

**Report to General Manager**

Attachments:

1. GPT Design Drawing – Layout
2. Mayoral Minute – MM01

**SUBJECT:** Improving Water Quality at Hayes Street Beach, Neutral Bay**AUTHOR:** Jim Moore, Engineering Project Manager**ENDORSED BY:** Duncan Mitchell, Director Engineering and Property Services**EXECUTIVE SUMMARY:**

Council resolved at the 3713<sup>th</sup> Council Meeting on 29 January 2019, Mayoral Minute MM01 that Council staff explore all potential solutions to improve water quality at Hayes Street Beach in Neutral Bay and report back to Council detailing the solutions and associated costs. Solutions that have been investigated and considered include the following:

1. Upgrading the Hayes Street Gross Pollutant Trap;
2. Moving or redirecting nearby stormwater drain outlets; and
3. More regular street cleaning.

In order to try to improve the water quality at the bottom of Hayes Street, Neutral Bay the construction of a new Gross Pollutant Trap (GPT) and the installation of habitat tiles will be undertaken in the 2019/2020 financial year.

The construction of the new GPT will include the redirection of the stormwater outlet to the Western side of Hayes Street, further away from the Hayes Street beach.

Habitat tiles, similar to the ones recently installed on the sea walls at Sawmillers Reserve and Blues Point are proposed to be installed as part of the sea wall reconstruction on the Western side of Hayes Street. The habitat tiles will increase suitable surface area for the attachment of bio-filtering organisms, that have been scientifically proven to contribute towards improving water quality and improving the overall marine ecosystem.

The construction of a new GPT and reconstruction of the Sea Wall are both currently out to tender, it is anticipated that the outcome of these tenders will be reported to Council at the November Council meeting.

**FINANCIAL IMPLICATIONS:**

Funds are currently allocated in the 2019/2020 budget allocation to undertake the GPT and Seawall works in Hayes Street, Neutral Bay which are subject to a public tender.

**RECOMMENDATION:**

1. **THAT** Council note the information in this report.

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## LINK TO COMMUNITY STRATEGIC PLAN

The relationship with the Community Strategic Plan is as follows:

- Direction: 1. Our Living Environment
- Outcome: 1.1 Protected and enhanced natural environment and biodiversity
- Direction: 2. Our Built Infrastructure
- Outcome: 2.1 Infrastructure and assets meet community needs

## BACKGROUND

Council resolved at the 3713<sup>th</sup> Council Meeting on 29 January 2019 Mayoral Minute MM01:

*1. THAT Council staff explore all potential solutions to improve water quality at Hayes Street Beach in Neutral Bay and report back to Council detailing the solutions and associated costs. Solutions to be considered include:*

- 1. Upgrading the Hayes Street Gross Pollutant Trap;*
- 2. Moving or redirecting nearby stormwater drain outlets; and*
- 3. More regular street cleaning.*

*2. THAT signage be placed at Hayes Street Beach to warn people of the risks of swimming at the beach, particularly after rainfall.*

In the March 2016 audit of the 26 x North Sydney Council GPTs that make up the largest individual network of GPTs of any Sydney Metropolitan Council, the Hayes Street, Neutral Bay Litter Baskets were noted as requiring repairs in the short-term and full replacement in the long-term. The outcome of the audit was reported to Council in July 2016, EPS05 – Gross Pollution Trap Capital Works Upgrade Program. The short-term works were undertaken in 2017 with the litter baskets being replaced with trash racks.

Concept plans were developed in 2018 for converting nine of the existing litter baskets to new GPTs and the feasibility of building 19 x additional GPTs at various sites throughout the LGA was also investigated. This feasibility study proposed a new GPT to be constructed at the bottom of Hayes Street, Neutral Bay.

Subsequently, a detail design was commissioned for the replacement of the trash racks with a new GPT in Hayes Street. This design was costed and included as an identified project in Councils adopted delivery program and was included in the 2019/2020 capital works budget.

On 8 October 2019 the Hayes Street GPT tender opened and is due to close on 31 October 2019. It is anticipated that the outcome of this tender will be reported to Council at the November Council meeting.

