatory Hill and Sydney Observatory, including upon the setting and views to, within and from a number of heritage precincts and heritage items;
- the erosion of the setting of these national significant places and the Millers Point Precinct should not be permitted;
- the casino/hotel block is unmatched in its visual prominence in Sydney and its impacts are considered invasive and extreme and contrary to the provisions in the Sydney Harbour SREP (clauses 25 and 26);
- the visual and view analysis (View 7) indicates that:
 - the casino/hotel tower will dominate the vast sky views experienced from Observatory Hill, the reason for the location of the colonial Observatory and Flagstaff Station;
 - the proposed towers result in a solid wall of towers as viewed from Observatory Hill looking south-west towards Pyrmont and Darling Harbour; and
 - the proposal severely limits the visual connectivity between two peninsulas of Millers Point and Pyrmont that frame Darling Harbour and remove the views of Darling Harbour from Observatory Hill south of Darling Island;
- an alternative location should be found for the casino/hotel tower so that it is within the Barangaroo tower backdrop rather than north of the residential towers;
- Jones Bay Wharf, a listed heritage item, will be partly overshadowed by the proposal; and
- the proposal will have an adverse impact on the functioning of the Sydney Observatory, including as a result of additional light spill and encroachment from residential towers 4A and 4B on view corridors from the Sydney Observatory telescopes towards the western sky.

Recommendations:

- Council has also made 24 recommendations for amendments to MOD 8 to address the issues outlined above, including:
 - the casino should be set within the Barangaroo commercial tower backdrop within the land zoned for development rather than in the prohibited public open space zone; and
 - the retention of the depth of Globe Harbour will help achieve the desired waterfront address to the relocated hotel podium and tower.

Leichhardt Council

Council advise that it objects to the application on the following grounds:

- the incremental 'creep' in the scope of the project that has occurred to date and which represents a 64% increase in floor area across the site and increases in building height;
- the problematic nature of the governance of the approval process. In this case, the State Government has a role both as a supporter of the project and the assessment authority. This

brings significant risks, perceptions of bias and lack of independent scrutiny of the planning process;

- failure to adequately address the Director-General's Requirements;
- the development is both contrary to the design principles that underpinned the original Concept Plan and the long standing practices in relation to the overall planning of the CBD. The proposal ignores the CBD's morphology and the City of Sydney response to the Sussex Penn Review which stated that *"twenty years of Sydney Planning have centred on the principle of preserving a lower scale transition from the taller CBD buildings to the water's edge."*;
- failure to achieve any meaningful key worker housing outcomes. A target of 2.3% falls well short of affordable housing targets in surrounding local government areas. As a minimum, the key worker housing should increase to 4.2% of all housing in line with the overall increase in GFA (83%);
- failure to provide adequate justification for the hotel, the additional height and GFA. The justification for the increase in height and GFA in order to establish a building of landmark status is not a valid planning justification. It is contended that additional height and GFA alone will not necessarily result in an 'iconic' landmark building;
- failure to include a detailed Social Impact Assessment for the proposed casino use and mixed development;
- failure to provide an adequate assessment for the impact of the proposal on the setting and context of the World Heritage listed Sydney Opera House. The bulk, scale and height of the buildings that form the backdrop to the Sydney Opera House, impact on the context and sense of place of the Opera House; and
- the process to date for approvals at Barangaroo, whilst complying with the requirements of the now repealed Part 3A of the EP&A Act, are considered unreasonable and are not well understood by the community. A fresh approval process should be initiated.

In addition to the above, Council has made the following comments:

- in order to better manage the issue of governance, Council recommends that an independent body of experts be engaged to determine the application i.e. the CSPC;
- it is not in the public interest for the State Government to promote artist's impressions of the hotel/casino building, as this gives the impression that the development has been approved and subsequently, the public may be less inclined to engage at the public notification phase;
- the important transition in heights from north to south, that was fundamental to the original Concept Approval at the site, while diminished by MOD 4, was still evident, but has been completely eroded by the current proposal;
- given the amount of social housing in Millers Point has declined, the Proponent should amend the Housing Strategy. Any increase in height and GFA should only be supported on the basis of a commitment to a meaningful contribution to key worker housing and affordable housing, in order to achieve residential diversity; and
- the View and Visual Impact Analysis should take into account the impact of the proposal on the setting of the Sydney Opera House.

Roads and Maritime Services

The Roads and Maritime Services (RMS) has raised the following issues in relation to the application:

- concept plans for the proposed changes to traffic signals and access arrangements to the site resulting from MOD 8 should be submitted for review and should be informed by detailed traffic modelling;
- the RMS note that the following traffic signals have been approved by the RMS and the CBD Taskforce:
 - Hickson Road/Sussex and Napoleon Streets; and
 - Hickson Road and Shelley Street.
- the design for the Hickson Road and Globe Street intersection is yet to be approved by RMS; and

- the Napoleon Street cycleway connection shown in the TMAP should be removed and the Sussex Street route, between King and Shelley Street included as a potential option.

Transport for NSW

Transport for NSW (TfNSW) has advised that the application does not provide a complete assessment of the potential impacts of the proposal. The following key issues have been identified with the application:

- the traffic analysis should be revised to incorporate:
 - changes to the traffic movements on the road network located within the Wynyard and Barangaroo Precincts as a result of the CBD Light Rail; and
 - reconsideration of the operation of the Hickson Road/Napoleon Street and Sussex Street/Erskine Street intersection, including re-assessing performance, identifying impacts and mitigation measures;
- a detailed traffic generation estimation should be provided for the hotel;
- future traffic flows for AM peak and PM peak periods should be reviewed and be consistently reported in the TMAP;
- the arrival and departure routes should be updated to be consistent with the CBD Access Strategy and include proposed changes to travel routes due to the proposed CBD Light Rail project;
- the Proponent should consult with the Barangaroo Integrated Transport Plan Working Group to confirm the current status of the signals at Hickson Road/Shelley Street intersection;
- no information is provided in the TMAP in relation to the traffic modelling and road network operations for the King Street Wharf Precinct;
- the application proposes an increase in the number of dwellings by 509 to 1,675 and an increase in parking spaces by 1,039 to 2,205 spaces. However, no details are provided in relation to the dwelling mix and therefore, TfNSW is unable to comment on whether the parking proposed would comply with the parking rates adopted in the Concept Plan;
- the application proposes that the public car parks in Towns Place and the Headland Park could be used by visitors to the hotel to cater for a 300 space shortfall in demand. However, no analysis is provided to demonstrate that:
 - sufficient supply is available for both visitors to public car parks and the hotel;
 - why it is appropriate that the hotel does not cater fully for its demand; and
 - circulating traffic would not have an impact on the road network;
- no bicycle parking provision is identified for visitors or commuters. This should be identified and justified;
- coach parking provision should be identified and justified;
- a ferry mode share of 1% has been the target since 2008 for the Barangaroo Concept Plan. The proposed increase in the ferry mode share from 1% to 4% would have significant network implications and should be justified;
- the TMAP has not considered whether any water-based construction activities will impact on the proposed Barangaroo Ferry Hub or the operation of the ferry services. A detailed navigation and safety impact assessment should be prepared in conjunction with TfNSW.
- the impact of the proposal on bus operations and mitigation measures should be addressed in the TMAP; and
- a number of amendments are recommended to the TMAP in order for it to align with the current policy and status of a number of transport projects.

Environment Protection Authority

The Environment Protection Authority (EPA) has provided the following comments on the application:

- the environmental risks and impacts have been adequately assessed and will not significantly be increased by the proposal;
- the Air Quality Impact Assessment shows the cumulative impact of work exceeds the PM10 criteria. To address this, the EPA endorses the recommendation to implement a

comprehensive Air Quality Management Plan which includes a reactive air quality management strategy and monitoring; and

- any subsequent work relating to the modification application will need to comply with the conditions attached to EPL 13336.

Department of Primary Industries

The Department of Primary Industries (DPI) has provided the following comments in relation to the application:

Fisheries NSW

- appropriate soil and sediment controls measures are to be installed during construction.

Office of Water

- the design of the seawall should be more 'naturalised' in design to improve the environmental value of the foreshore; and
- consideration should be given to the publication titled "*Environmentally Friendly Seawalls- a guide to improving the environmental value of seawalls and seawall-lined foreshores in estuaries*".

Agriculture NSW:

- The trees selected for landscaping should not include species that are declared a noxious weed.

Sydney Water

Sydney Water has raised no objection to the application subject to the following information being provided:

- details regarding the preferred service provider (commercial model) and flow rates from the proposed buildings should be provided to Sydney Water; and
- further hydraulic assessment is required to determine whether any changes to the Sydney Water systems are needed to accommodate the development.

Ports Authority of NSW

The Ports Authority of NSW (Ports Authority) has provided the following comments on the application:

- approval will be required pursuant to the *Management of Water and Waterside Lands Regulations NSW* if there is any disturbance of the seabed; and
- the new pedestrian link bridge over Hickson Road must be constructed at a height sufficient to allow the passage of semi-trailers associated with the Overseas Passenger Terminal Port activity.

Department of Trade & Investment, Regional Infrastructure and Services- Museum of Applied Arts & Sciences: Sydney Observatory

The Sydney Observatory (SO) has advised that the proposal will have an adverse impact on its current operations. SO has provided the following comments and key issues of concern regarding the application:

- identifies that the ability to view the night sky:
 - is essential to attracting visitors, the business model and plans for the growth of the SO; and
 - is fundamental to preserving the SO's reputation as a public observatory and astronomical museum;
- advises that the report prepared by UNSW Global includes a number of inaccuracies including:
 - that MOD 8 buildings will have a significant impact on the viewing of the Southern Cross, Alpha- Centauri, the Jewel Box, Omega Centauri and other objects both by way of increased light spill and by blocking views at certain times of the year; and

- that from 12% to 25% of the available viewing days and from 6% to 15% of the available viewing time of these iconic objects will be lost.
- MOD 8 will have a social and economic impact on the operation of the SO, including on the Observatory's capacity to generate visitations and related revenue and run night-time guided tours and other activities;
- much of the heritage significance of the site is linked to the ability to observe the night sky all year round from a location that has been used for this purpose for over 155 years (since 1859). MOD 8 will therefore have an impact on the heritage significance of the site;
- the whole of the Barangaroo development, but particularly Buildings R4A, R4B and H1 (casino/residential tower) will spill light to the sky reducing the contrast between the background sky and objects viewed from SO making objects more difficult to view;
- the UNSW Global Report has misquoted and included erroneous information and interpretation of the viewing corridors provided by SO in June 2013. The view corridors used were not determined in consultation with SO and this represents the reason for the principal difference in SO's impact assessment;
- Building H1 is excluded from the assessment in the UNSW Global Report. The Building will affect night sky viewing and will cause light spill;
- the estimates that 50% of viewing nights are lost to cloud cover is incorrect. SO records show that 70% of nights in the months August to October have successful night viewings;
- the UNSW Global Report suggests that the impact of the development on night viewing can be reduced by changing the structure and conduct of the night viewing program and by adjusting the viewing schedule to enable the affected targets to be viewed first. SO advise that this is not an option, for various operational reasons;
- the lighting impact assessment should take into account light spill from the eastern façades of the towers and should take into account advice provided in 2011 and eliminate up-lighting, not use blue lighting and recommend sensor lighting;
- the UNSW Global Report concludes that the development will affect 53 viewing nights out of 326 annual viewing nights or 20% of the night viewing program. The SO agrees with this in terms of direct impact; and
- SO dispute the conclusion that the impact from MOD 8 is negligible, as the assessment does not take into account the impact of light-spill and as the assessment is based on seeing part of the Southern Cross as being acceptable.

Office of Environment & Heritage- Heritage Division

The Office of Environment & Heritage (OEH) has provided the following comments on the application:

- there are no archaeological issues associated with hotel site as it is completely within modern reclamation zones for the former container terminal wharf;
- the Block 4 towers are within the EPA remediation zone and impacts in this area have already been approved (MOD 4) and there will be no changes to impacts on archaeological resources as a result of MOD 8;
- the existing mature fig trees will screen some of the existing and proposed new towers when viewed from a number of Millers Point & Dawes Point SHR views and settings;
- there is likely to be an adverse visual impact on the setting of a number of heritage items and conservation areas (Millers Point & Dawes Point) adjacent and in the vicinity, including.
 - Graft Bond Store- MOD 8 will dramatically alter its outlook/setting;
 - Walsh Bay Wharves Precinct- MOD 8 will impact setting, although the distance away will ameliorate much of this;
 - MSB Store Complex & MSB Stores Building 1- MOD 8 will compound the adverse visual impact on the western setting of the group;
 - Sydney Observatory- MOD 8 impacts on the setting and the available views of four target objects; and
 - National Trust Centre/S.H. Ervin Gallery (former Fort Street Primary School)- MOD 8 will impact on setting and compound the impacts of nearby towers; and

- the Heritage Division also notes that MOD 8 will impact on the setting of Observatory Park and the Bureau of Meteorology/ Fort St Primary School, both of which are listed as local heritage items. A number of other LEP items including terraces, warehouses, cottages on the western edge of Millers Point also have similar adverse visual impacts, losing expansive western and south-western outlooks and will be visually dominated by MOD 8.

Department of Infrastructure and Regional Development (Aviation Environment)

The Department of Infrastructure and Regional Development (DIRD) has provided the following comments in relation to the proposal:

- approval will be required for any intrusion into Sydney Airport's prescribed airspace under the *Airports (Protection of Airspace) Regulations 1996*; and
- approval for controlled activities including buildings and crane activity are necessary under the Regulations following assessment by the Civil Aviation Safety Authority (CASA) and AirServices Australia.

4.4 Public Submissions

The Department received a total of 39 public submissions comprising 35 submissions in the form of objections (including a submission from the Local Member), 3 submissions in support and 1 submission making comments. A summary of the public submissions received is provided in **Tables 5 to 7** below. This includes submissions from the following special interest groups:

- National Trust of Australia (NSW);
- Sydney Harbour Association;
- Green Building Council of Australia;
- Friends of Sydney Harbour;
- Tourism and Transport Forum Australia;
- Millers Point, Dawes Point, The Rocks and Walsh Bay Resident Action Group; and
- The Sydney Business Chamber.

The submission from the Local Member, Mr Alex Greenwich MP, is summarised separately below and therefore, the matters raised in his submission have not been accounted for in **Table 1** below.

Table 5: Summary of public submissions in objection

Issue	Description	Proportion of 34 public submissions in objection
Public space open	<ul style="list-style-type: none"> reduction in public open space and public access to the foreshore, including Southern Cove (Globe Harbour) relocating open space would reduce connectivity to other areas hotel/casino is in the existing public open space zone, contrary to good urban design and should be relocated east increases in height should be offset by an increase in public amenity not a reduction public promenade outside casino will be half (17m) that of the remaining Barangaroo waterfront public domain outside hotel should not be used by cafes, restaurants, bars etc. application fails to demonstrate any improvement to public open space, including access to the foreshore new public open space is in an inferior location impacts on parklands around the site privatisation of public open space public recreation space (parkland) includes roads and laneways and so parkland is reduced by 50% it is not clear how the quantity of public open space is the 	61.8% (21)

	<ul style="list-style-type: none"> same – in fact it appears it has been reduced justification for increase in GFA in MOD 4 was an increase in the quality of public open space, however this proposal significantly reduces it indicative scheme illustrates floating dock with no connection to shore – concerns this will be used as a heliport significant increased demand for more public space caused by additional GFA the proposal should include substantial publicly accessible open space roads and laneways should not be counted as open space the level of public open space should be independently assessed 	
Consultation and public interest	<ul style="list-style-type: none"> privatisation of iconic state site lack of public and resident involvement location of a casino on public land lack of transparency going from a sustainable precinct to an economic precinct economic benefits takes precedence over the needs of the greater population increasing profits at the expense of public amenity financial cost to public should be investigated corporate greed argument of entitlement is unjustified consideration of application needs to satisfy the test of due process public benefits are actually disbenefits for CBD residents call for public meeting 	50% (17)
Increase in Gross Floor Area (GFA)	<ul style="list-style-type: none"> excessive increase in GFA from original approval lack of justification for GFA and its redistribution lack of justification for additional residential GFA 	44% (15)
Increase in Height	<ul style="list-style-type: none"> excessive increase in height from original approval overdevelopment of site unacceptable increase in height of buildings and will dwarf neighbouring buildings the tower should be no higher than existing residential buildings safety issues about a 275m hotel/casino and potential to fly helicopters in and out impacts on Sydney Observatory sight lines 	41.2% (14)
Section 75W	<ul style="list-style-type: none"> cumulative impact of modifications should be taken into account more than 50% greater than original concept plan each modification becomes larger, darker and has less amenity can the modification be regarded as a modification (use and significant GFA) ambiguity as to what's proposed and impacts deferment of social impact assessment failure to describe a land use questionable as to whether the modification has limited environmental consequences seemingly endless modifications with each one increasing density and height the project needs to be refocused 	41.2% (14)
Overshadowing & loss of solar access	<ul style="list-style-type: none"> impacts on public open space overshadowing impacts on existing King Street Wharf apartments, Dawes Point, Darling Harbour and Pyrmont 	

	<ul style="list-style-type: none"> (during morning) overshadowing impacts on Pyrmont Point and surrounding open space (e.g. James Watkins Reserve) and the harbour 	38.2% (13)
General bulk and scale	<ul style="list-style-type: none"> excessive bulk and scale and increase dominance contrary to tapering built form principles not justified lack of harmony with the area will completely overwhelm the City and its landmarks 	38.2% (13)
Amenity	<ul style="list-style-type: none"> significant visual impact on Sydney skyline and harbour profits before amenity impact on 'Sydney'scape' would mirror Blues Point Tower impact on public amenity loss of privacy windows and balconies should be orientated to ensure privacy is maintained to neighbouring residential development in Kent Street the character of the City will be transformed into a den for the rich 	32.4% (11)
Public Transport	<ul style="list-style-type: none"> impact on public transport concern that changes would not be supported by adequate public transport public transport is at breaking point lack of a transport plan lack of public infrastructure to service additional people why are ferry wharves outside of precinct very limited public transport options 	26.5% (9)
Traffic and parking	<ul style="list-style-type: none"> increased road congestion excessive car parking reduction in public parking concerns about mobility problems 500 car parking spaces for the hotel is unacceptable contrary to the initial planning approval and Barangaroo Integrated Transport Plan which promoted high usage of public transport 	23.5% (8)
Visual Impacts and View Loss	<ul style="list-style-type: none"> obstruction of views to Dawes Point, The Rocks (from Pyrmont and Pyrmont Bridge) loss of harbour views from adjacent parks and apartments inappropriate application of view sharing principles impact on star viewing at certain times of the year from Sydney Observatory the proposal is a 'statement' piece and will diminish other focus points in Sydney that have heritage and cultural value 	23.5% (8)
Wind	<ul style="list-style-type: none"> wind tunnelling impacts particularly on public open space and ground level pedestrian access ways 	17.6% (6)
Casino	<ul style="list-style-type: none"> no debate about whether Sydney needs a second casino crime will increase and has not been adequately addressed the size and location is inappropriate the casino should remain over water (current approved location) questionable whether it meets the ESD standards set by Lend Lease Government should push-back on the casino in the interests of the State. 	14.7% (5)
Lighting	<ul style="list-style-type: none"> impacts on Sydney Observatory 	11.8% (4)

Heritage impacts	<ul style="list-style-type: none"> • impact on heritage items at Jones Bay Wharf • the HIS incorrectly states there's no State listed items on the site • need for much greater community benefits through better protection of heritage • impact on the Millers Point Conservation Area and surrounding individual heritage items, including the Opera House, Sydney Observatory and the Sydney Harbour Bridge 	11.8% (4)
Reflectivity	<ul style="list-style-type: none"> • reflectivity impacts 	5.8% (2)
Access	<ul style="list-style-type: none"> • increased pedestrian traffic to Wynyard • points of entry and egress to site are limited • limited road access 	5.8% (2)
Public land	<ul style="list-style-type: none"> • the site is public land but controlled by private developers 	5.8% (2)
Affordable Housing	<ul style="list-style-type: none"> • the provision of affordable housing should increase to 20% • the 2.3% commitment is only a token 	5.8% (2)
Determination of application	<ul style="list-style-type: none"> • application should be review by Independent Planning Assessment Panel • questions the independence of the Panel 	5.8% (2)
Social Impacts	<ul style="list-style-type: none"> • the proposal neglects its social responsibility 	2.9% (1)
Construction	<ul style="list-style-type: none"> • continue current restricted working hours • noise, air and odour impacts should be stringently controlled 	2.9% (1)
Cruise ships	<ul style="list-style-type: none"> • necessity to relocate cruise ships and its impacts on the city 	2.9% (1)
Stormwater	<ul style="list-style-type: none"> • detailed plans needs to be prepared to prevent Harbour pollution 	2.9% (1)
Property value	<ul style="list-style-type: none"> • loss of real estate value • bleak retirement living 	2.9% (1)

Table 6: Summary of public submissions in support

Issue	Description	Proportion of 3 public submissions in support
Social & Economic	<ul style="list-style-type: none"> • modification will result in better social and economic outcomes • will generate thousands of jobs • will be a key visitor destination 	66% (2)
Visual	<ul style="list-style-type: none"> • relocating the hotel will improve visual amenity 	33.3% (1)
Public amenity	<ul style="list-style-type: none"> • relocating the hotel will improve public amenity 	33.3% (1)
Public open space	<ul style="list-style-type: none"> • the hotel will maintain 50% publicly usable space 	33.3% (1)
Access	<ul style="list-style-type: none"> • the modification will improve the site's linkages within the western CBD and Millers Point 	33.3% (1)
Sustainability	<ul style="list-style-type: none"> • the modification will not impede Green Star certification for buildings 	33.3% (1)

Table 7: Summary of submission providing comments

Issue	Description	Proportion of total public submissions providing comment
Inconsistency between documents	<ul style="list-style-type: none"> • Concept Plan proposes to rezone Dalgety Bond stores from B4 mixed use to RE1 public recreation – but SEPP maintains B4 mixed use zone • Should maintain B4 mixed use zone 	100% (1)

Local Member, Mr Alex Greenwich MP

The local member has raised objection to the modification application on the following grounds:

- the proposed increase in bulk and scale promotes private benefit at the expense of public benefit; and
- the approved GFA must be retained, the hotel relocated within other built areas of the Barangaroo South site with the public park kept on the waterfront with no increase in private parking spaces.

Hotel Location

- locating the hotel on the waterfront on land currently dedicated for public recreation is unacceptable, would privatise the harbour and result in poor planning outcomes, including to relegate the public waterfront park to a mere inner city pocket park;
- the hotel would dominate views of the site and reduce Barangaroo South's integration with the CBD; and
- the hotel will erode the environmental amenity of Barangaroo South and adjacent areas through wind, overshadowing and loss of harbour outlook.

Bulk and scale

- significant departure from the winning planning framework;
- it is false to claim that the increase in height is necessary to achieve landmark status- design excellence is far more important; and
- the increase in GFA and height will result in massive amenity impacts through overshadowing of public space, reduced harbour views, wind and traffic congestion.

Loss of Public space

- the relocation of the waterfront park to Hickson Road will reduce Barangaroo South's world class status;
- the harbour must provide the focus for public recreation;
- given the increase residential growth at Barangaroo and adjacent areas, it is essential that the provision of open space in Barangaroo South is not diminished; and
- the space dedicated for development should be transferred to recreation to ensure there is no loss in public recreation space.

Solar Access

- the extent of overshadowing, including to Sydney Wharf and Darling Island should be clarified and prevented;
- the significant overshadowing of the foreshore, including Globe Harbour during morning to early afternoon between Autumn and Spring, will make the space unpleasant and unattractive to workers; and
- the development should be scaled back to reduce overshadowing.

Harbour Outlook

- the proposal will restrict historically significant panoramic views from adjacent public parks and reserves;
- the towers will dominate views from Historic Observatory Hill, Clyne Reserve, Munns Reserve, Ballarat Reserve and Pyrmont Park and will severely impact their character and amenity;
- view corridors through the site to the water are fundamental to making Barangaroo a world-class development and must be retained;
- the loss of views (including sky and water) from neighbouring apartment residents (which is important to their wellbeing) should be avoided; and
- the height and GFA of the hotel and the residential towers must be reduced with the hotel relocated to avoid view impacts.

Wind impacts

- the proposal will result in increased wind tunnels and adverse wind impacts to public areas (including the waterfront). This is unacceptable outcome for the development of prime public land; and
- wind mitigation measures will create clutter and reduce the public space. This is another reason why the GFA and the relocation of the hotel should be rejected.

Traffic and Transport

- strongly opposed to the increase in car parking. Providing 500 parking spaces will encourage casino patrons to drive to the site, will add to congestion and is not justified;
- the loss of kerbside parking will intensify Barangaroo South's road network and increase the volume of traffic making it dangerous for pedestrians; and
- this is further privatisation of the public land and should be rejected.

Sydney Observatory

- Buildings 4A and 4B will block key target objects and should be rejected; and
- claims that Sydney Observatory is in an inappropriate location (i.e. due to smog and pollution) should be rejected. The site has served this purpose since the 19th Century and this use must continue.

Planning Process

- suggests that the community cynicism over the Barangaroo planning process is widespread. The winning scheme has already been significantly altered. The private land-grab must end with planning refocused on public amenity and outcomes;
- need to restore faith in the planning process; and
- the modification should be rejected with no further increase in GFA, relocation of the hotel within built areas over the site and with private parking limited.

The key issues raised in the public submissions are considered in further detail in **Section 5** of this report.

4.5 Barangaroo Design Advisory Panel – Preliminary Review Report

The Preliminary Review Report from DAP identified a number of key urban design issues associated with MOD 8, both in terms of the built form and public domain. In addition, the Report outlined additional information requirements necessary for the DAP to complete its review of the modification application.

A complete copy of the Preliminary Review Report is provided at **Appendix D**. Detailed consideration of the DAP's Final Report is at **Section 4.8** and **Appendix H**.

4.6 Proponent's Response to Submissions and Preferred Project Report

The Proponent provided their Response to Submissions and Preferred Project Report (RtS/PPR) on 11 September 2015 (see **Appendix E**). The RtS/PPR includes further information responding to concerns raised in the submissions outlined in **Sections 4.3 - 4.5** above, including to provide the following:

- a detailed response to the Preliminary Review Report prepared by DAP;
- selected indicative architectural drawings and renders for Blocks 4A, 4B and Y;
- an addendum to the Navigation Report specifically addressing the impact of the Public Pier on operational safety and navigation of the Barangaroo Ferry Hub;
- a detailed response to the issues raised by Sydney Observatory in relation to potential impacts on key sky targets;
- revised shadow diagrams which now include the currently proposed built form within Barangaroo Central and the indicative built form for R4A, R4B and R5 residential towers; and
- a revised Traffic Management and Accessibility Plan responding to issues raised by TfNSW.

In addition to the above, the RtS/PPR includes further details addressing the following:

- public benefits resulting from the MOD 8 and specifically, the proposed hotel development;
- justification for the proposed quantum of key worker housing, including to retain the commitment to provide 2.3% of total residential GFA as key worker housing and to confirm that the housing will be located in Building R5;
- to clarify the quantum of public open space provided in Barangaroo as a result of MOD 8, including to confirm that 11.9 hectares of public open space (equivalent to the area of the RE1 public recreation zone) or 54% of the total Barangaroo site will be provided as open space; and

- further justification for the location of the hotel and Hickson Park.

The Department notes that the PPR includes a number of minor modifications MOD 8 (as exhibited), as detailed below.

- Watermans Cove and the Public Pier- the alignment of the Public Pier has been adjusted to align with the orientation of the approved Barangaroo Ferry Hub. The boundary of Watermans Cove has been refigured to integrate with the amended design of the Public Pier and includes an increase in the land area. The amendment is illustrated in **Figure 12** below.
- Barangaroo Design Guidelines- The proposed Barangaroo Design Guidelines have been amended to now include new guidelines and design criteria to require improved connections and permeability between Hickson Park and the waterfront; and
- Revised Statement of Commitments- the commitments in relation to *State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development*, the Apartment Design Guide and residential amenity have been updated to align with current State Policy.

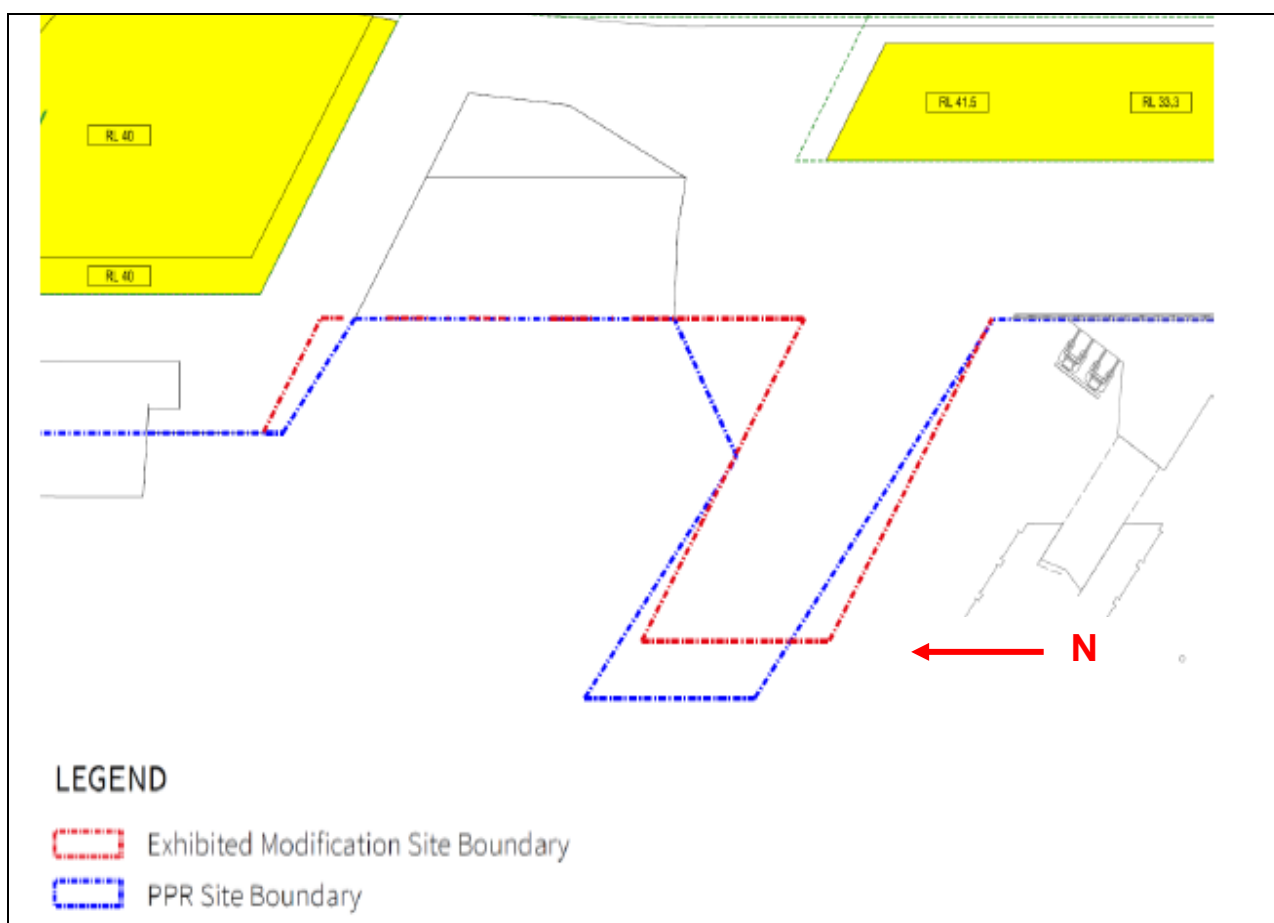


Figure 12: PPR amendments to the Watermans Cove and the Public Pier alignment.

The above amendments to Watermans Cove and the Public Pier are incorporated into an amended Building Envelope Plan, as illustrated in **Figure 13** below.

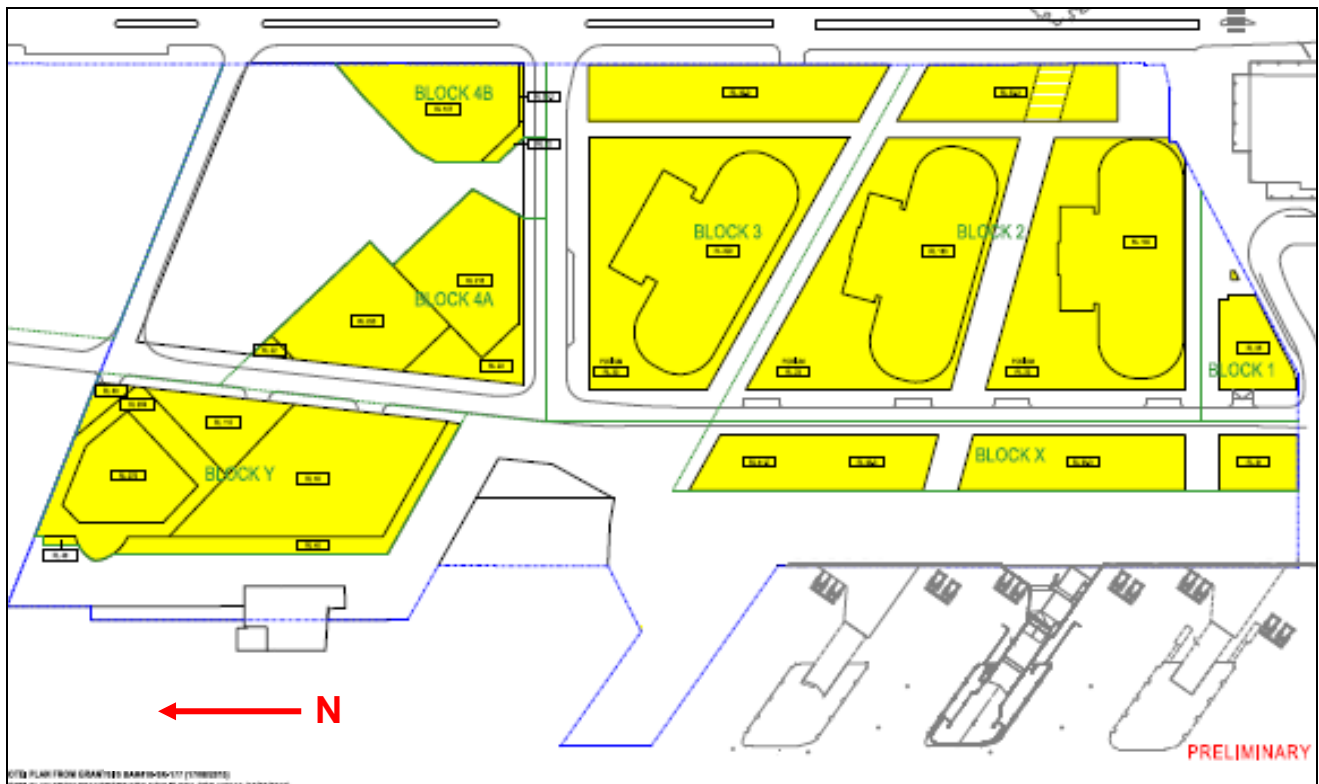


Figure 13: Amended Building Envelope Plan (Source: RtS/PPR)

4.7 Notification of Response to Submissions and Preferred Project Report

The City of Sydney Council, Leichhardt Council, key agencies and the DAP were notified of the RtS/PPR and provided with an opportunity to provide final comments on the modification application. The RtS/PPR was also made publicly available on the Department's website.

In response to the notification, the Department received seven submissions. The key issues raised in the submission are summarised below:

City of Sydney

Council's submission advises that the RtS /PPR has failed to address the objections raised by Council and is dismissive of the issues raised.

Council notes that the critical issues in determining whether MOD 8 and the SEPP amendment are acceptable or not are sought to be deferred by the Proponent to later stages of the development assessment.

Council advises that it maintains its objection to MOD 8 and the SEPP and calls for the proposed non-compliances and departures from the current approved framework to be considered by the Planning Assessment Commission to meet a public interest test and the consideration under the Planning Act and the SEARs.

Council restates that its key grounds for objection are (but not limited to) the following:

- MOD 8 is not in the public interest and the reasonableness to rezone foreshore parkland is not well founded;
- MOD 8 does not include public benefits commensurate with the uplift in development gain;
- MOD 8 fails to justify how the revised development blocks, facilitating the Crown SSDA and cove reduction is a preferred land use to permanent foreshore parkland and water space for future generations;

- MOD 8 should be refused as the proposal should be relocated east of Globe Street and retain the Southern Cove to reduce impacts generally including visual impacts, open space impacts, heritage impacts and wind impacts;
- MOD 8 produces a reduction in quality and quantity of public open space (in addition to relocation) by reclassifying what was counted as public open space (causing green space to drop below 50%) and disrupting the approved continuity of the foreshore public parkland; and
- MOD 8 floorspace could have been reallocated to the proposed land use in an acceptable location within the Barangaroo South development zone. This would be through the reuse and redistribution of approved floor space into new building envelopes. On the contrary, the project exhibits development creep, making the original tender submission far removed from the current proposal.

Council's submission provides further comments in relation to issues raised in its original submission and responds to the comments made by the Proponent in its RtS/PPR.

Council recommends that the Planning Assessment Commission refuse MOD 8 and disallow the SEPP amendments and direct the Proponent to reallocate the Concept Plan layout in an acceptable manner with less relative degree of change. Council suggests that this would be through the reuse and redistribution of approved floor space into new building envelopes within the boundaries of the existing development zones.

Leichardt Council

Council's submission includes the following specific comments from Council's Legal Service in relation to previous comments raised by Council:

- there is the perception that the State Government and the Planning Assessment Commission are impugned in relation to the assessment of MOD 8. It is therefore suggested that the modification application be determined by the City of Sydney Planning Committee; and
- the modification fails to genuinely address key worker housing targets.

Ports Authority of NSW

The submission from the Ports Authority acknowledges Lend Lease's response committing to the requirement to satisfy landowner and operational issues prior to proceeding with any planning application/s relating to the proposed water taxi pontoon. The Ports Authority confirm that consultation is requirement with the Harbour Master in this respect.

The Ports Authority has raised a number of issues in relation to proposed amendments to the Statement of Commitments (SoC) including the following:

- SoC 110- do not agree with the deletion of this SoC and require that they be consulted regarding redevelopment that affects the harbour safety function in the Moore's Wharf Building including any potential use of the harbour inlet by non-motorised craft.
- SoC 115- do not agree with the deletion of this SoC and require that they continue to be consulted regarding any proposals associated with port operational requirements that result in the extension of structures alongside or over the water into Sydney Harbour.

The Department notes that the Proponent has responded to the issues raised by the Ports Authority and has subsequently agreed to the reinstatement of SoC 110 and SoC 115.

Environmental Protection Authority

The EPA has advised that the key issues raised in its earlier submission have been noted by the Proponent. The EPA reiterate its previous advice that the modification will not pose any new or additional environmental impacts over and above those already approved for this project.

Transport for NSW

TfNSW has raised the following comments:

- Car Parking demand for the Hotel- there has been no quantitative analysis of capacity and demand of nearby car parks to take excess demand from the shortfall in hotel parking (300 spaces). TfNSW has requested that the applicant be required to undertake a detailed analysis to demonstrate that adequate parking would be available in the vicinity of the Barangaroo precinct to accommodate the parking shortfall.
- Consultation with CBD Coordination Officer- requests that the Proponent work with the CBD Coordination Officer to address outstanding traffic and transport related issues in relation to the following:
 - traffic signals at the Hickson Road/Shelley Street intersection;
 - coach parking provision within the Barangaroo precinct; and
 - preparation of a Construction Pedestrian and Traffic Management Plan.
- Ferry Service- the clearance provided between the northern face of the northern most public ferry wharf and the public pier should be of a width which supports the entering and exiting of a ferry vessel without impediment. TfNSW has requested that safety measures be implemented to ensure adequate clearance is maintained at all times.
- Design of Community Building on public Pier - unable to determine if the community building proposed will affect sight lines for the ferry vessel master. The three-storey height could significantly block the ability for the vessel master to see beyond. TfNSW has advised that a camera will be installed at the Ferry Hub to provide a view of the waterway to vessel masters. However, this camera has not been designed to cover waterways to the north. TfNSW has therefore requested that they be consulted along with the ferry operator of Harbour City Ferries to ensure that the design of the proposed building will not impact on sight lines.
- Encroachment of Construction Equipment and Activities- TfNSW requests that construction equipment and activities not encroach into the ferry manoeuvring area to the north of the northern most ferry wharf.

