



Darling Harbour Live
Haymarket Site Wide Sustainability Plan
SSDA2 Southern Haymarket Precinct (Concept) v3

Introduction

Introduction

This report supports a State Significant Development Application (SSD 5752-2012) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This report has been prepared to respond to the Director General's requirements specifically related to:

- General Requirements as relevant to the scope of the works for each individual SSDA
- 5. Ecologically Sustainable Development (ESD)
 - Detail how ESD principles (as defined in clause 7(4) of schedule 2 of the *Environmental Planning and Assessment Regulation 2000*) will be incorporated in the design, construction and ongoing operation phases of the development;
 - Address the potential for sustainable technologies and/or renewable energy.

In part this Report also responds to:

- General Requirements as relevant to the scope of the works for each individual SSDA
- 5. Ecologically Sustainable Development (ESD)
 - Provide an integrated Water Management Plan including alternative water supply, proposed end uses of portable and non-potable water, water sensitive urban design and water conservation measures.

The Application seeks approval for the establishment of building envelopes and design parameters for a new neighbourhood and a community hub (referred to as The Haymarket) as part of the Sydney international convention, exhibition and entertainment precinct SICEEP Project at Darling Harbour. The project will develop The Haymarket into one of Sydney's most innovative residential and working districts. Through the delivery of the overall Project, Darling Harbour will also become home to Australia's largest convention and exhibition facilities, Sydney's largest red carpet entertainment venue, and a hotel complex of up to 900 rooms.

The SICEEP Project importantly forms a critical element of the NSW Government's aspiration to "make NSW number one again".

Overview of Proposed Development

The proposal relates to a staged development application and seeks to establish concept plan details for The Haymarket, located within the southern part of the SICEEP Site.

The Haymarket proposal includes student housing, public car parking, a commercial office building, and four mixed use development blocks (retail/commercial/residential podium with residential towers above) centred around a new public square to be named Haymarket Square.

More specifically concept approval is sought for the following:

- Demolition of existing site improvements, including the existing Sydney Entertainment Centre (SEC), Entertainment car park, and part of the pedestrian footbridge connected to the SEC car park and associated tree removal;
- North-west block – construction of a part public car park and part commercial/office building;
- North-east block – construction of a mixed use podium (comprising retail, commercial, above ground parking, and residential);
- South-east block - construction of a mixed use podium (comprising retail, commercial, above ground parking, and residential);

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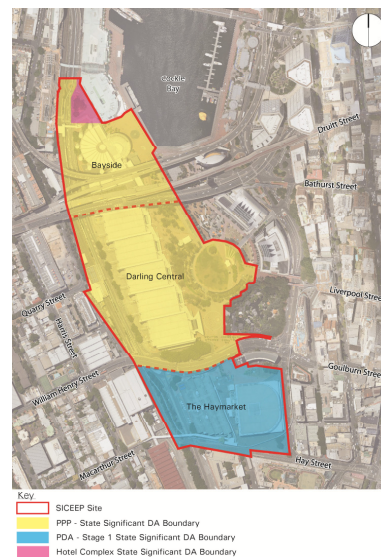
- South-west block - construction of a mixed use podium (comprising retail, commercial, above ground parking, and residential);
- North block – construction of a low rise mixed use building comprising retail, commercial and residential;
- Student housing – construction of two buildings providing for student accommodation;
- Public domain improvements including a new square, water features, new pedestrian streets and laneways, streetscape embellishments, and associated landscaping. (It is intended that a Stage 2 DA seeking approval for parts of the part of the public domain (The Boulevard) will be lodged with the first residential stage);
- Reconfiguration and upgrade of Darling Drive (part);
- Remediation strategy; and
- Car parking rates.

Site Description

The SICEEP Site is located within Darling Harbour. Darling Harbour is approximately 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

With an area of approximately 20 hectares, the SICEEP Site is generally bound by the Light Rail Line to the west, Harbourside shopping centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden and Harbour Street to the east, and Hay Street to the south.

