



Picture 15 – St George Building



Picture 16 – 200 George Street



Picture 17 – Marriott Hotel



Picture 18 – Export House

3.5. TRANSPORT AND ACCESSIBILITY

3.5.1. Vehicular Access

The existing primary vehicular access points to the site are via Pitt Street and Rugby Place. The Goldfields Car Park can be accessed from Pitt Street. A loading dock at the rear of 1 Alfred Street is provided and can be accessed from Rugby Place.

3.5.2. Pedestrians

There are existing north-south connections linking pedestrians from Circular Quay to the CBD via George Street and Pitt Street. East-west connections are currently provided via Alfred Street and Rugby Place. Pedestrian access for 1 Alfred Street is located on George Street, access for 31A Pitt Street is via Rugby Place, and access to 19-31 Pitt Street is from Pitt Street.

3.5.3. Public Transport

The site is located immediately adjacent to Circular Quay. As a major transport hub, Circular Quay is the only interchange within the CBD that connects all available forms of public transport (i.e. train, ferry, bus and taxi). With the planned introduction of light rail, the subject site will be one of the City's best connected and most accessible areas particularly in relation to public transport, noting the following:

- Circular Quay station is part of the City Circle loop and is serviced by four lines (i.e. South, Inner West, Airport & East Hills and Bankstown Lines);
- Circular Quay is the terminus for the majority of Eastern Suburbs and Inner West bus routes;
- All Sydney ferry services depart from the Circular Quay ferry terminal; and
- The proposed CSELR will connect Circular Quay with Central Station (and Randwick/Kensington beyond) via George Street. Planning approval was granted on 4 June 2014, with works commencing in August 2014. It is anticipated that construction will be completed in 2019/2020.
- The main Circular Quay terminus/train/ferry interchange will be located to the immediate north-east of the site, and the rail alignment will include those sections of George and Alfred Streets adjacent to the site. The general alignment of the light rail is indicated at Figure 9. The detailed alignment currently planned by Sydney Light Rail is indicated at Figure 10 and a photomontage of the planned Circular Quay terminus/interchange is included at Figure 11.

Figure 9 – Proposed CBD and South East Light Rail Alignment



Figure 10 – Illustrative Concept Plan of Circular Quay (CSELR EIS Technical Paper No. 10)

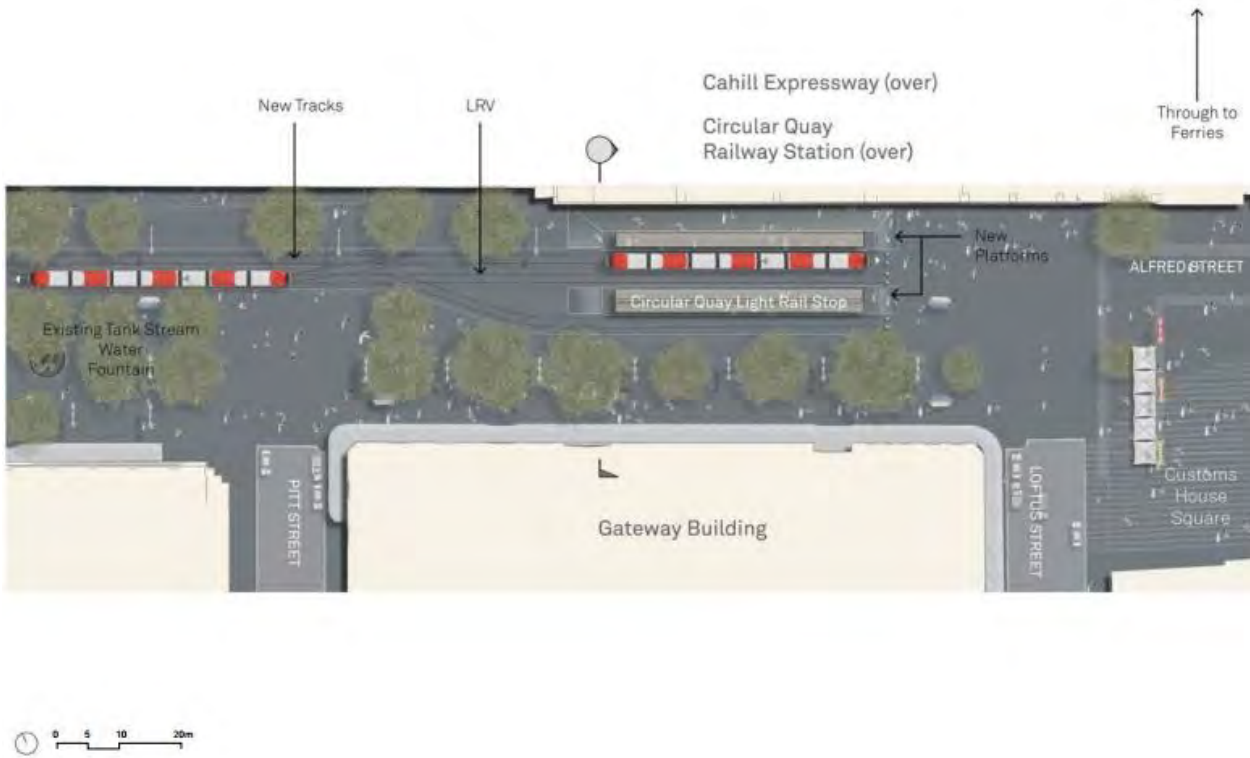


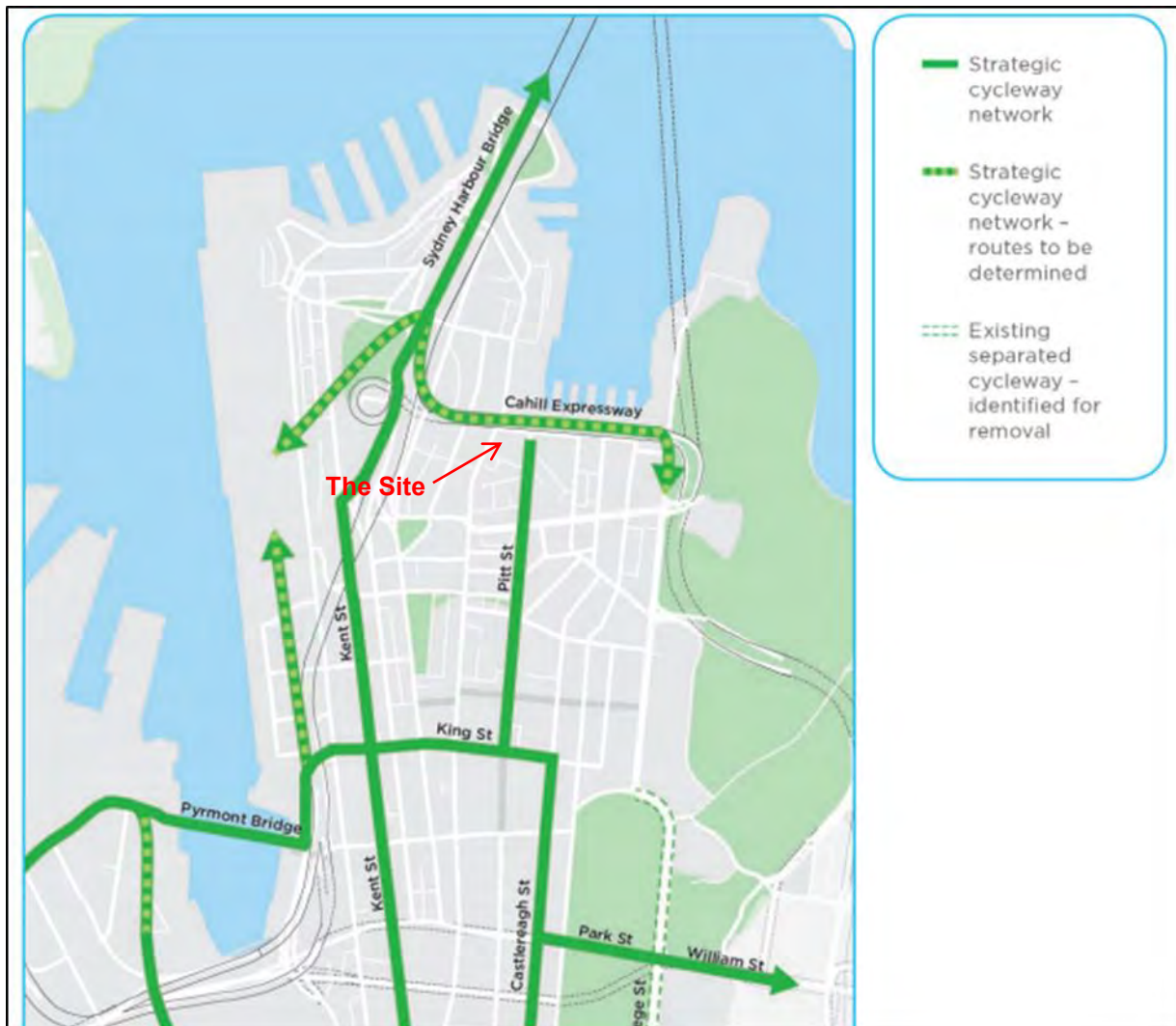
Figure 11 – Future Sydney Light Rail Terminus in Alfred Street (Source: Sydney Light Rail Website)



3.5.4. Cycleway Network

There are currently no formal cycle ways in the vicinity of the site. The City of Sydney's *Cycle Strategy and Action Plan 2007-2017* however proposes an expanded cycleway network to encourage the growth of cycling, partially to alleviate road congestion and reduce pressure on the public transport system. A part of the proposed strategic cycleway network is to be located along Pitt Street, adjacent to the site (see Figure 12).

Figure 12 – City of Sydney Strategic Cycleway Network



3.6. UTILITIES AND INFRASTRUCTURE

All essential infrastructure services for electricity supply, communication services, water services and gas supply are provided to the site and are capable of extension/augmentation as required.

The provision of utilities services is further discussed under Section 8.14 of this report.

3.7. HERITAGE

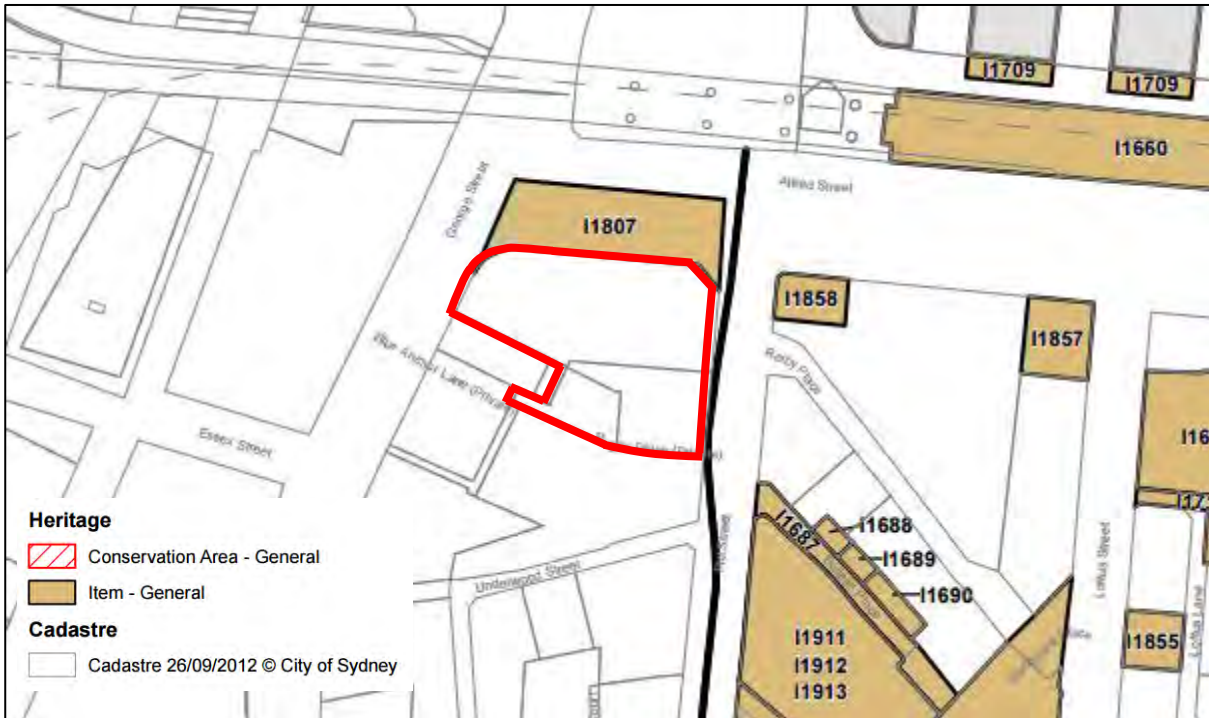
The immediate surrounds of the site have a significant history following European settlement. A Heritage Impact Statement, Historical Archaeological Assessment, and Aboriginal Cultural Heritage Assessment Report has been prepared in support of this application (**Appendix G**, **Appendix H**, and **Appendix I** respectively), which notably includes the following findings:

- The existing buildings on the site are not listed on any local, state, or national heritage register.
- The site is located in proximity to a number of local and State Heritage Items as identified at Figure 18. The site is not located within a heritage conservation area under the SLEP 2012.
- The site is outside of the Alfred Street boundary of the 'buffer zone' for the World Heritage Listing (WHL) for the Sydney Opera House.
- The site is subject to a 3m curtilage zone associated with the Tank Stream, a State Heritage Item, which runs adjacent to the Pitt Street boundary, and is considered an element of exceptional heritage significance.

- The existing basement of 1 Alfred Street is currently constructed within this zone (approx. 1200mm from the Tank Stream).
- The Tank Stream Fountain at Herald Square adjacent to the subject site is listed as a local heritage item under the SLEP 2012.

The local and state heritage items located in proximity to the site are illustrated within the SLEP 2012 Heritage Map extract below.

Figure 13 – SLEP 2012 Heritage Map Extract



3.8. ENVIRONMENTAL CHARACTERISTICS

The site is located at approximately 6 metres Australian Height Datum 1971 (AHD), however the site slightly falls from George Street to Pitt Street, as illustrated in the Survey Plan at the **Volume of Plans**. The eastern, lower boundary of the site lies within the margins of the former Tank Stream gully and the groundwater level is noted to lie consistently at approximately -3.7m AHD and -6.5m AHD across the site.

The subsurface profile of the site is a combination of fill, alluvium, residual soils and sandstone bedrock. Preliminary investigation indicates that potential sources of contamination pose a low-moderate likelihood of contamination.

4. PROPOSED DEVELOPMENT

This Stage 2 SSD DA seeks detailed consent for:

- Demolition of all remaining structures on the site;
- Construction of a hotel consisting of a tower with a maximum building height of 110m (RL 112.5) including:
 - six ground floor retail tenancies;
 - 182 hotel rooms (excluding caretaker room);
 - Common hotel facilities including a swimming pool, spa, gymnasium, ballroom, all day dining facilities, multimedia rooms, restaurant, and bar; and
 - 19,119sqm of gross floor area;
- Excavation and construction of a six level basement for use by the hotel (Tower B) and residential tower (Tower A) for car parking, storage, access, back of house areas, and services;
- Vehicular access via a driveway and porte cochère on Pitt Street;
- Identification of building signage zones;
- Construction of public domain improvements including provision of laneways/ pedestrian thoroughfares, public art and landscaping across the site;
- Dewatering as required; and
- Augmentation of physical infrastructure and utilities as needed.

4.1. OBJECTIVES OF THE PROPOSED DEVELOPMENT

The proposed development seeks to unlock the development potential of an area of extreme significance in the context of Sydney's CBD. Located within the Circular Quay frontline, this development will add to the city's skyline and offer both Sydneysiders and visitors alike a new welcoming experience to the city. The development site will accommodate two towers: a premium residential Tower and a luxury Hotel. The development will act as a gateway to a vibrant and lively network of laneways and public open spaces integral to the APDG precinct.

