

3 July 2023

2200220

Ms Anthea Sargent  
Executive Director, Key Sites Assessments  
Department of Planning and Environment  
4 Parramatta Square  
Parramatta NSW 2150

Dear Anthea,

**Re: Cockle Bay Park – Detailed State Significant Development Application (SSD 9978934)**

This letter has been prepared by Ethos Urban to accompany the Submissions and Amendment Report (RTS) package for the Cockle Bay Park Detailed (Stage 2) State Significant Development Application (SSD-9978934). This letter seeks to address issues raised by government agency submissions during this RTS process in relation to the treatment of the connection between the Pyrmont Bridge and proposed land bridge via an escalator, stairs and lift.

This letter outlines the design objectives of the connection, the originally submitted design, and various options available to address agency concerns. This letter has been prepared in collaboration with Henning Larsen, Weir Phillips and Enstruct (see Table of Contents of the Submissions and Amendments Report prepared by Ethos Urban, dated 31 May 2023).

## **1.0 Executive Summary**

This letter outlines the design objectives of the connection, the originally submitted design, and various options available to address agency concerns. In summary:

- The Pyrmont Bridge is a highly utilised pedestrian connection between the Pyrmont Peninsula and the Sydney CBD, and this is expected to increase with future changes in infrastructure and planning within Pyrmont. Improving wayfinding, efficiency and equity in the pedestrian experience between the Pyrmont Bridge and Market Street is a significant opportunity presented by the project.
- The existing connection between Market Street and the Pyrmont Bridge provides a very poor wayfinding experience which hinders movement between Darling Harbour and the CBD. Improving these outcomes represents a significant opportunity to improve the community's urban experience of this area.
- The matter of the connection between the Pyrmont Bridge and the Landbridge has been exhaustively examined over the course of the 7+ years planning process for this project. Various options have been investigated throughout the Concept Proposal, competitive design process and this Detailed Development Application.
- Clearance requirements imposed by the Western Distributor on the landbridge require the Pyrmont Bridge connection to mediate a significant level distance. These requirements dictate the lowermost vertical, and easternmost horizontal, position of any staircase or escalator.
- Providing a direct, linear connection from the eastern end of the Pyrmont Bridge to the landbridge along the Market Street axis is, in our view, critical from a pedestrian wayfinding perspective and is also the most suitable heritage response in restoring the direct connection between Market Street and the Pyrmont Bridge. Options which divert pedestrians away from this alignment should not be considered for urban design or heritage reasons.
- The Proponent and their design teams have then designed stairs and escalators that minimise the extent of protrusion onto the Pyrmont Bridge within the structural constraints that exist, whilst continuing to provide options that are safe and equitable. Notwithstanding this, some protrusion west of the columns is necessary to allow a safe gradient for the stairs.

- As confirmed in the letter by Weir Phillips (**Appendix L**), the heritage impacts are considered acceptable, particularly given that the design reinstates the historic axis of Pyrmont Bridge. The structural elements of greatest historic significance are protected through the schemes demonstrated in this letter.
- The Proponent and their design team have explored a wide range of design options to respond to the constraints and key matters raised by stakeholders including Heritage NSW, City of Sydney, Place Management NSW and the Department of Planning and Environment. Each stakeholder brings its own priorities and perspectives to this issue, which understandably differ in some respects as to how the issue should be resolved.
- Three final options have been presented. These comprise the Proponent's Preferred Option, which is considered to achieve the highest quality pedestrian experience whilst sensitively managing heritage and structural impacts. Two further options have been presented which compromise on pedestrian, urban design and equitable access outcomes, but which better respond to design and heritage preferences of Heritage NSW and the City of Sydney.
- Ultimately the Proponent is prepared to deliver any of these options. In our view, the Proponent's Preferred Option is a significantly better planning outcome which enhances the pedestrian experience and sensitively adapts the Pyrmont Bridge to meet contemporary pedestrian requirements. If the Department forms a different view and wishes to prioritise other considerations, it can impose conditions of development consent that require the delivery of Option 1 or 2.

## 2.0 Background

This letter relates to the consent granted by the NSW Independent Planning Commission for the Stage 1 Concept Approval (SSD 7684) for the proposed mixed-use commercial office development and associated public domain known as Cockle Bay Wharf and Park.

This process included an invited Architectural Design Competition, which was undertaken between September and December 2019, in accordance with the Design Excellence Strategy approved as part of the Stage 1 Concept Approval. Henning Larsen were selected by the Jury as the winner of the design competition.

The Detailed (Stage 2) State Significant Development Application (the Stage 2 SSDA), as lodged in October 2021, sought approval for the construction and use of a 43-storey mixed-use building and associated land bridge spanning across the Western Distributor between Darling Harbour and Darling Park. This letter responds to the Stage 2 application on the site.

## 3.0 History to Date

**Table 1** below briefly outlines the planning process and feedback received to date on the site and the proposed development.

