



Integrated
Management
System

Planning Approval Consistency Assessment Form

SM ES-FT-414

Sydney Metro Integrated Management System (IMS)

Assessment Name:	Heritage Wall Temporary Stormwater Relocation (Barangaroo)
Prepared by:	BESIX Watpac
Prepared for:	Sydney Metro
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1. Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)):

SSI15_7400 Sydney Metro City & Southwest – Chatswood to Sydenham
 Mod 1 Victoria Cross Station, Artarmon Substation and minor administrative mod
 Mod 2 Central Walk mod
 Mod 3 Martin Place Station mod
 Mod 4 Sydenham Station and Sydney Metro Trains Facility South mod
 Mod 5 Blues Acoustic Shed
 Mod 6 Administrative Changes
 Mod 7 Administrative Changes
 Mod 8 Blues Point Access Site
 Modification 9 – Extension to standard construction hours

Date of determination:	Infrastructure Approval date – 09 January 2017 Modification 1 Approval date – 18 October 2017 Modification 4 Approval date – 13 December 2017 Modification 2 Approval date – 21 December 2017 Modification 3 Approval date – 22 March 2018 Modification 5 Approval date – 02 November 2018 Modification 6 Approval date – 21 February 2019 Modification 7 Approval date – 29 June 2020 Modification 8 Approval date – 25 November 2020 Modification 9 Approval date – 30 June 2022	Type of planning approval:	Critical State Significant Infrastructure
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Relevant background information (including EA, REF, Submissions Report, Director General’s Report, MCoA):

(Uncontrolled when printed)

Chatswood to Sydenham Environmental Impact Statement, May 2016

Chatswood to Sydenham Submissions and Preferred Infrastructure Report, October 2016

Chatswood to Sydenham Conditions of Approval, 9 January 2017, as modified

Modifications 1-8 Modification Reports and Submission Reports

Hickson Road Retaining Wall Jemena Temporary Diversion at Barangaroo, April 2021

Consistency Assessment Jemena Temporary Diversion at Barangaroo (TfNSW44 December 2020)

The proposal identified in the assessment would be undertaken in accordance with the mitigation measures identified in the EIS, SPIR, SR and Conditions of Approval.

Description of existing approved project you are assessing for consistency:

The Approved Project involves a new metro rail line, approximately 16 kilometres long, between Chatswood and Sydenham. New metro stations will be provided at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street and Waterloo, as well as a new underground metro platforms provided at Central Station.

This Consistency Assessment relates to stormwater management at the Barangaroo site. Section 17.4.5 of the Environmental Impact Statement assessed that all stormwater would be diverted around station excavations to prevent ingress to tunnels. Due to the proximity of Barangaroo to Sydney Harbour and the presence of remediated land, Barangaroo Station would be a 'tanked' structure to prevent groundwater inflows. The 'tanked' design approach at Barangaroo Station therefore anticipated groundwater take would be minor to negligible and thereby there would be negligible take from surface water sources such as Sydney Harbour. The EIS stated that Sydney Water have water, sewer and stormwater assets which may require protection and / or relocation during construction.

The EIS/SPIR assessed the Hickson Road Wall within the State Heritage Register (SHR) as it is located within SHR listed Millers Point and Dawes Point Village Precinct. Whilst the heritage significance of Hickson Road Wall was noted within the EIS/SPIR, direct impact on the High Street cutting was not identified in the EIS or SPIR. Transport for NSW sought to clarify the potential conflict between the requirements of conditions E10 and E58 by writing to the Department of Planning and Environment under Condition A6 to confirm that in the event that protection mitigation is required that may cause any negative impact to heritage listed items not assessed in the EIS or SPIR the following process would be undertaken:

- Statement of Heritage Impact assessing the defined scope (see Appendix A)
- Undertake a Environmental Assessment including Consultation with the relevant Agencies and the Community
- Seek required permit/approvals/exemptions

Sydney Metro commissioned GML Heritage to provide conservation policy, *Hickson Road Wall Policy*, and guidance in regard to the Hickson Road Retaining Wall, Barangaroo to:

- Address the management of physical and visual impacts to the wall; and
- Provide guidance on the management of works more generally within the heritage setting

Hickson Road Wall is identified in the CSSI Conditions of Approval under condition E13, whereby the requirement of E13 is to provide a Heritage Archival Recording Report, including photographic recording of Hickson Road Wall for any project elements that would be located in front of the wall.

2. Description of proposed change which is the subject of this assessment

This Consistency Assessment has been prepared for temporary changes proposed at Hickson Road, the eastern boundary of the Barangaroo site. The proposal would involve the temporary relocation of a stormwater pipe, which is currently suspended off the bottom of the existing Hickson Road temporary bridge which is scheduled to be demolished. It involves installing new temporary stormwater pipes on the side of the Hickson Road wall (also known as the High Street Cutting) suspended off the rock anchor brackets installed by the TSE Contractor under Consistency Assessment - Protection of the High Street cutting at Barangaroo, and connecting these pipes to existing downpipes, as shown in 3.2, 3.3, 3.4, 3.5 on Figure 1, which are located behind the concrete and shotcrete sections of the wall. There will be no interference with the sandstone sections of the wall. The stormwater pipes will be connected into an existing stormwater pit (SWP-4) and discharged through the existing stormwater drainage network to the north of the Hickson Road bridge which discharges to Sydney Harbour. The downpipes will be accessed by core stitching through the concrete encasing them which will require a 0.4 x 0.4m aperture be formed at four locations along the wall.

The temporary diverted stormwater line will be removed from the heritage wall prior to completion of the project, and the heritage wall will be made good, following the advice of the project Excavation Director and a heritage architect, as part of the existing Barangaroo contract.