In line with the objectives of the Sydney DCP 2012 for the APDG precinct, the proposal strives to achieve the following objectives:

- **Achieve** a high quality urban form;
- **Ensure** that a development will lead to major public benefits;
- **Enable** an activated network of lanes and through-site links;
- **Maintain** the legibility of the historical alignment of laneways and through-site links within the site;
- **Create** opportunities for view corridors across the site; and
- **Contribute** to the transformation of Circular Quay and the George Street spine.

The development seeks to achieve design excellence and contribute to the increasing quality of the city's skyline; it will strengthen Sydney's global reputation and give the city a rejuvenated quarter with exceptional public spaces and inspiring buildings.

4.2. DESIGN STATEMENT

A comprehensive design statement has been prepared by Kengo Kuma and Associates and Crone and is included within Volume of Plans. A montage of the proposal is provided at Figure 14.

An extract from the Kengo Kuma and Associates and Crone concept describes the project as follows:

“The building volume has been ‘massaged’ into an iconic form that smoothly connects the city scale to the human scale. The volume twists in response to its immediate context. This is achieved by subtly rotating the building volume as it gets closer to the ground. The geometry change is gentle and deliberate, giving the podium an elegant and articulated form. In the lower levels the volume shifts to give way to entries, covered zones, and terraces—enhancing the relationship with the surroundings.

A pixel like expression adds human scale to the tower suggesting legibility in material and nuance in the façade. The gradual variation of the pixel is critical to the design because it allows the tower to ‘touch the ground’ softly, making the spaces around it inviting and comfortable to pedestrians. This strategy adds rhythm to the façade particularly at the lower levels, and creates further interest at a street level.”

Figure 14 – Photomontage of Proposal as viewed from Pitt Street



Source: Kengo Kuma and Associates and Crone

4.3. DEMOLITION AND EXCAVATION

This Stage 2 SSD DA seeks consent for the demolition of all structures on the site. This includes the demolition of any structures remaining following demolition works of Goldfields House commenced under D/2010/2029 including the associated basement structures, Fairfax House from slab level and below including the associated basement, and the Rugby Club from slab level and below. It is noted that separate consent is concurrently being sought for the demolition of all structures on site to slab level (refer to Table 1).

4.4. BASEMENT DESIGN

An integrated basement to service both Tower A (residential and retail) and Tower B (hotel and retail) is proposed across the site. The basement is accessed by a single driveway from Pitt Street.

Six levels of basement are proposed which contain various functions such as car parking, loading areas, plant, storage, hotel back of house functions, waste, management areas, bike parking and end of trip facilities.

The proposal has been designed so that all loading and unloading operations will be carried out within the building and no off street loading is required. Investigation into the practicality of providing an integrated basement with surrounding landowners has been undertaken throughout the preparation of this DA. Detail of this investigation is provided in **Appendix II**, however it has been determined that this integrated basement access will not be provided as part of this DA.

4.5. PUBLIC DOMAIN

4.5.1. Public Domain Works and Dedications

The proposal includes a significant amount of public domain works across the Tower B delineation area. In coordination with the proposed public domain within the Tower A delineation area, the public domain has been designed to deliver upon the following initiatives:

- Consolidating the vehicular access points across the site, to one single entry at Pitt Street;
- Formalising a publically accessible Rugby Place in coordination with the adjacent development;
- Expanding the publically accessible Herald Square;
- Creating a new through-site link between an expanded Herald Square and Rugby Place;
- Unencumbered pedestrian circulation around flexible spaces;
- The provision of public art on the site; and
- Improved servicing, waste management, stormwater management.

As outlined within the draft Voluntary Planning Agreement (VPA) prepared to inform the detail of this public domain works, a total of approximately 1,410sqm of land across the site will be dedicated to the Council or otherwise limited in use for public recreation, access, and right of way. Specifically the proposed public domain works proposed within these areas as documented within the Public Domain Plans prepared by Oculus (refer to the **Volume of Plans**) include:

- Required removal of two trees within the public domain immediately adjacent to the site on Pitt Street;
- New street tree planting surrounding site;
- Paving to align with City of Sydney standards throughout site, including porte cochère;
- Through-site link with central drainage channel and trees at grade;
- Water feature to the north eastern building edge;
- Sandstone clad retaining walls to delineate pedestrian access from porte cochère;
- Few stair access from Pitt Street to remove pedestrian movements from the driveway and porte cochère entrances;

- 1:20 ramped pedestrian access to hotel lobby;
- Areas for retail and hotel moveable outdoor seating and dining; and
- Associated civil and stormwater works to deliver the public domain.

A lighting strategy has been prepared by ARUP in support of the Public Domain Plan and is included within the **Volume of Plans**. The public domain lighting proposed across the site includes:

- Lighting integrated into the fabric of the proposed architectural building features including soffits, up lighting at ground façade, up lighting to canopy, wall mounted luminaires, and wall washing to sandstone walls;
- One pole mounted luminaire within Rugby Place;
- Tree up lighting within through-site link.

4.5.2. Public Art

As outlined within the Stage 1 SSD DA conditions of consent and as committed to within the VPA, public art will be delivered across the site. As such, a Public Art Strategy has been prepared by Urban Art Projects (refer **Appendix F**). The Public Art Strategy identifies the following key zones for the consideration of public art:

- Central public open space – being generally the extension of Herald Square;
- Proposed through-site link on the site; and
- Proposed Tower B hotel lobby/foyer that is highly visible to the public and represents the front door of the development to the heart of Circular Quay.

The artwork will aspire to address the three overarching principles of ‘Curated’, ‘Iconic’ and ‘Connected’ to deliver artwork(s) that add meaning and vibrancy to this rich site.

As detailed within the VPA, the total budgeted allocation for artwork within the public domain is specified as \$3.5 million. Public art positioned within the Tower B hotel lobby/foyer zone is proposed as an additional recommended opportunity, with a budget to be allocated in addition to the prescribed \$3.5 million of the VPA. The Public Art Strategy identifies procurement processes for each of the zones identified for potential public art. Each proposed process includes ongoing consultation with the Council and the relevant Council Public Art Advisory Panel.

4.5.3. Landscaping

Due to the proposed hotel and retail land uses proposed, the need to keep pedestrian thoroughfares clear, and the urbanity of the site, the proposal does not include large areas of soft landscaping. Tree pits with an area of 2.0m by 0.9m capable of supporting mature vegetation are however proposed within the through-site link. Planting is also proposed adjacent to the Pitt Street driveway to conceal this access from view.

The proposal does however introduce vegetation into the highly built up context of Circular Quay, by including large areas of green walls and green roofs cascading down the podium levels of the development. These green walls and roofs are particularly positioned within the new through-site link.

This initiative not only improves the human scale of the development and provides an incentive to traverse through the site, the landscaping proposed will improve the environmental performance of the development. A landscaping plan has been prepared by Oculus (refer to **Volume of Plans**) which details the proposed maintenance and species proposed for these green walls. Species have been specifically selected to respond to the sunlight access and wind environment for the various facades (including fifth façade) of the development. The green wall ‘pixels’ are illustrated in the Figure 15.

Figure 15 – Proposed Green Walls and Cascading Green Roofs



Source: Kengo Kuma and Associates and Crone

4.6. OPERATIONAL MANAGEMENT

The proposal includes the operation of a new world-class hotel on the site; associated entertainment uses to support the hotel such as a ballroom, restaurant, spas and bars, and ground floor retail. Specifically the development is seeking consent for the following operational hours:

- 24 hour, seven days per week hotel trading operations including hotel reception check-in desk, concierge, pool and gym facilities, and lobby lounge area;
- All day dining restaurant 6:00am til midnight, seven days per week;
- Lobby lounge bar 7:00am til 1:00am, seven days per week;
- Club restaurant, karaoke bar and rooftop bar 7:00am til 2:00am, seven days per week;
- Grand ballrooms and event space 7:00am til 1:00am, seven days per week;
- Fitness café 6:00am til 10:00pm, seven days per week; and
- Retail spaces 7:00am til midnight, seven days per week.

The capacity for visitors and guests on site at any one time is 1,262, including a ballroom capacity of 241 and 278 hotel guests. This assumes no duplication of guests staying within the hotel using its facilities, which is the more common and expected scenario. A maximum 211 staff are proposed at any one time on site.

The operational management of the site is outlined within the plan provided at **Appendix FF**.

4.7. SUSTAINABILITY INITIATIVES (ESD)

An Ecologically Sustainable Development Report has been prepared by ARUP in support of this application and is included at **Appendix X**. This Report outlines the key sustainability performance indicators, which are based on achieving the equivalent performance of a 5 star Green Star development, that are proposed within the development and specifically for Tower B (Hotel). The objectives of the development are achieved through the following indicators:

- Management
- Indoor Environment Quality
- Energy
- Transport
- Water
- Materials
- Land Use and Ecology
- Emissions
- Innovation

4.8. CONSTRUCTION MANAGEMENT

The proposed development will be constructed in a highly urbanised area with a significant degree of access constraints and high levels of pedestrian traffic. As such a construction management plan has been prepared to support this Stage 2 SSD DA and is included at **Appendix EE**. Further details of the construction management, and construction traffic and pedestrian management will be undertaken as part of the detailed design of the proposal, however the key aspects of the construction management plan for the site include:

- To ascertain an appropriate construction methodology;
- Propose a suitable construction site layout;
- The site safety management system requirements;
- The waste management objectives;
- The environmental management practices and codes to be observed in the removal of any contaminated materials;
- Outline the community consultation and neighbour liaison process; and
- Present a noise mitigation strategy during construction.

4.9. SIGNAGE

It is important in the development of an international and world-class hotel that appropriate name signage is provided. In the case of Tower B, the hotel will be operated under the 'Wanda Vista' brand. As such, signage not only denoting the ground floor retail tenants but the 'Wanda Vista' hotel brand must be considered for the development.

As part of this Stage 2 SSD DA, signage zones are proposed on the northern building façade and Pitt Street awning, whereas the detailed construction and installation of the signage will be proposed as part of a separate application. The prevailing principle of the proposed Wanda Vista signage is to keep the signs only visible as needed to mark the hotel's presence during the day, whereas be illuminated at night. The signage zones proposed include:

- Top of building signage with a maximum dimension of 13.7m by 2m.
- Top of awning signage consistent with Wanda international branding, with a maximum dimension of 11.5m by 1m.

Ground level retail signage across the site including both towers will be subject to a separate DA. The location and indicative design of the proposed Wanda Vista signage is however illustrated below.

Figure 16 – Wanda Vista Brand Signage



Picture 19 – Wanda Vista Top of Awning Signage

Source: Kengo Kuma and Associates and Crone



Picture 20 – Wanda Vista Top of Building Signage

Source: Kengo Kuma and Associates and Crone

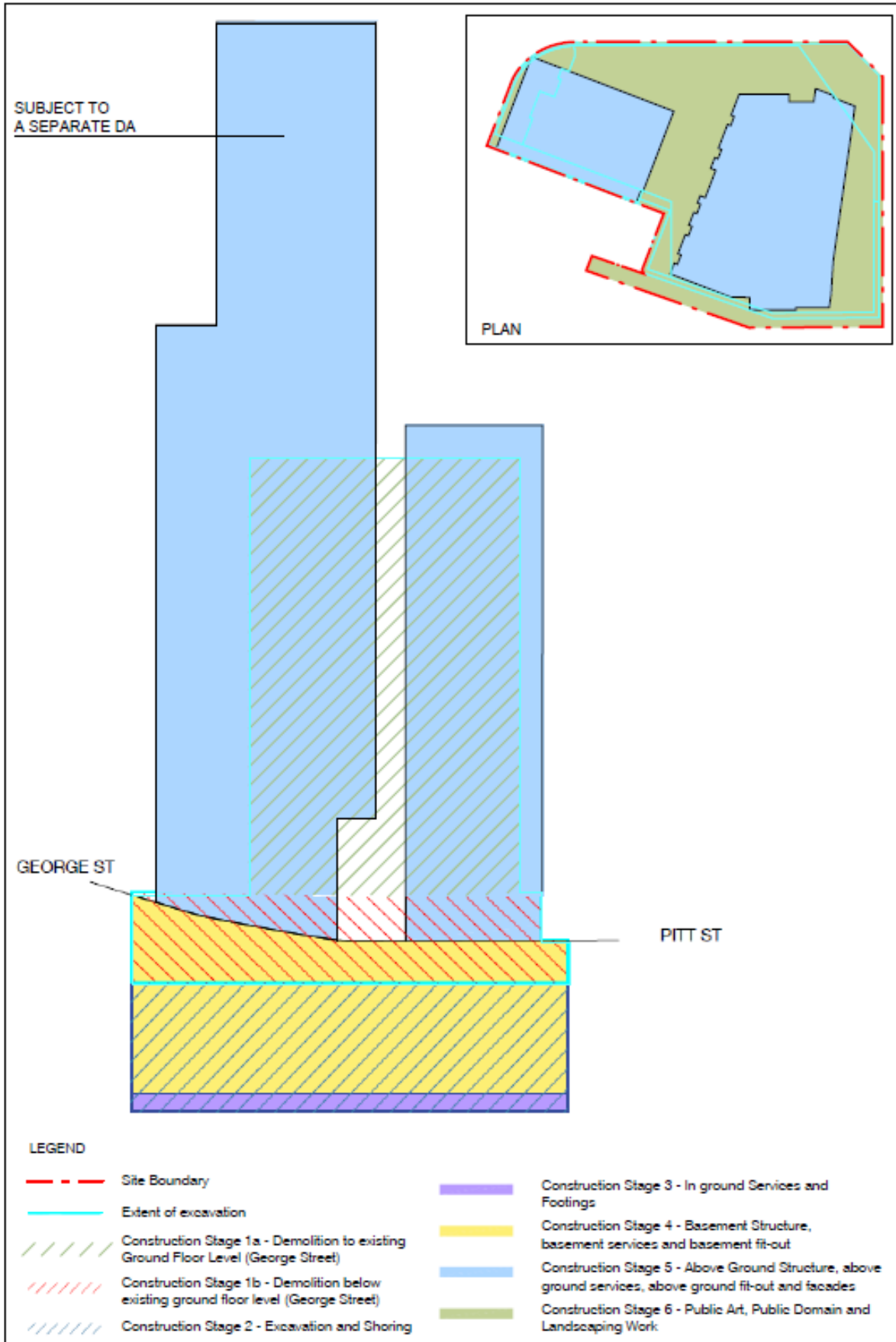
4.10. DEVELOPMENT STAGING

Whilst the development will be sought to be delivered in one stage, the proposed development will be constructed in the following stages:

- Construction Stage 1 – Demolition of all remaining structures on site
- Construction Stage 2 – Excavation and shoring
- Construction Stage 3 – In ground Services and Footings
- Construction Stage 4 – Basement Structure, basement services and basement fit-out
- Construction Stage 5 – Above Ground Structure, above ground services, above ground fit-out and facades
- Construction Stage 6 – Public Art, Public Domain and Landscaping Work

The staging identified above is illustrated in a staging plan provided below. In accordance with this diagram, this application proposes that should development consent be granted, the conditions of consent imposed on the development is to be appropriately staged to allow the progressive issue of relevant construction certificates.

Figure 17 – Proposed Construction Staging



5. BENEFITS OF THE PROPOSED DEVELOPMENT

5.1. ANALYSIS OF FEASIBLE ALTERNATIVES

Throughout the preparation of and assessment of the Stage 1 SSD DA an analysis of feasible alternatives to the proposed built form was considered. Through detailed assessment of the proposal the CSPC determined that the proposed Stage 1 building envelopes resulted in an appropriate built form for the site and would be capable of delivering a detailed design that mitigated potential environmental impacts and delivered a high quality architectural and urban design outcome.

