

## **10.4. Tender 28/21 - Seawall Restoration Works**

**AUTHOR:** Ashraf Doureihi, Engineering Project Manager

**ENDORSED BY:** Duncan Mitchell, Director Engineering and Property Services

### **ATTACHMENTS:**

1. locality maps [10.4.1 - 12 pages]

### **PURPOSE:**

Submission of tenders for Seawall Restoration Works - Tender 28/2021 and provision of a brief report on the findings of the habitat tiles installed 2 years ago in Bradfield Park.

### **EXECUTIVE SUMMARY:**

Tenders were called and were received until 3:00pm, 26 September 2021 for seawall restoration works – Contract 28/2021.

In order for Councillors to discuss the content of this Commercial in Confidence report it will be necessary to close the Council meeting to the public.

### **FINANCIAL IMPLICATIONS:**

Funding for this project was included in the adopted 2021/22 delivery program

### **RECOMMENDATION:**

1. **THAT** Council accept the tender of the highest ranked Tenderer for Tender 28/2021 – Seawall Restoration Works
2. **THAT** the General Manager be authorised to take any necessary action to implement the decision including entering associated contracts.
3. **THAT**, once Council has executed the Contract, information relating to the successful tender be published in Council's Register of Contracts as required by Government Information (Public Access) Act 2009 - Part 3 Division 5 - Government Contracts With Private Sector.
4. **THAT** the confidential report be treated as confidential and remain confidential until Council determines otherwise.

## **LINK TO COMMUNITY STRATEGIC PLAN**

The relationship with the Community Strategic Plan is as follows:

1. Our Living Environment

1.4 Public open space and recreation facilities and services meet community needs

2. Our Built Infrastructure

2.1 Infrastructure and assets meet community needs

## **BACKGROUND**

As part of Council's ongoing seawall rehabilitation program, four sites have been identified as requiring structural stabilization. These walls are located at (refer to enclosed locality maps):

- Part 1 – Primrose Park, Cammeray;
- Part 2 – Tunks Park, Cammeray;
- Part 3 – Hayes St, Neutral Bay; and
- Part 4 – High St, North Sydney

The standard methodology employed to stabilize the seawalls incorporates the use of pressure grouting by pumping grout behind wall to fill in the voids created because of washout caused by wave actions along the harbour. This treatment has been in place for over 25 years and has been applied to most of the seawalls along the harbour. This practice allows for the stabilisation of the wall in an in-situ fashion and prevents further deterioration. This technique has proven to be more cost effective than the conventional method of 'knock down and rebuild' and extends the life of the wall by another 30-40 years. From a cost perspective, grout stabilisation is one third of the cost a rebuild

## **CONSULTATION REQUIREMENTS**

Community engagement is not required.

## **DETAIL**

### **Living Seawalls Research**

As part of Council's long-standing commitment in supporting ecological research, further opportunities may exist to work with the Sydney Institute of Marine Science (SIMS) to rolling out additional living seawall projects at one or more of the sites identified under this contract. SIMS have welcomed the opportunity to work with Council once again.

In October 2018, Council was part of the Living Seawall' launch with SIMS and Volvo. The launch took place at Milsons Point to unveil the installation of marine 'habitat tiles' along the

