DARLING HARBOUR LIVE

JBA

Response to Submissions and Amendments to Proposed Development

Sydney International Convention, Exhibition and Entertainment Precinct

Public Private Partnership Component

Submitted to Department of Planning & Infrastructure
On Behalf of Darling Harbour Live

June 2013 ■ 12811

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Date 28/06/2013

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Date 28/06/2013

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Public exhibition occurred in accordance with the requirements of the *Environmental Planning and Assessment Act 1979*.

Over 120 submissions were received in response to the public exhibition of the EIS, including submissions made by government agencies and authorities, independent bodies and the general public, as follows:

- Government authorities and agencies - 8;
- Independent bodies – 7; and
- Members of the public – 104.

The key issues raised in submissions (agency, independent bodies and the general public) can be broadly grouped into the following categories:

- Built form and urban design;
- Public domain, landscaping and functionality;
- Visual impact and view loss;
- Traffic, parking, transport and access;
- Pedestrian and cycle access;
- Heritage;
- Potential for retention of existing facilities; and
- Potential amenity impacts.

The proponent Darling Harbour Live and its expert project team have considered all issues raised within the submissions made pursuant to the requirements of the *Environmental Planning and Assessment Act 1979*.

A considered and detailed response to all submissions made has been provided within this report at Section 2.0 and further expanded upon within the accompanying documentation.

In responding and addressing the range of matters raised by government agencies and authorities, independent bodies and the general public, Darling Harbour Live has sought to refine the project design. The refined proposal also captures changes made by the project team post exhibition.

The nature and range of changes made post public exhibition of the EIS in relation to the core facilities and public realm include:

The Theatre

- Reconfiguration to the envelope and façade design of The Theatre
- Internal planning changes in response to revised Theatre design
- Adjustment to plant and services screening
- Re-allocation of parking spaces from the Exhibition Centre to The Theatre
- Amendment to the vehicle access arrangements for The Theatre
- Repositioning of the loading dock
- Repositioning of car parking from ground level to above loading dock

Exhibition Centre

- Re-allocation of parking spaces from the Exhibition Centre to The Theatre
- Minor amendments to the roof profile and treatment of the Exhibition Centre
- Minor adjustment of east elevation projecting boxes
- Revision to design of north-east entry
- Revised landscape levels and design to Tumbalong Place
- Widened Quarry Street Bridge and relocation of western staircase
- Adjustment to event deck design
- Minor internal planning and layout changes
- Western loading dock ramp adjustments to form and position

Convention Centre

- Revision of overall form and mass to reduce visual bulk and perceived height
- Introduction of greater articulation to the western and south facades
- Refinement of the roof to integrate plant and exhaust ducts systems
- Minor internal planning and layout changes
- Refinement of ground level planning to move facade back from the Woodward fountain

Public Realm

- Realignment to the paths across Tumbalong Green to reflect pedestrian desire lines
- Improved activation of key open spaces, including Tumbalong Place
- Developed design of Tumbalong Place
- Developed drop-off and taxi zone configuration to The Theatre
- Refinement and integration of the folded landscape along the Exhibition Centre
- Refinement to the design of the ICC steps

Section 3.0 and Section 4.0 and the accompanying documentation provide an analysis and assessment of the proposed changes and the refined project more broadly. In summary, the nature of the changes is considered to result in development that does not substantially differ from the original application that was publicly exhibited. Further, the environmental impacts of the amended development have been reduced from the original application. Where any changes have occurred to an aspect of an environmental impact as a result of the amended proposal, there is on balance an overall improved outcome that is achieved from the resulting amended development.

Final measures to mitigate the impacts associated with the refined proposal are detailed at Section 5.0.

In conclusion, the delivery for Sydney and NSW of new world class convention, exhibition and entertainment facilities will have significant and long lasting public benefits as detailed at Section 6.0.

1.0 Introduction

An Environmental Impact Statement (EIS) in relation to State Significant Development Application 1 (SSDA1) for the development of the Sydney International Convention Centre (ICC), ICC Exhibition, 'The Theatre' and associated public domain upgrades within the overall Sydney International, Convention, Exhibition and Entertainment Precinct (SICEEP) Project at Darling Harbour was publicly exhibited for a period of 44 days between 27 March 2013 and 10 May 2013 (SSDA 5752-2012).

In total, 120 submissions were received in response to the public exhibition of the EIS. This included submissions from government agencies and authorities, independent bodies and the general public, as follows:

- Government authorities and agencies - 8;
- Independent bodies – 7; and
- Members of the public – 104.

The proponent, Darling Harbour Live (DHL), its partners Lend Lease, Capella Capital, AEG Ogden and Spotless 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 DHL 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 issues raised by the various government agencies, independent bodies and the general public. Whilst the submissions received from agencies have been addressed individually, the submissions made by independent bodies and the general public have been dealt with on an issue by issue basis. This approach has been adopted due to the significant amount of repetition in the submissions as many covered similar issues / concerns, and/or were based on pro-forma submissions.

The key issues raised in submissions (agency, independent bodies and the general public) can be broadly grouped into the following categories:

- Built form and urban design;
- Public domain, landscaping and functionality;
- Visual impact and view loss;
- Traffic, parking, transport and access;
- Pedestrian and cycle access;
- Heritage;
- Potential for retention of existing facilities; and
- Potential amenity impacts.

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 tables at **Appendix A – Appendix G**.

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 has been prepared.

The revised plans include Architectural Drawings prepared by HASSELL and Populous, Public Domain and Landscape Drawings prepared by HASSELL, and Civil Infrastructure Drawings prepared by Hyder. It is noted that all not all of the originally submitted plans are proposed to be amended. A drawing schedule outlining those original and unchanged plans and new amended plans for approval and is provided at Section 3.0.

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

- Heritage Impact Assessment prepared by TDK;
- Services Infrastructure Statement prepared by Hyder;
- Built Form and Public Realm Report prepared by HASSELL and Populous;
- Event Management Plan prepared by AEG Ogden;
- Traffic and Transport Assessment Addendum Report prepared by Hyder;
- Waste Management Statement prepared by Waste Audit;
- Construction Management Plan prepared by Lend Lease Project Management and Constructions;
- Shadow Analysis Diagrams prepared by Arterra;
- Visual and View Impact Analysis prepared by JBA;
- Geotechnical Statement prepared by Douglas Partners;
- Façade Reflectivity Statement prepared by CPP;
- Wind Statement prepared by CPP;
- Flooding and Stormwater Statement prepared by Hyder;
- Supplementary Acoustic Report prepared by Acoustic Logic;
- Accessibility Statement prepared by Morris Golding Accessibility Consulting; and
- BCA Statement prepared by Steve Watson & Partners.

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 4 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 5.

This report should be read in conjunction with the EIS prepared by JBA, dated March 2013, as relevant.

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, government agencies and authorities, independent bodies and the general public during the public exhibition of the SSDA:

- Built form and urban design;
- Public domain, landscaping and functionality;
- Visual impact and view loss;
- Traffic, parking, transport and access;
- Pedestrian and cycle access;
- Heritage;
- Potential for retention of existing facilities; and
- Potential amenity impacts.

A response to each of the individual issues raised by submitters is provided in the tables at **Appendix A – Appendix G**.

An overview of the parties who made submissions, and their key concerns, is provided below.

Government Authorities and Agencies

As highlighted earlier in this report eight (8) submissions were received from government agencies and authorities in response to the exhibition of the EIS. Specifically, responses were received from:

- Department of Planning and Infrastructure;
- City of Sydney Council;
- Ausgrid;
- NSW Environmental Protection Authority;
- Office of Environment and Heritage;
- Sydney Harbour Foreshore Authority;
- Sydney Water; and
- Transport for NSW (incorporates Roads and Maritime Services).

It is noted that the Sydney Harbour Foreshore Authority raised no objections and had no issues or comments with regards to the proposed development. Similarly, whilst the Heritage Branch of the Office of Environment and Heritage provided comments and a series of draft conditions, it did not raise any objection to the development on heritage grounds.

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 – Appendix F**.

Independent Bodies

Seven (7) submissions were received from the following independent bodies in response to public exhibition of the EIS:

- National Trust;
- Australian Institute of Architects;
- Sydney Business Chamber;
- Docomomo Australia;
- Infrastructure Partnerships Australia;
- Australia ICOMOS; and
- Sydney Institute of TAFE.

The Sydney Business Chamber, Sydney Institute of TAFE and Infrastructure Partnerships Australia wrote in support of the proposal, noting that it will improve accessibility and economic growth.

The remaining four bodies raised concerns primarily relating to heritage and the architectural integrity of the existing buildings, as well as the need for additional justification prior to the demolition of the existing facilities.

Members of the Public

JBA has analysed the submissions received from the general public in response to the public exhibition. In summary:

- A total of 104 residential submissions were received. 102 submissions objected to the development and two were neutral / provided comment; and
- The large majority of submissions came from residents or owners in the Goldsbrough Apartments, with residents of the Bullecourt Apartments also making a number of submissions. Many of the submissions received from these buildings comprised pro-forma submissions.

Together these submissions raised a variety of issues including visual impacts, loss of views, pedestrian access, the design of the proposed development, the adequacy of existing facilities, the impact of the proposed development on nearby buildings and amenity impacts associated with the development.

2.1 Built Form and Urban Design

2.1.1 Issue

The Department of Planning and Infrastructure (the Department) did not raise any issues with respect to the proposed building form or design of the scheme, and only requested clarification around several minor matters (a response to these is provided at **Appendix A**). Similarly, City of Sydney Council only requested that the height of the Convention Centre be reduced where possible, and noted that the large metal and precast concrete surfaces (particularly on the western side of the facilities) require richer and more diverse materials and finishes.

Notwithstanding this, the various independent bodies, as well as the general public, raised a number of concerns in response to the proposed built form and urban design. Key concerns can generally be summarised as follows:

- A lack of creativity and distinctiveness, which will damage the aesthetic of the tourist area and should be designed to better reflect their setting;

- The development represents the overcrowding and overdevelopment of the area;
- The proposed Convention Centre is too large in comparison to existing development, and should be limited to the height of the existing centre;
- The loss of public open space, walking paths and water features; and
- Harbourside should be included as part of the project to facilitate a better design outcome.

In addition to the above, concern was also raised that the EIS did not include an assessment of the proposed ICC Hotel, limiting a holistic consideration of the proposal.

2.1.2 Proponent's Response

In addition to the issues raised, a number of amendments have been made to the core facilities. The revised design is shown on the Architectural Drawings, and in the Built Form and Public Realm Report prepared by Populous and HASSELL at **Appendix H** and **Appendix I** respectively.

ICC

In designing the original proposal, DHL has sought to minimise the height of the ICC, whilst ensuring that the design meets the INSW Brief and internal services requirements of the building. However, in response to concerns raised about the height of the building and its overall form and design, DHL has sought to minimise the perceived bulk and scale of the building by breaking down the building facades into three distinct sections, and providing greater building articulation. Further, greater articulation has been introduced to the western and south facades of the Darling Harbour Theatre to address concerns about the 'blandness' of these faces. The roof has also been refined to integrate plant and exhaust ducts systems to present a thorough and clean '5th façade' to the surrounding higher neighbours.

An artist's impression of the revised ICC is provided at **Figure 1**.

Figure 1 –Artist's impression of the revised ICC from Cockle Bay

ICC Exhibition

The ICC Exhibition has also been amended to address general concerns around the proposed built form and massing. Revisions include cladding to the upper level loading dock of the ICC Exhibition to introduce greater articulation and visual depth, and refinements to the cladding of the base to present a more engaging interface with the public realm.

An artist's impression of the revised ICC Exhibition is provided at **Figure 2**.

Figure 2 – Artist's impression of amended Exhibition Centre from Tumbalong Park

The Theatre

The Theatre has undergone a more holistic replanning, with a series of refinements to the overall form and mass to reduce the height of The Theatre roof edge along the western side. The cladding system to the 'solid' areas of the building has also been modified to introduce improved visual depth during the day through a play of light and shade offered by a 'perforate' cladding in some areas.

An artist's impression of the revised Theatre is provided at **Figure 3**.

Figure 3 – Artist's impression of the amended Theatre as viewed from Tumbalong Park

Summary

In addition to above, and in response to the concerns raised by the public, it is noted that:

- The architecture represents the site's function as Sydney's premier events, function and entertainment precinct. The design has been developed by an experienced and respected architectural team to provide a distinct and memorable scheme for the site.
- The development meets the functional requirements of the brief, whilst seeking to minimise the height and scale of the development wherever possible.
- The proposal provides for a built form which is appropriate to the CBD location of the site whilst also responding to local design drivers, and a public realm which responds to the diverse uses and needs for recreational space within the Sydney CBD and Darling Harbour tourism precinct.
- As noted above, efforts have been made to minimise the height of the ICC Convention Centre, and further measures have been taken to reduce the bulk and scale through articulation and breaking down the building facades. Further, the building has been designed to satisfy the requirements of the Infrastructure NSW (INSW) brief to deliver new world class entertainment, exhibition and convention precinct, and the facility's internal services requirements.
- The proposed facilities respond to the context of the site's position at the CBD-edge, within the Darling Harbour topography and within the context of surrounding buildings. Building heights within the site respond to the valley topography by maintaining the positioning of core facilities towards the western edge of the valley and by strengthening the character of the valley floor through public domain treatments and terracing landscaping up towards the ICC Exhibition.

- As demonstrated at Section 2.2 and 2.5, the proposal will result in an 20% (12,650m^2) increase in usable open space across the SICEEP precinct, and an extensive network of walking and cycle paths have been provided. The proposal also seeks to retain the Darling Harbour Water Feature (Woodward Fountain).
- Harbourside is on a long-term lease to a private investor, and was not part of the project site.

In response to the concerns about the exclusion of the ICC Hotel, it is noted that this does not form part of the PPP Site, or the subject SSDA. The impacts of the ICC Hotel will be considered as part of a separate SSDA for the hotel development. The Visual and View Impact Analysis submitted with the EIS provided a preliminary assessment of the cumulative visual and view impacts of the ICC Hotel. Similarly, the Transport and Traffic Assessment has considered the cumulative impacts of the development, including the ICC Hotel.

2.2 Public Domain, Landscaping and Activation

2.2.1 Issue

The Department raised several issues regarding the proposed public domain treatments, landscaping and activation. Specific concerns include:

- Clarification regarding the area of existing accessible open space and proposed accessible space for the site with a distinction between the extent of hard and soft landscaping;
- Clarification around the proposed changes to Tumbalong Park in terms of its location and configuration, including section plans showing any change in levels;
- Clarification around what type of 'retail' is proposed along The Boulevard;
- Consideration given to retail activation along the northern side of Tumbalong Place, and better retail activation along the northern side of the Entertainment Centre; and
- Clarification around the public use of the Event Deck, and whether it is limited to pedestrian access or if community uses are proposed outside of event mode.

The City of Sydney Council reiterated many of these issues. In particular, Council stated that:

- Active uses should be incorporated for at least 50% of the frontage of the Exhibition, Convention and Entertainment Centre to The Boulevard;
- The internal floor levels of the Convention Centre should be adjusted so to ensure that an active frontage is provided at the forecourt level; and
- The Event Deck should remain an open deck in perpetuity with scheduled community use including active recreation such as basketball courts. The green edge should be reconsidered including the commitment to maintain and mange it.

In addition to the comments above, both the Department and Council raised several questions around the details of the proposal which are addressed at **Appendix A** and **Appendix B** respectively.

A number of independent bodies and the general public also raised concerns about the treatment of the public domain. The Australian Institute of Architects stated that the urban design and public realm guidelines are insufficient, noting that the Government should have set urban design guidelines prepared by INSW and controls and designated public / private space. The general public also raised concerns around the loss of public open space and water features from within the precinct.

2.2.2 Proponent's Response

In response to the issues raised, HASSELL has prepared revised Public Domain and Landscape Drawings (refer to **Appendix J**), as well as a series of Public Domain, Landscaping and Activation Diagrams to assist with explaining key aspects and relationships of the public domain (refer to **Appendix K**).

Public Domain

In response to the Department's submission, DHL has quantified the existing and proposed areas of 'useable public space[1] across the precinct. As shown in **Figure 4** and **Appendix K**:

- Existing useable open space – 58,750 m^2;
- Proposed useable open space – 71,400 m^2; and
- Increase in useable open space – 12,650 m^2 or 20%.

These 'useable areas' have been calculated based on the following:

- Includes Tumbalong Green, The Boulevard, Haymarket Square, Macarthur Place, and new laneways and streets across the SICEEP site.
- Includes the 5,000m^2 Event Deck in the measurement as it is an important east-west pedestrian connection through the site. When the Event Deck is not being used for events, it will be an open space area available to the public during the day for a range of activities and will allow for the expansion of the types of events and activities that already occur in Tumbalong Park (such as community events, sporting activities, and cultural events).
- The folded landscape is included in the measurement as although some areas are too steep to be physically accessed, it plays an important role in generating the experience of space for the occupiable ramps, paths, balconies, and decks that traverse this landscape. It also adds to the general greenery and character of the Precinct.

[1] Useable public space measurement excludes road verges, roundabouts, traffic islands and back of house areas

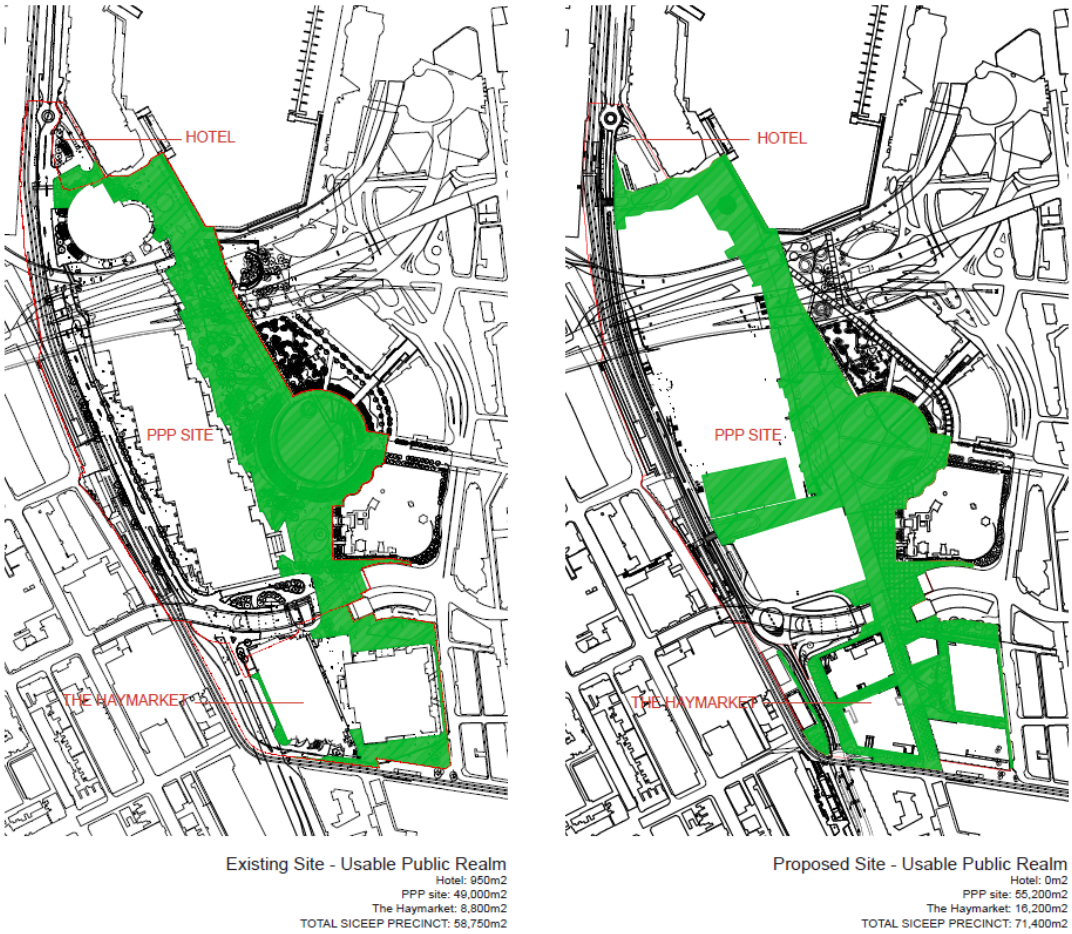


Figure 4 – Existing and proposed useable public space

Source: *HASSELL*

In addition, DHL has calculated the existing and proposed areas within Tumbalong Green (refer to **Figure 5**). They demonstrate that the turfed and staged area will increase substantially from approximately 8,000m^2 to 11,000m^2, an increase of approximately 27%. Further, the design of the space has been simplified and flattened to be more functional. Tumbalong Green will now be able to accommodate activities ranging from family picnics and social grass sports to theatrical and major festival congregations.

