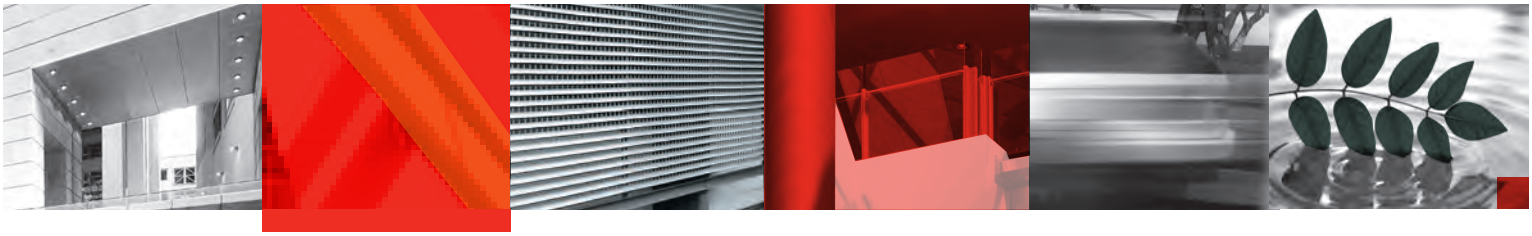
State Significant Development
Environmental Impact Statement



161 Sussex Street Redevelopment

Submitted to Department of Planning & Infrastructure
On Behalf of GL Investment Co Pty Ltd ATF GL No 1 Trust

August 2012 ▪ 11030

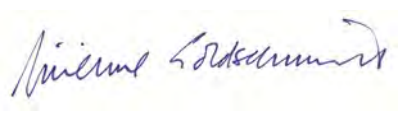
JBA Urban Planning Consultants Pty Ltd ABN 84 060 735 104 w jbaplanning.com.au
North Sydney t +61 2 9956 6962 ▪ Wollongong t +61 2 4225 7680 ▪ Newcastle t +61 2 4927 0980

JBA Urban Planning Consultants Pty Ltd operates under a Quality Management System. This report has been prepared and reviewed in accordance with that system. If the report is not signed below, it is a preliminary draft.

This report has been prepared by: Kirk Osborne

Signature  Date 29/8/2012

This report has been reviewed by: Vivienne Goldschmidt

Signature  Date 29/8/2012

SUBMISSION OF ENVIRONMENTAL IMPACT STATEMENT (EIS)

Prepared under the Environmental Planning and Assessment Act 1979 Section 78A

EIS PREPARED BY:

Name:	Kirk Osborne
Qualifications:	BA MURP MPIA
Address:	JBA Urban Planning Consultants Level 7, 77 Berry Street North Sydney NSW 2060

DEVELOPMENT APPLICATION

Applicant Name:	GL InvestmentCo Pty Ltd ATF GL No 1 Trust
Applicant Address:	Suite 2.02B 350 George Street Sydney NSW 2000
Land to be developed: Address	161 Sussex Street Sydney
Lot No. DP / MPS, Vol / Fol etc.	Lot 101 and 102 DP 1009697

ENVIRONMENTAL IMPACT STATEMENT

An Environmental Impact Statement (EIS) is attached

CERTIFICATE

I certify that I have prepared the contents of this statement and to the best of our knowledge:

- it is in accordance with clauses 72 and 73 of the Environmental Planning and Assessment Regulation 2000, and
- it contains all available information that is relevant to the environmental assessment of the development, and
- that the information contained in the statement is neither false nor misleading.

Signature: 

Name:	Kirk Osborne
Date:	29/8/2012

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Executive Summary

This Environmental Impact Statement (EIS) is submitted to the Minister for Planning and Infrastructure in support of a State Significant Development Application (DA) for the redevelopment of the Four Points by Sheraton Hotel at 161 Sussex Street, Sydney. The proposed development is submitted pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* and Schedule 2 of *State Environmental Planning Policy (State and Regional Development) 2011*.

The proponent is GL InvestmentCo Pty Ltd ATF GL No.1 Trust.

Overview of the Proposal

The proposed development seeks approval for:

- external and internal demolition works, including demolition of the existing through site link to Darling Harbour;
- construction of a 25 storey tower, comprising 231 hotel rooms and 5,775m^2 of commercial floorspace and 4,810m^2 of convention, exhibition and function space;
- an extension of the existing podium space to provide new convention and exhibition space including pre function space, meeting rooms and function rooms;
- upgrades to the porte cochere, building entries on Sussex Street, the hotel lobby and reception areas;
- the relocation of the all-day dining area within the current ground floor level;
- new and upgraded back of house areas including new kitchens to service the new convention / function venues;
- public domain works on Slip Street; and
- relocation of the existing through site link to provide a direct connection between Sussex Street and Darling Harbour.

A detailed description of the proposed development is contained in **Section 3** of this report and illustrated in the Architectural Drawings prepared by Cox Richardson Architects and provided at **Appendix A**.

The Site

The site of the proposed development is located at 161 Sussex Street, Sydney and has an area of 11,223 m^2 fronting Sussex Street. The site comprises a mix of uses including the Four Points by Sheraton Hotel, commercial offices, retail and restaurant uses. Existing buildings on the site include the Four Points by Sheraton Hotel, which extends over Slip Street and the Western Distributor, and four heritage listed buildings including the Corn Exchange and Dundee Arms Hotel.

Planning Context

The proposed development has been declared State Significant Development (SSD) as it has a capital investment value estimated at $148.5 million and is located in the Darling Harbour precinct, which is identified as a State Significant Site in Schedule 2 of *State Environmental Planning Policy (State and Regional Development) 2011*.

The Director General's environmental assessment requirements were received on 24 November 2011 and updated in February 2012. A copy of the DGRs is included at **Appendix B**. An assessment of the proposed development against the relevant statutory planning controls and strategic policy documents is provided at **Section 5** of this EIS.

Consultation

Key stakeholders including government agencies, public authorities and the City of Sydney Council have been consulted during the preparation of the EIS. Details of this consultation are provided at **Section 4** of this EIS.

Environmental Impacts

All environmental impacts are considered in **Section 5** of this report. The proposed development will not have any adverse environmental impacts and will provide a high quality hotel and commercial development with an emphasis on celebrating the heritage qualities of the site.

Conclusion

The redevelopment of the Four Points by Sheraton Hotel has been proposed to respond to the current demand in Sydney for hotel accommodation, convention facilities and commercial floorspace in the CBD. The environmental assessment in this report and supporting technical documentation has considered the proposed development and its potential environment impacts. It has been determined that there will be no adverse environmental impacts and that the potential impacts are able to be managed through the proposed mitigation measure outline in Section 6. Given the planning merits of this proposed development it is recommended for approval by the Minister for Infrastructure and Planning.

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning & Infrastructure (DoP&I) in support of a Development Application (DA) for the redevelopment of the Four Points by Sheraton Hotel at 161 Sussex Street, Sydney. The proposed development comprises a new tower to accommodate an additional 231 guest rooms and commercial office space on the upper floors. New convention and function facilities are also proposed.

The hotel is within the Darling Harbour precinct, which is identified as a State Significant Site in Schedule 2 of State Environmental Planning Policy (State and Regional Development) 2011. As the proposed development will have a capital investment value of more than $10 million it is declared to be State Significant Development (SSD) for the purposes of the *Environmental Planning and Assessment Act 1979*.

The existing hotel opened in 1990, trading as the Nikko Hotel, but now operates as the Four Points by Sheraton. Prior to 2010 the hotel building had not undergone any major refurbishment or redevelopment since opening. In 2010 an ongoing refurbishment program commenced which included repainting the exterior of the hotel and the progressive refurbishment of the hotel rooms.

More recently two Development Applications (D/2012/247 and D/2012/248) for the refurbishment of the guest rooms in the southern tower were approved by the City of Sydney on 13 April 2012. These applications involved the upgrading of all existing hotel rooms to improve the amenity of the hotel for guests.

This EIS has been prepared by JBA Planning on behalf of GL Investment Co Pty Ltd ATF GL No 1 Trust (the proponent), and is based on the Architectural Drawings provided by Cox Richardson Architects (see **Appendix A**) and other supporting technical information appended to the report (see Table of Contents).

This report describes the site, its environs, the proposed development, and provides an assessment of the proposal in terms of the matters for consideration under Section 79C(1) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Capital Investment Value of the project is $148.5 million.

1.1 Overview of the Proposal

The application seeks approval for the following development:

- external and internal demolition works, including demolition of the existing through site link to Darling Harbour;
- construction of a 25 storey tower (to RL93.6) at the southern end of the site consisting of;
  - 231 new hotel rooms on Levels 1 to Level 14;
  - 7 levels of commercial office space on Levels 16 to 22; and
  - two plant levels;
- extension of the existing podium to provide new convention space including pre function space, meeting rooms and function rooms;
- upgrades to the porte cochere, building entries on Sussex Street, the hotel lobby and reception areas comprising 2,875m^2 of floor space to be refurbished;
- the relocation of the all-day dining area within the current ground floor level;

- new and upgraded back of house areas including new kitchens to service the new convention / function venues;
- public domain works on Slip Street; and
- relocation of the existing through site link to provide a direct connection between Sussex Street and Darling Harbour.

1.2 Current Demand for Hotel Rooms and Convention and Exhibition Space and in Sydney

The tourism industry is the twelfth largest industry in NSW, contributing $27 billion annually to the NSW economy and generating approximately 260,000 direct and indirect jobs[1]. Sydney is the most popular destination for overseas visitors, attracting 53% of international visitors to Australia. In 2008-2009, NSW received almost 22.6 million domestic overnight visitors and over 2.7 million international overnight visitors. Of these visitors, 25% of domestic visitors and 10% of international visitors stayed in hotels, resort and motels.

1.2.1 Hotel Rooms

In the period leading up to the Sydney 2000 Olympic Games there was a significant increase in hotel development, largely driven by the future demand created by the Olympics and also as a result of the floor space incentive provisions in the Central Sydney Local Environmental Plan 1996. Between January 1998 and December 2002, a total of 4,443 new hotel rooms were added to Sydney's room stock.

Since 2000 however hotel openings slowed significantly. Whilst a number of hotels have undergone refurbishments, according to the City of Sydney Visitor Accommodation Monitor the growth in total room stock in the City of Sydney has been flat and actually declined slightly between December 2010 and December 2011. Conversely, the occupancy rate for hotel room has grown from approximately 78% in 2005 to 85% in 2011[2].

The Four Points by Sheraton is currently the largest hotel (by number of rooms) in Australia and enjoys a high level of occupancy. The hotel is well patronised by both business travellers and tourists. As noted above demand for hotel rooms, has experienced steady growth and occupancy rates have been rising. A shortage of accommodation is expected as demand is forecast to grow and supply of new rooms is constrained. The demand for hotel accommodation is also expected to grow due to the NSW Government's proposed redevelopment of the Sydney Exhibition and Convention Centre at Darling Harbour.

1.2.2 Convention and Exhibition space

Sydney experiences strong demand for convention and exhibition facilities and the NSW Government is undertaking a $1 billion redevelopment of the Sydney Exhibition and Convention Centre to deliver an expanded and integrated convention, exhibition and entertainment precinct at Darling Harbour.

[1] Source Destination NSW website.

[2] City of Sydney Accommodation Monitor April 2011

The proponent has met with key stake holders involved in the Sydney convention and meeting sector including leading conference organisers, Tourism and Transport Forum, NSW Infrastructure, Business Events Sydney and Destination NSW. These stakeholders have provided input as to the features and requirements the customers in the meeting and convention space look for when choosing Sydney as the destination venue for their event.

The expansion of the Four Points Hotel in both meeting facilities and rooms will assist NSW in winning large group, corporate meeting, association and convention bids and complement the redevelopment of the Sydney Exhibition and Convention Centre.

1.3 Analysis of Alternatives

As discussed in Section 1.2 above there is established demand for hotel beds and convention, exhibition and function space in Sydney. In particular there will be a critical need for such facilities once the Sydney Convention and Exhibition Centre is closed for redevelopment.

During design development various built form alternatives were considered including:

- a larger building tower footprint and lower height tower;
- matching the height of the new tower to the existing southern hotel building; and
- reducing the tower footprint to increase sight lines from Darling Harbour.

These alternatives were considered on their design merits, the provision of hotel and office accommodation and convention and exhibition spaces, the functionality of spaces and office and on how well they would contribute to the achievement of the demands of Sydney, including the need for more convention and exhibition space, as well as additional hotel accommodation. Several built form

These variations to the proposed development were discounted through the design process as they did not deliver an optimum design solution that delivers a viable and functional hotel, office space and convention facilities to meet current and future demands. These alternatives were also not considered to produce the best built form outcome which responds to the immediate site conditions, as well as the surrounding built form of Sydney's CBD.

In considering the available alternatives, the option of no development was analysed. In the no development scenario, it would not be possible to meet the current and future demand for hotel accommodation in Sydney. In particular, the current shortfall of hotel accommodation, lack of convention and function floor space would remain unresolved. In addition, no development would result in the continued sub-optimal functioning of the existing hotel and would not allow for the showcasing of the heritage buildings on the site.

After an analysis of the feasible alternatives, it was identified that the proposed development will produce the best possible outcome for the site. This development will contribute to satisfying the current and future demands for hotel accommodation and will result in a positive built form outcome for the site.

1.4 Necessary Approvals and Licences Required

As the development proposes to erect a structure over a public road, an approval for the proposed works under Section 138 of the *Roads Act 1993* is required.

1.5 EIS Requirements

A request for the Director-General Requirements (DGRs) for the preparation of an Environmental Impact Statement was submitted to the DoP&I on the 19 October 2011. On 24 November 2011, in accordance with Section 89G of the EP&A Act, the Director-General of the Department issued the requirements. A copy of the DGRs is included **Appendix B**.

The DGRs established that the proposal must meet the requirements of Schedule 2 of the EP&A Act, specifically the form specifications in Clause 6 and the content specifications in Clause 7. Several stakeholders were identified with whom consultation must occur during the preparation of the EIS.

Table 1 provides a summary of the individual matters listed in the DGRs and identifies where these requirements are addressed in this report and the accompanying technical studies.