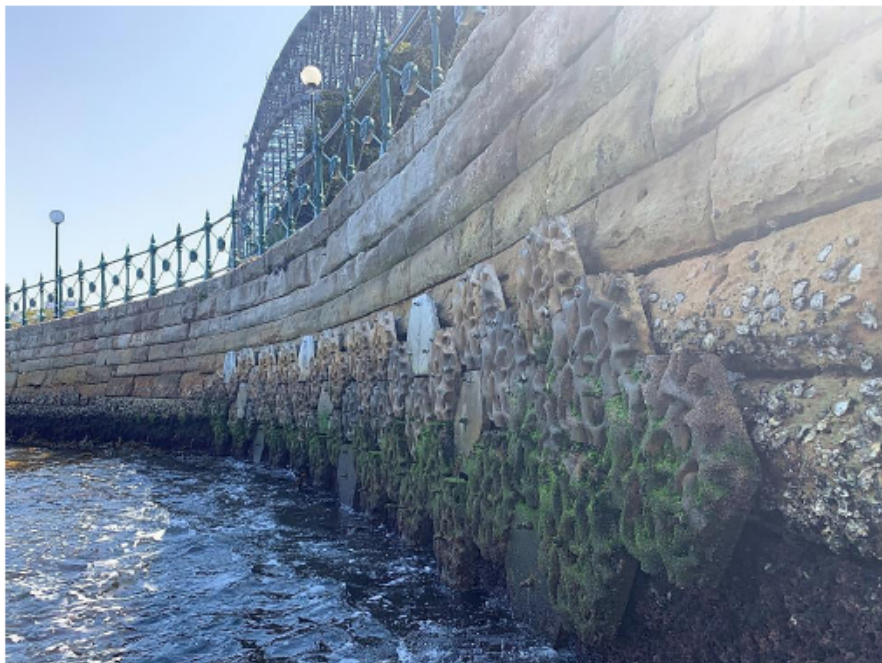
seawall at Milsons Point – refer to photo 1 below). A more recent photo of the tiles was taken by SIMS as part of their 2 year research report – refer to photo 2 below.

Habitat tiles were also installed at Sawmillers Reserve in November 2018 along two sections of the seawall – refer to photo 3 below.

**Photo 1 – Marine Habitat Tiles at Milsons Point (installed October 2018)**



**Photo 2 – Marine Habitat Tiles at Milsons Point after installation @ 2years**



Volvo Living Seawall at Bradfield Park, Milsons Point, New South Wales, Australia. Image credit: Maria Vozzo, SIMS

**Photo 3 – Marine Habitat Tiles at Sawmillers Reserve (installed November 2018)**



In February 2020, additional tiles were also installed at Blues Point Reserve – this time, the tiles were embedded directly onto the seawall rather than being detached from the face of the wall – refer to photo 4 below. This trial site was the first to take place in Australia and second in the world after Seattle city. A follow-up report will be presented to Council once the trial period is completed. Community interpretive signage was also installed at Blues Point Reserve to help raise awareness about this important research – refer to photo 5 below.

**Photo 4 - Marine Habitat Tiles at Blues Point Reserve (installed January 2020)**



**Photo 5 – Community Interpretive Signage installed at Blues Pt Reserve**



SIMS recently completed its two-year biodiversity report of the habit tiles at Milsons Point – the report is yet to be made public. The report summaries the findings at Bradfield Park. Some key good news, takeaway points that are highlighted

in the Executive Summary of the report include:

- After 24 months, a total of 91 species were observed on the Volvo Living Seawall installation at Bradfield Park.
- The complex mangrove panels supported 73% more species (90 species) than flat panels (52 species).
- During the 24 month sampling event (October 2020), 44% of the species observed in this study were unique to the Volvo Living Seawall and not found on the control (unmodified) seawalls adjacent to the site of installation.
- The Volvo Living Seawall had ~30-40 more species than two control (i.e. unmodified) sections of seawall.
- Many of the species supported by the complex mangrove panels are species such as mussels, oysters and barnacles that filter water as they feed and can help to improve water quality.

The Executive Summary concludes:

“Overall, the results demonstrate that the Volvo Living Seawall is achieving its primary goal of enhancing seawall biodiversity. They also suggest that through time, the Living Seawall may start to contribute to important ecosystem functions such as maintenance of clean water and sequestration of carbon, that could be quantified through subsequent monitoring programs. “

The report provides exceptional photos of different types of marine habitat which have made the 'habitat tiles' their home – refer to images below.

### Appendix 1

Table A1: The most abundant mobile species observed on the Volvo Living Seawall.