Following the approval of the Stage 1 building envelopes in December 2015, an International Competitive Design Alternatives Process was undertaken with six highly qualified and reputable architectural firms. Throughout this process several alternative building forms and detailed designs were considered. As outlined in Section 2.3 of this EIS, the Selection Panel determined that the Kengo Kuma and Associates and Crone scheme presented the scheme most capable of achieving design excellence and recommended that the Architects be retained by the proponent and the scheme is further developed for submission of a Stage 2 detailed DA.

It is noted that the Competition winning scheme introduced some non-compliances with certain aspects of the approved Stage 1 building envelope including northern boundary setbacks and setbacks to Tower A. Despite this, the Selection Panel were of the view that the proposed non-compliances represented a better design outcome for the site and the proposed form could be supported on its merit. As such, proposed changes to the building envelopes are concurrently being sought within a concurrent Section 96 application to D/2015/1049 (refer to Table 1).

As outlined throughout the Stage 1 SSD DA process, and International Competitive Design Alternatives Process the applicant has considered feasible alternatives to the proposed development, however the proposal represents the most sound and balanced proposal achieving the aims of the development, capability of achieving design excellence, and functional requirements of the developer and likely operator.

5.2. BENEFITS OF THE PROPOSED DEVELOPMENT

The proposed development includes several benefits for the applicant, guests of the proposal, surrounding property visitors and owners, and the general public. Whilst the benefits of the proposed development are articulated throughout this EIS, in summation:

- The proposal achieves design excellence through the architectural design of Tower B and its relationship with the public domain, and the previously approved design for Tower A across the site.
- Through the delivery of the public domain and through the VPA, the proposal will provide significant public art and benefits to the general public in a highly accessible and visible site within Circular Quay.
- The proposal includes a significant amount of consolidated and linear areas of public open space that not only provides passive areas for recreation and outdoor dining opportunities, but also greatly improves pedestrian permeability across the site.
- The proposal positions 'public' and accessible components of the hotel development at key lower levels and top floors of the development, providing increased access to some of the most iconic views of Sydney CBD compared to the existing development on site.
- The proposal protects visual privacy to the previously approved design for Tower A, despite the marginal reduction in setback to that tower.
- The proposal maintains significant view corridors to iconic elements from surrounding properties and key public areas, however also optimises view opportunities from the development.
- The proposal succeeds in reducing vehicular access points and vehicular cross overs on the site compared to existing.
- The proposal does not result in adverse impacts on solar access to surrounding properties.
- The proposed development improves building separation between Tower B and the proposed Lend Lease Circular Quay Tower.

6. STRATEGIC PLANNING CONTEXT

6.1. NSW 2021 – A PLAN TO MAKE NSW NUMBER ONE

'NSW 2021 A Plan to Make NSW Number One' is the State Government's 10 year plan to guide policy and decision making and one of the underlying, central themes of the strategy is to improve the performance of the NSW economy, with a 'priority action' being:

"Increase tourism in NSW with double the visitor expenditure by 2020"

The establishment of Destination NSW and the preparation of the Visitor Economy Industry Action Plan (December 2012) are key initiatives which provide specific actions that reinforce the Government's commitment to the visitor economy of the State. One of the specific recommended actions from the Visitor Economy Industry Action Plan is to stimulate tourism development, especially for visitor accommodation and attracting investment. The proposed inclusion of a world class hotel on the site is directly consistent with this recommendation.

6.2. A PLAN FOR GROWING SYDNEY

In December 2014 the NSW State Government released 'A Plan for Growing Sydney' (the Plan), a new Metropolitan Strategy to guide land use planning decisions within Sydney's metropolitan area until 2031. The Plan is based on four primary goals:

- A competitive economy with world class services and transport.
- A city of housing choice, with homes that meet our needs and lifestyles.
- A great place to live with communities that are strong, healthy and well connected.
- A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.

Notably Direction 1.1 of the Plan is to 'grow a more internationally competitive Sydney CBD'. The proposed development is consistent with the priorities and directions of the Plan as the proposed development will:

- Enhance the residential and visitor capacity of the CBD, providing a vibrant mix of uses that enhance the visitor experience and international investment.
- Support the visitor economy and strengthens the Global Economic Corridor.
- Recognise the importance of Sydney Harbour as the global icon of Sydney that will drive investment.
- Provide capacity for employment growth in the CBD through the proposed commercial and hotel uses.
- Assist the City of Sydney in contributing to the predicted 664,000 new dwellings required in Sydney by 2031 (39,000 new dwellings per annum).

6.3. DRAFT SYDNEY CITY SUB-REGIONAL STRATEGY

Whilst superseded by A Plan for Growing Sydney, in the absence of the release of new District Plans, the Draft Sydney City Sub-Regional Strategy (2007) guides development in the sub-region.

The proposed development is consistent with the sub-regional strategy as it provides hotel space and tourism facilities, which the sub-regional strategy identifies as being critical to maintaining Sydney's global competitiveness. Specifically a key direction of the sub-regional strategy is to ensure capacity for new hotel developments. Further, the strategy identifies that the projected visitor numbers are expected to increase by an additional 1.1 million visitors in the Sydney Metropolitan Area by 2016.

As such, the proposal will directly contribute to the economic and employment directions of the sub-regional strategy.

6.4. NSW LONG TERM MASTER TRANSPORT PLAN

The proposed development is consistent with the NSW Long Term Transport Master Plan in that it:

- Supports the construction of the CSELR network that will run adjacent to the site, and enable a more 'pedestrian friendly' environment to be established within and around the site.
- Supports the upgrades to the Circular Quay station and interchange.
- Ensures the Metro Corridor that traverses the site is not impeded by the development.

6.5. SYDNEY'S CYCLING FUTURE

The proposed development will be consistent with TfNSW's plan 'Sydney's Cycling Future' as the proposed basement will accommodate the required end of trip facilities and resident bike storage required by the SLEP 2012 and the SDCP 2012. The proposal is also located adjacent to a proposed cycleway on Pitt Street. Whilst this represents a further challenge to access the site, the proposal including the porte cochère design has incorporated the preliminary detail of the cycleway currently known to ensure that despite the delivery of the development the cycleway can be delivered by the Council in the future.

6.6. SYDNEY'S WALKING FUTURE

The proposed development is consistent with TfNSW's plan 'Sydney's Walking Future' as the development maximises active frontages, improves pedestrian access within and around the APDG Precinct, provides walking links to key areas of public open space, and maximises opportunities for connectivity to major public transport infrastructure including the CSELR and the Circular Quay Interchange. Further, the proposed public domain will be monitored by CCTV and has been designed to ensure sightlines are maintained through the through-site links across the site.

6.7. SYDNEY 2030 STRATEGY

The proposed development is consistent with the broad Sydney 2030 vision in that:

- The concept is 'green'. It will provide highly accessible, non-car orientated housing and the opportunity to investigate precinct wide ESD strategies as part of the next phase of development. Further, green walls proposed enhance the pedestrian level experience of the development by introducing landscaping at the public domain level.
- The concept is 'global'. It will make an important contribution to the economic role of Sydney by providing premium visitor accommodation at Circular Quay, the gateway to Sydney. The proposal importantly provides the opportunity for additional 300+ ongoing full time equivalent jobs which contributes to the target of an additional 97,000 jobs by 2030.
- The concept is 'connected'. It will facilitate significant improvements to the ground plane with improved pedestrian access and amenity through and around the site.

6.8. SYDNEY CITY CENTRE ACCESS STRATEGY

In addition to identifying the approved CSELR at George Street adjacent to the subject site, the Access Strategy identifies Circular Quay as a new interchange precinct which will feature a new light rail stop, fewer buses; de cluttered footpaths and improved way finding.

The Access Strategy also identifies a future bi-directional separated north-south cycleway along Pitt Street (between King Street and Circular Quay) adjacent to the site. As identified in Section 3.5, the site is heavily constrained with regards to vehicular access points, and all vehicular access and drop off must occur on the western side of Pitt Street. The co-location of a dedicated cycleway in this location poses design constraints to access the site, however the proposal has accommodated the design of this cycleway to ensure it can be delivered by the Council if pursued despite the development.

6.9. DRAFT VISITOR ACCOMMODATION ACTION PLAN 2014

As outlined in the Draft Visitor Accommodation Action Plan, the health of Sydney's visitor economy is important to the NSW and the Australian tourism industry. The Action Plan states that the City of Sydney should provide a positive environment for investment by removing barriers and having a positive policy approach to accommodation development rather than through incentives or supply targets.

The proposal will make a significant contribution to the visitor accommodation market and satisfying tourism demand.

6.10. DRAFT CENTRAL SYDNEY PLANNING STRATEGY 2016

The Draft Central Sydney Planning Strategy 2016 – 2036 (draft CSPA) was released during the preparation of this application. The draft CSPA proposes strategies to enable Central Sydney to grow in the service of its workers, residents and visitors. The Strategy identifies the site within the north-eastern periphery of the City Core.

The draft structure plans highlights the sites location on the perimeter a high density zone, the new Circular Quay square, the increased pedestrian priority along Pitt Street, and George Street, as well as a public domain spine extending along George Street.

The site is identified by the Strategy as a known 'commercial to residential' conversion since 2012, as such the proposed controls are relatively consistent with existing controls and approved uses. The proposed development will assist in promoting design excellence, establishing an integrated public domain for existing and proposed public spaces in proximity to the site and establishing the site as a place for people. The mix of hotel, retail and residential accommodation uses will assist in establishing a resilient and diverse economy for the broader city, whilst responding to the site's context.

The Strategy also seeks to move towards a more sustainable city with planning controls that require best practice energy and water standards and for growth sites to drive zero-net energy outcomes. As demonstrated within the ESD Report provided at **Appendix X**, the proposal aims to assist the Council in achieving this objective within the scope of this development.

7. STATUTORY CONTEXT

7.1. ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

This application is lodged in accordance with Section 83B of the EP&A Act, which provides for staged development applications. This application provides a detailed proposal for part of the site to be developed in accordance with a Stage 1 Concept Approval, issued on 10 December 2015 by the Central Sydney Planning Committee (D/2015/1049).

The proposal is consistent with the Objects of the EP&A Act 1979 as detailed within the Planning Compliance Assessment at **Appendix B**.

7.2. ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000

Section 78A(8A) of the EP&A Act 1979 requires that all development applications for SSD be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by the regulations. Schedule 2 of the EP&A Regulation 2000 provides that environmental assessment requirements will be issued by the Secretary with respect to the proposed EIS. This EIS has been prepared to address the requirements of Schedule 2 of the EP&A Regulation 2000 and the SEARs.

7.3. HERITAGE ACT 1977

This SSD Development Application does not constitute Integrated Development pursuant to Section 89J of the EP&A Act 1979. Consultation with the NSW Heritage Council was nonetheless undertaken during the preparation of this EIS, as approval under the *Heritage Act 1977* would otherwise be required for a development application lodged on the site pursuant to Section 91A(2) of the EP&A Act 1979.

7.4. WATER MANAGEMENT ACT 2000

This SSD Development Application does not constitute Integrated Development pursuant to Section 89J of the EP&A Act 1979. Consultation with the NSW Office of Water was nonetheless undertaken during the preparation of this EIS, as approval under the *Water Management Act 2000* may otherwise be required for the development application lodged on the site pursuant to Section 91A(2) of the EP&A Act 1979.

The *Water Management Act 2000* defines an aquifer interference activity as that which involves activities including the penetration of an aquifer, the interference with water in an aquifer, and the obstruction of the flow of water in an aquifer. Due to the sources and rates of groundwater inflow to the basement and the anticipated minimal impact under the NSW Aquifer Interference Policy, the application does not require an Aquifer Interference Approval under Section 91 of the *Water Management Act 2000*.

7.5. STATE ENVIRONMENTAL PLANNING POLICIES

An assessment of the proposed concept plan against the relevant SEPPs is provided in Table 7 below:

Table 7 – Consistency with relevant SEPPs

SEPP	Comment
State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD)	<p>Clause 8(1) of SEPP SRD provides that the development specified in Schedule 1 of the SEPP SRD is SSD. Clause 13(2) of Schedule 1 provides for the following:</p> <p>13 Cultural, recreation and tourist facilities</p> <p>(2) <i>Development for other tourist related purposes (but not including any commercial premises, residential accommodation and serviced apartments whether separate or ancillary to the tourist related component) that:</i></p> <p>(a) <i>has a capital investment value of more than \$100 million, or</i></p>

SEPP	Comment
	<p>The proposal is development listed in Clause 13(2) of Schedule 1 as it includes:</p> <ul style="list-style-type: none"> • Development for tourist related purposes; and • The development for that purpose will have a Capital Investment Value (CIV) of more than \$100 million. <p>A statement provided by a qualified Quantity Surveyor is provided at Appendix D and confirms the CIV for Tower B is well in excess of \$100 million.</p> <p>Under Section 89D of the EP&A Act, the Minister for Planning is the consent authority for SSD. Despite the above, a request was lodged with the Secretary of the Department of Planning and Environment on 5 June 2015 seeking delegation to the City of Sydney. Delegation was subsequently issued by the Minister and the Secretary. As such, this application remains SSD as a subsequent application to the Stage 1 SSD DA, but will be assessed by the City of Sydney and determined by the CSPC.</p>
<p>State Environmental Planning Policy No.55 Remediation of Land (SEPP 55)</p>	<p>SEPP 55 requires the consent authority to take into consideration contamination and remediation of land in determining development applications. Several Phase 1 Site Assessments have been prepared for the site. A Contamination Assessment has also been prepared in support of this application that is included at Appendix N. This Assessment finds that:</p> <ul style="list-style-type: none"> • No dangerous goods are recorded as having been stored at the site. However, Greencap notes that there is a disused above ground diesel tank in the Goldfields House basement, and anecdotal records of a second tank existing. • Title documents show that the site was privately owned and used for a combination of residential and commercial premises from the late 1800s to the early 1930s at which point it was acquired by the State Rail Authority. The State Rail Authority owned and/or leased the site until the late 1980s. The site has been used for commercial purposes since then. No industrial processes appear to have been undertaken at the site. • The site and its immediate surrounds have been used for a variety of residential and commercial/industrial uses since Sydney’s development in the late 1800s, aerial photography dating back to the 1930s confirms this. • Based on the information to date it appears there is a low likelihood of significant contamination being present. Fill material to date appears to consist of sandy gravelly fill, likely placed during construction and groundwater impacts appear limited. It is considered that the site can be made suitable for its intended use.
<p>State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)</p>	<p>The aim of ISEPP is to facilitate the effective delivery of infrastructure across NSW by identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure such as classified roads and prescribing consultation requirements for certain development.</p> <p>Clause 88 of ISEPP applies to development in the area marked as “Zone B” and</p>

