



## DESIGN 5

A R C H I T E C T S

### SYDNEY OPERA HOUSE

### JOAN SUTHERLAND THEATRE SAVE & FRONT-OF-HOUSE PROJECTS SSD 7665

**Heritage Impact Statement  
ADDITIONAL WORKS  
10 May 2018**

#### 1.0 BACKGROUND & EXECUTIVE SUMMARY

##### 1.1 Background and Purpose of Report

Design 5 - Architects has been engaged by the Sydney Opera House Trust (SOHT) to prepare an assessment of the Heritage Impact of a proposal to cut two tie beams and construct a 'thrust block' beneath the granite paving at the foot of the Monumental Steps to facilitate construction of the new escalators in the present Utzon Room stairs from the Covered Concourse. This package of work has previously been approved as part of SSD 7665, however the necessity for these particular works had not been identified at that time. A more detail description of this project is given below in Section 3 of this report.

This present assessment of heritage impact should be read in conjunction with the following document that relates to this same application:

- *JOAN SUTHERLAND THEATRE – SAVE & FRONT-OF-HOUSE PROJECTS*  
*Heritage Impact Statement, 26 August 2017*

Refer to Section 2.2 of this report for an explanation of the naming of some of the projects and affected spaces, as some differ from presently accepted names, or those used in other documents.

The report has been prepared by Alan Croker (director) of Design 5 – Architects.

##### 1.2 Structure of Report

Sections 5 and 6 of this report commence with an assessment against the relevant values enshrined in the listing, and then discuss potential impacts against the criteria set out in the relevant legislation associated with that listing. As the legislation refers to the Conservation Management Plan, an assessment against this document is included in Section 6.3.

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The report is set out in the following order:

- 1.0 Background & Executive Summary**
  - 1.1 Background and Purpose of Report
  - 1.2 Structure of Report
  - 1.3 Executive Summary
- 2.0 Basis Of Assessment**
  - 2.1 Methodology
  - 2.2 Naming of spaces
  - 2.3 Documents reviewed
- 3.0 Brief Description of Proposal**
- 4.0 Heritage Listings**
- 5.0 Impact on World & National Heritage Values**
  - 5.1 World Heritage Listing
  - 5.2 National Heritage Values
- 6.0 Impact on State Heritage Values**
  - 6.1 Statutory framework
  - 6.2 State Heritage Register listing
  - 6.3 Compliance with *Respecting The Vision – Sydney Opera House, a Conservation Management Plan* (CMP 4th Edition)
- 7.0 Summary Conclusion**
  - 7.1 Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act – Commonwealth)
  - 7.2 Summary assessment of impact on State Heritage values
  - 7.3 CMP 4th edition compliance

### **1.3 Executive Summary**

#### **Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act – Commonwealth)**

It is concluded that the proposed cutting of two tie beams to facilitate installation of the escalators, and the associated construction of a thrust block beneath the Forecourt at the south end of the folded beams will have no significant (adverse) impact on either the World or National Heritage values of the Sydney Opera House. It is not therefore considered as a 'controlled action' under the EPBC Act and a referral to the Commonwealth Minister for the Environment in regard to impacts on World and National Heritage values is not required.

It is noted that the installation of the escalators within the space now occupied by the Utzon Room stairs from the Covered Concourse is part of a larger project that was referred to the Commonwealth Minister for the Environment under the EPBC Act in EPBC 2016/7825, approved 20 June 2017.

#### **Summary assessment of impact on State Heritage values**

Works proposed to the tie beams to facilitate installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, will have no impact on Utzon's masterpiece, including its setting, and the majestic quality of its public spaces.

The works will ensure the continued structural integrity of Arup's extraordinary and elegant folded beams supporting the Monumental Steps and Podium.

There will be no adverse impacts on the State Heritage values from these works.

Impacts on State Heritage values of the installation of the escalators have already been considered in the original application for these works – SSD 7665.

## CMP 4th edition compliance

The proposed work to the two tie beams and associated construction of a thrust block beneath the Forecourt at the base of the Monumental Steps, all to facilitate the previously approved installation of escalators, are fully compliant with the CMP 4th edition and will not result in any adverse impacts on Sydney Opera House fabric or its significant values.

These additional works are required to protect the structural integrity of the Arup designed folded concrete beams over the Covered Concourse.

The exceptionally significant Forecourt and Monumental Steps will not be affected by the works, except temporarily during the construction of the thrust block where the lower step treads and a limited area of Forecourt paving will be lifted temporarily. Once works are completed, there will be no visible change to these steps or paving.

The construction of the thrust block at the base of the Monumental Steps will require excavation down to bedrock and there may be potential to disturb presently unknown archaeological deposits. An archaeologist should be engaged to investigate and assess the potential for archaeology, and manage the approval and excavation process in accordance with CMP Policy 20.10. Design 5 understands that GML Heritage has been engaged to prepare an Archaeological Impact Assessment and Management Plan, along with providing archaeological services during the excavation works.

## 2.0 BASIS OF ASSESSMENT

This report assesses the proposal against the following documents:

- *Matters of National Environmental Significance – Significant Impact Guidelines 1.1, Environmental Protection and Biodiversity Conservation Act 1999*, Department of the Environment 2013
- *Respecting The Vision, Sydney Opera House – a Conservation Management Plan*, by Alan Croker. Fourth Edition, SOHT June 2015 (referred to below as CMP 4th edition)
- *Sydney Opera House, Utzon Design Principles*, SOHT May 2002 (referred to below as UDP 2002)

### 2.1 Methodology

This heritage impact assessment has been prepared in accordance with the principles and processes of the *Australia ICOMOS Burra Charter 2013*.