Table 1 – Location of Director General Requirements in the EIS

Requirement	Location in Environmental Impact Statement
General	
Statement and Declaration	EIS Declaration
Summary of EIS	Refer to Executive Summary
Statement of the objectives and description of the development	Section 1 and 3
Analysis of alternatives	Section 1.3
Capital investment value	Section 1
Environmental assessment of the development	Section 5
Mitigation measures	Section 6
List of necessary approvals/licenses	Section 1.4
A list of authorities from which concurrence must be obtained	n/a
List of accompany documents	Page ii and Page iii
Justification for carrying out the development	Section 7
Key Project Specific Issues	
1. Environmental Planning Instruments.	Section 5.1
2. Relevant Policies and Guidelines	Section 5.1
3. Built Form and Urban Design	Section 5.2 and 5.3
4. Heritage.	Section 5.4
5. Ecologically Sustainable Development	Section 5.13
6. Amenity	Section 5.5
7. Noise	Section 5.8
8. Transport and Accessibility - Construction - Operation	 Section 5.18 Section 5.7

Requirement	Location in Environmental Impact Statement
9. Rail Corridor	Section 5.9
10. Infrastructure	Section 4 and 5.14
11. Sediment, Erosion and Dust Controls (Construction and Excavation)	5.18
12. Groundwater	5.10
Plans and Documentation	
Plan of the location of the CBD Rail Link in relation to the land	Section 5.9 and Appendix H
Plan of the location of the proposed Haymarket to Circular Quay light rail corridor	Appendix H
Shadow Diagrams	Appendix A
A model of the proposal	Submitted under separate cover
Survey plan to AHD	Appendix C
Consultation	
Agency and Council Consultation	Section 4

2.0 Site Analysis

2.1 Site Location

The Four Points by Sheraton is a four star hotel located at 161 Sussex Street, Sydney on the western edge of the Sydney CBD, overlooking Darling Harbour. The site's location is shown at **Figure 1**.

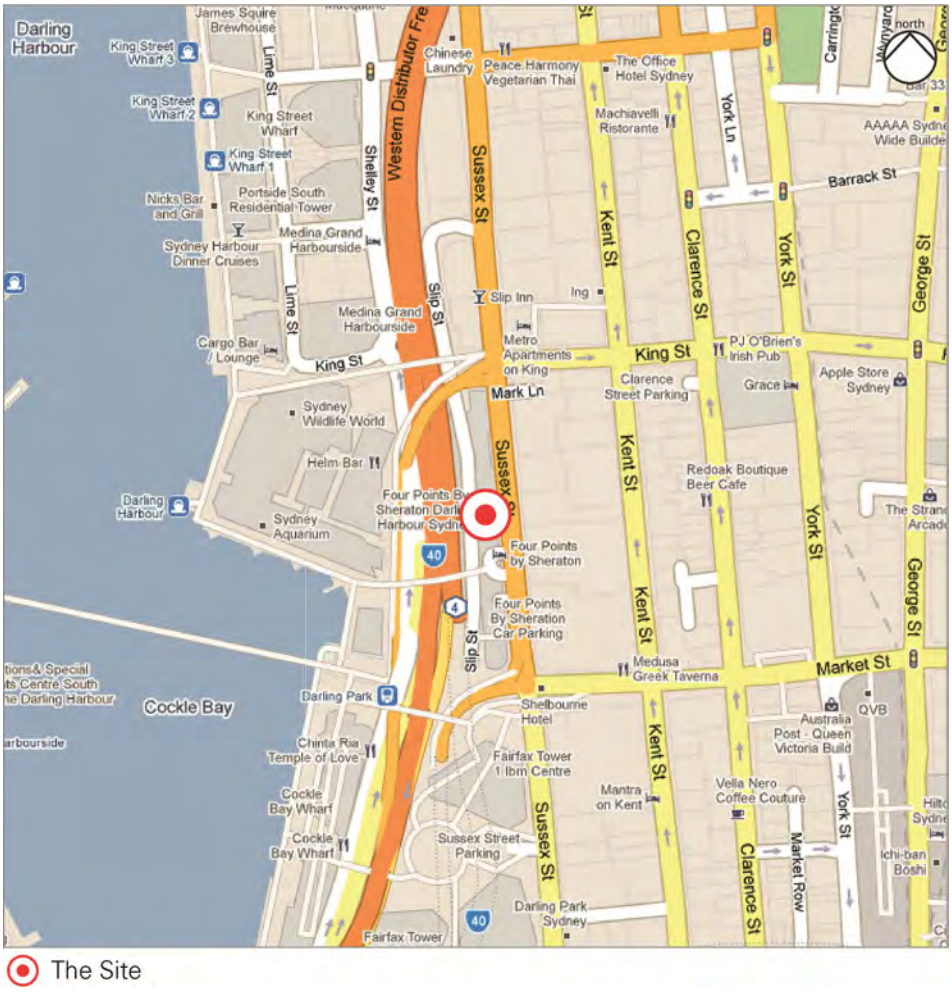

Figure 1 – Location plan

2.2 Site Description

The site has an area of 11,223 m² and fronts Sussex Street. The existing footprint of the buildings is approximately 7,320m² in area. An aerial image of the site is shown at **Figure 2**.

The site is legally described as Lots 101 and 102 in DP 1009697 and sits within the boundary of lands controlled by the Sydney Harbour Foreshore Authority (SHFA). A site survey is included at **Appendix C**. The site was acquired by
GL InvestmentCo Pty Ltd in 2010 and the site is subject to a 99 year lease with the Foreshore Authority which expires in 2087.

Figure 2 – Aerial photo of the site

Existing Development

The site comprises a mix of uses including hotel, commercial offices, retail and restaurant uses. Existing buildings on the site include the Four Points by Sheraton Hotel, which extends over Slip Street and the Western Distributor, and four heritage listed buildings including the Corn Exchange and the Dundee Arms Hotel.

The Four Points by Sheraton Hotel is a 16 storey building comprising 630 hotel rooms, reception area, restaurant, bar, conference rooms, fitness centre and day spa. The hotel building consists of a Northern Tower and a Southern Tower, with a stepped form from 10 storeys in the Northern Tower to 16 storeys in the Southern Tower (**Figure 3**). The building extends over Slip Street and is partly built over the Western Distributor with columns supporting the weight of the building over these roads. The hotel building also incorporates former sandstone warehouses in the north eastern part of the site housing shops and a restaurant.

Separate to this proposal the existing hotel rooms are undergoing refurbishment and reconfiguration and when complete the existing room capacity will be increased to 696 rooms.

Figure 3 – The Four Points by Sheraton building viewed from Pyrmont Bridge

There are a number of items on the site listed on the State Heritage Register in accordance with the *Heritage Act 1977*. The Corn Exchange Building is also listed on the Sydney Harbour Foreshore Authority Section 170. The items of heritage significance on the site are described below.

The Corn Exchange Building *– 173-185 Sussex Street*

The Corn Exchange (refer to **Figure 4**) was completed in 1887 as a temporary fruit and vegetable market and has a historical role in dealing with agricultural produce. The Corn Exchange building is of state significance as it is one of the last remnants of wharfside warehousing and commercial buildings, reflective of the area's historical role in commerce and trading. The building has a distinctive curved facade and makes a significant contribution to the built form heritage on Sussex Street. The Corn Exchange is currently used as commercial offices.

The Dundee Arms Hotel Building *– 173-185 Sussex Street*

The Dundee Arms Hotel (**Figure 5**) was constructed pre 1860 and is a typical example or corner pubs of the Victorian Sydney era. The Dundee Arms is one of the oldest surviving pubs in the area and is reflective of the sites industrial and maritime heritage as the hotel historically serviced the nearby harbour workers and sailors. The Dundee Arms also makes an important contribution to the group of heritage items along Sussex Street in this area. The Dundee Arms continues to trade as a pub.

Central Warehouses *– 139-151 Sussex Street*

The former produce store at 139-151 Sussex Street (refer to **Figure 6**) is a terrace of early Victorian warehouses and a fine example of commercial architecture of its period. These warehouses together with the Corn Exchange are some of the last remaining remnants of commercial and warehouse buildings associated with the mid to late 19th century commercial and trading activities of the area. The building reflects the importance of warehouse development in the commercial and trading activities of the time. The building was extensively renovated in 1995 as part of the original development of the Four Points hotel and is currently used for retail and hotel uses.

***Commercial Building** – 121-127 Sussex Street*

The former warehouses at 121-127 Sussex Street (refer to **Figure 7**) is also an example of an early Victorian commercial terrace. The terrace has heritage significance due to its associations with produce merchants and wool merchants. The architecture is also significant with large openings denoting its commercial purpose. The building is currently used as a restaurant.

Figure 4 – The Corn Exchange

Figure 5 – The Dundee Arms Hotel

Figure 6 – Central Warehouses

Figure 7 – Commercial terrace at 121-127 Sussex Street

Access

Vehicular access to the site is from Sussex Street and Slip Street. Hotel guest pick-up and drop-off is off Sussex Street through a porte cochere. Access to the hotel bus bays and loading docks and access to the lower levels of 121-127 Sussex Street and the Corn Exchange is via Slip Street. **Figure 8** illustrates the bus bays located beneath the hotel.

A pedestrian bridge over the Western Distributor provides a direct link from Sussex Street to Darling Harbour along the southern side of the hotel building. The site is within walking distance to public transport including rail, bus and monorail services.

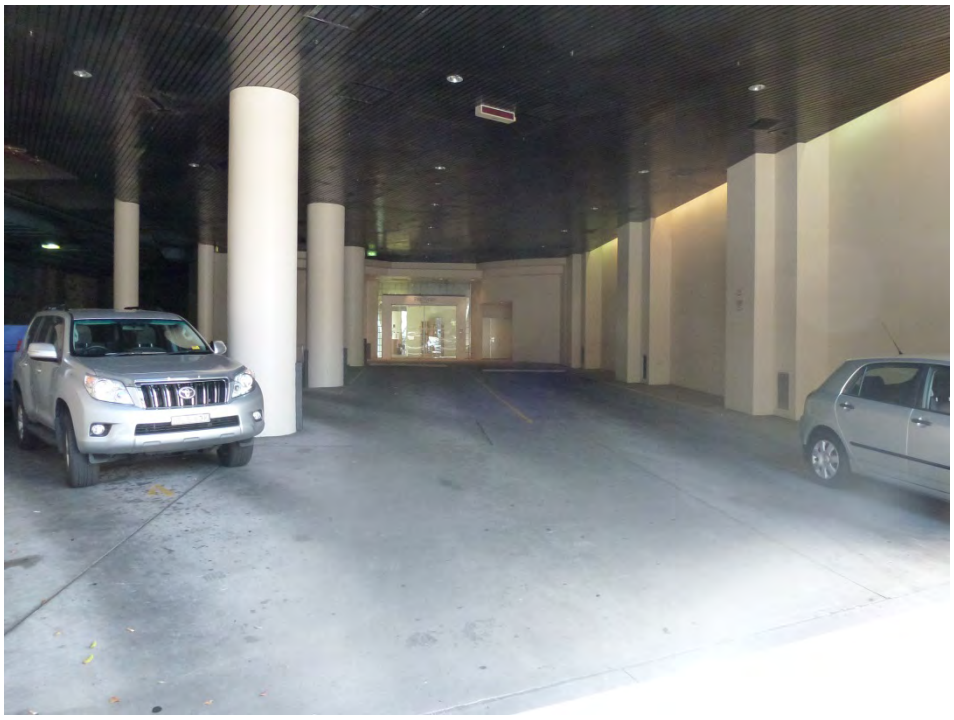

Figure 8 – Existing coach and bus parking off Slip Street

Geotechnical Conditions

The geotechnical conditions of the site have been investigated by Consulting Earth Scientists Pty Ltd and are detailed in the Geotechnical Investigation Report provided at **Appendix L**. These investigations identified that below the surface pavement, there is fill to a maximum depth of 4.2 metres. Below this are marine deposits which consist of sand, silt and clay reaching a depth of 9.8 metres below the surface. The remaining investigation area is characterised by sandstone.

Groundwater Conditions

An analysis of the existing groundwater conditions has been carried out by Consulting Earth Scientists Pty Ltd and is detailed in the Geotechnical Investigation Report provided at **Appendix L**. and it was identified that it is likely that groundwater will be encountered at shallow depths of 0.7 metres to 0.85 metres below surface level.

Utilities and Infrastructure

The site is traversed by Ausgrid infrastructure including 11kV and 33kV electricity cables and fibre optics. Optus communication infrastructure is also housed within the Ausgrid ducts.

2.3 Surrounding Development

The site's location on the perimeter of Darling Harbour places it in a busy and important tourist and commercial centre. The hotel is within walking distance of the CBD's major commercial, entertainment and shopping districts including the Queen Victoria Building, Pitt Street Mall, Chinatown and Darling Harbour. The surrounds of the site are detailed below.

Directly to the north of the site is the 'Slip Inn' and serviced apartments. Further to north along Sussex Street are commercial office uses. **Figure 9** shows the Slip Inn.

Figure 9 – Slip Inn located to the north of the site

Surrounding development to the east comprises commercial office uses and a parking station (**Figure 10**). Two different Secure Parking stations are located opposite the site on Sussex Street. A residential apartment building is located at 26 Market Street.

Immediately to the south of the site is the Sydney Monorail and pedestrian access over Sussex Street to Darling Harbour (refer **Figure 11**). This pedestrian walkway over Sussex Street leads to Pyrmont Bridge which is located to the south west of the site. Pyrmont Bridge is a State heritage item which was a historically significant link between Sydney CBD and the inner western suburbs.

Further south on Sussex Street is the Shelbourne Hotel and the Darling Park tower complex and other commercial office buildings. The Darling Park towers are on the southern side of Market Street and include a direct pedestrian link to Cockle Bay. Opposite the Darling Park Towers is the Astoria Tower apartment building at 222-228 Sussex.

Adjoining the site to the west is the M4/ Western Distributor and Darling Harbour. Darling Harbour is a large tourist, entertainment and cultural precinct which includes major attractions and venues such as the Sydney Aquarium, Sydney Wildlife World, the National Maritime Museum and Sydney Exhibition Convention Centre, the Imax Cinema and Harbourside Shopping Centre. A view of Darling Harbour is shown at **Figure 12**.

