

**SYDNEY OPERA HOUSE
VEHICLE AND PEDESTRIAN SAFETY PROJECT
(MP 09_0200)**

HERITAGE IMPACT STATEMENT



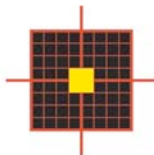
School children and other pedestrians at Sydney Opera House Forecourt (Photo: Alan Croker)

prepared for
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**Revised Final Report
15 July 2010**

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HERITAGE IMPACT STATEMENT Revised Final Report

1.0 Background

Design 5 - Architects has been engaged by the Sydney Opera House Trust to prepare an assessment of the Heritage Impact of proposed modifications and development of the Sydney Opera House, to construct a new service vehicle entry and basement loading dock at the southern end of the site. The project is referred to as the Vehicle And Pedestrian Safety (VAPS) Project.

The report has been prepared by Alan Croker (director) and Hendry Wan (heritage consultant), both of Design 5.

2.0 Purpose of report

The report has been prepared to address Key Issues 2 and 3 in the Director General's Requirements (DGR's) for Environmental Assessment, as set out in the letter from Department of Planning dated 17 December 2009. Key Issues 2 and 3 are as follows:

2. *Heritage and Archaeology*

The EA must include a detailed Heritage Impact Statement prepared by a suitably qualified person which addresses the Conservation Management Plan prepared by J.S. Kerr as well as other matters including, but not limited to:

- a) Details of the underground loading dock, vehicle access tunnel and associated works and assessment of the physical impact of the proposed works on the heritage significance of the Sydney Opera House;*
- b) The measures undertaken to minimise and mitigate potential heritage impacts.*
- c) Alternate designs and solutions that involve lesser intrusion into the forecourt, which may utilise other public and private lands;*

- d) An assessment of the likely impacts of the proposal on Aboriginal cultural heritage values and the protection measures to be adopted during the works;
- e) An assessment of how much of the existing Sydney Opera House building fabric is to be demolished or removed, level of significance and physical condition;
- f) Justification for the removal of any intrusive fabric and consideration for reuse. If historic fabric is to be demolished or removed a storage disposal strategy is required outlining preferred options and possible alternatives for the use of historic fabric;
- g) Consideration of measures to conserve and protect the ovoid Bennelong Stormwater outfall;
- h) Demonstration (if applicable) of adherence to the principles, processes and practices of the Burra Charter (Australia ICOMOS);
- i) Demonstration (if applicable) of consideration of advice contained in Statements of Heritage Impact published by the Heritage Office; and
- j) Demonstration of compliance with Sydney Opera House Conservation Plan dated 23 June 2003.

The EA must also include an Archaeological Assessment prepared by a suitably qualified person in accordance with Heritage Council Guidelines and should make reference to any previous archaeological studies.

3. Visual Impact

The EA must include an assessment of the potential visual impacts of the proposal on the Sydney Opera House, adjoining properties and the public domain. The EA must demonstrate that the location of the entry ramp and air vents (if proposed) will minimise visual impacts. In this regard, consideration of alternatives for air vent locations and service vehicle access from other locations and adjoining properties, apart from the Sydney Opera House must be outlined.

Issues 2 d) and 2 g) are addressed in separate reports prepared by Godden Mackay Logan (heritage consultants) – ‘Archaeological Management Plan and Archaeological Impact Assessment’ (February 2010), and ‘Aboriginal Cultural Values Assessment’ (June 2010). This present report, by Design 5, addresses the remainder of the issues.

3.0 Basis of assessment

The basis for this assessment is the James Semple Kerr Conservation Plan 2003,

- Kerr, James Semple, *Sydney Opera House, A Revised Plan for the Conservation of the Sydney Opera House and its Site*. Third Edition, SOHT, 2003 (referred to below as the CMP 3rd edition)

as well as the Utzon design principles,

- *Sydney Opera House, Utzon Design Principles*, SOHT May 2002 (referred to below as the UDP 2002)

The above two documents are an integral part of the bilaterally accredited ‘Management Plan for the Sydney Opera House’ (August 2005) that has been prepared under Section 46 of the Australian Government’s *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The documents and drawings used for this assessment are those prepared by Johnson Pilton Walker Pty Ltd, all dated 2 June 2010 and as follows:

Report	Architects Statement (Issue 00)	
Drg. No.	Revision	Title
EA-010	00	Locality Plan
EA-050	00	Site Plan Existing
EA-055	00	Site Plan Proposed
EA-100	00	Basement 4 (Level -0.38’)
EA-130	00	Basement 1 (Level +/-0.01’)
EA-140	00	Ground (Level +0.12’)
EA-200	00	Basement 4 (Level -0.38’) Reflected Ceiling Plan

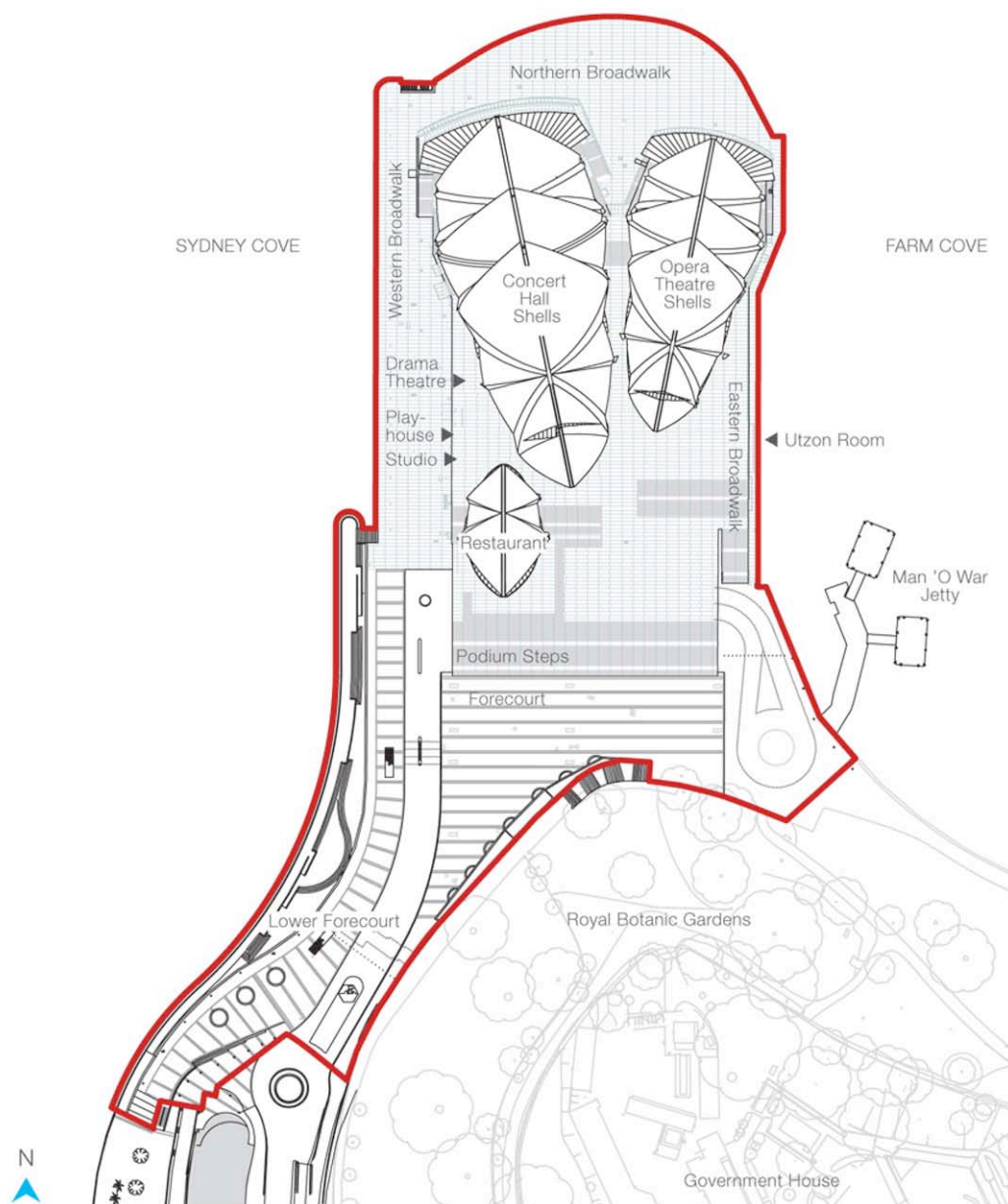
EA-300	00	Section X70_N
EA-305	00	Section X48_N
EA-310	00	Section X38_N
EA-315	00	Section X30_N
EA-320	00	Section X09_N
EA-325	00	Section Y21_E
EA-330	00	Section Y25_E
EA-335	00	Section Y29_E
EA-340	00	Section Y34_E & Proposed Vehicle Ramp
EA-406	00	Vehicle Ramp Section B Proposed
EA-415	00	Vehicle Ramp Section D
EA-420	00	Vehicle Ramp Section E
EA-440	00	Section JJ Vehicle Ramp and Pedestrian Tunnel
EA-450	00	Delivery Dock_Elevation North
EA-455	00	Delivery Dock_Elevation East
EA-460	00	Delivery Dock_Elevation South
EA-465	00	Delivery Dock_Elevation West
EA-900	00	Existing Image 01 – From Macquarie St Roundabout
EA-905	00	Proposed Image 01 – From Macquarie St Roundabout
EA-910	00	Existing Image 02 – From Monumental Stairs
EA-915	00	Proposed Image 02 – From Monumental Stairs
EA-920	00	Existing Image 03 – From Monumental Stairs Detail
EA-925	00	Proposed Image 03 – From Monumental Stairs Detail

3.1 Methodology

With reference to the DGR's 2 h) and 2 i), this Heritage Impact Statement has been prepared in accordance with the principles and processes of the *Australia ICOMOS Burra Charter 1999*, including its accompanying 1988 'Guidelines to the Burra Charter' (on cultural significance and procedures for undertaking studies and reports). The preparation of this Heritage Impact Statement also follows the process and model recommended in the NSW Heritage Office guideline *Statements of Heritage Impact* (revised 2002), including consideration of alternative options and their impact.

4.0 The site

The Sydney Opera House is located on Bennelong Point at the north end of Macquarie Street in Sydney. The proposed works will take place generally within the area of the site owned by the Sydney Opera House but there will be some underground work to adjacent publicly owned areas between the Tarpeian Wall and the double helix car park. Refer to site plan below.



Site plan. The extent of the Sydney Opera House boundary under the *Sydney Opera House Trust Act 1961* (NSW) is shown by the red boundary line.