### 2.2 Naming of spaces

The naming of projects and spaces in this report may differ from the conventional naming, or the names used in the *Utzon Design Principles* (UDP 2002) and the Conservation Management Plan (CMP 4th edition). These project names are working titles only and do not imply a re-naming of these spaces. The correlation of these titles / names are as follows:

<i>project name / working title</i>	<i>conventional name</i>
<b>Under the steps</b>	<b>Covered Concourse</b> , previously known as <i>Vehicle Concourse</i> Referred to in 2001 Strategic Building Plan as <i>Arrival Concourse</i>
<b>Entry Foyer</b>	<b>Box Office Foyer</b>

## 2.3 Documents reviewed for this report

The following documents, prepared by TZG architects, were reviewed by the author:

- 49-BR-TZG09-A002 SITE LOCATION PLAN\_1.pdf
- 49-BR-TZG09-A100 GENERAL ARRANGEMENT PLANS\_3.pdf
- 49-BR-TZG09-A200 N-S SECTIONS\_C04.pdf
- 2.4 49-BR-TZG09-A450 ESCALATOR PLANS AND N-S SECTION\_C04.pdf
- 2.5 49-BR-TZG09-A451 ESCALATOR DETAILS AND E-W SECTIONS\_C04.pdf
- 09 S000-COVER SHEET AND DRAWING LIST\_02.pdf
- 09 S001-GENERAL NOTES - SHEET 1\_02.pdf
- 09 S002-GENERAL NOTES - SHEET 2\_02.pdf
- 29-BR-AEC09-S010 UTZON ESCALATOR DETAILS - SHEET 1\_04.pdf
- 29-BR-AEC09-S011 UTZON ESCALATOR DETAILS - SHEET 2\_04.pdf
- 29-BR-AEC09-S015 THRUST BLOCK DETAILS - SHEET 1\_05.pdf
- 29-BR-AEC09-S016 THRUST BLOCK DETAILS - SHEET 2\_03.pdf
- 29-BR-AEC09-S017 THRUST BLOCK DETAILS - SHEET 3\_01.pdf

## 3.0 BRIEF DESCRIPTION OF PROPOSAL

The proposed installation of a pair of escalators within the existing Utzon Room stair corridor space, from the Covered Concourse to the Box Office Foyer will require modifications to two (2 no.) of the existing tie beams at the concourse floor level. At the time of the original SSD 7665 application in 2016, it was not known that these tie beams extended beyond the Covered Concourse into the space where the escalators are to be installed. Subsequent detailed engineering design has identified this issue.

These tie beams presently counteract outward thrusts at the base of the folded beams supporting the Monumental Steps but will be cut by the base of the new escalators. Thus the outward thrust needs to be addressed by a new 'thrust block' at the base of the southern end of the folded beams. This block must be constructed and fully 'operational' before the cutting / modifications of the two tie beams can commence.

The 'thrust block' works involve the following:

- erection of site hoarding and protection;
- lifting of the granite slabs and setts within the affected area, immediately south of the Monumental Steps, cleaning and set aside for re-laying to the original level and configuration on completion;
- excavation through Forecourt slab and in bedrock to accommodate thrust block;
- installation of anchors and construction of the thrust block;
- curing of concrete, and tensioning of anchors;
- re-paving as per second dot point above.

Cutting of the two tie beams involves the following:

- cutting and modification of two tie beams beneath the floor of the lower lobby to the existing Utzon Room stair, to permit installation of machinery for the new escalators (previously approved, before the tie beam issue was identified).

It should be noted that a similar thrust block was constructed at the base of the west end of the Monumental Steps, when a number of tie beams were cut to allow installation of the escalators from the 1988 Lower Concourse in the north-west corner of the Vehicle Concourse.

The folded concrete beams that cover the concourse space will remain untouched by the work.

On completion, there should be no evidence of any disturbance or change to this area. Refer to Site Plan for location.

## 4.0 HERITAGE LISTINGS

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

- World Heritage List (UNESCO) 2007
- National Heritage List (Australian Government) 2005
- State Heritage Register (NSW Government) 2003
- Sydney Local Environmental Plan 2005 (City of Sydney Council)

## 5.0 DISCUSSION OF IMPACT ON WORLD & NATIONAL HERITAGE VALUES OF THE SYDNEY OPERA HOUSE

### 5.1 Statutory framework

The statutory framework at Commonwealth level for approvals for the Opera House is presently as follows:

#### 5.1.1 *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*

- Part 3, Division 1, identifies Commonwealth requirements relating to World Heritage properties and National Heritage places. Sydney Opera House is inscribed on the World Heritage List and included on the National Heritage List.
- Approval must be obtained from the Commonwealth Minister for the Environment for actions that are likely to have a significant impact on matters of national environmental significance (including National and World Heritage listed properties and sites) under the EPBC Act. The *Significant Impact Guidelines* definition is important here:

*A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts.*

- Sydney Opera House should undertake a 'self-assessment' process to determine potential impacts of proposed actions and whether or not a referral to the Minister under the EPBC Act is required. The *Significant Impact Guidelines* definition of 'action' is as follows, (relevant text **bolded** by author of this report):

*'Action' is defined broadly in the EPBC Act and includes: a project, a development, an undertaking, an activity or a series of activities, or an alteration of any of these things.*

*Actions include, but are not limited to: construction, expansion, alteration or demolition of buildings, structures, infrastructure or facilities; .....*

*Actions encompass site preparation and construction, operation and maintenance, and closure and completion stages of a project, as well as alterations or modifications to existing infrastructure.*

*An action may have both beneficial and adverse impacts on the environment, however **only adverse impacts on matters of national environmental significance are relevant when determining whether approval is required under the EPBC Act.***

## 5.2 World Heritage Listing

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

The World Heritage List inscription for the Sydney Opera House is as follows, (relevant text **bolded** by author of this report):

### ***Outstanding Universal Value***

*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.***

*All elements necessary to express the values of the Sydney Opera House are included within the boundaries of the nominated area and buffer zone. This ensures the complete representation of its significance as an architectural object of great beauty in its waterscape setting. The Sydney Opera House continues to perform its function as a world-class performing arts centre. The Conservation Plan specifies the need to balance the roles of the building as an architectural monument and as a state of the art performing centre, thus retaining its authenticity of use and function. Attention given to retaining the building's authenticity culminated with the Conservation Plan and the Utzon Design Principles.*

### **Comment**

The proposed construction of a 'thrust block', to the south of the Monumental Steps will have no adverse impact on the architecture and setting of the Opera House. On completion, there will be no visible sign of the thrust block's existence beneath the paving.

The Forecourt paving, Monumental Steps, and unique folded and cranked concrete beams designed by Ove Arup, all remain unaffected by the proposed works. It is the structural forces that prevent these folded beams from spreading that are addressed in these works, and this is confined to only two beams. The thrust block will ensure the long term structural integrity of Arup's folded beams.

