



Preferred Project Report

Concept Plan Modification 4 (MP 06_0162 MOD 4) Barangaroo Stage 1

Submitted to
Department of Planning
On Behalf of Lend Lease (Millers Point) Pty Ltd

November 2010 ■ 10051

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1.0 Introduction

An Environmental Assessment Report (EAR) for Concept Plan Modification No. 4 MP 06_0162 (Concept Plan Modification) was publicly exhibited for a period of four weeks between 11 August 2010 and 10 September 2010.

In total 215 (including 10 agency and council submissions) submissions were received in response to the public exhibition of the Concept Plan Modification. An analysis of these submissions has revealed that the following key issues were identified with the proposal:

- built form and urban design including:
 - height;
 - bulk and scale;
 - views; and
 - shadowing;
- proposed landmark hotel building's location;
- reduction in the width of the Waterfront Promenade;
- traffic/transport concerns;
- the planning process and lack of transparency; and
- lack of consultation.

The proponent Lend Lease (Millers Point) Pty Ltd (Lend Lease), and its specialist consultant team have reviewed and considered the Department's comments, the agencies submissions, the City of Sydney's submission and the public submissions and, in accordance with section 75H(6) of the *Environmental Planning and Assessment Act 1979* (EP&A Act), now responds to the issues raised.

This Preferred Project Report (PPR) should be read in conjunction with the Concept Plan Modification EAR prepared by JBA Urban Planning Consultants Pty Ltd dated August 2010 and presents:

- further information and analysis with respect to a range of issues raised in submissions that relate specifically to the development proposed by the Concept Plan Modification;
- details of the final Concept Plan Modification, including a number of revisions to the proposed Concept Plan Modification as exhibited; and
- a revised Statement of Commitments.

Key amendments to the Concept Plan Modification as exhibited include:

- revisions to the Urban Design Controls to reflect;
 - the reconfigured commercial tower forms within Blocks 2 and 3 and the realignment of C5 to the south resulting in:
 - a reduction in the tower length and a consequential adjustment to the floor plate such that the tower floor plate is modified from 90m x 25m to 85.5m x 30m;
 - the expansion of the podium elements to reflect the removal of the galleries;
 - additional articulation requirements to modulate the massing and to elongate the tower forms including the requirement for architectural components such as prow, corner redents, expressed structure and lift cores and vertical villages;

- an amendment to increase the setback control from Hickson Road;
- an amendment to allow for identity signage to be incorporated within the building structure;
- an amendment to require that building service vehicle not be located on Hickson Road or Globe Street; and
- introduction of an additional control which requires that above RL 160, one of the towers must be reduced in height and/or the floor area;
- the introduction of a minimum 40m separation between the tower forms in Block 4B and Block 4C;
- the introduction of a minimum 15m separation between individual buildings fronting Hickson Road in Block 4C to contribute to an improved view sharing outcome;
- the street and pedestrian network amendments as described below;
- amendments to the Block Y controls to emphasise that the landmark hotel building drop off is not for loading or parking and to stipulate that the drop off must maintain a minimum distance of uninterrupted waterfront access of 10m in front of Block Y;
- amendments to Block 1 controls to reflect those relevant changes made in Blocks 2 and 3; and
- grammatical and typographical changes to ensure clarity;
- revisions to the Built Form Principles to reflect the above design changes as well as to:
 - amend Principle 1 – to refer to the positive contribution of the new waterfront buildings;
 - amend Principle 4 – to reflect the wider Shelley Lane and to introduce a minimum clear height of two storeys;
 - amend Principle 6 – to reflect the finer grain structure of the laneway system and the podium level open space;
 - amend Principle 8 – to include the proposed orientation of the foreshore buildings west of Globe Street; and
- amendments to the street and pedestrian network, comprising:
 - the widening of Shelley Lane by an additional 2m to provide a 6m road reserve;
 - replacement of gallerias with 24 hour, weather protected public laneways;
 - provision of additional finer grain connections through the commercial towers and Hickson Road building lobbies to strengthen connections between Hickson Road and Globe Street;
 - extension of the northern laneway through Block 4A to the Southern Cove; and
 - introduction of new design guidelines for the landmark hotel building drop off and Globe Square.

In addition, the updated reports appended to this PPR and the revised Statement of Commitments further detail the scope of amendments and ongoing commitments proposed by Lend Lease in the carrying out of the Concept Plan Modification.

- The following revised and supplementary plans and supporting documentation are provided for clarification and are further discussed in Section 2.0:
- Response to Agency Submissions (**Appendix A**);

- Response to Community Submissions (**Appendix B**);
- Supplementary Urban Design Report and Indicative Design Drawings (**Appendix C**);
- City of Sydney DCP Compliance Table (**Appendix D**);
- Barangaroo South Urban Design Report – Streets and Laneways (**Appendix E**);
- Design Guidelines for landmark hotel building's Drop Off and Globe Square (**Appendix F**);
- Visual Impact Analysis and Photomontages (**Appendix G**);
- Shadow Analysis (**Appendix H**);
- Cover Letter and White Paper: Supplementary Commercial GFA and Floor Plate Analysis (**Appendix I**); and
- Response to Public Transport Issues (**Appendix J**).

1.1 PPR Structure

The PPR is structured as follows:

- Section 2 – Project update;
- Section 3 – Issues Summary and Lend Lease's Response;
- Section 4 – Preferred Project – Concept Plan Modification;
- Section 5 – Revised Statement of Commitments; and
- Section 6 – Conclusion.

2.0 Project Update

2.1 Consultation

Since lodgement of the Concept Plan Modification, the following consultation has taken place.

City of Sydney Council

- 18 August 2010 – presentation to City of Sydney officers on Concept Plan Modification;
- 30 August 2010 – briefing to Councillors;
- 3 November 2010 – meeting with City of Sydney officers to discuss Council's submission and presentation to the Community;
- Multiple meetings with City of Sydney sustainability officers and their advisors as follows:
 - 9 September 2010;
 - 21 September 2010;
 - 25 October 2010; and
- Various other community forums and city talks.

Department of Planning

- 6 September 2010 – Meeting with Director General and Department of Planning Officers;
- 7 October 2010 – Meeting with Department of Planning officers;
- 21 October 2010 – Meeting with Department of Planning officers;
- 27 October 2010 – Meeting with Director General and Department of Planning Officers; and
- 4 November 2010 – Meeting with Director General and Department of Planning Officers.

Department of Environment, Climate Change and Water

- Lend Lease has been in regular discussions with the Department of Environment, Climate Change and Water regarding environmental licensing and ongoing environmental management and monitoring.

Others

- Lend Lease has been in regular contact with Brookfield Property Managers and tenants, AON Building Manager, Westpac Facilities Manager, and local hospitality owners/managers.
- In addition, Lend Lease has engaged with the following residents/stakeholders via email and telephone over the following months:
 - 7 August 2010 – Meeting with Darling Island/Sydney Wharf residents;
 - 9 August 2010 – Meeting with Clover Moore Public Tenants;
 - 10 August 2010 – Meeting with Millers Point Residents Action Group;
 - 10 August 2010 – Meeting with AMEX's Senior Facilities Manager;
 - 11 August 2010 – Meeting with 38 Hickson Road residents (The Bond);
 - 11 August 2010 – Presentation to INVESTA;

- 20 August 2010 – Presentation to DEXUS and Colonial First State;
- 26 August 2010 – Lend Lease representatives attended Jacksons Landing AGM;
- 2 September 2010 – Meeting with Stamford on Kent residents;
- 15 September 2010 – Meeting with Jacksons Landing residents;
- 16 September 2010 – Meeting with Billabond Childcare Facility (including Reserve Bank of Australia);
- 20 September 2010 – Telephone contact between David Hutton and Ross McDivan, Brookfield CEO;
- 12 October 2010 – Meeting with Millers Point RAG;
- 1 November 2010 – Presentation to Brookfield owners; and
- 9 November 2010 – Meeting with Millers Point RAG.

Adjoining Landowners and General Public

As outlined in the exhibited EAR, Lend Lease has established a Stakeholder Engagement Strategy and is consulting with local residents and other relevant stakeholders as part of its ongoing community engagement program. The opportunity to participate has been provided through a number of direct and indirect mediums:

- the Barangaroo Display at Hickson Road attracted 3,000 visitors and 250 written comments;
- the Barangaroo Online Forum has attracted 1,400 unique visitors;
- some 6,500 have visited the Online Information Display;
- 400 people attended a series of four community forum events in Sydney's CBD, Parramatta and Caringbah;
- 9,000 people have visited the dedicated Barangaroo South Website since it was launched on 16 June 2010 barangaroosouth.com.au; and
- Barangaroo South Information events and attendance at community meetings have engaged with over 500 community members to date.

The extensive program of community engagement undertaken to date is aimed at providing direct public feedback into the ongoing design process for Barangaroo South and enabling the community to develop a sense of ownership over the project.

In relation to the Concept Plan Modification specifically, Lend Lease has:

- issued the Barangaroo South newsletter in August 2010 to over 3,000 local residents advising that the Concept Plan Modification had been submitted to the Department of Planning and detailing how the links could be accessed via the Barangaroo South website;
- notified an additional 85 individuals who have elected to be on the Barangaroo South mailing list and 45 individuals from government departments and surrounding commercial properties and businesses;
- engaged in face to face consultation with 14 building managers and tenants from commercial properties and businesses surrounding the site to discuss the upcoming works and potential impacts. All received a follow up communication summarising the meeting and if necessary, any specific concerns relating to that property were addressed; and
- continued facilitating over 20 Community Forums and Information Sessions with 500+ attendees since Lend Lease was nominated as the preferred proponent of the project to discuss and address issues arising from the

proposed construction activities including dust, vibration, noise and traffic management.

3.0 Key Issues and Proponent's Response

Submissions in response to the public exhibition of the Concept Plan Modification were received from the City of Sydney Council, State Government agencies and authorities, and the general public. The sources of submissions can be summarised as:

- State authorities and agencies – 8;
- City of Sydney Council – 1;
- Leichhardt Council – 1; and
- Members of the public – 205.

Of the 205 public submissions received by the Department of Planning:

- 36 submissions, comprising 13 business groups and 23 individuals, indicated support for the Concept Plan Modification;
- 10 submissions were categorised as being neutral or unclear in their position; and
- 159 submissions received from a range of community members who objected to the Concept Plan Modification for a variety of reasons (see below). In summary:
 - 65 submissions were made by Kent Street residents / owners and associated groups that represent Kent Street or the buildings along it;
 - 7 submissions were made by 5 other local resident or action groups (e.g. Barangaroo Action Group, White Bay, Millers Point, Merriman and Pyrmont)
 - 6 submissions were made by neighbouring streets (Hickson Road, Shelley Street and King Street Wharf precinct);
 - 15 submissions were made by western neighbours (Pyrmont, Darling Island and Balmain)
 - 47 submissions were made by residents from other suburbs or from outside the CBD;
 - 7 submissions were made by the architectural/design community;
 - 6 submissions were made by and on behalf of businesses, associations, lobby groups, and the like; and
 - 6 submissions were made anonymously or no contact details were provided.
- The key issues raised by public agencies and the community in the above mentioned submissions can be generally summarised into the following categories:
 - built form and urban design including:
 - height;
 - bulk and scale;
 - views;
 - shadowing; and
 - wind impacts;
 - the proposed landmark hotel building's form and location;
 - public domain and street and lane networks, including the form and function of Globe Square and the proposed reduction in the width of the Waterfront Promenade;

- traffic/transport concerns, and particularly the capacity of existing public transport networks and connections;
- acoustic impacts;
- the planning process and lack of transparency (addressed in **Appendices A and B**); and
- lack of consultation.

