

Witton Bluff Base Trail

EM Session

22 June 2023

Presented by

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Agenda

- Overview and concept design
- Project benefits
- History
- Consultation
- Design and construction considerations
- Alignment & elevation
- Materials
- Next steps

Overview

- \$5.3m budget
- Part of State Government's Coast Park project and Council's approved Coast Park Plan
- Equally funded by Council and State Government
- 630m upgrade of existing path on seawall
- 460m elevated boardwalk over limestone shelf



2008 Concept Design for Bridge & boardwalk section over limestone cliffs



Existing unsealed trail along WBBT from Christies Beach

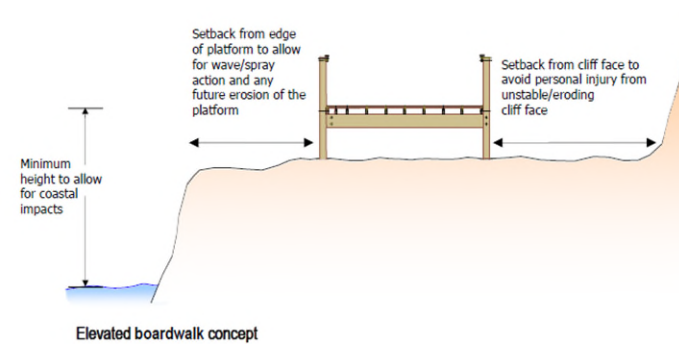
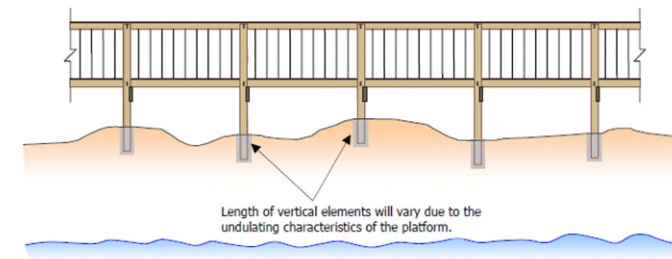


No trail (limestone shelf) section to Port Noarlunga

Concept



3m wide shared path pavement – Illustration



Boardwalk over limestone shelf

Coast Park

- Coast Park Plan developed by the State Government along with Coastal Councils
- In response Council has approved our own Coast Park Plan 2019
- Creates the framework to obtain State Government Grants (50%) to upgrade significant Council assets
- Council has successfully delivered multiple stages including Aldinga, Port Noarlunga South, Moana, Sellicks Beach and O'Sullivan's Beach
- Notable upgrades of significant nodes at Christies Beach and Port Noarlunga



