

Part 3A Preliminary Assessment



Building R10

Barangaroo South

Submitted to the Minister for Planning
On Behalf of Lend Lease (Millers Point) Pty Limited

March 2011 ■ 11037

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This report has been prepared by:

Lesley Bull

A handwritten signature in blue ink, appearing to read 'Lesley Bull', is written over the printed name.

March 2011

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1.0 Introduction

This preliminary assessment is submitted on behalf of Lend Lease (Millers Point) Pty Limited (Lend Lease) to the Department of Planning (hereafter referred to as the Department) to assist the Director General in determining the level and scope of the environmental assessment required to accompany a Project Application for Building R10 at Barangaroo South.

This preliminary assessment includes the following information relevant to the proposal:

- a background to the proposal;
- a description of the project; and
- identification of the key issues associated with the project.

Building R10 is located within Block 4B of the approved Concept Plan (as modified by Modification Application MP06_0162 MOD 4). The approved Concept Plan (as modified) provides for predominantly residential use within Block 4B, with up to 29,900 m² of GFA, of which a maximum 28,900 m² may be for residential use, and a maximum building height of RL of 175 m AHD. Under the Concept Plan (Mod 4) future applications for buildings within Blocks 2, 3, 4A, 4B and 4C may accommodate a redistribution of GFA (within the total GFA proposed for those blocks) resulting from the Urban Design Controls identified in modification B9 of the approval.

The Director General's requirements for the Environmental Assessment to accompany a Project Application for remediation and landforming works within the DECCW Declaration Area (MP10_0026) were issued on 23 March 2010. The Building R10 Project Application Site is proposed to be remediated as part of the works proposed under MP10_0026. In terms of staging, the works as part of MP10_0026 will occur prior to the works to construct Building R10.

Notwithstanding that this Preliminary Assessment relates only to Building R10, it is noted that once the Director General has separately determined the level and scope of the environmental assessment required to accompany Project Applications for other buildings in proximity to Building R10, Lend Lease may elect to prepare a single Environmental Assessment Report to accompany more than one Project Application.

1.1 Background

1.1.1 Approved Concept Plan

The Barangaroo Concept Plan was approved in February 2007. The Concept Plan covers urban design and policy initiatives and is the statutory planning approval to guide the urban renewal of Barangaroo.

The approved Concept Plan has been modified four times since originally being approved and the Statements of Commitments have been revised accordingly. MP 06-0162 MOD 4 was most recently approved in December 2010.

The Concept Plan approval (as modified) provides for:

- 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.

In addition to the terms of approval, the Statements of Commitment approved under the existing Concept Plan (as modified) require a series of Implementation Plans and Strategies to be prepared prior to the lodgement of relevant future project applications to address:

- Design Excellence;
- Public Domain;
- Transport Management and Access;
- Community and Social Impacts;
- Utility Services and Infrastructure;
- Housing;
- Marketing and Promotion;
- Retail Management; and
- Geotechnical and Environmental Site Remediation.

The Statements of Commitment require the establishment of Technical Working Groups to prepare each Implementation Plan and Strategy. The Technical Working Groups have been convened and meet regularly to consider relevant documentation (refer to Section 4 for further details).

1.1.2 Stage 1 Tender and Bid Process

The 22 hectare Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Stage 2 (referred to herein as Barangaroo Central) and Barangaroo Stage 1 (herein referred to as Barangaroo South).

Lend Lease was successfully appointed as the preferred proponent to develop Barangaroo South on 20 December 2009. Lend Lease's appointment follows approximately 18 months of open and subsequently selective tendering by multiple consortia. At each stage of the process, the consortia were required to develop and submit increasingly detailed designs for Barangaroo South, which were evaluated by the Barangaroo Delivery Authority and its evaluation panel.

The Stage 1 bid chronology can be broadly summarised as follows:

- April 2008 – Stage 1 Expression of Interest released;
- June 2008 – Stage 1 Expression of Interest closes;
- September 2008 – Shortlist of 3 proponents (including Lend Lease) announced and invited to participate in the Stage 1 Request for Detailed Proposals (RFDP);
- August 2009 – Lend Lease and Brookfield Multiplex chosen as final 2 proponents to participate in the Final Phase RFDP process;
- November 2009 – Final Phase bids close; and
- December 2009 – Lend Lease announced as winning preferred proponent.

The scheme submitted by Lend Lease and selected by the State Government was chosen as the winning bid on the basis that it exhibits the urban structure, place making, sustainability, and financial drivers required to ensure the viability of Barangaroo's Southern Precinct.

1.2 Other Project Applications

The following Project Applications have been approved/submitted for approval under the approved Concept Plan (Mod 4):

- Barangaroo Demolition Works (MP07_0077);
- Bulk Excavation and Basement Car Parking (MP10_0023);
- Commercial Building C4 (MP10_0025);
- Headland Park and Northern Cove Early Works (MP10_0047);
- Headland Park and Northern Cove Main Works (MP10_0048); and
- Block 5 and Hickson Road Pilot Trial (MP10_0087).

Furthermore, Preliminary Environmental Assessments have been submitted to assist the Director General in determining the environmental assessment requirements for a number of proposed Project Applications across Barangaroo South. **Figure 1** provides an overall site plan showing the preliminary boundaries for each Project Application and the location of Building R10. As noted above, Lend Lease may elect to prepare a single Environmental Assessment Report to accompany more than one identified Project Application site.

It is noted that a basement structure is proposed to be constructed beneath the Buildings R2, R3, R4, R5, R6, R10 and R11 and part of the Southern Cove to provide servicing and parking. Part of the future basement structure is to be constructed as part of the Building R10 Project Application. Other components of the future basement structure will be the subject of a future application(s).

Of particular relevance to the Project Application for Building R10 are the proposed Project Applications for the remediation of the DECCW Declaration Area (MP10_0026) and for the Southern Cove Public Domain. Further detail in relation to these applications is provided below.

