August 2025

Wairau Valley Blue-Green Project FAQs

Why has Auckland Council reviewed the Shoal Bay Diversion design?

The Shoal Bay diversion design has been proposed by a technical advisory group of community members alongside Takapuna Golf Course/ NSTG. (The commercial entity who hold the current lease to the Takapuna Golf Course at AF Thomas Park.)

The Shoal Bay diversion proposal is the fourth proposal presented to council by NSTG in order to maintain an 18-hole golf course at AF Thomas Park.

While Healthy Waters has not been requested by the Transport and Infrastructure Committee to consider further proposals from NSTG, as a gesture of good faith, the Shoal Bay proposal has been reviewed. The project engineers WSP's report has also been peer reviewed by Tonkin & Taylor to ensure robust analysis.

How does this proposal differ from the agreed council concept?

The Shoal Bay proposal involves diverting stormwater through an open channel and underground pipe along the edge of AF Thomas Park and State Highway 1, through Smiths Bush and out to Shoal Bay through Barrys Point Reserve. It does not include any stormwater detention within AF Thomas Park.

The approved council concept involves creating a flood storage wetland and dry detention areas within AF Thomas Park, where following a flood event water would discharge via the Wairau Creek to Milford.

Does the council consider the Shoal Bay diversion a viable option?

No. The Shoal Bay diversion option is not considered a viable option for addressing flooding to the community as:

- This option is expected to cost about **$10-20 million more** than the approved approach.
- There is **likelihood of additional costs** due to high construction risk and further flood mitigation works required downstream
- Flood modelling indicates it will **increase the risk of flooding** to important transport routes downstream.

- It would require **complex maintenance**, which would be costly and could pose safety risks for workers.
- It could cause **environmental damage** that might not get regulatory approval.
- Using a pipe creates a **risk of blockages**, which could reduce the system's ability to prevent flooding during major storms.
- The design **depends on good ground conditions,** which are uncertain. If the ground is less stable than expected, especially under the motorway, the consequences could be serious and potentially increase project costs significantly.
- Both options still require stage 2 and 3 works.

How was council and its consultants able to reach this conclusion so quickly?

During 2024 and early 2025, over 100 flood mitigation options were assessed to develop the options report which was included in the business case endorsed in April by the Transport, Resilience and Infrastructure Committee.

Four of these options involved diversion of flows to Shoal Bay. Each included construction of a similar open channel as proposed in the 'Shoal Bay Solution' however these diversion options were discounted due to significant consenting issues and high estimated costs.

This assessment expanded on the earlier investigations and cost estimates. Further analysis to review this option was conducted to determine whether there were any notable differences or new considerations not previously assessed.

Is the Shoal Bay diversion option cheaper than the approved council wetland concept?

No. The Shoal Bay diversion is expected to cost about $65-75 million, which is around $10-20 million more than the AF Thomas Park storage scheme. Both assessments agreed the cost would be nominally larger that what is proposed, meaning it would be at the higher end of this estimate. This figure does not include any extra costs for flood-mitigation works downstream or for dealing with major construction risks if they occur.

Of the more than 100 options assessed, the Auckland Council plan with a wetland and dry detention system emerged as the preferred solution. An initial business case was developed for this option, and detailed design and consenting work is already well advanced. This level of planning and investigation provides greater certainty around the consent and construction cost estimates, compared to less developed and more complex alternatives such as the Shoal Bay option, resulting in a higher cost risk.

Does the Shoal Bay diversion proposal significantly reduce flooding risk?

No. Early flood modelling suggests that diverting stormwater to Barry's Point Reserve could raise flood levels downstream of the new route by about 15–40 cm during a large storm (a 1-in-100-year event). This would make it harder for the Hillcrest culvert to carry water under the motorway, leading to more flooding on State Highway 1. It would also worsen flooding on the Northern Busway, its connecting roads, and Esmonde Road – all of which are important transport routes.

This proposal would also not replace any of the required future Wairau flood resilience works planned under the approved council concept (stages 2 and 3), therefore not providing further flood risk reduction in Milford as claimed.

Aren't there similar pipes being used across Auckland, couldn't this pipe be maintained in the same way?

