# Applicant Information Form 1a Notified or Non-notified Process

Department of Conservation
Te Papa Atawbai
New Zealand Government

## Is this the right application form for me?

This **Applicant Information Form 1a** – Notified or Non-notified Process must be completed for **the following longer term applications** (i.e. not one-off applications):

- Grazing
- Land use: Tenanting and/or using existing DOC facility/structure
- Land use: Use of public conservation land for private commercial facility/structure
- Guiding/Tourism/Recreation: Watercraft activities
- Filming
- Sports events
- Marine reserves application form 11a: Structure in a marine reserve

For other activities use the specific activity application forms that combine applicant and activity information or book a pre-application meeting.

### How do I complete this applicant information form?

- Complete all sections of this **applicant information form**.
- In addition, you must complete the **activity application form/s** that you wish to undertake.
- DOC encourages electronic applications (e.g. typed Word document), rather than handwritten applications. Electronic applications are easier to read and less likely to be returned to you for clarification.
- If you need extra space, attach or include extra documents and label them according to the relevant section. Record all attachments in the table at the back of the application information form section **F Attachments**.

### How do I submit my application?

Email the following to permissions@doc.govt.nz:

- **Completed applicant information form 1a**
- **Completed activity application form**
- Any other relevant attachments.

### If I need help, where do I get more information?

- Check the DOC webpage for the activity you are applying[1] for.

[1] https://www.doc.govt.nz/get-involved/apply-for-permits/apply-for-a-permit/

- Arrange a pre-application meeting (either face to face or over the phone) by contacting the Department of Conservation Office[2] closest to where the activity is proposed. You can use DOC maps[3] to identify which District Office you should contact. Or arrange a meeting with any of our four offices that process concessions[4] – choose the one closest to where the activity is proposed.
- If your application covers multiple districts, contact the office nearest most of the locations you are applying for, or nearest to locations you have a specific question about.

**What happens next?**

Once your application forms are received, your application will be assessed by DOC. If your application is complete, DOC will begin processing.

If your application is incomplete it will be returned to you for more information.

**Why does DOC ask for this information?**

The questions in this application information form and the activity application form/s are designed to cover the requirements set out in conservation legislation. Your answers allow us to assess:

- Your most up-to-date details so that DOC can contact you about your application.
- Your qualifications, resources, skills and experience to adequately conduct the activity on public conservation land.
- Your creditworthiness will help determine whether DOC should extend credit to you and set up a DOC customer accounts receivable credit account for cost recovery. To make this assessment DOC will supply your information to a credit checking agency.

**Note:**

- Personal information will be managed by DOC confidentially. For further information check DOC's privacy and security statements[5].
- Information collected by DOC will be supplied to a debt collection agency in the event of non-payment of payable fees.

**What fees will I pay?**

You may be required to pay a **processing fee** for this application regardless of whether your application is granted or not. You may request an estimate of the processing fees for your application. If you request an estimate, DOC may require you to pay the reasonable costs of the estimate prior to it being prepared. DOC will not process your application until the estimate has been provided to you. In addition, if you are granted a guiding concession on public conservation land you may be required to pay annual **activity and management fees**. These fees are listed on the DOC webpage for the activity you are applying[6] for.

DOC will invoice your processing fees after your application has been considered. If your application is large or complex, DOC may undertake billing at intervals periodically during processing until a decision is made. If you withdraw your application DOC will invoice you for the costs incurred up to the point of your withdrawal.

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[2] www.doc.govt.nz/footer-links/contact-us/office-by-name/
[3] http://maps.doc.govt.nz/mapviewer/index.html?viewer=docmaps
[4] https://www.doc.govt.nz/get-involved/apply-for-permits/contacts
[5] https://www.doc.govt.nz/footer-links/privacy-and-security/
[6] https://www.doc.govt.nz/get-involved/apply-for-permits/apply-for-a-permit/

**Your application will set up a credit account with DOC.** See the checklist at the end of the form for the terms and conditions you need to accept for a DOC credit account.

### Will my application be publicly notified?

Your application will be publicly notified if:

- It is a license with a term of more than 10 years.
- It is a lease.
- After having regard to the effects of the activity, DOC considers it appropriate to do so.

Public notification will increase the time and cost of processing of your application.