The existing sea wall in Hayes Street, Neutral Bay was also identified as part of Council capital works program for the 2019/2020 financial year as it requires stabilisation works which is subject to a separate tender report to Council. The sea wall construction is proposed to include the installation of habitat tiles, similar to the ones recently installed on the sea walls at Sawmillers Reserve and Blues Point. The installation of the habitat tiles along Sawmillers

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Reserve and Blues Point was reported to Council at the 3705<sup>th</sup> Council meeting on 25 June 2018.

## **SUSTAINABILITY STATEMENT**

The improvements to the water quality of the Harbour – in particular around the vicinity of Hayes Street Beach as a result of the construction of the new GPT and the installation of Marine Habitat tiles on the Seawall at Hayes Street Beach directly supports the objectives of Councils Strategic Direction No 1 “Our Living Environment North Sydney”.

## **DETAIL**

The Hayes Street litter baskets, installed in the mid 1990’s, were assessed in the March 2016 GPT audit as underperforming and were subsequently replaced with trash racks in 2017. The trash racks are located in the inter tidal zone adjacent the Neutral Bay ferry wharf. It was identified in the audit that the wash from ferries that service the wharf comes into the outlet pipe and resuspends the captured material and allows some of the smaller pieces to escape between the racks. Currently this unit captures approximately 1 Tonne of waste material per year.



New trash racks (installed 2017)

The proposed new GPT which will replace the litter racks is to be relocated to the Western side of Hayes Street, adjacent to the existing lawn area. The proposed GPT will be located fully underground with only a lid in the footpath showing its final location. The existing drainage will be redirected towards the new GPT and a new outlet is to be placed in the western end of the seawall. The new GPT will be located outside of the tidal zone and away from the ferry wharf which will address the issue of wash from the ferries re-suspending any material that is trapped in the GPT. The new location will also improve accessibility for maintenance and cleaning. During construction it is being proposed to allow the buses and cars to continue around the turning circle at the end of Hayes street during the construction activities. Traffic management plans will be developed as part of the construction methodology for the GPT.

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The catchment area for the Hayes Street GPT extends to Lindsay Street in the North, Undercliff Street to the West and Wycombe Road to the East. The total catchment area is approximately 25 Hectares. The catchment is highly urbanised, with the majority of the catchment area being developed as house blocks and apartments. Refer to figure No 1.



Image of what the Hayes Street GPT will look like - New GPT being installed (Little Young Street 2018)

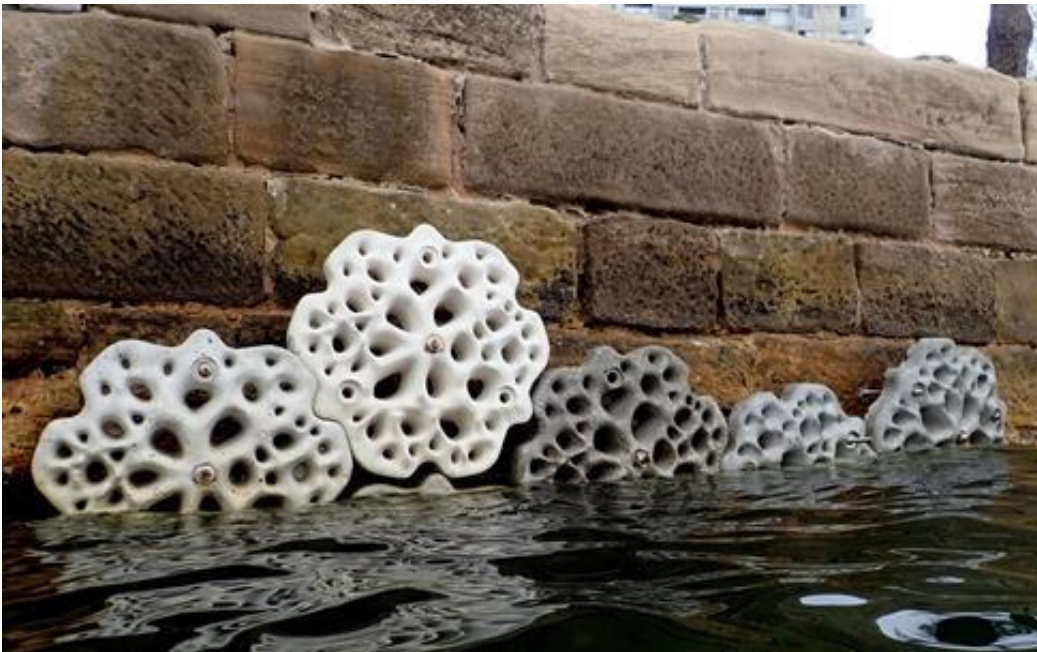
It is expected that the new GPT will be serviced once every two months and will capture approximately 25 Tonnes of waste material on a yearly basis. Council's current GPT cleaning contractor sends this waste to a recycling facility that dries the collected material, sorts material to remove the rubbish and finally sends the organic waste to a commercial composting company who then sells the final product as a soil product. Approximately 90% of waste material collected is composted and reused.



