

ANNEXURE C

Owner's position statement





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Position Statement

Ovoid Sewer Aqueduct, Breakwater

August 2025



1. Aqueduct Structure Proposal

In considering the future of the Ovoid Sewer Aqueduct, Barwon Water has investigated options to improve public access to the Barwon River and surrounding land, while balancing heritage values, Aboriginal cultural values and managing inherent contractor, staff and public safety implications given the current condition of the structure.

Summary

Barwon Water is applying to Heritage Victoria for a permit to demolish the majority of the heritage-listed Ovoid Sewer Aqueduct in Breakwater, which has been rapidly deteriorating in condition since the 1970s. As part of the application, Barwon Water seeks to retain the concrete bases of the pier and stairways as markers in the landscape.

In November 2020, Heritage Victoria granted Barwon Water a permit ('permitted works') to remove 4 of the 14 spans of the aqueduct. The permit came with many conditions, including conservation works (propping) that will reasonably avoid the catastrophic collapse of the Aqueduct structure. Since then we've been working with designers and engineers to determine a safe and successful method to deliver on this permit while balancing the interests of Aboriginal cultural values, heritage values, and environmental values.

Barwon Water has investigated all possible options for improving, stopping or slowing the Aqueduct's natural degradation but technical advice confirms it is simply not viable from a safety and constructability perspective. Even with the proposed works it has been concluded that this would not halt the future decay of the structure.

The Aqueduct divides 66 hectares of Barwon Water owned land, and as part of the plan to make the area safe, Barwon Water wants to create an area that is unique for its high ecological, historical, cultural and recreational values.

In partnership with Wadawurrung Traditional Owners, Barwon Water will gather information about the landscape and water, and engage with interested stakeholders to develop a plan for the area.

The history and story of the Aqueduct will be recognised through an interpretative strategy, which will be submitted with the Heritage Victoria application and further developed with stakeholder input.

Barwon Water's management of the Aqueduct is required to be consistent with its statutory obligations under the Water Act 1989, Water Industry Act 1994 and any plans prepared under the Statement of Obligations, as well as with duties established under the Heritage Act 2017 which apply to all owners of registered heritage places.

In addition to its primary statutory duties under the Water Act 1989 and the Water Industry Act 1994, Barwon Water also has legal obligations with respect to safety under the Occupational Health and Safety Act 2004 (OHSA) and the Water Act 1989.

The OHSA imposes a range of duties on employers in relation to the elimination (or control) of risks to health and safety in the workplace and matters arising from the conduct or undertaking of the employer. The key aspect of all duties is a requirement for employers to do what is reasonably practicable to eliminate or, where elimination is not reasonably practicable, reduce those risks to the extent reasonably practicable.

Importantly, OHSA offences (other than workplace manslaughter – as discussed below) are 'risk based'. That is, they do not require an incident to occur, and instead it is the mere existence of an identifiable risk to health and safety that has not been eliminated or controlled to the extent reasonably practicable that constitutes the criminal offending.

In circumstances, where risks associated with works cannot reasonably be eliminated or controlled, it is incumbent upon Barwon Water to request changes

to the proposed works to enable risks to be eliminated or controlled to the extent reasonably practicable.

The alternative of retaining the Aqueduct in an unstabilised condition also presents significant continuing risks to public and employee safety, including those from spalling concrete and any future collapse of part or all of the structure. In contrast to previous heritage and engineering assessments undertaken over recent decades, it can no longer be reasonably stated that time will enable consequential repairs and rehabilitation of the Aqueduct's structure.

In this context and despite the Aqueduct's significant heritage value to Victorians, a decision to defer demolition of a decommissioned hazardous utility structure is no longer acceptable while having regard to the organisation's statutory duties and obligations.

Investigations and risk assessments undertaken since 2020 have led to the determination that a safe working environment cannot be established and maintained while undertaking the permitted works. This means that Barwon Water cannot implement the 2020 permitted works while satisfying its duties and obligations under the OHSA and the Water Act.

The only technically feasible option that would reasonably eliminate or control public safety risks, whilst not putting construction workers at undue risk during the works, is demolition.



2. Project Context

2.1 Project Rationale

Constructed between 1913 and 1915, the Barwon River Ovoid Sewer Aqueduct (herein referred to as the 'Aqueduct') was part of Geelong's first sewerage scheme. It served as the main sewer between Geelong and the treatment plant and ocean outfall at Black Rock, carrying sewerage across the river via gravity. The Aqueduct was decommissioned in 1992 and replaced by a pipe under the river. The decision was driven by the advanced structural deterioration of the structure. The Aqueduct is listed on the Victorian Heritage Register, and therefore protected under the Heritage Act 2017. The listing dates to 1991, shortly before the structure was decommissioned.