### What does DOC require if my application is approved?

If your application is approved DOC requires:

- **Insurance** to indemnify the Minister of Conservation against any claims or liabilities arising from your actions. The level of insurance cover will depend on the activity.
- A copy of your **safety plan** audited by an external expert (e.g. Health and Safety in Employment (Adventure Activity) Regulations 2011 audit or a DOC listed organisation). See the Safety Plan[7] information on the DOC website for further information.

**Note:** DOC/Minister can vary the concession if the information on which the concession was granted contained material inaccuracies. DOC may also recover any costs incurred.

[7] https://www.doc.govt.nz/get-involved/apply-for-permits/managing-your-concession/safety-plans/

# A. Applicant details

| | | |
|---|---|---|
| **Legal status of applicant (tick)** | ☐ **Individual** (Go to ❶) | |
| | ☐ **Registered company** (Go to ❷) | ☐ **Trust** (Go to ❷) |
| | ☐ **Incorporated society** (Go to ❷) | ☑ **Other e.g. Educational institutes** (Go to ❷) |

| ❶ | | | | | |
|---|---|---|---|---|---|
| | **Applicant name (individual)** | N/A | | | |
| | **Phone** | N/A | **Mobile phone** | N/A | |
| | **Email** | N/A | | | |
| | **Physical address** | N/A | **Postcode** | N/A | |
| | **Postal address (if different from above)** | N/A | **Postcode** | N/A | |

| ❷ | | | | |
|---|---|---|---|---|
| | **Applicant name (full name of registered company, trust, incorporated society or other)** | Thames-Coromandel District Council | | |
| | **Trading name (if different from applicant name)** | N/A | | |
| | **NZBN if applicable (to apply go to: https://www.nzbn.govt.nz)** | 9429041920145 | **Company, trust or incorporated society registration number** | |
| | **Registered office of company or incorporated society (if applicable)** | N/A | | |
| | **Company phone** | [redacted] | **Company website** | https://www.tcdc.govt.nz |
| | **Contact person and role** | Ross Ashby (Project Manager) | | |
| | **Phone** | [redacted] | **Mobile phone** | [redacted] |
| | **Email** | [redacted] | | |
| | **Postal address** | [redacted] | **Postcode** | [redacted] |

| | | | | |
|---|---|---|---|---|
| | **Street address (if different from postal address)** | [redacted] | **Postcode** | [redacted] |
| | **Contact person and role** | Andrew Hill – Planner (Beca - Consultant) | | |
| | **Phone** | [redacted] | | |
| | **Email** | [redacted] | | |
| | **Postal/ Street address** | [redacted] | | |

## B. Pre-application meeting

Have you had a pre-application meeting or spoken to someone in DOC?

| | |
|---|---|
| No | ☐ |
| Yes | ☑ |

- If yes record the:

| | |
|---|---|
| Date of DOC pre-application meeting | 17 September 2020 and 9 November 2020 |
| Name of DOC staff member | Leanne Irvine (17 Sept), Jaime White (09 Nov) |
| Name of person who had the pre-application meeting with DOC | Ross Ashby (TCDC), Andrew Hill (Beca) |

## C. Activity applied for

Tick the **activity application form** applicable to the activity you wish to undertake on public conservation land. Complete the applicant information form and the activity application form and email them with any attachments to permissions@doc.govt.nz

| ACTIVITY APPLICATION FORM* | FORM NO. | TICK |
|---|---|---|
| Grazing | 2a | ☐ |
| Land use: Tenanting and/or using existing DOC facility/structure | 3a | ☐ |
| Land use: Use of public conservation land for private/commercial facility/structure | 3b | ☑ |
| Guiding/Tourism/Recreation: Watercraft activities | 4b | ☐ |
| Filming | 5a | ☐ |
| Sporting Events | 6a | ☐ |
| Marine reserves application form: Structure in a marine reserve | 11a | ☐ |
| Other activities (not covered in the above forms or in the new activity application forms that combine applicant and activity information) | 7a | ☐ |

**Note:** If the activity is not in this list check the activity on the DOC website to find the correct application form or book a pre-application meeting. Application forms that combine applicant and activity information on the DOC website include:

- Aircraft activities[8]
- Easements[9]
- Land based guiding[10]

[8] https://www.doc.govt.nz/get-involved/apply-for-permits/business-or-activity/aircraft-activities/
[9] https://www.doc.govt.nz/get-involved/apply-for-permits/business-or-activity/access-easements/
[10] https://www.doc.govt.nz/get-involved/apply-for-permits/business-or-activity/land-based-guided-activities/

## D. Are you applying for anything else?

Are you submitting any other application forms in relation to this application?

| | |
|---|---|
| No | ☐ |
| Yes | ☑ |

- If yes, state which application forms:

Application Form 3b – Private Structures

## E. Background experience of applicant

Provide relevant information relating to your ability to carry out the proposed activity (e.g. details of previous concessions, membership of professional organisations, and relevant qualifications).

