

DISTRICT COUNCIL of TUMBY BAY

New Tumby Bay Foreshore Seawall

APPENDIX

1. Letters of Support
2. Cost Estimate
3. Economic Impact Report
4. Coastal Structure Condition Report

May 2026

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Bridget Mather PSM
Interim Chief Executive Officer
District Council of Tumby Bay
PO Box 61 Tumby Bay SA 5605

Delivery via email: bmather@tumbybay.sa.gov.au

20 May 2026

Dear Chief Executive Officer and Elected Members,

Revera Energy is pleased to provide its support for Tumby Bay District Council's proposal to progress a seawall as part of the Tumby Bay Foreshore Alignment Project.

Revera Energy has a long-term interest in South Australia through the development of energy and infrastructure projects that support the state's transition to a low carbon economy. The success of these projects is closely linked to the strength, resilience, and liveability of regional communities. From this perspective, proactive investment in coastal protection infrastructure is essential to safeguarding community assets and supporting sustainable regional growth.

Tumby Bay is a key coastal township on the Lower Eyre Peninsula, valued for its community, environmental assets, and role in supporting regional industries and services. Addressing coastal erosion risks through the proposed seawall will help protect public infrastructure, improve foreshore safety and amenity, and strengthen the town's resilience to climate related impacts.

The proposed seawall aligns with Revera Energy's commitment to responsible development, environmental stewardship, and positive community outcomes.

We commend Council for its leadership in progressing the Tumby Bay Foreshore Alignment Project and support its continued efforts to secure funding, approvals, and delivery of this important initiative.

Yours sincerely,

Daniel Kim

Daniel Kim
CEO, Revera Energy
dkim@revera.energy

An Australian Government Initiative

Regional Development Australia

REGIONAL DEVELOPMENT AUSTRALIA EYRE PENINSULA

Bridget Mather
Interim Chief Executive Officer
District Council of Tumby Bay
TUMBY BAY SA 5605

BY EMAIL: bmather@tumbybay.sa.gov.au

6 May 2026

Dear Mayor Churchett and Councillors

Tumby Bay Foreshore Seawall Project

As the key regional economic development agency on the Eyre Peninsula, Regional Development Australia Eyre Peninsula (RDAEP) is committed to strengthening the region's economy through supporting infrastructure and recreation projects.

RDAEP therefore strongly supports the District Council of Tumby Bay's proposal to progress a seawall for the Tumby Bay foreshore. The Eyre Peninsula region relies heavily on its coastal environments to underpin economic activity, workforce attraction, community wellbeing, and regional identity. Tumby Bay is a key coastal township within a regional growth zone, contributing to tourism, fisheries, workforce and lifestyle outcomes.

RDAEP recognises that climate-related coastal impacts—including erosion, storm surge, and sea level rise—present increasing risks to infrastructure, economic productivity, and liveability. The Tumby Bay foreshore is a critical asset in this context, supporting both local amenity and regional visitation.

We commend Council for the substantial work undertaken to date, including the development of a Coastal Adaptation Strategy and supporting technical investigations. This reflects a proactive, evidence-based approach to managing climate risk and planning for long-term resilience.

From a regional development perspective, the proposed seawall represents a strategically important investment that will:

- Protect infrastructure and public assets underpinning regional economic activity
- Support the sustainability of tourism and marine-based industries
- Enhance investor confidence through proactive risk management
- Contribute to population retention and attraction
- Strengthen regional adaptive capacity to climate impacts.

5 Adelaide Place | Port Lincoln, SA, 5606
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EYRE STH•AUS

Importantly, this project aligns with broader regional and national priorities relating to disaster resilience, climate adaptation, workforce attraction and economic development.

RDAEP supports Council's efforts to secure State and Commonwealth funding and recognises the opportunity for this initiative to serve as a model for other coastal communities across the Eyre Peninsula and beyond.

Yours sincerely



Ryan Viney
Chief Executive Officer
Director Regional Development

An Australian Government Initiative

Regional Development Australia

REGIONAL DEVELOPMENT AUSTRALIA EYRE PENINSULA

Bridget Mather
Interim Chief Executive Officer
District Council of Tumby Bay
TUMBY BAY SA 5605

BY EMAIL: bmather@tumbybay.sa.gov.au

7 May 2026

Dear Mayor Churchett and Councillors

Letter of Support – District Council of Tumby Bay

Regional Development Australia Eyre Peninsula (RDAEP) is the peak economic development body and the registered Regional Tourism Organisation (RTO) for the Eyre Peninsula.

As the Regional Tourism Manager, I am pleased to provide this letter of support for the District Council of Tumby Bay's proposal to progress a seawall as part of the Tumby Bay Foreshore Alignment Project.

The Eyre Peninsula is recognised for its high-quality coastal and nature-based visitor experiences, which underpin a significant proportion of the region's visitor economy. Tumby Bay is an important destination within this offering, known for its accessible beaches, attractive foreshore, coastal lifestyle and proximity to the Sir Joseph Banks Group Marine Park.

The Tumby Bay foreshore is central to the town's identity and plays a critical role in shaping the visitor experience. It supports local tourism operators, accommodation providers and associated businesses, while contributing to the broader appeal and competitiveness of the Lower Eyre Peninsula as a visitor destination.

The Council's proposal demonstrates strong alignment with regional and state strategic priorities relating to tourism, visitor economy growth, destination sustainability, climate resilience and investment in public infrastructure, supporting its significance as a regional tourism and community infrastructure initiative. This includes alignment with the Eyre Peninsula Strategic Regional Plan 2023–2026, the Eyre Peninsula Destination Management Plan and the South Australia Tourism Plan 2030, all of which recognise the importance of protecting and enhancing high-quality coastal visitor experiences, supporting sustainable tourism growth and maintaining infrastructure that underpins regional liveability and visitor appeal.

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EYRE STH•AUS

Eyre Peninsula Strategic Regional Plan 2023–2026

- Priority Area 5:
    - Urban Amenity, Sustainability and Lifestyle, which seeks to "enhance urban amenity and lifestyle pursuits in towns to support population attraction and retention"
    - Support for "master planning for foreshore areas", "foreshore development", and initiatives that improve the "functionality, sustainability and amenity of regional towns"
- Priority Area 12:
    - Visitor Economy, which identifies tourism as a key sector for the Eyre Peninsula
    - The identified need to "protect, maintain and enhance tourism assets and infrastructure" and support the sustainable expansion of the visitor economy

Eyre Peninsula Destination Management Plan

- Addressing "infrastructure and environmental challenges to support sustainable management of tourism"
- Supporting priority areas including "visitor experience" and "coastal access"
- Recognition that "tourism infrastructure is identified and advocated for, to support safe and quality visitor experiences that are sustainably managed"

South Australia Tourism Plan 2030

- Identification of "Nature and Place" as one of South Australia's key "Competitive Drivers"
- Recognition that "increasing South Australia's appeal as a destination will drive an uplift in visitation across all regions"
- Acknowledgement that "sustainability and positive community impact are becoming central to travel choices"
- Recognition of tourism sustainability as an important long-term measure for the State's visitor economy

RDAEP recognises that coastal environments are increasingly under pressure from erosion, storm surge and projected sea level rise. These impacts present a growing risk not only to community infrastructure, but also to the quality, accessibility and appeal of visitor assets that regional tourism depends upon. The Strategic Regional Plan recognises that impacts associated with climate change will increasingly affect the region's industries and visitor economy and highlights the importance of ensuring long-term environmental sustainability, resilience and protection of natural assets.

We acknowledge the significant work undertaken by the District Council of Tumby Bay, including the development of a Coastal Adaptation Strategy and supporting technical investigations. This reflects a proactive and evidence-based approach to maintaining the resilience, functionality and long-term sustainability of an important regional tourism destination.

From a regional tourism and industry perspective, investment in coastal protection infrastructure such as the proposed seawall will:

- Protect key visitor assets and public spaces and coastal visitor experiences that underpin the region's visitor economy
- Maintain safe, accessible and high-quality visitor infrastructure within the foreshore precinct
- Support local tourism operators and associated businesses

- Strengthen Tumby Bay's positioning as a resilient and attractive coastal destination aligned with the region's "Nature and Place" tourism appeal
- Contribute to the sustainability and competitiveness of the Eyre Peninsula visitor economy
- Support ongoing visitation, community liveability and regional economic activity

Maintaining the visual quality, accessibility and functionality of the foreshore will be critical to ensuring ongoing visitor appeal and supporting long-term tourism outcomes for both Tumby Bay and the wider Eyre Peninsula region.

As the registered Regional Tourism Organisation, RDAEP supports the District Council of Tumby Bay in its efforts to progress this project and secure State and Commonwealth funding, and we recognise the opportunity for this initiative to demonstrate how regional coastal destinations can proactively respond to climate-related challenges while protecting critical tourism and community infrastructure. Importantly, the project represents an investment in resilient public infrastructure that supports sustainable visitation, regional liveability and the long-term growth of the Eyre Peninsula visitor economy.

Yours sincerely

Kelly Tape
Regional Tourism Manager

EYRE PENINSULA
Local Government Association

4 May 2026

Dear Mayor Churchett and Councillors,

On behalf of the Eyre Peninsula Local Government Association (EPLGA), I am pleased to express our strong support for the District Council of Tumby Bay's proposal to progress a seawall solution for the Tumby Bay foreshore.

Coastal erosion and climate-related impacts represent a shared and escalating challenge across Eyre Peninsula councils. Tumby Bay is emblematic of the pressures facing many small regional communities, balancing extensive coastal assets with constrained revenue capacity to fund large-scale adaptation infrastructure.

The EPLGA commends the Council for its leadership in developing a Coastal Adaptation Strategy and advancing a considered, evidence-based response. This work provides an important regional benchmark and contributes to a broader understanding of coastal risk and adaptation pathways.

From a regional perspective, the proposed seawall represents:

- A critical investment in protecting community infrastructure and public assets;
- A proactive and scalable response to climate risks affecting multiple councils;
- A model for integrated coastal management and adaptation planning; and
- An opportunity to leverage State and Commonwealth investment in regional resilience.

The Tumby Bay foreshore is not only locally significant but also contributes to the broader social, economic and environmental fabric of the Eyre Peninsula, including its connection to the Sir Joseph Banks Group Marine Park.

EPLGA strongly supports Council's continued advocacy for this project and its efforts to secure the necessary funding and approvals.

We stand ready to support coordinated regional advocacy and collaboration to progress coastal resilience initiatives across the Eyre Peninsula.

Yours sincerely



Mayor Dean Johnson
President

Eyre Peninsula Local Government Association
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Mayor Dean Johnson – President
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Government of South Australia
Department of Primary Industries and Regions

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Mayor Geoff Churchett
District Council of Tumby Bay
PO Box 61
TUMBY BAY SA 5605

Email: gchurchett@tumbybay.sa.gov.au

Dear Mayor Churchett and Councillors,

RE: Tumby Bay Foreshore Coastal Protection Project

I write to acknowledge the progress of the Tumby Bay Council in developing the Coastal Adaptation Strategy, with supporting technical investigations, as part of the planning process for the Tumby Bay Foreshore Coastal Protection Project.

PIRSA is proud to be associated with the Tumby Bay and Lower Eyre Peninsula (EP) region, through our work with local communities, and the productive primary industry sectors, comprising crops, livestock, fisheries, and aquaculture. Some engagement activities include working with:

- The District Council of Tumby Bay:
    1. on the successful co-funding from PIRSA of $75,000 in 2025 for the Tumby Bay Urban Design Framework Review
    2. through the EP Local Government Association and the EP Economic Development Group
    3. on the development and submission of a precinct development project through the federal 'regional Precinct Partnership Program'
- local community groups, including the Tumby Bay Lions Club, which recently received a $50,000 grant from PIRSA to fund the purchase of a catering van.

Regarding implementation of the foreshore project, in the first instance I would encourage you to engage with the Commonwealth Government to assess eligibility for the Disaster Ready Fund, which is due to open mid-2026.

I look forward to following the progress of this initiative.

Yours sincerely

Prof Mehdi Doroudi PSM
CHIEF EXECUTIVE
12 / 05 / 2026

SOUTH AUSTRALIA

Government of South Australia
South Australian Tourism Commission

22 May 2026

Bridget Mather PSM
Interim Chief Executive Officer
District Council of Tumby Bay
Via email: bmather@tumbybay.sa.gov.au

Dear Mayor Churchett and Councillors,

RE: Tumby Bay Foreshore Seawall Project

The South Australian Tourism Commission (SATC) recognises Tumby Bay as an important visitor destination for both the Eyre Peninsula and South Australia, and considers protection of the foreshore important to the town's liveability, visitor appeal and long-term resilience.

Tourism makes a strong contribution to the Eyre Peninsula visitor economy with current regional tourism reporting shows the Eyre Peninsula generated approximately $455 million in visitor expenditure in the year ending December 2024. These figures underline the value of protecting and enhancing the places and experiences that attract visitors and support local businesses.

The *draft Eyre Peninsula Destination Management Plan 2026-2030* (DMP), which the District Council of Tumby Bay participated in during the engagement period, also plays a key role in identifying, prioritising and advocating for strategic tourism projects that strengthen the region's visitor economy. These plans aim to deliver sustainable economic, environmental, and social benefits for the entire region. The DMP also highlights the regional strengths, many of which are within the Lower Eyre Peninsula.

Globally distinctive marine encounters

The Eyre Peninsula offers exceptional wild marine encounters. Experiences such as seeing the Leafy Sea Dragon at Tumby Bay are distinctive tourism drawcards and an important part of the region's identity.

Coastal experiences and destination appeal

Tumby Bay's white-sand shoreline, calm waters, walking trails and family-friendly foreshore make it an appealing year-round coastal destination. These assets support activities such as fishing, boating, diving and regional touring, making the foreshore central to the town's tourism offering.

SOUTH AUSTRALIA

Government of South Australia
South Australian Tourism Commission

Authentic communities, local character and country welcome

Across the region, small-town hospitality, local pride and a grounded way of life add warmth and authenticity to the visitor experience. This sense of place is strengthened by genuine welcome, local knowledge and everyday community interactions.

From a tourism perspective, investment in foreshore protection infrastructure through strategic coastal adaption planning, is important not only for safeguarding community assets, but also for preserving the quality, accessibility and visual appeal of a destination that visitors actively seek out.

Please contact Kathryn Galpin, Director Policy and Projects via Kathryn.galpin@sa.gov.au for further information.