SEPP	Comment
	<p>involves the penetration of the ground to a depth greater than 2m below ground level (existing). A portion of the site is impacted by the CBD Rail Link (Zone B – Tunnel) and as such any application involving a basement on the site will require referral to the rail authority for the interim rail corridor.</p> <p>Several technical reports prepared in support of this application address the possible impact of the proposed construction on this rail tunnel, including a structural assessment (Appendix S), Geotechnical Report (Appendix P), and assessment on rail noise, vibration and stray currents (Appendix T).</p>
<p>State Environmental Planning Policy No 64 – Advertising and Signage (SEPP 64)</p>	<p>Signage zones are proposed as part of this application for ‘top of building’ signage and ‘above awning’ building and business identification signage. The detailed design of this signage will be subject to separate DA approvals.</p> <p>Despite this, the proposed signage zones have been considered against the relevant assessment criteria of SEPP 64. Specifically, the proposed signage is designed to be compatible with the character of the area of Circular Quay, does not distract from any heritage items or environmentally sensitive areas, does not obscure views and vistas, is proportionate to the overall streetscape and setting in the CBD, reflects the scale of the building and will not result in any safety concerns to pedestrians or motorists.</p>
<p>Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (SREP SHC)</p>	<p>SREP SHC provides planning principles for development within the Sydney Harbour catchment. Planning principles for land within the Sydney Harbour Catchment, of relevance to the proposed development of the site, include:</p> <ul style="list-style-type: none"> • Decisions with respect to the development of land are to take account of the cumulative environmental impact of development within the catchment. • Development that is visible from the waterways or foreshores is to maintain, protect and enhance the unique visual qualities of Sydney Harbour, • Significant fabric, settings, relics and views associated with the heritage significance of heritage items should be conserved. • Sydney Harbour and its islands and foreshores should be recognised and protected as places of exceptional heritage significance. <p>The proposal is consistent with the relevant Planning Principals of the Sydney Harbour Catchment SEPP and will not have any significant adverse impact on the Sydney Harbour Catchment.</p> <p>The site is located in proximity to the State heritage listed Ferry Wharves located at Alfred Street, Circular Quay. A Heritage Impact Statement has been prepared in support of this application (Appendix G) and the potential impact of the development on heritage items in vicinity of the site is outlined in Section 8.6.1 of this EIS.</p>

7.6. SYDNEY LOCAL ENVIRONMENTAL PLAN 2012

Sydney Local Environmental Plan 2012 (SLEP 2012) is the principal local environmental planning instrument applying to the site. Assessment against the relevant provisions of SLEP 2012 is provided in Table 8 below:

Table 8 – Consistency with relevant provisions of SLEP 2012

Provision	Comment
Land use and permissibility	<p>The site is zoned 'B8 Metropolitan Centre' under SLEP 2012. 'Tourist and Visitor Accommodation' and 'Retail Premises' are permissible uses with consent in this zone. The proposed development is consistent with the objectives of the 'B8 Metropolitan Centre' zone, notably of the first objective to recognise and provide for the pre-eminent role of tourist premises in Australia participating in the global economy. The proposed development is further consistent with the zone objectives in that:</p> <ul style="list-style-type: none"> • The project provides development that will enhance the role of retail and tourist premises in the Sydney CBD, notably contributing to Australia's participation in the global economy. • The proposed land uses, including a world class hotel, are commensurate with Sydney's global status, and notably the prestigious character at Circular Quay. • The site is highly accessible to public transport, and pedestrianised areas. As such the proposal supports alternative transport to private motor vehicles. The proposal will enhance pedestrian connectivity through the site and encourages walking to the Circular Quay public transport interchange. The proposed hotel use encourages alternative transport to private vehicles. • The proposal includes a high level of active frontages to the existing streets and the proposed through-site link. Access to each of the proposed land uses is disseminated across the site to maximise active frontages.
Clause 4.3 Height of Buildings	<p>Clause 4.3 of SLEP 2012 applies an underlying maximum building height standard of 110 metres to the site, with which the proposed Tower B envelope complies.</p>
Clause 4.4 Floor Space Ratio	<p>The maximum FSR is determined by a permitted base FSR of 8:1 for the site plus between 6:1 to 4.5:1 Accommodation floor space for the 'Hotel or Motel Accommodation', 'Retail Premises', and 'Residential Accommodation', which the site is eligible for in Area 1. A further addition of up to 10% has been allowed given the completion of the competitive design alternatives process for the redevelopment of Tower B (in addition to the completed competitive design process for Tower A).</p> <p>As FSR is attributable within a proportionate rate for mixed use development, based on the proposed uses across the site, the maximum potential FSR allowable on the site under SLEP 2012 is 14.287:1 (57,719sqm GFA). The proposal complies with this maximum FSR across the site, by providing:</p> <ul style="list-style-type: none"> • Tower A Residential and Retail GFA (separate to a separate application)

Provision	Comment
	<p>– 38,600sqm</p> <ul style="list-style-type: none"> • Tower B Retail GFA – 336sqm • Tower B Hotel GFA – 18,783sqm • Total GFA proposed – 57,719sqm <p>As the proposal will rely on FSR above the ‘base’ control 8:1, the applicant will be required to purchase heritage floor space in accordance with conditions applied for this Stage 2 SSD DA.</p>
<p>Clause 5.10 Heritage conservation</p>	<p>the SLEP 2012 Heritage Map identifies the following heritage items in the immediate vicinity of the site:</p> <ul style="list-style-type: none"> • I1807 – Herald Square • I1858 – Ship Inn • Tank Stream (archaeological feature listed on the State Heritage Register and register of the National Estate). <p>A Heritage Impact Assessment has been prepared by Urbis (Appendix G) and is considered at Section 8.6.</p>
<p>Clause 6.16 Tall Buildings in Central Sydney</p>	<p>Clause 6.16 of the SLEP 2012 provides additional assessment criteria for development which proposes buildings above 55 metres in height on land in Central Sydney. The satisfaction of these criteria is addressed below:</p> <ul style="list-style-type: none"> • The building is a freestanding tower with four elevations each of which will be able to be seen from the surrounding public domain. • Notwithstanding the reduced setbacks to the north and west, the proposed tower maintains adequate separation and privacy treatments to ensure good amenity for both the proposed development and existing residences to the southeast. • Active street frontages are provided in accordance with the site specific provisions of SDCP 2012.
<p>Clause 6.19 Overshadowing of certain public places</p>	<p>Whilst the site is not identified as land that is affected by Sun Access Planes, it is located in proximity to Macquarie Place, at the intersection of George and Loftus Streets. Clause 6.19 of the SLEP 2012 states that development consent must not be granted to development resulting in additional overshadowing, at any time between 14 April and 31 August, on Macquarie Place between 10:00am and 2:00pm.</p> <p>Detailed shadow diagrams have been prepared by Crone and are included within the Volume of Plans and considered at Section 8.5.4. As demonstrated in these diagrams, the proposal does not result in any additional overshadowing to Macquarie Place during the specified times.</p>
<p>Clause 6.21 Design Excellence</p>	<p>Clause 6.21 of SLEP 2012 has a key objective to deliver the highest standard of architectural, urban and landscape design, and applies to the erection of a new</p>

Provision	Comment
	<p>building or external alterations to an existing building.</p> <p>The design of this tower was undertaken in accordance with a Competitive Design Alternatives Process endorsed by the City of Sydney in June 2016. Specifically the proposal addresses the relevant matters for consideration identified within Clause 6.21(4) of the SLEP 2012 as:</p> <ul style="list-style-type: none"> • The proposed architecture and materiality responds to the CBD context and the surrounding development. • The proposed 'pixel' form at the ground and 'podium' levels will greatly enhance the public domain through an improved activated street edge and through-site link. • The visual impact assessment provided within the Volume of Plans demonstrates that the proposal will have a positive impact on the city skyline. No significant view corridors are adversely impacted. • The Stage 1 SSD DA has demonstrated that the site is suitable for the proposed development. • The proposed land uses represent a diverse mix of uses commensurate with the vibrancy of a CBD context. • The proposal includes heritage interpretation which will enhance the heritage significance of the site. • The proposal has addressed the likely impacts to surrounding tower forms, including Tower A, the proposed development to the south of the site, 200 George Street, and other surrounding towers such as Grosvenor Place and the Cove Apartments. • The proposal represents a distinct architectural language with varying materiality and modulation to provide a new tower form in the Sydney CBD. • The proposal includes an ESD Strategy which illustrates that the proposal will achieve the principles of ecologically sustainable development. • The proposal will improve the existing site access and circulation for pedestrians, cars, and service vehicles. • The proposal will not result in any significant adverse impact on the solar access of surrounding public spaces, including Macquarie Place. • As outlined within Section 7.8 of this EIS, the proposal seeks to be consistent with the objectives of the Sydney Development Control Plan 2012 and the Circular Quay Special Character Area. • Through the materiality and 'pixel' form of the 'podium' levels the proposal provides an interface with the ground plane and introduces stone and grounding elements up the façade of the building. This further provides design excellence in the integration of landscape design

Provision	Comment
	through the building.
Clause 6.25 APDG block	<p>While SLEP 2012 applies an underlying maximum building height standard of 110 metres to the site, the alternative 'APDG' provisions for the precinct under Clause 6.25 provide for a height of up to 185 metres on up to 24% of the area of Block 3 (1 Alfred Street), within which the site is located. Whilst Tower B does not seek to utilise this alternative height control, due to the proposed height of Tower A, the proposal addresses Clause 6.25 as:</p> <ul style="list-style-type: none"> • The existing draft VPA applying to the site details the lanes and roads that are to be dedicated and given rights of access, footway and public recreation on the site. The total area to be dedicated to Council is not proposed to be changed by this development. • The ground level of each tower on site has been designed to include commercial/retail premises at street frontages and notably adjacent to the proposed through-site link. • A Stage 1 SSD DA has been separately approved (D/2015/1049). This application details the distribution of the available GFA across the site in a manner that reduces the potential impacts on surrounding properties, makes efficient use of the site, and proposes building envelopes that can facilitate design excellence on the site.
Clause 7.1-7.9 Car parking ancillary to other development	The proposal includes the envelope of the basement car park and the provision of car parking rates in accordance with the relevant requirements under SLEP 2012 as outlined within Section 8.7 of this EIS.
Clause 7.15 Flood planning	The proposal has addressed potential flood impacts across the site including ensuring that the ground level finished floor levels address likely flood levels. Flood planning is considered in Section 8.11 of this EIS.
Clause 7.16 Airspace operations	Clause 7.16 of the SLEP 2012 states that where development exceeds the Sydney Airport's Limitation or Operations Surface, Council must consult with the Federal Department of Infrastructure and Regional Development regarding this application. Tower B on the site does not exceed the Sydney Airport's Limitation or Operations Surface however it is noted that consent has been issued for building envelopes on the site that penetrate the Limitation or Operations Surface up to RL 200.
Clause 7.20 Development Requiring a DCP	Clause 7.20 identifies types of development requiring the preparation of a development control plan (or alternatively a Stage 1 DA). Development which will result in a building taller than 55 metres in Central Sydney is subject to this requirement under the Clause. Deferred Commencement Consent was granted to a Stage 1 DA (D/2015/1049) for this site on 10 December 2015. This application is generally consistent with that development consent, as amended.

7.7. DRAFT SYDNEY LOCAL ENVIRONMENTAL PLAN 2012

Draft Amendments to SLEP 2012 regarding heritage floor space, including a Draft Alternative Heritage Floor Space Allocation Scheme, are currently being finalised. These controls enable public buildings not subject to

long-term leases to be eligible for an award of heritage floor space. We note that this draft amendment does not impact the purpose of the proposed modifications.

Draft Amendments to the SLEP 2012 have also been proposed for the APDG Precinct by the City of Sydney in conjunction with the landowner of the adjacent site, Lend Lease. This includes the significant change to the planning controls for 174-186 George Street, and 33-35 Pitt Street, Sydney which will enable the development of:

- A 248m tall commercial office tower, with leasing opportunities for innovative businesses;
- Remodelling of the Jacksons on George licensed premises;
- A public plaza on George Street;
- A community building with access from George Street;
- A second plaza space on Rugby Lane;
- A pedestrian bridge from the George Street plaza to the office tower;
- A public bike hub; and
- An upgraded network of laneways.

The draft Amendment to the SLEP 2012, whilst impacts the locality of the site, changes proposed to not explicitly impact compliance of the proposal with the relevant sections of the SLEP 2012 or Sydney Development Control Plan 2012.

The proposed Stage 2 SSD DA has carefully considered the relationship of the development to the broader area, as currently proposed within the draft planning controls. In particular the ability of the public domain to be integrated with the proposed George Street Public Plaza. Proposed ground levels have been considered to mitigate precinct-wide flooding issues across the broader APDG precinct.

7.8. SYDNEY DEVELOPMENT CONTROL PLAN 2012

Whilst it is acknowledged that the Sydney Development Control Plan (SDCP) 2012 does not apply to this application pursuant to Clause 11 of the *State Environmental Planning Policy (State and Regional Development) 2011* it is noted that regardless the proposal is generally consistent with the relevant provisions of the SDCP 2012 as outlined within the Planning Compliance Table at **Appendix C**. Specifically, the proposal responds to the following key areas outlined within the SDCP 2012:

- APDG precinct controls, including active frontages, building setbacks and building forms
- Circular Quay Special Character Area
- General Provisions for public domain elements, design excellence, ecologically sustainable development water and floor management, transport and parking, accessible design, CPTED, waste management, and contamination
- Light night trading management
- Signage
- Visitor Accommodation

An assessment of the proposal against the key areas of these SDCP 2012 applying to the site is summarised in the following sections.

7.8.1. APDG Precinct Controls

Section 6.1.4 of SDCP 2012 includes site specific controls for the APDG Precinct, being the street block bounded by Alfred, Pitt, Dalley and George Streets. The site comprises the northern end of the precinct:

Tower B has been designed to be generally consistent with the site specific controls. Despite 'opting in' to the APDG controls for Tower A, Tower B proposes not to adopt the APDG Precinct controls. Despite proposing a maximum 110m building form, the envelope for Tower B does however respond to the site planning envisaged for the APDG Precinct as:

- The average setback to Herald Square for Tower B exceeds 8 metres;
- The proposal provides a through-site link exceeding 6m between the two building forms; and
- Tower B is positioned adjacent Pitt Street, allowing for solar access to penetrate the through-site link and the proposed Rugby Place plaza effectively ensuring a low-scale form on the Rugby Club site.

Tower B proposes an alternate solution to the APDG controls because those controls cannot accommodate the permissible FSR for the site under the SLEP 2012 (See Section 7.7).

An alternative vehicular access is proposed in contrast to the identified access in Figure 6.15 of the SDCP 2012. The alternative access seeks to improve amenity outcomes, arrival sequence, and vehicular and pedestrian access and safety on site and in the broader network, refer to Section 8.7. Further, the provision of this driveway consolidates existing access arrangements on site to reduce the number of vehicular crossovers.

As such, whilst the proposed form of Tower B has sought to reflect the envisaged built form of the APDG Precinct where possible, the expansion of the 110m footprint to 1 Alfred Street provides an alternative built form that achieves the objectives of the APDG Precinct and facilitates a world class hotel on the site.

7.8.2. Circular Quay Special Character Area

The proposal responds to the principles of the Circular Quay Special Character Area as it:

- Increases the area of Herald Square, a significant public space, and increases public accessibility to a proposed new public square to the south of the site;
- Reinforces the urban character and scale of Circular Quay by proposing buildings to the street alignment;
- Addresses the significant heritage values of Circular Quay within the design of the public domain across the site, as per the Preliminary Public Art Strategy included at **Appendix F**;
- Includes a design that proposes a through-site link to ‘open out’ to Circular Quay, reinforcing the image of the area as a major focal point and public space;
- Protects the heritage value and curtilage of the Tank Stream adjacent to the site; and
- Seeks to enhance and celebrate the historical significance of the area through the Heritage Interpretation Strategy included at **Appendix J**.

The north-south orientation of the proposed building reduces visual impacts on properties to the south of the site, and creates view and solar corridors between the Tower A development, subject to a concurrent application.

7.8.3. Late Night Trading Management

Due to the nature of the hotel development with associated restaurant and bar facilities the proposal is categorised as a Category A – High Impact premises. The site is also identified as a Late Night Management Area under the SDCP 2012.

The proposed operation of the development has been assessed against the relevant matters for consideration under the SDCP 2012 within the following table.