The applicant is committed to providing the boardwalk structure along Esplanade Drive at Whangamata Ocean Beach. The applicant has undertaken activities of this nature around the district before, such as dune restoration at Hot Water Beach, Optio Bay and Buffalo beach and construction of a boardwalk at the John William Hall Arboretum to protect kauri roots along the track.

The applicant will be seeking advice and employing professionals to assist in the construction, monitoring and reporting on the operation of the boardwalk structure.

The applicant has also brought on a wide range of specialists who have informed the proposed design and development of the boardwalk, and have undertaken community consultation with the local community. These specialists are considered to be technically competent to prepare designs and undertake environmental impact assessments.

For construction of the boardwalk, a tender process will be utilised to select contractors who are suitably competent and able to develop the boardwalk in accordance with the plans and best practice construction methodologies.

## F. Attachments

Attachments should *only* be used if there is:

- Not enough space on the form to finish your answer
- You have additional information that supports your answer
- You wish to make an additional request of DOC regarding the application.

Label each document clearly and complete the table below.

| Section of the application form the attachment relates to | Document title | Document format (e.g. Word, PDF, Excel, jpg etc.) | Description of attachment |
|---|---|---|---|
| *C* | *Environmental Impact Assessment* | *PDF* | *Assessment of impacts on the environment of the proposal* |

## G. Checklist

| Application checklist | Tick |
|---|---|
| I have completed all sections of this applicant information form relevant to my application and understand that the form will be returned to me if it is incomplete. | ☑ |
| I certify that the information provided in this applicant information form, and any attached additional forms is, to the best of my knowledge, true and correct. | ☑ |
| I have completed the **activity application form**. | ☑ |
| I have appropriately labelled all attachments and completed section **F Attachments**. | ☑ |
| I will email **permissions@doc.govt.nz** my:<br>• Completed applicant information form<br>• Completed activity application form/s<br>• Any other attachments. | ☑ |

## H. Terms and conditions for a credit account with the Department of Conservation

| Have you held an account with the Department of Conservation before? | Tick |
|---|---|
| No | ☐ |

| | |
|---|---|
| Yes | ☑ |
| If 'yes' under what name | Thames-Coromandel District Council |

**In ticking this checklist and placing your name below you are acknowledging that you have read and agreed to the terms and conditions for an account with the Department of Conservation**

| Terms and conditions | Tick |
|---|---|
| I/We agree that the Department of Conservation can provide my/our details to the Department's Credit Checking Agency to enable it to conduct a full credit check. | ☑ |
| I/We agree that any change which affects the trading address, legal entity, structure of management or control of the applicant's company (as detailed in this application) will be notified in writing to the Department of Conservation within 7 days of that change becoming effective. | ☑ |
| I/We agree to notify the Department of Conservation of any disputed charges within 14 days of the date of the invoice. | ☑ |
| I/We agree to fully pay the Department of Conservation for any invoice received on or before the due date. | ☑ |
| I/We agree to pay all costs incurred (including interest, legal costs and debt recovery fees) to recover any money owing on this account. | ☑ |
| I/We agree that the credit account provided by the Department of Conservation may be withdrawn by the Department of Conservation, if any terms and conditions (as above) of the credit account are not met. | ☑ |
| I/We agree that the Department of Conservation can provide my details to the Department's Debt Collection Agency in the event of non-payment of payable fees. | ☑ |

| | | | |
|---|---|---|---|
| **Typed applicant name/s** | Thames-Coromandel District Council | **Date** | 27/11/2020 |

| **For Departmental use** | | | |
|---|---|---|---|
| **Credit check completed** | | | |
| **Comments:** | | | |
| **Signed** | | **Name** | |
| **Approved (Tier 4 manager or above)** | | **Name** | |

# Concession Application
# Form 3b – Private/commercial facility/structures

The Department recommends that you contact the Department of Conservation Office closest to where the activity is proposed to discuss the application prior to completing the application forms. Please provide all information requested in as much detail as possible. Applicants will be advised if further information is required before this application can be processed by the Department.

