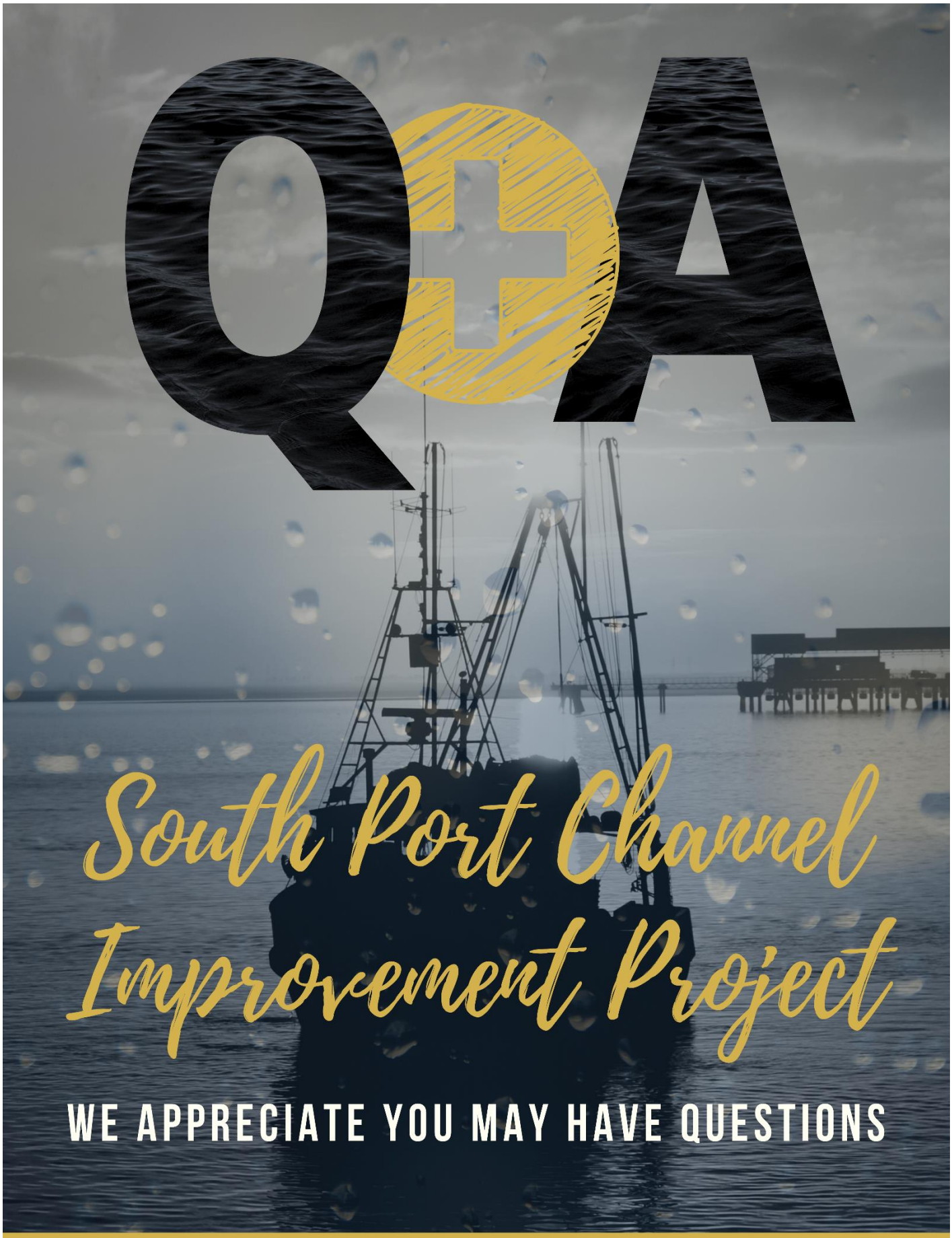

SOUTH PORT NEW ZEALAND LIMITED

South Port NZ

Q1. During the project can I dive on Tiwai Peninsula, Morrisons Beach, Argyle Beach or Stirling Point? Will it be safe? How will I be notified?