5.0 Brief description of proposal

From the Architects Statement, it is understood the VAPS proposal has two main objectives;

- to minimise intrusion of heavy vehicles into the forecourt and broadwalk areas, separating them from pedestrian traffic and thus improving public safety;
- to provide a new loading dock facility that is acoustically separate from the performance venues and therefore able to be used at any time day or night.

Both of these issues were identified in the CMP 2003 as being important to the future safe and efficient use of the Sydney Opera House. The building has such high visitation levels and such an intense use as a performance centre, that if the VAPS Project does not proceed, pedestrian safety and delivery and loading issues may be further compromised. The visitor experience, so essential to Utzon's vision, is presently compromised by the presence of the sunken roadway and vehicles traversing the forecourt.

At the time of the building's design, Utzon had intended that all deliveries would be via the Central Passage. Height limitations within the Vehicle Concourse mean that large trucks must now enter the passage from the northern Broadwalk, traversing western and northern pedestrian areas, as well as placing heavy loadings on the structure supporting the broadwalk paving. Such loadings were not envisaged at the time of design and additional temporary supports have been placed in these areas to accommodate them. In addition, acoustic and fire egress issues prevent any loading or unloading activities in the Central Passage during a performance in any of the five main venues.

A major revision of the vehicle access and loading dock arrangements to achieve the objectives above is therefore considered essential to the retention and continuation of the significance of the Sydney Opera House into the future.

The VAPS Project proposal includes the following:

- construction of a new opening on the southern side of the forecourt to provide vehicle entry to a new underground loading dock with edge treatment to match that on the western edge of the forecourt over the lower concourse;
- minor reconfiguration of the existing car park air shaft vents against the Tarpeian wall;
- modifications to the roof of the underground pedestrian entry from the double helix car park, opening onto the lower concourse level;
- excavation of large areas of the forecourt and vehicle concourse for construction of a new loading dock entry tunnel and delivery dock area, with existing levels and finishes re-instated on completion;
- structural modifications to footings and supports at the base of the monumental stairs to allow excavation and construction of new underground spaces;
- new or altered lifts and stairs to connect delivery dock area with back-of-house facilities above;
- new temporary scenery lift to backstage area of Opera Theatre;
- removal of recessed vehicle access path flanked by kerbs across forecourt, and replacement with a surface level with surrounding paving in same material as existing;
- definition of proposed pedestrian/vehicle shared zone across forecourt (used for patron drop-off) will be subject to future resolution;
- improved lighting to forecourt area, subject to future design resolution.

An important aspect of this proposal is that it incorporates provision for future expansion of the facility to accommodate an upper level vehicle drop-off area which will link in with lifts and other patron access to the spaces above, and the revised 'back-of-house' facilities proposed in the Strategic Building Plan.

6.0 Consideration of alternative solutions

As part of the development of the present design for the VAPS project, a number of alternative solutions were explored to test which one would have the least impact on the forecourt, and thus on the setting and use of this area and Sydney Opera House itself. Design 5 were involved in providing comment throughout this process.

The Architects' Statement, on page 5, notes the broad considerations of the options explored:

Vehicle Access to Underground Loading Dock including

- » *Access from Forecourt*
- » *Access from Harbour Tunnel*
- » *Access from within Sydney Opera House Carpark*
- » *Access from Botanic gardens*
- » *Access from Macquarie St*

Access Ramp location and alignment within the Forecourt
Dock Location and arrangement of associated turning space for 19M Articulated Vehicles
Circulation arrangements linking the dock with the remote lift locations and associated dock alignment

Comment

The main issues with each option considered for access to the loading dock included:

<i>Access from Forecourt</i>	length of tunnel required is minimal – thus management and security control over access wholly within SOH site and cost reduced
<i>Access from Harbour Tunnel</i>	additional slip lane required in southbound tunnel – safety and traffic concerns and cost not acceptable
<i>Access from within SOH Carpark</i>	present carpark access cannot accommodate 19m articulated trucks
<i>Access from Botanic gardens</i>	requires enlargement of access routes within gardens to accommodate 19m articulated trucks – not acceptable in gardens
<i>Access from Macquarie St</i>	entry to Loading Dock tunnel would need to be at a distance which allowed it to avoid the Harbour Tunnel – cost not acceptable

Considering the above options and their associated issues and limitations, the decision was made to keep the access to the loading dock wholly within the SOH site. It then became a process of exploring locations and refining them so that the impact on the forecourt and setting of the Sydney Opera House was minimised. This was made more difficult by the complex arrangement of existing tunnels and services, (including the air intake shaft for the underground carpark) in the area close to the site entry off Macquarie St. The aim was to maximise the open paved area of the forecourt between the monumental stairs and the Tarpeian Wall, and minimise the visual impact of the entry point on the setting of SOH and its forecourt.

The option selected and described in documents accompanying this application, finely balances these objectives and achieves an increased width of the paved forecourt area between the monumental stairs and the Tarpeian Wall, and a security post and ramp entry as close as possible to the Macquarie St site entry, without having to completely divert and rebuild the underground pedestrian access to the carpark. There is very little scope to move the ramp entry closer to Macquarie St, due to the proximity of the Sydney Harbour Tunnel. Such a minor adjustment would require the diversion of the pedestrian access tunnel from the carpark, and achieve marginal benefit in terms of increased forecourt area.

This present proposal has a major impact on existing below ground site services and requires their re-location as well as the Bennelong Sewer to allow it to sit as close as possible to the Tarpeian Wall face. The existing guardhouse, identified as 'intrusive' in the CMP 2003, is reduced in size and re-located in line with the new loading dock entry.

7.0 Heritage listings and statutory framework

The Sydney Opera House is listed on the following statutory registers:

- World Heritage List (UNESCO)
- National Heritage List (Australian Government)
- Register of the National Estate (Australian Heritage Council)
- State Heritage Register (NSW Government)
- Sydney Local Environmental Plan 2005 (City of Sydney Council)

The Sydney Opera House is listed on the following non-statutory heritage registers:

- National Trust of Australia (NSW) register
- National Register of Significant 20th Century Buildings (Australian Institute of Architects)

Part 3, Division 1 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) identifies Commonwealth requirements relating to World Heritage properties and National Heritage places.

The Sydney Opera House site is subject to a bilateral agreement between the Australian Government and the State of New South Wales made in 2005 pursuant to Section 45 of the EPBC Act. Under the terms of the agreement (Clause 8.1), an action taken at the Sydney Opera House site does not require the approval of the Commonwealth Minister for the Environment, Heritage and the Arts where:

the taking of the action has been approved by the State of New South Wales or an agency of New South Wales in accordance with the Management Plan for the Sydney Opera House ...

As the Sydney Opera House site is listed as a 'State significant site' under Schedule 3 of the State Environmental Planning Policy (Major Development) 2005, any proposed development on the Sydney Opera House site would require the approval of the NSW Minister for Planning. Such proposals would be subject to the assessment and approval processes outlined in Part 3A of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and the Sydney Opera House Management Plan under Section 46 of the EPBC Act submitted in August 2005.

The Management Plan referred to in the bilateral agreement provides a framework for protection of the World and National Heritage values of the Sydney Opera House site and has been endorsed by the Heritage Branch, Department of Planning (formerly the NSW Heritage Office). The Management Plan states that approval of actions in relation to the Sydney Opera House site may only be made in accordance with the Management Plan, which defers to the CMP 3rd edition for an assessment of heritage impact of proposals.

The Management Plan identifies that any proposed development on the Sydney Opera House site would require statutory approvals under both the EP&A Act and the NSW *Heritage Act 1977*.

8.0 Discussion of impact on World Heritage values of the Sydney Opera House

In 2007, the Sydney Opera House was inscribed on UNESCO's World Heritage List (WHL) for its Outstanding Universal Value and as a "masterpiece of human creative genius" under criterion (i) of the Operational guidelines for the implementation of the World Heritage Convention. The Sydney Opera House was inscribed on the WHL for these values:

Outstanding Universal Values

The Sydney Opera House constitutes a masterpiece of 20th century architecture. Its significance is based on its unparalleled design and construction; its exceptional engineering achievements and technological innovation and its position as a world-famous icon of architecture. It is a daring and visionary experiment that has had an enduring influence on the emergent architecture of the late 20th century. Utzon's original design concept and his unique approach to building gave impetus to a collective creativity of architects, engineers and builders. Ove Arup's engineering achievements helped make Utzon's vision a reality. The design represents an extraordinary interpretation and response to the setting in Sydney Harbour. The Sydney Opera House is also of outstanding universal value for its achievements in structural engineering and building technology. The building is a great artistic monument and an icon, accessible to society at large.

Criterion (i)

The Sydney Opera House is a great architectural work of the 20th century. It represents multiple strands of creativity, both in architectural form and structural design, a great urban sculpture carefully set in a remarkable waterscape and a world famous iconic building.

Comment

The proposed works (loading dock) will have a significant material affect on the place but are mainly confined to underground. Potential archaeological impacts are discussed and addressed in the 'Archaeological Management Plan and Archaeological Impact Assessment' (February 2010, by Godden Mackay Logan).

The VAPS Project will not have a negative impact on the World Heritage values of the Sydney Opera House but will retain and potentially enhance those values by improving the functionality of the Sydney Opera House as a premier performing arts centre of international repute. The proposed works will also improve pedestrians' experience on and off the Forecourt, and the security of the Sydney Opera House. In the proposal, movement of heavy vehicles will be relocated to the southern

periphery of the Forecourt (close to Tarpeian Wall) and consigned underground – and as a result, visitors’ appreciation of the “great urban sculpture” from the Forecourt will be greatly enhanced.

The impact on various spaces, features and elements are discussed in detail below (compliance with CMP 3rd edition). The CMP 3rd edition was one of the primary documents in support of the nomination of the Sydney Opera House to the WHL. The NSW Heritage Council considers the CMP to include comprehensive policies that will guide the long-term conservation of the World and National Heritage values of the Sydney Opera House.¹

9.0 Discussion of impact on National Heritage values of the Sydney Opera House

The following is the Summary Statement of Significance of the National Heritage values of the Sydney Opera House. *Emphasis added* on aspects of significance relevant to the assessment of heritage impact of the VAPS Project.

*The Sydney Opera House, constructed between 1957 and 1973, is a masterpiece of modern architectural design, engineering and construction technology in Australia. It exhibits the **creative genius of its designer**, the Danish architect **Jørn Utzon** and the contributions to its successful completion by the engineering firm Ove Arup and Partners, the building contractors M.R. Hornibrook, and the architects Hall, Todd and Littlemore. It is an exceptional creative and technical achievement in the national history of building design and construction in Australia.*

*Since its completion the Sydney Opera House has attracted world wide acclaim for its **distinctive design, enhanced by its prominent location on Bennelong Point within a superb harbour setting**. With its soaring white roof shells set above a massive podium, the Sydney Opera House is a **monumental urban sculpture**, internationally acclaimed as an architectural icon of the twentieth century. Its many national and international awards reflect its pivotal place in the national story of creative and technical achievement in Australia. The challenges involved in executing Utzon’s design inspired innovative technical and creative solutions that were groundbreaking in the history of architectural design and building construction in Australia, particularly the roof shells that were based on the geometry of the sphere and demonstrated the extraordinary creative potential of the assembly of prefabricated, repeated components.*

The interior spaces also reflect the creative genius of Utzon and his successors, Todd, Hall and Littlemore, who completed the building after Utzon’s departure from the project in 1966.

