



**TOWNSVILLE  
PORT EXPANSION  
CHANNEL UPGRADE**



**Stage 1 of the  
Townsville Port  
Expansion Project**



[www.townsvilleport.com.au](http://www.townsvilleport.com.au)



# The Townsville Channel Upgrade is Stage 1 of the Townsville Port Expansion Project. Works will widen the shipping channels to allow for bigger commercial, cruise and military ships to access the Port of Townsville by 2023.

Port of Townsville has been the economic cornerstone of the North Queensland region since it first began trading in 1864. Today, the Port of Townsville is the largest container and automotive port in Northern Australia, supplying a population of nearly 800,000 people with essential things such as fuel, food, furniture, electrical goods, clothing, cement, bitumen and vehicles. Farmers export their products like sugar, frozen meat, cattle, fruit and vegetables, and mining companies ship out commodities such as copper, zinc, silver and lead.

Port of Townsville also supports critical Defence operations and cruise tourism in the region.

As one of four priority ports under the *Sustainable Ports Development Act 2015*, Port of Townsville is an essential component of Queensland's transport network, connecting communities, regions and industry. More than 20 shipping lines operate out of Port of Townsville, offering more than 40 services and covering 136 ports around the world.

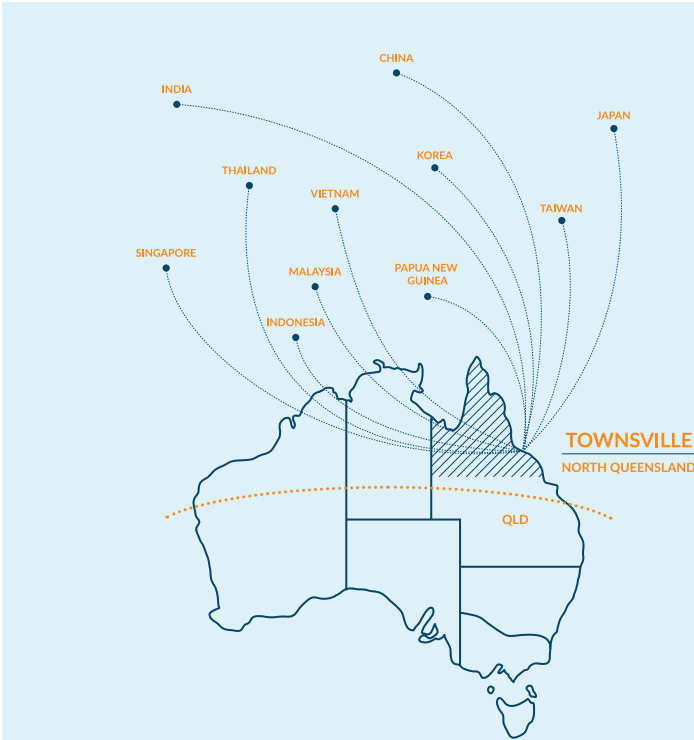
Trade volumes through the Port of Townsville are expected to treble over the next 30 years as Northern Australia is developed to its full potential. Particularly strong growth is anticipated in containerised, refrigerated and general cargo.



## Townsville Port Expansion Project

For the Port of Townsville to continue to service the communities of Townsville and North Queensland effectively, the Port must remain internationally competitive and able to accommodate expected medium to long term changes in vessel sizes and shipping requirements. Port of Townsville Limited (POTL) will expand the Port to accommodate future trade growth. The Townsville Port Expansion Project (over a 30 year time-frame in several stages) involves channel widening, deepening, and development of a new outer harbour, wharves, reclamation, and associated infrastructure to support new berths.

