

Response to Submissions and Amendments to Proposed Development



Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP)

Darling Square - North Plot and The Square

Submitted to Department of Planning and Environment
On Behalf of Lendlease (Haymarket) Pty Ltd

January 2017 ■ 15237

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This report has been prepared and reviewed in accordance with that system. If the report is not signed below, it is a preliminary draft.

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1.0 Introduction

An Environmental Impact Statement (EIS) in support of the State Significant Development Application 10 (SSDA10) for the mixed use development within the North Plot of Darling Square and Public Domain works to create a new square and laneway, which forms part of the overall Sydney International, Convention, Exhibition and Entertainment Precinct (SICEEP) Project at Darling Harbour, was publicly exhibited for a period of 47 days inclusive between 17 March 2016 and 2 May 2016 (SSD 7021).

In total, ten (10) submissions were received from government agencies and authorities in response to the public exhibition of the EIS. Two (2) submissions were received from the general public (including one supporting submission).

The Department of Planning and Environment (the Department) has also prepared a letter setting out additional information or clarification required prior to final assessment of the project. The proponent, Lendlease (Haymarket) Pty Ltd and its specialist consultant team have reviewed and considered all issues raised.

This report, prepared by JBA on behalf of the proponent, sets out the responses to the issues raised in accordance with Clause 85A of the *Environmental Planning and Assessment Regulation 2000* (EP&A Reg), and details the final project design and final mitigation measures for which approval is now sought. The final project design includes amendments made by Lendlease pursuant to Clause 55 of the EP&A Reg, including changes to address matters raised in the submissions.

The report provides a detailed response to all of the key issues raised by the various government agencies. The key issues raised in the submissions can be broadly grouped into the following categories:

- loading and unloading; and
- public domain.

This report provides a detailed response to each of the above issues and outlines the proposed amendments to the exhibited Environmental Impact Statement. Where individual issues are not discussed in this report, a detailed response can be found in the response tables at **Appendix A** and **Appendix B**.

1.1 Amendments to Proposed Development

To reflect the design changes that have been made to the proposed development following public exhibition of the proposal and for which approval is now sought, and to address issues raised in the submissions, a range of updated plans and documentation have been prepared.

The revised plans include Architectural Drawings by Kengo Kuma Associates (KKA) and Lendlease Design, Public Domain Plans prepared by Aspect Studios and Civil Drawings prepared by Arcadis. A complete set of Architectural Drawings and Public Domain Drawings have been provided for approval (**Appendix C** and **Appendix D** respectively).

The following consultant reports and supporting information has been updated or further supplements the material originally submitted in support of the EIS:

- Supplementary Design Report/Revised Architectural Drawings prepared by Kengo Kuma Associates and Lendlease Design
- Supplementary Public Domain Report and Public Domain Drawings prepared by Aspect Studios
- Traffic Report Addendum prepared by TTM
- Waste Management Plan Addendum prepared by Waste Audit
- Survey prepared by Rygates
- Services Infrastructure Report prepared by Arcadis
- Civil Drawings prepared by Arcadis
- Addendum Acoustic Report prepared by Renzo Tonin
- Addendum Accessibility Report prepared by MGAC
- Fire Engineering Letter prepared by Defire
- BCA Report prepared by McKenzie Group
- Addendum Wind Assessment prepared by CPP
- Public Domain Plan of Management prepared by Lendlease
- Flooding and Stormwater Letter prepared by Arcadis
- Addendum Heritage Impact Letter prepared by TKD
- Addendum Archaeology Letter prepared by Casey and Lowe
- Lifting Assessment Letter prepared by Lendlease Design
- Mechanical Ventilation Letter prepared by Lendlease Design

A number of these supporting documents were drafted in the context of an amended proposal which considered seeking approval for the fit out of several elements associated with The Darling Exchange. The decision has subsequently been made by the proponent that no approval will be sought for the detailed fit out of any elements within The Darling Exchange. As such, references to any fit out beyond the base building within the supporting documentation should be discounted.

The revised supporting documentation enables the Department to undertake an informed assessment of the amended proposal. The findings of the revised supporting consultant documentation are summarised at **Section 5.0** of this report as relevant. A final schedule of the mitigation measures proposed to mitigate the impacts associated with the proposed works is provided at **Section 0**. This report should be read in conjunction with the EIS prepared by JBA, dated March 2016, as relevant.

1.2 Development Stages Status

The status of development within the SICEEP project as outlined within Section 1.5 of the exhibited EIS has remained largely unchanged. **Table 1** below reiterates the status of approvals for the various stages within the SICEEP project.

Table 1 – Status of initial SICEEP SSD DAs

DA No	Description of Application	Status
12_5752	SICEEP Core Facilities – Exhibition Centre, Convention Centre, The Theatre, Event Deck and Tumbalong Park	Approved: 22 August 2013
MOD 1	S96(1A) - various	Approved: 20 February 2014
MOD 2	S96(1A) – various	Approved: 18 July 2014
MOD 3	S96(1A) – various	Approved: 1 July 2015
13-5878	Darling Square Concept Proposal	Approved: 5 December 2013
MOD 1	S96(1A) – various	Approved: 26 November 2015
MOD 2	S96(1A) – various	Approved: 4 October 2016
6010	Western Plot (Student Accommodation – Building W2)	Approved: 7 May 2014
MOD 1	S96(2) – various	Approved: 1 April 2016
MOD 2	S96(2) - various	Approved: 1 April 2016
6013	North-West Plot (Public car park/ commercial office building)	Approved: 7 May 2014
MOD 1	S96(2) – various	Approved: 20 July 2015
MOD 2	S96(1A) – various	Approved: 26 November 2015
MOD 3	S96(1A) – various	Approved: 23 December 2016
6011	South-West Plot (Mixed Use Residential Development)	Approved: 21 May 2014
MOD 1	S96(1A) – various	Approved: 27 July 2015
MOD 2	S96(1A) – various	<i>Under Assessment</i>
6116	ICC Hotel	Approved: 15 June 2014
MOD 1	S96(1A) – various	Approved: 8 July 2015
6626	North-East Plot (Mixed Use Residential Development)	Approved: 16 April 2015
6831	ICC Hotel fit-out, façade lighting system and subdivision	Approved: 16 October 2015
7133	Western Plot (Student Accommodation – Building W1)	Approved: 1 April 2016
7021	North Plot (Community and Retail Building and Public Open Space)	Subject of this application
6633	South East Plot (Mixed Use Residential Development)	Approved: 16 December 2016

2.0 Key Issues and Proponent's Response

This section of the report provides a detailed response to the following key issues raised by the Department and government agencies and authorities and the general public during the public exhibition of the SSDA:

- loading and unloading; and
- public domain.

A response to each of the individual issues raised by the Department and submitters is provided in the response tables at **Appendix A** and **Appendix B**.

An overview of the parties who made submissions, and their key issues/matters for consideration, is provided below. Other issues which require further assessment, such as detailed assessments against statutory policies and plans are considered at **Section 5.0**.

Government Authorities and Agencies

As highlighted earlier in this report, ten (10) submissions were received from government agencies and authorities in response to the exhibition of the EIS. Specifically, responses were received from:

- NSW Environmental Protection Authority;
- Office of Environment and Heritage;
- Sydney Water;
- Sydney Harbour Foreshore Authority (SHFA) – now Place Management NSW;
- Transgrid;
- Transport for NSW (TfNSW);
- Roads and Maritime Services; and
- City of Sydney Council (Council).

A number of these submissions comprised the agencies or authority confirming that they had no comment on the application or providing guidance on recommended conditions. These included the submissions from the Office of Environment and Heritage, Transgrid, Roads and Maritime Services (RMS) and NSW Environmental Protection Agency. Council provided an addendum submission following the exhibition period which provided support for the library and IQ Hub space integrated within the library.

The Department provided an overarching letter (as the assessment authority) summarising the key matters to be addressed and additional information to be provided. A detailed response to the Department's correspondence is provided at **Appendix A**.

The remaining agencies and authorities made a variety of comments, and sought further clarification and information on a number of detailed technical matters as detailed throughout this section and further at **Appendix A**.

Members of the Public

JBA has analysed the submissions received from the general public in response to the public exhibition. In summary, two (2) submissions were received with one supporting the proposal and the other objecting to the proposal. The supporting submission commended the design of The Darling Exchange whilst the objector focused on the delivery of a community building, specifically seeking for the child care facility to be managed by the City of Sydney Council. A detailed response to the issues raised by the general public has been provided at **Appendix B**.

2.1 Loading and Unloading

2.1.1 Issue

The Department has requested the consideration of revising the location and extent of loading and unloading areas, namely with a view of minimising potential impacts on the public domain and pedestrian safety. Confirmation has been sought by the Department on how pedestrian movements and safety will be safeguarded. The Department has also requested confirmation on the hours of use for the loading areas and any required management/mitigation measures of noise associated with loading between 8:00pm and 10:00pm.

TfNSW suggested that all loading and unloading activities are contained within the site and reliance on kerb side restrictions should be limited. It was also sought by TfNSW that a condition be provided on any development consent requiring the preparation of a loading area management plan.

Place Management NSW also raised several matters for consideration in regards to the use of loading and unloading areas across Darling Square. These comments related to potential impacts on pedestrian movements and amenity. Ultimately, Place Management NSW recommended the use of loading and unloading facilities in the North East Plot.

Council and members of the general public did not discuss any issues relating to loading and unloading.

2.1.2 Proponent's Response

A detailed response to the concerns raised by the Department, TfNSW and Place Management NSW is provided at **Appendix A** together within supporting documentation accompanying this Response to Submissions (refer to Table of Contents). An overview of the key considerations is provided below, whilst a more detailed assessment of matters such as noise is provided in **Section 5.0**.

In light of comments provided during the exhibition period and as requested by the Department, the strategy for loading and unloading has been reimagined. The amended servicing strategy has focused on two elements, being:

- day-to-day servicing for The Darling Exchange; and
- special event servicing for events held in The Square.