You will need to be out of the water when a blast occurs. A number of warnings will be put in place including an audible siren prior to and following the blast, on the appropriate VHF Marine Channel/s, South Port Facebook page, website and potentially on a couple of Variable Message Signs (VMS) strategically placed around Bluff.

Q2. Will the project impact on Oyster Season?

No. The only time we will have restriction in the channel is 30 minutes before and after a blast. Notice of the blast will be posted on the South Port Facebook page, website, on the appropriate VHF Marine Channels and potentially on a couple of electronic Variable Message Signs (VMS) strategically placed around Bluff.

Blast timing will be well coordinated to try and gain some consistency so the community and other users can plan their activities around the project.

Q3. What restrictions will be in place during the project i.e. will I be able to navigate the channel at any time?

Yes. You will be able to navigate through the channel at any time during drilling and dredging. The drilling and dredging is a stationary operation and the plant has no anchor cables/nothing protruding under the water. You will be required to keep a safe distance away.

During the blasting operation we will have a restriction in the channel 30 minutes before and after a blast. All other times you will be able to pass freely through the channel.

Key information will be provided via the appropriate VHF Marine Channel/s, South Port Facebook page, website and potentially a couple of Variable Message Signs (VMS) strategically placed around Bluff.

There will be daily updates/contact between South Port and the Contractor to ensure up-to-date information provided to stakeholders.

Q4. I have a commercial fishing vessel; will the project impact my business?

No. The only time we will have restriction in the channel is 30 minutes before and after a blast. Notice of the blast will be posted on the South Port Facebook page, website, on the appropriate VHF Marine Channels and on a couple of electronic Variable Message Signs (VMS) strategically placed around Bluff.

Blast timing will be well coordinated to try and gain some consistency so the community and other users can plan their activities around the project.

Q5. I have a recreational vessel. Will I be able to access Foveaux Strait via the entrance channel during the project?

Yes. The only time we will have restriction in the channel is 30 minutes before and after a blast. Notice of the blast will be posted on the South Port Facebook page, website, on the appropriate VHF Marine Channels and potentially on a couple of electronic Variable Message Signs (VMS) strategically placed around Bluff.

Blast timing will be well coordinated to try and gain some consistency so the community and other users can plan their activities around the project.

Q6. If disposed to sea, will the rock disposal site be a hazard to navigation?

No. All deposited rock will be below 12 metres at low tide. A low-lying rocky reef will be created from the deposition and may encourage more diverse marine life to this area.

Q7. How much will the project cost?

From the information that is currently available the project cost is estimated to be in the range of $10 to $15 million.

Q8. When will the project start and how long will it take?

We expect to start the project around March 2022 and be complete by October the same year. This is subject to change, but this is our target at this stage. The last campaign in the 1980's lasted 18 months but technological advances provide a much shorter timeframe.

Q9. What will you do with the rock if it is disposed to land?

We propose to use it as rock armour around the Island Harbour or foreshore road i.e. upgrade existing rock walls.

Alternatively, we can crush it to produce pavement materials which can be recycled into our Port roadways.

Q10. What stage of the project are you at now?

Undertaking engineering and environmental investigations and reporting, (preparing the resource consent application). We propose to complete consultation in November 2020 and lodge the consent in December.

Q11. What machinery should I expect in the Harbour during the project?

This is not yet finalised but is likely to consist of the following;

- Trailer Suction Dredge for silt and sand dredging
- Backhoe dredge, drilling and blasting equipment
- Tug
- Hopper barge to dispose of dredged material
- One or two smaller support vessels

Refer to accompanying images for further information.

Q12 Who will be completing the project?

This is not yet decided. The contractor procurement process is likely to occur during 2021.

Q13 What volume of material are you dredging?

120,000 m^3 of silt and sands from the swinging basin and berth pockets.
40,000 $m^3$from the entrance channel – likely to be rock.

Q14 Briefly explain the process of drilling, blasting and dredging to me?