Figure 10 – Secure parking station on Sussex Street

Figure 11 – Pedestrian walkway over Sussex Street

Figure 12 – View of Darling Harbour and Pyrmont Bridge

3.0 Proposed Development

This chapter provides a detailed description of the proposed development. Architectural drawings prepared by Cox Richardson are included at **Appendix A**.

This application seeks approval for the following development:

- external and internal demolition works, including demolition of the existing through site link to Darling Harbour;
- construction of a 25 storey tower (to RL93.6) at the southern end of the site consisting of;
  - 231 new hotel rooms on Levels 1 to Level 14;
  - 7 levels of commercial office space on Levels 16 to 22; and
  - two plant levels;
- extension of the existing podium to provide new convention space including pre function space, meeting rooms and function rooms;
- upgrades to the porte cochere, building entries on Sussex Street, the hotel lobby and reception areas comprising 2,875m^2 of floor space to be refurbished;
- the relocation of the all-day dining area within the current ground floor level;
- new and upgraded back of house areas including new kitchens to service the new convention / function venues;
- public domain works on Slip Street; and
- relocation of the existing through site link to provide a direct connection between Sussex Street and Darling Harbour.

3.1 Numerical Overview

A numeric overview of the proposed development is detailed in **Table 2**.

Table 2 – Numerical overview of the proposed development

Component	Proposal
Site area	11,223 m^2
Tower Height ▪ metres ▪ storeys	 Max RL 93.6m 25 Storeys
No. of new hotel rooms	231
New Tower GFA ▪ Commercial Floor Space ▪ Hotel Floor Space **Sub Total GFA**	 5,775m^2 (includes the commercial lobby) 10,655m^2 **16,430m^2**
New Convention/Function space GFA ▪ Ground level GFA ▪ Mezzanine level GFA **Sub Total GFA**	 1,860m^2 2,950m^2 **4,810m^2**
Total new GFA	**21,240m^2**

In addition, 2,875m^2 of space on the ground floor and mezzanine levels of the existing hotel will also be refurbished.

3.2 Objectives of the Development

The proposed development has undergone a thorough design process, including consultation with various stakeholders and an analysis of the existing site conditions, and surrounding locality. There have been several key objectives which have guided this process and the design of the proposed development. These objectives include:

- Increasing the hotel accommodation capacity in Darling Harbour.
- Expanding and improving the hotel's convention and function facilities.
- Improving the functionality of the hotel operations, including the back of house and front of house operations.
- Improving the experience of the hotel and convention facilities for patrons.
- Augmenting the hotel and convention and exhibition facilities with new commercial office tenancies on the site.
- Reinforcing the historical fabric of the site (trade and maritime uses) through heritage interpretation.

The demand for commercial floor space, hotel accommodation and improved and for expanded convention facilities in Sydney have guided the proposed development.

3.3 Design Principles

An Architectural Design Statement prepared by Cox Richardson provided at **Appendix D** outlines the planning and design principles which have been adopted in the design of the proposed development. These are:

- Establish a building form with appropriate scale and massing that responds to the CBD built form morphology and topography.
- Address the corner location of the site through an articulation of the southern and western façades, whilst providing separation to the historic Corn Exchange Building.
- Align the new tower with the Darling Park Tower to frame and reveal the vistas towards Darling Harbour across the Pyrmont Bridge and Market Street.
- Reinforce the entry into Sydney's CBD by creating a gateway with the Darling Park Tower.
- Legibly identify, reveal and celebrate the significant heritage buildings on the site.
- Acknowledge the existing hotel building, whilst presenting the new tower as a separate identity.
- Improve the public through site link by creating a clear, direct and legible link which encourages the use of the Darling Harbour public domain.
- Ensure that the podium extension acts as a backdrop for Darling Harbour, improving the current interface of the existing hotel to the Darling Harbour.
- Provide legible and defined entry points to the hotel.
- Improve the existing relationship of the built form to Slip Street, allowing for an activated public domain which will respect the heritage curtilage of the Corn Exchange Building.

3.4 Demolition and Site Preparation Works

Site preparation and demolition works will include:

- Demolition of the existing through site link.
- Demolition of the external faux heritage structures which were constructed with the original hotel to imitate the heritage buildings on the site.
- Internal demolition works to the ground and mezzanine levels to allow for the new convention and exhibition spaces and for the refurbishment of these areas.

There will be no direct access to Darling Harbour through the site during construction. Alternate access will be available via the Market Street pedestrian ramps.

Demolition works are detailed on Drawings A-DA-0010 – A-DA-0013 at **Appendix A**.

3.5 New Tower

A 25 storey tower will be constructed over the southern portion of the site. The tower will span over the Western Distributor and contain 231 new hotel rooms over Levels 1 to 14. To capture views, the majority of these rooms are located along the southern and western elevations of levels three to fourteen, with five rooms located along the eastern facade of each level.

Seven levels of commercial office space will be provided on Levels 16 to 22. Fitout of the commercial spaces will be the subject of separate applications.

Building plant will be located at Level 15 and Level 23, with ancillary plant also provided on the lower levels of the tower.

A commercial lobby on the ground floor will provide direct entry off Sussex Street allowing for separate access to the commercial offices. The ground floor and mezzanine level will include a kitchens, chiller room, back of house spaces, and staff cafeteria.

The tower building facade will comprise an aluminium curtain wall system with glazed cladding and composite aluminium panelling. Vertical metal louvers will provide shading to the facade and will also add visual depth. **Figures 13** and **14** illustrate the eastern and western elevation of the proposed tower.

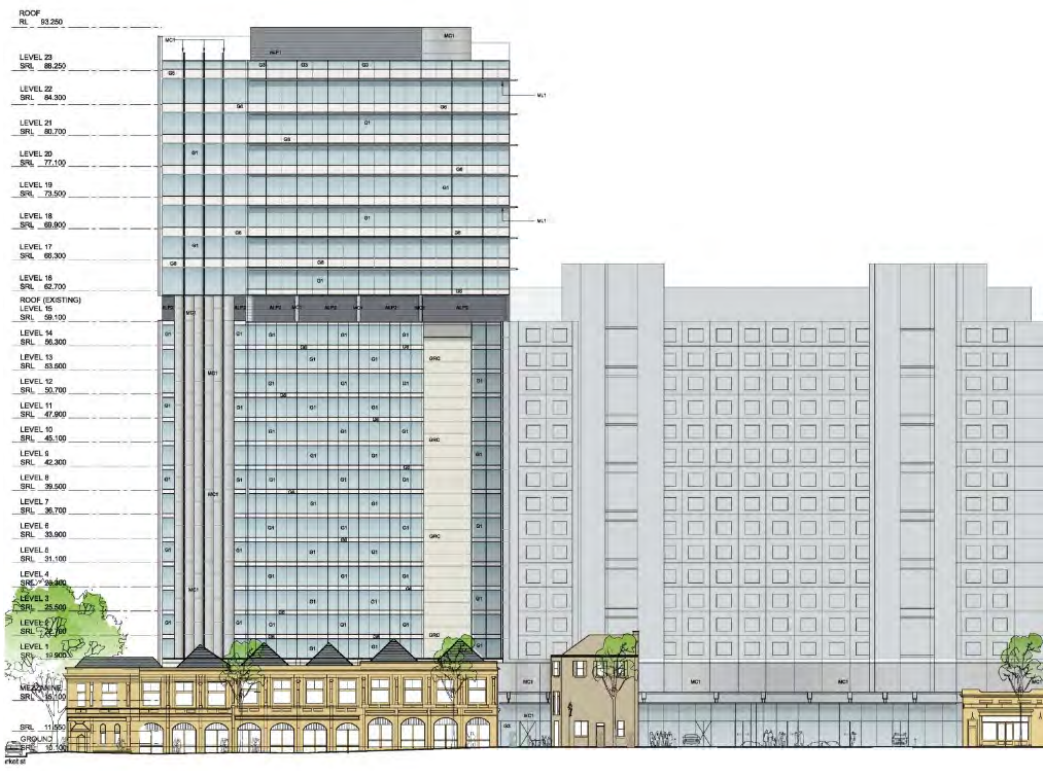

Figure 13 – Eastern Elevation of the proposed tower

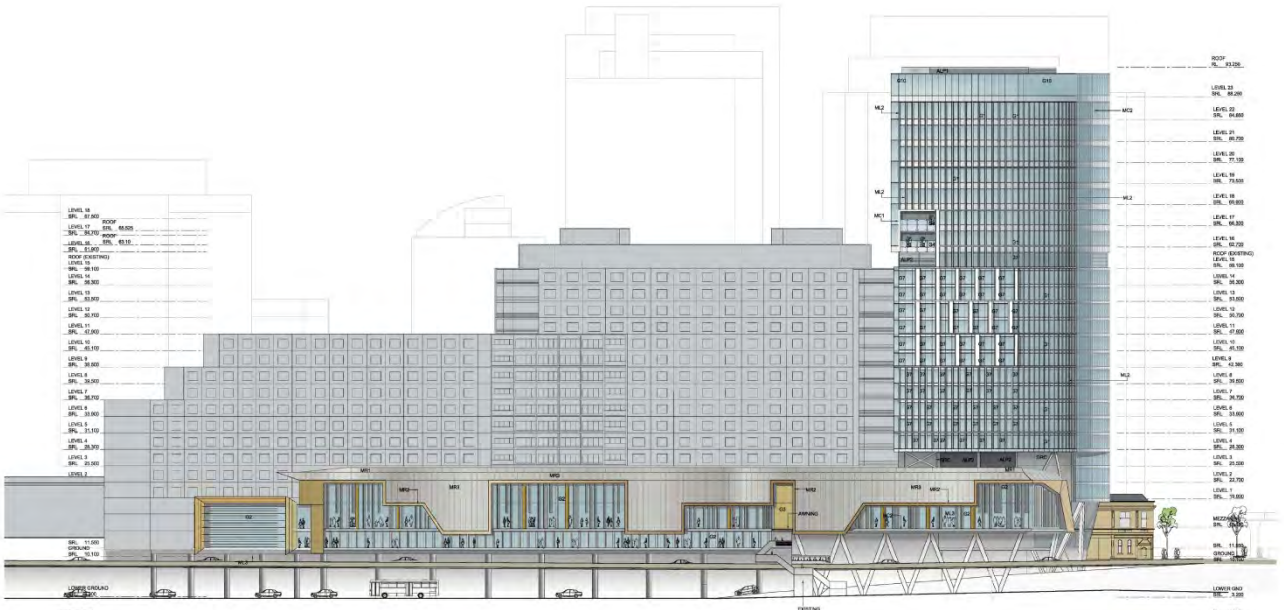

Figure 14 – Western Elevation of the proposed development

3.6 Convention, Exhibition and Function Spaces

The existing terrace will be enclosed and extended to the north and south to provide 4,810m^2 of new conference, exhibtion and function space in a podium form.

The podium space will accommodate function rooms, meeting rooms and pre function areas across both the ground and mezzanine levels. The function rooms on the mezzanine level have 7m-9m floor to ceiling heights and include movable partition walls.

The extended podium will comprise of floor to ceiling glazing articulated by vertical aluminium sunshades. The roof material will be profiled metal sheeting, with bronze coloured sheeting between the glazing and the roof to instigate visual interest. A photomontage of the proposed development illustrating the relationship between the tower and extended podium is provided at **Figure 15**.

Figure 15 – Photomontage of convention and function spaces with tower behind

3.7 Slip Street

Upgrade and heritage interpretation works are proposed at the southern end of Slip Street to improve the area between the existing Corn Exchange Building and the new tower building. General public domain improvements works include:

- remodelling the stairs at the base of the Corn Exchange Building;
- acoustic barriers, incorporating artwork, to be installed on the western side of Slip Street; and
- provision of bike racks on the western side of Slip Street.

Heritage interpretation works proposed include:

- road paving treatments and re-interpretation of the former "Wharf Lane";
- identifying original 1890's allotments and former buildings in the ground plane; and
- ground plane treatments to identify former street and laneways alignments.

Other works at the Slip Street level include new lifts, fire stairs and hoist to service the convention and meeting spaces, which will be built to the south of the existing loading dock.

3.8 Public through Site Link

It is proposed to reconfigure the existing through site link to Darling Harbour. The current through site link is indirect and located externally on the southern side of the existing hotel building. The reconfigured through site link is proposed to be located on the ground level of the refurbished hotel, adjacent to the reconfigured reception area. The through site link will be 3.5 metres wide and connect directly from Sussex Street to the existing stairs on the western side of the building which provides access to Darling Harbour. It is noted that during the construction phase of the development the existing through site link will be closed for a temporary duration.

3.9 Reconfiguration of Existing Hotel Components

Refurbishment works are proposed to the existing hotel on the ground and mezzanine levels and to the building entries from Sussex Street.

Reconfiguration of Ground Level

The existing ground level is to be reconfigured to improve the functionality of the hotel with the lobby space and reception area to be relocated to the main hotel entrance. A new all day dining area and kitchen will also be established on the ground level.

Reconfiguration of Mezzanine Level

The existing staff facilities will be demolished and the mezzanine level extended and reconfigured to provide new convention and function room spaces. New kitchens, plant rooms, toilets and back of house areas will also be provided on this level.

Upgraded Porte Cochere and Main Entrance

The existing porte cochere is 38 metres wide and currently used as a drop off and pick up area. The porte cochere is to be upgraded to improve the main entry into the existing hotel, and the existing faux heritage columns and structures will be removed and a glazed awning installed.

Upgraded Northern Entry

A significantly upgraded pedestrian entry into the existing hotel is proposed to be created at the northern end of Sussex Street. This entry will be 24 metre wide with a glazed awning provided above the hotel entry.

3.10 Access and Parking

Primary vehicle access to the site is via the porte cochere off Sussex Street which provides for set-down and pick-up for hotel guests and visitors. Four dedicated coach/bus bays are provided on the lower ground floor accessible from Slip Street. The hotel does not provide on-site parking for employees or hotel guests, but has an agreement with a nearby secure car park which enables guests to park and walk to the site as detailed in the Transport and Accessibility Impact Assessment prepared by CBHK (**Appendix E**). This strategy will continue to be employed during the operation of the proposed development.