Yours sincerely



Chris Burford
Executive Director - Strategic Communications and Engagement
South Australian Tourism Commission

TUMBY BAY COASTAL PROTECTION INFRASTRUCTURE ALIGNMENT

50% DESIGN COST ESTIMATE

Rider Levett Bucknall

LOCATION SUMMARY

Rates Current At March 2026

Ref	Location	Total Cost $
S0	**Segment 0**	**2,644,971.88**
S1	**Segment 1**	**10,203,189.18**
S2	**Segment 2**	**1,343,932.41**
S3	**Segment 3**	**9,034,114.73**
S4	**Segment 4**	**12,449,072.77**
S5	**Segment 5**	**6,657,811.83**
S6	**Segment 6**	**2,412,084.46**
ESTIMATED NET COST		**44,745,177.26**
MARGINS & ADJUSTMENTS		
Project Management and Council Fees		Excl.
Professional Fees and Charges		Excl.
Escalation Beyond mid 2026		Excl.
Goods and Services Taxation		Excl.
ESTIMATED TOTAL COST		**44,745,177.26**

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TUMBY BAY COASTAL PROTECTION INFRASTRUCTURE ALIGNMENT

50% DESIGN COST ESTIMATE

SEGMENT 0 SUMMARY

Rates Current At March 2026

Ref	Description	Total Cost $
PR	Preliminaries	273,821.95
EM	Environmental Management	57,181.55
TPM	Traffic and Pedestrian Management	70,210.75
SR	Service Relocations	Excl.
DE	Demolition	66,214.32
EW	Earthworks	29,529.00
DR	Drainage	59,279.23
RW	Rock Wall	1,358,844.52
PV	Pavements	54,170.71
CW	Concrete Works	28,919.02
FU	Furniture	Excl.
LA	Landscaping	101,130.51
CM	Contractors Margin and Overheads	251,916.19
CT	Contingencies	293,754.13
ESTIMATED NET COST		**2,644,971.88**
MARGINS & ADJUSTMENTS		
	Project Management and Council Fees	Excl.
	Professional Fees and Charges	Excl.
	Escalation Beyond mid 2026	Excl.
	Goods and Services Taxation	Excl.
ESTIMATED TOTAL COST		**2,644,971.88**

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SEGMENT 0 BREAKDOWN

S0 Segment 0

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PR	**PRELIMINARIES**				
1	Contractor Preliminaries and Supervision	Item			273,821.95
	PR - PRELIMINARIES				**273,821.95**
EM	**ENVIRONMENTAL MANAGEMENT**				
80	Allowance for Environmental Management and Controls	Item			33,000.00
79	Allowance for sand bags for construction of new rock wall	m	197	122.75	24,181.55
	EM - ENVIRONMENTAL MANAGEMENT				**57,181.55**
TPM	**TRAFFIC AND PEDESTRIAN MANAGEMENT**				
2	Traffic and Pedestrian Management	Item			70,210.75
	TPM - TRAFFIC AND PEDESTRIAN MANAGEMENT				**70,210.75**
SR	**SERVICE RELOCATIONS**				
538	No allowance for existing service relocations or modifications	Note			Excl.
	SR - SERVICE RELOCATIONS				**Excl.**
DE	**DEMOLITION**				
23	Clear site of debris ready for construction work	m²	2,733	0.45	1,202.53
29	Remove existing bench seats and dispose off site	No	2	528.01	1,056.01
93	Remove existing sign including disposal off site	No	3	255.76	767.26
43	Saw cut existing kerb ready for removal	No	1	49.51	49.51
44	Sawcut existing pavement ready for removal	m	201	21.79	4,377.79
16	Take up existing timber log fencing and dispose debris off site	m	67	21.46	1,437.16
34	Break up existing kerb and gutter and dispose debris off site	m	41	36.86	1,510.86
106	Take up existing sand dune vegetation and dispose off site	m²	2,287	14.43	32,980.82
103	Take up existing rubble pavement and dispose off site	m²	207	12.64	2,616.28
107	Take up existing road spray seal and dispose off site	m²	352	21.95	7,724.65
104	Take up existing rock landscaping and dispose off site	m²	64	94.12	6,023.43
14	Take up existing timber ramp and dispose debris off site	m²	8	121.01	968.01
145	Allowance for sundry demolition	Item			5,500.01
	DE - DEMOLITION				**66,214.32**
EW	**EARTHWORKS**				
144	Strip 100mm average thickness sandy topsoil and dispose locally off site	m²	2,287	6.56	14,993.58
146	Box out new kerbing to subgrade including disposal off site	m³	67	145.21	9,728.41
114	Trim and shape batters	m²	437	11.01	4,807.01
76	No allowance for dewatering	Note			Excl.
77	No allowance for contaminated soil removal or remediation	Note			Excl.
78	No allowance for rock excavation	Note			Excl.
	EW - EARTHWORKS				**29,529.00**

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SEGMENT 0 BREAKDOWN

S0 Segment 0 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
DR	**DRAINAGE**				
SCH2160	**Stormwater Outlet at Chainage 2160**				
321	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	16	715.31	11,444.93
322	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
339	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.01	10,450.01
332	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
338	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH2160 - Stormwater Outlet at Chainage 2160				30,294.97
SCH2310	**Stormwater Outlet at Chainage 2310**				
341	Supply and install 375mm dia. RCP including excavation, bedding and backfilling	m	12	752.86	9,034.22
342	Supply and install proprietary flap to 375mm dia. RCP stormwater pipe	No	1	6,050.01	6,050.01
345	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.01	10,450.01
343	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
344	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH2310 - Stormwater Outlet at Chainage 2310				28,984.26
	DR - DRAINAGE				**59,279.23**
RW	**ROCK WALL**				
EX	**Excavation Works**				
5	Excavate new wall to subgrade including disposal of surplus spoil off site	m³	4,362	58.08	253,344.90
	EX - Excavation Works				253,344.90
RW	**Rock Wall**				
6	Supply and place geofabric	m²	3,142	17.77	55,817.62
7	Supply and place two layers of DN600 secondary armour rock to a total 870mm thick layer (PC Sum Rock Supply: $45/t)	m³	862	163.00	140,504.24
8	Supply and place two layers of DN1050 primary armour rock to a total 1800mm thick layer (PC Sum Rock Supply: $45/t)	m³	3,033	185.32	562,066.31
	RW - Rock Wall				758,388.17
SW	**Sea Wall**				
340	Supply and place 100mm thick PM2/20 as base under seawall toe	m²	23	42.78	983.92
314	Supply and install formwork to seawall	m²	68	363.55	24,721.40
346	Supply, fabricate, deliver and install reinforcement	t	1.47	6,402.80	9,412.11

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SEGMENT 0 BREAKDOWN

S0 Segment 0 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
347	Scabble between footing and wall	m	16	29.27	468.17
348	Supply and place concrete to wall	m³	15	1,578.82	23,682.28
349	Surface finish and cure to surface	m	16	33.01	528.01
	SW - Sea Wall				59,795.89
BF	**Backfilling**				
111	Backfill infront of new rock wall reusing site won material including compaction	m³	1,409	77.02	108,508.47
160	Backfill behind of new rock wall with engineered fill including compaction	m³	849	145.83	123,807.10
	BF - Backfilling				232,315.57
TW	**Temporary Transition Works**				
147	Allowance for temporary transition between new and existing sea wall between staging (Provisional Sum)	Item			54,999.99
	TW - Temporary Transition Works				54,999.99
	RW - ROCK WALL				**1,358,844.52**
PV	**PAVEMENTS**				
KR	**Kerb Reinstatement**				
141	Subgrade preparation to kerb reinstatement	m²	202	23.93	4,832.86
38	Supply and place 150mm thick PM2/20 under new kerbing including trimming and compacting	m²	202	84.48	17,064.96
118	Supply and place 150mm PM1/20 infront of new kerbing including trimming and compacting	m²	58	85.57	4,963.01
119	Supply and place 14mm/7mm spray seal infront of new kerbing	m²	58	26.19	1,518.45
120	Match into existing	m	192	23.44	4,498.57
142	Mobilisation and demobilisation of spray seal crew	No	1	6,325.01	6,325.01
	KR - Kerb Reinstatement				39,202.86
CP	**Carpark**				
BSC	Bawden Street Carpark				
533	Subgrade preparation to carpark	m²	90	19.15	1,722.61
534	Supply and place 150mm thick PM2/20 as base to carpark including trimming and compacting	m²	90	59.96	5,395.51
535	Supply and place 150mm PM1/20 as subbase to carpark including trimming and compacting	m²	90	61.04	5,493.52
536	Supply and place 14mm/7mm spray seal to carpark	m²	90	26.19	2,356.21
	BSC - Bawden Street Carpark				14,967.85
	CP - Carpark				14,967.85
	PV - PAVEMENTS				**54,170.71**

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SEGMENT 0 BREAKDOWN

S0 Segment 0 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
CW	**CONCRETE WORKS**				
36	Construct concrete kerb and gutter	m	177	148.50	26,284.50
528	Construct concrete rollover kerb	m	15	159.51	2,392.51
121	Match into existing kerbing	No	2	121.01	242.01
	CW - CONCRETE WORKS				**28,919.02**
FU	**FURNITURE**				
125	No allowance for new or relocation of street furniture	Note			Excl.
	FU - FURNITURE				**Excl.**
LA	**LANDSCAPING**				
BAT	**Batters**				
15	Respread site won material to match into existing	m²	273	66.00	18,018.00
	BAT - Batters				18,018.00
VL	**Vegetated Levee**				
360	Supply and place topsoil for new landscaping	m²	837	31.71	26,534.57
361	Supply and install new plants to batters (3 plants per m2)	No	2,509	22.55	56,577.94
584	No allowance for mulch	Note			Excl.
362	No allowance for trees	Note			Excl.
	VL - Vegetated Levee				83,112.51
	LA - LANDSCAPING				**101,130.51**
CM	**CONTRACTORS MARGIN AND OVERHEADS**				
62	Contractor's Overheads and Margin	Item			251,916.19
	CM - CONTRACTORS MARGIN AND OVERHEADS				**251,916.19**
CT	**CONTINGENCIES**				
64	Design Development Contingency	Item			58,750.83
65	Construction Contingency	Item			235,003.30
	CT - CONTINGENCIES				**293,754.13**
SEGMENT 0					**2,644,971.88**

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TUMBY BAY COASTAL PROTECTION INFRASTRUCTURE ALIGNMENT

50% DESIGN COST ESTIMATE

SEGMENT 1 SUMMARY

Rates Current At March 2026

Ref	Description	Total Cost $
PR	Preliminaries	1,056,289.91
EM	Environmental Management	197,793.45
TPM	Traffic and Pedestrian Management	270,843.57
SR	Service Relocations	Excl.
DE	Demolition	486,061.44
EW	Earthworks	85,653.89
DR	Drainage	124,053.48
RW	Rock Wall	5,315,850.60
AS	Beach Access Stairs	163,376.34
RN	Rest Nodes	59,159.14
PV	Pavements	311,965.27
CW	Concrete Works	16,483.53
SH	Shelters	Excl.
TB	Toilet Block	Excl.
PG	Playground Equipment	Excl.
FU	Furniture	Excl.
LA	Landscaping	10,692.01
CM	Contractors Margin and Overheads	971,786.72
CT	Contingencies	1,133,179.83
ESTIMATED NET COST		**10,203,189.18**
MARGINS & ADJUSTMENTS		
Project Management and Council Fees		Excl.
Professional Fees and Charges		Excl.
Escalation Beyond mid 2026		Excl.
Goods and Services Taxation		Excl.
ESTIMATED TOTAL COST		**10,203,189.18**

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SEGMENT 1 BREAKDOWN

S1 Segment 1

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PR	**PRELIMINARIES**				
1	Contractor Preliminaries and Supervision	Item			1,056,289.91
	PR - PRELIMINARIES				**1,056,289.91**
EM	**ENVIRONMENTAL MANAGEMENT**				
80	Allowance for Environmental Management and Controls	Item			131,999.99
79	Allowance for sand bags for construction of new rock wall	m	536	122.75	65,793.46
	EM - ENVIRONMENTAL MANAGEMENT				**197,793.45**
TPM	**TRAFFIC AND PEDESTRIAN MANAGEMENT**				
2	Traffic and Pedestrian Management	Item			270,843.57
	TPM - TRAFFIC AND PEDESTRIAN MANAGEMENT				**270,843.57**
SR	**SERVICE RELOCATIONS**				
538	No allowance for existing service relocations or modifications	Note			Excl.
	SR - SERVICE RELOCATIONS				**Excl.**
DE	**DEMOLITION**				
23	Clear site of debris ready for construction work	m²	6,887	0.45	3,030.29
149	Cut down existing medium pine tree including stump grinding	No	16	9,350.00	149,599.98
148	Cut down existing large pine tree including stump grinding	No	9	15,950.00	143,549.99
30	Remove existing picnic table and dispose off site	No	2	715.01	1,430.01
26	Take down existing fabric shade shelters and dispose debris off site	No	4	1,595.01	6,380.01
46	Demolish existing toilet block structure including disconnection of services and disposal of debris off site	No	1	14,850.01	14,850.01
28	Remove existing swing and dispose off site	No	1	1,749.01	1,749.01
102	Remove existing dolphin structure and dispose off site	No	1	572.01	572.01
43	Saw cut existing kerb ready for removal	No	5	49.51	247.51
35	Break up existing kerb ramp and dispose debris off site	No	2	462.01	924.01
44	Sawcut existing pavement ready for removal	m	78	21.79	1,698.85
16	Take up existing timber log fencing and dispose debris off site	m	584	21.46	12,526.81
34	Break up existing kerb and gutter and dispose debris off site	m	109	36.86	4,016.66
106	Take up existing sand dune vegetation and dispose off site	m²	2,985	14.43	43,046.68
105	Take up existing grass and dispose off site	m²	1,837	11.50	21,116.32
22	Take up existing pavers and dispose off site	m²	1,142	36.85	42,082.70
103	Take up existing rubble pavement and dispose off site	m²	6	12.64	75.84
109	Take up existing gravel playground surface and dispose off site	m²	47	18.43	865.98
100	Break up existing concrete pavement and dispose debris off site	m²	4	56.46	225.81
107	Take up existing road spray seal and dispose off site	m²	25	21.95	548.63

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SEGMENT 1 BREAKDOWN

S1 Segment 1 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
42	Take up existing asphalt from carpark and dispose debris off site	m²	198	42.36	8,385.31
14	Take up existing timber ramp and dispose debris off site	m²	59	121.01	7,139.01
145	Allowance for sundry demolition	Item			22,000.01
	DE - DEMOLITION				**486,061.44**
EW	**EARTHWORKS**				
144	Strip 100mm average thickness sandy topsoil and dispose locally off site	m²	3,571	6.56	23,411.48
66	Box out bike path to subgrade including disposal off site	m³	436	133.10	58,031.60
146	Box out new kerbing to subgrade including disposal off site	m³	29	145.21	4,210.81
76	No allowance for dewatering	Note			Excl.
77	No allowance for contaminated soil removal or remediation	Note			Excl.
78	No allowance for rock excavation	Note			Excl.
	EW - EARTHWORKS				**85,653.89**
DR	**DRAINAGE**				
SCH1610	**Stormwater Outlet at Chainage 1610**				
304	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	16	715.31	11,444.93
305	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
299	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.01	10,450.01
307	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
308	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1610 - Stormwater Outlet at Chainage 1610				30,294.97
SCH1690	**Stormwater Outlet at Chainage 1690**				
306	Demolish existing headwall and dispose off site	No	1	1,034.01	1,034.01
309	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	13	715.31	9,299.01
310	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
313	Connect new RCP into existing side entry pit including making good	No	1	1,815.01	1,815.01
311	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
312	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1690 - Stormwater Outlet at Chainage 1690				20,548.06

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SEGMENT 1 BREAKDOWN

S1 Segment 1 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
SCH1730	**Stormwater Outlet at Chainage 1730**				
318	Supply and install 100mm dia. PVC including excavation, bedding and backfilling	m	1	703.19	703.19
315	Supply and install proprietary flap to 100mm dia. PVC stormwater pipe	No	1	2,750.01	2,750.01
319	Connect new PVC into existing pipe including making good	No	1	1,650.01	1,650.01
316	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
317	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1730 - Stormwater Outlet at Chainage 1730				8,553.23
SCH1770	**Stormwater Outlet at Chainage 1770**				
326	Supply and install 375mm dia. RCP including excavation, bedding and backfilling	m	4	752.86	3,011.41
327	Supply and install proprietary flap to 375mm dia. RCP stormwater pipe	No	1	6,050.01	6,050.01
325	Connect new RCP into existing pipe including making good	No	1	2,750.01	2,750.01
323	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
324	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1770 - Stormwater Outlet at Chainage 1770				15,261.45
SCH1900	**Stormwater Outlet at Chainage 1900**				
320	Supply and install 375mm dia. RCP including excavation, bedding and backfilling	m	11	752.86	8,281.37
328	Supply and install proprietary flap to 375mm dia. RCP stormwater pipe	No	1	6,050.01	6,050.01
331	Connect new RCP into existing side entry pit including making good	No	1	2,750.01	2,750.01
329	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
330	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1900 - Stormwater Outlet at Chainage 1900				20,531.41
SCH1980	**Stormwater Outlet at Chainage 1980**				
333	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	14	715.31	10,014.32
334	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
337	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.01	10,450.01
335	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12