HOW:

1. Fracturing of rock by controlled underwater blasting so it can be removed mechanically
2. Removal of blasted rock by mechanical dredging (backhoe)
3. Dispose of dredged material at approved disposal areas

ROCK REMOVAL PROCEDURES

1. Develop blasting programme
2. Identify areas requiring blasting and design drill pattern and loading parameters
3. Drill blast holes with drill mast on excavator on barge - holes to be drilled down below required clearance depth to ensure removal of all rock – typically 2.5m deep
4. Load the explosives within blast hole (electronic detonators, boosters and emulsion)
5. The use of electronic detonating delays and placing the charges in drilled holes is the best way of mitigating the effects of underwater blasts.
6. Complete blast checks, clear exclusion zone and conduct blasting operations and confirm blast all clear.

After blasting, rock is removed using mechanical dredging (backhoe) and placed at approved disposal areas.

Q15. How will communication be handled during the dredging campaign? We will need to know when we are being affected either by noise, vibration or navigation.

Key information will be provided via the appropriate VHF Marine Channel/s, South Port Facebook page, website and potentially a couple of electronic Variable Message Signs (VMS) strategically placed around Bluff.

Daily updates/contact between South Port and the Contractor to ensure up-to-date information provided to stakeholders.

Q16. Will my house be damaged?

No. However, you may feel small vibrations but nothing that will cause damage to your home.

To ensure this, a process to assess the blast noise and vibration will occur at the commencement of the project. This starts with a single charge fired to assess the vibration attenuation. Blasts are then designed to the vibration limitations for the project as detailed below. Small test blasts will then be completed to ensure the assumptions are correct. This then starts to feed into a design and response feedback loop and blasts increased in scale to full production.

Vibration Limits
Seismographs will be placed at various locations around the Bluff township to measure the vibrations to ensure we do not go over the expected levels as detailed in the DIN4150 standard. i.e. 5mm/s for residential and 20mm/s for commercial buildings. Damage thresholds from blasting are significantly higher than the compliance limits noted above.

Q17. Will my house vibrate/shake?

You may feel small vibrations but nothing which will cause damage to your home.

To ensure this a process to assess the blast noise and vibration will occur at the commencement of the project. This starts with a single charge fired to assess the vibration attenuation. Blasts are then designed to the vibration limitations for the project as detailed below. Small test blasts will then be completed to ensure the assumptions are correct. This then starts to feed into a design and response feedback loop and blasts increased in scale to full production.

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Q18. Will work continue through the night? If so, will it keep me awake?

Yes, we expect to drill and possibly dredge through the night, but we will be required to maintain noise levels withing the permitted NZ Standards for construction. No blasting will occur outside the hours of 8am and 6pm on any given day.

Q19. What are the hours of operation?

It is proposed that work will be undertaken 24 hours a day. Drilling and dredging work to continue through the night and blasting during the day only. No blasting will occur on Sundays.

We will be required to maintain noise levels withing the permitted NZ Standards for construction.

Q20. Will you be blasting every day?

No. It is difficult to define exactly the days this activity will occur, but we will communicate as required. There will be times that we will focus on dredging the fractured rock and disposing it at the nominated disposal sites.

Q21. What time of day will you blast?

Anytime between 8am and 6pm, Monday to Saturday. However, we will endeavour to coordinate the blast timing to be similar times every day so that the community and other users can plan their activities around the project.

Drilling and dredging operations will be conducted seven days per week.

Q22. How will you protect the marine animals like dolphins, sharks, whales and seals that visit the harbour from time to time?

An exclusion zone around the work site is required to protect marine animals during the blasting phase. A monitoring programme will be in place to ensure these are not present within the exclusion zone at the time of a blast.

Potentially something like visual observations using high powered binoculars from Bluff Hill and/or stations around the Harbour is probably the most practical. It may also be possible to utilise Drone technology.

Blasting will not occur if these animals are spotted within the exclusion zone.

The project timing proposed is during the winter months where marine animals are less frequent in Bluff.

Q23. Will dredge material harm life on the seabed at disposal sites?

No. The rock disposal site has been investigated and chosen based on the benthic habitat having very little infauna (species that live IN sediment) and epifauna (species that live ON sediment). This is largely due to the seafloor being covered in dead shell hash which is moved around by the swell action making it difficult for marine life to live in the area. Sediment and infaunal samples were taken to investigate this area and video dive transects helped assess the habitats present.