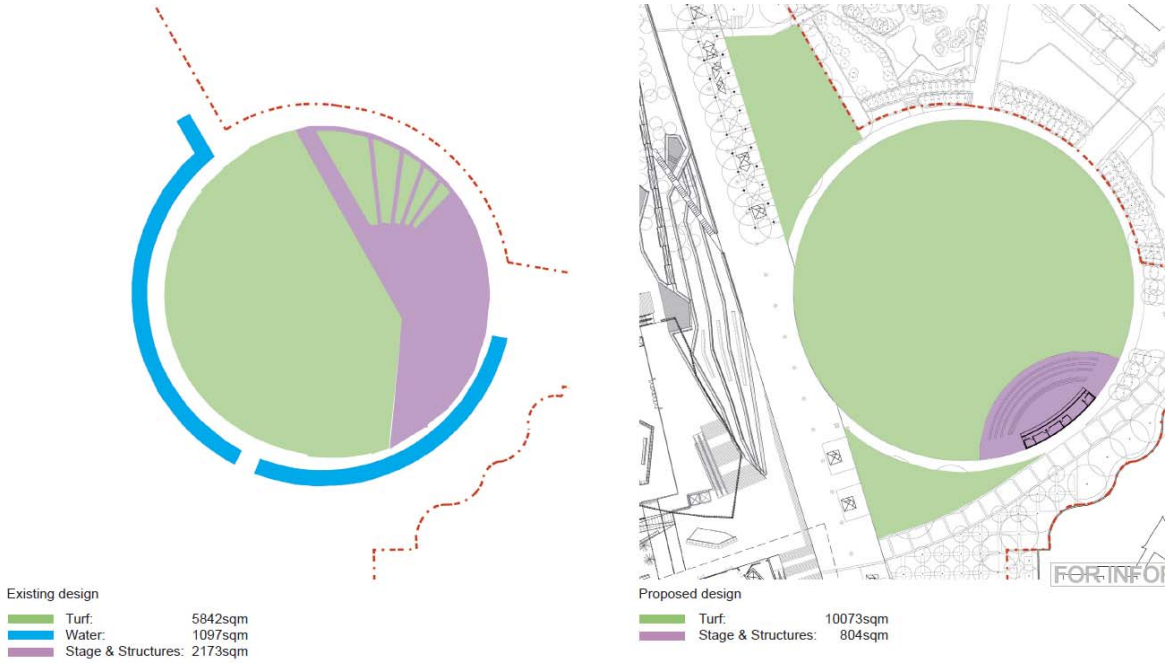
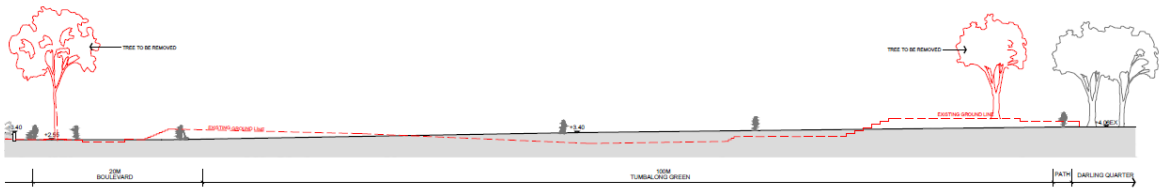


Figure 5 – Tumbalong Green – Area comparison

Source: *HASSELL*

Figure 6 details the proposed functional improvements to Tumbalong Green, and provides a section showing the proposed level changes.



Section: Tumbalong Green Level Changes

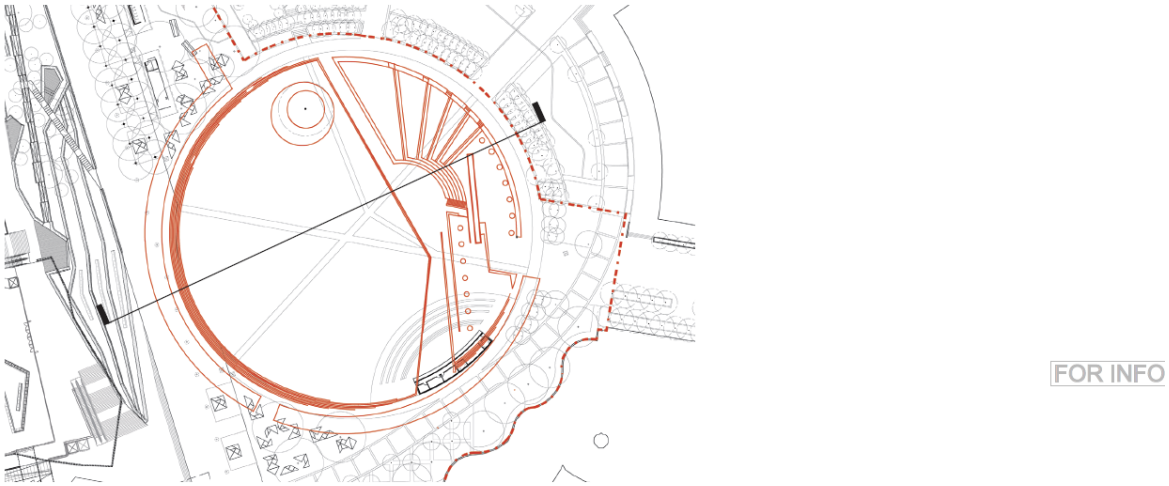


Figure 6 – Proposed changes to Tumbalong Green overlay

Source: *HASSELL*

Retail / Activation

In response to the requests for clarification around the type and extent of retail proposed, it is anticipated that the retail will predominantly comprise food and beverage offers with associated outdoor dining areas. The retail will be at grade level of the Boulevard and will be provided in the locations shown at **Figure 7**.

As shown in **Figure 7** active uses along The Boulevard have been considered holistically. More than 50% of the Theatre has retail frontage, a portion of the Terraced Landscape includes a retail space and around 50% of the ICC that addresses The Boulevard at grade is retail, including outdoor dining. In addition to the proposed retail activation, The Boulevard and edge areas includes a combination of other features including 'water-art', lawn terraces for sitting, interactive information and wayfinding kiosks, noodle markets, Chinese Garden Plaza festival space, half-court basketball facilities, amenities, picnic facilities and the multi-program Tumbalong Green, which includes gym facilities. A future proposal being considered outside of the subject DA boundary is the 'urban jungle', which would be a play zone for older children and young adults.

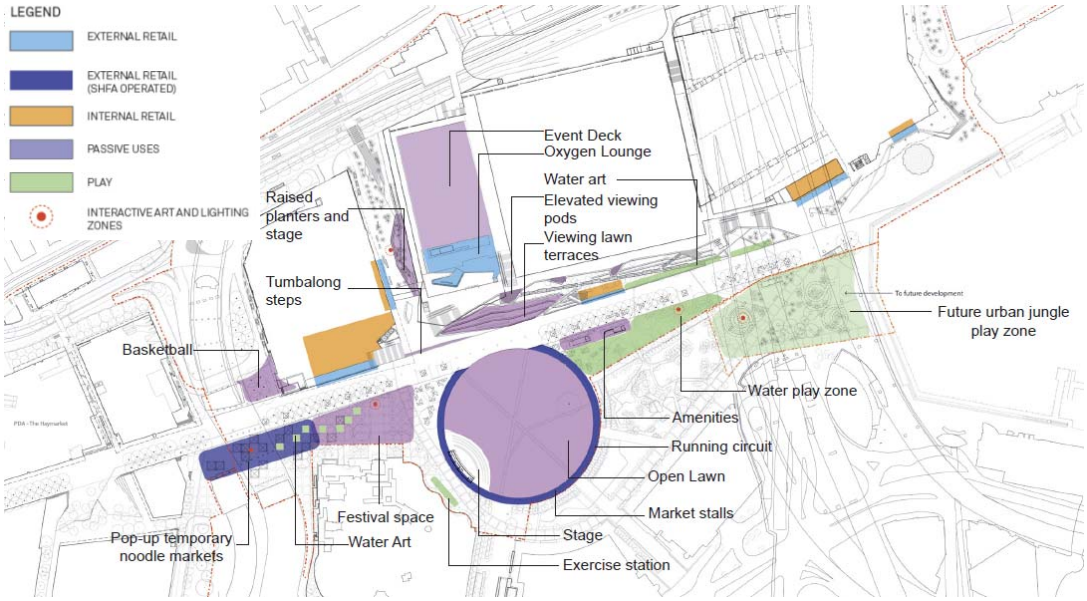


Figure 7 – The Boulevard activation, including retail locations

Source: *HASSELL*

Whilst the Department and the Council have requested that DHL give consideration to provision of retail space along the northern side of Tumbalong Place, as well as additional retail along the northern side of The Theatre, this is not DHL's intention. Rather, as shown in **Figure 8**, Tumbalong Place will be activated through raised seating terraces and outdoor performance spaces with further activation to include lighting and art along the northern face of the exhibition wall.

Similarly, the extent of retail along the northern wall of The Theatre has not been increased, primarily as a result of the replanning of The Theatre in response to other issues raised. In any case, it is anticipated that the retail tenancies on the northern side of The Theatre (fronting Tumbalong Place) will only operate when there is an event on, with the retail tenancies along The Boulevard operating during normal business retail hours.

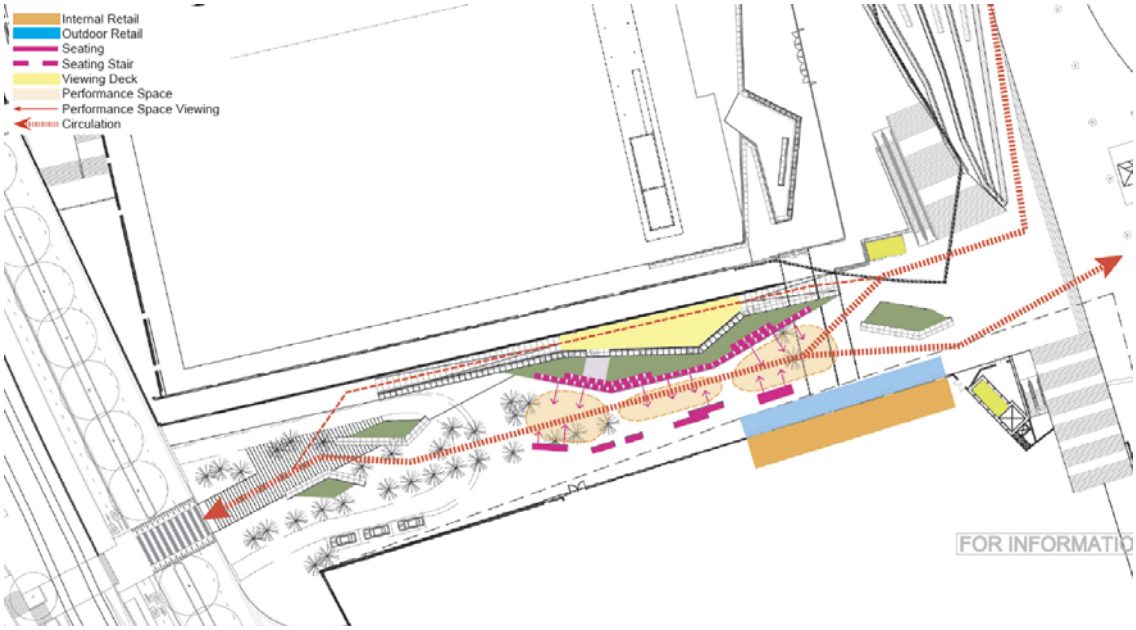


Figure 8 – Tumbalong Place activation plan

Source: *HASSELL*

The activation of the Convention Centre forecourt has also been considered, in response to Council's request that the floor levels be adjusted to ensure that an active frontage is provided. DHL note that the current level of the ground floor is RL3.4. This level is driven by the flood levels actually coming into Harbourside Place from Darling Drive with the highest level being at the north-west corner of the ICC. While the flood levels drop off further east, it is ideal that there is one continuous lobby at the same level without internal ramping. Further, the level must be slightly higher than the surrounding public realm along the east side to achieve the minimum 500mm freeboard which will result in some steps.

Notwithstanding this, DHL are verifying the flood levels in more detail to determine whether any further minor adjustments can be made to the ground level, however it is considered that there is value in a low level terrace as it provides informal seating opportunities within the public realm around the Woodward Fountain and slightly higher view lines to the Harbour and City above the passing crowds for outdoor dining outside the ICC.

Finally, with respect to the Event Deck, the questions around the proposed use of the space when not in use for schedule events, is outlined above. In addition to those comments, it is noted that the Event Deck will remain an open deck with temporary tent structures brought in when required for exhibitions (these will be removed at the end of these events). With respect to the management of the green roof, this will be maintained by the Operator / Facilities Manager.

Several of the public's issues have been addressed elsewhere. In response to the public's concerns regarding the sufficiency of the design guidelines, it is noted that INSW engaged Woods Bagot to prepare Urban Design Guidelines for the site. Woods Bagot is a highly reputable architectural firm, and the guidelines respond to the brief by balancing the financial, sustainability and operational requirements of the development.

With respect to the proposed loss of water features from the precinct, it is noted that it is unviable to retain the Urban Stream as part of the development, however it will be interpreted within the SICEEP Site as part of the implementation of the Heritage Interpretation Strategy. It is noted that the heritage listed Woodward Fountain, which is perhaps the most significant water feature within the precinct, will be retained as part of the development, with the revised scheme proposing an increased curtilage to the fountain to further enhance its appreciation.

2.3 Visual Impact and View Loss

2.3.1 Issue

It is noted that neither the Department nor City of Sydney Council raised any concerns regarding the visual or view impacts of the proposal.

The issues that were raised in relation to visual and view impacts came primarily from the general public, and in particular, residents of the Goldsbrough Apartments. Residents have raised concerns that the scale of the ICC, and the subsequent impact on views from east facing apartments, does not represent 'view sharing' and that views looking east and north-east from the Goldsbrough Apartments will be diminished by the proposed ICC, and significantly diminished by the proposed ICC Hotel. Views from Levels 5-7 will be removed, and views from Levels 8-12 will be reduced. It is noted that currently, from Level 5 upwards, there are panoramic views of the western CBD skyline, despite the view being partially obscured by the existing Convention Centre.

Subsequent issues are raised around the treatment of the ICC's western façade, with the metallic cladding of the western wall being 'unattractive and utilitarian'. Residents have requested that the western façade be more aesthetically appealing through the use of articulation and varied materials.

With respect to other views, whilst residents of the Bullecourt Apartments have acknowledged the inclusion of an event deck to mitigate against view loss, the erection of the marquee structure will counteract any positive outcome that the Event Deck has otherwise created.

2.3.2 Proponent's Response

A detailed Visual and View Impact Analysis relating to the proposed development was submitted as part of the EIS.

Seven key buildings in the vicinity of the SICEEP Site have been identified as being impacted or potentially impacted on by the SICEEP Project in terms of private views including the Goldsbrough Apartments, Bullecourt Apartments, Darling Court, Novotel Hotel and 18-20 Allen Street.

The March 2013 Visual and View Impact Analysis is in the process of being updated to reflect the amendments that have been made to the proposed development following public exhibition and will be provided under separate cover in due course (**Appendix L**). Key images that are specifically relevant to the proposed amended development will be reproduced to show the final design scheme. This will include 10 public domain images as well as a range of images of the development as viewed from the Novotel, 18-20 Allen Street, Darling Court, Oaks Goldsbrough Apartments and the Bullecourt Apartments. The relevant updated images are to be included at Appendices 1 and 2 to the updated report. Other images will remain as documented in the Visual and View Impact Analysis dated March 2013.

In summary, it is considered that the proposed PPP SSDA achieves a reasonable balance between the protection of private views and the protection of public domain views in the delivery of a new world class entertainment precinct on the foreshore of Darling Harbour.

Taking into consideration the overall SICEEP Project including the future ICC Hotel that will be the subject of a future SSDA, the development proposed as part of the PPP SSDA is acceptable in terms of visual and view impacts.

In response to the remaining concerns, the western façade of the ICC has been amended to introduce greater articulation, which will alleviate concerns about the 'blandness' of this façade. To further enhance views towards the site, the roof has been refined to integrate plant and exhaust ducts systems to present a thorough and clean '5th façade' to the surrounding higher neighbours.

With respect to the temporary Event Deck marquee, it is noted that the temporary marquee structure will sit well below the upper roof height of the ICC Exhibition and will continue to allow for views to the east. Further, views from the Bullecourt of the western elevation of the Exhibition Centre will be improved through greater articulation of the raised loading dock.

2.4 Traffic, Parking, Transport and Access

2.4.1 Issue

The Department, Council and Transport for NSW (TfNSW) raised a number of technical issues with respect to traffic, parking and transport as summarised below.

The Department has raised concerns around the geographic coverage of the traffic model undertaken, as well as the reduced width of Darling Drive and whether it has capacity to accommodate peak hour flows as a single lane road. The Department has also requested clarification around the provision for future public bus transport to service the precinct, and the details of proposed future consultation with various transport providers to reduce car use to and from the site. Finally, the Department has requested additional information regarding truck access out of the Exhibition Centre loading dock onto Darling Drive, and clarification around the location of taxi, coach and bus parking and VIP access areas.

Council's primary concerns with respect to parking, transport and access relate to the need to prepare a TMAP for the proposal, including further discussion regarding the available alternative transport modes and an understanding of the baseline, reasonable and stretched-targets for sustainable transport. Council also raised concerns relating to active transport, noting that further consultation is required with Council's Cycling Team to ensure all cycle connections are designed and built to match the existing and planned infrastructure.

Transport for NSW (TfNSW) has made a number of comments in relation to the proposal and have suggested several draft conditions. TfNSW has requested that details be provided about the measures proposed to encourage sustainable transport, including provisions for future bus services, as well as new cycling and pedestrian facilities.

TfNSW has also requested that additional details be provided around the cumulative impacts of the proposal with respect to major transport infrastructure projects in the area, including the CBD and South East Light Rail Project, Inner West Light Rail Extension, Monorail Removal Project and Wynyard Walk Project.

TfNSW has reiterated the Department's concerns about the changes to Darling Drive, and has raised a number of questions about the traffic analysis. In this regard, TfNSW has requested that Hyder to demonstrate (to the satisfaction of the RMS) that the base AIMSUN traffic model has been suitably calibrated and validated against all agreed key criteria within RMS's Traffic Modelling Guidelines-RMS 13.184. Further concerns have been raised about traffic generation more broadly, and pedestrian / motorist safety.