The Aqueduct has a long history of deterioration, with the earliest repairs in 1923-24. Significant repairs date from 1951, with various repairs cost-effective in deferring replacement of the structure for many years. By 1976 significant deterioration of the structure was becoming apparent, evidenced by cracked and spalling concrete in some members, exposing corroding reinforcement. By the late 1980's, the structure was again experiencing significant deterioration and investigations into the future repair or replacement of the Aqueduct continued. The Heritage Impact Statement prepared by Lovell Chen and lodged with this heritage application provides further detail on this. The Aqueduct, river and surrounding land has been closed to public access since the mid 1990s. There has been no access onto or under the Aqueduct on either land or water since this time, preventing any access along the Barwon River. Chunks of concrete regularly fall from the structure posing a serious safety risk. There is also a risk of structural failure which could occur anytime.

Numerous engineering studies and remediation trials have been conducted over the past 20-25 years. From these, it has been concluded that it is not feasible to resolve the safety issues through repair and retention of the intact structure. Most recently, an Independent Engineering Review by Structex Australia reviewed the numerous earlier studies of the condition of the Aqueduct, methods to repair and support it, risk analyses and heritage assessments. The Review concluded that *"The time for preservation to be viable has passed and attempts to prop the structure come with considerable construction risk, at likely significant cost and with no guarantee of the structure continuing to stand for any reasonable time, to justify the expense."*

The proposed works seeks approval to safely dismantle the majority of the Aqueduct structure and retain the concrete pier bases and end stairways (if safe to do so). This would enable the historic place to be understood. The application is supported by a Heritage Interpretation Strategy.

In determining the best solution to a very complex problem, the works proposed by Barwon Water have balanced a range of competing factors:

- **Safety** of contractors and Barwon Water staff during the works from falling debris and collapse of any part of the Aqueduct structure during the works. This includes guaranteeing **safety** of users of the Barwon River and surrounding area.
- Valuing the **heritage significance** of the Aqueduct structure and the desire to retain elements of the structure to support historical interpretation (if safe to do so).
- Acknowledging the **Aboriginal cultural values** of the land and river surrounding the structure, including the desire of Traditional Owners to re-open access along the river to recognise its important role as a 'cultural highway'.
- Ensuring the **cost** of any proposed works accounts for Barwon Water's primary statutory functions under the Water Act 1989 and avoids impacting customer bills and service delivery.

- The feasibility of implementing a **solution** that ensures all safety constraints are met and deals with the complexities of being in a floodplain and in a culturally sensitive location.

Competing legislative obligations arise under the Water Act 1989, Water Industry Act 1994, Heritage Act 2017 and Occupational Health and Safety Act 2004. Of relevance, as noted above, section 101(2)(d) of the Heritage Act 2017 expressly refers to the extent to which the application, if refused, would unreasonably detrimentally affect the ability of the public authority to perform a statutory duty specified in the application.

A refusal would impact Barwon Water's ability to meet its obligations under the OHS Act to keep the public safe and to provide a safe workplace, risking liability to criminal prosecution, including the worst case scenario, workplace manslaughter. Further to Barwon Water's OHS Act obligations, and equally critical, Barwon Water's primary statutory functions are under the Water Act 1989 and relate to providing water industry services. Reallocating resources to maintain the Aqueduct in the long term will frustrate delivery of these core services.

The current condition of the Aqueduct presents major safety risks and prevents on-going maintenance to be implemented. The present exclusion zone also prevents movement along the Barwon River, both on land and by water. It is an obstacle to public recreational use of the river, as well as supporting the use of the river landscape by the Traditional Owners and broader community.

In the absence of action to safely stabilise or extend its life, a portion of the Aqueduct will eventually fall either over the river or adjacent to it. This poses significant safety risks and is not supported by Barwon Water as it does not remove ongoing risks that the deteriorating structure poses to Barwon Water staff and the public.

2.2 Project Objectives

The aim of the current project and proposed scope of works is to identify a safe and practical solution protecting contractors and Barwon Water staff, which is technically and financially viable, to achieve a balance between enabling safe passage for persons on the Barwon River and its banks, and conserving the significant heritage value of the structure.

2.3 Justification for the Works

2.3.1 2020 Heritage Permit

In March 2020 Barwon Water applied to Heritage Victoria for a permit to remove four of the 14 spans of the heritage-listed ovoid sewer aqueduct. The proposed works included exclusion fencing to secure the remaining structure to allow the Aqueduct to decay naturally over time.

In November 2020, Heritage Victoria granted Barwon Water a permit to remove 4 of the 14 spans of the aqueduct. The permit came with many conditions, including conservation works (propping) that will reasonably avoid the catastrophic collapse of the Aqueduct structure. Since then we've been working with designers and engineers to determine a safe and successful method to deliver on this permit while balancing the interests of Aboriginal cultural values, heritage values, and environmental values.

Extensive investigations and risk assessments have found that the Aqueduct cannot be safely maintained and a safe working environment cannot be established or maintained while undertaking the structural propping. Further, the aqueducts eventual failure is unavoidable, even if structural propping was installed. This means that Barwon Water cannot implement the 2020 permitted project while satisfying its duties and obligations under the OHS Act and the Water Act (refer to section 3 for further details).