Yes. However, while pipes will always be a part of Auckland's stormwater system, where practical, council is adopting blue-green networks that make space for water to travel safely through communities. This approach will better accommodate larger downpours and extreme storms that we are seeing more of, as pipes can more often become blocked or overwhelmed.

To get the pipe under State Highway 1, the diversion would need an unusual inverted siphon design. This would leave water permanently sitting in parts of the tunnel and create confined spaces, making maintenance harder, more expensive, and more dangerous for workers.

In addition, safety grilles would be required to prevent people entering the tunnel, which inherently increase the risk of blockage. While preventative measures may limit the build-up of larger debris at the inlet or entry into the tunnel, smaller materials are still likely to accumulate in the pipeline, potentially causing blockages or requiring removal.

What are the other risks?

Building the pipe using the pipe-jacking method can cause problems such as the ground sinking (settlement), lifting (heaving), or drilling fluid escaping to the surface (frac-outs). These issues are more likely when the ground conditions vary or when there's only a small amount of soil above the pipe.

Geological maps show the site may have mixed ground types, including volcanic soils, river deposits, and certain types of rock and clay. While these risks can be reduced with the right methods, if they do happen—especially in areas under State Highway 1—the impacts could be serious.

At the southern end of the route, the tunnel might pass through an old rubbish dump (Barry's Point Landfill). This could mean contaminated soil and groundwater, which could raise costs and create environmental risks.

Because of the potential flooding and construction risks to State Highway 1, Northern Busway, and nearby local roads, this project would also be very unlikely to get consent unless both New Zealand Transport Agency Waka Kotahi and Auckland Transport supported it.

New Zealand Transport Agency Waka Kotahi has stated they will not support the diversion option for the following reasons:

- *It would potentially impact the operations of the motorway corridor during construction.*
- *The modelling indicates it would increase flooding risk to critical transport infrastructure.*
- *It could potentially impact any future additional harbour crossing or improvements to this section of the SH1 corridor*

There is also a consent risk based on feedback provided by the mandated Mana Whenua working group for the Wairau blue-green project. They have indicated a lack of support for options which transfer flows from one catchment to another or restrict and control the natural flow of water. Representatives from Te Kawerau Iwi Tiaki Trust shared, *"We don't agree in principle that taking a water source from one catchment (draining to Hauraki Gulf via Milford), and artificially redirecting it via pipes to another catchment (direct to Waitemata) is tika (correct/appropriate)."*

Major hydrological changes, habitat alteration, and water quality impacts—whether from tunnelling or pipe discharge—pose risks to these values that must be robustly evaluated and mitigated.

While every long-term option must be examined, the Shoal Bay diversion proposal intersects with strictly protected ecological areas. This presents substantial consenting complexities and ecological risks—over and above those of the approved council concept of a wetland in AF Thomas Park.

Have you considered the ongoing costs as part of your options assessment?

Ongoing operation and maintenance of the options of any flood resilience initiative is a critical consideration of the project and the business case development. Future operation and maintenance costs will be shared between Auckland Council and any future tenants of AF Thomas Park once it is determined what recreational outcomes will be accommodated.

Has the Auckland Council assessment of this diversion option delayed delivery of Stage 1?

No. This assessment was conducted and reviewed by additional external resource and has not delayed the project team from continuing the work they need to in order to progress design on Stage 1 of the Wairau flood resilience project.

Planning is also well underway for public consultation into the future use of recreational land in AF Thomas Park, due to begin in October. The Kaipātiki Local Board will make a decision about future recreational land use based on this feedback and detailed needs assessments in March 2026, which will be incorporated into the detailed design and final business case. Once approved, construction in AF Thomas Park is proposed to commence in 2027.

Due to the urgency of this work, there will be no further consideration of alternative options. The concept phase is now complete, and our work continues to progress to the developed design phase.

About the Making Space for Water programme

- The Making Space for Water programme includes a range of initiatives to reduce flood risk to Aucklanders. Part of this is the construction of blue-green network projects which involve enhancing stormwater assets and green spaces to deliver increased flood management.
- Auckland Council is sharing the cost of flood resilience projects with central government, subject to business case approvals. These projects must demonstrate a flood risk reduction for the wider community, not just individual properties.