



MITIGATIONS SUGGESTIONS FROM MEETING 02 MARCH 2020

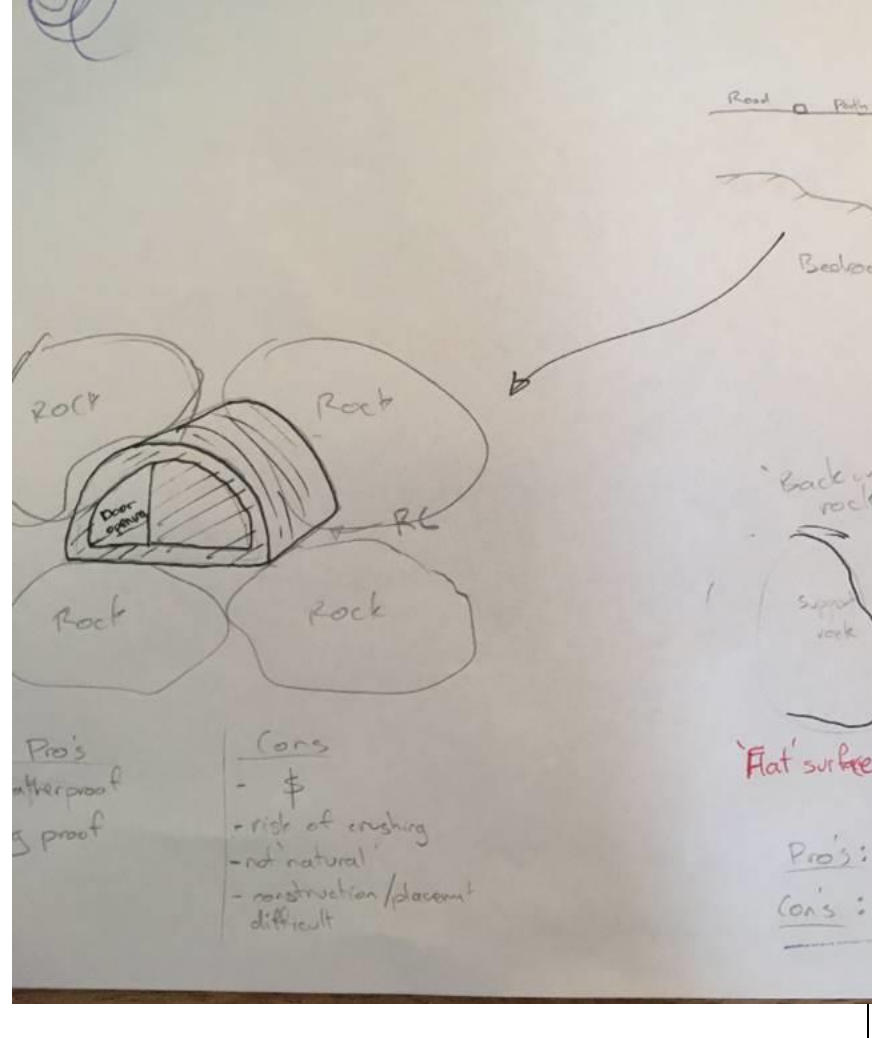
	Suggested Mitigation:	Merits, Implications, Next Steps:	HCC Response	HCC Update - September 20
1.	<p>New Penguin Haven at Base of Hill on Landward Side of Road (potential mitigation): Establish a penguin haven at the base of the hillside on the landward side of the road approximately opposite Whiorau Reserve; supported by the construction of a 'penguin subway' achieved by placing a suitably sized pipe (minimum 500mm) above (not below) the road and creating a hump in the road; also involving protective fencing. All agreed that any culvert below the road would likely suffer tidal and stormwater issues that interfere with the intended penguin access function.</p>	<p>The preliminary view is that implementation of this would be challenging and that the benefit/cost of the work is likely to stack up poorly compared to other options. Hutt CC is unlikely to progress this suggestion in the design.</p>	<p>No further comments on this suggestion.</p>	
2.	<p>Consolidate a Penguin Haven Based on Existing Nesting Sites Within Whiorau Reserve (potential mitigation): Establish at Whiorau Reserve a fenced-off penguin haven (as a mitigation) perhaps involving part of the reserve, acknowledging its recreational and boat launching uses. This would require:</p> <ol style="list-style-type: none"> i. fencing, ii. establishment of suitable vegetative cover, iii. pest control, iv. management of human behaviour (signage and information circulated to the community to achieve behaviour change), v. closure of the entry gate at night and control of dogs (and prevention of access by dogs at night). 	<p>All broadly agreed that this has merit, although not without its challenges in relation to dog control. Roger confirmed that he would consider this favourably as part of a mitigation package in his advice to the GWRC reporting officer. It would require a management plan. Roger would accept a management plan developed post-consent (required as a condition of consent). Others would prefer that a management plan is presented to the hearing so that they can see and be satisfied that it addresses all relevant issues. Roger advised that he would expect any management plan to address all shore birds in the vicinity of the shared pathway.</p> <p>Simon confirmed that Hutt CC will consider this option and will investigate further with its team of consultants. Simon and Janet will investigate the status of Whiorau Reserve (Roger recalls that it may have been vested as mitigation when the oil storage tanks were installed and it would be prudent to check whether there are any constraints on its use as a penguin haven).</p>	<p>Due to COVID-19 a site visit was postponed for this item. We will re-arrange this visit when the situation changes and its safe for all parties.</p> <p>A preliminary search indicates we are unable to find any work on or relating to Whiorau Reserve linked to any previous consent conditions, however a further detailed search maybe prudent to completely rule this out.</p> <p>Given the recreational aspects of Whiorau Reserve there is likely to be some considerable community consultation required for any material changes or additional restrictions within the area.</p> <p>The project team believe that this may be a viable potential mitigation.</p>	<p>A site visit was undertaken in early July with Roger Uys (GWRC), Mike Rumble, John Cockrem, Janet Lawson & Jonathan Fredericks (HCC Parks and Reserves), Brent Tandy (DoC) at Whiorau Reserve.</p> <p>All parties agreed that this location was a very good location to establish an expanded and protected penguin breeding area given that several nesting sites exist within the reserve.</p> <p>Other aspects that were discussed were fencing the area, enhancing the vegetation, increased pest control, signage, ensuring the gate was closed and dog control.</p> <p>Further discussions were had which will see the project team investigate options for the shared path to follow the road rather than deviating through the reserve.</p> <p>The project team are to take this option forward.</p> <p>Community consultation and engagement will be required.</p>
3.	<p>Pre-Development Monitoring of Whiorau Reserve (towards creation of potential</p>	<p>Simon will investigate this option and will report back to the workshop participants by the end of March 2020.</p>	<p>We are still investigating how we would capture the activity effectively and comprehensively at Whiorau Reserve via camera technology as there is no current CCTV coverage in the locality. The</p>	