TfNSW has recommended a number of conditions to address the above matters.

Roads and Maritime Services

The RMS has advised that it raises no concerns with the updated TMAP and the modification application. The RMS confirms that further consultation with the RMS will be required during progression of conceptual intersection designs for the traffic control signals in Hickson Road.

Department of Primary Industries

DPI has advised that it is satisfied with the Proponent's RtS and has no further comment to make on the modification application.

National Trust

The submission from the National Trust maintains its objection to the modification application. The key comments and issues raised in the submission are as follows:

- the so-called casino is mostly a residential tower and its increased height and footprint are geared to producing high-value apartments with harbour views at the expense of public access, public amenity and views;
- the public open space has been moved from the waterfront to an enclosed site where it will be overshadowed by tower buildings;
- the commitments to open space can only be achieved by including waterbodies, the new pier and roads,
- it is suggested that the people of Sydney do not want any intrusion into the harbour or the harbour foreshore;
- any hotel/resort development at the northern end of Barangaroo South must not be on land always intended to form part of the major boulevard along the foreshore;

- there should be uninterrupted views along 'our' proposed harbour foreshore of the reconstructed Millers Point. This view must not be blocked by a private residential development/hotel/casino; and
- if the private residential development/hotel/casino is unavoidable, it should be moved back (eastward) from the foreshore on the site currently proposed as Hickson Park which was previously intended for building development.

The issues outlined in the above submissions are considered in **Section 5** of this report.

The Department notes that the RtS/PPR was also referred to the Office of Environment & Heritage and the Department of Trade and Investment. However, these agencies have not lodged a final submission.

4.8 Barangaroo Design Advisory Panel- Final Design Report

Following the DAP's review of the Proponent's RtS/PPR, its Final Report was prepared and submitted to the Department on 27 October 2015 for consideration in the assessment of MOD 8.

In summary, the DAP advised that it supports MOD 8 subject to the Proponent satisfactorily addressing the following key recommendations:

- the podium footprint, scale and height of Block Y (the Crown Sydney Hotel Resort) is reduced and adjusted to retain a single and continuous, waterfront public domain linking Watermans Cove in the south to the Central Parklands and Northern Cove;
- review the bulk and scale of the Block Y tower (both upper and lower elements), with the aim of reducing visual bulk and overshadowing impacts, refining its proportions, and ensuring that the building (tower and podium) is read as a single integrated object in an urban landscape setting;
- ensure (through subsequent applications) that the interface of the base of each residential tower and podium with the public realm achieves a high degree of public legibility, access and amenity;
- reconsideration of the arrangement of Hickson Park to ensure a strong and coherent relationship to the Central Parklands and the sequence of public open spaces on the site as a whole, including a clear view and safe public pedestrian access from Hickson Road to the waterfront via Hickson Park without unnecessary conflict with vehicles;
- ensure that future development to the north of Hickson Park preserves the amount of sun access to the park as indicated in the Response to Submissions Revised Shadow Diagrams; and
- establishment of an independent, transparent design review process for all buildings and public domain spaces over subsequent stages to ensure delivery of design excellence, and of an exceptional and exemplary work of architecture for Block Y appropriate to an iconic building in a world heritage view setting.

In addition to the above key recommendations, the Final Report includes a detailed assessment and consideration of key issues relevant to the assessment of MOD 8, including in relation to urban structure and built form, and public domain and open space. In total, the DAP has made 20 recommendations in relation to the following key aspects of the application:

- urban structure;
- Block Y;
- Blocks 4A and Block 4B;
- public open space;
- over shadowing;
- pedestrian movement; and
- design guidelines and design excellence.

A complete copy of the Final Report is provided at **Appendix G**.

Detailed consideration is given to the key recommendations of DAP's report in **Section 5** of this report. The Department's response to each of the DAP recommendations, including minor recommendations that do not require detailed consideration in **Section 5**, is provided at **Appendix H**.

4.9 Proponent's Response to the DAP Final Report

The Proponent provided a response to the Final Report prepared by the DAP. The response specifically addresses the 20 recommendations made by the DAP and provides further justification for key elements of the modification application, including the location, footprint and scale of Block Y and the design of the public domain/open space. The Department notes that no changes were made to either Block Y or public domain areas in response to the DAP's recommendations.

A copy of the Proponent's Response is provided at **Appendix I**. Further consideration, where relevant, is given to the Proponent's response in **Section 5** of this report.

The BDA as landowner has also provided a response to the 20 recommendations. The BDA's key responses do not agree with the need to reduce the bulk and scale of Block Y or increase the width of the promenade.

A copy of BDA's response is provided at **Appendix J**. Further consideration, where relevant, is given to BDA's response in **Section 5** of this report.

4.10 Proponent's Response to the Department's Recommended Modifications

The Proponent submitted further information to the Department in response to recommended modifications to the Block Y podium and public domain.

The Proponent's submission seeks the following alternative design solutions:

- an indicative design demonstrating improvements to the spatial quality of Watermans Cove and its integration with the foreshore promenade;
- an amendment to Block 5 to provide an east/west view corridor to the north of Block Y to provide visual connectivity between Hickson Road, Hickson Park and the waterfront; and
- improvements to the composition of the Block Y podium to reduce its visual dominance when viewed from the surrounding public domain and to align with surrounding waterfront development.

The Department's assessment and rationale underpinning the above recommended design amendments is provided in **Section 5** of this report, including further consideration of the Proponent's response.

A copy of the Proponent's response to the Department's recommended modifications is provided at **Appendix N**.

5. ASSESSMENT

The Department considers the key environmental issues for the Concept Plan modification to be:

- density and land-use;
- built form;
- public domain / public open space;
- amenity impacts; and
- traffic, car parking, access and public transport.

Each of these issues is discussed in the following sections of this report. **Section 5.6** of the report discusses other issues that were taken into consideration during the assessment of the application.

5.1 Density and Land-Use

5.1.1 Density

As approved, the Barangaroo Concept Plan restricts the total gross floor area (GFA) within Barangaroo to 563,965 sqm. The majority of this GFA (i.e. 549,465 sqm) is allocated to 9 development blocks and 14,500 sqm of GFA is allocated to the public domain. MOD 8 seeks to increase the total gross floor area (GFA) within Barangaroo by 41,946 sqm from 563,965 sqm to 605,911 sqm or by 7.5%. The proposed increases in GFA are shown in **Table 8**.

Table 8: Proposed GFA by Development Blocks and Public Domain (as amended)

Overall Block GFA (sqm)			
Barangaroo Concept Plan			
Development Block	Approved GFA (Concept Plan)	Proposed GFA (Concept Plan MOD 8)	Change
1	9,400	1,927	-7,473
2	209,213	197,280	-11,933
3	142,669	129,934	-12,735
4A	8,150	86,979	+29,087
4B	29,900	19,158	
4C	39,000	-	
X	18,908	18,908	-
Y	33,000	77,500	44,500
Subtotal (A)	490,240	531,686	41,446
5	41,225	No change	-
6	3,000	No change	-
7	15,000	No change	-
Subtotal (B)	59,225	-	-
TOTAL (A) +(B)	549,465	590,911	41,446
Public Domain Subtotal (C)	14,500	15,000 (3,500 maximum in Barangaroo South)	+500
OVERALL CONCEPT PLAN	563,965	605,911	41,946

As can be seen from **Table 8**, increases in GFA and density are proposed for Block 4 and Block Y and reductions in GFA are proposed for Blocks 1, 2 and 3. These changes will result in a denser urban form at the northern end of Barangaroo South.

Concerns were raised in public submissions and by City of Sydney Council and Leichhardt Council about the increases in GFA and additional density due to the bulk and scale of the blocks/buildings and amenity and traffic impacts. The Proponent has justified the increases in GFA and density by stating that it is appropriate for the site's CBD location close to employment, public transport, community facilities and open space.

The Department agrees that the site is well suited to a high density environment and is strategically placed to take advantage of its CBD location. In this context, the site's proximity to public transport, including Wynyard Station and future Sydney Metro (Barangaroo station) and general positive relationship between the public domain and urban environment enables the site to accommodate increases in GFA and density. However, in considering the appropriateness of additional GFA and density, the Department considers the key issues to be:

- built form;
- public domain / public open space;
- amenity impacts; and
- traffic, car parking and public transport.

These issues are addressed in detail in this report (refer to **Sections 5.2, 5.3, 5.4 and 5.5**). Where an issue has been identified, the Department has recommended further environmental assessment requirements or modifications to MOD 8 to mitigate potential impacts. On this basis, the Department considers the site can accommodate the proposed increases in density and GFA.

5.1.2 Land-Use

In addition to limiting the total maximum GFA, the Barangaroo Concept Plan applies certain limits on GFA for particular uses. This includes GFA restrictions on residential, retail, tourist and active uses. MOD 8 seeks to alter the composition of land-uses (within the total maximum GFA of 605,911 sqm) by increasing the maximum amount of residential and tourist land-uses (refer to **Table 9** below). Concerns were raised by the City of Sydney Council about the change in the composition of land-use, and in particular the increases in residential and tourist GFA.

The proposed changes to land-use composition are as follows:

- **Blocks 4A-4B:** are proposed to accommodate three residential buildings with retail uses at the ground floor level;
- **Block Y:** is proposed to accommodate the new hotel and associated tourist uses. The building is also proposed to accommodate retail uses (podium) and residential apartments (upper levels of tower);
- **Public Pier:** is proposed to accommodate a new building containing community and retail land uses; and
- **Block 3:** Building C1 has not been lodged with the Department therefore MOD 8 proposes flexibility for either commercial, tourist or residential uses.

Table 9: Approved and proposed GFA distribution by land use for Barangaroo South.

Land use	Approved GFA (Concept Plan)	Proposed GFA (Concept Plan MOD 8)	Change sqm
Commercial	No maximum	No maximum	-
Residential	99,763	154,000	+54,237
Retail	34,000	30,000	-4,000
Tourist	33,000	59,000	+26,000
Active	3,500	4,000	+500
Community	12,000	12,000	-

The Department has reviewed the changes to land-use composition and raises no in principle concern about the proposed increases in residential or tourist GFA as the site will remain a vibrant urban environment with a diverse and balanced mix of uses. Some submissions raised concerns

about the impacts of the proposed casino (tourist use) and this is considered further in **Section 5.6**.

5.2 Built Form

The location, height and scale of the development blocks and overall urban structure were key considerations in the Department's assessment of the Barangaroo Concept Plan and in MOD 4. In particular, the Department's assessment found, in recognition of the site's unique and strategic location, size and proximity to services that it was well-suited to accommodate a high density mixed-use precinct providing for residential, office, retail, and tourist uses and open space. The relevant section of the approved Barangaroo Concept Plan layout, development block locations and the overall urban structure is provided at **Figure 14**.

The proposal seeks approval for a number of key changes to the built form of the Barangaroo Concept Plan. The changes are to development Blocks Y, 4 and 1, all of which are located at Barangaroo South. A summary of the proposed key changes is provided below and indicated at **Figure 14**:

- **Block Y:** the relocation of Block Y from its approved location on a pier over the harbour to land adjacent to the waterfront in an area previously identified as the Central Parklands and increase in height and footprint;
- **Blocks 4A-C:** a reconfiguration and southerly relocation of Blocks 4A and 4B in an area previously designated for the Southern Cove and the deletion of Block 4C; and
- **Block 1:** a reduction in its height from RL 80 to RL 25 (refer to **Figure 28**).

The relocation of Block Y in particular is in response to the 2011 Sussex Penn Review, which recommended the relocation of the hotel from over the harbour to the land (refer to **Section 1.5**). These modifications result in considerable changes to overall quantum of GFA within Barangaroo (an increase of approximately 7.5%) and built form of development on the northern portion of Barangaroo South. In addition, this modified urban structure has resulted in changes to the open space network and vehicular and pedestrian movement through the site. Noting the proposed changes above, the Department considers the key built form considerations are:

- building envelopes (refer to **Section 5.2.1**); and
- design guidelines (refer to **Section 5.2.2**).

A discussion of the impact on public domain and the relationship of the Block Y building envelope to the public domain is provided at **Section 5.3**.

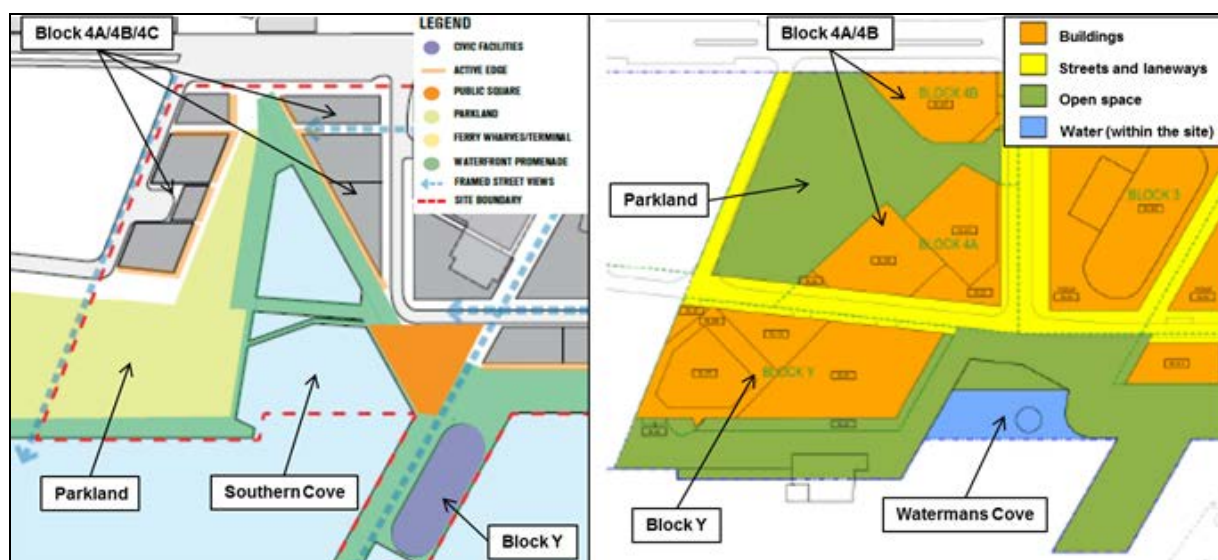


Figure 14: Comparison between the approved (left) and proposed (right) Block Y and 4 layout

5.2.1 Building Envelopes

Block Y Building Envelope

MOD 8 seeks approval to amend Block Y and proposes the following key alterations:

- relocation of Block Y from a pier structure extending into Darling Harbour to land fronting the waterfront;
- increase in maximum height by 105 metres (from RL 170 to RL 275);
- increase in maximum GFA by 44,500 sqm (from 33,000 sqm to 77,500 sqm); and
- increase in footprint (length and width).

A comparison between the approved and proposed Block Y location, layout and building envelope heights is provided at **Figure 15** below.

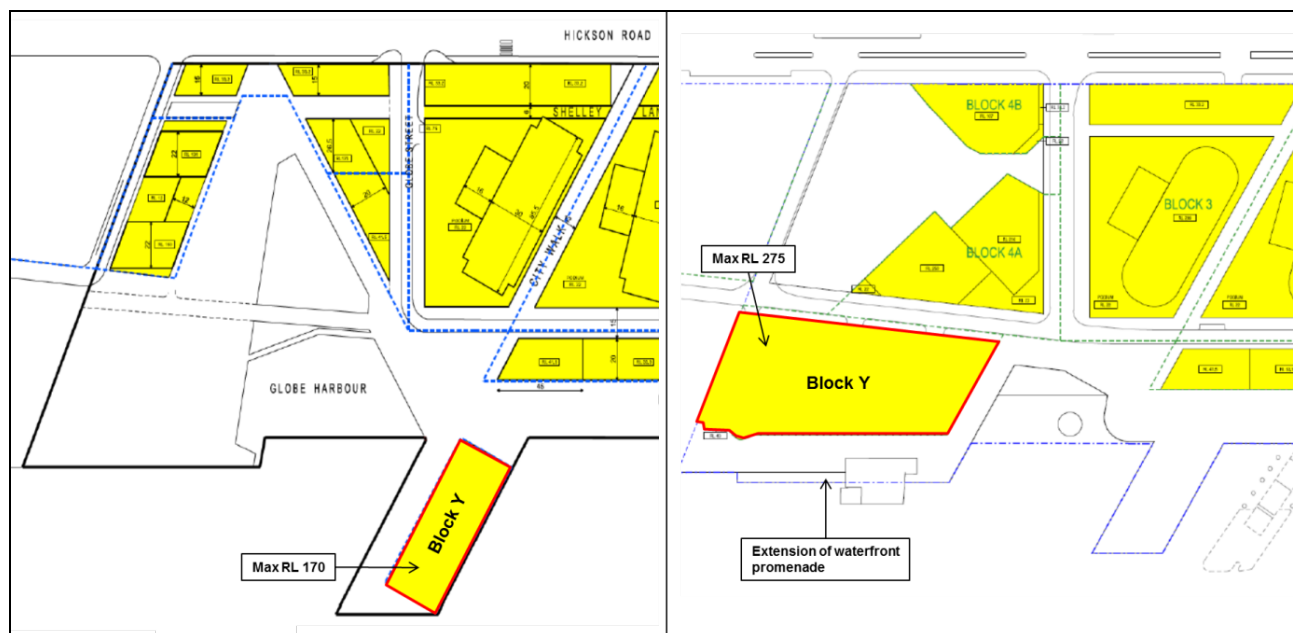


Figure 15: Comparison between the approved (left) and proposed (right) Block Y layout and building envelope heights

Vertically, the Block Y building envelope is divided into three distinct parts, which step up from the podium (max RL 40) to the mid-rise tower (max RL 110) and the tower (RL 275) as shown in **Figure 16**. With reference to its horizontal proportions, although the dimensions have not been provided with the application, it is estimated (by reference to the Crown Sydney Hotel Resort application) that the new Block Y building envelope is 130 metre long and between 60-70 metres wide. Block Y, as currently approved on the pier, is 60 metres in length above RL 20 and 20 metres in width.

Concerns have been raised in public submissions and by the City of Sydney about the height of the tower. Council has also raised concern that the podium is overly bulky and that the building envelope should be reduced so that it is no larger than the Crown Sydney Hotel Resort detailed building design. The DAP did not raise concerns about the height of the tower, but has recommended that the podium's footprint, scale and height is reduced by increasing foreshore setbacks (west and south) and reducing the podium's length.

The Proponent has stated that the proposal will create an exciting addition to the city skyline that is complementary to existing commercial towers yet separate and distinct. Further, the Proponent has stated this objective is demonstrated by the Crown Sydney Hotel Resort design which is striking, elegant and achieves design excellence. The Proponent and the BDA also note that the proposed podium height aligns with existing buildings to the south along the foreshore (R8 and R9) and thus consider that the podium's scale and height is appropriate.

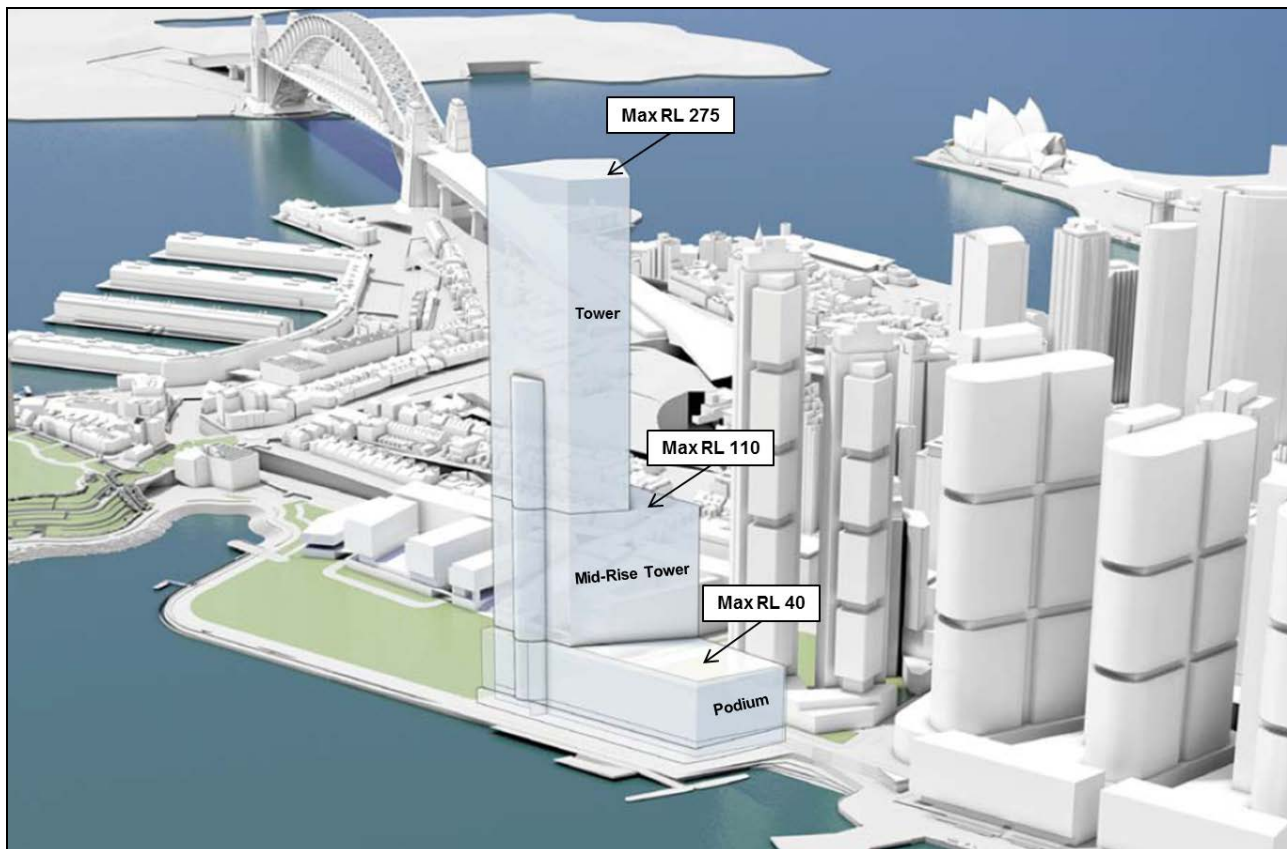


Figure 16: 3D image of the proposed Block Y building envelope, including maximum envelope heights (Base source: SSD 6957)

The Department notes that the existing neighbouring waterfront buildings to the south of Block Y range in height between RL 33.3 to RL 41.5 and the proposed podium (max RL 40) is of a comparable height to these buildings as shown in **Figures 17 and 18**. The Department therefore considers that the proposed maximum podium building envelope height is reasonable in this context. Furthermore, the Department notes that:

- the proposed western setback from the water's edge is equivalent to the existing setback of the waterfront buildings to the south of Block Y (as discussed in **Section 5.3.2**);
- the assessment of the detailed design of the podium will be the subject of the submitted Crown Sydney Hotel Resort application; and
- the current Crown Sydney Hotel Resort design indicates that the height of the podium steps down towards the promenade, which, when viewed from a pedestrians' perspective, will reduce its perceived bulk and scale.

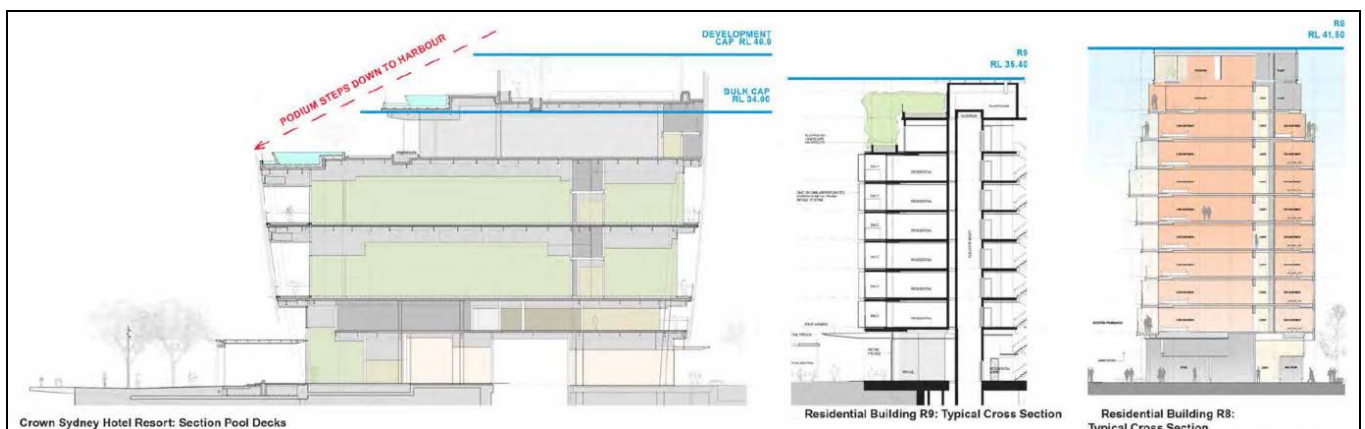


Figure 17: Comparison between the height of the proposed podium and existing neighbouring



Figure 18: Comparison between the height of the proposed podium and existing neighbouring waterfront buildings (Base source: Proponent's Response to DAP Report)

The Proponent's response to the DAPs Final Report did not include any specific responses to the recommendations about the podium's footprint. In regard to the footprint of the podium, the Department supports the DAP recommendation that the podium's bulk and scale is excessive and that it should be reduced by 12 metres (north) and 8 metres (south).

The setbacks were sought for the following reasons:

- the podium's length exceeds any other building on the site, in particular the nearby foreshore buildings of R8 and R9 which have an approximate length of 80 metres each;
- the northern frontage adversely obscures key east/west view corridors to the harbour and acts to visually and physically isolate Hickson Park from the harbour foreshore and Central Parklands; and
- the southern frontage of the podium is setback only 17 metres from the foreshore and is visually overbearing to Watermans Cove, exaggerating its height, scale and bulk, and is incompatible with the harbourside setting.

In response, the Proponent submitted amended indicative plans which propose design changes for the podium and surroundings (**Appendix N**). These include a 7 metre recess in the western podium facade in order to segment the podium and reduce its perceived length. As a result, the podium facade will be broken-up into three elements with a maximum unbroken horizontal dimension of 45 metres. The amendments to the indicative design for the western facade of Block Y are illustrated in **Figures 19 to 22** below.

The Proponent's amended indicative design also proposes changes to the design composition of the southern facade of the podium and the configuration of the Watermans Cove in order to increase the podium's setback to Watermans Cove. The amendments to the indicative design for the southern podium facade of Block Y are illustrated in **Figures 23 to 26**. This amendment will result in the maximum unbroken horizontal length for the southern facade of 32.45 metres, comprising two distinct architectural elements. The impacts of the amendment on the public domain and foreshore are further considered in **Section 5.3** of this report.

While the design amendments have not resulted in a reduction in the overall podium length, the Department is satisfied that the visual bulk and unbroken mass of the podium is appropriately reduced. This outcome is apparent in the photomontages at **Figures 22 and 26**, which illustrate the

composition of the podium in comparison to the existing neighbouring waterfront buildings in Darling Harbour and would also result in a more appropriate relationship with its immediate foreshore setting. Consequently, the Department considers that the amendments address the overall aim of the DAP's recommendation that the podium be better integrated into its landscape and foreshore setting.

In order to ensure that the perceived visual bulk of the podium on Block Y is reflected in the design of the future building, the Department has recommended a modification to the Concept Plan reflecting the design amendments proposed by the Proponent. This requirement specifically stipulates that the southern and western podium facades be broken down into discernible elements of no greater than 32.45 metres and 45 metres, respectively.

The Department notes that the Proponent has also indicated that a similar design response would be appropriate for the eastern façade of the podium (fronting Hickson Park) and furthermore, that the façade could comprise three distinct elements. Whilst this amendment is not a specific design response to the DAP and Department recommendations, the Department considers that this amendment would also have a positive impact to the visual composition and scale of the podium, which is of a similar length to western podium façade. Accordingly, the Department has incorporated this amendment into a recommended modification to the Concept Plan.

In regard to the bulk and scale of the tower, the Department notes the DAP's concern about its visual bulk (upper and lower elements) and that it is considered to be overly bulky and ill-proportioned. The Department also notes the views of the Proponent and the BDA in relation to the tower's bulk and scale. It is the Department's view, however, that the bulk and scale of the tower is more appropriately assessed at the detailed development application stage. In this regard, the Crown Sydney Hotel Resort application is currently under assessment and the bulk, scale of the tower (including its 4 metre westward projection in front of the podium) will form a key part of the Department's assessment. In addition, the design and form of the Crown Sydney Hotel Resort will be required to respond to the amendments forming part of the determination of MOD 8.

In accordance with the above analysis, the Department recommends modifications requiring the Proponent to submit an amended building envelope drawing detailing the revised setbacks and dimensions relevant to Block Y prior to the determination of any SSD application for above-ground works on Block Y.

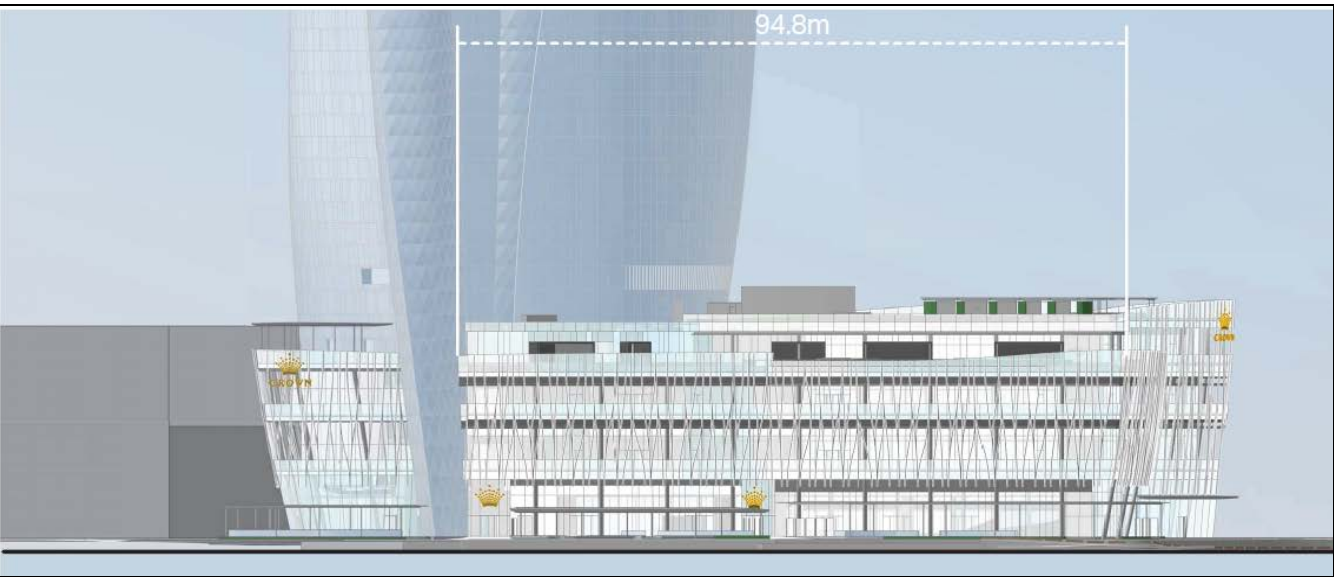


Figure 19: West elevation of Block Y podium as originally proposed (Source Lend Lease)

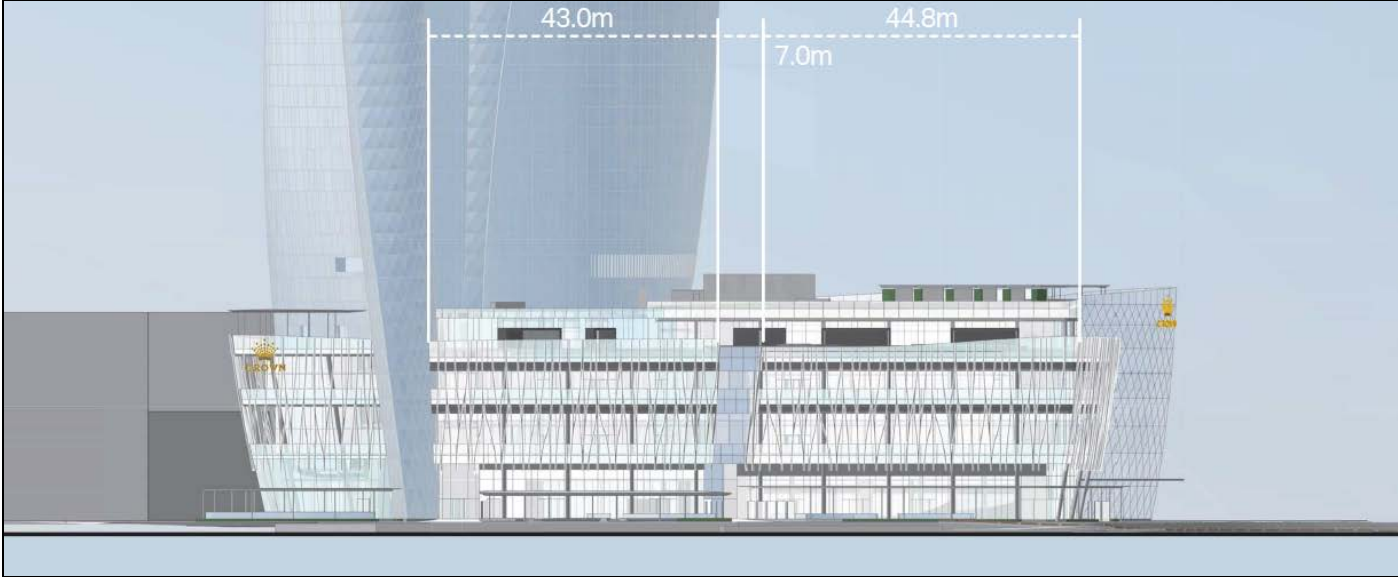


Figure 20: Proposed amendment (indicative) to west elevation of Block Y podium (Source: Lend Lease response to Department recommended modification)



Figure 21: Photomontage showing the design originally proposed/exhibited for the Block Y podium (Source Lend Lease)



Figure 22: Photomontage showing proposed amendments to podium of Block Y and the indicative design for the reconfigured Watermans Cove (Source: Lend Lease response to Departments recommended modification)

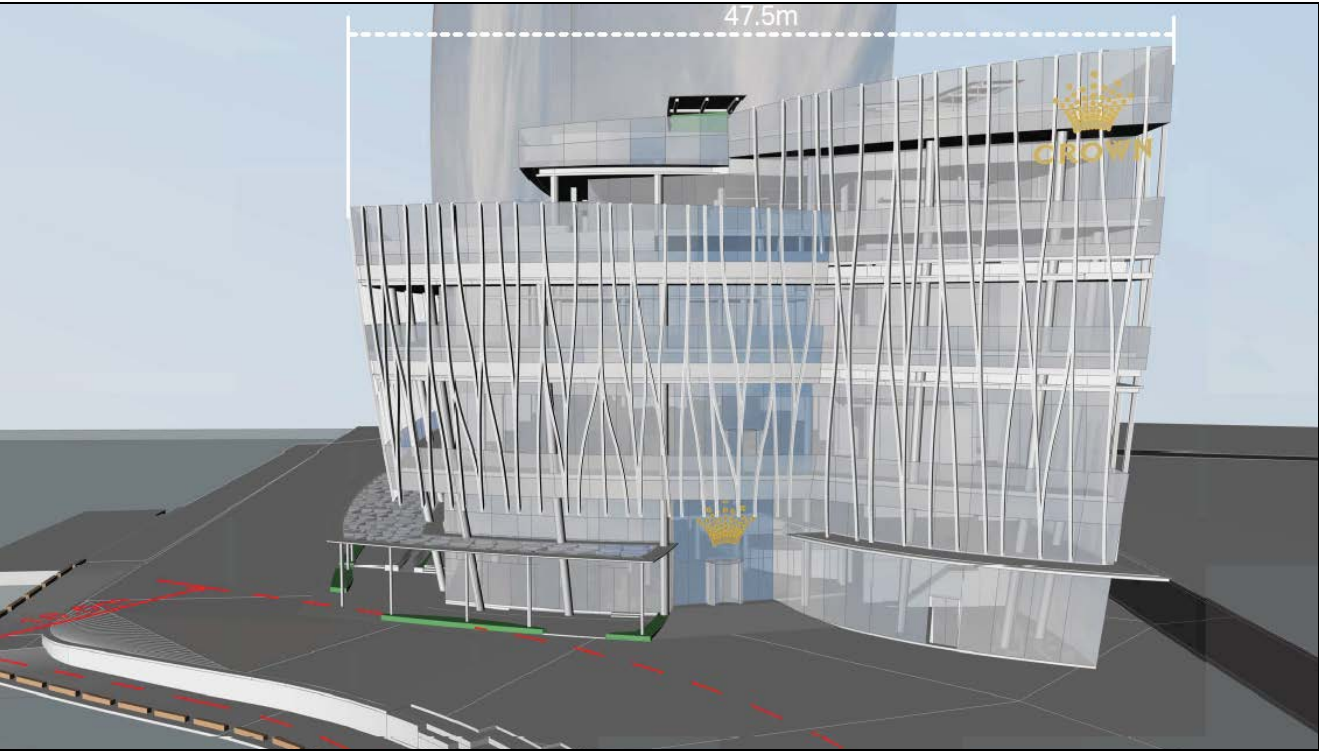


Figure 23: South elevation of Block Y podium as originally proposed/exhibited (Source Lend Lease)

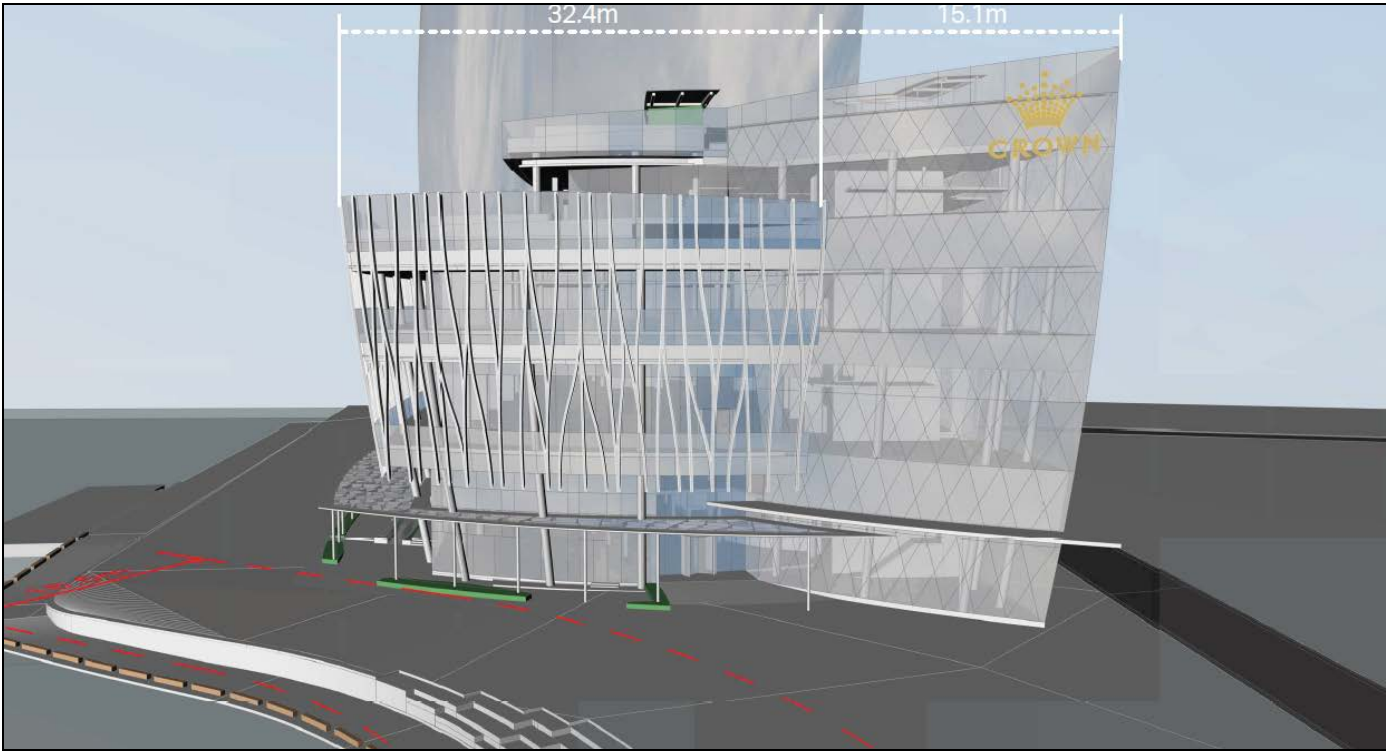


Figure 24: Proposed amendment to south elevation of Block Y podium
(Source: Lend Lease response to Department's recommended modification)



Figure 25: Photomontage of South elevation of Block Y Podium as originally proposed/exhibited
(Source: Lend Lease)



Figure 26: Photomontage of proposed amendment to south elevation of Block Y podium
(Source: Lend Lease response to Department's recommended modifications)

Block 4 Building Envelope

The modification seeks approval to amend Block 4 (A+B+C) and proposes the following alterations (refer to **Figure 27**):

- reconfiguration of Blocks 4A and 4B (and building envelopes) and deletion of Block 4C;
- amend the building envelopes, including increasing the maximum building height by 75 metres, from RL 175 to RL 250 and heights along Hickson Road from RL 33.2 to RL 107; and
- increase the maximum GFA on Block 4A and 4B by 29,087 sqm, from 77,050 sqm to 106,137 sqm.