Lend Lease's detailed response to issues raised specifically in relation to the Concept Plan Modification is provided at **Appendix A** (City of Sydney Council, Leichardt Council and State authorities and agencies) and **Appendix B** (public submissions).

The following sections provide a detailed response to the key issues raised in submissions. The Preferred Project – Concept Plan Modification, including revised Statement of Commitments is detailed at Sections 4 and 5 respectively.

3.1 Built Form and Urban Design

3.1.1 Issues Raised

The proposed height, bulk and scale were identified as the predominant issues in submissions made by the City of Sydney and the public. View loss, visual impacts and shadowing arising from the proposed towers were also raised in a number of submissions and are addressed in the following sections of this PPR.

In addition, the Department of Planning requested further justification in support of the proposed commercial tower dimensions and recommended the introduction of additional urban design controls to consider greater setbacks, ensure future articulation of buildings, and mitigate the potential visual impacts.

3.1.2 Lend Lease's Built Form Response

In response to the issues raised in the agency, council and public submissions, Lend Lease and its design team have made a number of design amendments to the Urban Design Controls and Built Form Principles, particularly in relation to the tower forms in Blocks 2 and 3 and Block 4B and 4C. The full scope of amendments to the Built Form Principles and Urban Design Controls is detailed in the Supplementary Urban Design Report prepared by Rogers Stirk Harbour + Partners attached at **Appendix C** and should also be read in conjunction with the:

- Supplementary Urban Design Report (including indicative design drawings) prepared by Rogers Stirk Harbour + Partners at **Appendix C**;
- City of Sydney DCP Compliance Table prepared by Lend Lease and JBA Planning at **Appendix D**;
- Barangaroo South Urban Design Report – Streets and Laneways within Blocks 2 and 3 prepared by Hassell at **Appendix E**;
- Design Guidelines for Hotel Drop Off and Waterfront Square prepared by Lend Lease Design at **Appendix F**;
- Visual Impact Analysis and Photomontages prepared by Virtual Ideas at **Appendix G**; and
- Shadow Drawings and Analysis prepared by Virtual Ideas at **Appendix H**.

In summary, the revised controls reconfigure the commercial tower forms within Blocks 2 and 3 resulting in:

- a reduction in the tower length and a consequential adjustment to the floor plate such that the tower floor plate is modified from 90m x 25m to 85.5m x 30m;
- the expansion of the podium elements to reflect the removal of the gallerias;
- additional articulation requirements to modulate the massing and to elongate the tower forms including the requirement for architectural components such as prow, corner redents, expressed structure and lift cores and vertical villages;
- an amendment to increase the setback control from Hickson Road,
- an amendment to allow for identity signage to be incorporated within the building structure;
- an amendment to require that building service vehicle not be located on Hickson Road or Globe Street; and
- introduction of an additional control which requires that above RL 160, one of the towers must be reduced in height and/or the floor area.

In addition, Lend Lease has taken the opportunity to make the following built form and urban design amendments:

- introduction of a minimum 40m separation between the tower forms in Block 4B and Block 4C;
- introduction of a minimum 15m separation between individual buildings fronting Hickson Road in Block 4C to contribute to an improved view sharing outcome;
- street and pedestrian network amendments as described below;
- amendments to the Block Y controls to emphasise that the landmark hotel building drop off is not for loading or parking and to stipulate that the drop off must maintain a minimum distance of uninterrupted waterfront access of 10m in front of Block Y
- amendments to Block 1 controls to reflect those relevant changes made in Blocks 2 and 3;
- grammatical and typographical changes to ensure clarity.
- revisions to the Built Form Principles to reflect the above design changes as well as to:
 - amend Principle 1 – to refer to the positive contribution of the new waterfront buildings;
 - amend Principle 4 – to reflect the wider Shelley Lane and to introduce a minimum clear height of two storeys;
 - amend Principle 6 – to reflect the finer grain structure of the laneway system and the podium level open space;
 - amend Principle 8 – to include the proposed orientation of the foreshore buildings west of Globe Street; and
- amendments to the street and pedestrian network, comprising:
 - the widening of Shelley Lane by an additional 2m to provide a 6m road reserve;
 - replacement of gallerias with 24 hour, weather protected public laneways;
 - provision of additional finer grain connections through the commercial towers and Hickson Road building lobbies to strengthen connections between Hickson Road and Globe Street;

- extension of the northern laneway through Block 4A to the Southern Cove; and
- introduction of new design guidelines for the landmark hotel building Drop Off and Waterfront Square.

The amendments to the Urban Design Controls and Built Form Principles respond to and build upon the key planning and urban design issues identified during the preparation of the original Concept Plan and SEPP Amendment, the underlying planning objectives and controls established by the State Government for Barangaroo South and the exhibited Concept Plan Modification's benefits. The revised Controls also offer the following additional opportunities as outlined in the Supplementary Urban Design Report prepared by Rogers Stirk Harbour + Partners at **Appendix C**:

- provide greater pedestrian amenity, wind amelioration;
- offer wider views to the sky when viewed from the ground plane;
- improve the ambient light within the proposed street and laneway system;
- greater building modulation and articulation through new controls which ensure:
 - each of the proposed commercial towers will be legible when viewed from their respective bases;
 - the built form and the tower elements in particular continue to read as individual towers and maintain an appropriate relationship within the Development Blocks themselves and to the human scale; and
 - a strong cohesive environment to enhance the pedestrian experience, to ensure a high level of articulation to the street frontages, and to ensure an armature of masonry elements that give definition and substance to the future architecture;
- retention of the exhibited Concept Plan Modification's flexible floor plate principles to ensure Barangaroo South meets tenant needs, emerging trends, satisfies sustainability targets, gains efficiencies of space and arrangement, provides naturally light, free and open floor plates which are inherently flexible, and creates optimal solar and light access and opportunities for dramatic open views of Darling Harbour;
- general compliance with the aims and objectives of the City of Sydney's local DCP controls (refer to **Appendix D**);
- promotion of different architectural treatments, detailing of facades and strategic selection of materials to create visual interest and break up expanses of building walls with modulation of form and to create a balance between public and private spaces;
- improvement of the pedestrian streetscape through architectural design, street frontage bulk, massing and modulation of buildings;
- contribution to the Metropolitan Strategy residential and employment targets and delivery of a significant portion of commercial floor space that will be required over the next 20 years (refer to Section 3.5 below);
- the ability to distribute GFA, thereby facilitating the creation of a much larger Southern Cove to a higher standard;
- realisation of the approved public domain objectives and improvement to the form and function of key landmark spaces and buildings;
- the establishment of north-south and east-west streets and laneways, to provide an interesting and vibrant finer grain which will activate the ground plane; and

- retention of existing view corridors and framing of new major view corridors to the water between the commercial towers and over the Southern Cove, allowing visual permeability and view sharing to and from the water.

3.1.3 Lend Lease's Bulk and Scale Response

Lend Lease's revisions and improvements to the exhibited Built Form Principles and Urban Design Controls respond to the bulk and scale concerns raised in agency, council and public submissions as they will ensure that the design, bulk and scale of the future built form is acceptable.

Furthermore, the Concept Plan Modification as proposed by the exhibited EAR and this PPR will regulate the size and location of the podiums and towers by introducing maximum heights (for the podiums), maximum widths and depths for the tower elements, minimum building separations and minimum street setbacks. Lend Lease's controls on built form width and depth are also intended to ensure a diversity of occupancies, and combined with required building separations, better view corridors, good internal amenity, access to natural light and ventilation and a more appropriate building scale for pedestrians with any final building design.

Collectively, the revised Urban Design Controls and Built Form Principles continue to satisfy the original objectives of the approved built form principles and controls by:

- enabling visual connectivity to the east or west;
- promoting the use of different architectural treatments, detailing of facades and strategic selection of materials to create visual interest and break up expanses of building walls with modulation of form and create a balance between public and private spaces;
- ensuring the built form and the tower elements in particular continue to read as individual towers and maintain an appropriate relationship within the Development Blocks themselves and to the human scale;
- improving the pedestrian streetscape through consistent architectural design, street frontage bulk, massing and modulation of buildings;
- promoting the use of column lines and structures to provide additional rhythm and articulation to buildings;
- placing highly visible base activities (shops, restaurants, studios, bars, etc) at street level to respond directly to human scale and senses rather than drawing the eye to the building facade; and
- requiring a generally consistent building height and form along Hickson Road and the waterfront promenade.

In addition, Section 3.5 considers commercial floor plates specifically. As set out in that section of the PPR, Lend Lease's Concept Plan Modification and particularly the commercial towers, is a direct response to the commercial office space market. Office demand continues to evolve to reflect the changing global economy. The drive for economies of scale and efficiencies is pushing large multinationals, particularly in the financial services sector, to rationalise their operations in single buildings. This is driving the demand for increasingly large floor plates. In addition to cost efficiencies, large floor plates also offer productivity, communications and cultural gains.

Sydney has been left behind in the development of primary office space and has an increasingly aging stock of office buildings and accordingly there is now a shortage of prime office space in the CBD. The risks of not addressing this shortage are that these businesses are likely to move elsewhere (as has occurred in the cases of Canary Wharf, La Defence, and Melbourne's

Dockland). As a worst case scenario, business may choose to locate in other Australian cities or internationally in the event that a sufficient quantum of prime floor space is not available.

These risks are acknowledged in City of Sydney's report regarding the Goldfields House redevelopment. That example demonstrates that it is difficult to secure appropriate sites within the CBD to develop prime buildings and commercial floor space. On the contrary, Barangaroo provides a rare and unique opportunity to address this shortage and supports Sydney's position as Australia's financial centre and a major regional financial services hub.

Lend Lease's design team has considered the commercial demand for prime floor space against the potential visual impacts that arise from the building envelopes required to attract multi-national companies. A number of design strategies and features have been formulated to ameliorate this impact, including:

- orientation and placement of the buildings for optimal solar penetration and view sharing;
- positioning of lift cores in the centre of the northern elevations to give a more compacted appearance;
- introduction of additional architectural components to articulate and modulate the north and south facades to break up the visual mass of the longer elevations;
- reduction in the length of the proposed floor plates;
- use of horizontal articulation to reduce vertical massing;
- provision of architectural components such as corner redents to create "prows" at the narrower ends of the buildings and to express structure;
- an extension of the building podiums to better define the laneway system and areas of public realm and to enhance the human scale environment at ground level; and
- introduction of a control to modulate the mass of the three towers (above RL 160) by reducing the height and/or the floor area in one of the towers, within the Concept Plan Amendment building envelope of Block 2.