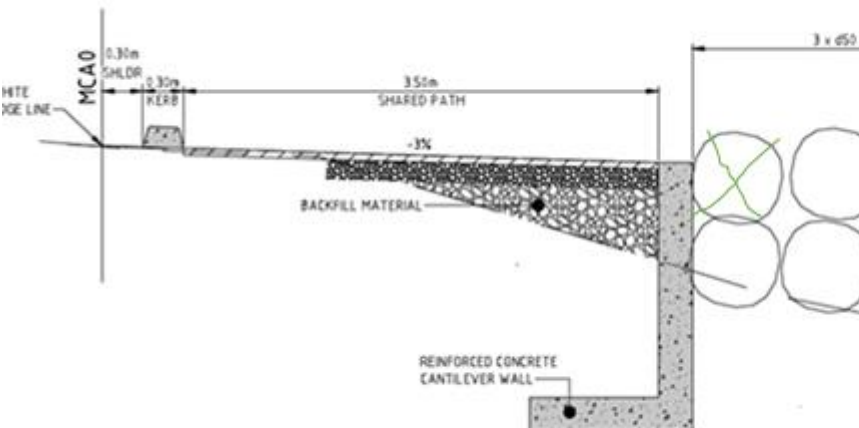
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	<p>mitigation): Set up monitoring at Whiorau Reserve to properly characterise the activity of penguins, humans, dogs and predator pests; perhaps including installation of a camera to record activity.</p>		<p>installation of a trail style camera remains the best option and it would require the ability to have continuous recording to a cloud based facility.</p>	
4.	<p>Pest Control (mitigation): On-going funding for pest control as a means of mitigating the on-going potential adverse effects of human activity along the shared pathway.</p>	<p>All agreed this is essential and is a practicable form of mitigation. All agreed that this needs to be established well ahead of the establishment of any new haven at Whiorau Reserve and before commencement of the project. Roger and Amelia consider this needs to also address feral cats. However, it was acknowledged that any feral cat initiative would need political support as part of a wider campaign and that community resistance could be expected.</p> <p>Simon will make contact with Myfanway at Wellington City Council who manages a cat micro-chipping programme and will investigate the implications and report back to the workshop participants by the end of March 2020.</p>	<p>I have spoken to both Myfanwy and Kay Sedcole at WCC to gain further information on the cat micro chipping programme which was implemented. It was an 8 week programme with over 700 cats being chipped across this period. Owners came from far beyond the Wellington region to get this completed from locations such as Whanganui and a number came from the Hutt Valley.</p> <p>Budget for WCC was \$10 per cat which was aided by a subsidy from the SPCA, normally the cost would be close to \$70. Owners also had to register their cat on the NZCAR as part of the process for the chipping to become effective and useful. The programme was more about being able to return cats to their owners should the need arise in the first instance. A secondary benefit was the identification of unowned/stray cats (rather than feral), these cats were more often being fed by residents of WCC's housing stock and so would be able to be trapped and spayed then released.</p> <p>WCC are current grappling with the ineffective nature of their bylaws and enforcement, although this is probably true for most local authorities to some degree. The other issue they have is the contradictory nature of the legal frameworks such as the Biodiversity Act, which categorises cats as a pest and allows them to be euthanised and the Animal Welfare Act which indicates that captured animals should be held for up to 7 days to trace ownership.</p> <p>A recent council paper titled the Management of Cats in Hutt City went to the Policy, Finance and Strategy Committee at the beginning of May, this recommended that Council:</p> <ul style="list-style-type: none"> • Notes the results of the public survey seeking feedback on five options around the management of cats • Notes the options outlined by officers for Council to consider in response to the information presented in the report. <p>The report is on the Council website should you wish to read it, including the results of the survey.</p> <p>The project team favours pursuing general pest control options noting the above issues for controlling cats (which are beyond the consenting process).</p>	