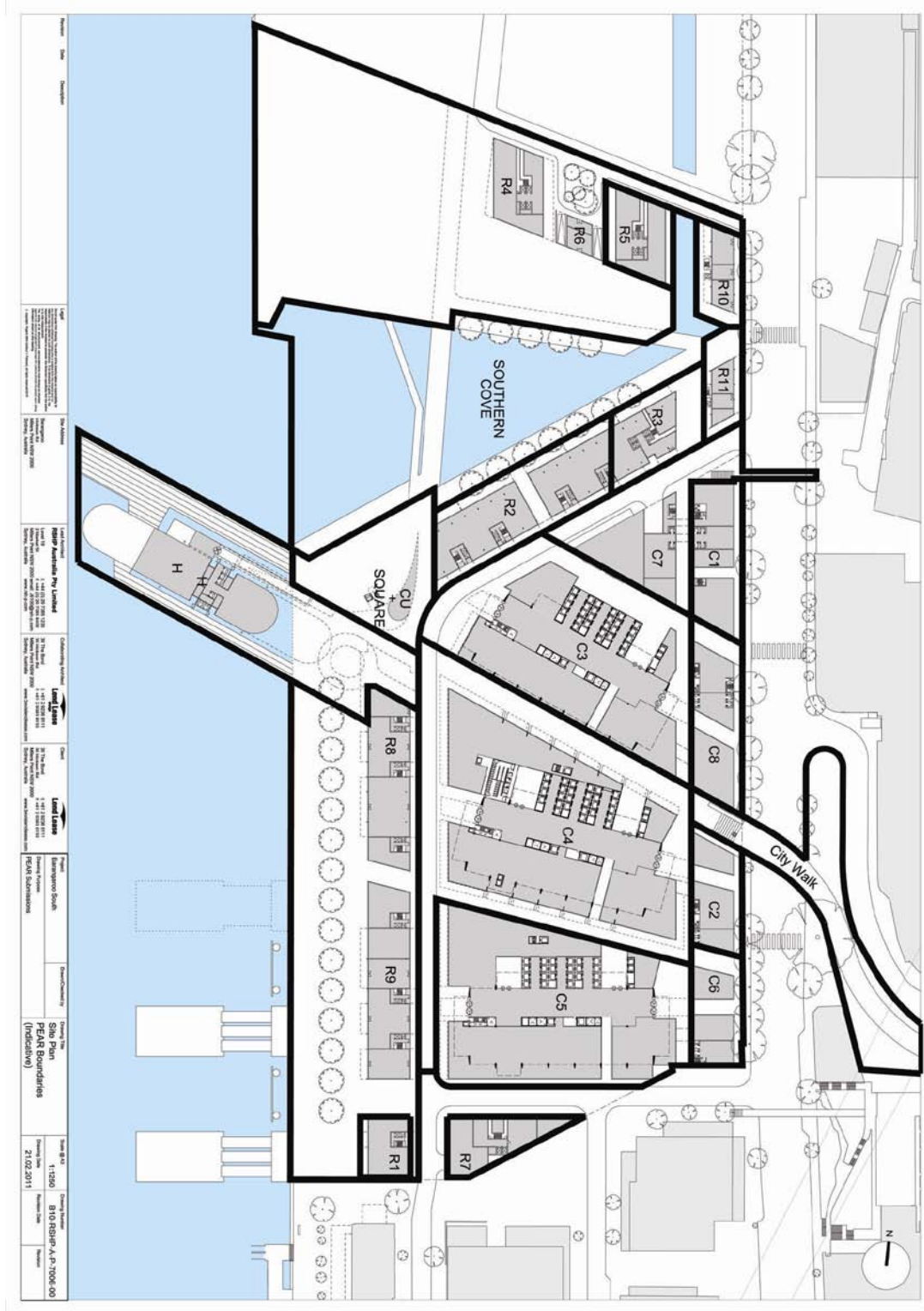


Figure 1 – Overall site plan showing preliminary Project Application site boundaries

1.2.1 Remediation and Land Forming Works

In May 2009, DECCW declared part of the Barangaroo site (Blocks 4 and 5) and immediately adjacent land within the Hickson Road reservation to be a remediation site under the Contaminated Land Management Act, 1997 (Declaration No.21122) (known as the DECCW Declaration Area).

On 23 March 2010 the Director General's requirements were issued for the Environmental Assessment to accompany a Project Application (MP10_0026) for remediation of the DECCW Declaration Area. A Project Application will be submitted seeking approval to remediate the contaminated portions of the DECCW Declaration Area.

The Building R10 Project Application site area in relation to the DECCW Declaration Area that will be subject to remediation under MP10_0026) is illustrated on **Figure 2**. In terms of staging, the remediation works under MP10_0026) will occur prior to the construction of Building R10.

1.2.2 Southern Cove Public Domain

A Preliminary Assessment has been submitted to the Department to seek the Director General's requirements for an Environmental Assessment for the Southern Cove Public Domain Project Application. The Southern Cove Public Domain Project Application will seek approval for the remediation of that part of the Southern Cove that sits outside of the DECCW Declaration Area (i.e outside of the scope of works proposed as part of MP10_0026) and for construction / land forming works for the whole of the Southern Cove and its Public Domain in accordance with the approved Concept Plan (as modified) within the Project Application site.

The Southern Cove Public Domain works will immediately adjoin the works proposed under the Building R10 Project Application. The public domain works proposed as part of the Building R10 Project Application will be fully integrated with the Southern Cove Public Domain Works.