This form is to be used when the proposed activity is the building or use of any private or commercial facility or structure on public conservation land managed by the Department of Conservation. Examples may include lease of land to erect an information centre; authorisation to erect a weather station; or construct or lease a private/commercial campground or lodge. This form is to be completed in conjunction with either Applicant Information Form 1a (longer term concession) or Applicant Information Form 1b (one-off concession) as appropriate.

Please complete this application form, attach Form 1a or Form 1b, and any other applicable forms and information and send to permissions@doc.govt.nz. The Department will process the application and issue a concession if it is satisfied that the application meets all the requirements for granting a concession under the Conservation Act 1987.

If you require extra space for answering please attach and label according to the relevant section.

## A. Description of Activity

Please describe the proposed activity in detail – where the site is located, please use NZTM GPS coordinates where possible, what you intend to use the building for, whether you intend to make any changes to the infrastructure.

Please include the name and status of the public conservation land, the size of the area for which you are applying and why this area has been chosen.

If necessary, attach further information including a map, a detailed site plan and drawings of proposal and label Attachment 3b:A.

The construction of a boardwalk on Esplanade Reserve along Esplanade Drive at Whangamata Ocean Beach, between the Surf Life-saving Club and the northern end of Esplanade Drive.

Please refer to the attached Environmental Impact Assessment.

## B. Alternative sites considered

If your application is to **build, extend or add** to any permanent or temporary structures or facilities on public conservation land, please provide the following details:

- Could this structure or facility be reasonably located outside public conservation land? Provide details of other sites/areas considered.
- Could any potential adverse effects be significantly less (and/or different) in another conservation area or another part of the conservation area to which the application relates? Give details/reasons

This boardwalk to is replace an existing bare, informal track  that runs along the esplanade reserve, at Esplanade Drive at Whangamata.

Please refer to the attached Environmental Impact Assessment.

## C. Larger area

Is the size of the area you are applying for **larger** than the structure/facility **NO**

If **yes**, please detail the size difference in the box below, and answer the following 3 questions, if **no** please go on to the next section:

N/A

Is this necessary for safety or security purposes? **NO**

Is this necessary as an integral part of the activity? **NO**

Is this essential to carrying on the activity? **NO**

If the answer to any of the above is yes, please provide details and attach supporting evidence if necessary and label Attachment 3b:C.

## D. Exclusive possession

Do you believe you need **exclusive possession** of the public conservation land on which your structure/building is located, ie no one else can use the land during your use of it? **NO**
*(Exclusive occupation requires a lease which requires public notification of the application)*

If **yes**, please answer the following 3 questions, if no please go to the next section:

Is exclusive possession necessary to protect public safety? **NO**

Is exclusive possession necessary to protect physical security of the activity? **NO**

Is exclusive possession necessary for the competent operation of the activity? **NO**

If the answer to any of the above is yes, please provide details and attach supporting evidence if necessary and label Attachment 3b:D.

## E. Technical Specifications **(for telecommunications sites only)**

| | |
|---|---|
| **Frequencies on which the equipment is to operate** | N/A |
| **Power to be used (transmitter output)** | N/A |
| **Polarisation of the signal** | N/A |
| **Type of antennae** | N/A |
| **The likely portion of a 24 hour period that transmitting will occur** | N/A |
| **Heaviest period of use** | N/A |

## F. Term

Please detail the length of the term sought (i.e. number of years or months) and why.

*Note: An application for a concession for a period over 10 years must be publicly notified, an application for a concession up to 10 years will not be publicly notified unless the adverse effects of the activity are such that it is required, or if an exclusive interest in the land is required*.

A Licence - 30 years, as this will be a permanent, publicly used structure.