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5.	<p>New Penguin Haven at Northern End of Bishop's Park (potential mitigation): There are known to be penguins nesting in the area. This would require:</p> <ul style="list-style-type: none"> i. fencing off a dog exercise area separate from the penguin nesting area; ii. controlling access to the beach with a gate; iii. establishing appropriate vegetative cover (which would also achieve dune restoration). 	<p>All agreed this has merit. Roger advised that he would consider this favourably as part of an mitigation package. Simon confirmed that Hutt CC will investigate the potential for dune restoration re-vegetation and the potential for creation of penguin habitat.</p> <p>Simon will report back to the workshop participants by the end of March 2020.</p> <p>The suggestion of a dog exercise park will require more extensive investigation, consultation and political support and is unlikely to be able to be reported back by the end of March.</p>	<p>Due to COVID-19 a site visit was postponed for this item. We will re-arrange this visit when the situation changes and its safe for all parties.</p> <p>See attachment from Janet Lawson of Parks & Reserves on the initial thoughts for re-vegetation.</p> <p>These also include the thoughts on establishment of a Penguin haven and dog exclusion.</p> <p>While these are potentially feasible, timescales are considerable and further investigations would be required and its outcomes would rest on matters beyond the consenting process.</p>	<p>A site visit was undertaken in early July with Roger Uys (GWRC), Mike Rumble, John Cockrem, Janet Lawson & Jonathan Fredericks (HCC Parks and Reserves), Brent Tandy (DoC) at the northern end of Bishops Park</p> <p>All parties agreed that this location was a very good location to establish a protected breeding area</p> <p>Other aspects that were discussed were fencing the area, enhancing the vegetation as part of a due restoration project, controlling dogs, possible gated access to the beach</p> <p>The project team are to take this option forward.</p> <p>Community consultation and engagement will be required, Marram grass in this location has some local attachment.</p>
6.	<p>New Penguin Haven at Windy Point (potential mitigation): There is already thick marram grass cover that is effective in keeping dogs out. Although the marram grass does not provide suitable habitat for penguins, it could be enhanced by dune re-vegetation with suitable species. Also requires fencing to keep people (and dogs) out.</p>	<p>All agreed this has merit. Roger advised that he would consider it favourably as part of a mitigation package. Roger also suggested that this site could provide a mitigation for shorebirds if dogs could be excluded from the stretch of beach from Rona Bay Wharf to Marine Drive. Simon confirmed that Hutt CC will investigate the potential for dune restoration re-vegetation and the potential for creation of penguin habitat.</p> <p>Simon will report back to the workshop participants by the end of March 2020.</p>	<p>Due to COVID-19 a site visit was postponed for this item and item 6. We will re-arrange this visit when the situation changes and its safe for all parties. See attached notes by Janet Lawson as per item 5.</p>	<p>A site visit was undertaken in early July with Roger Uys (GWRC), Mike Rumble, John Cockrem, Janet Lawson & Jonathan Fredericks (HCC Parks and Reserves), Brent Tandy (DoC) at the northern end of Bishops Park</p> <p>All parties agreed that this location was a very good location to establish a protected breeding area in conjunction with the northern end of Bishops Park.</p> <p>Other aspects that were discussed were fencing the area, enhancing the vegetation as part of a due restoration / re-vegetation project, signage and managing the vehicular traffic at the boat ramp.</p> <p>The project team are to take this option forward.</p> <p>Community consultation and engagement will be required, Marram grass in this location has some local attachment.</p>
7.	<p>New Penguin Haven at HW Short Park (potential mitigation): This is a rocky coastal habitat potentially suitable for penguins.</p>	<p>Simon will arrange for a site visit and invite Janet, Mike, Brent. After the site visit, Simon will report back to the workshop participants by the end of March on the prospects for this site as part of an mitigation package.</p>	<p>Due to COVID-19 a site visit was postponed for this item. We will re-arrange this visit when the situation changes and its safe for all parties.</p>	<p>A site visit was undertaken in early July with Roger Uys (GWRC), Mike Rumble, John Cockrem, Janet Lawson & Jonathan Fredericks (HCC Parks and Reserves), Brent Tandy (DoC) at HW Short Park</p> <p>There was some debate on the viability of this site, however there continues to be some merits but further investigation may be required on suitability.</p>
8.	<p>New Penguin Haven on the Esplanade (further south than HW Short Park – potential mitigation): This area includes a wetland.</p>	<p>As above - Simon will arrange for a site visit and invite Janet, Mike, Brent. After the site visit, Simon will report back to the workshop participants by the end of March on the prospects for this site as part of a mitigation package.</p>	<p>Due to COVID-19 a site visit was postponed for this item. We will re-arrange this visit when the situation changes and its safe for all parties.</p>	<p>A site visit was undertaken in early July with Roger Uys (GWRC), Mike Rumble, John Cockrem, Janet Lawson & Jonathan Fredericks (HCC Parks and Reserves), Brent Tandy (DoC) south of HW Short Park.</p> <p>This site was discounted as a viable option.</p>
9.	<p>Artificial Near-Shore Reef (potential offset): Sally suggested establishment</p>	<p>There was no support from the wider group for this option, given its likely resource consent, cost and construction challenges.</p>	<p>No further comments on this suggestion and no intent to pursue it further.</p>	