The SICEEP Site has been divided into three distinct redevelopment areas (from north to south) – Bayside, Darling Central and The Haymarket. The Application Site area relates to The Haymarket as shown in Figure 1.



Planning Approvals Strategy

In response to separate contractual agreements with the NSW Government and staging requirements Lend Lease (Haymarket) Pty Ltd is proposing to submit a number of separate development applications for key elements of the overall Project.

This staged development application involves the establishment of building envelopes and design parameters for a new neighbourhood and a community hub (The Haymarket) within the southern part of the SICEEP Site. Detailed development applications will accordingly follow seeking approval for specific aspects of The Haymarket in accordance with the approved staged development application.

Separate development applications will be lodged for the PPP component of the SICEEP Project (comprising the convention centre, exhibition centre, entertainment facility and associated public domain upgrades) and Hotel complex.

Whole of Precinct Approach

Lend Lease has undertaken an integrated approach to sustainability across the total SICEEP site. In addition to the building based initiatives, a number of whole of precinct initiatives will be delivered to benefit the community including:

Enhanced connections and public transport links - The master plan design for the precinct lays out a connected and enhanced navigation through the site; enticing the local community as well as visitors through improved walkability and innovative interactive way finding, making public transport the easy and obvious choice for people providing affordable, green and safe travel options;

Car Share Network – Car Share networks reduce the cost of car ownership and minimise embodied carbon. Electric vehicles reduce carbon emissions and local air pollution. Lend Lease is partnering with GoGet to establish Australia's first Electric Car Share Network for use by the community within the precinct and beyond;

Passive signage – simple material that indicates the sustainability attributes of key items. This could include:

- Labelling of key materials that indicate what it is, where it is from, how much embodied carbon it contains and how it may be recycled – “This bench is made from plantation spotted gum from North Queensland and has absorbed 100kgs of carbon dioxide from the atmosphere”;
- Design attributes that support sustainable outcomes – “this landscaped area treats stormwater runoff to reduce pollution into the harbour”;
- Directional information such as links to public transport;
- Heritage and Indigenous references to the precinct's past;

Dynamic Informatics Systems and Technology:

- Online and mobile phone applications that provide more detailed information about the sustainability credentials of the precinct that can be automatically activated by proximity or scanning QR codes with a smartphone;
- Digital pods in the public domain that offer Wi-Fi hotspots;
- Interactive signage and lighting, in combination with augmented visuals on smart devices, to highlight physical building elements; and

In addition to the above, the following aspirational initiatives are being investigated:

Recycled Water – Lend Lease is in the unique position to facilitate a potential option of bringing recycled water produced at the nearby Barangaroo South Treatment plant to the Facilities and Haymarket buildings. The recycled water plant would result in a significant reduction in mains water use throughout the whole of precinct with recycled water being potentially provided to toilets, washing machines, cooling towers and irrigation; and

Precinct Thermal Plant - Beyond the centralised thermal plant for the Convention and Exhibition Facilities, there are also opportunities to expand the thermal plant into the Haymarket precinct. The Precinct plant would take advantage of the diversity of uses across the whole of precinct resulting in electrical infrastructure and greenhouse gas emission savings.

Lend Lease's Approach to Sustainability

The time is not far off when companies will have to justify their worth to society with greater emphasis being placed on environmental and social impact than straight economics."
Lend Lease founder Dick Dusseldorp, 1973.

Sustainability has always defined the way Lend Lease does business. We consider the environmental, social, ethical and financial impacts of every decision we make.

The Haymarket Precinct is a unique opportunity to further Lend Lease's Sustainability Platform 'The Open Plan' whilst also delivering on many of the Strategic Directions outlined within the NSW Department of Planning's Sydney Metropolitan Strategy in its approach to sustainability as part of the Darling Harbour Live consortium.



