# North Head

## Water Resource Recovery Facility

Our wastewater system works behind the scenes to protect the environment and the health of our communities.

The **North Head Water Resource Recovery Facility** (WRRF) serves over one million Sydneysiders: from Seven Hills in the west, Yagoona in the south, and Ku-ring-gai and Collaroy in the north.

This newsletter provides an update on what's happening at the North Head facility, including:

- our Community Reference Group
- the Biosolids upgrade project
- other upgrades at North Head.

## Invitation to join our Community Reference Group

Sydney Water invites you to join the North Head WRRF Community Reference Group (CRG).

As a volunteer member of the group, you will:

- learn how the North Head WRRF operates
- represent your community to raise issues, concerns, and positive experiences about the facility
- work with us to develop strategies to improve how the facility interacts with your community.

You'll need to be:

- willing to commit to attending quarterly meetings over two years, which are held on a weekday from 2 pm to 4 pm
- interested in how Sydney Water works in the community and ready to contribute.

**How to apply?**

If you're interested in joining our CRG, please contact our team to request a nomination form on **1800 943 119** or email **confluence@sydneywater.com.au**

## Biosolids upgrade project

Construction for phase one of the North Head Biosolids project started in November 2021.

We're about half-way through our work and we're on track to finish construction by mid-2024.

Thank you to our neighbours in Manly for bearing with us as construction continues. We know that the increase in truck movements can be disruptive. We really appreciate everyone's patience as we continue to build this essential infrastructure.

We'll pause our construction work for two weeks over the holiday period. Our last day of work this year will be on Friday 23 December 2022 and we will return to site from Monday 9 January 2023.

Our Water Resource Recovery Facility at North Head.

## Ongoing concrete work

As part of phase one of the Biosolids project, we're building two new digesters to increase the processing capacity of the facility from 40 tonnes to 70 tonnes of sludge per day by 2043.

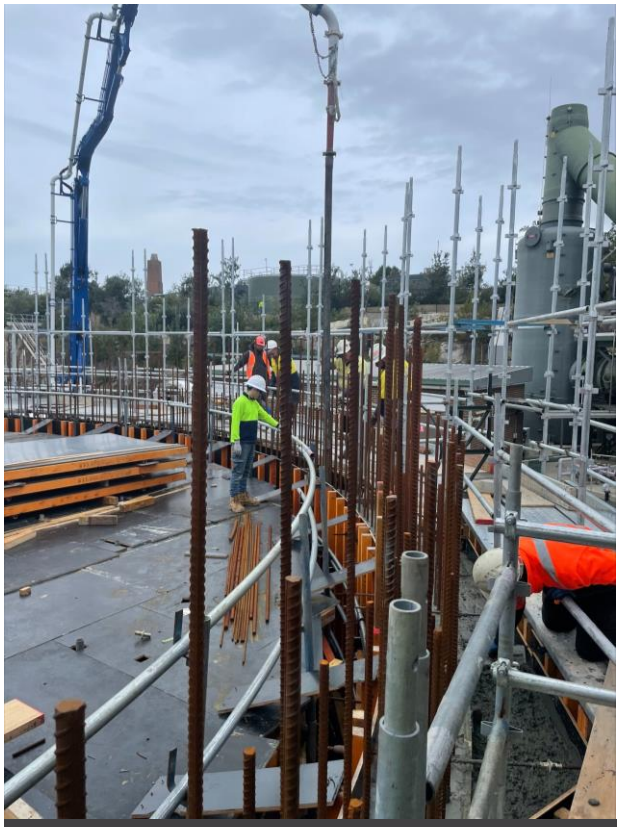
Over recent months we have been installing steel formwork and pouring concrete to build the two new digesters.

We've completed **six of the 10 concrete pours** so far for the new digesters. Here are some photos of our progress over the past few months.

Our crew installing the steel formwork for the base of one of the two new digesters, ready for the concrete to be poured.

Our first step was to prepare the area for the two new digesters which involved relocating our cogeneration unit, some excavation, and early concrete work to form the foundation.

With the base of the digesters complete, our next step was to build the walls. The walls will be 15 metres high when finished, so we need to build them in three stages using a large tower crane.



Our crew installing new formwork to build the walls of the new digester.

Pouring concrete to form the walls of the new digesters.