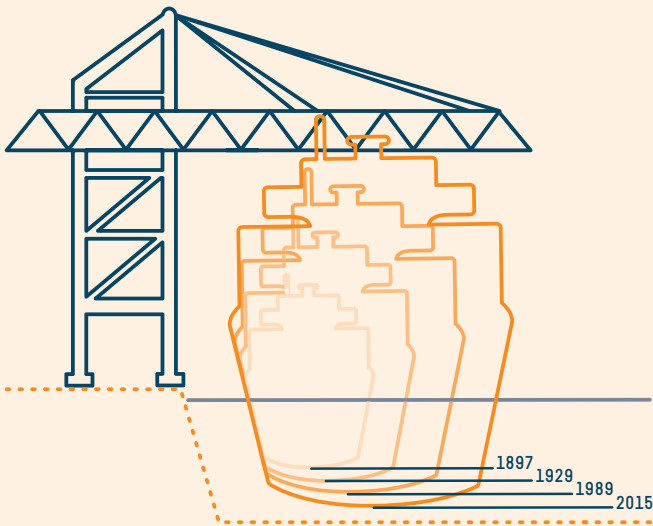
The \$193 million Channel Upgrade Project, which is Stage 1 of the Townsville Port Expansion Project, is critical for the future growth, competitiveness and resilience of North Queensland. Channel widening provides the safest, most cost effective and environmentally sustainable solution for meeting the freight requirements of North Queensland.







## BIGGER SHIPS NEED A BIGGER CHANNEL



WHEN LARGER SHIPS WITH CARGO DESTINED FOR TOWNSVILLE BYPASS OUR PORT, CARGO MUST THEN BE TRANSPORTED BACK VIA ROAD OR RAIL



## Why is channel widening needed?

Over the past 40 years ship sizes have grown significantly and are continuing to get bigger. Townsville's shipping channels have not kept up with this growth, and are half the width of shipping channels at other major ports.

Larger ships are now bypassing Townsville to pick up and drop off North Queensland freight at other Australian ports where they can fit.

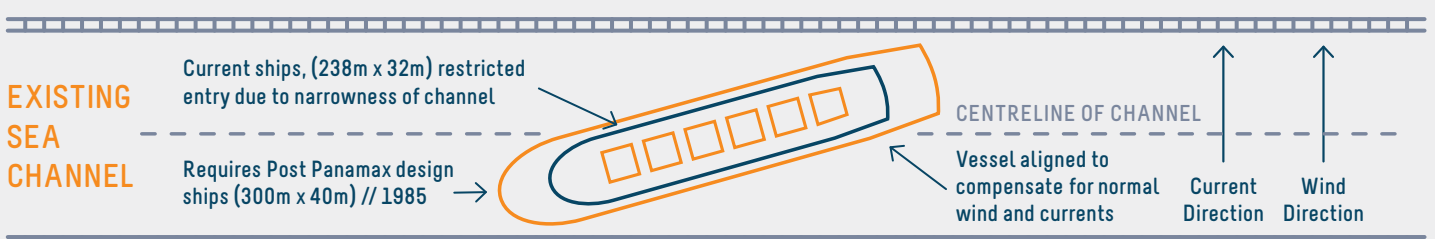
Any cargo destined for North Queensland must then be transported back to our region by road or rail transport – adding significant cost to our everyday goods. Similarly there are significant extra costs for our farmers and mining companies who must transport their products longer distances to reach a larger port.

By widening the channel to give larger ships access, existing berths will be used more, our economy will grow and there will be an increasing demand for more berths. This will allow Townsville to compete as a truly global port, and enable it to attract larger ships carrying more cargo, as well as cruise ships.

Larger ships (especially container ships) create better economies of scale, which will ultimately make it cheaper to import and export goods out of Northern Australia.

## How does widening of the channel allow for larger ships?

When ships sail down the sea channel their course (or direction) can be affected by both the wind speed and ocean current. The channel needs to be much wider than the ship so that there is plenty of room either side to prevent it grounding. By widening the channel from 92 metres at the narrowest point to 180 metres, the size of the ships that can access Townsville will increase from 238 metres to more than 300 metres in length.





### How will the channel be widened?

The channel will be widened by capital dredging, using a combination of industry standard dredging equipment chosen to ensure minimal impact on the environment.

### What is capital dredging?

*Capital dredging* involves the removal of sections of the existing seabed to create new shipping channels or (in Townsville's case) to enlarge an existing channel. Capital dredging is also used to enlarge berth areas and expand swing basins\*. Capital dredging is limited to the five-year Channel Upgrade Project.