**Table 1** History of SSD-9978934

| Document                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Stage 2 Detailed DA – As Exhibited | <p>The Stage 2 SSDA (SSD 9978934) was publicly exhibited alongside a concurrent Modification Application in relation to the Stage 1 Concept Approval (SSD-7964-MOD 1). The Detailed SSD Application included architectural detail and heritage assessment of the proposed pedestrian connection between the landbridge and the Pyrmont Bridge.</p> <p>The exhibited design option provides escalators and stairs from the Market Street link across the landbridge down to the bridge in place of the non-original eastern end of the bridge. The stair and escalator are located centrally between the two sandstone piers, which are retained. A new lift between the Darling Harbour promenade, the Pyrmont Bridge and the landbridge is located to the south via the new at-grade pedestrian connection to the podium. The key considerations leading to this design were informed by the Design Guidelines, the Design Integrity Panel (DIP) for the project and the significant design, structural engineering and heritage constraints.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Heritage NSW Submission            | <p>Following the exhibition of the SSD-9978934 in November 2021, Heritage NSW provided a submission on the EIS dated 2 December 2021. Heritage NSW noted that the Pyrmont Bridge is an item of State heritage significance for its aesthetic, historical, scientific and cultural values. Additionally, it is an essential link between the city and the inner western suburbs. Pyrmont Bridge is also closely associated with the economic and social development of Sydney at the end of the 19th century.</p> <p>In relation to the built connection between the Pyrmont Bridge and the proposed landbridge, Heritage NSW noted the following comments, several of which were reiterated by the Department of Planning and Environment (DPE) and City of Sydney (Council):</p> <ul style="list-style-type: none"><li>• Removal of the non-original eastern end of the Pyrmont bridge (constructed in the 1984) is supported as the works would not impact on significant fabric.</li><li>• Retention and restoration of the sandstone piers at the eastern end would have a positive impact and is supported.</li><li>• The re-establishment of the connection between Market Street and Bridge Street and the restoration of the original approach path is supported.</li><li>• The new escalator and stair additions to the eastern end of the bridge would have an adverse impact on the State heritage register listed values of the bridge including its historic and aesthetic values. Options to relocate the additions further back from the significant bridge stone piers should be explored to achieve a more sympathetic interface that minimises impact. It is considered that the visual impacts resulting from the approved podium location and alignment in close proximity to the bridge structure would be further increased by such additions.</li><li>• Detailed drawings (including demolition and proposed drawings) clearly illustrating the impacts on the bridge fabric should be prepared and submitted for approval to the Secretary of the Department. The area of the State Heritage Register (SHR) curtilage affected should also be clearly demarcated in the drawings.</li><li>• The new lift structure in the immediate vicinity of the bridge would have an adverse visual impact and the addition should be reconsidered in terms of its location, form and scale.</li></ul> |
| Post Exhibition Activities         | <p><b>Engagement with Heritage NSW</b></p> <p>Following the receipt of Heritage NSW's submission on the SSDA, several meetings were held between the Proponent and Heritage NSW to discuss the issues raised, provide further details of the design rationale and site constraints, and present alternative design options. Meetings with Heritage NSW were held on the following dates:</p> <ul style="list-style-type: none"><li>• 13 April 2022.</li><li>• 24 May 2022.</li><li>• 13 July 2022.</li><li>• 10 August 2022.</li></ul> <p><b>Engagement with Design Integrity Panel</b></p> <p>At Session # 11 of the Design Integrity Panel (DIP) held on 4 August 2022, Henning Larsen presented a revised 'Base Case' option and three further options responding to the issues raised by Heritage NSW (refer to Section 5.0 of this correspondence) in relation to the Pyrmont Bridge/landbridge connection and the adjacent elevator. The DIP comprised representatives</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                                                                                                   | from the NSW Government Architect, City of Sydney Council and original members of the Jury of the competitive design process. The DIP provided support for the 'Base Case'. These comments are detailed in Appendix G – Pyrmont Bridge and Land Connection letter prepared by Ethos Urban, submitted with the RTS package in December 2022.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Response to Submission December 2022 - <i>Appendix G Pyrmont Bridge and Landbridge Connection</i> | <p>As a result of the submissions of Heritage NSW, the City of Sydney and the NSW Department of Planning Environment, and subsequent discussions and meetings on this issue, the Proponent's design team sought to further test and demonstrate the options available to address the concerns raised with the exhibited design approach to the staircase, escalator and lift connections between the Pyrmont Bridge and the landbridge/Civic Link to Market Street. Therefore, as part of the Response to Submissions process submitted on 21 December 2022, an assessment of potential options was provided. The options were prepared in response to a direct request made by Heritage NSW in ongoing meetings regarding this issue.</p> <p>The results of this analysis are documented in the following sections and detailed further in the appended design package prepared by Henning Larsen in conjunction with Enstruct and Weir Phillips.</p> <p>Three options are presented and discussed in further detail in the following sections:</p> <ul style="list-style-type: none"> <li>• <b>'Base Case'</b> – Stairs/escalators as exhibited, lift shaft moved east. Proponent and DIP's preferred option.</li> <li>• <b>Option 1</b> – Staircase connection to Pyrmont Bridge only, escalators shifted to south of lift shaft.</li> <li>• <b>Option 2</b> – No direct connection between Pyrmont Bridge and landbridge, escalators and staircase relocated south.</li> </ul> |
| Response to Submissions – May 2023                                                                | As noted above, the statutory public exhibition process for the Stage 2 SSDA was undertaken from Wednesday 10 November 2021 until Tuesday 7 December 2021. A subsequent Response to Submissions (RTS) was submitted on 21 December 2022, which was then notified again to relevant government agencies early 2023. This letter forms part of the response to these submissions raised.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## 4.0 Design as Proposed

A number of detailed design changes have occurred since the exhibition of the Stage 2 SSDA and are proposed in accordance with Section 37 of the EP&A Regulation. These changes have occurred in response to feedback received in submission during the exhibition, including from public agencies and the broader community, feedback from the Design Integrity Panel (DIP), and through further progression and development of the design in order to enhance the project.