Figure 1: Lend Lease's Sustainability Platform 'The Open Plan'

Lend Lease is committed to achieving:

- ⇒ Achieve **5 Star Green Star Office** Design and As Built rating on the commercial tower
- ⇒ Achieve **4 Star Green Star Multi Unit Residential** Design and As Built rating on all residential towers
- ⇒ Achieve a **4 Star Green Star Custom** for the Student Accommodation

Lend Lease will investigate many further opportunities to improve on the Baseline performance (referred to as Reference) throughout the detained design of the precinct. The Reference performance refers to the attributes required to achieve minimum regulatory requirements i.e. BASIX for the residential towers and an office tower comparable to a 4 Star Green Star Commercial Office design.

Lend Lease has utilised the PRECINX™ planning and design tool to identify opportunities for further investigation to achieve environmental sustainability gains at a precinct wide scale and have reported those results throughout this plan.

Carbon and Energy

Lend Lease is committed to reducing our operational and legacy carbon footprint by designing for energy efficiency, utilising low embodied carbon materials, making lower carbon fuel choices, improving management practices and educating users.

Throughout design development Lend Lease will investigate energy and supply side energy interventions which could achieve the following reductions across the Haymarket precinct:

- ⇒ Over 20% reduction in overall greenhouse gas emissions
- ⇒ Over 15% reduction in residential greenhouse gas emissions
- ⇒ Over 34% reduction in peak electricity demand

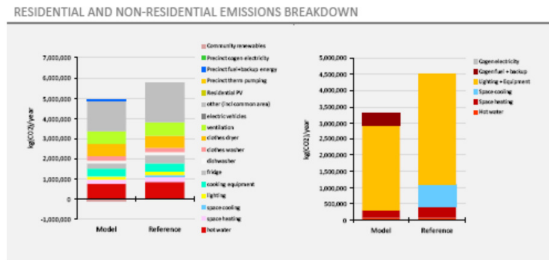


Figure 2: Residential emissions (left) and non residential emissions (right) according to end use

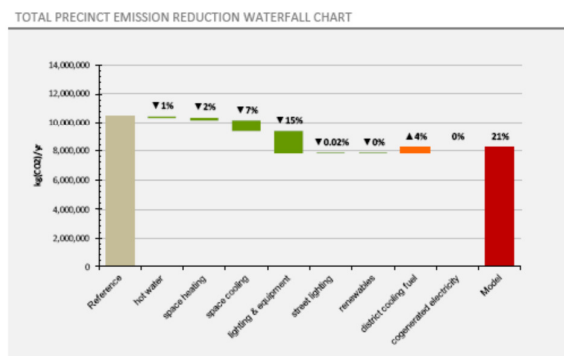


Figure 3: Precinct impact of each emission reduction strategy across the Haymarket development area

Investigations will include exploring the following initiatives:

Precinct

- SICEEP Precinct Cooling Plant – providing chilled water to all Haymarket buildings from a central plant that also serves the convention and exhibition facilities and the Hotel complex
- Energy efficient public lighting in the Haymarket public realm

Residential

- Improved Apartments thermal performance to an average 6.6 Star NatHERS rating
- Supply of energy efficient appliances within apartments
- Energy efficient lighting and controls within apartments and common areas
- Naturally ventilated above ground carparks
- Smart energy metering throughout all apartments

Commercial

- Improved thermal and energy efficiency performance to achieve a predicted (modelled) 4.5 Star NABERS Energy rating (or higher)

Water

Lend Lease is committed to respecting water as a finite resource by designing for water efficiency, maximising use of non-drinkable water sources where appropriate, improving management practices and educating users

Throughout design development Lend Lease will investigate water demand and alternative water sources which could achieve:

- ⇒ Over 12% reduction in overall Haymarket precinct and residential water demand
- ⇒ Over 42% reduction in mains water consumption across the Haymarket Precinct

Investigations will include exploring the following initiatives:

Precinct

- Recycled Water Supply – extension of the Barangaroo recycled water plant to provide recycled water to toilets, cooling towers, washing machines and irrigation within the Haymarket Precinct
- Water efficient irrigation in the public realm and residential private gardens and terraces
- Bioretention systems as part of overall Water Sensitive Urban Design strategy