A comparison between the approved and proposed Block 4 location, layout and building envelope heights is provided at **Figure 27**. The modifications result in a substantial reduction of the size of the Southern Cove to create Watermans Cove and Hickson Park. The future residential buildings in Block 4 will be located adjacent to Hickson Park framing its southern boundary and fronting Hickson Road and Globe Street.

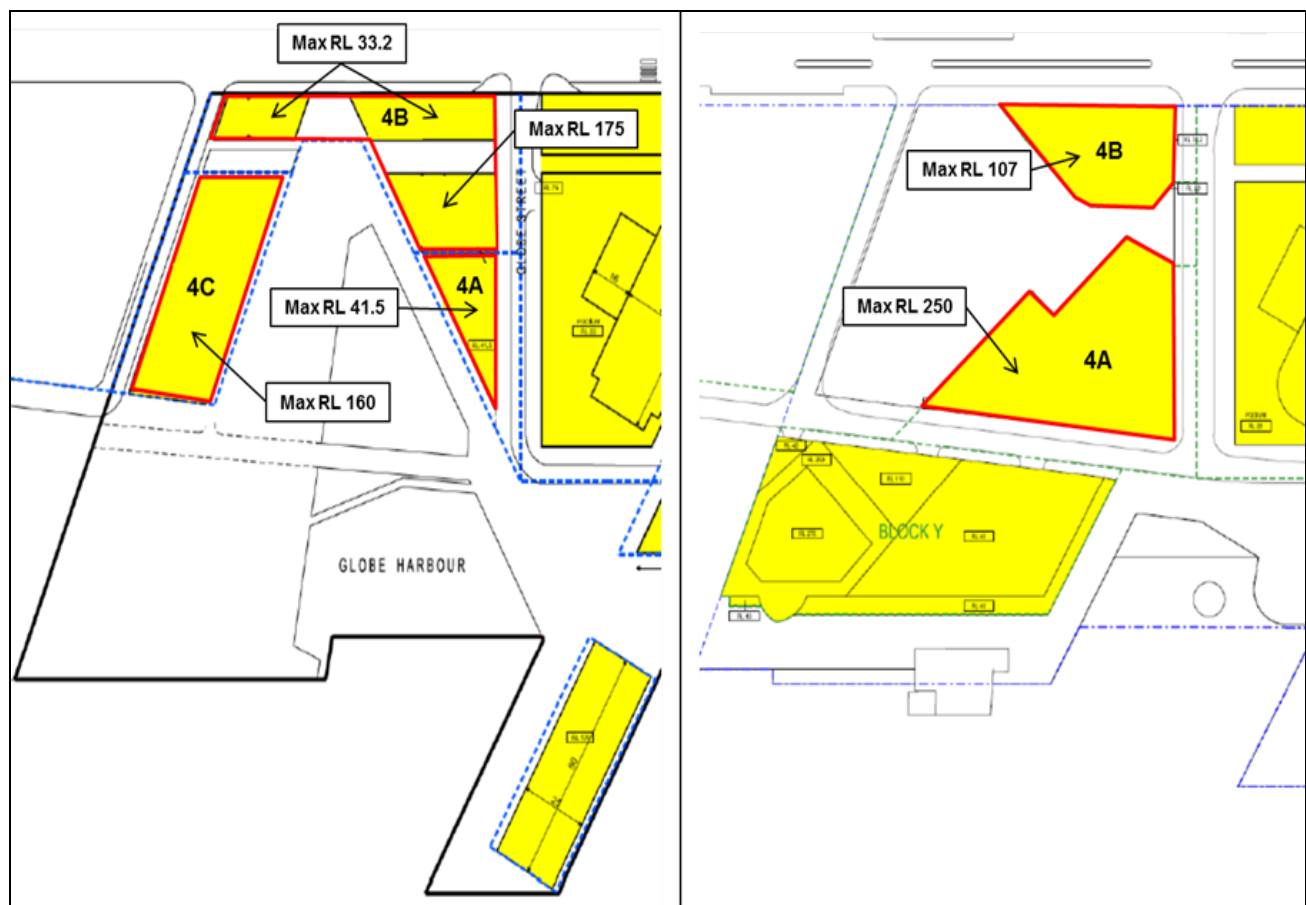


Figure 27: Comparison between the approved (left) and proposed (right) Block 4 layouts and building envelope heights.

Public submissions and City of Sydney Council have raised concerns about the increases in height of Blocks 4A and 4B, and the City of Sydney Council also note that Block 4B does not continue the height (RL 33) of the adjacent buildings along Hickson Road (Buildings C1 and C2/6).

The DAP did not raise concerns about the footprint, bulk and scale and heights of Blocks 4A and 4B, and has recommended that future applications ensure that each residential tower and podium achieve a high degree of public legibility, access and amenity with the public domain. Lend Lease and the BDA support this recommendation.

The Proponent has confirmed that the principles of integration and activation of public spaces are central elements of the Draft Barangaroo Design Guidelines. Furthermore, the future buildings within Block 4 will be designed by respected architect, Renzo Piano, and reviewed by the BDA and its design advisors to ensure that they achieve design excellence.

The Department considers that the proposed modifications to Block 4 are acceptable as:

- the proposed reduction and reconfiguration of building envelopes will facilitate the creation of a large publicly accessible open space;
- the proposed increase in height (and consequential increase in GFA) would result in only minor increases in overshadowing of Watermans Cove (during the morning only) and would not have any overshadowing impacts on the proposed new open space;
- appropriate visual and physical connectivity between Hickson Park and the harbour/Central Parklands can be accommodated within the design of the base/podiums of the future residential developments. The Department recommends a future environmental assessment requirement requiring future development applications to address this matter;
- the blocks are located at the edge of the CBD and adjacent to existing tall buildings. The proposed building heights would not appear out of place in this context; and
- the low-rise nature of the adjoining C3 and C6 buildings are unique in the context of Hickson Road (which is framed by tall buildings of a variety of heights on its eastern side). The Department does not agree with Council that the proposal should be limited to RL 33.

Block 1 Building Envelope

MOD 8 seeks approval to reduce the overall height of the building envelope applying to Block 1 by 55 metres from RL 80 to RL 25. This results in a reduction in GFA by 7,473 sqm from 9,400 sqm to 1,927 sqm. The location of Block 1 (circled in red) is as illustrated in **Figure 28** below.

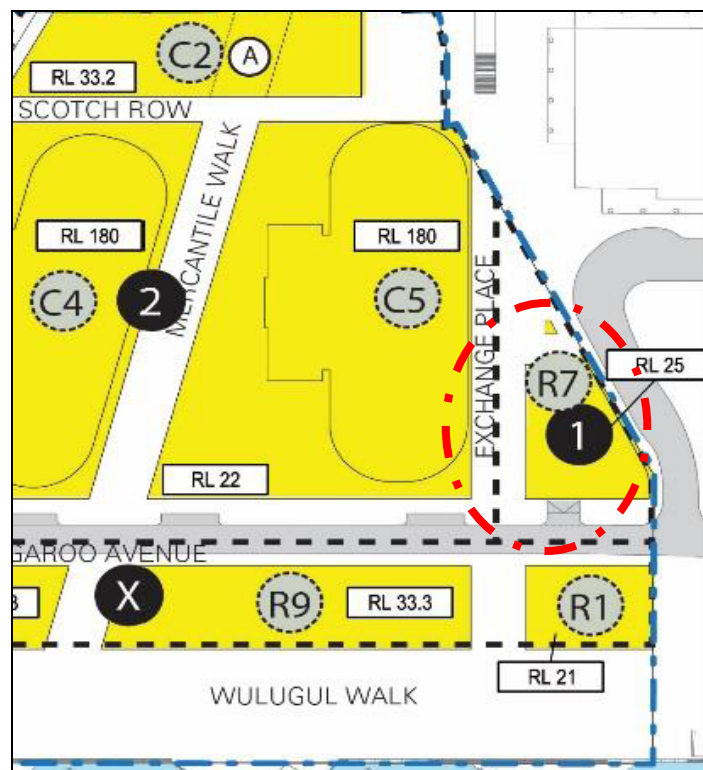


Figure 28: Selected extract from Development Block and Indicative Building Envelop Plan MOD 8 (Source: Barangaroo South Design Guidelines, JBA)

On 11 August 2015, SSD 6603 was approved for a small 5-storey building on Block 1. The approved building has a maximum approved height of RL 22.67 and a GFA of 1,927 sqm. The modification to the building envelope proposed in MOD 8 reconciles the building envelope with that of the approved building.

In its determination of SSD 6603, the Department noted that a lower-scaled building on Block 1 provided an appropriate response to the design evolution that has taken place in this part of Barangaroo, including the evolution of Transport Pace from an east/west vehicular street (formerly known as Margaret Street West) to a pedestrian connection only and the need to provide a building that was of a human scale.

On the basis of the above, the Department supports the proposed changes to the building envelope and the GFA of Block 1 and notes that the reduced height and form of the building envelope closely aligns with the approved podium height of commercial Building C5 immediately to the north.

5.2.2 Design Guidelines

MOD 8 is supported by a new set of Barangaroo Design Guidelines which seek to replace the existing Built Form Principles and Urban Design Controls which are currently approved as part of the Concept Plan.

The Proponent has described the key changes to the Built Form Principles and Urban Design Controls as follows:

Built Form Principles:

- the built form model within Barangaroo South has been updated;
- Built Form Principle 1 (City's New Western Edge) - The hotel podium is now referenced as part of the development that faces and defines the waterfront;
- Built Form Principle 2 (Hickson Road as a Boulevard) - now makes provision for the park to the north of Block 4B interfacing with Hickson Road; and
- Built Form Principle 5 (Marking the City Frame) - A refinement of the tapering built form principles to allow the tallest buildings at the northern end of the Barangaroo South rather than the centre in order to complete the city frame and book-end the city's north-western edge.

Urban Design Controls

- Block 1 controls have been revised to reflect the removal of the tower form and its replacement with a smaller scale building that relates to the massing of the podium of C5 and R1;
- Block 2, 3 and X generally remain consistent;
- Blocks 4A and B have new guidelines to reflect the change to the urban structure; and
- Block Y has new controls to reflect its revised location onto the site and revised form.

In its consideration of the Urban Design Principles, the DAP has advised that design principles are intended to guide the future design of the built form to ensure that it remains consistent with the predetermined vision. In this regard, the DAP view the introduction of new Barangaroo Design Guidelines as being inherently contrary to the spirit of the principles-led approach, and one that risks weakening the overall vision for the site.

The DAP has also advised that the new Barangaroo South Design Guidelines should be performance based and that the design solutions in the guidelines do not necessarily ensure compliance with the Performance Criteria. The DAP has subsequently recommended the removal of design solutions as a means to a deemed-to-satisfy approval as it may impede a proper assessment of future applications. The Proponent has not objected to this recommendation and the BDA support the recommendation.

Notwithstanding the view of the DAP, the Department notes that Condition B5 of the Concept Plan approval requires that future development applications demonstrate consistency with the Built Form Principles and Urban Design Controls.

Given the extent of the modifications to the development blocks and the built form proposed in MOD 8, the Department considers it appropriate that the Built Form Principles and Urban Design Controls are updated in order to be relevant to the built form modifications as recommended in this report. However, the Department supports the views of DAP in relation to the structure of the new Barangaroo Design Guidelines and agrees that the design solutions should be removed in order to ensure that future applications are assessed on their merits.

In addition to the above, the Department considers that the new Barangaroo Design Guidelines should be structured to be consistent with the existing Built Form Principles and Urban Design Controls. This includes key controls, objectives and standards for each Block and furthermore, to retain the existing provisions for Blocks 2, 3 and X.

The Department notes that the recommended modifications to the building envelope of Block Y detailed in **Sections 5.2.1** and **5.3.2** will require a review of the new Design Guidelines and on this basis, the Department recommends that the Proponent be required to submit a revised set of consolidated Built Form Principles and Urban Design Controls for Barangaroo South prior to the determination of any SSD application for above ground works on Block Y.

5.3 Public Domain and Public Open Space

As discussed in **Section 5.2**, the proposal seeks approval to modify the built form of Barangaroo South, which alters the location and boundaries between the development blocks. This is in response to the 2011 Sussex Penn Review, which recommended the relocation of the hotel from over the harbour to the land (refer to **Section 1.5**). As a consequence of these changes, the proposal also amends the location and form of public domain and public open space.

The modifications to public domain and open space broadly result in changes to the aesthetic and functional qualities of foreshore open space networks in Barangaroo South, its integration with the broader Barangaroo site (including the continuity of parkland along the waterfront) and the relationship with Barangaroo Central.

A comparison of the layout of the approval and proposed public domain and public open space is provided at **Figure 29**.

The Department considers the key public domain and public open space issues to be:

- quantum of public open space; and
- quality of public open space.

A discussion of the impact of revised building envelopes is provided at **Section 5.2**.

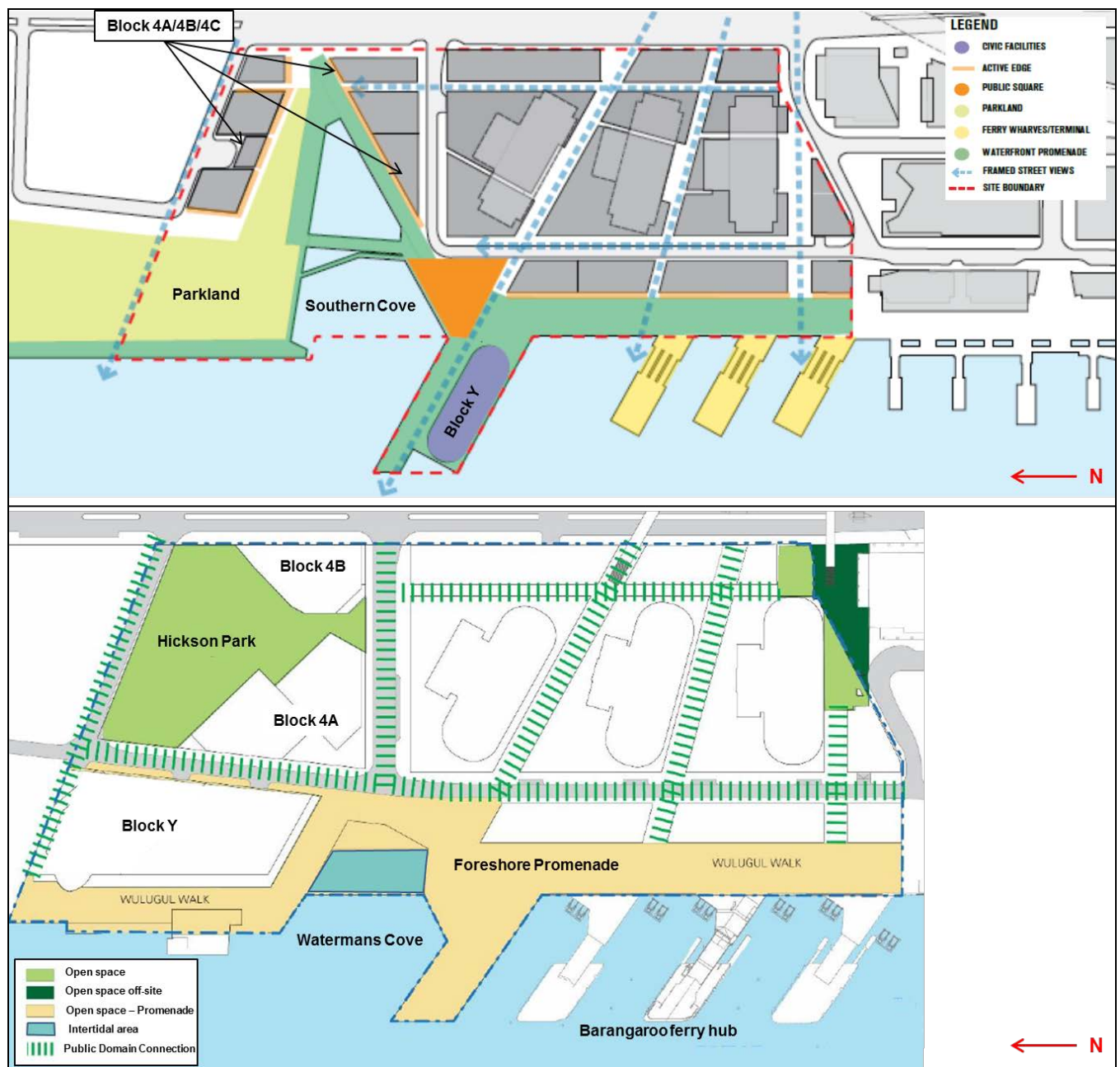


Figure 29: Approved (top) and proposed (bottom) open space and public domain network layout (Base source: Proponent's PPR)

5.3.1 Quantum of Publicly Accessible Open Space

Condition A1 requires that approximately 11 hectares of the Barangaroo site comprise new public open space/public domain, including a mix of grass, treed parklands with a range of footpaths and viewpoints and approximately 2.2km long public foreshore promenade. This requirement has the effect that a minimum of 50% of the Barangaroo site is to comprise publicly accessible open space.

The public open space referred to in Condition A1 is zoned RE1 Public Recreation and these spaces are in addition to other public domain areas (i.e. streets and public spaces) located in the B4 Mixed Use zone (refer to **Figure 30**).



Figure 30: Approved (top) and proposed (bottom) MD SEPP zoning (Base source: MD SEPP and Proponent's RtS)

Concerns were raised in public submissions regarding the quantity of the public open space and Council stated that roads and laneways should be excluded from the calculation of public open space. The DAP recommended that the five metre boardwalk extension and the public pier should be excluded from the overall site calculations as they are not part of the Barangaroo landform and not permanent structures.

In response, the Proponent has confirmed that the open space provision within the whole of the Barangaroo site exceeds the 11 hectare commitment, with 11.9 hectares or 54% of the overall site now proposed to be zoned *RE1 Public Recreation* (via the SEPP amendment).

The Department is satisfied that the modification application will remain compliant with Condition A1 of the Concept Approval, as:

- more than 50% of the site will comprise publicly accessible open space/public domain;
- with the exception of a small portion of Barangaroo Avenue, roads and laneways are not located within the RE1 Public Recreation zone and therefore have not been included in the calculation of publicly accessible open space; and
- the inclusion of the proposed new public pier and proposed five metre boardwalk extension in the total open space calculation is appropriate, as these spaces are accessible and relevant open space additions and will be zoned RE1 Public Recreation.

5.3.2 Quality of Public Open Spaces

The Central Parklands and waterfront promenade are key elements of the foreshore public open space network within Barangaroo, which were established in the original Concept Plan and retained through subsequent amendments to the Concept Plan. These spaces complement one another and play a role in visually and physically unifying Barangaroo South, the Central Parklands and the Headland Park. They also provide public access to and along the foreshore forming components of the 'cultural ribbon' waterfront promenade which connects Darling Harbour to Circular Quay, the Botanic Gardens and beyond. As currently approved, the Concept Plan allows for uninterrupted views from the southern side of Watermans Cove to the Headland Park.

The Department considers the key quality of open space considerations are:

- the waterfront promenade;
- Hickson Park;
- Watermans Cove; and
- public pier.

The Waterfront Promenade

The proposal continues to provide a waterfront promenade, which extends along the western and southern boundaries of Block Y, tracing the seawall and the new foreshore edge around Watermans Cove and connecting with the existing 30 metre promenade to the south.

Concern has been raised in public submissions about the loss of parklands. Council has objected to the proposed location of Block Y on previously designated public open space, also stating that views northward towards Headland Park would be obstructed. The DAP is concerned that the continuity of open space along the foreshore has been truncated by the location of Block Y, resulting in a significant interruption to the north/south foreshore parkland linking Barangaroo.

The DAP is also concerned that there would be a perceived privatisation of the foreshore promenade caused by Block Y. The DAP recommends that the promenade should be significantly more generous in size, and that visual and physical connectivity should be improved.

The Proponent has advised that the proposed waterfront promenade will retain the connections north and south to King Street North and Darling Harbour and provide a continuous promenade extending along the entire western site boundary, with generous proportions to accommodate pedestrian movement.

In response to the DAP recommendations, the Proponent has advised that:

- the proposed design of the space is urban in nature and similar to the Stage 1A public domain works (south of Watermans Cove), which comprises a 30 metre promenade that is activated by a retail licensed zone on its eastern edge;
- the promenade is not part of the parklands but provides a space for movement of people along the waterfront;
- the design of waterfront promenade has appropriate dimensions for each part of the space, its relationship to the building and transition to both the Central Precinct and Barangaroo South;
- the design is the result of ongoing collaboration between the landscape architect responsible for the Headland Park and Central Promenade and the BDA and its design advisors;
- the principles of promoting visual connectivity, legibility and inclusiveness of the public spaces will be fundamental to the design of the waterfront promenade (which is yet to be finalised) and the future Block Y building; and
- the pedestrian movement study undertaken for Barangaroo by ARUP estimated that future pedestrian volumes along the waterfront is only likely to be in the order of 1,800 to 2,400 persons per hour. This would result in a Fruin Level of Service A for the anticipated pedestrian volumes.

The acceptability of the proposed waterfront promenade is considered below.

Waterfront promenade outside the western elevation of Block Y

The majority of the proposed segment of the waterfront promenade that adjoins the western boundary of Block Y (Block Y promenade) is 30 metres wide and comprises:

- a new timber boardwalk which extends along the majority of the Block Y frontage and which extends five metres into the harbour;
- a 16 metre wide pedestrian movement zone along the western/waterfront edge; and
- an active use zone of 9 metres outside the western podium of Block Y.

The following **Figures 31** and **32**, taken from the Crown Sydney Hotel Resort application, provide an illustration of the location of the Block Y promenade and what it may look like.

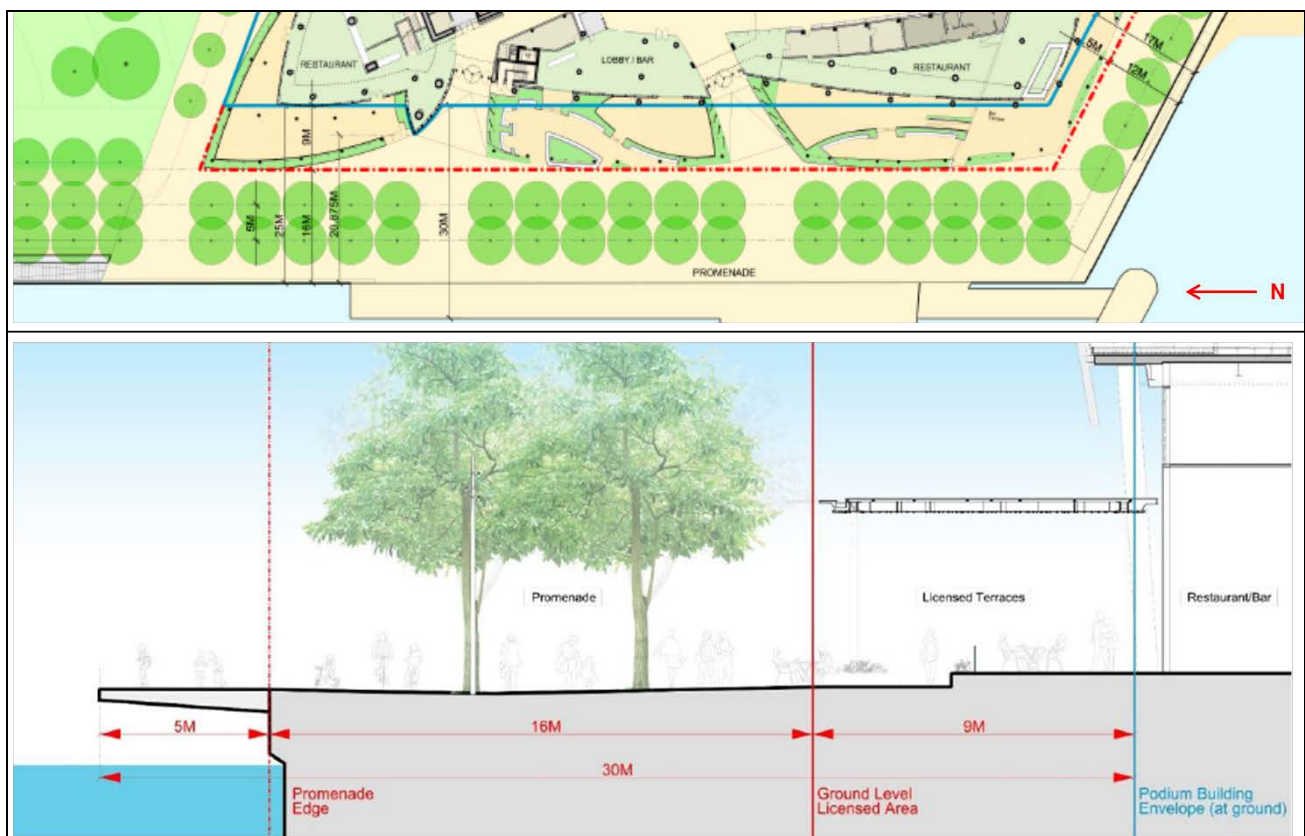


Figure 31: The Crown Sydney Hotel Resort waterfront promenade layout (top) and section through the promenade (bottom) (Source: SSD 6957)

The Department notes that although the majority (approximately 110 metres) of the waterfront promenade will be 30 metres in width (including the new five metre boardwalk addition), a section of approximately 20 metres outside the northern end of Block Y would be 25 metres in width. In addition, the tower element of the building protrudes forward of the Block Y western building line, being four metres at ground level and expanding to nine metres at the mid-rise tower level. This protrusion reduces the waterfront promenade width to 26 metres at ground floor level at this point.

The Department considers that the width of the proposed Block Y promenade (including the addition of a five metre boardwalk) is appropriate and additional setbacks to the western extent of the Block Y building envelope are not required, as:

- the provision of a 30 metre promenade and division into active use and pedestrian movement zones is consistent with the promenade width established for the existing developments to the south;

- sufficient space is provided for pedestrian circulation, passive relaxation and appreciation of water views and activation of the Block Y podium;
- the five metre boardwalk element would be publicly accessible;
- the waterfront promenade would still act as a transition area from Barangaroo South and the Central Parklands along north/south pedestrian desire lines;
- a direct line of sight to the Central Parklands along the Barangaroo waterfront promenade is not a fundamental requirement for the success of the Central Parklands as a well-used, functional and attractive open space;
- the location of the Block Y building envelope forward of the foreshore building line of existing buildings to the south, together with the form of Watermans Cove creates undulation, variety and visual interest along the waterfront promenade;
- not all of the Barangaroo open space provision needs to be provided adjacent to the water and the proposed Hickson Park will provide a suitable open space alternative as discussed in the following section; and
- more than 50% of the overall site will comprise publicly accessible open space, as discussed in **Section 5.3.1**.



Figure 32: View looking south along the waterfront promenade (top) and view looking south-west from the licenced seating area towards the waterfront promenade (Source: SSD 6957)

The Department considers that the two noted exceptions to the Block Y promenade 30 metre width are acceptable as:

- it is not possible to extend the five metre boardwalk further north due to the reservation of this part of the Harbour foreshore for the potential establishment of a deep water berth for large ships;

- where the promenade width reduces to 25 metres, it would maintain a dedicated 16 metre width for pedestrian movement and would not therefore create a pinch-point;
- the protrusion of the tower envelope between four and nine metres would be contained entirely within the designated nine metre active use zone and therefore would not interrupt the pedestrian movement zone; and
- the four metre protrusion at ground floor level would not significantly obscure pedestrian sight-lines from the foreshore to the Central Parklands to the north.

Promenade outside the southern elevation of Block Y

The proposed segment of the waterfront promenade that adjoins the southern boundary of Block Y is 17 metres wide (Watermans Cove promenade) and comprises:

- a 12 metre wide pedestrian movement zone along the Watermans Cove waterfront edge; and
- an active use zone of five metres outside the southern podium of Block Y.

The following **Figure 33**, taken from the Crown Sydney Hotel Resort application, provides an illustration of the location of the Watermans Cove promenade. **Figures 25** and **26** above provide photomontages of what the Watermans Cove promenade may look like.

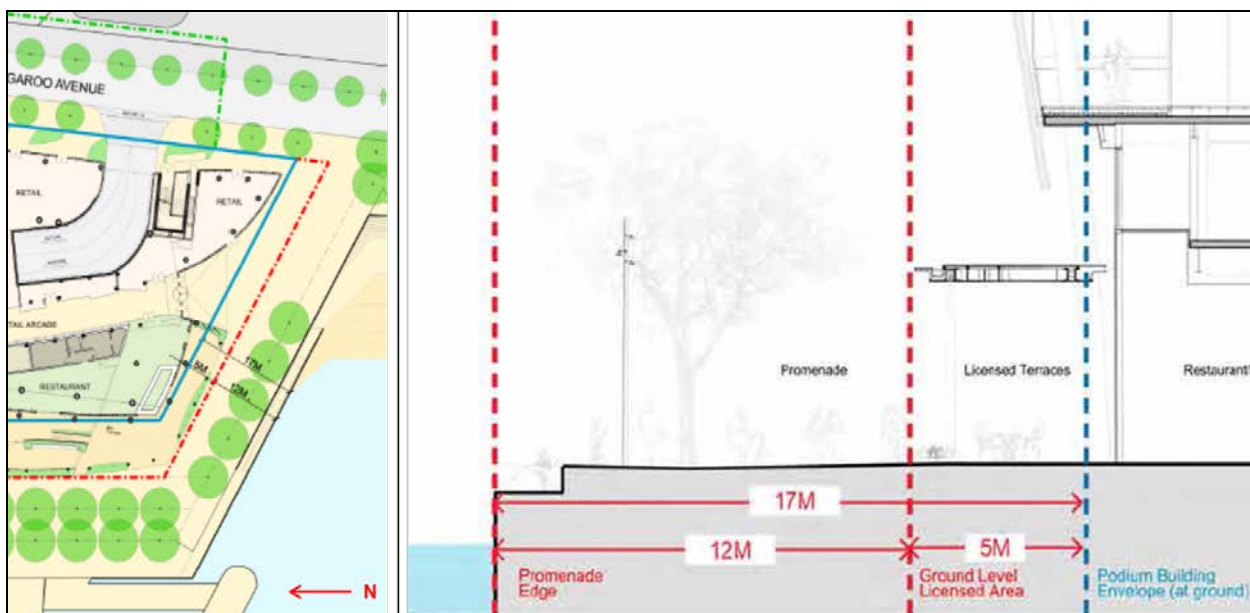


Figure 33: The CSHR Watermans Cove waterfront promenade layout (left) and section through the promenade (right) (Source: SSD 6957)

As discussed in the following 'Watermans Cove' section, Watermans Cove has been designed to be a gathering / event space and a waterfront focal point of Barangaroo South. In addition, the section of promenade on the southern side of Watermans Cove (outside the northern elevation of Building R8) is 25 metres in width, and this is appropriate given the circumstances of Watermans Cove and as Building R8 frames the southern boundary of the Cove.

The Department considered that the original proposed width of the Watermans Cove promenade outside the southern elevation of Block Y was insufficient and that the promenade width (and consistent with other block setbacks to the southern extent of the cove) should be expanded to 25 metres as:

- a 17 metre setback from Watermans Cove provides an insufficient setback, threshold landscaped setting outside Block Y's southern frontage;
- the narrowing of the promenade to 17 metres (12 metres for pedestrian movement) is eight metres less than the promenade width for the southern side of Watermans Cove and would

- create a noticeable visual pinch-point, detrimentally effecting the visual and physical connectivity of the promenade; and
- it may jeopardise the realisation of Watermans Cove as a successful gathering / event space.

In response to the above recommendation, the Proponent has submitted an amended indicative design to illustrate how an increased setback to Watermans Cove could be achieved and in doing so, improve its integration with Block Y. Specifically, this indicative design proposes to increase the size of the promenade to a minimum unobstructed width of 18.5 metres to the outside edge of any vertical structure associated with the ground floor licensed area, which is an average of approximately 27.5 metres between the licensed areas and Watermans Cove.

As a result of the above, the design of Watermans Cove would be reconfigured from a rectilinear form to a curvilinear form. Additionally, the promenade would be extended to the south, rather than reducing the extent of the Block Y podium as recommended by the Department (**Section 5.2**). The Proponent proposes an average setback of 27.5 metres could be achieved to the ground floor façade of the podium. These amendments are illustrated in **Figures 35** and **Figure 37**. For comparative purposes, **Figures 34** and **36** illustrate the exhibited form of Watermans Cove.

The Department has assessed the Proponent's response and is satisfied that the amendment achieves the intent of the design amendment recommended by the Department. In this regard, the indicative design illustrates that an unobstructed promenade width of greater than 17 metres is achievable and furthermore, that this would result in beneficial outcomes to the public domain in terms of legibility and physical connectivity of the foreshore promenade. Improvements to the integration of Barangaroo Avenue with the Watermans Cove promenade and its spatial quality also result from the amended design (**Figures 35** and **37**).

In light of the above assessment, the Department recommends a modification to the Concept Plan reflecting the enlargement of the Watermans Cove promenade, which should be no less than an average of 27.5 metres to the southern podium façade and 18.5 metres to the outside edge of any vertical structure associated with any licensed area. Further, the Department has recommended that the Proponent submit an amended building envelope drawing detailing the revised layout and dimensions.

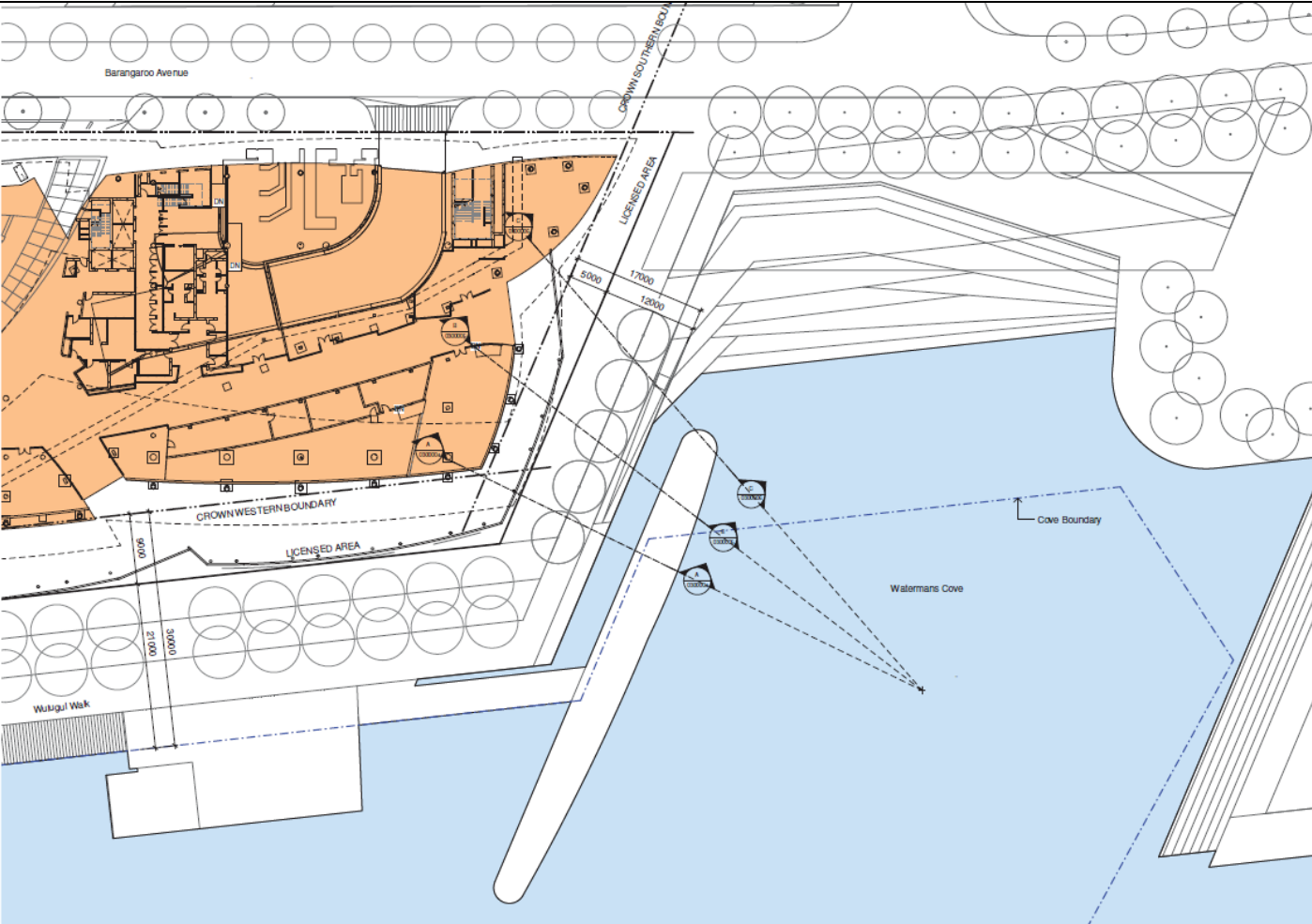


Figure 34: Setback of Block Y podium to Watermans Cove as originally proposed/exhibited (Source: Lend Lease)

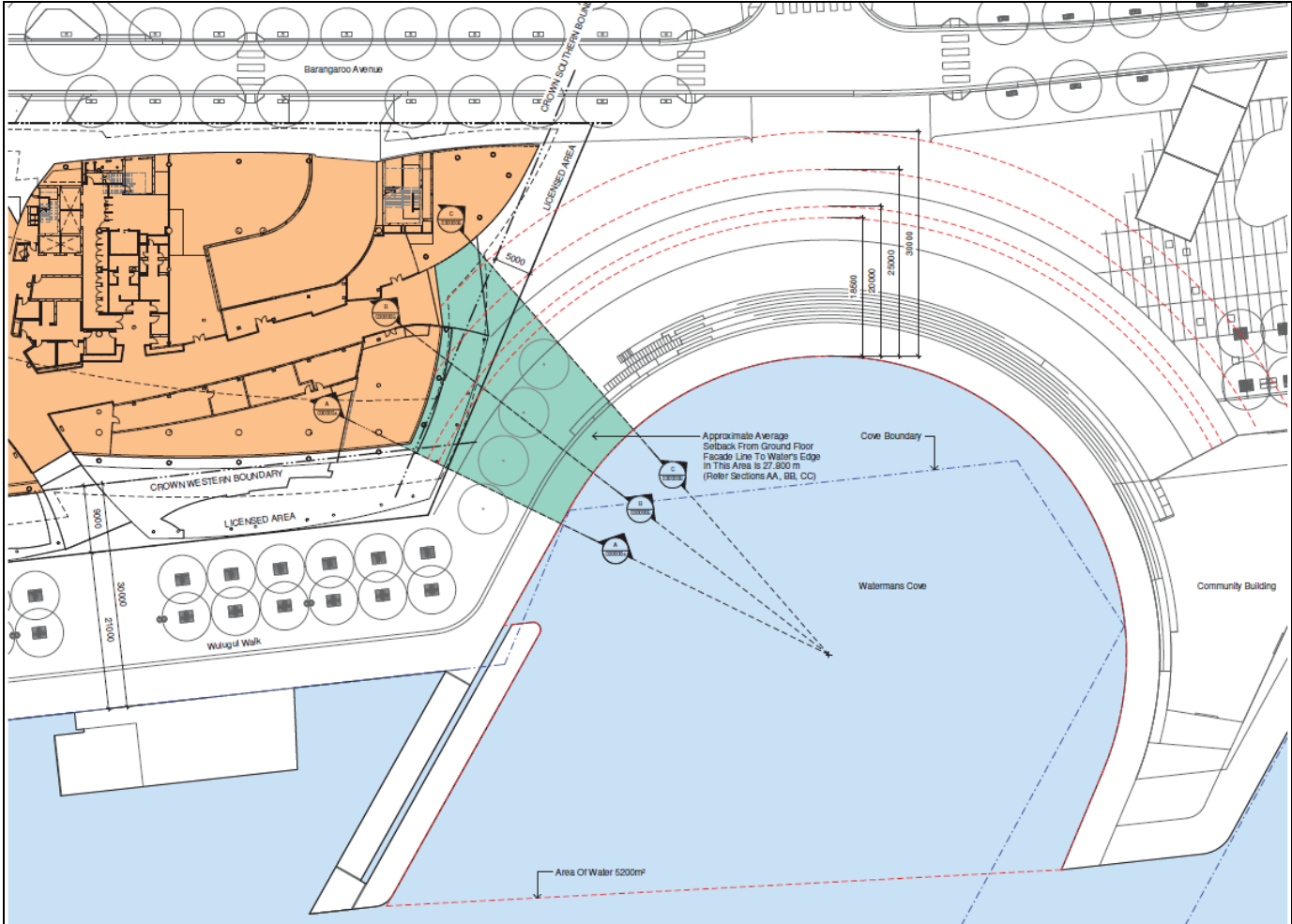


Figure 35: Proposed amendment (indicative only) to setback of Block Y podium to Watermans Cove (Source: Lend Lease response to Department's recommended modifications)



Figure 36: Photomontage of view across Watermans Cove to Block Y (Source Lend Lease response to Department's recommended modifications)



Figure 37: Photomontage of northern promenade of Watermans Cove looking toward Block Y (Source: Lend Lease response to Department's recommended modifications)

Hickson Park

Hickson Park is proposed as a new publicly accessible open space in the north-east section of Barangaroo South. It is intended to link the Barangaroo Central Parklands to the city and also form a shared amenity between the Barangaroo South and Barangaroo Central (refer to **Figure 29**). The park is framed by Hickson Road to the east, Blocks 4A and 4B to the south, Block Y to the west and the future Barangaroo Central development to the north. The following **Figure 38**, taken from the CSHR application, provides an illustration of what Hickson Park may look like.