2.3.2 What is the Safety Risk?

Over the past two years, significant effort has been undertaken by Barwon Water (including multiple contractors and structural engineers) to design a structural propping system to adequately prop the structure, and also develop a safe system of work (methodology) that would allow the Aqueduct demolition (four spans) and propping works to proceed under the 2020 heritage permit.

It was identified that the propping design and methodology (including multiple variations) do not fully mitigate safety risk to workers. Although the safety measures largely mitigate the risk of spalling concrete, the safety control systems do not adequately reduce the risks (to contractors while undertaking works) associated with a catastrophic collapse of the structure.

A review of previous engineering investigations has identified that the Aqueduct has a non-zero risk of catastrophic collapse, with a number of studies identifying this as an emerging risk since the early 1990's. The progression of time since the identification of this risk combined with high risk works associated with the installation of structural reinforcement ('the propping'), means that it is possible that catastrophic collapse could occur whilst these works are being undertaken.

Further advice from our structural engineers (Arup) is that there are catastrophic failure modes which are 'invisible' to detect and therefore there are no early or reliable warnings for such an occurrence. This advice is included in the documentation supporting this heritage application.

Safety mitigation considered included the utilisation of bespoke and untested worker protections, cranes, possible stabilisation of the piers using cables to mitigate the horizontal collapse risk, re-design to allow system to be installed differently (slide in, install from beside and not underneath/within). The extensive technical investigations has found that there is no safe system of work for the conservation ('propping') and demolition of the Aqueduct under the 2020 heritage permit and that the dismantling of the majority of the structure is the safest remaining option.

2.3.3 Design Investigations and Risk Assessment

Since the issue of the permit in 2020, there have been several attempts to provide a design solution which allows propping installation without exposing workers to unacceptable safety risk.

The following timeline outlines the design investigations and contracting since the November 2020 Heritage Permit was issued (P32806).

- **Nov 2020** – Initial Heritage Permit issued (P32806) – Condition 20 notes requirement for “..conservation works to reasonably avoid the catastrophic collapse of the Aqueduct structure...” – These conservation works were agreed to take the form of passive propping structures under the Aqueduct.
- **Jul 2021 to Sept 2022** – McMahon's appointed with Wallbridge Gilbert Aztec (WGA) as design partner. Detailed design and methodology prepared and was endorsed by Heritage Victoria in August 2022. The design is not considered constructible due to the need for people to work inside and under the structure without adequate protection.
- **Dec 2022 – May 2023** – Barwon Water Tender & Contract Award to Simpson Construction Company.
- **May 2023 – Jul 2023** – Safety review and methodology update. Simpson's, ARUP, WGA, and Barwon Water review of safety risk and development of a new methodology in an attempt to manage safety risks.
- **Aug 2023** – Barwon Water appointed Arup to undertake modified propping design in lieu of WGA, noting the risks in WGA's design around working under the structure without suitable controls in place.

- **Sept 2023 – Jun 2024** – Redesign process. Several concepts were produced in this time, concepts were developed to install props without significant works under the structure, such as offset piling from footprint of existing structure.
- **Aug 2024** – Independent Risk Review completed, it is evident that the proposed conservation, construction and demolition works to the Barwon Ovoid Sewer Aqueduct generate potential health and safety risks above and beyond those typically associated with construction and demolition activities.
- **Aug 2024 – Dec 2024** – Further consideration of alternative options including propping at points to remove only river spans (leaving remaining as a ruin) or a reasonable increase in spans removed, and dismantling structure. Constructibility challenges persist for options that require propping.
- **Dec 2024 – May 2025** – The decision is made for Barwon Water to submit a new permit to Heritage Victoria to safely demolish the structure.

There are three specific safety risk events forming the basis of the design investigations and risk assessments:

- Spalling / dislodgement of concrete during works.
- Vertical collapse of existing structure during works.
- Horizontal collapse of existing structure during works.

A full range of possible intervention categories were considered during design investigations and risk assessments, many of which were deemed unfeasible at the start of the assessment period, due to the poor condition of the structure (concrete repair, cathodic protection, river span propping, do nothing).

Structural propping of the land spans was developed as the most promising intervention. However after significant design work and iterations to eliminate and mitigate safety risks, the most viable design options still resulted in the exposure of construction workers to residual safety risks above the duty of care responsibilities under the OSHA threshold (refer to section 3 of further details).

ARUP (our structural engineers) concluded that the highest risk during construction is directly under the structure, arising from a vertical collapse or spalling. Further it was concluded that propping has a limited use and purpose. It was not intended to prevent local failures ('collapses') of the structure, or improve its structural condition, only to prevent a catastrophic total failure (Structural Engineering and Risk Assessment Report, ARUP, August 2025).

It was determined that 'the permitted works' could not be safely or practically met whilst discharging duty of care responsibilities under the OSHA. Section 3 of this document provides further details on Barwon Water's statutory obligations.

ARUP's Structural Engineering and Risk Assessment Report, August 2025, provides further details of the design investigations and risk assessment that informed Barwon Water's position.