Residential

- Water efficient fixtures and fittings in all apartments
- Water efficient appliances within apartments
- Smart water metering throughout all apartments

Commercial

- The use of recycled water for the commercial office would improve the water efficiency performance to achieve a predicted (modelled) 6 Star NABERS Water rating

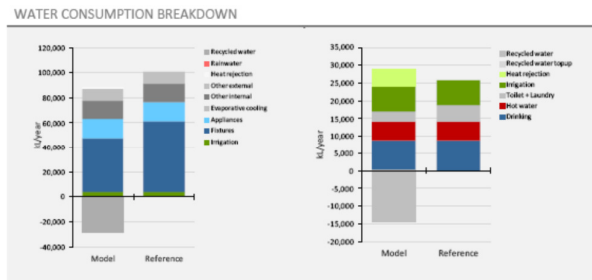


Figure 4: Residential water consumption (left) and non residential water consumption (right) according to end use

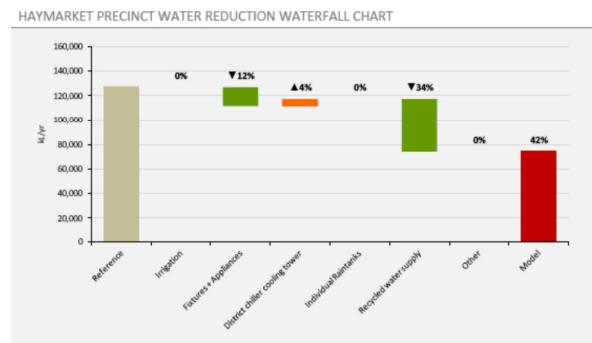


Figure 5: Precinct wide individual and cumulative impact of each non-residential water reduction strategy

Waste

Lend Lease is committed to reducing our generated waste by continuing to increase our recycling rates through improved processes, facilities, engagement and educating users as well as by designing out waste in our architectural, planning and procurement decisions.

Throughout design development Lend Lease will investigate waste management solutions which could achieve:

⇒ Over 80% recycling of construction and demolition waste

Investigations will include exploring the following initiatives:

Precinct

- Construction Waste Management Plan
- Operational Waste Management Plan
- Public Place Recycling Program

Residential

- Recycling Facilities in every apartment
- Common area space allowance for large waste storage and collection
- Green waste collection

Commercial

- Recycling waste storage space allocation

Materials and Supply Chain

Lend Lease is committed to positively impacting the places and people we source our materials from, by making procurement decisions that account for, and minimise, environmental and social impacts.

Throughout design development Lend Lease will explore the following material and supply chain initiatives:

Precinct

- 100% of timber being from reuse, recycled or independently certified as sustainably sourced
- NSW first cross laminated timber building (lightweight, innovative, low carbon material), potential applications to be investigated
 - o Student accommodation
 - o Residential towers
 - South West residential – 8 storey building
 - North East residential – 8 storey and 15 storey buildings
 - North residential – 4 storey quad building
 - South East residential – 8 storey and 15 storey buildings
- Implementing Lend Lease's Sustainable Procurement process
- Use of recycled materials within public realm
- Public Place Recycling Program
- Warm mix asphalt for new roads
- Low VOC paints, carpets and adhesives, No Formaldehyde
- Recycled content in concrete and steel

Natural Environment

Lend Lease is committed to recognising the value the natural environment has for maintaining biodiversity and enhancing community wellbeing in our developments. Lend Lease endeavours to maintain this value into the future, by measuring and managing the impact our developments have on the natural environment and increasing the provision of valuable green spaces.

Throughout design development Lend Lease will explore the following natural environment initiatives:

Precinct

- Provide a range of public green space
- Prepare a Biodiversity Enhancement Plan:
 - o Trees planted/retained plan
 - o WSUD
 - o Green roofs within the terrace level
 - o Green walls
 - o Landscaping details
 - o Ecological habitat maintenance and enhancement (as defined by Green Star)
- Investigate providing space for community gardens within the terrace green roofs
- Provide space for local produce creation (honey farms, edible gardens, etc) within the terrace green roofs
- Emphasis on native plant species where appropriate within public and private landscaping

Creating Community

Lend Lease is committed to respecting and understanding our communities needs and to work in partnership to create places with facilities and programs that add social value, and foster a sense of inclusion and belonging.