Figure 38: View south west across Hickson Park towards Blocks 4A, 4B and Y (Base source: Proponent's application)

Concerns have been raised in public submissions that the park will be poorly activated and integrated into Barangaroo South, that its location away from the water compromises the hierarchy of spaces, that the harbour should be the focus for recreation, and that the location, height and scale of the Blocks Y and 4 will create a sense of containment and privatisation of the park. Council has questioned the need for Hickson Park and its environmental qualities, including overshadowing impacts.

The DAP stated that Hickson Park diversifies the open space offering within the Concept Plan. However, it is concerned that the arrangement of roads and blocks narrow the visual and physical connection between Hickson Park, the Central Parklands and the harbour, the domination of vehicular access over the park, and the potential for future overshadowing impacts from Barangaroo Central. The DAP recommended that the arrangement of Hickson Park be reconsidered to ensure a strong a coherent relationship to the Central Parklands, including a clear view corridor and safe pedestrian access from Hickson Road to the waterfront, and that future development to the north of Hickson Park preserve the current quantum of sun access.

The Proponent has advised that the location for the park is appropriate given there are already significant areas of park provided along the waterfront within Barangaroo and Hickson Park will add to the diversity of public open spaces. In response to the DAP recommendations, the Proponent has advised that future design of Hickson Park will comply with the fundamental objective to include legible and high quality visual and physical connection from Hickson Road to the waterfront. The Proponent has also advised that pedestrian safety and amenity will be paramount and will influence both the landscape structure of the park, as well as its relationship to

surrounding spaces in order to avoid or appropriately manage actual or perceived conflict with vehicles.

The Proponent has also stated that the indicative overall indicative design for Barton Street includes an eight metre wide pedestrian/cycle corridor, which will be located within Barangaroo Central that runs along the northern side of Barton Street and Block Y.

The Department is cognisant of the diverse range of views in the submissions relating to Hickson Park. The Department has considered the location and design of the park and is generally satisfied that it provides an appropriate alternative open space experience to those provided on the waterfront and is likely to be highly utilised by residents, workers and visitors to Baranagroo. In this regard, the Department does not consider that all open space needs to be provided on the waterfront and furthermore, considers that the location of the Hickson Park on the Hickson Road frontage provides an important opportunity to promote improved public access and integration with the broader CBD to the east.

The Department notes that one of the fundamental principles governing the urban form and layout of the Concept Plan is the establishment of unimpeded east/west views from Hickson Road to Darling Harbour along roadways / pedestrian thoroughfares. However, the Department notes that the northern extent of Block Y building envelope extends approximately 12 metres further north than the northern boundary of Hickson Park and this arrangement results in the obstruction of one of these key view corridors as shown in **Figures 39 and 40**.

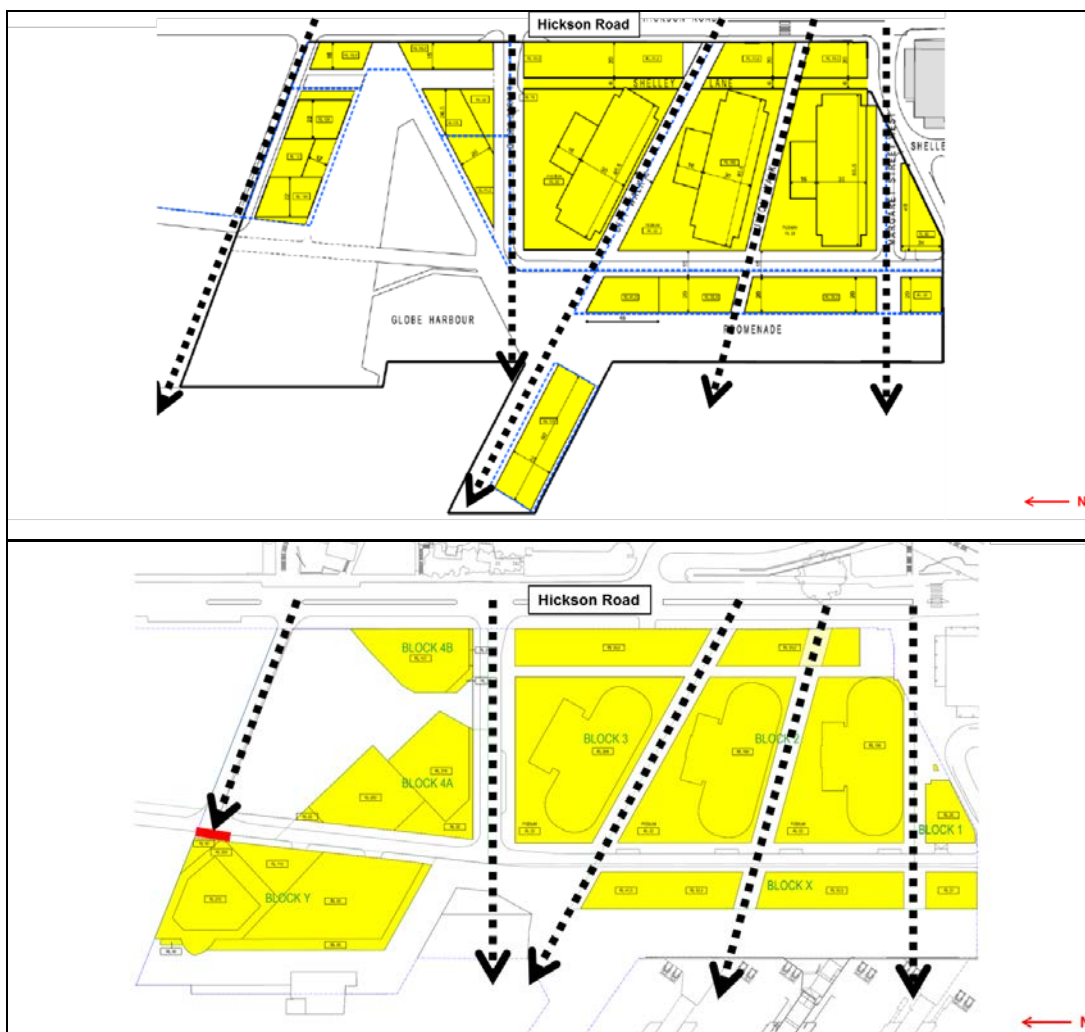


Figure 39: Approved unimpeded (top) and proposed obscured (bottom) east/west view corridor through the Concept Plan site (Base source: Proponent's PPR)

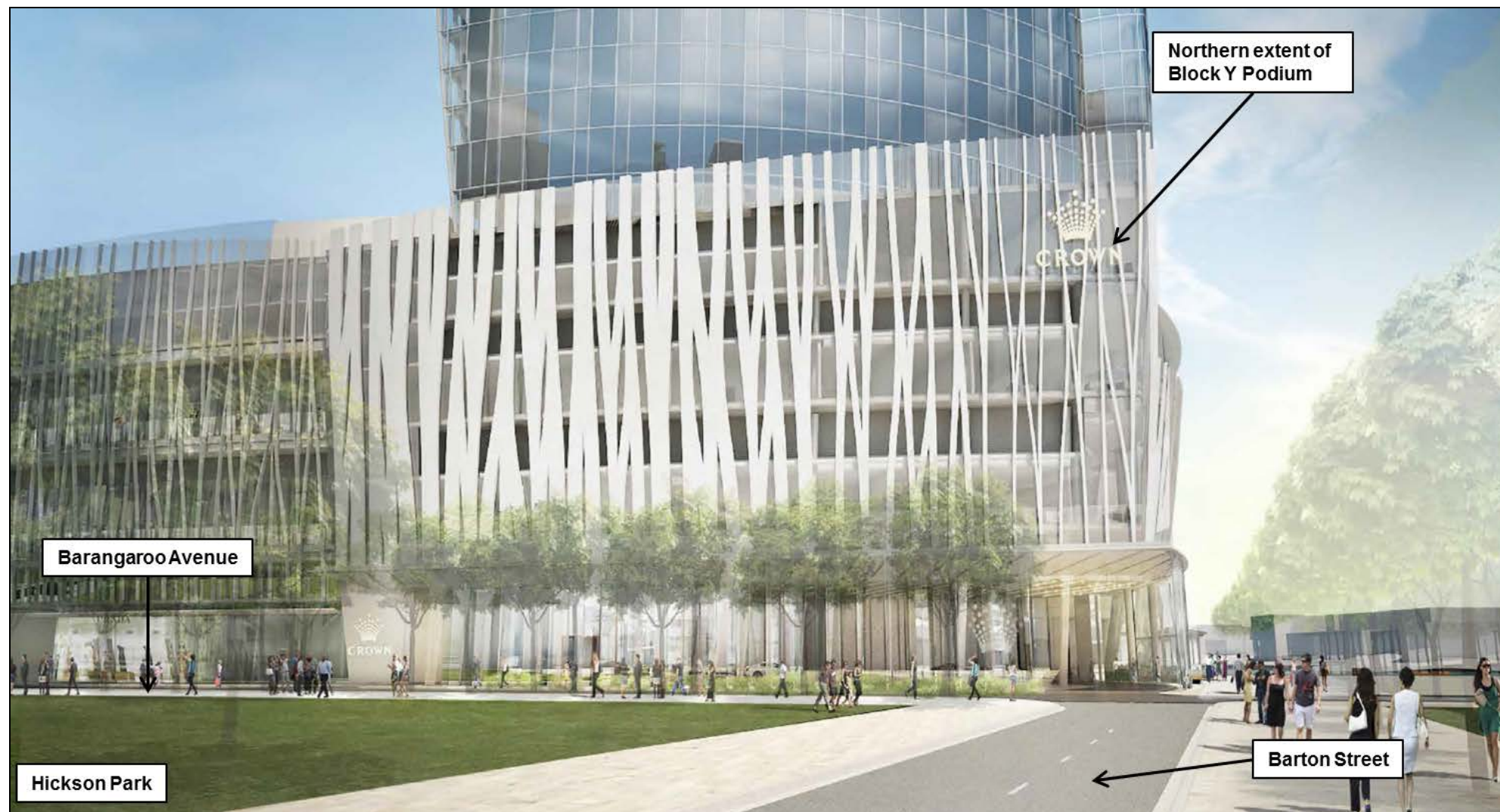


Figure 40: View looking west along Barton Street towards the eastern podium elevation of the CSHR (Base source: Proponent's Response to DAP Recommendations)

The Department shares the DAP's view that the integration of Hickson Park with Central Parklands and the harbour is vitally important. The Department considers that the termination of one of the key view corridors by the northern extent of Block Y is unacceptable as it would:

- be contrary to a core principle of the Concept Plan to provide unimpeded east/west views and view sharing principles;
- not provide for a sufficiently generous integrated landscaped setting along Block Y's northern frontage;
- prevent an appropriate strong and coherent relationship to the Central Parklands; and
- create an adverse perception of enclosure to the park and assert a sense of ownership of the park to the detriment of the public enjoyment of the space.

The Department notes the Proponent's comments that the indicative design for Barton Street includes an eight metre wide corridor. However, the Department does not consider that this would address the above concerns as:

- the proposed corridor does not address the blockage of the key view corridor along Barton Street; and
- the corridor is only indicative at this stage, does not form part of this application and therefore there is no guarantee it will be provided.

In light of the above assessment, the Department recommended that the northern extent of Block Y be setback by 12 metres to ensure it extends no further north than the (western projection of) northern boundary of Hickson Park and the southern boundary of the Barton Street footway.

In response, the Proponent submitted an amended design which illustrates how an improved east/west view corridor between Hickson Road and the waterfront could be achieved and in doing so, improve the integration of Hickson Park with the Central Parklands. The Department notes that the design amendment does not reduce the northern extent of Block Y but instead proposes an axial shift in the alignment of the view corridor further to the north of Barangaroo South partially into Block 5, which is located in Barangaroo Central. The proposed amendment to the view corridor is illustrated in **Figures 41-42** below.

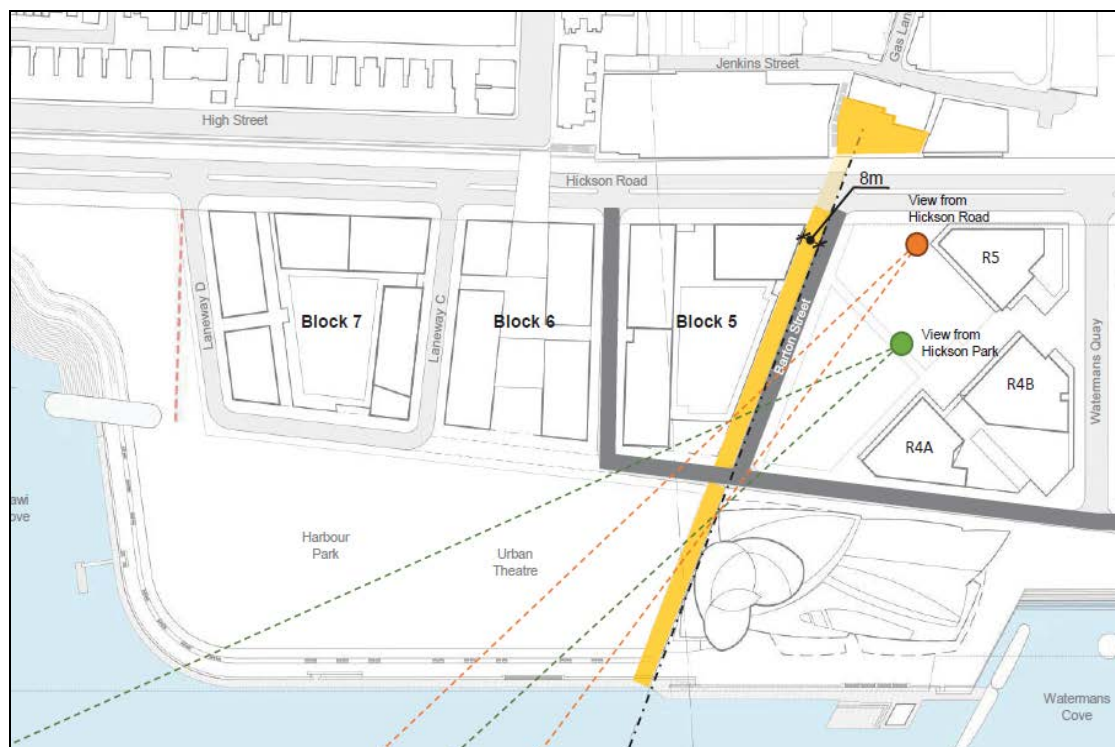


Figure 41: East/west view corridor to the north of the Northern Park as originally proposed/exhibited (Source Lend Lease)

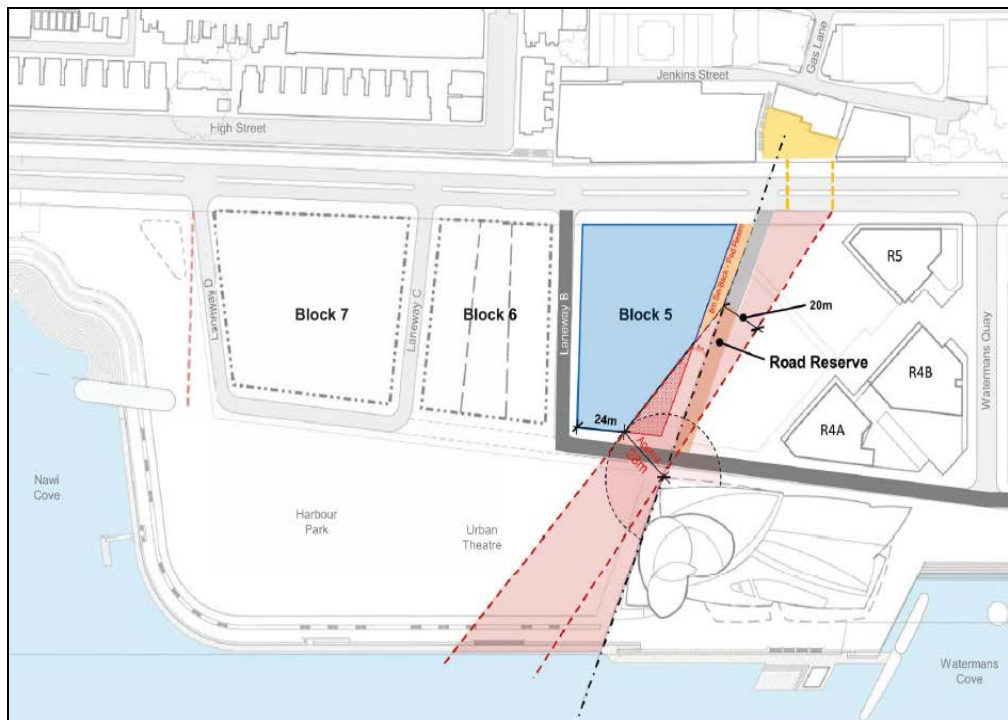


Figure 42: Amendment (indicative only) proposing an axial shift in the alignment of the east/west view corridor (Source: Lend Lease response to Department's recommended modification)

The Proponent has advised that the amendment will result in a view corridor of approximately 28 metres in width between the northern edge of Block Y and the south-western corner of Block 5, which will require the south-western corner of the future building on Block 5 to incorporate a chamfered setback to a height of 16 metres. The Proponent has suggested that opportunities for building projections into the view corridor could be considered within a discretionary setback zone. The Department notes that the view corridor would also include the Barton Street Road reserve, which is contiguous with the Barangaroo South boundary within which there would be opportunities for building projections into a discretionary setback zone which aligns with the Block 5 building envelope. **Figures 44 to 46**, illustrate the views to the waterfront from three locations in Hickson Park (**Figure 43**) and also illustrate the impact of the proposal to allow the building to cantilever over the view corridor 16 metres above the chamfered corner of Block 5.

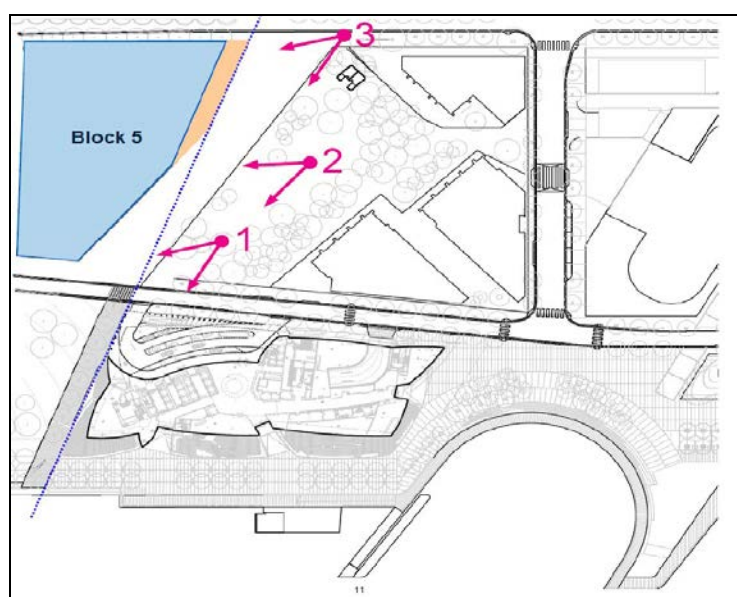


Figure 43: Location of View Angle



Figure 44A: View Angle 1, excludes setback zone (Source: Lend Lease response to Department recommended modification)



Figure 44B: View Angle 1, includes setback zone minimum 16 metres high (Source: Lend Lease response to Department recommended modification)



Figure 45A: View Angle 2, excludes setback zone (Source: Lend Lease response to Department recommended modification)



Figure 45B: View Angle 3, includes setback zone minimum 16 metres high (Source: Lend Lease response to Department recommended modification)



Figure 46A: View Angle 3, excludes setback zone (Source: Lend Lease response to Department recommended modification)



Figure 46B: View Angle 3, includes setback zone minimum 16 metre high (Source: Lend Lease response to Department recommended modification)

The Department has considered the Proponent's revised submission and is satisfied that the alternative design addresses the Department's recommendations (**Figure 41**). However, the Department considers that insufficient information has been submitted at this stage to determine whether allowing the building to project or cantilever above a height of 16 metres would not unduly impede or impact on the quality of the view corridor, including blocking views to the sky. The Department's preliminary view based on the information provided is that it would be difficult to justify any proposal to substantially fill the volume of the cantilever/overhang having regard to achieving the Department's objectives to improve physical and visual connectivity through this part of the site, noting that:

- such a view corridor should afford continuous views from the water/ground level to the sky; and
- such an overhang/cantilever may interrupt the sense of movement through this area.

Having regard to the above, the Department has recommended a modification to the Concept Plan to align with the amended view corridor dimensions proposed by the Proponent (i.e. the chamfered setback of Block 5). Additionally, the Department has also recommended a future environmental assessment requirement to deal with any future building projection/s at the upper levels of Block 5 into the view corridor. In this regard, the Department has specifically recommended that any future proposal for building projections into the view corridor be assessed on merit and that the projection/s be visually perceived as projections rather than part of the substantive base building form. The Department has also recommended that a view impact assessment be submitted to demonstrate that the building projection/s will not have an adverse impact on the quality of the view corridor and views to the harbour and the sky from the public domain and that the ground level below any projection/s remains legible and useable public open space.

With regard to potential overshadowing impacts, the Proponent's shadow diagrams demonstrate that Hickson Park will receive reasonable amounts of solar access during the late morning (i.e. from 11am), lunchtime and early afternoon (i.e. up to around 3pm) at all times of the year. The Department considers that adequate levels of solar access will be afforded to Hickson Park in accordance with the DAP's recommendation, and notes that any potential changes to Barangaroo Central as a result of the determination of MOD 9 would consider solar access for this space.

Watermans Cove

The proposal seeks approval for the reconfiguration and reduction in the size of the Southern Cove from approximately 8,140 sqm to 1,500 sqm (-80%) to form Watermans Cove, as shown in **Figure 14**. The entrance or mouth to Watermans Cove has also been reduced by approximately 30 metres from approximately 90 to 60 metres. Watermans Cove has been designed to be a gathering / event space and a waterfront focal point of Barangaroo South. It will include a promenade, landscaping and broad stepped access into the harbour.

Council has raised concerns about the reconfiguration of the shoreline, provision of a shallower cove of water and the penetration of Globe Street (now referred to as Watermans Quay) into the harbour. The DAP did not make any recommendations about the revised Watermans Cove design.

The Department notes, when compared to the Southern Cove layout, that there has been a narrowing of the width of the promenade outside the northern elevation of Building R8 to 25 metres. The Department considers this to be acceptable as:

- in this location the majority of the promenade is not directly adjacent to the water's edge;
- the height and scale of Building R8 would appropriately frame the southern boundary of Watermans Cove; and
- the design of Watermans Cove in this location includes landform and steps allowing for alternative opportunities for pedestrian movement and experiences.



Figure 47: As exhibited - View north from the public pier across Watermans Cove (Source: Lend Lease)

The Department considers that the modifications to the Southern Cove to create Watermans Cove are acceptable and the space will remain a key focal point within Barangaroo, as:

- the modified cove is well integrated into the surrounding streets, pedestrian paths and the waterfront promenade;
- the modified cove is of a size, location and form that is capable of providing for a key gathering and events space for Barangaroo. The Department considers, however, that a further reduction of Watermans Cove may have an adverse impact on its function and appearance;
- the provision of a deep cove is not necessary as deep water exists along the majority of the length of the Barangaroo waterfront, and the depth of the cove would generally be the same depth as the Northern Cove, which has already been constructed to the north; and
- no modifications are proposed to Globe Street (Watermans Quay), which was approved under MOD 6, as shown at **Figure 5**.

As detailed in **Section 5.3**, the Proponent's response includes an amendment to the design of Watermans Cove to improve the design and spatial quality of the promenade. Despite the change in the shape of Watermans Cove from a rectilinear form to a curvilinear form (**Figures 34 to 35**), the Department remains satisfied that Watermans Cove will suitably integrate with the surrounding public domain providing a high quality urban design outcome. Accordingly, the Department continues to support this aspect of the proposal, although it is noted that it is indicative at this stage and is subject to further design development.

Public Pier

MOD 8 seeks to retain the public pier over the water (which was approved in MOD 4 for the hotel use). However, it proposes to modify the pier by:

- relocating it further to the south and reducing its length; and
- indicatively providing a potential three-storey building on the pier (RL 17) accommodating approximately 2,000 sqm of community use and a further 1,000 sqm of active uses.

A comparison of the approved and proposed pier location and alignment is provided at **Figures 5 and 6**.

The DAP has stated that the pier is considered formally as an extension of the landscape to enlarge the form and boundaries of Watermans Cove. The DAP has recommended that the built elements on the pier should be secondary to the landscape character of the cove and allow for good visual permeability. The Proponent has stated that the location of the public pier integrates with Watermans Cove and aligns with the wharves' configuration approved for the Barangaroo Ferry hub.

The Department concurs with the DAP's view about the synergies between Watermans Cove and the public pier and that this relationship is strengthened by its proposed use for community purposes. The Department notes that the Proponent's PPR relocates the pier further northwards and as a consequence, the amended pier better frames the southern boundary of Watermans Cove.

Notwithstanding this change, the Department considers that further analysis of the pier's relationship to its immediate surroundings is required and recommends future environmental assessment requirements requiring:

- the pier to be wholly located within the Barangaroo site boundary and to clearly define the southern edge of Watermans Cove without impeding the key view corridors between the water any CBD and along the foreshore; and
- any future building on the pier to:
 - be low-scale;
 - provide appropriate public access around its full perimeter; and
 - maximise visual permeability.
- consideration of navigational impacts (refer to **Section 5.6.8**)

5.4 Amenity Impacts

5.4.1 Visual Impacts

A key issue for the Department's assessment is visual/scenic impacts and these impacts are considered in detail below.

MOD 8 is supported by a View and Visual Impact Analysis (VVIA) prepared by JBA (**Appendix B**). The VVIA includes a Visual Impact Photomontage Methodology Report (IPMR) prepared by Virtual Ideas and a View Analysis Report (VAR) prepared by Rogers Stirk Harbour + Partners.

A significant number of submissions have raised concerns in relation to the visual impact of MOD 8 on views from key vantage points, including that the proposal will have a significant and adverse impact on important cultural and heritage places, as detailed in **Section 4.0** of this report.

In its consideration of this issue, the DAP has advised that the height and location of Block Y will be highly visible from many vantage points, including the iconic Sydney view of the harbour with the World Heritage listed Opera House in the foreground and the bridge beyond. Furthermore, the DAP has advised that the height and location of the Block Y is such that it has been intentionally isolated from other buildings in the city 'frame' and as such will dominate this iconic public view.

The Department has considered the issues raised in submissions in relation to the visual impact of the proposal. The Department considers that the VVIA provides a comprehensive analysis of the visual impacts of MOD 8 from key public domain areas. The Department considers the key issues associated with this matter to be:

- the appropriateness of the methodology used to illustrate and assess the impacts; and
- the visual impact and appropriateness of the proposal when considering its bulk and scale relative to surrounding areas, when viewed from key public places.

These matters are addressed below.

Twenty-one public domain views were selected and analysed in the VVIA for the application in accordance with those identified in the SEARs. The public domain vantage points selected for the analysis provide representative views from the water, public open space and key streets and from a broad range of locations, including short and long distance views. The vantage points are illustrated in **Figures 48** and **49**. The photomontage images provided illustrate:

- the existing site and surrounds;
- a representation of the existing built form outside the site;
- images showing the approved Concept Plan (MOD 7) and the indicative building design; and
- images showing MOD 8 and the indicative building design.

Each of the identified public domain views have been prepared (taken at pedestrian level) using the same approach, rationale and methodology in the analysis undertaken for the previous concept plan amendments (MOD 4 and MOD 6). The Department considers this to be a sound and appropriate approach to enable a full assessment of the visual impact of the modification application.



Figure 48: External site view - key vantage points (Source: JBA)



Figure 49: External site views - key vantage points (long distance) (Source: JBA)

The images demonstrate the various images taken from various vantage points. For the purposes of this report, a number of key images only from the VVIA have been selected to illustrate a range of visual impacts and are provided below at **Figures 50 to 57**. A complete set of the images from the VVIA are provided at **Appendix L**.

The images selected include the approved building envelope showing the indicative built form (MOD 7) on the left and the proposed building envelope and indicative built form (MOD 8) on the right, taken from the same vantage point.

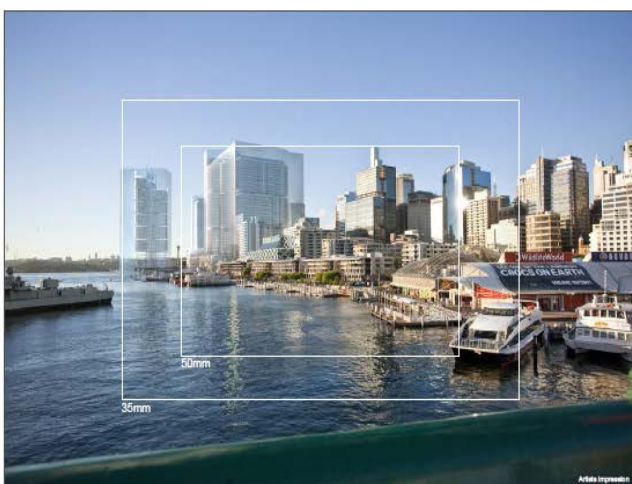


Figure 50: Darling Harbour- approved



Figure 51: Darling Harbour – proposed



Figure 52: Balmain East- approved

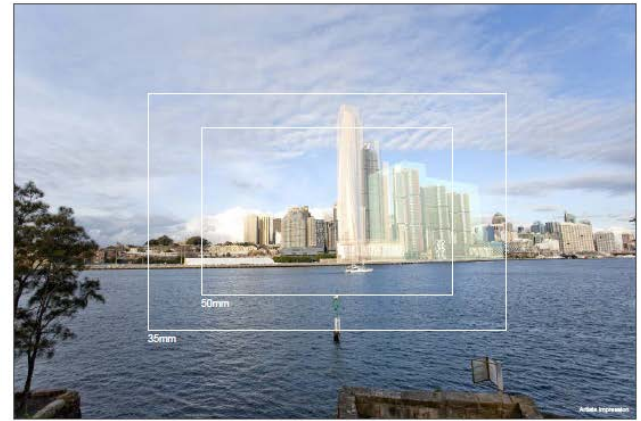


Figure 53: Balmain East – proposed

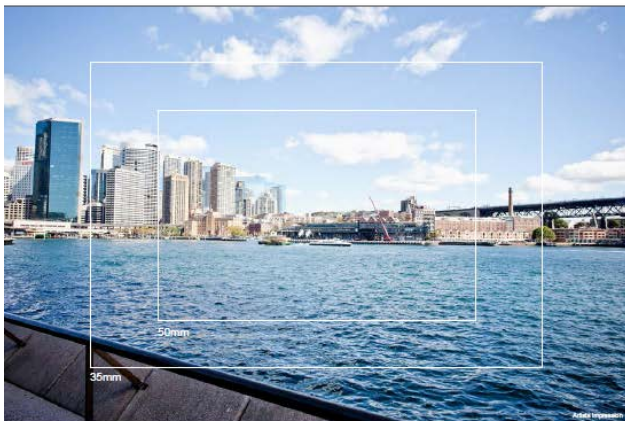


Figure 54: Opera House West Forecourt- approved

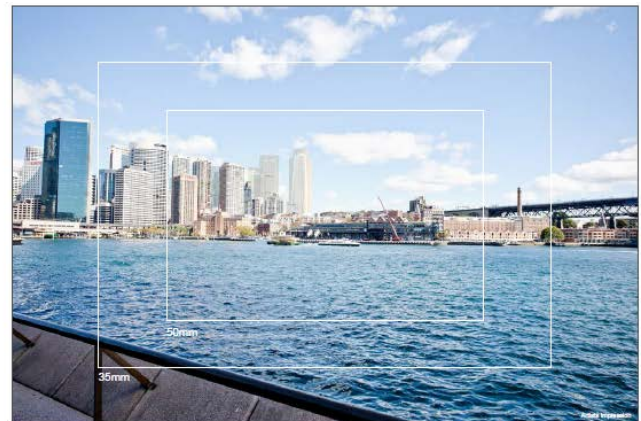


Figure 55: Opera House West Forecourt- proposed



Figure 56: Cremorne Point- approved



Figure 57: Cremorne Point- proposed

From the VVIA, the Department submits that it is evident that the proposal will have a strong visual impact when compared to the approved Concept Plan and that from most vantage points, MOD 8 will result in a visible change and that this will be significant from a number of key vantage points, as illustrated in **Figures 51, 53, 55 and 57** above. This is largely attributed to the proposed location, height and scale of Block Y.

However, despite the visual impacts, the Department considers that MOD 8 has an acceptable and positive visual impact for the following reasons:

- In regard to views from Sydney Harbour (**Figures 55 and 57**) the proposal will result in a significant change to the city skyline. This will result in the proposal 'bookending' the city skyline and consequently, the proposed building heights will more closely reflect the height of taller CBD buildings to the east, as opposed to retaining the tapered form. The Department considers that this will result in a positive, albeit significant, change to the city skyline.

Furthermore, the Department considers that this change will not adversely affect views to the Opera House, as the proposal will only be read as the backdrop (with other city buildings) to such views and the Opera House by virtue of its location, scale and form will remain a dominant element in the foreground. The Department also considers that Barangaroo South is sufficiently separated from the Sydney Harbour Bridge to not adversely impact on iconic harbour views; and

- In regard to views from the west, the Department acknowledges that the full scale and form of the Block Y and Blocks 4A and 4B will be most apparent from these views (**Figure 53**). Furthermore, the Department acknowledges that the location and scale of Block Y will be dominant in views from the south (**Figure 51**). However, the Department considers that the proposal represents an acceptable built form (**Section 5.1**) and acknowledges that the buildings will be refined at the future application stage. Whilst key visual impact resulting from the proposal will be a progressive increase in building height to the north, the Department considers this change to be acceptable in the context of the taller buildings in the CBD and given that the proposal has the potential to contribute a dynamic aesthetic to the existing view experience.

In general, the Department considers that the proposal will not detract from available views from the public domain and will have a positive and acceptable impact. In this regard, the proposal (and particularly Block Y) will present a dynamic and exciting addition to the city skyline and is capable of achieving a high quality design outcome.

Further to the above, the Department acknowledges the concerns raised in submissions, as detailed above and recognises that the proposal contradicts the City of Sydney's tightly held position in respect to building heights. Notwithstanding this, the Department considers that the city skyline is dynamic and should be open to change and is cognisant that there is increasing pressure to review height limits in the city to respond to national and international demand for floorspace and for Sydney to remain globally competitive. In this regard, the Department does not consider that heights should remain fixed in the CBD and it supports the proposal as providing a strong visual addition to the skyline. In the CBD context, the Department considers the visual impact of the modification application to be generally positive and acceptable and acknowledges that future Block Y has the potential to provide a strong visual landmark and iconic feature in the city skyline.

The Department notes that impacts of MOD 8 on the views and setting of neighbouring heritage items and precincts is addressed in **Section 5.6** of this report.

5.4.2 View Loss

As part of its assessment, the Department has undertaken an assessment of view loss against the Tenacity planning principles. In order to ascertain whether or not the proposed view sharing impacts are reasonable, the Department has followed a four-step assessment in accordance with the principles established by Tenacity Consulting Vs Warringah [2004] NSWLEC 140. The steps/principles adopted in the decision are considered below.

Neighbouring residential towers

A view analysis of the potential impacts resulting from the modification application on views from private land has been undertaken by Rogers Stirk Harbour +Partners and is included as part of the VVIA.

The analysis includes a study of the views across the Barangaroo site available from four key residential buildings being the Highgate, Georgia, Stamford Marque and Stamford on Kent, which represent the nearest residential buildings to the Barangaroo site. The analysis includes a comparison of those views approved in MOD 6 compared to potential views available as a result of MOD 8 and uses the methodology established previously for the Concept Plan (including to undertake an orthogonal and oblique view analysis) which takes views from Levels 15 and 25 of

each residential building and establishes a benchmark viewing angle of 54° as the measure a reasonable level of uninterrupted views with no loss of amenity from the residential buildings.

The Department notes that the urban structure proposed in MOD 8 continues the fan arrangement approved in MOD 6 and accordingly, provides a funnel of space which opens-up view corridors and which expands westward to the water, as illustrated in **Figures 58** and **59** below.



