POINT WILSON
WATERSIDE INFRASTRUCTURE REMEDIATION

Gannet Relocation - Supplementary Information

Image: Final section of Wharf for demolition in foreground with Mooring Dolphin in background. Taken by drone on 8th Dec 2021

February 2022

A MEMBER OF THE CIMIC GROUP

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The site is located at the Point Wilson Commonwealth Explosives Area in Victoria and occupies approx 326ha. CPB Contractors have been contracted to remediate the jetty and wharf with the first shipment of Explosive Ordnance (EO) due to arrive at the site in February 2023.

The remaining section of Wharf is scheduled for demolition in late February 2022 so that construction of the new wharf can be completed, however the remaining small section is currently inhabited by a number of Australasian Gannet juveniles and nesting chicks. These birds vary in age with some individuals likely to only a few weeks old as of 10th Feb 2022 (time of annual Gannet survey).

The mooring dolphin structure is a dedicated structure which has been retained by the project for habitat purposes, is approximately 50 metres away from the wharf section and supports a healthy colony of more mature birds nearing fledging age (these birds are thought to be at least 85 days old based on Ecologist assessment at time of the annual Gannet survey).

The proposal is to relocate the nestlings (chicks and juveniles) from the remaining wharf section, onto the mooring dolphin prior to demolition works commencing. Once the mooring dolphin birds begin to fledge there will be adequate space available for relocating the younger birds from the wharf. It is preferable to move the birds locally to minimise stress and therefore maximize chance of success for the relocation. Moving the birds is a preferred approach with Euthanasia is noted in the application as a last resort. This is in the possible event of stress-based illness or injury to the birds, however every effort will be made to successfully relocate the young birds without needing to resort to euthanasia of any young.

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BACKGROUND

The remaining small section of Wharf due for demolition has approximately;

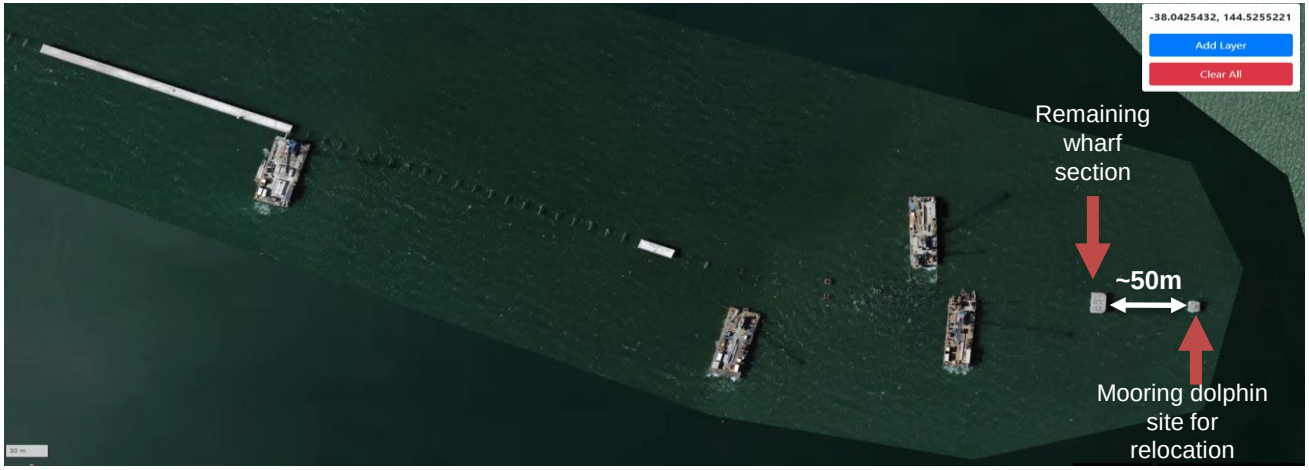
- 45 nestlings approx 1 month old at time of survey; and
- 25 juvenile birds approx 2 months old at time of survey.
- The absolute upper limit of birds requiring relocation as part of this application is 100 (this upper number is in the case there were any chicks not visible during the annual Gannet count conducted by Cardno Ecologist on 10th Feb 2022.)
- There are ~15 nestlings (approximate age 3 months old), getting ready to fledge from the Mooring dolphin and a number of adult birds present at the time of Gannet count.

The Dolphin Mooring is a permanent structure retained by Defence for marine bird habitat and the proposed site to relocation of the birds.

As you can see in the image below the mooring dolphin is nearby (approx. 50m) to the current nesting site. This increases likelihood that the mother bird will be able to see and follow the nestlings, and continue caring for the chicks through to fledging once relocation is underway.