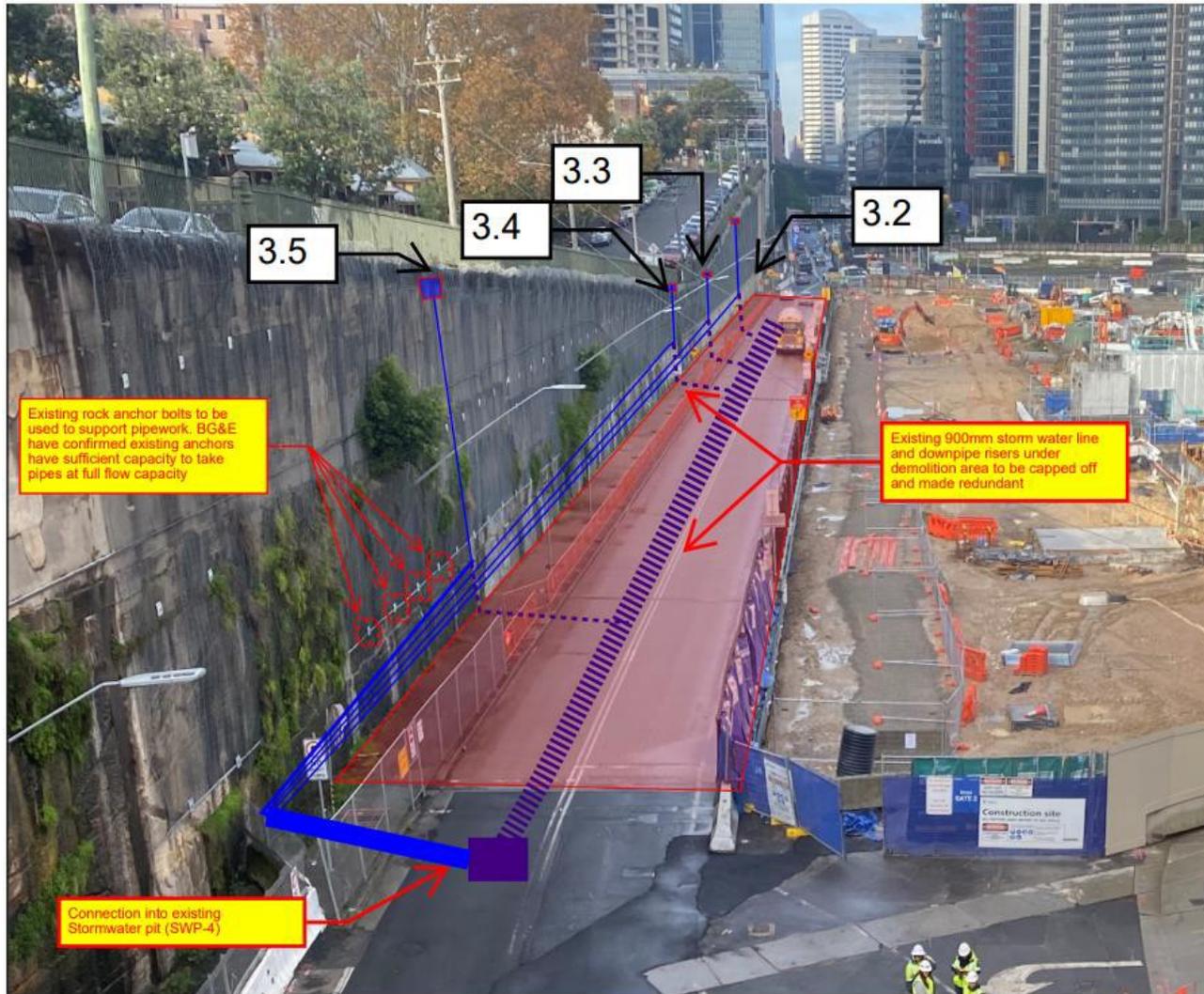


Figure 1: Location of proposal at Barangaroo site.

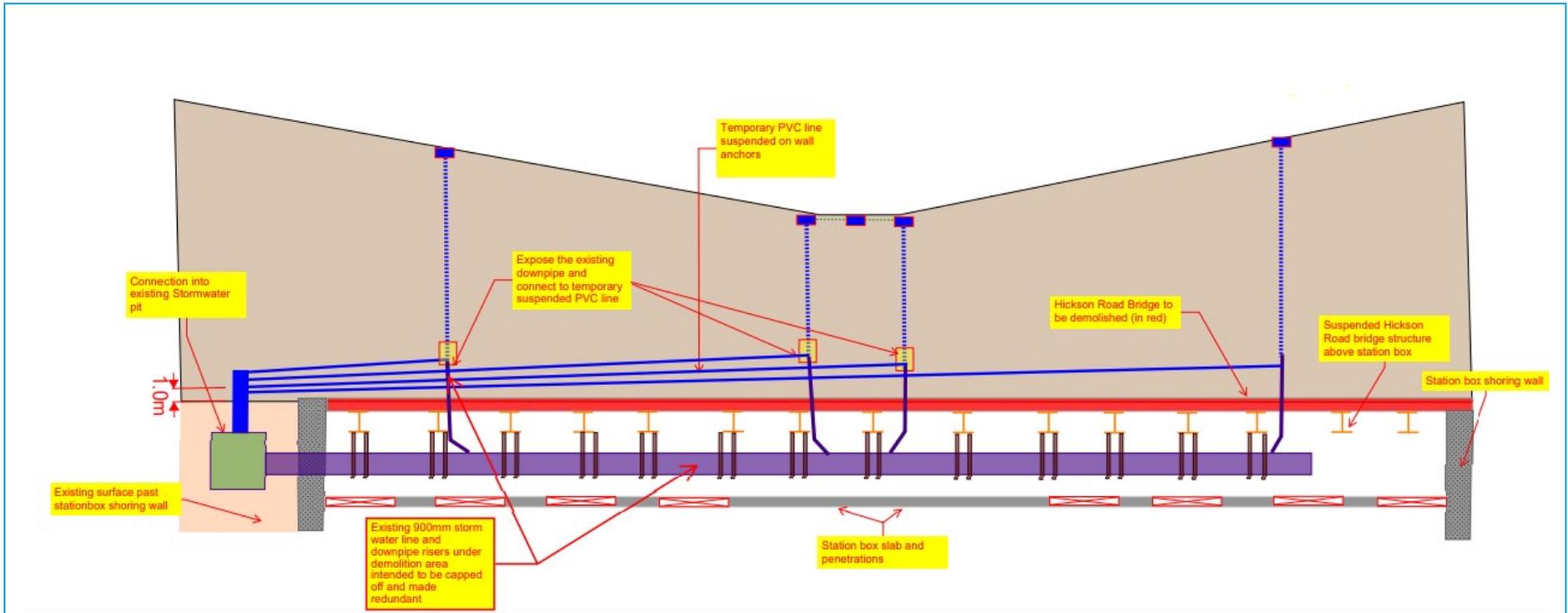


Figure 2: Changes proposed to Hickson Road Wall at Barangaroo site (concept design).

3. Timeframe

The proposal would commence early July 2022 and the work to install the stormwater pipes to the wall would take a week and be installed on the wall for approximately 6 months.

4. Site description

The proposal would be at Hickson Road and the Hickson Road Wall (also known as the High Street Cutting) within the Barangaroo site. The site is located at Millers Point and is associated with the construction of the Sydney Metro Barangaroo Station being undertaken beneath, and located in the state heritage significant Millers Point Heritage Conservation Area and the Millers Point & Dawes Point Village Precinct Heritage Conservation Area

Barangaroo Station is located between Hickson Road and Nawi Cove / Sydney Harbour to the West, within the suburb of Barangaroo and to the north of the Central Barangaroo Development. Residential properties are located along Windmill Street to the north, and High Street to the East.

5. Site Environmental Characteristics

Hickson Road forms the eastern boundary of the Barangaroo site. Hickson Road is located at the base of a distinctive cliff two to four storeys high known as the Hickson Road Wall, or High Street Cutting. The cliff is a local visual feature, with its exposed sandstone rock face and masonry, heritage railings and staircase cut into the stone. The cliff also creates a strong spatial 'edge' to the Barangaroo peninsular between Munn Street and the High Street stairs in the south, and a physical barrier to east–west movement. South of the High Street stairs, there are mixture of contemporary and heritage buildings which align with the line of the wall, addressing the road with a mix of commercial, offices and service entries. In this area, there is a second staircase, providing access to the upper levels of the peninsula along Kent Street.