2.3.4 Community and Stakeholder Engagement

Since the granting of the 2020 heritage permit, Barwon Water has engaged with key project stakeholders, including Heritage Victoria to resolve the safest approach to undertake the works.

Barwon Water has established working relationships with Wadawurrung Traditional Owners Aboriginal Corporation, City of Greater Geelong, local members of Parliament, government departments and agencies, landowners, community and environmental groups (including a dedicated Project Community Reference Group (CRG) – Porronggitj Karrong and Aqueduct CRG) to raise awareness of the project, seek feedback and allow for concerns to be understood and addressed.

Formal community consultation has been in place since early November 2021 with the CRG (at a frequency of quarterly meetings) along with community surveys, site tours, a dedicated project website, briefings, presentations, mail outs, interactive photography and video. From these activities, feedback was gathered and considered.

In general, feedback across all engagement from Barwon Water customers, communities and stakeholders has been in positive support of the safe management of the Aqueduct structure and future public opening of the 66-hectare land parcel surrounding the structure. Feedback has acknowledged that the structure is significant but understanding that safety is paramount to the community and as such a safe way to manage the structure and acknowledge its historical significance is largely supported.

There have been key concerns raised from heritage groups including the Friends of the Barwon River Ovoid Sewer Aqueduct and Engineering Heritage Victoria relating to alternative options to preserve the structure, however these options do not address the inherent safety risks of structural collapse. Refer to community and stakeholder section below.

Barwon Water is committed to an ongoing conversation with customers, communities and stakeholders throughout the project life cycle. To date information shared with the local community relate to the complexity of the works and commitment by Barwon Water (including multiple contractors and structural engineers) to resolve the safety challenges, whilst trying to retain the heritage value.

Community and Stakeholder Engagement Strategy

Barwon Water is committed to ongoing and genuine engagement with key agencies, Wadawurrung Traditional Owners Aboriginal Corporation, our Porronggitj Karrong and Aqueduct Community Reference Group and the broader community. We have a detailed Communications and Engagement strategy, which we will continue to refine, that includes our quarterly Community Reference Group meetings, community surveys, site tours, dedicated project webpage (Your Say at Barwon Water), stakeholder briefings, project updates, interactive photography and videos.

A summary of community, stakeholder engagement and communications activities undertaken between November 2021 to August 2025 is provided below.

Porronggitj Karrong and Aqueduct Community Reference Group (CRG)

The group was established in partnership between Barwon Water and Wadawurrung Traditional Owners Aboriginal Corporation and comprises of community members and representatives from Geelong Sustainability, Geelong Field Naturalists Club, Geelong Environment Council, Friends of the Barwon River, Geelong Canoe Club, National Trust of Victoria, National Trust of Victoria – Geelong branch, Friends of the Barwon River Ovoid Sewer Aqueduct and Engineering Heritage Victoria.

The reference group is advisory in nature and not a decision-making forum. The purpose of the group is an information sharing forum on the coordinated delivery of any works on the structure and the creation of the Porronggitj Karrong cultural and community precinct. They have a key role in providing input into the development of the Heritage Interpretation Plan for the Aqueduct (under the existing permit condition) and now supporting to inform the development of the Heritage Interpretation Strategy (to support the 2025 permit application).

The approach to works on the Aqueduct is outside the scope of the reference group. However, Barwon Water is committed to ongoing engagement with the group to inform and influence the interpretation plan for the Aqueduct.

Reference group meetings are quarterly and independently facilitated. Since November 2021, between 7 to 15 members have attended Community Reference Group meetings and workshops. A total of 15 meetings have been held.

Agency Reference Group

A dedicated Agency Reference Group comprising of Wadawurrung, Department of Energy, Energy, Environment and Climate Action (DEECA), Corangamite Catchment Management Authority (CCMA) and City of Greater Geelong (CoGG) was established early 2021. The agency reference group is advisory in nature and is not a

decision-making forum. The purpose of the group was to guide the program of works to reopen safe access along the Barwon River, providing advice on various matters such as heritage and biodiversity, co-ordinating statutory approvals, and ensuring collaborative implementation and strategic planning across the precinct.

The group met for a total of 7 meetings and then moved to regular updates either via email or in-person in line with project milestones.

Barwon Water Customer Advisory Committee

Since it was first convened in 1996, the Barwon Water Customer Advisory Committee helps Barwon Water to respond to customer needs, involve the community in project planning, understand issues raised by interest groups and access valuable community knowledge. The Committee meets on a quarterly basis.

Between late 2021 to mid 2025, the Committee received five presentations and 11 out of session updates on the project in terms of status updates and key milestones.