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SEGMENT 1 BREAKDOWN

S1 Segment 1 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
336	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1980 - Stormwater Outlet at Chainage 1980				28,864.36
	DR - DRAINAGE				**124,053.48**
RW	**ROCK WALL**				
EX	**Excavation Works**				
5	Excavate new wall to subgrade including disposal of surplus spoil off site	m³	14,532	58.08	844,018.43
	EX - Excavation Works				844,018.43
RW	**Rock Wall**				
6	Supply and place geofabric	m²	7,029	17.77	124,870.17
7	Supply and place two layers of DN600 secondary armour rock to a total 870mm thick layer (PC Sum Rock Supply: $45/t)	m³	2,183	163.00	355,824.58
8	Supply and place two layers of DN1050 primary armour rock to a total 1800mm thick layer (PC Sum Rock Supply: $45/t)	m³	7,920	185.32	1,467,710.40
	RW - Rock Wall				1,948,405.15
SW	**Sea Wall**				
340	Supply and place 100mm thick PM2/20 as base under seawall toe	m²	804	42.78	34,394.31
314	Supply and install formwork to seawall	m²	2,363	363.55	859,068.51
346	Supply, fabricate, deliver and install reinforcement	t	50.64	6,402.80	324,237.33
347	Scabble between footing and wall	m	536	29.27	15,683.37
348	Supply and place concrete to wall	m³	525	1,578.82	828,879.84
349	Surface finish and cure to surface	m	536	33.01	17,688.01
	SW - Sea Wall				2,079,951.37
BF	**Backfilling**				
111	Backfill infront of new rock wall reusing site won material including compaction	m³	4,607	77.02	354,789.62
160	Backfill behind of new rock wall with engineered fill including compaction	m³	231	145.83	33,686.03
	BF - Backfilling				388,475.65
TW	**Temporary Transition Works**				
147	Allowance for temporary transition between new and existing sea wall between staging (Provisional Sum)	Item			55,000.00
	TW - Temporary Transition Works				55,000.00
	RW - ROCK WALL				**5,315,850.60**

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SEGMENT 1 BREAKDOWN

S1 Segment 1 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
AS	**BEACH ACCESS STAIRS**				
CH1785	**Beach Access Stairs at Chainage 1785**				
193	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
202	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
565	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
566	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
567	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
220	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
229	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
230	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
231	Form grooves to stair nosing	m	56	93.51	5,236.01
232	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.51	23,100.01
	CH1785 - Beach Access Stairs at Chainage 1785				81,688.17
CH2135	**Beach Access Stairs at Chainage 2135**				
234	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
235	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
568	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
569	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
570	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
237	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
238	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
239	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
240	Form grooves to stair nosing	m	56	93.51	5,236.01
241	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.51	23,100.01
	CH2135 - Beach Access Stairs at Chainage 2135				81,688.17
	AS - BEACH ACCESS STAIRS				**163,376.34**

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SEGMENT 1 BREAKDOWN

S1 Segment 1 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
RN	**REST NODES**				
RN1785	**Rest Node at Chainage 1785**				
EW	Earthworks				
495	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
496	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
497	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
498	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
499	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
500	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
501	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
582	No allowance for mulch	Note			Excl.
502	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
503	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
504	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
505	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN1785 - Rest Node at Chainage 1785				29,579.57
RN2135	**Rest Node at Chainage 2135**				
EW	Earthworks				
506	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
507	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
508	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68

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SEGMENT 1 BREAKDOWN

S1 Segment 1 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
509	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
510	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
511	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
512	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
583	No allowance for mulch	Note			Excl.
513	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
514	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
515	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
516	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN2135 - Rest Node at Chainage 2135				29,579.57
	RN - REST NODES				**59,159.14**
PV	**PAVEMENTS**				
SP	**Shared User Path**				
39	Subgrade preparation to new shared user path	m²	2,421	10.27	24,846.73
40	Supply and place base course including trimming and compacting	m²	2,421	35.42	85,751.82
140	Supply and place prime	m²	2,421	7.16	17,310.16
41	Supply and place 30mm thick AC7	m²	2,421	42.75	103,488.05
151	Supply and install timber edging to shared path	m	1,124	53.35	59,965.40
	SP - Shared User Path				291,362.16
KR	**Kerb Reinstatement**				
141	Subgrade preparation to kerb reinstatement	m²	88	23.93	2,105.41
38	Supply and place 150mm thick PM2/20 under new kerbing including trimming and compacting	m²	88	84.49	7,434.25
118	Supply and place 150mm PM1/20 infront of new kerbing including trimming and compacting	m²	25	85.57	2,139.23
119	Supply and place 14mm/7mm spray seal infront of new kerbing	m²	25	26.19	654.51
120	Match into existing	m	83	23.44	1,944.70

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SEGMENT 1 BREAKDOWN

S1 Segment 1 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
142	Mobilisation and demobilisation of spray seal crew	No	1	6,325.01	6,325.01
	KR - Kerb Reinstatement				20,603.11
	PV - PAVEMENTS				**311,965.27**
CW	**CONCRETE WORKS**				
36	Construct concrete kerb and gutter	m	83	148.51	12,325.51
37	Construct kerb ramp including tactiles	No	1	2,948.01	2,948.01
121	Match into existing kerbing	No	10	121.01	1,210.01
	CW - CONCRETE WORKS				**16,483.53**
SH	**SHELTERS**				
47	No allowance for new or relocation of shelters	Note			Excl.
	SH - SHELTERS				**Excl.**
TB	**TOILET BLOCK**				
124	No allowance for new toilet block	Note			Excl.
	TB - TOILET BLOCK				**Excl.**
PG	**PLAYGROUND EQUIPMENT**				
51	No allowance to relocate or replace existing playground equipment	Note			Excl.
	PG - PLAYGROUND EQUIPMENT				**Excl.**
FU	**FURNITURE**				
125	No allowance for new or relocation of street furniture	Note			Excl.
	FU - FURNITURE				**Excl.**
LA	**LANDSCAPING**				
BAT	**Batters**				
15	Respread site won material to match into existing	m²	162	66.01	10,692.01
	BAT - Batters				10,692.01
	LA - LANDSCAPING				**10,692.01**
CM	**CONTRACTORS MARGIN AND OVERHEADS**				
62	Contractor's Overheads and Margin	Item			971,786.72
	CM - CONTRACTORS MARGIN AND OVERHEADS				**971,786.72**
CT	**CONTINGENCIES**				
64	Design Development Contingency	Item			226,635.96
65	Construction Contingency	Item			906,543.87
	CT - CONTINGENCIES				**1,133,179.83**
SEGMENT 1					**10,203,189.18**

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SEGMENT 2 SUMMARY

Rates Current At March 2026

Ref	Description	Total Cost $
PR	Preliminaries	138,981.37
EM	Environmental Management	23,864.95
TPM	Traffic and Pedestrian Management	26,986.67
SR	Service Relocations	Excl.
DE	Demolition	70,422.87
EW	Earthworks	10,494.55
DR	Drainage	49,511.52
RW	Rock Wall	685,164.19
PV	Pavements	48,525.68
CW	Concrete Works	8,800.01
LA	Landscaping	2,772.01
CM	Contractors Margin and Overheads	127,862.86
CT	Contingencies	150,545.73
ESTIMATED NET COST		**1,343,932.41**
MARGINS & ADJUSTMENTS		
Project Management and Council Fees		Excl.
Professional Fees and Charges		Excl.
Escalation Beyond mid 2026		Excl.
Goods and Services Taxation		Excl.
ESTIMATED TOTAL COST		**1,343,932.41**

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SEGMENT 2 BREAKDOWN

S2 Segment 2

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PR	**PRELIMINARIES**				
1	Contractor Preliminaries and Supervision	Item			138,981.37
	PR - PRELIMINARIES				**138,981.37**
EM	**ENVIRONMENTAL MANAGEMENT**				
80	Allowance for Environmental Management and Controls	Item			16,500.00
79	Allowance for sand bags for construction of new rock wall	m	60	122.75	7,364.95
	EM - ENVIRONMENTAL MANAGEMENT				**23,864.95**
TPM	**TRAFFIC AND PEDESTRIAN MANAGEMENT**				
2	Traffic and Pedestrian Management	Item			26,986.67
	TPM - TRAFFIC AND PEDESTRIAN MANAGEMENT				**26,986.67**
SR	**SERVICE RELOCATIONS**				
538	No allowance for existing service relocations or modifications	Note			Excl.
	SR - SERVICE RELOCATIONS				**Excl.**
DE	**DEMOLITION**				
23	Clear site of debris ready for construction work	m²	791	0.45	348.05
148	Cut down existing large pine tree including stump grinding	No	2	15,950.00	31,899.99
94	Remove existing monument and dispose off site	No	1	2,288.01	2,288.01
43	Saw cut existing kerb ready for removal	No	3	49.51	148.51
44	Sawcut existing pavement ready for removal	m	50	21.79	1,089.01
34	Break up existing kerb and gutter and dispose debris off site	m	65	36.86	2,395.26
4	Take up geotextile sand container sea wall and dispose off site	m²	253	22.34	5,649.50
106	Take up existing sand dune vegetation and dispose off site	m²	21	14.43	302.85
105	Take up existing grass and dispose off site	m²	151	11.50	1,735.75
22	Take up existing pavers and dispose off site	m²	151	36.86	5,564.36
107	Take up existing road spray seal and dispose off site	m²	17	21.95	373.07
42	Take up existing asphalt from carpark and dispose debris off site	m²	310	42.35	13,128.50
145	Allowance for sundry demolition	Item			5,500.01
	DE - DEMOLITION				**70,422.87**
EW	**EARTHWORKS**				
144	Strip 100mm average thickness sandy topsoil and dispose locally off site	m²	163	6.56	1,068.63
66	Box out bike path to subgrade including disposal off site	m³	49	133.11	6,521.91
146	Box out new kerbing to subgrade including disposal off site	m³	20	145.21	2,904.01
76	No allowance for dewatering	Note			Excl.
77	No allowance for contaminated soil removal or remediation	Note			Excl.
78	No allowance for rock excavation	Note			Excl.
	EW - EARTHWORKS				**10,494.55**

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SEGMENT 2 BREAKDOWN

S2 Segment 2 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
DR	**DRAINAGE**				
SCH1545	**Stormwater Outlet at Chainage 1545**				
287	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	13	715.31	9,299.00
277	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
290	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.00	10,450.00
288	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
289	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1545 - Stormwater Outlet at Chainage 1545				28,149.03
SCH1550	**Stormwater Outlet at Chainage 1550**				
293	Cut back and remove existing stormwater outlet pipe including disposal off site	m	2	100.18	200.36
294	Supply and install proprietary flap to existing 375mm dia. RCP stormwater pipe	No	1	6,050.01	6,050.01
300	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
301	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1550 - Stormwater Outlet at Chainage 1550				9,700.39
SCH1560	**Stormwater Outlet at Chainage 1560**				
295	Supply and install 150mm dia. PVC including excavation, bedding and backfilling	m	5	542.42	2,712.06
296	Supply and install proprietary flap to 150mm dia. PVC stormwater pipe	No	1	3,850.01	3,850.01
297	Connect new PVC into existing pipe including making good	No	1	1,650.01	1,650.01
302	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
303	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1560 - Stormwater Outlet at Chainage 1560				11,662.10
	DR - DRAINAGE				**49,511.52**
RW	**ROCK WALL**				
EX	**Excavation Works**				
5	Excavate new wall to subgrade including disposal of surplus spoil off site	m³	1,825	58.08	105,995.95
	EX - Excavation Works				105,995.95
RW	**Rock Wall**				
6	Supply and place geofabric	m²	786	17.77	13,963.29

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SEGMENT 2 BREAKDOWN

S2 Segment 2 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
7	Supply and place two layers of DN600 secondary armour rock to a total 870mm thick layer (PC Sum Rock Supply: $45/t)	m³	244	163.00	39,771.50
8	Supply and place two layers of DN1050 primary armour rock to a total 1800mm thick layer (PC Sum Rock Supply: $45/t)	m³	886	185.32	164,190.77
	RW - Rock Wall				217,925.56
SW	**Sea Wall**				
340	Supply and place 100mm thick PM2/20 as base under seawall toe	m²	90	42.78	3,850.12
314	Supply and install formwork to seawall	m²	265	363.55	96,340.70
346	Supply, fabricate, deliver and install reinforcement	t	5.68	6,402.79	36,367.84
347	Scabble between footing and wall	m	60	29.27	1,755.61
348	Supply and place concrete to wall	m³	59	1,578.82	93,150.27
349	Surface finish and cure to surface	m	60	33.01	1,980.01
	SW - Sea Wall				233,444.55
BF	**Backfilling**				
111	Backfill infront of new rock wall reusing site won material including compaction	m³	826	77.02	63,611.05
160	Backfill behind of new rock wall with engineered fill including compaction	m³	63	145.83	9,187.10
	BF - Backfilling				72,798.15
TW	**Temporary Transition Works**				
147	Allowance for temporary transition between new and existing sea wall between staging (Provisional Sum)	Item			54,999.98
	TW - Temporary Transition Works				54,999.98
	RW - ROCK WALL				**685,164.19**
PV	**PAVEMENTS**				
SP	**Shared User Path**				
39	Subgrade preparation to new shared user path	m²	269	10.27	2,760.75
40	Supply and place base course including trimming and compacting	m²	269	35.42	9,527.98
140	Supply and place prime	m²	269	7.16	1,923.36
41	Supply and place 30mm thick AC7	m²	269	42.75	11,498.67
151	Supply and install timber edging to shared path	m	129	53.36	6,882.16
	SP - Shared User Path				32,592.92
KR	**Kerb Reinstatement**				
141	Subgrade preparation to kerb reinstatement	m²	59	23.93	1,411.58
38	Supply and place 150mm thick PM2/20 under new kerbing including trimming and compacting	m²	59	84.49	4,984.33
118	Supply and place 150mm PM1/20 infront of new kerbing including trimming and compacting	m²	17	85.57	1,454.68

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SEGMENT 2 BREAKDOWN

S2 Segment 2 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
119	Supply and place 14mm/7mm spray seal infront of new kerbing	m²	17	26.19	445.07
120	Match into existing	m	56	23.44	1,312.09
142	Mobilisation and demobilisation of spray seal crew	No	1	6,325.01	6,325.01
	KR - Kerb Reinstatement				15,932.76
	PV - PAVEMENTS				**48,525.68**
CW	**CONCRETE WORKS**				
36	Construct concrete kerb and gutter	m	56	148.50	8,316.00
121	Match into existing kerbing	No	4	121.01	484.01
	CW - CONCRETE WORKS				**8,800.01**
LA	**LANDSCAPING**				
BAT	**Batters**				
15	Respread site won material to match into existing	m²	42	66.01	2,772.01
	BAT - Batters				2,772.01
	LA - LANDSCAPING				**2,772.01**
CM	**CONTRACTORS MARGIN AND OVERHEADS**				
62	Contractor's Overheads and Margin	Item			127,862.86
	CM - CONTRACTORS MARGIN AND OVERHEADS				**127,862.86**
CT	**CONTINGENCIES**				
64	Design Development Contingency	Item			30,109.15
65	Construction Contingency	Item			120,436.58
	CT - CONTINGENCIES				**150,545.73**
SEGMENT 2					**1,343,932.41**

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SEGMENT 3 SUMMARY

Rates Current At March 2026

Ref	Description	Total Cost $
PR	Preliminaries	934,253.55
EM	Environmental Management	153,920.42
TPM	Traffic and Pedestrian Management	181,408.46
SR	Service Relocations	Excl.
DE	Demolition	429,547.72
EW	Earthworks	44,768.94
DR	Drainage	28,775.33
RW	Rock Wall	3,235,083.31
JT	Jetty	378,408.52
AR	Beach Access Ramps	601,303.92
AS	Beach Access Stairs	163,376.26
RN	Rest Nodes	88,738.56
PV	Pavements	265,049.64
CW	Concrete Works	29,353.53
RET	Retaining Wall	25,245.00
SH	Shelters	Excl.
TB	Toilet Block	549,999.94
PG	Playground Equipment	Excl.
FU	Furniture	25,987.51
LA	Landscaping	27,390.00
CM	Contractors Margin and Overheads	859,513.27
CT	Contingencies	1,011,990.85
ESTIMATED NET COST		**9,034,114.73**
MARGINS & ADJUSTMENTS		
Project Management and Council Fees		Excl.
Professional Fees and Charges		Excl.
Escalation Beyond mid 2026		Excl.
Goods and Services Taxation		Excl.
ESTIMATED TOTAL COST		**9,034,114.73**