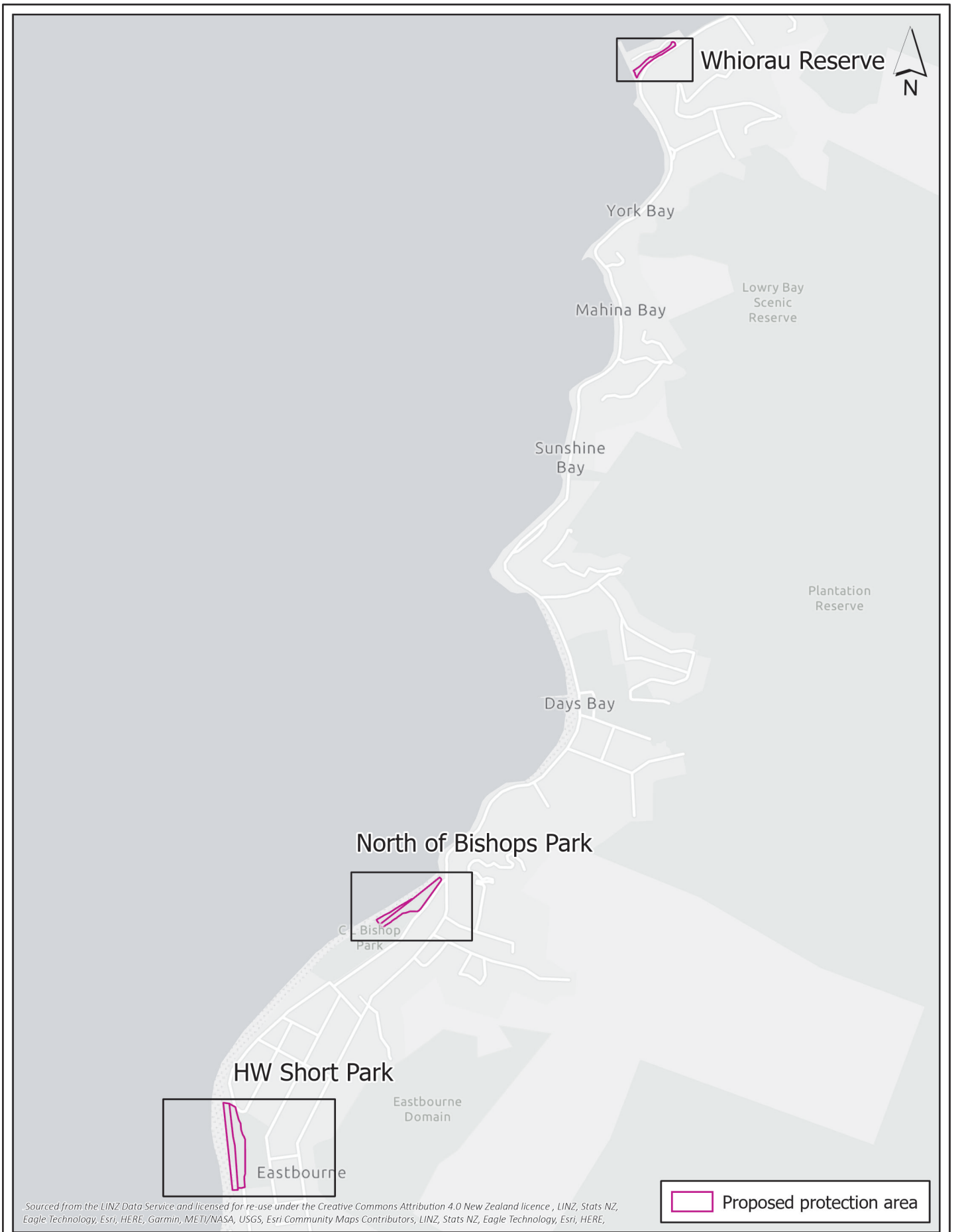
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	of an artificial reef in Sorrento or Mahina Bay to protect the road from wave inundation and erosion and as a new predator-free penguin haven.			
10	<p>Seawall Design (mitigation): The design should minimise 'holes' in any seawall (e.g. ramps and steps must have penguin stops or self-locking gates). Mike suggests they should also incorporate concrete penguin boxes on the outer edge of the wall to facilitate penguin nesting. Roger advised that Megan Olliver at GWRC is currently investigating options for improved seawall texturing design to promote the recovery of intertidal communities.</p>	<p>Simon will set up a meeting to discuss the finer detail of seawall design and will invite Mike, Brent, Amelia, John and Roger; and will send them a meeting invitation in the 3rd week of March.</p>	<p>Due to COVID-19 I was unable to set up a meeting in relation to seawall design, however I got the following comments from our project team member Jeremy Walters, Structural Engineer, Stantec:</p> <p><i>In my opinion, the use of penguin nest boxes within the curved wall structure itself is not preferred for the following reasons:</i></p> <ol style="list-style-type: none"> <i>1. Wave action - the curved shape of the wall is designed such that it deflects horizontal wave energy upwards. As the wave rises up the wall the curve then reflects it back onto other approaching waves, essentially helping to dissipate the energy of the other oncoming waves. Even relatively small waves hitting the wall have the potential the rise somewhat up the curve. On this basis, placing penguin boxes in the front face of the wall is, at best, most likely to lead to nest box inundation, even under relatively small wave action. In storms it is likely to lead to nest destruction or transfer of beach debris into the next boxes filling them up and rendering them unusable.