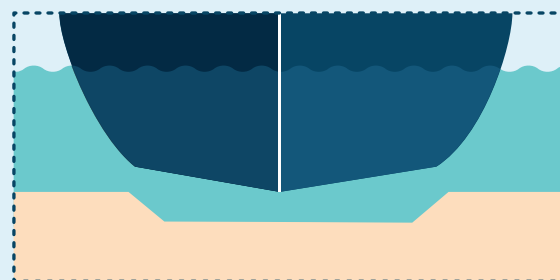
Capital dredging is different to *maintenance dredging* that occurs annually, where sediment that has built-up over a year is removed to allow ships to navigate safely.

For the Port of Townsville, capital dredging will widen the channels from the current width of 92 metres to 180 metres at the Port end, then tapering to 120 metres at the seaward end. The channel depth will not change.

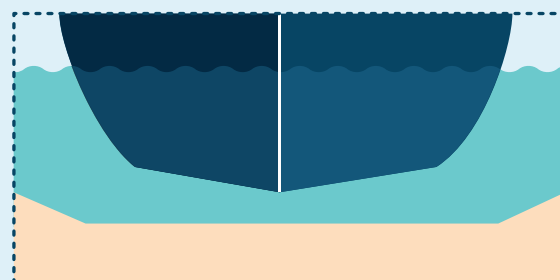
All capital dredge material will be transported to a Reclamation Area at the Port. Maintenance dredge material will continue to be placed at the approved *Dredge Material Placement Area*\*\* in deeper water in Cleveland Bay.

\*swing basin = areas where ships are turned in the sheltered area of the port.

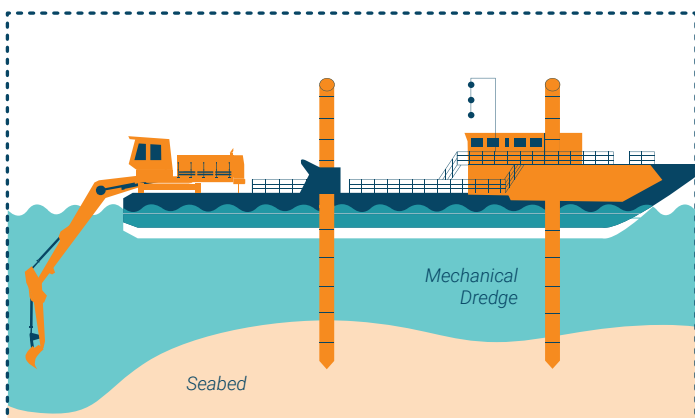
\*\* The Dredge Material Placement Area was chosen in conjunction with GBRMPA, JCU, AIMS and relevant government regulators.



Pre-Capital Dredging



Post-Capital Dredging



### How will the dredging be done?

Most of the capital dredging will be carried out using a mechanical dredge. A mechanical dredge is an excavator (like you would see on a land-based building site) which sits on top of a barge.

The use of an excavator enables solid and compact material to be removed from the seabed and transported by barge to the port reclamation area to the east of the Port.



## Where does the dredged material from the project go?

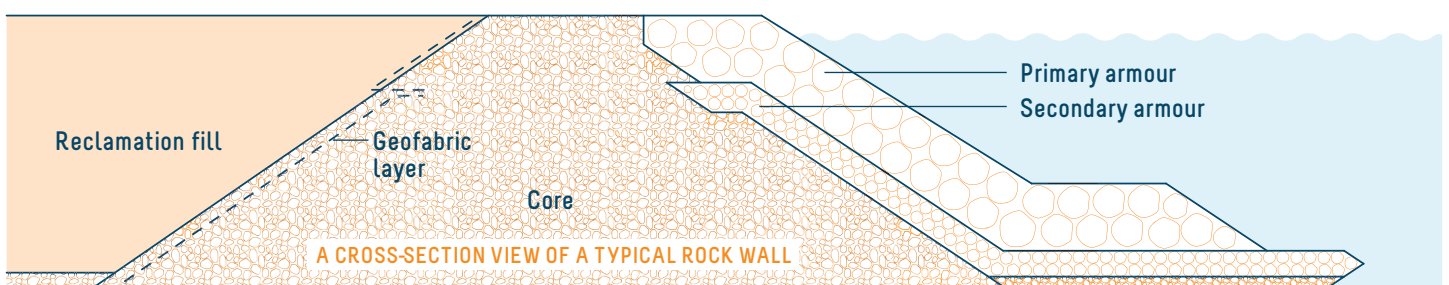
All capital dredge material will be moved to the Port Reclamation Area to create more land for the Port's future developments. This beneficial re-use of the capital dredge material is in accordance with the *Sustainable Ports Development Act 2015* and Australia's UNESCO 2050 commitments. No capital dredging material is disposed of at sea.