The cutting of two tie beams beneath the concourse entry to the escalators to accommodate the escalator machinery, and the construction of a thrust block beneath the Forecourt to counter the resultant thrusts from the folded beams supporting the Monumental Steps will have neutral impact on the structure itself, and no impact visibly. These tie beams remain untouched and visible from below in the recently constructed basement office areas under the Covered Concourse. The modifications will occur over a basement level (B1) service space with no public access and will not impact on any important back-of-house space.

The Significant impact criteria stated in the Significant Impact Guidelines are as follows:

*An action is likely to have a significant impact on the World Heritage values of a declared World Heritage property if there is a real chance or possibility that it will cause:*

- *one or more of the World Heritage values to be lost*
- *one or more of the World Heritage values to be degraded or damaged, or*
- *one or more of the World Heritage values to be notably altered, modified, obscured or diminished.*

#### **Comment**

Considering the above criteria, it is concluded that the cutting of two tie beams and the associated construction of a thrust block beneath the Forecourt will have no significant (adverse) impact on the World Heritage values of the Sydney Opera House either in the short or long term. Therefore a referral to the Commonwealth Minister for the Environment under the EPBC Act for this revised scope of works is not required.

### **5.3 National Heritage Values**

#### **5.3.1 Summary statement of National Heritage values**

The following is the summary statement of National Heritage values of the Sydney Opera House. ***Emphasis added*** on aspects of significance relevant to the assessment of impact of the works covered in this report.

*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 proposed cutting of two tie beams to allow installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, beneath the Forecourt, will have no impact on Utzon's masterpiece and will ensure the integrity of Arup's extraordinary and elegant structure supporting the Monumental Steps and Podium.

This proposal will have no impact on the Sydney Opera House as a 'monumental urban sculpture', nor on its qualities and status as an 'internationally acclaimed architectural icon of the twentieth century'.

### **5.3.2 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 B of the CMP 4th edition 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 criteria below, summarise and draw attention to those aspects of significance that are relevant to the assessment of impact of this project. Design 5's assessment 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 Criterion A values:

- *The Sydney Opera House represents a masterpiece of modern architectural design, engineering and construction technology in Australia.*
- *The challenges involved in executing the design inspired innovative developments in technologies, construction engineering and building methods in Australia, creating the building's distinctive form, fabric and structural systems.*

#### **Comment**

The proposed works will ensure the continued long-term integrity of the folded concrete beams over the Concourse, a significant aspect of this engineering masterpiece and will have no impact on its distinctive form and fabric.

#### **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 Criterion B values:

- *The Sydney Opera House is a cultural icon that has no counterpart in Australia. With its distinctive sail-like concrete shell roofs standing boldly upon a massive granite-faced platform, located prominently on the Sydney Harbour foreshore, the Sydney Opera House is the most widely recognised building in Australia, and one of the most definitive national architectural icons of the twentieth century.*

#### **Comment**

The proposed works will have no impact on these values.



### **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 Criterion E values:

- *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 of the soaring internal spaces including the folded concrete beams throughout the building, and the reinforced radial cranked beams in the northern foyers.*

#### **Comment**

The proposed works will have a temporary impact on a limited area of the Forecourt and Monumental Steps while the work is underway, but once it is completed and all barricading removed, there will be no impact. The folded concrete beams remain unaffected by these works.

### **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 Criterion F values:

- *In every aspect it is a structure at the leading edge of endeavour.*
- *... the creation of sensory experiences to bring pleasure to the building's users, particularly the experience of approaching, mounting the grand staircase to the podium, passing through the low ribbed box office, up to the foyers flanking the auditoria with their harbour views, and the climax of the performance itself. 'Both ideas were...reinforced by Utzon's application of counterpointing techniques using light and dark tones, soft and hard textures and richly treated warm and cool interior colours.*

#### **Comment**

The proposed works will ensure the continued long-term structural integrity of the folded beams and will have no impact on their distinctive form and fabric.

The works will have no impact on the sensory experience of the place, nor on Utzon's counterpointing techniques using light, texture and colour.

### **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 Criterion G values:

- *... 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. The Sydney Opera House is a mecca for both Australian and international visitors to Sydney, attracting over 100 million visitors since the opening in 1973.*

#### **Comment**

The proposed works will have no impact on these values.

### **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 Criterion H values:

- *The Sydney Opera House is directly associated with Jørn Utzon*

- *The general experience of the interiors of the Sydney Opera House is one of majestic spaces defined by strong structural forms.*
- *The engineering firm on the project, Ove Arup and Partners, and the building contractors, M.R. Hornibrook, both made important contributions to the realization of Utzon's project*

#### **Comment**

The proposed works will have no impact on these values, but will ensure the integrity of the folded beam structure created by Utzon and Arup, and executed by Civil & Civic (contractors for Stage 1).

### **5.3.3 Summary conclusion of impact on National Heritage values**

The proposed cutting of two tie beams to allow installation of the escalators, and associated construction of a thrust block at the south end of the folded beams, beneath the Forecourt, will have no impact on Utzon's masterpiece and will ensure the structural integrity of Arup's extraordinary and elegant folded beams supporting the Monumental Steps and Podium.

The proposed works will have a temporary impact on a limited area of the Forecourt and Monumental Steps while the work is underway, but once it is completed and all barricading removed, there will be no impact.

### **5.3.4 Summary assessment of impact on National Heritage values according to the National Heritage significant impact criteria**

The *Significant impact criteria* for a National Heritage place, as stated in the *Significant Impact Guidelines* are as follows:

*An action is likely to have a significant impact on the National Heritage values of a National Heritage place if there is a real chance or possibility that it will cause:*

- *one or more of the National Heritage values to be lost*
- *one or more of the National Heritage values to be degraded or damaged, or*
- *one or more of the National Heritage values to be notably altered, modified, obscured or diminished.*

#### **Comment**

The above assessment concludes that none of the National Heritage values of the Sydney Opera House will be lost, degraded, damaged, altered, modified, obscured or diminished by the proposed works to cut two tie beams to allow installation of the escalators in the Utzon Room stairs to the Box Office Foyer, and construct a 'thrust block' at the base of the folded beams opposite, below the Forecourt.