*The Sydney Opera House is the most widely recognised building in Australia, and is cherished as a **national icon and world-class performing arts centre**. It represents an enduring symbol of modern Sydney and Australia, both nationally and internationally, reflecting changing social attitudes towards Australian cultural life in the decades after World War II. The Sydney Opera House has played a seminal role in the development of Australia’s performing arts, enhancing the cultural vitality of the nation. It continually attracts nationally and internationally acclaimed performers, and is a mecca for visitors from around Australia and overseas.*

The peninsula on which the Sydney Opera House now stands has a special association with Bennelong, an Aboriginal man who became a prominent and influential figure in the early colony and played a significant role in mediating interactions between Aboriginal people and early settlers.

Comment

The National Heritage values of the Sydney Opera House are primarily related to Jørn Utzon’s outstanding design of the building and the venue being a cherished performing arts centre. See the more detailed listed values of the place under each of the individual National Heritage criterion below. Design 5’s assessment of heritage impact is summarised at the end of that section.

Important past uses and historical phases – such as use as Fort Macquarie and tram depot – are not part of the values for which the Sydney Opera House is listed on the National Heritage List. The only value from the period prior to the construction of the Sydney Opera House which meets the National

¹ Section 5b ‘Heritage Framework’, Management Plan for the Sydney Opera House, August 2005.

Heritage criteria is the site's association with the Aborigine, Bennelong. Impacts on Aboriginal cultural values are discussed in 'Aboriginal Cultural Values Assessment' (June 2010 by Godden Mackay Logan), which also discusses the site's association with Bennelong. Potential archaeological impacts on the former footprint of Fort Macquarie and the tram depot, are discussed and addressed in the 'Archaeological Management Plan and Archaeological Impact Assessment' (February 2010, by Godden Mackay Logan).

9.1 National Heritage criteria

The Sydney Opera House is registered on the National Heritage List for meeting its listing criteria (a), (b), (e), (f), (g) and (h).

The values of the Sydney Opera House that meet the National Heritage criteria are set out in full in Appendix C of the Management Plan for the Sydney Opera House (August 2005) and also in the listing of the Sydney Opera House on the National Heritage List, available at <http://www.deh.gov.au/cgi-bin/ahdb/search.pl>

The extracts from the National Heritage values, under each of the criterion below, summarise and draw attention to the aspects of significance that are relevant to the assessment of heritage impact of the VAPS Project. Design 5's assessment of heritage impact is summarised at the end of this section.

NHL criterion (a) Events, Processes

The place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.

Relevant key values from National Heritage values:

- "a monumental sculpture in the round, and its inspired design solution in response to its prominent setting on Bennelong Point in Sydney Harbour"
- "the building's distinctive form"
- "a seminal role in Australia's performing arts history, enhancing the cultural vitality of the nation and continuously attracting nationally and internationally recognised performers from around the world"

Comment

The VAPS proposal will not have any adverse impacts on these values and will potentially enhance the ability of the Sydney Opera House to attract national and internationally recognised performers with its improved functionality.

NHL criterion (b) Rarity

The place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.

Relevant key values from National Heritage values:

- "distinctive sail-like concrete shell roofs standing boldly upon a massive granite-faced platform, located prominently on the Sydney Harbour foreshore"
- "a rare example of a national cultural centre that has gained widespread recognition and respect as a performing arts venue"

Comment

The VAPS proposal will not have any adverse impacts on these values and will potentially enhance the ability of the Sydney Opera House to attract national and internationally recognised performers with its improved functionality.

NHL criterion (e) Aesthetic characteristics

The place has outstanding heritage value to the nation because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Relevant key values from National Heritage values:

- “The design, form, scale and location of the Opera House make it one of the most significant landmarks in Australia”
- “Its landmark qualities are enhanced by the building’s juxtaposition with Sydney Harbour, its relationship with the Sydney Harbour Bridge, the garden landscape of Bennelong Ridge, **the sandstone cliff face of Tarpeian Rock**, and the **vistas and views to and from The Rocks**, Circular Quay, East Circular Quay, Macquarie Street, **the Botanic Gardens and the harbour**”
- “The building’s ability to emotionally move people and invoke a strong aesthetic response is enhanced by **the experience of approaching**, entering and moving around the building and surrounds. The public promenades including the **Forecourt, Broadwalk**, and podium platform and steps contribute to the majestic qualities of the place. **The large forecourt** and sweeping podium steps prepare the visitor for the majestic quality...”

Comment

The VAPS proposal will remove distracting and functionally intrusive loading dock and services traffic from the Forecourt and broadwalks, allowing these significant values to be enhanced.

NHL criterion (f) Creative or technical achievement

The place has outstanding heritage value to the nation because of the place’s importance in demonstrating a high degree of creative or technical achievement at a particular period.

Relevant key values from National Heritage values:

- “a **sculptural form** that would be both a **focal point in Sydney Harbour** and a reflection of its character”
- “**finished in natural materials, textures and colours**”
- “the creation of sensory experiences to bring pleasure to the building’s users, particularly the **experience of approaching**”
- “Utzon’s application of counterpointing techniques using light and dark tones, soft and **hard textures**”

Comment

The VAPS proposal will remove dangerous and distracting service traffic from the main approach path from the south, thus enhancing the approach experience. The proposal will have no adverse impact on the sculptural form, materials and colours of the place. The proposed works continue the language of honest expression of natural materials, textures and colours used in the original design of the forecourt, broadwalk and podium – unpainted off-form concrete, precast reconstituted granite paving and wall cladding panels.

NHL criterion (g) Social value

The place has outstanding heritage value to the nation because of the place’s strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Relevant key values from National Heritage values:

- “the profile of the distinctive ceramic clad roof shells has become an instantly recognisable national emblem”
- “building’s role as a cultural icon is also derived from the numerous performances conducted there (100,000 since 1973), and the place’s role as a focal point for community events”

Comment

The VAPS proposal will impact on the southern edge of the Forecourt; however, it will also remove the sunken roadway that presently restricts the use of the western side of the Forecourt and repave it at the same level as the surrounding paving. It will thus have a positive impact on the ability of this space to accommodate community events and performance, and remove a major safety and trip hazard for pedestrians.

NHL criterion (h) Significant people

The place has outstanding heritage value to the nation because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.

Relevant key values from National Heritage values:

- "The Sydney Opera House is directly associated with Jørn Utzon"
- "The peninsula on which the Sydney Opera House now stands has a special association with Bennelong"

Comment

The VAPS proposal will not adversely affect the place's associations with Jørn Utzon or Bennelong. It presents an opportunity to strengthen the interpretation of these associations to the general public. Refer to the 'Aboriginal Cultural Values Assessment' report by Godden Mackay Logan, for discussion of tangible and intangible Aboriginal cultural values and recommendations for interpretation.

9.2 Summary assessment of heritage impact on National Heritage values

The VAPS Project will have both material and visual impacts on the Forecourt, Lower Concourse Level, Vehicle Concourse, lifts, stairs, and backstage area of the Opera Theatre and the Tarpeian Wall.

The assessment of heritage impact on all relevant significant values is discussed in the section below (compliance with CMP 3rd edition).

In summary, the VAPS Project will not have a negative impact on the National Heritage values of the Sydney Opera House but will retain and enhance those values by improving the functionality of the Sydney Opera House as a premier performing arts centre of international and national repute. The proposed works will also improve pedestrians' experience on and off the Forecourt, as well as Sydney Opera House security. In the proposal, movement of heavy vehicles will be relocated to the southern periphery of the Forecourt (close to Tarpeian Wall) and consigned underground – and as a result, visitors' appreciation of the "monumental urban sculpture" from the Forecourt will be greatly enhanced, and with improved safety.

10.0 Discussion of impact on State Heritage values of the Sydney Opera House

The following is the Statement of Significance of the State Heritage values of the Sydney Opera House. **Emphasis added** on aspects of significance relevant to the assessment of heritage impact of the VAPS Project.

*The Sydney Opera House is of State significance as a twentieth century architectural masterpiece sited on a prominent peninsular in Sydney Harbour. In association with the Sydney Harbour Bridge it has become an internationally recognised symbol of Sydney and Australia, which is also widely admired by local citizens. Designed for the NSW Government by renowned Danish architect Jørn Utzon between 1957 and 1966, and completed in 1973 by Hall, Todd and Littlemore, the building has exceptional aesthetic significance because of **its quality as a monumental sculpture in the round**, both day and night, and because of the appropriateness of its design to its picturesque setting. **Its public spaces and promenades have a majestic quality, endowed by powerful structural forms** and enhanced by vistas to the harbour and the city. An icon of modern architecture, the Sydney Opera House uses the precise technology of the machine age to express organic form. It has scientific and technical significance for the ways in which its construction continually pushed engineering and building technologies to the limit. It also has significance for the extensive associations of the site with many famous people and important themes in Australian history. Abutting the site of the first settlement of Europeans in Australia at Sydney Cove, the Sydney Opera House stands on Bennelong Point, **Aboriginal land** which was named after a Wangal Aboriginal man and which is of significance in the history of the entanglements and interactions between Aboriginal and non-Aboriginal cultures in Australia. Other historic themes associated with the site include the arrival of the First Fleet in Sydney Cove, scientific investigation, **defence**, picturesque planning, marine and **urban transport** and most recently, **cultural showcasing**. Since its official opening by the Queen in 1973, the Sydney Opera House has been **the scene of many notable achievements in the performing arts and has associations with many nationally and internationally renowned artistic performers**. The Sydney Opera House provides **an outstanding visual, cultural and tourist focal point for Sydney and Australia**.*

Comment

The CMP 3rd edition was developed in preparation for the listing of the Sydney Opera House on the NSW State Heritage Register (SHR), on 3 December 2003. Hence, the discussion of compliance with the CMP 3rd edition below is deemed to also satisfy as an assessment of heritage impact of the VAPS Project on the State Heritage values of the Sydney Opera House.

10.1 State Heritage Register criteria

The Sydney Opera House is listed on the SHR for meeting all its listing criteria (a)-(g). The values of the Sydney Opera House that meet the SHR criteria are set out in full in the NSW Heritage Database, available online at http://www.heritage.nsw.gov.au/07_subnav_01_2.cfm?itemid=5054880

The extracts from the SHR values, under each of the criterion below, summarise and draw attention to those aspects of significance that are relevant to the assessment of heritage impact of the VAPS Project. Design 5's assessment of heritage impact is summarised at the end of this section.

