Nelly Bay dredging Q&A

Dredging

Q: Why is this work needed?

Stormwater run-off from Nelly Bay flows into the Marina. Over time, silt and other marine debris naturally builds up on the seabed. This can impact use of the Marina area for commercial and recreational boating.

Council is responsible for maintenance of the canal sections in Nelly Bay Harbour and needs to return the canals to their original design depth, making them safely navigable. Based on recent investigations, >10,000m^3 of material needs to be removed.

Q: What will the work involve?

The dredging work will be carried out via excavators mounted on barges. An excavator will extract the sediment from the Nelly Bay Harbour and load it into the barge. Once the barge is full, the dredged material will be loaded from the barge onto tip trucks and moved directly to Council's Kelly Street site.

Q: When will dredging take place?

With Council's focus firmly on the restoration of bridge and road infrastructure in the Nelly Bay area, maintenance dredging work is being deferred. Dredging is expected to start early 2026 (weather permitting). Council intends to remove 7,000m^3 of material, which is the annual limit under the conditions of our approval. The works should take around two months.

Dredging work must be carried out at the appropriate time to ensure minimum impact on the marine environment (for example, not impacting coral spawning), maintain access to the marina and canals during significant events such as Magnetic Island Race Week and so that work can be done in the most efficient and effective way.

Q: What impact does dredging have on the marine environment?

There is no impact on Marine Plants anticipated as a result of dredging as no Marine Plants were found in the dredging area. The dredging plan includes measures to minimise any adverse impacts or harm to local and adjoining ecosystems (terrestrial and aquatic flora and fauna).

These measures are outlined in the approved Dredge Management Plan Framework (DMPF) and Construction Environmental Management Plan (CEMP). The plans comply with applicable Commonwealth and State legislation, approvals and statutory requirements and any other relevant standards and guidelines to ensure any impacts to the environment are minimal.

Q: What impact will there be on the use of canals and marina during dredging?

There will be no general restrictions on use of Nelly Bay Harbour and Marina facilities during dredging. Boat ramp users should take care when accessing the public boat ramp due to nearby loading activity, but the public boat ramp remains open.

- **Residents/ Public**: there may be some minor interaction with public boat ramp users at the unloading location beside the ramp in the Nelly Bay Marina. There will be temporary fencing around the work site. Loaded trucks will drive across the causeway and along Kelly Street to the proposed Dredge Material Management Facility (DMMF) at Council's 55-77 Kelly Street property.

- **Marina Users (Vessel Owners)**: Dredging operations will restrict access to certain parts of the harbour. The dredging will be staged and coordinated with the Marina Operator and vessel owners to ensure sufficient notification is provided for vessels to be relocated from their individual marina berths during the dredging works.
  Each target area will take approximately 2-3 weeks to dredge. However, individual berths will only have restricted access for around 48 hours each. During dredging operations, safety measures will be in place to minimise any impact or disruption for marina users. Council is working closely with the Marina manager to minimise any impacts on vessel owners during dredging.

Q: Who will do the dredging?

When we have clearer information about the timeline for completion of road and bridge repairs in the area, Council will engage a contractor to carry out dredging and management of the dredged material. A Request for Tender for a contractor will be issued to the market at the appropriate time.

Q: Does Council have all the required approvals?

Council has secured all required approvals for the project, including those from State and Commonwealth regulators. These approvals were obtained following a comprehensive assessment process, which was supported by a suite of technical reports commissioned by Council. The technical reports were prepared by suitably qualified professionals, undertaken in accordance with regulatory requirements, and assessed against the applicable benchmarks.

The establishment of the proposed Dredge Material Management Facility (DMMF) at Council's 55-77 Kelly Street property is identified as being Operational Works, which is code assessable, and the Community Facilities zone is not an assessment benchmark in the Townsville City Plan for operational works applications. Council has secured an Operational Work approval for the dredging work and management of spoil material at 55-77 Kelly Street (DA Ref no: OPW23/0028).