The Concept Plan Modification and this PPR will enable Barangaroo South to be showcased as an example of sustainable development and world-class design on a precinct scale. It also responds to the rare and unique opportunity that it offers in terms of important competitive, financial and economic benefits for Sydney. The revised Urban Design Controls and Built Form Principles will deliver the sustainability targets established for the site whilst also delivering an enhanced public domain due to greater activity and the variety of spaces proposed. This PPR and supporting appendices demonstrates that the Concept Plan Modification will satisfy and exceed the objectives established for Barangaroo South under the approved Concept Plan (as modified).

3.1.4 Lend Lease's Height Response

The Concept Plan Modification reinforces the development vision for the site. The objectives for the increase in height include:

- tall buildings to be designed to maximise solar penetration;
- buildings should be no taller than the existing CBD skyline;
- a mix of low rise buildings and podia should be used to moderate the scale of the taller buildings; and

- the scale should be comparable to other world class cities.

The proposed height assists in completing the strong city framework of tall buildings at Circular Quay and adjacent to the Botanical Gardens. Together the towers will establish a rising form from south to north and a strong edge to the open water beyond. This cluster of buildings, which are similar in height to existing tall CBD buildings, completes the city's north-western limit, provides for world class buildings of design excellence, and is a catalyst for the wider regeneration of the area in the future. Barangaroo's tallest building is only the 6th tallest building in Sydney and accordingly the City skyline is not expected to be dominated.

The proposed heights enable the buildings to contribute to the evolving interest in Sydney's city skyline, with proposed variations in building heights and building designs adding further visual interest.

In addition, Lend Lease's building heights are important aspects in delivering improved sustainability outcomes with increased density and enabling efficiencies from shared infrastructure. Taller buildings will facilitate appropriate densities to be achieved, with lower concentrations of buildings at ground level. This in turn will result in public realm outcomes and ensure more equitable sun, shade and view sharing.

3.1.5 Built Form and Urban Design Conclusion

A detailed response to all built form and urban design related issues raised by City of Sydney Council and State agencies is attached at **Appendix A**. Lend Lease has also provided detailed responses to the issues raised in public submissions (**Appendix B**).

As discussed in the exhibited Concept Plan Modification EAR, the current Concept Plan approval requires the new Southern Cove to be enlarged to create:

- an enlarged water intrusion including a component east of the proposed "Globe Street";
- active edges around the enlarged waterbody, including appropriate ground floor uses in buildings to activate the foreshore area;
- achieving appropriate pedestrian linkages along the foreshore and connections to Hickson Road; and
- a theme which celebrates the water as an important part of the landscape element.

The enlargement of the Southern Cove in conjunction with the planning and design requirements imposed by Modification B3, have consequently generated a series of urban design opportunities related to the distribution and mix of uses at Barangaroo South, including the reconfiguration of the internal street and public domain networks, arrangement of land uses across the site, and the distribution of the approved GFA and heights across the entire site.

Lend Lease's Concept Plan Modification has been driven by the following design principles.

- the Fan and Grid Pattern – the Concept Plan Modification responds to the changing nature of the site at its periphery, softens the land/water interface, provides daylight penetration into the spaces between buildings, and tempers the density of development closer to the foreshore;
- Completing the City Frame – the Concept Plan Modification extends and completes the City Frame into Barangaroo South by bookending the City's western edge with the new tower elements. Less dominant built form and passive uses such as the low rise residential buildings in Development Block

X, the Promenade, and Southern Cove waterfront offset the City Frame and ensure an appropriate scale is presented to public recreation areas and adjacent to the waterways;

- Creating Gateways, Markers and Place Making –the Concept Plan Modification continues the City’s theme of establishing landmark buildings and spaces at strategic locations throughout the CBD and along its edges including the landmark hotel building, Cultural Centre, Southern Cove and its waterfront; and
- Circulation and Permeability – Barangaroo South’s proposed street and circulation network, as envisaged by the Concept Plan Modification, reinforces the connections between the CBD, Barangaroo South and landmark public buildings and markers along the foreshore established in the approved Concept Plan (as modified).

The Concept Plan Modification as proposed by this PPR satisfies the approved Concept Plan’s built form objectives as it continues to ensure that future built form will:

- result in 3.1ha of Barangaroo South being set aside for open space and public recreation uses, including the waterfront promenade and Southern Cove foreshore, public recreation areas and the public pier, and will thereby provide a significant contribution to the overall objective to set aside 50% of the overall Barangaroo site for open space and public recreation uses;
- be appropriate to the site’s context and to the desired urban form and scale for the western part of the Sydney CBD;
- be of an appropriate density to capitalise on the site’s attributes;
- concentrate taller buildings towards the centre of Barangaroo South (and consequently the southern part of the overall Barangaroo South site), where they are compatible with the higher density city scale development to the south and west;
- reinforce the landmark significance of the site;
- maintain significant view corridors within the site and from the public domain surrounding the site towards Sydney Harbour;
- achieve view sharing principles from existing surrounding development;
- ensure permeability throughout the site, with pedestrian through-site-links; and
- allow creativity in built form, whilst providing certainty over the bulk and scale of development.

In light of these planning merits, it is considered that the Concept Plan Modification as proposed by this PPR can be supported.

3.2 Visual Impacts and View Loss

3.2.1 Issues Raised

The technical specifications and methodology adopted by the exhibited View Impact Analysis have been scrutinised. Both the City of Sydney and the Department of Planning requested Lend Lease provide a revised view impact assessment.

In addition a more detailed view impact analysis has been requested to assess the potential impacts arising from the proposed Blocks 4(A-C) building envelopes, and to specifically consider the impacts to Kent Street residents

associated with Concept Plan Modification's proposal to increase Block 4 building heights above the approved RL 100 controls.

Agency, council and public submissions also raised concern in relation to visual impacts and view loss associated with:

- the landmark hotel building generally interrupting foreshore views from all directions;
- view impacts from existing corridors at Kent Street, Lime Street and Shelley Street and existing nearby commercial properties;
- the potential impacts to existing Margaret Street West views; and
- the potential impacts to existing Grosvenor Street views.

3.2.2 Lend Lease's Response

Methodology

Lend Lease and its consultant Virtual Ideas, have considered the issues raised in relation to visual impacts and view loss in agency, council and public submissions and provided a visual analysis (**Appendices A, B and G** respectively). The analysis concludes the methodology adopted during the preparation of the exhibited photomontages is considered acceptable practice for the reasons outlined in **Appendix G** and summarised below.

The Field of View of the Human Eye

There is varying opinions as to the accepted field of view of the eye, ranging from 17 – 24 mm, depending on the source of information referenced. Notwithstanding, the human eye has quite a wide field of view and is influenced by proximity to the subject being viewed. That is, when standing close to a item (eg: a building), vision is focussed towards the top, sides and bottom of the item. In addition, the human eye changes focus and target direction regularly and quickly, allowing large structures to be viewed in very short periods of time, effectively making the perceived field of view even larger.

The Perspective of the Human Eye

It is difficult to accurately reproduce what the human eye sees by the means of a printed image. As the back of the human eye is curved and the sensors on cameras are flat, the perspective of a photograph can look quite different to how items are seen in the real world, especially with a larger field of view, or wider lens.

The use of longer lenses (approx 50mm) reduces the amount of perspective in images and therefore replicates what the human eye would see in reality more closely. However, longer lenses do not consider the field of view of the eye (discussed above). This means that if a photo taken with a 50mm lens was compared to a real view in the same location that the photo was taken from, it would become very clear that the human eye can see much more of the surrounding information than what is captured by the photo.

Changing the FOV on a digital camera

The main distinction between using longer rather than wider lenses is the amount of information that is displayed at the edges of the subject. Changing lenses to a smaller FOV produces the same result as cropping a wide angle image, providing that the position and the angle of the camera remains constant while taking the photographs. In short, a lens with a wider FOV does not create an image that has incorrect perspective, rather it simply means that the perspective is extended at the edges of the image showing more of the surrounds in the images.

In the context of the above, it is clear that there is no accepted “one size fits all approach” for lens selection. Longer lenses produce images closer to the perspective of the human eye; however the entirety of subjects as large as entire buildings and contextual surrounding may not be able to be shown. Using only 17mm lenses, would result in the subject being further away and small in the image but with greater context, which is not always appropriate to assess visual impact.

For these reasons, Lend Lease’s consultant Virtual Ideas considers that lens selection for the purposes of undertaking visual impact assessment for Barangaroo South needs to strike a balance between the field of the human eye and perspective, whilst also accurately displaying the built form in its surroundings.

Summary of Revised View Impact Analysis and Photomontages

A further Visual Impact Analysis has been prepared to reflect the PPR design amendments, namely the changes to the commercial tower forms and to verify and test the previous visual impact analysis which concluded that the proposal is able to achieve all relevant and appropriate view, vista, outlook and visual impact objectives (**Appendix G**).

The Visual Impact Analysis is supported by new photomontages which have been prepared to illustrate the approved Block Envelopes as per the approved Concept Plan (as modified), the proposed Block Envelopes as per the Concept Plan Modification that is the subject of this PPR, and the proposed Block Envelopes and Indicative Design (also the subject of this PPR) utilising the methodology discussed above (**Appendix G**). In addition, the View Analysis responds to the Department’s request to Lend Lease to provide an assessment of building envelopes proposed within Block 4, particularly with regard to the impact on residential units in Kent Street [Highgate, The Georgia, Stamford Marque, and Stamford on Kent.

Within this analysis, when comparing the approved Concept Plan and the proposed Concept Plan Amendment (Mod 4), the orthogonal studies indicate that the number of units with reduced view corridors is greater than the number of units with increased view corridors. However, this methodology does not reflect the wider field of view available to these residential buildings. As such an analysis of oblique views was undertaken and it illustrates that the view sharing outcome achieved in the approved Concept Plan (as modified) is also achieved in the proposed Concept Plan Modification.

The Visual Impact Analysis and photomontages indicates that the proposed Concept Plan Modification as proposed by this PPR:

- will deliver a view sharing outcome for apartments with a western outlook from residential buildings on Kent Street (ie: Stamford on Kent, Highgate, Stamford Marque and the Georgia) that is consistent with the established parameters of the approved Concept Plan (as modified). The view sharing outcome will be strengthened through the revised Urban Design Controls which have introduced:
 - a minimum 40m separation between the tower forms in Block 4B and Block 4C; and
 - a minimum 15m separation between individual buildings fronting Hickson Road in Block 4C to contribute to an improved view sharing outcome;
- the Shelley Street view corridor will be framed and terminate at Building C5, however the creation of a new east west view that generally aligns with Margaret Street and leads directly to the foreshore to complete the King Street Wharf grid within Barangaroo South is considered an appropriate visual off set and optimal urban design outcome;

- existing views to the north along Lime Street will be largely maintained and framed by the commercial development to the east and the landmark hotel building to the west. Distant views through to future development proposed to flank Barangaroo Central will aid in directing passage to the north and beyond towards the Headland Park; and
- the Margaret Street West view corridor is preserved and will be strengthened through the revised Urban Design Controls which have:
 - rotated the Building C5 tower envelope to align with Margaret Street; and
 - shifted Building C5 south.