GPT being cleaned (Little Young Street 2018)



The habitat tiles are aimed not only to enhance biodiversity, by enhancing heterogeneity in microhabitats, but also to increase suitable surface area for attachment of organisms. One of the draw backs with vertical seawall construction is that the vertical surfaces provide quite a small area for attachment of oysters. If more attachment space is provided using the tiles, then the number of animals filtering is increased, and this consequently has a greater impact on ecosystem services that depend on filtering, such as provision of clean water, and nutrient cycling which will be monitored by SIMS alongside biodiversity as part this project. The tiles are constructed of concrete because this allows easy molding into a number of forms, and because oysters, a key habitat-forming species, recruit in high numbers to this material.



Habitat tile (installed Sawmillers Reserve 2017)

The tiles will be installed below the mean high-water mark (i.e. within the intertidal zone) and will be visible primarily during low tides only. The tiles will eventually be covered with marine growth and life and blend in naturally with the seawall to minimize any visual impact.



Habitat tile after five months



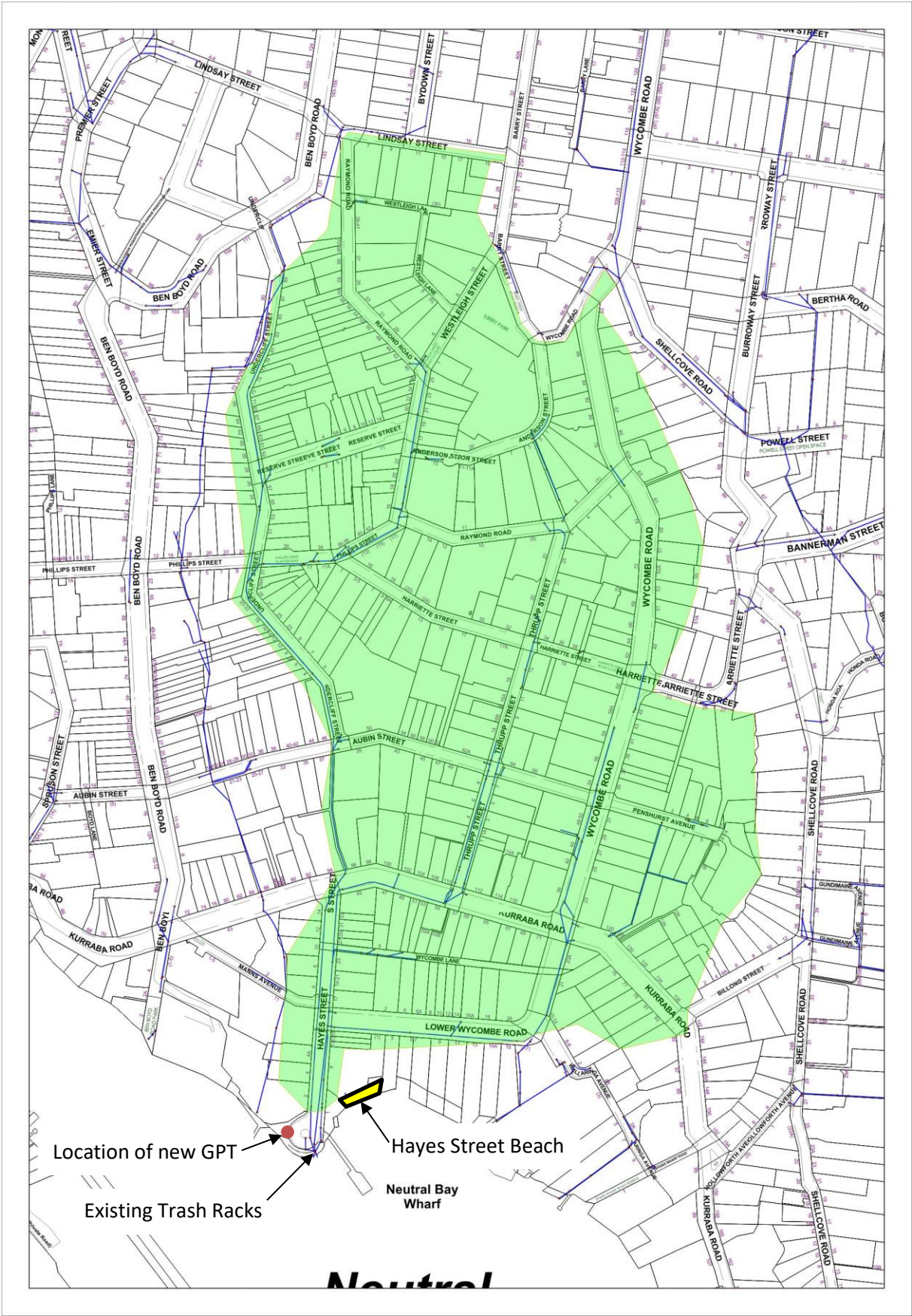
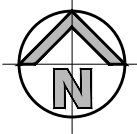