Access arrangements for the expanded hotel will be retained via the existing porte cochere off Sussex Street and the bus/coach and service vehicle facilities off Slip Street. The porte cochere will be extended to increase capacity for the set-down and pick-up of hotel guests/conference delegates. The upgraded porte cochere will provide for 8 to 10 vehicles, incorporating a drive through and passing lane arrangement.

3.11 Construction Staging

The construction of the project will be undertaken in one stage, however several phases of construction will be undertaken, which may overlap or be done concurrently. These include:

- demolition of existing structures (both internal and external);
- construction works over the Western Distributor;
- construction of the new tower;
- refurbishment of the ground floor and mezzanine level of the hotel
- establishment on new public through-site link; and
- public domain works to Slip Street.

4.0 Consultation

The DGRs required specific consultation with the following authorities:

- Sydney Harbour Foreshore Authority;
- City of Sydney Council;
- NSW Heritage Office;
- RailCorp;
- Roads and Maritime Services;
- Transport for NSW;
- Ausgrid;
- Office of Water;

Cadence Australia undertook consultations with various State and local government agencies on behalf of the proponent. In addition the proponent has also consulted with Infrastructure NSW and SydneyEvents. A summary of the consultations is provided in **Table 3** below.

Table 3 – Key issues from Agency Consultation

Issues	Comment / response
SHFA	
Heritage ▪ Views to Corn Exchange from Pyrmont Bridge ▪ Maintaining and interpreting the heritage significance of existing buildings.	The proponent has held several meetings with SHFA to discuss the proposal. SHFA raised issues generally related to heritage and urban design matters, specifically in relation to views to the western façade of the Corn Exchange from Pyrmont Bridge and maintaining and improving the existing heritage values of the site. In response to issues raised the following measures have been incorporated into the design: ▪ The proposal removes the inappropriate 1990's faux heritage infill structures along Sussex Street. ▪ Public domain works have been extended to include heritage interpretation elements such as paving patterns to reflect building footprints of long since demolished buildings, bollards to define early 20th Century building owners, and interpretation signage to explain the evolution of the site. ▪ The original Wharf Lane paving (buried under existing paving between the Dundee Arms and the Corn Exchange) will be partially revealed and celebrated in the new entry to the commercial floors of the tower. ▪ Public domain works to Slip Street will be undertaken. The street, currently a service road, will be paved in pedestrian friendly materials. The paving pattern will also reflect lost heritage structures (sheds and lanes) and will provide quality open space for public art and outdoor dining. While the proposed development results in the loss of some views of the Corn Exchange from Pyrmont Bridge, the above public domain and heritage interpretation measures are considered a balanced response. It is also noted that the key views of the Corn Exchange are from Sussex and Market Streets, not Pyrmont Bridge, which are already considerably obscured by the monorail and existing trees.

Issues	Comment / response
Urban Design ▪ Consistency of street wall on Sussex Street. ▪ Activating Slip Street. ▪ 24/7 Access of the Thru-Site-Link	▪ In addition to the heritage issues above, SHFA sought to strengthen the street wall on Sussex Street. The design incorporates a canopy on the northern entry that extends to the footpath building line and turns down to reinforce the street edge. This canopy will have former heritage building footprints etched on it. The paving pattern on the ground will also reflect the former heritage buildings. There will also be heritage interpretation signage at this northern entry. ▪ The main (southern) entry (porte cochere) which accommodates the main vehicle drop off point will also have a canopy reflecting historic building footprints. The paving below will also reflect these old building footprints. Bollards and signage will describe the history of the site. ▪ The new through-site-link will be safer and direct by bringing it through the hotel lobby, and will be accessible 24 hours. Paving treatments will be used to identify the link as a public access route. ▪ Improvements to the Slip Street public domain will encourage activation of this space and the lower level of the Corn Exchange tenancy.
Council of the City of Sydney	
▪ Opportunities to reveal the historic surface of Wharf Lane in the design of the new access to the commercial lobby. ▪ Making the through-site link publicly accessible 24/7. ▪ Investigating options for upgrading the access to the through site link on the western side of the freeway. ▪ The new hotel tower floor to floor heights at 2.4m are too low. ▪ The design resolution of the conference centre roof and western façade.	The building design and proposed public domain treatments respond to the majority of issues raised. However, the floor to floor heights of the new tower must match the existing hotel as the new tower will connect directly at each level. Upgrading accessibility to Darling Harbour link on the western side of the freeway is outside the development site and scope of the project. SHFA may be able to consider this as a separate project.
Traffic ▪ Impacts on traffic flow on Sussex and other streets during construction.	Council traffic officers met on site with the design team. Council officers noted RMS is the agency responsible for Sussex Street due to the traffic signals at Market Street. The proponent will obtain the necessary approvals from both RMS and Council for the proposed Sussex Street construction.
NSW Heritage Office	
▪ The impact of the proposal on the heritage setting of the Corn Exchange. ▪ The impact of the new tower building on view and sight lines to the	In relation to the setting of the heritage items, information was sought on how the height of the proposed tower was determined and how it fitted within the surrounding built form and city skyline. It was suggested that consideration be given to matching the tower height to the height of the existing hotel.

Issues	Comment / response
Corn Exchange. ▪ The height of the new tower	A taller tower acts as a transition from the lower buildings to the north to the higher towers of Darling Park to the south. If the tower was the same height as the existing hotel it would further extend the solid massing and bulky form of the existing building. Views of the Corn Exchange from Market and Sussex Streets will also change the setting of the Corn Exchange as the view behind the Corn Exchange will be a tower and not open sky. Any building the same height as the existing hotel will also change the open sky view from behind the Corn Exchange. The tower façade design is intentionally subdued and recessive so it does not compete with the ornate façade of the Corn Exchange. The south-west corner of the tower is a curved form that reflects and interprets the curved corner of the Corn Exchange and the height of the lower tower floor is in line with the parapet of the Corn Exchange. The impact on views from the Pyrmont Bridge to the western façade of the Corn Exchange was also raised. The design team noted views from Pyrmont Bridge are already considerably obscured by the monorail and existing trees and that the heritage interpretation items being incorporated into the design will help compensate for the minor additional loss of view from the Bridge. It was noted Heritage Branch officers will undertake a site visit.
RailCorp - Network Development Branch	
▪ Impacts to the CBD Rail Link (CBDRL) corridor	The proposed CBD Rail Link (CBDRL) is directly beneath Sussex Street in proximity to the site. Given the distance between the CBDRL and the proposal: ▪ The CBDRL's zone of influence will not be impacted by the proposal, and hence will have no effect on the structural integrity, safety, or ability to construct and operate the CBDRL. ▪ The CBDRL does not extend into the site and therefore construction or maintenance is unlikely to be adversely affected by the proposal and acquisition of land unlikely. ▪ Impacts on the proposal as a result of stray current, electrolysis, noise, vibration and electromagnetic fields from the CBDRL are unlikely to have an impact on the development (see Section5.10). The proponent will continue to consult with RailCorp during detailed design to ensure the proposal addresses these issues to the satisfaction of RailCorp.
Roads and Maritime Services – Land Use Planning and Transport Management Centre	
▪ Construction and operation impacts to Western Distributor ▪ Collision protection will need to be provided to all structures in accordance with the Australian Standard Bridge Design Guide.	Construction activity affecting the Western Distributor will involve construction of the piles and columns to support the building platform which spans over the Western Distributor. A draft Construction Traffic Management Plan has been prepared and is included at **Appendix E**. RMS outlined their review and approval process and advised that the proponent will be required to execute a Works Authorisation Deed (WAD) for the works over a public road. The proponent will continue to consult with RMS towards reaching agreement on the execution of a WAD

Issues	Comment / response
▪ Lighting of the carriageway where the proposal spans over the Western Distributor is to be designed in accordance with RMS's requirements. ▪ A foam deluge system is to be installed to the area where the proposal spans over the Western Distributor. The operation of this system is to be controlled by flame detectors which will be connected to the main fire indicator panel in the proposal's fire control room ▪ Impacts of construction on Sussex Street and access to the Market Street on ramp to the Western Distributor	A detailed construction management plan will be prepared in consultation with the RMS. RMS design requirements will be addressed in the final detailed design of the building.
Transport for NSW	
▪ Encouraging patrons of the hotel and conference facilities to use public transport	Transport for NSW indicated no major issues with the proposal in addition to those raised by RailCorp and RMS (construction impacts). Transport for NSW sought that the use of public transport by hotel guest, visitors and office workers be encouraged. The Transport and Accessibility Impact Assessment report (**Appendix E**) addresses public transport access. A Travel Access Guide for hotel guests and Work Place Travel Plan will be prepared to encourage use of public transport and minimise private vehicles trips.
Sydney Water	
▪ Existing infrastructure and capacity ▪ Limitations or conflicts with existing infrastructure	Sydney Water has issued a Notice of Requirements for the proposed development which specifies water and sewer augmentation works for the development.
Ausgrid	
▪ Potential impacts on Ausgrid high voltage cables and connection pits. ▪ Coordination with Ausgrid's works to supply Barangaroo ▪ Upgrade requirements for the proposed development.	The site is traversed by Ausgrid infrastructure including 11kV and 33kV electricity cables and fibre optics. Optus communication infrastructure is also housed within the Ausgrid ducts. Ausgrid have indicated that sufficient capacity is available to provide the additional load of approximately 1MVA that will be required to support the new development. Some reconfiguration of the existing electrical services inside the Corn Exchange building will be required. Consultation with Ausgrid will be ongoing. The proponent will continue to liaise with Ausgrid to establish the most effective strategy to avoid or minimise conflict and relocating cables and pits.

Issues	Comment / response
	Aurecon have prepared an engineering services report (**Appendix Q**) which identifies key infrastructure, structural and building services requirements for the development.
Telecommunication Authorities	
▪ upgrade requirements for the proposed development ▪ construction impacts on existing infrastructure.	The proponent has consulted with Telstra and Optus. Telstra has advised that the proposal has no impact to any of their major services, however a freeway telephone may need to be relocated. This will be confirmed during the detailed engineering design stage and if the relocation is required, it will be coordinated with both Telstra and RMS. Optus advised that their services are housed within Ausgrid's ducts. Optus has provided their requirements in the event that any of their services are affected by the proposal. The proponent will continue to consult with Telstra and Optus during the detailed engineering design stage.
Gas	
▪ upgrade requirements for the proposed development ▪ construction impacts on existing infrastructure.	Jemena has been consulted regarding the proposed development and that the proposed development will not impact on their infrastructure. The proponent will continue to liaise with Jemena on the need to upgrade gas supply to the site.

5.0 Environmental Assessment

This section contains our assessment of the environmental effects of the proposed development as described in the preceding chapters of this report.

Under Section 79C(1) of the EP&A Act, in determining a development application the consent authority has to take into account a range of matters relevant to the development including the provisions of environmental planning instruments; impacts of the built and natural environment, the social and economic impacts of the development; the suitability of the site; and whether the public interest would be served by the development.

The assessment includes only those matters under Section 79C(1) that are relevant to the proposal. The planning issues associated with the proposed development are listed in **Table 4** below.

Table 4 – Planning Issues

Planning Issues	Assessment	
	SEE	**Technical Study**
Compliance with Relevant Strategic and Statutory Plans and Policies	Section 5.1	n/a
Urban Design and Built Form	Section 5.2	Appendix D
Visual Impact	Section 5.3	Appendix I
Ecologically Sustainable Development	Section 5.4	Appendix P
Amenity	Section 5.5	Appendix M
Reflectivity	Section 5.6	Appendix N
Noise	Section 5.7	Appendix G
Transport and Accessibility	Section 5.8	Appendix E
Rail Corridor	Section 5.9	Appendix H
Geotechnical and Groundwater	Section 5.10	Appendix L
Contamination	Section 5.11	Appendix F
Access	Section 5.12	Appendix O
Building Services and Infrastructure	Section 5.13	Appendix Q
BCA	Section 5.14	Appendix R
Tree Removal	Section 5.15	Appendix S
Crime and Public Safety	Section 5.16	Appendix T
Construction Impacts	Section 5.17	Appendix U
Waste Management	Section 5.18	Appendix V

5.1 Compliance with Relevant Strategic and Statutory Plans and Policies

The following legislation, strategies and planning instruments are relevant to the proposed development:

- State Environmental Planning Policy (State and Regional Development) 2011;
- State Environmental Planning Policy (Infrastructure);
- Darling Harbour Development Plan No.1; and
- Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005.

The DA's consistency and compliance with the relevant strategic and statutory plans and policies is located in **Table 5** below. Variations to, and non-compliance with, the key standards and guidelines highlighted in the table are discussed in detail in the following sections of this environmental assessment.

Table 5 – Summary of consistency with key strategic and statutory plans and policies

Instrument/Strategy	Comments
Strategic Plans	
NSW State Plan	The proposed development will contribute to achieving the first goal of the plan to 'improve the performance of the NSW economy'. This contribution will be through increasing the availability of tourist accommodation and convention space in Sydney's CBD.
Metropolitan State Plan for Sydney 2036	The proposed extension of the existing hotel will contribute to accommodating the increasing number of national and international visitors to Sydney. The reconfigured through site link will contribute to the achievement of Action A6.1, through improving the integration of Darling Harbour with the City centre.
Draft Sydney City Subregional Strategy	This DA is consistent with the Strategy in that it will: ▪ Offer accommodation to the projected 1.1 million visitors to Sydney by 2016; ▪ Providing tourist infrastructure which contributes to Sydney's status as a Global City; and ▪ Maintain the character of Darling Harbour as a tourist precinct.
Towards 2020 NSW Tourism Master plan	The proposal is consistent with the plan in that it will contribute to further developing the Darling Harbour area as a tourist precinct.
State Planning Instruments and Controls	
SEPP (State and Regional Development) 2011	The proposed development is within the Darling Harbour precinct which is identified as a State Significant Site in Schedule 2 of the State Environmental Planning Policy (State and Regional Development). As the proposed development is for tourist related purposes with a capital investment value of more than $10 million, it is considered State Significant Development for the purposes of the Act.
SEPP 55	The Preliminary Environmental Site Assessment prepared for the site (see **Appendix F**) demonstrates the site is suitable for the proposed development.
SEPP (Infrastructure)	The location of the proposed development in the vicinity of the future CBD rail link. A Noise and Vibration Assessment (see **Appendix G**) and a Rail Corridor Impact Assessment (see **Appendix H**) have been prepared. **Section 5.9** outlines the impact of the proposed development on rail link corridor.
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	The proposed development is consistent with the aims and objectives with the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005. The development is consistent in that: ▪ public access to the foreshore will be improved through the proposed through site link; ▪ there will not be any adverse impacts on the scenic quality of the waterway or foreshore area; ▪ no adverse view loss will occur to and from Sydney Harbour; and ▪ views to the Corn Exchange Building will not be impacted on.