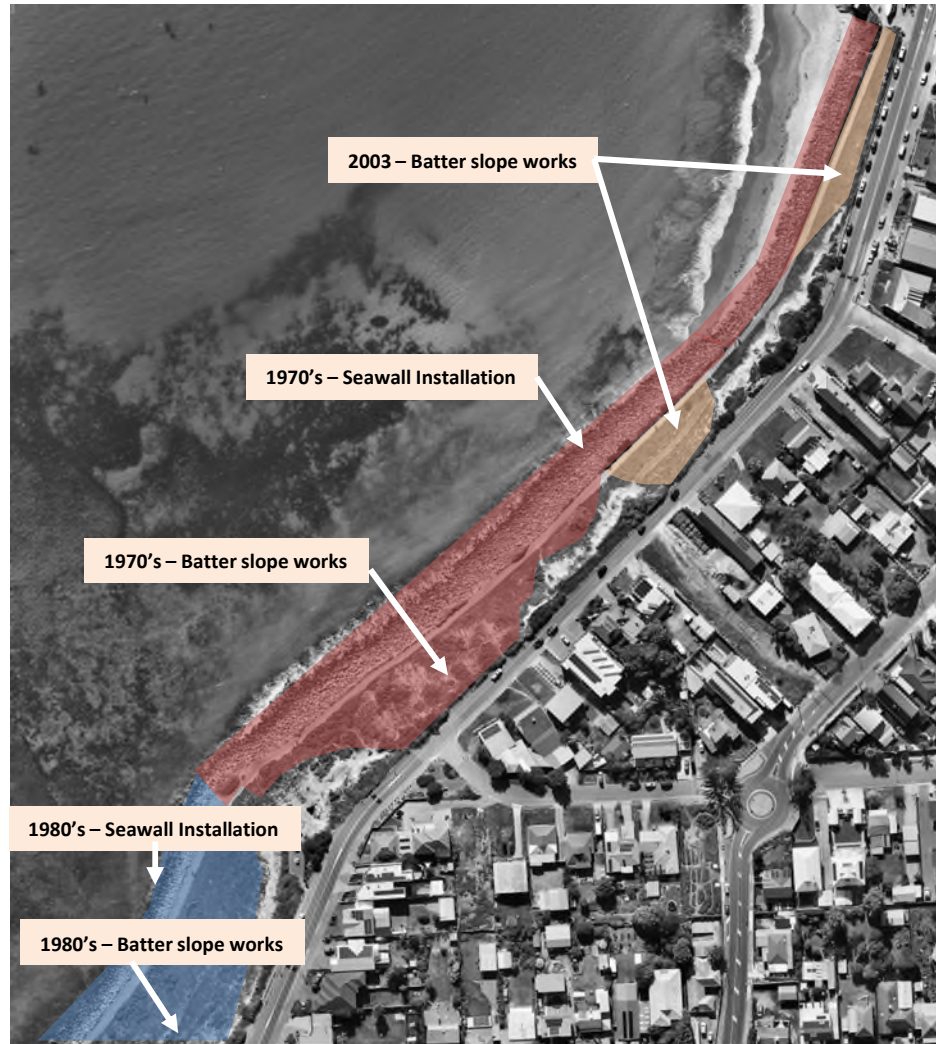
Witton Bluff Base Trail - benefits summary

- provide access to quality public open space for residents and visitors of all abilities
- showcase the remarkable scenery, geology, heritage and natural beauty of the Christies Beach and Port Noarlunga coastlines
- delivery of a project with a high community value and priority.
- leverage success of previous investment along the Port Noarlunga and Christies Beach foreshore areas to create an iconic coastal destination supporting the local tourism economy and businesses
- delivers estimated economic benefit through construction (\$3.8m) and additional visitor spend (\$4.66m per annum)
- protect environmental and cultural heritage in sensitive areas and improve cliff stability through a formalised trail
- opportunity to interpret Kaurna heritage through artwork, signage and ongoing tourism potential

History

- Original section of path built to facilitate construction of the sea walls in the 1970's and 1980's
- Previous investigations to extend the path undertaken in 1998 and in 2005-2009
- In 2017, following significant public advocacy supporting the project, Council approved funding for the project subject to receiving matched funding from the State Government
- In 2020 the State Government agreed to provide a grant of \$2.65 million for 50% of the project cost
- Community engagement undertaken in September 2020
- In early 2021 design recommenced on the project