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SEGMENT 3 BREAKDOWN

S3 Segment 3

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PR	**PRELIMINARIES**				
1	Contractor Preliminaries and Supervision	Item			934,253.55
	PR - PRELIMINARIES				**934,253.55**
EM	**ENVIRONMENTAL MANAGEMENT**				
80	Allowance for Environmental Management and Controls	Item			115,499.99
79	Allowance for sand bags for construction of new rock wall	m	313	122.75	38,420.43
	EM - ENVIRONMENTAL MANAGEMENT				**153,920.42**
TPM	**TRAFFIC AND PEDESTRIAN MANAGEMENT**				
2	Traffic and Pedestrian Management	Item			181,408.46
	TPM - TRAFFIC AND PEDESTRIAN MANAGEMENT				**181,408.46**
SR	**SERVICE RELOCATIONS**				
538	No allowance for existing service relocations or modifications	Note			Excl.
	SR - SERVICE RELOCATIONS				**Excl.**
DE	**DEMOLITION**				
23	Clear site of debris ready for construction work	m²	4,423	0.44	1,946.12
148	Cut down existing large pine tree including stump grinding	No	7	15,950.00	111,649.98
29	Remove existing bench seats and dispose off site	No	3	528.00	1,584.00
30	Remove existing picnic table and dispose off site	No	5	715.01	3,575.01
26	Take down existing fabric shade shelters and dispose debris off site	No	5	1,595.01	7,975.01
46	Demolish existing toilet block structure including disconnection of services and disposal of debris off site	No	1	14,850.01	14,850.01
27	Remove existing playground and dispose off site	No	1	9,075.01	9,075.01
28	Remove existing swing and dispose off site	No	1	1,749.00	1,749.00
93	Remove existing sign including disposal off site	No	1	255.76	255.76
110	Disconnect and remove existing fountain and dispose off site	No	1	1,210.01	1,210.01
43	Saw cut existing kerb ready for removal	No	2	49.51	99.01
35	Break up existing kerb ramp and dispose debris off site	No	1	462.00	462.00
44	Sawcut existing pavement ready for removal	m	31	21.79	675.19
3	Break up existing vertical concrete sea wall and dispose debris off site	m	248	478.50	118,667.98
16	Take up existing timber log fencing and dispose debris off site	m	252	21.45	5,405.40
49	Take up existing pedestrian fencing and dispose debris off site	m	97	42.90	4,161.30
32	Demolish low height retaining wall and dispose debris off site	m	78	286.00	22,308.00
99	Demolish low height blockwork retaining wall and dispose debris off site	m	12	302.17	3,626.04
108	Demolish low height blockwork wall and dispose debris off site	m	5	367.52	1,837.56

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
101	Demolish concrete sleeper retaining wall and dispose debris off site	m	32	184.77	5,912.55
34	Break up existing kerb and gutter and dispose debris off site	m	40	36.85	1,474.00
4	Take up geotextile sand container sea wall and dispose off site	m²	377	22.34	8,418.42
13	Take up existing landscaping and dispose off site	m²	18	20.78	374.03
106	Take up existing sand dune vegetation and dispose off site	m²	533	14.43	7,686.40
105	Take up existing grass and dispose off site	m²	1,922	11.50	22,093.40
22	Take up existing pavers and dispose off site	m²	712	36.86	26,237.21
109	Take up existing gravel playground surface and dispose off site	m²	461	18.43	8,493.93
24	Break up existing concrete path and dispose debris off site	m²	125	39.39	4,922.51
100	Break up existing concrete pavement and dispose debris off site	m²	58	56.46	3,274.22
107	Take up existing road spray seal and dispose off site	m²	22	21.95	482.80
42	Take up existing asphalt from carpark and dispose debris off site	m²	151	42.36	6,394.86
14	Take up existing timber ramp and dispose debris off site	m²	51	121.00	6,171.00
145	Allowance for sundry demolition	Item			16,500.00
	DE - DEMOLITION				**429,547.72**
EW	**EARTHWORKS**				
144	Strip 100mm average thickness sandy topsoil and dispose locally off site	m²	925	6.56	6,064.30
66	Box out bike path to subgrade including disposal off site	m³	245	133.11	32,609.51
69	Box out block paver footpath to subgrade including disposal off site	m³	11	133.11	1,464.11
146	Box out new kerbing to subgrade including disposal off site	m³	25	145.21	3,630.01
114	Trim and shape batters	m²	91	11.01	1,001.01
76	No allowance for dewatering	Note			Excl.
77	No allowance for contaminated soil removal or remediation	Note			Excl.
78	No allowance for rock excavation	Note			Excl.
	EW - EARTHWORKS				**44,768.94**
DR	**DRAINAGE**				
SCH1420	**Stormwater Outlet at Chainage 1420**				
284	Demolish existing headwall and dispose off site	No	1	1,034.00	1,034.00
270	Supply and install 600mm dia. RCP including excavation, bedding and backfilling	m	3	1,405.88	4,217.64
283	Supply and install proprietary flap to 600mm dia. RCP stormwater pipe	No	1	9,350.00	9,350.00
298	Connect new RCP into existing pipe including making good	No	1	2,750.00	2,750.00
285	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
286	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1420 - Stormwater Outlet at Chainage 1420				20,801.66
SCH1535	**Stormwater Outlet at Chainage 1535**				
291	Cut back and remove existing stormwater outlet pipe including disposal off site	m	2	336.82	673.64
292	Supply and install proprietary flap to existing 150mm dia. PVC stormwater pipe	No	1	3,850.01	3,850.01
350	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
351	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1535 - Stormwater Outlet at Chainage 1535				7,973.67
	DR - DRAINAGE				**28,775.33**
RW	**ROCK WALL**				
EX	**Excavation Works**				
5	Excavate new wall to subgrade including disposal of surplus spoil off site	m³	9,007	58.08	523,126.50
	EX - Excavation Works				523,126.50
RW	**Rock Wall**				
6	Supply and place geofabric	m²	4,102	17.77	72,872.02
7	Supply and place two layers of DN600 secondary armour rock to a total 870mm thick layer (PC Sum Rock Supply: $45/t)	m³	1,274	163.00	207,659.43
8	Supply and place two layers of DN1050 primary armour rock to a total 1800mm thick layer (PC Sum Rock Supply: $45/t)	m³	4,622	185.32	856,535.06
	RW - Rock Wall				1,137,066.51
SW	**Sea Wall**				
340	Supply and place 100mm thick PM2/20 as base under seawall toe	m²	469	42.78	20,063.36
314	Supply and install formwork to seawall	m²	1,379	363.55	501,335.39
346	Supply, fabricate, deliver and install reinforcement	t	29.55	6,402.80	189,202.48
347	Scabble between footing and wall	m	313	29.26	9,158.38
348	Supply and place concrete to wall	m³	307	1,578.82	484,697.37
349	Surface finish and cure to surface	m	313	33.00	10,329.00
	SW - Sea Wall				1,214,785.98
BF	**Backfilling**				
111	Backfill infront of new rock wall reusing site won material including compaction	m³	2,553	77.02	196,609.06

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
160	Backfill behind of new rock wall with engineered fill including compaction	m³	744	145.83	108,495.27
	BF - Backfilling				305,104.33
TW	**Temporary Transition Works**				
147	Allowance for temporary transition between new and existing sea wall between staging (Provisional Sum)	Item			54,999.99
	TW - Temporary Transition Works				54,999.99
	RW - ROCK WALL				**3,235,083.31**
JT	**JETTY**				
527	Partially demolish existing jetty and dispose off site	m²	26	715.00	18,590.00
526	Mobilisation and demobilisation of piling rig	Item			65,999.99
530	Mobilisation and demobilisation of crane	Item			26,400.01
525	Supply and install 200mm x 200mm x 16mm SHS steel sister piles to jetty reconstruction (assumed 10m long)	No	4	10,617.75	42,470.99
524	Supply and install 300mm x 150mm timber crossheads to jetty reconstruction (In 2 No.)	m	13	552.49	7,182.32
532	Supply and install 300mm x 150mm timber cross walling to jetty reconstruction	m	13	552.49	7,182.32
531	Supply and install 300mm x 150mm timber bracing to jetty reconstruction	m	20	552.49	11,049.73
522	Supply and install 300mm x 150mm timber corbel to jetty reconstruction (In 4 No.)	m	4	552.49	2,209.95
523	Supply and install 300mm x 150mm timber girders to jetty reconstruction (In 4 No.)	m	35	552.49	19,337.01
521	Supply and install 225mm x 75mm timber decking to jetty reconstruction	m²	26	742.50	19,305.00
520	Supply and install 100mm x 100mm timber kerbing to jetty reconstruction	m	18	322.40	5,803.19
529	Supply and install Monowills of similar handrail to match existing including fixings	m	18	1,045.00	18,810.00
517	Tie handrail into existing	No	2	759.01	1,518.01
519	Allowance to tie into new seawall	Item			16,500.00
518	Allowance to tie into existing jetty	Item			11,000.01
537	Allowance for temporary support to existing jetty	Item			27,500.00
83	Jetty Contractor Preliminaries including mobilisation and demobilisation	Item			77,549.99
81	No allowance for demolish and reconstruct abutment	Note			Excl.
	JT - JETTY				**378,408.52**

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
AR	**BEACH ACCESS RAMPS**				
SR	**Suspended Ramp**				
54	Supply, deliver and install 125mm x 125mm x 6.4mm SHS FRP driven pile, 6.0m long (In 34 No.)	m	262	456.50	119,602.99
55	Construct FRP access ramp including framing and decking	m²	154	2,145.00	330,329.95
56	Supply and install FRP handrail to beach access ramp	m	198	764.50	151,370.98
	SR - Suspended Ramp				601,303.92
	AR - BEACH ACCESS RAMPS				**601,303.92**
AS	**BEACH ACCESS STAIRS**				
CH1285	**Beach Access Stairs at Chainage 1285**				
212	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
213	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.42	2,462.02
559	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.00	5,819.00
560	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
561	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
215	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
216	Supply and place concrete to beach access stairs	m³	10	1,345.30	13,453.00
217	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
218	Form grooves to stair nosing	m	56	93.51	5,236.01
219	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.50	23,100.00
	CH1285 - Beach Access Stairs at Chainage 1285				81,688.13
CH1400	**Beach Access Stairs at Chainage 1400**				
221	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
222	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.42	2,462.02
562	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.00	5,819.00
563	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
564	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
224	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
225	Supply and place concrete to beach access stairs	m³	10	1,345.30	13,453.00
226	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
227	Form grooves to stair nosing	m	56	93.51	5,236.01
228	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.50	23,100.00
	CH1400 - Beach Access Stairs at Chainage 1400				81,688.13
	AS - BEACH ACCESS STAIRS				**163,376.26**
RN	**REST NODES**				
RN1285	**Rest Node at Chainage 1285**				
EW	Earthworks				
450	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
463	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
464	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
465	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.16	3,579.84
	PV - Pavements				4,857.61
CW	Concrete Works				
466	Construct concrete edge strip	m	29	170.50	4,944.50
	CW - Concrete Works				4,944.50
LA	Landscaping				
467	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
468	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
579	No allowance for mulch	Note			Excl.
469	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
470	Supply and install proprietary bench seat including footings	No	1	5,225.00	5,225.00
471	Supply and install proprietary bike racks including footings	No	3	1,507.00	4,521.00
472	Supply and install proprietary bin enclosure including footings	No	1	3,245.00	3,245.00
	FU - Furniture				12,991.00
	RN1285 - Rest Node at Chainage 1285				29,579.52

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
RN1400	**Rest Node at Chainage 1400**				
EW	Earthworks				
473	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
474	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
475	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
476	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.16	3,579.84
	PV - Pavements				4,857.61
CW	Concrete Works				
477	Construct concrete edge strip	m	29	170.50	4,944.50
	CW - Concrete Works				4,944.50
LA	Landscaping				
478	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
479	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
580	No allowance for mulch	Note			Excl.
480	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
481	Supply and install proprietary bench seat including footings	No	1	5,225.00	5,225.00
482	Supply and install proprietary bike racks including footings	No	3	1,507.00	4,521.00
483	Supply and install proprietary bin enclosure including footings	No	1	3,245.00	3,245.00
	FU - Furniture				12,991.00
	RN1400 - Rest Node at Chainage 1400				29,579.52
RN1480	**Rest Node at Chainage 1480**				
EW	Earthworks				
484	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
485	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
486	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
487	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.16	3,579.84
	PV - Pavements				4,857.61

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
CW	Concrete Works				
488	Construct concrete edge strip	m	29	170.50	4,944.50
	CW - Concrete Works				4,944.50
LA	Landscaping				
489	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
490	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
581	No allowance for mulch	Note			Excl.
491	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
492	Supply and install proprietary bench seat including footings	No	1	5,225.00	5,225.00
493	Supply and install proprietary bike racks including footings	No	3	1,507.00	4,521.00
494	Supply and install proprietary bin enclosure including footings	No	1	3,245.00	3,245.00
	FU - Furniture				12,991.00
	RN1480 - Rest Node at Chainage 1480				29,579.52
	RN - REST NODES				**88,738.56**
PV	**PAVEMENTS**				
SP	**Shared User Path**				
39	Subgrade preparation to new shared user path	m²	1,356	10.27	13,916.63
40	Supply and place base course including trimming and compacting	m²	1,356	35.42	48,029.52
140	Supply and place prime	m²	1,356	7.15	9,695.40
41	Supply and place 30mm thick AC7	m²	1,356	42.75	57,963.57
151	Supply and install timber edging to shared path	m	654	53.35	34,890.89
	SP - Shared User Path				164,496.01
BPR	**Block Paver Footpath**				
73	Subgrade preparation to path	m²	47	7.34	344.84
74	Supply and place base course including trimming and compacting	m²	47	45.91	2,157.45
75	Supply and place pavers to footpath including bedding sand (PC Sum $40/m2 Supply)	m²	47	149.17	7,010.53
	BPR - Block Paver Footpath				9,512.82
FS	**Foreshore Pavement**				
352	Subgrade preparation to path	m²	140	7.34	1,027.19
353	Supply and place base course including trimming and compacting	m²	140	45.91	6,426.42

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
354	Supply and place pavers to match existing foreshore including bedding sand (PC Sum $40/m2 Supply)	m²	140	149.17	20,882.41
	FS - Foreshore Pavement				28,336.02
MCR	**Mass Concrete Ramp**				
355	Subgrade preparation to path	m²	53	7.34	388.87
356	Supply and place base course including trimming and compacting	m²	53	45.91	2,432.86
357	Construct concrete ramp and landing upto 500mm high including formwork and concrete	m²	53	718.41	38,075.72
358	Surface finish and cure to surface	m²	53	60.51	3,206.51
	MCR - Mass Concrete Ramp				44,103.96
KR	**Kerb Reinstatement**				
141	Subgrade preparation to kerb reinstatement	m²	75	23.93	1,794.38
38	Supply and place 150mm thick PM2/20 under new kerbing including trimming and compacting	m²	75	84.48	6,336.00
118	Supply and place 150mm PM1/20 infront of new kerbing including trimming and compacting	m²	22	85.57	1,882.52
119	Supply and place 14mm/7mm spray seal infront of new kerbing	m²	22	26.18	575.96
120	Match into existing	m	72	23.43	1,686.96
142	Mobilisation and demobilisation of spray seal crew	No	1	6,325.01	6,325.01
	KR - Kerb Reinstatement				18,600.83
	PV - PAVEMENTS				**265,049.64**
CW	**CONCRETE WORKS**				
36	Construct concrete kerb and gutter	m	72	148.51	10,692.01
150	Construct flush concrete edge kerb to one side of footpath	m	48	143.01	6,864.01
233	Construct concrete spoon drain	m	9	247.50	2,227.50
37	Construct kerb ramp including tactiles	No	3	2,948.00	8,844.00
121	Match into existing kerbing	No	6	121.01	726.01
	CW - CONCRETE WORKS				**29,353.53**
RET	**RETAINING WALL**				
363	Construct concrete retaining wall upto 500mm high including excavation, wall construction, drainage and backfilling	m	27	935.00	25,245.00
	RET - RETAINING WALL				**25,245.00**
SH	**SHELTERS**				
47	No allowance for new or relocation of shelters	Note			Excl.
	SH - SHELTERS				**Excl.**