SHR criterion a) Historical significance

An item is important in the course, or pattern, of NSW's cultural or natural history.

Relevant key values from SHR values:

- "a modern architectural masterpiece, recognised internationally as a symbol of Sydney and Australia"
- "furthermore enhanced by the extensive **associations of the site with** major themes in Australian history such as **Aboriginal and European contact**, scientific investigation, **defence**, picturesque planning, marine and **urban transport, popular recreation and cultural icons**"

Comment

The VAPS proposal will not have any adverse impact on the values, attributes and features that imbue the Sydney Opera House with its unmistakable symbolic qualities.

By removing the functionally intrusive and visually distracting loading dock and services traffic from the Forecourt, the VAPS proposal will not have any adverse impacts on the above values; it will potentially enhance visitors' experience and appreciation of this outstanding architectural icon, particularly from the south (Forecourt).

Archaeological and Aboriginal values are addressed in the 'Archaeological Management Plan and Archaeological Impact Assessment' and 'Aboriginal Cultural Values Assessment' reports by Godden Mackay Logan.

SHR criterion b) Associative significance

An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history.

Relevant key values from SHR values:

- "many associations with people prominent in NSW's history including ... the Aboriginal man Bennelong, the architect Francis Greenway ..."
- "many significant people are associated with the construction of the Sydney Opera House, including ... Jørn Utzon ... and Ove Arup"
- "its success as a performing arts centre has been described as 'spectacular' partly because of the building's 'ability to attract great artists from all over the world'"

Comment

The VAPS proposal will not adversely affect its associations with Utzon and others involved with the design and construction of the Sydney Opera House. It presents an opportunity to strengthen the interpretation of these associations to the general public.

Refer to the 'Aboriginal Cultural Values Assessment' report by Godden Mackay Logan, for discussion of tangible and intangible Aboriginal cultural values and recommendations for interpretation.

Refer to the 'Archaeological Management Plan and Archaeological Impact Assessment' report by Godden Mackay Logan, for discussion of archaeological potential of the demolished Fort Macquarie designed by Francis Greenway.

By improving the functionality of the Sydney Opera House, the VAPS proposal will potentially enhance the ability of this performing arts centre to attract internationally recognised 'great artists'.

SHR criterion c) Aesthetic significance

An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW.

Relevant key values from SHR values:

- "its quality as a monumental sculpture in the round"
- "its public spaces and promenades have a majestic quality"
- "its aesthetic quality is largely attributed to the 1957 prize-winning design by Jørn Utzon"

Comment

The VAPS proposal will not have any adverse impacts on the monumental qualities of the Sydney Opera House or on the majestic qualities of its public forecourt. On the contrary, by removing the visually distracting and functionally intrusive loading dock and services traffic from the Forecourt, the VAPS proposal will potentially enhance visitors' appreciation and experience of the Sydney Opera House, particularly from the south (Forecourt).

SHR criterion d) Social significance

An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons.

Relevant key values from SHR values:

- "an internationally recognised symbol of Sydney, one of Australia's leading tourist attractions and a **focal point for community events**"
- "as a **world-class performing arts centre**, the Sydney Opera House has enhanced the cultural vitality of the nation"
- "it has also hosted many '**everyday**' **cultural activities** as well as providing **free public access to its harbour-side Broadwalk**. Of the 85,000 people estimated to visit each week in 2003, about a quarter came for **performance-related reasons** while the rest came to **experience the building and its environment**. In offering this **remarkable accessibility to a broad public**, Sydney Opera House can be seen to be fulfilling Cahill's hope that it would be '**a monument to democratic nationhood**'"

Comment

The podium steps and Forecourt form an open air auditorium – a sixth venue – for many outdoor events, performances, ceremonies and community gatherings.

In the VAPS proposal, movement of heavy vehicles will be relocated to the southern periphery of the Forecourt (close to Tarpeian Wall) and consigned underground, and the present sunken vehicle pathway will be removed. The proposed tunnel entry for the loading dock will encroach on the southern part of the forecourt, however its location close to the Macquarie St entry allows the majority of the space to remain unhindered. The loss of this tunnel entry area is offset by the removal of the sunken roadway near the western side and its increased useability as part of the public gathering space. It is Design 5's conclusion that the proposal will not have a detrimental impact on the ability of this space to accommodate community events.

The proposed works will also improve visitors' access to the public promenades and pedestrians' experience on the Forecourt.

The proposal will improve the functionality of the Sydney Opera House and thus will potentially have a positive impact on its status as a world-class performing arts centre.

SHR criterion e) Research potential

An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history.

Relevant key values from SHR values:

- "research potential in investigating Utzon's design motivations and methods"
- "it is unlikely that much archaeological potential is retained in relation to its historical associations with famous people and important themes in Australian history"

Comment

The *Utzon Design Principles* (2002) provides many illuminating insights into Utzon's design motivations, for example, his vision of the plateau as "a gathering place, a town square and outdoor auditorium". The VAPS proposal is consistent with Utzon's design intention for the open and uncluttered approach to the Sydney Opera House and his concept of using an honestly expressed natural palette of materials to create powerful spaces.

Refer to the 'Archaeological Management Plan and Archaeological Impact Assessment' report by Godden Mackay Logan, for discussion of archaeological potential of the site.

SHR criterion f) Rarity

An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history.

Relevant key values from SHR values:

- "a twentieth century architectural masterpiece sited on a prominent peninsular in Sydney Harbour"
- "an exceptional landscape (and seascape) monument"
- "an internationally recognised symbol of Sydney and Australia"

Comment

The VAPS proposal will not have a negative impact on the values that make the Sydney Opera House a rare item.

SHR criterion g) Representativeness

An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments.

Relevant key values from SHR values:

- "an internationally recognised building representative of major performance arts centres"
- "its success as a performing arts centre has been described as 'spectacular' partly because of the building's 'ability to attract great artists from all over the world'"

Comment

The VAPS proposal will improve the functionality of the Sydney Opera House and thus will potentially have a positive impact on its function and status as an internationally recognised performing arts centre.

By improving the functionality of the Sydney Opera House, the VAPS proposal will potentially enhance the ability of this performing arts centre to attract great artists from all over the world.

10.2 Summary assessment of heritage impact on State Heritage values

The VAPS Project will have a material and visual impact on the Forecourt, Lower Concourse Level, Vehicle Concourse, lifts and stairs, backstage area of the Opera Theatre as well as the Tarpeian Wall.

The assessment of heritage impact on all relevant significant values is discussed in the section below (compliance with CMP 3rd edition).

In summary, the VAPS Project will not have a negative impact on the State Heritage values of the Sydney Opera House but will retain and enhance those values by improving the functionality of the Sydney Opera House as a premier performing arts centre of international and national repute. The proposed works will also improve pedestrians' experience on and off the Forecourt. In the proposal, movement of heavy vehicles will be relocated to the southern periphery of the Forecourt (close to Tarpeian Wall) and consigned underground – and as a result, visitors' appreciation of this twentieth century architectural masterpiece from the Forecourt will be greatly enhanced.

11.0 Discussion of compliance with Sydney Opera House Conservation Plan (CMP) 3rd edition

The CMP identifies and defines the significant values of the Sydney Opera House and then formulates policies framed to retain these values. The following discussion assesses the impact of the proposed VAPS project, firstly on the relevant significant values and elements of the place, and then against the relevant policies.

Significant values and elements – discussion of impact

The following Statement of Significance from CMP 3rd edition summarises the significant values of the place:

The Sydney Opera House is a dramatic expression of the genius of a then relatively unknown architect, Jørn Utzon (whose subsequent international fame was in part a result of the design of the building), of the high quality completion of the work by Hall, Todd and Littlemore, and of the technical support given throughout by the internationally renowned engineering firm of Ove Arup and Partners and finally by M.R. Hornibrook, the inventive contractor of stages two and three.

The Sydney Opera House is of exceptional significance because of:

- ***its spectacular quality as sculpture in the round both by day and night;***
- *its inspired design solution in response to its setting;*
- *the picturesque quality of the peninsula setting;*
- ***the way in which its fabric reflects the contemporary philosophy of creating refined forms from machine-made components;***
- *the way in which the plastic arts, geometry and technology were drawn on to create a structure at the leading edge of endeavour;*
- *the majestic quality of its public spaces contained by powerful structural forms;*
- *the evidence of its fabric in expressing its place in twentieth century architecture (not excluding the troubled history of its construction);*
- *the seminal influence of some of its design and construction techniques;*
- ***its function as a performing arts centre of world renown;***
- ***its almost mythological status as a cultural icon (then and now) arising from all the above, from the high public interest in its protracted and controversial development; and from its power to attract artists, patrons and tourists on a national and international level.***

This significance is intensified by the extensive associations of the site and its structures, including:

Aboriginal and European contact (Bennelong and his house); scientific investigation (Flinders and Baudin); defence (Phillip's 1788 redoubt to Greenway's Fort Macquarie, 1817–1901); Picturesque planning (Macquarie to Utzon); marine and urban transport (overseas shipping and local ferry wharves, tram terminal and dépôt); popular recreation; and, finally, the nation's most famous cultural icon (The Opera House) and its legions of national and international performers.

Those values noted above in bold type are relevant to the VAPS proposal. Taking each of them separately, the following comments are made:

- *its spectacular quality as sculpture in the round both by day and night;*

Comment:

The VAPS project will in the long term, help to simplify and make safer the broad open platform on which the spectacular sculptural form of the Sydney Opera House sits. It will do this by allowing the sunken roadway to be replaced with continuous paving at forecourt level (an enduring and negative hazard and distraction for visitors), and the passage of heavy vehicles across the forecourt (intermittent hazard and distraction for visitors). The spectacle of this *sculpture in the round* is arguably the primary focus of attention for visitors approaching the building, and the present shared use of the forecourt approach by heavy vehicles presents a real and present danger to public safety. Their removal to the proposed underground loading dock facility will considerably improve this situation.

- *the way in which its fabric reflects the contemporary philosophy of creating refined forms from machine-made components;*

Comment:

The various components of the VAPS proposal have been designed using this same principle and philosophy. The use of prefabricated elements, repeated throughout the proposal in the structure as well as wall and ceiling linings is consistent with Utzon's original philosophy. This is strengthened by the use of the same palette of natural materials - off-form concrete and precast pink granite panels.

- *its function as a performing arts centre of world renown;*

Comment:

Various studies and functional analyses have concluded that if the loading dock facility is not upgraded or removed from the central passage, where it is presently unable to function efficiently, then there will be a long term impact on the ability of the whole building to fulfil its function as a *performing arts centre of world renown*. The proposed VAPS project will address this problem. It is important to note that this project is the first stage of a longer term plan for a major upgrade of facilities for the Opera Theatre, but as a stand alone project, this present proposal will considerably enhance the backstage functionality of the whole building.