These two different scenarios have particular requirements. For instance, the day-to-day servicing of The Darling Exchange can be contained off-street as it is more regular and formalised, whilst the special event servicing for The Square, which occurs less regularly, is better suited to loading and unloading in nearby locations such as The Boulevard and Theatre Access Lane. The proposed servicing arrangements, and the way in which they have been designed to respond to the comments provided by agencies and the Department, is set out below and in the Traffic Report Addendum prepared by TTM (**Appendix E**) and in the Waste Management Plan Addendum prepared by Waste Audit (**Appendix F**).

The Darling Exchange

With this in mind, the loading and unloading strategy for The Darling Exchange has been amended to enable loading and unloading activities to occur within the ground level podium of the approved North-East Plot. The arrangement of the ground level within the North-East Plot is to be the subject of a separate modification application to allow for the following service bays to be used by The Darling Exchange:

- Two (2) x van bays

- Four (4) x SRV bays
- A single x 8.8 metre MRV bay (approved)
- A single x 10.3 metre MRV bay (approved)

The relocation of loading and unloading activities into the North-East Plot reduces potential conflicts with pedestrian movements and will ensure the amenity of the public domain is enhanced through more restricted loading activities. These servicing areas within the North-East Plot are proposed to be accessible 24 hours a day given their containment within the plot and minimised potential for noise impacts on surrounding sensitive uses.

Figure 1 illustrates the revised location of loading and unloading areas associated with The Darling Exchange.

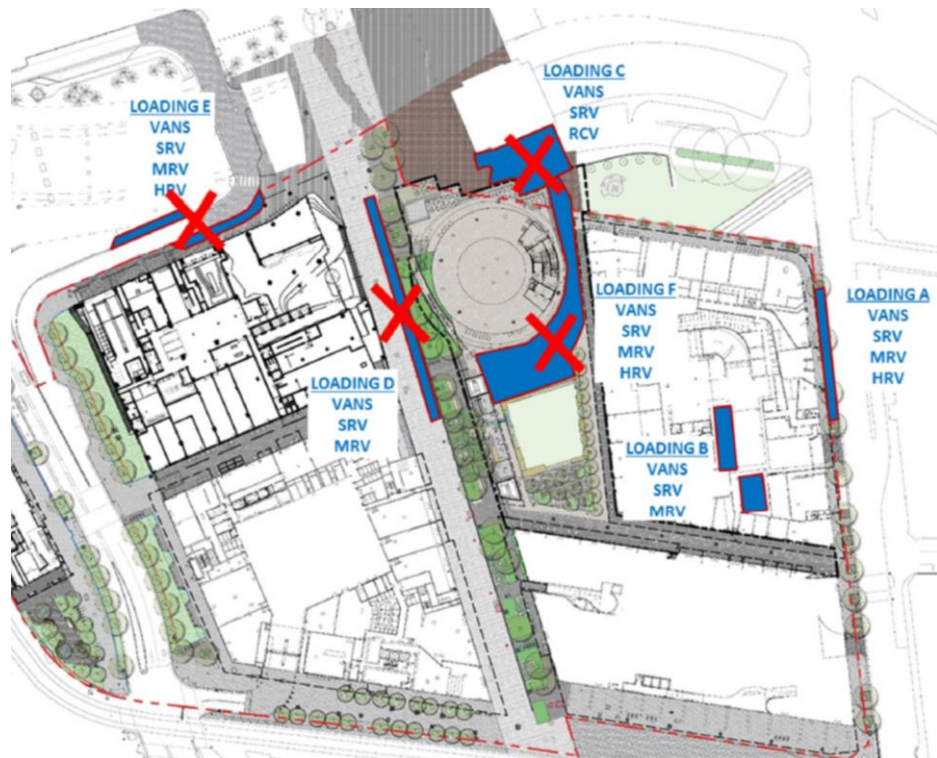


Figure 1 – Proposed and removed loading and unloading areas for The Darling Exchange

The Square

Loading and unloading activities associated with The Square are proposed to be rationalised to The Boulevard and the Theatre Access Lane (refer to Figure 2). The Boulevard has been designed as an eleven (11) metre wide thoroughfare, available for both service and emergency vehicle access. Vehicles will enter The Boulevard from the north and exit to the south.

Given the generous nature of The Boulevard, pedestrians will have ample room to circulate around any service vehicles. Traffic marshals will be employed on site within The Boulevard to ensure loading and unloading activities are supervised and managed. These traffic marshals will ensure that pedestrian safety is maintained and no conflicts occur with the required servicing activities for The Square.

The two indented parking bays on the Theatre Access Lane will be used for overflow loading/unloading areas associated with The Square. Given these bays will act as general parking for the public, it is not expected that there will be any conflict with pedestrian movements and no impact to pedestrian safety.



Figure 2 – Proposed and removed loading and unloading areas for The Square

Overall

As recommended by TTM, a loading area management plan will be prepared to govern the management of practices for loading/unloading in the North East Plot associated with The Darling Exchange and for loading/unloading activities in The Boulevard and Theatre Access Lane for special events in The Square.

2.2 Public Domain

2.2.1 Issue

The Department and Place Management NSW suggested that further consideration should be provided to the need for permanent kiosks within the public domain. If proposed to be retained, additional justification was requested by the Department for the inclusion of private uses within The Square.

It was requested by the Department that confirmation be provided on whether additional mitigation measures can be employed to reduce noise resulting from outdoor events within The Square. Further mitigation measures for wind impacts were also requested.

The Department has sought further justification on the provision of grass within The Square. This request from the Department has been made in light of the nature of The Square as an area which will accommodate a high level of footfall/traffic. The Department has also requested justification on the use of Zelkova Serrata within The Square compared a native alternative.

Council has provided a number of comments on the proposed public domain, including commentary on the furniture palette and market layouts. No commentary regarding the public domain was provided in submissions from the general public.

2.2.2 Proponent's Response

A detailed response to the concerns raised by the Department and Council are provided at **Appendix A**. An overview of the key considerations is provided below. Those matters requiring further assessment, such as the wind and noise considerations, are addressed at **Section 4.0**.

Retail Pods

The Department and Place Management NSW have questioned the need for the retail pods within the public domain. The two proposed retail pods are considered to be a key design element in activating and defining The Square. The pods are designed in a way to filter pedestrian flows from The Boulevard into The Square, creating a clear boundary between the pedestrian path of The Boulevard and the space for activity which is The Square.

The pods are small in scale, comprising a combined total of 60m² Gross Floor Area (GFA). These pods will offer a form of activation on the western boundary of The Square which would not otherwise be achieved. The intent of the future uses within these pods is to complement the activities and daily use of The Square

Overall, the pods are considered acceptable as:

- They provide a visual draw by creating activity on the western edge of The Square. Their positioning creates a strong edge to both The Square and The Boulevard.
- They assist in the establishment of a true square (through a defined boundary).
- They are designed to be visually permeable with highly operable façades, ensuring sightlines and a sense of openness are achieved within The Square.
- The markets are not likely to be a daily occurrence, and therefore the retail pods are required to provide activity throughout the week.
- They have a small footprint and are limited in their overall scale and massing.
- They are capable of opening to both The Square and The Boulevard, allowing for an address to, and activation of, both spaces.

Given the above benefits, the proposed retail pods are considered appropriate and a positive aspect of the overall proposal.

Landscaping Treatments

The Department requested justification on the provision of grass within The Square and the selection of tree species. Aspect Studios has provided a detailed response and justification for both of these landscaping treatments (refer to **Appendix D**).

Aspect Studios has consciously designed the pathway network of The Square to accommodate pedestrian movements and encourage particular movement patterns. **Figure 3** illustrates the likely desire lines of pedestrians travelling within and through The Square.

Providing a turfed area within The Square is considered to be an important requirement of the overall design. The provision of a turfed component in the otherwise urban Square will allow for a softening of the space, potentially reducing heat loads as well. The turf area enables a different character to be achieved and differentiates The Square from other public domain area within the wider precinct.

The turfed area has been located in the southern portion of the Square to receive good sunlight. The turf is slightly raised above the level of The Square to give it status in the hierarchy of spaces and to deter pedestrian desire lines across the space. The raising of the turf area enables a small wall edge condition to be achieved, further deterring pedestrian desire lines as people will be able to sit and enjoy the space.

Given these design features, which both set out pedestrian desire lines and make the turfed area unattractive as a pedestrian route, it is not expected that there will be any issue with pedestrian movements across the turf. Furthermore, the turf component of the public domain scheme is considered to be critical in achieving a unique character and a desired environment for the Darling Square precinct.

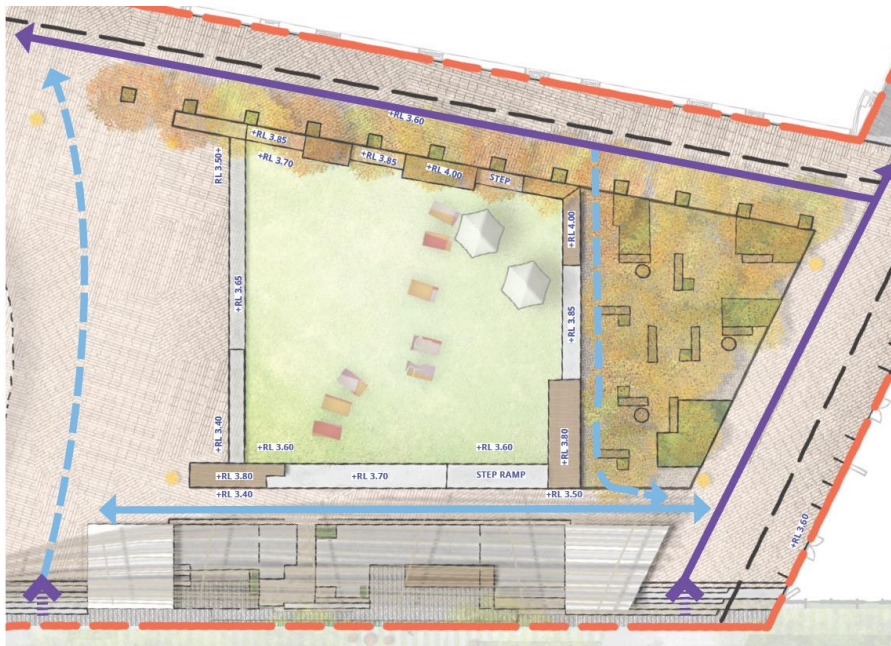


Figure 3 – Pedestrian desire lines

The selection of tree species has been based on a number of factors, including climatic criteria, design criteria and other more context based criteria. In considering each of these criteria, and in light of the desired outcome for landscaping within The Square, Aspect determined that a deciduous, exotic tree species would be most appropriate.