Table 9 – Assessment of the proposal against Late Night Trading Management

DCP Provision	Proposed Development
Appropriate trading hours for late night trading premises will be determined by taking into account a number of issues which include, but are not limited to:	
(a) the location and context of the premises, including proximity to residential and other sensitive land uses and other late night trading premises;	The proposal is not in close proximity to any residential uses, other than those separately proposed on the site by the applicant. The amenity impact to that residential tower has been considered within the Acoustic Assessment of the operation of the proposal

DCP Provision	Proposed Development
	is provided at Appendix CC . Further the architectural design of the tower provides a barrier to overlooking and noise transmission on the western façade of Tower B to protect the amenity of the future residents of Tower A.
(b) the specific nature of the premises, that is a pub, nightclub, restaurant, or other similar premises and the proposed hours of operation;	The specific nature of the premises is described throughout this EIS and its attachments. The nature of a world-class hotel required associated services for hotel guests including bars, restaurants etc. The services provided are positioned to also be publically accessible, where appropriate, and to offer the best views from the site to these more public functions.
(c) the existing hours of operation of surrounding business uses;	As the site (and surrounding sites adjacent to Circular Quay) is identified within the Late Night Management Area, it is appropriate to consider late night trading for the proposed land uses, commensurate with surrounding development.
(d) the size and patron capacity of the premises;	The capacity of each of the proposed facilities is outlined within the Operational Management and Security Management Plan included at Appendix FF .
(e) the impact of the premises on the mix, diversity and possible concentration of late night uses in the locality;	Whilst the proposal is located within a Late Night Trading Area, the site is not located within a concentration of nightclubs or pubs. The land uses surrounding the site are commensurate with the vibrant mix of uses expected within a CBD,
(f) the likely operation of the proposal during day time hours;	The proposal will similarly operate during day time hours.
(g) submission of a plan of management that demonstrates a strong commitment to good management of the operation of the business, particularly in relation to managing potential impacts on adjoining and surrounding land uses and premises, as well as the public domain;	Refer to the Operational Management and Security Management Plan prepared by the applicant and submitted at Appendix FF .
(h) the diversity of retail services within an area and the impact of a late night trading proposal on this diversity;	Given the variety of land uses within Circular Quay, and the significant visitor and worker population in the area, it is not anticipated that the proposal will result in any impact on the diversity of retail services in the locality.
(i) measures to be used for ensuring adequate safety, security and crime prevention both on the site of the premises and in the public domain immediately adjacent to, and generally	A CPTED Assessment has been provided within the Operational Management and Security Management Plan prepared included at Appendix FF .

DCP Provision	Proposed Development
surrounding, the premises; and	
(j) the accessibility and frequency of public transport during late night trading hours	As outlined within Section 3.5, the site is highly accessible by high frequency public transport and taxi services.

7.8.4. Signage

The proposal does include two signage zones as part of the development. The dimensions and likely character of this signage is illustrated within the architectural plans within the **Volume of Plans**.

The design of the ‘top of building’ signage or ‘roof sign’ is proposed to be generally consistent with the relevant guidelines for building identification signage and specifically is proposed to be integrated into the façade design, and not project above the roof parapet. Further, only one ‘top of building’ sign is proposed on the northern facade. Due to the façade design of the proposal, the ‘top of building’ signage is however not proposed to be located against plant rooms. Regardless, it is considered that this signage is capable of being integrated into the glazed portion of the tower, with a white or light colouring.

The proposal does however propose ‘above awning signage’, which the current SDCP 2012 states is not to be permitted. ‘Above awning signage’ is consistent branding for the Wanda Vista hotel internationally. Whilst the Sydney CBD context typically calls for below awning signage, given the high visibility of the site at the corner of Pitt Street and Alfred Street, the applicant is satisfied that the proposed above awning signage will be afforded appropriate visibility. The design of the awning signage is to be detailed to obscure fixtures and lighting instruments to ensure that a sophisticated sign illustrating the entrance to the hotel.

7.8.5. Visitor Accommodation

This DA seeks consent for the operation of a hotel, and in doing so has given consideration to Section 4.4.8 of the SDCP 2012. Specifically the proposal is consistent with these provisions as:

- The development is self-contained with no common access ways with adjoining properties other than the residential Tower A, which is to be development by the applicant. The Operational Management Plan provided at **Appendix FF** provides security measures for the operation of each of these towers.
- The development provides for a caretaker/building manager suite to ensure that facilities are provided to ensure a site manager will always be present on site.
- Given the quality and classification of this hotel, bulk beds, communal toilet and showering facilities, and cooking facilities within sleeping rooms are not proposed.
- An Operational Management Plan provided at **Appendix FF** and an Acoustic Assessment of the operation of the proposal is provided at **Appendix CC**.

7.9. OTHER RELEVANT COUNCIL POLICIES

7.9.1. City of Sydney Competitive Design Policy

Under Clause 6.21 of the SLEP 2012, development with a height greater than 55 metres in Central Sydney (as well as other specified types of development) are generally required to undertake a competitive design process in accordance with the City of Sydney Competitive Design Policy.

7.9.2. The Central Sydney Archaeological Zoning Plan

The Central Sydney Archaeological Zoning Plan identifies areas in the City of Sydney which possess archaeological potential, and assesses their degree of potential based on levels of ground disturbance. The zoning plan was formulated through documentary research and field inspection.

The Central Sydney Archaeological Zoning Plan is addressed within the Historic Archaeological Assessment prepared by Urbis included within **Appendix H** and as outlined within Section 8.6.

7.9.3. Construction Hours/Noise in the City Centre Code

The Construction Hours/Noise in the City Centre Code prescribes obligations in regards to construction hours, noise criteria to these working hours, regular reporting, site supervisions and special requirement. In accordance with these obligations, a Construction Management Plan has been prepared to provide further detail, and is included within **Appendix EE**.

7.10. ANY PLANNING AGREEMENT

In association with D/2010/2029 the former land owner of 1 Alfred Street, Sydney, Valad Commercial Management Limited, entered into a Voluntary Planning Agreement (VPA) with the City of Sydney Council. This VPA was proposed to be amended as part of D/2015/1049 to include additional contributions to the City of Sydney Council.

The proposed amendments to this VPA were documented in a Public Benefit Offer to the Council dated 23 November 2015 and as documented within Condition 1, Part A of D/2015/1049. This Public Benefit Offer in part comprises a series of land dedications and restrictions on title (see Figure 5) to facilitate the provision of the following public benefits:

- a) *To provide for recreation areas – To create an extension of Herald Square by encompassing the forecourt of the new building (beneath the canopy) as publicly accessible recreation area and an easement to this effect to be noted on title in accordance with the Figure 2.63 of the APDG DCP;*
- b) *To provide for lanes – To contribute to the public domain by providing a north-south through-site link connecting Herald Square to the future laneway network and publicly accessible square within the APDG block. This through site link is to be noted on title as an easement for right of public access and associated positive covenant to allow pedestrian access 24 hours per day, 7 days a week in accordance with the Figure 2.63 of the APDG DCP. Business and retail premises are to be provided at ground level along the frontage of this through-site link; and*
- c) *To provide for streets - the dedication of land to Council that are located outside the blade walls of the proposed building's canopy to allow for an extension of the existing road reserve of George Street, Pitt Street, Alfred Street, and Rugby Place.*

8. IMPACT ASSESSMENT

This section of the EIS provides an assessment of the application in accordance with Section 79C(1)(b) of the EP&A Act and the SEARs issued by the Secretary of the Department of Planning and Environment for this application.

8.1. BUILDING DESIGN

8.1.1. Building Form and Scale

The proposed building form is a response to the existing and proposed context, as demonstrated within the Stage 1 SSD DA, as amended. The proposed building height responds to a series of other buildings fronting Circular Quay, including the AMP Tower at 33 Alfred Street, Four Seasons Hotel at 199 George Street, Intercontinental Hotel at 117 Macquarie Street, and the Quay Apartments at 2 Phillip Street. This height fits contextually within the surrounding skyline and does not read as visually intrusive or dominant element.

The rotating geometry of the podium provides a unique interface and presentation to the public domain. As the building's height increases, a gentler, slender form is established which is architecturally more consistent with the Tower A design. The bulk of the proposed podium is softened by the twisting geometry and pixel-like expression. The proposed building form is therefore considered to represent a considered and sensitive form for this highly visible site and locality that maximises activation with the ground plane.

8.1.2. Façade Design

The proposed façade design is integral to the overall architectural expression of Tower B. The façade includes three key elements, glass pixels, sandstone pixels, and vegetated pixels. Each façade features a different mix of materials, in response to the conditions of the site and the elevation. In principle, the glass pixels provide views, sandstone pixels anchor the project to the historical use of the stone in other Sydney buildings, and vegetated pixels reintroduce the notion of Sydney as a city of parks (in this case a textured vertical garden that many can enjoy). Each of the façade panels are illustrated in the following figure.

Figure 18 – Sectional Axonometric Diagrams of Façade Panels (Source: Crone)



Picture 21 – Glass Façade (breathable)



Picture 22 – Vegetated Pixel



Picture 23 – Sandstone Pixel

Glass façade

The glass has been chosen to provide a balanced transparency (as an experiential and aesthetic goal) and reflectivity (minimized per regulation requirement); with an overall colour that complements the other high-end examples along the Sydney skyline. Proposed operable windows within the curtain wall system have been designed to retain the appearance of the 'pixel' throughout the design, whilst also providing a 'breathable façade'.

Vegetated pixels

As outlined within the Architectural Design Report and the Landscape Plan included within the **Volume of Plans**, the proposal includes a number of non-custom, standard construction build-up, modularized green walls. Indigenous plant species are to be chosen depending on the environmental conditions of each façade.

Sandstone pixels

The proposal includes masonry elements that ground the development within its Sydney and CBD context. Sandstone is proposed at the ground level to provide an authentic and tactile experience at ground level. Cream-coloured sandstone is proposed to provide a more refined appearance for the high-end hotel.

Above ground level, a simulated composite stone (GRC) with colour and texture to emulate the cream sandstone is proposed for practical weight, installation, and maintenance reasons. Whilst no material accelerated weathering test data (from common Australian product suppliers) is available suppliers have provided precedents where visual inspection denotes material durability and weathering effects and precedent images. GRC product precedents include:

- Mecure Hotel, George Street, Sydney
- 163 Castlereagh Street, Sydney
- Oracle, Broadbeach, Gold Coast
- Melbourne Recital Centre, Melbourne
- Capita Centre, 9 Castlereagh Street, Sydney
- 133 Castlereagh Street, Sydney

As demonstrated within the Architectural Design Report within the **Volume of Plans** and the design integrity statement provided at **Appendix E**, the lead design architect, Kengo Kuma and Associates and Crone support the materiality proposed and are satisfied that it reflects the design objectives of their initial competitive process winning scheme.

8.1.3. Architectural Design and Design Excellence

Part 3 of the SEARs issued for the project on 30 June 2015 requires the application to demonstrate how the proposal achieves design excellence. Table 10 below summarises the comments made by the Selection Panel which highlights key areas of the winning scheme that are to be maintained in the scheme, and also areas that are to be developed further during detailed design.

Table 10 – Response to Selection Panel Comments

Selection Panel Comments	Response
Items to be maintained	
The concept of the 'stepped' or 'pixel' design is fundamental in the success of the scheme. Notably the way the scheme addresses the public domain, including Rugby Place and the through-site link, as a priority is considered a key strength of the scheme that should be retained.	This has been clearly retained as part of the design as detailed within the Architectural Design Report within the Volume of Plans .
The integration of landscaping within the terraced podium design is also considered fundamental in	This has been retained as part of the design and is

Selection Panel Comments	Response
the success of the scheme.	discussed within Section 8.2.1.
The maintenance of Tower setbacks to Pitt Street and the laneway to the south are to be retained.	Setbacks to Pitt Street and the southern site boundary have been generally retained as proposed within the Competitive Design Process. Setbacks to the southern boundary are increased from the previously approved Stage 1 building envelope, and setbacks to Pitt Street are consistent with the previously approved Stage 1 building envelopes.
The extent of retail activation and frontages to the public domain, notably to Rugby Place, should be retained.	The general arrangements of the retail and active frontages to the public domain have been retained. A portion of the Rugby Place frontage has required a reduction in retail glazing to accommodate an elongated driveway as discussed below.
The relocation of the driveway to the southern portion of the building footprint is considered highly successful in the ground level planning of the building and the arrival sequence. As such, this location south of the intersection of Pitt Street and Reiby Place should be retained.	The driveway location has been retained and the integrity of the Pitt Street and Reiby Place intersection has been maintained; however the length of the driveway has necessitated the marginal reduction of retail frontage along Rugby Place.
The extent of public footpath at Pitt Street as proposed should be maintained.	The extent of the public footpath at Pitt Street has been maintained.
The location of part of the hotel foyer at the north eastern corner of the ground floor is a key strength of the scheme that delivers a high quality arrival sequence and presence to Alfred Street.	The location of the hotel foyer at the north eastern corner of the site has been retained and strengthened in the architectural design. The water feature in this location has also been retained.
The location of principal public rooms, such as the all-day dining and ballroom orientated towards the key views should be maintained.	The location of key public rooms has been maintained their orientation to front the key views.
Items to be developed	
The internal planning of the foyer is to be revised to ensure there is a clear delineation of public and private paths of travel.	The internal foyer and general hotel functions has been revised to ensure clear paths of travel and a practical layout of uses.
The northern and eastern facades should be developed further to add depth and 'breathability' (i.e. operable windows) to reduce the sheerness of the elevations and enrich the interior experience of the building.	A key success of the detailed design of the proposal is the adoption of this comment and the inclusion of operable windows in all hotel rooms. Further the 'pixel' design has been incorporated subtly up the façade of the building to provide architectural difference and interest.
As the scheme is developed the environmental performance of the building, and notably the north and eastern facades must be addressed and improved. Shading of the glazing should be	Each of the façade changes identified above has improved the environmental performance of the building and provided a greater 'depth' to the façade.

Selection Panel Comments	Response
<p>considered. Notably one such issue will be to ensure that the glazing on the northern and eastern facades retains a light coloured glass.</p>	
<p>The extent of glazing proposed on the northern and eastern facades may result in the perception that the building function is commercial. Consideration should be given to ensure that the building is not particularly read as a commercial tower.</p>	<p>Further to the comments above, the lead design architect has developed the façade design to provide an articulation of the top ‘public’ floors of the building to ensure that the top of the building is read as a ‘crown’ to the tower. Further, the ‘pixel’ design of the façade and operable windows has reduced any perception that the proposal is a commercial tower.</p>
<p>In addition to the above point regarding the performance of the northern and eastern facades, the Selection Panel recommend that the Competitor investigate the opportunities to strengthen sustainability throughout the building, including for instance the reuse of water for the green walls.</p>	<p>As outlined in Appendix X, the proposal has sought to provide a sustainable development that meets and exceeds the relevant standards.</p>
<p>The Selection Panel support a ‘panellised’ system at the façade, however note that a ‘panellised’ system may not suit sandstone. As such the Selection Panel would support the further investigation of a suitable durable material with integral colour and finish for this panel system that will also show weathering.</p>	<p>The Design Report provided within the Volume of Plans states that conceptually the proposed stone of the project aims to connect the building to the rest of the city and neighbouring buildings.</p>
<p>Throughout the development of the scheme, the Selection Panel recommend that further consideration is given to how the top of the building can better express the public uses of the top levels and/or provide branding for Wanda Vista hotels.</p>	<p>Signage is proposed at the upper level of the tower.</p>
<p>The scheme must ensure that privacy is maintained to the eastern most apartments in Tower A.</p>	<p>Planning of the hotel and the material selection has ensured that a defensive western elevation is proposed to protect privacy to Tower A.</p>
<p>Whilst it is anticipated that the design of the terraced podium may result in a positive wind environment at the laneway and through-site link, the Selection Panel recommend that wind tunnel testing is prioritised during the detailed design to ensure that adverse impacts on the public domain are adequately addressed in the planning of the building.</p>	<p>Wind Tunnel Testing has been undertaken to support the proposed building massing. Refer to Appendix Z and Section 8.5.2.</p>

8.2. PUBLIC DOMAIN

8.2.1. Landscaping

As identified within the Landscape plans prepared by Oculus (refer to the **Volume of Plans**) the proposal includes a significant area of public domain landscaping requirements, specifically including:

- Required removal of two trees within the public domain immediately adjacent to the site on Pitt Street;
- New street tree planting surrounding site;
- Paving to align with City of Sydney standards throughout site, including porte cochère;
- Through-site link with central drainage channel and trees at grade;
- Water feature to the north eastern building edge;
- Sandstone clad retaining walls to delineate pedestrian access from porte cochère;
- Few stair access from Pitt Street to remove pedestrian movements from the driveway and porte cochère entrances;
- 1:20 ramped pedestrian access to hotel lobby;
- Areas for retail and hotel moveable outdoor seating and dining; and
- Associated civil and stormwater works to deliver the public domain.