In addition, the location and proposed form of the landmark hotel building is a key response to the Concept Plan's requirements to "celebrate the water theme" and is located to assist in a sense of arrival and to locate the approach to the destination. The Building's location will assist in the creation of a new edge of the new grid to the CBD that completes the CBD framework in this location. Whilst the landmark hotel building will interrupt views, the Landmark hotel building balances the need for a directional marker and landmark statement which attracts movement to the foreshore from the east while retaining an open vista and views.

There will be key views past the landmark hotel building as suitable separation will be achieved. There will also be ample sky and view corridor space to allow visual access to other directional and place-markers in either direction along the foreshore and beyond. The View Impact Analysis also finds that the landmark hotel building is therefore consistent with the approved Concept Plan (as modified and is considered acceptable on the following grounds:

- the proposed alignment of the landmark hotel building's footprint is slightly within the established east-west view corridor that emerges from Margaret Street and Napoleon Street, however, the design intent is to draw the eye to the marker and the foreshore at its base;
- upon arrival to Barangaroo South the landmark hotel building will frame the main approach view without impeding significant views that open to the north-west and north; and
- there are no other existing at-grade views to the west from Hickson Road or Margaret Street that will be affected by the landmark hotel building, in isolation.

Finally, the Grosvenor Street view corridor does not exist, and would necessitate the partial demolition of 189 Kent Street to be realised. If and when the Grosvenor Street view corridor is created, Lend Lease will consider the opportunities for enhancing this view.

In conclusion, the Concept Plan Modification seeks to meet a variety of planning and urban design objectives and can therefore be accommodated without resulting in significant view impacts beyond those recognised (and approved) under the approved Concept Plan (as modified). Furthermore, the Urban Design Statement (refer to Appendix A of the Concept Plan Modification (as exhibited) seeks to generally retain and strengthen the approved view sharing design principles and urban design controls to ensure the future built form appropriately responds to established views. On balance, the proposal is able to achieve all relevant and appropriate view, vista, outlook and visual impact objectives.

3.3 Shadowing Impacts

3.3.1 Issues Raised

Concerns raised by City of Sydney Council, Leichhardt Council and in public submissions related to:

- shadowing impacts to the Waterfront Promenade, in particular from the proposed landmark hotel building on the new public pier
- shadowing of buildings and public spaces within Pyrmont and Darling Harbour; and
- shadowing of the Southern Cove as a result of proposed Block 4C.

The Department of Planning did not raise any specific issues in relation to overshadowing.

3.3.2 Lend Lease's Response

Since exhibition of the Concept Plan Modification, Lend Lease has undertaken further analysis of the potential shadowing over the Waterfront Promenade (**Appendix H**). New shadow plans have also been prepared to model the revised built form and urban design outcomes detailed in Section 3.1.

These shadow plans indicate that additional shadows predicted to be cast over the Darling Harbour waterway, Pyrmont, Darling Island and Darling Harbour wharf will be predominantly confined to the early morning periods. Significant periods of direct sunlight will be maintained, particularly during the peak lunchtime periods. Generally, shadow impacts are expected to dissipate between 9.00am and 10.00am. Proposed Block Y is expected to partially shadow the Promenade, between 2.00pm and 5.00pm in the equinox periods and from 1.00pm in the winter solstice. However, direct solar access will be available and will move across the length of the Promenade as the sun sets.

Waterfront Promenade

A key concern raised in relation to shadowing has been the potential impacts of shadows expected to be cast by the landmark hotel building onto the Waterfront Promenade during the mid winter lunchtime. The shadow analysis provided at Appendix H demonstrates that on average over half of the Waterfront Promenade will be exposed to direct sunlight at any one time during the midday period in winter. More specifically, 39.62% of the Promenade will be cast in shadow during the midwinter lunchtime peak period (on average). During the equinoxes (March and September), shadows are expected to be cast on average over 41.03% and 25.27% of the Promenades total area respectively the midwinter lunchtime peak period.

The shadow analysis (prepared by Lend Lease's consultant Virtual Ideas) demonstrates that public domain, including the Waterfront Promenade will enjoy high levels of direct sunlight throughout the year. On average, during the hours of 11am and 3pm:

- only 40% of the Waterfront Promenade between the Southern Cove and southern boundary of the site will be affected by shadow on the 21st June;
- only 40% of the Waterfront Promenade between the Southern Cove and southern boundary of the site will be affected by shadow on the 21st March; and
- only 25% of the Waterfront Promenade between the Southern Cove and southern boundary of the site will be affected by shadow on the 21st September.

Further to this, there is a diverse range of other public realm areas available within Barangaroo South and the wider Barangaroo – the Promenade is only 43.5% of the total Waterfront Promenade area available within Barangaroo South and the Promenade is only 29.6% of the total waterfront public domain area proposed to be provided across the entire Barangaroo South site (ie; including the central parklands within Barangaroo South). This Promenade is a very small portion of public space available within Barangaroo as a whole which includes 65% of its area as public open space.

Overall, it is considered that the shadowing impacts of the Concept Plan Modification are acceptable given that:

- the water of Darling Harbour maintains significant direct daylight hours during the key recreational middle of the day boating period;
- residential properties to the east and west are largely unaffected and are not expected to experience any more shadowing than envisaged by the approved Concept Plan (as modified) – this assessment takes into account the landmark hotel building;
- the extent of additional shadowing to properties to the west falls mainly over commercial buildings, does not impact on the Southern Cove (particularly from Block 4C), parks to the west and is for a short period of time between 9am and 10am in mid winter and on March 21;
- the extent of additional shadowing over CBD buildings from the envelopes has been modelled against the maximum area within which shadows may potentially be cast by buildings within the block control envelopes included in the modified Concept Plan (yellow), which in practice will never be realised. A review of Lend Lease's indicative design shadowing (blue line) reveals that in most instances the real effect of shadowing is generally within the approved shadowing of the existing Concept Plan; and
- in any case, the expected extent of shadowing does not preclude these areas being well utilised for a range of activities.

In the context of the Barangaroo South site as well as the entire Barangaroo site, the significant periods of direct sunlight, and noting the approved shadow impacts established by the current Concept Plan, the additional shadow impacts are considered acceptable.

3.4 Wind Impacts

3.4.1 Issues Raised

The City of Sydney requested Lend Lease undertake a wind tunnel assessment for the entire Barangaroo South development to ensure that the appropriate environmental quality of new public domain areas is able to be obtained without relying on intrusive architectural elements such as screens, roof structures and revolving doors.

3.4.2 Lend Lease's Response

A desk top Wind Impact Assessment was provided with the exhibited Concept Plan Modification EAR, in recognition of the conceptual stage of the scheme. The exhibited Wind Impact Assessment concluded that wind amelioration measures would be required to be incorporated into the design at detailed design. The findings of that wind summary indicated that:

- Barangaroo South will improve wind conditions along Hickson Road and the pedestrian environment to Kent Street (ie: Margaret Street, Napoleon Street and Gas Lane);

- southerly winds reaching Buildings C3, C4 and C5 will create a downwash of wind, causing windy conditions;
- the staggered building heights and fanned orientation of Buildings C3, C4 and C5 will generally reduce adverse wind impacts, however the built form to the east may accelerate higher wind flow;
- the south-east corner of Building C5 is expected to be the worst affected;
- in the event that suitable wind protection structures are not placed on Building C5, wind conditions will propagate through to Buildings C4 and C3;
- the landmark hotel building is also expected to experience down washing, particularly at the south east and south west corners of the pier;
- in terms of the proposed residential buildings:
 - Buildings R8 and R9 are expected to induce the circulation of westerly winds from Globe Street;
 - Windy conditions may be experienced around the western corners of Buildings R4 and R5, during windy conditions and consequential downwash from Building R4;
 - local windy conditions may be experienced between Buildings R10 and R11 due to the acceleration of winds through R3 and R5;
- the Cultural Centre may be prone to windy conditions during most of the year; and
- further wind tunnel testing will need to be undertaken to investigate the likely pedestrian level conditions and to determine any required mitigation measures.

To respond to the concerns raised, Lend Lease has commissioned an additional Wind Tunnel Assessment based on the revised Indicative Design, which is currently being prepared and will be submitted under separate cover when complete. This will supplement and seek to test and validate the desk top Wind Analysis.

Notwithstanding the pending outcomes of the Wind Tunnel Assessment, wind impacts are considered acceptable and can be managed subject to implementation of the recommendations set out in the exhibited Wind Impact Assessment. In light of these planning merits, it is considered that the Concept Plan Modification as proposed by this PPR can be supported.

3.5 Commercial Floor Plates

3.5.1 Issues Raised

The City of Sydney's submission recommended smaller premium high-rise floor plates at the upper levels to address environmental amenity, bulk and visual impacts (discussed in **Section 3.1** above). City of Sydney also questioned the need for consistent 1,500m² + floor plates especially at the upper levels.

3.5.2 Lend Lease's Response

Jones Lang LaSalle has prepared a Supplementary Commercial Floor Space Analysis in support of the Concept Plan Modification, and particularly the proposed large floor plate format (**Appendix H**). In addition, Rogers Stirk Harbour + Partners' Supplementary Design Report provides a comparison of international and Australian examples of success and well designed large floor plated commercial buildings (**Appendix C**).

Sydney's position in Australia's economy is unrivalled. NSW produces approximately 32% of Australia's Gross Domestic Product (equating to about \$392 billion in the F2009-2010) and is approximately one third larger than the next largest economy (Victoria). Within the NSW economy, Sydney accounts for almost one quarter of Australia's GDP, and can be largely attributed to the dominance of the financial and investment sector.

Emerging trends indicate that the Sydney economy, and particularly the financial and investment sector, is in a recovery cycle. The financial and investment sector is predicted to grow at about 3.2– 4.1 % per annum over the next 10 years, generating between 24,000 – 33,000 new employees, most of which will need to be accommodated in the Sydney CBD. The underlying need for commercial office space in the Sydney CBD from the financial and investment sector over the next 10 years is summarised in **Table 2**.

Table 1 – Predicted Demand of Commercial GFA for Financial and Investment Sector

Work Space Ratio	Base Case (m ²) (3.2% growth)	High Case (m ²) (4.1% growth)
8:1	194,000	263,500
10:1	242,100	329,300
12:1	291,100	395,200
15:1	362,000	494,000

Source: Jones Land LaSalle

Noting an accepted work space ratio of 12m² per employee, the financial and investment sector alone generates a demand of 291,000m² of new commercial office space. Based on the proposed Concept Plan Modifications 563,965m², the predicted financial and investment market would absorb 82% of the total commercial GFA proposed at Barangaroo South. If however growth from all industry sectors is considered, Barangaroo South would only account for 40% of the predicted commercial office space demand.