- *its almost mythological status as a cultural icon (then and now) arising from all the above, from the high public interest in its protracted and controversial development; and from its power to attract artists, patrons and tourists on a national and international level.*

Comment:

The comments made about the previous point apply to this one as well. If the support facilities for the primary function of the building are not able to function efficiently, its reputation at both a national and international level will suffer and *its power to attract artists, patrons and tourists on a national and international level* will diminish. The VAPS project will address the present inefficiencies in the loading dock and thus assist in retaining this value.

Broadly the elements and areas listed below (following the main headings in the *Schedule of levels of significance* in the CMP 3rd edition), will be affected to varying degrees by the proposed construction and completion of the works:

Topographic setting
Forecourt
Lower Forecourt (lower concourse)

Broadwalk
 External lighting
 The form, fabric and structural systems of the Opera House
 Original concept of sequential experiences on arrival, entry and circulation
 Vehicle concourse
 Concert Hall and Opera Theatre (backstage area)
 Service areas
 Central vehicle passage space, level 12

Each element is discussed below in relation to this proposal. At the end of each discussion section a table sets out the components of each element and their significance as listed in the CMP, with comments on the impact on each. The significance rankings are taken from the CMP 3rd edition and are as follows:

A – Exceptional significance
 B – Considerable significance
 C – Some significance
 D – Little significance
 Int – intrusive element

Topographic setting

Topographic setting generally refers to the broader setting of the place, however it also applies to the immediate setting, of which the forecourt and surrounding features are an important part. The VAPS proposal will impact on this immediate setting, by creating a ramped entry to the tunnel accessing the new loading dock, immediately adjacent to the Tarpeian Cliff, and altering the way heavy vehicles access the site. The location of this ramped entry, close to the site entry from Macquarie Street, will mitigate its potential impact on the setting by keeping it as far away from the Sydney Opera House itself as possible, thus minimising its impact on views to and from the place. Refer to earlier discussion on 'Consideration of alternative solutions'.

The project will also remove or replace many of the elements in the forecourt area which have been assessed as intrusive, and thus improve the 'open relationship' of this space with the setting on the Sydney Opera House. This is discussed in greater detail under 'Forecourt'.

The most significant impact will be during the construction period, when the facilities (hoardings, signage and site sheds), activities and excavation required will have a major impact on the topographic setting. These facilities, activities and the movement of trucks carrying excavated material or delivering new materials will be a constant source of intrusive noise and annoyance to patrons and visitors as well as the surrounding areas, and will require careful planning and constant management to ensure the impact is acceptable.

Element	Significance	Potential impact of proposal	Comment
Topographic setting	A		
Unencumbered exposure to the harbour on three sides, permitting views to the Opera House from neighbouring ridges and headlands, particularly Dawes Point, Observatory Hill, Mrs Macquarie's Point, Garden Island, Bradley's Head, Cremorne Point, Kurraba Point, Kirribilli, Milson's Point and McMahon's Point; the waters of the harbour, city buildings and the harbour bridge;	a	low	There will be some impact with site facilities and activity in the forecourt and vehicle concourse areas during the construction process, but on completion, the unencumbered exposure will remain. Acceptable impact

open relationship with the Bennelong ridge, its garden landscape and the sandstone cliff face of the Tarpeian Rock;	a	high in short term, low in long term	High impact, particularly in the forecourt and vehicle concourse areas during the construction process and this will require careful and constant management. Open relationship is maintained in long term with minimal obstruction from new kerbing and balustrade. Acceptable impact
vistas, progressively or suddenly enlarging to views, from The Rocks, the northern end of Circular Quay, East Circular Quay, Macquarie Street, the Botanic Gardens and the harbour.	a	low	Impact confined to area of tunnel entry, but larger area will be disturbed during construction. Acceptable impact

Forecourt

The proposal will impact on the broad open sweep of the paved forecourt by its encroachment, and potentially on the views and appreciation of the Tarpeian Wall itself, however due to the careful placement of the proposed loading dock entry tunnel, and the details of the surrounding kerb and balustrade, these impacts are considered acceptable. The edge detail around the tunnel entrance is simple and minimal in scale and should not distract from the strength and scale of the Tarpeian Wall, but it will prevent close viewing of this section of the cliff face. The balustrade treatment is open allowing minimal obstruction of views.

In the VAPS proposal, movement of heavy vehicles will be relocated to the southern periphery of the Forecourt (close to Tarpeian Wall) and consigned underground, and the present sunken vehicle pathway will be removed. The proposed tunnel entry for the loading dock will encroach on the southern part of the forecourt, however its location close to the Macquarie St entry, as far away from the monumental stairs and podium as it can feasibly be, has mitigated its intrusion into the space frequently used for performances, large gatherings and celebrations. In addition, the present area of the grilled openings at forecourt level for the fresh air intake for the underground carpark is to be reduced and reshaped. This allows the majority of the forecourt space to remain unhindered, with a slightly wider paved area than the existing resulting from this modification. The loss of the area occupied by the proposed tunnel entry, is offset by the removal of the sunken roadway near the western side and its increased amenity as part of the public gathering space. It is Design 5's conclusion that the proposed location of the entry and the reshaping of the carpark air intake grilles will have no detrimental impact on the ability of this space to accommodate community events. Refer to discussion on 'Consideration of alternative solutions'.

The forecourt area with its sense of openness and lack of clutter is ranked as A (exceptional significance). Various elements assessed as intrusive (including granite edged planter beds, garden and dwarf granite walls) will be removed – a positive impact.

The proposed removal of the sunken roadway leading to the vehicle concourse and its replacement with paving at the same level as the forecourt, is considered a very positive impact. This roadway presently deters pedestrians from approaching the monumental steps, intended by Utzon to be the primary approach to the building. Removal of the heavy vehicles and the trip hazard kerbs would be in complete accordance with objectives outlined in Policies 4.1 and 4.2 in the CMP 2003.

Impact of the proposed works, particularly excavation, on archaeology is discussed in a separate report by Godden Mackay Logan. The remains of the oviform masonry stormwater drain constructed in 1857 and known as the Bennelong Sewer is a known feature on the site and is to be diverted as part of a separate project.

Element	Significance	Potential impact of proposal	Comment
Forecourt	A		
Openness and freedom from impedimenta;	a	high	High impact in area affected by opening for loading dock entry. Proposed parapet / handrail detail will provide minimal intrusion. Sense of openness and clarity will be maintained in whole area immediately south of main stairs. Acceptable impact
Tarpeian cliff face with stone steps and iron railings (not on SOH property)	a	low	These elements unaffected. View of these from NW will be slightly affected by balustrade to tunnel entry, and intrusion of entry between cliff face and viewer. Acceptable impact
Paving of fan pattern granite setts and strips of ashlar granite parallel to the podium steps (1988);	b	low	Impact confined to area of tunnel entry, but much larger area will be disturbed during construction. Acceptable impact
Roadway paving of fan pattern granite setts	b	low	Granite setts and pattern can be easily reproduced in new work. Acceptable impact
Remains of 1857 oviform masonry stormwater drain under the forecourt;	b	refer to GML report	Refer to GML report
Tramway cable fixings in Tarpeian cliff;	c	none	Remain untouched
Sudan contingent plaques in Tarpeian cliff;	c	none	Remain untouched
Lewis fountain (1988);	c	none	Remain untouched
Lewis plaque on plinth;	c(int)	none	Remain untouched
Air intake grille at base of Tarpeian cliff and air exhaust feature in traffic roundabout (1993);	d	low +ve	Proposed re-configuration of intake grille at base of cliff will be a positive impact. Air intake in roundabout remains as is.
Pair of polished granite entry pylons at the East Circular Quay entry to the site;	int	none	Remain untouched
Present security gatehouse	int	high +ve	Proposed relocation and re-design are both positive impacts – reducing impact on views to and from SOH, particularly on the approach from Macquarie St.
3 circular granite edge planter beds;	int	high +ve	1 already removed. Others shown removed in documentation
Garden and dwarf granite walls at base of Tarpeian cliff;	int	high +ve	Both of these are removed in proposal
Flagpoles beside Macquarie Street roundabout and eastern harbour parapet;	int	none	Remain untouched
Ice-cream, coffee and food bars	int	low +ve	These are mobile elements and remain unaffected

Cat's eye reflectors and black and yellow speed humps on roadway;	int	high +ve	proposed treatment of new vehicle path for passenger drop-off suggests a more sympathetic treatment
Impediments to pedestrian vision across and into forecourt	int	low +ve	Impact of present gatehouse reduced, impact of proposed railing and edge treatment around tunnel entry will be low
Advertising or announcement banners on the Tarpeian cliff or the palisade fence above	int	none	These no longer occur and should not occur in the future

Lower forecourt (aka lower concourse)

The proposal will impact on the lower forecourt only in the area of the existing pedestrian tunnel entry to the helical carpark. In locating the proposed loading dock entry as close as possible to the Macquarie St entry to the site, it begins its descent above the pedestrian tunnel access to the carpark. Modification to the roof of this pedestrian tunnel will be required, but there will be no other changes to its configuration. The impact on the pedestrian tunnel, (not part of Sydney Opera House property) will be minimal, and is considered acceptable. There is no impact on the lower forecourt itself.

Element	Significance	Potential impact of proposal	Comment
Lower Forecourt (1988)	B		
Concealment of concourse and shops from forecourt level and from West Circular Quay	b	none	Not affected by proposal
Unimpeded sheltered access to Opera House in wet weather	b	none	Not affected by proposal
Sea wall incorporating wave guard and continuous seating	b	none	Not affected by proposal
Paving, steps and walls of solid granite	b	none	Not affected by proposal
Sea wall parapet of reconstituted granite	b	none	Not affected by proposal
Sea wall footpath of granite setts clear of all impedimenta	b	none	Not affected by proposal
Bronze rail system	b	none	Not affected by proposal
Bronze framed poster vitrines	c	low	Potential for vitrine arrangement to be used for interpretation purposes
Concept of shops, toilets, passage to parking station and escalators to vehicle concourse and East Circular Quay	c	low	Roof of passage to parking station modified to accommodate loading dock ramp. Acceptable impact. Potential to utilise wall areas for interpretation purposes – potentially positive impact.

Broadwalk

The VAPS proposal will have a positive impact on the broadwalks by removing heavy vehicles from traversing them to access the present loading dock in the central passage, particularly via the northern entrance. Passage of these vehicles is presently hazardous and disruptive to pedestrian use of these spaces, and also places unnecessary loads on the precast granite paving slabs and their supporting structure. Design 5 have been advised that there is presently an arrangement of additional support members under the northern broadwalk to enable the structure to carry these loads.