Furniture and Market Layouts

Whilst the Department has not raised any concerns regarding the furniture palette or market layouts, Council provided several comments on these items. Aspect has confirmed that the furniture palette will be similar to surrounding items, but different in scale. This point of difference is proposed to ensure the street furniture matches the functions of different spaces, and to provide the precinct with a slightly individual character. Nonetheless, Aspect has confirmed that the palette of materials will be read as a single suite.

Council's comments regarding the market layout within The Square have been noted and the indicative design of the markets has been amended, with services provision matching a more regular layout of market stalls.

3.0 Consultation

Since exhibition of the proposal, the proponent and their expert consultant team have consulted with a range of agencies and Council to resolve any identified issues and ensure positive refinements are captured in the design of the proposal. Meetings have occurred with the following stakeholders: Place Management NSW, Infrastructure NSW, TfNSW, Council and the Design Review Panel constituted for the SICEEP Project. These meetings largely focused on resolving any identified matters raised in the submissions from the exhibition period, such as loading/unloading, public domain refinements and improvements to The Darling Exchange.

Table 2 provides an overview of meetings and matters addressed.

Table 2 – Overview of further consultation post-exhibition

Authority/Agency	Date	Matters Addressed
Place Management NSW + INSW	17 June 2016	– Overview of design refinements to The Darling Exchange, including amended stair and lift location. – Discuss building height and shadowing of The Square. – Discuss variety of uses, including bar and restaurant use on upper levels. – Discuss inclusion of retail pods to activate the edge of The Square. – Discuss loading and servicing strategy. – Outcome: Refined proposal provided in-principle support with the exception of the loading and servicing proposal. The proponent agreed to explore alternative options and return for further consultation.
Place Management NSW + INSW	28 September 2016	– Overview of the loading and servicing of The Darling Exchange proposal within the North East Plot. – Overview of the loading and servicing of The Square via The Boulevard, Theatre Access Lane and a provision on Harbour Street. – Discuss public domain design enhancements and refinements – Discuss The Darling Exchange design enhancements and refinements – Outcome: Issues raised all adequately addressed (refer letter issued and dated 31 October 2016) and landowners consent subsequently provided (letter dated 16 November).
TfNSW	22 September 2016	– Overview of the loading and servicing of The Darling Exchange proposal within the North East Plot. – Overview of the loading and servicing of The Square via The Boulevard, Theatre Access Lane and a provision on Harbour Street. – Outcome: Refined proposal provided in-principle support
Council	25 November 2016 + 15 December 2016	– Overview of The Darling Exchange refinements to address Council requests for external stair to Level 1 and greater prominence of the stair to The Boulevard and lift lobby to The Square. – Overview of the refined loading and servicing proposal. – Overview of The Darling Exchange child care centre fit out. – Address lifting and serviceability matters. – Update on the external furniture palette and external market layout. – Overview of design refinements to accommodate recommendations of further wind assessment. – Overview of public domain design enhancements and refinements. – Outcome: Refined proposal provided in-principle support
Design Review Panel	14 December 2016	– Overview of The Darling Exchange refinements and enhancements. – Overview of public domain design enhancements and refinements. – Outcome: Refined proposal provided in-principle support subject to a number of further refinements

4.0 Proposed Amended Development

Since public exhibition of the proposal, generally minor amendments and improvements have been made to the proposed development. The changes include those made in response to the issues and comments raised by the Department and Council, along with adjustments made to strengthen and enhance the design of the proposal.

The proposed changes are shown on the revised Architectural Drawings prepared by Kengo Kuma and Associates (**Appendix C**).

Included at **Table 4** is a detailed schedule of the proposed changes, and where relevant the specific issue which has driven the amendment.

The following section presents a brief updated description (where relevant) of the modified development for which approval is sought. As illustrated within the list of refinements at **Table 4**, the changes overall are considered to be positive and aim to deliver an improved outcome. Accordingly, and as detailed in Section 5.0, the changes are not considered to give rise to any material alteration to the environmental assessment of the potential impacts considered as part of the original development application.

4.1 Overview of Proposal (as amended)

The proposal seeks approval for the following key development:

- Construction and use of a six (6) storey building (known as The Darling Exchange) containing the following uses:
 - Retail tenancies/market hall (such as market stalls, food and beverage premises and bar/restaurant); and
 - Community uses (such as a library including IQ Hub and child care).
- Public domain improvements, including:
 - Creation of a new publically accessible square (The Square) with space for markets, outdoor events, passive and active recreation;
 - Provision of a timber canopy extending from The Darling Exchange along the western edge of The Square;
 - Provision of two kiosk-style retail pods below the canopy;
 - Creation of Little Hay Street, a new pedestrian only laneway between the North-East Plot and South-East Plot; and
 - Completion of general interface works to connect areas of new public domain with the existing public domain.
- Remediation as may be required; and
- Extension and augmentation of physical infrastructure/utilities as required.

4.2 Numerical Overview (as amended)

Table 3 below provides the key numerical information of the proposed amended development.

Table 3 – Key development information

Component	Amended Proposal	Change
SSDA 10 Site (comprising The Darling Exchange and the Square)	4,990m ²	+390m ²
Gross Floor Area (max)		
■ Overall	6,664m ²	-21m ²
– The Darling Exchange	6,604m ²	-31m ²
– Retail Pods	60m ²	+10m ²
Height		
■ Maximum RL	RL33.5	No change
■ Storeys	6 storeys (plus mezzanine)	No change

4.3 Site Boundary

The SSDA10 site boundary has been extended to the north in front of The Darling Exchange to capture the proposed northern stair as part of the public domain associated with Darling Square. The boundary has also extended north-west to include proposed amendments to the western edge of Reflection Park. On the western side of The Square, the boundary has shifted slightly further west to ensure the entire Square is included within the subject site.

These shiftments have resulted in an increased public domain area of 390m². **Figure 4** illustrates the new site boundary and an expanded Survey Plan capturing the entire SSDA10 Site is provided at **Appendix G**.



Figure 4 – Amended SSDA10 Site Boundary

4.4 The Darling Exchange

4.4.1 Shifting Floor Plates

The exhibited shifting floor plate design has been further exaggerated to enhance the apparent tectonic shifts in the built form. Detailed structural refinements within The Darling Exchange have in turn allowed for a greater shifting of the floor plates to deliver a more closely aligned building outcome with the vision of KKA. The shifted floor plates continue to contribute to the achievement of design excellence as affirmed by the DRP.

Figure 5 provides a comparison of the exhibited and amended Darling Exchange building when viewed from The Square.



Figure 5 – Comparison of The Darling Exchange viewed from The Square

4.4.2 Building Access

Several access features to The Darling Exchange have been refined in light of ongoing design development and in discussions with Council. The following changes have been made to key access points:

- the external stair has been redesigned to provide access to the first level and widened slightly at the base where it meets the ground level; and
- the core has been rotated/pivoted 22.5 degrees to provide a greater lift lobby presence to the south facing The Square, benefiting the upper levels.

These changes are illustrated on the amended Architectural Drawings (refer to **Appendix C**).

4.4.3 Roof Level

The Darling Exchange roof level is proposed to be landscaped to create a more attractive fifth façade element. The roof is proposed to be provided with a mixture of planting and a visual screen over the plant room below. The proposed roof level plan is provided with the amended Architectural Drawings at **Appendix C**.

4.4.4 Signage Zones

A further refinement of signage zones provided in association with The Darling Exchange has now occurred. Four types of signage zones are proposed, including market hall entry signage, market hall signage, lobby entry signage and external wayfinding signage. These signage zones are illustrated on the amended Architectural Drawings at **Appendix C**.

4.5 Child Care Centre

Minor revisions are sought to the delineation of the internal and external spaces for the child care centre on Levels 3 and 4 of The Darling Exchange. **Figure 6** below illustrates a comparison of the exhibited and proposed Levels 3 and 4 plans, identifying the slight amendment of internal and external spaces.