Hickson Road was constructed in the early twentieth century and holds social significance as it is the only remaining significant feature of the 'Hungry Mile' that forms part of the Millers Point and Dawes Point Village Precinct.

The Hickson Road Wall is located within the SHR listed Millers Point and Dawes Point Village Precinct and the similarly located listed Conservation Area 35 (Sydney LEP). The Palisade fence and High steps including the wall (and listed separately) and the bridges over Hickson Road are also separately listed on the following heritage registers:

- SHR 01682
- Sydney LEP 2012
- SHR 00884
- Sydney LEP 2012 (CA35)
- Sydney LEP 2012 (1882) (Local)
- Sydney LEP 2012 (1869) (Local)

6. Justification for the proposed change

The proposal of the new stormwater line is justified for the following reasons:

- 1) The temporary existing stormwater pipe suspended underneath the Hickson Road Bridge has broken three times due to a deficiency in the type of fixings used in its construction breaking during recent heavy rainfall. This has resulted in three occasions of flooding to the station box which has posed a risk to construction personnel working in the station and has risked inundating the metro tunnels connecting to the station. If the existing stormwater pipe is left in place during the demolition, then there is a considerable risk that these connections, and the pipe itself, would be damaged which would result in further flooding of the station in a heavy rain event. This flooding would pose a risk to construction operatives working in the station and could inundate the adjacent tunnels.
- 2) The existing stormwater pipe is unable to be protected in such a way that the Hickson Road Bridge deck over the top could be safely demolished without damaging the stormwater pipe.
- 3) If the stormwater pipe were to be left suspended under Hickson Road Bridge whilst the bridge is being demolished over the top of it, then feasible safe access into the work area to rectify any damage that may be caused during the demolition due to site constraints.
- 4) The proposed arrangement allows a temporary stormwater pipe to be installed and left in place until the permanent stormwater arrangement is completed without having to break the stormwater line and do multiple stages of temporary connections as the demolition progresses and other construction (exhaust and egress stair pods) take place, which increases risk of flooding in a heavy weather event.
- 5) The current temporary stormwater pipework connections to the downpipes behind the heritage wall clash with the permanent ventilation and stair pod structures that are being built which will require these to be relocated.

7. Environmental Benefit

Relocating the stormwater pipe from underneath the temporary Hickson Road bridge would expedite the demolition of the bridge which would reduce the overall noise impact on local residents.

Mitigating the flood risk by replacing the existing pipe would prevent the unwanted discharge of uncontrolled water onto the site which could overwhelm the on-site environmental controls, resulting in uncontrolled discharge into the harbour.

8. Control Measures

Will a project and site specific EMP be prepared?	<input checked="" type="checkbox"/> Yes	Are appropriate control measures already identified in an existing EMP?	<input checked="" type="checkbox"/> Yes
	<input type="checkbox"/> No		<input type="checkbox"/> No

9. Conditions of approval

Will the proposal be consistent with the conditions of approval?	<input checked="" type="checkbox"/> Yes
	<input type="checkbox"/> No

9. Impact Assessment – Construction

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No changes from the Approved Project.	No additional measures required	Y	Y	
Water	The proposal has a positive impact on water in that the existing stormwater pipe has broken on three occasions causing stormwater to flood the site. Should this happen again it risks inundating the project's environmental controls and discharging off site into Sydney Harbour potentially with contaminants.	The replaced stormwater pipework fixed to the Hickson Road wall (this proposal) is the control measure	Y	Y	
Soils and contamination	No changes from the Approved Project.	No additional measures required	Y	Y	
Air quality	No changes from the Approved Project.	No additional measures required	Y	Y	
Noise and vibration	Minimal temporary impacts consistent with the approved project – The nature of the noise and vibration impacts is from coring activities Coring has been selected as the means of breaking into the concrete encasement of the downpipes as it is both quiet and generates very little vibration The extent of impact is temporary. Noise and Vibration will be managed in accordance with the CNVMP, and CNVIS (Civil works)	Coring has been selected as the control measure as it generates little noise or vibration. In addition, an Archaeologist will be present to oversee the coring works.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Aboriginal heritage	Technical Paper 5 in the SSI_7400 EIS states no recorded Aboriginal sites are located within 100 meters of the station, with the closest sites located 300 meters to the north and east.	No additional measures required	Y	Y	
Non-Aboriginal heritage	<p>Hickson Road Wall is significant at a State level as it is a dominant and relatively intact component of the extensive c1909 alterations to the natural topography of Millers Point that were designed to facilitate the management of cargo into and out of the new two-level finger wharves. The retaining wall has landmark quality and displays an interface of fabrics, comprising the excavated rock face and cement render, and masonry construction at its northern end. The wall also holds social significance as it forms part of the 'Hungry Mile'.</p> <p>The temporary changes to Hickson Road Wall were not considered as part of the Approved Project, therefore the proposed temporary changes are assessed for consistency with the assessed heritage impacts such that the impact is equal to or less than that previously assessed.</p> <p>The proposed works would not impact the significant fabric of the High Street wall. Penetrations will be limited to the concrete encasement of existing services in areas where the render has been significantly damaged or is non-existent and does not contribute to the heritage values of the item.</p>	<p>Works and repairs would occur in accordance with the Hickson Road Retaining Wall Barangaroo Conservation Policy and Guidelines (GML Heritage 2021).</p> <p>A Heritage Impact Assessment (HIA) has been prepared by AMBS Heritage and Ecology in support of the proposed works. In addition, AMBS archaeologists will be present to oversee the works when they occur.</p>	Y	Y	

(Uncontrolled when printed)

	The proposed works are minor in nature and will have a negligible impact on the significance of the Millers Point and Dawes Point Village Precinct (SHR 01682).				
Community and socio-economic	No changes from the Approved Project.	No additional measures required	Y	Y	
Traffic and transport	No changes from the Approved Project.	No additional measures required	Y	Y	
Waste and resource management	No changes from the Approved Project.	No additional measures required	Y	Y	
Visual	<p>Impacts to significant views and landscapes are temporary and negligible in the context of approved works currently taking place along Hickson Road. The temporary services will utilise existing hardware to attach to the High Street wall. The temporary pipes will be largely obscured by approved construction works along Hickson Road which will negate any visual impact.</p> <p>Visual impacts would be temporary and areas restored to pre-existing conditions. Visual impacts will be mitigated by the hoarding surrounding the project which restricts the visibility of the wall.</p>	<p>Works and repairs will occur in accordance with the Hickson Road Retaining Wall Barangaroo Conservation Policy and Guidelines (GML Heritage 2021)</p> <p>No additional measures required as impacted parts of the wall will mostly be concealed behind the project site hoarding.</p>	Y	Y	
Land use and property	No changes from the Approved Project.	No additional measures required	Y	Y	
Hazard and risk	The proposal reduces risk by stopping the requirement for construction personnel to have to access the underside of the Hickson Road bridgeto remove / remediate the stormwater pipe in a confined environment if damaged during demolition or during high rainfall.	No additional measures required	Y	Y	
Other	No changes from the Approved Project.	No additional measures required	Y	Y	