Instrument/Strategy	Comments
	A visual impact assessment has also been undertaken and is included at **Appendix I**.
Sydney Harbour Foreshores and Waterways Area Development Control Plan 2005	The Sydney Harbour Foreshores and Waterways Area Development Control Plan 2005 relates predominately to development which directly interfaces with the foreshore. The proposed development is not located on the immediate foreshore, despite this, the proposed development is consistent with the design guidelines in that it promotes foreshore access and is of a high quality built form similar to surrounding development.
Darling Harbour Development Plan No. 1	The proposed development is permissible with consent under Clause 6 of the Darling Harbour Development Plan No. 1 (Darling Harbour Plan). The proposed development is consistent with Clauses 9 to 11 of the Darling Harbour Plan in that it does not seek to demolish, damage or despoil the Corn Exchange Building. The Heritage Impact Statement (**Appendix J**), peer review of this statement (**Appendix K**) and **Section 5.4** of this report detail address the potential impacts to the Corn Exchange Building.
Managing Land Contamination: Planning Guidelines – SEPP 55 Remediation of Land (DUAP)	A Preliminary Environmental Site Assessment is provided at **Appendix F** and detailed in **Section 5.11** of this report. No contamination has been identified on the site and further studies are not considered necessary.
Development Near Rail Corridors and Busy Roads – Interim Guideline 2008	Due to the proximity of the site to potential future rail links, the Development Near Rail Corridors and Busy Roads – Interim Guideline 2008 apply. A Noise and Vibration Assessment is provided at **Appendix G** and a rail assessment is detailed in **Section 5.8** of this report.
NSW Groundwater Policy Framework Document – General	The NSW Groundwater Policy Framework Document – General has been established to manage the State's groundwater. An assessment of the existing groundwater conditions and an assessment of the impact of the proposed development is provided at **Appendix L** and **Section 5.10** of this report.
NSW Groundwater Quality Protection Policy	The NSW Groundwater Quality Protection Policy further contributes to the management of groundwater in NSW. An assessment of the existing groundwater conditions and an assessment of the impact of the proposed development is provided at **Appendix L** and **Section 5.10** of this report.

5.2 Urban Design and Built Form

The height, bulk and scale of the southern tower within the context of the locality, including the existing hotel building and the surrounding development, have been considered throughout the design process of the proposed development. The Architectural Design Statement prepared by Cox Richardson Architects (**Appendix D**) has detailed the urban design principles and how the development responds to these principles.

The development seeks to acknowledge and reinforce the surrounding built form and topography. The height and form of the new tower has been informed by an urban design analysis of the surrounding cityscape and with regard to the heritage items on the site. The planning controls that apply to the land on the eastern side of Sussex Street were also considered.

Sydney LEP 1996 applies to the land on the eastern side of Sussex Street and sets a height limit of 80m. This height limit may be varied by up to 10% under the Sydney LEP controls. The draft Sydney LEP 2011 also proposes an 80m building height limit for land on the eastern side of Sussex Street.

The built form along the eastern side of Sussex between King and Market Streets comprises predominately commercial development built to the street edge, with buildings varying in height. The height of the Allianz Building at the corner of Market and Sussex Street is approximately RL 95 at its highest point.

The existing hotel buildings on the site are set back behind the heritage items and step up from north to south, with the Darling Park Tower visually prominent behind the hotel buildings when viewed from the north looking south. The northern hotel building rises up to RL 47.9m (12 storeys) and the southern hotel tower rises up to RL 65m (17 storeys). The Darling Park towers to the south further step up in height to RL 132.1m.

The height of the proposed tower continues the stepping of the built form from north to south along the western side of Sussex Street. The tower form has been deliberately designed to differentiate from the existing hotel buildings to avoid an extended bulky form between Market and King Street. The tower design aims to add finer grain to the existing built form and to break up the width and bulk of the existing buildings.

The tower form has also been designed as an urban marker of the entry point into the CBD from Pyrmont Bridge. Together with Darling Park Tower (No.1) on the southern side of Market Street, the new hotel tower frames the vistas towards Darling Harbour along the Pyrmont Bridge and Market Street alignments as shown in **Figure 16**.

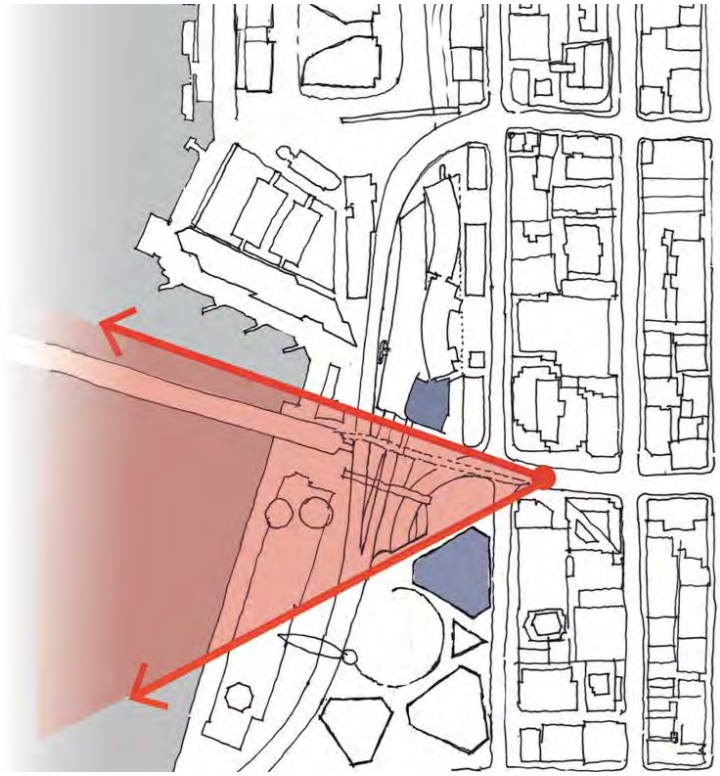

Figure 16 – Vista to Darling Harbour framed by the proposed tower and Darling Park Tower (Source: Cox Richardson)

In addition the tower has also been designed to be responsive to its corner site location as the existing hotel building does not address or define the corner of Market and Sussex Street. It addresses the Market Street and Western Distributor corner whilst respecting the alignment of the Pyrmont Bridge and Sussex Street. The south-west corner of the tower is a curved form that reflects and interprets the curved corner of the Corn Exchange. The south-east corner of the tower is modulated and sculptured in order to maximise views and vistas to the Corn Exchange from the public domain at the eastern end of the Pyrmont Bridge.

Within the site, the tower is set back from the Corn Exchange to provide a physical separation from building. The tower sits parallel to the alignment of Sussex Street and the Corn Exchange. The architecture of the tower building is intended to provide a subtle and consistent facade as a backdrop to the Corn Exchange.

A dedicated commercial foyer accessed off Sussex Street will incorporate public domain treatments that re-interpret the former Wharf Lane. The public circulation areas surrounding the Corn Exchange and Dundee Arms will be improved by removing the faux heritage elements built in 1995. This will assist in opening up internal views to the Corn Exchange and Dundee Arms buildings. The commercial office foyer and hotel lobby have a double storey high glazed facade which will allow for views to the heritage listed Corn Exchange and Dundee Arms. The height of the lower tower floor reflects the parapet height of the Corn Exchange.

The new tower has been designed to directly connect to the existing building rather than being physically and/or visually separated. Direct connection is required between the buildings as the floor to floor levels of new hotel are required to match floor levels of the existing hotel as they will be serviced by back of house facilities in the existing hotel.

As well as the new southern tower, the existing podium will be extended to accommodate the new convention space including pre function space, meeting rooms and function rooms. The extended podium will provide a uniform horizontal backdrop to the built form of Darling Harbour. This horizontal form and glazing along the northern, western and southern façade will provide an improved interface to the Western Distributor whilst also concealing the non-active façade of the mezzanine level.

Sun controlled louvers will provide adequate screening to the Western Distributor, whilst also mitigating the potential impacts of the sun during the afternoon. The provision of full height glazing to the function and convention spaces will allow for an activated backdrop to Darling Harbour.

Solar Access

Solar Access drawings have been prepared and are included at **Appendix A**. The solar access drawings show that at midday during the mid-winter (22 June) that the new tower will cast a shadow towards the Darling Park Tower (No.1). The shadow will fall on some footpath and areas of public domain but will not impact on the podium garden at the Darling Park tower complex. The shadow impacts of the tower are considered acceptable.

5.3 Visual Impact

A visual impact assessment has been prepared by GM Urban Design and Architecture to assess the potential impact of the proposed development from the surrounding public domain and nearby residential building on Market Street (refer to **Appendix I**).

The visual assessment methodology included:

- review of aerial photography and topographic survey;
- site visit;
- determination of key views and vistas;
- analysis of views to the site;
- preparation of photomontages; and
- assessment of visual impact.

The visual impact assessment analysed the visual impacts from the surrounding public domain and nearby private residential apartment buildings and included analysis of:

- Long distance views;
- Medium distance views;
- Immediate views; and
- Views from private residences

The visual impact assessment shows that the proposal has no significant view impacts as discussed below.

Long Distance Views

Nine long distance view locations were assessed including views from Pyrmont (Union Street and Union Square), the Western Distributor (eastbound near the Convention Centre – refer **Figure17**), King Street wharf and Shelley Street. The long distance views were between 350m-860m from the site. The proposed development when viewed from these locations will be seen as part of the broader city skyline and the built form along the edge of the CBD and is therefore considered to have no or a low visual impact from these locations. There will be little discernible change in view and therefore an acceptable visual impact.

Figure 17 – Montage view from Western Distributor

Medium Distance Views

Seven medium distance views were assessed including views from the foreshore edge of Darling Harbour, Pyrmont Bay and Pyrmont Bridge (refer to **Figure 18**) , and the Western Distributor (travelling north bound) near Cockle Bay. The medium distance views were between 295m-420m from the site. From the medium distance views the new tower will be seen as a new height element sitting between other existing buildings. The visual impact will generally be the loss of some open sky and a minor alteration in the city skyline, however the development will blend with existing city backdrop. The new tower also provides a height transition from the taller Darling Park towers. The visual impact from the medium distance locations is therefore considered acceptable.

Figure 18 – Montage view from Pyrmont Bridge

Immediate Distance Views

Immediate distance views were assessed including along Market Street, Sussex Street, Cockle Bay Wharf and King Street Wharf as well as from the Pyrmont Bridge and walkways. There are also immediate distance views from the Western Distributor travelling north. There are no immediate views when travelling south along the Western Distributor. The immediate distance views are between 58m-255m from the site.

When viewed from the corner of Market and Kent Streets (refer to **Figure 19**), the tower is largely obscured by the Allianz tower. There is a slight narrowing of the view opening at the end of Market Street, however this change is considered acceptable.

Figure 19 – Montage view from the corner of Market and Kent Street

The view from the Market Street pedestrian ramp to the site is a prominent view. As shown in the montage at **Figure 20** the tower is fully visible behind the Corn Exchange building. There is a clear change to this view and loss of open sky and therefore this view change is a high impact. However, the tower is set back from the Corn Exchange and views to the Corn Exchange from pedestrian viewpoints remain. The tower also provides an articulated elevation when compared with the blank elevation of the existing hotel building. The tower also provides a built form balance in the site to the existing Allianz building immediately to the east. Therefore the visual impact from this location is considered acceptable.

Figure 20 – Montage view from Market Street pedestrian ramp

Immediate views from Pyrmont Bridge to the site (refer to **Figure 21**) are also a prominent, however the views change as pedestrian move along the bridge. As shown in the montage at **Figure 21** the tower is visible against the CBD skyline and is considered to have a high impact due to the clear visual change.

The tower however creates a view termination and gateway marker that provides a built form balance to both sides of Market Street. As can be seen from **Figure 21** there are only minor glimpses to the Corn Exchange from Pyrmont Bridge currently and the new tower does not create any additional blocking of views. Therefore the visual impact from this location is considered acceptable.

Figure 21 – Montage view from Pyrmont Bridge close to the site

Private Views

Private views from the residential apartment building located at 26 Market Street to the south east of the development site on the corner of Kent Street and Market Street were also assessed by modelling the potential impacts. There is a slight narrowing of the view toward Darling Harbour due to the new tower (refer to **Figure 22**), however this is considered acceptable because all iconic elements within the view are preserved including the views of Darling Harbour, Pyrmont Bridge and Anzac Bridge.

Figure 22 – Modelled view 26 Market Street

The visual impact assessment shows that the proposal has no significant public domain view impacts and will sit comfortably with the existing built form and scale of Sydney CBD when viewed from most visually prominent views.

5.4 Heritage

A Heritage Impact Statement (HIS) has been prepared by City Plan Heritage and is included at **Appendix J**. A Peer Review of the HIS was undertaken by Urbis (refer to **Appendix K**).

As described in Section 2, the site contains four heritage items, all of which are listed on the State Heritage Register. These items include:

- The Corn Exchange (173-185 Sussex Street);
- The Dundee Arm Hotel (171 Sussex Street);
- Former produce stores (139-151 Sussex Street); and
- Warehouses (121-127 Sussex Street).

Conservation Management Plans for these items were prepared in 2008 and 2009 and have been adopted by the Sydney Harbour Foreshore Authority.

