



Ensuring long term protection of the Great Barrier Reef

The Queensland Government designated the Northern Silica Project (NSP) as a coordinated project in early 2024. An Environmental Impact Statement (EIS) will be required to be undertaken for the project using an accredited process under both State and Federal legislation. This follows the Federal Government's decision (following referral of the project in mid-2023) that the NSP is a controlled action.

These processes recognise the scale of potential environmental impacts from the project that need to be studied and mitigated, but also the economic and social benefits a project such as the NSP can provide to local and regional communities and its alignment with Government policies such as the Queensland Critical Minerals Strategy.

How does the NSP interface with the Great Barrier Reef?

The primary interface between the NSP and the Great Barrier Reef will be at the Port of Cape Flattery where silica sand from the mine will be exported by ship.

As shown in Figure 1 below, the Port of Cape Flattery and the southern portion of its port limits are excluded from the Federal and State Great Barrier Reef Marine Park but are contained within the Great Barrier Reef World Heritage Area. The EIS for the NSP must describe and address impacts to both areas (World Heritage Area and Marine Park).



The EIS will require assessment of any potential impacts to important marine habitats such as coral reefs and seagrass.

Based on historical and current marine surveys being undertaken by Diatreme, there are no coral reefs on or in close proximity to the existing wharf infrastructure at the Port of Cape Flattery.

The area to the south of the existing wharf where maritime infrastructure is proposed to support the NSP is also not on or near any reefs or coral communities.

The nearshore marine area extending east and south from the wharf is also devoid of seagrass (due to active coastal processes) and has a soft bottom seabed of muddy sand that is typical of the region.