The Ecologist has undertaken an assessment and determined there will be adequate space on the mooring dolphin to safely accommodate the relocated birds, and considering the birds currently on the mooring dolphin are more mature (nearing fledging age), there will be additional space coming available soon.

The equipment and methodology for relocation is detailed in next slides.



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Section 4 of the Supplementary Form: Description of the Action

A: Objectives and Purpose of the Action

A number of alternatives have been adopted by the project since 2020 to manage and control the Marine Listed Gannets through deterrent installation works. These included netting, eagle eyes and removal of guano and nesting material to discourage nesting on the work area. All control measures have since been deemed ineffective at deterring the birds from nesting and laying eggs on the wharf prior to demolition works commencing. Therefore the above control measures were not carried into the 2022 nesting season.

Alternative measures were adopted by the project, these included daily sweeps of nesting material, however at times the wharf was inaccessible due to inclement weather and unsafe conditions. Therefore, due to the inconsistent deterrent measures the Gannets successfully nested on the wharf during the 2021/22 season. The project re-sequenced works at the end of 2021 to delay demolition on the final section of the wharf, which allowed the Gannets time to breed and fledge.

A later than usual breeding season has resulted in nestling birds still being present in February 2022. This will result in cost and time delays. Specifically impacted are 3 barges and crews, the marine contractor BMC are unable to progress works along the critical path until the final section of the wharf is demolished.

Information supplied by Cardno shows Gannets take between approximately 90-109 days to fledge. Therefore, in the case of the youngest birds, this could possibly result in a 3 month delay to project schedule, at an estimated cost of approximately $8 million. Completion of the project will be significantly delayed and will not meet the expected EO shipment date for Department of Defence.

The remaining section of wharf is due for demolition 28th February 2022. CPB has proposed relocation of the nestlings who can not fly, onto the nearby mooring dolphin structure prior to the mentioned date so construction works can continue without harm to the birds and without delay to the project. A carefully considered relocation methodology has been sought in consultation with Cardno Ecologists, detailed in following slides.

There are no notable documented studies or evidence on relocating marine birds. The Cardno Ecology team have developed a plan to best accommodate the Gannets. However, it is recognised that there needs to be flexibility in the relocation approach once in the field to adapt to conditions and behaviours of the birds and environment.

A risk assessment has been developed, in conjunction with Cardno, to outline potential scenarios and mitigation measures to minimise harm to the birds and work crew during the relocation activities and give the Gannets the best chance of success.

Note the Australasian Gannets are Marine listed under the EPBC Act, they do not have a current conservation status and are noted of ‘least concern’ on the IUCN Red List.

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Section 4 of the Supplementary Form: Description of the Action
B: The Equipment and Methods Used

The methodology explained below is consistent with the *Australian Wildlife Conservancy Guidelines, Animal trapping, Handling, Sampling and Photographing Guidelines (AWC 2013).* The team conducting the relocation activities will follow this methodology, whilst acknowledging that the relocation of wild marine birds may present some unique challenges to both people and the birds. Every effort will be followed to ensure adherence to the guideline method detailed below.

Equipment:

Breathable cloth bags, Baby pen or containment measure, Towels, Pulley system with box/container, PPE, Gloves, Eye protection, etc
Water and suitable drinking dish, Assorted tools i.e. small shovel, Chisel, Broom, Scissors or cutting aid for collecting existing nesting material, Handheld net, Pen and paper for recording any observations, Box & tape or method to secure box in the case of removal to vet clinic. Tagging materials, Camera, First Aid Kit, vessel

Methodology:

Assessment and collection of each nestling:

Safe access to the wharf will be via vessel with safety steps/handrails - there are currently 4 vessel options available for this task (detailed in following slides). The barge will only be used as a last resort – preference is to use the smaller vessels and minimise disruption to the birds.
One of the team members will access the wharf via the chosen vessel with the appropriate equipment.
A visual assessment of the health of the chick will be made on the day by the Ecologist. Only healthy chicks will be relocated.
A towel will be thrown over the nestling to firstly calm the individual. A suitably qualified person will then carefully lift the individual by not holding the bird too tightly or too loosely.
The individual will be placed into a breathable bag and held for no longer than 30 minutes (preferably less).
Only one nestling will be placed in each bag.
The bags will be soft and made from a breathable material such as cotton. They will be opaque, with no edges protruding into the bag, which might tangle and injure the enclosed bird. The drawstring material will be soft, smooth and easy to un-knot.
A small section of the existing nest will be removed if possible and placed in the bag with the bird for relocation to the new nesting site.
Two people will be working together to collect the nestlings, one person will handle the individuals whilst the other person monitors the bagged individual for any signs of heat-stress, apathy, shock etc.
The bag will be lowered onto the vessel from the wharf using a rope and cage type setup. Preference is not to handle the birds while walking down steps for safety reasons .
The bag will be placed onto a padded mat, enclosed by a pen, cage or similar, facing out of the sun, in an area where the bird is not likely to get heat-stress, or fall from a height.
Birds will be monitored and any birds showing signs of stress will be removed from the bag and prioritized to be released carefully onto new safe nesting area (mooring dolphin). Water will be available to offer stressed birds, but under no circumstances will the bird be forced to drink, noting forcing a bird to drink may put water into the bird's lungs.
Consultation with Cardno determined a maximum of 6 birds will be handled and relocated at one time in order to minimise stress to the birds and ensure adequate monitoring/supervision of the chicks. This work will therefore need to occur over several days. It will be evaluated on the day how many birds can be safely transitioned at once and the number reduced if required on advice of the Ecologist.