Further clarification is provided in the *Significant Impact Guidelines* as follows, with a comment / response on each:

*An action is likely to have a significant impact on historic heritage values of a National Heritage place if there is a real chance or possibility that the action will:*

*for historic heritage values:*

- *permanently remove, destroy, damage or substantially alter the fabric of a National Heritage place in a manner which is inconsistent with relevant values*

#### **Comment**

The proposed works (action) will not have a significant impact on the National Heritage Values.

- *extend, renovate, refurbish or substantially alter a National Heritage place in a manner which is inconsistent with relevant values*

**Comment**

The proposed works (action) will not be inconsistent with the identified National Heritage Values for the Sydney Opera House.

- *permanently remove, destroy, damage or substantially disturb archaeological deposits or artefacts in a National Heritage place*

**Comment**

As the works for the thrust block will excavate to bedrock and beyond, there is potential to disturb presently unknown archaeological deposits. However, the rock surface is understood to be relatively close to the surface, and the original construction in this particular area would very likely have disturbed any archaeology. This would need to be further assessed and investigated by an archaeologist prior to carrying out the works as the January 2016 report by GML Heritage on archaeological investigations for the VAPS project does not appear to have covered this particular area. Design 5 understands that GML Heritage has been engaged to prepare an Archaeological Impact Assessment and Management Plan, along with providing archaeological services during excavation works.

- *involve activities in a National Heritage place with substantial and/or long-term impacts on its values*

**Comment**

The proposed works will have no long-term impacts on the National Heritage values of the place. On the contrary, the works will have substantial and long-term positive impacts on maintaining the integrity of these values.

- *involve the construction of buildings or other structures within, adjacent to, or within important sight lines of, a National Heritage place which are inconsistent with relevant values, and*

**Comment**

The proposed works involve no additional structures above the paving level of the Forecourt, Covered Concourse, or other public spaces.

- *make notable changes to the layout, spaces, form or species composition of a garden, landscape or setting of a National Heritage place in a manner which is inconsistent with relevant values.*

**Comment**

The proposed works will have no impact on the setting of the Opera House.

for other cultural heritage values:

- *restrict or inhibit the continuing use of a National Heritage place as a cultural or ceremonial site causing its values to notably diminish over time*

**Comment**

The proposed works will not restrict or inhibit the continued use of the Opera House as a performing arts centre. On the contrary, they will ensure the structural stability of key elements and spaces for this use.

- *permanently diminish the cultural value of a National Heritage place for a community or group to which its National Heritage values relate*

**Comment**

The proposed works will not diminish the cultural value of the Opera House as a performing arts centre.

- *destroy or damage cultural or ceremonial, artefacts, features, or objects in a National Heritage place, and*

## Comment

Considering potential archaeology, an archaeologist should be engaged to investigate and assess the potential existence of any cultural deposits in the location of the thrust block. Design 5 understands that GML Heritage has been engaged to prepare an Archaeological Impact Assessment and Management Plan etc. as noted earlier in this report.

- *notably diminish the value of a National Heritage place in demonstrating creative or technical achievement.*

## Comment

The proposed cutting of two tie beams to allow installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, beneath the Forecourt, will have no impact on Utzon's masterpiece and will ensure the continued structural integrity of Arup's extraordinary and elegant folded beams supporting the Monumental Steps and Podium.

### 5.3.5 Summary conclusion of impact on National Heritage values according to the National Heritage significant impact criteria

It is concluded that the proposed cutting of two tie beams to allow installation of the escalators, and the associated construction of a thrust block beneath the Forecourt at the south end of the folded beams will have no significant (adverse) impact on either the World or National Heritage values of the Sydney Opera House. It is not therefore considered as a 'controlled action' under the EPBC Act and a referral to the Commonwealth Minister for the Environment in regard to impacts on World and National Heritage values is not required.

## 6.0 IMPACT ON STATE HERITAGE VALUES

### 6.1 Statutory framework

The statutory framework at State level for approvals for the Opera House is presently as follows:

#### 6.1.1 State (Planning): *Environmental Planning and Assessment Act 1979 (EP&A Act), State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP 2011), and State Environmental Planning Policy (State Significant Precincts) 2005 (SEPP 2005).*

- All development on land identified as being within the Sydney Opera House site is designated as State significant development (SSD) (Schedule 2 of the SRD SEPP) and this requires consent under the EP&A Act.
- The Minister for Planning is the consent authority for SSD.
- SEPP 2005, Schedule 3, Part 1 – Division 2, describes site specific works, activities, and development at the Sydney Opera House that may be considered as exempt from planning approval under the EP&A Act.
- Section 4.55 (1A) of the EP&A Act specifically provides that:  
*A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in*

*accordance with the regulations, modify the consent if:*

- (a) it is satisfied that the proposed modification is of minimal environmental impact,*  
*and*

- (b) *it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and ...*

#### **Comment**

The proposed cutting of two tie beams to allow installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, beneath the Forecourt, are not considered as exempt works, although they are associated with a previously approved application. As these works are part of substantially the same development as that already approved (SSD 7665), it could be considered as a minor modification to the existing approval, as long as the impacts are minimal.

#### **6.1.2 State (Planning): Environmental Planning and Assessment Regulation 2000 (Regulation)**

- Clause 288 of the Regulation requires the consent authority to take into consideration the *Management Plan for the Sydney Opera House* (which was prepared in 2005 as part of the bilateral agreement negotiations) in relation to development on the Sydney Opera House site. The Management Plan references the CMP 3rd edition (*Sydney Opera House, A Revised Plan for the Conservation of the Sydney Opera House and its Site*, by James Semple Kerr, third edition 2003) and the Utzon Design Principles 2002.
- The Management Plan 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 Division, Department of Planning (former 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.
- Since the Bilateral Agreement was put in place in 2005, *Protecting The Vision, Sydney Opera House – a Conservation Management Plan*, fourth edition, by Alan Croker, (CMP 4th edition) has been formally endorsed by the Heritage Council of NSW on 2 August 2017, and now replaces the CMP 3rd edition. Therefore, this report uses the CMP 4th edition as the primary basis for assessment.