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SEGMENT 3 BREAKDOWN

S3 Segment 3 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
TB	**TOILET BLOCK**				
45	Allowance for new Exceloo or Landmark or similar prefabricated toilet block including installation and service connections (Provisional Sum)	No	1	549,999.94	549,999.94
	TB - TOILET BLOCK				**549,999.94**
PG	**PLAYGROUND EQUIPMENT**				
51	No allowance to relocate or replace existing playground equipment	Note			Excl.
	PG - PLAYGROUND EQUIPMENT				**Excl.**
FU	**FURNITURE**				
364	Supply and install handrail to concrete ramp including fixings	m	27	962.51	25,987.51
125	No allowance for new or relocation of street furniture	Note			Excl.
	FU - FURNITURE				**25,987.51**
LA	**LANDSCAPING**				
BAT	**Batters**				
15	Respread site won material to match into existing	m²	415	66.00	27,390.00
	BAT - Batters				27,390.00
	LA - LANDSCAPING				**27,390.00**
CM	**CONTRACTORS MARGIN AND OVERHEADS**				
62	Contractor's Overheads and Margin	Item			859,513.27
	CM - CONTRACTORS MARGIN AND OVERHEADS				**859,513.27**
CT	**CONTINGENCIES**				
64	Design Development Contingency	Item			202,398.17
65	Construction Contingency	Item			809,592.68
	CT - CONTINGENCIES				**1,011,990.85**
SEGMENT 3					**9,034,114.73**

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SEGMENT 4 SUMMARY

Rates Current At March 2026

Ref	Description	Total Cost $
PR	Preliminaries	1,287,407.88
EM	Environmental Management	241,840.84
TPM	Traffic and Pedestrian Management	249,982.11
SR	Service Relocations	Excl.
DE	Demolition	600,985.92
EW	Earthworks	123,688.28
DR	Drainage	112,144.84
RW	Rock Wall	6,202,315.28
AR	Beach Access Ramps	210,100.43
AS	Beach Access Stairs	245,064.51
RN	Rest Nodes	118,318.28
PV	Pavements	403,962.70
CW	Concrete Works	51,942.03
SH	Shelters	Excl.
TB	Toilet Block	Excl.
PG	Playground Equipment	Excl.
FU	Furniture	Excl.
LA	Landscaping	22,374.01
CM	Contractors Margin and Overheads	1,184,415.25
CT	Contingencies	1,394,530.41
ESTIMATED NET COST		**12,449,072.77**
MARGINS & ADJUSTMENTS		
	Project Management and Council Fees	Excl.
	Professional Fees and Charges	Excl.
	Escalation Beyond mid 2026	Excl.
	Goods and Services Taxation	Excl.
ESTIMATED TOTAL COST		**12,449,072.77**

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SEGMENT 4 BREAKDOWN

S4 Segment 4

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PR	**PRELIMINARIES**				
1	Contractor Preliminaries and Supervision	Item			1,287,407.88
	PR - PRELIMINARIES				**1,287,407.88**
EM	**ENVIRONMENTAL MANAGEMENT**				
80	Allowance for Environmental Management and Controls	Item			164,999.98
79	Allowance for sand bags for construction of new rock wall	m	626	122.75	76,840.86
	EM - ENVIRONMENTAL MANAGEMENT				**241,840.84**
TPM	**TRAFFIC AND PEDESTRIAN MANAGEMENT**				
2	Traffic and Pedestrian Management	Item			249,982.11
	TPM - TRAFFIC AND PEDESTRIAN MANAGEMENT				**249,982.11**
SR	**SERVICE RELOCATIONS**				
538	No allowance for existing service relocations or modifications	Note			Excl.
	SR - SERVICE RELOCATIONS				**Excl.**
DE	**DEMOLITION**				
23	Clear site of debris ready for construction work	m²	9,674	0.45	4,256.57
87	Cut down existing medium tree including stump grinding	No	7	2,695.01	18,865.01
149	Cut down existing medium pine tree including stump grinding	No	3	9,350.00	28,050.00
148	Cut down existing large pine tree including stump grinding	No	13	15,950.00	207,349.97
29	Remove existing bench seats and dispose off site	No	5	528.01	2,640.01
30	Remove existing picnic table and dispose off site	No	3	715.01	2,145.01
46	Demolish existing toilet block structure including disconnection of services and disposal of debris off site	No	1	14,850.01	14,850.01
90	Locate, excavate, disconnect existing septic tank including disposal off site and backfilling	No	1	10,835.01	10,835.01
91	Remove existing exercise equipment and dispose off site	No	1	2,656.51	2,656.51
92	Remove existing bollards and dispose off site	No	2	365.76	731.51
93	Remove existing sign including disposal off site	No	5	255.76	1,278.76
94	Remove existing monument and dispose off site	No	1	2,288.01	2,288.01
95	Remove existing service riser and make good	No	2	401.51	803.01
97	Disconnect, make safe and remove existing IP, cabinet and odour filter and dispose off site	No	1	2,244.01	2,244.01
43	Saw cut existing kerb ready for removal	No	2	49.51	99.01
35	Break up existing kerb ramp and dispose debris off site	No	2	462.01	924.01
44	Sawcut existing pavement ready for removal	m	89	21.79	1,938.43
3	Break up existing vertical concrete sea wall and dispose debris off site	m	21	478.51	10,048.51
16	Take up existing timber log fencing and dispose debris off site	m	1,022	21.46	21,921.91
49	Take up existing pedestrian fencing and dispose debris off site	m	7	42.91	300.31

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
31	Break up existing block wall upto 2.0m high including concrete footing and dispose debris off site	m	26	522.51	13,585.01
32	Demolish low height retaining wall and dispose debris off site	m	249	286.00	71,214.00
34	Break up existing kerb and gutter and dispose debris off site	m	18	36.86	663.31
89	Break up existing concrete flush kerb and dispose debris off site	m	299	32.46	9,702.56
4	Take up geotextile sand container sea wall and dispose off site	m²	29	22.34	647.58
25	Demolish existing shelter with colorbond roof and dispose debris off site (In 3 No.)	m²	89	132.01	11,748.01
13	Take up existing landscaping and dispose off site	m²	966	20.78	20,072.52
106	Take up existing sand dune vegetation and dispose off site	m²	2,404	14.43	34,668.08
105	Take up existing grass and dispose off site	m²	2,422	11.50	27,840.89
22	Take up existing pavers and dispose off site	m²	14	36.86	515.91
103	Take up existing rubble pavement and dispose off site	m²	603	12.64	7,621.32
24	Break up existing concrete path and dispose debris off site	m²	10	39.39	393.81
100	Break up existing concrete pavement and dispose debris off site	m²	31	56.46	1,750.02
107	Take up existing road spray seal and dispose off site	m²	490	21.95	10,753.06
42	Take up existing asphalt from carpark and dispose debris off site	m²	33	42.36	1,397.56
85	Take up existing asphalt shared path and dispose debris off site	m²	1,939	16.04	31,097.68
63	Demolish existing timber stairs and dispose debris off site	m²	9	121.01	1,089.01
145	Allowance for sundry demolition	Item			22,000.01
	DE - DEMOLITION				**600,985.92**
EW	**EARTHWORKS**				
144	Strip 100mm average thickness sandy topsoil and dispose locally off site	m²	4,128	6.56	27,063.16
66	Box out bike path to subgrade including disposal off site	m³	509	133.10	67,747.90
146	Box out new kerbing to subgrade including disposal off site	m³	96	145.21	13,939.21
114	Trim and shape batters	m²	1,358	11.01	14,938.01
76	No allowance for dewatering	Note			Excl.
77	No allowance for contaminated soil removal or remediation	Note			Excl.
78	No allowance for rock excavation	Note			Excl.
	EW - EARTHWORKS				**123,688.28**
DR	**DRAINAGE**				
SCH655	**Stormwater Outlet at Chainage 655**				
261	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	24	715.31	17,167.40

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
260	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
262	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
263	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH655 - Stormwater Outlet at Chainage 655				25,567.43
SCH945	**Stormwater Outlet at Chainage 945**				
96	Demolish existing side entry pit including disposal of debris off site and backfilling	No	1	3,278.01	3,278.01
259	Cut back and remove existing stormwater outlet pipe including disposal off site	m	2	336.83	673.65
266	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	15	715.31	10,729.63
265	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
267	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
268	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH945 - Stormwater Outlet at Chainage 945				23,081.32
SCH1065	**Stormwater Outlet at Chainage 1065**				
271	Cut back and remove existing stormwater outlet pipe including disposal off site	m	3	336.83	1,010.47
273	Supply and install 375mm dia. RCP including excavation, bedding and backfilling	m	16	752.86	12,045.62
272	Supply and install proprietary flap to 375mm dia. RCP stormwater pipe	No	1	6,050.01	6,050.01
276	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.01	10,450.01
274	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
275	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1065 - Stormwater Outlet at Chainage 1065				33,006.13
SCH1170	**Stormwater Outlet at Chainage 1170**				
279	Supply and install 375mm dia. RCP including excavation, bedding and backfilling	m	14	752.86	10,539.92
278	Supply and install proprietary flap to 375mm dia. RCP stormwater pipe	No	1	6,050.01	6,050.01
282	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.01	10,450.01
280	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
281	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH1170 - Stormwater Outlet at Chainage 1170				30,489.96
	DR - DRAINAGE				**112,144.84**
RW	**ROCK WALL**				
EX	**Excavation Works**				
5	Excavate new wall to subgrade including disposal of surplus spoil off site	m³	14,180	58.08	823,574.24
	EX - Excavation Works				823,574.24
RW	**Rock Wall**				
6	Supply and place geofabric	m²	8,213	17.77	145,903.92
7	Supply and place two layers of DN600 secondary armour rock to a total 870mm thick layer (PC Sum Rock Supply: $45/t)	m³	2,550	163.00	415,644.83
8	Supply and place two layers of DN1050 primary armour rock to a total 1800mm thick layer (PC Sum Rock Supply: $45/t)	m³	9,259	185.32	1,715,849.76
	RW - Rock Wall				2,277,398.51
SW	**Sea Wall**				
340	Supply and place 100mm thick PM2/20 as base under seawall toe	m²	939	42.78	40,169.48
314	Supply and install formwork to seawall	m²	2,759	363.55	1,003,034.26
346	Supply, fabricate, deliver and install reinforcement	t	59.13	6,402.80	378,597.01
347	Scabble between footing and wall	m	626	29.27	18,316.77
348	Supply and place concrete to wall	m³	613	1,578.82	967,815.86
349	Surface finish and cure to surface	m	626	33.01	20,658.01
	SW - Sea Wall				2,428,591.39
BF	**Backfilling**				
111	Backfill infront of new rock wall reusing site won material including compaction	m³	4,153	77.02	319,826.63
160	Backfill behind of new rock wall with engineered fill including compaction	m³	2,043	145.83	297,924.51
	BF - Backfilling				617,751.14
TW	**Temporary Transition Works**				
147	Allowance for temporary transition between new and existing sea wall between staging (Provisional Sum)	Item			55,000.00
	TW - Temporary Transition Works				55,000.00
	RW - ROCK WALL				**6,202,315.28**

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
AR	**BEACH ACCESS RAMPS**				
CR	**Concrete Ramp**				
365	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access ramp	m³	167	321.13	53,627.54
373	Supply and place 200mm thick x 20mm dia. screenings to under beach access ramp	m³	34	228.15	7,756.77
366	Supply and place 300mm thick 2MPa CLSM blinding layer to beach access ramp	m²	130	105.53	13,718.00
367	Supply and install formwork to beach access ramp	m²	62	277.69	17,216.41
368	Supply, fabricate, deliver and install reinforcement to beach access ramp	t	7.14	6,602.20	47,139.70
369	Supply and place concrete to beach access ramp	m³	45	1,345.30	60,538.50
370	Surface finish and cure to beach access ramp	m²	167	60.51	10,103.51
	CR - Concrete Ramp				210,100.43
	AR - BEACH ACCESS RAMPS				**210,100.43**
AS	**BEACH ACCESS STAIRS**				
CH660	**Beach Access Stairs at Chainage 660**				
185	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
186	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
550	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
551	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
552	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
188	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
189	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
190	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
191	Form grooves to stair nosing	m	56	93.51	5,236.01
192	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.51	23,100.01
	CH660 - Beach Access Stairs at Chainage 660				81,688.17
CH950	**Beach Access Stairs at Chainage 950**				
194	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
195	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
553	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
554	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
555	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
197	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
198	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
199	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
200	Form grooves to stair nosing	m	56	93.51	5,236.01
201	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.51	23,100.01
	CH950 - Beach Access Stairs at Chainage 950				81,688.17
CH1160	**Beach Access Stairs at Chainage 1160**				
203	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
204	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
556	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
557	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
558	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
206	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
207	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
208	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
209	Form grooves to stair nosing	m	56	93.51	5,236.01
210	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.51	23,100.01
	CH1160 - Beach Access Stairs at Chainage 1160				81,688.17
	AS - BEACH ACCESS STAIRS				**245,064.51**
RN	**REST NODES**				
RN600	**Rest Node at Chainage 600**				
EW	Earthworks				
418	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
419	Subgrade preparation to rest node pavers	m²	24	7.34	176.09

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
420	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
421	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
422	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
423	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
424	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
575	No allowance for mulch	Note			Excl.
425	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
426	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
427	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
428	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN600 - Rest Node at Chainage 600				29,579.57
RN660	**Rest Node at Chainage 660**				
EW	Earthworks				
429	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
430	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
431	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
432	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
433	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
434	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
435	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
576	No allowance for mulch	Note			Excl.
436	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
437	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
438	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
439	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN660 - Rest Node at Chainage 660				29,579.57
RN950	**Rest Node at Chainage 950**				
EW	Earthworks				
451	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
440	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
441	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
442	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
443	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
444	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
445	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
577	No allowance for mulch	Note			Excl.
446	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
447	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
448	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
449	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN950 - Rest Node at Chainage 950				29,579.57

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
RN1160	**Rest Node at Chainage 1160**				
EW	Earthworks				
452	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
453	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
454	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
455	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
456	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
457	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
458	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
578	No allowance for mulch	Note			Excl.
459	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
460	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
461	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
462	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN1160 - Rest Node at Chainage 1160				29,579.57
	RN - REST NODES				**118,318.28**
PV	**PAVEMENTS**				
SP	**Shared User Path**				
39	Subgrade preparation to new shared user path	m²	2,824	10.27	28,982.71
40	Supply and place base course including trimming and compacting	m²	2,824	35.42	100,026.07
140	Supply and place prime	m²	2,824	7.16	20,191.61
41	Supply and place 30mm thick AC7	m²	2,824	42.75	120,714.69
151	Supply and install timber edging to shared path	m	1,306	53.35	69,675.10
	SP - Shared User Path				339,590.18