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Gannet Relocation – Supplementary Information

Section 4 of the Supplementary Form: Description of the Action
B: The Equipment and Methods Used

Methodology Cont'd:

Moving the birds between locations
Once the chosen vessel is ready to depart the wharf and head to the site for location (mooring dolphin), it will be checked that the birds are secure and not able to be injured during the short transit.

Releasing the nestling at the new site
Once at the new location 1 team member will access the dolphin via steps while 1 person monitors and handles the birds on the vessel.
When the new nest has been inspected for suitability, and the nestling is ready to be released, the individual will be carefully placed into an already secured nest on the dolphin mooring by slowly opening the bag and lightly encouraging the nestling to walk out.
Noting the nests are existing and are already firmly stuck to the wharf which avoids nestlings rolling around in rough weather.
Parts of the individual's old nest will be placed in his/her new nest prior to the release to make the individual and the parents feel as comfortable as possible (i.e., try to overpower previous nestlings smell).
Disturbance will be kept to an absolute minimum to minimise bird flight (i.e., the parents or surrounding birds) as bird flight is energetically expensive and may compromise survival or breeding success.
Should any chicks fall into the water they will be retrieved using a small vessel and a net and assessed for veterinary attention or relocation back onto the nest.
Safe access to the mooring dolphin will be arranged for personnel undertaking the task in consultation with the construction manager and site supervisor. Moving around on the dolphin should be limited to minimise stress to any other birds present and limit any OHS concerns.

Monitoring
The nestlings will be monitored at all times during the relocation and over the following 3 days to ensure parents are tending it and there are no signs of stress, illness or injury.
If nestling appears abandoned or is showing signs of illness or injury the individual will be taken to Werribee or Melbourne Zoo vet at the earliest opportunity. The vet will be on call during this period to provide advice. The colony will be checked and documented by the Ecologist weekly, and monthly checks thereafter to assess the health of the colony. Ongoing checks by the Environmental Advisor and Construction manager will also be undertaken after the initial 3 day period. Should any birds be showing signs off stress the vet will be called for further advice. As a last resort euthanasia will be considered as the final option to minimise any suffering of any unwell or injured chicks.

Tagging
The nestlings will be tagged if possible so the colony numbers can be monitored to determine how many birds have been successfully relocated.

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Wharf (Remaining section)

~ 45 chicks (around 1 month old)
~ 25 juvenile birds (around 2 months old)

Maximum 100 birds to be relocated to Dolphin Mooring (this number accounts for any chicks that were not visible during the Annual Gannet count undertaken on 10th February 2022)

Mooring Dolphin

Mooring dolphin remains as a dedicated habitat, not to be deconstructed. No vessel mooring occurs at this site, it is only suitable and has been retained for purposes of marine bird habitat.

Currently (at time of survey) ~ 15 nestlings approx. 3 months old

Plan to relocate all chicks and juveniles who can not yet fly from remaining wharf section to the Dolphin Mooring into existing nests. Monitoring programto occur to ensure success and minimal suffering to any birds who