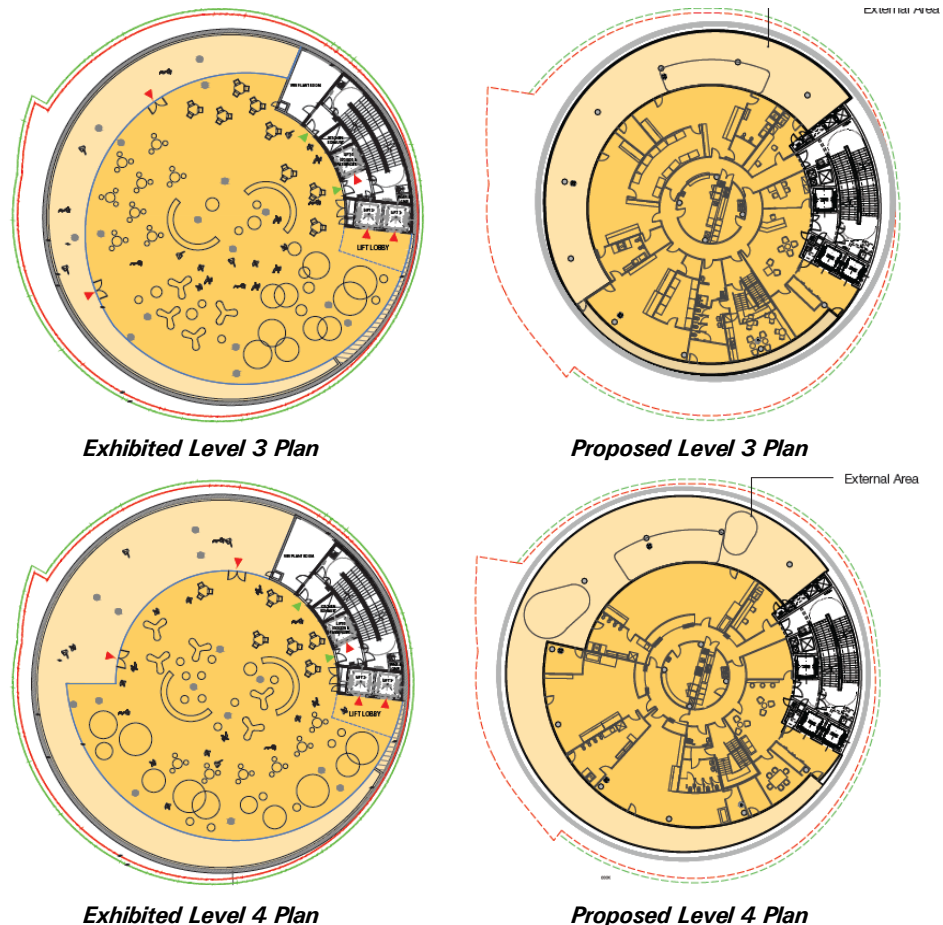


Figure 6 – Amended SSDA10 Site Boundary

4.6 The Square and Public Domain

4.6.1 Reflection Park (Part)

To better integrate the new Square with the surrounding public domain, a number of works are proposed to a portion of the existing Reflection Park. These works include:

- demolition of an existing low brick wall
- removal of five (5) juvenile *Stenocarpus sinuatus* trees, and
- removal of approximately 150m² of turf.

Once these works have been completed, the following new landscaping works will occur:

- construction of a new low wall, steps and bleacher seat;
- provision of red-brick paving to match the forecourt of The Pump House (located further to the north); and
- reinstatement of five (5) juvenile *Stenocarpus sinuatus* trees.

These proposed works are illustrated in the amended Public Domain Drawings provided at **Appendix D**.

4.6.2 The Northern Steps

The Northern Steps are proposed to be refined to provide a more generous public space and seating edges. The design of the steps seeks to create a natural amphitheatre to The Pump House. A combination of fixed and moveable furniture will be provided on the Northern Steps. **Figure 7** illustrates how the Northern Steps will integrate into the existing public domain and the activities which could occur on the steps.



Figure 7 – The Northern Steps in context

4.6.3 Western Ramp and Square Edge

The ramp access to The Square has been relocated from the centre of the western boundary to the north-western corner of the SSDA10 Site. The revised ramp location allows users of all abilities to access The Square from the north. The ramp will be a lightweight structure rises gradually through the planting in The Boulevard.

Where the ramp had previously been provided on the western edge of The Square, there will now be a series of feathered and planted terraces.

4.6.4 Water Feature

The water feature included in the exhibited proposal has been removed to enable a greater level of flexibility for weekend markets within The Square. Heritage interpretation will continue to be provided throughout the public domain as described in the Supplementary Public Domain Report (refer to **Appendix D**).

4.7 Civil Works

The proposed civil works have been refined to reflect the changes included within The Darling exchange, The Square and the surrounding public domain. The civil works sought for approval are described in further detail in the Services Infrastructure Report (refer to **Appendix H**) and illustrated on the Civil Drawings prepared by Arcadis at **Appendix I**.

4.8 Schedule of Design Changes

Table 4 – Schedule of design changes

Key Changes	Driver for Change
The Darling Exchange	
General	
Shifting of floor plates to enhance tectonic shifts in the built form (all levels)	Achieve a more cohesive and conceptually strong design.
The core has been rotated/pivoted 22.5 degrees in a clockwise direction (all levels)	Following discussions with Council, it was identified that there is a desire for the library to have a greater lobby presence to The Square. As such, the rotation improves how the building is perceived from a number of key vantage points.
Removal of mechanical plant and louvred façade (all levels)	A more efficient centralised mechanical servicing strategy assisting with achievement of 5 Star Green Star rating.
Reduction of GFA (all levels)	Resultant change from core location shift and more efficient mechanical servicing strategy
Refinement of signage zone typologies and locations (external façades)	Responding to query raised by the Department.
Ground Level	
The external stair has been redesigned to extend to the first level of the library and widened slightly at the base to 3.2m wide.	Council request with a desire to ensure a civic and public address is provided to the library.
Reduction from 32 tenancies to 18 tenancies within the Market Hall, including general layout and arrangement amendments.	Responding to loading and unloading requirements.
Amended and additional entry points into the Market Hall.	Responding to revised core location and public domain changes.
Refinement and confirmation of Market Hall façade types (provision of four façade typologies).	Further more detailed review of façade typologies since lodgement and feedback from potential tenants.
Provision of additional ground floor awnings.	Assist in wind mitigation.
Mezzanine Level	
The Mezzanine level has been replanned with the three voids consolidated into a central atria (mezzanine level) and general layout for food and beverage offering amended.	Enhance the design of the mezzanine and its relationship to the Market Hall below.

Key Changes	Driver for Change
Levels 1 and 2	
Slight amendments to the external façade lines delineating internal and external areas to accommodate the new external stair.	Council request with a desire to ensure a civic and public address is provided to the library.
Levels 3 and 4	
Slight amendments to the external façade lines delineating internal and external areas.	Better suit the needs of the identified child care operator.
Balustrade height increased from 1.5m to 1.8m.	Addressing provisions of the Sydney DCP 2012.
Level 5	
Replanned Level 5 layout to accommodate a centralised mechanical plant room.	Facilitate the more efficient centralised mechanical servicing strategy.
A fixed screen added to the north east corner of the level and an operable screen been added to the western side of the level. Balustrade heights have also been raised from 1.5m to 1.8m.	Assist in wind and acoustic mitigation.
Provision of new awning.	Further design development to mitigate wind and contribute to the achievement of design excellence.
Roof Level	
The roof level has been redesigned to accommodate a green roof. Changes include louvres provided to the plant rooms below and planted greenery across the roof.	Provide an enhanced fifth façade appearance (being the roof) in response to surrounding users viewing the façade within the precinct.
Public Domain	
Site area increased to the north to capture outdoor terraces which step towards the existing public domain located further to the north of the subject site.	Opportunity to better integrate the proposed and existing public domain whilst maximising the use of outdoor spaces adjoining The Darling Exchange.
Revision of SSDA10 site boundary.	Responding to the changes to the proposed development design including northern steps, building articulation and make good area of reflection park.
Reflection Park (part): demolition of a portion of Reflection Park including removal of five (5) trees. Repaving and reinstalment of five (5) trees in the relevant portion of Reflection Park.	Desire for easier movements into The Square from the north
The Northern Steps: Steps redesigned to provide a more welcoming address to The Darling Exchange from the north and east.	Design enhancement for the stairs to create a more generous north facing platform and amphitheatre to the pump house and forecourt.
The Northern Steps: Inclusion of fixed public furniture and umbrellas and moveable furniture overlays.	Desire to provide additional opportunities for activation of The Darling Exchange and public domain.
Amended ramp layout including provision of handrails and 150mm high edge kerb as required by AS1428.	Desire to provide easier and more legible access from The Boulevard to The Square.
Western edge of The Square refined to a series of stepped platforms for public seating. The platforms will incorporate planting and hard landscape.	Relocation of the ramp resulting in need for further design refinements.

Key Changes	Driver for Change
Retail pods slightly expanded in size by 5m ² .	Further design development of retail pods.
Deletion of the water feature in The Square.	Opportunity to better utilise The Square for a range of activities.
Heritage interpretation strategies further refined.	Desire to achieve the best quality interpretation with the public domain features proposed and ensure a high level of efficiency and flexibility of The Square is achieved.
Civil	
Minor adjustment to levels of the ground and the services.	Responding to the changes to the design levels and service locations in the Building and the surrounding public realm.
Minor adjustments to service furniture layout (light poles, GPOs).	Responding to the changes to the levels and the changes to the surrounding public realm.
Clarification of services to retail pods.	To ensure flexibility for the potential uses that could be accommodated by the pods.