The proposed public domain has been designed to be consistent with the City of Sydney's Public Domain Manual, Sydney Streets Technical Specification and Sydney Streets Code and the Interim Draft Sydney Lights Design Code.

8.2.2. Public Art

Following the lodgement of a Preliminary Public Art Plan with the Stage 1 SSD DA, competitors participating within the Competitive Design Alternatives Process for the site were required to consider the integration of public art within the architecture and urban design of the development. The Kengo Kuma and Associates and Crone scheme identified several public art opportunities for the winning scheme, including incorporating the pixel design as a canvas and optimising the through-site link to draw visitors into the site.

Further to the design development of the scheme, a Public Art Strategy for the site has been prepared by Urban Art Projects (refer to **Appendix F**) to accompany this Stage 2 SSD DA, and associated Section 96(2) modification application to Tower A.

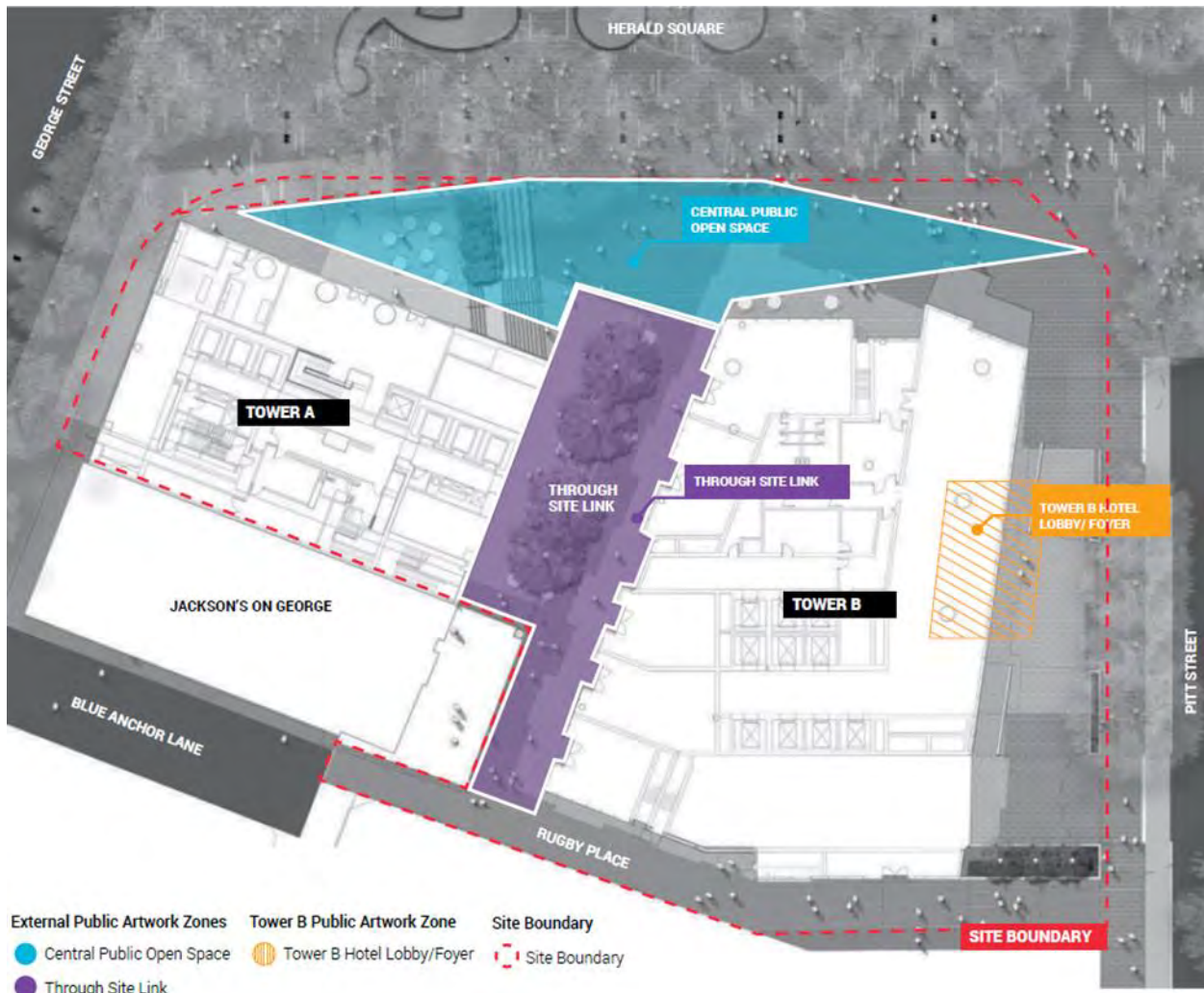
The Public Art Strategy is provided for the purposes of addressing the potential for public art opportunities for the site including:

- Establishing a curatorial framework to guide the conceptual approach of art integration.
- Defining the artwork opportunities with specific locations, forms, materiality and desired experiences.
- Displaying a range of illustrative key benchmarks and budget ranges.
- Providing a selection of benchmark artists who would best suited or placed to respond to the identified artwork opportunities.
- Outlining methodologies for artist procurement, fabrication and installation.
- Provide implementation information on program, maintenance, artwork durability and sustainability.

The opportunities for public art zones are identified within Figure 18 below.

The implementation of the Public Art Strategy includes significant integration and collaboration with the lead design architects involved in the process. Further, the development of the Public Art delivered across the site will be considered in the context of the concurrent development of the Heritage Interpretation Strategy (refer **Appendix J** prepared for the site. Overall the proposed Public Art Strategy is considered to deliver upon the objectives of the City of Sydney City Art Public Art Strategy and the Interim Guidelines for Public Art in Private Developments.

Figure 19 – Potential public art zones across the site



8.2.3. Street Activation and Awning Design

The proposal meets the intent of the site specific provisions set out under SDCP 2012 in relation to the provision of active frontages to streets, lanes and arcade. The proposed development seeks to activate all frontages through a mix of uses including retail tenancies, hotel lobby entrance and port cochère. In response to Council’s vision for Rugby Place, additional retail is proposed adjacent to the laneway. Retail tenancies are also located along through-site link to further development the activation of the broader laneway network.

The internal layout of the ground floor centralises administrative services and service core to locate the lobby bar/lounge and hotel foyer on Pitt Street at the corner with Alfred Street, drawing guests to this location.

Awnings are proposed along the through-site link, Alfred Street cantilever, and at the Pitt Street porte cochère. Whilst the awning height of the porte cochère does not comply with the height and width standards provided within the SDCP 2012, the proposed awning has been designed to:

- Provide weather protection for guests alighting from vehicles with luggage outside of the hotel;
- Provide clearance for vehicles within the porte cochère;
- Present as an extension of the ‘pixel’ architectural design of the building;
- Provide lighting opportunities integrated into the awning design; and
- Support awning signage in accordance with Wanda Vista branding expectations.

8.3. VISUAL IMPACT

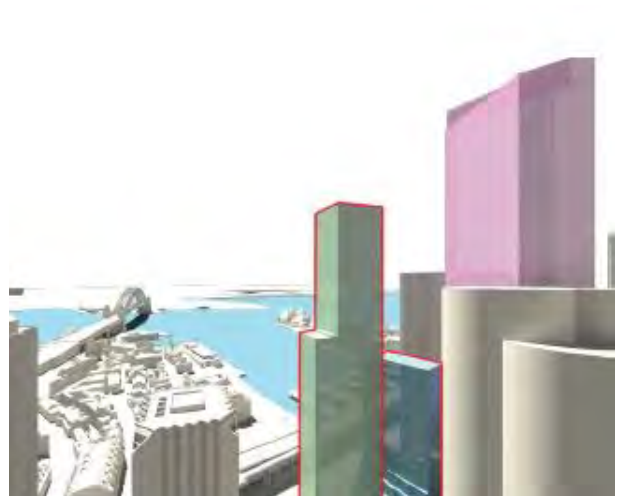
An assessment of the visual impact of the proposal against view corridors and views to and from the site to key public areas has been provided as part of the Stage 1 SSD DA, as amended, and the concurrent Section 96 modification application to this consent. As outlined in those applications, the proposal results in an appropriate visual impact as:

- Due to the location of the proposal on Alfred Street, the proposed building envelopes have a high level of visibility from Sydney Harbour and will make a significant contribution to the Sydney skyline, notably when viewed from the north. The proposed building envelopes sit appropriately within the skyline and are viewed not only as two slender forms, but at a height commensurate with other visible towers, including the AMP tower and Four Seasons Hotel, Grosvenor Place, Barangaroo and various towers at the east of the City.
- The proposal will be visible from Sydney's most iconic landmarks, including the Sydney Opera House and the Sydney Harbour Bridge. The views of the proposal from the Opera House forecourt, will be seen in context of the Gateway Building, and as such will not be read as visually intrusive or dominant within the skyline. The views of the proposal from the Sydney Harbour Bridge (south) will be from a significant distance (over 700m), and as such the building envelopes will be read on the context of the wider city skyline.
- The proposal as viewed from Pitt Street looking north will be read in the context of the Lend Lease proposal and/or the existing development. Tower B is setback 6m from Pitt Street providing an opening out of views towards Sydney Harbour.
- As illustrated within the visual impact images provided below (and as expanded within the **Volume of Plans**), the proposal will not have any impact on significant view corridors from the Cove Apartments or Grosvenor Place.

Figure 20 – No view impact to Cove Apartments or Grosvenor Place (Source: Crone)



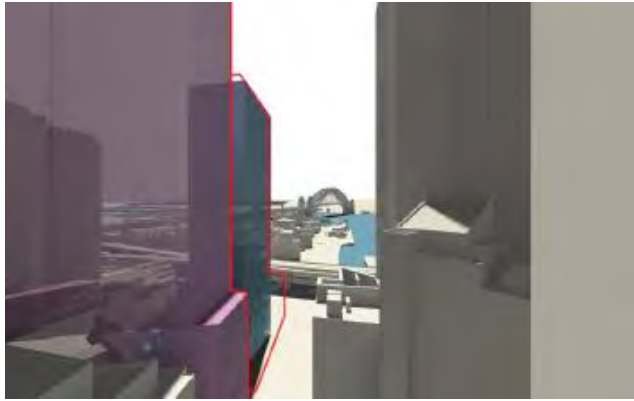
Picture 24 – View from Cove Apartments RL140



Picture 25 – View from Grosvenor Tower RL 159.50

- As further illustrated in the Volume of Plans, the proposal will have negligible impacts to view corridors from the Marriot Hotel.

Figure 21 – Negligible View Impacts from Marriot Hotel (Source: Crone)



Picture 26 – View from Marriott Hotel RL 70

- Minor impacts to view corridors compared to the previously approved Stage 1 building envelopes are anticipated to the 200 George Street commercial tower, however the projections to the building envelopes are not only minor, but are also do not significantly impact iconic or significant vistas, as illustrated in the figures below and the Volume of Plans.

Figure 22 – Minor View Impacts from 200 George Street (Source: Crone)



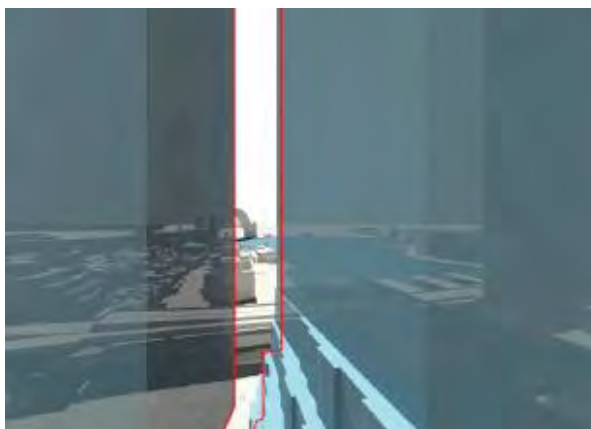
Picture 27 – View from 200 George RL120



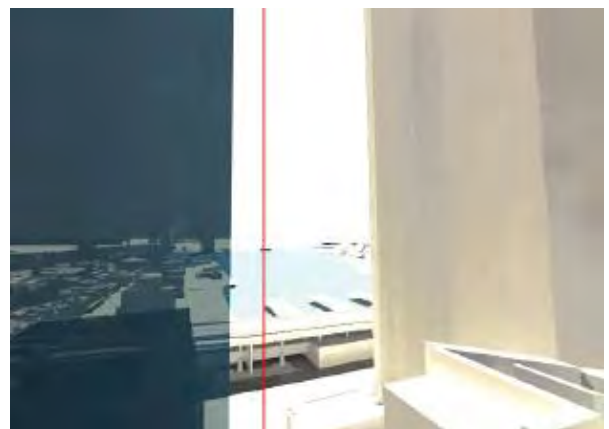
Picture 28 – View from 200 George RL 60

- Minor impacts to view corridors to a building envelope envisaged at the Lend Lease Circular Quay site. Minor improvements to view corridors down Pitt Street are anticipated at the lower levels of the tower, whereas very minor adverse impacts are anticipated at the building separation between Tower A and Tower B.

Figure 23 – Minor View Impacts from Lend Lease Circular Quay Tower (Source: Crone)



Picture 29 – View from LLCQT RL 60



Picture 30 – View from LLCQT RL 60

As detailed above, the proposed building envelopes as amended do not unduly impact upon any important public or private views. The proposed building envelope sits within the skyline as two slender forms, and is proposed as a maximum height commensurate with other visible towers at Circular Quay.

Whilst the proposal includes minor obstruction to views towards Circular Quay to neighbouring commercial buildings, this impact affects only a minor proportion of that commercial development, does not adversely impact views towards key iconic items, and is considered reasonable in the context of the public benefit created as a result of the proposal.

8.4. SETBACKS AND STREET FRONTAGES

8.4.1. Building Separation

The proposal results in the following building separation distances within the site, and in relation to the proposed and existing development on adjoining properties:

- The building separation between Tower A and Tower B varies between 5.3m and 17.1m (excluding façade fenestration). The tower form has a minimum building separation of 8.8m to Tower A. At ground level, the building separation between Tower A and B extends 12m across the through-site link; and
- The building separation between Tower B and the existing development at 33-35 Pitt Street (subject to likely future redevelopment) is 7.2m at ground level and at least 8.6m Level 6 and above. Due to the commercial nature of this proposal, this separation distance is considered acceptable.

8.4.2. Street Frontage Heights and Tower Setbacks

The proposed setbacks and street frontage heights balance the functional requirements of the site, protect the amenity of surrounding properties and enhance the public domain. The Tower B setbacks are generally consistent with the site specific provisions in the SDCP 2012 with the following exceptions:

- The proposed ground level setback to the centre line of Rugby Place is 3.6m. The proposal is predominantly compliant with only a minor non-compliance due to the existing alignment of the site boundary and the resulting 'pinch-point', however, is approved within the building envelope of the Stage 1 SSD consent.
- The proposed ground and upper level setbacks to Pitt Street is 6m. This setback is considered acceptable as it will have a negligible impact on the amenity of Pitt Street compared to a fully compliant scheme. Specifically this setback:
 - Is within the approved building envelope of the Stage 1 SSD consent.
 - Allows for the provision of solar access to Pitt Street compared to a reduced setback or significant podium structure.
 - Provides view opportunities down Pitt Street from adjacent properties south of Alfred Street, compared to a zero setback podium structure or reduced tower setback.
 - Allows for an appropriate building separation between Tower A and Tower B, which would otherwise be further reduced with any additional setback to Pitt Street.