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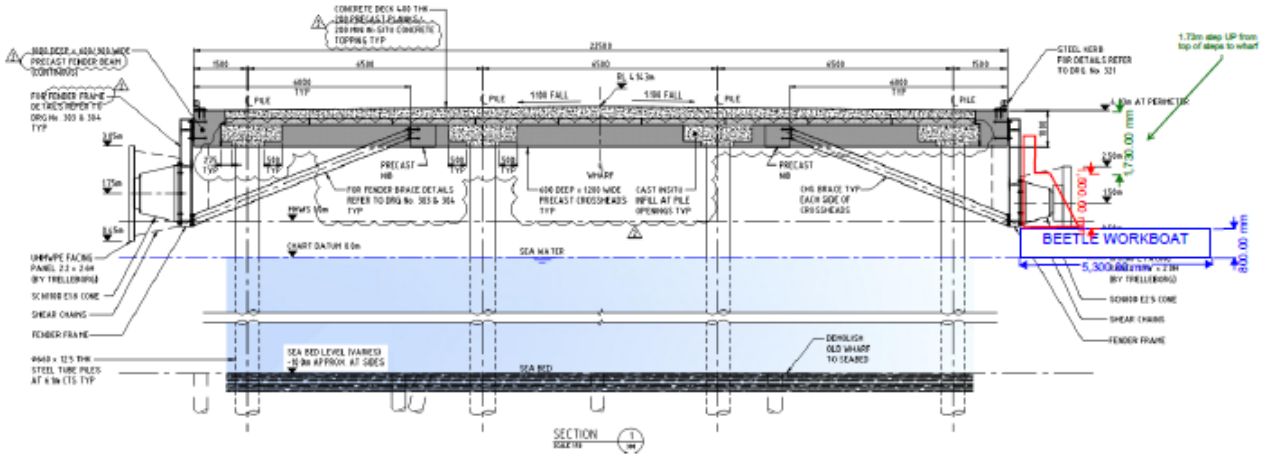
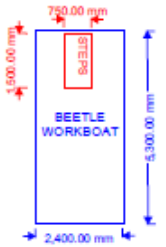
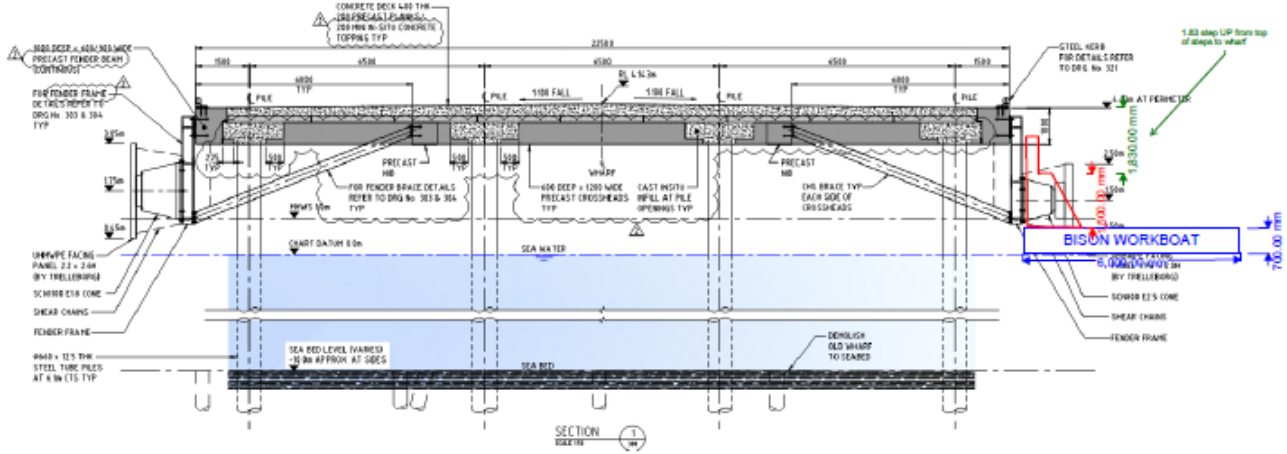
Wharf access options