The proposed amendments are detailed in the amended Architectural Design Package, provided at **Appendix B** and **C** to the RTS package dated 31 May 2023. In summary, the proposed amendment include:

- Relocation of the lift at the end of the Pyrmont Bridge.
- Enclosure of the space underneath the escalators and stairs.

Each of these elements is discussed further in detailed below. Detailed discussions of the amendments are included at the Design Response Pack at **Appendix C** and in the architectural drawings as part of this package.

## 5.0 Options Analysis

As a result of the submissions of Heritage NSW, the City of Sydney and the NSW Department of Planning Environment, and subsequent discussions and meetings on this issue, the Proponent's design team have sought to further test and demonstrate the options available to address the concerns raised with the exhibited design approach to the staircase, escalator and lift connections between the Pyrmont Bridge and the landbridge/Civic Link to Market Street.

The results of this analysis are documented in the following sections and detailed further in the appended design package prepared by Henning Larsen in conjunction with Enstruct and Weir Phillips.

Three options are presented and discussed in further detail in the following sections:

- **Proponent's and DIP preferred option**– Design as submitted in original EIS application, stairs/escalators with butterfly canopy cover and lift shaft located as far east as possible.

- **Option 1** – Staircase connection to Pymont Bridge only, lift shaft to the south-east, no escalators.
- **Option 2** – Stairs/escalators with podium canopy cover.

### 5.1. Base Case (Proponent's preferred option)

This option retains the position of the stair and escalator as currently documented and publicly exhibited. Following exhibition, the lift shaft has been relocated as far as possible east, to sit at the edge of the landbridge, maximising the distance between this element and the sandstone piers of the Pymont Bridge whilst ensuring it is legible to pedestrians. This is the option that is supported by the DIP.

**Table 2**      *Base Case Analysis Table*

| Issue                  | Key Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architecture           | <ul style="list-style-type: none"> <li>• Most equitable and direct access for greatest number of users possible.</li> <li>• Maintains weather protection to escalator and stair users, including the provision of a clear screen on the northern side of the escalator to protect users from wind driven rain.</li> <li>• Clear view of Pymont Bridge southern pylon on approach from Pymont and the south.</li> <li>• Unobstructed views towards the north on approach from the south.</li> <li>• No interference with bridge abutment.</li> <li>• Clear public element that is distinguished from the retail podium.</li> <li>• Significant improvement to the existing bridge access design.</li> <li>• The canopy will provide clear way finding for this important passage from Market Street to Pymont Bridge.</li> <li>• Includes clear delineation between publicly accessible space under the Pymont Bridge.</li> </ul>                                                  |
| Heritage               | <ul style="list-style-type: none"> <li>• The base case has carefully positioned the structure to avoid physical impacts on significant Allan Trusses and Sandstone bridge approaches.</li> <li>• The proposal will reintroduce an axial alignment to Market Street allowing for a more sympathetic treatment to the eastern end of the bridge which currently terminates abruptly.</li> <li>• Maintains prominence of sandstone piers, particularly the view north towards the bridge.</li> <li>• Is a minor encroachment into the SHR curtilage which is outweighed by the benefits of establishing an axial link to Market Street.</li> <li>• The outer edge of the stair and escalator are made to match to give visual consistency to both sides of the structure. Further reinforcing the symmetry at the eastern end of the bridge and the line of Market Street.</li> <li>• The pushing of the lift further east provides greater views to the sandstone piers.</li> </ul> |
| Structural Engineering | <ul style="list-style-type: none"> <li>• Does not impact on clearances of the landbridge to the Western Distributor.</li> <li>• Permits the escalator and stair to connect to the western edge of the landbridge structure, providing level access.</li> <li>• Columns supporting headstock readily constructable with approved clearances to existing and new road infrastructure.</li> <li>• Modifications to the existing Pymont Bridge deck slab and beams limited to strengthening required for escalator, awning and stair loads, and new opening for escalator.</li> <li>• No modification required to the existing Pymont Bridge Eastern abutment.</li> </ul>                                                                                                                                                                                                                                                                                                             |
| Planning               | <ul style="list-style-type: none"> <li>• Consistent with the approved Design Guidelines/ Concept Development Consent objectives to provide a direct, legible and equitable pedestrian connection.</li> <li>• Does not result in unacceptable visual impacts.</li> <li>• Provides a direct and legible connection at the terminus of the Pymont Bridge to reinforce the connection through to Market Street and the CBD.</li> <li>• Maximises area of landbridge available for open space rather than pedestrian movement.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                              |

Overall, this option is considered to best balance the various objectives and design constraints, and accordingly is the option that is supported by the DIP and the design competition winning architects (Henning Larsen) as best demonstrating design excellence.