The Jones Lang LaSalle Analysis also indicates that multi-national companies, particularly in the financial and investment sectors, are increasingly seeking floor space in prime buildings with large floor plates (i.e.: > 1,500m² and up to 2,000m²). Further, the introduction of the Commercial Building Disclosure from 1 November 2010 is driving a move towards sustainable commercial real estate.

Whilst the Australian commercial floor space market is generally keeping pace with these emerging trends, the Sydney market has experienced a slower rate of growth (0.7% per annum) resulting in older, smaller sized and environmentally inefficient office stock. There is accordingly a shortage of prime office space that provides large floor plates and can achieve accepted sustainability targets.

In addition to the predicted sector growth, financial and investment sector tenants are increasingly seeking large floor plates in excess of 1,500m² which exhibit:

- **physical flexibility** including opportunities to create collaborative work places; encourage stronger relationships and greater connections between team members; adapt to changing space requirements; enhance interaction through centralised gathering spaces; reduce tenant costs and balance vertical and horizontal connectivity;

- **high technical specifications** designed to satisfy tenant needs and reduce the capital expenditure associated with office set-up or relocation;
- **a high degree of amenity** and mix of uses that encourages a high work-life balance, including service retailing, bars, restaurants, entertainment, child care facilities and gymnasiums to attract and retain employees;
- **the ability to meet corporate social responsibility targets** such as a carbon footprint, energy use, greenhouse gases, etc; and
- **opportunities to create clustering benefits** including increased productivity, technology spill and labour market effects, which in the case of Barangaroo specifically will increase the City's competitiveness in the South East Asian financial market.

Jones Lang LaSalle has concluded that Barangaroo will have a positive impact on the Sydney CBD commercial office floor space market. Barangaroo will encourage new development that meets the evolving tenant requirements, particularly in the financial and investment sector, at a time when market demand is expected to be strong enough to meet supply. Barangaroo represents the last large scale and master planned office opportunity in the Sydney CBD. Limited opportunities exist within the CBD core for new innovative designs, large and flexible floor plates, and superior precinct-wide sustainability outcomes to be achieved. As such, Barangaroo is a limited opportunity for forward-thinking businesses to secure an appropriately sized and relatively constraint-free development parcel.

In summary, the proposed redevelopment of Barangaroo South will have a positive economic impact on Sydney and New South Wales. The development will generate significant economic and employment opportunities, and will provide significant new commercial, residential, tourist, and retail floor space in the western part of the CBD. The economic and employment impacts of the proposed redevelopment, particularly in relation to the growing financial and investment sector, support Lend Lease's proposed quantum of commercial GFA and floor plate size. Accordingly, it is considered that the Concept Plan Modification as proposed by this PPR can be supported.

3.6 Landmark Hotel Building

3.6.1 Issues Raised

A number of submissions object to the proposed introduction of the tourist uses and built form generally into the Harbour.

The Department of Planning and City of Sydney also raised concerns with the proposed taxi pick-up/drop off and servicing arrangements for the landmark hotel building on the basis that there could be potential for pedestrian/vehicle conflicts. Lend Lease has been requested to provide alternative arrangements for this portion of the site. In discussions with the Department of Planning, the formulation of a set of design considerations for the future landmark hotel building drop off was also recommended.

3.6.2 Lend Lease's Response

Proposed Location

The landmark hotel building is a core element of the Concept Plan Modification and is in direct response to the approved Concept Plan's requirement to "celebrate the water". The placement of the landmark hotel building on the public pier will help define and frame Globe Square, which is the envisaged to be the principal cultural and public domain focus of Barangaroo South. The

landmark hotel building also provides economic and activation benefits that will help attract retail and leisure operators to the area and will retain vibrancy beyond the working day, into the evenings and at weekends. The landmark hotel building will exemplify design excellence and is planned to stand out from other city buildings as an architecturally stunning and iconic structure.

The proposed public pier reflects Barangaroo South's industrial heritage and has been designed to ensure full public access to the waterfront. At 85m long and 50m wide (3,947m² in area), the pier is suitably off set by creation of the Northern and Southern Coves, which collectively account for 3.5 hectares of water area to Sydney Harbour.

Lend Lease considers that the proposed public pier and landmark hotel building are not likely to establish an unacceptable precedent or result in privatisation of the Harbour. Sydney has a history of public and private wharfs and piers, many of which have been completely appropriated for exclusive private residential apartments, including at Sydney Wharf, Darling Island and Walsh Bay.

In addition, two of Sydney's reclaimed piers contain hotels – at Pier One in Walsh Bay and the Finger Wharf at Woolloomooloo Bay. Whilst privately operated, a hotel is a quasi-public place, with restaurants, bars, function rooms and other facilities designed to attract visitors throughout the day. At Woolloomooloo, public access is limited to the southern part of the pier that contains the hotel and restaurants and it does not extend to any part of the pier to the north that contains residential apartments. Public access will be provided around the entire perimeter of the landmark hotel building on the public pier.

From the north, west and south, the landmark hotel building will not be out of context with its CBD setting and/or its backdrop of tall buildings, buildings climbing the CBD's western hill from the foreshore, taller towers along the CBD's spine and ridges, and various taller buildings and towers scattered throughout the southern half of the CBD, such as the Market City Tower in Haymarket or the UTS Broadway tower. The building will integrate with the silhouette of the CBD and its new / proposed Barangaroo context, particularly the north and the west where it will act to complete the built form of the western edge of the CBD which is presently vividly terminated by the wall of towers along Kent Street. Distant views (where it may be seen) through the CBD from the east are also not impacted. The visual impact of the building upon near and distant views (even at ground level) will generally be minor given its existing and future context.

From the south and north, the building's location will assist in creating the new edge of the new grid to the CBD that completes the CBD framework in this location. There will be key views past the building in both directions as a suitable separation will be achieved. There will be ample sky and view corridor space to allow visual access to other directional and place-markers in either direction along the foreshore and beyond. The proposed building will also be a place marker for south-north and east-west views as it sits at the intersection of these key connections and view corridors.

Drop Off /Pick Up Arrangements

The landmark hotel building's proposed location is vital to the Barangaroo South project as it will:

- it will enrich the mix of uses and activation along the waterfront to provide a vibrant area during and beyond office hours and at weekends, resulting in a positive social outcome;
- it will create an architectural punctuation mark along the foreshore and an iconic visual marker for both Barangaroo and for Sydney;

- the location creates an opportunity to attract an international hotel operator, as well as retail and leisure tenants, to Barangaroo and to Sydney; and,
- its siting makes a positive aesthetic contribution to the framing of the waterfront square, which is in many ways the public domain heart of the Barangaroo South development.

It is anticipated that, in order to attract a hotel operator of sufficient standing, the hotel will require a vehicular address and a sense of arrival for visitor set down and pick up. It is equally recognized that this shared area needs to be designed to ensure a safe, pedestrian friendly environment immediately in front of the hotel within the 'foreshore zone'.

Detailed design of the public areas surrounding the landmark hotel building and the final resolution of the foreshore zone will ultimately require resolution of:

- the nature, function and access requirements of any adjacent cultural facility;
- the requirements of the selected hotel operator; and,
- the final design of the foreshore promenade, which whilst being Lend Lease's responsibility to deliver, is subject to review and modification by other parties.

Until these matters are further advanced, and an holistic design can be put forward for these aspects, it is preferable to define a set of performance standards that provide parameters around the design options for the foreshore zone which can be agreed prior to any detailed design of the landmark building hotel.

Design Considerations

It is proposed to establish the hotel driveway area as a shared way, with a 10km/hr speed limit for permitted vehicles, as is the case in other shared way zones in the CBD.

Specifically, this shared way zone will not permit car or taxi parking. A taxi waiting zone will be provided in the adjacent Globe Street and taxis will be called on by the hotel on an 'as required basis'. Coach and bus drop off will occur in the adjacent Globe Street or alternatively in the basement zone.

The paving materials within the foreshore zone are intended to be continuous across the entire width and length of the waterfront promenade, including the space in front of the hotel, to reinforce pedestrian priority and provide a consistency in the treatment of this element of the public domain.

Demarcation of the shared way within the foreshore zone will be achieved through the use of devices such as paving inserts, landscape elements and appropriate signage and markers. The defined drop off access route will be designed to ensure that pedestrians have clear sight lines and can easily see vehicles manoeuvring within the shared way the foreshore zone.

Provision must be made for emergency vehicle access to the pier at ground level. Further discussions will be required with the various authorities to determine the most appropriate method for accessing the hotel for the variety of emergency scenarios (e.g. fire brigade, ambulance etc). The function and spatial requirements for such access has not been finalised, however its relationship to the waterfront promenade and in particular the dominant north-south pedestrian movement will require careful consideration.

All service vehicle access associated with the operation of the landmark building hotel, including deliveries, garbage collection, laundry collection, etc. will be through the basement. A loading dock and basement access corridor will facilitate the servicing of the hotel at this level. There is also the potential to

include a guest-only lift to / from the basement to provide guests with direct access between the hotel lobby and the basement car park.

Proposed Performance Standards

In consultation with Rogers Stirk Harbour + Partners, Lend Lease has prepared the following performance standards are proposed to provide parameters around the design options for the foreshore zone, prior to detailed design proposals for the landmark hotel building being developed and documented in a future Project Application:

- taxis can approach to within 10 metres of the water's edge, that is, cross the western Globe Street pedestrian pavement;
- pavement materials and design of the turnaround zone will be used to emphasise safety and to differentiate the shared zone from the waterfront promenade, including the turnaround boundary line;
- wind mitigation measures are to be provided in a manner that does not impede pedestrian permeability;
- a porte cochere can extend from the landmark hotel building to the centre of the turnaround area and may form part of the wind amelioration measures;
- coaches will not be permitted in the vehicle turnaround;
- entrance ramps to and from the basement will not be located on the foreshore promenade zone;
- vehicles will not be able to park in the vehicle turnaround area;
- a taxi rank/stand will be situated in Globe Street, which will enable taxis to queue outside the area of greatest pedestrian activity; and
- the turnaround area will be closed for special events in the foreshore area, such as New Years Eve and other major public events.

Proposed Management Plan

A management plan for the landmark hotel building drop will be prepared and submitted as part of the Project Application for the landmark hotel building project application outlining key commitments to ensure that the proposed commitments are carried through to ongoing management.

The Statement of Commitments has been amended to include a requirement to consider the performance standards in the future design and to prepare a Management Plan for the operation of the hotel pick-up / drop-off.

Collectively, the level of detail available for the landmark hotel building, the demonstrated built form and landmark outcomes required by the approved Concept Plan and Lend Lease's commitment to additional design considerations justify the landmark hotel building in its current location and form.