## How does the Port Reclamation Area contain the dredged material?

The Port Reclamation Area will be bunded by a rock wall which has been designed by engineers to withstand the impact of wave damage from cyclones or adverse weather events. The design is based on the existing Eastern Reclamation Area rock wall which has successfully weathered Cyclone Yasi and other storm surges.

The rock wall consists of three layers of different sized rocks, including a core, secondary and primary (outer) layer. The rock will be sourced locally. Conditions have been imposed to limit the amount of rock being hauled and the route taken to minimise any impact on local communities and the environment.





## How long will the dredging take in each area of the channel?

The channel widening will take about 4 ½ years in total, following environmental and operation works approvals. This includes one year to prepare the fully enclosed bunded reclamation areas to receive all the capital dredge material, and about 3 ½ years of dredging work.

More than 50% of the work to widen the channel is at the harbour entrance and inner Platypus Channel (close to the Port), and will take about 2 years. 25% of the dredging work will be in the Outer Platypus Channel over approximately 12 months, with the remaining six months of work is in the Sea Channel.



## Who will oversee the capital dredging program for channel widening?

**The Channel Upgrade Project will be carried out in accordance with a stringent Environmental Management Plan which sets out controls and safeguards developed to meet the environmental approval requirements.**

The widening of the channel and harbour works will be governed by permits and approvals from a range of Commonwealth and Queensland Government agencies (the 'Regulators'). The Regulators have set conditions for the project, including monitoring and enforcing compliance with these conditions.

An Independent Technical Advisory Committee will set thresholds to safeguard environmental performance. The Committee will have the ability to stop works if any impacts are observed through the extensive and continuous monitoring programs that will be in place.

The Townsville Port Community Liaison Group will provide ongoing community input into the project.





## Frequently Asked Questions

### What is the difference between the Port Expansion Project and the Townsville Channel Upgrade?

The Port Expansion Project is a long term development of six new berths and channel widening staged to meet forecast trade demand over the next 30 years. The first stage of the Port Expansion Project is the Townsville Channel Upgrade to widen the channels to cater for larger ships.

### Was an Environmental Impact Statement completed?

An Environmental Impact Statement was undertaken to evaluate any environmental impacts of channel widening works, in particular possible impacts from dredging on water quality. Extensive modelling and monitoring has informed the design, staging and method of construction to ensure minimal impacts to the environment.

### What are the shipping channels?

The Sea Channel (also referred to as the entrance channel), is the first section that ships use to access Townsville and is approximately 11 kilometres north-east of the Port.

The Platypus Channel begins approximately 1.8 kilometres from the Port and provides access into the inner harbour (where the ships berth).

### Is any part of the Townsville Channel Upgrade project located in The Great Barrier Reef Marine Park?

No. The Port of Townsville and channel is located outside the Great Barrier Marine Park. All capital dredge material from the channel widening project will be beneficially re-used in the reclamation area. No material will be disposed of at sea.

### What is a berth?

A berth is a designated location in a port or harbour used for mooring (parking) ships when they are not at sea. Berths are the parking bays of the port, and the channel is like the driveway.

### What works will occur during the Townsville Channel Upgrade?

During this stage, the width of the shipping channels will be increased from 92 metres to between 120 metres (at sea end) and 180 metres (at Port end). The shipping channels will be widened by capital dredging, using a combination of industry standard dredging equipment chosen to ensure minimal impact on the environment.