Lend Lease aims to engage with Stakeholder and Community groups throughout the life of the development.

The following opportunities have been identified for further investigation:

Facilities

- An IQ Hub to provide affordable space to explore and incubate new ideas and innovations
- Incorporate a child care facility within the Haymarket precinct
- A new Haymarket Library
- Free Wifi provisions throughout the public realm
- Provide interactive community interest and public transport information and way finding displays throughout the Haymarket public realm
- Provide a range of green spaces for a range of event, community or public use
- Community gardens within the terrace green roof space.

Programs

Lend Lease will work closely with partners with a view to exploring opportunities for the development of ongoing programs that deliver events and activation of the public realm over all stages of the development.

As part of this process Lend Lease will look to enable a collaborative place management and governance model to:

1. Empower local community to take an active role in their place
2. Build community capacity and custodianship
3. Support local business and their initiatives
4. Provide platforms for the community to explore new ideas to help people come together.

Transport

Located adjacent to the Sydney CBD, Haymarket has a significant opportunity to become a low-car use precinct. The Haymarket precinct delivers significant reductions in resident car use due to:

- Location of the development site to the Sydney CBD
- Local amenity and facilities within walking distance of the precinct
- Access to public transport
- Low parking rates

Based on these site characteristics, residents are estimated to drive approximately 1.7km per person per day, 90% lower than the Sydney Metropolitan average. Lend Lease is proposing to investigate incorporating car share spaces within both public realm and private car parking areas. It is anticipated that approximately 14% of households would take up car share, equivalent to approximately 20 spaces.

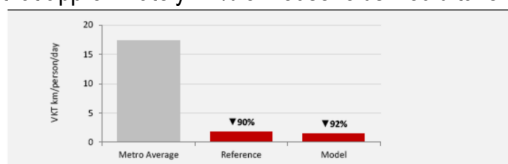


Figure 6: Estimate vehicle kilometres travelled per person per day compared to the Sydney Metropolitan Average (PRECINX™)

Diversity and Culture

Lend Lease is committed to develop places that respect their heritage and consider multiple demographics and cultural groups

Lend Lease will work in collaboration with key partners to explore the development of design solutions that will respect the local heritage, cultural diversity and also provide activation of the public realm throughout the precinct.

The following are key diversity and cultural considerations which Lend Lease aims to address within the master plan design:

- Built in versatility and flexibility to provide for a variety of uses to ensure day and night activity (18hrs a day, 7 days a week)
- A variety of spaces provide for a diversity of use and a balance of spaces for events, retail, intimate gatherings and general circulation
- Tech focussed with WIFI, networked and linked to appeal to students and the tech savvy demographic already in the area

Proximity to Chinese Garden and Chinatown

Themes borne out of the Chinatown character and surrounding area will feed into the new precinct and allow it to relate to the existing aesthetic of the adjacent Ultimo and CBD areas.

Indigenous Programs

Lend Lease recognises the Gadigal people of the Eora Nation as the Traditional Custodians of the land, on which we work, develop and build the project.

Lend Lease have a unique opportunity to work closely with Gadigal representatives and the Metropolitan Local Aboriginal Land Council on showcasing the world's oldest continuous living culture and building awareness and understanding of the rich Aboriginal history that is the very foundation of the Precinct's story.

Cultural Interpretation

- **Public Art** will tie together the spaces within the Haymarket and SICEEP and may reflect heritage and cultural significant themes
- An **Urban Water stream** is to be investigated to continue from Haymarket into Darling Harbour to tell the story of the area's history
-

Programs

- **Multi-cultural film program** – regular outdoor screenings of movies from different cultures accompanied by food from the same region.
- **Permanent home for the Chinese markets** - to provide colour, activation and stimulate the sense
- **Living Gallery** – an interpretation of Sydney's stories embedded in installations within the public realm drawing on the collection of the Maritime and Powerhouse Museums as well as that of the Historic Houses Trust and TAFE. Digital and interactive installations within programmable spaces throughout the precinct.