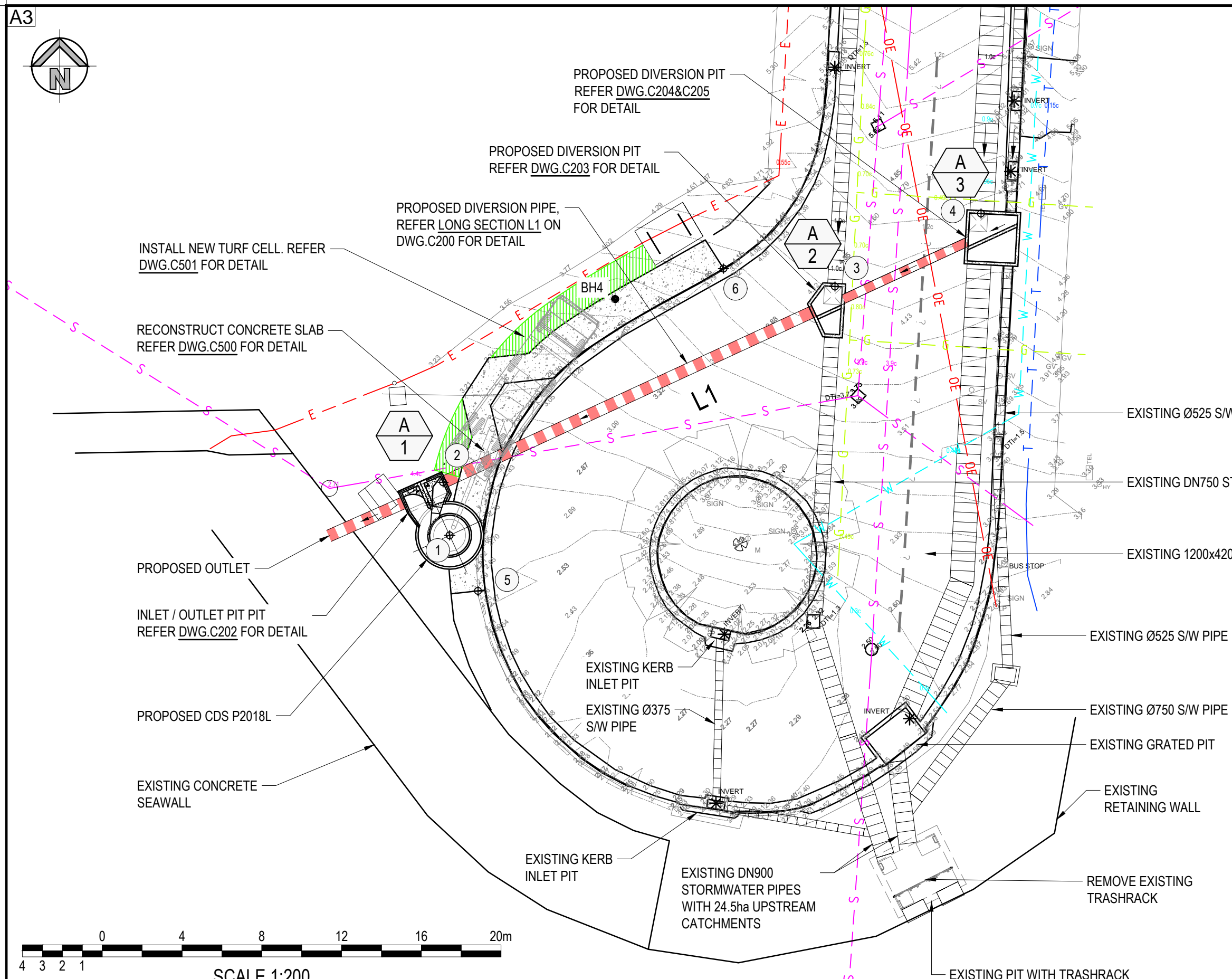
Figure 1 – Hayes St, Neutral Bay - GPT Catchment Map