#### **6.1.3 State (Heritage): Heritage Act 1977**

- An approval from the Heritage Council under section 57 of the Heritage Act is required for development on the Sydney Opera House site. Where the development has been approved as State Significant Development (SSD), approval under the Heritage Act cannot be refused by the Heritage Council.
- The Heritage Council of NSW publication *Standard Exemptions for Works requiring Heritage Council Approval*, revised 2009, describes works to places listed on the State Heritage Register (SHR) that may be considered as exempt from approval

under section 57 of the Heritage Act. However, these may still require a notification to the Heritage Division.

#### **Comment**

The proposed cutting of two tie beams to allow installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, beneath the Forecourt, are not considered as exempt works, although they are associated with a previously approved application.

## 6.2 State Heritage Register listing

### 6.2.1 Discussion of Impact on State Heritage Values

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 this assessment.

*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 (Queen Elizabeth) 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 proposed cutting of two tie beams to allow installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, beneath the Forecourt, will have no impact on Utzon's masterpiece, including its setting, and the majestic quality of its public spaces. The works will ensure the continued structural integrity of Arup's folded beams supporting the Monumental Steps and Podium.

### 6.2.2 State Heritage Register (SHR) 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 these criteria are set out in full in the NSW Heritage Database, available online at:

<http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5054880>

The extracts from the SHR values, under each of the criteria below, summarise and draw attention to those aspects of significance that are relevant to this assessment. 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:

- *The Sydney Opera House has historical significance as a modern architectural masterpiece, recognised internationally as a symbol of Sydney and Australia,*

### Comment

There are no significant historical values from the SHR listing impacted by this proposal.

#### **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 significant people are associated with the construction of the Sydney Opera House, including Eugene Goossens, Joe Cahill, Jørn Utzon, Eero Saarinen and Ove Arup.*

### Comment

The significant associations with Jørn Utzon, and Ove Arup in particular, will not be adversely impacted by the proposed works. The works will ensure the continued structural integrity of their masterpiece.

#### **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 public spaces and promenades have a majestic quality endowed by powerful structural forms and enhanced by vistas to the harbour and the city.*
- *Its aesthetic quality is largely attributed to the 1957 prizewinning design by Jørn Utzon.*
- *Its aesthetic quality was also enhanced by the high-quality completion work by Hall, Todd & Littlemore, by the technical support given throughout by the internationally renowned engineering firm of Ove Arup & partners, and finally by M.R. Hornibrook, the contractor of stages two and three (Kerr, 2003, 32).*
- *Widely recognised as a masterpiece of twentieth century architecture, the Sydney Opera House combines an expressive freedom of form with the precise technology of the machine age.*
- *It has scientific and technical significance for the ways in which its construction continually pushed engineering and building technologies to the limit.*
- *Australian architectural historian Max Freeland stated: "This Sydney Opera House was a voyage of architectural and engineering discovery in which new oceans were charted, new frontiers of knowledge and technology were conquered and the resources of science and technology were employed to solve design, erection and quality of finish problems beyond the capacity of conventional method".*

### Comment

The form and structural integrity of the folded concrete beams that are an essential part of the aesthetic values listed above, will be protected for the long-term by the proposed works.

#### **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:

- *The Sydney Opera House is of social significance as an internationally recognised symbol of Sydney, one of Australia's leading tourist attractions and a focal point for community events. It is also widely admired by Sydneysiders, and can be seen to contribute importantly to the sense of place in the Sydney CBD.*
- *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 proposed cutting of two tie beams to allow installation of the previously approved escalators, and the associated construction of a thrust block at the south end of the folded



beams, is consistent with these values. Impact on these values of the installation of the escalators has already been considered in the original application.

**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:

- *After the profound building effort required to build the Sydney Opera House, 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**

Design 5 understands that GML Heritage has been engaged to prepare an Archaeological Impact Assessment and Management Plan, along with providing archaeological services during the excavation works.

**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:

- *No relevant values*

**Comment**

There are no rarity values from the SHR listing impacted by this proposal.

**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:

- *No relevant values*

**Comment**

There are no representativeness values from the SHR listing impacted by this proposal.

### **6.2.3 Summary assessment of impact on State Heritage values**

The proposed cutting of two tie beams to allow installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, beneath the Forecourt, will have no impact on Utzon's masterpiece, including its setting, and the majestic quality of its public spaces.

The works will ensure the continued structural integrity of Arup's extraordinary and elegant folded beams supporting the Monumental Steps and Podium.

There will be no adverse impacts on the State Heritage values from these works.

Impacts on State Heritage values of the installation of the escalators has already been considered in the original application for these works – SSD 7665.

### 6.3 Compliance with *Respecting The Vision – Sydney Opera House, a Conservation Management Plan (CMP 4th Edition)*

The CMP 4th edition, endorsed by the NSW Heritage Council in August 2017, has been used as the basis for the assessment of heritage impacts on individual spaces and fabric affected by the proposed repaving works in the Covered Concourse.

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 suite of projects in the same order as the CMP:

- Significant values,
- Overarching policies,
- Significant elements and components of the place, and
- Operational and management considerations.

#### 6.3.1 Significant values – discussion of impact

The following Statement of Significance from CMP 4th edition summarises the significant values of the place (emphasis in bold type added as it relates to this assessment):

*The Sydney Opera House is a masterpiece of 20th century architecture and a world renowned performing arts centre. **It is universally valued for its unparalleled design, form and response to its setting; and its exceptional engineering achievements and technological innovations.** It is an internationally recognised landmark, an architectural icon, a symbol of Sydney and Australia, and holds a unique place in the Australian psyche as a focus for national celebrations and events.*

*The design of the Sydney Opera House by Danish architect, Jørn Utzon, represents an extraordinary and inspired response to the peninsular setting in Sydney Harbour and the 1956 competition brief. Its spectacular quality as a monumental sculpture in the round, both by day and night, is enhanced by its relationship to the harbour and the city. **The approach and arrival sequence, and the majestic quality of the public spaces, contained by powerful structural forms, provide an exceptional experience for users and visitors. Utzon's vision created a truly remarkable place, a structure that elevates and celebrates the human experience of the performing arts, as well as of the place itself.** These attributes are true to the original design and continue to be credibly expressed.*