Education, Skills and Training

Lend Lease is committed to improving industry wide opportunities through education, skills training, apprenticeships, regional business and community engagement programs.

Investigations will include exploring the following opportunities:

- [The Community Place](#) – explore the opportunity to provide an initial temporary space on site for stakeholders and the community to access a range of information about the Haymarket and SICEEP project.
- [Skills and Employment for the future](#) – delivering skilling and training initiatives across the life of the development which aim to increase workforce participation including youth, long termed unemployed, mature aged pensions, returning to the workforce and indigenous and migrant programs.
- [Learning beyond the Classroom](#) – explore the opportunity to partner to develop and deliver interactive onsite education experiences challenging students to explore a range of curriculum relative themes outside of the classrooms

Safety, Health and Wellbeing

Lend Lease is committed to delivering buildings and communities that provide and promote a healthy environment to work, live or visit as well as encourage general well being and activity through building attributes, facilities and programs.

Investigations will include exploring the following opportunities:

- [Basketball Courts](#)
- [Cycling facilities](#) including private and public storage, are to be provided within the Apartment and Commercial building design
- [Dedicated cycling pathways and connections](#) to greater Sydney network
- Masterplan design focussed on walk ability and connections to public transport, Darling Harbour, Ultimo and CBD. The public squares and lanes will be pedestrian only, with a concentration of vehicular movements to the existing perimeter streets
- [Built form best practice indoor environment](#) outcomes including maximising views, reduced toxicity of materials, natural ventilation and access to fresh air and access to natural light
- [Health by the Harbour](#) – facilitate programs that promote outdoor health including
- [Crime Prevention Through Environmental Design](#) – incorporating CPTED principles throughout design
- [“Incident and Injury Free”](#) - Lend Lease’s uncompromising approach to safety. Lend Lease’s safety Global Minimum Requirements will be adhered to as part of the Haymarket development planning and construction.

Governance and Responsible Investment

Lend Lease is committed to managing the risks and opportunities associated with sustainability by implementing consistent processes, guidance and independent sustainability performance validation.

Lend Lease through its unique design is committing to achieve the following third party verified ratings:

- ⇒ Achieving **5 Star Green Star Office Design** and **As Built** rating on the commercial tower
- ⇒ Achieving **4 Star Green Star Multi unit Residential Design** and **As Built** rating on all residential towers
- ⇒ Achieving a **4 Star Green Star Custom** for the Student Accommodation

Lend Lease will investigate initiatives to improve the third party verified ratings to the following levels:

- Achieving 6 Star Green Star Office As Built rating v3 on the commercial tower
- Achieving 5 Star Green Star Multi unit Residential As Built rating v1 on all residential towers
- Achieving a 5 Star Green Star Communities PILOT rating for the total precinct.

Climate Change

Lend Lease is committed to acknowledging and understanding the impacts that extreme weather and climate change will have on our assets and projects and investigating risk mitigation plans that build resilience into our communities.

Lend Lease will develop a resilience plan for the Haymarket Precinct that will inform the design process and assist the community in knowing what to do and who to contact in an emergency or extreme weather event.

Innovation

Lend Lease is committed to improving the sustainability outcomes of our projects and communities by preparing for changes in the future by continually investigating and investing in new technologies, materials, processes, business models, and consumer preferences and needs.

Lend Lease is investigating the following innovative and forward thinking opportunities for the Haymarket precinct:

- IQ Hub – A new global address for innovative and creative industries with the aim of creating real viable business ventures and social initiatives with creative industries
- First NSW Cross Laminated Timber Building
- Interactive public realm information displays throughout the public realm
- Planning for significant growth in Electric Vehicle use by incorporating charging facilities within the residential car parking
- Importing of recycled water from a neighbouring sustainable precinct thereby further improving the sustainability of two Sydney precincts