**Figure 1**     *Base Case – Indicative Render*

Source: Henning Larsen

## 5.2. Option 1 – Direct connection via Staircase only, lift shaft to the south, no escalators

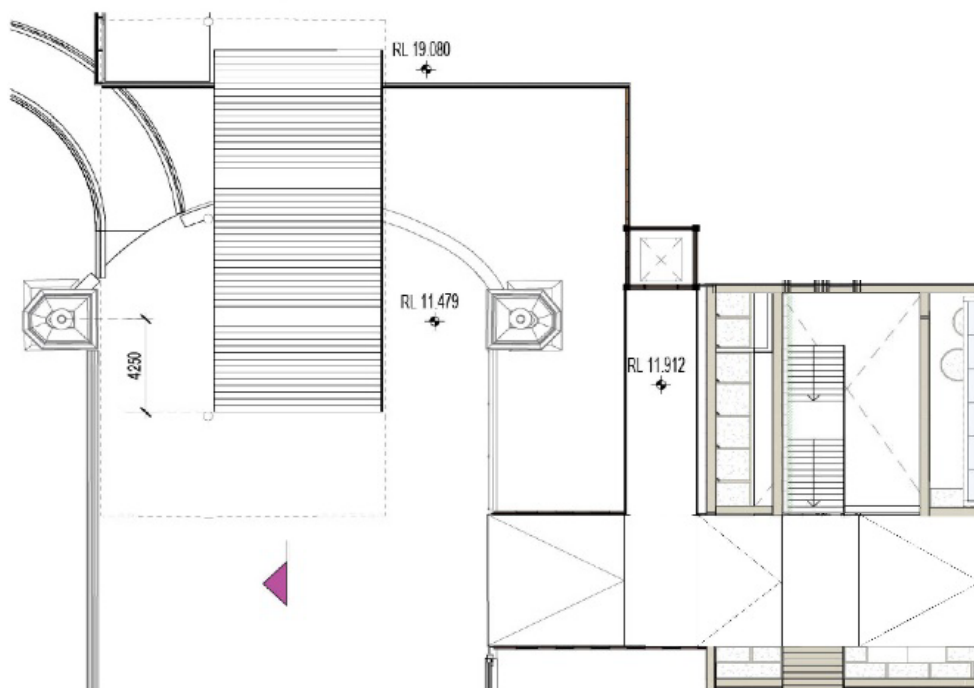
This is the preferred alternative design should the Base Case design not be accepted. This option removes the escalators adjacent the stairs and relocates the lift shaft as far east as can be accommodated. The staircase is widened to provide additional pedestrian capacity, reflecting the expected increased usage of this element compared with the circuitous route to the escalators. The base of the staircase is shifted as far east as possible without changing the landbridge structure. The gradient of the staircase remains compliant with the applicable standards. Weather protection from the butterfly canopy would be removed over the stairs as requested by the City of Sydney and terminate at the western edge of the landbridge.

**Table 3**      **Option 1 Analysis Table**

| Issue                  | Key Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architecture           | <ul style="list-style-type: none"><li>• Clear view of Pyrmont Bridge southern pylon on approach from Pyrmont and the south.</li><li>• Unobstructed views towards the north on approach from the south.</li><li>• No interference with bridge abutment.</li><li>• Clear public element that is distinguished from the retail podium.</li><li>• Significant improvement to the existing bridge access design.</li></ul>                                                                                                                                                                                                                                                                                                       |
| Heritage               | <ul style="list-style-type: none"><li>• Option 1 has carefully positioned the structure to avoid physical impacts on significant Allan Trusses and Sandstone bridge approaches.</li><li>• Maintains prominence of sandstone piers, particularly the view north towards the bridge.</li><li>• The outer edge of the stairs are made to match to give visual consistency to both sides of the structure. This further reinforces the symmetry at the eastern end of the bridge and the line of Market Street.</li></ul>                                                                                                                                                                                                       |
| Structural Engineering | <ul style="list-style-type: none"><li>• Does not impact on clearances of the landbridge to the Western Distributor.</li><li>• Permits the stair to connect to the western edge of the landbridge structure, providing level access.</li><li>• Columns supporting headstock readily constructable with approved clearances to existing and new road infrastructure.</li><li>• Modifications to the existing Pyrmont Bridge deck slab and beams limited to strengthening required for stair loads.</li><li>• No modification required to the existing Pyrmont Bridge Eastern abutment.</li></ul>                                                                                                                              |
| Planning               | <ul style="list-style-type: none"><li>• Consistent with the approved Design Guidelines/ Concept Development Consent objectives to provide a direct, legible and equitable pedestrian connection.</li><li>• Does not result in unacceptable visual impacts.</li><li>• Provides a direct and legible connection at the terminus of the Pyrmont Bridge to reinforce the connection through to Market Street and the CBD.</li><li>• Maximises area of landbridge available for open space rather than pedestrian movement.</li><li>• Reduces accessibility option for people with reduced mobility, will require persons to use the adjacent lift south of the stairs.</li><li>• No weather protection of the stairs.</li></ul> |

Given that the butterfly canopy is not preferred by the City of Sydney, this option explores this connection without a canopy. The escalator is removed in this option given the maintenance implications of the escalator being open to the elements. For this reason, this is the first preferred alternative of the Proponent.