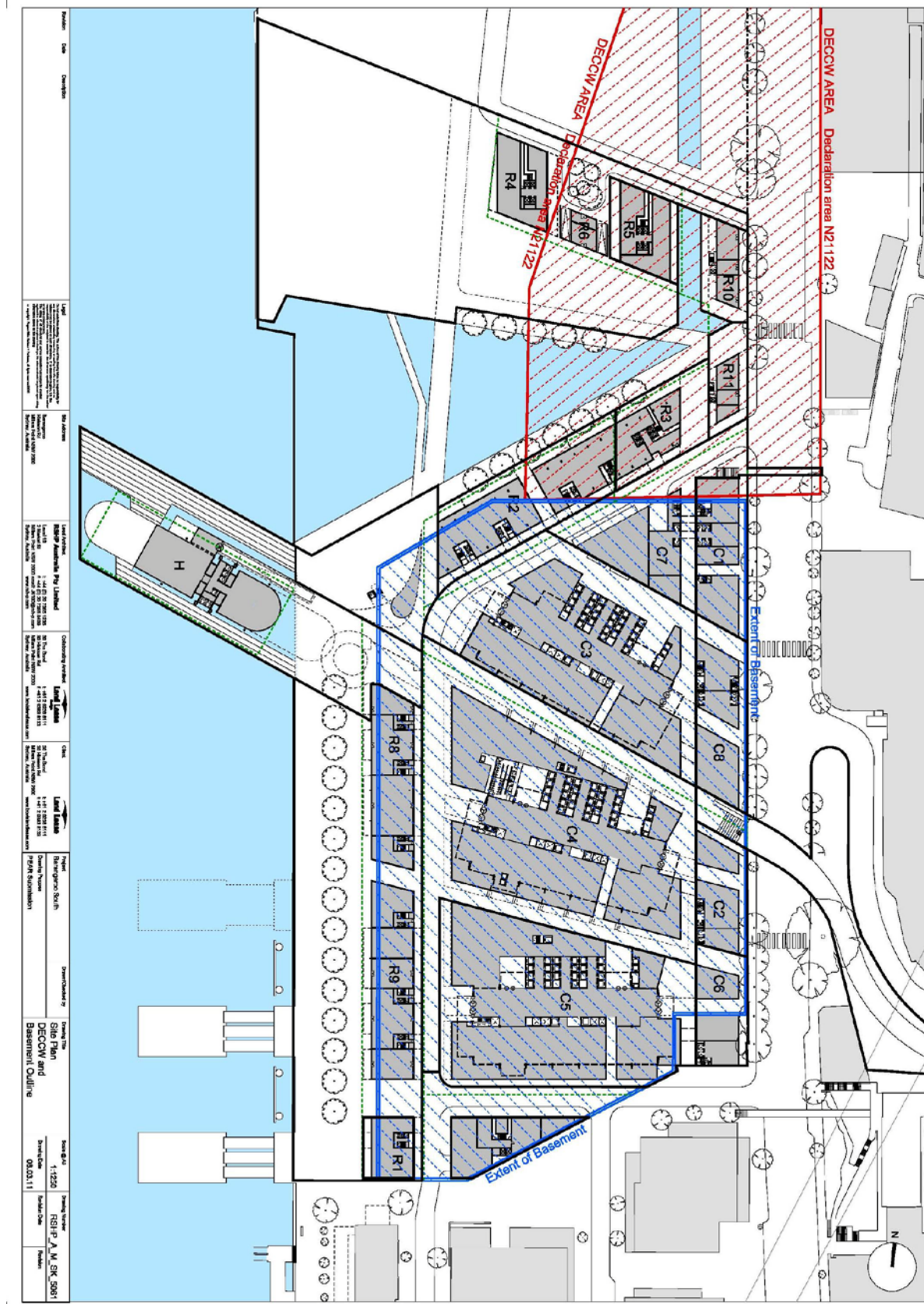


Figure 2 - Relationship of Building R10 to DECCW Declaration Area (MP10_0026) and Extent of Basement (MP10_0023)

2.0 The Project

The Project Application for Building R10 will seek approval for the construction of a predominantly residential building, including a component of key worker housing, within Block 4B of the approved Concept Plan (as modified), and associated public domain works within the Project Application site. The proposed location of Building R10 within Barangaroo South is illustrated indicatively at **Appendix A**.

Building R10 sits entirely within Lot 5 of DP 876514, which is owned by the Barangaroo Delivery Authority. The Building R10 Project Application site is located to the north of the proposed Southern Cove and has an area of approximately 700 m².

The Project Application will seek approval for:

- a total Gross Floor Area (GFA) of approximately 3,200 m² including approximately 2,950 m² residential and 250 m² retail GFA and
- a maximum height of approximately RL 33.2;
- construction of basement car park structure and allocation of car parking;
- building signage; and
- strata subdivision.

An allowance is to be made within the overall residential floor space of Building R10 for the provision of key worker housing.

In terms of staging, the remediation works under MP10_0026 will occur prior to the works proposed as part of the Building R10 Project Application.

Additional piling and associated earthworks that extend beyond the extent of the remediation works (that are proposed as part of the Remediation and Land Forming Project Application) may be required in relation to the construction of Building R10 and associated basement structures. This may involve the transportation, re-use and disposal of some excavated material from the piling and basement works.

Landscaping and public domain works within the Building R10 Project Application site area are proposed to be undertaken as part of this Project Application. The Project Application may include both temporary and permanent public domain works within the Project Application site boundary. These works will be fully integrated with the public domain and landscaping works proposed as part of the Southern Cove Public Domain Project Application.

Indicative drawings of the proposed built form of Building R10 are included at **Appendix A**.

3.0 Statutory Framework

The planning controls for the Barangaroo site are contained in Schedule 3 Part 12 of the Major Development SEPP. The planning controls establish the category of development that is subject to assessment under Part 3A of the EP&A Act and the provisions applying to development within the Barangaroo site.

The planning controls for the Barangaroo site included in the Major Development SEPP were amended on 16 December 2010 to accommodate the Concept Plan (Mod 4).

The planning provisions applying to development within the site include:

- Land use zones, objectives and permitted uses;
- Exempt and complying development;
- Consent requirements for subdivision of land;
- Building height controls;
- Gross Floor Area (GFA) restrictions;
- Design excellence requirements;
- Heritage conservation controls; and
- Exceptions to development standards.

Part 12 Schedule 3 of the Major Development SEPP – “Barangaroo site”, zones the land part B4 Mixed Use and part RE1 Public Recreation. Building R10 is within the land zoned B4 Mixed Use. Refer to **Figure 3**.

Maximum building heights and gross floor area (GFA) restrictions are established for nominated development blocks within the B4 Mixed Use zone, as illustrated on **Figures 4 and 5**.

Under the Major Development SEPP, a maximum of GFA of 29,900 m² is permitted within Block 4B.

Under the Major Development SEPP, a maximum of GFA of 428,932 m² is permitted across development Blocks 2, 3 and 4. A maximum height of RL 175 is permitted within development Block 4B.

Clause 19 of the Major Development SEPP (Part 12, Schedule 3) sets the parameters for design excellence on the site. Consideration must be given to:

- Architectural design and materials;
- Form and external appearance of future buildings; and
- Whether buildings will meet sustainable design principles.

Other environmental planning instruments relevant to the proposal are:

- State Environmental Planning Policy No 55 - Remediation of Land;
- State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development; and
- State Environmental Planning Policy (Infrastructure) 2007.