Council currently has all the relevant environmental approvals to undertake the dredging works within the Nelly Bay Harbour as outlined below:

- Great Barrier Reef Marine Park Authority (GBRMPA) - Marine Park Permit for Maintenance Dredging within Habitat Protection zone (GBRMPA Ref: G21/43953.1)
- Townsville City Council (TCC) - Decision Notice for Development Permit – Operational Works - Prescribed Tidal Works (TCC ref: OPW23/0028)
    - SARA Referral Agency Response – 55-77 Kelly Street, Nelly Bay and Esplanade, Nelly Bay (SARA ref: 2305-34768 SRA)
    - Port of Townsville Ltd (POTL) - Advice Referral Agency Response (POTL ref: DA0199)
- Department of Environment, Tourism, Science & Innovation (DETSI) formally DES – Permit for Material Change of Use for ERA 16 – Extraction and Screening 1: Dredging, in a year, between 10,000t and 100,000t (DETSI ref: P-EA-100481414)
- Department of Environment, Tourism, Science & Innovation (DETSI) formally DES - Notice of Decision – Permit for Allocation of Quarry Material – s76 of the Coastal Management Act 1995 (DETSI ref: AQM0133)

Council has engaged with these regulators to ensure compliance with conditions of approval. Council will also engage with these regulators to ensure the continuation of the relevant approvals where necessary to suit the deferred project program. The Department of Environment, Tourism, Science and Innovation has accepted the Sediment Investigation Report and Acid Sulfate Management Plan prepared by SMEC Australia (SMEC) as compliant with the project's Environmental Authority. Council commissioned SLR Consulting Australia (SLR) to undertake updated sediment sampling within the Nelly Bay Harbour in late February 2025. An updated Sediment Analysis Report has been prepared and is available on Council's project page. This report will be used by Council and the contractor to effectively manage and treat the dredged material at the DMMF.

EPBC Act

During the preparation of project reporting by SMEC in 2023, consideration of impacts to Matters of National Environmental Significance (MNES) determined that the project did not

trigger referral to the Commonwealth Government under the *Environmental Protection Biodiversity Conservation Act 1999* (EPBC Act). More recently, Council engaged SLR to undertake an EPBC self-assessment to review the project's potential impacts to protected matters, including MNES.

The EPBC self-assessment included consideration of impacts associated with both dredging activities within Nelly Bay Harbour and the treatment and storage of dredged material at the DMMF at 55-77 Kelly Street. The self-assessment considered the following:

a) all dredging works will be occurring underwater;
b) no clearing would occur at the DMMF at 55-77 Kelly Street; and
c) the dredge spoil would be managed appropriately at the DMMF at 55-77 Kelly Street to prevent contamination of the existing/surrounding environment (through methodology controls).

Based on these factors it was determined that the proposed works do not require referral to the Commonwealth Government under the EPBC Act, as there are no risks of a significant impact to MNES where the management measures outlined in the relevant management plans (which are based on the permits and approvals issued by State and National agencies), are implemented. The Department of Climate Change, Energy, the Environment and Water (DCCEEW) has endorsed that this is not a referrable action.

A copy of the EPBC Self-Assessment is available on Council's project page.

Movement, treatment and storage of material

Q: Where will dredged material be managed, treated and stored?

Material dredged from the Nelly Bay Harbour will be managed, treated (where required), dried and stored at the DMMF at Council's 55-77 Kelly Street property for future reuse on Magnetic Island. This use of the Kelly Street property is in line with the Townsville City Plan.

A range of site options were considered by Council during the planning phase of the project, including sites across Magnetic Island, offshore, Port of Townsville Limited sites, and the mainland. All of these were considered against environmental, social, legislative, economic and logistical factors. The site at 55-77 Kelly Street was found to be the most viable option for the management and temporary storage of the dredged material.

The following options were assessed for the management and temporary storage of dredged material from the Nelly Bay dredging project:

1. **Onshore management back on the mainland** – this option was considered cost prohibitive due to the significant additional costs involved with the transportation of

the wet/unmanaged dredged material back to the mainland via barge and obtaining the additional relevant approvals.

2. **Port of Townsville Limited (PoTL) land disposal sites** – this option was not feasible and not considered further following consultation with PoTL. PoTL advised that they do not have capacity to accept/manage Council's dredged material from the Nelly Bay Dredging project. The Townsville Port Expansion Reclamation Area cannot accept Council's dredged material as PoTL is only permitted to place dredged material from their own capital dredging works in this area (in accordance with their relevant conditions of approval).
3. **Offshore disposal** – this option was not feasible and not considered further following consultation with Great Barrier Reef Marine Park Authority (GBRMPA). GBRMPA advised that Council would not be able to obtain approval for the establishment of an offshore disposal of the dredged material from the Nelly Bay Dredging project as this would result in the material being disposed of in the Great Barrier Reef Habitat Protection Zone.
4. **Shifting material underwater within the harbour** – this option was not feasible and not considered further following consultation with GBRMPA. The harbour area falls within the Great Barrier Reef Habitat Protection Zone and an offshore disposal permit would still be required for this option.
5. **Onshore** management on Council property on Magnetic Island – multiple Council owned sites on Magnetic Island were considered for onshore management and temporary storage of dredged material from the Nelly Bay dredging project. These were not feasible and not considered further due to multiple operational and environmental constraints.
6. **Former Nelly Bay STP (55-77 Kelly Street, Nelly Bay)** – this option was considered as the preferred site due to planning and environmental management factors and its close proximity to Nelly Bay Harbour (dredging works location). The site is already cleared and allows adequate space for effective temporary management of the dredged material. This use of the site is in line with the Townsville City Plan. This option was selected as it was the only feasible option identified in the assessment process.