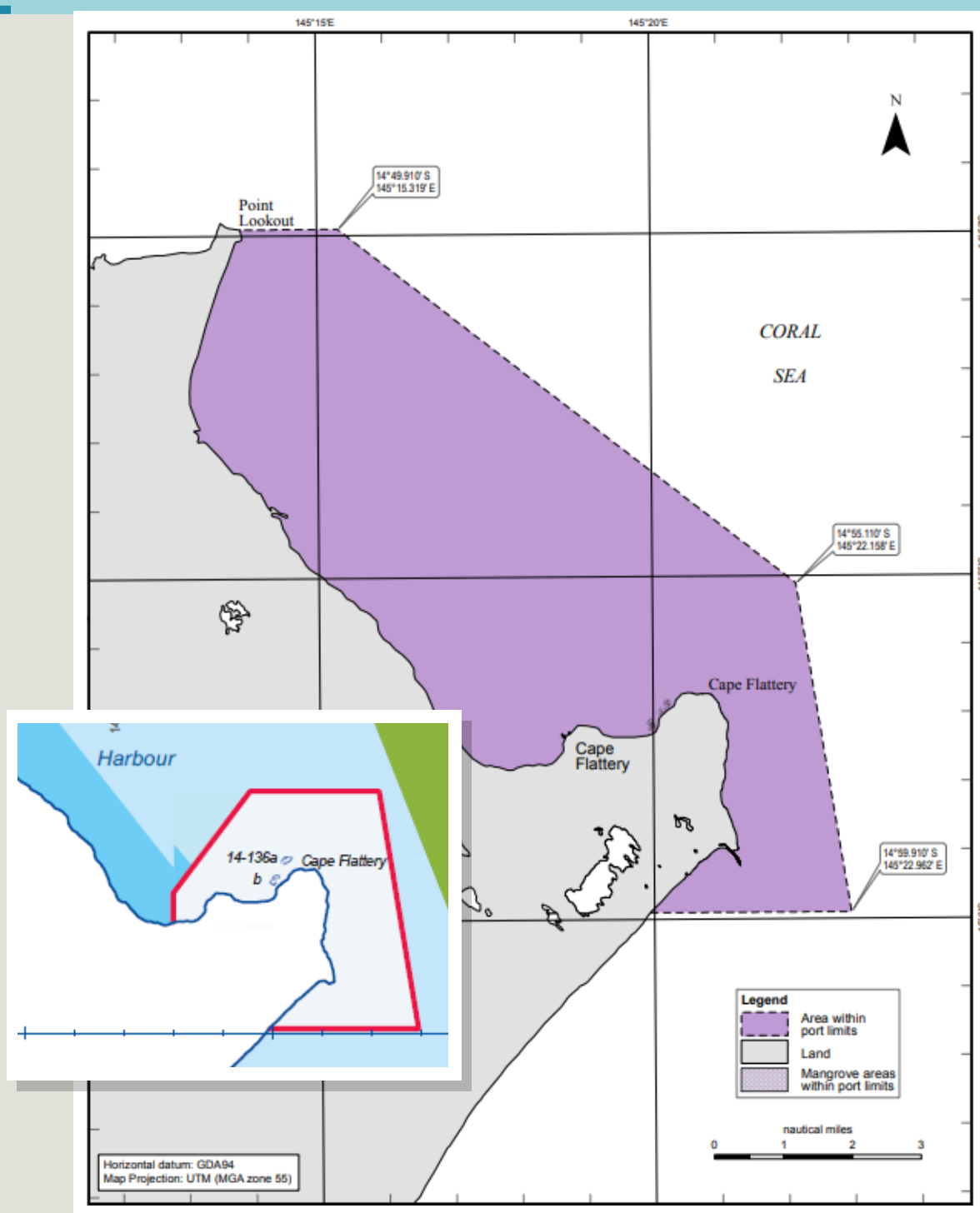


Figure 1 Map showing the Cape Flattery Port Limits and Exclusion Zone



Why is the NSP using the Port of Cape Flattery for export?

The NSP must use the Port of Cape Flattery for its export operations in order to address the requirements in the Reef 2050 Plan, which identifies that no new ports or commercial barge loading facilities are allowed in the World Heritage Area outside of existing gazetted port areas.

What maritime infrastructure at the Port is needed to support the NSP?

It is Diatreme's preference to use the existing maritime facilities and infrastructure in the Port of Cape Flattery to support the NSP and **not construct any new infrastructure in the Great Barrier Reef World Heritage Area for the project.**

Analysis undertaken to date indicates that the existing wharf at the Port has ample capacity to support both existing Cape Flattery Silica Mine (CFSM) export operations and the proposed export operations of the NSP.

This outcome can be achieved through negotiation of a part-user or full-user agreement with the State Government and Ports North to use the existing port infrastructure and reach a suitable agreement with the existing port user, CFSM. Negotiation of these agreements are ongoing and will continue in parallel with the EIS process.

If this outcome cannot be achieved, Diatreme has made provision for and will seek approval as part of the EIS process to build a supply and transshipment jetty and additional berthing structure offshore from the existing Cape Flattery wharf.

The indicative layout for this maritime infrastructure is shown in Figure 2.