10. Impact Assessment – Operation

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No changes from the Approved Project.	No additional measures required	Y		
Water	No changes from the Approved Project.	No additional measures required	Y	Y	
Soils and contamination	No changes from the Approved Project.	No additional measures required	Y	Y	
Air quality	No changes from the Approved Project.	No additional measures required	Y	Y	
Noise and vibration	No changes from the Approved Project.	No additional measures required	Y	Y	
Aboriginal heritage	No changes from the Approved Project.	No additional measures required	Y	Y	
Non-Aboriginal heritage	No changes from the Approved Project.	No additional measures required	Y	Y	
Community and socio-economic	No changes from the Approved Project.	No additional measures required	Y	Y	
Traffic and transport	No changes from the Approved Project.	No additional measures required	Y	Y	
Waste and resource management	No changes from the Approved Project.	No additional measures required	Y	Y	
Visual and urban design	No changes from the Approved Project.	No additional measures required	Y	Y	
Land use and property	No changes from the Approved Project.	No additional measures required	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Hazard and risk	No changes from the Approved Project.	No additional measures required	Y	Y	
Other	No changes from the Approved Project.	No additional measures required	Y	Y	

11. Consistency with the Approved Project

Question	Consider the following:
Is the project as modified consistent with the conditions of approval?	Would carrying out the proposed change not result in any conflict with the conditions of approval? Yes. The proposed works would be consistent with the conditions of approval.
Is the project (including the proposed changes) consistent with the objectives and functions of elements of the Approved Project?	Yes. The changes identified in this assessment are consistent with the objectives and functions of the elements of the approved project.
Are the environmental impacts of the proposed change consistent with the impacts of the approved project?	Yes. The proposed works would not result in any changes to environmental impacts as assessed in the project approval.
Is the change within the envelope of what has been approved?	Yes. The changes identified in this assessment are consistent with the objectives and functions of the Approved Project and the environmental impacts been adequately assessed.
Are there any new environmental impacts as a result of the proposed works/project changes?	All risks would be adequately addressed through the application of the mitigation measures in the above tables. There would be no new environmental risks as a result of the proposed works.
Are the impacts of the proposed activity/works known and understood?	Yes. The impacts of the proposed works are understood and will be accounted for by implementing the control measures within this document, and relevant plans.
Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?	Yes. The impacts of the proposed works can be managed so as to avoid an adverse impact.
Is the proposed change/s consistent with the approval (having regard to the above assessment)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

12. Other Environmental Approvals

Identify all other approvals required for the proposed works:	N/A
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13. Recommendation

Based on the above impact assessment, and with reference to the Statement of Heritage Impact (Appendix A) and Hickson Road Wall Policy, including the conditions of approval, it is recommended that:

Tick relevant box	
The proposed change has negligible or more than negligible impacts on the environment or community however is consistent with the Approval, including the conditions of approval. The proposed impacts are consistent with those assessed for the Approved Project (i.e., does not trigger a change to the conditions of approval).	<input checked="" type="checkbox"/>
The proposed change is not consistent with the Approved Project including the conditions of approval and would be subject to a separate modification application.	
The proposed change is not substantially the same as the Approved Project and is considered a radical transformation. A new planning pathway should be considered.	

Author certification

I certify that to the best of my knowledge this Consistency Checklist:

- Examines and takes into account the fullest extent possible all matters affecting or likely to affect the environment as a result of activities associated with the proposed change; and
- Examines the consistency of the proposed change with the Approved Project; is accurate in all material respects and does not omit any material information.

Name:	Isabella Caruso / Mike Nevin	Signature:	
Title:	Planning Officer / Environment Manager		
Company:	Sydney Metro / Besix Watpac	Date:	6 July 2022

Environmental Representative Review

As an approved ER for the Sydney Metro City & Southwest (Chatswood to Sydenham) project, I have reviewed the information provided in this assessment. I am satisfied that mitigation measures are adequate to minimise the impact of the proposed work.

Name:	Jo Heltborg	Signature:	
Title:	Environmental Representative	Date:	6 July 2022

Assessment Supporting Signature

Application supported and submitted by

Name:	Yvette Buchli	Date:	6 July 2022
Title:	Associate Director Planning Approvals	Comments:	
Signature:			

Assessment Endorsement

Based on the above assessment, are the impacts and scope of the proposed change consistent with the existing Approved Project?

Yes The proposed change is consistent with the Approved Project and no further assessment is required.

No The proposed change is not consistent with the Approved Project.

A modification or a new activity approval/ consent is required. Advise Senior Project Manager of appropriate alternative planning approvals pathway to be undertaken.

Endorsed by			
Name:	Fil Cerone	Date:	6 July 2022
Title:	Director, City & Southwest, Environment, Sustainability & Planning	Comments:	
Signature:			

Appendix A – Statement of Heritage Impact

MEMO



DATE: 4 July 2022

AMBS Ref: 20870M5

TO: Mike Nevin, Design Manager, Construction, Watpac Besix Group

FROM: Mike Hincks, AMBS Senior Historical Heritage Consultant

SUBJECT: Statement of Heritage Impact: Installation of temporary stormwater pipes, High Street retaining wall and cutting, Barangaroo

The Sydney Metro & City Southwest project was approved by the Minister for Planning on 9 January 2017 as Critical State Significant Infrastructure. AMBS Ecology & Heritage (AMBS) was responsible for managing all heritage aspects of the Sydney Metro City & Southwest Chatswood to Sydenham Metro project TSE works, and production of the overarching Construction Heritage Management Plan for the project.

The construction of the new Barangaroo Station for the project involved substantial excavations for the station box in Hickson Road, adjacent to the High Street cutting and retaining wall. The Barangaroo Station site is within the *Millers Point & Dawes Point Village Precinct*, which is Item 01682 on the State Heritage Register (SHR). The Precinct has identified historical, associative, aesthetic, and social significance, research potential, rarity and representativeness. The High Street cutting and retaining wall (High Street wall) is a contributory element to item 01682 and shares its State significant heritage values.

In 2017 AMBS prepared the *Statement of Heritage Impact* (SoHI) for the protective measures; rock anchoring and protective mesh, used to protect the High Street Wall during construction of the station box under Hickson Road. Additionally, a memo prepared by AMBS in April 2018 outlined specific details regarding the method of fixing the rockfall protective mesh as well as recommendations surrounding its future removal. In 2021 AMBS prepared a management document for the removal of the protective mesh (20870M1).

The Minister's Condition of Approval relevant to the protection of heritage is:

E10 The Proponent must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1 (which refers to the project EIS and PIR).

The current proposal for temporary stormwater lines to be attached to the High Street wall is outside the scope of works covered by the project EIS and PIR. This SoHI has been prepared to address the potential heritage impact of the proposal.

This SoHI was written by Mike Hincks, AMBS Senior Historical Heritage Consultant, with advice from Jennie Lindbergh, AMBS Director Historic Heritage.