Association of Geelong and District Angling Clubs, Geelong Canoe Club, Geelong Cross Country Club, Geelong Dragon Boat Club, Geelong Field Naturalists Club, Geelong Outrigger Canoe Club, Geelong Water Ski Club, Geelong Rowing Association, Friends of the Barwon, Coastal Rowing Geelong, City of Greater Geelong and SES

Key Stakeholder Briefings and Events

A total of 9 briefings and one regional leaders event were delivered. Key stakeholders engaged include:

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| <p>Traditional Owners Wadawurrung Traditional Owners Aboriginal Corporation</p> <p>Local Government City of Greater Geelong (CoGG)</p> <p>Victorian Government The Hon. Gayle Tierney (Minister for Water and Member for Western Victoria) Christine Couzens (Member for Geelong) Dr Sarah Mansfield (Member for Western Victoria) Andy Meddick (former Member for Western Victoria)</p> <p>Commonwealth Government The Hon. Richard Marles (Deputy Prime Minister and Member for Corio)</p> | <p>Key regional organisations / networks / groups Barwon River Users Group (which includes Barwon Valley Water Ski Club, Association of Geelong and District Angling Clubs, Geelong Canoe Club, Geelong Cross Country Club, Geelong Dragon Boat Club, Geelong Field Naturalists Club, Geelong Outrigger Canoe Club, Geelong Water Ski Club, Geelong Rowing Association, Friends of the Barwon, Coastal Rowing Geelong, City of Greater Geelong and SES) Corangamite Catchment Management Authority Geelong Historical Society Geelong Sustainability G21 Alliance Barwon Region Partnership Friends of the Barwon River Committee for Geelong Deakin University Barwon Health Tourism Geelong and The Bellarine Parks Victoria Great Ocean Road Coast and Parks Authority Geelong Tech School Regional Development Victoria</p> |
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Your Say at Barwon Water online platform - <https://www.yoursay.barwonwater.vic.gov.au/aqueduct>

A project page was established on Barwon Water's online engagement platform to share information about the project and collect feedback via online tools. The webpage includes videos, image library, interactive photography, frequently asked questions, a sign-up tool for project updates, links to external resources and project team contact information.

Dedicated community and stakeholder engagement tools were activated between November 2021 and September 2025 to gather community feedback for the project, these were:

- Heritage Interpretation survey (informing 2020 permit condition of developing Heritage Interpretation Plan) – August 2022 to February 2023
- Heritage Interpretation online survey – July 2025
- Submit a story or a memory - open

Participants could provide a longer written response by submitting a document onto the Barwon Water website or they could submit a specific question to the project team via an online form.

Between November 2021 and August 2025, 3,061 visits were recorded to the project webpage.

44 responses were made to the August 2022 – February 2023 Heritage Interpretation Plan online survey with 114 responses submitted to the July 2025 Heritage Interpretation Strategy online survey. One response was submitted for the "Share a Memory" forum.

Community and landowner letters / updates

Four project updates were issued to 251 neighbours and interested community members and stakeholders regarding the project. The letters provided information and, if appropriate opportunities to provide feedback (such as online surveys).

2020 Heritage Victoria permit application – submitters to the process

An update was issued to 23 people and organisations who made a submission to the 2020 Heritage Victoria permit application process. The update provided information on the decision to seek a new permit and invite these individuals and organisations to participate in the July 2025 heritage interpretation survey to help inform the Heritage Interpretation Strategy as part of the 2025 Heritage Victoria permit application process.

Corporate communications

Supporting corporate communications such as media releases and online news articles have been shared to help provide information and updates about the project.

A key highlight was securing an opinion piece with the online platform "Humans in Geelong" which focused on memories of the Barwon River and the Aqueduct written from a local canoeist.

In total five media releases and online website stories have been shared and published.

Videos and photography

Specialised 360 degree panorama photography (pictured below) was taken of the aqueduct structure. The motion photography allowed community members to get a "close up" view of the structure. This motion photography is available on the project's webpage. Additional still photography of the project is also available which includes historical and present day images.



Two project videos were also created to help share information with the community as well as insights from member of the Community Reference Group about how the project was progressing. These videos are available on the project's dedicated webpage or by clicking these links:

- <https://youtu.be/yoel2HS0O-c>
- <https://www.youtube.com/watch?v=9zIYOVE8pRk>

Community and Stakeholder Feedback

In general, feedback across all engagement activities from Barwon Water customers, communities and stakeholders has been in positive support of the safe management of the Aqueduct structure and future public opening of the 66-hectare land parcel surrounding the structure. An overview of feedback is provided below:

- Would be great to see the river opened up again – Social media comment, July 2025
- Make it a park – it's good to remember how much work went into making Barwon Water – Survey response, July 2025
- Very interesting bit of junk and very photogenic. But now just an impediment if you want to go for a paddle down the river – Survey response, July 2025
- Why is it being preserved at all? it's a piece of infrastructure which has served its purpose well, but now should be demolished so that the wetlands on which it encroached can be returned (closer) to their original state – Survey response, August 2022 to March 2023
- Why is the sewer pipe considered heritage worthy to the degree that it prevents full use of the Barwon River? – Survey response, August 2022 to March 2023
- I would like to know when it will be opened so that I can take my paddleboard down there – Survey response, August 2022 to March 2023
- Kayaking and fishing. Would love to be able to kayak all the way from breakwater to the lake! – Survey response, August 2022 to March 2023

- I look forward to visiting when the area is opened up for the public to enjoy – Survey response, August 2022 to March 2023
- It's great that the area is being improved for the sake of the environment. I'd love more native vegetation - Survey response, August 2022 to March 2023

Feedback has also acknowledged that the structure is significant but understanding that safety is paramount to the community and as such a safe way to manage the structure and acknowledge its historical significance is largely supported.