## G. Bulk fuel storage

Under the Hazardous Substances and New Organisms Act 1996 (HSNO Act) 'Bulk fuel storage' is considered to be any single container, stationary or mobile, used or unused, that has a capacity in excess of 250 litres of Class 3 fuel types. This includes petrol, diesel, aviation gasoline, kerosene and Jet A1. For more information on Hazardous Substances, go to: http:/www.business.govt.nz/worksafe/information-guidance/legal-framework/hsno-act-1996

Do you intend to store fuel in bulk on the land as part of the activity? **NO**

If you have answered yes, then please provide full details of how and where you intend to store the fuel, and label any attachments including plans, maps and/or photographs as Attachment 3b:G. If your concession application is approved you will be required to provide a copy of your HSNO compliance certification to the Department before you begin the activity.

N/A

## H. Environmental Impact Assessment

This section is one of the most important factors that will determine the Department's decision on the application. Please answer in detail.

In column 1 please list all the locations of your proposal, please use NZTM GPS coordinates where possible. In column 2 list any special features of the environment or the recreation values of that area. Then in column 3 list any effects (positive or adverse) that your activity may have on the values or features in column 2. In column 4 list the ways you intend to mitigate, remedy or avoid any adverse effects noted in column 3. Please add extra information or supporting evidence as necessary and label Attachment 3b:H.

Refer to Steps 1 and 2 in your Guide to Environmental Impact Assessment to help you fill in this section.

| Location on public conservation land | Special feature or value | Potential effects of your activity on the feature or value (positive or adverse) | Methods to remedy, mitigate or avoid any adverse effects identified |
|---|---|---|---|
| *Whangamata Ocean Beach along the Esplanade reserve on Esplanade Drive. The path will start at the Whangamata Lifesaving Club (approximately 37˚12'18"S 175˚52'35"E) and will go to the end of Esplanade Drive (approximately 37˚12'40"S 175˚52'35"E).* | *Please see the attached Environmental Impact Assessment for further information* | *Please see the attached Environmental Impact Assessment for further information* | *Please see the attached Environmental Impact Assessment for further information* |

## I. Other

Is there any further information you wish to supply in support of your application? Please attach if necessary and label Attachment 3a:I.

See the Environmental Impact Assessment and its Appendices attached.

# Whangamata Boardwalk – Environmental Impact Assessment

For submission to Department of Conservation in support of a concession application

Prepared for Thames Coromandel District Council
Prepared by Beca Limited

**27 November 2020**

# Contents



# Appendices

## Revision History

| Revision Nº | Prepared By | Description | Date |
|---|---|---|---|
| 1 | **Brianna Morris** | Draft for internal review | 29/10/2020 |
| 2 | **Brianna Morris** | Draft for client review | 10/11/2020 |
| 3 | **Andrew Hill** | Final for lodgement | 27/11/2020 |
| | | | |
| | | | |

## Document Acceptance

| Action | Name | Signed | Date |
|---|---|---|---|
| Prepared by | **Brianna Morris** |  | 06/11/2020 |
| Reviewed by | **Andrew Hill** |  | 10/11/2020 |
| Approved by | **Cushla Loomb** |  | 10/11/2020 |
| on behalf of | Beca Limited | | |

# 1 Introduction

This application is made on behalf of Thames Coromandel District Council (TCDC) in accordance with Part 3B of the Conservation Act 1987 (CA). TCDC seek a concession for the construction of the Whangamata Boardwalk (the 'boardwalk') along the grass berm on Esplanade Drive.

The proposed boardwalk is an integral part of a longer term effort to protect Whangamata's sand dunes, by formalising public beach access and reduce erosion of exposed dune areas.

While the dunes section of the boardwalk is not included in this application there are plans to extend the boardwalk through the existing sand path at the back of the dunes to Hunt Road in Whangamata at some time in the future. The dunes area will be the subject of a future concession application following further public and tangata whenua engagement. Details and studies regarding the dunes area have been included in this application for information purposes only.

## 1.1 Background

TCDC began investigating the boardwalk project in 2011 when the community first indicated the desire to have a coastal pathway and the Whangamata Community Board included it as a project in the 2018-2028 Long Term Plan (LTP).

The LTP highlighted coastal erosion as a key challenge facing the district and allocated significant resource to look at this issue in a proactive way. The LTP allocated $2.6 million to undertake a district wide assessment of areas at risk of coastal erosion which then informed a programme of coastal protection works in the 2019/20 Annual Plan.