Past works – cliff stability and toe protection



2003

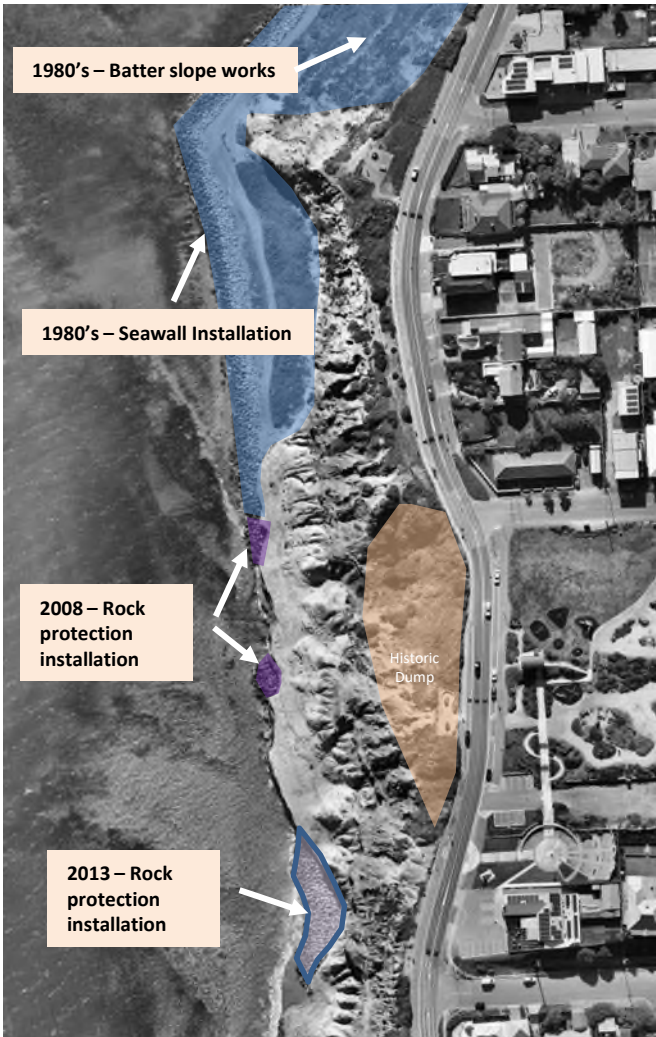


1970's



Figure a: Witton Bluff in 1950s with early residential development.

Past works – cliff stability and toe protection



1980s



Investigations

No.	Title	Author	Year
1	Extension of Pathway and Revetment around Witton Bluff (Design)	Terry Magryn & Associates	c. 1998
2	Witton Bluff Base Trail Environmental Feasibility and Design Concept Study	Connell Wagner	2005
3	Aboriginal Cultural Heritage Survey for the proposed Witton Bluff Base Trail	Australian Cultural Heritage Management	2008
4	Concept Plans	Connell Wagner	2008
5	Geotechnical Assessment (Cliff Stability) Witton Bluff	URS	2009
6	Cliff Stability Review Risk Assessment	GHD	2015
7	AAR Search of the Register of Aboriginal Sites and Objects	AAR	2020
8	Geotechnical Stability Assessment Witton Bluff Base Trial	CWM Geoscience	2020
9	Geotechnical Investigation for Proposed Boardwalk	WGA Engineers	2020
10	Design Criteria Report for Boardwalk	Water Technology	2020
11	Flora & Fauna Assessment	T&M Ecologists	2020
12	Witton Bluff Base Trail Economic Benefits	Economic Development	2020
13	Witton Bluff Seawall Design Review	Water Technology	2020

[Link](#)



Alternative options – on Esplanade



- limited room (<7.5m wide from property to cliff in parts) – no options considered feasible
- options previously considered included path on eastern side and one-way Esplanade
- eastern side not supported due to vehicle conflicts
- one-way Esplanade not supported by community
- very steep gradient impacts accessibility for older people and people with disabilities



Alternative options – next to Esplanade



- path on area of cliff that is geotechnically unstable.
- potential for eventual undermining and collapse of the path support system.
- loss of native vegetation.
- construction would need to consider the fragile nature of the cliff face
- areas of historic fill (both placed and dumped could impact the bearing capacity of the cliff and crest.
- historic dump sites with contaminated material including asbestos fragments found in the past.



Alternative options – New seawall with path on top



- unlikely to be feasible from an environmental impact and a cost perspective
- significant encroachment onto beach and impact on visual amenity
- seawall not currently required due to protection from the limestone shelf



Delays

- In April 2021 then Minister for the Environment and Water (Speirs) instructed Coast Protection Board to undertake a review of the project.
- During this process the Minister requested the project be placed on hold.
- The review found the project was unlikely to have any unacceptable environmental impacts on the coastal environment (terrestrial and marine), landform and coastal processes and complies with the Board's coastal access, environmental and hazard policies.
- In June 2021, following advice from the Department of Aboriginal Affairs and Reconciliation, Council agreed to lodge a Section 23 application for the Minister to determine whether the project would impact the Tjilbruke songline.
- In May 2023 the delegate for the Minister for Aboriginal Affairs approved the Section 23 allowing the project to proceed.
- In total these issues have delayed project more than 28 months.