Q: How will material be moved from the Harbour to Kelly Street?

One barge load (approx. 300t) will be dredged from the Harbour each morning, and the barge will move to the unloading bay in the afternoon. A 45t long reach excavator onboard the barge will excavate the material and load it into the barge hopper, and then the excavator will unload the material into 10t body trucks.

Trucks will then drive the 1km route across the causeway and along Kelly Street to the proposed DMMF at Council's 55-77 Kelly Street property during the afternoons only. Low traffic

impact is expected. Only 2-3 trucks will be used for transport. There will be regular reviews of any traffic impact throughout project.

Q: What will be done to improve the condition and safety of the Kelly Street road surface?

Over the coming months, Townsville City Council will be prioritising work to restore Island infrastructure damaged in the recent severe weather events. Planning is now underway for a new Gustav Creek bridge structure and the repair of roads, drainage and pavements across the Island. Kelly Street and other surrounding roads are included in this work.

Q: What is in the dredged material that will be removed from Nelly Bay?

In 2022, Council engaged SMEC to prepare a Sediment Investigation Report to provide information on the nature and quality of sediment to be dredged from the Nelly Bay Harbour, and identify potential contaminants of concern, including heavy metals, hydrocarbons and potential acid sulfate soils (PASS).

Council also commissioned SLR to undertake updated sediment sampling within the Harbour in late February 2025. The updated Sediment Analysis Report is available on Council's project web page.

Sediment sampling was completed at the same locations in both the 2022 and 2025 investigations (in the Marina, in Gustav Creek and near the Kelly Street Bridge). The results of both investigations have been used to evaluate potential risks, including exposure to contaminants and any potential impacts on human health.

The results from both investigations identified that no sediment samples exceeded the adopted assessment criteria – all results were below the National Assessment Guidelines for Dredging (NAGD 2009) screening levels and National Environment Protection (Assessment of Site Contamination) Measure (NEPM) criteria. Detectable concentrations of heavy metals, Total Petroleum Hydrocarbons (TPH) and minor perylene were identified in the sampling, however these concentrations did not exceed assessment thresholds and were not considered hazardous to human health or the environment.

Potential acid sulfate soils (PASS) were identified in sediment samples taken from the top of Gustav Creek only. Acid sulphate soils are naturally occurring sediments containing iron sulfide minerals that are environmentally benign when left undisturbed, but when they are disturbed or exposed to air the iron sulfide material oxidises, releasing sulfuric acid and soluble iron which can lead to potential environmental damage.

Management of disturbed acid sulfate material will require neutralisation, which involves application and mixing of sufficient alkaline neutralising agents (high quality aglime) into the acidic soils/sediments, to neutralise potential acidity and ensure that acid is not released.

PASS material dredged from the Nelly Bay Harbour will be neutralised in an Acid Sulfate Treatment Area (ASTA) that will be constructed within the DMMF at 55-77 Kelly Street. A suitably qualified person (SQP) will be verify the neutralisation of all PASS material in accordance with the approved Acid Sulfate Soil Management Plan (ASSMP).

Properly managed, in the way set out in the approved plans, the material does not pose a risk to human health or the environment.