As part of the programme of coastal protection works a total of $67,156 has been identified over the next three years, specifically for dune planting and for a protection programme in the Whangamata area. The proposed Whangamata boardwalk is part of overall dune enhancement activities. A letter supporting the activity is provided in Appendix C. The other key purpose of the boardwalk is to facilitate enhanced access to and along the coast by the public, including those with limited mobility.

Over the months of October and November 2019, landscape architects Beca Ltd (Beca) were engaged to undertake a concept design for the boardwalk. The designs included two possible alignment options and conceptual images and these were provided to adjoining residents and the wider community to give an indication of how the boardwalk might look. During this period, the Department of Conservation (DoC) was contacted seeking input into the concept and approval in principle. The concept design was also informed by initial meetings on site with three iwi representatives from Ngati Hako, Ngaati Whanaunga and Ngati Pu. The concept design was also informed by various specialists including:

- Jim Dahm – Coastal Scientist
- Ecologists (from Tonkin & Taylor and Beca)
- Beca Landscape architects
- Thames-Coromandel District Council Staff

Concept plans and preliminary discussions with stakeholders were finalised in December 2019. Following this, a second round of consultation was undertaken with the Whangamata community on the proposed boardwalk.

Dune planting has been scheduled to be undertaken alongside the construction of the proposed boardwalk and this programme includes weed/pest control. Over the next three years a programme will be agreed with Coastcare-Beachcare around seasonal planting of the dunes in tandem with the boardwalk construction (noting that dune sections of the boardwalk are not included in this application for concession). Infill planting

has already been undertaken in the dunes in front of the Surf Club in September. The photos below show the dune care work being undertaken as well as a completed dune planting example at Hinemoa Street, Whangamata.

Examples of existing infill planting in Whangamata

The boardwalk will be constructed in two stages. The first will be the section adjacent to Esplanade Drive and that is the section the subject of this concession application. It is hoped that work on this section can be undertaken (subject to concession) in March 2021. Future stages will extend the boardwalk through to Hunt Road to provide a connection with the town centre (subject to future concession).

# 2 Site Description

## 2.1 General

The proposed boardwalk is located along the grass berm from Esplanade Drive, with the future path at the back of the dunes to the north, to Hunt Road (see Figure 1 below). Further detail of the preferred alignment and future stages is shown in Figures 2 and 3. This area is in the ownership of the Department of Conservation (DoC) and is a marginal strip.


Figure 1: Aerial photo of Whangamata Coast. Indicative entire site area is shown in red. Source: GoogleMaps


Figure 2: The proposed location of the Whangamata boardwalk showing Stage 1 (Esplanade Drive), the subject of this concession, and Future Stages (the dunes)


Figure 3: The proposed location of the future Whangamata boardwalk stages continuing from Esplanade Drive (to the south) through to Hunt Road to the north. Note this section is not included as part of this application.

## 2.2 Esplanade Drive

The boardwalk will run along the grass berm on the ocean side of the Esplanade Drive between the carpark and the existing dune area as shown in Figures 4, 5 and 6 below. This area is used by the public for walking and some picnic tables are included. The area is covered by exotic grasses and the area is well worn by foot traffic.


Figure 4: Location of marginal strip along Esplanade Drive where the path will be placed (marginal strip outlined in red).

Figure 5: View East showing worn grassed area along Esplanade Drive

Figure 6: View North showing the carpark and grass berm along Esplanade Drive.

# 3 Proposal

The treated timber boardwalk will be 3m wide along Esplanade Drive, joists and decking will be laid along this section to create a foundation for the boardwalk (see Figure 7). No piling is expected, and the boards will be dried prior to installation to reduce the risk of cupping and warping. There will be no removal of native dune species. There will be approximately 50mm excavation of $3m^2$ of top soil required to construct the boardwalk. In conjunction with the works, further dune enhancement will be undertaken through improved barrier ropes at existing beach access and in-fill planting along this section of dunes.

Figure 7: Showing the proposed Esplanade Drive section of the board walk

## 3.1 Construction Methodology

A recent trial boardwalk has been installed in front of the Whangamata Surf Club. This is shown in Figures, 8, 9, 10 and 11 below. This has provided useful information on the potential boardwalk design and construction methodology.

Construction of the Esplanade section of boardwalk is proposed to start in March 2021. The likely construction methodology along the Esplanade Drive section will require the stripping of 50mm of sand/topsoil to create a flat surface which will then be compacted. As shown in the recent trial below, two rails will be installed on the edge of the boardwalk and these will be pegged in place as the sub-base for the deck. The stripped sand/soil will then be placed back in between the rails and lightly compacted. The decking will be laid on top and fixed to the two rails.