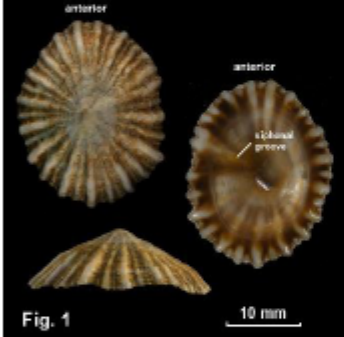

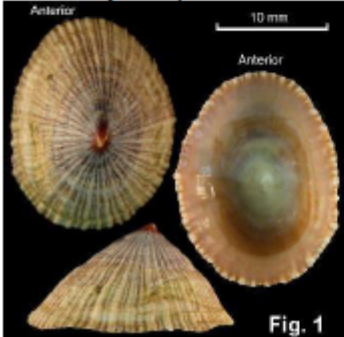
<p><b>Snail: <i>Arolittorina acutispira</i></b></p>  <p>500 µm</p>	<p><b>Chiton: <i>Sypharochiton pelliserpentis</i></b></p>  <p>Fig. 3</p> <p>10 mm</p> <p><a href="https://seashellsnsw.org.au/Chitonidae/Images/1388-1.jpg">https://seashellsnsw.org.au/Chitonidae/Images/1388-1.jpg</a></p>
<p><b>False limpet: <i>Siphonaria denticulata</i></b></p>  <p>anterior</p> <p>anterior</p> <p>siphonal groove</p> <p>Fig. 1</p> <p>10 mm</p> <p><a href="https://seashellsnsw.org.au/Siphonariidae/Images/7273-1.jpg">https://seashellsnsw.org.au/Siphonariidae/Images/7273-1.jpg</a></p>	<p><b>False limpet: <i>Siphonaria diemenensis</i></b></p>  <p>Anterior</p> <p>Anterior</p> <p>10 mm</p> <p>Fig. 1</p> <p><a href="https://seashellsnsw.org.au/Siphonariidae/Images/7387-1.jpg">https://seashellsnsw.org.au/Siphonariidae/Images/7387-1.jpg</a></p>
<p><b>False limpet: <i>Siphonaria funiculata</i></b></p>  <p>Anterior</p> <p>Anterior</p> <p>10 mm</p> <p>Fig. 1</p> <p><a href="https://seashellsnsw.org.au/Siphonariidae/Images/7384-1.jpg">https://seashellsnsw.org.au/Siphonariidae/Images/7384-1.jpg</a></p>	

Table A2: Abundant sessile species observed on the Volvo Living Seawall.











<p><b>Mussels:</b> <i>Mytilus</i> spp.</p> 	<p><b>Oysters:</b> <i>Saccostrea glomerata</i></p>  <p>Image: Leah Wood, SIMS</p>
<p><b>Barnacles:</b> <i>Austrominius covertus</i></p> 	<p><b>Barnacles:</b> <i>Tesseropora rosea</i></p> 
<p><b>Tubeworms:</b> <i>Hydroides</i> spp.</p> 	<p><b>Algae:</b> <i>Ulva australis</i></p> 
<p><b>Algae:</b> <i>Caloglossa leprieurii</i></p> 	<p><b>Coralline algae:</b> <i>Corallina officinalis</i></p> 

Table A3: Species unique to the Volvo Living Seawall.

<p><i>Gracillaria secundata</i></p> 	<p><i>Pterocladia capillacea</i></p> 
<p><i>Sargassum sp.</i></p> 	<p><i>Ulva intestinalis</i></p>  <p><a href="https://bie.ala.org.au/species/NZOR-6-124055#gallery">https://bie.ala.org.au/species/NZOR-6-124055#gallery</a></p>
<p><i>Catomerus polymerus</i></p>  <p><a href="https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd:taxon:d72d5301-6a7e-4199-bc9c-8d20b592e867">https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd:taxon:d72d5301-6a7e-4199-bc9c-8d20b592e867</a></p>	

A copy of SIMS’s full biodiversity report will be tabled to Council in the future when it is released to the public.

### TENDERS RECEIVED

The methodology adopted to undertake the tender evaluation of Tender 28/2021 was based on selection criteria outlined in the tender documents and in accordance with the Local Government Act 1993 and the Local Government (General) Regulation 2005.