A3



**LEGEND**

- EXISTING STORMWATER PIPE
- EXISTING SEWER LINE
- EXISTING TELSTRA LINES
- EXISTING OVERHEAD ELEC.
- UNKNOWN SERVICE
- EXISTING ELECTRICITY LINE
- EXISTING GAS
- EXISTING WATER LINE
- PROPOSED STORMWATER PIPE
- BOREHOLE



- EXISTING Ø525 S/W PIPE
- EXISTING DN750 STORMWATER PIPE
- EXISTING 1200x420 BOX CULVERT
- EXISTING Ø525 S/W PIPE
- EXISTING Ø750 S/W PIPE
- EXISTING GRATED PIT
- EXISTING RETAINING WALL
- REMOVE EXISTING TRASHRACK
- EXISTING PIT WITH TRASHRACK

INSTALL NEW TURF CELL. REFER DWG.C501 FOR DETAIL

RECONSTRUCT CONCRETE SLAB REFER DWG.C500 FOR DETAIL

PROPOSED DIVERSION PIPE, REFER LONG SECTION L1 ON DWG.C200 FOR DETAIL

PROPOSED DIVERSION PIT REFER DWG.C203 FOR DETAIL

PROPOSED DIVERSION PIT REFER DWG.C204&C205 FOR DETAIL

PROPOSED OUTLET

INLET / OUTLET PIT REFER DWG.C202 FOR DETAIL

PROPOSED CDS P2018L

EXISTING CONCRETE SEAWALL

EXISTING KERB INLET PIT

EXISTING Ø375 S/W PIPE

EXISTING DN900 STORMWATER PIPES WITH 24.5ha UPSTREAM CATCHMENTS



SCALE 1:200

| SETOUT POINTS |           |            |
|---------------|-----------|------------|
| POINT NO.     | EASTING   | NORTHING   |
| 1             | 335178.26 | 6253945.67 |
| 2             | 335177.93 | 6253948.33 |
| 3             | 335197.58 | 6253958.15 |
| 4             | 335204.91 | 6253961.80 |
| 5             | 335179.68 | 6253942.89 |
| 6             | 335191.99 | 6253959.05 |

**ISSUED FOR APPROVAL**

| REVISION | AMENDMENT                         | DATE      |
|----------|-----------------------------------|-----------|
| 04       | ISSUED FOR APPROVAL (100% DESIGN) | SEPT 2019 |
| 03       | ISSUED FOR APPROVAL (100% DESIGN) | JULY 2019 |
| 02       | ISSUED FOR APPROVAL (50% DESIGN)  | JUNE 2019 |
| 01       | ISSUED FOR CONCEPT                | MAY 2019  |