## Project timing

We're running on schedule and expect to finish building the two new digesters by March 2023.

After the two new digesters are built, the work expected to continue to mid-2024 includes:

- installing new fittings and equipment for the two new digesters
- testing and commissioning ('switching on') the new digesters
- installing a new waste gas burner to support the two new digesters
- installing two new polymer system tanks and three additional rotary drum thickeners
- upgrading the dewatering centrifuge
- using the old North Head library space to build a new electrical switchroom
- electrical works to connect the new equipment.

## Other upgrades at North Head

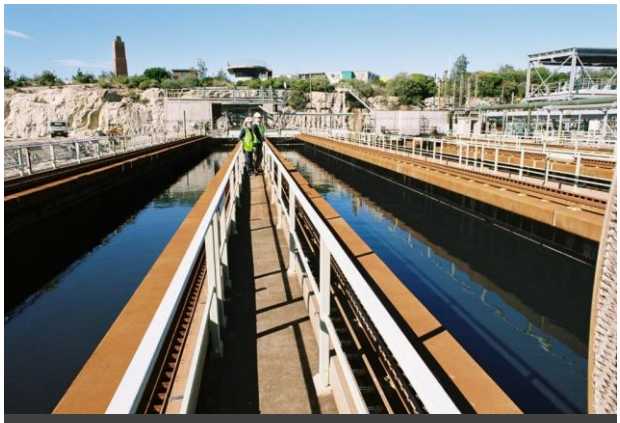
There are several other upgrades underway at the North Head facility to keep things running reliably.

### Primary sedimentation tank renewal

Wastewater at North Head is treated to a primary standard before releasing it to the ocean via a deepwater ocean outfall.

Primary treatment removes large solids from wastewater and uses:

- screens that trap and remove solids like food scraps, wet wipes, cotton buds and plastic (called screenings) as wastewater flows through
- grit tanks sink and collect small, heavy particles like sand (grit) which are then scraped from the bottom of the tank
- sedimentation tanks that allow sludge to settle to the bottom, and oils and grease (scum) to float to the top. A 'travelling bridge' with scrapers at the top and bottom of the tanks remove the sludge and scum, which are eventually treated to produce biosolids.



We use six sedimentation tanks at our North Head facility to remove solids, oil and grease.

We're in the process of renewing three of the six sedimentation tanks at North Head. This work started in 2021 and is expected to continue into 2023.

Our work to renew the sedimentation tanks involves:

- taking the tanks 'offline' one at a time so that we're able to work on it. While we're renewing one tank, we rely on the remaining five sedimentation tanks to continue the work and keep the facility running smoothly
- emptying the tank and temporarily removing the travelling bridge so we can complete our work
- cleaning and refurbishing the tank and travelling bridge and completing repairs and upgrades where needed.

As part of this work, we're also trialing a new type of travelling bridge on one of our sedimentation tanks. The new bridge is expected to be more efficient and reliable, meaning less maintenance work for our crew in future.

If the trial goes well, we'll install the new travelling bridge across all six of our sedimentation tanks.

## Odour scrubber renewal

Odorous gases, such as hydrogen sulphide, are generated by the transport and treatment of wastewater. We use odour scrubbers to filter this air before it is released. This helps us remove these gases and meet our environment protection licence requirements for odour.

We have three large scrubbers at North Head including:

- one to filter the air inside the Northside Storage Tunnel (NST)
- one to filter the air underground and from the Northern Sydney Ocean Outfall Sewer (NSOOS)
- one as part of the Central Odour Control Facility (COCF) to filter the air from the above-ground equipment at the facility.

We started work in 2020 to renew the NST and COCF scrubbers. This work is expected to be completed by the end of this year and when finished, will increase the lifespan of the scrubbers for up to 20 years.

Our COCF scrubbers at North Head work to filter air from the above-ground equipment at the facility.

## To find out more

### Biosolids upgrade project

For more information and updates on the project, visit our Sydney Water Talk page at **www.sydneywatertalk.com.au/nh-biosolids**

You can also contact our team directly on **1800 943 119** or email **confluence@sydneywater.com.au**

### North Head operations

For general enquiries related to the North Head facility, you can contact the North Head Hub on **9934 4423** or email **northheadhub@sydneywater.com.au**