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
KR	**Kerb Reinstatement**				
141	Subgrade preparation to kerb reinstatement	m²	289	23.93	6,914.33
38	Supply and place 150mm thick PM2/20 under new kerbing including trimming and compacting	m²	289	84.49	24,414.73
118	Supply and place 150mm PM1/20 infront of new kerbing including trimming and compacting	m²	83	85.57	7,102.23
119	Supply and place 14mm/7mm spray seal infront of new kerbing	m²	83	26.19	2,172.95
120	Match into existing	m	275	23.44	6,443.26
142	Mobilisation and demobilisation of spray seal crew	No	1	6,325.01	6,325.01
	KR - Kerb Reinstatement				53,372.51
CP	**Carpark**				
YC	Yacht Club Carpark				
252	Allowance to build-up existing rubble carpark to ensure correct drainage grades (Provisional Sum)	Item			11,000.01
	YC - Yacht Club Carpark				11,000.01
	CP - Carpark				11,000.01
	PV - PAVEMENTS				**403,962.70**
CW	**CONCRETE WORKS**				
36	Construct concrete kerb and gutter	m	275	148.50	40,837.50
233	Construct concrete spoon drain	m	31	247.51	7,672.51
37	Construct kerb ramp including tactiles	No	1	2,948.01	2,948.01
121	Match into existing kerbing	No	4	121.01	484.01
	CW - CONCRETE WORKS				**51,942.03**
SH	**SHELTERS**				
47	No allowance for new or relocation of shelters	Note			Excl.
	SH - SHELTERS				**Excl.**
TB	**TOILET BLOCK**				
124	No allowance for new toilet block	Note			Excl.
	TB - TOILET BLOCK				**Excl.**
PG	**PLAYGROUND EQUIPMENT**				
51	No allowance to relocate or replace existing playground equipment	Note			Excl.
	PG - PLAYGROUND EQUIPMENT				**Excl.**
FU	**FURNITURE**				
125	No allowance for new or relocation of street furniture	Note			Excl.
	FU - FURNITURE				**Excl.**

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SEGMENT 4 BREAKDOWN

S4 Segment 4 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
LA	**LANDSCAPING**				
BAT	**Batters**				
15	Respread site won material to match into existing	m²	339	66.01	22,374.01
	BAT - Batters				22,374.01
	LA - LANDSCAPING				**22,374.01**
CM	**CONTRACTORS MARGIN AND OVERHEADS**				
62	Contractor's Overheads and Margin	Item			1,184,415.25
	CM - CONTRACTORS MARGIN AND OVERHEADS				**1,184,415.25**
CT	**CONTINGENCIES**				
64	Design Development Contingency	Item			278,906.08
65	Construction Contingency	Item			1,115,624.33
	CT - CONTINGENCIES				**1,394,530.41**
SEGMENT 4					**12,449,072.77**

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SEGMENT 5 SUMMARY

Rates Current At March 2026

Ref	Description	Total Cost $
PR	Preliminaries	688,510.67
EM	Environmental Management	132,803.37
TPM	Traffic and Pedestrian Management	133,691.39
SR	Service Relocations	Excl.
DE	Demolition	126,310.46
EW	Earthworks	52,257.89
DR	Drainage	76,145.91
RW	Rock Wall	3,539,863.33
AS	Beach Access Stairs	245,064.48
RN	Rest Nodes	88,738.71
PV	Pavements	174,009.59
CW	Concrete Works	9,900.01
LA	Landscaping	11,286.01
CM	Contractors Margin and Overheads	633,429.81
CT	Contingencies	745,800.20
ESTIMATED NET COST		**6,657,811.83**
MARGINS & ADJUSTMENTS		
	Project Management and Council Fees	Excl.
	Professional Fees and Charges	Excl.
	Escalation Beyond mid 2026	Excl.
	Goods and Services Taxation	Excl.
ESTIMATED TOTAL COST		**6,657,811.83**

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SEGMENT 5 BREAKDOWN

S5 Segment 5

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PR	**PRELIMINARIES**				
1	Contractor Preliminaries and Supervision	Item			688,510.67
	PR - PRELIMINARIES				**688,510.67**
EM	**ENVIRONMENTAL MANAGEMENT**				
80	Allowance for Environmental Management and Controls	Item			87,999.99
79	Allowance for sand bags for construction of new rock wall	m	365	122.75	44,803.38
	EM - ENVIRONMENTAL MANAGEMENT				**132,803.37**
TPM	**TRAFFIC AND PEDESTRIAN MANAGEMENT**				
2	Traffic and Pedestrian Management	Item			133,691.39
	TPM - TRAFFIC AND PEDESTRIAN MANAGEMENT				**133,691.39**
SR	**SERVICE RELOCATIONS**				
538	No allowance for existing service relocations or modifications	Note			Excl.
	SR - SERVICE RELOCATIONS				**Excl.**
DE	**DEMOLITION**				
23	Clear site of debris ready for construction work	m²	4,653	0.45	2,047.33
87	Cut down existing medium tree including stump grinding	No	6	2,695.01	16,170.01
48	Cut down existing large tree including stump grinding	No	4	3,850.01	15,400.01
88	Remove existing weather station and dispose off site	No	1	621.51	621.51
86	Sawcut existing shared path pavement ready for removal	m	4	28.06	112.21
16	Take up existing timber log fencing and dispose debris off site	m	386	21.46	8,279.71
89	Break up existing concrete flush kerb and dispose debris off site	m	234	32.46	7,593.31
13	Take up existing landscaping and dispose off site	m²	332	20.78	6,898.63
106	Take up existing sand dune vegetation and dispose off site	m²	1,807	14.43	26,058.74
105	Take up existing grass and dispose off site	m²	1,203	11.50	13,828.49
22	Take up existing pavers and dispose off site	m²	14	36.86	515.91
24	Break up existing concrete path and dispose debris off site	m²	7	39.39	275.67
85	Take up existing asphalt shared path and dispose debris off site	m²	971	16.04	15,572.90
14	Take up existing timber ramp and dispose debris off site	m²	15	121.01	1,815.01
63	Demolish existing timber stairs and dispose debris off site	m²	1	121.01	121.01
145	Allowance for sundry demolition	Item			11,000.01
	DE - DEMOLITION				**126,310.46**
EW	**EARTHWORKS**				
144	Strip 100mm average thickness sandy topsoil and dispose locally off site	m²	2,446	6.56	16,035.98
66	Box out bike path to subgrade including disposal off site	m³	259	133.10	34,472.90
114	Trim and shape batters	m²	159	11.01	1,749.01
76	No allowance for dewatering	Note			Excl.

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SEGMENT 5 BREAKDOWN

S5 Segment 5 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
77	No allowance for contaminated soil removal or remediation	Note			Excl.
78	No allowance for rock excavation	Note			Excl.
	EW - EARTHWORKS				**52,257.89**
DR	**DRAINAGE**				
SCH310	**Stormwater Outlet at Chainage 310**				
243	Cut back and remove existing stormwater outlet pipe including disposal off site	m	2	336.83	673.65
244	Supply and install proprietary flap to existing 100mm dia. PVC stormwater pipe	No	1	2,750.01	2,750.01
245	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
246	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH310 - Stormwater Outlet at Chainage 310				6,873.68
SCH385	**Stormwater Outlet at Chainage 385**				
247	Cut back and remove existing stormwater outlet pipe including disposal off site	m	14	282.24	3,951.34
242	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	19	715.31	13,590.86
248	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
251	Connect new RCP into existing side entry pit including making good	No	1	1,815.01	1,815.01
249	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
250	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH385 - Stormwater Outlet at Chainage 385				27,757.24
SCH490	**Stormwater Outlet at Chainage 490**				
255	Supply and install 300mm dia. RCP including excavation, bedding and backfilling	m	16	715.31	11,444.93
254	Supply and install proprietary flap to 300mm dia. RCP stormwater pipe	No	1	4,950.01	4,950.01
258	Connect new RCP into existing side entry pit including making good	No	1	1,815.01	1,815.01
256	Supply and install geotextile fabric to under scour protection	m²	11	24.11	265.12
257	Supply and place 600mm thick scour protection to stormwater outlet	m²	6	530.82	3,184.90
	SCH490 - Stormwater Outlet at Chainage 490				21,659.97
SCH655	**Stormwater Outlet at Chainage 655**				
264	Supply and install new 900mm x 900mm grated inlet pit including excavation, bedding and backfilling	No	1	9,405.01	9,405.01
	SCH655 - Stormwater Outlet at Chainage 655				9,405.01

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SEGMENT 5 BREAKDOWN

S5 Segment 5 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
SCH945	**Stormwater Outlet at Chainage 945**				
269	Supply and install new double side entry pit including excavation, bedding and backfilling	No	1	10,450.01	10,450.01
	SCH945 - Stormwater Outlet at Chainage 945				10,450.01
	DR - DRAINAGE				**76,145.91**
RW	**ROCK WALL**				
EX	**Excavation Works**				
5	Excavate new wall to subgrade including disposal of surplus spoil off site	m³	8,350	58.08	484,967.89
	EX - Excavation Works				484,967.89
RW	**Rock Wall**				
6	Supply and place geofabric	m²	4,785	17.77	85,005.51
7	Supply and place two layers of DN600 secondary armour rock to a total 870mm thick layer (PC Sum Rock Supply: $45/t)	m³	1,485	163.00	242,051.98
8	Supply and place two layers of DN1050 primary armour rock to a total 1800mm thick layer (PC Sum Rock Supply: $45/t)	m³	5,394	185.32	999,599.65
	RW - Rock Wall				1,326,657.14
SW	**Sea Wall**				
340	Supply and place 100mm thick PM2/20 as base under seawall toe	m²	547	42.78	23,400.11
314	Supply and install formwork to seawall	m²	1,608	363.55	584,588.26
346	Supply, fabricate, deliver and install reinforcement	t	34.46	6,402.80	220,640.17
347	Scabble between footing and wall	m	365	29.27	10,679.91
348	Supply and place concrete to wall	m³	357	1,578.82	563,638.25
349	Surface finish and cure to surface	m	365	33.01	12,045.01
	SW - Sea Wall				1,414,991.71
BF	**Backfilling**				
111	Backfill infront of new rock wall reusing site won material including compaction	m³	2,755	77.02	212,165.26
160	Backfill behind of new rock wall with engineered fill including compaction	m³	316	145.83	46,081.33
	BF - Backfilling				258,246.59
TW	**Temporary Transition Works**				
147	Allowance for temporary transition between new and existing sea wall between staging (Provisional Sum)	Item			55,000.00
	TW - Temporary Transition Works				55,000.00
	RW - ROCK WALL				**3,539,863.33**

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SEGMENT 5 BREAKDOWN

S5 Segment 5 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
AS	**BEACH ACCESS STAIRS**				
CH300	**Beach Access Stairs at Chainage 300**				
161	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
162	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
541	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
542	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
543	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
164	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
165	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
166	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
167	Form grooves to stair nosing	m	56	93.51	5,236.01
168	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.50	23,100.00
	CH300 - Beach Access Stairs at Chainage 300				81,688.16
CH380	**Beach Access Stairs at Chainage 380**				
170	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
171	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
544	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
545	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
546	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
173	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
174	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
175	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
176	Form grooves to stair nosing	m	56	93.51	5,236.01
177	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.50	23,100.00
	CH380 - Beach Access Stairs at Chainage 380				81,688.16
CH505	**Beach Access Stairs at Chainage 505**				
169	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34

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SEGMENT 5 BREAKDOWN

S5 Segment 5 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
178	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
547	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
548	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
549	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
180	Supply, fabricate, deliver and install reinforcement to beach access stairs	t	2.01	6,602.21	13,270.43
181	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
182	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
183	Form grooves to stair nosing	m	56	93.51	5,236.01
184	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.50	23,100.00
	CH505 - Beach Access Stairs at Chainage 505				81,688.16
	AS - BEACH ACCESS STAIRS				**245,064.48**
RN	**REST NODES**				
RN300	**Rest Node at Chainage 300**				
EW	Earthworks				
385	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
386	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
387	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
388	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
389	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
390	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
391	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
572	No allowance for mulch	Note			Excl.
392	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80

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SEGMENT 5 BREAKDOWN

S5 Segment 5 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
FU	Furniture				
393	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
394	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
395	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN300 - Rest Node at Chainage 300				29,579.57
RN380	**Rest Node at Chainage 380**				
EW	Earthworks				
396	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61
PV	Pavements				
397	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
398	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
399	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
400	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
401	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
402	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
573	No allowance for mulch	Note			Excl.
403	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
404	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
405	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
406	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN380 - Rest Node at Chainage 380				29,579.57
RN505	**Rest Node at Chainage 505**				
EW	Earthworks				
407	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61

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SEGMENT 5 BREAKDOWN

S5 Segment 5 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PV	Pavements				
408	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
409	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
410	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
411	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
412	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
413	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
574	No allowance for mulch	Note			Excl.
414	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
415	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
416	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
417	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN505 - Rest Node at Chainage 505				29,579.57
	RN - REST NODES				**88,738.71**
PV	**PAVEMENTS**				
SP	**Shared User Path**				
39	Subgrade preparation to new shared user path	m²	1,436	10.27	14,737.67
40	Supply and place base course including trimming and compacting	m²	1,436	35.42	50,863.12
140	Supply and place prime	m²	1,436	7.16	10,267.41
41	Supply and place 30mm thick AC7	m²	1,436	42.75	61,383.24
151	Supply and install timber edging to shared path	m	689	53.35	36,758.15
	SP - Shared User Path				174,009.59
	PV - PAVEMENTS				**174,009.59**
CW	**CONCRETE WORKS**				
233	Construct concrete spoon drain	m	40	247.51	9,900.01
	CW - CONCRETE WORKS				**9,900.01**

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SEGMENT 5 BREAKDOWN

S5 Segment 5 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
LA	**LANDSCAPING**				
BAT	**Batters**				
15	Respread site won material to match into existing	m²	171	66.01	11,286.01
	BAT - Batters				11,286.01
	LA - LANDSCAPING				**11,286.01**
CM	**CONTRACTORS MARGIN AND OVERHEADS**				
62	Contractor's Overheads and Margin	Item			633,429.81
	CM - CONTRACTORS MARGIN AND OVERHEADS				**633,429.81**
CT	**CONTINGENCIES**				
64	Design Development Contingency	Item			149,160.04
65	Construction Contingency	Item			596,640.16
	CT - CONTINGENCIES				**745,800.20**
SEGMENT 5					**6,657,811.83**

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SEGMENT 6 SUMMARY

Rates Current At March 2026

Ref	Description	Total Cost $
PR	Preliminaries	249,443.20
EM	Environmental Management	62,705.25
TPM	Traffic and Pedestrian Management	48,435.57
SR	Service Relocations	Excl.
DE	Demolition	57,861.01
EW	Earthworks	426.15
RW	Rock Wall	1,381,400.94
AS	Beach Access Stairs	81,688.16
RN	Rest Nodes	29,579.57
LA	Landscaping	858.01
CM	Contractors Margin and Overheads	229,487.75
CT	Contingencies	270,198.85
ESTIMATED NET COST		**2,412,084.46**
MARGINS & ADJUSTMENTS		
	Project Management and Council Fees	Excl.
	Professional Fees and Charges	Excl.
	Escalation Beyond mid 2026	Excl.
	Goods and Services Taxation	Excl.
ESTIMATED TOTAL COST		**2,412,084.46**

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SEGMENT 6 BREAKDOWN

S6 Segment 6

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PR	**PRELIMINARIES**				
1	Contractor Preliminaries and Supervision	Item			249,443.20
	PR - PRELIMINARIES				**249,443.20**
EM	**ENVIRONMENTAL MANAGEMENT**				
80	Allowance for Environmental Management and Controls	Item			33,000.00
79	Allowance for sand bags for construction of new rock wall	m	242	122.75	29,705.25
	EM - ENVIRONMENTAL MANAGEMENT				**62,705.25**
TPM	**TRAFFIC AND PEDESTRIAN MANAGEMENT**				
2	Traffic and Pedestrian Management	Item			48,435.57
	TPM - TRAFFIC AND PEDESTRIAN MANAGEMENT				**48,435.57**
SR	**SERVICE RELOCATIONS**				
538	No allowance for existing service relocations or modifications	Note			Excl.
	SR - SERVICE RELOCATIONS				**Excl.**
DE	**DEMOLITION**				
23	Clear site of debris ready for construction work	m²	1,963	0.45	863.73
106	Take up existing sand dune vegetation and dispose off site	m²	50	14.43	721.06
105	Take up existing grass and dispose off site	m²	532	11.50	6,115.35
103	Take up existing rubble pavement and dispose off site	m²	119	12.64	1,504.05
12	Take up existing rock revetment wall and stockpile rocks for reuse	m²	1,238	31.77	39,328.78
63	Demolish existing timber stairs and dispose debris off site	m²	8	121.01	968.01
84	Demolish existing concrete stairs and dispose debris off site	m²	2	935.01	1,870.01
82	Demolish existing concrete stair landing and dispose debris off site	m²	2	495.01	990.01
145	Allowance for sundry demolition	Item			5,500.01
	DE - DEMOLITION				**57,861.01**
EW	**EARTHWORKS**				
144	Strip 100mm average thickness sandy topsoil and dispose locally off site	m²	65	6.56	426.15
76	No allowance for dewatering	Note			Excl.
77	No allowance for contaminated soil removal or remediation	Note			Excl.
78	No allowance for rock excavation	Note			Excl.
	EW - EARTHWORKS				**426.15**
RW	**ROCK WALL**				
EX	**Excavation Works**				
5	Excavate new wall to subgrade including disposal of surplus spoil off site	m³	6,534	58.08	379,494.65
	EX - Excavation Works				379,494.65