Client  
**NORTH SYDNEY COUNCIL**

Surveyor  
**LANDSURVEYS**

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Project  
**GROSS POLLUTANT TRAP DESIGN  
HAYES STREET, NEUTRAL BAY**

Title  
**GENERAL ARRANGEMENT**

|   |                          |                       |
|---|--------------------------|-----------------------|
| Drawn<br>D. Tran                        | Designed<br>B. Wolfgramm | Date<br>May 2019      |
| Checked<br>M. Powell                    | Approved<br>M. Powell    | Scale<br>1:200        |
| Drawing number.<br><b>19394_SK_C100</b> |                          | Revision<br><b>04</b> |



**DECISION OF 3713<sup>th</sup> COUNCIL MEETING  
HELD ON TUESDAY 29 JANUARY 2019**

**4. MM01: Improving the Water Quality at Hayes Street Beach, Neutral Bay**

I read a report in the *Sydney Morning Herald* on 29 December 2018 about the state of Sydney's beaches and was alarmed to see that the water quality at Hayes Street Beach has been downgraded to 'poor'.

A 'poor' grading indicates that the water is susceptible to faecal pollution, particularly after rainfall and even during dry weather conditions.

The Office of Environment & Heritage State of the Beaches 2017-18 report states that the level of enterococci bacteria, which are excreted in faeces, occasionally exceeded safe swimming limits after little or no rain, and regularly after 5mm or more of rain.

Contamination of recreational waters with faecal material can pose significant health problems to beach users because of the presence of pathogens (disease-causing microorganisms) in the faecal material.

Exposure to contaminated water can cause gastroenteritis. It can also cause eye, ear and skin infections when pathogens come into contact with cuts in the skin or ruptures of the delicate membranes in the ear or nose.

Now, I don't know about you, but this is not water I would like to swim in and I'm sure our residents feel the same.

I'm aware that there is a stormwater drain outlet located near the beach which is likely the main cause of contaminated water.

The nearest Gross Pollutant Trap at the end of Hayes Street has been identified (in the Optimal Stormwater Report of 2016) as being in need of a significant upgrade, which would help prevent more rubbish and litter from entering the waterway. The cost of the upgrade is around \$500K and is not budgeted for this financial year.

If Council were to resolve to apply to IPART for a Special Rate Variation (under the Scenario 2 or 3 proposal), and it was successful, the upgrade could be undertaken.

I would like to explore all options available to Council to try and mitigate this so our residents and their children can safely swim at Hayes Street Beach without fear of getting gastroenteritis or nasty skin infections.

Ms E Carr addressed Council.

**I therefore recommend:**

**1. THAT** Council staff explore all potential solutions to improve water quality at Hayes Street Beach in Neutral Bay and report back to Council detailing the solutions and associated costs. Solutions to be considered include:

1. Upgrading the Hayes Street Gross Pollutant Trap;
2. Moving or redirecting nearby stormwater drain outlets; and
3. More regular street cleaning.

**2. THAT** signage be placed at Hayes Street Beach to warn people of the risks of swimming at the beach, particularly after rainfall.



The Recommendation was moved by the Mayor.

The Motion was put and **carried**.

Voting was as follows:

For/Against 9/0

| Councillor | Yes | No | Councillor | Yes           | No |
|------------|-----|----|------------|---------------|----|
| Gibson     | Y   |    | Barbour    | Y             |    |
| Beregi     | Y   |    | Drummond   | Y             |    |
| Keen       | Y   |    | Gunning    | <b>Absent</b> |    |
| Brodie     | Y   |    | Mutton     | Y             |    |
| Carr       | Y   |    | Baker      | Y             |    |

**RESOLVED:**

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**MM01 - 29/01/2019**

N O R T H S Y D N E Y C O U N C I L

**MINUTE OF THE MAYOR****Dated: 29 January 2019****RE: Improving the Water Quality at Hayes Street Beach, Neutral Bay**

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**Minute of the Mayor – Improving the Water Quality at Hayes Street Beach, Neutral Bay****Page 2**

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**COUNCILLOR JILLY GIBSON  
MAYOR**