Engagement, consultation and cultural heritage

- Long term community support for the project – petitions of over 1000 people to Council and Federal Government
- Support from SAEDB and Business and Tourism Associations
- Engagement in September 2020 highlighted continued support for the project
- Deputations against the project from the Port Noarlunga Conservation Society and Kaurna representatives
- Aboriginal Cultural Heritage Surveys and Register Search undertaken - No Aboriginal sites were identified.
- Council recognises that the coastline is significant to Kaurna in the context of the Tjilbruke Track. Continued engagement with Kaurna underway.



Consultation

Support

- September 2020 – Yoursay – 81 people (64%)
- September 2020 – Facebook – 934 people (99.7%) Like/Love/Wow/Care/Ha Ha
- May 2020 – Facebook - 837 people (99.6%) Like/Love/Wow/Care/Ha Ha
- 2019 – Petition (to Federal government) – 1000 people
- 2017 – Deputations by Katrine Hildyard and Gail Pounsett
- 2017 - Petition (to Council) – 1089 people
- 2004 – 83% support
- 1998 – 78% support

Do not support

- September 2020 – Yoursay – 45 people (34%)
- September 2020 – Facebook – 3 people (0.3%) Sad/Angry
- May 2020 – Facebook - 3 people (0.4%) Sad/Angry
- 2017 – Deputation by Georgina Williams
- 2004 – 9% do not support
- 1998 – 22% do not support

Consultation

Issues raised

- Alternative locations
- Visual impact
- High cost of the project
- Cultural
- Impact on wildlife
- Damage to the cliff face
- Ongoing maintenance costs
- Increase of tourists/visitors/crowds
- Impact to the reef
- Clashes with pedestrians/cyclists

Opportunities Highlighted



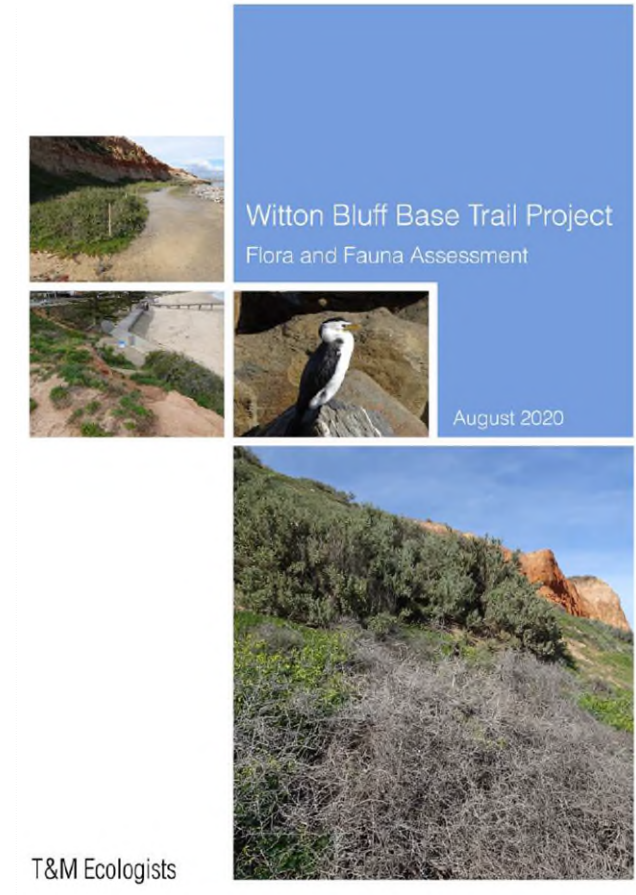
Design considerations - visual

- cliff backdrop is of an appropriately large scale - boardwalk will not dominate from key views (such as the view from the Port Noarlunga jetty).
- reducing the scale of the structure - minimising the structural member size, using open and transparent handrailing
- limiting the contrast - selection of colours and materials that integrate the design into the landscape