Proposal

The proposal is to temporarily divert stormwater lines that run between High Street and Hickson Road so that the drainage system can continue to function during the demolition of

the Hickson Road bridge. The Hickson Road bridge is a temporary structure that has been in place since 2018, and has allowed traffic to pass over the station box during construction. The stormwater lines that need to be diverted are vertical pipes that run down the face of the High Street wall. The lines have outlets into a large capacity pipe that is suspended beneath the Hickson Road bridge. The functioning of the suspended pipe cannot be maintained during demolition of the bridge.

The stormwater lines have been recessed into the retaining wall and cutting, and have been encased in concrete which has been rendered so that it is flush with the face of the wall. The proposed diversion involves cutting the concrete encasement to expose four of the pipes at four separate locations along the High Street wall. New connections will be added which will channel the stormwater into four PVC pipes that will be suspended along the length of the wall. The pipes are between 200mm and 350mm in diameter. These pipes will reconnect with the subsurface system at the northern end of the Hickson Road bridge.

Once the demolition is complete, and Hickson Road is permanently reinstated, the vertical stormwater lines will be directly reconnected with the large capacity system below ground, and the temporary pipes will be removed. It is expected that the temporary stormwater diversion will need to be in place for six months.

Heritage Context and Significance

The High Street retaining wall and cutting is a large-scale modification that was designed to allow the continuation of Sussex Street north along the steep and rocky shoreline to Miller's Point and Dawes Point. It incorporates both a cutting into sandstone bedrock and a retaining wall above. The wall and cutting together create a vertical face bordering the eastern side of Hickson Road for 300m from the Munn Street overbridge in the north, to the High Street Steps in the south. The wall forms the boundary between Barangaroo and Millers Point in the Sydney City Local Government Area (LGA).

The wall is a contributory element of the *Millers Point & Dawes Point Village Precinct* (SHR 01682). The Statement of Significance for the item makes particular reference to the setting and layout of the precinct, and the wall forms a distinctive landscape element in that setting. The Statement of Significance notes that the modifications and changes that have taken place in response to the engineering and building challenges on the peninsula have both capitalised on, and conflicted with its original form, which give it its unique character and are evidence of its development as a maritime cultural landscape:

The natural rocky terrain, despite much alteration, remains the dominant physical element in this significant urban cultural landscape in which land and water, nature and culture are intimately connected historically, socially, visually and functionally.

...The postcolonial phase is well represented by the early 20th century public housing built for waterside workers and their families, the technologically innovative warehousing, the landmark Harbour Bridge approaches on the heights, the parklands marking the edges of the precinct, and the connections to working on the wharves and docklands still evident in the street patterns, the mixing of houses, shops and pubs, and social and family histories of the local residents.

Millers Point & Dawes Point Village Precinct has evolved in response to both the physical characteristics of its peninsular location, and to the broader historical patterns and processes that have shaped the development of New South Wales

since the 1780s... The whole place remains a living cultural landscape greatly valued by both its local residents and the people of New South Wales. (HO)

In February 2017, GML Heritage prepared a Heritage Assessment of the High Street wall. The report details the contributory value of the wall to the significance of the *Millers Point & Dawes Point Village Precinct*. The supporting Statement of Significance for the wall is:

The Hickson Road Retaining Wall is a significant, contributory built element within the Millers Point and Dawes Point Village Precinct and the Millers Point Conservation Area, an intact residential and maritime precinct of outstanding state significance. The retaining wall is a dominant and relatively intact component of the extensive alterations to the natural topography of Millers Point designed to facilitate the management of cargo into and out of the new two-level finger wharves. The wall incorporated steps at its northern and southern ends to provide improved access to the wharves for stevedores and wharf workers who resided in Millers Point.

It provides a dramatic street edge to the eastern side of Hickson Road. The wall has landmark quality and displays an interface of fabrics, comprising the excavated rock face, cement render and masonry construction at the northern end of the wall. While there are varying degrees of erosion and deterioration to the stone/render, as well as intrusive fixtures, signage and penetrations, the retaining wall continues to define the edge of Millers Point and makes a positive contribution to the unique landscape character of Hickson Road.

The Hickson Road Retaining Wall holds social significance as it forms part of the 'Hungry Mile', a historic stretch of Sydney's waterfront where men and women would walk from wharf to wharf in search of employment during the Great Depression of the 1930s (2017:22-23)

Historical Context

A detailed history of the High Street wall and the surrounding area has been prepared by AMBS for the project in *High Street Cutting, Millers Point Statement of Heritage Impact* (AMBS Ecology & Heritage, 2017) and by GML in *Hickson Road Retaining Wall Heritage Significance Assessment* (GML Heritage, 2017). Comprehensive histories of the development of the Barangaroo station site and the local area including the High Street wall have also been prepared for the Barangaroo TSE works Archaeological Method Statement (Casey & Lowe, 2017) and the Barangaroo COP works Archaeological Method Statement (AMBS Ecology & Heritage, 2021).

These histories have been used to create and support the assessments and statements of significance which are referred to in this document and should be consulted if further background information is required. The below is a brief summary which contextualises the construction of the wall and its continued relevance to the local environment.

From the early nineteenth century, Millers Point was extensively quarried to supply the construction of housing and public infrastructure, such that the area around Kent and Windmill Streets was known as The Quarries. The quarry was worked by convicts who gradually formed the small local streets and modified the natural topography to form the escarpment which ran along Kent Street. The main access to the quarries and the few houses

in the area was a rough path along the Darling Harbour foreshore to the northern extremity of the Point and the three windmills.

As the shoreline around the town became increasingly developed, waterfront space was at a premium, and new wharfs and shipbuilding enterprises were forced to utilise the more difficult to access and less desirable parts of the harbour. As industry and trade intensified at the northern end of the eastern shore of Darling Harbour, pressures on the limited available access between - and to - the waterfront lots increased.

A new direct access was proposed from 1897 to connect the Maritime Services Board at West Circular Quay to the west side of the peninsular along Darling Harbour through Walsh Bay and Pyrmont to terminate at Harris Street. It was not until the establishment of the Sydney Harbour Trust that the proposal could be realised, and in 1909, work began on constructing Hickson Road. Between Munn Street and the present day location of the building at 30 Hickson Road, the process entailed cutting back the cliff face and constructing the retaining wall supporting High Street. The reinforced concrete bridges over Munn, Windmill and Argyle Streets were completed between 1910 and 1914.

The section along Hickson Road that is defined by the High Street wall is today representative of the depression-era district known as the 'Hungry Mile.' The name was given to the mile of wharves between Darling Harbour and Millers Point by the maritime workers who walked in the hope of casual low-paid work each day from the early twentieth century into the 1940s.

Analysis of the Proposed Works

Description of the works

The proposed works involve the temporary relocation of a stormwater line, which is currently suspended from the deck of the temporary bridge supporting Hickson Rd. The stormwater pipe is to be relocated to the side of the Hickson Road wall using existing rock anchor brackets, and connecting it to the existing downpipes which are located behind the wall encased in concrete. The stormwater line will be connected into an existing pit (SWP-4) and discharged through the existing stormwater drainage line to the north of the Hickson Road bridge.