Figure 58: Fan arrangement of the urban structure (source: Roger Stirk Harbour + Partners)

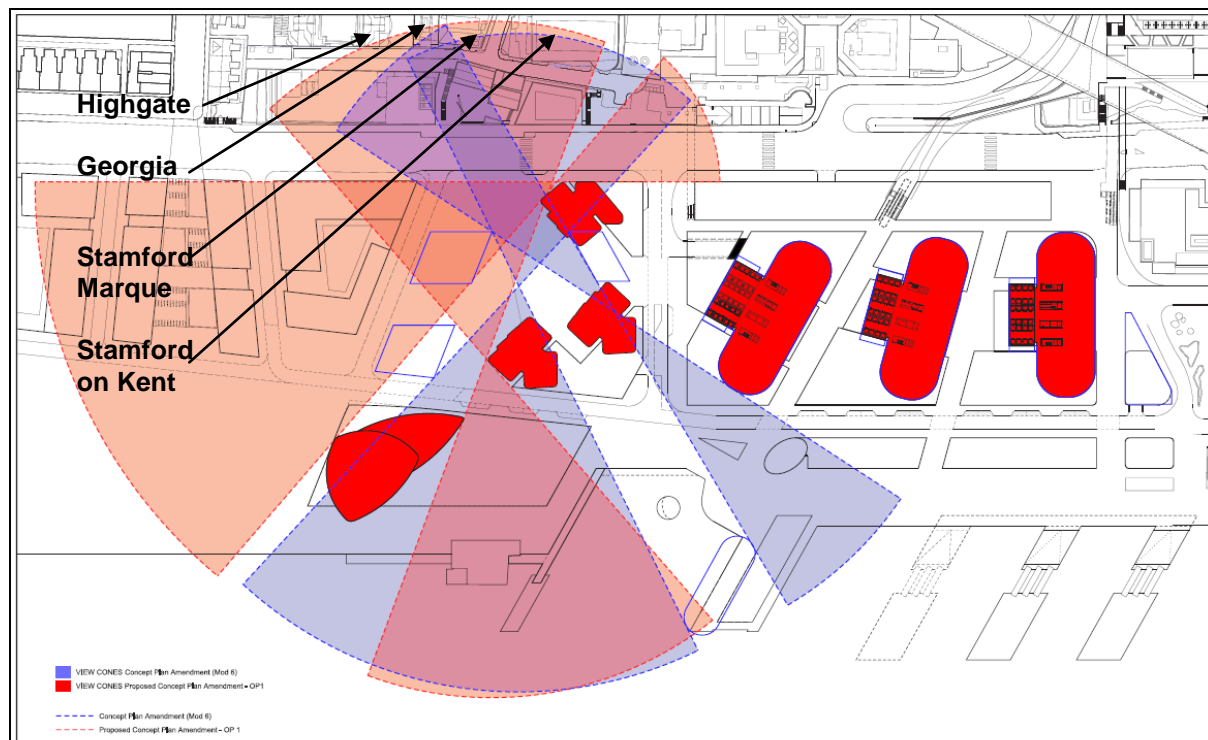


Figure 59: demonstrates the broad oblique view analysis (with the proposed Concept Plan view corridors shown in orange and the approved view corridors shown in blue).

Selected images showing the approved (MOD 6) and proposed views (MOD 8) based on the indicative building form at Levels 15 and 25 of each of the residential buildings is provided at **Appendix M**.

A summary of the oblique view analysis is provided in **Table 10** below.

Table 10: Summary of Oblique View Analysis (source: Rogers Stirk Harbour + Partners)

Location	Total Oblique view angle- Concept Plan MOD 6	Total oblique view angle- Concept Plan MOD 8	Difference	Conclusion
Highgate- Level 15	93°	91°	-2°	View greater than 54° is maintained
Highgate- Level 25	93°	91°	2°	View greater than 54° is maintained
Georgia- Level 15	88°	85°	-3°	View greater than 54° is maintained
Georgia- Level 25	88°	85°	-3°	View greater than 54° is maintained
Stamford Marque- Level 15	87°	79°	-8°	View greater than 54° is maintained
Stamford Marque- Level 25	86°	79°	-7°	View greater than 54° is maintained
Stamford on Kent-Level 15	62°	67°	+5°	View greater than 54° is maintained
Stamford on Kent Level 25	66°	67°	+1°	View greater than 54° is maintained

In summary, the Proponent's view impact analysis has concluded as follows:

- while the oblique views for Highgate, Georgia and Stamford Marque have decreased, the increased distance between the buildings and the proposed development provides a significantly improved wider field of view and typically presents two view corridors between the buildings rather than a block of buildings and a single corridor;
- for Stamford on Kent, the proposal increases the oblique views, improving the outlook for residents;
- the original concept plan approval established a benchmark viewing angle that was considered to offer a reasonable level of uninterrupted views with no loss of amenity, at 54°. All buildings have view angles greater than the benchmark viewing angle (refer **Table 10** above); and
- the consolidation of the building form at the northern end of Barangaroo South results in the replacement of the singular view corridor between the residential towers in the approved concept plan with broader oblique views across Barangaroo Central towards the water. The distance between the proposed tower forms to Highgate, has also increased from 100 metres to 192 metres (measured to Block Y) and for Georgia and Stamford Marque from 96 metres to 139 metres, thus significantly improving each towers field of view.

Based on the above, the view analysis concludes that the results are largely unchanged from MOD 6 and the proposed modification application continues to promote view sharing. Noting the above, the Department has undertaken an assessment of view loss against the Tenacity planning principles as summarised below.

1. Assess what views are affected and the qualitative value of those views

The views affected by the proposal are largely water views, with also views to Darling Harbour, Pyrmont and Balmain to the west.

2. Consider from what part of the property the views are obtained.

The views from the buildings to the west are principally obtained from western facing windows (and balconies) of the Highgate, Georgia, Stamford Marquee and the Stamford on Kent buildings.

3. Assess the extent of the impact (Tenacity principles establish a spectrum from 'negligible' to 'devastating').

In general, the modification application will result in minor additional view loss in comparison with the approved concept plan, as detailed in **Table 10** above, with the exception of Stamford on Kent where views will be marginally improved. The Department notes that the refinement of each building through the building design development stage is likely to result in further reduction to the bulk and resultant view impacts of the buildings.

4. Assess the reasonableness of the proposal that is causing the impact.

The VVIA indicates that a view sharing outcome will be achieved as a result of the proposal consistent with the parameters established for the approved concept plan, as detailed in **Table 10** above.

Having regard to the above, the Department has considered the results for the view analysis and concurs with the findings. Additionally, the Department notes that it is inevitable that there will be changes to view impacts resulting from the proposed changes to the built form and building siting. The Department considers that given the site's CBD fringe location, the interruption of existing views that are currently unimpeded by any development is inevitable and reasonable in this context. Notwithstanding this, the Department considers that the neighbouring development will continue to benefit from the lower heights in Central Barangaroo, which affords significant views to the north-west and north of these Kent Street buildings. Additionally, the Department notes that the refinement of the buildings through the design development phase is likely to result in further reduction to the bulk and scale and resultant view impacts of the buildings.

Other view Impacts

The VVIA includes an assessment of the potential impacts of MOD 8 on a number of other city buildings including the following:

- Observatory Tower;
- Westpac Place;
- Other Kent Street buildings;
- King Street Wharf; and
- Other Shelley Street and Lime Street Buildings.

The VVIA acknowledges that Blocks 1-4 (A-B) will substantially interrupt views from Westpac Place however, concedes that this impact is acceptable given the building will continue to enjoy significant westerly views to the Darling Harbour. The VVIA notes that there will be improvements to views from King Street Wharf to the north and north-west as a result of the relocation of Block Y. The VVIA also acknowledges that the proposed increase in height in MOD 8 in addition to the relocation of Block Y has the potential to affect additional floors of the Observatory Tower, and that views from the south-west elevation of Observatory Tower across Blocks 4, X and Y towards Darling Harbour will be interrupted. However, the VVIA notes that these views are already interrupted by existing development along Kent Street and Jenkins Street.

The Department acknowledges that there will be some change to views to and beyond Barangaroo South from MOD 8, however, concludes that the impacts are not significant when assessed against the approved concept plan. Furthermore, the impacts are reduced by the increased physical distance between the sites and the intervening existing built form. Overall, the Department

considers that the MOD 8 provides a reasonable balance between protecting views and built form outcomes.

5.4.3 Overshadowing

The proposed changes to development Block Y, 4A and 4B and the building envelopes will result in changes to the location and extent of overshadowing resulting within Barangaroo South and to the west over Darling Harbour and beyond.

A shadow analysis for the modified project has been prepared for hourly intervals between 9am and 3pm at 21 March, 21 June, 21 September and 21 December and is provided at **Appendix E**. The analysis uses the approved built form for MOD 6 in order to provide a comparative analysis of the shadows cast by MOD 8.

In summary, the Proponent has concluded that the shadow impacts from MOD 8 are acceptable and are not significantly greater than the approved Barangaroo Concept Plan. A number of key shadow diagrams are provided at **Figures 60 to 63** below. These shadow diagrams are for 21 June at 9 am and 12 noon and the comparative shadow diagrams for 21 December.

A number of public submissions and the submission from the City of Sydney have raised concerns in relation to the increase overshadowing to the harbour and Jones Bay Wharf, King Street Wharf, Dawes Point, Darling Harbour, Pyrmont and public domain in general. The Department agrees that there is an overshadowing increase to the west in the morning (9am-12 noon) in June where the shadows are cast across the length of Darling Harbour and new overshadowing at 9am on 21 June at Pyrmont Bay, One Darling Island and Metcalfe Park. In March, September and December there are more modest increases in overshadowing.

The Department notes, however that overshadowing to the west is substantially retracted to the east by 10am at all times, by which time the shadow cast falls only over the waterway of Darling Harbour. The exception being at 10am on 21 June when overshadowing impacts the eastern end of Wharf 7 and the neighbouring waterway, although this shadow is fully retracted from the land by 11am. Given the above, the Department considers that overshadowing impacts to the west are temporary and acceptable.

Overshadowing impacts to Barangaroo South include new overshadowing of the public domain including the waterfront promenade, Watermans Quay and the proposed public pier as a result of shadows cast from Block Y, and to a lesser extent from Block 4. The overshadowing diagrams illustrate that between 9am and 11am generally all year round new shadows are cast to the west from Block Y, overshadowing the foreshore promenade. Moreover, between 11am and 2pm generally all year round, new shadows are cast to the south-west and south over the foreshore promenade, Watermans Cove and public pier to varying degrees. A new shadow is also cast by Block Y at 12 noon on 21 June along a substantial length of the foreshore promenade and Watermans Quay as illustrated in **Figure 61** below.

The DAP has raised concerns about this overshadowing and has recommended that adjustments be made to the podium and tower of Block Y to reduce overshadowing impacts on the waterfront promenade, Watermans Quay and Hickson Park. The Proponent and the BDA do not agree with this recommendation. The Proponent in particular states that in mid-winter the shadow cast by Block Y would be completely removed from the waterfront promenade and Watermans Quay by 1pm. In summer, the Proponent agrees that while overshadowing would occur on the promenade during the morning up until 12 noon it would provide welcome relief for people.

In relation to shadows cast by Block Y to the waterfront promenade, Watermans Cove and the public pier, the Department concedes that it is inevitable that shadows will be cast to these spaces as a result of the siting of Block Y.

Furthermore, the Department considers that it would be unreasonable to require full solar access to all areas of the public domain particularly during the morning and peak lunchtime periods given the site's orientation. As there are also ample areas of open space within Barangaroo which will receive full solar access during these periods (i.e. the Headland Park and to a lesser extent Barangaroo Central), the Department considers the overshadowing impacts to the public domain resulting from MOD 8 to be reasonable and acceptable on balance.

In addition to the above, the Department notes that the new Hickson Park will be overshadowed for varying degrees during the morning period at all times of the year. However, it will receive substantial periods of solar access during the late morning, lunchtime and afternoon period at all times of the year.

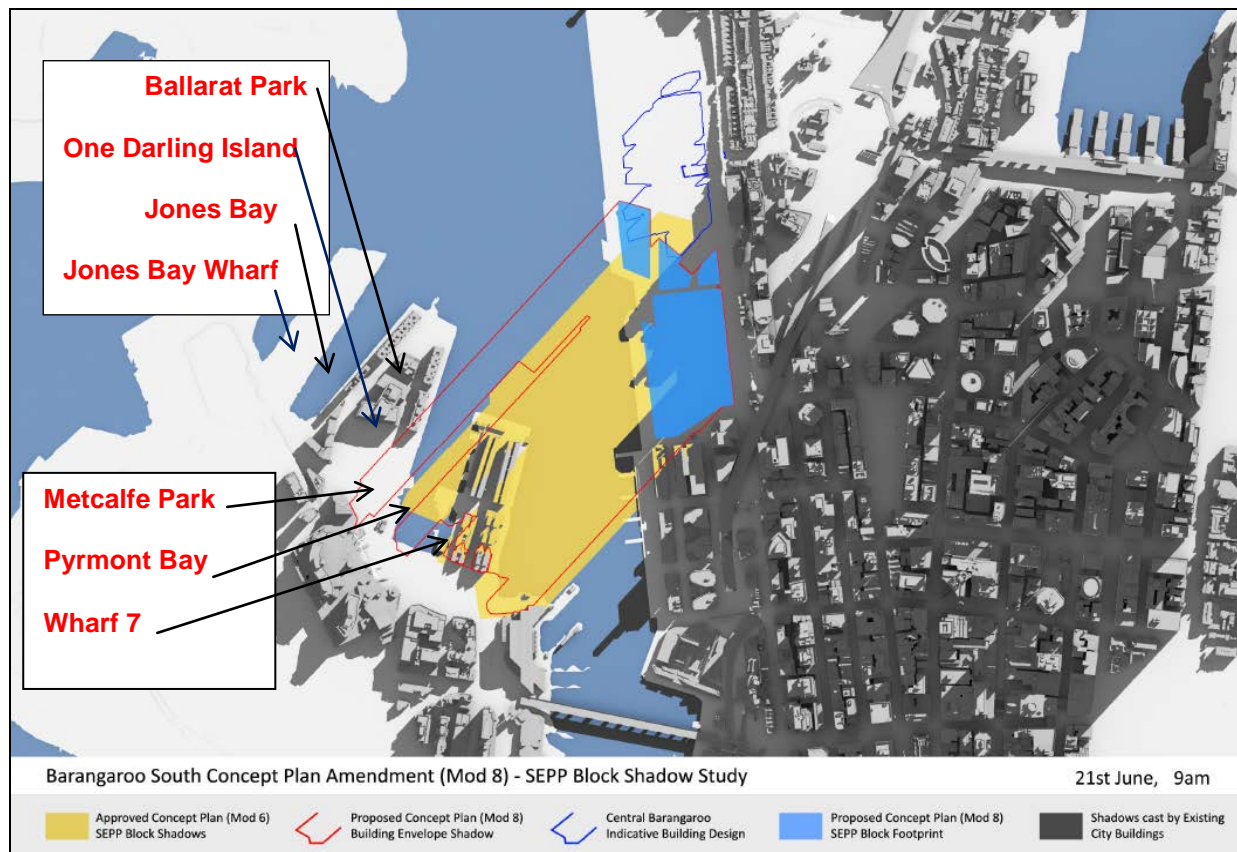


Figure 60: MOD 8 Shadow Diagrams June 21, 9am- MOD 6 shadow shown in yellow, MOD 8 shadow shown in red outline, Barangaroo Central indicative shadows shown in blue outline (Source: Virtual Ideas)

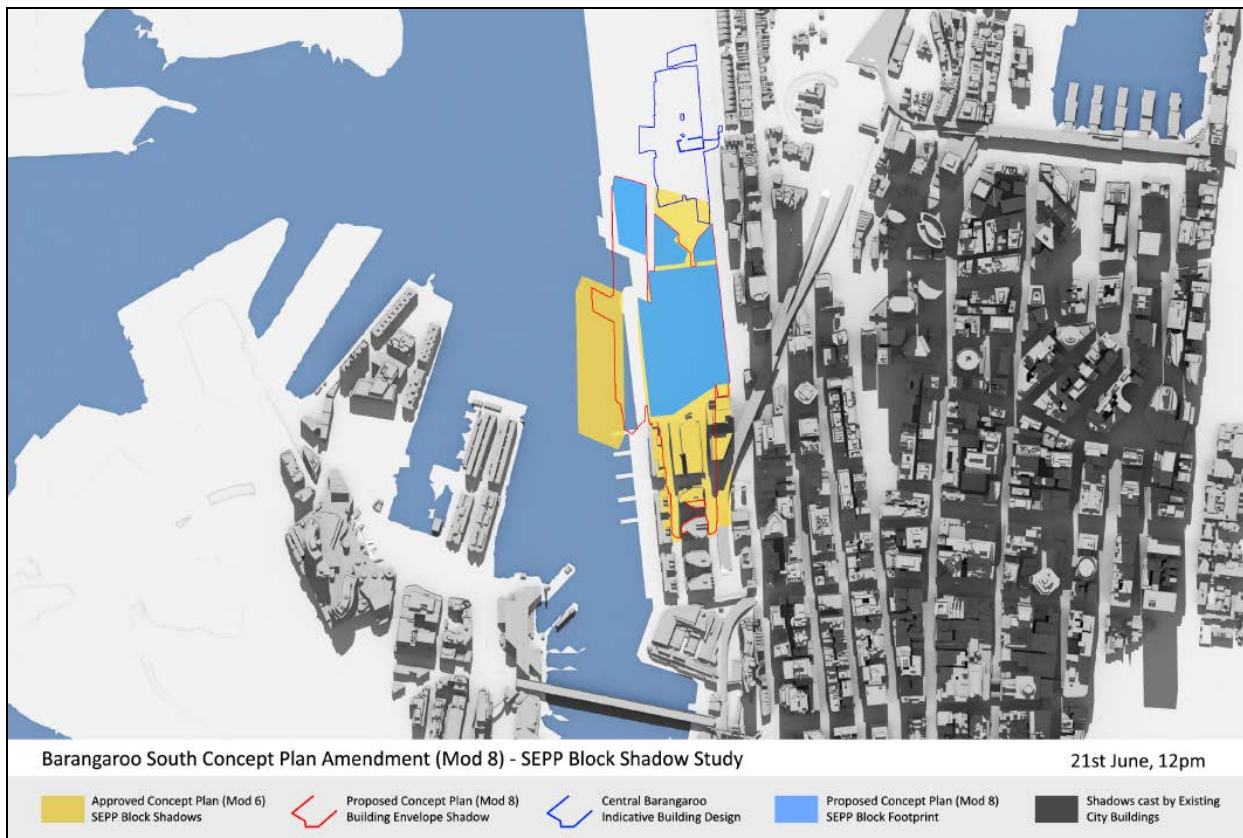


Figure 61: MOD 8 Shadow Diagrams June 21, 12 noon- MOD 6 shadow shown in yellow, MOD 8 shadow shown in red outline, Barangaroo Central indicative shadows shown in blue outline (Source: Virtual Ideas)

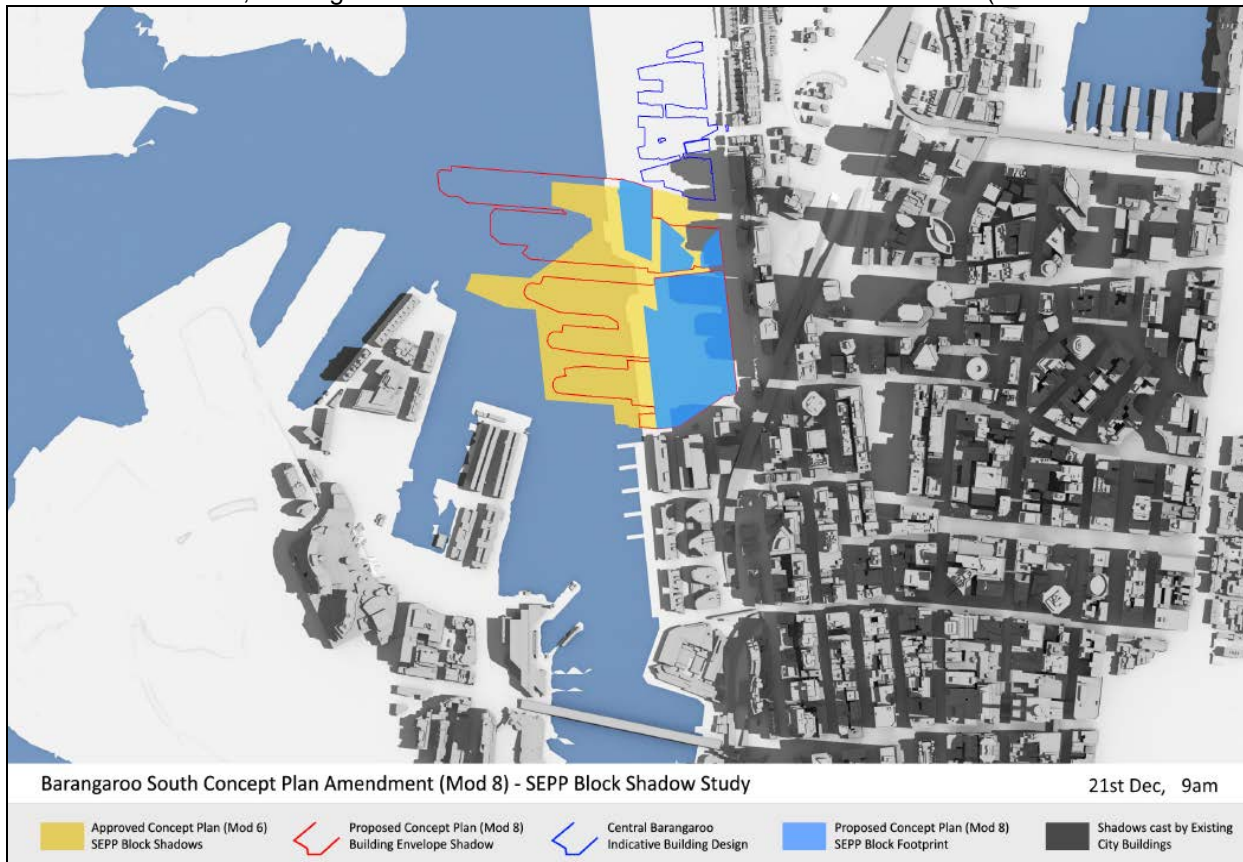


Figure 62: MOD 8 Shadow Diagrams December 21, 9am- MOD 6 shadow shown in yellow, MOD 8 shadow shown in red outline, Barangaroo Central indicative shadows shown in blue outline (Source: Virtual Ideas)

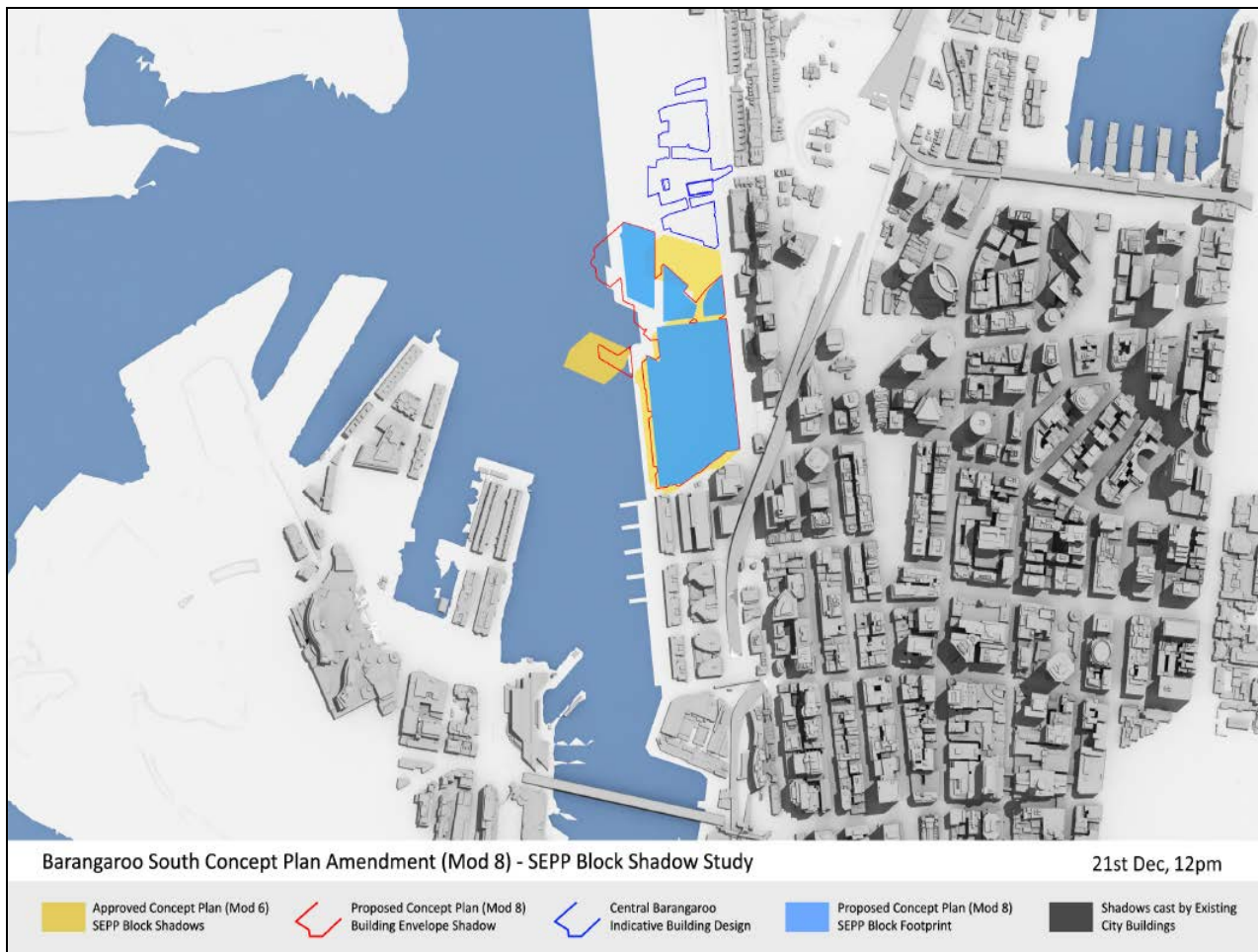


Figure 63: MOD 8 Shadow Diagrams December 21, 12noon- MOD 6 shadow shown in yellow, MOD 8 shadow shown in red outline, Barangaroo Central indicative shadows shown in blue outline (Source: Virtual Ideas)

5.4.4 Wind

The Barangaroo site is susceptible to winds from a variety of directions and experiences strong winds from the south and to a lesser extent, the west and north-east. The application includes a Wind Impact Assessment (WIA), which analyses the existing wind climatology and tested wind impacts resulting from the modified Barangaroo Concept Plan via a wind tunnel study.

The WIA indicates that from a comfort perspective, the majority of locations around the site are acceptable for pedestrians sitting, standing or walking. However, pedestrians may experience difficulties during windy conditions as shown at the locations noted in **Figure 64**. The WIA has confirmed that the wind environment remains generally consistent with the current approved concept plan and concludes that wind impacts can be suitably mitigated through further site testing and detailed design development to ensure an acceptable pedestrian level wind environment suitable for the intended uses of the site.

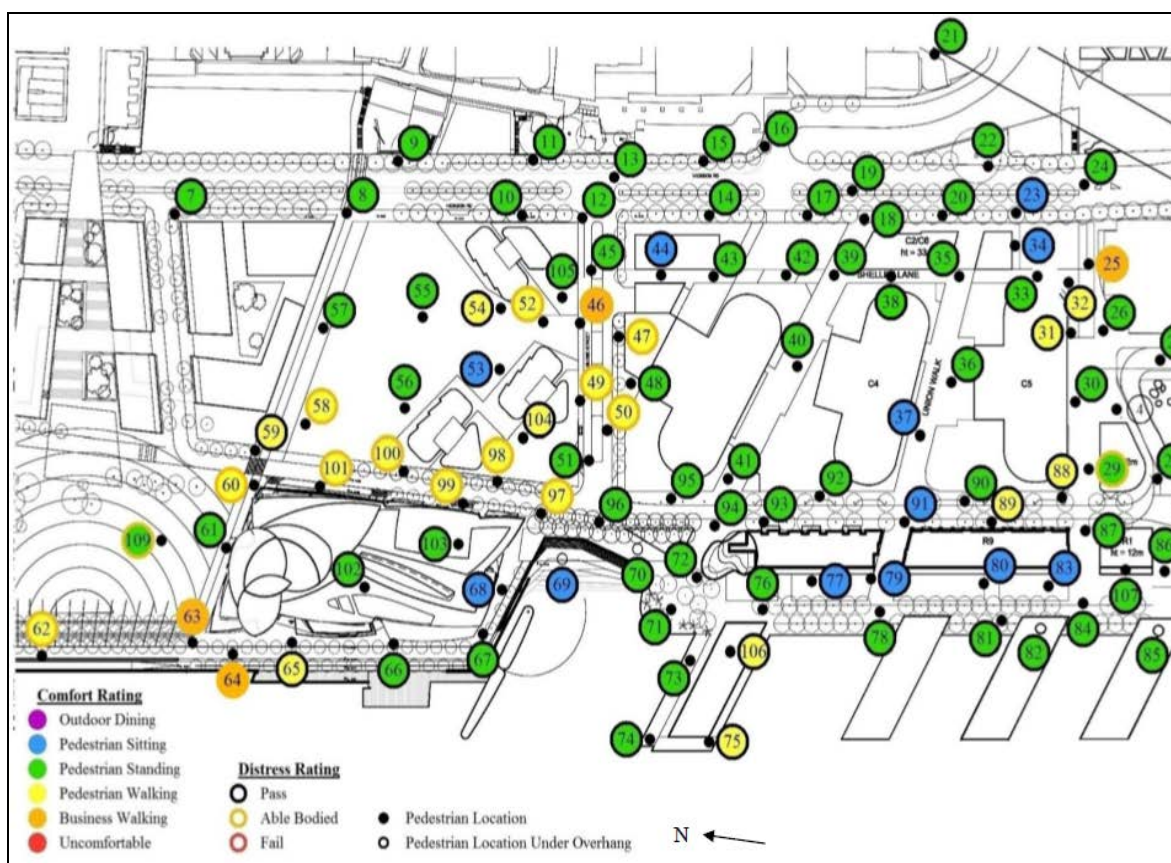


Figure 64: Classification of wind conditions / pedestrian comfort levels during winter months
(Source: applicant's modification application)

Concern was raised in public submissions about the potential for wind tunnel effects within the public domain. Council and the DAP have raised concern that the downdrafts caused by the Block Y envelope will result in detrimental wind impacts on the adjacent public realm.

The Proponent has stated that wind conditions are appropriate and the future provision of landscaping or other similar measures will further reduce wind impacts.

Globe Street and the section of Barangaroo Avenue located between Block Y and Hickson Park will experience instances of very strong winds due to downwash flows and the channelling of winds between the Block Y / R4A towers and R4B, R5 / C3 towers. As a consequence, 11 locations are classified as suitable for pedestrians walking and location 46 is classified as suitable for business walking (**Figure 64**). In all instances, the locations are classified as being navigable only by able-bodied pedestrians when conditions are windiest.

Locations 62, 63 and 64 are located at the north-western corner of Block Y (**Figure 64**) and are most exposed to prevailing winds. This area is the windiest part of the Barangaroo site. These locations will be exposed to downwash from Block Y that is accelerating around the north-west corner of Block Y and also by winds from the south being accelerated along the west façade of the tall commercial buildings. Locations 63 and 64 are most affected by these wind conditions and are classified for business walking by abled bodied persons during windy conditions.

The Department notes that wind impacts at location 25 will be addressed and mitigated by the installation of a loggia, which was recently approved under a separate application (MP10_0227 MOD 3).

Other than the locations discussed above, the Department considers that the expected wind conditions around the buildings are generally acceptable for the intended uses as public domain,

pedestrian footpaths/walkways and open space. The Department also notes that the CSHR application currently under assessment includes a detailed wind assessment.

The Department considers that further investigation is warranted to determine how wind impacts can be reduced and what mitigation measures can be employed to ameliorate the negative wind impacts particularly at the north west corner Block Y and along Barangaroo Avenue and Globe Street. The Department therefore recommends a future environmental assessment requirement requiring the submission of a detailed wind assessment report to accompany all future development applications (for above ground works) including the incorporation of specific mitigation measures into the design of buildings and the surrounding public domain.

5.5 Traffic, Car Parking, Access and Public Transport

As a result of the proposed increases in GFA, an increase in number of vehicle movements and car parking spaces has been forecast for MOD 8. A Transport Management and Accessibility Plan (TMAP) prepared by ARUP was submitted by the Proponent which identifies the predicted increases in traffic movements and car parking. The TMAP has been reviewed by TfNSW and RMS who each generally accept the TMAP, with the remaining issues identified as the quantum of car parking and traffic management. These matters are addressed separately below.

5.5.1 Traffic

The modifications proposed to the block boundaries will result in changes to the both traffic and pedestrian management on the site and the surrounding CBD road network. The City of Sydney and the RMS have raised concerns with the changes to the block boundaries, as outlined in **Section 4.0** of this report. Concerns were raised in public submissions and the City of Sydney submission regarding the traffic impacts associated with MOD 8.

The TMAP includes traffic modelling in order to determine the impacts of MOD 8 on the future road network performance, including the performance of key intersections. The road network performance was measured against three standard parameters being the Level of Service (LOS), Degree of Saturation (DoS) and the Average Vehicle Delay (AVD). The intersections modelled were:

- Sussex Street / Erskine Street;
- Hickson Road / Napoleon Street;
- Kent Street / Margaret Street; and
- Hickson Road / Globe Street.

The traffic analysis undertaken by ARUP indicates that MOD 8 will result in little difference to the road network operation and therefore, that the impacts on MOD 8 of the road network operation will be marginal. The results of the traffic modelling are summarised in **Table 11** below.

Table 11: Traffic Modelling Results

Peak	Intersection	TMAP 2008 (MOD 2 GFA)			TMAP		
		LOS ¹	DOS ²	AVD (sec)	LOS ¹	DOS ²	AVD (sec)
AM	Sussex Street/ Erskine Street	B	0.60	27	B	0.60	27
	Hickson Road/ Napoleon Street	E	1.00	68	E	1.00	69
	Kent Street/ Margaret Street	B	0.69	25	B	0.77	26
	Hickson Road/ Globe Street	B	0.65	15	B	0.62	16
PM	Sussex Street/ Erskine Street	E	0.97	59	D	0.97	55
	Hickson Road/ Napoleon Street	D	0.94	48	D	0.92	43
	Kent Street/ Margaret Street	B	0.81	24	B	0.75	23
	Hickson Road/Globe Street	A	0.48	11	A	0.47	11

1 LoS range from A (very good) to F (over capacity with significant delays)

2 DOS of 1.00 indicates that the intersection is operating at capacity

The Department notes that TfNSW and the RMS have not raised concerns in relation to traffic management analysis and the results provided in the TMAP. However, they have requested that further consultation be undertaken with the CBD Coordination Officer to address a number of outstanding traffic and transport matters, including in relation to traffic signals at the Hickson Road and Shelley Street intersection (future signalised pedestrian crossing) and coach parking.

The RMS has also advised that the traffic signals have been approved by the RMS and the CBD Taskforce at the Hickson Road/Sussex and Napoleon Streets and Hickson Road and Shelley Street intersections. RMS has further advised that the design for the Hickson Road and Globe Street (now Watermans Quay) intersection is yet to be approved and further consultation is required to progress the conceptual intersection design, as well as the proposed changes to the Hickson Road and Shelley Street intersection, which is proposed to change to a signalised pedestrian crossing (refer to **Figure 65**).

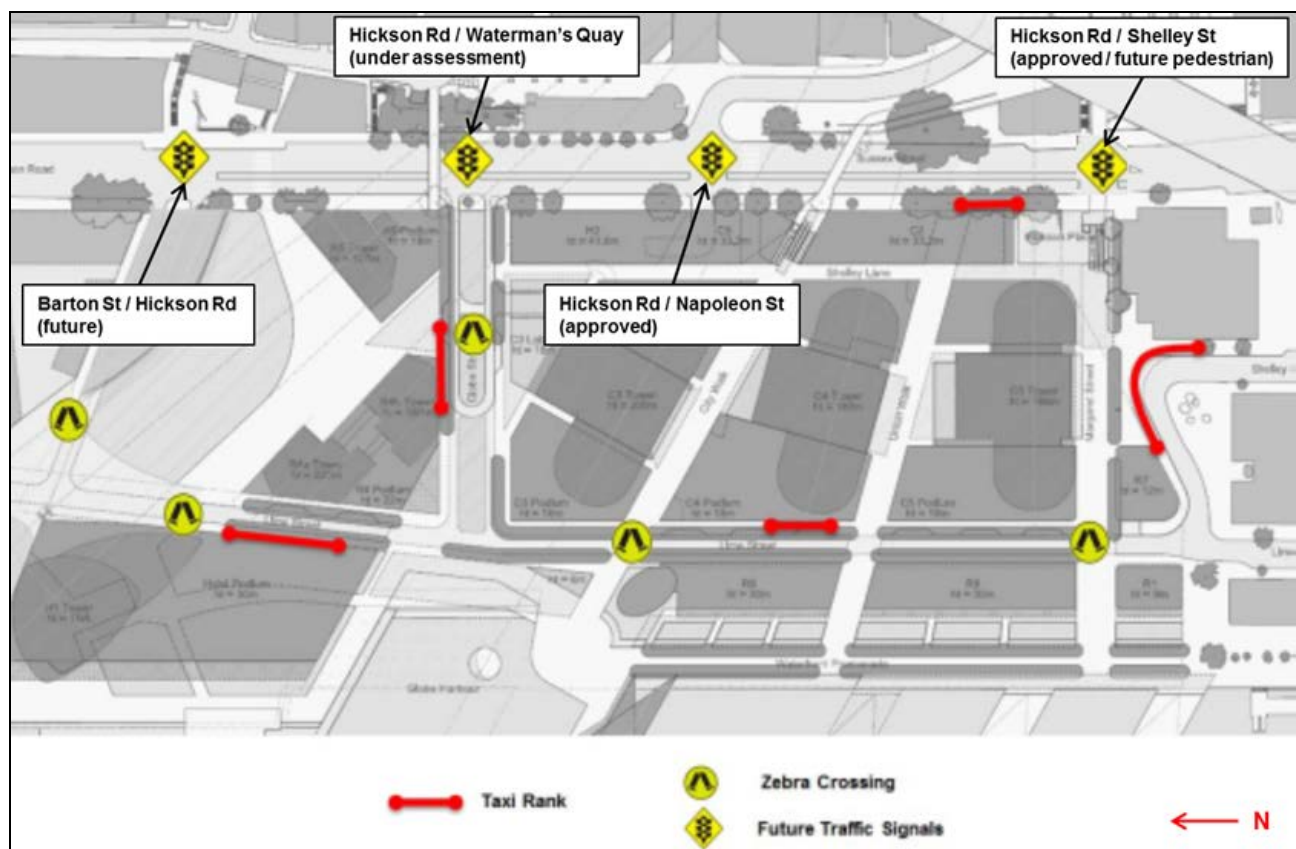


Figure 65: Approved and proposed signalised intersections at Barangaroo South (Source: Arup)

The Department notes that the Proponent consults with the RMS and Transport for NSW on an ongoing basis regarding future changes to the road network and potential impacts to Barangaroo and the broader CBD road network. The Department supports the changes to the block boundaries from an urban design and traffic impact perspective, and has recommended that continued consultation be undertaken with TfNSW and RMS prior to the Proponent submitting an amended TMAP (to reflect future intersections along Hickson Road, including the future pedestrian signalised intersection at Hickson Road/Shelley Street) and that the results of this consultation be incorporated into the amended TMAP.

5.5.2 Car Parking

MOD 8 does not seek to amend the parking rates approved in the Barangaroo Concept Plan. However, in respect to the Block Y and specifically the hotel component, MOD 8 seeks to apply an indicative number of car parking spaces based on an analysis of the hotel operations at the Crown Resort in Melbourne.

Based on the proposed GFA and the an indicative dwelling mix, MOD 8 anticipates that a total number of 3,318 car parking spaces will be required for Barangaroo South. This represents a 23% increase in the number of car parking spaces approved in MOD 4. **Table 12** below illustrates the predicted parking numbers based on the proposed land use distribution proposed in MOD 8 compared to that currently envisaged by MOD 4.

The Department notes that MOD 8 seeks to retrospectively reconcile the reduction in on-street parking (a concern of the City of Sydney) as a result of the approved pedestrianisation of a number of east-west links through Barangaroo South (i.e. City Walk, Union Walk and Transport Place) thereby reducing on-street parking from 275 spaces to 40 spaces.

As outlined above, while TfNSW has not raised concerns about the general increases in car parking it does have concerns in relation to the Proponent's reliance on off-site parking to support the quantum of car parking spaces (500 spaces) attributed to the Crown Sydney Hotel Resort development (Block Y). These concerns relate specifically to the TMAP identifying that an indicative 500 spaces would be provided on site despite a forecast demand during Crown Sydney Hotel Resort's peak periods of 800 spaces (Friday, Saturday and Sunday generally in afternoon and evening periods).