8.5. AMENITY

8.5.1. Acoustic and Vibration Impact

An Acoustic Report has been prepared by Arup (**Appendix BB**). The assessment considers the interrelationships between the uses on site and the existing and future uses in the surrounding area.

Noise impacts to the surrounding area

- The Acoustic Report states that all Council and NSW EPA requirements for external noise shall be complied with and the project specific environmental noise limiting criteria applicable at the property boundary to external receivers shall comply with the relevant standards as per the Industrial Noise Policy.
- Noise from plant rooms via exhaust and intake/discharge louvres are to be controlled to meet the relevant environmental noise limits provided within the Acoustic Report at **Appendix BB**.

- Noise impacts associated with the function of the ‘venues’ within the hotel such as the rooftop bar terrace, and ballroom are assessed within a separate Acoustic Assessment for Entertainment Noise at **Appendix CC** and are discussed with regards to operational management at Section 8.18.

Noise impacts to proposed development

- Likely noise sources to the proposed development occur from the elevated Cahill Expressway, externally located mechanical equipment noise impact from surrounding buildings, background ‘urban hum’ sources, and noise emission from the project such as on-site services and noise breakout from entertainment uses in the development,
- An acoustic assessment for façade sound insulation requirements has been conducted based on the noise levels measured at various locations near the site and the latest architectural drawings. The internal sound insulation criteria for guestrooms are determined based on the Wanda standard, latest Australian National Construction Code (NCC 2016) and Arup’s previous experience of premium hotels.
- The façade and internal sound insulation requirements identified in the Acoustic Report are designed to ensure that intrusive noise is no more than the target building services noise level.
- Since the NCC and AS2107 do not have sound separation requirements for non-residential premises, the sound insulation criteria for non-guestroom spaces (e.g. ballroom, spa and lounges) are proposed based on their functional usages, their sensitivity to noise and speech privacy and their adjacencies.
- Vibration levels caused by activities on site (including plant) shall not exceed the levels specified in the DEC Assessing Vibration Guideline at any place of different occupancy at and around the site.
- Using the data provided by Sydney Trains, the Acoustic Report concludes that vibration and groundborne noise as a result of the CBD Rail Corridor below at the site is likely to be within acceptable limits. This is emphasised in the separate technical notes provided within the Rail Noise, Vibration and Stray Currents Assessment at **Appendix T**.

The Acoustic Report concludes that the proposed development can operate successfully within the relevant guidelines, without noise from events or fixed equipment disturbing noise sensitive receivers in the vicinity.

8.5.2. Wind Impact

A Wind Assessment Report has been prepared by CPP for the entire site and is included at **Appendix Z**. This assessment has been informed by wind tunnel testing (See Figure 24) and uses the Lawson (1990) criteria to determine the useability of 26 locations within and surrounding both Tower A and Tower B and the proposed public domain. It is to be noted that the wind tunnel test is performed without planned trees or plantings to provide worst case assessment.

Further, this Wind Assessment Report has not sought to model the proposed Lend Lease Circular Quay Tower to the south of the site, as the final dimensions of this tower are not currently known. Providing a wind tunnel test for both proposed developments will be required by the future development application supporting the Lend Lease Circular Quay Tower.

Figure 24 – Wind Tunnel Test



Source: CPP

The key findings from the CPP assessment are that:

- Due to the location of the site overlooking Circular Quay, the site is consequently exposed to prevailing winds from the north.
- Whilst the proposed development will slightly redistribute winds on the site, the wind conditions anticipated by the development are similar to the existing condition.
- Most locations around the site passed the relevant distress criteria with the minor exception of a few locations exposed to the prevailing winds from the north-east.
- Locations 14 and 15 within the northern forecourt of Tower B which is proposed for pedestrian sitting (as part of a future footpath seating licence) will require local screening to achieve a sitting criterion (currently suitable for pedestrian walking and standing respectively).
- Location 17 in the centre of the through-site link will require screening to achieve comfortable pedestrian walking criteria (as opposed to a business walking criteria). Landscaping is proposed in this location which is likely to improve the pedestrian comfort level, and further it is expected that the inclusion of the proposed Lend Lease Circular Quay tower to the south of the site together with the open plaza at 182 George Street will provide a slight improvement of the wind conditions at this location. It is reiterated that this exposed section of the city is already windy and changing the massing on the city fringe will redistribute flows down various north-south streets.
- All locations within the Tower B top level roof terrace and open bar terrace pass the distress criterion and are suitable for either outdoor dining or pedestrian sitting.
- With regards to the landscaping proposed as part of the façade design, the wind tunnel test found that Locations 28 and 29 being locations on the façade representative of among the most exposed locations for planting, would achieve the distress criteria for pedestrian walking which is a suitable plant criterion, depending on the species. The wind tunnel test notes that planting in this location are required to be

wind resistant planting, and that any planting used on the roof top are required to be extremely resistant to high speed winds.

In summary, the wind environment around the proposed development is commensurate with the existing development and generally satisfactory for the proposed pedestrian walking activities within and around the site.

8.5.3. Reflectivity

A Reflectivity Assessment has been undertaken by ARUP and is included as **Appendix Y**. The glazing proposed for Tower B will have a glass reflectance below 20% in accordance with the Sydney DCP 2012, which will serve to mitigate potential glare reflections that may occasionally be produced towards pedestrians and other buildings.

The choice of glass reflectance cannot however reasonably address all reflections from the building, due largely to its orientation and proximity to the Cahill Expressway.

As outlined within the Reflectivity Assessment, for approximately 50m long of the Cahill Expressway travelling east the Equivalent Veiling Luminance (EVL) calculated for reflections can exceed the threshold of acceptability stipulated by the relevant Hassall methodology for detailed glare analysis. Further, for approximately 150m long of the Cahill Expressway travelling west the EVL calculated for reflections can exceed the same equivalent threshold of acceptability.

The reflection effect of the proposed façade is however largely driven by the orientation of building form, and would be very similar to that of the eastern half of the currently existing façade of the existing building on the site (Goldfields House).

When travelling west towards the site along Alfred Street, facades at levels 5 and 6 can reflect late afternoon sun towards drivers, and the EVL calculated for such reflections can exceed the threshold of acceptability, regardless of glazing normal reflectivity. These reflections will however be well above the degree of the driver's centre of vision, and as such can be appropriately addressed in this location by a sun visor and further by street trees. This is also experienced along Pitt Street travelling north, which although will not be possible under the future road arrangement, would be above the reasonable line of sight of drivers.

ARUP therefore conclude within the Reflectivity Assessment that any potential for reflections exceeding the general threshold of acceptability stipulated by Hassall is not expected to exceed glare potential found in the current situation, either from reflections off the existing building on the project or from concurrent view of the direct sun.

8.5.4. Overshadowing and Sun Access

The proposed development is consistent with the proposed modified building envelopes separately sought within the concurrent Section 96 application to D/2015/1049. This impact includes minor additional overshadowing on surrounding properties.

In addition to this impact assessment provided within the concurrent Section 96 application to D/2015/1049, detailed shadow analysis of winter and summer solstices has been conducted by Kengo Kuma and Associates and Crone, and is included in the Design Report within the **Volume of Plans**.

The shadow diagrams demonstrate that on the winter solstice the additional shadow caused by the increase in the building envelope at 10:00am effects the Rugby Place plaza to the south of the site to an immaterial extent. The additional building envelope does not impact the solar access at the Cove Apartments, the nearest residential building to the southwest of site. At noon and 2:00pm the increase in shadow of the proposed development will have a marginal impact on the commercial properties to the south of the site, and a marginal impact on the Suncorp Building.

The proposed building envelope results in negligible additional overshadowing on the laneway at 10:00am, with a maximum of 0.001% during winter solstice, 0.04% at 10:00am in April and August, and 0.002% increase in overshadowing from 11:20am to 12:00pm, to the proposed George Street Public Plaza.

As the site is largely surrounded by commercial land uses, the minor additional shadow impacts of the proposed building envelopes will not adversely impact any sensitive receivers. Notably, the proposal does not result in any increase of overshadowing to Macquarie Place or other significant public places between the hours of 10:00am and 2:00pm on June 21.

In view of the above, we conclude that the proposed amendments will not cause any unreasonable overshadowing impacts.

8.5.5. Amenity to Tower A

The proposal includes a minimum building separation between Tower A and Tower B of 12m at ground level, 5.3m at the mezzanine level, and 8.8m at the tower levels. Whilst the tower separation proposed on the site is less than that recommended by the Apartment Design Guide, the internal layout and façade design of the hotel has been designed to protect amenity to Tower A, specifically by:

- Providing sandstone and vegetated pixels along the western elevation to protect visual privacy to Tower A dwellings;
- Positioning windows to guest lifts and 'Bay 10' at the southern portion of the western elevation where the building separation provided is a minimum of 19m;
- The Tower B positioning has been designed to ensure view corridors are retained towards key iconic views from Tower A; and
- Acoustic amenity to Tower A has been addressed from the roof top bar as outlined within Section 8.5.1.

Overall it is considered that the proposed design of the hotel has given appropriate consideration to the amenity of residences within Tower A and adverse impacts to those residences have been mitigated.

8.6. HERITAGE AND ARCHAEOLOGY

The Stage 2 SSD DA has been informed by four key heritage components. They are:

- A Heritage Impact Statement which assesses any potential impacts of the proposal on the surrounding area (**Appendix G**);
- A Historical Archaeological Assessment (**Appendix H**);
- An Aboriginal Cultural Heritage Assessment (**Appendix I**); and
- A Heritage Interpretation Statement (**Appendix J**).

A summary of the key findings and recommendations of the above Heritage investigations prepared for the site is provided below.

8.6.1. Heritage Impact Statement

Urbis has prepared a Heritage Impact Statement (HIS) to support the proposal. The HIS highlights the following in relation to the proposed development for the site:

"The detailed Stage 2 SSDA design is assessed to be entirely appropriate to the CBD context in which it is located, and will not result in any negative impacts to any heritage items in the vicinity. The proposal has been assessed to have a positive impact on Herald Square and its use as a pedestrianised civic space, as already identified in the GML Heritage HIS that was submitted as part of the Stage 1 SSDA."

The proposed works are supported on heritage grounds, stating that through the preparation of archaeological assessments (**Appendix H** and **Appendix I**) and a heritage interpretation strategy (**Appendix J**), the historical development and historical significance of the Study Area has been adequately assessed and will be appropriately captured by the final design scheme subject to the following recommendations:

- Archaeological excavation of the potential archaeological resource and comprehensive analysis of any material recovered;
- Full consultation with relevant Aboriginal stakeholders;
- Development of a heritage interpretation strategy with recommendations for the incorporation of interpretative media across the site, potentially including public art pieces;

- Further refinements to the current public domain and landscape plans to incorporate historical information (either in the form of interpretative media and/or the on-site display or archaeological material, if discovered).

8.6.2. Aboriginal and European Archaeology

Aboriginal Archaeology

Urbis has prepared an Aboriginal Cultural Heritage Assessment (ACHA) to determine the potential for Aboriginal archaeological objects to be present on the site. The ACHA is included at **Appendix I**. Notably the ACHA finds:

- According to the AHIMS, there are no registered Aboriginal sites, objects or places located on or within 200m of the site. There are however a total of 27 Aboriginal sites (including potential archaeological deposits not yet verified as known sites) recorded in the AHIMS database within a wider search area.
- The site effectively straddles the western mud flats and western bank of the Tank Stream, which would have been a major resource source for Aboriginal people in the past. Aboriginal people are known to have camped and undertaken daily activities on the banks of the Tank Stream, based on ethnohistorical accounts. The site is also located within/in immediate proximity to the tidal zone.
- Borehole investigations on the site have found that there is no potential for Aboriginal archaeological material, objects or sites to be present within the footprint of Goldfields House as it has been completely disturbed down to sandstone bedrock.
- Based on borehole investigations it is predicted that approximately one metre of fill remains present beneath Fairfax House, overlying up to three metres of estuarine/alluvial soils. This area beneath Fairfax House is therefore assessed to have been subject to moderate-high disturbance.
- As the Rugby Club does not include a basement and based on borehole investigations, it is determined that the Rugby Club site has potential for up to three metres of fill, overlying up to three metres of whereas the Rugby Club site is assessed to have been subject to moderate disturbance of estuarine/alluvial soils. This area is therefore determined to have been subject to moderate disturbance.
- In consideration of the geology of the site, a literature review, and the predictive model the most likely site types to be encountered within the site are artefact sites, shell middens, or 'grinding grooves'.

Whilst it is acknowledged within the ACHA that the site has been disturbed by historic and contemporary development which may have significantly reduced the level of archaeological potential identified in the ACHA, the following recommendations, as summarised have been found.

1. Although the Aboriginal Cultural Heritage Consultation Requirements for Proponents are not required to be adhered to for development classified as SSD, it is recommended that consultation with the Aboriginal community continue to be undertaken in accordance with these guidelines and the relevant Notice of Determination received from the City of Sydney Council for D/2015/1049 Condition 38(c).
2. It is recommended that Aboriginal archaeological excavation be undertaken concurrently with the historical archaeological excavation outlined below. Given the extent to which the site has been disturbed, as well as its relatively limited Aboriginal archaeological potential, it is considered that Aboriginal archaeological excavation would only be required where natural soil profiles are encountered during the historical archaeological excavation.
3. Should natural soil profiles be encountered during historical archaeological excavation, any mechanical excavation in that area should cease immediately and excavation should proceed by hand (manual) in accordance with the relevant guiding documents and standards and in consultation with the Office of Environment and Heritage (OEH) and the Metropolitan Land Aboriginal Local Council (Metropolitan LALC).
4. In the event that any Aboriginal archaeological material, objects or sites are encountered during manual excavation of intact soil profiles, they should be appropriately recorded and managed in accordance with the relevant guiding documents and in consultation with OEH and the Metropolitan LALC.
5. In the event that any Aboriginal archaeological material, objects or sites are encountered within the site, appropriate arrangements for the deposition and safe keeping of this material or objects must be determined and agreed upon in consultation with the Metropolitan LALC.

6. It is recommended that representatives from the Metropolitan LALC be invited to participate in any Aboriginal archaeological investigation undertaken within the Study Area, and be informally consulted throughout the historical archaeological excavation program generally.