*The Sydney Opera House is a work of human creative genius; a daring and visionary experiment that has had a seminal and enduring influence on the emergent architecture of the late 20th century. **This vision utilised the plastic arts (three-dimensional works or effects from sculpting, modelling and moulding), geometry and technology to create a structure at the leading edge of human endeavour, at the very edge of the possible.** Utzon's original design concept, his emphasis on innovation and his unique approach to building, gave impetus to a collective creativity of architects, engineers and builders. He inspired others to strive for and achieve excellence, particularly at this site.*

*The high-quality completion of the work by Sydney architects Hall, Todd & Littlemore, **the technical support given by the internationally renowned engineering firm of Ove Arup & Partners, and the inventive contractor M.R. Hornibrook, helped make Utzon's vision a reality.** In its construction and fabric, the Sydney Opera House reflects the contemporary philosophy of assembling and creating refined forms from prefabricated components. The Sydney Opera House retains a very high level of authenticity.*

*At national, state and local levels, the site has significant associations with important past events, activities and uses in the site's evolution, including Aboriginal and European contact. Indigenous cultural values associated with the Sydney Opera House site relate to both tangible remains (for example, potential surviving middens or other physical relics) as well as intangible meanings, associations, stories, memories and histories. The site has been used for*

*cultural exchange and performance since at least the 1790s and is associated with a major meeting area and place for ceremony and corroboree at the adjacent Farm Cove. Bennelong Point is a place of early contact between local Aboriginal people and European settlers and takes its name from Bennelong, a Wangal man whose hut was provided by the Europeans and located on the western side of the point. Other significant historical associations include: defence (Governor Arthur Phillip's 1788 redoubt to convict architect Francis Greenway's Fort Macquarie, 1817–1901); picturesque planning (Governor Lachlan Macquarie to Utzon); and marine and urban transport and trade (overseas shipping and local ferry wharves, tram terminal and depot).*

*The Sydney Opera House has an 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 performers, patrons and visitors on a national and international level. As Australia's pre-eminent performing arts centre, it has the ability to encourage and inspire the pursuit of excellence and innovation in those who use it or are associated with it: all are inspired to achieve an outcome 'worthy of the Sydney Opera House'.*

*The inscription of the Sydney Opera House on the World Heritage List in 2007 recognises its Outstanding Universal Value.*

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

***It is universally valued for its unparalleled design, form and response to its setting; and its exceptional engineering achievements and technological innovations.***

**Comment**

The proposed works will have no adverse impact on these values.

***The approach and arrival sequence, and the majestic quality of the public spaces, contained by powerful structural forms, provide an exceptional experience for users and visitors. Utzon's vision created a truly remarkable place, a structure that elevates and celebrates the human experience of the performing arts, as well as of the place itself.***

**Comment:**

The proposed works will not affect any of the public spaces or the exceptional structural forms that contain them. They will have no adverse impact on these values.

***... the technical support given by the internationally renowned engineering firm of Ove Arup & Partners, ..... helped make Utzon's vision a reality.***

**Comment**

The proposed works will protect and ensure the form and integrity of the folded concrete beam structure over the Covered Concourse, engineered by Ove Arup & Partners and constructed by Civil & Civic (contractors for Stage 1).

### **6.3.2 Compliance with CMP policies (Section 4)**

It is clear from the Statement of Significance in the CMP 4th edition 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 relevant discussion, policies and Tolerance for Change tables from the CMP 4th edition.

### 6.3.2.1 Overarching policies (CMP Sections 4.1 – 4.4)

#### **CMP Section 4.1      *THE PRIMACY OF JØRN UTZON'S VISION***

##### ***Policy 1.1      Protecting Utzon's masterpiece***

*All work on the Sydney Opera House must be carried out within the framework of the Utzon Design Principles published in 2002 and in accordance with this CMP.*

#### **Comment**

The proposed works affecting the two tie beams have been designed and will be carried out within the framework of *Utzon's Design Principles*.

##### ***Policy 1.2      Utzon concepts*** (selected extracts)

*The following elements and qualities of the building are essential to Utzon's concept for the place and must be retained in accordance with the Utzon Design Principles and this CMP:*

- d. the open and uncluttered relationship between the Forecourt, Monumental Steps, Podium and Broadwalks;*
- e. the visually open relationship between the Podium and its setting, including the Bennelong Restaurant and foyers encircling the auditoria;*
- f. the sequence and intended qualities of approach and arrival spaces and experiences;*
- g. the natural palette of materials for exterior and related interior spaces;*
- h. the building's architecture, both externally and internally, formed by the honest expression of structure and materials;*
- j. the utilisation of prefabricated components, strictly controlled in regard to geometry and quality, assembled to create structure, elements and spaces of the desired form;*
- k. harmony and uniformity resulting from application of a strict geometrical order and consistent forms;*
- m. the interdependence of structure, form and fabric with function, all focused on enhancing the intellectual and emotional response of patrons, performers and visitors;*
- n. the primary function of the Sydney Opera House as a cultural venue that inspires and presents work of the highest quality in the performing arts.*

#### **Comment**

The proposed works comply with this policy and will retain the integrity of Utzon's concepts. The fabric of the lower Monumental Steps and a limited area of the adjacent Forecourt paving will be taken up to construct the thrust block, but these will be put back in their original configuration on completion of the works, with no visible changes. On completion of the works, there are no adverse impacts on these qualities and concepts.

#### **CMP Section 4.3      *PROTECTING THE VALUES***

##### ***Policy 3.2 – Primary use as performing arts centre***

*The Sydney Opera House must continue its primary use as a nationally significant performing arts centre and its importance as a tourist attraction be recognised. The building, its site and its setting must not accommodate, or be altered to accommodate, uses or events that will vitiate its significance, character or primary use.*

*A co-ordinated long-term plan for the use of spaces across the whole site must be implemented and periodically reviewed to address the above. This should be in the form of a comprehensive framework, such as the Strategic Building Plan 2001, with sufficient detail to understand the implications for every space.*

#### **Comment**

The proposed works will not adversely affect the primary use of the Opera House. The works are part of a previously approved change to the Opera House (SSD 7665) that arises directly from the Strategic Building Plan 2001.