The sediment disposal site has infauna which is common to subtidal sandy shores but very little epifauna. The infauna will survive additional sediment being deposited at this site as it is a naturally highly disturbed area, meaning sediment is readily picked up and moved by the swell. This site is surveyed every 5 years to assess dredge spoil deposition effects and no change has been observed at this site to date.

Q24. If you dispose rock to sea, will it be a positive addition to the seabed i.e. create new habitat by introducing a rocky reef?

Yes. That is the intention. We hope to enhance the marine habitat at this site by creating a low-lying rocky reef from the rock deposition. This should encourage a greater diversity of marine life to this area, including fish nurseries. Rock fragments will be of a size to ensure they are not mobilised by the wave action in this area and will create a stable habitat.

Q25. What will happen smaller mobile species such as Octopus, crayfish and fish?

When the rock is fractured the sessile (attached) species will be removed from this area and mobile species such as fish and octopus will lose feeding grounds and habitat.

However, with the exception of the loss of the marine species attached to the blasted rocks, any species and habitat loss will be temporary. Native species will recolonise the rock fragments that remain from surrounding rocky habitats and over time the habitat will regenerate as is evident since the last blasting regime.

The proportion of the rock habitat to be removed is a small section of the existing bedrock within the wider non-shipping sections of the channel and is within an area that has been disturbed and modified previously.

A radius for fish to be at least 40 metres from the blasting has been identified and methods will be employed to ensure these species are outside of this area prior to blasting occurring.

Q26. Will the contractors' equipment have 'clean hull' when entering Bluff? i.e. how will our biosecurity be protected?

Yes, the contractor will be required to supply a Biofouling Report prior to arriving at Bluff. The Biofouling Report will need to state the contractors' vessels do not have foreign organisms present. The contractor will have a Biosecurity Management Plan that is approved by MPI.

Q27. Will dredged material be carried back into the harbour by the tide/currents

Bluff Harbour naturally has a high rate of sediment movement due to the strong tidal currents generated within the narrow harbour entrance. Soft sediment areas within the channel entrance naturally scour and are deposited within the inner harbour. Heavy rainfall and land-based run-off then remobilise these sediments and carry them back out to the harbour entrance and Foveaux Strait.

The majority of the soft sediment to be dredged will be natural medium-sized sand which may be redistributed back into the harbour on certain tides. This will not cause any adverse effects to the inner harbour as it is also a naturally occurring process. Some areas to be dredged contain finer silts and these locations will only be dredged on outgoing tides to ensure any fine silts do not end up in the inner harbour. Mapping of the speed and direction of the current show that finer sediments will be carried out beyond the mātaitai into Foveaux Strait where they will then be distributed to the east by the strong west to east prevalent current.

During sediment deposition at the disposal site sediment will be predominantly moved to the east due to the swell and easterly longshore drift noted at this site. Sediment from this site will not re-enter the harbour.

The rock disposal area will contain rocks of a size which will not mobilise and no dredged rock material is expected to be carried into the inner harbour after blasting.

Q28. Who else are you consulting with? Will we get to have our say?

Te Ao Marama, Department of Conservation, Forest and Bird, Bluff Community Board, Bluff Yacht Club, Greenpoint Yacht Club and Awarua Rowing Club.

During this public forum you are encouraged to ask questions and provide feedback to the project team.

If the consent is publicly notified by the consent authority, then yes, the public will be able to be part of the process.

Q29. Why are we doing this work?

South Port continually looks for ways to improve the safety, efficiency and effectiveness of our operation to meet out Company Purpose "to facilitate the best logistic solutions for the region" and for the benefit of our communities. This project under consideration meets these principles.

By removing the high spots from the entrance channel, we improve the safety of vessels transiting to and from the Port in what is one of the most demanding pilotage areas in New Zealand.

This activity will also provide the capacity for vessels to load more cargo in port, creating efficiencies for exporters/importers and securing cargo through South Port for the future.

The drilling and fracturing of rock are only a small part of the overall port development project.

Removal of 120,000m^3 of silt/sand material will be completed using a trailer suction dredge or backhoe dredge.

The remaining 40,000m^3 of material is expected to be rock isolated to the entrance channel. To remove this, we need to fracture the rock by controlled underwater blasting.