The various independent bodies and the general public also raised concerns around increased congestion and the reduced width of Darling Drive, as well as the inadequacy of parking and public transport facilities.

The Proponent's response to key issues is provided below. A detailed response to each matter raised is provided at **Appendix A**, **Appendix B**, **Appendix D** and **Appendix G**.

2.4.2 Proponent's Response

To respond to issues raised, and to provide an assessment of proposed modifications to the vehicular access and parking arrangements for The Theatre, Hyder has prepared a Traffic and Transport Assessment Addendum Report. Refer to **Appendix M**. The Traffic and Transport Assessment Addendum Report includes further technical appendices providing further information as follows:

- Technical Note 1 - AIMSUN Model Calibration and Validation as per RMS Guidelines
- Technical Note 2 - Darling Drive Traffic Assessment (Pier Street roundabout to Convention roundabout)
- Technical Note 3 - Modelling Results for Post Development Conditions Based on AIMSUN
- Technical Note 4 - Road Safety Audit of Darling Drive
- Technical Note 5 - Designer's Response to the Road Safety Audit

In summary, Hyder advises from an overall traffic and transport impact perspective that:

- The impact from the SICEEP development would not adversely impact the traffic performance of Darling Drive;
- Traffic related to the Theatre redesign would have the potential to marginally reduce the northbound travel speed on Darling Drive;
- The Theatre access car park off Darling Drive would not adversely impact the operation of the roundabout with Pier Street. Model forecasts LoS B at this roundabout;
- The results based on revised AIMSUN modelling do not change the conclusion drawn in March 2013 Traffic and Transport Assessment Report; and
- The redesign of the Theatre supports the need for the existing pedestrian crossing to be changed to a signalised crossing, which addresses safety concerns identified in the road safety audit.

On this basis, Hyder concludes that the revised Theatre car park access and egress design provides benefit to the users, does not adversely impact the traffic performance of Darling Drive and addresses pedestrian safety at the proposed pedestrian crossing at Tumbalong Place.

Geographical Coverage of the Model

Originally the geographic coverage of the AIMSUN Micro-simulation model was determined by Mott MacDonald as part of the assessment of the SICEEP development proposal. Hyder carried forward the AIMSUN model and updated it to support the environmental assessment of the SICEEP project. Hyder has re-assessed the geographic coverage of SICEEP for modelling purposes and found that the modelling study area coverage as included in the AIMSUN Micro-simulation model is fit for the study purpose and has advised that no further upstream intersections need to be included in the model in order to ensure that the traffic approach profiles are correctly represented at critical intersections.

Figure 9 shows key SICEEP development footprint and modelling study area coverage.

The following factors were considered in determining the adequacy of the geographic coverage used in the AIMSUN model:

1. Future Traffic distribution to and from SICEEP i.e:
   - North-south movement to and from the development has been captured by Darling Drive/Murray Street and Darling Drive/Ultimo Road intersections.
   - East-west movement to and from the development has been captured by Darling Drive/Pier Street and Harbour Street/Goulburn Street/Pier Street intersections.
   - North-south movement to and from the development has been captured by Harbour Street and Hay Street.

2. Potential impact locations. In general road network impact from the SICEEP project will decline with greater distance from the site. Additional traffic impact from SICEEP will be largely confined within the boundary of the modelling study area.

Calibration and Validation of AIMSUN Traffic Model

Hyder previously calibrated AIMSUN traffic model using the October 2012 counts. Further model calibration and validation has now been undertaken using new traffic data collected in June 2013. The June 2013 traffic data includes travel time, intersection turning movement counts and queue length at key intersections. The AIMSUN model has been calibrated and validated according to the RMS's Traffic Modelling Guidelines (RMS 13.184). Detailed model calibration and validation results were documented in Technical Note 1 and included as an Appendix A in the Addendum Report (refer to **Appendix M**).

Regarding GEH criteria, Table 3-1 in Technical Note 1 showed that Friday PM peak model achieved 88%. This meets the targets of 85%.

Hyder notes that the previous traffic model included a reference to Goulburn Street/Sussex Street and Sussex Street/Hay Street intersections. Both intersections are located within the study area boundary (see **Figure 10**). Hyder advises the left turn out of Sussex Street (southbound) into Goulburn St is being obstructed by existing congestion observed at the downstream intersection of George St /Goulburn St. Similarly the right turn traffic out of Sussex (southbound) does not clear up in each cycle time due to congestion from upstream intersection at Harbour St/Goulburn St.

Hyder confirms that the revised June 2013 model reflects existing traffic conditions of road and intersections contained within the model boundary showed by dotted line in **Figure 10**.

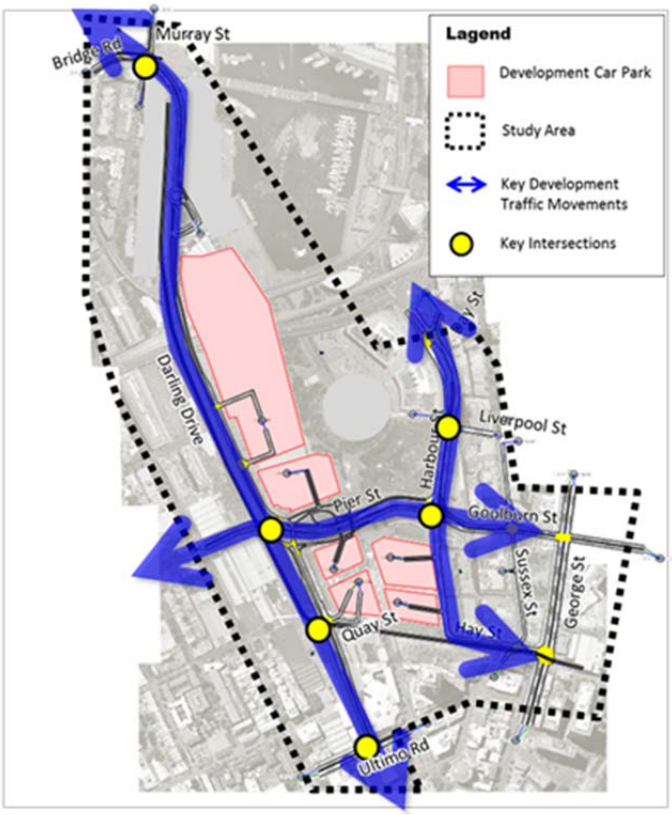


Figure 9 – SICEEP development footprint and modelling study coverage

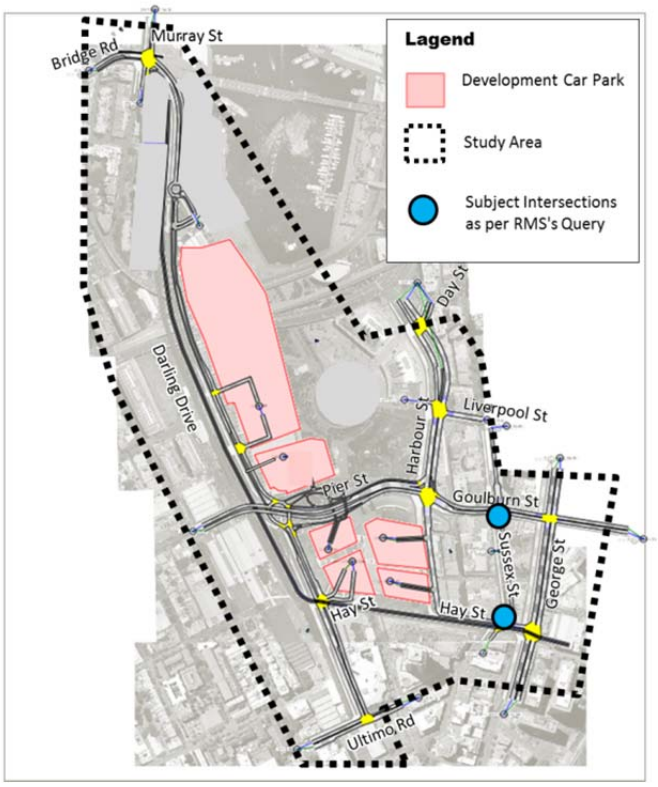


Figure 10 – SICEEP modelling study coverage and subject intersections

Darling Drive

Hyder has extended the AIMSUN model to incorporate the full length of Darling Drive. The model was extended from Quay Street to the Ultimo Road intersection. The Darling Drive/Ultimo Road intersection has been assessed for existing traffic conditions. The model shows a Level of Service (LoS) B for 2013 traffic conditions.

A detailed micro-simulation model was undertaken for Darling Drive to further investigate the likely impacts that the multiple access points and pedestrian crossing impacts may have on through traffic.

In the southbound direction, the scheme includes minor changes (from existing) in the access and pedestrian crossing locations. The modelling suggests that there will be a minimal impact in average travel speeds during the (critical) Saturday PM peak:

- The modelling suggests a minor decrease in average speed, from 34.9 km/h (existing) to 31.2 km/h in the southbound direction. The northbound average speed on Darling Drive (20.2 km/h) is within the range of speed being observed for existing condition (between 14 km/h and 35 km/h).; and
- The northbound traffic performance on Darling Drive is influenced by the "southern zebra crossing", located around 100 metres to the north of Pier Street. The modelling analysis has found that a two staged zebra crossing on Darling Drive would work for up to 250 pedestrian volumes in one hour. The model does not suggest queuing on Darling Drive with the Pier Street roundabout. Should pedestrian volumes at "southern zebra crossing" exceed 250, the modelling has identified the need for signalisation of this crossing.

Exhibition Centre Car Park Access

In the northbound direction on Darling Drive, a dedicated right turn lane is provided, with similar queuing storage to existing conditions. Hyder has assessed and confirmed that the proposed queuing arrangements in a north bound direction are satisfactory to accommodate expected demand, taking into consideration the location of boom gates etc.

In the southbound direction, a deceleration lane has not been provided. To avoid queuing on the southbound carriageway, the design will incorporate provision for cars to queue "on-site", prior to arriving at the barrier gates. The proposal will provide 4 boom gates on entry to the car park, in a layout similar to existing. The proposed car park will provide a reduction in parking bays from 753 spaces to 636 to suit finalised layout of the Exhibition Centre carpark. This reduction in cars has been accommodated in the Theatre carpark. Overall carparking numbers for the Core Facilities remain generally consistent with the original scheme.

Theatre Car Park Access

The Theatre is accessed from the southbound direction. In the southbound direction, a deceleration lane has not been provided. To avoid queuing on the southbound carriageway, the design incorporates provision for cars to queue "on-site", prior to arriving at the barrier gates. The proposal will provide 2 boom gates on entry to the car park. The proposed car park will provide 196 spaces.

The relocation of Theatre car park access off Darling Drive will increase northbound traffic on Darling Drive by 10% compared to the DA scheme. This will have the potential to marginally impact the northbound travel speed on Darling Drive. Model forecasts average travel speed at 17 km/h in the northbound direction. The northbound average speed on Darling Drive with revised Theatre access (17 km/h) is still within the range of speed being observed for the existing condition (between 14 km/h and 35 km/h).

The results of the modelling are detailed in the Addendum to the Traffic Report prepared by Hyder (refer to **Appendix M**).

Hyder has undertaken previous traffic studies within and around Darling Drive over recent years which indicate traffic levels have not significantly grown. As a result Hyder consider that there will be minimal growth within the next 5-10 years and this view has been supported by the City Of Sydney.

Public Bus Transport

DHL has consulted with Transport for NSW (City Transport Planning) on potential provisions for future bus transport services to the precinct. TfNSW confirmed a study is underway to investigate a Bus Servicing Strategy for the CBD, however TfNSW is unable to provide any further information until an announcement is made by government as to a preferred CBD Bus Plan in conjunction with the proposal for the George St Light Rail system.

DHL is committed to undertaking further consultation with the NSW Bus and Coach Association to ensure any future requirements are considered.

Cycle Connections

Proposed cycleways are shown on the Cycle Strategy Plan, and are further detailed in the Public Domain and Landscape Drawings and the Civil Infrastructure Drawings at **Appendix J** and **Appendix T**.

These Drawings also outline the locations for proposed bike parking within the Exhibition Centre carpark and Public Realm. Lockers and end-of-trip facilities will also be provided in the Exhibition Centre Carpark.

DHL also proposes to explore the viability of a bike hub to be located within the Precinct, although not the subject of this development application. This community infrastructure may offer service for bicycle riders and those interested in learning more about cycling and cycleways in Sydney. It will provide end-of-trip facilities to cyclists, including secure bike storage and amenities, and will create a community place for cycling commuters and visitors in Sydney.

Exhibition Centre Loading Dock

Trucks entering the lower and upper level loading docks of the Exhibition Centre are provided with a dedicated slip lane along Darling Drive. Trucks leaving the upper level loading dock will egress in the same direction of traffic as southbound traffic on Darling Drive, via a dedicated exit lane. Trucks exiting the lower level loading dock have to exit using both southbound lanes of Darling Drive. The majority of truck movements into and out of the Exhibition Centre loading dock facilities will be made between 6am and 7pm but may occur all night in some circumstances. It is noted the Exhibition Centre Loading dock will be able to operate 24/7 on a similar basis to the existing facilities.

The majority of truck movements into and out of the Theatre loading dock facilities will be made in–off peak times, during the night or very early morning.

A Safety Audit has been undertaken which confirms there are no safety issues in relation to truck movements entering or exiting the Exhibition Centre loading dock. The Hyder Addendum report outlines the swept path for trucks exiting the lower loading dock.

The swept paths of the trucks exiting the loading dock will be considered during the detailed design with regards to pedestrian safety.

Location of Taxi, Coach and Bus Parking and VIP Access Areas

DHL is providing taxi storage in line with the INSW Brief which requires a dedicated taxi zone of at least 20 spaces. Following consultation with the NSW Taxi Council, their initial indications suggested this was sufficient. During detail design, DHL will determine if additional taxi storage can be provided.

HASSELL has prepared a series of diagrams showing the location of taxi, coach and bus parking and VIP access areas. Refer to diagrams SK_PP_LA_2060, 2062, 2063 and 2065 at **Appendix K**.

DHL will provide sufficient patron storage around taxi zones and re-assess this during design development. As part of detail design, DHL will assess patron storage areas and provide a plan prior to the relevant Construction Certification stage

Cumulative Construction Traffic Impact

An assessment of cumulative traffic impacts is provided within the Traffic and Transport Assessment Addendum Report prepared by Hyder at **Appendix M**.

Construction works for the Inner West Light Rail Extension and the Monorail Removal Project are not anticipated to coincide with construction works in the associated area.

Hyder have considered information relating to construction routes for the SICEEP development program and other concurrent projects including:

- Global Switch (First Stage);
- UTS Chau Chak; and
- Wynyard Walk

Overall Hyder advise that no significant impact will arise as a result of cumulative construction traffic impacts of SICEEP with concurrent adjacent projects.

It is noted no information is currently available on the CBD & South East Light Rail Project.

INSW has been liaising with the TfNSW Monorail project team and measures are being undertaken to ensure the timing of the two projects are being coordinated. The current advice indicates removal of the monorail in the associated area will be completed by December 2013.

2.5 Pedestrian and Cycle Access

2.5.1 Issue

Both the Department and Council made a series of comments relating to pedestrian and cycle access in their submissions. An overview of their issues is provided below. A detailed response to each item is provided in the tables at **Appendix A** and **Appendix B** respectively.

The Department has requested that a detailed pedestrian network plan be provided showing connectivity between the precinct and the surrounding network. The Department has also requested further details around how pedestrian flows will be managed prior to and following large events, particularly at key pedestrian / vehicle conflict points along Darling Drive, and have asked for additional details to demonstrate that the size and scale of pedestrian paths across Tumbalong Green will be adequate to cater for projected volumes of people travelling to and from Town Hall Station during event mode. The Department also put forward various options for consideration for managing pedestrian safety and cycle / pedestrian / vehicle conflicts and requested further details around the interaction of these groups.

Many of these concerns, including the capacity of pathways across Tumbalong Green, were reiterated by Council. In addition, Council requested that the southern pathway around Tumbalong Green be given its own geometry, and be widened at The Boulevard to cope with likely pedestrian demands. Council also requested that the Pier Street underpass be transformed, stating that a design competition should be held in relation to the comprehensive refurbishment of the Pier Street pedestrian and vehicle underpass. Council also stated that the Convention Centre drop-off should be reconfigured to provide pedestrian primacy.

Council also made a number of comments with respect to bicycle parking and end of trip facilities, noting that:

- Bicycle parking and end trip facilities must be provided in line with the requirements set out for a convention centre in the NSW Planning Guidelines for Walking and Cycling;
- The bicycle parking spaces and end trip facilities must be visible and inviting, not just put in left over areas of car parks;
- Cycle parking should be accessible from both The Boulevard and Darling Drive;
- The Boulevard must be designed to accommodate cyclists and pedestrians over its entire length;
- All pedestrian connections through the site must be designed to be suitable for cyclists; and
- The cycle planning around the site must be reviewed to ensure that the DGR to provide a consistency with the City of Sydney Cycle Strategy and Action Plan 2007 – 2017 is suitably addressed.

Finally, a number of public submissions raised concerns over the removal of the current Convention Centre walkway, and the lack of any viable alternative public access. According to submitters, the existing overhead pedestrian walkway next to the Convention Centre monorail station represents the easiest and safest walkway to enter the Darling Harbour precinct from the western side, and its removal will affect residents of the Goldsbrough along with members of the public using the car parks on the western side of Darling Harbour, and residents / workers in surrounding buildings.

The submissions noted that the alternative link from the Western Distributor is not a convenient alternative to what is currently there.

2.5.2 Proponent's Response

Pedestrian Access

HASSELL has prepared a series of diagrams addressing the pedestrian accessibility issues raised by the Department. A full set of diagrams is provided at **Appendix K**. **Figure 11** shows the various pedestrian connections across the site and to surrounding areas, demonstrating an appropriate level of accessibility and connectivity with surrounding pedestrian networks. The proposal greatly improves the east-west connectivity into the precinct, and a footpath has not been provided along the eastern side of Darling Drive as it is not DHL's intention to promote north-south access along the eastern side of Darling Drive.

The connections through the Haymarket precinct are not the subject of this development application and will be covered in the subsequent detailed development applications.