The diverted stormwater line will be removed from the High Street wall prior to completion of the project, and the apertures in the High Street wall will be made good with like-for-like material.

Reason for the new works

The existing pipe that is suspended beneath the Hickson Road bridge has broken on three occasions due to failures at the joint connections and the increased volumes created by recent heavy downpours. The ruptures have caused flooding of the station box. If the suspended stormwater line were to remain active during the demolition, there would be considerable risk of increased damage to the connections, and further flooding.

The existing service cannot be protected in such a way that the Hickson Rd bridge can be safely demolished without damaging the stormwater pipe. The constraints at the site are such that it would not be possible to provide feasible safe access into the work area to rectify any damage that may be caused if the existing pipe failed during demolition.

This proposal allows for a temporary stormwater to be installed and left in situ until the permanent stormwater has been completed without having to break the line and create

multiple stages of temporary connections, which would also increase the risk of flooding in a heavy weather event.



Figure 1: Location of the High Street wall, downpipes (SBR) and length of the diversion.

Area to be affected

The diversion will run along 171m of the 300m-long wall and will involve attaching four PVC pipes. The pipes are between 200mm and 350mm in diameter. Each pipe will connect to a separate downpipe (Table 1).

Table 1: Length of diversion

Downpipe No.	Length of diversion	Location
SBR 3.2	171m	100m north of High Street Steps
SBR 3.3	127m	144m north of High Street Steps
SBR 3.4	110m	161m north of High Street Steps
SBR 3.5	47m	223m north of High Street Steps

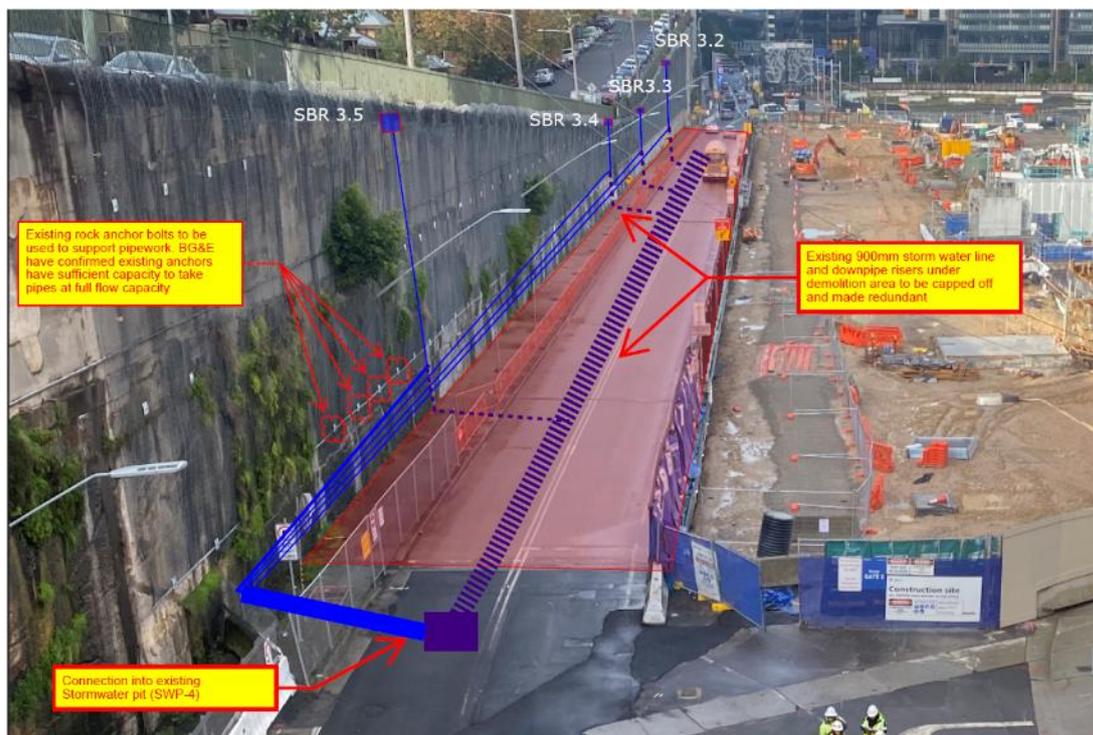


Figure 2: Illustration of the diversion.



Figure 3: Location of downpipe SBR 3.2.



Figure 4: Location of downpipe SBR 3.3.



Figure 5: location of downpipe SBR 3.4.



Figure 6: Location of downpipe SBR 3.5.

Connection to the existing downpipes

The concrete covering the downpipes will be cut in an area of 400mm x 400mm to expose the existing pipe and allow a new connection to be made. The cutting methodology will utilise a stitch core method to ensure that only the concrete within the recess created for the downpipe is cut and that the cut does not extend into the adjacent sandstone. A stitch core

method involves drilling multiple holes which are overlapped to form a continuous cut. Typically, this method of core drilling replaces conventional concrete sawing when the overcutting of corners cannot be made either for structural or aesthetic reasons. The drilling of core holes in the corners of the concrete section to be removed means that a saw blade does not have to be passed beyond the margin of the corner. The method also makes a cleaner, more precise cut because there is no overcutting involved. Four holes in total will be cut in the location of four different downpipes along the length of the High Street wall.

Attaching the new pipes to the High Street wall

The 400mm x 400mm apertures will allow the connection of an L-shaped joint to each of the downpipes. The L-shaped joint will connect into a PVC pipe attached to the face of the wall by wire hung from the existing mesh anchors. The wire will have a safe working load of 2000kg and will utilise the existing rock bolts located at 3m intervals along the length of the diversion.

Removing the temporary stormwater diversion

The downpipe connections will be reinstated below ground and the apertures repaired with cement render to match the existing. The PVC pipes will be removed from the face of the wall. Full photo-documentation of the wall will be undertaken prior to installation of the diversion to ensure that the new render will replicate as best as possible the appearance of the wall before the works.

Physical Analysis of the Wall

The downpipes appear to have been installed when the retaining wall was constructed, as they have been covered with the same render to produce a uniform finish. The render has been scored to replicate large masonry blocks, and the scoring has been applied over the covered downpipes. At the location of SBR 3.2, the render has cracked around the downpipe, and the location of the service is visible at the surface. At the location of SBR 3.3, the location of the downpipe is not clearly visible at the surface, but the render is in poor condition, and is showing signs of water damage beneath the surface. Some render has come away from the underlying concrete.

At the location of SBR 3.4, the render is in extremely poor condition and is being undermined by water penetrating the concrete behind, and by vegetation growing in the increasingly cracked surface. At the location of SBR 3.5, the concrete encasing the downpipe has not been rendered in the same fashion, and the service cut is exposed in the sandstone bedrock of the cutting.

The concrete retaining wall is showing signs of water damage in many places in the form of staining and cracking of the render. Where patches have fallen off, the fabric of the structure of the wall is exposed. The original render has a high shell content, it is however also very strong indicating a mix of shell lime with Portland cement, unlike areas of modern patch repairs which appears to be a Portland cement without the inclusion of shell lime. The original render was applied in up to three layers, with each layer scored to provide purchase for the next layer. In addition, there are at least some sections of concrete with a dense gravel aggregate.