However, this option does not mitigate what is understood to be the primary concern of Heritage NSW regarding the positioning of the staircase base to the west of the sandstone piers. The option represents a significant compromise in the equity of what is otherwise a highly direct and accessible path of pedestrian travel between Market Street and the Pyrmont Bridge.



**Figure 2**    *Option 1 - Indicative Render and Plan*

Source: Henning Larsen

### 5.3. Option 2 – Direct Connection via escalators and staircase, escalators with podium canopy

This option retains the position of the stair and escalator as currently documented in the preferred option. The alteration to this is that the wider canopy cover is pulled back in alignment with the end of the Landbridge connection and that the escalators are enclosed with an individual canopy that matches the style of the podium. This is **not** the preferred option of the Proponent but addresses the concerns of Heritage NSW in relation to the butterfly canopy.

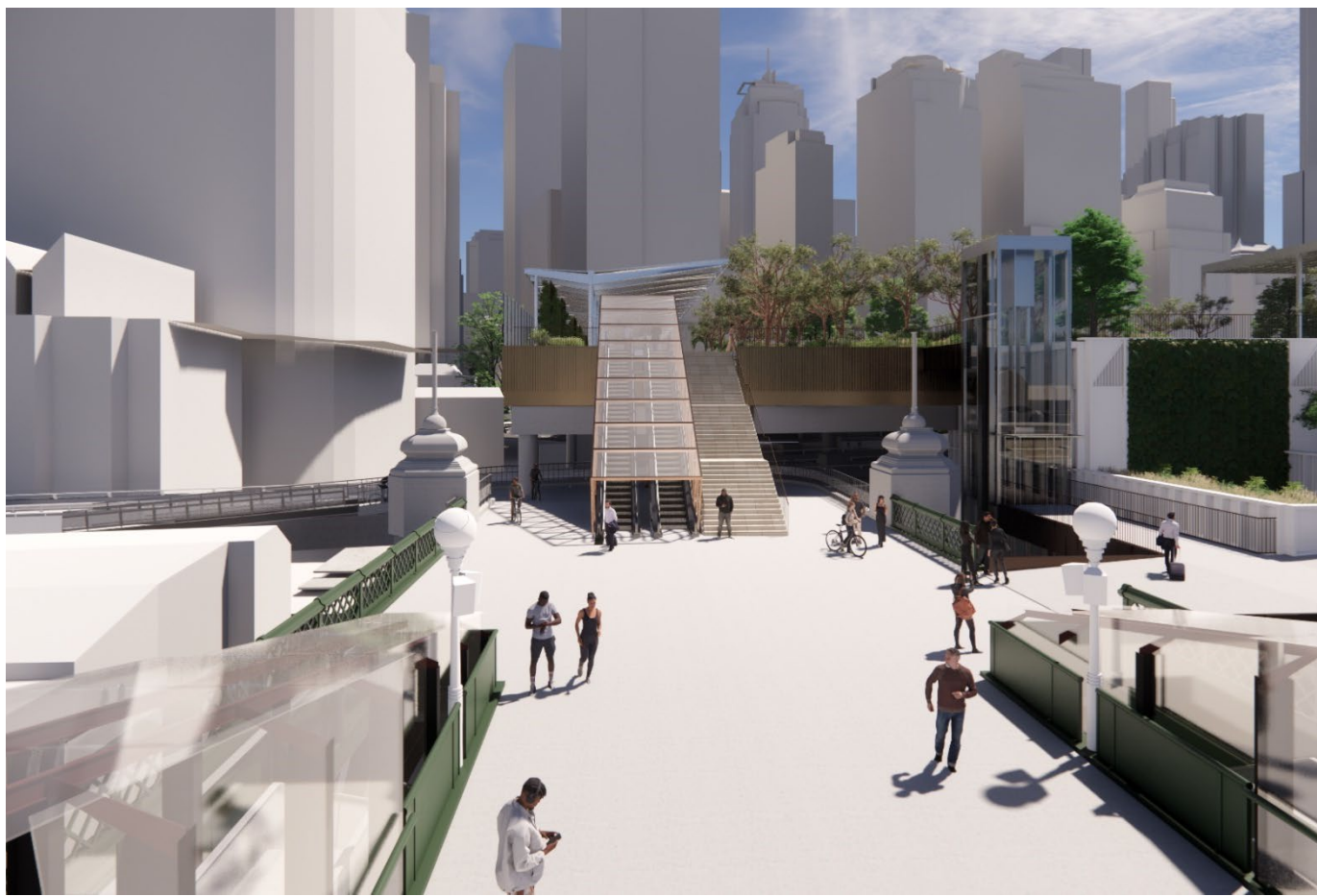
**Table 4**      *Option 2 Analysis Table*