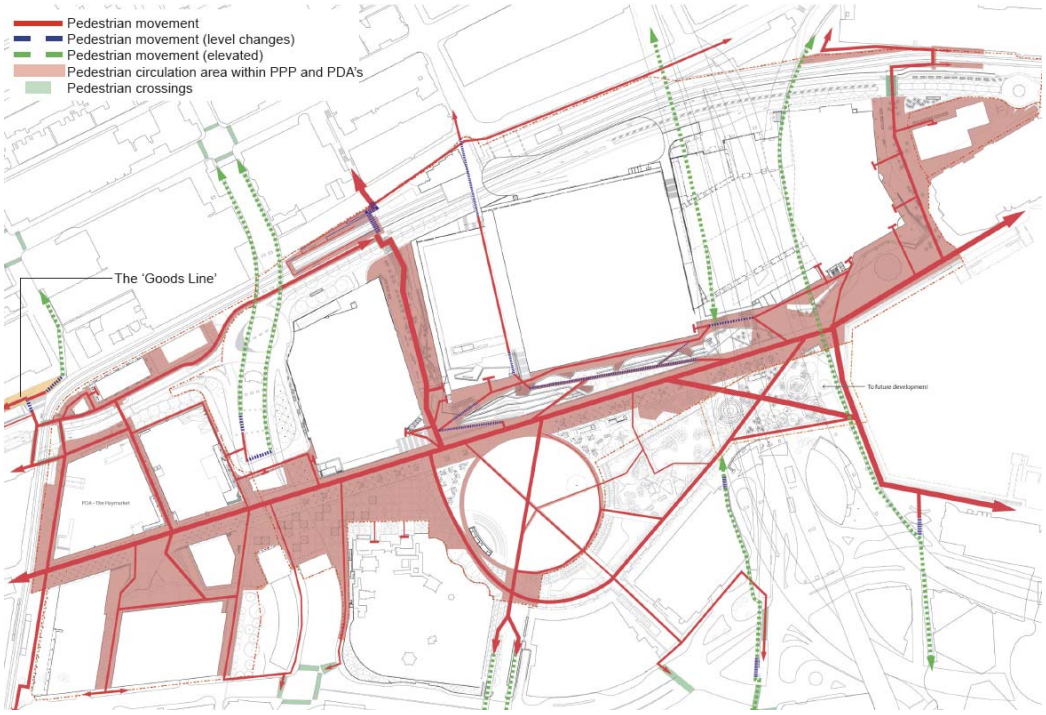


Figure 11 – Pedestrian networks

Source: *HASSELL*

The footpath alignment and pathway geometry in and around Tumbalong Green has been amended to address the concerns raised by the Department and Council, as shown in **Figure 12**. Whilst DHL has considered widening the paths to cater for people movements in large events, this would change the character of the Green, and would mean that it was defined by the paths instead of green space which is its primary role. Further, it is considered that primary pedestrian movement from Town Hall into SICEEP will also include the significant circulation zones around Darling Quarter and the Chinese Garden, and not just Tumbalong Green in isolation. As a result, it is not considered necessary to widen the paths for events.

Figure 12 – Tumbalong Green pedestrian networks

Source: *HASSELL*

With respect to the Pier Street underpass, DHL are proposing to provide a design treatment to the underside of Pier Street, for the width of The Boulevard only. This will form part of the precincts' Art and Interpretation Strategy at detailed design stage.

In response to Council's concerns about the Convention Centre drop-off and the need to provide pedestrian primacy, it is noted that in order to meet the INSW Brief DHL are required to provide an 'all-weather' drop off adjacent the entry. The design intent is for this space to read as a continuous pedestrian zone, similar to a Hotel porte-cochere. To strengthen the pedestrian nature of the zone, kerb and gutter is not proposed to be adopted in this area. The ICC drop-off is shown at **Figure 13** and **Figure 14**.

Figure 13 – Convention Centre drop-off

Source: *HASSELL*

Figure 14 – Artist's impression of revised Harbourside Place

In response to the public's concerns around the removal of the Convention Centre walkway (noting that its removal is actually part of the monorail removal program being undertaken by the NSW Government), it is noted that following the removal of the pedestrian overbridge over Darling Drive, pedestrians will continue to be able to traverse from Darling Harbour to Pyrmont via a number of existing pedestrian routes in close proximity, including:

- Harbourside/Novotel Car Park pedestrian bridge – 130m to the north;
- Pyrmont Bridge – 300m to the north; and
- ICC Exhibition/Western Distributor/ Fig Street pedestrian overbridge – 180m to the south.

Whilst it is DHL's preference for pedestrian movements to be on-grade, the proposal includes the construction of a new pedestrian overbridge between Quarry Street and the Event Deck, providing additional pedestrian connectivity to and from the SICEEP site. In light of the proximity of existing pedestrian connections, and the provision of a new pedestrian connection to the south, it is considered that pedestrian connectivity will not be significantly impacted by the removal of the Convention Monorail Station pedestrian overbridge.

Bicycle Access

In response to the Department's concern, a detailed cycleway plan has been prepared to show the location of the proposed cycle path and where it connects to the existing cycleway network, as well as pedestrian crossings and paths and vehicular entry / exit points (refer to **Figure 15**). DHL will continue to work with INSW, Council and SHFA through the detail design stage to ensure resolution of potential conflict points.

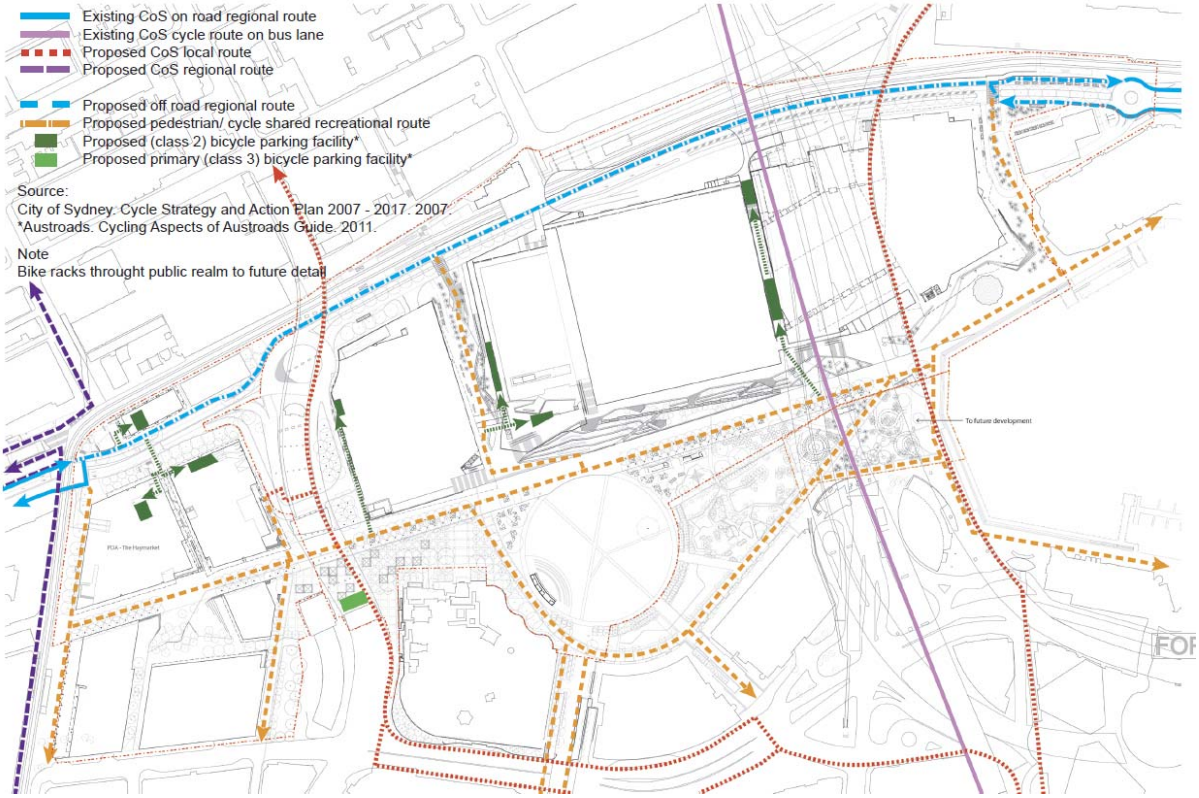


Figure 15 – Cycle strategy

Source: *HASSELL*

The allocation for bicycle facilities has been considered throughout the design process. The allocation of public bicycle facilities is located within the RL2.5 Car Park situated below the Exhibition Centre building. DHL anticipated that approximately 200 bicycle spaces will be provided in this location, with an allocation of 90m^2 for end of trip facilities including showers and lockers. These spaces are also intended for staff use, to be used in conjunction with other staff facilities in the core facilities. This includes approximately 20m^2 of bicycle storage space for staff within The Theatre.

In addition, and in response to the issues raised by Council:

- The bicycle parking spaces and end trip facilities will be integrated with the car parking entries. Appropriate signage will be provided directing riders to these facilities;
- Access to the facilities will be via the car park entries which can be accessed from both Darling Drive and The Boulevard;
- Consideration has been given to SHFA's policy to accommodate cyclists and pedestrians on The Boulevard, and not providing formalised zones; and
- DHL does not intend to change cycle routes outside SICEEP boundary.

2.6 Heritage

2.6.1 Issue

Neither the Department nor Council raised any issues around heritage. Similarly, whilst the Office of Environment and Heritage did not raise any objections to the proposal on heritage grounds, it requested that a Heritage Interpretation Strategy be prepared for the SICEEP site.

Notwithstanding the above, several of the independent bodies, as well as members of the public, raised concerns regarding the potential impact of the proposal on surrounding buildings (in particular views towards the Goldsbrough Building from Darling Harbour) and the need to consider non-statutory listed items within and around the site.

2.6.2 Proponent's Response

In response to the issues raised, TKD Architects has updated the Heritage Impact Statement (refer to **Appendix N**) and has prepared a Heritage Interpretation Strategy for the SICEEP site (**Appendix O**).

The revised Statement of Heritage Impact addresses the issues raised in the submissions. The revised Statement reiterates that the heritage assessment has only taken into account impacts on heritage items that are included in statutory lists. Although the Exhibition Centre and Convention Centre have been assessed as having heritage significance by the Australian Institute of Architects and the National Trust of Australia, they do not constitute items of "State heritage significance" or "local heritage significance" as defined by section 4A of the *Heritage Act 1977*. Accordingly, the Exhibition Centre and Convention Centre should not be assessed as such for the purposes of any relevant development application pursuant to the *Environmental Planning and Assessment Act 1979*, and so the Statement does not include an assessment of these buildings. The Statement confirms that the Heritage Council has declined to list the Convention and Exhibition Centre.

The Statement acknowledges that a section of the Darling Harbour Rail Corridor is included in the SICEEP boundaries, and is listed on the SHFA Section 170 Heritage and Conservation Register. The Statement confirms that impacts on the Darling Harbour Rail Corridor will be limited. Although the heights of the proposed ICC, ICC Exhibition and Theatre will be greater than the existing Convention, Exhibition and Entertainment facilities, they are comparable in scale to existing development on the western side of the Rail Corridor.

The Statement notes that the loading dock associated with the Exhibition Centre and the Quarry Street link will have some visual impact on the Rail Corridor because they extend over part of it. However, this is limited in extent and will not physically damage the fabric of the Corridor. Further, it is understood that historically the Rail Corridor has been partially enclosed by large structures, and that infrastructure associated with the Monorail protrudes to a greater extent than the structure of the proposed loading dock. As the Monorail and associated infrastructure will be removed (by others) the impacts of the loading dock will be off-set. The Rail Corridor is also crossed by various road bridges and pedestrian links to the Novotel on the western side of the Rail Corridor.

Finally, TKD notes that the setting of the Rail Corridor itself will be generally enhanced and upgraded through landscaping works, and that publicly accessible views, interpretation and understanding of the Rail Corridor will not be affected.

With respect to heritage items surrounding the site, TKD Architects confirm that the curtilage around the items will remain unchanged. All heritage items, both on the site and adjacent to it, will retain their visual integrity and the interpretation of their heritage significance will be unaffected. Whilst the setting of the items on the western side of the PPP site (the Sewage Pumping Station and the Rail Corridor) will be affected to some extent because of the scale of the new buildings, the proposal is consistent in scale with historically significant development such as the Powerhouse Museum and the Goldsbrough Apartments, and with recent residential development on the western side of the Rail Corridor.

The Heritage Interpretation Strategy covers the whole of the SICEEP site, and represents the first stage of the interpretation planning for the site. The second and third stages will comprise the preparation and implementation of the Interpretation Plan. The requirement to prepare and implement the Interpretation Plan (based on the Interpretation Strategy) is reflected in the Mitigation Measures at Section 5.

The scope of the Interpretation Strategy is to:

- Identify the themes and messages considered significant to the SICEEP site;
- Develop a conceptual approach to the interpretation of the SICEEP site, using a variety of means;
- Proposes location for specific interpretation to enhance the understanding of the heritage significance of the SICEEP site; and
- Recommend methods and media appropriate to the interpretation of the SICEEP site.

The Interpretation Strategy identifies a number of key themes for interpretation, including:

- The first people, and European settlement;
- The industrial revolution in Sydney;
- Innovations in refrigeration, galvanising and food processing;
- Darling Habour's ships, shipbuilding and wharves;
- How roads, rail and shipping connected Darling Harbour to the world;
- Jobs and working conditions during the industrial years;
- The poor living conditions around Darling Harbour, and the impact of the bubonic plague;
- How Darling Harbour changed during the world wars and the Great Depression; and
- Darling Harbour's transformation from port and industrial area to leisure and tourism precinct.

The Strategy outlines options for the interpretation of each of these themes, including:

- Installation of public art;
- Use of way finding media;
- Development of a naming strategy;
- Use of interpretive signs and installations; and
- Display of archaeological remains.

The second stages of the interpretation strategy will be developed concurrently with the design development and documentation of the public domain. A separate Interpretation Plan will be developed, as required by the Heritage Branch, for the PPP Site and The Haymarket respectively. The Interpretation Plan will be guided by the Heritage Interpretation Strategy at **Appendix O** to ensure that all opportunities for the site interpretation are explored and to ensure that it is fully integrated with the site's development. The requirements of the Heritage Interpretation Strategy are reflected in the Mitigation Measures at Section 5.

2.7 Potential for Retention of Existing Facilities

2.7.1 Issue

Whilst the Department did not raise any concerns regarding the demolition of the existing facilities, the potential to retain and adaptively reuse the existing facilities was raised by the City of Sydney Council, and was reiterated by a number of the independent bodies, as well as the general public.

2.7.2 Proponent's Response

DHL has given significant consideration to the functionality and adequacy of the existing facilities. As part of these investigations, a number of parties provided input in order to determine what parts of the facilities to retain and what parts to demolish. This included events organisers, architects, construction and maintenance contractors.

The Sydney Convention and Exhibition Centre (SCEC) facilities were constructed in the 1980s as part of the regeneration of Darling Harbour for the Bicentennial. The facilities were leaders in the Australian convention and events industry in the late 1980s and have successfully served their purpose for a number of years. Their very success and industry recognition has set a very high bar which itself has led to the need to upgrade the facilities, that now have functional limitations which impede their ability to service the contemporary exhibition and convention industry. Sydney's ability to attract and host international and national business and industry leaders is a key driver of economic value to the State. Internationally, there has been substantial investment in convention facilities, and Sydney needs to respond to these substantial improvements if it is to realise its full potential in the convention and exhibition market and position itself as a premier location to host international conventions in the Asia Pacific region.

The SCEC facilities, and in particular the Sydney Exhibition Centre, are both recognised as having architectural significance. The Convention Centre was designed by John Andrews, an Australian architect who has designed many prominent buildings in Australia, Canada and North America. Whilst the building has not received any architectural awards, the Convention Centre was Andrews' last major work in Sydney, and has been praised for its response to the Western Distributor. The Exhibition Centre building was designed by architectural firm Philip Cox, Richardson, Taylor & Partners and has a unique appearance with masts and structural cables supporting the roof. The Exhibition Centre has won several major architectural awards including a Sulman Medal in 1989, as well as being a finalist in the Institute of Architect's national Sir Zelman Cowan Award and receiving a Certificate of Merit at the 1988 Quaternario Awards.

Whilst the existing facilities have several key benefits, including the premium location, City views and the Centres' strong collection of modern art, these features will be enhanced as part of the proposed redevelopment and are transferrable into the new facilities. Further, there will be an interpretation strategy incorporated within the new buildings to acknowledge key features of their predecessor facilities. The existing Convention Centre and Exhibition Centre have a number of limitations which cannot be readily overcome without being redeveloped. These include:

- The existing SCEC cannot meet current levels of market demand, leading to lost business opportunities.
- The SCEC lacks the functionality and flexibility found in state of the art facilities.
- The SCEC will require significant expenditure to address lifecycle issues in the coming years.
- The ageing facilities will progressively not be able to meet the technical and aesthetic standards required by international delegates and will require substantial lifecycle and maintenance investment.

These, and other key considerations, are addressed in detail below.

Consistency with the Aims of the Darling Harbour Development Plan

Development in Darling Harbour is governed by the Darling Harbour Development Plan (DHDP). The objects of the plan are outlined below:

(1) The objects of this plan are:
(a) to promote the development of the Darling Harbour area as part of the State's Bicentennial Program,
(b) to encourage the development of a variety of tourist, educational, recreational, entertainment, cultural and commercial facilities within that area, and
(c) to make provision with respect to controlling development within that area.

(2) The means whereby this plan aims to achieve its objects are:
(a) by providing that certain kinds of development may not be carried out in the Darling Harbour area otherwise than in accordance with the terms of a permit,
(b) by prohibiting all other kinds of development within that area, and
(c) by ensuring that the controls that apply in that area in relation to the carrying out of development apply also in relation to the demolition and renovation of buildings and works.

The current facilities were designed and constructed to accommodate the 1988 Bicentennial Celebrations, consistent with the objectives of the DHDP. The facilities were designed and constructed in a relatively short period of time, with the key focus being to meet industry needs in time for the celebrations, rather than the long-term needs of the Precinct and the developing industry. The design also addressed the Pyrmont / Ultimo urban context of the time.

The DHDP seeks to encourage development for tourist, educational, recreational, entertainment, cultural and commercial facilities within the area. The DHL proposal is consistent with this aim and will ensure that appropriate facilities shall be provided in the Darling Harbour Precinct. As noted above, the key benefits associated with the existing facilities will continue to be available to the public in the new development, with the public benefiting from newer and more functional facilities, consistent with the provisions of the DHDP.

Limitations of Existing Facilities

As noted above, the key issues with the existing facilities include restricted functionality, limitations on capacity / inability to meet market demand and inadequate loading and unloading facilities. These matters are addressed in-turn below. Both the Convention and Exhibition Centres were built to serve the needs of the industry at the time they were constructed, and some aspects are no longer functional or practical.

Compromised Functionality – Sydney Convention Centre

The Sydney Convention Centre comprises two elements, the Bayside (circular structure built in 1988) and Parkside (structure under the freeway built in 1999). The two components of the Convention Centre present the following functionality issues:

Bayside:

- All room spaces within the Bayside are either semi-circular or curved, which are very inefficient in terms of yield and functionality when compared with contemporary convention centre design, which is typified by column free, properly proportioned rectangular spaces.
- Most meeting rooms have no back-of-house service capability and have minimal pre-function space.
- There is very little storage capability, and there are a limited number of back-of-house lifts in the Convention Centre resulting in problems when breakdowns occur.
- The Auditorium's performance capability is not optimal due to its small backstage area and no discrete loading capability.
- The Exhibition Halls are disjointed from the convention facilities in the Bayside.

Parkside:

- Most spaces within Parkside are generally rectangular in shape, however, the proportions of some of the Meeting Rooms spaces are not optimal, and some have columns.
- Hall 6 is irregular in shape, which makes it approximately 25% less efficient for exhibitions than a contemporary, rectangular space of a similar area.
- The former administration offices were absorbed in the 1999 Parkside expansion, meaning that meeting rooms have very low ceiling heights and limited popularity. Further, senior and middle management are located in a new office building in the Accor car park across Darling Drive.
- There is very limited storage in the Convention Centre, with the majority of stores maintained in the car park under the Exhibition Halls. Exhibition Hall 5 is also commonly used for overflow storage.
- The production kitchen is located in Parkside, and is small by contemporary standards with no pastry kitchen or storage areas. The kitchen also acts as a thoroughfare for staff, representing a poor OH&S outcome.

Compromised Functionality – Exhibition Centre

The Exhibition Centre was constructed in 1988, and now has the following functionality issues:

- The Exhibition Hall concourse and foyers are quite narrow by contemporary standards, and are made more difficult by the off-set nature of each Exhibition Hall.