## **CMP Section 4.4      UTZON, HALL & THE APPROACH TO CHANGE**

### **Policy 4.2 – Respecting Utzon and Hall**

*In order to retain, respect and potentially strengthen the authenticity and integrity of Utzon's work and the contributions made by Hall et al in its completion, all future designers and decision makers must:*

- comply with Policies 1.1, 1.2, 4.6, 4.7 and 4.8;*
- avoid the introduction of their own design language and preconceptions, and defer to the original design regimes of Utzon and Hall, in that order;*
- design new work to read as a subtle, respectful and sympathetic addition to the existing; and*
- not alter or remove original design regimes or components based solely on contemporary changes in aesthetic taste and fashion.*

*Major change or removal of the design regimes of interiors not designed by Utzon are only possible in accordance with Policy 4.5 – Major Change*

### **Comment**

The proposed works fully comply with this policy, utilizing and extending Arup's previous work in addressing similar issues when the escalators to the Lower Concourse were installed.

### **Policy 4.4 – Minor change**

*Any proposal for modest functional improvement, including redecoration to Utzon or Hall elements or components, above or within the Podium, must not fragment or diminish the authenticity or integrity of both the Utzon and Hall design regimes in accordance with Policies 4.7 and 4.8, except where such proposal accords with Policy 4.6. Proposals must be developed and executed in accordance with Policy 20.5 Continuity of advice, Policy 20.7 Heritage advice, and Policy 20.18 Statutory approvals.*

### **Comment**

The proposed works are considered minor change and have been designed and documented by AECOM. The engineering and design principles of this work, in terms of the concept and methodology, has been reviewed with Arup who continue to provide structural advice to Sydney Opera House. It therefore complies with Policies 4.6 and 4.7. The reference in this policy to Policy 20.18 is discussed below.

### **Policy 4.6 – Approach to change – Utzon elements**

*In considering modification or change to any external space, Utzon element or internal space completed by Utzon, including infrastructure and furniture, Utzon's concepts and design regime must be retained and respected, and be in accordance with Policies 1.1, 1.2, 4.2 and 20.18.*

### **Comment**

The proposed works are entirely structural and hidden from view. Nonetheless, they comply with this policy - Utzon's design regime and concepts are not affected.

### **Policy 4.10 – Integrity of structure**

*The integrity and expression of the reinforced concrete structure for the whole building must be retained and respected, including in changes and new work, all in accordance with Policy 1.2 Utzon's concepts. Steel framed structure should be confined to those areas and functions (backstage and over auditorium) where it was used originally.*

*Modifications within the Podium structure must only be considered where there is a substantial and enduring benefit to the primary function of the Opera House.*

### **Comment**

The proposed works are consistent with this policy. The cutting of the two tie beams and construction of the associated thrust block, facilitate a pair of escalators connecting the Covered Concourse to the Box Office Foyer. This is a substantial improvement in accessibility within the Opera House and is part of a previous approval – SSD 7665.

**Policy 4.12 – Levels of Significance – general policy:**

*The following general policy statements have been formulated to guide changes and works at the place and may be supplemented by more detailed policies for each element, and guidance for change on each component in the Tolerance for Change and Opportunities for Change tables in this CMP. The levels of significance refer to Section 3.3, Summary Schedule of Levels of Significance, and are to be considered as part of this policy.*

**A Exceptional significance:**

*Alteration of grade A elements is not permitted unless otherwise mentioned in Section 4 of this CMP. Maintenance, preservation and repair are permitted to ensure their ongoing function and to retain significance.*

*It is essential that the original design intent of the element is retained and respected.*

**B High significance:**

*Alteration of grade B elements is permissible only when this is necessary in order to retain or strengthen a grade A element or function, unless otherwise mentioned in Section 4 of this CMP.*

*It is essential that the original design intent of the element is retained or respected.*

**C Moderate significance:**

*Alteration of grade C elements is permissible where this will achieve retention or strengthening of those of higher significance, unless otherwise mentioned in Section 4 of this CMP.*

*It is essential that their role in supporting elements and functions of higher significance is retained.*

**D Low significance:**

*Grade D elements may be altered, unless otherwise mentioned in Section 4 of this CMP.*

*It is essential that their role in supporting elements and functions of higher significance is retained.*

**Int Intrusive:**

*Intrusive elements or components should be altered or removed to reduce their impact in accordance with considerations in the Tolerance for Change and Opportunities for Change tables at the end of each policy section.*

**Comment**

The Forecourt space is grade A – Exceptional significance. The area affected by the cutting of the tie beams is Grade D (beneath the existing Utzon Room stairs). The proposed works are designed to retain the structural integrity of the folded concrete beams over the Covered Concourse, but the works themselves, once completed, will not be visible in any public space. The installation of the escalators is already approved as part of SSD 7665, and this additional work could be considered a minor modification of that.

**6.3.2.2 The site & its fabric (CMP Sections 4.5 – 4.15)**

**CMP Section 4.7 CONSERVING THE EXTERIOR**

**Policy 5.2 – Temporary or short-term installations and objects**

*Temporary installations or objects should only be permitted on the Forecourt, Broadwalks, Podium platform and steps if they:*

- have no impact, either short or long term, on the fabric or significance of the place;*
- have no long-term impact, and minimal short-term impact on public spaces;*
- minimise their impact on views to and from, and across the site;*
- maintain as much public access as possible to and across the site;*
- communicate clearly their function and duration to the public in an appropriate manner;*
- comply with policies in Sections 4.6 Events and uses externally, 4.7.4 Podium, 4.75 Monumental Steps and 4.6.8 Exterior furniture.*

**Comment**

The proposed thrust block at the base of the Monumental Steps, will during its construction, be effectively a temporary installation on the Forecourt and lower steps. The design of its hoarding or enclosure and any signage and protection should therefore comply with this policy. These details can be reviewed with heritage advice close to the commencement of construction. CMP Section 4.6 – Events and uses externally does not apply to this work.

**Policy 6.10 – Site facilities for works**

*Site facilities, whether temporary or long-term, for essential on-site building and maintenance work should be located within or beneath the Podium, out of the view of the public.*

*Where these facilities cannot be concealed, they must be designed and located as unobtrusively as possible, only be erected for a stated limited period of time, and not impact on significant fabric. A notice of their function and duration should be incorporated and displayed to the public in an appropriate manner.*

**Comment**

Comments above in relation to Policy 5.2 are relevant here. Details can be reviewed with heritage advice close to commencement of construction.