5.0 Additional Information and Assessment

The Department has requested that all reports submitted with the EIS be reviewed in light of any revisions made or to assist in the resolution of the issues. The exhibited EIS assessed the potential impacts of the overall development against a range of matters relevant to the development. Except where addressed in this report, the conclusions of the original assessment remain unchanged. In this regard, the assessment of the following matters remains unchanged:

- Secretary's Environmental Assessment Requirements
- Environmental Planning and Assessment Act 1979
- Compliance with Planning Policies
- Compliance with Environmental Planning Instruments
- Sydney Development Control Plan 2012
- Consistency with Darling Square Concept Proposal (SSD 13_5878)
- Design Excellence
- Built Form, Urban Design and Architecture
- Amenity
- Visual and View Analysis
- Visual Impacts
- Public Domain and Landscaping
- Transport and Accessibility
- Accessibility
- Non-Indigenous Heritage
- Archaeology
- Noise and Vibration
- Infrastructure and Utilities
- Operational Waste Management
- Water Cycle Management
- Air Quality
- Reflectivity
- Geotechnical Issues
- Contamination
- Wind Impact
- BCA
- Environmental Sustainability
- Social and Economic Impacts
- Crime and Public Safety
- Environmental and Construction Management
- Ecologically Sustainable Development
- Development Contributions

- Site Suitability
- Public Interest

As identified at Section 1.0, the following consultants' reports and supporting information has been updated or further supplements the material originally submitted in support of the EIS:

- Supplementary Design Report/Revised Architectural Drawings prepared by Kengo Kuma Associates and Lendlease Design
- Supplementary Public Domain Report and Public Domain Drawings prepared by Aspect Studios
- Traffic Report Addendum prepared by TTM
- Waste Management Plan Addendum prepared by Waste Audit
- Survey prepared by Rygates
- Services Infrastructure Report prepared by Arcadis
- Civil Drawings prepared by Arcadis
- Addendum Acoustic Report prepared by Renzo Tonin
- Addendum Accessibility Report prepared by MGAC
- Fire Engineering Letter prepared by Defire
- BCA Report prepared by McKenzie Group
- Addendum Wind Assessment prepared by CPP
- Public Domain Plan of Management prepared by Lendlease
- Flooding and Stormwater Letter prepared by Arcadis
- Addendum Heritage Impact Letter prepared by TKD
- Addendum Archaeology Letter prepared by Casey and Lowe
- Lifting Assessment Letter prepared by Lendlease Design
- Mechanical Ventilation Letter prepared by Lendlease Design

The updated supporting documentation and assessment information relating to the built form, amenity and public domain considerations have been addressed at **Section 2.0** of this report as relevant in responding to key issues raised in submissions. The further information and assessment material that has not otherwise been addressed at **Section 2.0** of this report is summarised in the following sections.

5.1 Consistency with Original SSDA Scheme

All key elements of the proposed development have remained unchanged or have been improved when compared to the originally submitted proposal. The scheme remains generally consistent with, and does not substantially differ from, the development as originally proposed and exhibited. In essence, the proposal has been further refined in accordance with Clause 55 of EP&A Regulation to respond to submissions and provide enhancements, but the general content and form of the proposal has not changed.

Further details have been provided in respect of a number of elements, reflecting the knowledge gained on the project since exhibition and reinforcing the ambitions of the proponent to deliver an integrated and highly functioning building for all end-users. The assessment of the proposal will not be materially changed as a result of the amendments sought through this Response to Submissions Report.

A comparison of the key components of the exhibited development and the refined development is provided at **Table 5**. **Table 5** demonstrates that all key elements of the proposal remain, or are provided in a lesser form with reduced potential impacts, resulting in a conclusion that minimal further assessment is required given the consistency of the proposal.

Table 5 – Comparison of exhibited and refined proposal

Component	Exhibited Proposal	Refined Proposal	Consistent / Unchanged
The Darling Exchange			
Envelope	Circular small scale building	No change	✓
Uses	Retail tenancies/market hall (such as market stalls, food and beverage premises and bar/restaurant) and Community uses (such as a library including IQ Hub and child care)	No change	✓
Gross Floor Area	6,664m ²	Reduction of 21m ²	✓
Height / Storeys	RL33.5 / 6 storeys (plus mezzanine)	No change	✓
Building form	Circular building and various public domain features	No change	✓
Building Materials	Predominately materials and glazing	No change	✓
Car Parking	No parking provided	No change	✓
Pedestrian Access	Multiple access points at the ground level from both the southern and northern frontages of the building. External stair access provided to the mezzanine level.	Additional pedestrian entry points at the northern and southern frontages. Extension of the stair to provide access to Level 1.	✓
Overshadowing	The building shadow was contained within the approved parameter plan envelope (as modified), not casting any significant shadow on The Square for great lengths of time.	No change	✓
Sustainability	5-Star Green Star rating	No change	✓
Public Domain			
The Square	Open square provided with paving.	No change	✓
The Green	Raised lawn area	No change	✓
The Grove	Deciduous trees with seating opportunities	No change	✓
The Northern Steps	Tiered steps integrating the new public domain with the existing public domain fronting the Pump House	Inclusion of Reflection Park (part) to the north east of The Darling Exchange	✓
Little Hay Street	Paved laneway	No change	✓

5.2 Consistency with Darling Square Concept Proposal (SSD 13_5878)

The refined development proposed through this response to submissions package is consistent with the approved Concept Proposal (SSD 13_5878). The assessment of the proposal contained within the exhibited EIS remains relevant to the refined proposal now sought for approval. Importantly, The Darling Exchange building is contained entirely within the approved parameter plan (as modified). In the recently approved modification to the Concept Proposal (approved 4 October 2016), an additional condition of consent was provided relating to the North Plot and its relationship to The Boulevard.

Condition B4A states:

B4A Future Development Applications for the North Plot shall demonstrate compliance with the requirements of Condition A6A and the approved Parameter Plans and the Design Guidelines.

Minor encroachments of the North Plot into the 'uninterrupted minimum 19 metre building separation' may be considered where it has been demonstrated that:

- a) the encroachment does not restrict pedestrian sightlines looking north and south along the boulevard at the western extent of the North Plot building;*
- b) pedestrian connectivity along the boulevard is not adversely affected;*
- c) the perception of openness and width of the boulevard is maintained from a pedestrian perspective;*
- d) any encroachments are designed to be lightweight and visually permeable; and*
- e) any encroachment does not result in an unacceptable visual pinch-point along the boulevard.*

This condition provides clear guidance on the design of the North Plot building on its western frontage, and importantly, establishes criteria for the assessment of any features which may enter into The Boulevard.

As set out in Section 3.0, the design of the external staircase on The Darling Exchange has been refined to provide a more civic and readable address for the library. The stair has been extended from accessing only the mezzanine level to accessing Level 1. With this change, there has been a requirement to increase the length of the stair and width of the stair at the street level. This amended design was presented to the Design Review Panel on 14 December 2016 and in-principle support was provided for the proposal.

These design moves, when coupled together, result in a stair which requires greater length along the western frontage of the building and a wider presence at street level. In turn, these changes require a slight encroachment of the stair into The Boulevard (set out in **Figure 8**). The project team has worked collaboratively with the guidance of Condition B4A to provide a design outcome which does not restrict pedestrian sight lines; retains pedestrian connectivity; allows for views and does not create visual clutter within The Boulevard. Each of the relevant considerations under Condition B4A are sequentially addressed below.

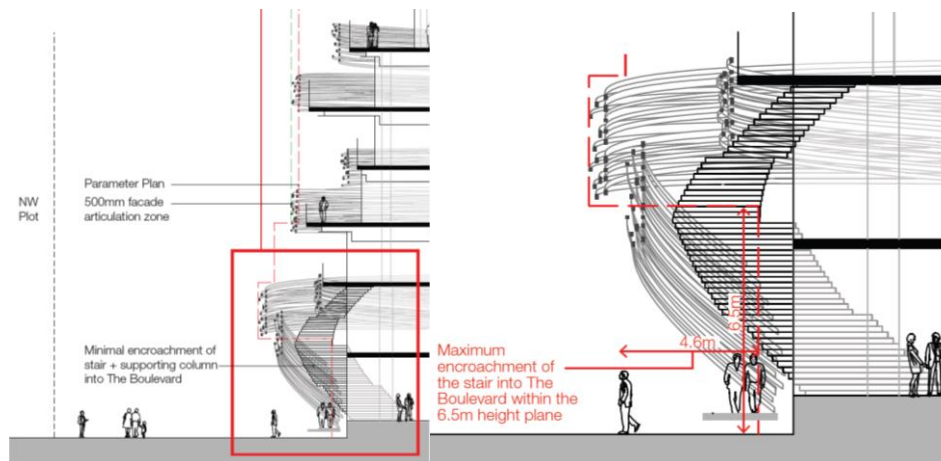


Figure 8 – Stair encroachment into the Boulevard

Pedestrian Sightlines

Pedestrian sightlines have been a key consideration in the development of both The Darling Exchange and The Square. The elements of the stair within The Boulevard have been carefully designed to be visually permeable and permit obscured sightlines and filter daylight. The lightweight nature of the stair, accompanied with the use of visually permeable materials such as perforated risers and glazing, will ensure the stair is not a significant visual obstruction within The Boulevard.

Figure 9 below illustrates two photomontage views from The Boulevard to the south. One view is provided adjacent to the South West Plot, whilst the other is closer to the North West Plot. These photomontages demonstrate that a generous view corridor will still be provided down The Boulevard with the inclusion of the stair. Furthermore, the presence of landscaping along the eastern boundary of The Boulevard ensures that the stair is not visible from longer angle views (refer to Figure 9). Overall, the proposed stair is considered to have no effect on pedestrian sightlines.



Figure 9 – Views looking north along the Boulevard

Pedestrian Connectivity

The proposed minor encroachment of the stair within the eastern edge of The Boulevard is not considered to have any impact on the pedestrian connectivity or permeability of the Darling Square precinct. The precinct has been designed to be highly permeable, and pedestrian desire lines have been a strong factor in the development of the public domain and have shaped the circular nature of the North Plot building.

The proposed stair will significantly increase pedestrian connectivity in the precinct, providing access from the street level to Level 1 of The Darling Exchange. The new proposed ramp, located below the stair, will ensure that equitable access is available for all abilities into The Square. The pedestrian desire lines which have been developed and accommodated in the proposal are illustrated in **Figure 10**.

The narrowest point of The Boulevard will be 14.4m wide. This width, which only occurs for a small portion of the encroachment, is considered more than suitable for the expected pedestrian flows along The Boulevard. Similar pedestrian thoroughfares recently approved and constructed in Sydney have contained widths more restricted than The Boulevard, such as:

- Transport Place, Barangaroo (12 metres)
- Wynyard Walk Bridge, Barangaroo (6 metres)
- Wynyard Walk, Wynyard (9 metres)

These new key components of public domain and pedestrian infrastructure will accommodate a high level of pedestrian traffic. Each has a width smaller than the narrowest point of The Boulevard. As such, it is not considered that the single point of encroachment on The Boulevard will result in any impact to pedestrian connectivity.