- Public catering areas are located in only 4 of the 5 main Halls, and although recently updated, are still limited in size as they require lettable client space to be taken for seating areas.
- The original Exhibition Centre loading dock is inefficient due to its size, irregular shape and column obstructions which results in a very limited number of trucks being able to utilise it during events. These issues also impact the safety aspects within the dock surrounds.
- Due to the creation of the Convention Centre Parkside, the loading dock waiting area that was previously utilised for trucks and deliveries has been eliminated, which now allows only one truck to be unloaded concurrently in each Hall.

Capacity Limitations
The current facilities suffer from capacity constraints that have resulted in over 150 conventions and exhibitions being turned away over the last four years. These constraints extend beyond the convention and exhibition areas to spaces for back-of-house activities (such as kitchens and materials handling) which are cramped, aged and inefficient. The existing design of the Exhibition Centre building has minimal expansion space to cater for industry expansion.

The existing facilities suffer from a number of functional inflexibilities such as poor integration between the Exhibition Centre's Halls and the Convention Centre and the staggered layout of the Exhibition Halls. The capacity of the Convention Centre is also constrained in terms of the maximum size of the convention and exhibitions that it can host.

The facilities are also now smaller than those in many other Australian capitals, including Brisbane and Melbourne. The new facilities will increase the overall area of the Convention and Exhibition Centres with substantially larger loading dock facilities and foyer areas.

Inadequate Loading and Unloading Facilities
Event organisers have rated the loading dock at the SCEC as one of the worst in Australia, noting that it operates well below its potential due to the inadequate loading area, the configuration of the loading spaces and the presence of large roof structure tie-down piers.

Based on a rate of 1 truck per 1,000m^2 of net exhibition space, the facility should be able to unload at least 25 trucks concurrently. The current loading dock can only accommodate 12 trucks which is further reduced when simultaneously unloading for events. The inefficiencies increase bump-in and bump-out timeframes, and therefore limit the number of events that can be held in the Centre.

Further, there is insufficient space for trucks to unload from both sides when the dock accommodates 12 trucks concurrently, which requires the forklifts to be fitted with long tynes to reach pallets on the far side of the truck. The long tynes then need to be removed for handling the pallets into the Halls, further delaying the loading process.

Additional shortfalls with the current loading dock area include:

- There are inadequate lighting levels, with a need for lighting similar to daylight to ensure safety.
- As the loading dock is not screened, this results in both light and noise spill to surrounding residential buildings
- There is no rain protection over the vehicles or loading doors, so supplies get wet when it rains.

- No storage is provided for exhibitions.

Consideration of Alternatives

Having considered the above issues, DHL undertook a detailed investigation to determine whether the existing facilities could be retained and adapted to meet current requirements.

Sydney Convention Centre

As detailed in the EIS, the existing Convention Centre Parkside will be adapted and re-used, with the proposal involving the retention of the existing structure. To meet the standards of world-class facilities, the services and interior finishes will be new, with the existing services having reached the end of their functional life. The following issues would preclude the adaptive reuse of the Convention Centre Bayside:

- The existing structural capacity is insufficient to incorporate expansion and would likely require demolition in order to achieve the new facilities.
- The radial columns associated with existing plenary would result in inefficient space for meetings.
- The ballroom is not world-class, nor does it have sufficient capacity and would need to be relocated to take advantage of the Centre's views.
- Loading dock facilities are limited, and cannot be readily altered.
- Retention of the existing building form will ensure the same visual separation to Darling Drive limiting on grade access to the light rail stops.

Exhibition Centre

With respect to the Exhibition Centre, DHL considered whether the existing Exhibition Halls could be extended by means of raising the existing roof structure and extending the structure masts. In respect to the brief requirement, this option proved unviable, with the following issues precluding the adaptive reuse of the Exhibition Centre:

- The existing roof steel could not be warranted for a further 50 years.
- The existing steelwork has no flexibility for redesigning steelwork connections, pin joints, and cable stays, and so these would all require substantial reworking to ensure that a warranty could be applied.
- Raising the existing roof to accommodate a double stack of exhibition space would incur greater wind loads, which the structure is not expected to be able to accommodate.
- The alignment of the existing halls and its saw tooth layout does not allow for the continuous use hall space.
- The configuration of the loading dock and existing column set-out would not facilitate the rearrangement of these areas.
- Retention of the lower hall level will limit the opportunity for on grade connections to Quarry St and the light rail.

The Exhibition Centre has now been in operation for over 23 years, and some significant repairs would be necessary in the next 2-3 years. There are key maintenance issues such as the chillers, lifts, escalators, underground plumbing and leaking roofs in the Exhibition Halls to be addressed. Due to its age, the building has a poor environmental design, and as a result, is energy inefficient in comparison to contemporary design. When considered in conjunction with issues associated with increasing the building's capacity, the estimated cost of undertaking these tasks would be prohibitive.

Summary

As demonstrated above, the existing facilities are ageing and lack the functional performance to capitalise upon the urban regeneration of the precinct. It would be impractical to retain the existing facilities, with precinct-wide renewal required in order for Sydney to reclaim its position as a host for world-class events, and to deliver the infrastructure Sydneysiders and visitors deserve of their convention, exhibition and entertainment facilities.

The purpose built facilities of the 1980s have served their role with distinction, and it is now time to allow for new facilities to be developed to give them the chance to meet the needs of today and tomorrow.

2.8 Noise Impacts

2.8.1 Issue

The Department has noted that the Event Deck has the potential to generate noise to nearby residential receivers, particularly during special events. These concerns were reiterated by the Council, who stated that neighbour disturbance from the Event Deck must be managed.

In terms of operational noise, the Department has noted that background noise levels should be measured at the nearest residential receivers. The Department notes that the Environmental Noise and Vibration Impact Assessment (ENVIA) submitted with the EIS indicates a noise logger location at No. 220 Pyrmont Street and shows it as the Bullecourt Apartments - however, the Bullecourt Apartments are located at No. 287 Pyrmont Street. Clarification is sought by the Department as to whether a noise logger was used to measure noise levels at the Bullecourt Apartments noting its proximity to the proposed Event Deck. The Department has also recommended that the Goldsbrough residential building at No. 243 Pyrmont Street be included as a noise logger location.

In addition, the Department has requested that further detail be provided around the mitigation measures that will be adopted to minimise noise impacts to surrounding residential properties from the Event Deck, and has requested that a draft Event Management Plan be prepared for the use of the outdoor deck.

The EPA has also raised a number of concerns around the acoustic impacts of the proposed development, during both the construction and operational phases. The EPA has requested that a Construction Noise and Vibration Management Plan be prepared. The EPA has also questioned the operational noise criteria, and has requested that a Noise Management Plan be developed to assess the impacts of the proposed Events Deck. These matters are addressed individually in the table at **Appendix C**.

Finally, the residents of the Bullecourt Apartments have also raised concerns that the Event Deck will have adverse amenity impacts. Specific concerns include:

- Closure hours are not in line with existing 10pm controls. Events should end at 10pm with bump-out occurring straight away and access to Event Deck restricted after this hour;
- Noise levels, which will extend past midnight from patrons leaving events, will exceed recommended levels;
- The Deck should be located further away from residential properties;
- The sound system for outdoor music should be orientated away from residential properties to limit noise effects; and

- Odours from food, fumes and food from outdoor events could be carried to residential apartments.

2.8.2 Proponent's Response

Acoustic Logic has prepared a Supplementary Acoustic Report to address the issues raised (refer to **Appendix P**). In response to the EPA's concerns, a preliminary Demolition, Excavation and Construction Noise Management Plan has been prepared (**Appendix Q**). Further, AEG Ogden has prepared a draft Event Management Plan for the Event Deck (refer to **Appendix R**).

Construction Noise
The Demolition, Excavation and Construction Noise Management Plan presents an assessment of potential noise emissions, taking into account the comments raised by the EPA (including consideration of the UTS Haymarket Campus). It is noted that the conclusions are generally the same as those contained in the ENVIA.

The Demolition, Excavation and Construction Noise Management Plan outlines a range of management measures to be further developed prior to the commencement of works, as part of a detailed Plan. The Mitigation Measure requiring the preparation of this Plan has been retained, and is included in the final list of Mitigation Measures at Section 5.

Operational Noise
In response to the Department's concerns about the location background noise measurements, Acoustic Logic notes that the ENVIA utilised noise monitoring in front of the Bullecourt Apartments on Pyrmont Street, and while not strictly on the residential receiver's property, the monitoring location would adequately represent ambient noise conditions at Bullecourt. Further, although the background noise levels measured at the Novotel are unlikely to differ significantly from those at the Goldsbrough Apartments, it is intended to conduct further noise monitoring at both ground level and roof level to confirm existing background noise levels.

With respect to the Event Deck, and the concerns raised by the Department, Council and residents, the hours of operation have been reduced. In order to minimise any amenity impacts, events and functions will be held between 7am and 10pm (including bump-in and bump-out) except for large celebratory events. Notwithstanding this, low noise events or functions where there is no risk of exceeding the recommended noise level at the nearest residence at night time (i.e. after 10pm) as recommended in the ENVIA prepared by Aecom, will be finished by 11pm. This will ensure that there are no adverse impacts at midnight, as raised by residents of the Bullecourt Apartments.

The draft Event Management Plan provides details on public access, frequency of use, hours of operation, noise impacts and noise monitoring which will be further developed in preparing the final Event and Operations Management Plans. In summary:

- Public access through the Event Deck will be maintained at all times, except during the most high security events. It is noted that many events will use much less than the full extent (5,000m^2) of the Deck.
- As detailed in Section 2.3, the Event Deck will be publicly accessible outside of event times on a sun up/sun down basis.
- Events will be held on approximately 220 days per year, including bump-in and bump-out days. Of this, it is anticipated that up to 80 days would require the erection of some temporary structures.
- The types of events to be held within the Oxygen Lounge and Event Deck include:
  - Oxygen Lounge (conference pre-dinner drinks, private functions);

  - Outdoor exhibitions (with or without temporary structures);
  - Major event set-up (bump-in and bump-out);
  - Conference dinner with background music, either in the Oxygen Lounge or within a temporary structure; and
  - Up to six large celebratory events per year (eg. Australia Day, New Year's Eve).
- Environmental noise emissions will be monitored to ensure that events, particularly major events, do not exceed the specified noise emission criteria.
- A feedback protocol will be developed, giving residents and businesses the opportunity to submit complaints and concerns.

2.9 Overshadowing

2.9.1 Issue

The Department has noted that further information is required to accurately assess shadow impacts to nearby residences and also Tumbalong Park. In this regard, the Department has requested smaller scale shadow diagrams (existing and proposed) which clearly show the extent of overshadowing to residential properties on the western side of Pyrmont Street (Goldsbrough and Bullecourt Apartments) and the public domain (Tumbalong Park).

The residents of the Goldsbrough Apartments have also raised concerns about overshadowing from the proposed Convention Centre, particularly in the morning during winter. The submissions note that the loss of sunlight will make the building less sustainable, and will increase power bills.

In addition, several submissions from independent bodies and the general public note that the proposal will result in significant overshadowing of the public domain, particularly to the Convention Centre forecourt area in the afternoon.

2.9.2 Proponent's Response

Overshadowing

Arterra has prepared additional Shadow Analysis Diagrams to address the submissions (refer to **Appendix S**). The diagrams illustrate the existing shadowing of the SICEEP Site and surrounds and the impact of new shadowing as a result of the PPP development.

The Diagrams demonstrate that the proposed PPP Site redevelopment will not result in any adverse impacts upon the amenity of adjoining residential developments, or the new and expanded public domain.

Surrounding Buildings

Axonometric diagrams have been prepared to enable an assessment of the shadow impacts on residential development to the west of Pyrmont Street. The diagrams demonstrate that at 9am on 21 June, there will be very limited overshadowing to the lower levels of the Goldsbrough and Bullecourt Apartments. There will be no overshadowing of these buildings by midday on 21 June. These diagrams are replicated at **Figures 16** and **17** and demonstrate that the proposal will have a negligible impact to the availability of solar access to these apartments, with solar access maintained from 9am onwards in the morning on the Winter Solstice.

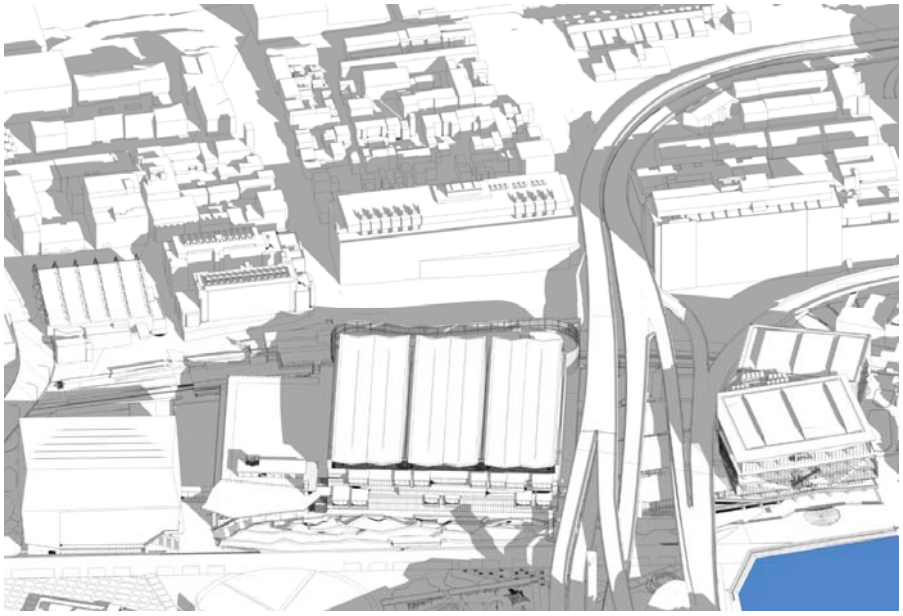


Figure 16 – Shadow impacts on surrounding residential buildings at 9am on 21 June

Source: *Arterra*

Figure 17 – Shadow impacts on surrounding residential buildings at midday on 21 June

Source: *Arterra*

Public Domain

As detailed in the original EIS, the proposed PPP Site redevelopment minimises overshadowing of adjoining public open space, with only partial overshadowing of the north-south boulevard during the worst-case scenario of 3pm on 21 June (the winter solstice). There will be no overshadowing within Tumbalong Park between 9am and 3pm on 21 June, and only minimal overshadowing of the Chinese Garden of Friendship forecourt (there will be no overshadowing of the garden itself).

Further, the area outside the Convention Centre will receive full sunlight between 9am and midday on the Winter Solstice. Whilst this space will be partially overshadowed in the afternoon (3pm) on the 21 June, this space is already substantially overshadowed at this time, with other substantial areas of public domain (including Tumbalong Park) receiving full sunlight.

3.0 Proposed Amended Development

Following public exhibition and in response to the issues and concerns raised by the Department, other government agencies, independent bodies and the general public, a number of design changes have been made to the proposed development.

The proposed changes are shown on the revised Architectural Plans prepared by HASSELL and Populous (**Appendix H**), Public Domain and Landscape Drawings prepared by HASSELL (**Appendix J**) and Civil Infrastructure Drawings (prepared by Hyder at **Appendix T**). A drawing schedule outlining those original and unchanged plans and new amended plans for approval is provided at **Table 2**. Included at **Table 3** is a detailed schedule of the proposed changes, and where relevant the specific issue which has driven the amendment.

For completeness, 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 3**, the changes overall are considered to be positive and aim to deliver an improved outcome. Accordingly, and as detailed in Section 4, 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.

3.1 Overview of Proposal (as amended)

The Development Application as amended seeks approval for:

- Demolition of existing improvements on the site, including the existing Convention Centre and Exhibition Centre;
- Associated tree removal and replanting;
- Construction and use of a new, integrated and world-class Convention, Exhibition and Entertainment Centre (core facilities);
- Public domain improvements, including:
  - reinvigorating and expanding Tumbalong Park by 3,000m^2,
  - provision (part) of a new active north-south pedestrian connection (known as The Boulevard);
  - provision of new east-west connections, including Harbourside Place and Tumbalong Place;
  - provision of a pedestrian bridge link from Quarry Street;
  - retention of the tidal cascade water feature;
  - reconfiguration and upgrade of Darling Drive (part);
  - provision of a new square adjoining the Chinese Garden;
  - Provision of a new 5,000m^2 open space 'event deck' (connected with the Exhibition Centre);
  - Erection and use of a temporary shelter structure on the Event Deck for use up to 80 days per year;
  - Integrated art, play zones, water play and recreation areas;
  - Provision of retail kiosks;
- Provision of ground level parking within the Exhibition and above ground in The Theatre;
- Ground and elevated loading docks (accessed off Darling Drive) for the Convention, Exhibition and The Theatre core facilities;
- Two vehicle drop off points off Darling Drive;

- Alterations to the existing Metro Transport Sydney Offices;
- Provision of signage zones for building identification signage, ancillary to the proposed facilities; and
- Diversion, extension and augmentation of physical infrastructure / utilities as required.

Approval is also sought for a range of temporary works during construction, including:

- Temporary stairs from the raised pathway under the Western Distributor to Darling Harbour ground level;
- Temporary pedestrian crossing along Darling Drive south of Pier Street; and
- Temporary pedestrian crossing along Darling Drive north Convention light rail station.

The proposed public domain will generally be open to the public 24 hours per day 7 days per week. Approval is sought for a range of outdoor events and functions to occur within Tumbalong Park, Harbourside Place and Tumbalong Place, the existing natural amphitheatre at Cockle Bay, and the Quarry Street 'Event Deck'. The types of events and functions are expected to potentially include:

- Concerts and festivals;
- Entertainment linked to exhibitions and conventions;
- Additional space for exhibitions (e.g. the 'event deck');
- Markets;
- Sporting events;
- Open air cinema and theatre;
- Special events such as Australia Day, New Year's Eve, Anzac Day, Chinese New Year etc; and
- Food and wine events.

3.2 Built Form and Urban Design

To support the revised Architectural Drawings, HASSELL and Populous have updated the Built Form and Public Realm Report to reflect the changes to the scheme (refer to **Appendix I**). In responding to the issues raised, the proposed amendments represent an improved built form outcome for the site, whilst being consistent with the intent of the original proposal and achieving the functional requirements of the INSW brief. The amendments will also result in a more refined and articulated scheme, which will reduce the apparent massing and scale of the facilities.

The Built Form and Public Realm Report notes the following key amendments to the built form of the core facilities. The environmental impacts of the proposed amendments have been considered, and are addressed at Section 4.

ICC

- Revision of overall form and mass to reduce visual bulk and perceived height by
  - breaking the overall mass into three primary sections
  - introducing an external terrace to the Grand Ballroom level
  - pitching the roof down towards to perimeter above the Grand Ballroom to lower the fascia height

- Introduction of greater articulation to the western and south facades of the Darling Harbour Theatre to address concerns about the 'blandness' of these faces
- Refinement of the roof to integrate plant and exhaust ducts systems to present a thorough and clean '5th façade' to the surrounding higher neighbours
- Refinement of ground level planning to move facade back from the Woodward fountain at the ground plane.

ICC Exhibition Centre

- Revision to the cladding to the upper level loading dock to introduce greater articulation and visual depth. This has been achieved by angling the cladding panels and overlapping them slightly to introduce light and shade and a reduced sense of scale to the facade, and varying the colour of panels.
- Refinement of the roof to present a thoughtful and clean '5th façade' to the surrounding higher neighbours.
- Refinement of cladding to the base of the building to present a more thoughtful and engaging face to the public realm.