</i> <i>2. Long-term maintenance – this item is closely associated with the previous bullet point. In order to keep the next boxes functional and largely free of beach debris, particularly after storms, they will require a high maintenance regime by the asset owner. This is considered to be a poor outcome for HCC.</i> <i>3. Penguin access - to minimise or mitigate the issues raised in the two previous bullet points, the nest boxes would need to be positioned so high up the wall that due to the wall shape/configuration the overall practicality and functionality of the penguin boxes, particularly with regard to penguin access, becomes questionable.</i> <i>4. Aesthetics – having relatively large openings (300mm diameter) interspersed along the seaward face of the sea wall is considered an unfavourable outcome.</i> <p>This option is not being further explored by the project team but rock rip-rap options are being explored as set out in 11.</p> <p>However, work continues on with investigating the seawall texturing design with input from our project team Ecologists and Jeremy and the proposed conditions, and the Bay Specific Urban Design Plan provisions, have been amended.</p>	
11	<p>Rock Rip-Rap Design (mitigation): This must incorporate key holes for penguin nesting of an appropriate depth (<300mm) to allow penguins to enter and exit between the rip-rap and</p>	<p>Simon will get the designers to design a concept to achieve this and will circulate to Mike, Brent, John and Roger by the end of March, inviting their feedback.</p>	<p>Project team member Dr Michael Allis (NIWA, Coastal Processes) has commented and prepared a hand drawn sketch of a possible design.</p> <p>I understand penguin nesting within the rip rap is likely to occur in a two ways:</p> <ol style="list-style-type: none"> <i>1. With no specific treatment. Penguins can freely investigate and</i> 	