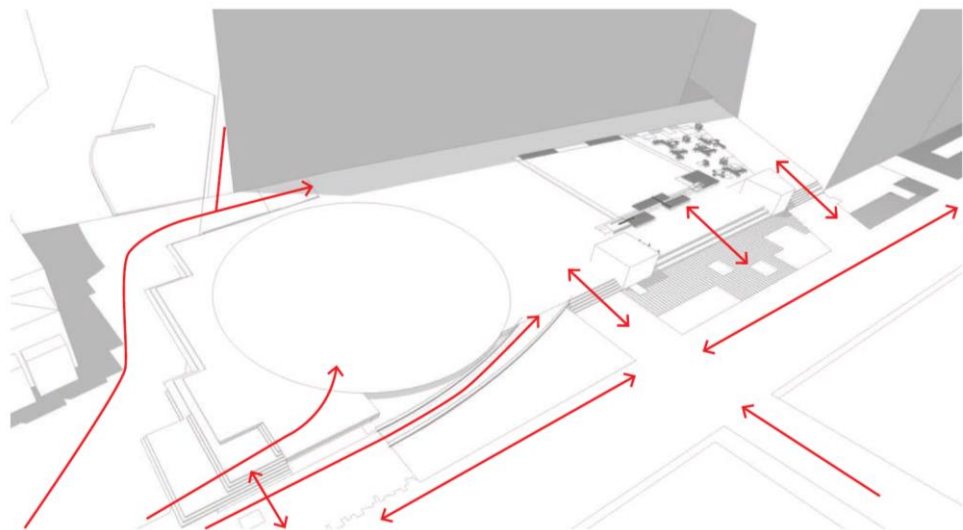


Figure 10 – Public domain circulation patterns

Perception of openness and width of The boulevard

The Boulevard has been designed as a strong north-south connection through Darling Square. The main purpose of The Boulevard is to provide a pedestrian thoroughfare through the precinct. In order to encourage pedestrian movements through the precinct, key design features have been included in The Boulevard. These features include the row of trees on the eastern boundary and the centrally located light poles. When viewed with the context of the South West and North West Plots, these features create a visual width and consistent perception of space down The Boulevard. This effect is illustrated in **Figure 11**.



Figure 11 – Public domain circulation patterns

This visual perception of a consistent width and openness down The Boulevard is largely driven by the row of light poles and building wall of the South West and North West Plots. In reality, The Boulevard is more free flowing, with wider and narrower portions along its length. The introduction of the stair for a minor portion of The Boulevard will not disrupt this visual perception, enabling the feeling of openness and width to be maintained as illustrated in **Figure 11** above.

Materiality and Visual Permeability

The external stair has been designed as a lightweight steel stair with perforated risers, timber ribbons (spaced between 130mm to 175mm), a glazed balustrade and thin structural supports. The most lightweight and transparent features have been selected whilst balancing the need for compliance with the provisions of AS1428. These materials will allow for a high level of visual permeability and are all light weight to soften the presence of the stair within The Boulevard (refer to **Figure 12**).



Figure 12 – Visual permeability of the proposed stair

Visual pinch-point on The boulevard

The external stair has been designed as tight to The Darling Exchange building as possible whilst still achieving the design aspirations of Council and the award-winning architectural team. A clear visual 14.4m distance is provided at the narrowest point of the stair to the opposite North West Plot (refer to **Figure 13**).

As discussed throughout this section, the proposal will maintain the visual openness and width of The Boulevard, as well as result in no impacts to pedestrian sightlines and view corridors. Although the narrowest point of The Boulevard, the stair element does not create a visual 'pinch-point' given there is significant separation (> 14m) to the opposite North West Plot.

Furthermore, as identified above, the stair must be considered in the context of the landscaped Boulevard, where trees lining the eastern frontage provide a sense of enclosure and visual perception along the length of The Boulevard. The proposed stair is positioned to integrate within the view of these trees from both the north and south, ensuring the stair appears as an ordinary and acceptable feature of The Darling Exchange which frames The Boulevard.

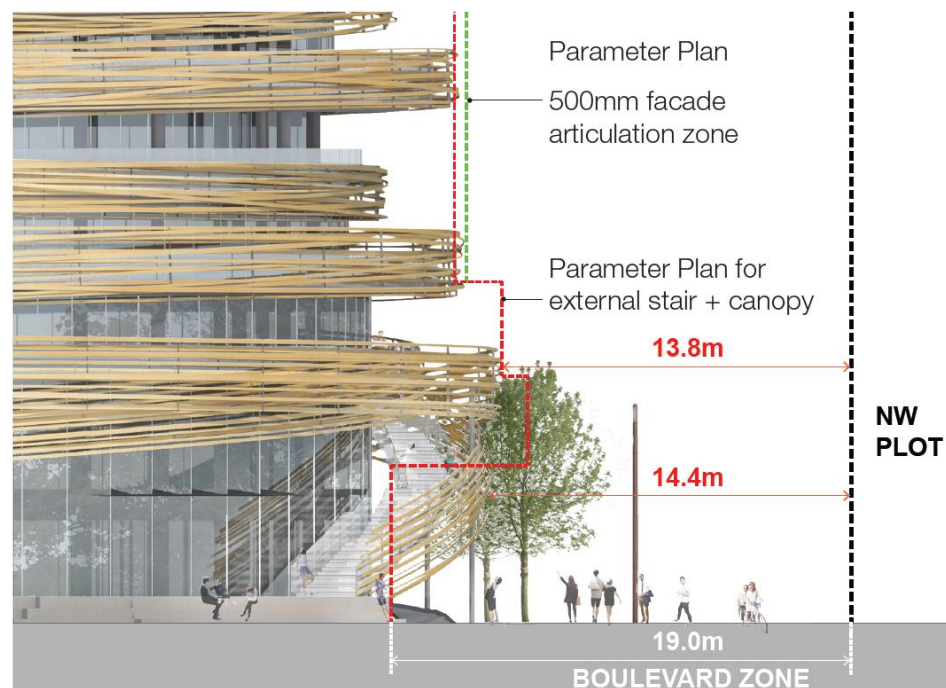


Figure 13 – Views looking north along the Boulevard

5.3 Wind

The Department and Council have raised concerns over the wind environment of the public domain and certain elements of The Darling Exchange. CPP have undertaken further assessment and provided a letter (**Appendix N**) that confirms the wind environment is suitable for walking and standing, with all locations passing the Lawson distress criteria.

As requested by the Department, CPP has identified additional mitigation measures which will further improve the wind environment of The Square, the surrounding public domain and areas of The Darling Exchange. CPP has recommended the following additional measures be provided to mitigate winds:

- addition of an awning at the north-western entrance;

- addition of fixed umbrellas on the northern terraces;
- addition of an awning at the lobby entry of the building fronting The Square;
- addition of an awning at the south-eastern entrance;
- exaggeration of the shifting plates;
- provide a full height screen on the north-eastern corner of the terrace of Level 5;
- provide a retractable folding glass wall on the western side of the terrace of Level 5; and
- provide perimeter fencing with a minimum 1.8m high balustrade.

These measures, along with the proposed mitigation measures outlined in the exhibited wind assessment, are expected by CPP to help improve wind conditions and to provide protection from adverse wind speeds.

5.4 Noise

Renzo Tonin and Associates have prepared an addendum acoustic letter to address the specific matters raised during the exhibition period (refer to **Appendix J**). The relevant matters which require assessment are outlined below.

Loading and Unloading

The Department requested clarification be provided on noise mitigation for loading and unloading activities, particularly for those activities occurring later than 10:00pm. As set out in **Section 2.0**, an amended servicing strategy is proposed which focuses The Darling Square loading/unloading activities within the North East Plot. As such, potential noise impacts which may have previously occurred are mitigated by locating the loading/unloading activities within an enclosed space.

Child Care Centre

Renzo Tonin and Associates have confirmed that an appropriate noise environment can be achieved within the expected child care centre in accordance with the provisions of the Sydney DCP 2012. The ceiling of Level 4 is proposed to be acoustically treated to ensure noise transfer does not occur from the child care centre to other uses. Furthermore, the provision of a 1.8m high balustrade around the external areas will improve the acoustic performance of the space when compared to the original assessment provided by Renzo Tonin and Associates.

Level 5 Bar and Restaurant Use

Further acoustic modelling of the Level 5 bar and restaurant use has been undertaken in light of comments provided during the exhibition period. Several design amendments have occurred to Level 5 to enhance the acoustic performance of this space. These amendments include:

- provision of a 1.8m high balustrade (previous assessments did not factor in any balustrade);
- centralised mechanical plant strategy and consolidated enclosed plant room; and
- reduced patron numbers due to replanning of the level.

Renzo Tonin and Associates have confirmed that the Level 5 bar and restaurant use will comply with the project specific noise criteria at surrounding sensitive receivers if a number of mitigation measures are incorporated. These measures include:

Operational management (to 10:00pm)

- Absorptive material is to achieve a minimum NRC rating of 0.9.
- Acoustically absorptive finishes should be applied to:
 - the entire surface area of the ceiling with the exclusion of kitchen and bathroom areas;
 - acoustically absorptive finishes should be provided to 50% of the internal wall surface area (such as kitchens and bathroom walls)
- 100% of the operable facade is able to be open with the implementation of sound limiting devices. If sound limiting devices are not implemented during detailed design, only 50% of the operable facade should be open.

Operational management (10:00pm - 11:00pm)

- Operable doors are to be fully closed and outdoor areas can be fully occupied with a maximum of 280 patrons.

Operational management (11:00pm-12:00am)

- No patrons are permitted in the external areas except for the designated smoking areas nominated in the Acoustic Letter (refer to **Appendix J**). All doors are to be fully closed. The external patron capacities within the smoking zones are to be limited to 32 patrons on the northern side and 20 patrons on the southern side. Doors leading to the external terraces are to be kept closed at all times except for egress/ingress of patrons.