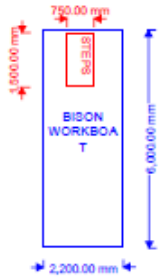
OPTION 1; BEETLE WORKBOAT





OPTION 2; BISON WORKBOAT





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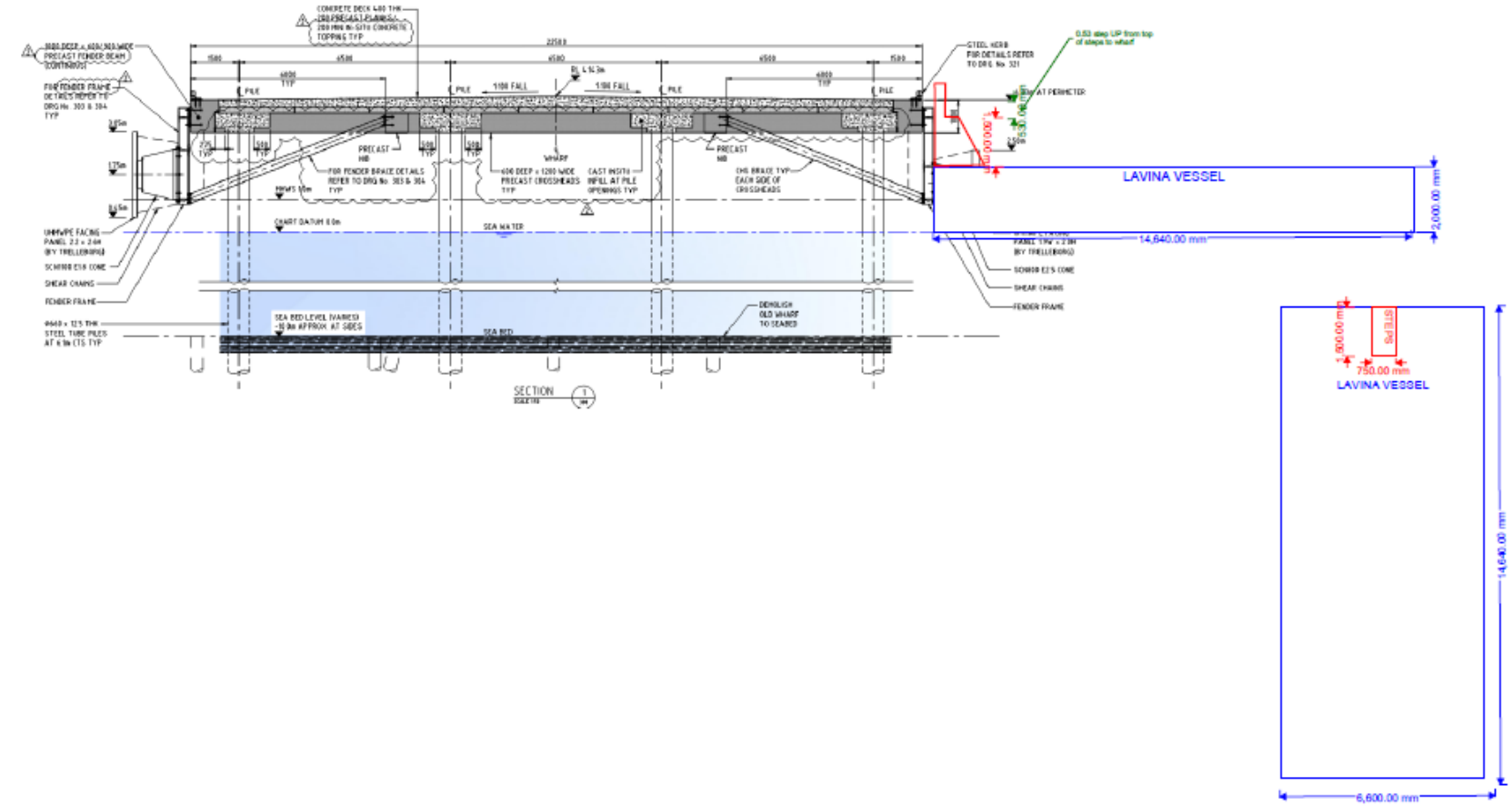
Wharf Access options

OPTION 3; LAVINA VESSEL



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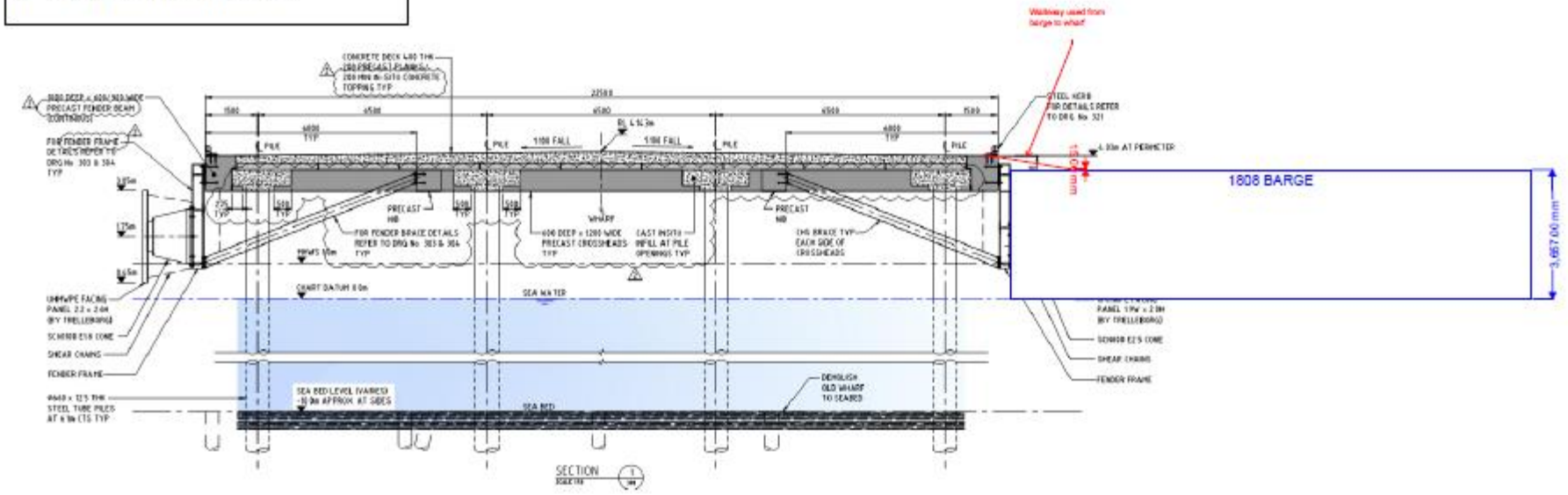
Wharf Access Options