The location of these heritage items within the site is shown on **Figure 23**.

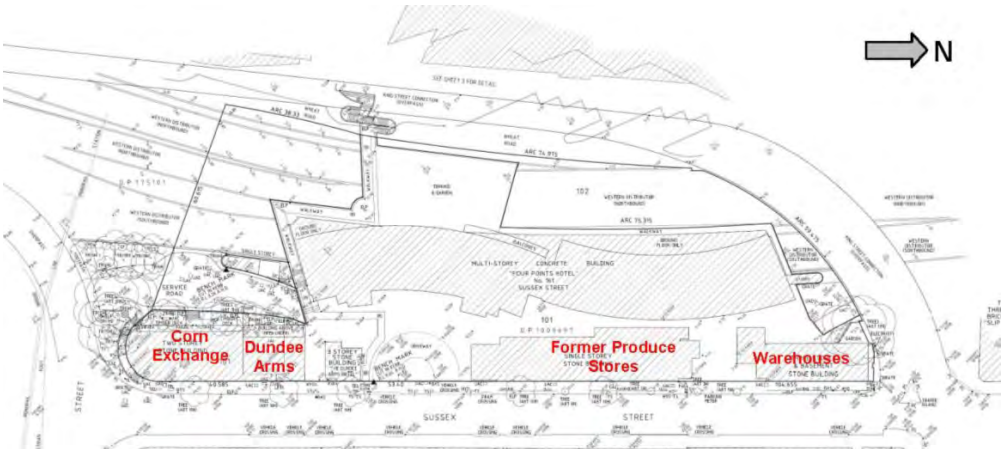

Figure 23 – Heritage items on the site

Other heritage items located in the vicinity of the site which are the Pyrmont Bridge, Shelbourne Hotel and the Cockle Bay Archaeological precinct.

The items of European heritage on the site are important reminders of the site's historic linkages to Darling Harbour. These four heritage items (along with the nearby Shelbourne Hotel) all collectively make a valuable contribution to the heritage streetscape in this area of Sussex Street and are reflective of the Victorian era architecture and historical commercial and trading activities.

5.4.1 Impact Assessment

Indigenous Heritage

Prior to European settlement the Cadigal people hunted and fished in the waters of Darling Harbour. Their use of the land was dependent on the natural resources and materials available based on the topography, geology and vegetation. The Darling Harbour landscape has significantly changed since European settlement through reclamation and urban development.

Any remains of Aboriginal activities associated with the area would therefore be subsurface, if they exist. Given the history of development on the site and its highly disturbed nature, the potential for subsurface remains to be located within the footprint of the new tower was found to be very low.

Consultation with the Metropolitan Aboriginal Land Council in relation to the proposed works will be undertaken.

Non-Indigenous Heritage

In relation to non-indigenous heritage the key issues are the physical impacts to the existing heritage items and the visual impacts, in particular view loss to the Corn Exchange building.

No major physical works are proposed to any of the heritage listed buildings on the site. Minor physical works to or immediately adjoining the items will be undertaken including:

- A new glazed awning over the walkway between the Corn Exchange and Dundee Arms (the awning will be fixed on existing (non heritage) columns.
- A new glazed awning over the porte cochere and northern function entry.
- Removal of the additional newsagency tenancy to the heritage listed former produce stores.
- Removal of the masonry walkways and colonnade at the rear of the Dundee Arm and at the porte cochere.
- Removal of the faux arch at the northern function entry.
- Streetscape and heritage interpretation works to Slip Street.
- Minor internal works on the lower ground level of the Corn Exchange to install additional electrical services adjacent to the existing substation.

The HIS found that the proposed works will result in significant improvements to the physical curtilage of the heritage items as the previous additions around the items added when the hotel was originally constructed do not reflect well on the hotel or on each of the items. This works in the lower ground level of the Corn Exchange building are to a staff kitchen and break out area and has no significant fabric. The interior of this level has been assessed as of little heritage significance.

The main view of the new tower will be at the corners Sussex and Kent Streets on Market Street and from the Pyrmont Bridge approaches. The most significant view to the Corn Exchange is from Market Street. The proposed tower will be setback from the Corn Exchange will not obstruct view to the building from Market Street. The new tower will blend with the existing hotel and other high-rise commercial developments in the vicinity of the site.

The HIS found that while there is a distinct scale change between the proposed tower and existing hotel buildings, the tower scale is similar to other buildings in the immediate vicinity of the site, including the Darling Park Towers. The heritage items within the site (and in the vicinity) will continue to be read as part of the lower streetscape along the western side of Sussex Street. The tower form also continues the stepping of the existing buildings form south to north.

The secondary views to the heritage items are from Pyrmont Bridge and Darling Harbour. The heritage items are not visually well connected to Darling Harbour, due to the hotel, road infrastructure, monorail and existing vegetation on the western side of the Corn Exchange. There are very limited views of the Corn Exchange from the Pyrmont Bridge due to the presence of the monorail station and existing vegetation. Some views are available from the pedestrian approaches to the Pyrmont Bridge.

The HIS found that the proposed tower will have a negligible impact on the established heritage significance of the Corn Exchange as the tower is setback from the Corn Exchange building and will not obscure the primary views to the building from Sussex Street and Market Street; and

Further the existing secondary views from Darling Harbour to the heritage items, including the Corn Exchange are partially or completely obscured views due to existing structures and vegetation. These views also change depending on the focal point of the viewer. The views to the upper level and roof of the Corn Exchange from Darling Harbour have been eroded over time and the impact of the new tower on the existing compromised setting of the Corn Exchange was found in the HIS to be an acceptable heritage impact.

Before and after photomontage views are shown at **Figures 24** to **27** below.

Before After

Figure 24 – View from corner of Market and Sussex Street

Before

After

Figure 25 – View west along Market Street

Before

After

Figure 26 – View from eastern end of Pyrmont Bridge

Before

After

Figure 27 – View from middle of Pyrmont Bridge

During the design development consideration was given to realigning and cutting back the south eastern corner. This option was tested to assess any increase in views to the Corn Exchange. The visual gain from cutting back of the tower was only minor and was not considered to deliver any significant benefits when compared to the loss floorspace from the development (refer to **Figure 28**).

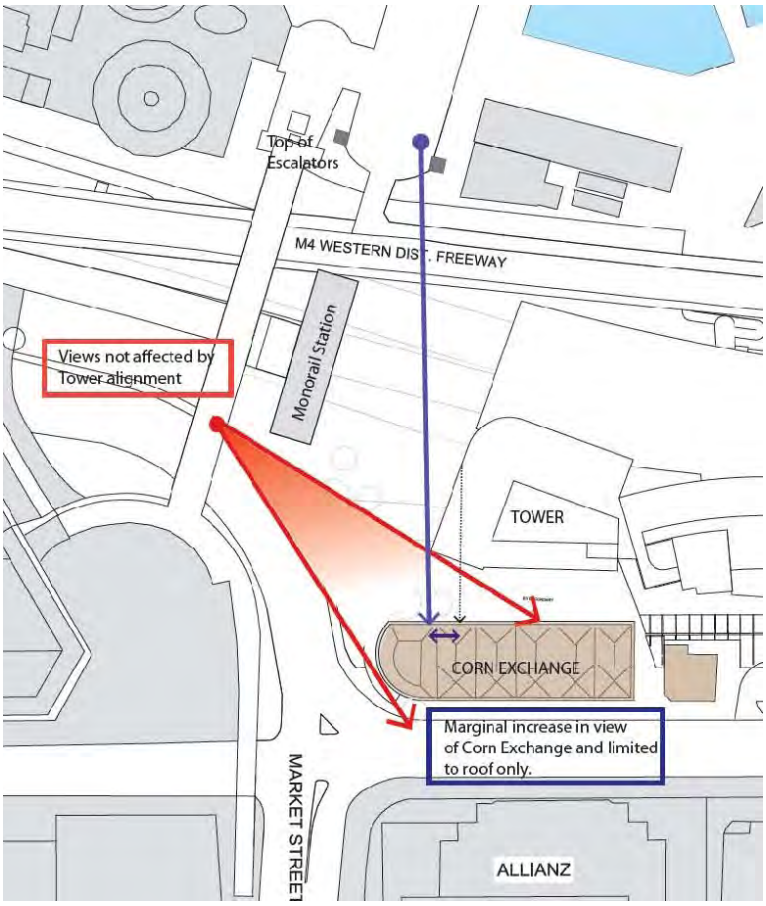

Figure 28 – Plan showing the marginal change in views to the Corn Exchange when the proposed tower is cut back.

In summary the HIS found that the construction of the new southern tower, the new convention and conference facilities and the upgrades to the Sussex Street frontage will have negligible impact on the established heritage significance of the items within the site, or on heritage item within the vicinity of the site. Further the HIS concluded that the development will result in a minimal and positive impact to the Sussex Street streetscape views.

To mitigate the potential impacts the following measures will be undertaken:

- Heritage interpretation and public domain treatments on Slip Street to encourage future activation of the street.
- Paving treatments alongside the Sussex Street porte cochere and pedestrian entries to the Hotel to mark the original layout of the 1890's allotments. Overhead rafters/beams will also align with the original allotments.
- The glazed awnings will incorporate downturns at Sussex Street to reinforce and define the street edge.
- Various interpretive panels will be incorporated into the pedestrian areas and porte cochere detailing the history of the site.
- Paving treatments to identify the former Wharf Lane between The Dundee Arms and Corn Exchange.

- Archival recording of the site prior to any works commencing.
- Installation of hoardings and other protection measures to protect the heritage items on site, in particular The Dundee Arms and Corn Exchange.
- An audit of heritage items to identify if any conservation works are required to enhance and preserve their identified significance.

Peer Review

A peer review of the HIS has also been undertaken Urbis (refer to **Appendix K**). The peer reviews found that the proposed development is considered to be positive in relation to the conservation, presentation and reactivation of heritage fabric on the site and that overall the proposal will provide heritage benefits.

The partial loss of views from the Pyrmont Bridge to the Corn Exchange is considered acceptable as the view changes as pedestrian move along Pyrmont Bridge to Market Street and it is currently obscured to a great extent by the trees around Slip Street.

The Peer Review also considered that the potential cutting back of the tower would not significantly enhance the appreciation of the Corn Exchange from the Pyrmont Bridge. The proposed Slip Street works and the selective thinning of trees are considered to contribute better to the opening up of the vistas to Sussex Street from the Pyrmont Bridge and pedestrian ramps. The peer review found that the project results in an acceptable heritage outcome.

5.5 Amenity

5.5.1 Wind

Windtech Consultants Pty Ltd have prepared an assessment of the proposed development on the wind environment of the outdoor areas within and around the site (refer to **Appendix M**). The wind analysis assessed the local wind climate, building morphology and land topography to determine the wind environment.

The site is generally shielded from the prevailing winds for the Sydney region being from the north-east, south and west. North-east and southern winds are generally experienced from September to April and westerly winds from April/May to August/September. Southerly winds are the most frequent and generally the strongest.

The wind assessment found that the outdoor trafficable areas within and around the site are shielded from the prevailing north-easterly and southerly winds by other buildings in the CBD. The pedestrian entrances to the hotel are shielded from all prevailing winds. The proposed tower and podium extension will also have a negligible impact on the existing wind conditions along Sussex Street.

Accordingly the wind conditions for the site and surrounding area will remain suitable for pedestrian activity and no mitigation measures are necessary or proposed.

5.5.2 Solar Access

The proposed development has been designed to maximise solar access as well as views and outlooks whilst not adversely impacting on existing surrounding development. The different components of the hotel have been subject to different strategies to maximise the opportunity for solar access while controlling heat gain.

The strategies for the hotel include:

- Provision of a curtain wall façade with maximum vision glazing including floor to ceiling glazing to all hotel rooms.
- Provision of external shading to all west facing rooms to mitigate thermal heat gain.
- Use of natural lighting to hotel floor corridors.

The strategies for the commercial offices include:

- Provision of a curtain wall façade with maximum vision glazing including floor to ceiling glazing;
- A maximum 12 metre façade to core depth to allow for the full depth of the commercial floor plate to be naturally lit during the day;
- Provision of external shading to the western faced to mitigate thermal heat gain.
- Use of natural lighting to lift lobbies.

The strategies for the convention and function spaces include:

- Use of natural lighting to all convention, meeting and pre-function spaces with the potential for brown or black out.
- Provision of external shading to mitigate thermal heat gain.

5.6 Reflectivity

Windtech Consultants Pty Ltd have prepared an assessment of the potential for solar glare to drivers and pedestrians on surrounding streets (refer to **Appendix N**).

Windtech notes that the most reflective surface of the facade of the building is glazing and that reflectivity from concrete, brickwork, timber and like materials is negligible. Reflectivity from painted metal louvers is expected to be in the range of 1%-5% and therefore acceptable.

The western facade of the podium and tower and the southern facade of the tower have the potential to cause glare impacts to drivers heading north along the Western Distributor, to drivers heading north along the King Street exit from the Western Distributor; and to drivers heading north along Harbour Street.

Windtech analysed driver viewpoints along these roads (refer to Figure 5 of **Appendix N**) to determine the significance of the impact and mitigation measures and found that the potential for solar glare impacts vary and will be reduced by the proposed vertical louvers on tower and use of low reflectivity materials. To mitigate potential glare impacts Windtech recommend the following measures:

- Glazing on the north portion of the western elevation of the podium, between Ground Level and Level 2 (inclusive) should have a maximum normal specular reflectivity of visible light of 14% (refer to Figure 6 of **Appendix N**).
- The glazing for all other areas of the facade of the new buildings should have a maximum normal specular reflectivity of visible light of 20%.

These measures have been incorporated into the design.

5.7 Transport and Accessibility

A Transport and Accessibility Impact Assessment has been carried out by Colston Budd Hunt and Kafes Pty Ltd (CBHK) and is provided at **Appendix E**. This assessment has identified the existing transport context, including the current traffic generation and capacity of the surrounding road network, as well as the expected traffic generation and access arrangements. The report also details the expected traffic impacts during construction and the required traffic management measures.