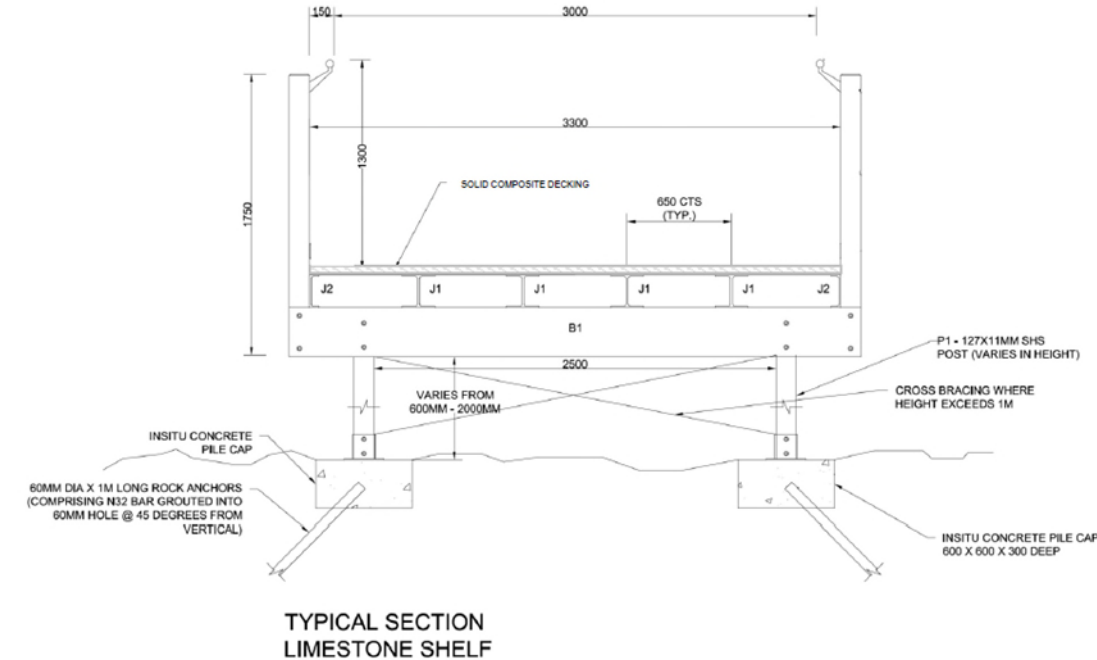
Design considerations – flora & fauna

- flora and fauna assessment undertaken
- sections of remnant vegetation along the proposed trail route but generally in poor to moderate condition
- application to the Native Vegetation Council once the final alignment is confirmed
- no species of State or National conservation significance were observed
- area is unlikely to provide significant habitat for any flora or fauna of State or National conservation significance



Design considerations – physical impacts

- Provides an accessible link between coastal nodes
- Width and type of path dictated by State
- two-thirds of the path length will be built on the existing seawall path
- boardwalk will define the current access across the limestone shelf
- controlling movements will limit ongoing environmental impact and cliff degradation from people currently walking on the shelf and cliffs
- No impact on the cliff face
- Small pad footings on the limestone shelf. Bored piles in the embayment area