OPTION 4; 1808 BARGE



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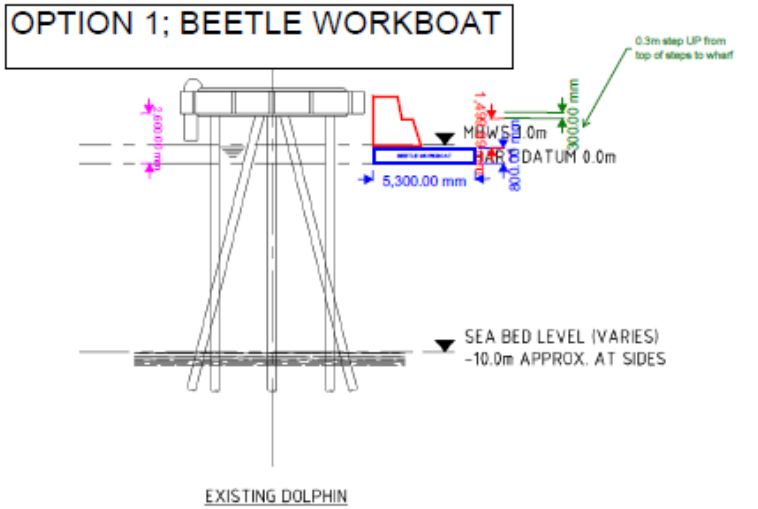
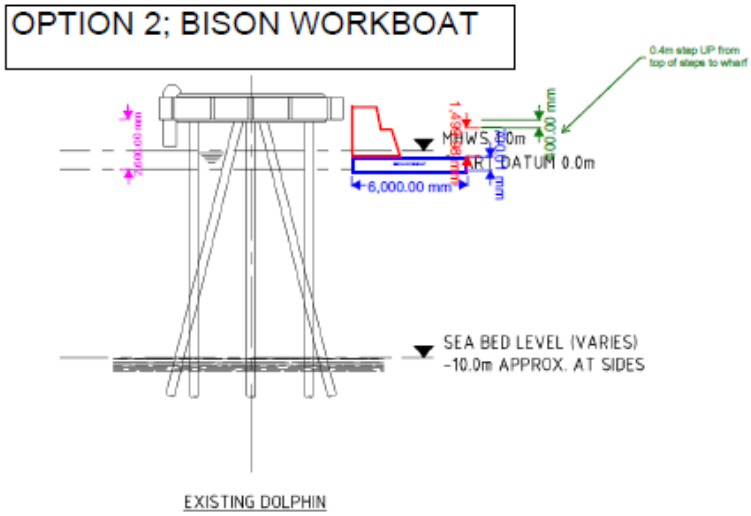
Mooring Dolphin Access Options