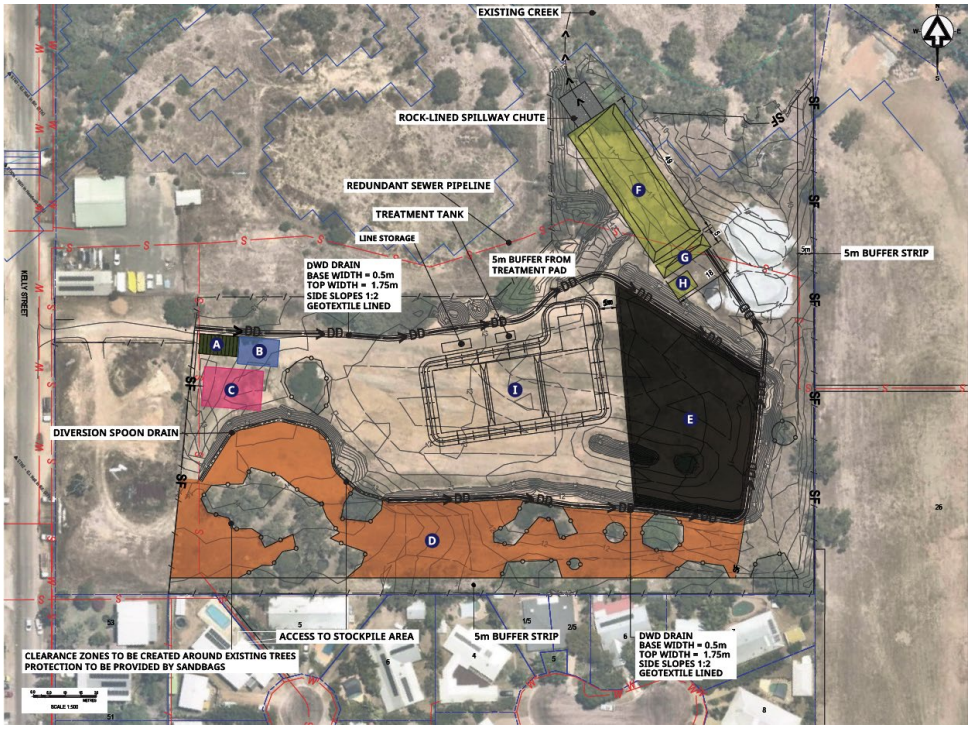
Q: How will the Kelly Street site be prepared for the management and storage of dredged material?

Preparation works will involve:

- Bunding the site around the stockpile area – this means soil already on the site will be piled to create retaining walls to contain material in the stockpile area
- Minor maintenance works on the existing perimeter bunds
- Preparation of an Acid Sulphate Treatment Area (ASTA) according to relevant management plans and guidelines.

There will be no further clearing of the site – existing mature trees and the current natural vegetated buffer (eastern side) will remain. The site is currently fenced and secured via locked gate; access to the site will be restricted.

Below is the current proposed site layout, which may be subject to further change as we continue to finalise plans for the site (click on the map below or visit the project page for a larger version of this map).



Q: What is the process for unloading and managing material at Kelly Street?

Trucks will deliver dredged material to 55-77 Kelly Street in the afternoons. The dredged material requiring no further treatment (non-PASS material) will be carefully managed with suitable drying and stockpiling measures and placed within the allocated dried/treated stockpile areas. Daily field tests will be carried out on the dredged material to identify if it is to be classified as PASS or non-PASS material.

Any dredged material that contains PASS will be placed within the Acid Sulfate Treatment Area (ASTA) to allow treatment and testing for verification of neutralisation.

There will be active management of the Kelly Street site during dredging operations with odour control, dust suppression and erosion control measures in line with approved management plans and guidelines.

A 21-tonne excavator, a 480 front loader and a water cart will be used onsite for the unloading, moving and management of the dredged material. There will be typical construction noise during regular work hours only.

The site will be locked by the Contractor at the end of each workday.

Q: How long with material be stored on the site?

The dried/ treated spoil material will be stockpiled at the Kelly Street site up to 18 months. The material will be recycled / reused on Magnetic Island where possible.

Q: How will you prevent material from entering the water table?

The dredged material will be managed appropriately, including the use of bunds to contain the material and control runoff. Where needed, leaching of excess salts from the material will be controlled through proper disposal or treatment methods to prevent any adverse impact on groundwater or soil quality. Ongoing monitoring and proper management of the material will prevent adverse environmental impacts.

Q: How will you prevent material from entering Gustav creek?

Council has engaged suitably qualified professionals to prepare a Site Erosion and Sediment Control (SESC) plan. This establishes comprehensive site management strategies and mitigation measures to manage runoff effectively from both PASS and non-PASS areas. The plan emphasises the prevention and control of sediment-laden runoff to minimise environmental impacts.

The key strategies and practices from the SESC Plan in relation to managing runoff from the Kelly Street site include:

- Separation of Runoff: Diverting 'clean' catchment water away from disturbed areas to limit the volume of sediment-laden water requiring management.
- Excavation Dewatering Management: Ensuring no untreated sediment-laden or contaminated water is discharged into catchments or stormwater systems. Treatment methods include the use of site drainage, sumps, a sediment basin, or offsite disposal where necessary.
- Erosion Control at Source: Prioritising source control measures, such as rehabilitation, drainage, and erosion prevention to mitigate sediment release. Sediment trapping measures compliant with required treatment standards will also be implemented where needed.
- Best Practice Implementation: Adopting industry best practices for all disturbance areas during operations.
- Use of Sediment Fences to manage sheet flow from disturbed areas effectively.
- Spoil Stockpile Management: Placing spoil stockpiles away from drainage pathways and securing them with appropriate sediment controls, while diverting clean water runoff from the stockpiles where feasible.
- Prompt Stabilisation: Ensuring external disturbed areas are sealed or revegetated promptly to prevent ongoing erosion.
- Vehicle and Access Control: Installing stabilised rock pads at site entry/exit points and visually inspecting vehicles leaving the site. Wash-down procedures and street sweeping will address any sediment tracked onto roadways.
- Stormwater Inlet Protection: Safeguarding stormwater pits from sediment entry with straw bale filters or mesh/gravel inlet protection measures.

- Dust and Transport Controls: Employing effective dust suppression methods and ensuring truckloads are securely covered during transport to prevent material escape.
- Site Traffic and Area Delineation: Using barrier fencing to define no-go zones and restrict traffic to designated areas.
- Ongoing Monitoring and Maintenance: Establishing a robust monitoring and maintenance program to ensure the continued effectiveness of the above mitigation measures.

Q: How will the material be kept on site in an extreme weather event?

Flood Hazard Overlay Code mapping indicates that the stockpiling areas are outside of the designated Flood Hazard Area, which was a factor in the feasibility process.

Bunding around the stockpile area will help further control runoff and prevent overspill, in accordance with environmental management requirements. Perimeter drainage will direct runoff into a suitably sized sediment basin to enable controlled release of appropriately managed runoff water from the site.

Before dredging operations begin, the contractor will conduct minor maintenance to reinforce the existing, established perimeter bunds around the disposal site.

There will be regular inspections and maintenance of the bunds to ensure they remain in optimal condition throughout the project, effectively managing runoff and preventing overspill during adverse weather events. The contractor will monitor weather conditions and carry out work only when suitable.

Council has deliberately scheduled dredging operations outside of the wet season to minimise potential weather-related risks. The plan is to treat and dry the material as quickly as possible so that it can be removed from the site and reused.

Q: How will dust be controlled?

Dredging work will follow the Environmental Management Plan (EMP) and Site Based Management Plan (SBMP) to manage noise, dust and emissions. Dust suppression and controls will be in place throughout the works involving dredged material. This will include:

- Wetting disturbed areas using water
- Applying mulch
- Adhering to onsite speed limits
- Covering loads on trucks carrying dispersible material
- Minimising vehicle movements, especially heavy machinery movements on unpaved surface
- Restricting vehicle movements to defined areas

- Conducting regular reviews of the dust management practices, ensuring dust emissions are kept as low as practicably possible.

Council is focused on minimising any disruption or other impact on residents as a priority when carrying out any work in the community. As always, our contractors will plan the layout and operation of the works to minimise required truck movements, particularly reversing. This reduces both noise and the time needed to complete the work, lowering any potential disturbance, and ensuring an efficient operation. The works will only be done during normal working hours. We will monitor construction noise on the site throughout the work to ensure it remains within acceptable limits.

Q: How will smell from dredge material be prevented?

We will follow our Environmental and Site Based Management Plans (EMP & SBMP) to minimise any emissions from dredging works.

Each day, council will apply an organic odour control product to the stockpiled dredge material to reduce any smell. Bio-Fort from Biologik works quickly and at source to neutralise odours. If this is not effective enough and odour issues persist, Council will either increase the frequency of treatments or take other action as required to reduce odours.

Q: What can the material be used for once it has been treated?

Council's plan is to manage the dredged material for appropriate reuse/ recycling across Magnetic Island. This supports a circular economy that advances business and moves towards zero waste.

Any reuse of dredged sediment must comply with the relevant environmental standards and regulations.

The sediment analysis indicated that the sediment is suitable for land-based re-use following the relevant guideline criteria for non-ASS conditions. PASS material will be managed in accordance with the approved management plan to ensure neutralisation. Once neutralised, the material will be consistent with the non-PASS material dredged from the harbour and stockpiled for reuse.

There are several options for land-based reuse of treated or dried dredged material. It can be used for:

- landfill capping – helping to reduce odours, control water infiltration, and minimise leachate production
- construction fill material – applied in low-lying areas or under roadways (though its stability and compaction must be assessed)

- soil amendment for landscaping or non-sensitive agricultural areas – improving fertility while monitoring salinity, pH, and nutrient levels
- erosion control in coastal zones, riverbanks, or construction sites – helping to stabilise soil and reduce erosion risks.
- Council's aim is to treat and dry the material for removal from the site and reuse within 18 months of dredging.