Table 12: Comparison of Parking Supply Spaces

Land Use	TMAP Mod 4	TMAP Mod 8
Commercial/Mix Use	652	647
Hotel	156	500
Residential	1,166	1,688 ¹
Parkland public car parking	300	300 ²
Total On site	2,274	3,652
Hickson Road on-street parking	125	125
On-street parking within Barangaroo	275	25 (Barangaroo South) 15 (Barangaroo Central)
Public Buildings	16	16
Ports Parking	0	0
Grand Total	2,690	3,318

¹ Based on an indicative dwelling mix for residential uses. Final residential car parking provision to be determined in future development applications.

² Includes parking related to the service apartments, retail and gaming component, and based on expected demand based on survey of comparable facility.

The Proponent contends that during periods when car parking is exceeded, the shortfall of 300 spaces can be absorbed by existing off-street publicly accessible commercial car parks located in the vicinity of the site (i.e. Headland Park and parts of the western CBD). In order to further address this issue, the Proponent has suggested that shared parking arrangements could be established with nearby commercial buildings as an efficient means of managing parking requirements. However, TfNSW has advised that the Proponent has not demonstrated that adequate parking would be available in the vicinity of the Barangaroo precinct to meet this anticipated demand.

The Department supports reduced car parking rates in areas with good access to public transport, however accepts that any proposed car parking needs to be supported by a clear analysis. For this reason, the Department generally agrees with the recommendation of TfNSW for further analysis of the capacity and demand of nearby car parking be provided in respect to the Crown Sydney Hotel Resort application proposed within Block Y. The Proponent has subsequently addressed this recommendation in the RtS submitted for the Crown Sydney Hotel Resort. On the basis of the RtS advice prepared by ARUP, which includes an analysis of car parking (on-street and off-street) within in the vicinity of the Barangaroo precinct, the Department is satisfied that the parking shortfall anticipated for the hotel can be adequately serviced off-site.

Based on the above, the Department considers that the parking proposed to be acceptable. Whilst the Department acknowledges that there is a considerable increase in residential car parking attributed to the increase in residential GFA proposed in MOD 8 (i.e. an increase of 522 spaces), the Department notes that the traffic analysis provided in the TMAP indicates that there will be a marginal change in the road network performance due to the minor increase in traffic arising from the modification application. On this basis, the Department finds this aspect of the proposal acceptable.

5.5.3 Access

The street network at Barangaroo South comprises roads, streets, laneways and pedestrian thoroughfares (refer Table 13 and Figure 66). MOD 8 proposes changes to vehicular access at Barangaroo South by allowing Lime Street (now Barangaroo Avenue) to continue to run northwards between Block 4A and Block Y. MOD 8 also reconciles Transport Place as a key pedestrian access route as identified in the Stage 1A public domain application and modification to commercial building C5 (MOD 3). Previously, Lime Street terminated at the Southern Cove and vehicles were required to turn right into Globe Street (now Watermans Quay). MOD 8 also reconciles Transport Place as a key pedestrian access route as identified in the Stage 1A public domain application and modification to commercial building C5 (MOD 3) and identifies Barton Street (potential) which runs east/west between the northern frontage of Hickson Park and Barangaroo Central.

Table 13: Barangaroo South street network

Street network	Use
Hickson Road	Main vehicular route running north/south
Lime Street (Barangaroo Avenue)	Secondary vehicular route running north/south
Globe Street (Watermans Quay)	Main vehicular route running east/west
Barton Street (potential)	Secondary vehicular route running east/west
City Walk	Main pedestrian route running east/west and which links to the City Walk Bridge and Wynyard Walk (under construction)
Union Walk	Pedestrian route running east/west
Transport Place	Pedestrian route running east/west which connects the CBD, Wynyard Station and Barangaroo Ferry Hub

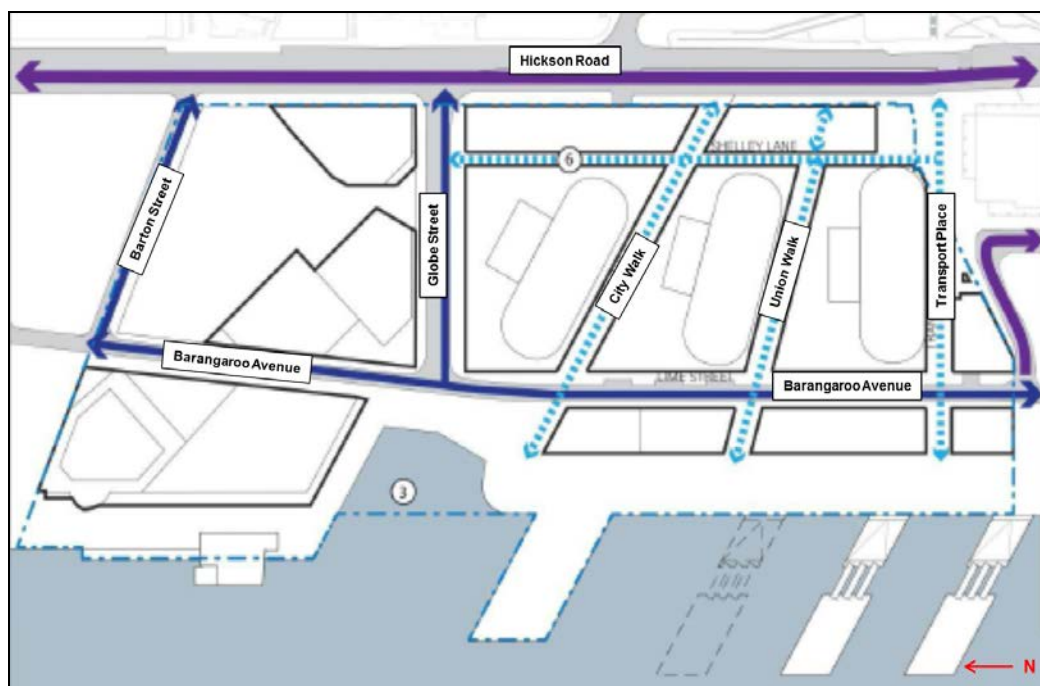


Figure 66: Street network at Barangaroo South (Source: Arup)

City of Sydney has identified that no details have been provided to confirm the design solution for Barton Street and it is not addressed in the design guidelines and has suggested that vehicle access to the basement parking and loading areas should be minimised to reduce adverse impacts on the public domain.

The DAP has also raised concerns about the potential traffic and pedestrian conflict in the vicinity of Block Y and Hickson Park (see **Figure 67**) and has recommended that the design of the street network, parking and delivery access points and the porte cochere of Block Y minimise pedestrian conflict.

The Proponent has stated that the design of the public domain is at a formative stage and future applications will determine the outcomes. In addition, the Proponent states that pedestrian studies indicate that the vast majority of pedestrian movements are unlikely to use Barangaroo Avenue and all driveway crossings will be fully integrated and footpaths will be designed with consistent paving material to re-enforce the pedestrian right-of-way.

The Department is satisfied that the detailed design of both Barangaroo Avenue and Barton Street can satisfactorily mitigate the potential for pedestrian and vehicular conflict at Block Y. In this regard, a future environmental assessment requirement is recommended that will require the future design of the Stage 1B public domain development application to minimise the potential for vehicular and pedestrian conflict and that a road safety audit be undertaken.

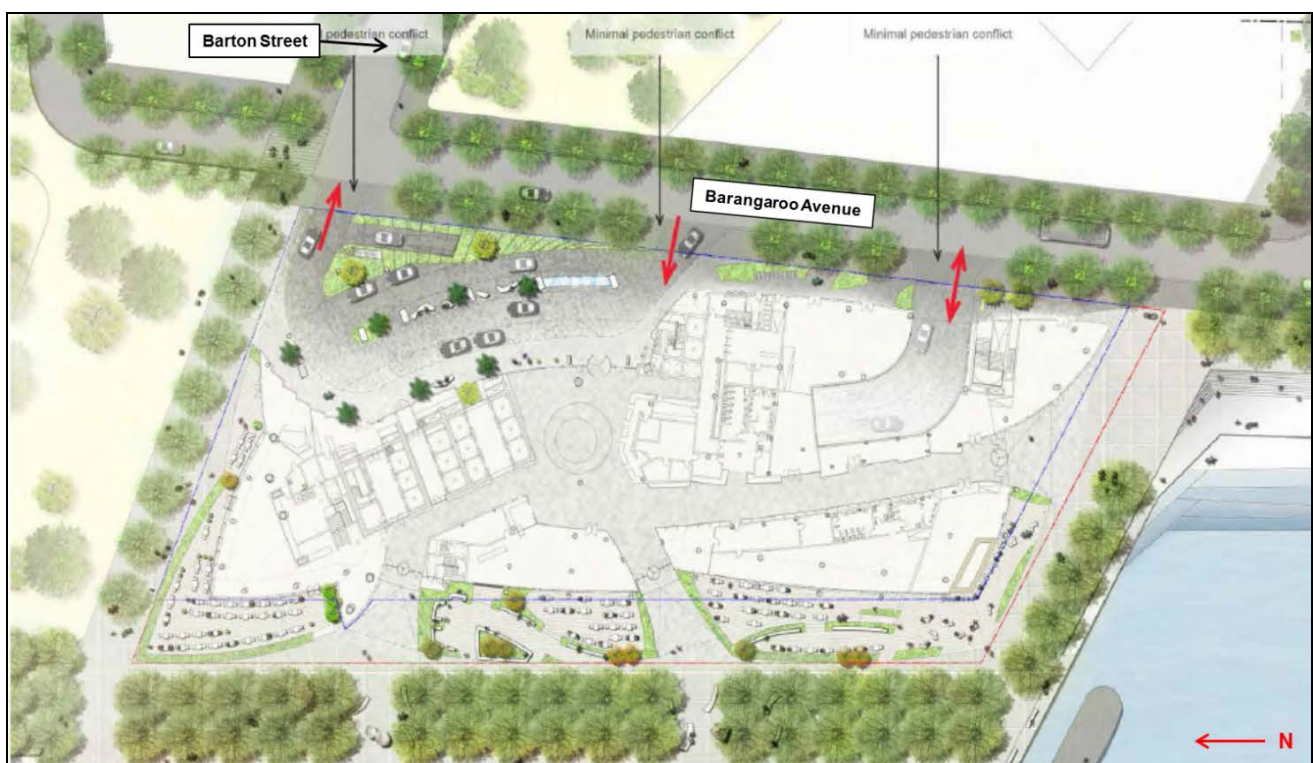


Figure 67: Vehicular access into Block Y from Barangaroo Avenue (Source: Lend Lease / Crown)

5.5.4 Public Transport

The TMAP prepared for MOD 8 identifies mode split targets for the journey to work in the Barangaroo precinct as 84% by public transport (61% rail, 19% bus, 4% ferry); 12% pedestrian / other and 4% car (refer to **Table 14**). The changes in mode share relate to increases in ferry patronage (from 1% to 4%) and very minor decreases in rail (from 63% to 61%) and bus (from 20% to 19%). The TMAP outlines that the increases in the mode share for workers travelling by ferry relates to the travel patterns of commuters who currently work at Circular Quay. The Department

notes that these figures reveal that planning for Barangaroo has sought to achieve a high level of public transport use, walking and cycling, and which restricts vehicles and car parking.

Table 14: TMAP Mode Share

Mode	Approved	Proposed
Car	4%	4%
Bus / Light Rail	20%	19%
Train	63%	61%
Other (pedestrian, cyclists, motorcycles, taxi)	12%	12%
Ferry	1%	4%
Total	100%	100%

The TMAP also identifies a range of transport commitments which broadly reflect those contained in the Barangaroo Integrated Transport Plan which was released in August 2012. The Plan was prepared by the Barangaroo Transport Taskforce chaired by Transport for NSW and identifies the future transport needs of Barangaroo and outlines a range of key transport actions.

The Plan identifies both short-term actions to meet the initial occupation of Barangaroo (2015) and long-term actions to support full occupation post 2024. The Department notes that a number of the key actions have either been completed (i.e. City Walk Bridge), are in the process of being completed and finalised (Wynyard Walk, new bus routes, light rail), have planning approval (Barangaroo Ferry Hub, Transport Place), or are at the pre-planning phase (Wynyard Station upgrades).

In addition to these transport initiatives, a new underground station at Barangaroo was announced in June 2015. Part of the Sydney Metro, the new station at Barangaroo will attract up to 10,000 visitors per day and provide a new east-west connection across the CBD, connecting the new financial district hub at Barangaroo with Martin Place and beyond and provide easy access to the Barangaroo site for workers and visitors.

The Department has considered submissions made in relation to public transport and believes that the introduction of existing and proposed transport services will be of significant benefit and will provide for sufficient capacity to absorb additional workers and residents (from 23,598 to 26,444).

Consistent with current requirements of the Barangaroo Concept Plan, a modification has been recommended that requires the TMAP to be updated at key transport milestones, or as otherwise directed by the Secretary, including 2018 and 2024 to ensure that the development of Barangaroo is aligned with key planned public transport improvements

5.6 Other Issues

5.6.1 Heritage

Concerns were raised in public submissions about the impact of the proposal on nearby local and State significant heritage items, including Millers Point Conservation Area, Sydney Observatory and Sydney Opera House. Council has raised concern that the proposed increase in the height of the blocks and reconfiguration of blocks would have a detrimental impact on local and State significant heritage items, including Observatory Hill. The Office of Heritage and Environment (Heritage Division) raised concern that the proposal would have an adverse visual impact on the setting of a number of heritage items and conservation areas. The DAP did not raise any concern about potential heritage impacts.

The Proponent notes that the taller building forms proposed will be more visible due to their increased height. However, it considers that this will not have an adverse heritage impact as the towers will also be slimmer and provide gaps between buildings to provide appropriate view

corridors through the site. Furthermore, the Proponent argues that existing mature trees will ameliorate some of these impacts.

The Department notes that approval has been granted under previous amendments to the Barangaroo Concept Plan for building envelopes which would be visible from various heritage items and key vantage points within conservation areas as shown at **Figures 68** and **69**.



Figure 68: View south-west from Observatory Hill Park (Source: Proponent's application)

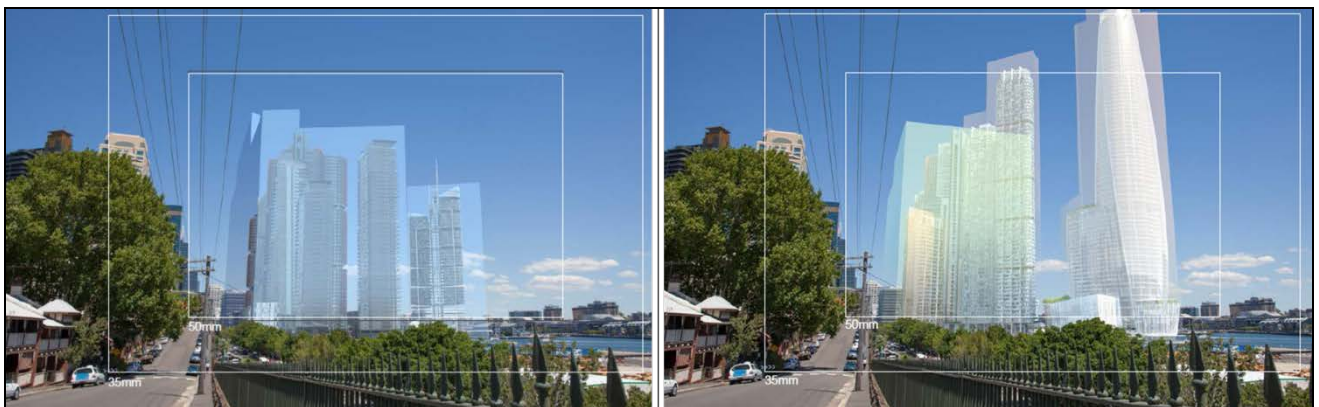


Figure 69: View south from the intersection of High and High Streets at Millers Point (Source: Proponent's application)

The Department also notes that the proposed reconfiguration, relocation and increase in height of building envelopes would result in buildings that would be more visible from nearby heritage items and conservation areas. However, the Department does not consider that these modifications would have a detrimental impact, such that amendments are warranted to the location or heights of building envelopes.

In this regard, the Department notes:

- the proposed modified building envelopes would not have a direct or physical impact on the historic fabric of any heritage items;
- the proposed modified building envelopes are not located adjacent to any heritage items and would therefore not have a direct impact on their historic setting;
- the approved building envelopes are already visible from key vantage points. Although the proposal is reconfigured and has increased in height, the Department considers that the changes are not so significant that they would have a detrimental heritage impact, enough to warrant an amendment to the scheme;

- the proposed building envelopes are located some distance from the surrounding heritage items and conservation areas and would not interrupt the existing visual relationship between heritage items/spaces, such as Observatory Hill and Millers Point; and
- the heritage impacts of the design and appearance of future buildings within the blocks will be considered as part of the assessment of future development applications.

A discussion of the impact of the modification on other key vantage points and public harbour views is provided in **Section 5.4**.

5.6.2 Sydney Observatory

Barangaroo South is located approximately 350 metres south-west of Observatory Hill and the Sydney Observatory. The proposed location and height of the modified development blocks would obstruct the following constellations when viewed from the Sydney Observatory between one and two months of the year:

- Southern Cross – partial obstruction of any of the five stars of the Southern Cross between 4 August and 29 September (56 days);
- Jewel Box Cluster – obstruction between 11 August and 6 October (56 days);
- Omega-Centauri global cluster – obstruction occurs between 25 August and 6 October (42 days); and
- The Pointers – partial obstruction of both of the Pointers between 1 September and 6 October (35 days).

Concerns were raised in public submissions and by Council about the impact of the development on the observational function of the Sydney Observatory. Council also raised concern that light spill from the future buildings in Blocks Y and 4A and 4B would impact on the clarity of the telescopes. The Museum of Applied Arts and Sciences (MAAS) has raised concern that the obstruction of important constellations will have an economic and social impact on the Sydney Observatory.

The Proponent has stated that the primary role of the Sydney Observatory is for education and recreation purposes. Due to its location within a dense urban centre, its other functional qualities, including its role as a scientific facility, form a secondary role. The Proponent provided Astronomical Reports, which conclude that impacts are limited to only a small portion of the year and for limited portions of the viewing times. In addition, it highlights that weather conditions, brightness of the moon, existing urban conditions and the nature of the Observatory's instruments are all existing constraints on the functional quality of the Observatory.

Having considered submissions and the Proponent's RtS, it is the Department's view that the obstruction of a number of constellations viewable from Sydney Observatory for a portion of the year is acceptable, as:

- the Observatory's location at the centre of Australia's largest and densest urban area is a significant constraint on its operation as a functional observatory;
- natural phenomenon, such as weather and moon brightness, would also prevent the observation of constellations;
- viewing sessions may be organised to target alternative constellations on the days in the year when the above noted constellations are obscured by the proposed development;
- the increase in the number of tourists and permanent residents as a result of the proposed increase in GFA represents significant economic opportunity for the Sydney Observatory to increase patronage; and
- a number of modern, significantly larger, more powerful and more appropriately located observatories are located within New South Wales, which have a dedicated scientific purpose.

The Department concurs with Council's comment that future buildings should not unreasonably result in adverse light spill and considers that this matter is best addressed as part of the assessment of future development applications. Consequently, the Department recommends a

future environmental assessment requirement for future applications to be accompanied by a Lighting and Light Spill Strategy.

5.6.3 Public Benefit

A number of submissions have identified that MOD 8 represents a disproportionate increase in benefits to the developer through the increase of GFA without a commensurate increase in public benefit. These concerns are echoed by the City of Sydney which also states that MOD 8 has failed to demonstrate how the additional GFA proposed (and specifically the Crown Sydney Hotel Resort) has public benefit over the existing foreshore open space currently approved.

The Proponent advises that the modified proposal will result in significant direct and indirect benefits to the wider community, the State of NSW and Australia, including significant land payments to the NSW Government for development rights, an increase in residential GFA resulting in additional key worker housing, the generation of training opportunities and 1,250 jobs during the Crown Sydney Hotel Resort's operation, and will assist in making Barangaroo an active and vibrant destination for overseas tourists.

Having considered the submissions and the RtS/PPR, the Department is generally satisfied that MOD 8 will continue to have a positive public and economic impact on Sydney and NSW. As a total development, Barangaroo will generate significant economic and employment opportunities during and post construction, and will provide significant new tourist and commercial floor space in the western part of the CBD aligning with the State Government's strategic policies as detailed in **Section 3** of this report.

Regarding additional public benefits, the DAP has recommended that where height is characteristic of tower design, public access to views from upper levels should be considered. Lend Lease has advised that numerous areas in the upper floors of the Crown Sydney Hotel Resort (sky villas, suites, crystal club dining and lounge) will be accessible to guests and patrons. BDA has advised that it does not support DAP's recommendation, although it supports it in principle to the extent it does not suggest that access to views from upper levels is required in all cases. The Department notes Lend Lease's response but does not believe that access to the upper levels of the tower, which is currently only proposed to be available to hotel patrons and guests, provides genuine public access. Hence, the Department supports the DAP's recommendation and has recommended as a future environmental assessment requirement that future development on Block Y comprehensively consider opportunities for public access in order to allow the general public to access views afforded by the building's height and location.

Subject to the above requirements, the Department considers MOD 8 will represent a public benefit of appropriate proportion and relevantly commensurate with the extent of the modifications proposed.

5.6.4 Affordable Housing/Key Worker Housing

The Housing Strategy prepared in accordance with the Concept Plan commits 2.3% of residential GFA in Barangaroo South to key worker housing. Based on the current Concept Plan approval (MOD 7), which establishes a current maximum residential GFA of 99,763 sqm for Barangaroo South, this would mean 2,295 sqm of GFA or roughly 39-46 one-bedroom apartments would be provided as key worker housing.

MOD 8 proposes an increase to the maximum amount of GFA attributed to residential uses in Barangaroo South from 99,763 sqm to 154,000 sqm or a net increase of 54,237 sqm. MOD 8 also proposes to retain the current approved quantum of residential GFA as key worker housing (i.e. 2.3%). This would result in an additional 1,248 sqm of key worker housing GFA or approximately 21-25 additional key worker apartments being provided within Barangaroo South. Taking into account MOD 8, it is estimated that 60-71 one-bedroom key worker apartments (or an alternative

housing mix) could be provided in Barangaroo South. The Proponent has confirmed in its RtS that the key worker housing is likely to be provided in Building R5 (Block 4B) and that a range of unit sizes could be provided.

The perceived lack of key worker housing and the need to increase its quantum has been a key issue raised by City of Sydney and Leichhardt Council and in a number of public submissions. The submissions have suggested that the quantum of key worker housing (often referred to as affordable or social housing) should be increased to a minimum of 10% or even 20%.

While the Department acknowledges the concerns around the rate of key worker housing, the Housing Strategy and Statement of Commitments propose a rate of 2.3% which the Department accepts is the rate that has been agreed through the Concept Plan and Housing Strategy and remains appropriate.

5.6.5 Contamination

MOD 8 does not propose to change the overall remediation strategy for the site as contemplated by the approved Concept Plan. In this regard, approved Statement of Commitments 72- 75 commit the Proponent to the preparation of a Remediation Action Plan (RAP) for each future development application and also commits the Proponent to the implementation of each RAP and their respective findings to ensure compliance with the legislative requirements of *State Environmental Planning Policy No. 55- Remediation of Land* (SEPP 55).

The Department notes that four key RAPs have been prepared for Barangaroo South as illustrated in **Figure 70** below and as detailed below:

- Stage 1A (Other Remediation Works South (ORWS) Area)- RAP prepared by AECOM dated July 2011 which was approved by the then Minister for Planning and Infrastructure as part of MP10_0023 MOD 1 for the construction of the basement carpark Stage 1A;
- Stage 1B Residential (including Block 4 and the NSW EPA Declaration Area)- RAP prepared by AECOM dated July 2013 which was approved by the Minister as part of SSD 5897. The Department notes that the completion of this remedial work will enable the NSW EPA's declaration of this Declared Area as a Remedial Site to be revoked;
- Stage 1B south west (part of the ORWS area)- RAP prepared by the AECOM dated October 2012 which was approved as part of the determination MP10_0023 MOD 5 for the works associated with the construction of the harbour heat rejection system (HHR) adjacent to the Stage 1A development area; and
- Stage 1C Hotel (part of the Other Remediation Works North (ORWN) Area)- RAP prepared by AECOM dated April 2015 and lodged with SSD 6956 for Stage 1C remediation and earthworks. SSD 6956 is currently under assessment by the Department.

The Department notes that each of the above RAPs were prepared to satisfy the requirements of SEPP 55. These RAPs cover most of the Barangaroo South area with the exception of land to the south and west of Block Y, being land that will be used for public domain and Watermans Cove. Separate RAPs will be prepared for this work and submitted with the respective future development applications in accordance with the remediation strategy.

The Proponent's RtS includes an amended Statement of Commitment committing to address the necessary remediation work as part of the future development applications for Watermans Cove, the public pier and surrounding public domain. Notwithstanding this, the Department notes that AECOM has advised that remediation of the soil and /or ground water in this area is unlikely to be required, based on the existing analytical results in this part of the site and the extent of remediation works already proposed for the Block 4 remediation and Stage 1C.

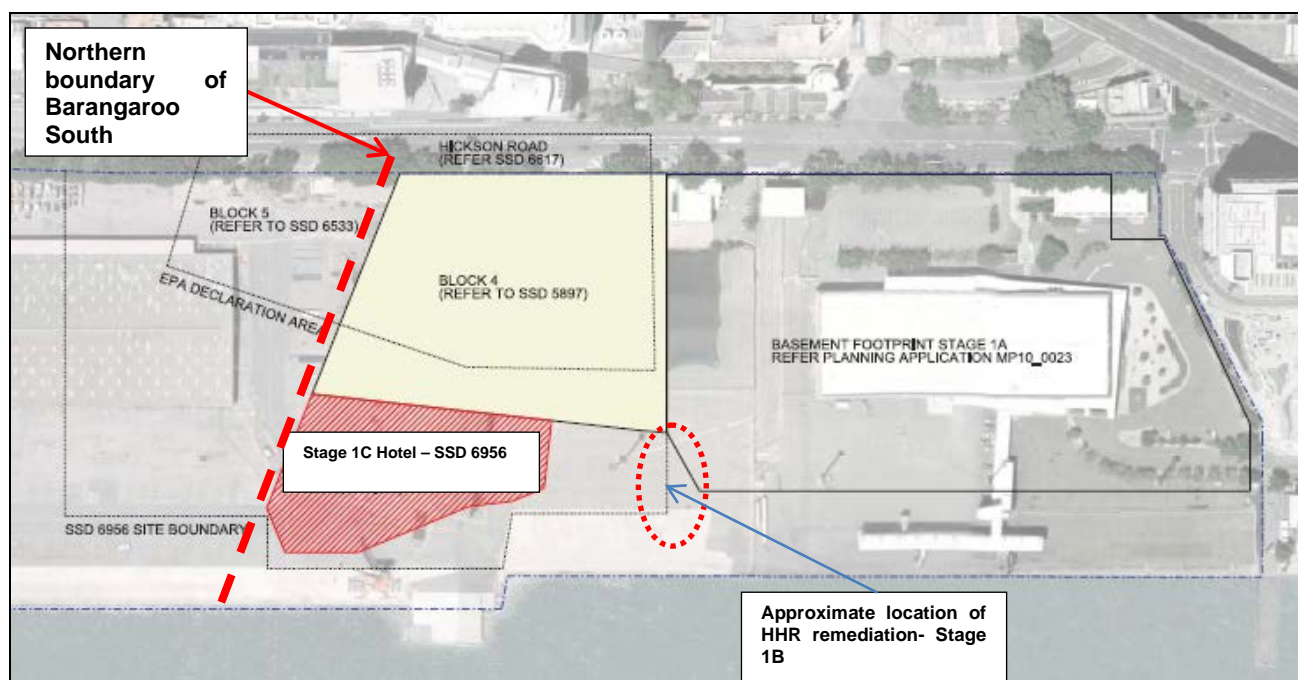


Figure 70: Location of Remediation works relevant MOD 8

The Department considers that the changes to the land use distribution proposed in MOD 8 (and in particular, the relocation of Block Y and the reconfiguration of Block 4 to incorporate both residential and open space/parkland) has been appropriately addressed in the RAPs listed above.

Further to the above, the Department is satisfied that these RAPs upon the full implementation of the remediation will ensure that the site is capable of supporting the land use distribution anticipated in the modification application. The Department also notes in accordance with the requirements of SEPP 55, that the RAPs would be required to be endorsed by an EPA accredited certifier and final Site Audit Statement and Report will be issued in accordance with current legislative requirements.

Having regard to the above, the Department is satisfied that the remediation strategy currently in place for the Concept Plan and the implementation of the respective remedial works detail above in conjunction with the Proponent's commitments will ensure that the site can be made suitable for the proposed future uses anticipated in the modification application.

5.6.6 Signage

MOD 8 also seeks approval to introduce new signage provisions into the Draft Barangaroo South Design Guidelines. These new provisions are provided below.

Performance Criteria	Design Solution
<i>To ensure that the location, size, appearance and quality of building signage is appropriate and is integrated into the overall design of the building.</i>	<p>DS1 Each building is to include details of appropriate primary signage zones for building identification or tenant signage.</p> <p>DS2 Retail and other tenant signage outside of primary signage zones is to be addressed by a signage strategy/ approval.</p> <p>DS3 The size and location of signage is to be proportional and located appropriately to the architecture of the building.</p> <p>DS4 Signage is appropriate at podium and tower levels (and mid-rise level in respect to the hotel building)</p> <p>DS5 Signage to be considered as part of the overall design of the building.</p> <p>DS6 Signage is to contribute to a diverse streetscape.</p>

The Department's assessment of these new provisions has identified that they are not as robust as the current signage provisions contained in the *Built Form Principles and Urban Design Controls for Barangaroo South*. In this regard, the current provisions for the commercial buildings restrict building identification signage to no more than two facades of the building and furthermore that the signage not exceed 1-storey in height.

In relation to the provision of signage and corporate branding on Block Y/Crown Hotel Sydney Resort, the DAP has advised that it has concerns with respect to the proposed Crown Hotel Sydney Resort branding at the top of the building given the sensitivity of its foreshore setting. In this respect, the DAP has recommended that no branding signage be located on the tower or above the podium.

In response to DAP's recommendation, the Proponent has advised that (as summarised):

- signage at the top of buildings is a prominent feature of the CBD skylines across the world, including the Sydney CBD;
- rooftop signage has been approved for other commercial buildings at Barangaroo;
- the signage is consistent with the provisions of SEPP 64, has been designed to a high standard and will not cause a distraction to drivers on nearby transport corridors; and
- the City of Sydney DCP 2012 allows signage on the top of buildings.

The Department has considered the comments both of DAP and the Proponent in relation to this matter. The Department is satisfied that despite the proposed height and location of the Crown Hotel Sydney Resort, it should be afforded signage rights consistent with other development in Barangaroo South and elsewhere in the Sydney CBD. Although the detail of the signage proposed at the rooftop of the tower and the lower rise tower will be assessed in the SSD application. Images of the proposed branding are provided at **Figure 71**.



Figure 71: Proposed Signage Crown Hotel Sydney Resort

Having regard to the above, the Department notes the concerns raised by the DAP but does not support its recommendation that no branding signage be located on the tower or above the podium. Subject to the Proponent updating the Barangaroo South Design Guidelines consistent with the recommendations outlined in **Section 5.2.2** (i.e. removal of design solutions), and providing a detailed signage strategy for each future building (as has been provided with the Crown Sydney Hotel Resort application), the Department raises no objection to this element of the modification application.

5.6.7 Marine Ecology

The impacts of MOD 8 to the foreshore alignment of part of Barangaroo South, including the public pier and boardwalk have been assessed in a Marine Ecological, Water Impact and Contaminated Sediment Impact Assessment Report (MIAR). The Department notes that DPI, EPA and the Ports Authority have not raised any concerns in relation to this aspect of the modification application.

In accordance with the SEARs, the MIAR includes an assessment of the potential impacts on aquatic habitat arising from construction and operation, including the geotechnical and contamination issues associated with the construction of the modified project. The MIAR also updates the findings of the previous marine ecological assessment undertaken for MOD 4 prepared by Worley Parsons.

The MIAR concludes that the reduced over-water construction associated with MOD 8 (i.e. reduction in extent of Watermans Cove and the public pier) is expected to result in consequential reductions in construction impacts. In summary, the MIAR concludes that:

- the construction methodology associated with Watermans Cove, the public pier and the adjustments to the shorelines can be managed and such impacts are considered to be negligible, localised and short-term in nature;
- due to the lack of aquatic vegetation at or in the vicinity of Barangaroo, no impacts on these habitats are expected;
- the placement of piles and other structures into the seabed would displace soft sediment benthic habitat and associated infauna. Notwithstanding this, the MIAR concludes that there is an abundance of similar benthic habitat in Sydney Harbour and therefore, the localised impacts on the benthic invertebrate communities of Sydney Harbour would be negligible;
- new intertidal and subtidal habitats will be created at Barangaroo South and will have a positive outcome for sessile invertebrates which may be displaced as a result of modification to the shoreline;
- a water quality monitoring program will be implemented throughout construction to ensure that water quality conditions are satisfactory prior to any discharge to the harbour. Post construction, Water Sensitive Urban Design principles are proposed to improve the quality of stormwater discharge to the harbour; and
- the concept proposal would not have any significant impacts on any threatened or protected species of flora or fauna.

Based on the above, the MIAR recommends that any potential impacts on water quality and aquatic ecology resulting from MOD 8 will be minimised, temporary and localised, and can be effectively mitigated using industry standard methods and techniques. This will include the installation of silt curtains around the work area and water quality monitoring to contain the possible immobilisation of existing contaminated sediment resulting from construction.

The Department notes existing future environmental assessment requirement C5 of the Concept Plan approval establishes the requirement for all future project applications which propose works for the formation of the Southern Cove (now referred to as Watermans Cove), the shoreline and the construction of the public pier to address in detail any impacts on existing marine ecology.

Furthermore, the Statement of Commitment 126 (as amended by MOD 8) commits the Proponent to comply with the recommendations of the technical reports submitted with the Concept Plan,

including the former report prepared by Worley Parsons. In combination, the Department is satisfied that the requirements of C5 and Statement of Commitment 126 (as amended) remain relevant and appropriate to address the modified Concept Plan and any potential impacts on water quality and aquatic ecology at the appropriate construction stage.

5.6.8 Navigational Impacts

MOD 8 is supported by a Navigational Impact Assessment Report. The report advises that the impacts on navigation associated with the construction of Watermans Cove will be minimal as construction would be undertaken entirely from the land. Therefore, the report concludes that there are unlikely to be any construction navigation impacts on Darling Harbour and given the reduced size of Watermans Cove (i.e. when compared with the approved Concept Plan), it is anticipated that any overall construction impacts would be reduced.

Since the lodgement of MOD 8, approval has been issued for the construction of the Barangaroo Ferry Hub (SSI 6727). As detailed in **Section 4.6** of this report, the alignment of the public pier has been adjusted in the RtS/PPR to respond to the approved layout for the Barangaroo Ferry Hub and will run parallel to the orientation of the approved wharves.

The RtS/PPR includes an addendum to the Navigational Impact Assessment Report, which specifically assesses the potential impact of the amendments to MOD 8 on the safety and navigation of the Barangaroo Ferry Hub. In this regard, it has been advised that the navigational clearance between the northern most ferry wharf and the proposed public pier would be greater than the width provided within the Barangaroo Ferry Hub, and therefore is unlikely to result in adverse navigation and safety issues. However, in order to mitigate any potential construction and operational impacts on the Barangaroo Ferry Hub, the report has recommended the following:

- that a Construction Vessel Traffic Management Plan be prepared in consultation with the Ports Authority of NSW, the RMS and TfNSW prior to the commencement of construction; and
- that fender piles be installed adjacent to the southern side of the public pier to delineate a navigational clearance/berth box for the northern most ferry berth.

TfNSW has raised a number of issues in their response to the RtS in relation to the potential impacts of the public pier on ferry navigation both during the construction and operation phases, as detailed in **Section 4.7** of this report. Additional concerns have also been raised regarding the future community building proposed on the public pier and potential impacts on navigational safety and sight lines to and from the Barangaroo Ferry Hub.

As detailed above, the Department supports the concept for the public pier and community building and considers this to be a positive aspect of MOD 8 which will provide broader public benefit. The Department is satisfied that the issues raised by TfNSW can be dealt with by relevant future environmental assessment requirements and in conjunction with the recommendations in the RTS, that navigation and safety issues can be appropriately addressed during the design development of the future applications.

Accordingly, the Department has recommended future environmental assessment requirements to address the following:

- for the Proponent to comply with the recommendations of the reports prepared by Royal Haskoning DHV;
- for the Proponent to consult with TfNSW regarding the location, orientation and design of the public pier and the future community building prior to the lodgement of the future application/s; and
- for a Navigation Impact Assessment to be submitted with the future development applications for both the public pier and the public building to demonstrate that adequate clearance is maintained at all times and that the proposal will not have an adverse impact on ferry navigation and safety.

The Department is also aware that there is ongoing consultation between TfNSW and Lend Lease in relation to the integration of the Barangaroo Ferry Hub with Barangaroo South. Consequently, the Department is satisfied that issues relating to design development, construction and ongoing operation of the public pier and community building can be resolved at the future development application stage. Therefore, subject to compliance with the above future environmental assessment requirements, the Department considers that any adverse impacts on ferry navigation and safety can be suitably minimised and mitigated.

5.6.9 Wintergardens

MOD 8 proposes the introduction of wintergardens (as an alternative to traditional balconies) into the design of residential buildings R4A, R4B and R5 on development Blocks 4A and 4B and also seeks approval for the GFA attributed to wintergardens to be excluded from the overall GFA calculation. The Proponent has also advised that this exemption will apply to Block Y and it is estimated that the proposed wintergardens are likely to result in the GFA increasing by an additional 11,738 sqm or 6.4% in Blocks 4A, 4B and Y as detailed below in **Table 15**.

Table 15: Wintergarden GFA

Block	Proposed GFA	Wintergarden GFA	Total GFA
4A	86,979	7,761	94,740
4B	19,158	1,812	20,970
Y	77,500	2,165	79,665

The Proponent has advised that the wintergardens are a necessary design requirement of new residential buildings in order to deliver high quality amenity to building occupants and to address adverse wind conditions which typical occur to balconies in residential towers. Section 5.1.2 of the proposed Draft Barangaroo South Design Guidelines includes the following design criteria and design solutions for wintergardens:

Design Criteria	Design Solution
<p><i>Apartments have access to useable outdoor open space.</i></p> <p><i>For apartments in towers, this takes the form of wintergardens to minimise the adverse impacts of wind at higher elevations.</i></p> <p><i>Wintergardens are of a high architectural design quality and are integrated with the design of the building</i></p>	<p>DS3 Wintergardens are encouraged in high-rise buildings where wind impacts do not support the provision of balconies. In such circumstances, wintergardens may not be considered GFA if they:</p> <ul style="list-style-type: none"> a. are designed and constructed as a private external balcony with drainage, natural ventilation and finishes acceptable for use as an outdoor/indoor wintergarden space; and b. adopt transparent materials that maximise daylight access and views. Any non-transparent materials must not exceed a height of 1.4m

The Department has considered the proposed amendment to exclude wintergardens from the GFA calculation and also the Draft Barangaroo South Design Guidelines. As a result, the Department accepts this approach in principle. However, does not consider that the design criteria or the design solutions provide sufficient certainty and/or limitations around potential design of wintergardens. Furthermore, there is no restriction on the size of a wintergarden relative to the apartment type to which they relate.

The Department notes that a draft amendment is currently proposed to *Sydney Local Environmental Plan 2011* which includes provisions to similarly allow wind affected balconies on high-rise residential towers to be partially enclosed without counting the floor space towards gross floor area, subject to meeting a specific design outcome. Specifically, the new clause would:

- apply to residential flat buildings over 30 metres in height;
- enable the partial enclosure of balconies to provide private open space that is usable and has reasonable amenity;

- allow the maximum area that may be excluded from the calculation of gross floor area to be limited to 15% of the gross floor area of the apartment to which the enclosed balcony is connected; and
- require that the design satisfies the following requirements:
 - the enclosure is designed as a balcony for use as external open space;
 - the enclosure has adequate natural ventilation and cannot be fully enclosed; and
 - the bulk of the building would be no greater than if the balconies were not partly enclosed.