- Preserve what is necessary to preserve but the priority is for the area to be open to the public. For how much longer will the Geelong public timidly accept that all access to the Barwon (River) stops at Gundog Land because of a decades old safety issue? The Barwon (River) needs to be opened to the public with walking and bike paths. While I am at it, what about the Moorabool River? Where are the walking paths and bike paths and the public access along the Moorabool? – Social media comment, July 2025.
- It's past use and reasons for construction. It's place in earlier history - aboriginal and later. I'm not completely sure it's worth preserving in total, as the concrete has been deteriorating for decades – Survey response, August 2022 to March 2023.
- It is old but should either be upgraded or demolished. Not just left to rot and cause the river to be closed beneath it – Survey response, August 2022 to March 2023.

Opposition to the decision to demolish has been raised by heritage groups including the Friends of the Barwon River Ovoid Sewer Aqueduct and Engineering Heritage Victoria. These groups have also raised alternative options to preserve the structure. However, these options do not address the inherent safety risks of structural collapse.

The project Community Reference Group majority view is that they are disappointed and saddened about the decision to demolish the structure but also acknowledge the structural engineering advice that Barwon Water has received which was also shared with the Reference Group is clear in terms of what can be safely achieved and what cannot in terms of managing the structure. The Group has highlighted the importance of being clever and creative in terms of heritage interpretation and also acknowledged interpretation is not only physical structures, but that it also encompassed stories, traditions, and cultural significance that connect people to places.

Barwon Water will continue to engage with the project's Community Reference Group to gather insights and views to support the development of any Heritage Interpretation Plan pending the outcome of the Heritage Victoria permit application process. Consultation with Barwon Water customers, communities and stakeholders will continue throughout all project statutory approvals, construction and operation stages of the project.

3. Statutory Safety and Risk Considerations

3.1 Legal Obligations

There are legal obligations for Barwon Water with respect to safety under the Heritage Act 2017, OHSA and the Water Act 1989.

Heritage Act

Barwon Water is obligated by the Heritage Act 2017 to undertake protection works to the state registered heritage asset (H08595). The 2020 Heritage Victoria works permit requires works to be completed by 16 November 2028.

Section 101(2)(d) of the Heritage Act 2017 **expressly** refers to the extent to which an application, if refused, would unreasonably detrimentally affect the ability of the public authority to perform a statutory duty specified in the application.

OHSA

The OHSA imposes a range of duties on employers in relation to the elimination (or control) of risks to health and safety in the workplace and matters arising from the conduct or undertaking of the employer.¹ The key aspect of all duties is a requirement for employers to do what is reasonably practicable to eliminate or, where elimination is not reasonably practicable, reduce those risk to the extent reasonably practicable.

Importantly, OHSA offences (other than workplace manslaughter – see below) are ‘risk based’. That is, they do not require an incident to occur, and instead it is the mere existence of an identifiable risk to health and safety that has not been eliminated or controlled to the extent reasonably practicable that constitutes the criminal offending.

Employer duties imposed under the OHSA include requirements for employers to:

so far as is reasonably practicable, provide and maintain for employees² of the

employer a working environment that is safe and without risks to health,³ which may be contravened by failing to:

(a) provide or maintain plant or systems of work that are, so far as is reasonably practicable, safe and without risks to health;⁴

(b) maintain, so far as is reasonably practicable, each workplace under the employer's management and control in a condition that is safe and without risks to health,⁵

so far as is reasonably practicable, monitor conditions at any workplace under the employer's management and control;⁶

¹ A breach of any of these duties is a criminal act which can be investigated by WorkSafe Victoria and prosecuted by the Director of Public Prosecutions.

² A reference to an employee includes a reference to an independent contractor engaged by an employer and any employees of the independent contractor and the duties of an employer extend to those categories of workers in relation to matters over which the employer has control.

³ Section 21(1), OHSA.

⁴ Section 21(2)(a), OHSA.

⁵ Section 21(2)(c), OHSA.

⁶ Section 22(1)(b), OHSA.

ensure, so far as is reasonably practicable, that persons other than employees of the employer (e.g. site visitors) are not exposed to risks to their health or safety arising from the conduct of the undertaking of the employer;⁷

In addition, where a person who (whether as an owner or otherwise – e.g. Barwon Water) has, to any extent, the management or control of a workplace must ensure so far as is reasonably practicable that the workplace and the means of entering and leaving it are safe and without risks to health.⁸

With regard to works under the November 2020 heritage permit (P32806) it was independently confirmed that it was not feasible to complete the authorised conservation works (structural propping) in accordance with the permit in a safe manner, with regard to Barwon Water's obligations under the OHSA. Refer to ARUP Structural Engineering and Risk Assessment Report for further details on OHSA obligations.