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SEGMENT 6 BREAKDOWN

S6 Segment 6 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
RW	**Rock Wall**				
6	Supply and place geofabric	m²	3,667	17.77	65,144.25
7	Supply and place two layers of DN600 secondary armour rock to a total 870mm thick layer (PC Sum Rock Supply: $45/t)	m³	985	163.00	160,553.01
8	Supply and place two layers of DN1050 primary armour rock to a total 1800mm thick layer (PC Sum Rock Supply: $45/t)	m³	3,575	185.32	662,508.13
	RW - Rock Wall				888,205.39
BF	**Backfilling**				
111	Backfill infront of new rock wall reusing site won material including compaction	m³	1,395	77.02	107,430.33
160	Backfill behind of new rock wall with engineered fill including compaction	m³	43	145.83	6,270.57
	BF - Backfilling				113,700.90
	RW - ROCK WALL				**1,381,400.94**
AS	**BEACH ACCESS STAIRS**				
CH145	**Beach Access Stairs at Chainage 145**				
152	Supply and place 600mm thick x 150mm dia. rock spalls to under beach access stairs	m³	19	321.13	6,101.34
153	Supply and place 100mm thick min. 2MPa CLSM blinding layer to beach access stairs	m²	31	79.43	2,462.03
539	Supply and install 450mm high formwork to beach access stairs upstand	m	23	253.01	5,819.01
154	Supply and install formwork to beach access stairs stringers	m²	6	363.56	2,181.31
540	Supply and install 190mm high formwork to beach access stairs risers	m	52	154.01	8,008.01
155	Supply, fabricate, deliver and install reinforcement to beach access risers	t	2.01	6,602.21	13,270.43
156	Supply and place concrete to beach access stairs	m³	10	1,345.31	13,453.01
159	Surface finish and cure to beach access stairs	m²	34	60.51	2,057.01
157	Form grooves to stair nosing	m	56	93.51	5,236.01
158	Supply and install fabricated galvanised steel handrail to beach access stairs	m	24	962.50	23,100.00
	CH145 - Beach Access Stairs at Chainage 145				81,688.16
	AS - BEACH ACCESS STAIRS				**81,688.16**
RN	**REST NODES**				
RN145	**Rest Node at Chainage 145**				
EW	Earthworks				
374	Box out for rest node to subgrade including disposal off site	m³	18	145.21	2,613.61
	EW - Earthworks				2,613.61

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SEGMENT 6 BREAKDOWN

S6 Segment 6 (continued)

Rates Current At March 2026

Ref	Description	Unit	Qty	Rate $	Total Cost $
PV	Pavements				
376	Subgrade preparation to rest node pavers	m²	24	7.34	176.09
377	Supply and place base course to rest node pavers including trimming and compacting	m²	24	45.91	1,101.68
378	Supply and place pavers to rest node including bedding sand (PC Sum $40/m2 Supply)	m²	24	149.17	3,579.85
	PV - Pavements				4,857.62
CW	Concrete Works				
375	Construct concrete edge strip	m	29	170.51	4,944.51
	CW - Concrete Works				4,944.51
LA	Landscaping				
379	Supply and place topsoil for new rest node	m²	42	31.71	1,331.49
380	Supply and install new plants to rest node (3 plants per m2)	No	126	22.56	2,841.31
571	No allowance for mulch	Note			Excl.
381	No allowance for trees	Note			Excl.
	LA - Landscaping				4,172.80
FU	Furniture				
382	Supply and install proprietary bench seat including footings	No	1	5,225.01	5,225.01
383	Supply and install proprietary bike racks including footings	No	3	1,507.01	4,521.01
384	Supply and install proprietary bin enclosure including footings	No	1	3,245.01	3,245.01
	FU - Furniture				12,991.03
	RN145 - Rest Node at Chainage 145				29,579.57
	RN - REST NODES				**29,579.57**
LA	**LANDSCAPING**				
BAT	**Batters**				
15	Respread site won material to match into existing	m²	13	66.01	858.01
	BAT - Batters				858.01
	LA - LANDSCAPING				**858.01**
CM	**CONTRACTORS MARGIN AND OVERHEADS**				
62	Contractor's Overheads and Margin	Item			229,487.75
	CM - CONTRACTORS MARGIN AND OVERHEADS				**229,487.75**
CT	**CONTINGENCIES**				
64	Design Development Contingency	Item			54,039.77
65	Construction Contingency	Item			216,159.08
	CT - CONTINGENCIES				**270,198.85**
SEGMENT 6					**2,412,084.46**

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RDA Eyre Peninsula Region

Economic impact assessment model - Tumby Bay Sea Wall



economic profile

.id informed decisions

Table of Contents

Economic impact assessment model 1

RDA Eyre Peninsula Region

Economic Impact Model

Economic impact modelling enables the RDA Eyre Peninsula Region to explore how changes in employment or output (sales) due to a new project, business or policy will impact on all other sectors of the economy. It does this by using an input-output model derived from the local economy microsimulation model by National Economics (NIEIR) to model the flow-on effects across different industries.

This provides the RDA Eyre Peninsula Region with powerful evidence to advocate against industrial closures or strategically target new industry sectors which are likely to have the greatest positive economic impact.

Disclaimer

This report has been generated for the RDA Eyre Peninsula Region. It is provided for information purposes only. There can be no assurance that actual results will be consistent with any forecasts or estimates provided within the report. The information in this report and the report itself is subject to change without notice. The modelling used to generate estimates of economic impacts within the report is provided by National Institute of Economic & Industry Research (NIEIR). Neither the Council nor .id gives any warranty nor bears any liability whatsoever with respect to the correctness, accuracy, currency, completeness, or otherwise of the NIEIR model, or other content generated from it within this report.

Model input summary

Project: Tumby Bay Sea Wall (RDA Eyre Peninsula Region)

Construction phase - modelling the impact of:

- adding $ 44.74 m in Heavy and Civil Engineering Construction over a 14 years period.

Economic impact highlights

The economic impacts of Tumby Bay Sea Wall are summarised in the infographic below

Construction Phase (over a 14 year period)

$ 68.74 m
Output

($ 44.74 m direct
+ $ 24.00 m Indirect)

$ 26.66 m
Value added

($ 16.69 m Direct
+ $ 9.96 m Indirect)

7
Local jobs (per year)

(3 Direct
+ 4 Indirect)

Summary of impacts

Construction phase

Tumby Bay Sea Wall in the RDA Eyre Peninsula Region is estimated to inject $44.7m of direct output into the local economy over 14 years. This would lead to an uplift of $16.7m in direct value added and support 3 direct local jobs per annum during the construction phase of the project.

From this direct expansion in the economy, it is anticipated that there would be flow-on effects into other related intermediate industries as well as increased new employee consumption expenditure. These combined flow-on effects are estimated to generate an additional $24.0m in output, $10.0m in value-added and support another 4 indirect local jobs per year during the construction phase of the project.

The total estimated construction phase local impact is $68.7m in output, $26.7m in value-added, and 7 local jobs per annum over 14 years.

Construction phase (14 year period)

RDA Eyre Peninsula Region - Modelling the impact of:
- adding $44.74m in Heavy and Civil Engineering Construction

Economic measure	Output ($m)	Value-added ($m)	Local Jobs (annual)	Residents jobs (annual)
Impacts on RDA Eyre Peninsula Region economy	--	--	--	--
Direct impact on selected sector(s)	44.74	16.69	3	--
Industrial impact	22.05	8.87	4	--
Consumption impact	1.96	1.09	1	--
Total impact on RDA Eyre Peninsula Region economy	**68.74**	**26.66**	**7**	**5**
Multipliers	--	--	--	--
Type 1 multiplier (direct and industrial)	1.49	1.53	2.28	--
Type 2 multiplier (direct, industrial and consumption)	1.54	1.60	2.59	--
Impact on South Australia economy	--	--	--	--
Total impact - South Australia outside RDA Eyre Peninsula Region	16.60	8.36	4	6
Total impact South Australia economy	85.34	35.02	12	11
Impact on Australian economy	--	--	--	--
Total impact outside South Australia economy	35.07	16.83	8	8
Total impact on Australian economy	120.41	51.84	19	19

Source: National Institute of Economic and Industry Research (NIEIR) ©2026. Compiled and presented in economy.id by .id (informed decisions).
Note: All $ values are expressed in 2023/24 base year dollar terms.

Impacts on local jobs

Construction phase

Tumby Bay Sea Wall in the RDA Eyre Peninsula Region is estimated to support 3 direct local jobs per annum during the 14 years construction phase of the project.

From this direct expansion in the economy, it is anticipated that there would be flow-on effects into other related intermediate industries as well as increased new employee consumption expenditure. These combined flow-on effects are estimated to support another 4 indirect local jobs per annum during the construction phase.

The total estimated impact is 7 local jobs per annum over 14 years.

This table and charts below show a detailed breakdown of how employment will be affected by industry during the construction phase.

Employment by industry sector - Construction Phase

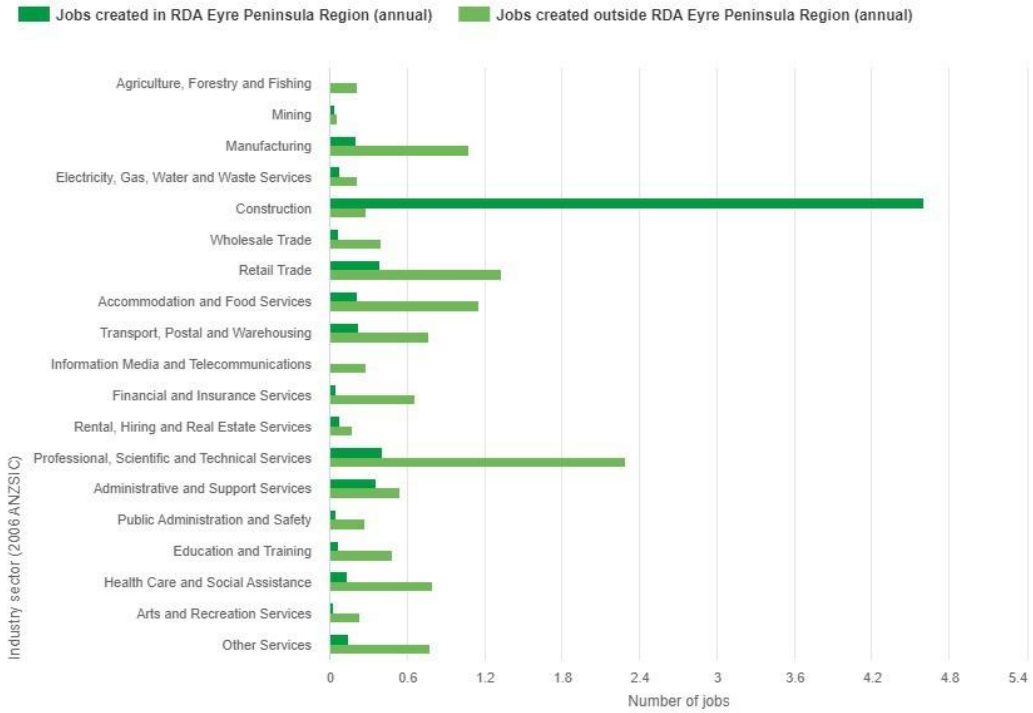
RDA Eyre Peninsula Region - modeling the impact on local jobs, of:
- adding $44.74m in Heavy and Civil Engineering Construction

Industry sector (1-digit ANSIC)	Existing jobs in the RDA Eyre Peninsula Region	Jobs created in the RDA Eyre Peninsula Region (annual)	Jobs created outside of the RDA Eyre Peninsula Region (annual)	Jobs created for the RDA Eyre Peninsula Region residents (annual)
Agriculture, Forestry and Fishing	2,845	0.0	0.2	0.0
Mining	1,060	0.0	0.1	0.0
Manufacturing	2,122	0.2	1.1	0.2
Electricity, Gas, Water and Waste Services	414	0.1	0.2	0.1
Construction	1,806	4.6	0.3	2.9
Wholesale Trade	432	0.1	0.4	0.1
Retail Trade	2,557	0.4	1.3	0.4
Accommodation and Food Services	1,581	0.2	1.2	0.2
Transport, Postal and Warehousing	1,129	0.2	0.8	0.2
Information Media and Telecommunications	109	0.0	0.3	0.0
Financial and Insurance Services	340	0.0	0.7	0.0
Rental, Hiring and Real Estate Services	289	0.1	0.2	0.1
Professional, Scientific and Technical Services	724	0.4	2.3	0.3
Administrative and Support Services	780	0.4	0.5	0.3
Public Administration and Safety	1,163	0.0	0.3	0.0
Education and Training	2,382	0.1	0.5	0.1
Health Care and Social Assistance	3,942	0.1	0.8	0.1
Arts and Recreation Services	172	0.0	0.2	0.0
Other Services	1,020	0.1	0.8	0.1
Total industries	24,866	7	12	5

Source: National Institute of Economic and Industry Research (NIEIR) ©2026. Compiled and presented in economy.id by .id (informed decisions).

Employment by industry sector - Construction Phase

RDA Eyre Peninsula Region - modeling the impact on local jobs, of:
- adding $44.74m in Heavy and Civil Engineering Construction



Source: National Institute of Economic and Industry Research (NIEIR) ©2026. Compiled and presented in economy.id by .id (informed decisions).

Impacts on value added

Construction phase

Tumby Bay Sea Wall in the RDA Eyre Peninsula Region is estimated to generate $16.7m direct value added during the 14 years construction phase of the project.

From this direct expansion in the economy, it is anticipated that there would be flow-on effects into other related intermediate industries as well as increased new employee consumption expenditure. These combined flow-on effects are estimated to be another $10.0m in value-added during the construction phase.

The total estimated impact is $26.7m in value-added over 14 years.

This table and charts below show a detailed breakdown of value added by industry during the construction phase.