Having regard to the above, the Department supports the proposal to exclude wintergardens from calculation of GFA in the Concept Plan, subject to the Proponent amending the Built Form Principles and Urban Design Controls to incorporate specific design standards for wintergardens which align with the City of Sydney provisions. As detailed in **Section 5.2.2**, an amended set of Barangaroo South Built Form Principles and Urban Design Controls is required to be submitted to the Secretary for approval prior to the determination of any future SSD application for above-ground works on Block Y.

5.6.10 Social Impacts

The Department notes that a number of submissions have raised concerns in relation to the potential negative social impacts arising from the proposed casino use. The Department is satisfied that the Proponent's application has adequately addressed the social impacts arising from this use for the purposes of MOD 8, and notes that the Proponent committed to providing a detailed social impact assessment with the Crown Sydney Hotel Resort development application. Subsequently, a detailed Social Impact Assessment was provided with the application, which outlines the social impacts arising from the proposal.

The Department notes that matters raised in submissions in relation to the social impacts of the casino and its licensing will be relevantly and appropriately considered in the assessment of the SSD application.

6. CONCLUSION

The Department has assessed the merits of MOD 8 carefully taking into consideration relevant environmental planning instruments and issues raised in public and agency submissions. The Department is cognisant of the objections raised in submissions relating to the proposed relocation of Block Y, the increases in building heights and GFA and the consequential changes to the urban structure, impacts on the public domain and open space, including the privatisation of the Central Parklands and creation of Hickson Park, and amenity and potential traffic impacts.

The Department is also aware of the concerns raised in submissions in relation to the scope of the modifications proposed, although is satisfied that the proposal is within the scope of section 75W of the EP&A Act and is capable of being considered and subsequently approved as section 75W modification under the EP&A Act by the Planning Assessment Commission.

Having considered the matters noted above, it is the Department's view that the urban structure, building height, GFA and land mix components of MOD 8 are generally reasonable and acceptable.

As outlined in this report, the DAP has made 20 recommendations, and specifically has made a number of key recommendations in relation to Block Y and public open space. These include reducing the footprint, height and scale of the Block Y podium and scale of the Block Y tower, improving the visual and physical permeability between Hickson Park, the Central Parklands and the waterfront, and significantly increasing the dimensions of the waterfront promenade (west and south of Block Y).

The Department has reviewed this advice, the Proponent's response and initially recommended amendments to the Block Y podium to improve its relationship with surrounding open spaces and to reduce its overall length.

The Proponent's response to the Department's recommendations has indicated that amended design solutions can be achieved to address the intent of the recommendations, including to reduce the perceived visual bulk of the Block Y podium, to reconfigure Watermans Cove to improve the physical dimension of the promenade, and to incorporate an east/west view corridor to the north of Block Y to improve the physical and visual connectivity between the Hickson Park and the waterfront and its integration with the Central Parklands.

Critically, the Department notes the recommended changes now proposed by the Proponent will assist in resolving the concerns raised by the DAP and changes sought by the Department in respect of the bulk and scale of the Block Y podium and the arrangement, connectivity and amenity for the adjacent public open spaces. The Department has recommended a number of modifications to the Concept Plan approval to align with the Proponent's amended design and to ensure the improvements proposed to the public domain and the design of Block Y are realised in the future development.

The Department has also recommended a number of future environmental assessment requirements to ensure that future applications will provide well-resolved outcomes with regard to built form and open space quality, traffic and access through the site, and other amenity issues.

Subject to compliance with the above, the Department concludes that the changes proposed are acceptable and will continue to result in a significant public benefit associated with the redevelopment of the site and will align with key State strategies.

The modification application is therefore considered to be in the public interest and should be approved, subject to the recommendations outlined in this report.

7. RECOMMENDATION

It is recommended that the Planning Assessment Commission:

- a) **consider** the findings and recommendations of this report;
- b) **provide advice** to the Minister on the appropriateness of the making of the *State Environmental Planning Policy (Barangaroo) 2015* amendment; and
- c) following the making of the *State Environmental Planning Policy (Barangaroo) 2015*, **determine** the modification application consistent with the attached Instrument of Modification (Appendix P).

Prepared by: Sara Roach
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Key Sites Assessments

Endorsed by:



Ben Lusher
Director
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Endorsed by:



David Gainsford 29/3/16
Executive Director
Priority Projects Assessments

APPENDIX A: SUMMARY OF PLANNING HISTORY- CONCEPT PLAN

Barangaroo Concept Plan MP 06_0162

The then Minister for Planning approved the Barangaroo Concept Plan (MP 06_0162) on 9 February 2007. The Concept Plan approval allowed for:

- A mixed use development involving a maximum of 388,300 sqm of gross floor area (GFA) contained within eight blocks on a total site area of 22 hectares (ha);
- Approximately 11 ha of new public open space/public domain, including a 1.4 kilometre (km) public foreshore promenade;
- A maximum of 8,500 sqm GFA for a passenger terminal and a maximum of 3,000 sqm GFA for active uses that support the public domain within the public recreation zone;
- Built form design principles, maximum building heights and maximum GFA for each development block within the mixed use zone;
- Alteration of the existing seawalls and creation of a partial new shoreline to the Harbour;
- retention of the existing Sydney Ports Corporation Port Safety Operations and Harbour Tower Control Operations including employee parking; and
- An underground car park beneath the northern headland park, containing approximately 300 car parking spaces.

The capital investment value (CIV) of the approved Concept Plan was \$1.5 billion with up to 16,000 operational jobs. The approved layout is shown in **Figure 1** (overpage).

It is important to note that Modifications B1 to B3 and C1 of the Concept Plan approval required design amendments to the approved scheme, including provision of a “naturalised” northern cove and headland, and enlargement of the Southern Cove. In terms of the Southern Cove, this included recognition of the need for consequential reconfiguration of the development blocks and redistribution of the gross floor area (GFA) within the site (Modification C1 of the approval).

The subject modification responds to the requirements in the Concept Plan approval relating to the Southern Cove, while proposing additional built form and public domain changes beyond reconfiguration of the approved floor space.

The following outlines the subsequent 3 modification approvals to the Concept Plan:

MP 06_0162 MOD 1

On 25 September 2007, the Executive Director, Strategic Sites and Urban Renewal, as delegate of the Minister for Planning, approved a minor modification to the approved Concept Plan to correct minor typographical errors and re-wording of the design excellence terms. This modification did not alter the maximum GFA or mix of uses.

MP 06_0162 MOD 2

On 16 February 2009, the then Minister for Planning approved a second modification to the Concept Plan to increase the GFA of commercial uses by 120,000 sqm in Blocks 2, 3, 4 and 5, to a total overall GFA of 438,000 sqm. The modification increased the total maximum GFA for Barangaroo to 508,300 sqm (an increase of 120,000 sqm or 31 per cent over the whole site).

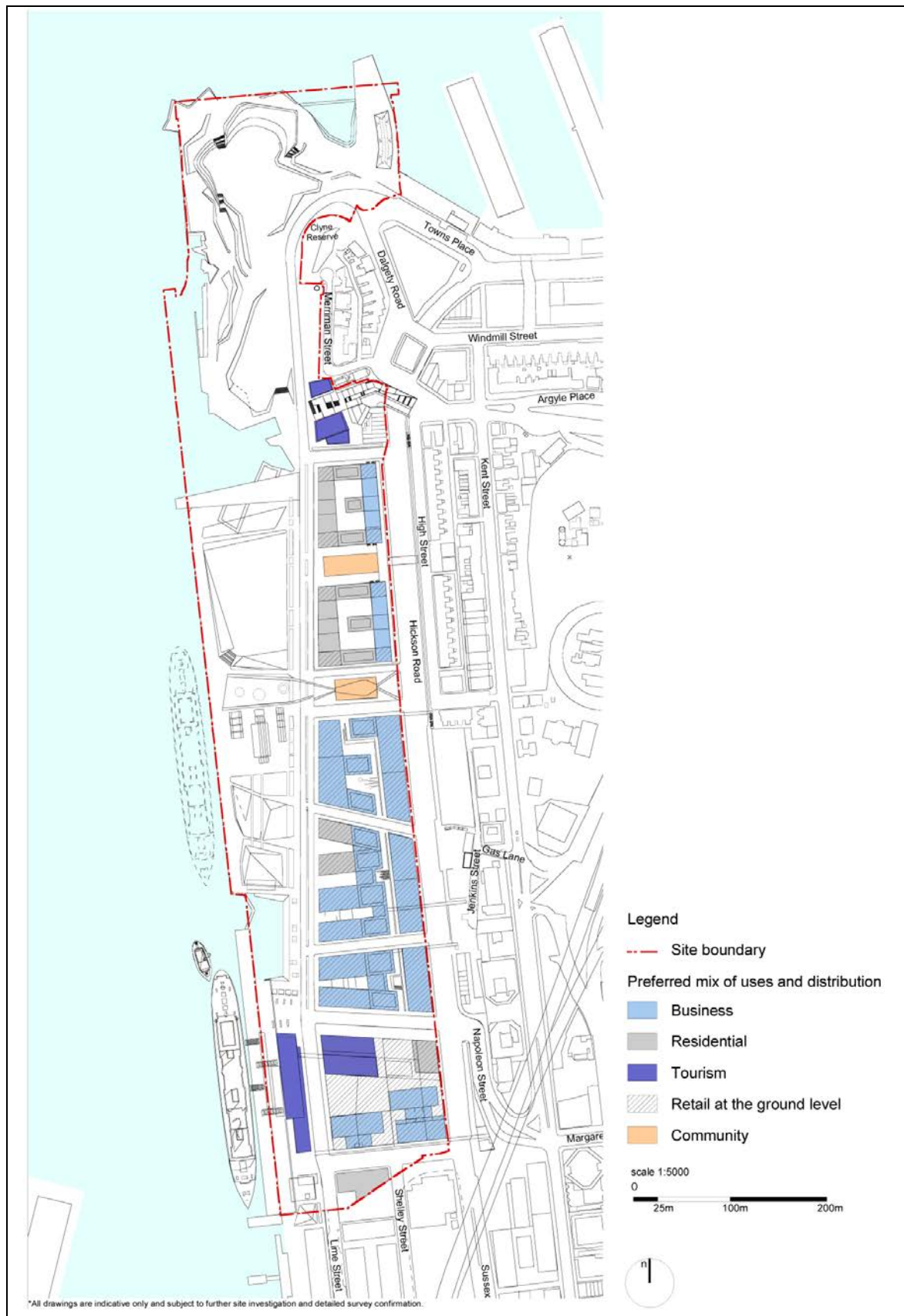


Figure 1: Original Concept Plan Layout and Land Use Matrix (MP06_0162)

MP 06_0162 MOD 3

On 11 November 2009, the then Minister for Planning approved a third modification to the Concept Plan, generally meeting the requirements of the Concept Plan approval relating to the northern headland and northern cove, with other changes as follows:

- the reinstatement of a headland at the northern end of the site with a naturalised shape and form including a build up of height and a landscaped connection to physically link Clyne Reserve to allow direct pedestrian access from Argyle Place;
- an enlargement of the northern cove to achieve a greater naturalised shape, form and edges (note this modification and the one above were required modifications in the terms of the original Concept Plan, contained in Modification B1 and B2, and following recommendations made in the jury report regarding the original winning competition scheme);
- the consequential re-alignment of Globe Street to turn right towards Hickson Road immediately south of the enlarged cove, rather than continuing north around the headland;
- the consequential removal of development Block 8 and part of Block 7 and redistribution of the associated land use mix;
- the demolition of three heritage items being the Sandstone Seawall; the Sydney Ports Harbour Control Tower; and the MWS & DB Sewage Pumping Station; and
- amendments to the Statement of Commitments relating to the preparation of relevant plans and strategies so that work can commence in stages.

This modification slightly reduced the approved GFA and mix of uses, with a resulting total GFA of 501,000 sqm (comprising 489,500 sqm of mixed uses and 11,500 sqm for the passenger terminal and active uses in the open space zone).

MP 06_0162 MOD 4

On 16 December 2010, the then Minister for Planning approved a fourth modification to the Concept Plan. The modified Concept Plan provides for the following:

- a maximum of 563,965 sqm mixed uses GFA, including residential, commercial and retail uses which includes:
 - a maximum of 128,763 sqm of residential uses
 - a maximum of 50,000 sqm of tourist uses GFA; and
 - a maximum of 39,000 sqm of retail GFA.
- a maximum of 4,500 sqm of active uses GFA (3,000 sqm of which will be in Barangaroo South);
- a minimum of 12,000 sqm of community uses GFA (10,000 sqm of which will be in Barangaroo South);
- approximately 11 hectares of new public open space/public domain, with a range of formal and informal open space serving separate recreational functions and includes a 2.2 km public foreshore promenade;
- built form principles, maximum building heights and GFA for each development block within the mixed use zone;
- public domain landscape concept including parks, streets and pedestrian connections; and
- alteration of the existing seawalls and creation of a portion of the new shoreline to the Harbour.

In order to accommodate the changes made to the Concept Plan, Schedule 3 of Part 12 of the MD SEPP was concurrently amended. The amendment rezoned parts of the Barangaroo site and the adjoining areas from 'RE1 Public Recreation' and 'W1 Maritime Waters and Transport' to 'B4 Mixed Use' and 'RE1 Public Recreation'. Modifications to the distribution of GFA and building heights were also included in the amendment.

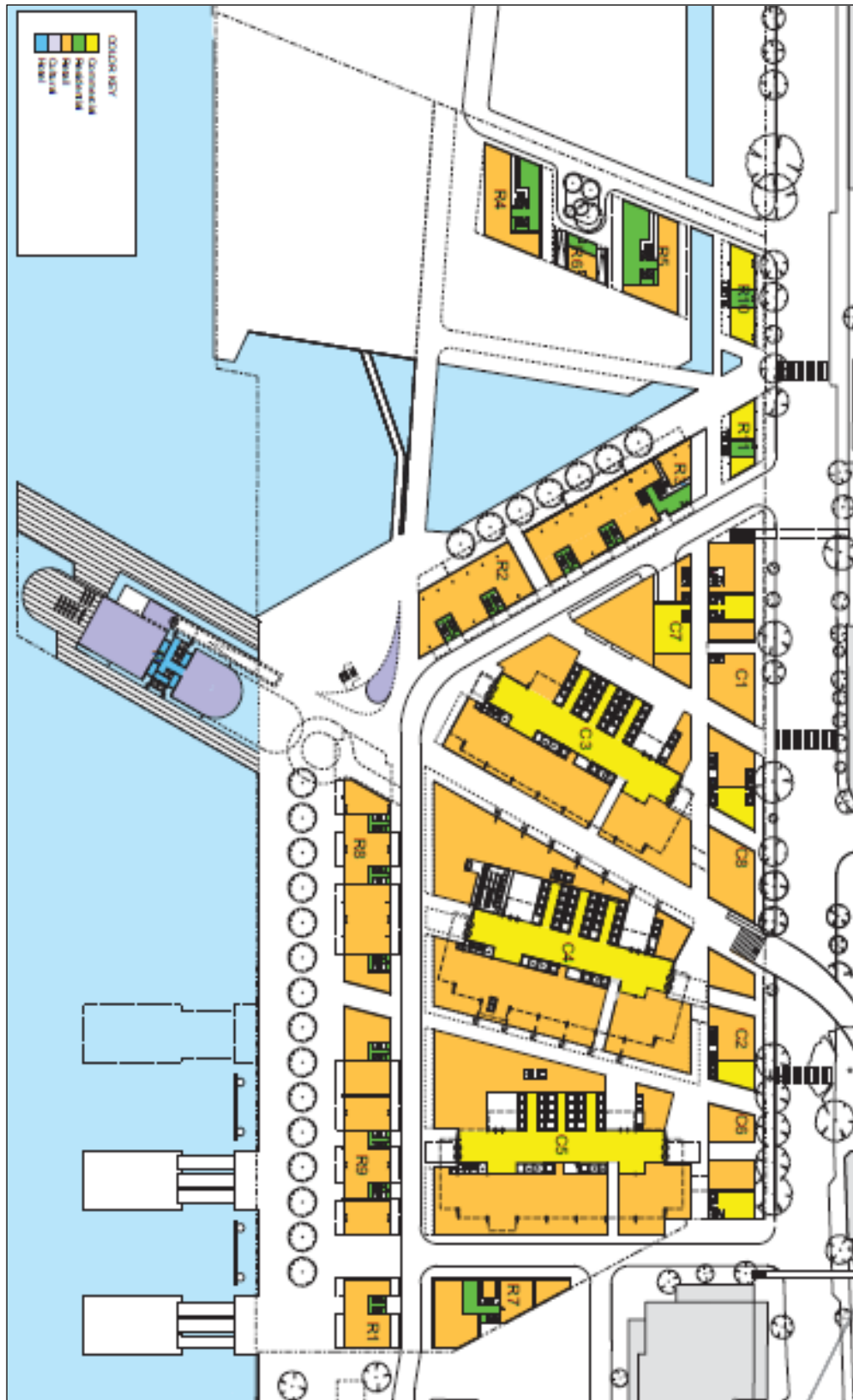


Figure 2: Ground floor layout of the approved blocks as approved under MOD 4
(Source: Lend Lease).

MP 06_0162 MOD 5

This modification was lodged in February 2011, and proposed modifications to clarify the outcomes with respect to the distribution of community uses GFA across the Barangaroo site, and to correct a number of minor typographical errors. This application was subsequently withdrawn on 22 March 2011.

MP 06_0162 MOD 6

This modification application proposed to modify the Barangaroo Concept Plan for Barangaroo South. The proposed modifications, as publicly exhibited, sought approval for the following:

- the realignment of the development block boundaries for Blocks 3, 4A and 4B;
- revisions to the Urban Design Controls to reflect the changes to the Block boundaries for Blocks 3, 4A and 4B;
- change the requirement for a 'minimum' of 12,000 sqm of community uses gross floor area (GFA) to be delivered to a 'maximum';
- allow architectural roof elements and building management units to be excluded from the maximum height limit definition; and
- specify the car parking rates for 'other' uses thus removing the requirement to comply with City of Sydney Council's current car parking rates.

On 25 March 2014, the Planning Assessment Commission approved the application.

The approved development blocks and the indicative building layout is illustrated in **Figure 3** overleaf.

MP 06_0162 MOD 7

On 11 April 2014, the then Minister for Planning and Infrastructure approved a seventh modification to the Concept Plan to allow the construction, operation and maintenance of a concrete batching plant to supply concrete for the construction of future development under this Concept Plan at Barangaroo South.

MP 06_0162 MOD 9

On 15 April 2014, the then Executive Director, Development Assessment Systems & Approvals, as delegate of the Director-General, issued modified Director-General's environmental assessment requirements for the preparation of a section 75W application (MOD 9) which proposes to modify the Barangaroo Concept Plan approval (MP 06_0162) as it relates to Barangaroo Central and the Headland Park. Specifically, MOD 9 includes increases in GFA, the redistribution of GFA and land uses across the development blocks, modification to the development blocks and building envelopes, and a redistribution of public domain areas.

MOD 9 has not yet been lodged with the Department.

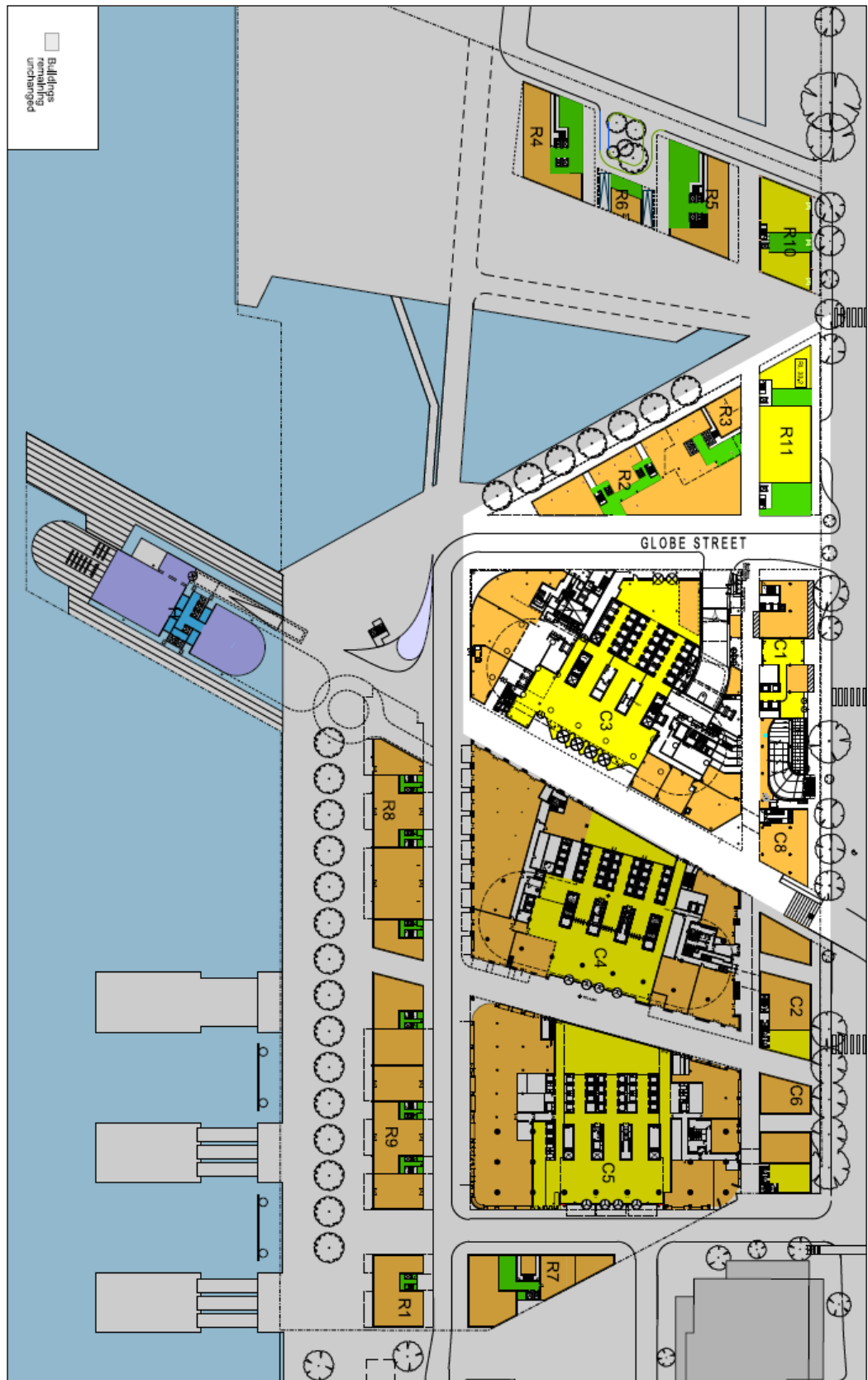


Figure 3: Ground floor layout of the blocks as proposed under MOD 6 (Source: Lend Lease).
Note¹: The modifications are limited to the area not shown in grey shading.

APPENDIX B: SECTION 75W MODIFICATION APPLICATION (MOD 8)

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6124

APPENDIX C: SUBMISSIONS

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6124

**APPENDIX D: PRELIMINARY REVIEW REPORT-
BARANGAROO DESIGN ADVISORY PANEL**

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6124

APPENDIX E: PROPONENT'S RESPONSE TO SUBMISSIONS/PREFERRED PROJECT REPORT

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6124

APPENDIX F: SUBMISSIONS IN RESPONSE TO PROPONENT'S RESPONSE TO SUBMISSIONS/ PREFERRED PROJECT REPORT

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6124

APPENDIX G: BARANGAROO DESIGN ADVISORY PANEL REPORT

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APPENDIX H: SUMMARY OF DEPARTMENT'S RESPONSE TO THE BARANGAROO DESIGN ADVISORY PANEL'S RECOMMENDATIONS

No.	RECOMMENDATION	DEPARTMENT RESPONSE
URBAN STRUCTURE		
1.	The podium footprint, scale and height of Block Y (the Crown Sydney Hotel Resort) is reduced and adjusted to retain a single and continuous, waterfront public domain linking Waterman's Quay in the south to the Central Parklands and Northern Cove.	<ul style="list-style-type: none"> The Department generally supports Recommendation 1 and subsequently changes to the design were initially sought to reduce the footprint and scale of the Block Y building envelope. In response, the Proponent submitted amended indicative plans illustrating design amendments to the podium, including a 7 metre recess in the western podium façade and changes to the composition of the southern facade in order to visually reduce its perceived bulk and scale. In addition, amendments to the configuration of Watermans Cove and the introduction of an east/west view corridor to the north of Block Y and Hickson Park are proposed to improve Block Y's integration and connectivity with the Central Parkland and the foreshore. Whilst the design amendments have not resulted in a reduction in the overall podium length, the Department is satisfied that the visual bulk and unbroken mass of the podium is appropriately reduced in a manner that improves the podium's integration with the Central Parkland and its foreshore setting. Accordingly, the Department has recommended a modification to the Concept Plan reflecting the design amendments proposed by the Proponent. The Department supports the proposed podium height of Block Y of RL 40, as it is generally consistent with the approved heights of other waterfront buildings on Block X which range from RL33.3- RL 41.5. Subject to the future building achieving design excellence, the Department considers that the height of the podium is acceptable. <p>Refer to further detailed discussion in Sections 5.2 and 5.3 of this report.</p>
BLOCK Y		
2.	Review the bulk and scale of the Block Y tower (both upper and lower elements), with the aim of reducing visual bulk and overshadowing impacts, refining its proportions, and ensuring that the building (tower and podium) is read as a single integrated object in an urban landscape setting.	<ul style="list-style-type: none"> As detailed above for Recommendations 1, the Department initially sought changes to the bulk and scale of the building envelope. The amended indicative design submitted by the Proponent has satisfactorily addressed Recommendation 2. Accordingly, the Department has recommended a modification to the Concept Plan reflecting the design amendments proposed by the Proponent. The Department considers that the design of any future SSD application on Block Y should be assessed on its merit and therefore, the Department does not agree with the DAP's recommendations that the tower and podium should necessarily read as a single integrated object. <p>Refer to further discussion in Section 5.2 of this report.</p>

3.	Maximum dimensions be provided within any approved Concept Plan documentation for all block envelopes.	<ul style="list-style-type: none"> The Department supports Recommendation 3 and the Proponent has provided dimensioned plans for Block 4A, 4B and Y. <p>Refer to further discussion in Section 5.2 of this report.</p>
4.	That no branding signage be located on the tower, or at any location on the building above the podium.	<ul style="list-style-type: none"> The Department does not support Recommendation 4. It is standard practice for a signage strategy to be submitted with the future SSD application for a building of this scale, as was the case with the nearby commercial buildings on Blocks 2 and 3. Furthermore, the Department considers the current indicative design, which illustrate the 'Crown' corporate branding to be unobtrusive, constrained and suitably integrated with the architectural form of the building. Subject to any future signage being appropriately integrated into the architectural design of the building, the Department raises no objection to this aspect of the proposal. A future environmental assessment requirement has been recommended to address this issue. <p>Refer to further discussion in Section 5.6.6 of this report.</p>
5.	Where height is a characteristic of the tower design, public access to views from upper levels should be considered.	<ul style="list-style-type: none"> The Department supports Recommendation 5 and notes that the indicative hotel design submitted with MOD 4 included a public rooftop bar and public observation deck. The Department considers it to be relevant for any new hotel design to fully consider opportunities for the public to access views from the unique vantage point which will be afforded by the building's height and location. Accordingly, the Department has recommended a future environmental assessment requirement to address this matter. <p>Refer to further discussion in Section 5.6.3 of this report.</p>
BLOCKS 4A AND 4B		
6.	Ensure (through subsequent applications) that the interface of the base of each residential tower and podium with the public realm achieves a high degree of public legibility, access and amenity.	<ul style="list-style-type: none"> The Department supports Recommendation 6. The Department has recommended that existing Condition C7 of the Concept Plan approval be amended to specifically incorporate a generous through-site-links to provide visual and physical permeability through the podium of the Residential 4A and 4B Buildings within Block 4A. Also refer to comments for Recommendation 15. <p>Refer to further discussion in Sections 5.2 and 5.3 of this report.</p>
PUBLIC OPEN SPACE		
7.	Reconsideration of the arrangement of Hickson Park to ensure a strong and coherent relationship to the Central Parklands and the sequence of public open spaces on the site as a whole, including a clear view and safe public	<ul style="list-style-type: none"> The Department supports Recommendation 7 and accordingly, the Department initially sought changes to the Block Y podium to strengthen the relationship and connectivity between Hickson Park, the Central Parklands and the promenade, including to promote unobstructed view lines and promote pedestrian access. The Proponent's amended indicative plans (Recommendations 1 and 2) include provision for a view

	<p>pedestrian access from Hickson Road to the waterfront via Hickson Park without unnecessary conflict with vehicles.</p>	<p>corridor to the north of Hickson Park which will result in improved integration of Hickson Park with the Central parklands and improved visual connectivity between Hickson Road and the waterfront. Subject to any future development on Block 5 not unduly impacting on the quality of the view corridor, the Department considers that the Proponent's amended indicative design has satisfied the intent of Recommendation 7. A new future environmental assessment requirement has been recommended to address this matter.</p> <p>In addition to the above, the Department has recommended that:</p> <ul style="list-style-type: none"> o generous through-site-links be incorporated into Block 4A to promote visual and physical permeability through the podiums to Hickson Park and the surrounding public domain (refer Recommendations 6); and o further consideration be given to the design of the road network and the access arrangements to Block Y and in particular, at the northern end of Barangaroo Avenue and Barton Street where pedestrian access should be prioritised (refer Recommendation 17). <p>Refer to further discussion in Sections 5.2 and 5.3 of this report.</p>
8.	<p>That the promenade adjacent to Block Y (both west and south) be significantly more generous than elsewhere, such that it reads and functions as a continuation of the Central Parklands linking to Waterman's Cove, rather than as a thoroughfare.</p>	<ul style="list-style-type: none"> • In respect to the promenade to the west of Block Y, the Department does not agree with the DAP's recommendation. In this regard, the Department has concluded that the proposed 30 metre width of the promenade is consistent with the established width of the promenade further to the south (now constructed) and therefore, that the proposed promenade width is appropriate and that additional setbacks to the western extent of the Block Y envelope are not required. • In respect to the promenade to the west, the Department supports Recommendation 8 in respect to the dimension of the promenade to the south of Block Y and subsequently sought amendments to improve the unobstructed width of the promenade adjacent to Block Y and Watermans Cove. • The Proponent has submitted an amended indicative design to illustrate how an increased setback to Watermans Cove could be achieved by reconfiguring the design of Watermans Cove. This includes increasing the size of the promenade to a minimum unobstructed width of 18.5 metres when measured from Watermans Cove to the outside edge of any vertical structure associated with any licensed area and an average of 27.5 metres when measured to the southern podium façade of Block Y. • The Department is satisfied that the indicative design meets the intent of Recommendation 8 and will result in beneficial outcomes to the public domain in terms of its spatial qualities, legibility and physical connectivity with the foreshore. Accordingly, the Department has recommended a modification to the Concept Plan reflecting the enlargement of the Watermans Cove promenade. <p>Refer to further discussion in Sections 5.2 and 5.3 of this report.</p>

9.	Detail design of the promenade, in particular licensed areas, to promote visual and physical connectivity and legibility as a generous and inclusive public space.	<ul style="list-style-type: none"> The Department supports Recommendations 9 and has recommended a future environmental assessment requirement to address this matter. <p>Refer to further discussion in Section 5.3 of this report.</p>
10.	That the 'pier' is considered formally as an extension of the landscape to enlarge the form and define the boundaries of Waterman's Cove. Built elements on this form should be secondary to the landscape character of the cove, and allow for good visual permeability. Selection of a public function must include consideration of who will manage and pay for upkeep of the facility well in to the future.	<ul style="list-style-type: none"> The Department supports Recommendation 10 and has recommended that the building envelope be amended to align the Pier further to the north in order to define the Southern Cove and to align with the southern edge of City Walk. The Department has also recommended a future environmental assessment requirement to require that any future building on the pier be low-scale, provide appropriate public access around the full perimeter of the pier and maximise visual permeability. The Department notes that the RE1 zoning of the land will automatically restrict the use of the land and therefore, the Department is satisfied that further restrictions on use are not warranted. DAP's comments in relation to the management and upkeep of the facility are noted. The Department notes that these matters are not relevant planning considerations. <p>Refer to further discussion in Section 5.3 of this report.</p>
11.	The boardwalk should not be included in site area calculations or in overall calculations of dimension, such as for the width of the promenade or set back to building envelopes.	<ul style="list-style-type: none"> As the boardwalk will form part of the overall site and the Roads and Maritime Services as not objected to the boardwalk extension of 5 metres, the Department raises no objection to this aspect of the application. The Department notes that the inclusion of the boardwalk in the calculation of open space is not necessary to ensure compliance with Condition A1 of the Concept Plan approval, which requires that 11 hectares of new public open space/public domain be provided within the entire Barangaroo site. <p>Refer to further discussion in Section 5.3 of this report.</p>
12.	In all instances planting beds must be adequate to support mature large scale trees for precinct amenity. This is of particular importance for areas located above basement parking.	<ul style="list-style-type: none"> The Department supports Recommendation 12 and considers this matter to be particularly relevant to the future design of the Hickson Park and Block Y, which are likely to sit above a basement car park. Accordingly, a new future environmental assessment requirement has been recommended to address this matter.
OVER-SHADOWING		
13.	Ensure that future development to the north of Hickson Park preserves the quantum of sun access to the park as indicated in the Response to	<ul style="list-style-type: none"> The Department supports Recommendations 13 and notes that overshadowing impacts will be relevantly considered in the assessment of each future development application. <p>Refer to further discussion in Section 5.4.3 of this report.</p>

	Submissions Revised Shadow Diagrams.	
14.	Adjustments to the podium and tower of Block Y as referred to in earlier recommendations should reduce overshadowing impacts on Waterman's Quay, the Promenade and Hickson Park.	<ul style="list-style-type: none"> The Department does not support Recommendation 14 and notes that the amended indicative design submitted by the Proponent (Recommendations 1 and 2) will not result in improved solar access to the public domain. Notwithstanding this, the Department considers that it would be unreasonable to require full solar access to all areas of the public domain and notes that there are ample areas of open space within Barangaroo which will receive full solar access during the morning and lunchtime periods (i.e. the Headland Park and to a lesser extent Barangaroo Central). Therefore, the Department considers the overshadowing impacts to the public domain resulting from MOD 8 to be reasonable and acceptable on balance. <p>Refer to further discussion in Section 5.4.3 of this report.</p>
PEDESTRIAN MOVEMENT		
15.	Public permeability through all building envelopes, in particular podium forms.	<ul style="list-style-type: none"> The Department supports Recommendation 15 and notes that existing condition C7 of the Concept Plan approval addresses this issue. The Department has recommended an amendment to Condition C7 to specifically require that increased permeability be provided through the podiums of future buildings on Block Y and Block 4A. <p>Refer to further discussion in Sections 5.2 and 5.3 of this report.</p>
16.	Maximise active interfaces of buildings to streets to encourage diversity and public access.	<ul style="list-style-type: none"> The Department supports Recommendation 16 and has recommended that Condition C7 of the Concept Plan approval be amended to reinforce and strengthen this requirement.
17.	The design of the street network, parking and delivery vehicle access points and the porte-cochere of Block Y should minimise pedestrian / vehicular conflicts.	<ul style="list-style-type: none"> The Department supports Recommendation 17. The Department's assessment of the MOD 8 has concluded that further options should be considered for the design of the road network and the access arrangements to Block Y and in particular, at the northern end of Barangaroo Avenue and Barton Street where pedestrian access should be prioritised. The need for Barton Street should also be further investigated along with an option to provide access to Block Y via basement car park access under Hickson Park. The Department has recommended a future environmental assessment requirement requiring that the future design of the road network minimise pedestrian and vehicular conflict and for the future design to be accompanied by a Road Safety Audit. <p>Refer to further discussion in Section 5.5.3 of this report.</p>
18.	Encouragement of cycling as a mode of transport. All internal streets should be accessible to bicycle	<ul style="list-style-type: none"> The Department supports the underlying intent of Recommendation 18 and notes that the mode share targets for cycling and the requirements for end of trip facilities, bike parking and the bike paths are adequately covered by the

	riders, including foreshore paths, with a requirement for minimisation of conflict between pedestrians and cyclists. Confirm and justify the location and scale of end-of-trip facilities and bike parking.	existing Concept Plan approval, the TMAP and the Proponent's Statement of Commitments (SOC 47).
DESIGN GUIDELINES AND DESIGN EXCELLENCE		
19.	Removal of Design Solutions as a means to a deemed to satisfy approval. Compliance with Performance Criteria should be assessed on a case by case basis against the detailed information submitted with each SSD application.	<ul style="list-style-type: none"> The Department notes Recommendation 19. The Department is satisfied that Condition C2 (Design Excellence) of the Concept Plan Approval in conjunction with the provisions of Clause 19, Part 12 (Barangaroo) Schedule 3 of the MDSEPP are sufficient to ensure design excellence is achieved and that each future application will be assessed on its merits.
20.	Establishment of an independent, transparent design review process for all buildings and public domain spaces over subsequent stages to ensure delivery of design excellence, and of an exceptional and exemplary work of architecture for Block Y appropriate to an iconic building in a world heritage view setting.	<ul style="list-style-type: none"> The Department notes that the DAP were engaged to provide independent advice on this Concept Plan modification in accordance with Condition C2 of the Concept Plan and that the Department will continue to seek such independent advice for future applications, as relevant. The Department also notes that DAP are engaged to provide independent design advice in relation to the SSD for the construction of the Crown Sydney Hotel Resort on Block Y (SSD 6957). Based on the above, the Department does not consider that any changes are warranted to the Concept Plan approval to address Recommendation 20.

APPENDIX I: PROPONENT'S RESPONSE TO BARANGAROO DESIGN ADVISORY PANEL'S REPORT

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APPENDIX J: BARANGAROO DELIVERY AUTHORITIES RESPONSE TO THE BARANGAROO DESIGN ADVISORY PANEL'S REPORT

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APPENDIX K: CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENT(S) AND DCP(S)

Relevant EPIs and DCPs:

- **State Environmental Planning Policy (State and Regional Development) 2011;**
- **State Environmental Planning Policy (Major Development) 2005;**
- **State Environmental Planning Policy No.55 – Remediation of Land;**
- **State Environmental Planning Policy No.64 – Advertising and Signage;**
- **State Environmental Planning Policy (Infrastructure) 2007;**
- **Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005; and**
- **Sydney Harbour Foreshores and Waterways Area Development Control Plan 2005.**

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)

Barangaroo is identified as a State Significant Site under Schedule 2 of the SRD SEPP. The modification application is inconsistent with the provisions of the SRD SEPP in respect to defining the site area for Barangaroo as illustrated on the State Significant Sites Development Map.

As detailed in **Sections 1.7** and **3.3** of this report, a proposed SEPP amendment has been lodged concurrently with MOD 8, which amongst other things, seeks to reconcile the Barangaroo site boundary with the waters of Darling Harbour as a result of the proposed relocation of the hotel from the water to the land and the relocation of the Public Pier.

State Environmental Planning Policy (State Significant Precincts) 2005 (SSP SEPP)

The aims of the SSP SEPP are to facilitate the redevelopment of important sites such as Barangaroo for the benefit of the State and provide for the development of major sites for a public purpose. Barangaroo is identified as a State Significant Site in Part 12, Schedule 3 of the SSP SEPP. In addition, Schedule 3 of the SSP SEPP sets out zoning, land use, height and floor space requirements for each development block within Barangaroo. The Barangaroo site is identified as being on land zoned B4 Mixed Use and RE1 Public Recreation

The proposed amendments to the SSP SEPP, aligning with MOD 8, include changes to the:

- Barangaroo Height of Buildings Map;
- Barangaroo Gross Floor Area Map (wintergardens included);
- Barangaroo Heritage Map;
- Barangaroo Land Zoning Map; and
- Barangaroo Land Application Map.

State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55)

Clause 7 of the SEPP prevents a consent authority from issuing development consent unless it has considered:

- whether the subject site is contaminated;
- whether a contaminated site is suitable for its proposed use in its current state, or will be suitable following remediation; and
- whether it is satisfied that the site will be remediated before the land is used for the purpose proposed under the application.