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<p>including flat-bottomed areas below the rip-rap to allow penguins to build nests.</p>		<p>find a void between rocks which suits their needs. All sheltered revetment areas above MHWS have the potential to be nesting areas.</p> <p>2. Creating specific nests. Any areas created would be additional to (1). Options include:</p> <ul style="list-style-type: none"> a. Careful arrangement of rip-rap rocks to create a number of voids safe from weather/tide (dogs?). Envisaged as excavator with thumb placing suitably shaped rocks under manual supervision to form the flat base and roof/wall supports of a nesting area. See sketch below. b. Engineered concrete nesting boxes to be included within the revetment rock (i.e. buried beneath and within the primary armour layers). Boxes materials likely to be RC to withstand rock loading and wave action. See sketch below. c. Plastic/wood nesting boxes manually placed within revetment rocks after/during rock placement phase (see pictures) but placed within rock body). <p>Such options will be explored during the LPMP and the proposed conditions have been amended accordingly.</p> <p>My background reading and some ideas: http://birdlife.org.au/images/uploads/branches/documents/TAS-Final_Penguin_Habitat_Report_Sep15_BirdLife_Tas.pdf</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Little Penguin nest boxes being installed on the Tarakohe seawall. Image © Greg Napp.</p>	

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		 <p>The sketch shows a cross-section of a curved barrier structure. It is surrounded by several irregular shapes labeled 'Rock'. A curved line represents the barrier, with a small opening labeled 'Door opening'. To the right, there are labels 'Road' and 'Path' at the top, and 'Beach' below. Further down, there are labels 'Back up rock' and 'Sand rock'. Below the sketch, there is a list of 'Pros' and 'Cons'.</p> <p>Pros:</p> <ul style="list-style-type: none"> atherproof proof <p>Cons:</p> <ul style="list-style-type: none"> - \$ - risk of crushing - not natural - construction/placement difficult <p>Other notes: 'Flat surface', 'Pros:', 'Cons:'.</p>	
<p>12 Prevent Penguins Crossing the Road (mitigation): This requires penguin stops (similar to cattle stops) at any holes in the seawall. Another suggestion is a low barrier (not necessarily a fence – just something at least 400mm high that penguins can't jump over – and particularly in the vicinity of known nest sites. These barriers will not be required along the entire project length – only where penguin access is still available (noting that only 22% of the coastline would be accessible for penguins after construction).</p>	<p>Simon will get the designers to design a concept to achieve this and will circulate to Mike, Brent, John and Roger by the end of March, inviting their feedback.</p>	<p>One of the mitigation measures that is being suggested is to incorporate low fencing along sections of the shared path to act as a barrier for penguins to discourage them from crossing the road and being at risk of being run over. The fencing would also act as a deterrent for dogs from attacking penguins (although a low fence is unlikely to keep them out). By introducing fencing on the seaward side of the shared path/revetment areas, it introduces further challenges such as an additional structure to withstand wave action, reducing the amount of space for the shared path, maintenance issues and visual amenity effects.</p> <p>Design features can however discourage penguins from accessing the road where works are proposed. These features include:</p> <ul style="list-style-type: none"> • The vertical concrete seawalls in themselves create a barrier for penguin access. The shape of the curved walls would largely prevent and exclude penguins from crossing the road. Potential nesting habitats behind the beaches on the landward side of the shared path is generally road bordered by residential developments and by restricting access to these areas may be positive as it can reduce the risk of penguins being killed by vehicles or dogs • The steps (mini steps) can be raised to discourage penguins (increase height to greater than 350mm) – some could even be 	