The site is well located in close proximity to public transport. Town Hall Railway Station is approximately 300 metres from the site and Wynyard Railway Station is less than 500 metres from the site. These stations are major rail and bus interchanges and provide access to the metropolitan rail and bus network. A Sydney Monorail stop on the Pyrmont Bridge is within in a short walk of the site. Pedestrian access to Darling Harbour is available from the site and from the nearby Market Street pedestrian bridges.

5.7.1 Traffic Generation

Current Situation

An analysis of the vehicle movements on the surrounding streets during the morning and afternoon peak periods and the performance of key intersections around the site was undertaken.

On Sussex Street to the north of King Street, approximately 1,100 to 1,800 vehicles were recorded per hour two way during the morning and afternoon peaks. To the south of King Street on Sussex Street the traffic flow was approximately 750 to 1550 vehicles per hour two way during the peak periods. The existing traffic generation from the porte cochere is 100 vehicles per hour two way in the morning peak and 60 vehicles per hour two way during the afternoon peak. The bus/coach bays on Slip Street generate approximately four buses during the morning (7:30am to 8:30am) and approximately two buses during the afternoon (4:30pm to 5:30pm).

The study found that the signalised intersections of Sussex Street/Market Street and Sussex Street/King Street currently operate with average delays of less than 30 seconds per vehicle during the morning and afternoon peak periods. This represents a good and satisfactory level of service with space capacity. The intersection of Sussex Street/Erskine Street also operates at a good level of service with average delays of less than 25 seconds per vehicle during the peak periods.

The unsignalised intersection of Sussex Street/Slip Street operates with delays of less than 15 seconds per vehicle during the peak periods, except for the right turn movement out of Slip Street. This right turn movement uses gaps in the upstream and downstream traffic. Service at this intersection is classified as good, with spare capacity.

Impact Assessment

Additional traffic will be generated as a result of the hotel redevelopment. The most significant traffic generation will be during the weekday morning and afternoon peak periods. It is expected that an additional 90 vehicles per hour two way during the morning peak and an additional 80 vehicles per hour two way during the afternoon peak will be generated.

This assessment has analysed the expected traffic generation on intersections and has identified that delays at intersections will vary from satisfactory to good.

Therefore the additional traffic generation can be accommodated in the road network capacity and will not cause any adverse impacts.

5.7.2 Car Parking

There is no on-site car parking for the existing hotel and no car parking is proposed as part of this development. Car parking is available to hotel guests and staff at the Secure Car Park located opposite the site on Sussex Street. A car parking use survey was recently undertaken when the hotel was at full capacity found that 76 parking permits, consisting of 50 staff permits and 26 hotel guest permits were issued on the day.

Based on this survey, the increase of 231 new hotel rooms in the proposed southern tower would generate a demand for approximately 28 additional car parking spaces. The expanded convention and function facilities will also lead to some increase in the demand for parking. However delegates and guests attending functions at the hotel would also travel to/from the site by taxi, coach and/or public transport. A proportion of the delegates/guests would also be staying at the hotel. It is estimated that functions of 550 guests would be expected to have a parking demand of some 50 to 60 spaces.

Surveys on the capacity of the Secure Car Park determined that during the busiest time of the day (Monday to Friday) there were approximately 155 vacant car parking spaces out of the total 745 spaces in the car park. This illustrates the continued parking arrangement will be acceptable in accommodating the increased parking demand.

The survey also identified that after 7:30pm there were in excess of 500 vacant car parking spaces. These available car parking spaces will adequately service any increased demand from large functions held in the convention space of the hotel.

A Travel Access Guide and Work Place Travel Plan will be prepared to encourage use of public transport. The principles of this guide and plan focus around encouraging the use of public transport and raising awareness of the health benefits of walking and cycling. This will be achieved through providing maps and information on these services and also the facilities to encourage their use. This will help maximise the proportion of journey to work trips by public transport.

5.7.3 Service Vehicle and Coach Parking

The existing bus and coach facilities on Slip Street will be retained. This facility is designed in accordance with the Australian Standards for Parking Facilities Part 2: Off-street commercial vehicles facilities (AS2890.2-2002). The loading facilities for the hotel are also provided off Slip Street, consisting of four loading bays catering to small commercial vehicles to large rigid trucks. The loading bay is appropriate for the demand of the hotel and has been provided in accordance with the Australian Standards for Parking Facilities Part 2: Off-street commercial vehicles facilities (AS2890.2-2002).

There is a second reception area and lobby provided on the lower ground level to allow for guests alighting from the bus and coach parking facilities to easily be checked into the hotel.

There is sufficient capacity in the coach and loading bays to cater for the increase demand generated by the proposed development.

5.7.4 Access

The current access points to the site will be retained but with several upgrades to improve these arrangements. It is proposed that the porte cochere will be expanded to provide additional capacity for the set down and pick up of hotel guests and conference delegates. This will allow for eight to ten vehicles to use this space with a drive through and passing lane to manage delays. These access arrangements have been designed in accordance with Australian Standard for Parking Facilities Part 1: Off-street car parking (AS2890.1-2004).

5.8 Noise

A Noise Impact Assessment (NIA) has been prepared by Aurecon (refer to **Appendix G**). The Assessment has been prepared in accordance with the:

- NSW Office of Environment & Heritage (OEH) *Industrial Noise Policy*;
- Australian Standard AS/NZS 2107:2000 *Recommended Design Sound Levels and Reverberation Time for Building Interiors*;
- Department of Planning Publication *Development Near Rail Corridors & Busy Roads – Interim Guidelines 2008*;
- OEH *Interim Construction Noise Guideline 2009*; and
- *National Construction Code 2011*.

The environmental noise and vibration sources that may affect the proposed development have been identified as:

- traffic noise from King Street, M4 Western Distributor Freeway, Sussex Street transmitting through the external façade of the building;
- noise from the nearby Darling Harbour ships (eg horn, engine noise etc);
- mechanical plant and services from adjacent properties; and
- vibration and ground borne noise from the Monorail services.

Internal acoustic issues within the hotel building that need to be considered in the acoustic design have been identified as:

- music noise transmission from function rooms to other areas;
- noise transfer between adjacent function areas;
- internal background noise levels from services;
- noise from plumbing into guest rooms etc;
- footfall noise floor to floors below; and
- noise transfer between adjacent hotel rooms.

The Noise Impact Assessment identifies the main noise generating sources and activities at all stages of construction as well as during operation of the development; and identifies appropriate measures to minimise and mitigate potential noise impacts (both external and internal).

On Sussex Street existing ambient noise levels are between 69 (night) and 71 (day) dBA, and background noise levels between 58 (night) and 63 (day) dBA. The western edge of the development which faces the Western Distributor is exposed to a high noise environment, with an ambient noise level at 77 dBA (day) and background noise level (day) at 73 dBA.

Based on the above, Aurecon has established internal and external noise criteria for the development, based on Australian Standards and other relevant legislative requirements. The established construction noise criteria (Management Level) for the development is 71dBA during standard construction hours (i.e. 7am to 6pm Monday to Friday and 8am to 1 pm on Saturdays), and 63dBA during the proposed extended construction hours.

The established operational noise criterion (project specific noise level) for the development is 59 dBA for both residential and commercial receivers.

Key noise impact issues associated with the proposed development are discussed below.

Construction Noise

The NIA has taken into account the duration of construction activities, the nature of construction activities and typical construction equipment and mobile plants to be used, along with their sound power levels in accordance with *AS2436-2000 Guide to noise and vibration control on construction demolition and maintenance sites*.

Aurecon has identified that based on preliminary assessment of construction activities, some of the activities or combined noise levels from more than 1 equipment / mobile plant may marginally exceed the established construction noise criterion dependent on the proximity to the nearest sensitive receiver and the time of work.

In order to mitigate the identified potential construction noise impacts, Aurecon has recommended construction noise management measures be adopted and also that attended noise measurements during the construction phase be undertaken to assess the noise levels against the established construction noise criteria.

The recommended construction noise management measures are set out in detail at Section 7.2 of the Noise Impact Assessment and will be implemented during the construction phase.

Operational Noise

Preliminary noise emission calculations have been prepared based on the mechanical design of the building services. Worst case scenarios have been taken into consideration, namely noise emissions from the plant rooms at Levels 15 and Level 23 which contain the most significant mechanical plant.

At both levels, the noise emissions from operation of plant at 1 metre distant from the façade (assuming combined sound power level from all mechanical plant combined) will fit well within the established operational external noise criteria.

Based on the preliminary attended measurements conducted at the site, the assumed sound power levels of mechanical plant / equipment and typical external façade design for plant rooms, Aurecon has concluded that operational external noise levels will comply with the NSW IP operational noise criteria.

Façade design

A key noise impact issue for the development is the exposure of the western façade to the high noise environment of the Western Distributor. The maximum ambient noise levels recorded during the day time period at the western façade of the existing hotel was 77 dBA. Satisfactory recommended noise levels inside the ground and mezzanine level convention and functions rooms is 35-45 dBA.

Aurecon has concluded that the preliminary façade design can reasonably mitigate traffic noise impact. Ongoing resolution of the design will be required to ensure that required internal noise levels are met. Specifically, an external façade of double glazed fixed windows with a façade transmission loss (6mm glass + 12mm airgap + 12.76 mm laminated glass) and a Sound Reduction Index Rw of >50 for a meeting room could achieve internal noise levels of <40 dBA which would comply with Australian Standard AS2107:2000. The recommended façade design criteria will be implemented.

5.9 Rail Corridor

Aurecon have prepared a Rail Corridor Impact Statement (refer to **Appendix H**) which assesses the potential impacts of the development on the future CBD Rail Link (CBDRL) corridor. The report also assesses the potential impacts that a future rail link may have on the proposed development. In preparing the report Aurecon consulted with RailCorp to confirm the future location of the rail corridor.

At this time the CBDRL is an easement only and there is no network layout or final alignment. The easement runs down the centre of Sussex Street and a 'zone of influence' for the tunnel has been identified by RailCorp (refer to **Figure 29**). The building foundations for the new tower are approximately 25m from the 'zone of influence' and therefore will not impact on the proposed future alignment, construction, structural integrity or operation of the CBDRL. The proposed Haymarket to Circular Quay light rail link also runs down Sussex Street.

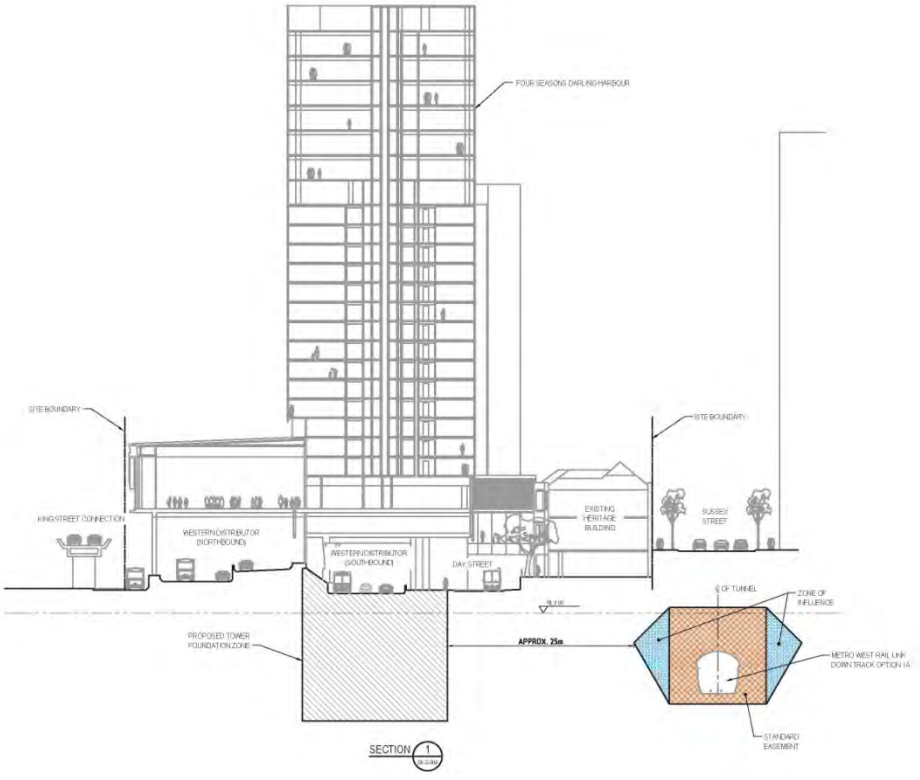

Figure 29 – Location of CBDRL corridor (Source: Aurecon)

Potential future effects from construction and operation of the CBDRL on the new tower include impacts to the tower foundations, vibration from construction and operation, electrolysis and stray currents and noise. Given the distance between the future rail tunnel and the tower foundation the CBDRL is not expected to have additional noise and vibration impacts beyond the typical noise and vibration impacts considered acceptable for a high rise tower.

The impacts of electrolysis and stray currents, which can have severe detrimental impacts to buried metallic structures has also been assessed. Aurecon consider that there are unlikely to be any impacts on the development, however design measures can be incorporated in the structure, if required, to mitigate impacts from stray currents.

The redevelopment of the hotel will also not impact or impede future access for maintenance as the tower foundations are outside the 'zone of influence' of the tunnel and outside of any area identified as infrastructure access point.

Aurecon concluded that the proposed development will not impact on the future construction and operation of the CBDRL and the CDBRL will also not impact on the construction or foundations of the tower. The proponent will continue to liaise with RailCorp regarding appropriate methods to mitigate against potential impacts from stray currents.

5.10 Geotechnical and Groundwater

Consulting Earth Scientists Pty Ltd has undertaken an assessment of the existing geotechnical conditions of the site (refer to **Appendix L)**. The report outlines the geotechnical investigations undertaken and provides recommendations on suitable footing systems, estimated bearing pressures and groundwater monitoring.

The investigations identified that sandstone was encountered at depths of 9.8m below the surface. The sandstone is overlain by marine deposits, with fill material located closer to the surface. The investigations also identified that groundwater was reached at shallow depths across the site of 0.7m to 0.85 metres. Ongoing groundwater monitoring is being undertaken to assess groundwater levels and fluctuations. This monitoring will inform the detailed structural design.