In circumstances where risks associated with works cannot reasonably be eliminated or controlled, it is incumbent upon Barwon Water to request changes to the proposed works (as required by the permit) to enable risks to be eliminated or controlled to the extent reasonably practicable and therefore enable Barwon Water to discharge its primary duties under the OHSA.

The criminal offence of workplace manslaughter was introduced into the OHSA⁹ with effect from 1 July 2020, and unlike the primary duties imposed by the OHSA, requires a direct causal connection with an incident for the offence to be complete. Workplace manslaughter offences have penalties of up to 25 years imprisonment for individuals (including officers of an organisation) and maximum fines of \$20.3 million for body corporates. One employer has been convicted under the workplace manslaughter laws and fined \$3 million on appeal in Victoria, demonstrating that WorkSafe is actively pursuing charges.

Water Act

In addition to being the owner of the Aqueduct, Barwon Water is responsible for the Barwon River and the land around the Aqueduct as a statutory water corporation established under the Water Act. The Water Act imposes a number of obligations on water authorities, including in relation to waterway and floodplain management.

Barwon Water also has obligations under the Statement of Obligations issued under the Water Industry Act 1994, including the Statement of Obligations (General). This includes obligations relating to (among other things):

- the preparation of plans, systems and processes to ensure risks associated with Barwon Water's functions are identified, assessed, prioritised and managed;¹⁰ and
- the preparation of plans, systems and processes to manage its assets in ways which maintain the standards and conditions and service and minimise the overall whole of life cost of providing service.¹¹

Barwon Water's approach to the Aqueduct should be consistent with its obligations under the Water Act, the Statements of Obligations and plans prepared under the Statement of Obligations.

Penalties for Failure

Barwon Water may be liable for offences under the Heritage Act, for example if the 2020 heritage permit is not complied with or Barwon Water fails to comply with a repair order served by Heritage Victoria. Conversely, under

⁷ Section 23, OHSA.

⁸ Section 26, OHSA

⁹ Part 5A s 39G, OHSA

¹⁰ Statement of Obligations (General) dated 20 December 2015, part 5-1.

¹¹ Statement of Obligations (General) dated 20 December 2015, part 7-1.

the OHSA Barwon Water officers may also be liable for offences committed by Barwon Water, attributable to an officer failing to take reasonable care. On this basis, there is legal risk for Barwon Water under the OHSA, if compliance with the 2020 heritage permit risks health and safety to employees, contractors and the public.

Barwon Water is obligated to keep the public safe, and to provide a safe workplace under the OHSA.

If Barwon Water's obligations under the OHSA, cannot be satisfied without creating a real threat to the public or to workers, then works under the 2020 heritage permit should not proceed. In this case, the most significant conflicts appear to arise under the OHSA and highlighted by the findings of the ARUP risk assessment which has some risks rated as high or extreme.

3.2 Primary Statutory Duties

Barwon Water is established as a Water Corporation under the Water Act 1989, and is defined as a Regional Urban Water Authority and a Regulated Water Industry under the Water Industry Act 1994. These Acts, amongst other matters, serve to define Barwon Water's sources of revenue and the scope of the functions and services it delivers. As part of this scope, the Water Act and the Minister's Letter of Expectations oblige Barwon Water to recognise and provide for Aboriginal cultural values and uses of waterways and water resources, as well as recreational uses.

In the course of its normal operations, Barwon Water constructs and operates a variety of water and sewage infrastructure. This includes a number of operational places which are the subject of state and local heritage controls, including the Upper Stony Creek Reservoir (Golden Plains HO111; VHI), the Cressy Water Tower (Colac Otway HO172) and the Lovely Banks Basins (Geelong HO1721).

As the owner of this infrastructure, Barwon Water is responsible for the safe operation, decommissioning and disposal of such assets once they are no longer required operationally. Unlike buildings, engineered infrastructure assets rarely present reasonable options for adaptation or sale, and would not typically be maintained in place following decommissioning. Where determined to be of heritage significance, a sustainable basis for the management and retention of such assets after removal from service is frequently uncertain.

As with other public authorities, the management of redundant heritage structures is not an activity expressly contemplated in the provisions of the relevant acts under which Barwon Water operates. Any expenditure on such places necessarily has regard to the delivery of their core obligations/business. In this regard the Aqueduct is an obsolete asset which will not support or deliver any form of operational service to customers and as such does not provide any benefits to customers. Accordingly any expenditure carries with it an opportunity cost as related to Barwon Water's operations as a water industry service provider.

As part of Barwon Water recent investigations, cost has not been a factor in the options considered. However Barwon Water will need to ensure that the cost of any proposed works does not impact on customer bills and service delivery.

A refusal of the heritage permit application would compromise Barwon Water's ability to exercise and satisfy its primary statutory duties under the Water Act, including obligations in respect to

- safe operation and responsible commissioning of its infrastructure,
- waterway and floodplain management, and
- preparation of plans, systems and processes to identify and manage risk.

A refusal would also impact Barwon Water's ability to meet its obligations under the OHSA to keep the public safe and to provide a safe workplace to its employees and any worker engaged to undertake the works.