3.7 Public Domain, Streets and Laneways

3.7.1 Issues Raised

The Department of Planning, City of Sydney Council, Leichhardt Council and public submissions expressed concern in relation to:

- the potential impacts arising from the reduced Waterfront Promenade width;
- the operation and management of privately controlled arcades (i.e.: the gallerias) running east-west through Blocks 2 and 3 as illustrated in the exhibited Concept Plan Modification;

- the need for increased permeability through the site, and in particular the potential to extend the Block 3 laneway through Block 4A (Building R2) to the Southern Cove; and
- the need for stronger compliance with the City of Sydney's road width standards.

The Department of Planning recommended that the widths of streets should comply with the City of Sydney Council's standards and proposed the following:

- increasing the width of Globe Street from 15m to 18m;
- increasing the width of Shelley Street from 4m to 6m minimum (8m preferred); and
- ensuring that the east-west public pedestrian routes through Block 2 have a minimum width of 8m.

The City of Sydney Council also recommended Lend Lease:

- increase the width of Napoleon Street from 15m (as exhibited) to 18m;
- increase the width of City Walk from 12m (as exhibited) to 15m;
- delete the proposed Cultural Centre in Globe Square and investigate alternative designs and land uses for the Square.

3.7.2 Lend Lease's Response

Waterfront Promenade

In terms of the Waterfront Promenade, its proposed width has been analysed and justified through the submission of a precedent study for similar sized promenades (refer to Appendix J of exhibited Concept Plan Modification EAR). The precedent study demonstrated that there are many Sydney and international examples of comparable promenades of this scale and width that provide more vibrant and welcoming environments than those with a much larger width – London's South Bank and Sydney's East Circular Quay are two examples. The Waterfront Promenade's width is also a continuation of the scale of the waterfront space in front of the King Street Wharf buildings (albeit 7 metres wider) and has been designed to respond to the anticipated cycling, walking, and café outdoor dining activities.

Whilst the Promenade has been reduced in width, it has been rearranged and extended around the public pier and the Southern Cove as it travels north, resulting in a more diverse and interesting promenade with harbour water extending further into the site. This also results in parts of the public promenade now having a northerly aspect including the waterfront square which will add to public amenity.

As outlined above, there are wide ranging public realm areas available within Barangaroo South and the wider Barangaroo site that will perform a diverse range of functions and spaces. The Promenade represents one component of public open, and therefore its reduction will not compromise the open space framework established for the site under the approved Concept Plan.

Furthermore, as outlined in the exhibited Concept Plan Modification, Lend Lease proposes to embellish the Waterfront Promenade through tree planting, outdoor seating areas associated with the ground floor restaurants, and the landmark hotel building's forecourt. Programmed events, public art and street theatre will be located and performed along the Promenade, thereby providing a high degree of visual interest, activation and vibrancy.

Streets and Laneways

In response to the submissions received, Lend Lease has:

- widened Shelley Lane by an additional 2m to provide a 6m road reserve;
- replaced the gallerias with 24 hour, weather protected public laneways;
- provided additional finer grain connections through the commercial towers and Hickson Road building lobbies to strengthen connections between Hickson Road and Globe Street;
- extended the northern laneway through Block 4A to the Southern Cove; and
- introduced new design guidelines for the Hotel Drop Off and Waterfront Square.

In addition, Lend Lease has engaged Hassell to prepare an Urban Design Report – Streets and Laneways within Blocks 2 and 3 in response to issues raised in submissions (**Appendix E**). Hassell's Report also:

- details the design intent for each of the streets and laneways and their relationship to the proposed built form, and in particular the tower podiums; and
- provides further justification for Lend Lease's amendments to public domain and street and laneway network as proposed by the Concept Plan Modification.

Hassell's Urban Design Report indicates that the proposed widths of the streets and laneways have been determined based on pedestrian peak flows as well the need to provide sufficient activation to enliven the public domain during the course of the day and evening. Barangaroo South's network of streets, pedestrian lanes and internal lanes, adjacent to and through the commercial towers and retail podiums, have also been designed to ensure that the Waterfront Promenade is the primary focus of the public domain.

City Walk is proposed to remain 12m wide, as detailed in the exhibited Concept Plan Modification EAR and will be the primary east-west pedestrian connection, lined by retail uses along both frontages. The width of City Walk is considered appropriate for the precinct having regard to predicted pedestrian flows and other comparable laneways of similar function.

Globe Street is proposed to remain at 15m wide, with further detail design at the relevant Project Application stage proposed to examine opportunities to amend this width to ensure the street provides a complementary active street. The final width will take into account the functionality and character of the street, parking requirements, pedestrian and cycle paths, and the extent of tree canopies and carriageway widths. Globe Street will be a two-way vehicular street, incorporating taxi drop-off zones and landscaping.

Shelley Lane has been increased in width from 4m to a minimum of 6m along its entire length. It is also intended that the width of the Lane will be increased at particular points, where more intensive pedestrian activity is expected to occur. The final width will be detailed in the relevant future Project Application.

Lend Lease has chosen to remove the gallerias and arcades proposed in the exhibited Concept Plan Modification EAR and has replaced them with 8m wide 24 hour accessible and weather protected public pedestrian laneways. These new connections are proposed at the southern end of Block 2 (between proposed Buildings C4 and C5) and at the northern end of Block 3 (between proposed Buildings C3 and C7). The laneways will provide connections from Hickson Road through to Globe Street and onto the waterfront.

City Walk and the northern and southern laneways will be supplemented by additional finer grain connections through the commercial towers lobbies, internal courtyards and retail podiums. The connections will provide for new east-west and north-south pedestrian connections through Barangaroo South.

In addition, the Urban Design Report – Streets and Laneways within Blocks 2 and 3 prepared by Hassell at **Appendix E** provides future detail on the podium strategy for these blocks. It indicates that the design intent for the podium levels is to provide a strong cohesive environment to enhance the pedestrian experience, to ensure a high level of articulation to the street frontages, and to ensure an armature of masonry elements gives definition and substance to the architecture.

The proposed amendments and additional design detail provide the following benefits:

- an unambiguous definition of public and private spaces;
- simplification of the ground plane;
- extension through to Hickson Road, under the buildings lining the Hickson Road boulevard;
- provision of additional finer grain connections through the commercial towers and Hickson Road building lobbies to strengthen connections between Hickson Road and Globe Street; and
- increased pedestrian permeability and establishment of a stronger relationship between the proposed streets /laneways and their intended function.

For future detailed design, the Statement of Commitments has been revised to require Lend Lease to provide an updated Public Domain Plan reflective of the above changes and the Hassell report at **Appendix E**.

Globe Square

Situated at the junction of the principal pedestrian routes along Globe Street, City Walk and the Waterfront Promenade, Globe Square forms the public domain heart of Barangaroo South.

The Square is proposed to be framed by the Cultural centre, landmark hotel building and public pier, and the two low rise residential buildings, that activate the area with shops and restaurants at ground level.

Since exhibition, Lend Lease, in consultation with Rogers Stirk Harbour + Partners, has undertaken further detailed design of Globe Square and the public areas surrounding it and developed the following series of design considerations (**Appendix F**) to guide future detailed design proposals, which include:

- Globe Square will be pedestrian only, with shared north-south access routes for cycles;
- access to the water is encouraged at various points at Globe Square and along the Waterfront Promenade;
- pavement materials, landscaping and street architecture at Globe Square is to be consistent with Waterfront Promenade's design and the future design guidelines to be developed in conjunction with PWP Landscaping and Johnson Pilton Walker, who are preparing the overall public domain plan for Barangaroo; and
- wind amelioration and shading measures are to be provided as required within Globe Square.

In addition, the revised Urban Design Controls and Built Form Principles that underpin Lend Lease's Concept Plan Modification promote a high degree of permeability, which has been increased since the exhibited Concept Plan Modification. In particular, new linkages are proposed to extend the Block 3 laneway through Block 4A (Building R2) to the Southern Cove. The new east-west and north-south linkages and connections also provide access and permeability into and within the site to assist orientation, improve legibility, protect view corridors, and ease of access and accordingly exceed the requirements of the approved Concept Plan (as modified).

3.8 Traffic and Transport

The City of Sydney has formed the view that the State Government's abolition of the Metro renders Lend Lease's proposed increase in GFA unjustifiable. The City of Sydney is also concerned that the existing public transport network is under strain and little certainty exists as to when proposed upgrades will be delivered.

Transport NSW (including Sydney Ferries), Leichhardt Council, NSW Maritime and public submissions collectively raised a number of transport related concerns, including:

- cumulative impacts and need for intersection upgrades arising from development of Barangaroo South as envisaged by the Concept Plan Modification;
- increased potential for pedestrian / vehicle conflict on the Waterfront Promenade associated with the landmark hotel building;
- impacts arising from the State Government's decision to relocate the cruise passenger terminal to White Bay; and
- the location, detailed design, funding and delivery mechanism for the future ferry wharves.

3.8.1 Lend Lease's Response

Planning for Barangaroo has focused on the constraints imposed by road congestion in and around Central Sydney. This has reinforced the need to minimise traffic growth, limit parking supply and make full use of the city's existing and future transit accessibility.

The approved Concept Plan (as modified) has adopted the following mode split targets for the journey to work in the Barangaroo precinct:

- 83% by public transport (63% rail, 20% bus);
- 12% pedestrian/other;
- 4% car; and
- 1% ferry.

These targets represent world's best practice for the development of a new urban precinct adjacent to an existing CBD. Central Sydney is the most accessible location in the metropolitan region and already achieves high levels of public transport use, walking and cycling among CBD users and visitors.

The NSW Government and Lend Lease note that achieving the mode split and traffic management objectives is critically dependent on the provision of high volume, quality pedestrian access (Barangaroo Pedestrian Link) between Barangaroo and the Wynyard precinct. These links will be supported within the site by a connected street network.

The proposed Concept Plan Modification has been prepared in accordance with these targets. Detailed responses to all traffic and transport related matters that were raised in both the agency, council and public submissions are provided at **Appendices A and B**.

Abolition of the CBD Metro

The Government's decision not to proceed with the CBD Metro will not impact the ability of the transport network to accommodate the demand generated by the development at Barangaroo South. The NSW Government and the City of Sydney Council are committed to delivering a City Centre that is integrated and connected through effective public transport, pedestrian, cycling and road links.