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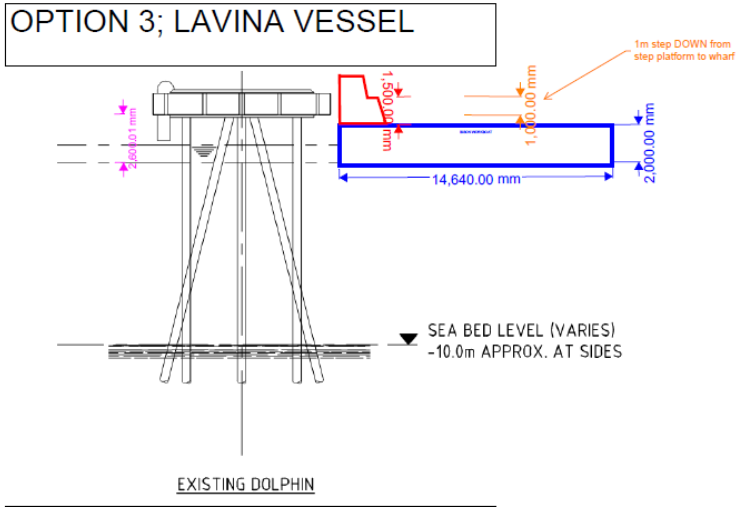
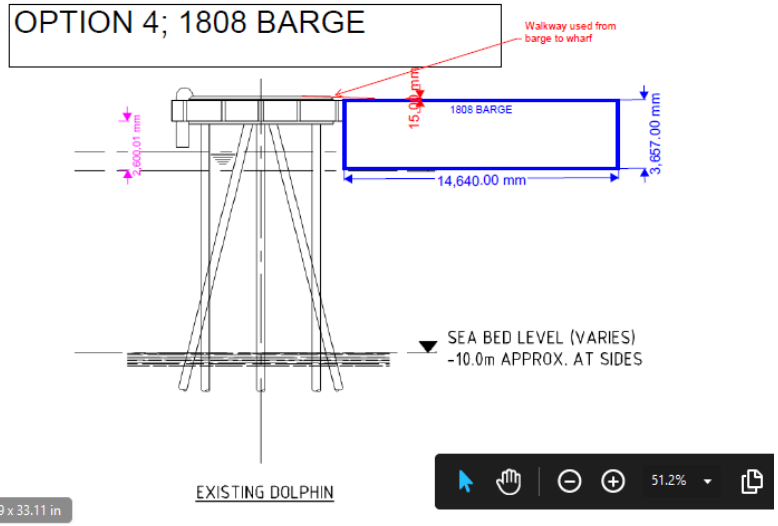
Mooring Dolphin Access Options





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Risk Assessment: Proposed Gannet Relocation at Point Wilson

Activity	Outcome	Likelihood unmitigated	Consequence unmitigated	Risk	Mitigation Measures	Likelihood residual	Consequence residual	Residual Risk
Gaining access to the isolated section of wharf	Man overboard	Possible (3)	Major (4)	Very High	Safe working procedures Suitable vessel Safe ladder access 3 points of contact at all times when using ladder PFDs Working during suitable weather conditions	Unlikely (2)	Moderate (3)	High
	Working on water – slips trips and bumps on the boat.	Possible (3)	Minor (2)	Moderate	Awareness, communication from captain, induction to vessel, good housekeeping and working planning on board. Weather event selected to minimise rough weather	Unlikely (2)	Minor (2)	Low
Approaching the birds	Approaching wild birds - Bird attack	Likely (4)	Major (4)	Very High	PPE - gloves Awareness – approach with caution Limit number of people undertaking the task to minimise stress to birds	Likely (2)	Moderate (3)	High
Bagging the birds for relocation	Death	Unlikely (2)	Substantial (5)	Very High	Handling methodology, single person to handle bird, secondary person to monitoring bird stress levels, any stressed birds to be removed from bag and prioritised per plan.	Rare (1)	Substantial (5)	High
	Bird Stress	Likely (4)	Major (4)	Very High	Handling methodology, single person to handle bird, secondary person to monitoring bird stress levels, any stressed birds to be removed from bag and prioritised per plan. Working with a limited number of birds at a time	Possible (3)	Major (4)	Very high
	Spreading disease between colonies and individuals	Unlikely (2)	Major (4)	High	Hygiene measures as per plan Single use bags Sanitary equipment	Rare (1)	Moderate (3)	Moderate
Transporting the birds	Handler falling during handling of bird/equipment whilst using ladders	Possible (3)	Substantial (5)	Very High	3 points of contact or pulley system with birds in a safe container lowered onto deck of boat for transport	Unlikely (2)	Moderate (3)	High
	Death – crushing by falling onto bird	Possible (3)	Substantial (5)	Very High	Calm weather period where less likely to be unstable on the boat deck Working slowly, with a limited number of birds at a time	Rare (1)	Major (4)	High
Accessing the mooring dolphin to release birds	Safe access to dolphin – persons falling into water	Possible (3)	Major (4)	Very High	PPE, Safe access method onto the dolphin (stable boardwalk) Safe work method statement Weather plan	Unlikely (2)	Major (4)	High
	Safe access to dolphin – slips, trips, uneven surfaces	Possible (3)	Minor (2)	Moderate	Safe access method onto the dolphin Safe work method statement Weather plan	Unlikely (2)	Minor (2)	Low
Relocated Birds	Abandonment	Possible (3)	Substantial (5)	Very High	Working with a limited number of birds at a time Monitoring & Vet on standby (euthanasia is a last resort option)	Unlikely (2)	Major (4)	High
	Death (as a result of fighting, stress)	Possible (3)	Substantial (5)	Very High	Working with a limited number of birds at a time Monitoring & Vet on standby (euthanasia is a last resort option)	Unlikely (2)	Major (4)	High
	Chicks falling off to structure into the water below	Possible (3)	Moderate (3)	High	Monitoring the chicks and removing from water if they fall in Do not utilise nests near the edge of the structure, unstable nests or nests on a severe angle. Do not relocate chicks in windy or unstable weather conditions to allow time for the mother to follow and tend to the bird.	Unlikely (2)	Moderate (3)	High
Tagging birds /Monitoring	Bird Stress	Likely (4)	Major (4)	Very High	Minimise handling where possible Experience handling personnel (experienced bird tagger)	Likely (4)	Major (4)	Very high
	Broken Leg or injury to bird	Unlikely (2)	Substantial (5)	Very High	Minimise handling where possible Experience handling personnel (experienced bird tagger)	Rare (1)	Substantial (5)	High