Music noise monitoring and sound system limiting devices

- Where an in-house sound system is installed, the noise level should be controlled by an RMS compressor/limiter. Multi-band compression is recommended for greater control over frequency content. Alternative sound-pressure measurement/limiter devices are also available. Where different noise limits are to apply at different operating times, the device should include or support multiple time-based settings. The noise limits and setting of the device should be made during acoustic compliance testing by an appropriately qualified acoustic consultant in conjunction with the system engineer/technician.
- If entertainment is to require use of non-in-house sound systems, instrument amplification or acoustic instruments, the above mentioned sound system limiter will not effectively control internal noise levels. A permanent sound 'monitor' device is therefore recommended to be installed. Sound monitors continuously measure sound levels using a microphone and typically display coloured light or alternative indicators to notify operators and musicians if music levels are approaching or exceed the noise limits.
- Sound monitors can also include a cut-off mechanism, so that if music is continued to be played in excess of the noise limit music stops momentarily either through the removal of the source of power or the disconnection of the audio feed. Where different noise limits are to apply at different operating times, the device should include or support multiple time-based settings.

The Square

An updated Public Domain Plan of Management (PoM) has been prepared by Lendlease (refer to **Appendix O**). This PoM has identified additional management procedures to ensure noise associated with activities and events in The Square does not detrimentally impact surrounding sensitive uses. Section 2 of the PoM provides management measures for events held within The Square. These management measures include a mixture of techniques, including consultation, scheduling loading/unloading and monitoring of noise emissions.

It is recommended within the PoM that a detailed acoustic assessment be prepared and submitted to Place Management NSW (previously Place Management NSW) prior to any event being held. This acoustic assessment will be required to outline any specific mitigation measures which may be needed for the event.

5.5 Flooding

Additional flood modelling has been undertaken by Arcadis in light of the refined proposal, in particular with the changes to the public domain and levels across the SSDA10 Site (refer to **Appendix P**). This modelling identifies that the refined proposal of the public domain is unlikely to lead to adverse flood impacts to the neighbouring Pump House and Novotel Hotel or within the Darling Square precinct.

The refinements, however, result in a local increase in flood level of 20mm to 30mm. This increase is not considered by Arcadis to be significant and would not adversely impact the levels the adjacent buildings. In the worst event scenario, flood water entering The Square has been reduced, but flood levels in The Boulevard have been increased. This increase is minor and acceptable given the flood gate strategy employed in the adjoining development plots.

The flood modelling also identified a number of newly impacted areas outside the Darling Square precinct. These include public domain areas south of Chinese Garden, Darling Drive south and Hay Street Light Rail Corridor. The new flood levels in these areas is relatively small in magnitude and does not alter the hydraulic hazard category.

Arcadis has recommended the proposed pedestrian ramp be a lightweight structure to allow flood flow to pass underneath.

5.6 Heritage

Tanner Kibble Denton Architects (TKD) have prepared an addendum Heritage Impact Letter in light of the slight refinements to the proposal (refer to **Appendix Q**). Overall, TKD has determined that the refined proposal for The Darling Exchange and The Square is generally consistent with the approved Concept Proposal (as modified) and the exhibited proposal. Furthermore, the proposal can be supported in heritage terms for a number of reasons as set out in **Appendix Q**.

5.7 Archaeology

Casey & Lowe has prepared an addendum letter addressing archaeology impacts associated with the refinement proposal (refer to **Appendix R**). Casey & Lowe has determined that the refined proposal does not change the general quantum of impacts on locally significant archaeology previously assessed in the exhibited proposal. As such, the assessment and recommendations provided with for the exhibited proposal remain relevant.

5.8 Building Code Compliance

The following addendum reports confirm that the proposed development is capable of achieving compliance with the requirements of the Building Code of Australia (BCA) and other relevant codes and standards:

- Addendum Accessibility Report prepared by MGAC (refer to **Appendix K**);
- Fire Engineering Letter prepared by Defire (refer to **Appendix L**); and
- BCA Report prepared by McKenzie Group (refer to **Appendix M**).

6.0 Final Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 7** below. These measures replace those outlined in the original EIS.

Table 6 – Final Mitigation Measures

Mitigation Measures
Traffic Generation To alleviate any potential adverse traffic and pedestrian safety impacts during the construction period, TTM recommends that the following measures be put in place: ▪ Appropriate directional signage and traffic control be provided to ensure vehicles enter and leave the site with minimal disturbance to other road users and so they are advised of any changes in road conditions. ▪ Temporary road closures, single lane access and relocations during the construction period should be subject of coordination with the appropriate authorities. ▪ All traffic related issues and changes should also be presented to Stakeholders as part of the consultation process. These should, wherever and whenever possible, be carried out in non-peak periods. ▪ Risks to the public and the construction crew would be minimised through the implementation of the construction management plans specifically prepared for the SICEEP construction works of the PPP and Darling Square. The Plan will be regularly updated to address any new outcomes identified through constant monitoring as the works progress. A detailed traffic and pedestrian traffic management plan will be prepared and provided prior to the issue of the relevant Construction Certificate. Loading and Unloading A loading area management plan will be prepared to govern the management of practices for loading and unloading in the North-East Plot associated with The Darling Exchange and for loading/unloading activities in The Boulevard and Theatre Access Lane for special events in The Square. Accessibility In order to ensure equal access is provided throughout the proposed development, the detailed design of the proposal will need to ensure compliance with the relevant accessibility provisions of the BCA 2015. Non-Indigenous Heritage The Heritage Interpretation Strategy prepared by TKD Architects dated June 2013 should be incorporated into the detailed design of the SICEEP redevelopment. This Strategy has informed a Heritage Interpretation Plan for Darling Square which should be addressed in the detailed design of SSDA 10. Non-Indigenous Archaeology ▪ In order to minimise impacts to known and potential archaeological resources the following mitigation measures are proposed by Casey and Lowe: ▪ The current design does not impact on the c.1815 dam wall and therefore no mitigation is required. This should be reviewed at detailed design stage and impacts reassessed. During the detailed design stage, the impacts of the services in relation to the dam wall may be reduced but should not be increased. ▪ Archaeological excavation and recording should be undertaken prior to any proposed substantial impacts which will remove the resource or make it difficult to record in the future. The focus of archaeological mitigation is proposed to be where there are concentrations of impacts on potential remains or where there are extensive services below RL 2.0m, including: – Archaeological excavation and recording of the northern section of the services core and secant piled wall where they fall within areas of local significance;

Mitigation Measures

- Archaeological recording of archaeology within stormwater and sewerage lines;
- Archaeological recording in accordance with best practice standards;
- Undertake interpretation of the archaeology within Darling Square as part of the overall Interpretation Strategy for the precinct.
- The SSDA10 study area is completely within reclaimed land within the former Darling Harbour and therefore has no potential for Aboriginal archaeology. All testing and salvage for Aboriginal archaeology within Darling Square has been completed.
- The identified mitigation strategies should be incorporated into the Archaeological Research Design & Management Strategy required to guide any archaeological fieldwork, after appropriate consultation with the Place Management NSW and Heritage Division archaeologists.
- Review all impacts at the detailed design stage and reassess impacts.
- Where there are potentially significant impacts to archaeological remains, either local or State, archaeological recording will need to be undertaken in accordance with Heritage Council and Heritage Division guidelines and best practice methodologies.
- Write an Archaeological Research Design & Management Strategy to refine assessment of impacts, identify appropriate archaeological strategies and methodologies, and research questions to guide the archaeological program. This is to be informed by the detailed design and the impacts from the SEC.
- Place Management NSW should provide a repository for artefacts following the completion of the archaeological program.
- Public interpretation of the archaeology of State and local significance should be undertaken within the proposed redevelopment. This may include a mixture of opportunities for:
 - Exposure of surviving archaeology within the redevelopment, acknowledging the environmental constraints of such projects.
 - Interpretation of artefacts through site display.
 - Interpretation of the results of the archaeology program throughout the precinct.
- Where archaeological recording is undertaken within the North Plot and Darling Square the results of this will need to be included within an excavation report. It will be necessary to write an excavation report in accordance with Heritage Council guidelines and standard conditions of consent following the completion of archaeological investigations. This is to include:
 - detailed trench or area reports
 - overall excavation report
 - catalogue of artefacts and artefact reports
 - conservation of important artefacts
 - response to research questions
 - photo archive.
- Undertake consultation with Place Management NSW and Heritage Division archaeologists about the SSDA10 site's archaeological issues, approaches to in situ retention of the State-significant archaeology, and the Archaeological Research Design and Management Strategy.
- The recommendations of the Addendum Archaeology Letter should be considered throughout the project.

Mitigation Measures

Construction Noise

- Where possible, development should be staged so that structures provide acoustic shielding to sensitive receiver locations. Construct any solid site hoarding as soon as practical. Where possible, stationary equipment should be located to make most use of the solid hoarding. Barriers or enclosures around stationary plant should also be considered where it is required to be located in close proximity to sensitive receivers;
- Loading/unloading zones and stationary plant such as generators should where practicable be located away from the most sensitive receivers, in this case the Novotel;
- Use the quietest and least vibration emitting construction methods where feasible and reasonable;
- Only the equipment necessary for the construction works should be used at any time. Avoid any unnecessary noise when carrying out manual operations and when operating plant;
- Any equipment not in use for extended periods shall be switched off. For example, heavy vehicles should switch engines off whilst being unloaded;
- Alternative reverse alarm, such as non-tonal 'quackers' should be installed where feasible and reasonable;
- Inform community of construction activity and potential impacts; and
- Good relations with building occupants should be established at the beginning of the works and be maintained throughout the project, as this is of paramount importance. Keeping people informed of progress and taking complaints seriously and dealing with them expeditiously is critical. The person selected to liaise with the building occupants should be adequately trained and experienced in such matters.