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		<p>removed.</p> <ul style="list-style-type: none"> Boat ramps could have a step up from the beach (greater than 350mm) also to discourage penguins (although it should be noted that material build up would need to be managed). Note also we only have a couple of boat ramps. Revetment that deletes the rock used closest to the wall (see green cross below) to create an upstand of at least 350mm. Mike will not doubt not like that but we should explore Discourage penguins from using stormwater pipes by using tidal flaps (duck flaps) as consented by Wellington Water to reduce tidal flow from backing up into stormwater system. <p>Such options will be explored during the LPMP and the proposed conditions have been amended accordingly.</p> <p>We have explored a number of options but not all are practical to implement. There is reluctance to build the cantilever wall up as a barrier (or beyond a wheel stop type height) as it creates pedal snag issues plus drainage issue. Removing the rock used closest to the wall (see green cross below) to create an upstand of at least 350mm has been suggested but in terms of overall coastal protection, removing the rock as indicated would have negligible effect because this particular rock is furthest away from the sea/waves and the 'gap' would barely alter infiltration of overtopping flows. However, is there a risk of this change not being an effective penguin deterrent because it will be difficult to control the construction and maintenance to keep the 'step' throughout the section. i.e. bottom layer of rocks which will not have a uniform surface 350 mm below the path meaning the highest point of some rocks could still be used by penguins. The gap may also act like a 'ditch' filling with debris (from sea and land runoff) enabling uncontrolled penguin access. But the 'ditch' could create a new hazard for path users. It means cyclists would be less able to stop their bike and prop themselves up on the rock with one foot.</p> 	
<p>13 Dog Control (mitigation): Suggestions include:</p>	<p>Simon will discuss the issues with Hutt CC's Animal Services and report back to the workshop</p>	<p>I've spoken to Animal Services about the project, the current enforcement methods and issues and the potential future changes to</p>	

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<p>i. Enhanced dog control (dog exclusion or active enforcement of leash-only dog access) at all beaches, at Whiorau Reserve, at Bishops Park and at any new haven proposed as part of an offset package; and</p> <p>ii. Establishment of a dedicated off-leash dog exercise area somewhere nearby that is accessible to the community.</p>	<p>participants by the end of March.</p>	<p>enforcement due to the project. The discussion is summarised in the bullet points below:</p> <ul style="list-style-type: none"> • Our current dog control bylaw specifies areas where dogs are permitted and the locations / times of year where they are able to be walked on / off leash • Most of the areas in the Eastern Bays (from Point Howard to Burdans Gate are 'dogs on leash') • There are a couple of small areas where owners are currently able to walk their dogs 'off leash' • Compliance with the bylaws is an issue and enforcement is difficult to uphold as it requires officers to be in the location when a breach happens • Patrols are spread out over a large administrative area • Owners seen to breach the bylaw are given an initial warning and if subsequent breaches occur can be fined • Officers react to public complaints and will increase their visible presence and patrols if any areas become 'hot spots' for bylaw breaches • Signage is currently hit and miss around the bays, although it's in a number of locations and visible in places like the Esplanade and a 'repeating' signage trial was under taken but not rolled out on a more thorough basis • If new penguin havens are installed Animal Services could increase their patrols in these locations for a number of months to ensure no breaches occur • Signage locations could be enhanced in new penguin locations and potentially in other areas around the bays • Bylaw amendments will be required to prohibit dog walking around the new havens • No issues with resourcing or budgets now or in the future with new havens and increased patrols <p>With respect to a dedicated off leash area, this would require consultation and political support as indicated in Item 5.</p> <p>The project team is exploring signage opportunities but nothing further as it's outside the consenting process.</p>	