Figure 3 - Existing Barangaroo Land Zoning Map



Figure 4 – Existing Barangaroo Building Height Map



Figure 5 – Existing Barangaroo Gross Floor Area Map

4.0 Key Issues

The Building R10 Project Application works sit above the area of land that is proposed to be excavated and remediated as part of the Remediation and Land Forming Project Application (MP10_0026).

The EAR accompanying the Remediation and Land Forming Project Application will provide detailed information and an environmental assessment of a number of planning and environmental issues that are generally beyond the scope of works proposed for the Building R10 Project Application. These include:

- demolition and tree removal;
- remediation of contaminated material;
- transportation, re-use and disposal of excavated material;
- non indigenous archaeology;
- indigenous archaeology;
- geotechnical impacts;
- acid sulphate soils;
- de-watering, groundwater treatment and water quality; and
- environmental protection structures.

The Project Application for Building R10 will be informed by the detailed assessments included in the Remediation and Land Forming Project Application.

Additional piling and associated earthworks that extend beyond the extent of the excavation works that are proposed to be approved as part of the Remediation and Land Forming Project Application may be required in relation to the construction of Building R10. These additional piling and associated earthworks may require additional consideration in relation to the matters identified above.

All of the necessary site preparation works required to be undertaken prior to any proposed Building R10 earthworks being undertaken will be carried out in accordance with the Remediation and Land Forming Project Application (once approved) and will not form part of the R10 Building Project Application.

Any additional piling and associated works, and associated impacts, will be identified and assessed in the Environmental Assessment.

In addition, the Concept Plan Statement of Commitments requires the following Plans and Strategies to be submitted to the Planning Reference Group prior to lodgement of any relevant Projection Application (other than for demolition or early / site preparation work).

- Design Excellence Strategy;
- Public Domain Plan including Public Art Strategy;
- Transport Management and Accessibility Plan;
- Utility Services Infrastructure Plan;
- Integrated Water Management Plan and Guidelines – covered by the Stormwater Plan and the ESD Report;
- Housing Strategy;
- Marketing and Promotion Strategy and Retail Management Plan; and
- Community and Social Plan.

In conformance with the Statement of Commitments the above plans and strategies have been submitted to the Planning Reference Group aside from the Housing Strategy that will be submitted with the first residential project application. Where relevant these will be updated and submitted with the EAR for Building R10.

Therefore the key environmental considerations associated with the proposed project are identified to be as follows:

- Consistency with relevant environmental planning instruments, policies and strategies;
- Consistency with the existing Concept Plan Approval (as modified);
- Design Excellence and Urban Design;
- Built Form including visual analysis;
- Public Domain including temporary landscaping works;
- Traffic and Transport (pedestrian, cycleways, public transport, car parking);
- Water Quality;
- Utilities, Services and Infrastructure;
- Climate Change and Sea Level Rise;
- Sustainability;
- Structural Engineering;
- Amenity including wind, noise, overshadowing and visual impact; and
- Construction Management including noise and vibration, air quality impacts and waste management.

4.1.1 Consistency with relevant environmental planning instruments and policies

The EAR will include an assessment of the proposed buildings / works against the planning controls in the relevant environmental planning instruments and against the other relevant planning policies.

The following legislation, strategies and planning instruments are considered to be relevant to the application:

- State Environmental Planning Policy (Major Developments) 2005;
- State Environmental Planning Policy No 55 - Remediation of Land;
- State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development;
- State Environmental Planning Policy (Infrastructure) 2007;
- NSW State Plan;
- Metropolitan Plan for Sydney 2036;
- Draft Sydney City Subregional Strategy; and
- Sustainable Sydney 2030.

The Building R10 Project Application will also need to address consistency with the Housing Strategy for Barangaroo. As noted above, an allowance is proposed to be made within Building R10 for the provision of key worker housing.

4.1.2 Consistency with the approved Concept Plan and Schedule 3 Listing

The EAR will include an assessment of the proposed development against the approved Concept Plan (as modified) and the planning controls listed in Schedule 3 of the Major Development SEPP (as amended on 16 December 2010).

The Concept Plan approval sets out the built form controls for Block 4B which are:

- Maximum GFA – 29,900 m², of which a maximum of 28,900 m² is permitted for residential use;
- Maximum height – RL 175 m (173 metres above existing ground level);
- Urban Design Controls including:
 - Building form is to create a street wall with a one storey minimum height for most of the public accessible ground floor facade;
 - All street walls are to define Globe Street, Healy Street, Napoleon Street and Hickson Road;
 - The Hickson Road street wall will maintain the vernacular of the Street Wall for Blocks 2 & 3 up to 6m;
 - Building Mass at Hickson Road Buildings on western facade are to have a setback of minimum 2m, the eastern facade to have a set back of 1m above podium level;
 - Hickson Road buildings will be separated by a minimum distance of 15m.
 - Street walls are to define Healy and Napoleon Streets;
 - At least 60% of the ground level is to be active on the primary street wall facades;
 - Building service areas, parking entrances and loading docks may be accessed from Healy Street;
 - The building envelopes and floor plates are to be articulated and tower forms to express sustainability features; and
 - Signage is not to exceed 15 sqm per sign.

The Urban Design Controls for Blocks 4B and 4C also relevantly require that public access around the block is to be maintained on all edges and that there are to be two north to south primary connections across the block including the Hickson Road colonnade; and two east to west primary connections across the block.

As detailed in Section 2, Building R10 is proposed to comprise approximately 3,200 m² of GFA and will be RL 33.2 m in height. The proposed built form will be compliant with the existing Concept Plan Approval (as modified) and Major Development SEPP provisions.

The EAR will benchmark Building R10 against the Concept Plan Urban Design Controls and Built Form Principles and address building height and modulation, setbacks, view sharing, landscape design, solar access and orientation.

4.1.3 Design Excellence

Pursuant to Clause 19, Part 12 of Schedule 3 of the Major Development SEPP, in determining an application for a new building at Barangaroo, the consent authority must consider whether the proposed development exhibits design excellence.

In considering whether the proposed building exhibits design excellence, the consent authority must have regard to the following matters:

- a) *whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved;*
- b) *whether the form and external appearance of the building will improve the quality and amenity of the public domain;*
- c) *whether the building will meet sustainable design principles in terms of sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency; and*
- d) *if a design competition is required to be held in relation to the building, as referred to in subclause (3), the results of the competition.*

Clause 19(3) requires a design competition to be held for development that will be greater than Reduced Level (RL) 57, or where the erection of a new building is proposed on a site of greater than 1,500 square metres, unless the Director-General certifies in writing that the development exhibits design excellence.