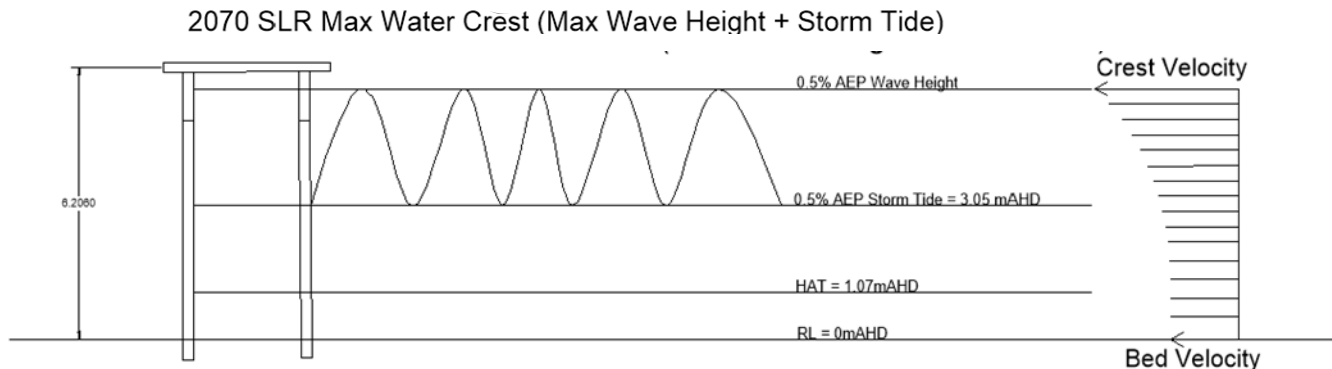


Construction considerations

- Construction Environment Management Plan
- Environmental controls – ensure that all spoil material does not enter the coastal environment
 - saw cut and neat excavation of pad footings
 - spoil from pad footings immediately collected – no spoil left on shelf overnight
 - limit time excavations are open
 - embayment works during favourable tides
 - HDPE liner used during pile installation
- Environmental spill kits
- Where works have potential to impact adjacent Encounter Marine Park a permit will be required which will detail all environmental controls and conditions required during the construction period.

Design - boardwalk

- aligns with Council's Coastal Adaptation Plan
- impacts of climate change and future sea level rise have been considered.
 - height of the boardwalk allows for sea level rise and wave effects
 - boardwalk structure designed for future ocean conditions
- CPB allowances for sea level rise used



6. Future exposure — storm surge (2100) (CPB)



Design – seawall upgrade

- Protection of Witton Bluff cliffs from coastal erosion has been a long-term strategy of Council and the Coastal Protection Board
- Existing seawall in poor condition in parts (constructed almost 50 years ago)
- Works required to increase crest width, raise crest height and larger armour size to accommodate climate change
- Future wave return wall
- Ongoing monitoring of coastline and cliff faces continue to inform our coastal adaptation strategy and what further protection work may be required in the future.

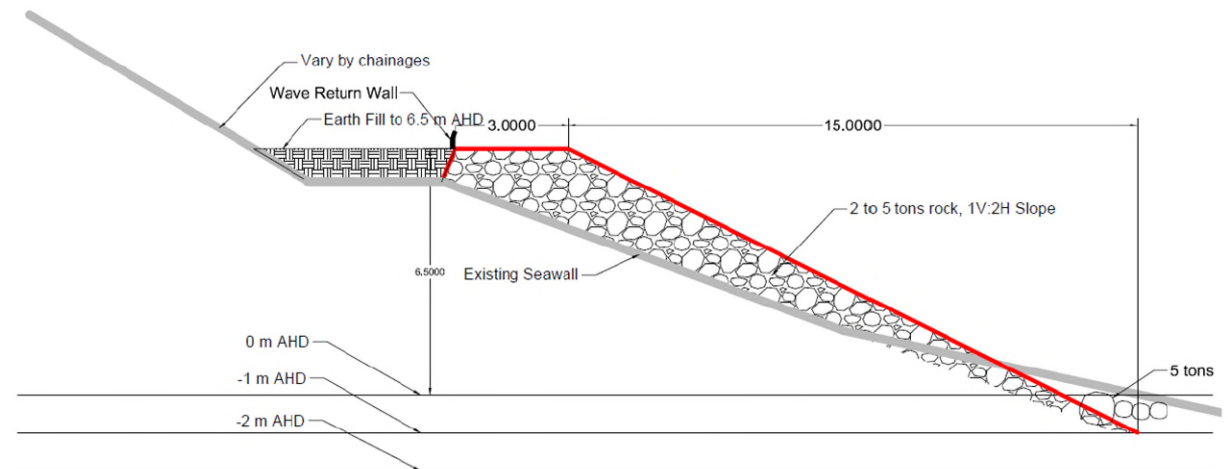


FIGURE 2-6 OPTION 4A (PROPOSED FUTURE UPGRADE IN 2040)