Historical Archaeology

Urbis has prepared a Historical Archaeological Assessment and Research Design and Methodology (AARDM) to determine the potential for the site to contain archaeological resources and to provide management recommendations for the development. The AARDM is included at **Appendix H**. Notably the AARDM finds:

- The site has been affected by four distinct phases of development for archaeological potential, including:
 - Phase 1 (1788-1860s): maintenance of land as generally vacant, used as ‘yard spaces’ and potentially used in the earliest years as ‘market gardens’;
 - Phase 2 (1860s-1910s): construction of merchant stores and residential dwellings, and use of the land as a yard space;
 - Phase 3 (1910s-1960s): redevelopment of the land in the 1910s including construction of the Rugby Club (originally known as ‘Bacon’s Building’) and Carleton Chambers;
 - Phase 4 (1960s-present): Demolition of Carleton Chambers in 1968, and the subsequent construction of Fairfax House, and demolition of the lower-scale warehouse building to the north of the Rugby Club was demolished to make way for Goldfields House (completed in 1966).
- The review of the relevant historical information has demonstrated that the footprint of Goldfields House has been so substantially disturbed that it no longer has any potential to contain archaeological deposits.
- On the remainder of the site (lots including Rugby Club, Rugby Place, and Fairfax House) there is considered to be a high level of potential for evidence of the natural, pre-Colonisation environment to be present on site, as well as evidence of landscape modification.
- With regards to structural elements, it is considered that there is a greater likelihood for structural remains of buildings/structures from Phase 2 onwards to be present, rather than from Phase 1, based on their likely greater extent and more robust construction.
- Less physically substantial remains, such as yards, fences, and paths have been assessed as having a low potential to remain on site generally. However, there is a decidedly higher degree of potential for some occupational deposits to have been preserved within deeper sub-surface features, such as wells, cesspits and privies, which may have been sealed by later deposits.
- Archaeological material from Phase 1 has the potential to be of state significance due to both its rarity and its ability to contribute information that is not readily available within the historical record. Archaeological material dating from Phases 2-3 is likely to be of local significance, given the extent to which these phase are represented in the historical record and in extant building stock within the local area. Material from Phase 4 is unlikely to meet any of the criteria for local significance.

Given the findings above, the AARDM provides the following recommendations to be incorporated into the development.

7. Full archaeological investigation should be undertaken in the area of identified archaeological potential in accordance with the Research Design provided within the AARDM.
8. Any significant archaeological material or resources uncovered during the archaeological excavation should be incorporated into the eventual Interpretation Plan for the site, so as to enable public appreciation of the resource.
9. The NSW Heritage Division should be consulted as part of the historical archaeological investigation, and be provided opportunity to provide ongoing comment regarding proposed excavation methodologies, management of any archaeological resource uncovered, and the incorporation of any such resource into an eventual Interpretation Plan and any interpretative displays.

8.6.3. Heritage Interpretation Strategy

The applicant commissioned Urbis to prepare a Heritage Interpretation Strategy for the entire site (refer to **Appendix J**). The intent of the Heritage Interpretation Strategy is to facilitate integration of interpretation into

the proposed development and to inform and guide interpretation planning. The Strategy nominates themes and narratives associated with the place to be interpreted, and provides recommendations for interpreting its history and archaeological resource to identified audiences. The themes identified include:

- Historical themes;
- The natural landscape including the original estuarine mouth of the Tank Stream;
- Aboriginal settlement (Pre 1788 and post contact);
- Colonial Sydney (1788-1850);
- Maritime development and trade (1840-1900);
- Chinese merchants and trade, notably of the prominent Way Kee; and/or
- Twentieth century commercial development.

The Heritage Interpretation Strategy identifies opportunities on the site for interpretation of the above themes including:

- Incorporate interpretation in the ground plane through site link and public areas between Tower A and Tower B and in the forecourt areas fronting Alfred Street/ Herald Square.
- Incorporate interpretation of the archaeological resource within the public areas of the site. This may include display of artefacts (subject to investigation and where appropriate), use of digital media (e.g. mobile phone applications), website media and or publications.
- Public Art should be incorporated in accordance with the Public Art Strategy, and may include provision of public art in the ground plane through site link and public areas between Tower A and Tower B and in the forecourt areas, or integrated with architectural façade design (in conjunction with project architects).

Interpretation is an integral part of delivery of the site and therefore will be developed in the subsequent detailed design phases of the development and incorporated into the project and construction programming.

8.7. TRAFFIC, PARKING AND ACCESS

An assessment of traffic and parking across the site has been prepared by Arup and included at **Appendix AA**. The assessment examines the existing transport conditions, the proposed vision for the public domain and its interface with traffic movements within and around the site, as well as how the proposed transport and access arrangements for the site.

8.7.1. Vehicular Site Access

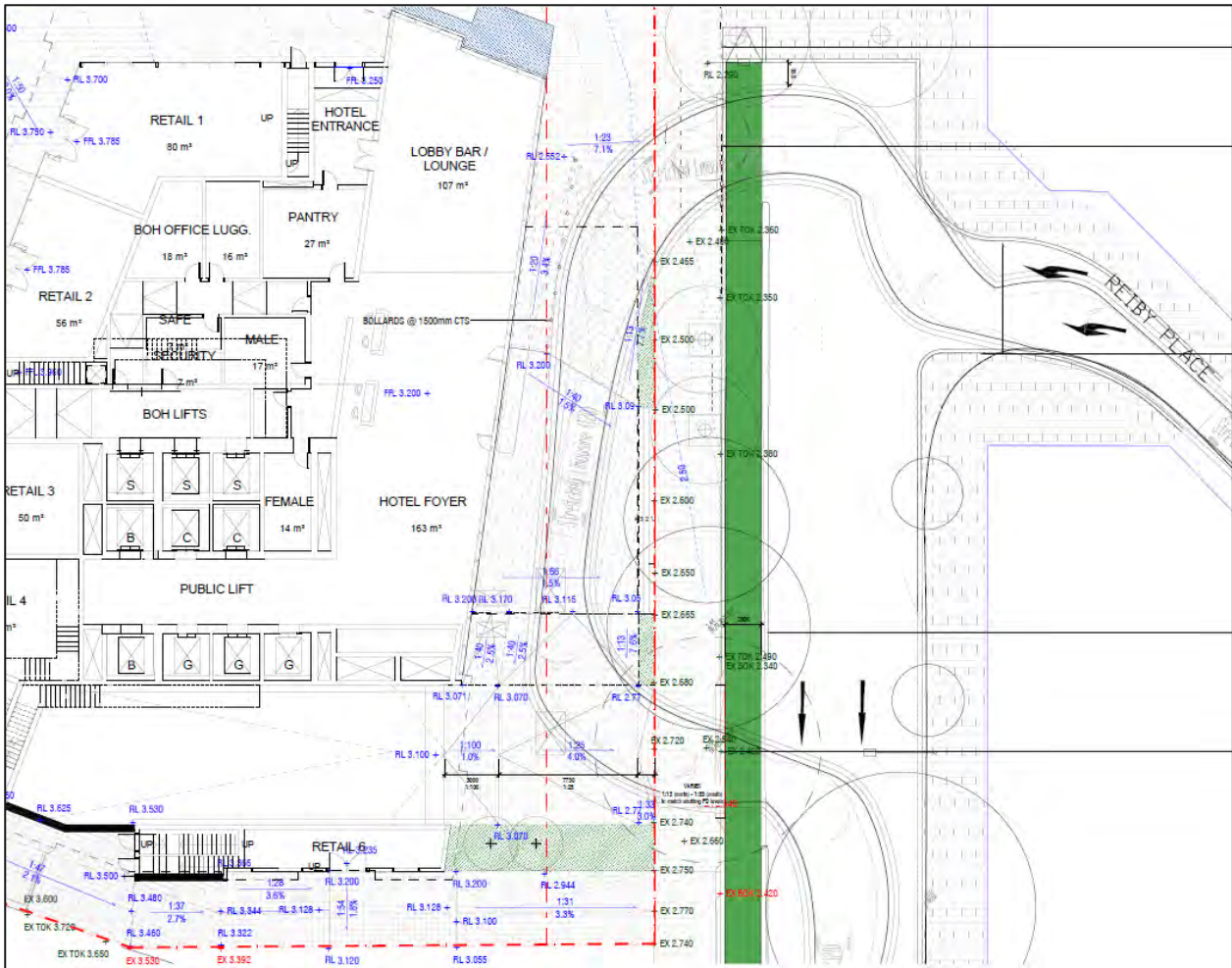
The proposed vehicle access strategy for the integrated basement involves the introduction a new consolidated entry and exit point off Pitt Street as illustrated at Figure 24. The new entry will replace three existing access points on Pitt Street, Rugby Place, and Blue Anchor Lane.

The City Centre Access Strategy and Sydney Light Rail will result in significant changes in the area during the likely timing of the development. As identified within the Traffic and Parking Assessment, with the removal of the bus layover areas on Loftus Street, the section of road between Alfred Street and Bridge Street has opportunities to become a pedestrianised precinct, allowing for improved access for cyclists and pedestrians. Following the closure of Alfred Street to general traffic and the removal of buses on Loftus Street, there will be an opportunity to create a good quality shared environment for pedestrians and cyclists as outlined within the Traffic and Parking Assessment.

The design and interface of the bi-directional cycleway are still to be determined by City of Sydney Council. It is understood that a separated cycleway will be provided within the current road carriageway, on the western kerb adjacent to the site. Driveway crossovers have been designed by swept paths of the largest vehicle, which is expected to be a stretched limousine into the porte cochère of the Hotel.

As illustrated within Figure 24 swept paths are required to swing across the northern part of Pitt Street to achieve a straight run in front of the Hotel within the porte cochère. As no general traffic will utilise this section of Pitt Street in the future, this is deemed operationally acceptable.

Figure 25 – Technical Details of Porte Cochere Design



Source: ARUP

8.7.2. Pedestrian Access

The commencement of the light rail project through the CBD will provide various opportunities for the proposed development to establish an improved pedestrian environment. The ground plane of the site creates a network of plazas and laneways that connect into the surrounding precinct. The series of pedestrian desire lines throughout the precinct with the enhanced east-west and north-south links.

8.7.3. Traffic Generation and Distribution

The Traffic and Parking Assessment provided at **Appendix AA** provides an assessment of the impact of the anticipated traffic generation of the proposal on the existing and proposal local road network. The assessment finds that the proposed development would have a traffic generation of some 69 vehicle trips per hour during morning and afternoon peak hours, including both in and out movements for residents, guests, and service/deliveries.

The Assessment notes that the proposed closure of Pitt Street north will likely reduce traffic volumes to local traffic access developments north of Bridge Street. This will improve accessibility to these sites and it is expected that the low traffic volumes anticipated by this development will mean that all laneway and driveway connections will function adequately.

The Traffic and Parking Assessment states that an assessment on the operation of Bridge Street intersections at Pitt and Loftus Streets is being separately undertaken by TfNSW. This assessment will include the expected redistribution of traffic due to wider CBD network changes beyond the scope of this application.

8.7.4. Service Vehicle Access and Loading Dock Provision

The approximate number of trucks expected weekly includes six collections for residential waste, between 14-18 collections for retail waste and 2-4 collections for hotel waste. The maximum height of a vehicle accessing the loading dock is proposed to be 3.8m to accommodate Council waste vehicles and various delivery vehicles for the hotel, residential and retail uses.

Five loading spaces are proposed for the site. As there are a limited number of commercial operators required across the site, deliveries can be easily managed through a loading dock management plan.

A full time Dockmaster will be on site to oversee the operation of the loading dock areas and will work from the Dockmaster office located in the main loading dock. The largest vehicle expected to enter the site will be a 9.54m Council Garbage Vehicle. Relevant swept paths are shown at **Appendix AA**.

8.7.5. Parking Provision

The proposal will replace 150 car parking spaces currently on the site. Vehicular parking is provided for the development within the integrated basement in accordance with the car parking rates provided within SLEP and SDGP. A summary of the car parking proposed against these rates is provided below.

Table 11 – Proposed Car Parking

Tower	Maximum Provision	Proposed
Tower A and B Retail x 757sqm	1.1	1
Tower A Residences		
• Studio x 3	0.3	147 (including 29 accessible)
• One bed x 26	7.8	
• Two bed x 74	51.8	
• Three bed x 87	87	
Tower B Guests x 182 rooms	41.4	41 (including 3 accessible)
Total	189.4	189 (excluding car share)

In addition to the above, 16 motorcycle spaces, 3 car share (not annotated separately on architectural plans), and two car wash bays is proposed within the basement. Spaces capable of accommodating electric charging stations are also proposed throughout the various levels of the basement in accordance with the ESD strategy for the site. The Traffic and Parking Assessment finds that the proposed basement design and layout of the off-street parking facilities will comply with the relevant AS2890 Australian Standards.

8.8. CONTAMINATION

As part of the Stage 1 SSD DA for the site, a Preliminary Site Investigation Report was prepared by Coffey for the proposed development to assess the potential for soil or groundwater contamination to be present at the site. The report found that the potential sources of contamination pose a low-moderate likelihood of contamination. As such the Preliminary Site Investigation concluded that the site is can be made suitable for the proposed mixed commercial and residential development from a contamination perspective.

Despite the above, Condition 18 of the Stage 1 SSD DA requires that a Detailed Environmental Site Assessment must be submitted for approval with the relevant Stage 2 SSD DA for the site. In light of the information achieved from the site to date, Greencap has determined in their Contamination Assessment at **Appendix N** that a Detailed Environmental Site Assessment is not appropriate for this stage. This Assessment finds that:

- No dangerous goods are recorded as having been stored at the site. However, Greencap notes that there is a disused above ground diesel tank in the Goldfields House basement, and anecdotal records of a second tank existing.

- Title documents show that the site was privately owned and used for a combination of residential and commercial premises from the late 1800s to the early 1930s at which point it was acquired by the State Rail Authority. The State Rail Authority owned and/or leased the site until the late 1980s. The site has been used for commercial purposes since then. No industrial processes appear to have been undertaken at the site.
- The site and its immediate surrounds have been used for a variety of residential and commercial/industrial uses since Sydney's development in the late 1800s, aerial photography dating back to the 1930s confirms this.
- Based on the information to date it appears there is a low likelihood of significant contamination being present. Fill material to date appears to consist of sandy gravelly fill, likely placed during construction and groundwater impacts appear limited. It is considered that the site can be made suitable for its intended use.

The Assessment provides recommendations to be undertaken throughout the detailed design of the proposal to enable the site to be suitable for the intended use, as documented in **Appendix N**.

8.9. GEOTECHNICAL CONDITIONS

A Geotechnical Investigation Report (**Appendix O**) has been prepared by Coffey to provide information on the subsurface stratification, and comment on excavation, foundations, and groundwater levels. The report finds the following subsurface conditions:

- Fill comprising concrete and asphalt overlying sand and gravel was observed to a depth of -4.6m AHD.
- Clay, sand and shells, typical soft and loose were observed to a depth of -0.6m AHD.
- Highly to moderately weathered sandstone with low and medium strength (typically Class IV sandstone) was observed to a depth of -3.2m AHD.
- Slightly weathered standard of medium and high strength (typically Class II or better sandstone) was observed to a depth of -4.1m AHD.

The Geotechnical Investigation Report finds that the subsurface conditions and characteristics of the geotechnical conditions of the site are suitable for the proposed development, subject to excavation and construction mitigation measures and further consultation with authorities.

As the alignment for the proposed CBD Rail Link runs roughly north-north-west to south-south-east and passes under the intersection of Pitt and Alfred Street (north east corner of site), a specific Geotechnical Investigation has been prepared by ARUP in support of the proposal (**Appendix P**).

The proximity of the excavations to the heritage listed Tank Stream will be taken into consideration when selecting suitable excavation methods as discussed within Section 8.6 of this report.

8.9.1. Groundwater

The proposed basement excavations will extend below the existing groundwater table on the site. The Geotechnical Investigation Report (**Appendix O**) provides details regarding the likely groundwater conditions on the site, and the likely impact to the development as summarised below.

- Observations during drilling indicated the presence of a perched water table within the fill/alluvium, above a separate water table within the sandstone. The groundwater level at borehole 02 and borehole 03 lie consistently at approximately -3.7 m AHD and -6.5 m AHD, respectively.
- Groundwater levels do not show significant response to rainfall events, but show minor response to harbour tides (less than 0.05 m).
- Groundwater inflows to the proposed drained basement are predicted to be minor (less than 3 ML/year).
- Groundwater flows during excavation within the bedrock may be able to be managed by a sump and drainage system. Where unacceptable groundwater inflows occur in the rock mass, targeted grouting may be required to reduce inflows.
- Predicted groundwater drawdown associated with the drained basement is not expected to impact groundwater dependent ecosystems or existing groundwater users.