The Theatre

- Refinement of the overall form and mass to reduce the height of The Theatre roof edge along the western side.
- Refinement of the loading dock strategy to provide a more logical and efficient loading dock with improved access off and onto Darling Drive using a one-way flow through system.
- Refinement of the car-parking to allow entry and exit directly off Darling Drive before the round-about so drivers have the option on exiting to go either east over Pier Street, or south and north on Darling Drive.
- Refinement of the cladding system to the 'solid' areas of the building form to introduce improved visual depth during the day through a play of light and shade offered by a 'perforate' cladding.
- Refinement of the roof to integrate plant and exhaust ducts systems to present a clean '5th facade' when viewed from surrounding higher neighbours.

3.3 Car Parking and Vehicular Access

The Transport and Traffic Assessment Addendum Report prepared by Hyder details the revised parking and access arrangements (**Appendix M**).

Car Parking

The replanning of The Theatre together with structural changes to the Exhibition Centre has resulted in a redistribution of parking from the ICC Exhibition to The Theatre.

The number of parking spaces within the Exhibition car park has been reduced from 719 to 636 (a reduction of 83 spaces) to suit the revised / finalised layout. To ensure consistency with the INSW Brief, The Theatre car park will now provide 196 spaces. This represents an increase of 89 spaces from the 107 originally proposed. Overall, the number of parking spaces provided across the PPP facilities will remain generally consistent with the original proposal, with only a minor increase of 6 spaces.

Vehicular Access

The revised scheme for The Theatre proposes to relocate the car park entry and exit to Darling Drive, rather than off the Exhibition Place Loop Road as originally proposed.

The Theatre is accessed from the southbound direction, via a left-in, left-out arrangement. There is no deceleration lane provided in this direction, and so to avoid queuing on the southbound carriageway, the design incorporates provision for cars to queue "on-site", prior to arriving at the barrier gates. The proposal will provide 2 boom gates on entry to the car park. As noted above, the proposed car park will provide 196 spaces.

Conclusion

Hyder found that the revised access and egress arrangement for the Theatre results in:

- Driver's leaving the revised Theatre will now have more options for getting to their destination, as they can now travel south or north at the Darling Drive and Pier Street roundabout or travel via Pier Street. Previously, they were required to travel south and could not directly access Pier Street or Darling Drive northbound;
- Vehicles wanting to enter the Theatre car park from the south will be required to travel north along Darling Drive, prior to entering the car park. However, vehicles coming from the south will still have the option of parking at the public car park, located in the NW plot of the proposed Haymarket development, with access provided from the Pier Street and Darling Drive roundabout; and
- There will be no impact on vehicles coming from the north who wish to park at the Theatre car park, relative to the previous scheme.

Further and from an overall traffic and transport impact perspective, Hyder advises that the results of the traffic modelling and safety audit outlined demonstrate that:

- The impact from the SICEEP development would not adversely impact the traffic performance of Darling Drive;
- Traffic related to the Theatre redesign would have the potential to marginally reduce the northbound travel speed on Darling Drive;
- The Theatre access car park off Darling Drive would not adversely impact the operation of the roundabout with Pier Street. Model forecasts LoS B at this roundabout;
- The results based on revised AIMSUN modelling do not change the conclusion drawn in March 2013 Traffic and Transport Assessment Report; and
- The redesign of the Theatre supports the need for the existing pedestrian crossing to be changed to a signalised crossing, which addresses safety concerns identified in the road safety audit.

On this basis, Hyder concludes that the revised Theatre car park access and egress design provides benefit to the users, does not adversely impact the traffic performance of Darling Drive and addresses pedestrian safety at the proposed pedestrian crossing at Tumbalong Place.

3.4 Landscaping and Public Domain

As identified in **Table 3**, the key aspects of the public domain remain the same. The revised landscaping and public domain scheme is shown at **Figure 18**, and on the Public Domain and Landscape Drawings prepared by HASSELL at **Appendix J**. The following changes are proposed to the landscaping and public domain to address the issues raised, and as a result of ongoing detailed design:

- Realignment to the paths across Tumbalong Green to reflect pedestrian desire lines;
- Deletion of a stair at the northern light rail stop to simplify the route (inclusion of a ramp only);
- Developed design of Tumbalong Place to better consider the red carpet event mode and pedestrian movements through the space. The revised design also considers activation of the space through the provision of raised terraces that create informal performance and gathering spaces;
- Developed taxi rank configuration to The Theatre. Taxi rank has been relocated to be closer The Boulevard – the main pedestrian spine;
- Refinement of the existing Pier Street pedestrian connection to make it Disability Discrimination Act (DDA) compliant;
- Refinement and integration of the folded landscape with the revised northern Exhibition building entrance to present a consistent design language along the eastern Exhibition façade; and
- Refinement to the design of the ICC steps to increase the minimum clearance to the Woodward Fountain curtilage.

The revised landscaping and public realm will result in a more functional, accessible and coherent public domain. The amendments will also provide an increased curtilage to the Woodward fountain, which will soon be listed on the State Heritage Register.

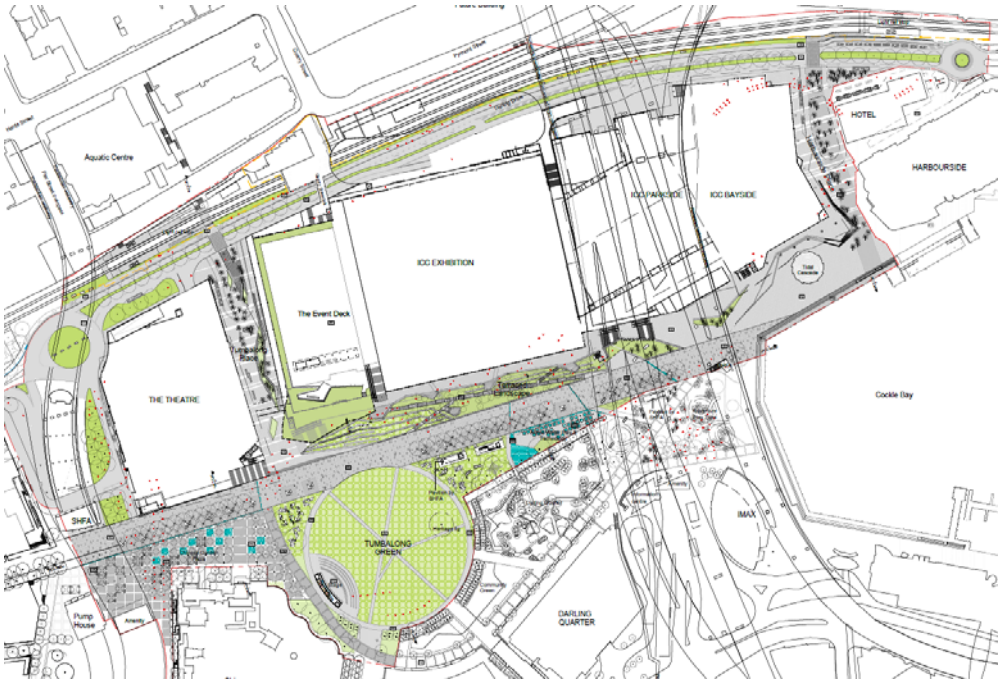


Figure 18 – Revised landscaping and public domain scheme

Source: *HASSELL*

3.5 Civil Works

In response to the replanning of The Theatre and the issues raised in the submissions, several changes have been made to the Civil Infrastructure Drawings prepared by Hyder Consulting (refer to **Appendix T**).

The revised Civil Infrastructure Drawings show the amended vehicle access arrangements for The Theatre, the new signalised crossing at the entry to Tumbalong Place and clarify the design of the bicycle lane on the western side of Darling Drive. The revised Drawings also demonstrate the bicycle lane's connectivity with the broader network.

The revised civil design will result in improvements to pedestrian safety.

3.6 Light Rail Interface Works

Following discussions with TfNSW it has been agreed that planning consent for amendments to the Light Rail Stops, as a result of the SICEEP project, will be obtained by TfNSW. As such, DHL will no longer seek approval for these works as part of this application.

Notwithstanding this, and consistent with the original approval, there are also a range of works proposed that will share an interface with or potentially affect the Light Rail Corridor (LRC). In particular, this application seeks consent for the following works which share an interface with or affect the Light Rail Corridor (LRC):

- Realignment of Darling Drive, including demolition and excavation, service relocation and new road structure;
- Loading dock apron structure associated with ICC Exhibition above the light rail corridor; and
- New bridge extending from Quarry Street over Darling Drive onto the Event Deck.

Table 1 provides a summary of the proposed works the subject of the amended development proposal, an assessment of the potential impacts, and proposed mitigation measures to minimise impacts. Light rail interface works will be carried out by Transport for NSW in order to ensure that critical works are managed appropriately.

Table 1 – Summary of proposed light rail interface works

Works Description	Impact on LRC	Mitigation measure
Realignment of Darling Drive, including demolition and excavation, serviced relocation and new road structure	Works carried out adjacent to LRC. No impact on LRC, all works carried out outside of the boundary of the LRC	– Protection of existing light rail fence line.

Works Description	Impact on LRC	Mitigation measure
Loading dock apron structure associated with ICC Exhibition.	Construction of the section of the loading dock apron above (or within) the LRC.	– Consultation to occur with operator (already commenced). – Construction to be coordinated with operator of LRC to minimise timetable impacts (e.g. utilise existing rail shut down periods, maintenance and out of hours periods). – To be designed and constructed to facilitate the use of prefabricated components. – High priority to be given to construction activities in order to minimise any disruptions. – All works to be carried out in accordance with current legislation and regulations.
New bridge extending from Quarry Street over Darling Drive onto Event Deck	Construction of bridge structure above LRC.	– Consultation to occur with operator (already commenced). – Bridge structure to be designed to minimise impact on LRC. – Construction methodology to utilise existing monorail slab for support and eliminate the need for new structure above LRC. – High priority to be given to construction activities in order to minimise any disruptions. – All works to be carried out in accordance with current legislation and regulations.

3.7 Drawing Schedule for Approval

Table 2 – Drawing Reference Schedule

Original DA Drawings	Amended DA Drawings	Status
Architectural Drawings		
PPAR0000LX	PPARD000000-AA	-
PPAR0001LX	PPARD000001-AA	-
PPAR0003L0	PPARD000010-AA	-
PPAR0007L0	PPARD001007-AA	-
PPAR0008L1	PPARD002007-AA	-
PPAR0010L0	PPARD001000-AA	-
PPAR0011L1	PPARD002000-AA	-
PPAR0012L2	PPARD003000-AA	-
PPAR0013L3	PPARD004000-AA	-
PPAR0014L4	PPARD005000-AA	-
PPAR0015L5	PPARD006000-AA	-
PPAR0016RF	PPARD007000-AA	-
PPAR0052	-	Original DA Drawings Still Current
PPAR0053	-	Original DA Drawings Still Current

Original DA Drawings	Amended DA Drawings	Status
COAR0100L0	COARD200000-A	-
COAR0101L1	COARD201000-A	-
COAR0102L2	COARD202000-A	-
COAR0103L2M	COARD203000-A	-
COAR0104L3	COARD204000-A	-
COAR0105L3M	COARD205000-A	-
COAR0106L4	COARD206000-A	-
COAR0107L4M	COARD207000-A	-
COAR0108L5	COARD208000-A	-
COAR0109L6	COARD209000-A	-
COAR0110L7	COARD210000-A	-
COAR0111RF	COARD211000-A	-
COAR0120	COARD410000-A	-
COAR0121	COARD420000-A	-
COAR0122	COARD500000-A	-
COAR0123	-	Deleted
COAR0150	-	Deleted
COAR0151	-	Deleted
COAR0152	-	Deleted
COAR1900	-	Deleted
COAR1902	-	Deleted
EXAR0050	-	Deleted
EXAR0100L0	EXARD200000-B	-
EXAR0101L1	EXARD201000-B	-
EXAR0102L1M	EXARD202000-B	-
EXAR0103L2	EXARD203000-B	-
EXAR0104L3M	EXARD204000-B	-
EXAR0105L4	EXARD205000-B	-
EXAR0106L5	EXARD206000-B	-
EXAR0107L5M	EXARD207000-B	-
EXAR0108RF	EXARD208000-B	-
EXAR0120	EXARD410000-B	-
EXAR0121	EXARD400000-B	-
EXAR0122	-	Deleted
EXAR0123	-	Deleted
EXAR0150	EXARD500000-B	-
EXAR0151	EXARD500001-B	-
EXAR0152	EXARD500002-B	-
EXAR0153	EXARD500003-B	-
	EXARD500004-B	-
EXAR1901	-	Deleted
EXAR1902	-	Deleted

Original DA Drawings	Amended DA Drawings	Status
EXAR2003	-	Original DA Drawings Still Current
	EXARD900001-B	New Drawing
	EXARD900010-B	New Drawing
	EXARD900011-B	New Drawing
	EXARD900012-B	New Drawing
	EXARD900013-B	New Drawing
PPAR2020	PPARD900050-A	-
PPAR2021	PPARD900051-A	-
PPAR2022	-	Deleted
PPAR2023	-	Deleted
PPAR2024	PPARD900052-A	
PPAR2025	PPARD900055-A	-
PPAR2026	PPARD900056-A	-
PPAR2027	PPARD900057-A	-
PPAR2028	PPARD900058-A	-
PPAR2029	PPARD900059-A	-
PPAR2030	PPARD900060-A	-
PPAR2031	PPARD900061-A	-
PPAR2032	PPARD900062-A	-
PPAR2033	PPARD900063-A	-
PPAR2034	PPARD900064-A	-
PPAR2035	PPARD900065-A	-
PPAR2036	PPARD900066-A	-
PPAR2037	PPARD900067-A	-
PPAR2038	PPARD900068-A	-
PPAR2039	PPARD900069-A	-
PPAR2060	PPARD900070-A	-
PPAR2061	PPARD900071-A	-
PPAR2062	PPARD900072-A	-
	PPARD900073-A	New Drawing
	PPARD900074-A	New Drawing
	PPARD900075-A	New Drawing
THAR0100L0	THARD200000-A	-
THAR0101L1	THARD200100-A	-
THAR0102L2	THARD200200-A	-
THAR0103L2M	THARD200300-A	-
THAR0104L3	THARD200400-A	-
THAR0105L3M	THARD200500-A	-
THAR0106L4	THARD200600-A	-
THAR0107L5	THARD200700-A	-
THAR0108RF	THARD200800-A	-
THAR0120	THARD410000-A	-

Original DA Drawings	Amended DA Drawings	Status
THAR0121	-	Deleted
THAR0122	THARD420000-A	
THAR0123	-	Deleted
THAR0150	THARD500000-A	-
THAR0151	-	Deleted
THAR1900	THARD900000-A	-
Civil Drawings		
PPCI0001	-	Original DA Drawings Still Current
PPCI0002	-	Original DA Drawings Still Current
PPCI0010	-	Original DA Drawings Still Current
PPCI0011	-	Original DA Drawings Still Current
PPCI0021	-	Original DA Drawings Still Current
PPCI0022	-	Original DA Drawings Still Current
PPCI0023	-	Original DA Drawings Still Current
PPCI0101	-	Original DA Drawings Still Current
PPCI0102	-	Original DA Drawings Still Current
PPCI0103	-	Original DA Drawings Still Current
PPCI0104	-	Original DA Drawings Still Current
PPCI0105	-	Original DA Drawings Still Current
PPCI0106	-	Original DA Drawings Still Current
PPCI0107	-	Original DA Drawings Still Current
PPCI0108	-	Original DA Drawings Still Current
PPCI0109	-	Original DA Drawings Still Current
PPCI0110	-	Original DA Drawings Still Current
PPCI0111	-	Original DA Drawings Still Current
PPCI0112	-	Original DA Drawings Still Current
PPCI0120		Original DA Drawings Still Current
PPCI0150	-	Original DA Drawings Still Current
PPCI0200	-	Original DA Drawings Still Current
PPCI0301	-	Original DA Drawings Still Current
PPCI0302	-	Original DA Drawings Still Current
PPCI0303	-	Original DA Drawings Still Current
PPCI0304	-	Original DA Drawings Still Current
PPCI0305	-	Original DA Drawings Still Current
PPCI0306	-	Original DA Drawings Still Current
PPCI0307	-	Original DA Drawings Still Current
PPCI0308	-	Original DA Drawings Still Current
PPCI0309	-	Original DA Drawings Still Current
PPCI0310	-	Original DA Drawings Still Current
PPCI0311	-	Original DA Drawings Still Current
PPCI0401	PPCI0401-B	-
PPCI0402	PPCI0402-B	-

Original DA Drawings	Amended DA Drawings	Status
PPCI0403	PPCI0403-B	-
PPCI0404	PPCI0404-B	-
PPCI0405	PPCI0405-B	-
PPCI0406	PPCI0406-B	-
PPCI0407	-	Original DA Drawings Still Current
PPCI0408	-	Original DA Drawings Still Current
PPCI0409	-	Original DA Drawings Still Current
PPCI0410	-	Original DA Drawings Still Current
PPCI0411	PPCI0411-B	-
PPCI0441	-	Original DA Drawings Still Current
PPCI0445	-	Original DA Drawings Still Current
PPCI0501	-	Original DA Drawings Still Current
PPCI0502	-	Original DA Drawings Still Current
PPCI0503	-	Original DA Drawings Still Current
PPCI0504	-	Original DA Drawings Still Current
PPCI0505	-	Original DA Drawings Still Current
PPCI0506	-	Original DA Drawings Still Current
PPCI0507	-	Original DA Drawings Still Current
PPCI0508	-	Original DA Drawings Still Current
PPCI0509	-	Original DA Drawings Still Current
PPCI0510	-	Original DA Drawings Still Current
PPCI0511	-	Original DA Drawings Still Current
PPCI0701	PPCI0701-B	-
PPCI0702	PPCI0702-B	-
PPCI0703	PPCI0703-B	-
PPCI0851	-	Original DA Drawings Still Current
PPCI0852	-	Original DA Drawings Still Current
PPCI0853	-	Original DA Drawings Still Current
PPCI0854	-	Original DA Drawings Still Current
PPCI1101	-	Original DA Drawings Still Current
PPCI1102	-	Original DA Drawings Still Current
PPCI1105	-	Original DA Drawings Still Current
PPCI1110	-	Original DA Drawings Still Current
PPCI1111	-	Original DA Drawings Still Current
PPCI1112	-	Original DA Drawings Still Current
PPCI1113	-	Original DA Drawings Still Current
PPCI1115	-	Original DA Drawings Still Current
Landscape Drawings		
PPLA000		Deleted
	PPRPPLA000-A	New Drawing
PPLA001	PPRPPLA001-B	-
PPLA002	PPRPPLA002-B	-

Original DA Drawings	Amended DA Drawings	Status
PPLA003	PPRPPLA003-B	-
PPLA004	PPRPPLA004-A	-
PPLA101	PPRPPLA101-B	-
PPLA201	PPRPPLA201-B	-
PPLA202	PPRPPLA202-B	-
PPLA203	PPRPPLA203-B	-
PPLA301	PPRPPLA301-A	-
PPLA302	PPRPPLA302-B	-
PPLA303	PPRPPLA303-B	-
PPLA304	PPRPPLA304-B	-
PPLA305	PPRPPLA305-A	-
PPLA306	PPRPPLA306-A	
PPLA600	PPRPPLA600-B	
PPLA601	PPRPPLA601-A	
PPLA602	PPRPPLA602-B	
PPLA603	PPRPPLA603-B	

3.8 Schedule of Design Changes

Table 3 – Schedule of Design Changes

Key Changes	Driver for Change
Public Realm	
Realignment to the paths across Tumbalong Green to reflect pedestrian desire lines	Pedestrian access – improving permeability, connectivity and pedestrian flows.
Deletion of a stair at the northern light rail stop to simplify the routes (inclusion of a ramp only)	Pedestrian access – improving permeability, connectivity and equitable access.
Developed design of Tumbalong Place to better consider the red carpet event mode and pedestrian movements through the space. The revised design also considers activation of the space through the provision of raised terraces that create informal performance and gathering spaces	Pedestrian access - improving permeability and connectivity. Functionality – providing greater diversity, and improving the usability and activation of the public realm.
Developed taxi rank configuration to The Theatre. Taxi rank has been relocated to be closer The Boulevard – the main pedestrian spine	Public transport – improving arrangement and integration of taxi rank.
Refinement of the existing Pier Street pedestrian connection to make it DDA compliant.	Accessibility requirements
Refinement and integration of the folded landscape with the revised northern Exhibition building entrance to present a consistent design language along the eastern Exhibition façade	Public domain integration – providing an improved interface between the ICC Exhibition and public realm.
Refinement to the design of the ICC steps to increase the minimum clearance to the Woodward fountain curtilage	Heritage - improving appreciation of the fountain, and providing a larger curtilage.
ICC	
Adjustments to the façade geometry, including provision of new glazed upper level balcony to the eastern elevation, including: – Materiality changes to the elevations around the Darling Harbour Theatre block – RL32.0 Balcony added to south, east and north side of Bayside building overlooking Public Realm – Vertical break and void over entrance on Harbourside Place between Darling Harbour Theatre and Meeting rooms revised	Built form – minimising bulk and scale, improving design integrity and functionality
Minor internal planning and layout changes, including: – General to all floor plates - fire stairs sizes reduced in footprint size in accordance with Fire Engineering – New fire stair and structural core added to north east corner of Bayside – Lift removed from Level 0 serving up to superhighway at RL2 due to connection added to Harris Street Lift – Location of lifts adjacent to Darling Harbour altered – RL 3.5 Substation moved from south to north side of loading dock to avoid existing Ausgrid pits – RL3.5 Line of glazing straightened along east elevation to better address the Woodward Fountain – RL3.5 ABO waste and day store added adjacent to ABO on east elevation on Public Realm	Building functionality – improving functionality, amending servicing requirements, design improvements and modifications to meet user requirements.