Growth and development in the central part of Sydney is supported by a comprehensive planning framework, whereby land use and transport planning is integrated. This framework comprises:

- **NSW State Plan** – updated in 2010 and supported by detailed delivery plans, the State Plan includes targets to achieve better transport and liveable cities by 2016;
- **Metropolitan Strategy** and supporting draft Sydney sub-regional strategy;
- **Metropolitan Transport Plan** – released in February 2010, provides a 25 year vision for transport and land use planning for Sydney and includes a 10 year fully funded package of transport infrastructure to support it. Projects supporting the City Centre include;
 - an expanded light rail service for the inner city;
 - new and enhanced railway lines into the City Centre, enabling increased services from Western Sydney and additional capacity at key city stations;
 - better bus connections, including the delivery of 1,000 new buses, supporting public transport information and priority measures and depot facilities;
 - Sydney Metropolitan Strategic Cycle Network;
 - improved ferry services including the delivery of six new ferry vessels at a total cost of \$709 million;
 - enhanced road and freight network;
 - improved customer service initiatives including improved passenger information, electronic ticketing, station enhancements and additional rolling stock; and
 - long term planning to support future capacity requirements, including corridor protection through the CBD and across the Harbour;
- **Mode strategies** commencing with the release of the NSW Bike Plan in May 2010. Mode strategies for rail, bus, ferry and freight are proposed to be released by TNSW for public consultation in late 2010;
- **City Centre Access Plan**, which will be conducted on an 'all modes-all trips' basis across the short (to 2016), medium (to 2021) and long (to 2036) term taking into account current and future projects and growth resulting from development such as Barangaroo. The Plan will cover pedestrians, cyclists, public transport (including rail, light rail, buses and ferries) and traffic (that is, all road going modes, such as cars, taxis, trucks and couriers) at all times of day including weekends. The Access Plan is due for competition in early 2011;
- **Memorandum of Understanding** with the City of Sydney Council, which includes a package of short term bus enhancements in the Wynyard Precinct;

- **Wynyard Precinct Master Plan**, being undertaken by TNSW and informed by RailCorp's Wynyard Station Plan; and
- **Sydney CBD Coach Strategy**, prepared by TNSW and released in October 2009.

Planning for Barangaroo is being undertaken within the framework of the Barangaroo TMAP whereby mode split to private vehicles is nominated as 4%. All concept and individual project applications are being over seen by a Transport Working Group comprising Barangaroo Delivery Authority, City of Sydney, Transport NSW and Lend Lease.

This Transport Working Group will oversee the development of a new Barangaroo TMAP in mid 2011 based on the outcomes of the various transport studies currently being undertaken as outlined above.

The timing of transport infrastructure construction and availability, initiation of services and the implementation of supporting policies is critical to achieving the accessibility for Barangaroo. The allocation to a variety of initiatives will be funded from government with the exception of the commitments made by Lend Lease under its Project Development Agreement with the Barangaroo Delivery Authority.

Cumulative Impacts and Need for Intersection Upgrades

The proposed Concept Plan Modification employs a number of measures to minimise site traffic generation in peak periods, as follows:

- retains the **restrictive parking supply policy** (being almost half that of the City of Sydney) for the commercial components of the development established in the approved Concept Plan (as modified);
- **reduced traffic generation as a result of proposed change in land use mix** - traffic modelling results indicate the proposed GFA and trip rates is comparable to previously modelled impacts. In fact, Barangaroo South as proposed under the Concept Plan Modification generates slightly lower traffic volumes than the approved Concept Plan (as modified); and
- the introduction of **Travel Plans** to reduce the need to travel and promotion of sustainable means of transport. Green Travel Plans for employees and residents for both intra and inter-site travel will be developed.

Local traffic modelling undertaken as part of the proposed Concept Plan Modification indicates that there is no significant change expected to the surrounding street network as a result of the additional GFA. Given the lower traffic generation rates arising from the measures detailed above, traffic at intersections in the vicinity will not be significantly increased as a result of the development of Barangaroo.

The modelling endorsed the preferred road network for Barangaroo's development in the proposed Concept Plan Modification, and in particular the external network connections. Ancillary and necessary road works including the provision of signal and road and footpath upgrades will be the subject of future project applications not the subject Concept Plan Modification application. In accordance with the recommendations of the TMAP, upgrading works (signalisation) will be implemented at the intersection of Sussex and Napoleon Streets, which was identified as having insufficient capacity to accommodate forecast demand at an acceptable level of service without any improvements.

The modelling work also suggested that an alternative, high volume pedestrian facility would be required to ensure that vehicular access to Barangaroo will operate effectively. The Margaret Street West pedestrian bridge forms part of the Barangaroo Pedestrian Link (BPL) which was approved as part of the

approval issued by the Minister for Planning in August 2010 in relation to the CBD Metro Modification 1 - Project Staging.

Transport NSW is responsible for the delivery of the BPL. Lend Lease and the Barangaroo Delivery Authority and Transport NSW (Sydney Metro Authority) have been working together to ensure that the BPL is delivered prior to the occupancy of the first building at Barangaroo and that it is appropriately sited.

In this regard it should be noted that Condition B22 of the Project Approval issued in respect of MP10_0023 for the Basement and Bulk Excavation works provides that:

"Additional analysis and design work is required to ensure that the Barangaroo Pedestrian Link (BPL) bridge can be accommodated on the western side of Hickson Road, whilst maintaining adequate space for pedestrian movement at ground level around the bridge landing.

Pedestrian safety is also to be demonstrated in relation to pedestrian access to the site from Margaret Street West and the BPL, with regard to footpath widths, potential crossing locations and expected vehicular movements in and out of the car park / loading entry. In this regard, documentation is to be provided to show an annotated and dimensioned path of pedestrian travel from the BPL into the site, and around the base of the bridge landing on Hickson Road / Margaret Street West.

The required design analysis is to be submitted for approval for the Director General prior to a Construction Certificate being issued for the Margaret Street West road and public domain works."

Potential Pedestrian / Vehicle Conflict

As noted below, a range of design parameters are proposed for the future design of the landmark hotel building drop-off facility including the creation of a safe pedestrian zone immediately in front of Block X to reinforce pedestrian priority:

- it is proposed to establish the landmark hotel building's driveway area as a shared way, with a 10km/hr speed limit for permitted vehicles, as is the case in other shared way zones in the CBD. Specifically, this shared way zone will not permit car or taxi parking;
- a taxi waiting zone will be provided in the adjacent Globe Street and taxis will be called on by the hotel on an 'as required basis'. Coach and bus drop off will occur in the adjacent Globe Street or alternatively in the basement zone;
- the paving materials on the foreshore zone are intended to be continuous across the entire width and length of the waterfront promenade, including in front of the hotel, to reinforce pedestrian priority;
- demarcation of the foreshore zone shared way will be made by paving inserts, landscape elements, traffic calming devices, and appropriate signage and markers. The defined drop off access route will be designed to ensure pedestrians have clear sight lines and can easily see vehicles entering and departing the foreshore zone at all times;
- emergency vehicles may need selected access to the wharf pier at ground level on occasion. Further discussions will be required with the various authorities to determine the most appropriate method for accessing the hotel for the variety of emergency scenarios (e.g. fire, ambulance etc). The function and form of these access facilities has not been finalised, however their relationship to the waterfront promenade and in particular the north-south pedestrian desire lines will require careful consideration; and

- the landmark hotel building will be serviced predominantly by vehicle access through the basement, where all truck movements related to deliveries, garbage collection, laundry collection, etc will occur below ground level. A loading dock and basement access corridor will facilitate the servicing of the hotel at this level. There is also the potential to include a guest-only connecting lift from the basement to help provide guests with direct access to the hotel lobby from the basement car park level.

These design parameters will key to ensuring appropriate and safe management of the proposed hotel vehicular access. They will need to be included with any future project application for the landmark hotel building and are included as a Statement of Commitment.

Relocation of the Cruise Passenger Terminal

The relocation of the cruise passenger terminal to White Bay is a decision taken by Government in consultation with the cruise passenger industry and is outside the scope of the proposed Concept Plan Modification.

It is noted that Sydney Ports Corporation has submitted a Project Application for the construction of the White Bay facility, which fully addresses the traffic impacts associated with those works.

Ferry Services and Infrastructure

The proposed Concept Plan Modification facilitates the future provision of ferry wharves and provides an indicative location at the southern end of the site. However the construction of the wharves and the provision of associated waterside infrastructure is proposed to be undertaken by others and does not form part of the Concept Plan Modification.

Furthermore the revised Statement of Commitments submitted as part of the proposed Modification preserves the requirement to engage in ongoing consultation with NSW Maritime in relation to the potential to expand ferry and charter boat operations within the redevelopment site.

4.0 Preferred Project

In accordance with its commitment to address the concerns of the Department of Planning, authorities and the public, Lend Lease has modified its proposal. Lend Lease has also taken the opportunity to make some minor amendments to the exhibited scheme as a result of the ongoing design process.

The Supplementary Urban Design Report and Indicative Design Drawings prepared by Rogers Stirk Harbour + Partners are located at **Appendix C**.

4.1 Description of Development Proposal

The Concept Plan Modification as exhibited proposes for Barangaroo South:

- an increase in the total quantum of GFA within Barangaroo South Mixed Use Precinct from 430,275m² to 490,240m² related to an increase of 45,188m² in residential floor space and an increase of 14,777m² in commercial floor space;
- reallocation of the 8,500m² of passenger terminal GFA approved under the Concept Plan for community uses GFA, and an increase in total community uses GFA by 1,500m² such that there is a total of 10,000m²;
- an increase in total active uses GFA by 1500m² such that there is a total of 3000m²;
- a redesign and reconfiguration of the public waterfront promenade (RE1 Public Recreation Zone) including a reduction in the width of the public promenade from a minimum of 60m to a minimum of 27m;
- the reconfiguration of Blocks 1 to 4;
- the establishment of two new Development Blocks within Barangaroo South, being:
 - Block X – a new predominantly residential development block located west of Globe Street with a maximum GFA of 18,908m² and a maximum building height of RL 41.5, and
 - Block Y – the establishment of a new pier and landmark hotel building extending into the Harbour with a maximum GFA 33,000m² and a maximum building height of RL 170;
- an increase in the maximum building height within the previously described Development Blocks 1, 3 and 4 as follows:
 - Block 1 from RL 62 to RL 80 (an increase of 18m);
 - Block 3 from RL 112 to RL 209 (an increase of 97m); and
 - Block 4 from RL 100 to a maximum of RL 175 in Block 4B (an increase of 75m), noting the approved Block 4 has been split into 3 separate Blocks;
- revisions to the approved Built Form Principles and Urban Design Controls; and
- a redistribution of the approved land use mix within Barangaroo South.

For the entire Barangaroo site, the Concept Plan Modification will result in:

- a 563,965m² mixed use development across the entire Barangaroo site, comprising:
 - a maximum of 514,465m² mixed uses GFA, including residential, commercial and retail uses which includes;
 - a maximum of 128,763m² of residential uses (a minimum of 99,763m² of which will be in Barangaroo South);

- a maximum of 50,000m² of tourist uses GFA;
- a maximum of 39,000m² of retail uses;
- a maximum of 4,500m² of active uses GFA (3,000m² of which will be in Barangaroo South); and
- a maximum of 12,000m² of community uses GFA (10,000m² 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 spaces serving separate recreational function and including a 2.2km 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.

The Concept Plan Modification does not propose any amendments to Barangaroo Central or the Headland Park.

4.2 Changes Proposed by Preferred Project

As outlined above, the exhibited Concept Plan Modification has been revised in response to the matters raised in submissions and as part of the ongoing design process. Revised Indicative Design Drawings are included at **Appendices C and D**.