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CPB Risk Assessment Evaluation Matrix: Proposed Gannet Relocation at Point Wilson

Step 1 – What is the Most Credible Consequence?

Consequence Rating	1 Negligible	2 Minor	3 Moderate	4 Major	5 Substantial
Safety and Health	First Aid Treatment (or No treatment)	Medical Treatment Injury	Lost Time Injury	Permanent Injury (Paraplegia, Amputation)	Fatality (Single or multiple)
Environment and Heritage	Small, contained localised impact / Low level repairable damage	Short lived, well contained environmental impact / Minor remedial action required	Medium term, contained impact / Significant remedial action required	Impacts extend off-site / external ecosystem. Considerable remediation required	Long Term irreversible damage / Long Term Remediation required
Plant Damage	Little or No Damage	Damage less than $15,000	Damage between $15,000 and $50,000	Damage between $50,000 and $100, 000	Damage greater than $100, 000
Reputation	Brief local negative media coverage.	Local negative media coverage. Site or project problem.	Regional/short negative media coverage. Loss of Client / project.	Sustained national negative media coverage. Loss of long term key client.	International negative media coverage. Loss of business from key sector.
Time	Delay / Business interruption <1% of program days	Delay / Business interruption between 1%-3% of program days	Delay / Business interruption between 4%-6% of program days	Delay / Business interruption between 7%-10% of program days	Delay / Business interruption >10% of program days
Cost	Additional cost to the business / project <1% revenue	Additional cost to the business / project between 1%-3% revenue	Additional cost to the business / project between 4%-6% of revenue	Additional cost to the business / project between 7%-10% of revenue	Additional cost to the business / project >10% of revenue

Step 2 – What is the likelihood of that Consequence occurring in the circumstances?

Likelihood Ranking				
Score	Description		Percentage	Expected Frequency
5	Almost Certain	Common / Frequent Occurrence	Can be expected to occur 75% - 99%	More than 1 event per month
4	Likely	Is known to occur or "It has happened regularly"	Can quite commonly occur 50% - 75%	More than 1 event per year
3	Possible	Could occur or "I've heard of it happening"	May occasionally occur 25% - 50%	1 event per 1 to 10 years
2	Unlikely	Not likely to occur very often	May infrequently occur 10% - 25%	1 event per 10 to 100 years
1	Rare	Conceivable but only in exceptional circumstances	May occur in exceptional circumstances 0% - 10%	Less than 1 event per 100 years

Step 3 – Determine the Risk Level

Determine the risk score by combining most credible consequence with likelihood

Likelihood \ Consequence Rating	Negligible 1	Minor 2	Moderate 3	Major 4	Substantial 5
Almost Certain 5	5 (Low)	10 (Moderate)	18 (Very High)	23 (Extreme)	25 (Extreme)
Likely 4	4 (Low)	9 (Moderate)	17 (Very High)	20 (Very High)	24 (Extreme)
Possible 3	3 (Low)	8 (Moderate)	13 (High)	19 (Very High)	22 (Very High)
Unlikely 2	2 (Low)	7 (Low)	12 (High)	15 (High)	21 (Very High)
Rare 1	1 (Low)	6 (Low)	11 (Moderate)	14 (High)	16 (High)

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REFERENCES

Australian Wildlife Conservancy (AWC) (2013). *Animal trapping, handling, sampling and photographing guidelines*. Sourced from: https://www.awe.gov.au/sites/default/files/env/pages/a8cac765-28ca-4da4-9195-9069626f04a1/files/e2016-0120-application-attachment-handling-guidelines.pdf

Slides prepared by [redacted], CPB Senior Environmental Advisor in collaboration with Cardno Ecology team.