**Policy 7.23 – Covered (Vehicle) Concourse**

*The Covered Concourse space must retain its use as the principal undercover arrivals concourse for pedestrians and, potentially, those arriving by boat. It must remain uncluttered, offer generous pedestrian space, and with its east and west ends visually open. No permanent or long-stay structure or installation should be permitted to encumber or diminish the space, or to obscure any part of the folded beams.*

**Comment**

While the proposed works are designed to retain the structural integrity of the folded concrete beams over the Covered Concourse, they affect components beyond this space and will not be visible. They will have no impact on this space.

**6.3.2.3 Operation & management (CMP Sections 4.16 – 4.20)****CMP Section 4.20     MANAGING THE PROCESS OF CHANGE****Policy 20.10 – Archaeology**

*Work involving excavation or investigation of sub-surface objects must be planned and executed in accordance with the requirements of relevant legislation regarding archaeology. This includes:*

- Assessments of the likely archaeological impact of any proposed excavation works by a qualified archaeologist during the planning stages so that any mitigation procedures are handled in a planned and timely manner.*
- Disturbance or removal of archaeological material, including unexpected finds, carried out under the guidance of a qualified archaeologist.*

*Sydney Opera House is responsible for the proper engagement of archaeological expertise and for commissioning post-excavation analysis. It is also responsible for the conservation, storage and interpretation of archaeological findings and collections.*

**Comment**

The construction of the thrust block at the base of the Monumental Steps will require excavation down to bedrock and there may be potential to disturb presently unknown archaeological deposits. The January 2016 report by GML Heritage on archaeological investigations for the VAPS project does not appear to have covered this particular area. However, the rock surface is understood to be relatively close to the surface, and the original construction in this particular area would very likely have disturbed any archaeology. This would need to be further assessed and investigated by an archaeologist in accordance with this policy prior to carrying out the works. Design 5 understands that GML Heritage has been engaged to prepare an Archaeological Impact Assessment and Management Plan for this project, along with providing archaeological services during the excavation works.

**Policy 20.18 – Statutory approvals**

*Consideration of any proposed works or development must first be assessed internally by Sydney Opera House in accordance with the process described in the discussion in Section 1.5 of this CMP. If external approval is required, it must be carried out within the statutory framework current at the time.*



## **Comment**

Impacts on State Heritage values of the installation of the escalators have already been considered in the Heritage Impact Statement submitted with the original application for these works – SSD 7665. The works were approved on 24 May 2017, however the necessity for additional work to the tie beams had not been identified at that time.

The proposed work to the two tie beams and associated construction of a thrust block beneath the Forecourt at the base of the Monumental Steps has been assessed as having no adverse impacts on the significant values and fabric of the Opera House and could therefore be considered as a minor modification of the original approval.

### **6.3.3 Conclusion with regard to CMP 4th edition compliance**

The proposed work to the two tie beams and associated construction of a thrust block beneath the Forecourt at the base of the Monumental Steps, all to facilitate the previously approved installation of escalators, are fully compliant with the CMP 4th edition and will not result in any adverse impacts on Sydney Opera House fabric or its significant values.

These additional works are required to protect the structural integrity of the Arup designed folded concrete beams over the Covered Concourse.

The exceptionally significant Forecourt and Monumental Steps will not be affected by the works, except temporarily during the construction of the thrust block where the lower step treads and a limited area of Forecourt paving will be lifted temporarily. Once works are completed, there will be no visible change to these steps or paving.

The construction of the thrust block at the base of the Monumental Steps will require excavation down to bedrock and there may be potential to disturb presently unknown archaeological deposits. An archaeologist should be engaged to investigate and assess the potential for archaeology, and manage the approval and excavation process in accordance with CMP Policy 20.10. Design 5 understands that GML Heritage has been engaged to prepare an Archaeological Impact Assessment and Management Plan, along with providing archaeological services during the excavation works.

## **7.0 SUMMARY CONCLUSION**

### **7.1 Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act – Commonwealth)**

It is concluded that the proposed cutting of two tie beams to facilitate installation of the escalators, and the associated construction of a thrust block beneath the Forecourt at the south end of the folded beams will have no significant (adverse) impact on either the World or National Heritage values of the Sydney Opera House. It is not therefore considered as a 'controlled action' under the EPBC Act and a referral to the Commonwealth Minister for the Environment in regard to impacts on World and National Heritage values is not required.

It is noted that the installation of the escalators within the space now occupied by the Utzon Room stairs from the Covered Concourse is part of a larger project that was referred to the Commonwealth Minister for the Environment under the EPBC Act in EPBC 2016/7825, and approved 20 June 2017.

## 7.2 State Heritage values

The works proposed to the two tie beams to facilitate installation of the escalators, and the associated construction of a thrust block at the south end of the folded beams, will have no adverse impact on Utzon's masterpiece, including its setting, and the majestic quality of its public spaces.

The works will ensure the continued structural integrity of Arup's extraordinary and elegant folded beams supporting the Monumental Steps and Podium.

There will be no adverse impacts on the State Heritage values from these works.

Impacts on State Heritage values of the installation of the escalators have already been considered in the original application for these works – SSD 7665.

## 7.3 CMP 4th edition compliance

The proposed work to the two tie beams and associated construction of a thrust block beneath the Forecourt at the base of the Monumental Steps, all to facilitate the previously approved installation of escalators, are fully compliant with the CMP 4th edition and will not result in any adverse impacts on Sydney Opera House fabric or its significant values.

These additional works are required to protect the structural integrity of the Arup designed folded concrete beams over the Covered Concourse.

The exceptionally significant Forecourt and Monumental Steps will not be affected by the works, except temporarily during the construction of the thrust block where the lower step treads and a limited area of Forecourt paving will be lifted temporarily. Once works are completed, there will be no visible change to these steps or paving.

The construction of the thrust block at the base of the Monumental Steps will require excavation down to bedrock and there may be potential to disturb presently unknown archaeological deposits. An archaeologist should be engaged to investigate and assess the potential for archaeology, and manage the approval and excavation process in accordance with CMP Policy 20.10. Design 5 understands that GML Heritage has been engaged to prepare an Archaeological Impact Assessment and Management Plan, along with providing archaeological services during the excavation works.



Alan Croker  
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17th August 2018