Tenders were called and closed at 3:00pm, Thursday 26 August 2021. Six (6) tenders were received by the appointed time. Listed in **strict alphabetical order**, the tenderers were:



<b>Tenderer</b>
Ezypave
GPM Marine
Groundtek Drilling Services
Mainmark Civil & Mining Services
Shamrock Developments International
The Rix Group

Information provided by tenderers which is commercial-in-confidence has been protected and will not be disclosed in accordance with section 10A(2)(d) of the *Local Government Act 1993*. A consistent standard for all tenderers has been used in assessing any request for confidentiality by a tenderer.

Application for access to documentation should be through lodgement of a GIPA Public Information application form and payment of prescribed fees.

### **Project Program**

Anticipated Start: October 2021

Anticipated Completion: January 2022

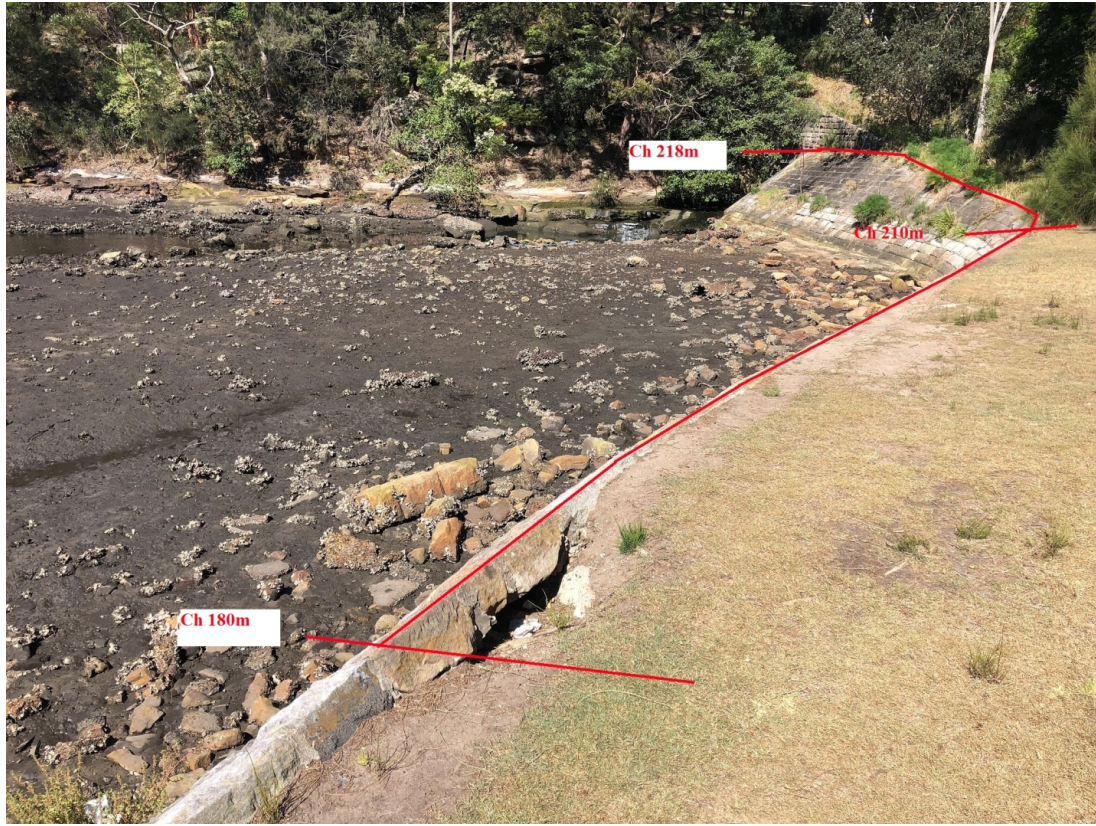
Responsible Officer: Ashraf Doureih, Engineering Project Manager