| Issue                  | Key Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architecture           | <ul style="list-style-type: none"><li>• Maintains weather protection to escalators although does not provide protection for stair users.</li><li>• Clear view of Pyrmont Bridge southern pylon on approach from Pyrmont and the south.</li><li>• The canopy will block views when standing at the top of the escalators looking westward towards Pyrmont Bridge.</li><li>• No interference with bridge abutment.</li><li>• Clear public element that is distinguished from the retail podium.</li><li>• Is not aligned with the architectural language of the landbridge nor Pyrmont Bridge for this important civic connection.</li></ul>                                   |
| Heritage               | <ul style="list-style-type: none"><li>• Option 2 has carefully positioned the structure to avoid physical impacts on significant Allan Trusses and Sandstone bridge approaches.</li><li>• Maintains prominence of sandstone piers, particularly the view north towards the bridge.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                 |
| Structural Engineering | <ul style="list-style-type: none"><li>• Structural implications same as base case, no new structural implications.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Planning               | <ul style="list-style-type: none"><li>• Consistent with the approved Design Guidelines/ Concept Development Consent objectives to provide a direct, legible and equitable pedestrian connection.</li><li>• Does not result in unacceptable visual impacts.</li><li>• Provides a direct and legible connection at the terminus of the Pyrmont Bridge to reinforce the connection through to Market Street and the CBD.</li><li>• Maximises area of landbridge available for open space rather than pedestrian movement.</li><li>• Reduces accessibility option for people with reduced mobility, will require persons to use the adjacent lift south of the stairs.</li></ul> |

This option addresses the City of Sydney's concern regarding the butterfly canopy and its potential visual impact on the eastern end of the Pyrmont Bridge. It also addresses the impact of having escalators open to the elements by providing a canopy that covers the escalators only.

However, this design significantly restricts views from the top of the escalators across the Pyrmont Bridge and Darling Harbour. It also does not continue the design language of the Market Street civic link and provides a disjointed response to the pedestrian thoroughfare that this link is intended to represent by providing two different awnings between the escalator and landbridge.

This is not an option preferred by the Proponent nor the competition winning architects (Henning Larsen), and is the second preferred alternative proposed if the Base Case and Option 1 are not supported.



**Figure 3**     **Option 2 – Indicative Render**

Source: Henning Larsen

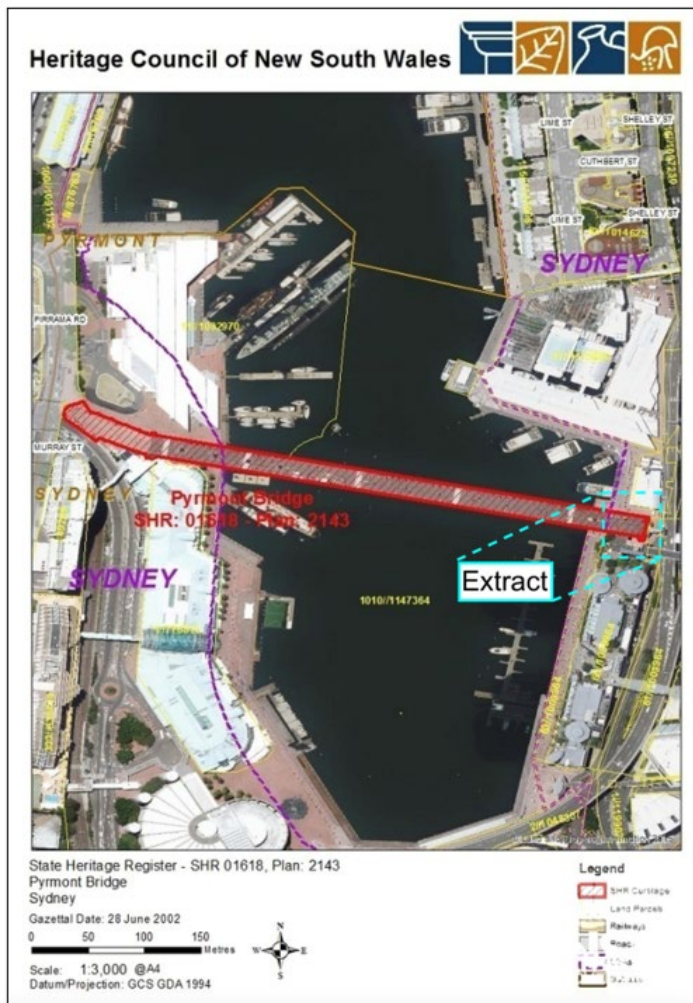
## 6.0 Heritage and Structural Assessment

This section seeks to provide greater detail regarding the heritage and structural implications of the preferred option as proposed in **Section 5.0** above. The proposed design alteration has taken into account the comments provided by Heritage NSW regarding the structural intervention of the Pyrmont Bridge due to the support required for the escalator, stairs and proposed canopy cover to the structure and heritage fabric.