Key Changes	Driver for Change
– RL3.5 Operator car parking bays (8) added to rear entrance of Parkside off Darling Drive – RL7.2 Line of façade on east elevation extended at Venue Management Offices – RL 10.9 Meeting rooms re-configured – RL10.9 Width of super highway reduced to accommodate revised meeting room configuration – RL13.8 Mezzanine plant level added to Parkside – RL17.2 Shape and extent of pre function space altered outside of Darling Harbour Theatre – RL17.2 Meeting rooms reconfigured – RL20.85 Mezzanine floor added – RL41.0 location of plant spaces revised	
Modifications at roof levels, including: – Re-contoured to accommodate smoke fans – Profile of roof above balcony re-profiled	Servicing – satisfying servicing requirements.
ICC Exhibition	
Re-allocation of parking spaces from the Exhibition Centre to The Theatre, and repositioning of the carpark entrance.	Vehicular access and parking – maintaining the parking provisions as required by INSW brief, and providing appropriate vehicular access.
Revised landscape levels and design to Tumbalong Place	Public domain integration – providing greater integration between the built form and public domain, and improved pedestrian accessibility.
Minor amendments to the roof profile and treatment of the Exhibition Centre, including: – N/S roof ends refined with cantilever roof ends deleted to reduce overhangs and tighten the roof profile – E/W canopy extents, i.e extension of roof changes from kick up profile to continuous radius of the curved roof, again to refine the edge treatment	Built form – minimising bulk and scale, improving design integrity and functionality and visual impacts.
Minor adjustment of the east elevation projecting boxes	Built form – minimising bulk and scale, and design rationalisation.
Upper plantroom boxes on west have been refined to create 3 typical boxes	Built form – minimising bulk and scale, improving design consistency and integrity and design rationalisation.
Modifications to the western loading dock, including: – West loading dock apron cladding revised to address DA concerns, now has additional profile and depth to it – Adjustments to form and position of the western loading dock ramp, west loading dock moved south away from Western Distributor to avoid conflicts.	Built form and visual impacts – minimising bulk and scale, reducing visual impacts and improving architectural integrity. Practical requirements – avoiding conflicts with existing RMS infrastructure.
Minor internal planning and layout changes, including: – Lower and upper halls realigned, previously a step of 3.5m which caused an un desirable planning outcome to the concourse – Concourse generally replanned on all levels to make it consistent for each hall and improve circulation. This includes moving lift positions,	Building functionality –improving functionality, connectivity and pedestrian movements and modifications to meet user requirements and vehicular access.

Key Changes	Driver for Change
stairs, escalators etc to create better flows – Lower hall columns re positioned to reduce impact to carpark below – RL 2.5 carpark generally replanned to accommodate columns, plant etc	
Revision to the design of north-east entry.	Pedestrian access and connectivity with the public domain – improving accessibility and integration with the public realm.
West Event Deck stair reconfigured to avoid conflict with structure	Practical requirements – avoiding conflicts with structure.
Harris Street lift moved to avoid conflict with Western Distributor pylon footings	Practical requirements – avoiding conflicts with existing RMS infrastructure.
Oxygen Lounge structure rotated and moved south	Building functionality – minor modifications to include functionality and design of the Event Deck / Oxygen Lounge.
The Theatre	
Reconfiguration of the envelope and façade design	Built form – minimising bulk and scale, improving design integrity and visual impacts.
Internal planning changes in response to the revised Theatre design	Building functionality –improving functionality, amending servicing requirements, design improvements and modifications to meet user requirements.
Adjustment to plant and services screening	Servicing – satisfying servicing requirements in response to replanning, and minimising bulk, scale and visual impacts of plant.
Re-allocation of parking spaces from the Exhibition Centre to The Theatre	Vehicular access and parking – maintaining the parking provisions as required by the INSW brief, and providing appropriate vehicular access.
Amendment to the vehicle access arrangements for The Theatre	Vehicular access and parking – maintaining appropriate vehicular access in response to the replanning of The Theatre, and the parking requirements of the INSW brief.
Repositioning of the loading dock	Loading – maintaining loading access in response to the replanning of The Theatre.
Repositioning of car parking from ground level to above loading dock	Vehicular access and parking – requirement to maintaining the parking provisions of the INSW brief, and the need to accommodate more parking within The Theatre.

4.0 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, and to ensure consistency with the final proposal.

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:

- Director General's Environmental Assessment Requirements;
- Compliance with Relevant Legislation and Environmental Planning Instruments;
- Consistency with Planning Policies;
- Design Excellence;
- Archaeology;
- Contamination;
- Air Quality;
- Ecologically Sustainable Development;
- Social and Economic Issues;
- Crime Prevention through Environmental Design;
- Site Suitability; and
- Public Interest.

As identified at Section 1, the following consultants' reports and supporting information has been updated or further supplements the material originally submitted in support of the EIS:

- Heritage Impact Assessment prepared by TDK;
- Services Infrastructure Statement prepared by Hyder;
- Built Form and Public Realm Report prepared by HASSELL and Populous;
- Event Management Plan prepared by AEG Ogden;
- Traffic and Transport Assessment Addendum Report prepared by Hyder;
- Waste Management Statement prepared by Waste Audit;
- Construction Management Plan prepared by Lend Lease Project Management and Constructions;
- Shadow Analysis Diagrams prepared by Arterra;
- Visual and View Impact Analysis prepared by JBA;
- Geotechnical Statement prepared by Douglas Partners;
- Façade Reflectivity Statement prepared by CPP;
- Wind Statement prepared by CPP;
- Flooding and Stormwater Statement prepared by Hyder;
- Supplementary Acoustic Report prepared by Acoustic Logic;
- Accessibility Statement prepared by Morris Golding Accessibility Consulting; and
- BCA Statement prepared by Steve Watson & Partners.

The updated supporting documentation relating to heritage, built form / public realm, event management plan, traffic and transport, shadow impacts, visual and view impacts and noise and vibration have been addressed at Section 2 of this report as relevant in responding to issues raised during submissions. The further information and assessment material that has not otherwise been addressed at Section 2 of this report is summarised in the following sections.

4.1 Consistency with Original DA Scheme

A comparison of the key components of the original DA scheme and the final amended scheme is provided at **Table 4**. **Table 4** demonstrates that all key elements of the proposed development have remained unchanged.

Whilst elements of the proposal have changed since public exhibition, **Table 4** clearly demonstrates that the scheme remains generally consistent with, and does not substantially differ from, the development as originally proposed.

Table 4 – Consistency with original DA

Component	DA	Amended Proposed Development	Consistency
Public Domain			
Proposed Useable Open Space	71,400m^2	71,400m^2	✓
Overshadowing	There will be partial overshadowing of the north-south boulevard during the worst-case scenario of 3pm on 21 June (the winter solstice). The development will not result in any overshadowing of Tumbalong Park between 9am and 3pm on 21 June, and only minimal overshadowing of the Chinese Garden of Friendship forecourt (there will be no overshadowing of the garden itself).	No change	✓
The Boulevard	The north-south boulevard will be the key pedestrian site access route from the core facilities to surrounding pedestrian connections, attractions such as Cockle Bay and surrounding precincts including The Haymarket. The Boulevard will be the main address to the core facilities and will typically be comprised of a paved footway 20 metres in width running between Cockle Bay and the Chinese Garden of Friendship.	No change	✓
Event Deck	The Event Deck is located to the south of the upper-level ICC Exhibition halls and is comprised of a trafficable open space with a total area of approximately 5,000m^2. The Event Deck will provide a multi-functional space for public and private use which is integrated with both the ICC Exhibition and with Tumbalong Park.	No change	✓
Tumbalong Green	Tumbalong Green will be re-surfaced with an expanded turfed area and new pedestrian paths across this space to improve usage, and encourage more active use of this space outside of formal events. A key component of the new Tumbalong Green will be the erection of a new stage/pavilion structure at the southern edge of the green to be used in the hosting of the cultural events.	Paths across Tumbalong Green realigned to reflect pedestrian desire lines; to respond to issues raised by City of Sydney Council. Otherwise no change.	✓

Component	DA	Amended Proposed Development	Consistency
Harbourside Place	Located at the northern end of the ICC, Harbourside Place will provide a loop road off Darling Drive providing access for vehicles to drop-off and pick-up convention delegates and other visitors to Cockle Bay and surrounding development, including the Harbourside Shopping Centre and the future ICC Hotel.	No change	✓
Tumbalong Place	A new vehicular loop road (with restricted access) from Darling Drive and a pedestrian east-west link located between the ICC Exhibition and The Theatre. Tumbalong Place will provide pick-up and drop-off facilities to the corporate and VIP entrance foyers and access to the off-street taxi/private car standby area to the west of The Theatre.	Revised design to better consider the red carpet event mode and pedestrian movements through the space and provision of raised terraces to provide improved activation.	✓
ICC			
Patron Capacity	– Grand Ballroom 2,000 – Pyrmont Theatre 1,000 seats – Darling Harbour Theatre, 2,500 seats	No change	✓
Height	Max roof height – RL48.3	No change	✓
Pedestrian Access	Pedestrian access will be provided from two main entrances at the ground-plane adjacent to the Darling Harbour Water Feature (Woodward Fountain) and a pedestrian entrance on the northern façade (adjoining the new Harbourside Place).	No change	✓
Vehicular Access / Loading	No public parking is proposed within the ICC Convention Centre. The ICC loading dock will be located on the ground-plane with access from Darling Drive immediately to the north of the Western Distributor viaduct. The ICC loading dock will have the capacity to accommodate up to three articulated trucks (approximately 20m long) and up to four light/medium rigid vehicles within the loading dock simultaneously.	No change	✓
Parking Numbers	0	No change	✓
Overshadowing	The ICC will result in a very small amount of overshadowing to the Goldsbrough Building at 9am on 21 June, however will not result in any overshadowing of adjoining residential buildings at midday or 3pm on the 21 June. The ICC will result in some overshadowing of the Western Distributor, and some overshadowing of the ICC forecourt from 3pm on the Winter Solstice.	No change	✓
Key Elements / Facilities	Includes Grand Ballroom, Pyrmont Theatre, Darling Harbour Theatre, plenary/convention spaces, pre-function spaces, kitchen facilities, meeting rooms, café.	No change	✓
ICC Exhibition			

Component	DA	Amended Proposed Development	Consistency
Area	– Dedicated exhibition space – 35,471m^2 – Multifunctional use space – 4,877m^2	No change	✓
Number of Exhibition Halls	7	No change	✓
Patron Capacity	N/A	N/A	-
Height	Max roof height – RL43.8	No change	✓
Pedestrian Access	Pedestrian access will be via a series of ramps, stairs, elevators and lifts located at the eastern and south-eastern interfaces of the building with Tumbalong Park.	No change (minor internal planning changes)	✓
Vehicular Access / Loading	Vehicular access to the public car park will be provided from a separate entry and exit point to Darling Drive. Loading access to the site will be provided from Darling Drive via a truck access ramp providing left-in access only to the north-west corner of the building.	Car park entrance repositioned, however general access and loading arrangements maintained as per DA scheme	✓
Parking Numbers	719 public car parking spaces	Car parking spaces re-allocated to The Theatre; 636 spaces now proposed	* Parking numbers remain generally consistent across the PPP Site (refer to Section 3.1.2)
Overshadowing	The ICC will result in a very small amount of overshadowing to the Bullecourt Apartments at 9am on 21 June, however will not result in any overshadowing of adjoining residential buildings at midday or 3pm on the 21 June. The ICC will result in some overshadowing of the Western Distributor, and some overshadowing of the Boulevard at the worst case scenario at 3pm on the 21 June	No change.	✓
Key Elements / Facilities	Includes car park, exhibition halls, meeting rooms and Event Deck.	No change.	✓
The Theatre			
Patron Capacity	8,000 seats (options to increase internal capacity to 9,000 patrons will be investigated during design development)	8,000 seats, with flexibility to accommodate additional seating. Patron capacity will not exceed 9,000.	✓
Height	Max roof height – RL 44	No change.	✓
Pedestrian Access	Pedestrian access will be primarily from the main pedestrian staircase located at the north-east corner of the building.	No change.	✓
Vehicular Access / Loading	Vehicular access to the public car park will be provided off Exhibition Place. The loading dock will be accessed from a ramped entrance at the intersection of Pier Street and Darling Drive, with the ramp rising to a dock at Level 1 on-grade with the main stage area.	Vehicular access and loading will be provided off Darling Drive.	* Change associated with replanning of The Theatre. Relocation results in no changes to previous conclusions of Traffic and

Component	DA	Amended Proposed Development	Consistency
			Parking assessment.
Parking Numbers	107 public car parking spaces are provided.	Car parking spaces re-allocated from the ICC Exhibition; 196 spaces now proposed	* Parking numbers remain generally consistent across the PPP Site (refer to Section 3.1.2)
Overshadowing	The Theatre will result in a small amount of overshadowing to The Boulevard, and the forecourt of the Chinese Garden at the worst case scenario at 3pm on the 21 June. The Theatre will also result in some overshadowing of Pier Street on the Winter Solstice.	No change	✓
Key Elements / Facilities	Includes multifunctional auditorium, public parking, and ground level active uses.	No change	✓

4.2 Built Form and Urban Design

As detailed in **Table 4**, all key elements of the proposed development have remained unchanged. Further and as noted in Section 2.0 and 3.0, the proposed refinements to the development aim to deliver an improved outcome, including from a built form and urban design perspective. As a result, the proposed amendments will not affect the original conclusions reached with respect to built form and urban design, including:

- The proposal achieves consistency with the INSW Urban Design and Public Realm Guidelines.
- A precinct wide approach to achieving design excellence will be secured through the retention of an internationally and Australian renowned design team which is recognised for design innovation and excellence.
- Achieves the required core facility parameters whilst integrating active retail and recreational uses which support a vibrant entertainment precinct throughout the year.
- Provides for a built form which is appropriate to the CBD location of the site whilst also responding to local design drivers.
- Includes facade interfaces which promote views between the interior circulation spaces of the core facilities and the public domain, enhancing the perceived relationship between these spaces.
- Positioning buildings along the western edge of the PPP Site adjacent to Darling Drive allows the continued provision of a wide, multi-purpose public space within the centre of Darling Harbour which is as equally capable of hosting large scale public events as it is accommodating the daytime leisure activities of the City's office workers.
- The proposed facilities respond to the context of the site's position at the CBD-edge, within the Darling Harbour topography and within the context of surrounding buildings.
- Building heights within the site respond to the valley topography by maintaining the positioning of core facilities towards the western edge of the valley and by strengthening the character of the valley floor through public domain treatments and terracing landscaping up towards the ICC Exhibition.

4.3 Public Domain

As above, no changes are made to the key aspects of the public domain. As a result, the original conclusions outlined in the exhibited EIS remain unchanged. In summary:

- The development will provide an overall increase in the quantum of publicly accessible open space within the site, and will substantially improve the quality and amenity of new and augmented public open space within this precinct.
- Provides a public realm which responds to the diverse uses and needs for recreational space within the Sydney CBD and Darling Harbour tourism precinct;
- Incorporates landscaping, street art and public furniture which provide an appropriate mix of permanent amenity with flexibility to cater to a range of events including large-scale cultural events within Darling Harbour, Cockle Bay foreshore, Tumbalong Green, the Chinese Garden forecourt, The Theatre, ICC Exhibition, Event Deck and the ICC;
- The addition of new interactive play spaces for children within Tumbalong Park will build on the already highly successful and popular active play area previously delivered as part of the Darling Quarter development.
- Within the PPP Site, multiple opportunities exist for pedestrians to traverse the site via formal pedestrian routes. Public domain treatments, path widths and wayfinding signage will establish a clear hierarchy of pedestrian routes within the site which connect key activity nodes.
- Overall, the proposed pedestrian circulation system significantly improves the user experience both within the PPP Site and for pedestrians within the surrounding localities.

4.4 Acoustic Impacts

The Supplementary Acoustic Report prepared by Acoustic Logic addresses the potential acoustic impacts of the revised scheme, including the re-panning of The Theatre and the introduction of an open balcony on the eastern side of the upper level of the ICC (refer to **Appendix P**).

The Theatre

Acoustic Logic have reviewed the proposed changes to The Theatre and advise there is no adverse environmental acoustic impact associated with the changes.

ICC

Acoustic Logic note that as the balcony uses are currently being determined, a preliminary review has been conducted assuming that the balcony would accommodate similar activities to typical Event Deck activities (excluding large celebratory events). It has also been assumed that the balcony would have the same operating hours and noise restrictions as the Event Deck.

The assessment indicates that the proposed balcony could support a range of uses, while not adversely impacting sensitive receivers. An acoustic assessment conducted in conjunction with the Plan of Management for the use of these spaces (similar to the Event Deck) will determine the permissible range of uses based on the expected noise generation from the uses, taking into account the final design of the terrace and any physical or management controls implemented. Preliminary noise management strategies for typical balcony activities include:

- Appropriate selection and positioning of loudspeaker systems to minimise noise spill to sensitive receivers;

- Distributing louder aspects of events further from sensitive receivers (i.e. eastern side);
- Time management;
- Conscientious crowd management including limits to crowd numbers;
- Use of physical screens; and
- Consideration of impacts on events occurring within the ICC (if not related to the balcony activity).

4.5 Services Infrastructure

Hyder has prepared an addendum to their Services Infrastructure Report confirming that the proposed changes to the scheme will not alter the conclusions reach in the original report. A copy of the statement is provided at **Appendix U**.