In addition, Condition C2 – Design Excellence of the approved Concept Plan requires a design excellence competition to be held by the Director General and convention of a design review panel for development that exceeds 55 metres in height, or is on land exceeding 1,500m² in area. Under Condition C2, the key matters for consideration are:

- whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved;
- whether the form and external appearance of the building will improve the quality and amenity of the public domain;
- whether the building meets sustainable design principles in terms of sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency;
- a comparison of the proposed development against the indicative building controls identified in Section 13.0 – Built Form of the approved EAR; and
- whether the new development detrimentally impacts on view corridors, particularly from public spaces and streets.

The Building R10 Project Application site area does not exceed 1,500 metres, and the proposed building will not exceed a building height of RL 57.

Prior to lodgement the design of Building R10 will be subject review by the BDA, its advisors and the Design Excellence Review Panel and other key stakeholders. The EAR for the Building R10 will detail the design rationale for the building and demonstrate the proposals' consistency with the Concept Plan (as modified) and the relevant SEPP controls.

In accordance with the submitted Design Excellence Strategy, an Invited Design Competition will be held to ensure Design Excellence for the R10 Building.

4.1.4 Public Domain

As outlined in Section 2, Lend Lease proposes to undertake public domain works within the Building R10 Project Application site area.

The Project Application will demonstrate the proposal's response(s) to:

- the relationship of the proposed buildings to urban public spaces, streets and the adjoining built form;
- the relationship between the public domain and the ground floor uses of the proposed building including any temporary public domain elements; and
- any potential links, connections and access conditions between the building and its surrounds.

The approved Concept Plan Statements of Commitment require the preparation of a Public Domain Plan prior to lodgement of project applications for building works. A Public Domain Plan for Barangaroo South has been prepared in consultation with the Technical Working Group and submitted to the Planning Reference Group. The Public Domain Plan will be updated and submitted with the application if necessary.

A landscape plan will be submitted with the application detailing consistency with the submitted Public Domain Plan.

4.1.5 Transport and Traffic

A supplementary Transport Management and Access Plan will be prepared for the Project Application by a suitably qualified consultant consistent with the requirements of the Concept Plan Statement of Commitments.

The supplementary TMAP will inform the preparation of the Project Application and will address the impacts of the project including:

- site access arrangements for vehicular access to and from the site;
- likely traffic impacts on local street network and surrounding intersections;
- access to public transport services;
- allocation of car parking spaces within the basement car park;
- loading dock arrangements; and
- provision of temporary and permanent bicycle parking; and
- pedestrian access and safety adjacent to and around the site.

Construction traffic management will be addressed in a Construction Management Plan which will be submitted with the EAR.

4.1.6 Water Quality

The proposed Project Application has the potential to affect water quality by way of stormwater run-off and increased sedimentation, particularly into Sydney Harbour. An Integrated Water Management Plan addressing water demand, wastewater management and stormwater management is required to be prepared under the approved Concept Plan and has been submitted with the Project Application for Building C4 and the Bulk Excavation and Basement Car Parking Project Application.

Lend Lease will prepare an updated Plan in support of the Building R10 Project Application as relevant to:

- Identify existing stormwater drainage locations;
- Determine the potential for water pollutants to be generated;
- Nominate measures that will be taken to collect, store and treat stormwater and run off;
- investigate the feasibility of on-site treatment of stormwater;
- consider the potential to harvest stormwater to meet non-potable demands;
- identify treatment measures for stormwater leaving the site to national best practice standards, with the particular aim to reduce average annual loads of total suspended solids by 80% and nutrients by 45%;
- investigate schemes to reduce potable water demand;
- identify water efficient appliances and fixtures for potable water demand management throughout the commercial buildings;
- investigate schemes to manage wastewater from the commercial buildings as a resource for re-use elsewhere on the site;
- identify processes and measures to treat and recycle wastewater as an alternate source of non potable water, especially for the purposes of public open space irrigation;
- identify management methods to ensure that sediment is not transported from the site; and
- address erosion and sediment control mitigation measures.

4.1.7 Utilities, Services and Infrastructure

A suitably qualified expert will be commissioned to:

- determine utilities, services and infrastructure works required to service the new building; and
- identify existing infrastructure which also provides services to surrounding development.

The EAR will also detail consultations held with utility providers regarding the existing and future infrastructure to be provided on the site.

4.1.8 Climate Change and Sea Level Rise

A Climate Change and Sea Rise Report will be prepared in accordance with the draft NSW Coastal Planning Guideline: Adapting to Sea Level Rise to assess the potential risks to Building R10 that may arise due to climate change and sea level rises including:

- inundation of ground level during storm surge events;
- accelerated degradation of infrastructure, building materials and structures due to inundation events; and
- impacts to infrastructure and services from storm surge and extreme rainfall events.

4.1.9 Sustainability

The approved Concept Plan requires future applications to be accompanied by sustainability strategies that address water, energy, micro-climate, environmental quality, landscaping, transport, waste and materials.

Lend Lease is committed to achieving sustainability standards that are beyond what has been achieved on other Australian development sites. The Project Application will outline the sustainability measures proposed for the building. ESD strategies relating to water, energy, micro-climate, landscape, transport, waste and wind, required by the approved Concept Plan ESD Commitments will include:

- Minimum 5 star Green Star Rating for the residential building;
- 35% reduction in potable water consumption and 40% reduction in flow to sewer;
- Reduction in greenhouse gas emissions, or alternatively purchase of carbon off sets;
- Planting of non-invasive species;
- Implementation of initiatives that encourage public transport use; and
- Centralised recycling areas within building and throughout the associated public domain.

4.1.10 Amenity

Wind Impacts

The Project Application will be accompanied by a wind impact assessment which will demonstrate how wind impacts will be mitigated and managed through detailed design and articulation of the building. The wind impact assessments will be benchmarked against the Australian Wind Engineering Society Quality Assurance Manual as required by the approved Concept Plan Wind Commitment.

Acoustics (Operational)

An Acoustic Impact Assessment will be prepared by a suitably qualified consultant and will detail appropriate mitigation measures to minimise potential operation noise impacts. Similarly, assessments on potential vibration impacts will also be prepared.