Element	Significance	Potential impact of proposal	Comment
Broadwalk	A	high +ve	see above discussion
Open character of broadwalk surrounding the Opera House	a	moderate +ve	Removes heavy vehicles, minimising obstruction and use of space, and improving public safety
Precast granite slab paving	a	high +ve	Substantially reduces risk of damage to paving and extends life expectancy of units
Precast granite sea wall skirting panels	b	none	Not affected by proposal
Location of outdoor eating area in north-east corner of broadwalk with tables, chairs, shades and trees in pots	b	none	Not affected by proposal
Remains of 1862 and 1900 masonry sea walls under broadwalk	c	none	Not affected by proposal
Supporting pile structure	d	high +ve	Substantially reduces loading and stress on structure, and consequent risk of failure. Extends life expectancy of structure.

External lighting

The Architect's Statement for the VAPS proposal notes that lighting studies will be carried out as part of the project to determine how to upgrade the general lighting levels in the forecourt area, and if possible on the monumental stairs.

The concealed lighting at the base of the beams in the vehicle concourse will remain unaffected. New lighting will include the concealed handrail lighting around the loading dock entry opening, and it is essential that none of these sources introduce glare or overly brightly lit areas. Refer to discussion under 'Compliance with CMP Policies'.

The form, fabric and structural systems of the Opera House

The proposed construction of the underground loading dock, will involve excavation around and below the existing tie beams connecting the base of cranked concrete beams supporting the monumental stairs, with the base of the podium on the north side of the vehicle concourse. It is proposed that none of these tie beams be cut or re-located. They will be incorporated into the design and configuration of the proposed ceiling over the new loading dock space. This ceiling will be spanned by new concrete beams with precast off-form concrete units to achieve the required finish quality. The main structural elements connecting these tie beams and cranked beams together beneath the base of the stairs will not be affected by the works.

The spaces between the base of the cranked beams will be excavated and used to house grilled openings, flush with the existing floor level, for fresh air supply into the loading dock below. The beams themselves will not be disturbed and the present lighting system should not be affected.

Element	Significance	Potential impact of proposal	Comment
The form, fabric and structural systems of the Opera House, including	A	low	No structure altered. Existing tie beams beneath the vehicle concourse will remain in place and be concealed within the new concrete beamed structure.

Roof shells with pedestals, ribs, boxed beams, warped surfaces, tile lids and lightning conductors	a	none	Not affected by proposal
Bronze louvre walls infilling shell ends	a	none	Not affected by proposal
Podium clad and paved with monumental precast granite	a	none	Not affected by proposal
Folded beams throughout the building	a	low potentially +ve	No beams altered and original tie beams beneath the vehicle concourse to remain in place. Original finish on these tie beams is likely to be rough and unsightly; and so they will be concealed by FC panels between new concrete beams, thus respecting and interpreting their location and alignment.

Original concept of sequential experiences on arrival, entry and circulation

This aspect of the Sydney Opera House is ranked as being of exceptional significance and is one of the primary principles of Utzon's design.

The removal of heavy vehicles and the sunken roadway from the forecourt will substantially enhance the clarity and appreciation of Utzon's concept and the unobstructed approach to the monumental steps, a key element in the patron and visitor experience. This would be a very positive impact.

In the VAPS proposal, Utzon's concept is retained, respected and strengthened.

Element	Significance	Potential impact of proposal	Comment
Original concept of sequential experiences on arrival, entry and circulation	A	high +ve	Opportunity to reinforce monumental stairs as primary approach
Forecourt, podium steps, podium deck, box office foyer, stairways, level 30 foyers, auditoria	a	neutral to high	Strong positive impact externally, impact internally will be neutral
Vehicle concourse, stairways to box office foyer, box office foyer, stairways, level 30 foyers, auditoria	a	neutral	Sequence and clarity will be retained and respected in the changes

Vehicle concourse

The vehicle concourse is the principal arrival foyer for those arriving by car and is an important part of Utzon's arrival sequence.

The VAPS proposal will have a very high impact on this space during the course of the works as the whole of the eastern half of the space will be excavated to create the loading dock beneath and then repaved with the same materials as existing at the completion of the project.

Once completed, the space itself will remain as it is now, with only the addition of new air intake grilles along the floor of the southern edge, between the feet of the cranked concrete beams. Due to the tilted upstand of the paving units along this edge, these intake grilles will be out of site, unless viewed from close quarters.

The VAPS project provides for and anticipates future projects in the Strategic Building Plan, including construction of a new vehicle arrival and patron drop-off area and extended back of house facilities.

It is proposed the existing paving material will be replaced with precast granite panels once these later projects are implemented.

Element	Significance	Potential impact of proposal	Comment
Vehicle concourse	A	high -ve to low +ve	For works described above, very high impact during construction, but low and positive impact on completion.
Open-ended spatial character dominated by the form of the unpainted concrete folded beams overhead;	a	low +ve	New loading dock entry will allow removal of most large vehicles from this area. Positive impact
Precast granite cladding and paving including tilted panels;	a	none	Paving units lifted during course of works, but existing configuration re-instated on completion
Four bronze entrance doors to stairways including back-lit cut out signs;	c	none	Not affected by proposal
Poster displays on wall cladding (see page 91)	c	none	Not affected by proposal
1973 dedication applied to cladding;	c	none	Not affected by proposal
Bitumen roadway;	d	none	Existing configuration and materials re-instated on completion
Existing method of fixing posters;	int	none	Not affected by proposal
Glazed shop added beside Reception Hall entry (1973);	int	+ve	Shown removed as part of proposed works
Any proposal that obscures the folded beams.	int	+ve	New forecourt entry for service vehicles will allow removal of most large vehicles from this area.

Concert Hall and Opera Theatre (backstage area)

The VAPS project anticipates the as yet unfunded Opera Theatre Renewal project, allowing for it to 'add on' to the facilities provided in this project. The new acoustically isolated loading dock facility will replace this same activity in the central passage, allowing it to operate at any time. Movement of containers and sets to the Opera Theatre backstage area will be via a new lift (Lift 21 - a temporary scenery lift) and to the Concert Hall backstage via an extended shaft to Lift 12. Backstage staff areas on Level +12 will be accessed via modified passenger lifts shown on the plans as Lifts 22 and 23. Apart from these lifts, no other changes to existing backstage areas are proposed in the VAPS project. Lift 21 will be located within a newly excavated area beyond the existing Basement 1 and within the Opera Theatre backstage area on Level +12.

The proposed works for the VAPS project will have only minor impacts on backstage areas and will improve functional flexibility and efficiency. It will also allow the central passage space to be better utilised as the main back-of-house pedestrian and circulation spine in the podium.

Service areas

Only minor works are proposed in these areas, mainly associated with the modification of existing lifts and stairs already discussed above.

Element	Significance	Potential impact of proposal	Comment
Service areas	C-D	low	Impacts restricted to modification of existing lifts and stairs and construction of new temporary scenery lift.
Character of white painted off-form concrete walling with applied colour-coded services;	b	low	Most areas remain unaffected. In affected areas, it will be important to continue the Hall design regime of simple finishes.
Individual spaces so treated (including plant rooms, workshops, service corridors, vehicle access areas, storage and below-stage areas).	c-d	low	Most areas remain unaffected. In affected areas, it will be important to continue the Hall design regime of simple finishes.

Central vehicle passage space

No works are proposed in the central passage in the VAPS project, however the construction of the underground loading dock will have a substantial and positive impact on the use of this space. It presently houses all loading dock facilities for the building and its various venues, with only the Bennelong Restaurant kitchen having a separate loading dock on the western broadwalk. This important function shares space with required fire egress for building occupants, stage door access, prop and equipment stores, staff and performers circulation area and many other ancillary functions centred on this significant central space.

With the construction of the new loading dock, removal from the central passage of heavy vehicles and delivery and pick-up of goods, equipment and services will allow the other functions to operate more efficiently and with less interruption.

The Strategic Building Plan envisages that in the long term, it may be possible to open this space to the public, connecting the vehicle concourse to the northern broadwalk, however the details of this idea are yet to be fully explored.

Element	Significance	Potential impact of proposal	Comment
Central vehicle passage space, level 12;	B	low	Fabric of space not affected by proposal, but use will be positively affected.
Stage door;	c	short term -low long term -none	Temporary disruption to access during construction period
Concrete block additions for storage.	int	none	Not affected by proposal

12.0 Compliance with CMP policies

It is clear from the Statement of Significance in the CMP that the Sydney Opera House derives its significance primarily from its form (design structure and construction), function and setting. These three components are interdependent and as each of them is crucial to this significance then each must be maintained to the highest level. These are discussed below within the framework of the policies from the CMP 3rd edition.

Policy 1.1 Utzon, Hall and the approach to change – Utzon’s principles

All work on the Sydney Opera House should be carried out within the framework of Jørn Utzon’s design principles as endorsed in 2002.

Comment

For details on the proposal’s compliance with this policy, the reader is referred to pages 13-14 of the *Architects Statement* dated June 2010, accompanying this application. It is the opinion of Design 5, that the proposal responds positively and well to Utzon’s Design Principles, particularly in terms of design, form, materials, scale, function and human experience, and therefore complies with this policy.

Policy 1.2 Utzon, Hall and the approach to change – Utzon’s concepts

The following fabric and attributes are essential to Utzon’s concept for the Sydney Opera House and should be retained in any future development:

- a. the relationship between the three shell groups and the platform below;*
- b. the shell geometry and the ceramic tile cladding;*
- c. the canted alignments of the major shell groups;*
- d. the supporting structural systems throughout the building;*
- e. the visually free standing sculptural form of the building unobstructed by adjacent erections;*
- f. the open and uncluttered character of the forecourt and grand stair by which the raised podium is gained;*
- g. the visual relationship with the harbour setting from the podium – including the foyers surrounding the auditoria;*
- h. the retention of a ‘natural’ palette of materials for external fabric.*

Comment

All of the fabric and attributes noted above are retained in the proposed works.

The open and uncluttered character of the forecourt is affected by the works, but not adversely. The works excavate around the existing tie beam structures at the base of the podium steps at Vehicle Concourse level, but do not alter them. The ‘natural’ palette of external materials is retained and utilised in the proposed works. Refer to EA-905 00 ‘Proposed Image 01 – From Macquarie St Roundabout’.

Policy 1.5 Utzon, Hall and the approach to change – Major works

Major works within the auditoria and podium are acceptable where technical advance, expert advice, design quality, adequate resources and meticulous construction can be combined to create performance and service facilities that will improve function and reinforce or enhance the significance of the Sydney Opera House, provided that:

- the work is planned in the context of an overall plan for the place;*
- the scheme is developed in accordance with Policy 56.1 on the management of change.*

Policy 1.6 Utzon, Hall and the approach to change – Additional on-site facilities

Entire new spaces, including access and delivery systems, may be created by excavating areas below existing facilities, forecourt, vehicle concourse and broadwalks, provided the supporting mechanical services and access systems are designed to be minimal visual intrusions into the surrounds of the building.