Value added by industry sector - Construction Phase

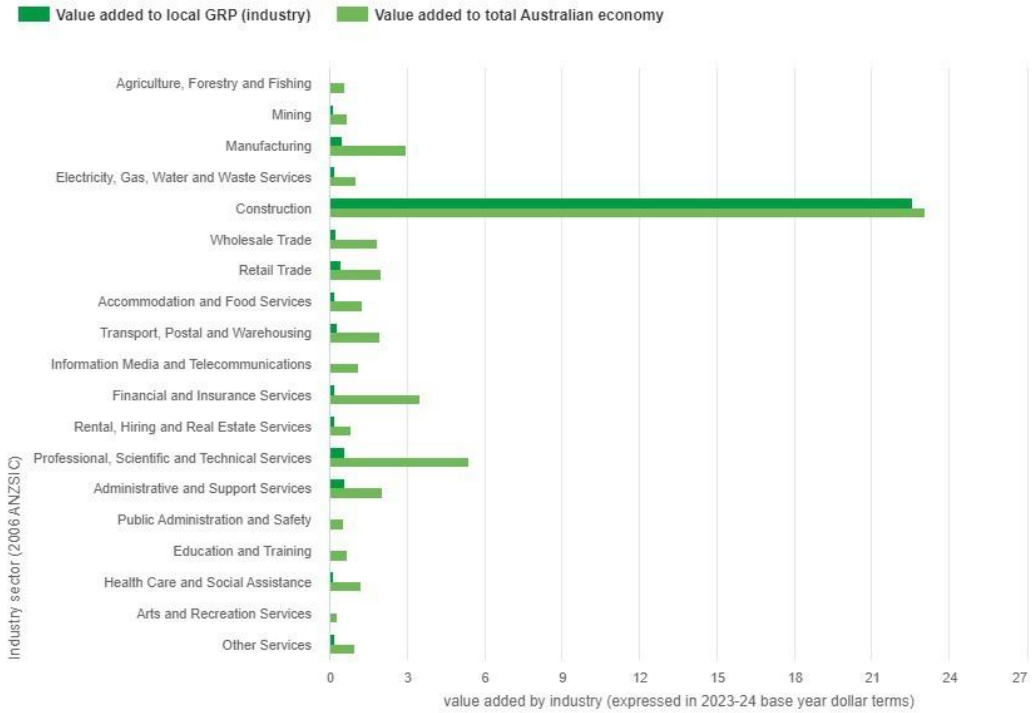
RDA Eyre Peninsula Region - modeling the impact on value added, of:
- adding $44.74m in Heavy and Civil Engineering Construction

Industry sector (1-digit ANSIC)	Value Added $m	Value added $m to the RDA Eyre Peninsula Region	Percentage change	Value added $m to Australian economy
Agriculture, Forestry and Fishing	$696.4	$0.06	+0.01	$0.59
Mining	$291.8	$0.16	+0.06	$0.67
Manufacturing	$154.2	$0.47	+0.30	$2.96
Electricity, Gas, Water and Waste Services	$77.1	$0.19	+0.24	$1.00
Construction	$320.0	$22.57	+7.05	$23.05
Wholesale Trade	$106.5	$0.24	+0.23	$1.87
Retail Trade	$203.4	$0.42	+0.21	$2.00
Accommodation and Food Services	$135.5	$0.20	+0.15	$1.28
Transport, Postal and Warehousing	$127.0	$0.31	+0.24	$1.93
Information Media and Telecommunications	$16.9	$0.03	+0.21	$1.12
Financial and Insurance Services	$114.7	$0.17	+0.15	$3.50
Rental, Hiring and Real Estate Services	$56.5	$0.18	+0.32	$0.83
Professional, Scientific and Technical Services	$71.1	$0.60	+0.84	$5.37
Administrative and Support Services	$71.8	$0.58	+0.81	$2.02
Public Administration and Safety	$95.7	$0.06	+0.06	$0.54
Education and Training	$184.6	$0.07	+0.04	$0.67
Health Care and Social Assistance	$307.5	$0.15	+0.05	$1.19
Arts and Recreation Services	$4.4	$0.02	+0.35	$0.28
Other Services	$64.6	$0.17	+0.26	$0.95
Total industries	**$3,099.7**	**$26.66**	**+0.86**	**$51.84**

Source: National Institute of Economic and Industry Research (NIEIR) ©2026. Compiled and presented in economy.id by .id (informed decisions).
Note: All $ values are expressed in 2023/24 base year dollar terms.

Value added by industry sector - Construction Phase

RDA Eyre Peninsula Region - modeling the impact on value added, of:
- adding $44.74m in Heavy and Civil Engineering Construction



Source: National Institute of Economic and Industry Research (NIEIR) ©2026. Compiled and presented in economy.id by .id (informed decisions).

Impacts on output

Construction phase

Tumby Bay Sea Wall in the RDA Eyre Peninsula Region is estimated to generate $44.7m direct output during the 14 years construction phase of the project.

From this direct expansion in the economy, it is anticipated that there would be flow-on effects into other related intermediate industries as well as increased new employee consumption expenditure. These combined flow-on effects are estimated to be another $24.0m in output during the construction phase.

The total estimated impact is $68.7m in output over 14 years.

Impacts on resident employment

Construction phase

The combination of all direct, industrial and consumption effects of the construction phase of the Tumby Bay Sea Wall in the RDA Eyre Peninsula Region is estimated to support 7 jobs.

As some of the RDA Eyre Peninsula Region's residents leave the area to work and residents of other areas enter the RDA Eyre Peninsula Region to work, not all of these jobs will be filled by the RDA Eyre Peninsula Region residents. It is estimated that of the 7 jobs created, 5 or 71.4% would be expected to be filled by the RDA Eyre Peninsula Region residents.

Impact on GRP

Value added by industry represents the industry component of Gross Regional Product (GRP). The impact on the RDA Eyre Peninsula Region's GRP as a result of the Tumby Bay Sea Wall is directly equivalent to the change in value added outlined in the section above.

Construction phase

The construction of the Tumby Bay Sea Wall in the RDA Eyre Peninsula Region is estimated to increase GRP by $26.7m. The effect of the construction of the Tumby Bay Sea Wall in the RDA Eyre Peninsula Region on the Australian economy (including the RDA Eyre Peninsula Region) is estimated to be a growth in GDP of $51.8m.

COASTAL STRUCTURE CONDITION REPORT

at

TUMBY BAY,
EYRE PENINSULA

for

DISTRICT COUNCIL OF TUMBY BAY

Project No.: 25020
May, 2026

Report No.	Revision / Issue	Issue Date	Author	Checked
SR25020-1	A	14/05/2026	FB/WS	WS

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1 INTRODUCTION

1.1 SCOPE OF CONDITION ASSESSMENT AND REPORT

Magryn & Associates Pty. Ltd. (Magryn) were engaged by the District Council of Tumby Bay (Council) for the purpose of an alignment study and detailed design of a coastal protection in the form of a rock revetment along the foreshore of the Tumby Bay township. Following Council's endorsement of the detailed design, a business case is being prepared for which this structure condition report has been requested.

The purpose of this structure condition report is to summarise the condition and expected remaining service life of the existing foreshore protection structures along the Tumby Bay shoreline. This report will summarise the structures' general condition/deterioration, stability under current/future coastal conditions, and flood/overtopping performance.

1.2 CONDITION ASSESSMENT METHODOLOGY

The existing condition of the foreshore protection structures is informed from site visits at Tumby Bay in February, June, and September of 2025, and on the authors' general understanding of the foreshore structures garnered from site visits and communication with Council. At the time of the inspection, Magryn were not engaged to undertake a detailed condition audit of the structures (rather to inspect them in the context of the new coastal protection design). The expected remaining service life of the structures is estimated from engineering experience and opinion. The condition assessment is therefore high level only.

The existing foreshore protection structures discussed in this report are:

- Vertical concrete walls located in the jetty precinct of the foreshore;
- Geotextile sand container (GSC) revetment located north and south of the BlueWater Café;
- Rock revetment fronting privately owned shacks at the southern end of the foreshore, and;
- Timber beach access ramps located within the jetty precinct of the foreshore.

2 CONDITION ASSESSMENT

2.1 VERTICAL CONCRETE WALLS

2.1.1 EXISTING CONDITION

The following were noted regarding the existing condition of the two vertical concrete walls located in the jetty precinct:

- Scour of the beach face at the toe of the wall.
- Overturning of the walls (especially adjacent the BlueWater Café) resulting in slumping of the wall towards the sea. This appears to be a result of inadequate foundations for the wall, resulting in overall instability and rotational failure due to the earth pressures on the landward side, compounded by the loss of sand at the toe due to erosion.

- Exposed GSCs situated at the base of the walls with the purpose of preventing further slumping of the wall and protecting the vertical concrete wall toe.
- Localised scour in both a horizontal and vertical direction at the termini of each vertical wall segment.
- Gaps between the individual wall segments. This appears to have resulted in erosion of the soil behind the wall (through the gaps).
- Localised land subsidence on the landward side of the concrete wall adjacent the BlueWater Café, suggesting undermining beneath and behind the wall.
- Evidence of over-wash with seagrass deposited on the reserve and footpaths adjacent both walls.
- General deterioration of the concrete elements. In some cases, the concrete wall is severely cracked/spalled with exposed corroded reinforcement along the top edge.

The seawall is already exhibiting significant lean and signs of structural failure (Figure 1), and therefore requires replacement as a high short-term priority (within the next few years) to maintain public safety and amenity. The likelihood of further deterioration, failure and eventual collapse will increase over time, resulting in a corresponding increase in risk. The consequences of failure would be severe, particularly if it were to occur while members of the public are on or adjacent to the seawall.

The observed concrete spalling and exposed, corroded reinforcement are also indicative of progressive structural deterioration within the vertical concrete walls. In the coastal environment, corrosion of reinforcement can accelerate over time as chloride ingress continues and cracking allows further moisture and salt penetration into the concrete. This process reduces the effective cross-section and capacity of the reinforcement, weakens the surrounding concrete, and can lead to ongoing delamination and loss of section. In structural terms, this deterioration reduces the wall's capacity to resist bending, shear and local impact loads from wave action and retained ground pressures, thereby increasing the likelihood of further damage, instability and eventual failure if left unaddressed.



Figure 1. Concrete wall, showing leaning and corroded reinforcement.

2.1.2 COASTAL PERFORMANCE

Due to the nature of vertical seawalls, the force imparted on them by waves is much higher compared to sloped protective structures, such as revetments. The interaction of waves on a vertical face result in wave reflection and superimposition, increased velocities at the toe of the structure resulting in scour, and impulsive, forceful loads against the seawall face. As the vertical concrete walls at Tumby Bay are situated along a segment of foreshore that has been historically pushed further seaward than what would naturally occur, it is expected that these aforementioned processes will continue to occur from present through to the structures' ends of lives.

As of a survey conducted in March 2025, the crests of the vertical concrete walls are sufficient to withstand a 100-year ARI storm tide event at Tumby Bay with crests of 2.3–2.4 m AHD. A 100-year event in 2050 would see approximately 10–20 mm freeboard between still water level and the wall crests, which is likely to be overtopped if winds generate onshore-directed waves.

With only a very small freeboard under these conditions, overtopping waves represent a material risk to public safety and to the ongoing function of the foreshore precinct. During storm events, wave overtopping can create hazardous conditions for pedestrians and other users of the adjacent reserve, footpaths and beach access areas.

These hazards are compounded by the existing lean and structural deterioration of the seawall, which increase the risk of localised failure or collapse under continued wave loading at times when the foreshore may still be occupied or accessed by the public.

Overtopping waves also have the potential to damage foreshore infrastructure and amenities, including paths, access ramps and landscaped areas.

2.2 GSC REVETMENTS

2.2.1 EXISTING CONDITION

The following were noted regarding the existing condition of the two GSC revetments located in the jetty precinct:

- Terminal scour at the ends of the revetments.
- Lowering of the beach face in front of the revetments following a storm event.
- Vandalism of some bags.
- Removal of backfilled sand due to coastal processes at the GSC revetment to the north of the BlueWater Café (it is unknown if the GSC revetment south of the Café was backfilled).
- Observations of overtopping and over-wash of the revetments.
- The revetment south of the BlueWater Café was implemented in 2005 and the revetment north of the Café was implemented in 2022 (according to the Coastal Adaptation Study), and that the sandbags have been exposed to UV during these timeframes. Sand containers in the recently constructed revetment are in generally good condition and of adequate size (Figure 2). Sand containers in the revetment constructed in 2005 are in poor condition (Figure 3, Figure 4). Some containers were noted to have been damaged and lost sand, and as a result are unstable under wave action. General subsidence and slumping of the GSC layers was also noted.

2.2.2 COASTAL PERFORMANCE

The sandbags themselves are in generally good condition such that, excluding any vandalism, they are expected to reach their service life of ~20 years. For the GSC revetment north of the BlueWater Café, this service life is reached in 2042. For the GSC revetment south of the Café, this service life is reaching its end presently, and the bags are likely to show further signs of UV deterioration, slumping/collapse, and require removal/replacement in the near-term (within 1-3 years).

Issues with erosion and terminal scour will continue to occur from present through to the end of the revetments' service lives, due to the nature of coastal processes interacting with non-erodible structures. The southern GSC revetment has a crest ranging 2.3–2.5 m AHD, whilst the northern GSC revetment has a crest of approximately 3 m AHD. The crest of the southern GSC revetment is insufficient to protect against a 100yr ARI in 2050. The crest of the northern GSC revetment is sufficient through to 2050, however has been observed to allow overtopping and over-wash during storm events.

Sloped revetment structures incite higher run-up from waves compared to vertical structures, but are more efficient at dissipating wave energy, resulting in less overall scour

and force imparted on the structure. GSCs are relatively smooth structures with low porosity and therefore dissipate less wave energy compared to rock armour revetments. With higher waves predicted under future conditions, it is expected that the northern GSC revetment will face higher overtopping rates and volumes due to higher wave run-up.



Figure 2. GSC revetment built in 2022.



Figure 3. GSC revetment built in 2005.



Figure 4. GSC revetment built in 2005.

2.3 ROCK REVETMENT

2.3.1 EXISTING CONDITION

The following were noted regarding the existing condition of the rock revetment at the southern end of the foreshore (Figure 5):

- The revetment appears to be in generally good condition with rock of adequate size under current condition. They may be undersized considering long term coastal conditions.
- Seagrass strands were observed to be deposited at the toe of the revetment and up its slope, suggesting that the revetment is inundated during storm events.
- No seagrass strands were noted as being deposited on the lawn area at the crest of the revetment.
- No apparent lowering of the beach face was observed; however, it should be noted that the net sediment transport at Tumby Bay is from the north to the south where the sediment is trapped by the marina channel immediately south of the revetment. Thus, any lowering of the beach face in front of the revetment may be replenished by the trapped sediment in the intertidal zone.

2.3.2 COASTAL PERFORMANCE

The revetment appears to be in generally good condition, and is assumed to have been designed as a medium-term protective solution (as noted above they are likely to become unstable in the long term due to increased storms/wave action). The crest level of the revetment varies between 2.5–2.9 m AHD which is of sufficient height to protect against coastal inundation through to 2050 (100-year ARI event). Under 2100 conditions, lower areas of the revetment are of insufficient height to protect against a 100-year event.

It is Magryn's understanding that the rock revetment was privately commissioned, thus details of the design have not been made available to Magryn. It is assumed that the design includes a geotextile layer between the rock armour and the land behind to protect against outwash and erosion of the sediment. If this is not the case, then rising sea levels during storm events and future years could wash out the sediment behind the revetment leading to slumping, placing the private shacks at a higher risk of inundation.

Although the southern area of the Tumby Bay foreshore is relatively well protected from waves, it is expected that higher waves will occur more frequently with rising sea levels. Larger waves have the capacity to transport more sediment, which may influence the sand flat that has accumulated in the lee of the marina channel and in front of the revetment. Additionally, more sediment may be removed from the beach in front of the revetment resulting in deeper water depths during high water events, and risk of undermining for the revetment.



Figure 5. Rock revetment.

2.4 TIMBER BEACH ACCESS RAMPS

2.4.1 EXISTING CONDITION

The following were noted regarding the existing condition of the timber beach access ramps located in the jetty precinct:

- Overall, the timber beach access ramps are structurally unstable and in very poor condition, with evidence of splitting and rotting to the primary structural elements (such as the piles; Figure 6). Due to the slumping of the vertical concrete walls (which the stairs interface), the timber access ramps are leaning towards the sea rending them unusable.
- Lowering of the beach face in front of the vertical concrete walls has resulted in the timber access ramps being undermined with the ramps ending in a drop-off onto the beach face limiting their usability and accessibility (Figure 7).
- As a result, there are minimal beach access points in the main Tumby Bay foreshore area.



Figure 6. Structural compromised timber ramp in main foreshore area.



Figure 7. Existing access ramp showing drop off at the end due to beach erosion.

3 CONCLUSION

The existing foreshore protection structures at Tumby Bay are collectively in a state of progressive deterioration and are unlikely to provide adequate coastal protection over the medium to long term.

It is the opinion of Magryn and Associates that there is a need for a comprehensive replacement strategy for the coastal protection infrastructure. The proposed rock revetment design addresses this need by providing a robust protective solution designed with appropriate allowance for future sea level rise. The condition findings presented in this report support the business case for this investment, both from a public safety perspective and in terms of lifecycle cost relative to the ongoing maintenance burden and residual risk posed by retaining the existing deteriorating structures.

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