4.6 Construction Management

Lend Lease Project Management and Constructions has prepared a statement to accompany the original Construction Management Plan (CMP), taking into account the revised scheme (refer to **Appendix V**). The statement confirms that the construction impacts remain generally unaltered from the original Construction Management Plan.

4.7 Overshadowing

Overshadowing of Tumbalong Park and residential developments to the west of Pyrmont Street has been discussed at Section 2.9 above.

The revised Shadow Analysis Diagrams prepared by Arterra (refer to **Appendix S**) reflect the revised scheme, and, consistent with the original shadow diagrams, demonstrate that the proposal will not result in adverse shadowing impacts.

4.8 Geotechnical

Douglas Partners have reviewed the revised scheme, and have determined that the proposal will not result in any changes to the conclusions made in the original Geotechnical Assessment. A copy of the Statement is provided at **Appendix W**.

4.9 Flooding and Stormwater

In addition to their response provided as part of **Appendix A**, Hyder has prepared a Flooding and Stormwater Statement (refer to **Appendix X**) which confirms that the revised scheme does not result in any significant changes to the conclusions reached in their original study.

4.10 Façade Reflectivity

CPP has reviewed the revised scheme, and has determined that the conclusions of the original Reflectivity Report, which found that the development does not present a driver hazard in terms of solar glare, remain unaltered (refer to **Appendix Y**). Further, recommendations made by CPP are reflected in the latest drawings, including the use of aluminium shading fins to the southern façade of the Convention Centre and the use of low reflectivity materials throughout the site. Of particular note in terms of materials selection is the use of expanded metal mesh to shroud the southern and part eastern facades of The Theatre. The mesh surface is a dark low sheen 'sating charcoal' finish, in line with previous CPP reporting. CPP note that there is potential for higher altitude mid-seasonal and summer sun to reflect glare off the southern faceted roof section and onto Pier Street if the expanded metal mesh is not installed with the correct orientation. To ensure the correct orientation, CPP will be consulted during detailed design phase.

4.11 Wind Impacts

CPP has reviewed the revised scheme to determine if it would alter the original conclusions relating to the wind environment (refer to **Appendix Z**). The statement confirms that the changes will not alter the conclusions of the original Wind Report and that the street level wind environment at most locations would be similar to, or calmer than, typical street level wind conditions in the surrounding areas. At the windiest locations identified, mitigation strategies such as awnings, fins, or landscaping will be developed during detailed design to improve comfort ratings.

4.12 Waste Management Plan

Waste Audit and Consultancy Services have reviewed the revised scheme, and conclude that from a waste management perspective, the most significant changes are those being made to The Theatre loading dock / vehicular access which will result in a more efficient and streamlined waste management system within the loading dock area by delivering a more functional overall layout for users. The proposed design changes do not alter the original intent or functionality of the existing waste management strategy, rather the changes will improve the original design. A copy of Waste Audit's Statement is provided at **Appendix AA**.

4.13 Accessibility

Morris Goding Accessibility Consulting has reviewed the revised scheme from an accessibility perspective. The addendum Access Statement at **Appendix BB** confirms that the conclusion of the original report remains unchanged, however provides the following additional recommendations.

Convention Centre

- The relocation of the Mixing FOH, AV Control and Production Room to Level 3 of the Darling Harbour Theatre requires review to ensure equitable access to these rooms is provided, in accordance with the BCA and DDA Premises Standards 2010, which is achievable.
- Review is required to ensure that an accessible unisex toilet facility is provided at the banks of toilets reserved for particular users (i.e. staff, VIP, public) or associated to particular areas (i.e. VIP Ballroom, Star Dressing Area and Darling Harbour).

Public Realm

- There is existing pedestrian ramp and stair that provide a pedestrian linkage between Harris Street public footpath and the Boulevard near Pier Street. As part of the Public Realm of the SICEEP - PPP component, the existing pedestrian ramp is proposed to be improved, to ensure the ramp has suitable gradients for people with disabilities, in accordance with AS1428.1-2009.
- As a result, the Public Realm of the SICEEP - PPP component provides equitable accessible linkages between the Boulevard and Pyrmont, which is in line with the requirements of the BCA and DDA Premises Standards.
- As part of the SICEEP development applications SSDA2 (The Haymarket component) and SSDA5 (SW Plot component), the proposed pedestrian linkage between SICEEP SW Plot, The Goods Line and the Powerhouse Museum should be reviewed, to ensure the public realm of the entire SICEEP project (PPP and The Haymarket) provide suitable accessible pedestrian linkages between Pyrmont, Darling Harbour/Haymarket and the City, in line with the requirements of the BCA and DDA Premises Standards.

The recommendations within the addendum Access Statement are reflected within the final Mitigation Measures at Section 5.0.

4.14 BCA

Steve Watson & Partners has reviewed the revised scheme from a BCA perspective. The addendum BCA Statement at **Appendix CC** confirms that the conclusions reach in the original BCA Assessment Report remain unchanged, and the design remains capable of complying with the requirements of the relevant sections of the BCA.

5.0 Final Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 5** below. These measures replace those outlined in the original EIS.

Table 5 – Final Mitigation Measures

Mitigation Measures
Transport ▪ Provide a new signalised pedestrian crossing along Darling Dive at the entry to Tumbalong Place to improve pedestrian safety. ▪ Liaison with the Roads and Maritime Services to be undertaken to ensure that future traffic forecasted for the SICEEP Project are considered and measures can be put in place to aid in minimising intersection delays during specific time periods and on special days. ▪ Light rail interface mitigation measures are to be implemented generally in accordance with Table 1 of the Response to Submissions and amendments to Proposed Development Report.
Geotechnical ▪ The existing piles on site may be able to be re-used for the proposed development if they are located in positions that can be used. ▪ Care should be taken during demolition to ensure that the Frankipiles are not damaged. Consideration of the remaining design life of the piles should be carried out if proposed for re-use. Integrity testing would need to be undertaken on each pile proposed to be reused to confirm their suitability for re-use. ▪ A geotechnical reduction factor (Φg) of 0.6 be adopted at this stage. This value (Φg) may be increased dependent on the amount of additional investigation as well as pile testing and geotechnical supervision during construction. ▪ Where piles are designed in tension the design values in Table 1 of the Geotechnical Assessment Report should be reduced by 50% in addition to the geotechnical reduction factor. Piles designed in tension should also be checked for cone-pullout failure. ▪ It is recommended that all load bearing foundations be inspected by an experienced geotechnical engineer or engineering geologist. ▪ It is recommended that, for lateral deformations, the design is based on the rock socket only with deformations calculated assuming fixity about 0.5 m below the top of the rock surface. ▪ Piles should be socketed at least three pile diameters into sandstone of at least low strength. To cope with strength variability and fractured zones as encountered in the bores, it is suggested that the actual socket length be at least 0.5 m longer than the minimum required socket. ▪ A more rigorous analysis of lateral pile deflection modelling of the piles using the PYGMY computer program should be carried out during detailed design. ▪ It is recommended that the piling contractor be consulted prior to engagement and made aware of the potential difficulties during construction. ▪ Piles should be positioned so that there is at least 5 m of high strength sandstone bedrock between the base of the pile and the possible edge of the GSD. ▪ In accordance with the Earthquake Loading Standard, AS1170.4- 2007, most of the site can probably assessed to have a Site Sub-Soil Class of "Ce", however, the foundations beneath individual structures should be reassessed during detailed design. ▪ Remove all vegetation-affected filling, deleterious materials and any topsoil. ▪ Proof roll the exposed surface using a minimum 10 tonne smooth drum roller in non-vibration mode. The surface should be rolled a minimum of six times with the last two passes observed by an experienced engineer to detect any 'soft spots'. ▪ Any heaving materials identified during proof rolling should be removed, or otherwise treated (e.g. with geosynthetics or bridging layers), as directed by the engineer. ▪ Any new filling should be placed in layers of 300 mm maximum loose thickness and compacted to a dry density ratio of between 100% and 103% Standard compaction and with moisture contents maintained within 2% of Standard optimum moisture content. ▪ Imported fill material should preferably be free of oversize particles (>1 00 mm) and deleterious material and be non-saline to slightly-saline, non-dispersive, have a plasticity index of less than 25%

Mitigation Measures

and a California bearing ratio of greater than 5%.

- Excavated filling on-site may be suitable for re-use as filling on site, from a geotechnical perspective, provided it does not contain peaty clays, excessively silty material, vegetation or deleterious materials (e.g. rubbish, building rubble). An environmental consultant should be consulted as to the waste classification of materials on site and its appropriateness for re-use.
- Moisture conditioning of fill materials proposed for re-use may need to be carried out. If excessively wet, moisture conditioning is likely to involve drying using one of the following methods:
    - exposure to sunny and/or windy weather;
    - mixing with drier materials; and,
    - stabilisation using either lime or cement. The choice and amount of stabilising material is dependent on the type of filling proposed for re-use and its moisture content.
- Drying methods that are dependent on exposure to the environment are obviously associated with a risk of being affected by wet weather.
- Density testing of the filling should be carried out in accordance with AS3798 *'Guidelines for Earthworks for Commercial and Residential Developments'*.
- Drainage measures should be included within all earthworks operations carried out on site.
- Where a good quality and uniform filling subgrade is present, this subgrade may be suitable to support some rigs. Where a poor quality and non-uniform subgrade is present preliminary analysis suggests that a working platform approximately 0.8 m to 1.2 m thick of high quality bridging material, such as crushed sandstone or recycled concrete, will be required to support a tracked rig with an applied pressure of 150 kPa. The thickness of this bridging layer can be reduced with the use of a high strength geosynthetic. These recommendations should be reassessed during construction.
- If settlements in the proposed filled embankment can be tolerated then the embankment could be placed on the subgrade prepared as described in Section 8.4.1. If settlements beneath the embankment cannot be tolerated or need to be limited then either bridging layers, piles or a slab suspended on piles could be considered.
- A 2:1 batter would be appropriate where a high quality fill material, such as a crushed sandstone or recycled concrete, is proposed for the filled embankment. However, if a poorer quality fill material is used, such as the clays included in the fill won on site, then a heavy duty geogrid placed at 1 m intervals will probably be required.
- Design for lateral earth pressures for a multi--propped wall system may be based on a uniform rectangular earth pressure distribution over the bottom 80% and triangular distribution over the upper 20% of the wall height. A design horizontal active pressure of 4H (H = height to be retained) or 7H (where lateral movements are to be limited) should be adopted over the bottom 80% of the wall height. Additional lateral pressures due to surcharge loadings behind the wall and hydrostatic pressures (as appropriate) should be allowed for within the structural design.
- If a limit state approach is adopted for the design of the retaining walls, these values should be appropriately factored in accordance with AS4678 "Earth Retaining Structures" (2002).
- If settlements of the pavement cannot be tolerated then the pavement should be supported by suspended slabs supported on piles that are founded on bedrock. If settlement of the pavement can be tolerated then it may be supported by a subgrade prepared in accordance with Section 8.3.1 of the Geotechnical Assessment Report.
- Given the variable subsoil profile including uncontrolled filling of variable compaction as well as the estuarine and alluvial sediments of variable thickness and strength it is recommended that all floor slabs be suspended on piles supported on bedrock.
- Surface and subsurface drainage should be incorporated into the design to protect footings and pavements. All collected stormwater and roof runoff should discharge into the stormwater disposal system.

Mitigation Measures

Noise

- The Demolition, Excavation and Construction Noise Management Plan prepared by Acoustic Logic and dated June 2013 will be incorporated within the Construction Environmental Management Plan prior to the issue of a Construction Certificate.
- Dilapidation surveys of buildings and structures within the immediate vicinity of the site will be undertaken to ensure any potential damage as a result of vibration or other works is identified and rectified.
- The minimum insertion losses for acoustic treatments to plant equipment detailed in the Environmental Noise and Vibration Impact Assessment prepared by AECOM dated March 2013 will be provided and detailed in Construction Certificate drawings.
- A Noise Management Plan will be developed with SHFA and submitted to the EPA for all SICEEP outdoor entertainment areas prior to the issue of an Occupation Certificate which addresses preventative noise management, reactive noise management and noise assessment measures.
- Acoustic absorptive treatments will be applied to loading dock enclosing walls and barriers to achieve the noise mitigation specifications contained within the Environmental Noise and Vibration Impact Assessment prepared by AECOM dated March 2013.

Contamination

- The measures outlined in the Remedial Works Plan prepared by AECOM dated 11 March 2013 will be incorporated into a detailed Site-Wide Construction Environmental Management Plan (CEMP) and implemented during the construction phase.
- Comments on the Remedial Works Plan by the site auditor which are contained within Table 11.1 of the Site Audit Report prepared by Environ dated March 2013 will be implemented within the CEMP.
- Acid sulphate soils and potential acid sulphate soils will be identified and treated in accordance with the Acid Sulphate Soils Management Plan prepared by AECOM dated 11 March 2013.

Flooding

- All overland flow paths are to remain unobstructed and ground levels are to be consistent with the proposed flood modelling.
- A formal floodplain risk management plan with respect to evacuation and refuge is to be developed.
- Buildings and structures are to be designed for hydraulic loadings up to the PMF event.

Water Quality

Stormwater quality treatment measures throughout the entire SICEEP Site will reduce baseline annual pollutant loads from existing levels as follows:

- litter and vegetation larger than 5mm (gross pollutants) by 100%;
- Total Suspended Solids (TSS) by 85%;
- Total Phosphorous (TP) by 63%; and
- Total Nitrogen (TN) by 56%.

Heritage

The Heritage Interpretation Strategy prepared by TKD Architects dated June 2013 should be incorporated into the detailed design of the SICEEP redevelopment and inform a Heritage Interpretation Plan developed for the SICEEP precinct.

Preparation of the Heritage Interpretation Plan should include the opportunity for consultation with primary stakeholders such as representatives of the Sydney Harbour Foreshore Authority, the City of Sydney, NSW Heritage Branch, project architects, heritage consultants, and other appropriate statutory and non-statutory authorities.

The Heritage Interpretation Plan should detail measures such as public art, wayfinding media, naming, interpretive signs and installations, archaeological remains, development of oral histories, educational tours (guided or self-guided), interpretive walks, events and/or website based information.

Construction

- Construction Traffic Management Plan to be included in tender documents for all works;
- Construction Traffic Management plan to form part of site induction package;

Mitigation Measures
▪ Subcontractors/suppliers to submit formal delivery booking requests 5 business days prior to delivery; ▪ Developer to establish holding areas for urgent and emergency vehicles within the development site; ▪ 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.
Building Code of Australia (BCA) and Accessibility ▪ The design recommendations contained within the Access Review prepared by Morris Goding Accessibility Consulting dated 1 March 2013 and the letter prepared by Morris Goding Accessibility Consulting dated 21 June 2013 will be adopted in the detailed design documentation prior to the issue of a Construction Certificate for new works. ▪ The final development will comply with the provisions of the Building Code of Australia.
Indigenous Archaeology In order to mitigate any impacts to potential aboriginal archaeological deposits, Comber Consultants advise that archaeological testing, recording and salvage should occur in areas where piling or any other ground disturbance that will penetrate the fill is to be undertaken within the area of the original foreshore, and archaeological monitoring should occur in the south western corner of Bayside in the area of the original foreshore. In addition, the following measures are proposed: ▪ Prior to commencement of the monitoring and testing, a research design and management strategy should be prepared. ▪ Monitoring, recording and testing should be undertaken in partnership with the Metropolitan Local Aboriginal Land Council. ▪ If any Aboriginal "objects" (as defined under the *National Parks & Wildlife Act 1974)* are located during the course of the testing program, the Metropolitan Local Aboriginal Land Council should apply for a Care Agreement with the Department of Environment and Heritage to enable them keep the objects. ▪ The program of sub-surface testing should be coordinated with Casey & Lowe, the archaeologists undertaking testing/recording in respect of the historical archaeology. ▪ If any previously undetected Aboriginal "objects", artefacts or sites are uncovered, work must cease in the vicinity of that object, artefact or site and further advice sought from the archaeologist who undertook the program of sub-surface testing.
Non-Indigenous Archaeology ▪ In the event that new heritage/archaeological items are discovered, the items are to be managed in an appropriate manner and in accordance with the specific measures detailed in the Non Indigenous Archaeological Assessment prepared by Casey and Lowe dated March 2013. ▪ Communication and education material on heritage management and conservation will be prepared as part of the Site Environmental Awareness Program and incorporated into the site induction. ▪ Any archaeological program will be targeted and strategic and in accordance with Heritage Council guidelines. Limited recording may be appropriate for more extensive deposits, and excavation and recording may be appropriate where the archaeology is more concentrated and impacts more extensive. ▪ A Research Design and Management Strategy will be prepared in accordance with best practice archaeological methodologies. ▪ A public interpretation plan will be prepared outlining key themes for interpretation of Darling Harbour and surrounds. ▪ The owner of the SICEEP Site will provide storage in perpetuity for artefacts recovered from the site.
Social Responsibility ▪ ICC Sydney venue operator to make meeting rooms available free of charge for a total of 200 hours annually to community groups approved by the City of Sydney Council and Sydney Harbour Foreshore Authority subject to availability. ▪ A small meeting room must be identified by the ICC Sydney venue operator and be made available at discounted rates to community groups approved by the City of Sydney Council and Sydney Harbour Foreshore Authority subject to availability.

6.0 Conclusion

The proponent Darling Harbour Live and its expert project team have considered all submissions made in relation to the public exhibition of the proposed Public Private Partnership component of the Sydney International, Convention, Exhibition and Entertainment Precinct Project. 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 government agencies and authorities, independent bodies and the general public, Darling Harbour Live 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. In addition, and to the benefit of the overall project, the refinements to the design are considered to reduce the environmental impacts and on balance deliver a project that results in an overall improvement to the scheme originally publicly exhibited.

In conclusion, the delivery for Sydney and NSW of new world class convention, exhibition and entertainment facilities will have significant and long lasting public benefits:

- The ICC Sydney facilities will generate $200 million per year in economic benefit for NSW, or some $5 billion over the course of the 25 year concession period for operating the new facilities;
- The redevelopment of Tumbalong Park and the core facilities will create a vibrant and high quality public open space, which is commensurate with the central location of the precinct within central Sydney and sustains activity throughout the day;
- The PPP development will create 1,600 new jobs during construction, with ongoing employment opportunities for 4,000 people across the precinct;
- The proposed development will provide a significant public benefit through the provision of a renewed public domain, the provision of community use of facilities and a significant public benefit to the state; and
- The PPP Site redevelopment will facilitate the development of The Haymarket which is expected to improve housing supply, choice and affordability by accommodating approximately 2,360 dwellings (comprising 1,360 residential apartments and 1,000 student beds) upon completion with a resident population in the order of 3,400 – 3,700.
- The project will provide an enhanced, enlarged and dynamic public domain to be enjoyed by residents and visitors alike, including the Event Deck which will be publicly accessible when not being used for events;
- The project will substantially improve permeability and better connections to surrounding areas (including overcoming existing poor east-west connections between Pyrmont and the CBD);
- Creating a vibrant and activated precinct for Sydneysiders and visitors to enjoy, with a mix of retail shops, public spaces, dining areas, a hotel and other accommodation;

- Providing free Wi-Fi throughout the SICEEP Site and BBQs in the public domain for public use;
- Providing free televised events on the digital screen in Tumbalong Park;
- Offering local community groups' access to meetings rooms within the Convention/Exhibition Centre free of charge for 200 hours;
- Establishing working relationships and ongoing support to selected local schools (e.g. providing the opportunity for students to attend appropriate events within conferences/exhibitions that have educational benefits, assisting with fundraising initiatives); and
- Improving safety and security in the surrounding public domain.