### Why does Cleveland Bay's water look dirty sometimes, is this from dredging?

Cleveland Bay is a large shallow and naturally turbid bay with most of it having a depth of less than 10 metres. Natural turbidity is caused by wind and wave action stirring up the seabed of Cleveland Bay which is called "resuspension". Resuspension occurs all year round in Cleveland Bay, causing the water to look brown and muddy.

Water quality monitoring undertaken in Cleveland Bay shows that turbidity from dredging activities cannot be detected against natural turbidity levels. Monitoring and modelling works from dredging activities show that sediment from dredging dissipates in close proximity to the dredging activity itself.

### What is capital dredging?

*Capital dredging* involves the removal of sections of the existing seabed to create new shipping channels or (in Townsville's case) to enlarge an existing channel to make it safer for vessels to access the Port.

Capital dredging is limited to the five-year Channel Upgrade Project.

### How will the capital dredging be done?

Most of the capital dredging will be carried out using a mechanical dredge. A mechanical dredge is either an excavator (like you would see on a land-based building site) or a crane with a grab bucket which sits on top of a barge. The use of a mechanical dredge enables solid and compact material to be removed from the seabed into a barge. The barge transports the capital dredge material to the Port Reclamation Area to the east of the Port.

Using a mechanical dredge is generally slower and more expensive than other types of dredges, however it produces the least amount of tailwater when placing capital dredge material on land.

### Where does the capital dredge material from the project go?

All of the capital dredge material removed during the Channel Upgrade project is beneficially re-used. It will be moved to a new port reclamation area to create more land for the Port's future developments. This reuse of capital dredge material is in accordance with the *Sustainable Ports Development Act 2015* and Australia's UNESCO Reef 2050 commitments.

No capital dredge material is disposed of at sea – it will all be placed into a fully contained area at the port. Townsville Port is located outside the Great Barrier Reef Marine Park.



## The Business Case

**As one of four Priority Ports under the *Sustainable Ports Development Act 2015*, Port of Townsville is an essential component of the State's transport network, connecting communities, regions and industry.**

The \$193 million Channel Upgrade Project delivers on the first major commitment under the Port City initiative of the Townsville City Deal.

The Business Case Executive Summary outlines the direct and indirect benefits of widening the existing navigational channels with a goal of ensuring growth of trade and maximising the efficiency of existing port infrastructure.

The Channel Upgrade will deliver benefits of more than \$580 million with a Benefit Cost Ratio (BCR) of 2.90. The appraisal demonstrates the benefits across the Queensland freight network through improved travel time, savings in vehicle operating costs, reductions in road accidents, reductions in environmental impacts such as air pollution and greenhouse gas emissions and the residual value of assets.

For more information see [www.townsvilleport.com.au](http://www.townsvilleport.com.au)

## Communication and Engagement

**Port of Townsville has engaged extensively with its community and key stakeholders across the 10 year planning phase of the project.**

Community forums, presentations and information sessions have been held with businesses, schools, community groups, advocacy groups and Government. Our forums have included independent experts for James Cook University, Australian Institute of Marine Science (AIMS), and other consultants used in the planning process. Links to our Community Forum presentations are available at [www.townsvilleport.com.au](http://www.townsvilleport.com.au).

### Ways in which you can stay informed about the project include:

- Subscribe to our quarterly project updates, the Port of Townsville Community e-Newsletter and other email updates via [townsvilleport.com.au](http://townsvilleport.com.au)
- Follow us (Port of Townsville) on social media (Facebook, Instagram, LinkedIn and Twitter)
- Keep a look out for our regular adverts in the Townsville Bulletin and Magnetic Island Community News
- Listen out for our adverts on radio – 4TOFM and HITFM
- Ask a question via the Port of Townsville Community Liaison Group (CLG). The CLG meets on the final Wednesday of every month, you can find more information about the members and their objectives at [townsvilleport.com.au](http://townsvilleport.com.au).
- If you'd like to hear more about the project, contact the team on 1800 531 561.