Overshadowing

The Project Application will be accompanied by shadow diagrams and analysis which will demonstrate the overshadowing impacts of the proposal during the winter solstice (June 21) and the equinoxes (March 21 and September 21) and summer solstice (December 21).

Visual Analysis

A visual analysis will be undertaken, including photomontages and artists impression of key elements and views of the development from key locations including from Hickson Road and Darling Harbour.

4.1.11 Construction Management

An Environmental, Construction and Site Management Plan (ECSMP) will be prepared to address environmental issues associated with the construction of Building R10. The ECSMP will address the following issues:

- Community consultation, notification and complaints handling;
- Impacts of construction on adjoining development and proposed measures to mitigate construction impacts;
- Noise and vibration impacts on and off site;
- Air quality and odour impacts on the surrounding neighbourhood;
- Water quality management for the site; and
- Waste management.

Construction Noise and Vibration

A construction noise and vibration assessment will be prepared which will identify potential noise and vibration generated from the building works including construction plant and activities.

The noise and vibration assessment will assess background noise levels, identify noise sensitive receivers, estimate noise levels likely to be associated with the proposed works, assess impacts, and identify mitigation measures where required.

Construction Air Quality

The construction works for Building R10 have the potential to affect air quality. An Air Quality Impact Assessment will be undertaken to assess the potential air and odour emissions. The following potential emissions will be addressed:

- Construction works;
- Diesel emissions from vehicles, plant and equipment used in construction activities; and
- Odour emissions associated with the operations of the building.

The air quality assessment will include mitigation measures where required.

Construction Waste Management

During construction it is anticipated that a significant volume and variety of waste will be generated. A Construction Waste Management Plan will be prepared for the Project Application and include the following waste management measures:

- Waste avoidance and reduction;
- Resource recovery;
- Waste education / training;
- Waste utilisation on alternate sites;
- Good house keeping;
- Monitoring and reporting;
- Materials and procurement; and
- Transportation of Waste.

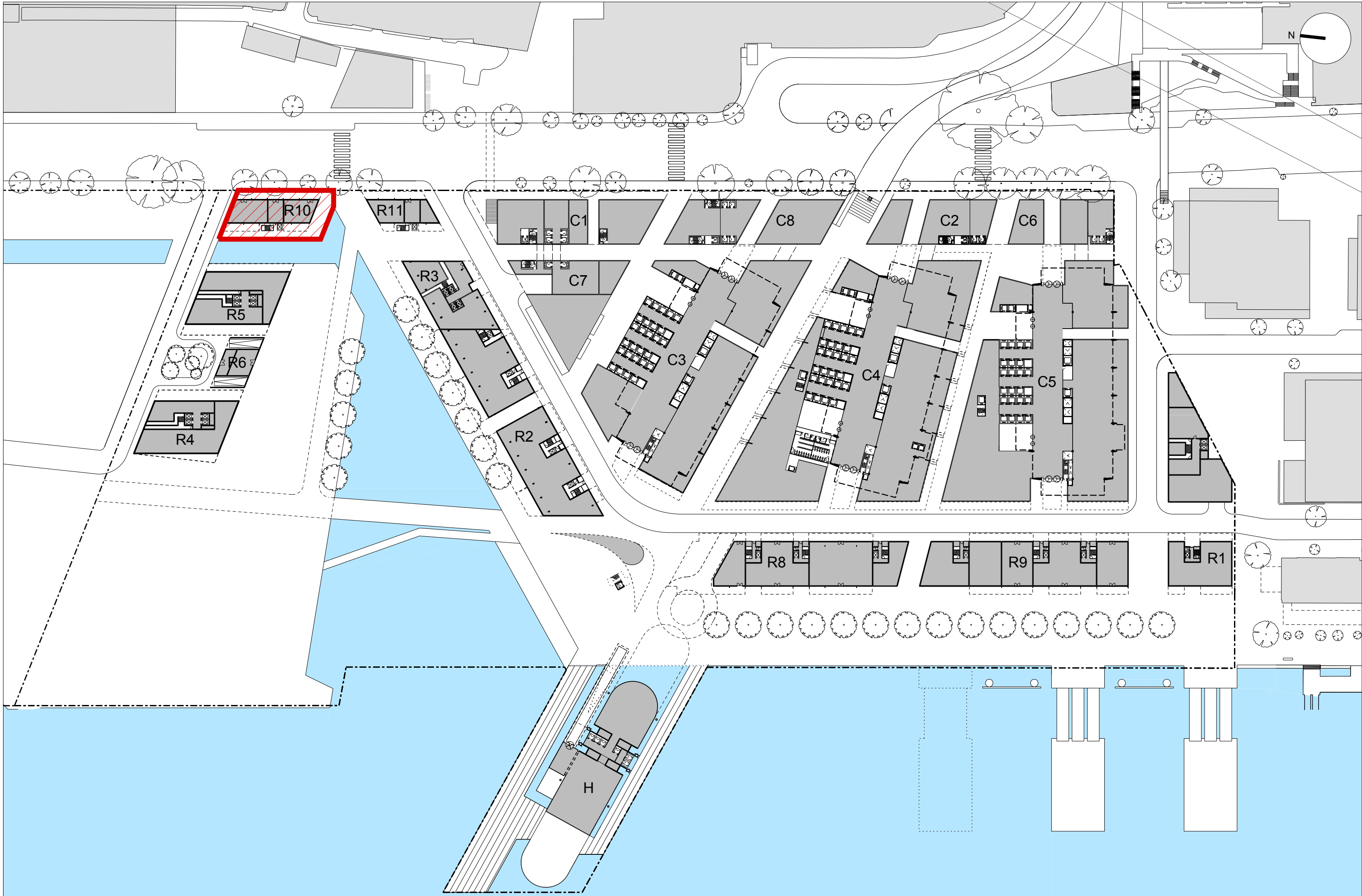
Lend Lease is committed to minimising waste to landfill and greenhouse gas emissions associated with waste generation and the movement of waste from the site. The project will adopt a waste management target to reduce the amount of waste to landfill and seek to achieve 80% reuse or recycling of construction materials by weight.

5.0 Conclusion

The information contained in this preliminary assessment is to assist the Director General in determining the level and scope of any requirements for environmental assessments to accompany a Project Application for Building R10 and adjoining public domain areas, located within Block 4B at Barangaroo South.