In summary, refusal of the permit application would unreasonably and detrimentally affect the ability of Barwon Water to discharge its legal obligations under the OHSA (duties of care to employees and the public) as well as its primary statutory duties under the Water Act.

3.3 Outcome of Construction Risk Management and Mitigation Work

As noted, there have been extensive studies on the condition of the Aqueduct and options for its repair, as well as repair trials undertaken on the structure.

It is important to note that the Aqueduct was never designed to have an unlimited lifespan. In the absence of its heritage value and protection, the Aqueduct would have been demolished long ago.

These studies have focused on finding an engineering approach to address two key issues that arise from the condition of the structure:

- 'Spalling' concrete – pieces (often brick size or larger) flaking off due the corrosion and expansion of the internal steel reinforcement (commonly referred to as 'concrete cancer'), which poses a risk of serious injury or death to persons moving underneath or on the structure – this has been occurring for decades
- Risk of collapse – structural failure resulting in large sections falling to the ground, again posing a risk of serious injury or death to persons moving underneath or on the structure – this is yet to occur

Barwon Water has taken a risk management approach to these issues.

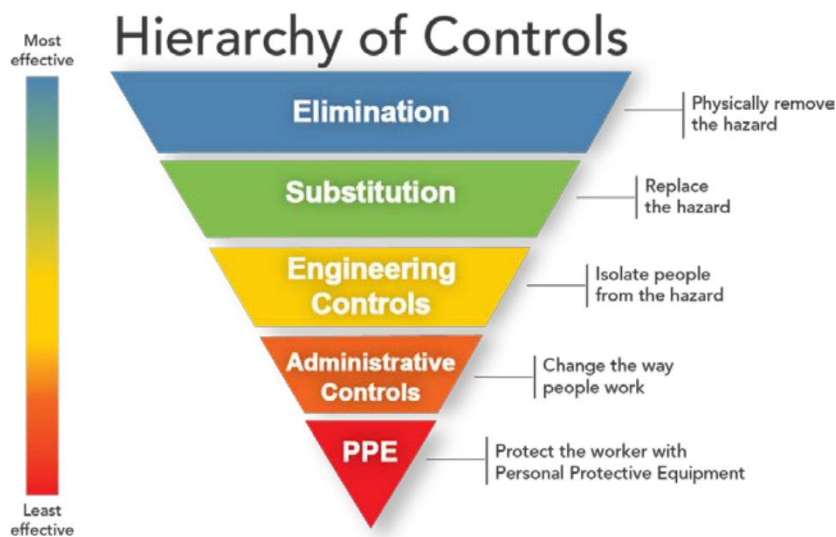




Figure 1: Example where concrete cover has 'spalled' and fallen away due to corroded internal steel reinforcement



Figure 2: Brick-sized pieces of 'spalled' concrete that have fallen from the structure

Chunks of concrete regularly fall from the structure and poses a serious safety risk. There is also a risk of structural failure which could occur anytime.

Barwon Water currently manages this safety risk so far as is reasonably practicable (SFAIRP) through monitoring, signage and physical barriers (both land and river based) to prevent personnel from accessing near, on or underneath the structure. This SFAIRP assessment is dependent on Barwon Water proposal to safely demolish the majority of the structure.

Following ARUP's extensive studies and investigations, the current proposal for demolition of the majority of the Aqueduct is deemed to be the only technically feasible option available that addresses the existing public safety risk profile, whilst not putting construction workers at undue risk during the works.

Demolition of the majority of the aqueduct structure resolves the ongoing risks to public posed by the deteriorating structure and allows the river to be reopened. Retention of pier bases and stairs, and potential opportunistic salvage of other components post demolition offers some limited opportunity to retain part of the aqueduct fabric.

3.5 Statement of Intent in determining to apply for a heritage permit to demolish all fourteen spans of the Aqueduct

Barwon Water is applying to Heritage Victoria for a new permit to safely demolish the entirety of the fourteen cantilevered truss spans of the Aqueduct along with the connecting girder sections they support, including the concrete trusses, pier towers, walkway and suspended ovoid sewer pipe. These elements have been rapidly deteriorating in condition since the 1970s. As part of the application, the Aqueduct's footprint elements would be retained, conserved and activated through the proposed Heritage Interpretation Strategy (included with the new permit application). These footprint elements consist of:

- Stair landings at either end of the Aqueduct, including concrete steps, landing platform and wing balustrades
- Pier bases located below each of the fourteen truss spans.

Due to the anticipated performance of the structure during demolition, and existing hazards that prevent safe works in proximity, it is not considered feasible to retain other elements of the Aqueduct in the course of the proposed demolition works.

Barwon Water has investigated all possible options for improving, stopping or slowing the Aqueduct's natural degradation but technical advice confirms it is simply not viable from a safety and constructability perspective. Even with propping it has been concluded that this would not halt the future decay of the structure. The proposal sought by way of the new permit represents an appropriate heritage outcome having regard to the considerations in section 101 of the Heritage Act 2017.