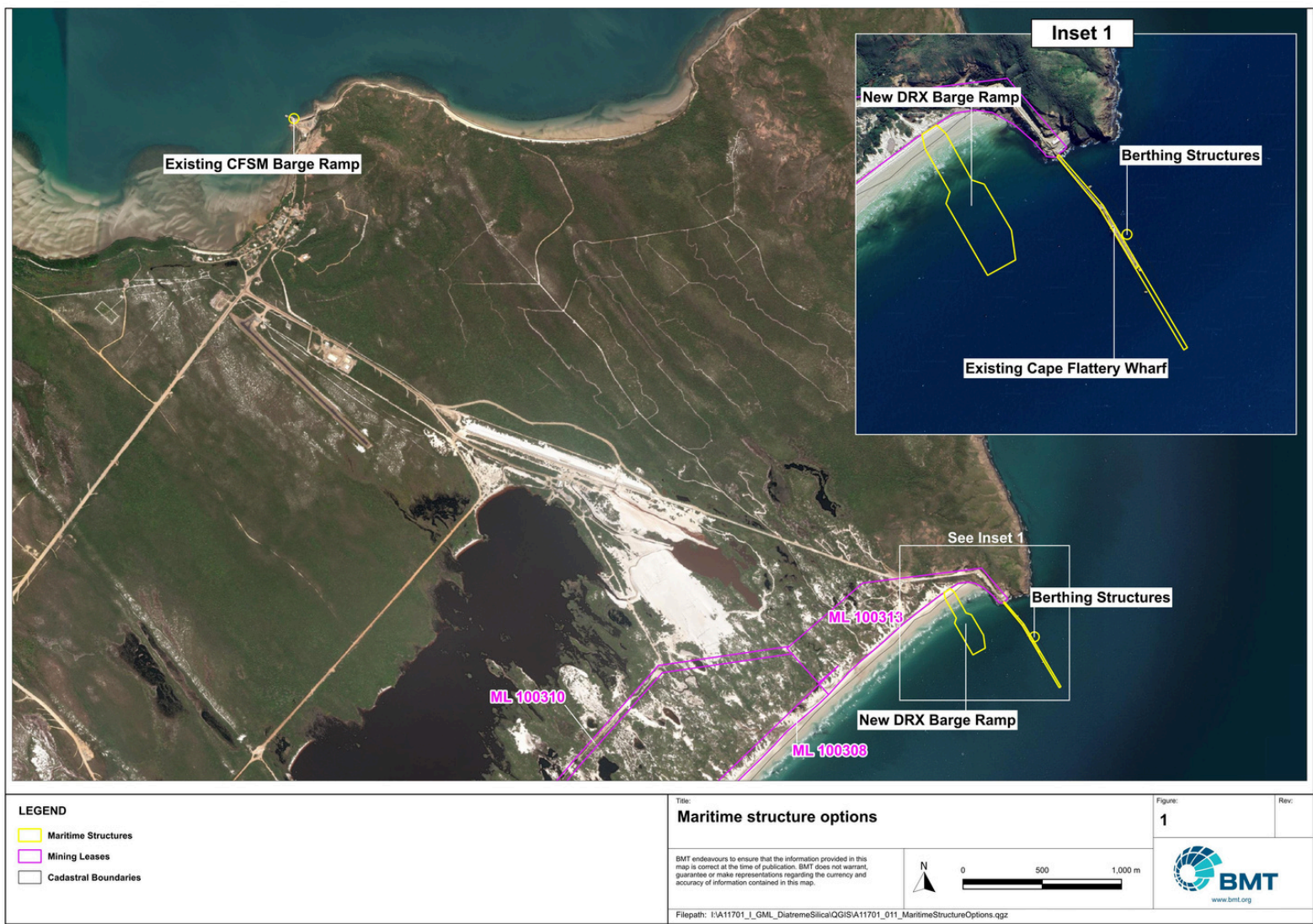


Figure 2 Map showing proposed infrastructure - Source IAS

Will the project involve any dredging?

The NSP will not involve any capital dredging or require any additional maintenance dredging in the future.



How many additional ocean-going ship movements will be involved to support the NSP?

Shipping in the Great Barrier Reef region is highly regulated by both the Federal and State Government in order to protect the unique World Heritage values of the Reef.

Management and actions are outlined in the Commonwealth North East Shipping Management Plan (<https://www.amsa.gov.au/sites/default/files/amsa439-north-east-shipping-management-plan.pdf>) as well as the Queensland Coastal Contingency Action Plan (<https://www.msq.qld.gov.au/Marine-pollution/Contingency-planswhich>) which provides for safe navigation, marine pollution and management of contingency measures.

It is anticipated that ship movements from the NSP will be an additional four to five movements per month (or one per week) during Years 1 and 2 of the mine, increasing to seven to eight (or one to two per week) for the balance of the mine life. This is comparative to the estimated 280-350 per week estimated in the North East Shipping Management Plan, meaning that the project could lead to an increase of up to 3%. These vessels will be required to use existing designated shipping lanes and procedures to access and disembark the port.

Given the extensive management controls already in place, this increase in ship traffic is considered well within the ability of the existing regulatory framework to manage and protect the values of the GBR. This will be further described in the EIS.

What are the expected impacts to marine megafauna?

Although there is an absence of seagrass around the wharf area, turtles, dugongs and cetaceans such as inshore dolphins are expected to occur in the shallow coastal waters of the area. While the transshipment barges (tug-assisted) as well as ocean-going vessels for export are slow moving vessels, specific measures will be put in place to avoid and mitigate risks to marine fauna collisions and/or harm through spotters and exclusion zones. These will be described in a marine environmental management plan in the EIS.





Will the project cause indirect impacts to the water quality of the GBR lagoon?

The mining activity associated with the NSP is set back more than 2 km away from the coast. There are no major creeks or rivers that run through the proposed mining footprint.

There are no chemicals proposed to be used in the silica processing other than biodegradable flocculants. Stringent management plans will be put in place and implemented to control any accidental spills or discharges from machinery.

In terms of groundwater processes, the sand dune aquifer that is present beneath the proposed NSP mine lease is more than 500km² in area and is over 100m thick in places. The unconfined nature of the sand aquifer and the high annual rainfall rates (average of 1,395 mm/yr) mean that aquifer recharge is highly effective in this setting.

While groundwater will be required to be extracted by Diatreme for material processing, the estimated groundwater extraction rate is a very small percentage (~1%) compared with the much larger rainfall recharge to the regional shallow water table.

Initial groundwater modelling shows that the hydraulic pressure head change from proposed water extraction to support the Project will have negligible effect on the down-gradient regional water table. The proposed water extraction is therefore unlikely to impact the rate or volume of groundwater interacting with the waters of the Great Barrier Reef lagoon. Further assessment of the interaction between the groundwater flows and potential discharge to coastal springs is a key assessment required as part of the EIS.

Low iron, high purity silica sand from the mine site is an inert material that is similar to the sand that already exists at the sea floor. Similar sand export operations have occurred at the Port of Cape Flattery for decades. Notwithstanding, a range of measures will be put in place to contain and monitor operations to ensure the silica sand from the NSP is not accidentally released into the marine environment as far as practicable.



Will there be visual impacts on the GBR World Heritage Area?

As the coast from Cape Bedford to Cape Flattery has very high wilderness values, Diatreme has implemented measures as part of the design to try and reduce visual impacts of the proposed mine and infrastructure when observed from the sea. These include setting back the mine from the coast to avoid visual impacts as well as seeking to consolidate any new marine infrastructure in the existing port area.

3D visual renders will be completed as part of the EIS to enable assessment of the potential future visual impacts from the GBR World Heritage Area.

For more information



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or visit Diatreme's Hope Vale office for further information.