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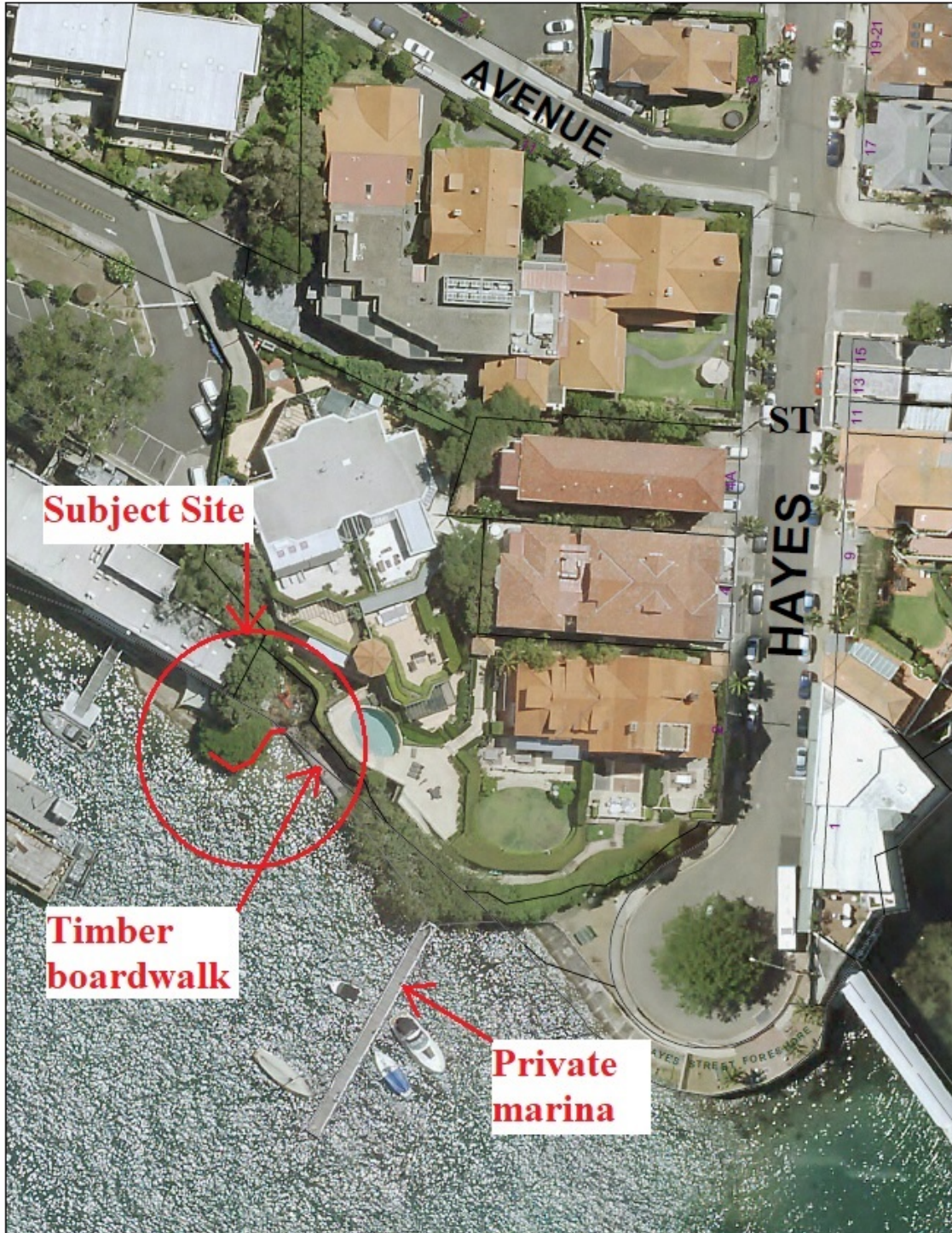
**SEPARABLE PORTION 2 - TUNKS PARK**




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## Separable Portion 3 - Hayes St, Neutral Bay



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## Separable Portion 4 - High St



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