Alignment

Lookouts

Maintain access ramp



Elevation

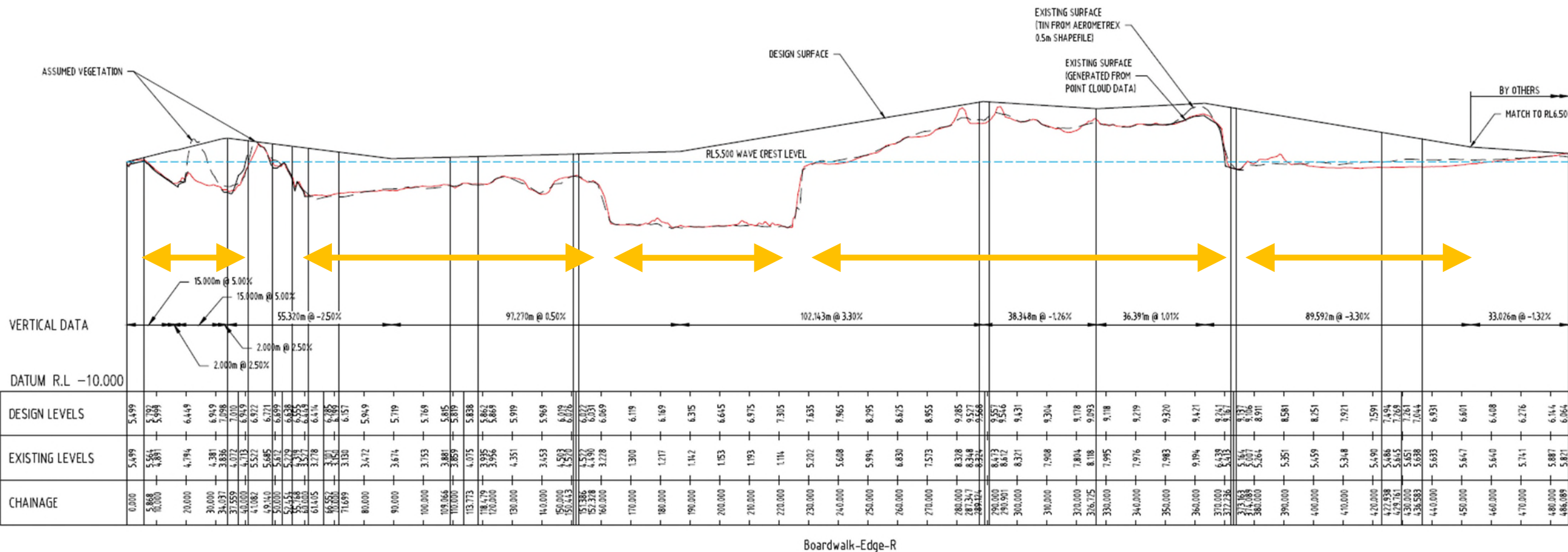
Boat Ramp

Southern Shelf
1.5 – 3.2m

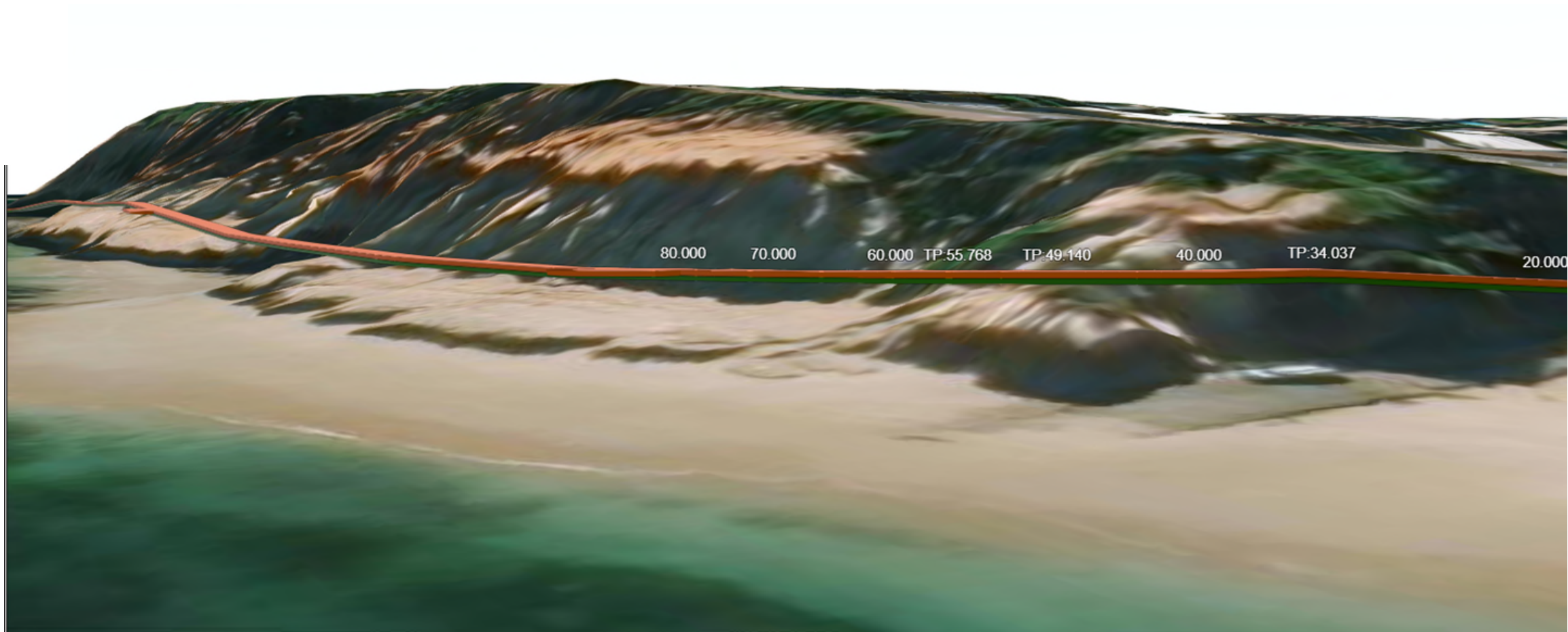
Embayment
5.0 - 6.5m

Northern Shelf
1 - 2m

Transition







Materials

- Fibre reinforced plastic and steel substructure
- Stainless steel posts and handrails
- Timber fascia
- Recycled material Deck



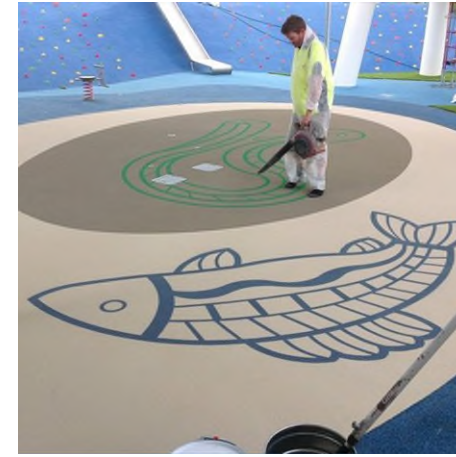
Kaurna engagement – next steps

- Develop cultural opportunities as part of the design process – design team / Kaurna representatives
- Significant opportunities using the \$400,000 State Government Grant for public art
- Site inductions prior to project works (Section 23 requirement)



Kaurna engagement and opportunities

- Lighting/projection
- Balustrades
- Furniture
- Art
- Interpretive signage



Item	Budget 2020	Spent to date	Revised Estimate	Difference	Comments
Technical Investigations	67,000	39,101	67,000		
Boardwalk (D&C)	3,990,000	98,151	4,920,000	930,000	
Remainder of Path	540,000		760,000	220,000	
Seawall Repair (including design)	650,000	22,300	900,000	250,000	Scope based on available budget
Public Art	53,000		53,000		Additional \$400k grant for public art
Total	5,300,000		6,700,000	1,400,000	

Next steps

- Confirmation of additional funding
- Council Report July/August – Formal approval to proceed
- Inform community
- Boardwalk
 - Reinitiate project and design consultants
 - Complete 70% design and approvals
 - Finalise costs
 - Detailed design
 - Construction works: [Approx. January 2024 – July 2024](#)
- Seawall and path
 - Review scope
 - Construct seawall works: [Approx. July 2024 to October 2024](#)
 - Construct path: [Approx. October 2024 to November 2024](#)

Questions



Get in touch

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Thank you