There are also generations of attached services, including a series of relatively modern street lights, bolted to the face of the wall, and exposed gaps have been colonised by ferns and grasses.



Figure 7: Cracking at the location of SBR 3.2.



Figure 8: Cracks in the render at the location of SBR 3.3 (prior to the installation of the protective mesh).



Figure 9: Cracking and intrusive vegetation at the location of SBR 3.4.

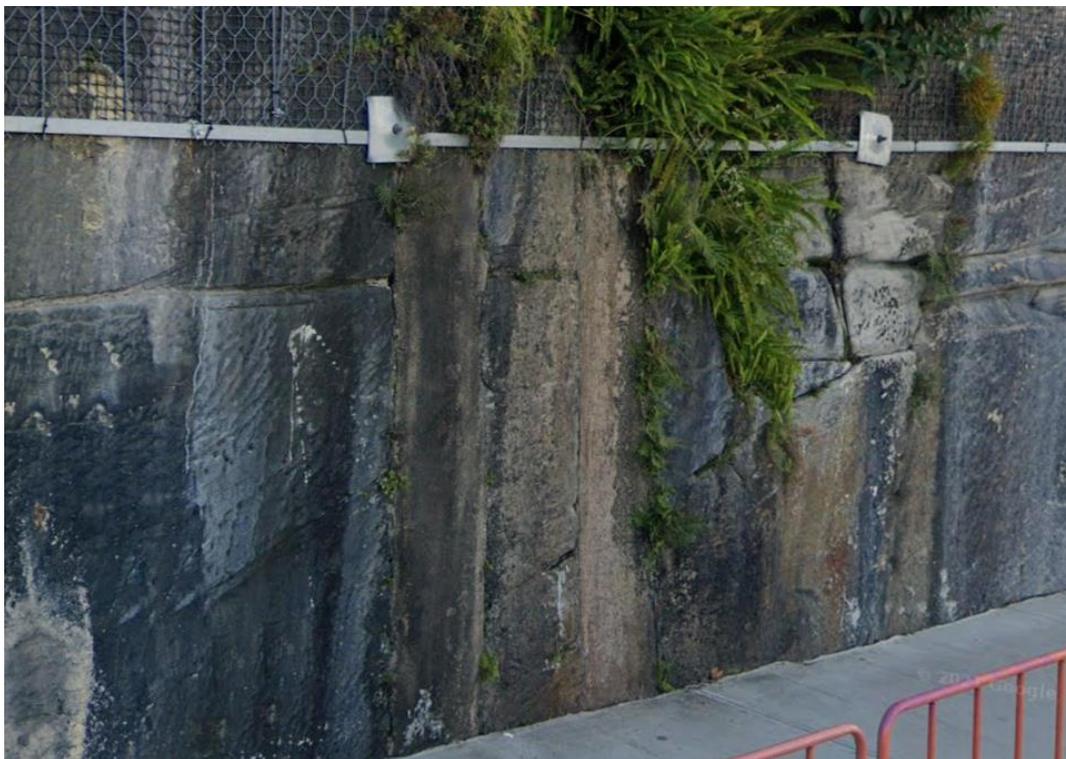


Figure 10: Concrete within the service cut in the sandstone at the location of SBR 3.5.



Figure 11: A section of the cutting and wall. The render is scored to replicate masonry blocks and is aligned along the line of the natural bedrock, above which the underlying sandstone blocks have been exposed.



Figure 12: A patch of modern cement render surrounded by the original render. The white flecks are shell fragments.



Figure 13: Exposed patches of render indicate that at least some sections have three layers of render and the lower layers are pecked to create a rough surface for the next layer.



Figure 14: A collection of existing services attached to the wall.

Assessment of Heritage Impact

The proposed diversion of the stormwater along the High Street retaining wall and cutting has the potential to affect the State heritage significance of the *Millers Point & Dawes Point Village Precinct*. The High Street Retaining Wall has been identified as having historic, aesthetic and social significance, and should also be considered to have technical significance. The proposed temporary diversion represents a change to the High Street cutting and retaining wall, the impact of which is assessed below.

The following aspects of the proposal respect the heritage significance of the item or conservation area for the following reasons:

The proposal is to install temporary pipes along 171m of the wall in order to maintain active drainage of High Street during the demolition of the Hickson Road bridge. The provision of adequate, uninterrupted drainage to the higher ground is essential for the long-term preservation of the High Street wall, which is already showing signs of damage from groundwater penetrating the rock and concrete behind. The temporary diversion would ensure the maintenance of this service and avoid contingency works due to flooding of the station box during demolition of the bridge, which would involve unplanned works in the vicinity of the wall.

The methodology has been designed to avoid impacts to the wall by suspending the temporary lines from existing rock bolts that have been installed to hold the protective mesh in place. New penetrations have been limited to four 400mm x 400mm apertures in the concrete covering the downpipes, and will not damage either the structural concrete of the wall, or the sandstone of the cutting. This methodology respects the heritage significance of the wall. The apertures will be repaired with like material to minimise the visual effect on the retaining wall.

Overall, the proposal to maintain continuous active drainage of the high ground above and behind the wall, and the avoidance of unplanned contingency works due to flooding in the vicinity of the wall maintains the heritage significance of the contributory heritage items in the vicinity, and of the *Millers Point & Dawes Point Village Precinct* in general.

The following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:

The temporary addition of four PVC pipes to the face of the wall will have an adverse effect on the aesthetic values of the wall. The assessment of significance for the wall recognises that:

The wall is aesthetically significant and exhibits landmark quality with its dominant, fortress-like scale and gradual dipping in response to the V-shaped original topography of what became High Street. It also displays an interesting interface of fabrics, comprising the excavated rock face, cement render and masonry construction at the northern end of the wall.

The penetrations in the concrete surrounding the downpipes have been minimised to 400mm x 400mm and will have a minor or negligible impact on the wall, which will not affect the significant fabric of the structural concrete or sandstone, but may remove some damaged render which is in need of repair. However, these impacts will not affect the landmark aesthetic of the wall or reduce its readability and significance in the landscape.

Penetrations into the concrete encasing the services shall be limited to the smallest area possible, and those areas made good in a manner in keeping with the heritage significance of the wall.

The large pipes would disrupt the flat face of the wall, and the appearance of a hard edge to Hickson Road and the Miller's Point precinct in general, which the wall represents. The pipes would hide the interface of fabrics and rock face, and obfuscate the exposed construction techniques which are visible in the face of the wall.

However, the visual impacts should be considered in the context of the current Hickson Road environment. Approved construction works, including the demolition of the temporary bridge over Hickson Road immediately in front of the wall, will be taking place for the duration of the temporary stormwater diversion. Views to and from the item during this time will be obscured and limited by the lack of public access, and the movement, use and installation of plant and construction infrastructure that will be required to undertake the works. In this context, the new works are unlikely to significantly alter the existing approved visual impact. As such there will be a minor temporary impact on the aesthetic significance of the High Street wall as an integral element of the *Millers Point & Dawes Point Village Precinct*.