Comment

It is important to note that policies 1.5 and 1.6 anticipated a project to resolve the heavy vehicle access and loading dock.

The VAPS Project is designed to improve heavy vehicle access and loading dock facilities, and therefore the functional efficiency of the whole complex. Removal of these heavy vehicles from the forecourt and broadwalk areas, as well as removal of the sunken road path, will enhance the visitor experience by encouraging unimpeded access to the full width of the forecourt and the monumental stairs, enhancing their significant role in the setting and approach of the building.

The VAPS Project is the first stage of a proposed long-term project set out in the Strategic Building Plan, which includes the Opera Theatre renewal project, and a new visitor / patron drop-off area, directly below the existing Vehicle Concourse. The VAPS can be executed as a stand-alone project but it would be further enhanced by the eventual execution of these related projects. The design and construction of the VAPS Project anticipates these projects and should allow their execution with minimal alteration or impact on the work carried out in this project.

The concept design has been developed to a level which provides some certainty about its detail and we understand adequate financial resources have now been allocated for its execution as designed. In order to ensure the concept design is properly and appropriately implemented, it is essential that the quality and detail described in the documents are not diminished, or 'costed out' of the project during the detailed design or construction process. We recommend that quality and detail be reviewed at regular and/or significant points along the project's implementation program to ensure these are maintained, and if possible enhanced. Unless prevented by extenuating circumstances, key personnel from the original architects and designers of the project should be part of this quality control and checking process, and their recommendations properly considered and included in the implementation.

Overall a positive impact, but care will be required to ensure the quality and detail described in the concept design is achieved in the implementation.

Policy 1.5 requires compliance with:

Policy 56.1 Continuity of heritage conservation advice

Continuity of relevant and experienced heritage conservation advice should be provided as part of the process by which changes to the Sydney Opera House and its setting are developed and executed.

The timing of this advice is important. For major projects it should be drawn upon:

- *initially, at the concept stage;*
- *during the development and refinement, or alteration, of the proposal;*
- *for a formal statement of heritage impact, or its equivalent, in response to the completed development application;*
- *to keep a watchful eye on work actually underway.*

Comment

Heritage conservation advice has been sought during the design stages for the VAPS Project and this HIS assesses the completed development application. It is important that this specialist advice continue through to completion of the project to ensure the broader as well as detailed conservation objectives are achieved.

Policy 3.3 Setting – Open and uncluttered setting

Objects should only be permitted on the forecourt, lower forecourt sea wall path, broadwalk, podium deck and steps, if they do not interrupt or intrude upon the open and uncluttered character of the place, or if they are absolutely necessary for the safety of visitors.

Policy 4.1 Setting – Forecourt pedestrian and vehicle paths

Any action taken to reduce the conflict of pedestrian and vehicle paths should make clear the pedestrian approach to the Opera House via the forecourt and podium steps as well as via the vehicle concourse.

Policy 4.2 Setting – Forecourt pedestrian and vehicle paths

The long term objective should be a complete separation of pedestrian and heavy vehicle traffic accessing the Opera House.

Comment

The VAPS Project not only maintains the open and uncluttered setting of the forecourt and removes a number of intrusive elements, it simultaneously reduces the conflict of pedestrian and vehicle paths and makes the approach to the Sydney Opera House via the Forecourt clearer and safer.

Positive impact.

Policy 6.1 Exterior – External form

The Opera House should retain unchanged its external form of roof shells, glass wall concept, podium and podium steps, forecourt and broadwalk.

Policy 6.2 Exterior – External form

Proposals that obscure the original exterior form of the Opera House are unacceptable.

Comment:

The VAPS Project introduces a new permanent element into the southern side of the forecourt. While this loading dock entry and ramp does intrude into the space, and the proposed gatehouse is smaller, both are far enough away from the podium and monumental stairs, as well as important view lines, to avoid adversely affecting or obscuring the exceptionally significant exterior form of the Sydney Opera House.

The proposed underground loading dock will remove the need for the loading dock beneath the Bennelong Restaurant kitchen. This frequently accessed dock is both a distracting and unsightly element, as well as a hazard to pedestrian safety.

Some negative impact on the southern side of the forecourt but this must be balanced against the substantial functional and safety improvements across the forecourt and broadwalk generally. Overall a very positive impact.

Policy 11.1 Exterior – Podium “platform”, broadwalk and forecourt

The exterior platform of the podium, the broadwalk and the forecourt are important open spaces which set off the Opera House and should be kept free of permanent structures or wheeled vehicles. Furniture should be kept to a minimum and should not intrude aggressive tonal or colour contrasts with the surrounding built form. Temporary structures for occasional celebrations or manifestations should be designed to be erected, used and dismantled without damage or alteration of the fabric.

Comment:

The VAPS project will remove heavy trucks and the majority of wheeled vehicles from the Forecourt and the removal of unsightly aspects of the Bennelong loading dock. The proposed loading dock entry ramp and opening will introduce a new permanent element into the southern edge of the space, but its detailing and configuration, and its location tightly against the Tarpeian Wall close to Macquarie Street mean that it should not be visually intrusive. Proposed materials and colours are consistent with Utzon’s palette of natural materials used elsewhere on the site. Positive impact.

Policy 13.1 Exterior – Paving and cladding of podium and broadwalk

The existing paving and cladding system of precast and etched pink reconstituted granite slabs of monumental size should be retained.

Policy 13.2 Exterior – Paving and cladding of podium and broadwalk

When replacement becomes necessary, care should be taken to maintain quality control of colour, form and finish to match existing fabric.

It is impractical to attempt to retain existing surfaces in pristine condition. Provided the visual effect remains reasonably homogeneous, paving and cladding may be allowed to age. It then takes on a more matt finish. For this reason replacement slabs need not be given a high and reflective polish which will set them apart from their neighbours.

Comment:

Details of the materials and finishes for the VAPS outlined in the documentation, indicate that precast pink reconstituted granite panels will be used to line the publicly visible sections of the tunnel entry for the new loading dock. The same material will be used around the perimeter of the tunnel entry at forecourt level, with the angled parapet and bronze handrail and balustrade detail matching that on the western side of the forecourt. Care should be taken to achieve a finish which is not highly polished. The aim should be to match the aged and more matt surface, as outlined in the CMP discussion accompanying these policies and quoted above. Positive impact.

Policy 15.1 Exterior – The forecourt and lower forecourt

The fan pattern granite setts or cobbles and the high quality solid granite strips and paving on the forecourt and lower forecourt should be retained and conserved.

Policy 15.2 Exterior – The forecourt and lower forecourt

The roadway of granite setts should be renewed in a way that will stand up to the wear and tear imposed by Opera House traffic, and retain the visual effect of driving across an open pedestrian space. Any design solution should:

- *retain the same materials, colours and textures;*
- *incorporate more appropriate 'traffic calming' features;*
- *reinforce pedestrian direction (and safety) when crossing to the podium steps.*

Comment:

In the proposal, the recessed vehicle access path in the Forecourt will be removed and replaced with a surface level with the surrounding paving. The affected Forecourt and vehicle concourse areas will be repaved in the same material as existing in this project, with a longer-term proposal to extend the existing precast granite paving slabs across the whole area. The edge treatment to the new loading dock entry and resized car park air intake shaft will match the treatment on the western edge of the forecourt over the lower concourse.

By removing and/or limiting vehicular traffic from the Forecourt, pedestrian movement and safety will be greatly enhanced. Positive impact.

Policy 15.3 Exterior – The forecourt and lower forecourt

Any scheme for providing facilities under the Forecourt should:

- *retain the existing level of the Forecourt;*
- *co-ordinate and minimise above ground intrusions;*
- *record the surviving nineteenth century fabric of the storm water drain before diversion;*
- *provide for paving designed to be consistent with the character of adjacent Podium and Broadwalk paving as well as accommodating changed structural requirements.*

Comment:

The underground work does not affect the existing level of the Forecourt. The sunken roadway that presently restricts the use of the western side of the Forecourt, will be removed as part of the VAPS Project and will improve the movement and safety of pedestrians in this area. Above ground protrusions are limited to the loading dock entry opening and its surrounding parapet and guardrail. As part of the project the area of the existing grilles over the air intake vents for the carpark will be reduced and re-configured to decrease their impact and intrusion on the forecourt space.

The diversion and recording of the nineteenth century drain is addressed in a separate application and accompanying reports. Refer to Bennelong Stormwater Drain Diversion (MP 09_0122).

The affected Forecourt areas will be repaved in the same material as existing in this project.

Policy 21.1 Lighting – Forecourt and podium steps

Any adaptation or development of the general illumination of the forecourt area should:

- *be sufficient to relate the night form of the Opera House to its peninsular setting but not of a level that would compete with the shell illumination;*
- *continue to be set at a height and so baffled that glare is eliminated from the eyes of pedestrians;*
- *render the colour of natural materials as accurately as possible;*
- *employ the minimum equipment necessary for the job and locate it as unobtrusively as possible.*

Comment:

Lighting studies will be carried out to investigate the appropriate methods, locations and illumination levels, to improve lighting in the areas affected by the VAPS Project.

Policy 25.1 Character and treatment of internal spaces – New areas

In accord with policy 1.6 (additional on-site facilities), entirely new spaces may be created by excavation. Where the new spaces are to have a visual or significant sequential relationship with existing Hall designed spaces they should be fitted out to the corresponding design regime. Where no such relationship exists, the new spaces may be fitted out in a contemporary idiom appropriate to the proposed use.

Comment:

The proposed underground loading dock and associated spaces such as plant rooms, lifts and stairs, have no significant visual relationship with Hall designed spaces. The form, material, natural finishes and colours proposed for the project are consistent with Utzon's Design Principles and are appropriate to the existing hierarchical regime for the place particularly for service areas.

Policy 37.1 Spaces within the podium – Central vehicle passage as delivery space

Except for the Bennelong restaurant service door to the broadwalk, the central vehicle passage should remain the only vehicle access and goods' entry point in the building.

Comment:

Policy 37.1 anticipates the increasing demand for improved delivery of goods to the Sydney Opera House that may put pressure on creating additional openings to the podium, and thus affect the solidity and significance of the podium. The VAPS proposal removes this pressure.

Acoustic and fire egress issues now prevent any loading or unloading activities in the central vehicle passage during a performance in any of the five main venues. The VAPS Project introduces a new vehicle access and goods' entry point that is underground – hence, avoiding making additional openings and entry points to the podium as well as providing a solution to the functional delivery/unloading of goods and props. The proposal does not affect the central vehicle passage which is a significant space within the podium.