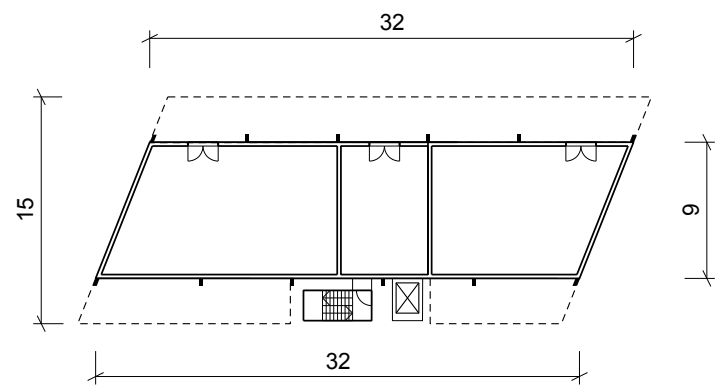
In accordance with provisions of Part 3A of *the Environmental Planning and Assessment Act, 1979*, it is requested that the Director General issue the requirements for the preparation of the EAR to accompany the Project Application for Building R10.

As noted above, notwithstanding that this Preliminary Assessment relates only to the issue of DGRs for Building R10, following the separate issue of DGRs for other buildings in proximity to Building R10, Lend Lease may elect to prepare a single Environmental Assessment Report to accompany more than one Project Application.



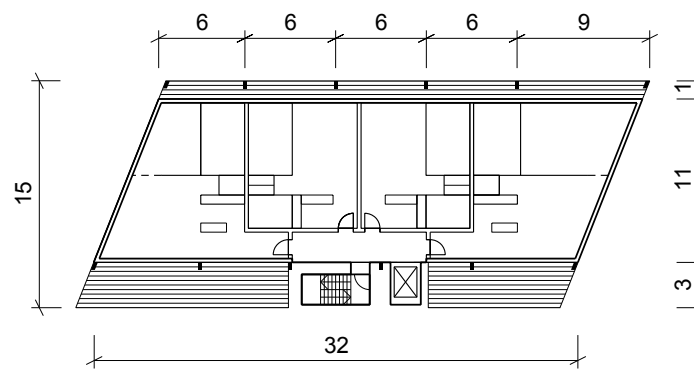
| | | | | | | | | | | | |
|----------|------|-------------|---|--|---|--|--|--|--|---|---|
| Revision | Date | Description | <p>Legal</p> <p>Do not scale from drawing. The author of this drawing takes no responsibility for any dimensions obtained by measuring or scaling from this drawing and no reliance may be placed on such dimensions. If a dimension is given, it is the responsibility of the recipient to ascertain the dimension specifically from the author or by the measurement.</p> <p>The sizing of all structural and service elements must always be checked against the relevant engineer's drawings. No reliance should be placed upon using information shown on this drawing.</p> <p>© copyright Rogers Sisk Harbour + Partners, all rights reserved 2010</p> | <p>Site Address</p> <p>Barangaroo Hickson Rd Millers Point NSW 2000 Sydney, Australia</p> | <p>Lead Architect</p> <p>RSHP Australia Pty Limited</p> <p>Level 19 t: +44 (0) 20 7385 1235 2 Market St f: +44 (0) 20 7385 8409 Millers Point NSW 2000 email: J6100@rsh-p.com Sydney, Australia www.rsh-p.com</p> | <p>Collaborating Architect</p> <p>Lend Lease design</p> <p>30 The Bond t: +61 2 9236 6111 30 Hickson Rd f: +61 2 9383 8133 Millers Point NSW 2000 Sydney, Australia www.bovislendlease.com</p> | <p>Client</p> <p>Lend Lease</p> <p>30 The Bond t: +61 2 9236 6111 30 Hickson Rd f: +61 2 9383 8133 Millers Point NSW 2000 Sydney, Australia www.bovislendlease.com</p> | <p>Project</p> <p>Barangaroo South</p> <p>Drawing Purpose</p> <p>PEAR Submission - R10</p> | <p>Drawn/Checked by</p> <p>Site Plan</p> | <p>Scale @ A3</p> <p>1:1250</p> <p>Drawing Date</p> <p>14.01.2011</p> | <p>Drawing Number</p> <p>B10-RSHP-A-P-7009-00</p> <p>Revision Date</p> <p>31.01.2011</p> <p>Revision</p> |
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R10



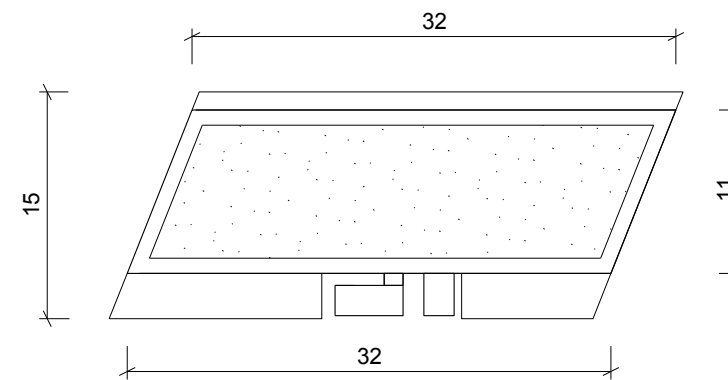
Ground Level 1:500

R10



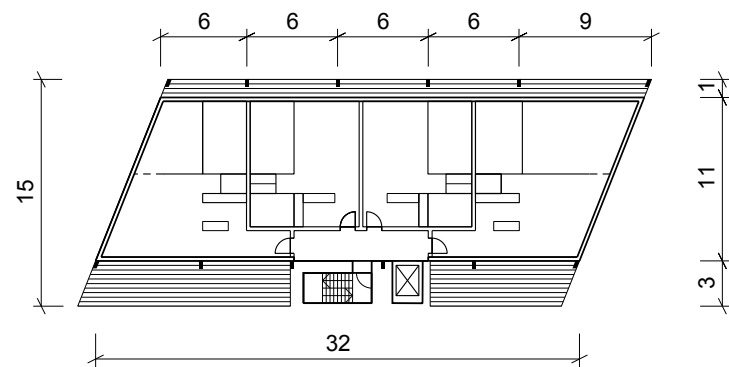
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R10