Statement of Heritage Impact

The High Street cutting and retaining wall is a contributory element of the state heritage significant *Millers Point & Dawes Point Village Precinct*. The cutting and retaining wall is a prominent landmark defining the separation of wharfage from the residential areas of Millers Point. The cutting and retaining wall has particular social significance as part of the 'Hungry Mile', the name given to the mile of wharves between Darling Harbour and Millers Point by the maritime workers who walked in the hope of casual low-paid work each day from the nineteenth century into the 1940s. As such, protection of the heritage significance of the High Street cutting and retaining wall as an element of the *Millers Point & Dawes Point Village Precinct* has been an important consideration in the design of the temporary stormwater diversion.

The temporary pipes would be in place only during the demolition of the Hickson Road bridge and the works to reinstate Hickson Road. These works will severely limit access and views to and from the item, minimising the visual impact that the installation of the pipes will create. The design which allows the pipes to be suspended from existing rock bolts means that the temporary impacts of the additional pipes are reversible. There is some potential for damage to the render of the retaining wall while cutting into the non-structural concrete surrounding the downpipes, which would be avoided by ensuring that the original fabric is protected against inadvertent damage wherever possible. The render in the locations of the penetrations is badly damaged and in need of repair. Any damaged render that is removed would be made good to match the surrounding colour and texture. Where significant damage exists, or there are intrusive discolourations, a selected section/component of original work will be nominated by the heritage consultant, in consultation with the contractor, as a suitable sample for matching. There will not be an impact on the historic, aesthetic or social significance of the High Street cutting and retaining wall in the long-term. There will be a minor short-term impact on the heritage significance of the *Millers Point & Dawes Point Village Precinct*, in its entirety.

The proposal to install a temporary stormwater diversion during the demolition of the Hickson Road bridge avoids unplanned contingency works in the vicinity of the wall, should the existing pipe fail again during demolition. The proposal will have a negligible effect on the heritage significance of the High Street cutting and retaining wall and no long-term effect on the state heritage significance of the *Millers Point & Dawes Point Village Precinct* in its entirety.

Mitigation

Article 3 of the Burra Charter recommends a conservation approach based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible. Repairing any damaged render ensures that the least possible damage is done to the retaining wall, which is in accordance with Burra Charter principles. The repair material will be as near to the surrounding fabric in composition as possible to minimise an adverse effect on the aesthetic significance and to avoid damage to the original render.

The following recommendations are aimed at ensuring that heritage values are protected:

Recommendation 1

A photographic recording of the affected areas should be made prior to and on completion of works to ensure that there is a record of the changes to the face of the wall. The recording should be in accordance with the Heritage Council guideline publication Photographic Recording of Heritage Items Using Film or Digital Capture (revised 2006).

The significance of the High Street cutting and retaining wall as a contributory item of the state heritage *Millers Point & Dawes Point Village Precinct* should be understood by all on-site staff and construction team to ensure that no inadvertent damage is done to the wall.

Recommendation 2

Prior to works commencing, all on-site staff should be briefed on the heritage requirements of the High Street Cutting and retaining wall, its heritage significance and the value of its fabric.

There is potential for damage to the wall during the process of installing the temporary lines, and during the cutting of the concrete surrounding the downpipes. Care should be taken during the concrete cutting to avoid damage to the surrounding fabric .

Recommendation 3

The original fabric of the cement render has a high lime content. Any new render should be matched in the patches to ensure that the existing render does not crack or collapse due to the difference in hardness. Any inadvertent damage should be made good.

Repairs should be made in accordance with the *Hickson Road Retaining Wall Barangaroo Conservation Policy and Guidelines* (GML Heritage 2021):

New render repairs are to involve only necessary patching which match in mix/composition, colour, grain and texture (note: the render has visible shell aggregate in the mix). Patch the wall with a matching render in colour and texture. All new render is to respect/recreate the scored ashlar pattern which imitates large blockwork units. A specification should be prepared for all future render repairs. This would involve, in the

first instance, render sample analysis (to determine materials composition/mix), sourcing of matching materials (including visible shell aggregate) and application methodology.

A heritage architect should specify the mortar mix used in any repairs.

Statutory Obligations

The construction of the new Barangaroo Station is part of the Sydney Metro City & Southwest Project which has been approved as Critical State Significant Infrastructure. However, the current proposal for temporary stormwater lines to be attached to the High Street wall is outside the scope of works covered by the project EIS and PIR.

The Hickson Road Retaining Wall is within the SHR-listed *Millers Point and Dawes Point Village Precinct* (SHR 01682). As such, the provisions of the Heritage Act apply in regard to heritage impacts on the SHR item.

Standard exemptions under Section 57 (1) of the Heritage Act for works requiring Heritage Council of NSW approval may apply to works which are minor in nature and will have a minimal impact on the significance of the place.

Effective 1 December 2020, the Special Minister of State has granted new exemptions from subsection 57(1) of the Heritage Act. Standard exemptions do not permit the removal of any significant fabric. Significant fabric means all the physical material of the place/item, including elements, fixtures, landscape features, contents, relics and objects which contribute to the item's heritage significance. Standard exemptions also do not permit the removal of relics or Aboriginal objects.

These standard exemptions are available to the owner of a listed item or item subject to an Interim Heritage Order, or any person with the consent in writing of that owner, or if the item is situated on Crown Land, as defined in the Crown Land Management Act 2016, the lawful occupier.

The standard exemptions are self-assessed and involve the following process and responsibilities:

- It is the responsibility of a proponent to ensure that the proposed activities/works fall within the standard exemptions.
- The proponent is responsible for ensuring that any activities/works undertaken by them meet all relevant standards and have all necessary approvals.
- Proponents must keep records of any activities/works for auditing and compliance purposes by the Heritage Council. Where advice of a suitably qualified and experienced professional has been sought, a record of that advice must be kept. Records must be kept in a current readable electronic file or hard copy for a reasonable time.

The proposed works to the Hickson Road Retaining Wall are exempt from the need for approval under Section 60 of the Heritage Act as they satisfy Standard Exemption 5: Repair or Replacement of Non-Significant Services.

The proposed works will not impact the significant fabric of the High Street wall. Penetrations will be limited to the concrete encasement of existing services in areas where the render has been significantly damaged or is non-existent and does not contribute to the heritage values of the item. Impacts to significant views and landscapes are temporary and negligible in the context of approved works currently taking place along Hickson Road.

The temporary services will utilise existing hardware to attach to the High Street wall. The temporary pipes will be largely obscured by approved construction works along Hickson Road which will negate any visual impact.

All replacement services are temporary. There will be no permanent or long-term surface-mounted services. Existing service routes will be reinstated following the temporary works. Repairs to the penetrations will match the existing render in accordance with the *Hickson Road Retaining Wall Barangaroo Conservation Policy and Guidelines* (GML 2021).

The proposed works are minor in nature and will have a negligible impact on the significance of the *Millers Point and Dawes Point Village Precinct* (SHR 01682).

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