Matters in relation to SEPP 55 have been comprehensively addressed in **Section 5.6.5** of this report.

State Environmental Planning Policy No.64 – Advertising and Signage (SEPP 64)

SEPP 64 regulates signage to ensure that it is compatible with the visual amenity of an area, is suitably located and is of a high quality design. As outlined in **Section 5.6.6** of this report, the Department considers that the merits of the signage be appropriately assessed as part of the future development applications rather than as part of the modification application. The Department has recommended a modification to the Built Form Principles and Urban Design Controls to include a requirement for a signage strategy to be submitted with the each future development application for building/s.

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)

The Infrastructure SEPP (ISEPP) aims to facilitate the effective delivery of infrastructure across the State by improving regulatory certainty and efficiency, identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and providing for consultation with relevant public authorities about certain development during the assessment process.

Clause 88A of the Infrastructure SEPP requires the consent authority to give notice to the Sydney Metro (now TfNSW) of any application that may be within the Interim Metro Corridor and take into account any issues raised in a submission. As such, the Department notified TfNSW of the project and considered the issues raised in its submissions. The Department notes that TfNSW in its submissions on MOD 8 (refer **Section 4**) has not raised impacts on the Metro corridor as a potential issue. For this reason, the Department's assessment concludes that the modified project would not adversely impact on the Metro Corridor.

Notwithstanding the above, the Department notes that a Deed was executed between the Director-General of Department of Transport, Lend Lease (Millers Point) Pty Ltd and the Barangaroo Delivery Authority on 15 November 2011. The Deed, amongst other things, requires the Proponent to consult with TNSW regarding future applications, to comply with stipulated requirements for the design and construction of developments and obtain the approval of TNSW for works in the vicinity of Metro Corridor.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (Harbour REP)

The SREP applies to all land within the Sydney Harbour Catchment, as shown on the Sydney Harbour Catchment Map. The Barangaroo site is within the defined Foreshores and Waterways Area and is also identified as a Strategic Foreshore Site (Sheet 10 of the City Foreshore Area Map).

As detailed in **Sections 1.7** and **3.3** of this report, a proposed SEPP amendment has been lodged concurrently with MOD 8, which amongst other things, seeks to reconcile the Barangaroo site boundary with the waters of Darling Harbour. The proposed SEPP amendment will:

- rezone some of the areas on land within Barangaroo currently zoned RE1 Public Recreation and B4 Mixed Use under the MD SEPP to W1 Maritime Waters in Darling Harbour; and
- modify the Darling Harbour boundary to reflect the relocation of the hotel from the water to the land and the relocation of the public pier.

Matters for Consideration

Clause 20 of the SREP identifies that the following matters are required to be considered by consent authorities before granting consent to development under Part 4 or Part 5 of the Act. Notwithstanding that the application is a s.75W of the Act, the Department has given consideration to the relevant clauses given they would be relevant matters for consideration in future SSD applications. The relevant clauses are as follows:

- clause 21 - Biodiversity, ecology and environmental protection;
- clause 22 -Public access to, and use of, foreshores and waterways;
- clause 23 -Maintenance of a working harbour;
- clause 24 - Interrelationship of waterway and foreshore uses;
- clause 25 - Foreshore and waterways scenic quality;
- clause 26 - Maintenance, protection and enhancement of views; and
- clause 27 - Boat storage facilities.

Having regard to the above clauses, MOD 8 is considered to be consistent with the relevant matters for considerations for the following reasons:

- it will improve and enhance public access to and along the foreshore and waterways, subject to compliance with the future environmental assessment requirements detailed in this report;
- it will maintain the unique scenic and visual qualities of Sydney Harbour and its islands, foreshores and tributaries, as detailed in **Section 5** of this report. Additionally, the development will maintain views (including night views) to and from Sydney Harbour, and to and from public places, landmarks and heritage items; and
- it will not have an adverse impact on the Harbour's biodiversity, ecology or environment, including the interrelationship of the water and foreshore uses proposed in the concept plan, subject to compliance with the future environmental assessment requirements (recommended and existing).

Foreshores and Waterways Planning and Development Advisory Committee

The proposal is not of a type referred to in Schedule 2 of the SREP and therefore no referral to the Committee was required under clause 29 of the SREP.

Strategic Foreshore Sites

The site is identified as a 'Strategic Foreshore Site' on 'Sheet 10 City Foreshore Area' of the Strategic Foreshore Sites Map. Clause 41 of the SREP states that development consent must not be granted for the carrying out of development on a strategic foreshore site unless there is a master plan for the site, and the consent authority has taken the master plan into consideration. The Department notes that the modification application seeks approval to amend the Barangaroo Concept Plan, as identified in **Section 2** of this report and therefore, the provisions of this clause are not applicable.

Sydney Harbour Foreshores and Waterway Area DCP 2005 (DCP)

The site of the building is within the defined Foreshores and Waterways Area and therefore, consideration has relevantly been given to the provisions in the DCP (notwithstanding the DCP relevantly applies to future development application and not concept plan). The DCP includes aims and performance criteria in relation to ecological assessment, landscape assessment, and design guidelines for development within the area. The key provisions of the DCP are considered separately below.

Table 1: Summary of Compliance with the Sydney Harbour Foreshores & Waterways DCP

DCP	Key controls	Compliance
Ecological assessment	<ul style="list-style-type: none"> Determination of conservation status, statement of intent and performance criteria. 	<p>The site is not identified on Map 8 as containing any terrestrial or aquatic ecological communities.</p> <p>The proposal is consistent with the general aims of the Section 2 of the DCP for the following reasons:</p> <ul style="list-style-type: none"> It will not have an adverse impact on any identified ecological communities and therefore, is unlikely to have an impact on any existing native vegetation, wetlands and the natural foreshore. The realisation of the concept plan will result in the revegetation of the foreshore. Future environmental assessment requirements (existing and recommended) can ensure that water quality is protected during construction activities. In accordance with Section 5A of the <i>Environmental Planning & Assessment Act 1979</i>, consideration has been given to likely impacts resulting from the proposal on threatened species, populations or ecological communities, or their habitats. Subject to suitable measures being employed during construction to minimise the impacts of urban run-off to the harbour, the proposal is considered acceptable with respect to these provisions. An existing environmental assessment requirement relevantly addresses the future impact of development on marine ecology.
Landscape assessment	<ul style="list-style-type: none"> Consideration of landscape character types and performance criteria. 	<p>Barangaroo is not consistent with an identified landscaped character type in the DCP and therefore, the proposal is not assessed against any specified performance criteria.</p> <p>Notwithstanding the above, the proposal will contribute to the landscape character of the area and provides an integrated design solution for Barangaroo and the waterfront promenade and neighbouring lands.</p> <p>Refer to further discussion in Section 5 of the report.</p>
Design Guidelines (General & Land/water based Interface Developments and Land-based developments)	<ul style="list-style-type: none"> Sea Walls Foreshore access 	<ul style="list-style-type: none"> The changes to the seawall will be necessary to counteract future impacts of climate changes and sea level rise and also to correspond the changes to the foreshore edge and the location of the public pier. The final detail for the seawall is a matter for consideration in the assessment of the future relevant development application/s. The proposal will facilitate improved levels of access to foreshore. The proposed treatment of the public domain will ensure a high level of public amenity and environmental quality. Therefore, the proposal is considered to be consistent with the guidelines and this is a matter for detailed consideration in the assessment of the future relevant development

	<ul style="list-style-type: none"> • Waterway conflicts • Siting of buildings & structures and built form • Signage • Redevelopment Sites • Planting • Inclinator, Stairs and Driveways 	<p>application/s.</p> <ul style="list-style-type: none"> • A future environmental assessment requirement is recommended to address potential impacts (construction and operation) on waterways activities/navigation. • The siting of building/structures and the built form proposed in the concept plan has been assessed in detail in Section 5 of this report. The proposal is considered to be acceptable in relation to the provisions in Part 4.4 and 4.5 of the DCP. • Refer to detailed discussion in Section 5.6.6 of this report, • The proposal is consistent with these provisions as it will: <ul style="list-style-type: none"> ○ provide continuous public access around the foreshore; ○ enable a mix of land uses which will contribute to the amenity and character of the waterfront; ○ provide suitable areas for public access; ○ provide for road and pedestrian access to the site and appropriate links to the network of open space; and ○ suitably integrate with neighbouring development, including the broader CBD context and Kings Street Wharf and will become a waterfront destination. • This is a matter for consideration in the assessment of the future SSD application for public domain works. • The proposal includes opportunities for the public domain to directly interface with the waterfront at Watermans Cove. Potential impacts on marine ecology will be considered as part of the relevant future development application. A future environmental assessment requirement addresses this matter.
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APPENDIX L: VISUAL IMPACTS

View 1 - Hickson Rd

virtualideas



Original photo with crop marks to identify the field of view of longer lens sizes.

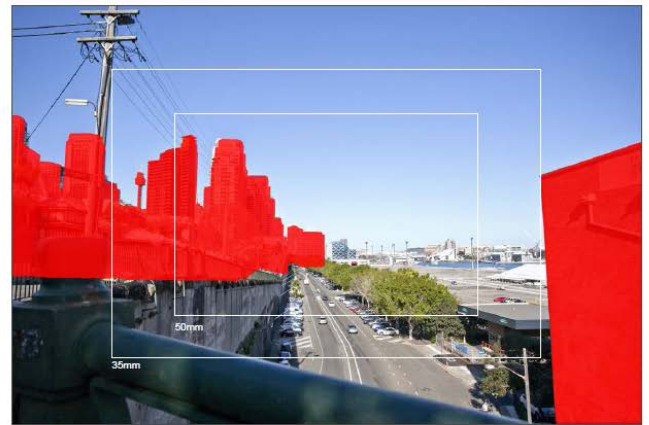


Image showing alignment of 3D model to photograph with the 3D model shown over in red.

Photographic data

Location: HICKSON ROAD
 Camera R.L. 17.5m
 MGA coords: X: 333734.347, Y: 6252097.407
 Lens: 24mm
 Dimensions: 4368 x 2912
 Date: 18/06/2010 12:30 PM
 Camera: Canon EOS 5D

Rationale for lens selection

The rationale for using a 24mm lens was to capture the heights of several existing city buildings to the left of the image, and also show the building immediately to the right of the viewer. Including the handrail in this image also visually describes that the viewer is standing on the bridge.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.



Image showing massing of the Approved Concept Plan Amendment (Mod 7)

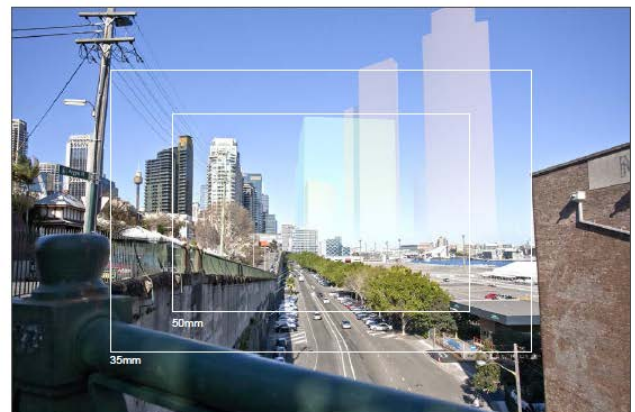


Image showing massing of the Proposed Concept Plan Amendment (Mod 8)



Image showing massing of the Approved Concept Plan Amendment (Mod 7) with indicative design.



Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.



Original photo with crop marks to identify the field of view of longer lens sizes.

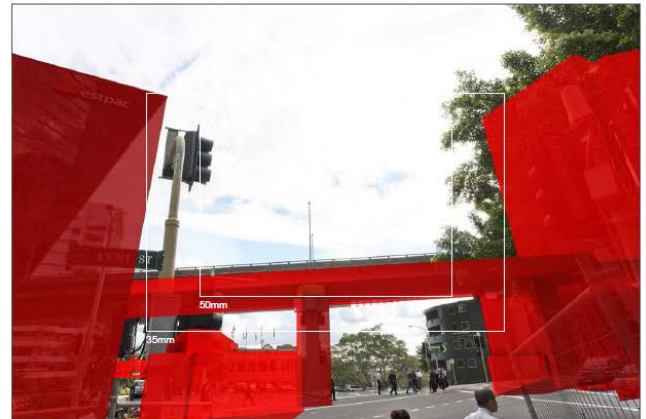


Image showing alignment of 3D model to photograph with the 3D model shown over in red.

Photographic data

Location: KENT ST (CNR MARGARET ST)
 Camera R.L.: 17.9m
 MGA coords: X: 333899.463, Y: 6251329.789
 Lens: 20mm
 Dimensions: 4368 x 2912
 Date: 2/06/2010 2:19 PM
 Camera: Canon EOS 5D

Rationale for lens selection

The rationale for using a 20mm lens was to capture the heights of the Westpac building, while also providing enough room to see the extent of the future Barangaroo buildings and the approved concept plan.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.



Image showing massing of the Approved Concept Plan Amendment (Mod 7)



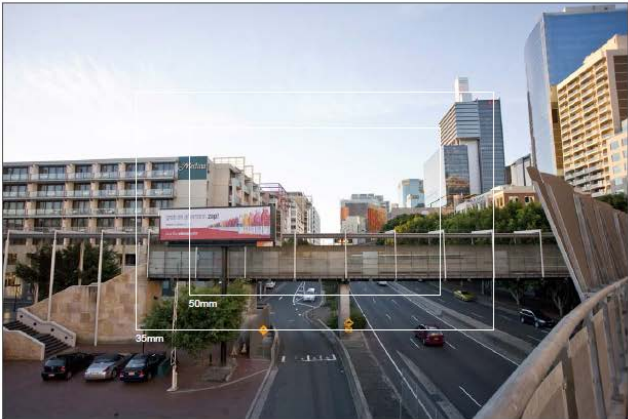
Image showing massing of the Proposed Concept Plan Amendment (Mod 8)



Image showing massing of the Approved Concept Plan Amendment (Mod 7) with indicative design.



Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.



Original photo with crop marks to identify the field of view of longer lens sizes.

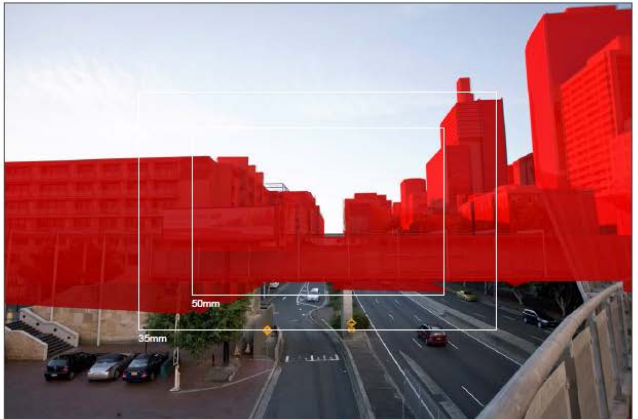


Image showing alignment of 3D model to photograph with the 3D model shown over in red.

Photographic data

Location: SHELLEY ST FROM KING ST BRIDGE
Camera R.L: 11.8m
MGA coords: X: 333775.939, Y: 6250899.372
Lens: 20mm
Dimensions: 4368 x 2912
Date: 8/06/2010 5:41 PM
Camera: Canon EOS 5D

Rationale for lens selection

The rationale for using a 20mm lens was to capture the heights of several existing city buildings to the right of the image, and also show some of the built form to the left of the viewer. Including the handrail in this image also visually describes that the viewer is standing on the bridge.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.

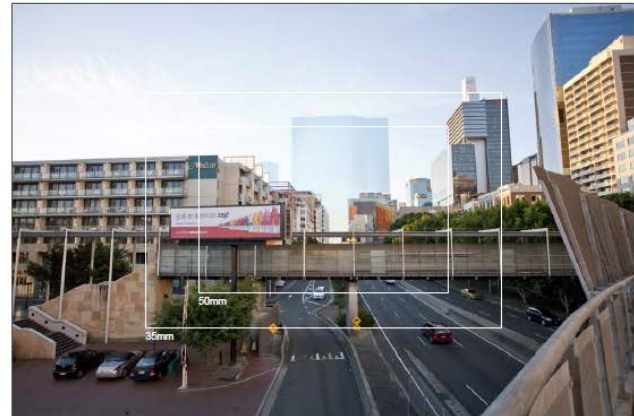


Image showing massing of the Approved Concept Plan Amendment (Mod 7)

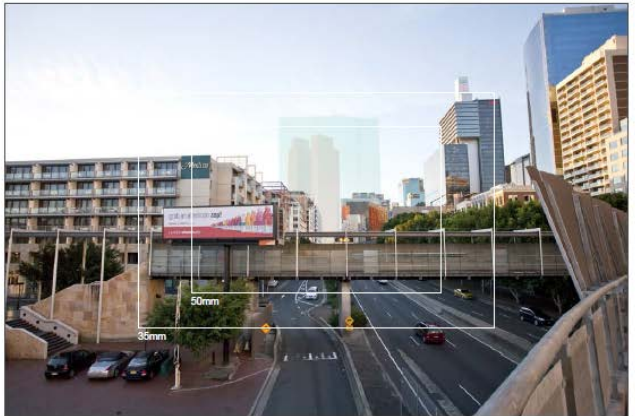


Image showing massing of the Proposed Concept Plan Amendment (Mod 8)

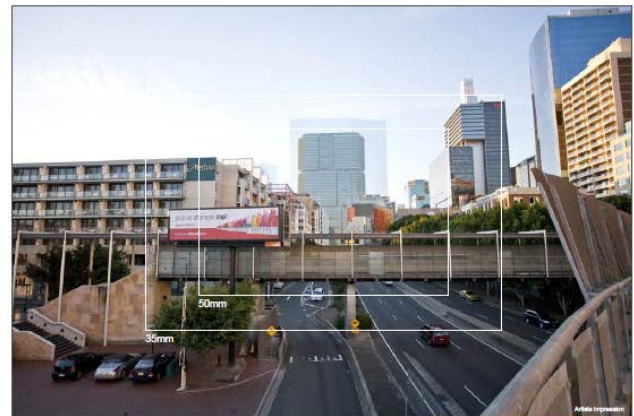


Image showing massing of the Approved Concept Plan Amendment (Mod 7) with indicative design.

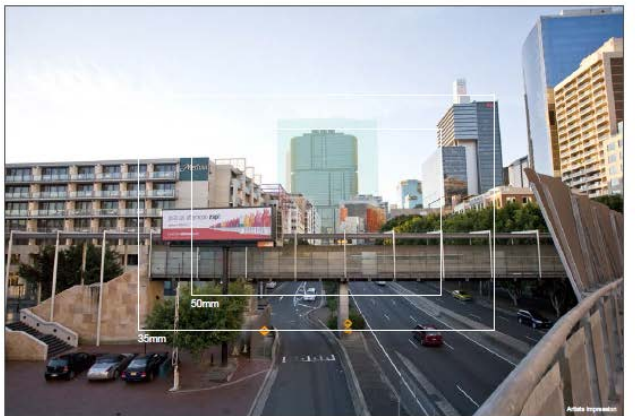


Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.



Original photo with crop marks to identify the field of view of longer lens sizes.

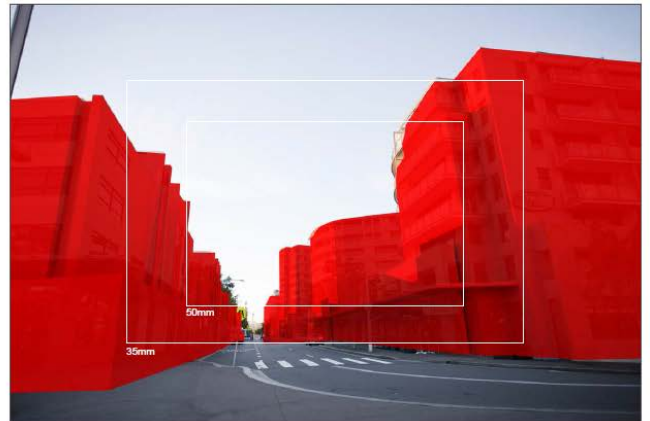


Image showing alignment of 3D model to photograph with the 3D model shown over in red.

Photographic data

Location: LIME STREET
 Camera R.L.: 6.7m
 MGA coords: X: 333693.502, Y: 6250920.272
 Lens: 22mm
 Dimensions: 4368 x 2912
 Date: 8/06/2010 5:47 PM
 Camera: Canon EOS 5D

Rationale for lens selection

The rationale for using a 22mm lens was that to show the width of the street in front of the viewer, as well as to capture the height of the lime st buildings.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.

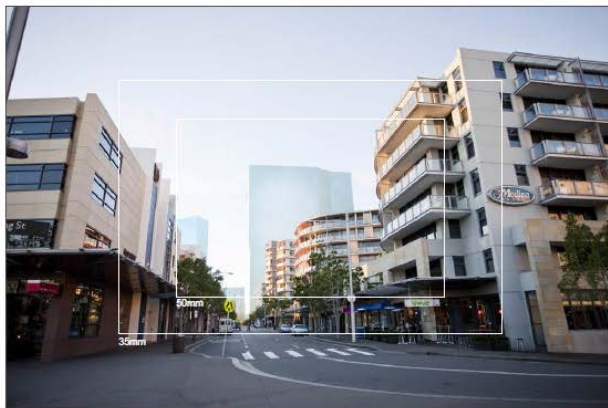


Image showing massing of the Approved Concept Plan Amendment (Mod 7)



Image showing massing of the Proposed Concept Plan Amendment (Mod 8)



Image showing massing of the Approved Concept Plan Amendment (Mod 7) with indicative design.



Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.



Original photo with crop marks to identify the field of view of longer lens sizes.



Image showing alignment of 3D model to photograph with the 3D model shown over in red.

Photographic data

Location: HIGH STREET
Camera R.L.: 16.0m
MGA coords: X: 333744.51, Y: 6252031.60
Lens: 25mm
Dimensions: 5616 x 3744
Date: 14/11/2013, 12:35:12 PM
Camera: Canon EOS 5D Mark II

Rationale for lens selection

The rationale for using a 25mm lens was that to show the width of the street in front of the viewer, as well as to capture the height of the High st buildings.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.

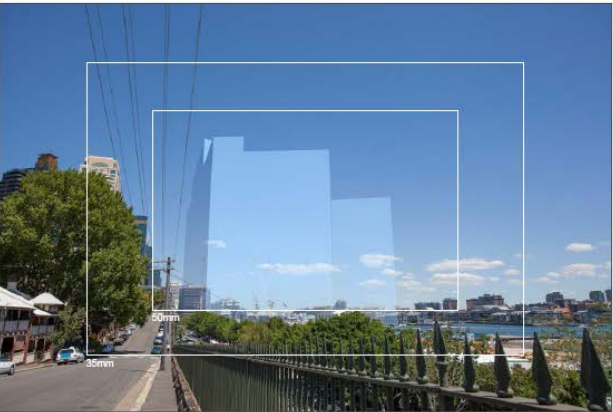


Image showing massing of the Approved Concept Plan Amendment (Mod 7)

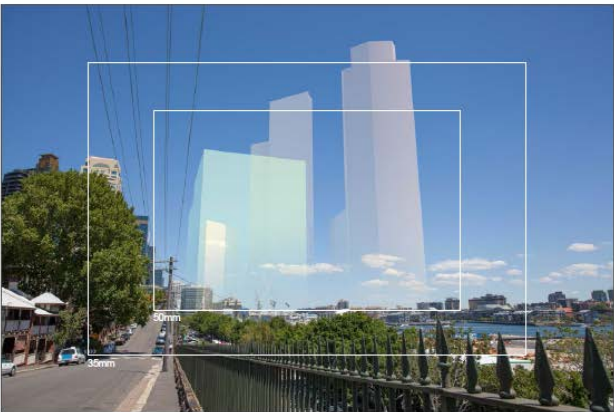


Image showing massing of the Proposed Concept Plan Amendment (Mod 8)

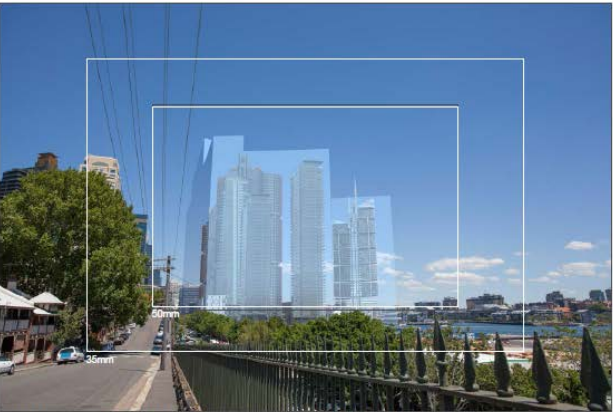
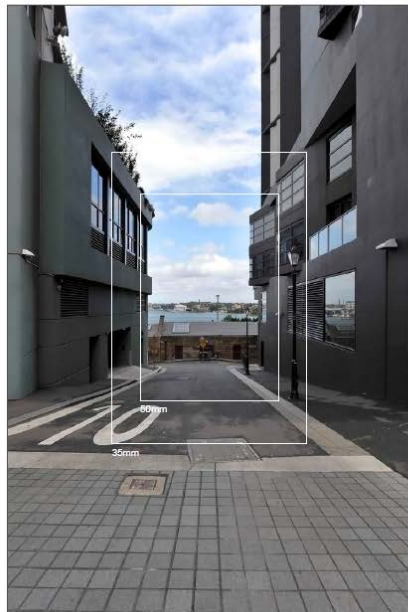


Image showing massing of the Approved Concept Plan Amendment (Mod 7) with indicative design.



Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.



Original photo with crop marks to identify the field of view of longer lens sizes.

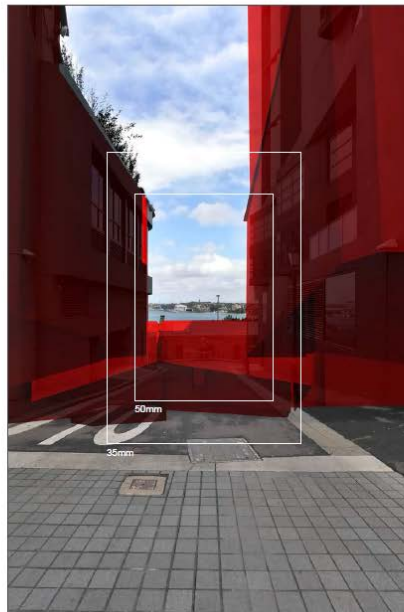


Image showing alignment of 3D model to photograph with the 3D model shown over in red.

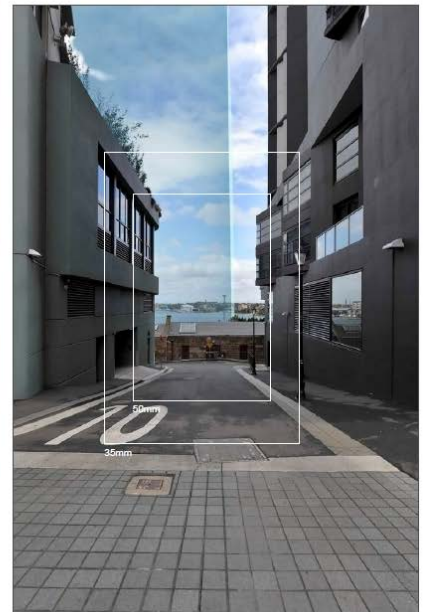


Image showing massing of the Approved Concept Plan Amendment (Mod 7)

Photographic data

Location: GAS LANE
 Camera R.L: 21.17m
 MGA coords: X: 333142.1113, Y: 6251923.256
 Lens: 17mm
 Dimensions: 4368 x 2912
 Date: 2/06/2010 4:55 PM
 Camera: Canon EOS 5D

Rationale for lens selection

The rationale for using a 17mm lens was to capture as much of the barangaroo buildings as possible as we were very close to the subject. We also wanted to show some of the sides of the Gas lane buildings.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.



Image showing massing of the Proposed Concept Plan Amendment (Mod 8)

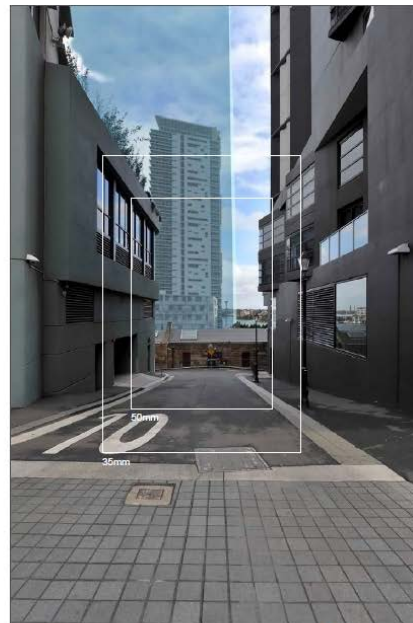


Image showing massing of the Approved Concept Plan amendment (Mod 7) with indicative design.

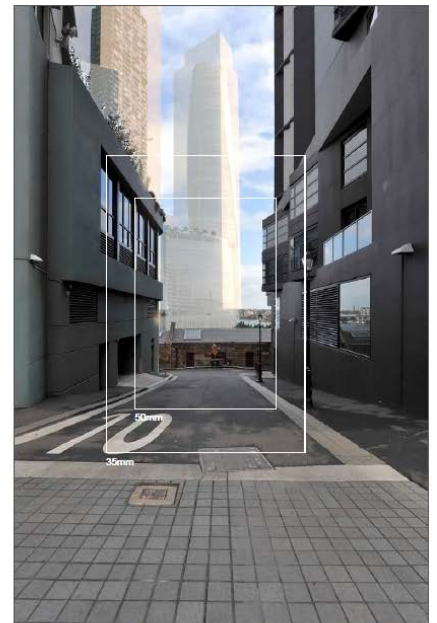


Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.



Original photo with crop marks to identify the field of view of longer lens sizes.



Image showing alignment of 3D model to photograph with the 3D model shown over in red.

Photographic data

Location: MILLERS POINT (OBSERVATORY HILL)
 Camera R.L. 43.2m
 MGA coords: X: 333894.874, Y: 6252001.792
 Lens: 40mm
 Dimensions: 4368 x 2912
 Date: 2/06/2010 2:57 PM
 Camera: Canon EOS 5D

Rationale for lens selection

The rationale for using a 40mm lens was that from this specific location the wider lens only captured more of the underside of the canopy and did not see any additional built form. Therefore we selected a 40mm lens as this balanced the amount of built form vs the surrounding nature in the image.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.

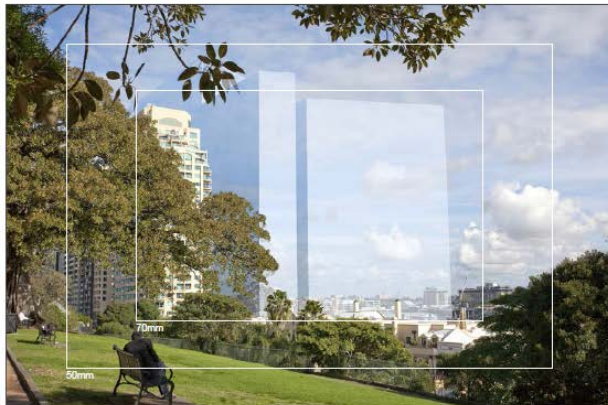


Image showing massing of the Approved Concept Plan Amendment (Mod 7)

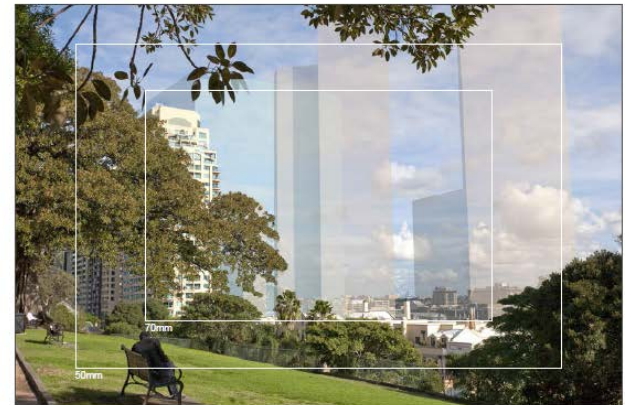


Image showing massing of the Proposed Concept Plan Amendment (Mod 8)



Image showing massing of the Approved Concept Plan Amendment (Mod 7) with indicative design.



Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.



Original photo with crop marks to identify the field of view of longer lens sizes.



Image showing alignment of 3D model to photograph with the 3D model shown over in red.

Photographic data

Location: CLYNE RESERVE
 Camera R.L.: 20.78m
 MGA coords: X: 333657.71, Y: 6252257.07
 Lens: 25mm
 Dimensions: 5616 x 3744
 Date: 14/11/2013, 12:28:48 PM
 Camera: Canon EOS 5D Mark II

Rationale for lens selection

The rationale for using a 25mm lens was to provide enough immediate context from the camera location, while still being able to see enough of the Barangaroo buildings in the distance.

Overlays showing longer lenses have been included to illustrate the effect of a longer lens. Note that using a longer lens from the same location will have the same effect as cropping the wider image.

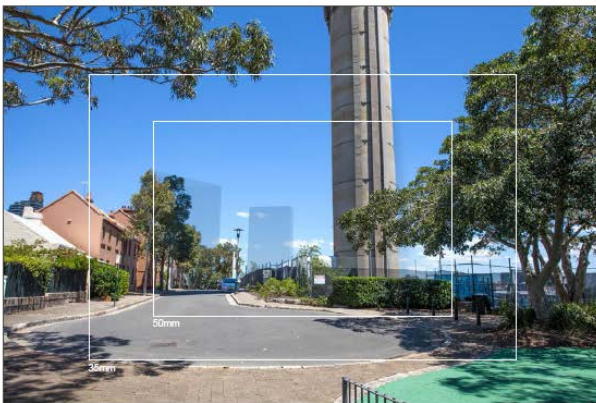


Image showing massing of the Approved Concept Plan Amendment (Mod 7)



Image showing massing of the Proposed Concept Plan Amendment (Mod 8)



Image showing massing of the Approved Concept Plan Amendment (Mod 7) with indicative design.



Image showing massing of the Proposed Concept Plan Amendment (Mod 8) with indicative design.

APPENDIX M: VIEW LOSS

Highgate - L15 RL59.699



Approved Concept Plan Amendment (Mod 6)



Proposed Barangaroo South Masterplan

Highgate - L25 RL90.187



Georgia - L25 RL90.187



Georgia - L15 RL59.699



Stamford Marquee - L15 RL59.699



Approved Concept Plan Amendment (Mod 6)



Proposed Barangaroo South Masterplan

Stamford Marquee - L25 RL90.187



Stamford on Kent - L15 RL59.699



Stamford on Kent - L25 RL90.187



**APPENDIX N: PROPONENT’S RESPONSE TO THE DEPARTMENT’S
RECOMMENDED MODIFICATIONS TO THE BARANGAROO
CONCEPT PLAN APPROVAL**

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6124

**APPENDIX O: KEY PROPOSED MAP AMENDMENTS - STATE
ENVIRONMENTAL PLANNING POLICY AMENDMENT (BARANGAROO) 2015**

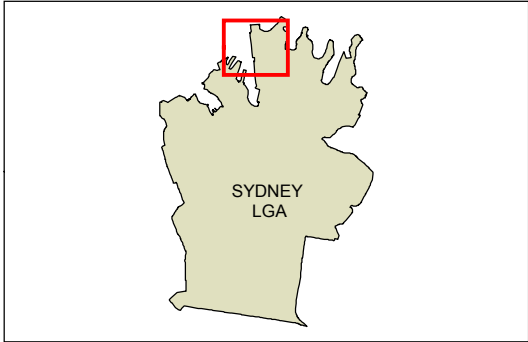
**SEPP (Major Development) 2005
Barangaroo Land Application Map
Sheet LAP 001**

Land Application Map - sheet LAP 001

Subject Land_Old

Cadastre

Cadastre 24/03/2016 © Land and Property Information



Projection: MGA Zone 56
Datum: GDA94




0 50 100 150 m

Scale: 1:5,000 @ A3



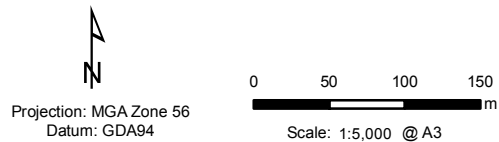




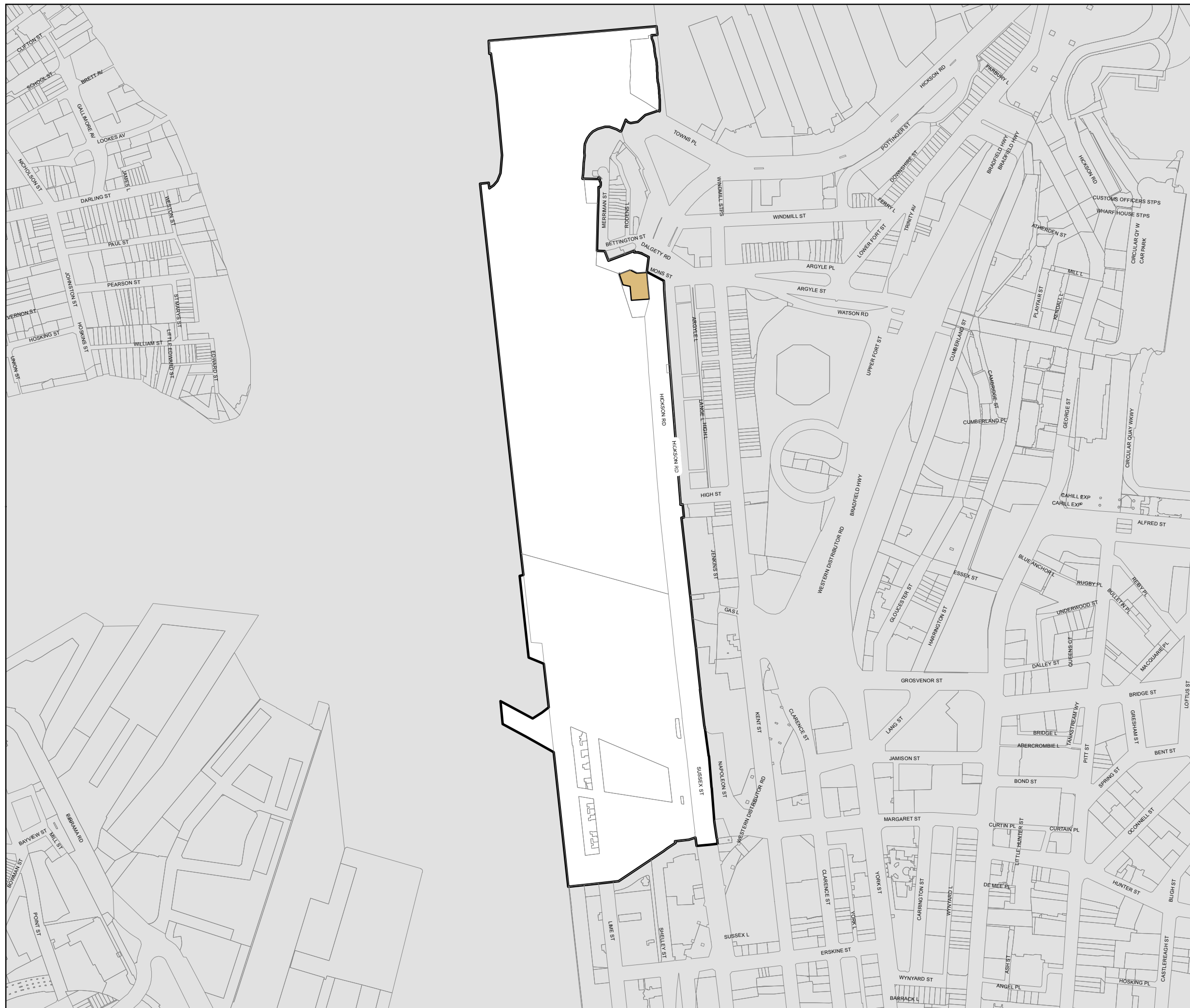
 Subject Land
 Item-General
 Cadastre 24/03/2016 © Land and Property Information

Name of Heritage Item

Dalgety's Bond Store Group



Map Identification Number	SEPP MD BAR HER 001 20160329
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APPENDIX P: RECOMMENDED MODIFIED INSTRUMENT OF APPROVAL