### Heritage Impact

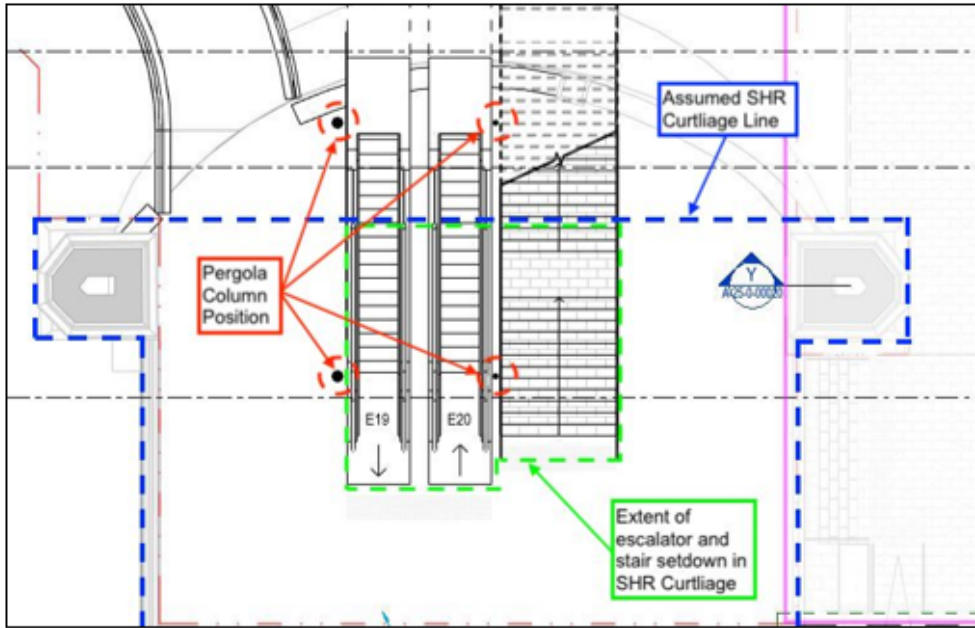
The proposed Base Case has been developed to limit the impact of the escalators and stairs on the important heritage fabric of the Pyrmont Bridge. It is noted that the other options considered in **Section 5.0** have a similar impact to the Pyrmont Bridge, and therefore have not been explicitly addressed in this section. Nevertheless, the heritage and structural commentary in this section largely apply to all options explored in **Section 5.0** given their similarity.

As outlined in the Heritage Response at **Appendix L** of the Submissions and Amendment Report, the heritage impact of the Base Case design is considered acceptable. It is anticipated that two of the support columns of the pergola and the escalator pit /stair set down will be within the legally defined curtilage of the bridge as indicated by the NSW State Heritage Register diagram. **Figure 4** is an extract from the NSW State Heritage Register Curtilage diagram for the Pyrmont Bridge. Due to the resolution of the image, it is difficult to discern the exact curtilage of the bridge, but it is assumed it aligns along the eastern side of the sandstone pylons. This aligns with the cut line where the bridge was separated from Market Street for the construction of the western distributor and from subsequent works to construct the Monorail (see **Figure 5**). The extent of alteration to the eastern abutment during those alterations is shown in more detail at **Appendix L**.