The amendments include:

- revisions to the Urban Design Controls to reflect:
 - the reconfigured commercial tower forms within Blocks 2 and 3 and the relocation of C5 to the south resulting in:
 - a reduction in the tower length and a consequential adjustment to the floor plate such that the tower floor plate is modified from 90m x 25m to 85.5m x 30m;
 - the expansion of the podium elements to reflect the removal of the galleries;
 - additional articulation requirements to modulate the massing and to elongate the tower forms including the requirement for architectural components such as prow, corner redents, expressed structure and lift cores and vertical villages;
 - an amendment to increase the setback control from Hickson Road,
 - an amendment to allow for identity signage to be incorporated within the building structure;
 - an amendment to require that building service vehicle not be located on Hickson Road or Globe Street; and
 - introduction of an additional control which requires that above RL 160, one of the towers must be reduced in height and/or the floor area;
 - the introduction of a minimum 40m separation between the tower forms in Block 4B and Block 4C;
 - the introduction of a minimum 15m separation between individual buildings fronting Hickson Road in Block 4C to contribute to an improved view sharing outcome;

- the street and pedestrian network amendments as described below;
- amendments to the Block Y controls to emphasise that the landmark hotel building drop off is not for loading or parking and to stipulate that the drop off must maintain a minimum distance of uninterrupted waterfront access of 10m in front of Block Y;
- amendments to Block 1 controls to reflect those relevant changes made in Blocks 2 and 3; and
- grammatical and typographical changes to ensure clarity;
- revisions to the Built Form Principles to reflect the above design changes as well as to:
 - amend Principle 1 – to refer to the positive contribution of the new waterfront buildings;
 - amend Principle 4 – to reflect the wider Shelley Lane and to introduce a minimum clear height of two storeys;
 - amend Principle 6 – to reflect the finer grain structure of the laneway system and the podium level open space;
 - amend Principle 8 – to include the proposed orientation of the foreshore buildings west of Globe Street; and
- amendments to the street and pedestrian network, comprising:
 - the widening of Shelley Lane by an additional 2m to provide a 6m road reserve;
 - replacement of gallerias with 24 hour, weather protected public laneways;
 - provision of additional finer grain connections through the commercial towers and Hickson Road building lobbies to strengthen connections between Hickson Road and Globe Street;
 - extension of the northern laneway through Block 4A to the Southern Cove; and
 - introduction of new design guidelines for the landmark hotel building drop off and Globe Square.

In addition, the updated reports appended to this PPR and the revised Statement of Commitments further detail the scope of amendments and ongoing commitments proposed by Lend Lease in the carrying out of the Concept Plan Modification.

The following revised and supplementary plans and supporting documentation are provided for clarification and are further discussed in Section 2.0:

- Response to Agency Submissions (**Appendix A**);
- Response to Community Submissions (**Appendix B**);
- Supplementary Urban Design Report and Indicative Design Drawings (**Appendix C**);
- City of Sydney DCP Compliance Table (**Appendix D**);
- Barangaroo South Urban Design Report – Streets and Laneways (**Appendix E**);
- Design Guidelines for Hotel Drop Off and Waterfront Square (**Appendix F**);
- Visual Impact Analysis and Photomontages (**Appendix G**);
- Shadow Analysis (**Appendix H**);
- Cover Letter and White Paper: Supplementary Commercial GFA and Floor Plate Analysis (**Appendix I**); and

- Response to Public Transport Issues (**Appendix J**).

5.0 Final Statement of Commitments

In accordance with Part 3A of the *Environmental Planning and Assessment Act 1979*, **Appendix K** identifies the commitments made by Lend Lease to manage and minimise potential impacts arising from the proposal. These commitments replace the draft commitments included with the EAR.

Words proposed to be deleted are shown in ~~**bold-strike**~~ through and words to be inserted are shown in ***bold italics***.

6.0 Conclusion

The Concept Plan Modification proposes for Barangaroo South:

- an increase in the total quantum of GFA within Barangaroo South Mixed Use Precinct from 430,275m² to 490,240m² related to an increase of 45,188m² in residential floor space and an increase of 14,777m² in commercial floor space;
- reallocation of the 8,500m² of passenger terminal GFA approved under the Concept Plan for community uses GFA, and an increase in total community uses GFA by 1,500m² such that there is a total of 10,000m²;
- an increase in total active uses GFA by 1500m² such that there is a total of 3000m²;
- a redesign and reconfiguration of the public waterfront promenade (RE1 Public Recreation Zone) including a reduction in the width of the public promenade from a minimum of 60m to a minimum of 27m;
- the reconfiguration of Blocks 1 to 4;
- the establishment of two new Development Blocks within Barangaroo South, being:
 - Block X – a new predominantly residential development block located west of Globe Street with a maximum GFA of 18,908m² and a maximum building height of RL 41.5, and
 - Block Y – the establishment of a new pier and landmark hotel building extending into the Harbour with a maximum GFA 33,000m² and a maximum building height of RL 170;
- an increase in the maximum building height within the previously described Development Blocks 1, 3 and 4 as follows:
 - Block 1 from RL 62 to RL 80 (an increase of 18m);
 - Block 3 from RL 112 to RL 209 (an increase of 97m); and
 - Block 4 from RL 100 to a maximum of RL 175 in Block 4B (an increase of 75m), noting the approved Block 4 has been split into 3 separate Blocks;
- revisions to the approved Built Form Principles and Urban Design Controls; and
- a redistribution of the approved land use mix within Barangaroo South.

For the entire Barangaroo site, the Concept Plan Modification will result in:

- a 563,965m² mixed use development across the entire Barangaroo site, comprising:
 - a maximum of 514,465m² mixed uses GFA, including residential, commercial and retail uses which includes;
 - a maximum of 128,763m² of residential uses (a minimum of 99,763m² of which will be in Barangaroo South);
 - a maximum of 50,000m² of tourist uses GFA;
 - a maximum of 39,000m² of retail uses;
 - a maximum of 4,500m² of active uses GFA (3,000m² of which will be in Barangaroo South); and
 - a maximum of 12,000m² of community uses GFA (10,000m² 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 spaces serving separate recreational function and including a 2.2km 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.

The Concept Plan Modification does not propose any amendments to Barangaroo Central or the Headland Park.

The proposal is generally consistent with the approved Concept Plan (as modified) and Concept Plan Statement of Commitments. The exhibited Concept Plan Modification EAR and this PPR have demonstrated that the proposed development will have minimal adverse environmental effects beyond those already identified and approved under the existing planning framework. Where impacts do occur, appropriate measures can be adopted to mitigate the impacts.

Lend Lease has considered and responded to the issues raised in public, agency and council submissions and undertaken some design refinements to improve the overall development. The refinements will enable Barangaroo South to be showcased as an example of sustainable development on a precinct scale and world class design. The key amendments this PPR proposes to the Concept Plan Modification as exhibited include:

- revisions to the Urban Design Controls to reflect;
 - the reconfigured commercial tower forms within Blocks 2 and 3 and the realignment and relocation of C5 to the south resulting in:
 - a reduction in the tower length and a consequential adjustment to the floor plate such that the tower floor plate is modified from 90m x 25m to 85.5m x 30m;
 - the expansion of the podium elements to reflect the removal of the galleries;
 - additional articulation requirements to modulate the massing and to elongate the tower forms including the requirement for architectural components such as prow, corner redents, expressed structure and lift cores and vertical villages;
 - an amendment to increase the setback control from Hickson Road,
 - an amendment to allow for identity signage to be incorporated within the building structure;
 - an amendment to require that building service vehicle not be located on Hickson Road or Globe Street; and
 - introduction of an additional control which requires that above RL 160, one of the towers must be reduced in height and/or the floor area;
 - the introduction of a minimum 40m separation between the tower forms in Block 4B and Block 4C;
 - the introduction of a minimum 15m separation between individual buildings fronting Hickson Road in Block 4C to contribute to an improved view sharing outcome;
 - the street and pedestrian network amendments as described below;

- amendments to the Block Y controls to emphasise that the landmark hotel building drop off is not for loading or parking and to stipulate that the drop off must maintain a minimum distance of uninterrupted waterfront access of 10m in front of Block Y;
- amendments to Block 1 controls to reflect those relevant changes made in Blocks 2 and 3; and
- grammatical and typographical changes to ensure clarity;
- revisions to the Built Form Principles to reflect the above design changes as well as to:
 - amend Principle 1 – to refer to the positive contribution of the new waterfront buildings;
 - amend Principle 4 – to reflect the wider Shelley Lane and to introduce a minimum clear height of two storeys;
 - amend Principle 6 – to reflect the finer grain structure of the laneway system and the podium level open space;
 - amend Principle 8 – to include the proposed orientation of the foreshore buildings west of Globe Street; and
- amendments to the street and pedestrian network, comprising:
 - the widening of Shelley Lane by an additional 2m to provide a 6m road reserve;
 - replacement of gallerias with 24 hour, weather protected public laneways;
 - provision of additional finer grain connections through the commercial towers and Hickson Road building lobbies to strengthen connections between Hickson Road and Globe Street;
 - extension of the northern laneway through Block 4A to the Southern Cove; and
 - introduction of new design guidelines for the landmark hotel building Drop Off and Waterfront Square.

In addition, the updated reports appended to this PPR and the revised Statement of Commitments further detail the scope of amendments and ongoing commitments proposed by Lend Lease in the carrying out of the Concept Plan Modification.

As outlined in the exhibited Concept Plan Modification EAR and this PPR, Barangaroo South, by virtue of its size and access to infrastructure, presents a rare and a significant opportunity to create a new mixed use precinct in the Sydney CBD. The Concept Plan Modification is the result of a commitment by Lend Lease to deliver a high quality development. The proposed Modification is generally consistent with the approved Concept Plan as it:

- provides an enlarged Southern Cove;
- reconnects the western edge of the City with the waterfront;
- creates a variety of experiences along the foreshore that contribute to the liveliness of the area, create landmarks and differ from the more naturalistic parklands experiences to the north;
- provides unobstructed public access around the entire perimeter of the enlarged Southern Cove and along the foreshore including Globe Street;
- retains significant views across the site to the waterfront and across the Harbour from Millers Point and Observatory Hill;
- retains existing view corridors from the elevated portions of the existing Napoleon Street;

- preserves the pedestrian desire lines along the foreshore by way of a bridge, thereby retaining Globe Street as the site's western spine; and
- provides a high quality architectural and urban design underpinned by the engagement of world-renowned architects.

The Modification as proposed by the exhibited Concept Plan Modification EAR and this PPR will deliver an enhanced public domain beyond the approved Concept Plan (as modified) due to greater activity and the variety of spaces proposed. The reduction of on-site vehicle movements will also see improved pedestrian safety and cycle priority as well as improve the amenity of the public domain areas.

Given the environmental planning merits described above, and significant public benefits proposed, it is requested that the Minister approve the Concept Plan Modification under Section 75W of the EP&A Act.