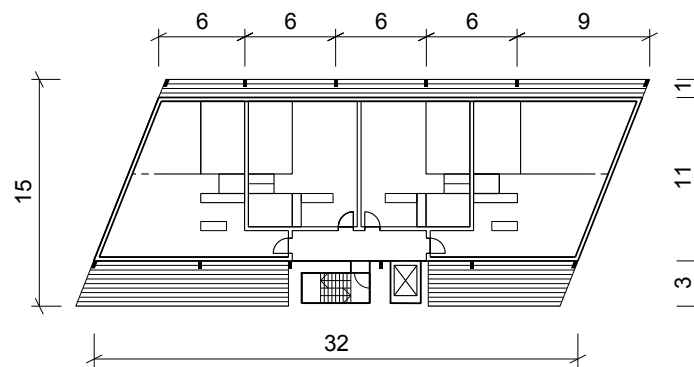
Roof Level 1:500

R10

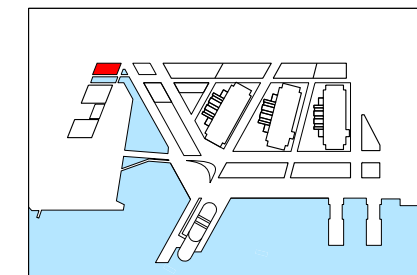


Level 01 1:500

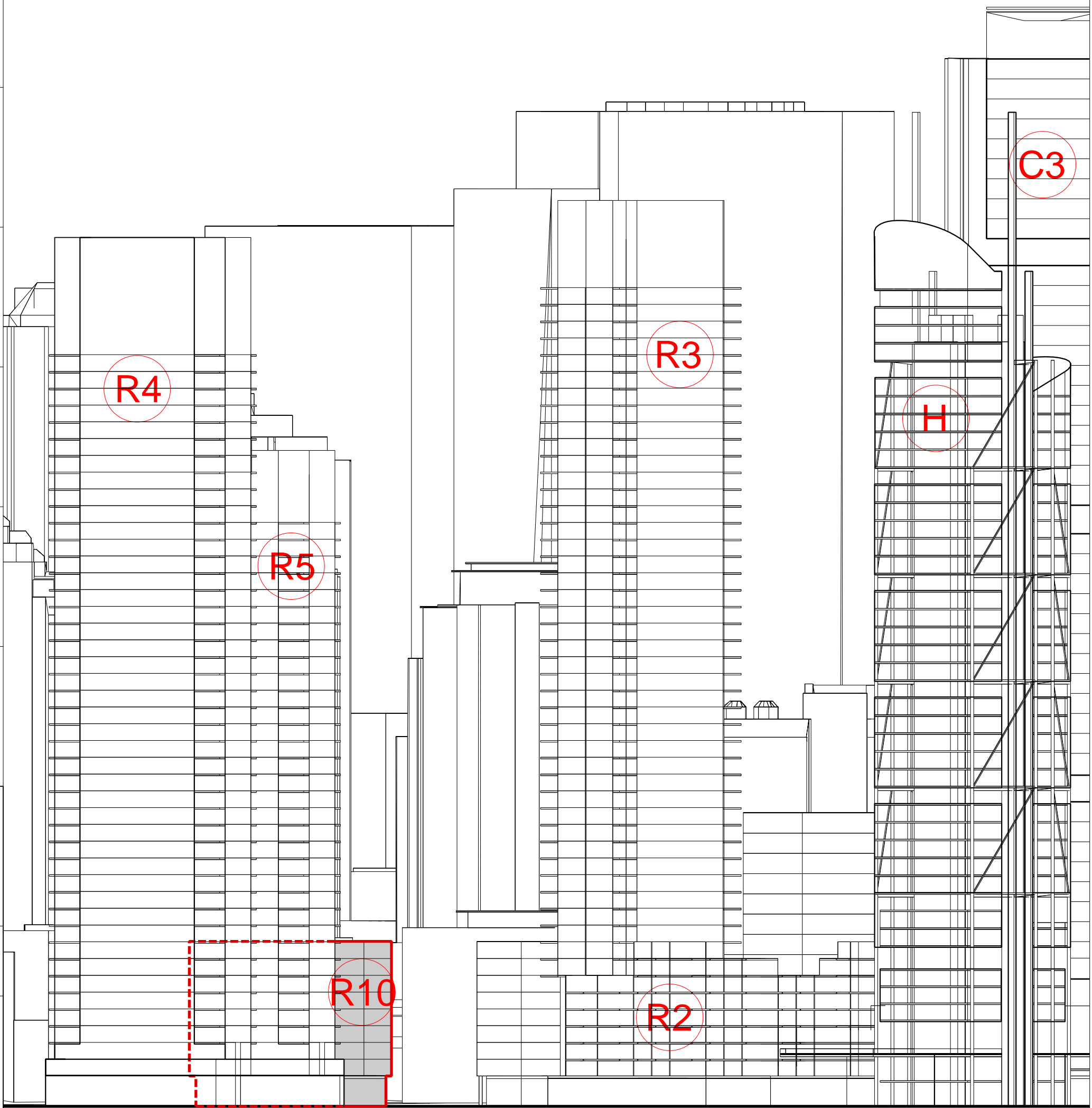
R10



Level 05 1:500



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| | | | | | | | | Drawing Purpose PEAR Submission - R10 | | | Drawing Date 14.01.2011 | Revision Date 31.01.2011 | Revision |



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| <p>Collaborating Architect</p> <p>Lend Lease 30 The Bond 30 Hickson Rd Millers Point NSW 2000 Sydney, Australia T: +61 2 9236 6111 F: +61 2 9383 8133 www.lendlease.com</p> | | |
| <p>Client</p> <p>Lend Lease 30 The Bond 30 Hickson Rd Millers Point NSW 2000 Sydney, Australia T: +61 2 9236 6111 F: +61 2 9383 8133 www.lendlease.com</p> | | |
| <p>Project</p> <p>Barangaroo South Drawing Purpose PEAR Submission - R10</p> | | |
| <p>Drawn/Checked by</p> <p>West Elevation</p> | | |
| <p>Scale @ A3</p> <p>Drawing Date 14.01.2011</p> | | |
| <p>Drawing Number</p> <p>B10-RSHP-A-E-7309-03</p> | | |
| <p>Revision</p> <p>Revision Date 31.01.2011</p> | | |