The Geotechnical Report concludes that:

- deep bore piles or continuous flight auger piles into appropriate sandstone could be adopted to support the proposed tower and podium structure; and
- due to the shallow groundwater, temporary casing should be used in the bored piles to provide support to the pile bore walls.

5.11 Contamination

An Environmental Site Assessment has been carried out by Consulting Earth Scientists Pty Ltd and is provided at **Appendix F**. The aim of this assessment was to determine if past and/or present activities undertaken on, or adjacent to, the site have caused contamination, and if so, whether this contamination would cause risk to human health or the environment when considering the proposed development on the site.

A Stage 1 investigation was carried out on the site, including a review of historical uses and the present use of the site and a collection of soil samples and soil analysis. The historical records show that neither the site nor surrounding sites are listed on the Environment Protection Authority register of contaminated sites nor have dangerous goods been stored on the site. The soil analysis showed there were no concentrations of any contaminated material or metals in excess of the relevant health-based guidelines. As such, it has been determined that the site is considered suitable for the proposed development.

5.12 Access

Accessibility Solutions (NSW) Pty Ltd has prepared an Accessibility Report (**Appendix O**) examining the proposed developments compliance with the relevant sections of the Building Code of Australia, Disability Discrimination Act Access Code and Australian Standards.

The review of the proposed development against the relevant standards has concluded that the ground floor lobbies will provide suitable entries and internal access for people with disabilities. Adequate access has also been provided to the proposed hotel and commercial levels in the new tower and there is an adequate quantity of hotel rooms for people with disabilities.

Accessibility Solutions has concluded that the proposed development either complies with the relevant standards, or will be able to comply at the CC stage of the development.

5.13 Ecologically Sustainable Development

Cundall has prepared an Ecologically Sustainable Development (ESD) Report to outline the energy and water efficiency of the proposed development (refer to **Appendix P**). The commercial office component will be designed to achieve the equivalent of 4.5 stars NABERS Office Energy for the base building.

Other features have been incorporated into the design of the proposed development to improve its energy efficiency which include:

- building fabric designed to comply with BCA Section J using a verification methodology, using performance glazing and external shading as required;
- large glazed areas in guestrooms and on commercial floors to provide daylight and solar access.
- external shading to the western facade to reduce solar heat gains on summer afternoons;
- energy efficient centralised air conditioning;
- efficient lighting in guestrooms and commercial areas; and
- water efficient fittings and fixtures for hotel rooms.

In addition, the ESD Report recommends that during the detailed design phase of the development environmentally responsible materials should be used. Waste minimisation measures during construction and operation of the development, such as recycling and best practice building management will also be undertaken.

This report concluded that the proposed development will comply with the relevant Australian Standards and the office component of the development has adequately been designed to achieve the equivalent of 4.5 star NABERS energy rating.

5.14 Building Services and Infrastructure

Aurecon have prepared an engineering services report (**Appendix Q**) which identifies key infrastructure, structural and building services requirements for the development.

As discussed in Section 4, Ausgrid infrastructure traverses the site which includes 11kV and 33kV electricity transmission lines. Consultations with Ausgrid are ongoing regarding the potential impacts to their infrastructure.

It is proposed that the 11kV transmission line will be bridged or relocated to Ausgrid's requirements. A kerb inlet pit will also be relocated to Ausgrid's requirements.

The site is currently served by an existing Ausgrid substation located under the Corn Exchange building. The hotel expansion will require an additional 1 MVA (Million Volt Amps) of power and a new electrical switchroom, which will be located in the Corn Exchange building. Ausgrid may also require modification to the existing substation, however is to be confirmed by Ausgrid.

The structural system for the building comprises the following elements:

- Bored pile foundations;
- Steel beams and metal deck sheeting over the Western Distributor;
- Concrete slabs for hotel and office floors.

It is intended that the pile foundations will be founded on sandstone rock. The structural design will comply with the Building Code of Australia (BCA) and relevant Australian Standards.

Mechanical, Fire and Hydraulic building services will be provided in accordance with the relevant BCA, Australian Standards and/or authority requirements. Where required, services and infrastructure within the existing hotel buildings will also be upgraded.

5.15 BCA

A Building Code of Australia (BCA) Assessment has been carried out by Philip Chun Building Surveying and is included at **Appendix R**. The report assesses the proposed development against the provisions of the BCA and found that the design either complies with the relevant BCA provisions, or can comply through the deemed to satisfy provisions (which will de finalised at the Construction Certificate phase of the development).

There makes several recommendations to ensure compliance with the relevant Australian Standards. These recommendations will be incorporated into the building design.

5.16 Tree Removal

An Arborist Impact Report prepared by Landscape Matrix Pty Ltd (refer to **Appendix S)** identified and assessed the existing trees located within and immediately surrounding the site. A total of 41 trees were surveyed, with the most common species being *Ficus macrocarpa var hillii* trees (20 trees). Of the 41 trees, four were identified to be removed regardless of any works on the site because they are weed species (Chinese Hackberry).

No trees surveyed on the site were identified as being listed as a threatened species under the *NSW Threatened Species Conservation Act 1995* or the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*. The majority of trees were noted to be mature specimens and in good health, however only two trees were considered to have a high Safe Useable Life Expectancy (SULE), with many trees having a lowered SULE due to their location in the urban environment.

To facilitate the proposed development a total of 22 trees will be removed and three trees will be retained in the vicinity of the new works. Nineteen trees will be retained and protected across the site.

The report recommends tree protection measures that will be required prior to and during the construction process to minimise risk of damage to trees identified for retention on the site.

5.17 Crime and Public Safety

Throughout the design development of the project the Crime Prevention through Environmental Design (CPTED) principles were considered in order to achieve a safe and enjoyable public domain. The public domain areas include the northern plaza entry, the porte cochere, the through site link, commercial foyer and Slip Street.

A CPTED report has been prepared by Cox Richardson Architects (**Appendix T**). This report provides a description of each public domain space and details the principles of CPTED in relation to each space. CPTED principles were also applied to the design of the fire stairs and corridors. Recommendations for the lighting design are also included in the CPTED report.

5.18 Construction Impacts

A Construction Management Plan (CMP) will be prepared and submitted to the Principal Certifying Authority for approval prior to the release of the Construction Certificate. When prepared the CMP will address the mitigation measures provided in **Section 6** of this report. The CMP will address the following issues:

- Hoardings;
- Soil and water management;
- Construction traffic management;
- Noise;
- Dust suppression and air quality;
- Site management;
- Contact details; and
- Hours of construction.

During construction, one loading zone will be established on Sussex Street at the southern end of the site. This zone will be around 100 metres in length and will occupy the western most lane of Sussex Street. This zone has been selected in consultation with the RMS and City of Sydney Council. Slip Street will also be used as a loading zone. These on-street construction zones will be managed by qualified traffic controllers.

Western Distributor

A Construction Impact Statement (CIS) has been prepared by Cadence Australia Pty Ltd (see **Appendix U**) which outlines the proposed construction methodology and measures to mitigate and manage impacts during construction, particularly in relation to the Western Distributor.

A number of tower cranes are proposed to be utilised to lift the construction materials from the loading zone on Sussex Street. Mobile cranes will be used at night in dedicated lanes of the Western Distributor. The establishment works for the southern tower include piling and foundations and will require the closure or partial closure of the Western Distributor, which will be at night. Where possible, lane closures will be staged to minimise the potential impacts. Consultation with RMS on the closure of the Western Distributor will occur prior to the commencement of these works and the proponent will enter into a Works Agreement Deed with the RMS.

To minimise road closures and increase the efficiency of construction, structural framework and reinforcement will be preassembled on the existing terrace deck. The tower will be constructed from a false platform erected over Slip Street and the prefabricated base structure of the tower over the Western Distributor.

A Draft Traffic Management Plan for the construction phase of the development has been included in the Transport and Accessibility Impact Assessment (**Appendix D**). As noted above closure or partial closure of the Western Distributor will be required to allow for night-time construction. Traffic will need to be diverted off the Western Distributor and the following diversion strategy is proposed:

The proposed northbound diversions include closure of Western Distributor at King Street off-ramp with northbound traffic diverted via King Street, Kent Street and Clarence Street. The Harbour Street northbound carriageway will be closed at Bathurst Street with northbound traffic diverted via Bathurst Street and Kent Street.

The proposed northbound diversions include closure of Western Distributor southbound on-ramp closed at the Bradfield Highway (Harbour Bridge) with southbound traffic diverted via York Street, Market Street, Sussex Street and Bathurst Street.

A final Construction Traffic Management Plan will be prepared completed prior to the commencement of works.

5.19 Waste Management

A Waste Management Plan has been prepared by Wastech Services Pty Ltd and has been provided at **Appendix V**. This report has examined the proposed development and the expected waste generation.

After an assessment of the proposed development, Wastech Services has determined that the existing loading dock on the site accessed off Slip Street is capable of handling the increased waste collections. The existing waste compactor on the site has also been identified as capable of processing the expected waste generation. The proposed garbage room on the lower ground level will be of an adequate size to contain the recommended amount of bins.

Cleaning staff will service both the hotel and commercial components of the development. Waste will be transferred by the cleaning staff to the refuse room on the lower ground level and collected by a private contractor.

This report has provided a number of recommendations to both manage and minimise the waste generated during the operation of the development.

6.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 6** below. These measures have been derived from the previous assessment in Section 5.0 and those detailed in the appended consultants' reports.

Table 6 – Mitigation Measures

Mitigation Measures
Heritage ▪ Works must incorporate the heritage interpretation recommendations of the Heritage Impact Statement prepared by City Plan Heritage 2012. ▪ Installation of hoardings and other protection measures to protect the heritage items on site, in particular The Dundee Arms and Corn Exchange. ▪ An audit of heritage items to identify if any conservation works are required to enhance and preserve their identified significance. ▪ Consultation with the Metropolitan Aboriginal Land Council is to be undertaken.
Solar Reflectivity ▪ Glazing on the north portion of the western elevation of the podium, between Ground Level and Level 2 (inclusive) should have a maximum normal specular reflectivity of visible light of 14%. ▪ The glazing for all other areas of the facade of the new buildings should have a maximum normal specular reflectivity of visible light of 20%.
Traffic (Construction) ▪ The draft Traffic Construction Management Plan is to be finalised and recommendations are to be employed.
Noise ▪ The construction noise mitigation measures outlined in the Noise Impact Assessment are to be adopted during construction. ▪ Attended noise measurements during the construction phase be undertaken to assess the noise levels against the established construction noise criteria. ▪ The detailed facade design must incorporate the noise attenuation measures outlined in the Noise Impact Assessment prepared by Aurecon.
Geotechnical and Contamination ▪ An experienced geotechnical engineer will observe boring of the piles to assess the rock levels and to confirm that the rock is suitable for the adopted design parameters.
Building Code of Australia (BCA) / Fire Statements ▪ The recommendations of the BCA report by Philip Chun and Engineering Report prepared by Aurecon are to be incorporates into the detailed design.
Crime Prevention Through Environmental Design ▪ Provide vandal resistant materials and equipment to the Slip Street works. ▪ All doors, stairways and vulnerable areas accessible to the public including the through site link should be monitored by CCTV cameras.

Mitigation Measures
▪ Lighting measures recommended in the CPTED report are to be implemented
Construction Management ▪ A Construction Management Plan (CMP) will be prepared and submitted to the Principal Certifying Authority for approval prior to the release of the Construction Certificate. ▪ A Works Agreement Deed is to be negotiated with the RMS and executed prior to the issue of a Construction Certificate.
Tree Protection ▪ Tree protection measures in accordance with the Arboricultural Impact Report will be implemented.

7.0 Justification and Conclusion

This EIS has been prepared to consider the environmental, social and economic impacts of the proposed redevelopment of 161 Sussex Street, Sydney. The EIS has addressed the issues outlined in the Director-General's Requirements (Appendix B) and accords with Schedule 2 of the Environmental Planning and Assessment Regulation 2000 with regards to consideration of the relevant environmental planning instruments, the proposed built form and environmental impacts including heritage, visual, traffic, noise, construction and infrastructure impacts.

The Four Points by Sheraton is currently the largest hotel (by number of rooms) in Australia and enjoys a high level of occupancy. The hotel is well patronised by both business travellers and tourists. Demand for hotel rooms and convention and exhibition space in Sydney has been growing and there has been limited growth in the available hotel rooms inventory over the last 10 years. A shortage of accommodation will continue as demand is forecast to grow and the supply of new rooms is constrained within the city CBD.

The demand for hotel accommodation is also expected to grow due to the NSW Government's proposed redevelopment and expansion of exhibition and convention centre facilities Darling Harbour. Further, the demand for convention and exhibition spaces is also growing and there will be strong demand for space particularly when the Sydney Exhibition and Convention Centre facilities are closed for redevelopment at the end of 2013. This project will add 231 rooms, growing the total rooms inventory to 934 rooms; establishing the Four Points Hotel as the largest hotel in Australia.

The proponent has met with key stake holders involved in the Sydney convention and meeting sector including leading conference organisers, Tourism and Transport Forum, NSW Infrastructure, Business Events Sydney and Destination NSW. These stakeholders have provided input as to the features and requirements the customers in the meeting and convention space look for when choosing Sydney as the destination venue for their event.

The expansion of the Four Points Hotel in both meeting facilities and rooms will also assist NSW in winning large group, corporate meeting, association and convention bids. The project will also deliver additional commercial office space on the site, complimenting the existing commercial office space on the site and contributing to the supply of office space in the CBD.

It is considered the project warrants approval for the following reasons:

- The redevelopment establishes a building form with appropriate scale and massing that responds to the CBD built form morphology and topography.
- The tower building addresses its corner location through an articulation of the southern and western façades, whilst providing separation to the historic Corn Exchange Building.
- The podium extension for the convention and exhibition space acts as a backdrop for Darling Harbour and improving the current interface of the existing hotel to the Darling Harbour.
- The existing through site link is significantly improved creating a clear, direct and legible link which encourages the use of the Darling Harbour public domain.
- The redevelopment respects the existing heritage buildings on the site
- The redevelopment will not have any significant environmental impacts.

Given the planning merits of the proposed development and its public benefits, it is requested that the project be approved.