Construction Vibration

- At the commencement of operation for each plant or activity on site, which has the potential to generate significant vibration levels, attended vibration monitoring should be undertaken so to refine the recommended minimum working distances set out in Table 31 of Appendix P and provide a site-specific table of minimum working distances.
- Where vibration is found to be excessive, management measures shall be implemented to ensure vibration compliance is achieved. Management measures may include modification of construction methods such as using smaller rock breakers, using alternative processes or establishment of larger minimum working distances.
- Carry out additional vibration monitoring when construction activities are at the nearest point to the nearby sensitive structures. This monitoring may signal to the contractor by way of a buzzer or flashing light, when levels approach/exceed the recommended limits.
- Before, during and after the demolition and construction stages it is recommended that a dilapidation report on the state of the existing buildings sharing the property boundary with the site be prepared.
- A vibration complaints management system should be established prior to the commencement of these works.

The Square

- It is recommended that a detailed noise management plan be prepared for operations to be carried out within The Square.

Road Traffic Noise

- It is recommended that further assessment should be carried out during the detailed design phase to verify the acoustic assessment against the development design.

Level 5 Bar/Restaurant Use

Operational management (to 10:00pm)

- Absorptive material is to achieve a minimum NRC rating of 0.9.

Mitigation Measures

- Acoustically absorptive finishes should be applied to:
 - the entire surface area of the ceiling with the exclusion of kitchen and bathroom areas;
 - acoustically absorptive finishes should be provided to 50% of the internal wall surface area (such as kitchens and bathroom walls)
- 100% of the operable facade is able to be open with the implementation of sound limiting devices. If sound limiting devices are not implemented during detailed design, only 50% of the operable facade should be open.

Operational management (10:00pm - 11:00pm)

- Operable doors are to be fully closed and outdoor areas can be fully occupied with a maximum of 280 patrons.

Operational management (11:00pm-12:00am)

- No patrons are permitted in the external areas except for the designated smoking areas nominated in the Acoustic Letter (refer to **Appendix J**). All doors are to be fully closed. The external patron capacities within the smoking zones are to be limited to 32 patrons on the northern side and 20 patrons on the southern side. Doors leading to the external terraces are to be kept closed at all times except for egress/ingress of patrons.

Music noise monitoring and sound system limiting devices

- Where an in-house sound system is installed, the noise level should be controlled by an RMS compressor/limiter. Multi-band compression is recommended for greater control over frequency content. Alternative sound-pressure measurement/limiter devices are also available. Where different noise limits are to apply at different operating times, the device should include or support multiple time-based settings. The noise limits and setting of the device should be made during acoustic compliance testing by an appropriately qualified acoustic consultant in conjunction with the system engineer/technician.
- If entertainment is to require use of non-in-house sound systems, instrument amplification or acoustic instruments, the above mentioned sound system limiter will not effectively control internal noise levels. A permanent sound 'monitor' device is therefore recommended to be installed. Sound monitors continuously measure sound levels using a microphone and typically display coloured light or alternative indicators to notify operators and musicians if music levels are approaching or exceed the noise limits.
- Sound monitors can also include a cut-off mechanism, so that if music is continued to be played in excess of the noise limit music stops momentarily either through the removal of the source of power or the disconnection of the audio feed. Where different noise limits are to apply at different operating times, the device should include or support multiple time-based settings.

Utilities

In light of the location of existing utilities infrastructure over the site and the nature of the proposed development, Hyder has concluded that Lendlease will be required to continue to consult with and obtain the necessary approvals from the relevant authorities and utility providers regarding the proposed Darling Square development.

Operational Waste Management

In order to appropriately manage and mitigate any adverse impacts arising from waste, the different components of the Waste Management Plan (and any revised/updated version of this plan) should be implemented into the operation of the proposed development.

Water Cycle Management

Flooding and Stormwater

- It is recommended that the finished floor level within The Darling Exchange is maintained nominally at RL3.6 to be above the 100 year flood level.
- The proposed pedestrian ramp be a lightweight structure to allow flood flow to pass underneath.

Mitigation Measures

Water Quality

To appropriately manage and mitigate stormwater runoff on the SSDA10 Site and achieve the established water quality targets, Hyder have recommended the following measures:

- Provide a 20m³ rainwater tank;
- Select and provide appropriate WSUD elements prior to the issue of the relevant Construction Certificate; and
- Implement appropriate sediment and erosion controls during the construction phase of the proposal.

Reflectivity

To ensure that there are no adverse impacts with respect to reflectivity and solar glare, Surface Design has recommended all façade surfaces are provided with a limit of 20% reflectivity.

Geotechnical Issues

Ongoing monitoring should occur and a suitable piled footing design should be adopted to transfer the building loads to the underlying bedrock.

Contamination

- Remediation and validation should be undertaken in accordance with the relevant parts of the RAP to ensure the North Plot is made suitable for the proposed use;
- If localised contamination presents a higher than expected environmental risk, or if unexpected contamination is discovered, then the Unexpected Finds Procedure, listed in the Site Specific Remedial Action Plan prepared by Coffey dated 13 January 2014 will be implemented to reduce such risk to an acceptable level; and
- A detailed acid sulphate soils management plan will be prepared generally in accordance with the Acid Soils Assessment and Preliminary Management Plan prepared by Coffey dated 11 March 2013.

Wind

The measured locations have satisfied the wind speed criteria established. Despite this, the following mitigation measures should be provided to enhance the amenity of the future environment in regards to wind:

- addition of an awning at the north-western entrance;
- addition of fixed umbrellas on the northern terraces;
- addition of an awning at the lobby entry of the building fronting The Square;
- addition of an awning at the south-eastern entrance;
- exaggeration of the shifting plates;
- provide a full height screen on the north-eastern corner of the terrace of Level 5;
- provide a retractable folding glass wall on the western side of the terrace of Level 5; and
- provide perimeter fencing with a minimum 1.8m high balustrade.

BCA

The detailed design of the development must ensure that the proposal complies with the applicable requirements of the BCA 2015 or appropriate alternative solutions should be developed and verified by a qualified BCA Consultant or Fire Safety Engineer.

CPTED

- CCTV cameras should be provided throughout the SSDA10 Site;
- Signage should be provided throughout the SSDA10 Site to promote way finding and prevent unauthorised access; and

Mitigation Measures

- The detailed design of The Darling Exchange should consider ways to minimise unintended consequences of noise travelling through the building.
- Design development should include a review of lighting, with an aim to reduce light spillage and ensure a coordinated approach to lighting.
- The future fitout of the childcare centre should consider the provision of CCTV cameras and emergency help points.
- CCTV cameras should be provided at the loading/unloading bays and these loading bays should be well lit and signage should be used to identify the function of these spaces.
- Plantings should minimise opportunities for concealment in or around low-trafficked pedestrian spaces;
- Allow at least a one (1) metre buffer between plantings and short-term parking zones;
- Mid-height shrubs or planting likely to encroach on seating or walled spaces should be avoided;
- Avoid mixes of mature low plantings with low canopy tree plantings, which may impact on sight lines;
- Provide adequate under-canopy sight lines;
- Limit bush and shrub cluster plantings to one metre high in and around gathering spaces;
- Numbered locations, such as seating and decorative furniture, will assist in identification in the event of a threat or incident and for maintenance.

Environmental and Construction Management

- Construction Traffic Management Plan to be included in tender documents for all works;
- Construction Traffic Management plan to form part of site induction package;
- Subcontractors / suppliers to submit formal delivery booking requests 5 business days prior to delivery. Predetermined routes and times shall be agreed as part of this process to ensure non congestion of traffic;
- Establishment of holding areas for urgent and emergency vehicles within the development site; and
- An Air Quality Management Plan and Air Quality Monitoring Program will be implemented prior to issue of a Construction Certificate detailing preventative and monitoring measures to minimise construction impacts on air quality.

7.0 Conclusion

The proponent, Lendlease, and its expert project team have considered all submissions made in relation to the public exhibition of the proposal. A considered and detailed response to all submissions made has been provided within this report and the accompanying documentation.

In responding and addressing the range of matters raised by the government agencies and authorities, Lendlease has sought to refine the project design. The refined proposal also captures changes made by the project team post exhibition. As outlined within this report, the analysis of the amendments to the proposed development confirms that all key elements of the proposed development as originally proposed and exhibited have remained unchanged.

Further and more importantly, the refined development does not substantially differ from the original publicly exhibited development proposal. To the benefit of the overall project, the environmental impacts of the amended development remain consistent with the original application and on balance deliver a project that results in an overall improvement to the originally publicly exhibited development (particularly in relation to loading/unloading and public domain considerations). The proposal has significant planning merits as it will:

- be a key component which will contribute in making Darling Square into one of Sydney's most innovative residential and working districts;
- deliver a truly unique building which achieves design excellence and provides a significant contribution to the Darling Square precinct;
- improve the accessibility of services and facilities in close proximity to residential accommodation and Sydney's CBD;
- provide complementary community and lifestyle uses within the new mixed use precinct;
- increase the general activity of the precinct by contributing to the achievement of an 18-hour day through providing a diverse range of services and facilities;
- significantly increase activation of the public domain, through the provision of an extensive market hall and retail pods within the public domain;
- deliver new community floor space, with the provision of a two level library (including IQ Hub space) and two level child care centre;
- create new jobs during construction and ongoing employment opportunities during the operational phase;
- deliver a new functional, vibrant, permeable and connected public domain which will be the heart of the Darling Square precinct;
- enhance the security and feeling of safety in the public domain; and
- contribute to repairing the urban fabric of this part of the City, restoring street grain and connectivity.

In conclusion, the construction and use of the Darling Exchange and delivery of The Square within Darling Square represents a key, and one of the final, components of the SICEEP urban renewal project that will have significant and long lasting public benefits for Sydney and NSW more broadly. The proposal comprises an integral component of the Darling Square precinct, in particular delivering an iconic building and new public domain features which will provide Sydney with a new publicly accessible and activated square. The overall proposal will deliver Sydney with a new vibrant mixed use neighbourhood along with significant improvements to the public realm, pedestrian connectivity and the delivery of a range of lifestyle and community uses.