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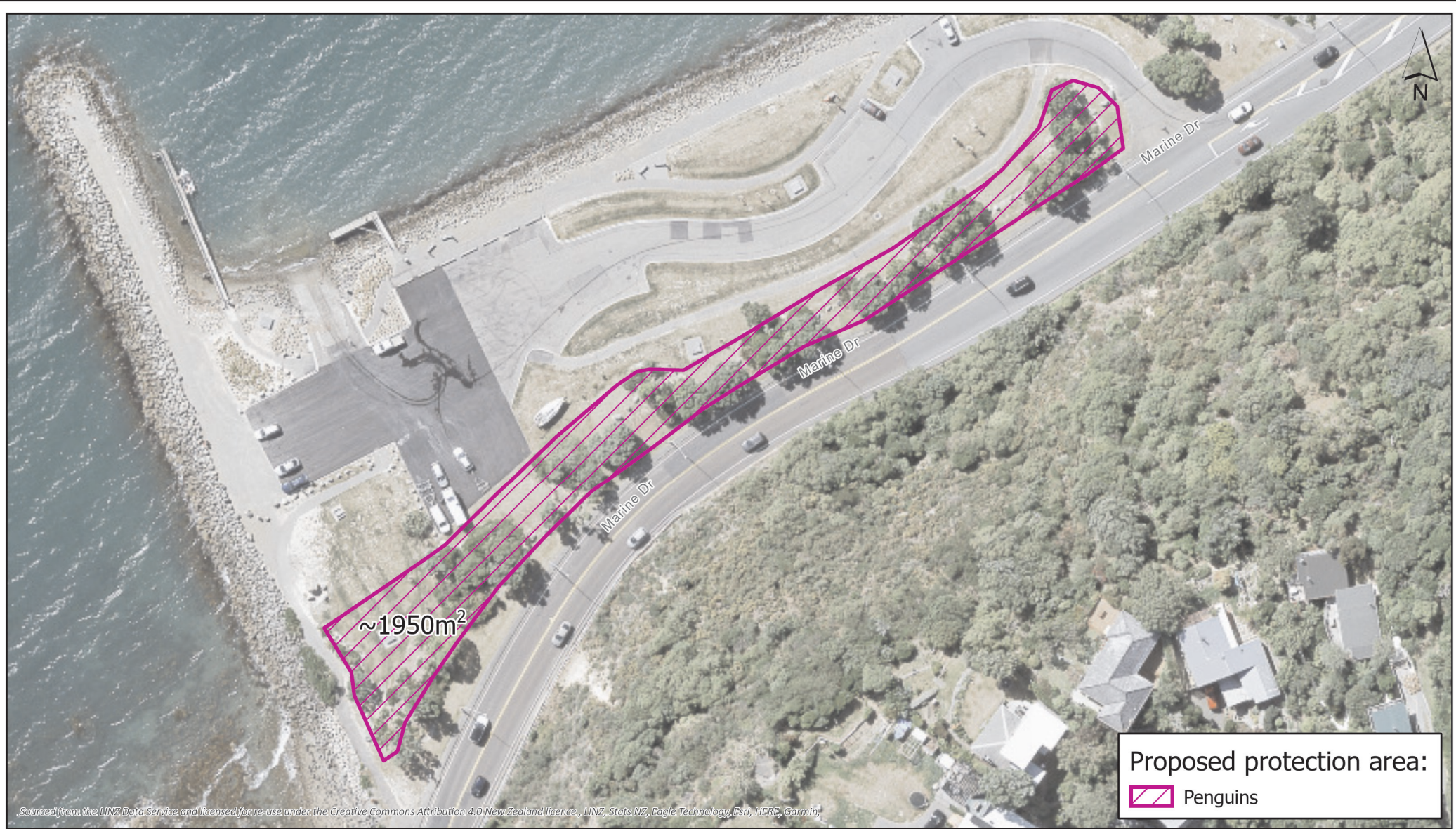
Protection Area Overview

Project: Eastern Bays Shared Path

Map displayed in NZGD 2000 New Zealand Transverse Mercator coordinate system.

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Penguin and shorebird protection area:
Whiorau Reserve

Project: Eastern Bays Shared Path

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Penguin and shorebird protection area:
North of Bishops Park

Project: Eastern Bays Shared Path

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**Penguin and shorebird protection area:
HW Short Park**

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