Policy 38.1 Care of the fabric – Removal or alteration of fabric

Any proposal to remove or alter original and/or significant fabric should:

- *have regard to the level of significance of the fabric and to the impact on the character and quality of the place affected;*
- *be checked to ensure that there is no feasible alternative;*
- *only be considered in the context of an overall plan.*

Comment:

Refer to section 6.0 for discussion on 'Consideration of alternative solutions'.

Policy 39.1 Care of the fabric – Treatment of intrusive items

Items identified as intrusive in this conservation plan should be removed.

Policy 39.2 Care of the fabric – Treatment of intrusive items

Priorities and a time based program for the removal or modification of intrusive items should be established and incorporated into any program of works.

Comment:

Several intrusive items in the areas affected by the VAPS Project will be removed or modified as part of the works. These are:

Forecourt	Present security gatehouse 3 circular granite edge planter beds Garden and dwarf granite walls at base of Tarpeian cliff Cat's eye reflectors and black and yellow speed humps on roadway Impediments to pedestrian vision across and into forecourt
Vehicle concourse	Glazed shop added beside Reception Hall entry (1973) Any proposal that obscures the folded beams

Comments on the potential impact of the VAPS Project on these intrusive items are found in the tables in Section 10.0 'Discussion of compliance with Sydney Opera House Conservation (CMP) 3rd edition' above.

Policy 46.3 Housekeeping – Signs

Exterior signs should be kept to the minimum and, as far as possible, given common design and graphic characteristics.

Comment:

A Signage Manual (2005) has been prepared by emeryfrost for the Sydney Opera House Trust as a response to Policy 46.1 for such a guideline document. The signage associated with the VAPS Project will be documented at later stages of the design and documentation process, and should be guided by the Signage Manual.

Policy 49.1 Managing the process of change – Use, approach and review

The Sydney Opera House should continue its primary use as a performing arts centre and its importance as a tourist attraction should be recognised. The building and its setting should not be altered to accommodate uses that will vitiate its significance and character. The approach should be sufficiently flexible to permit the delivery of a high level of performance and provision of services.

Comment:

The improved operational efficiency of delivery and loading / unloading of goods of the VAPS Project will retain and enhance the Sydney Opera House as a performing arts centre as well as a place for outdoor visitation. The proposal minimises conflict between heavy vehicles and pedestrians as well as providing an efficiently and safely located dock. The dock will be acoustically separate from the performance venues to avoid disrupting rehearsals, performances and visitation. The VAPS Project is also consistent with the future Opera Theatre Renewal project, which is anticipated to retain the Sydney Opera House as a premier performing arts centre.

Policy 51.1 Managing the process of change – Relating levels of significance to proposals

The more significant a concept, fabric, relationship, space or vista, the more care should be exercised in preparing proposals that may affect the place – the objective being to ensure that the work will not reduce, and may reinforce, the identified significance.

Comment:

The impact of the VAPS Project on affected spaces, qualities, features and components of the Sydney Opera House is discussed in more detail in the tables in Section 10.0 'Discussion of compliance with Sydney Opera House Conservation (CMP) 3rd edition' above.

Policy 53.1 Managing the process of change – Excavation

Work involving excavation, or investigation of sub surface objects, should be planned and executed in accordance with the requirements of the Heritage Act 1977 and advice of the NSW Heritage Office.

Comment:

Archaeological and excavation issues – both Aboriginal and European – are addressed in the reports prepared by Godden Mackay Logan that accompany this present VAPS Project as well as the Bennelong Stormwater Drain Diversion (MP 09_0122) project. These archaeological reports also make recommendations for mitigation measures and for proper monitoring during excavation and site works.

Policy 56.1 Managing the process of change – Sequence and advice in developing proposals

Continuity of relevant and experienced heritage conservation advice should be provided as part of the process by which changes to the Sydney Opera House and its setting are developed and executed.

The timing of this advice is important. For major projects it should be drawn upon:

- *initially, at the concept stage;*

- *during the development and refinement, or alteration, of the proposal;*
- *for a formal statement of heritage impact, or its equivalent, in response to the completed development application;*
- *to keep a watchful eye on work actually underway.*

Comment

Design 5, as heritage architect and consultant, has been involved since 2004 in various processes of investigating options and assessing proposals affecting the Sydney Opera House, including providing comment on various options under consideration for the current VAPS Project. Refer to section 6.0 for discussion on 'Consideration of alternative solutions'.

Design 5 has detailed knowledge and understanding of the significance of the place in whole and in parts. Design 5 is also currently preparing the 4th edition of the Conservation Management Plan for the Sydney Opera House.

See also comment under Policies 1.5 and 1.6 above.

13.0 Summary impact of VAPS proposal

The proposed Vehicle and Pedestrian Safety Project (VAPS) will have a significant material affect on the Sydney Opera House but apart from the forecourt, these impacts are mainly confined to existing and new underground areas and less significant 'back-of-house' spaces. The proposal will also have some impact on the immediate setting of the place in relation to the pedestrian arrival experience and the forecourt, although many of these impacts are considered positive.

On balance, we conclude that these impacts will retain and potentially enhance the World Heritage, National Heritage, and State Heritage values of the Sydney Opera House by removing heavy vehicles and other hazards to pedestrian safety from the forecourt approach to the place, and also by improving the functionality of the Sydney Opera House as a premier performing arts centre of national and international repute. The improvement in pedestrian safety will enhance the visitor and patron experience of approaching the building and permit a safer appreciation of this outstanding architectural icon, "great urban sculpture", from the forecourt.

Potential archaeological impacts are discussed and addressed in the 'Archaeological Management Plan and Archaeological Impact Assessment' (February 2010, by Godden Mackay Logan). A range of options for the location of the access to the loading dock were considered and the decision made to locate it wholly within the SOH site. Refining this location was made more difficult by the complex arrangement of existing tunnels and services, (including the air intake shaft for the underground carpark) in the area close to the site entry off Macquarie St. The aim was to maximise the open paved area of the forecourt between the monumental stairs and the Tarpeian Wall, and minimise the visual impact of the entry point on the setting of SOH and its forecourt.

The option selected and described in documents accompanying this application, finely balances these objectives and achieves an increased width of the paved forecourt area between the monumental stairs and the Tarpeian Wall, and a security post and ramp entry as close as possible to Macquarie St site entry, without having to completely divert and rebuild the underground pedestrian access to the carpark. The loss of the area affected by the new tunnel entry is offset by the removal and repaving of the sunken roadway as a continuation of the level surface of the forecourt and its increased amenity as a public gathering and community event space.

The project will also remove or replace many of the elements in the forecourt area which have been assessed as intrusive, and thus improve the 'open relationship' of this space with the setting of the Sydney Opera House. The most intrusive of these relate to pedestrian safety and include the sunken roadway leading to the vehicle concourse. This roadway presently deters pedestrians from approaching the monumental steps, intended by Utzon to be the primary approach to the building. Removal of the heavy vehicles and the trip hazard kerbs would be in complete accordance with objectives outlined in various policies in the CMP 2003.

This present proposal has a major impact on existing below ground site services and requires their re-location as well as the Bennelong Sewer to allow it to sit as close as possible to the Tarpeian Wall face. The existing guardhouse, identified as 'intrusive' in the CMP 2003, is reduced in size and re-located in line with the new loading dock entry.

The proposal will impact on the broad open sweep of the paved forecourt by its encroachment, and potentially on the views and appreciation of the Tarpeian Wall itself, however due to the careful placement of the proposed loading dock entry tunnel, and the details of the surrounding kerb and balustrade, these impacts are considered acceptable. The edge detail around the tunnel entrance is simple and minimal in scale and should not distract from the strength and scale of the Tarpeian Wall, but it will prevent close viewing of this section of the cliff face. The balustrade treatment is open allowing minimal obstruction of views.

The proposed construction of the underground loading dock will involve excavation around and below the existing tie beams connecting the base of cranked concrete beams supporting the monumental stairs, with the base of the podium on the north side of the vehicle concourse. It is proposed that none of these tie beams be cut or re-located. They will be incorporated into the design and configuration of the proposed concrete beamed ceiling over the new loading dock space. The main structural elements connecting these tie beams and cranked beams together beneath the base of the stairs will not be affected by the works.

The VAPS project anticipates the as yet unfunded Opera Theatre Renewal project, allowing for it to 'add on' to the facilities provided in this project. The new acoustically isolated loading dock facility will replace this same activity in the central passage, allowing it to operate at any time.

The proposed works for the VAPS project will have only minor impacts on backstage areas and will improve functional flexibility and efficiency. It will also allow the central passage space to be better utilised as the main back-of-house pedestrian and circulation spine in the podium.

In the VAPS proposal, Utzon's concept of creating a powerful sequence of approach and arrival spaces is retained, respected and strengthened.

The most significant impact will be during the construction period, when the facilities, activities and excavation required will have a major impact on the topographic setting. These activities and the movement of trucks carrying excavated material or delivering new materials will be a constant source of intrusive noise and annoyance to patrons and visitors as well as the surrounding areas, and will require careful planning and constant management to ensure the impact is acceptable.

In order to ensure the concept design is properly and appropriately implemented, it is essential that the quality and detail described in the documents are not diminished, or 'costed out' of the project during the detailed design or construction process.

The following recommendations are made for consideration as part of the approval conditions:

1. In accordance with Policy 1.5 of the CMP 2003, the quality and detail described in the concept drawings and documents should not be diminished during the detailed design or construction process. In order to achieve this, the documentation and construction process should be reviewed at regular and/or significant points along the project's implementation program to ensure these are maintained, and if possible enhanced. Unless prevented by extenuating circumstances, key personnel from the original architects and designers of the project should be part of this quality control and checking process, and their recommendations properly considered and included in the implementation.
2. In accordance with Policy 56.1 of the CMP 2003, specialist heritage conservation advice should continue to be sought during the design development and documentation stages for the VAPS Project and continue through to completion of the project to ensure the broader as well as detailed conservation objectives are achieved.
3. In accordance with Policy 6.4 of the CMP 2003, the location of hoardings and site and construction facilities required to carry out the works, should be located as unobtrusively as possible and should only be erected for a stated limited time to minimise impacts on the setting and accessibility of the Sydney Opera House. The Sydney Opera House Trust

should advise the public via appropriate signage or other means, of the purpose of the works and their timeframe.

4. Construction activities and the movement of trucks carrying excavated material or delivering new materials should be carefully planned, considered and managed and monitored to ensure their impact on patrons, visitors and surrounding areas is minimised and acceptable.

A handwritten signature in black ink, reading "Alan Croker". The signature is written in a cursive, flowing style with a prominent initial 'A' and a long, sweeping underline.

Alan Croker
Design 5 – Architects Pty Ltd
15 July 2010