**Figure 4** NSW State Heritage Register Diagram

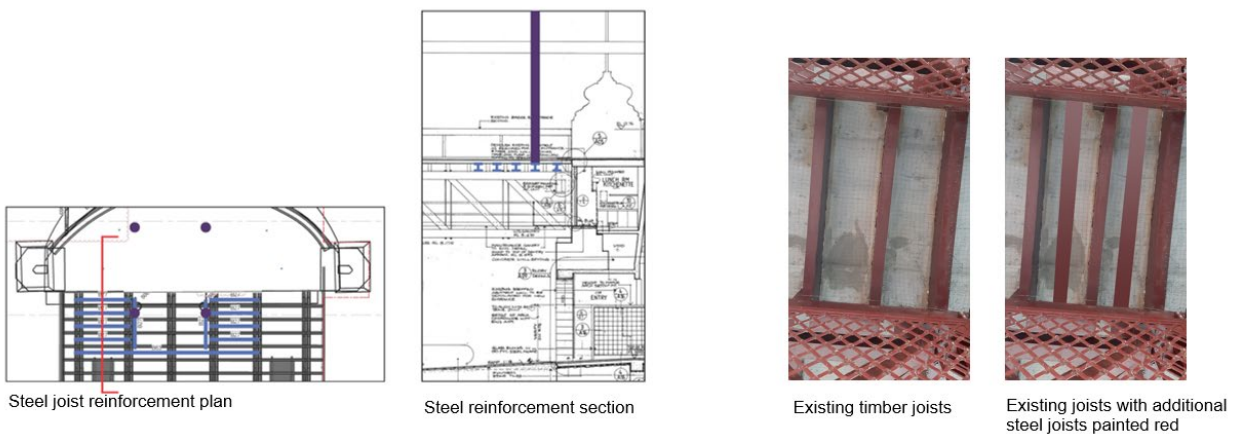
Source: State Heritage Register



**Figure 5** Column position in regard to the assumed SHR curtilage line

Source: Weir Phillips

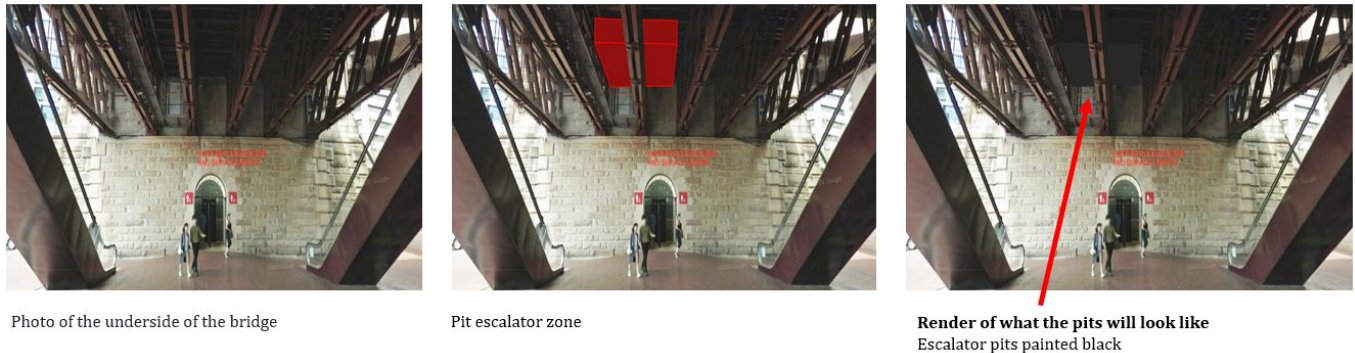
Additionally, the proposed escalator and stair set downs will require the removal of part of the existing asphalt and concrete surface and several timber joists. This deck and rafters were replaced in 1947 to allow for heavier traffic to cross the bridge and is ranked of “moderate significance” by the CMP 2006. The bridge will need to be reinforced by adding joists on top of the principal girders of the bridge and four columns to support the canopy and escalators. These steel joists will only be visible directly underneath the bridge and be painted red to blend with the adjacent timber joists. See **Figure 6** below.



**Figure 6** Proposed additional reinforcement

Source: Weir Phillips

In relation to the escalator pits resulting from the provision of the escalators in the base case, the escalator pits will sit between three of the principal girders of the bridge. The cladding of the pits will be painted black to be seamlessly integrated amongst the structure of the bridge in this area. As shown in **Figure 7** below, it is anticipated that the escalator pits will be very difficult to discern in this location and will not detract from the heritage fabric of the underside of the Pyrmont Bridge.



**Figure 7** *Proposed location of the escalator pits underneath the Pyrmont Bridge*

Source: Henning Larsen

### Structural Impact

The Structural Design Intent letter provided by Enstruct (**Appendix N** of the RTS) notes outlines the structural constraints and opportunities that have been considered in relation to the landbridge and its connection to Pyrmont Bridge.

The key structural considerations are:

- **Road clearances:** All new structures are required to ensure a minimum two metre clearance from the elevated Western Distributor roadway. This can only be reduced in exceptional circumstances with express approval from TfNSW. Further, all new structure is to be located a minimum 5.8 metres from any surface of the road to provide for vehicle clearance and servicing.
- **Preserving primary structure:** Preserving the Pyrmont Bridge primary structure is a priority for the design, including maintaining structural integrity of the trusses, abutment shear walls and diaphragm load path. It is of priority to minimise any demolition and limit any required demolition to secondary structural elements, floor joists, toppings, etc.
- **Minimising Impact:** Design of new structural elements connecting to the Bridge are to utilise the lightest possible structural form to minimise demand on the existing structure.

Enstruct considers that the preferred design outlined in **Section 4.1** addresses these key considerations satisfactorily. In order to accommodate the relevant clearances to the Western Distributor, the location and landing of the escalators is restricted. The preferred design shows the escalator landing in the most eastward position that can be accommodated given this restriction.

In relation to preserving the primary structure of the Pyrmont Bridge and minimising impact to important heritage elements, Enstruct note that the existing Pyrmont Bridge deck is supported by hybrid timber and steel trusses, which in turn support timber floor joists overlain by a concrete deck and topped with asphalt. In order to create escalator penetrations, the asphalt and concrete will be removed and joists will be cut, with primary bridge support trusses (i.e. elements of higher heritage value) left in place and not impacted. Trimming and strengthening steel beams will be added in the plane of the joists to form the penetrations and carry the escalator and stair loading back to the trusses.

Setting the escalator pits west of the existing pylon wall prevents the need to compromise the lateral pylon structure which forms the primary lateral stability system for the bridge, by avoiding cutting the western wall and suspended slab.

## 7.0 Conclusion

This letter sets out the background, stakeholder views and key planning, design, heritage and engineering considerations that have informed the preferred 'Base Case' option for providing a pedestrian connection between the Pyrmont Bridge and the landbridge/Civic Link to Market Street. The Design Integrity Panel has provided a view on the potential options that is supportive of the Base Case arrangement, and it is understood by the Proponent that this option is also supported by Place Management NSW. The Base Case is the option for which consent is sought as part of the Submissions and Amendment Report for the Detailed SSD Application.

The alternative options presented, while compromised in terms of urban planning outcomes, are considered to be alternate functional outcomes available from a technical and planning perspective. Each of these options are capable of being constructed in a reasonable and feasible manner, should the Department of Planning and Environment determine that the Base Case should not be approved, and another form of connection is required. The Proponent would accept a condition of consent requiring design modification to incorporate any of the alternative designs post approval, though reiterating the request for the avoidance of doubt for the Base Case proposal being approved.