Esplanade Drive will be fenced and screened off from the public in sections as the construction works progress along the route for health and safety reasons. If wind borne sand becomes an issue, the fence could easily be modified to incorporate screening fabric to prevent sand migration from the site.

It will be a requirement for the contractor to prepare an erosion and sedimentation control plan in accordance with Waikato Regional Council guidelines for the engineer's approval prior to commencing the works. A pre-commencement site meeting will be held on site with the contractor, engineer and principal to ensure a clear understanding of the plans and mitigation measures in place.

During the works, the engineer will be undertaking regular construction monitoring to check compliance with the erosion and sedimentation control plan and ensure the works are constructed in accordance with the specifications and construction drawings.

## 3.2 Planting

Through Esplanade Drive planting will happen prior to and during construction and ongoing through the months of August and September. Remedial planting will be undertaken immediately after construction and will be ongoing after the boardwalk has been constructed as part of the Beachcare programme.

The likely planting species will include locally sourced native species including Muehlenbeckia complexa, Spinifex sericeus, Ficinia spiralis and Juncus kraussii.

Figures 8 and 9: Showing the recent trial boardwalk installation near the Whangamata surf club.

Figures 10 and 11: Showing the recent trial boardwalk installation near the Whangamata surf club.

# 4 Environmental Impact Assessment

The boardwalk is a permitted activity under both the Thames Coromandel District Plan and the Waikato Regional Plan and both Councils have granted Certificates of Compliance (COC) confirming that no resource consent is required under the Resource Management Act 1991 (RMA). The permitted activity status of the structure under the relevant planning documents confirms that the activity and its associated environmental, social and cultural effects are deemed appropriate and consistent with the purpose and principles of the RMA.

In regards to the Conservation Act, the proposed boardwalk will have long term positive ecological and recreational impacts. Any adverse impacts of the boardwalk relate to construction. The potential impacts are described below.

## 4.1 Positive impacts

The Conservation Act 1987 states that marginal strips shall be held for (among other things) conservation purposes, including the protection of marginal strips and their natural values, and for public recreational use of the marginal strips and adjacent bodies of water.

When the boardwalk is operational, it will enable safe access along the coastal edge and provide improved access to and from the beach and local streets for all users. The boardwalk will be more easily accessible for users who may otherwise have difficulty getting through sand, such as wheelchair users, small children and the elderly. The improved access by the public is consistent with the purpose of marginal strips in the Conservation Act.

The existing grass berm will be formalised, which will help to direct beach users away from sensitive dune vegetation and shorebird nesting sites and will stabilise exposed areas from wind erosion. The informal existing dune accessways will be sequentially planted, and new bollards and ropes installed to define the existing and formalised accessways to reduce damage to the dunes. This will increase the resilience of the natural dune system and dune plants and improve the natural values of the marginal strip, consistent with the Conservation Act.

## 4.2 Ecological impacts

An ecological assessment has been undertaken for the boardwalk and has been attached as Appendix B to this report.

The key potential ecological impacts that the boardwalk may have on the existing environment is to adversely impact dune ecology through removal of vegetation during construction and disturbance of shore birds through construction and increased recreational use of the area. Through Esplanade Drive this risk is reduced as this area is already well used and developed. These potential impacts are assessed further below.

### 4.2.1 Removal of vegetation

The proposed path along Esplanade Drive is situated mostly within the well-worn grassed embankment, and minimal, if any, dune vegetation is expected to be removed. The vegetation along the edge of the foredune and grassed embankment is generally considered to be of lower value where the grass encroaches onto the dune plants. Planting immediately after the installation of the boardwalk will occur along this section.

### 4.2.2 Disturbance of shorebirds

The sand dunes of Whangamata Ocean Beach provide roosting, foraging and nesting habitat for coastal shorebird species, in particular dotterels and oyster catchers. Disturbance of these birds can cause them to abandon nests during breeding season and increase the risk of nests being trampled inadvertently. Boardwalks and formalised accessways help to minimise the chances of nests being disturbed or damaged, if located appropriately away from known nesting areas. The planned boardwalk does not seek to create additional access across previously undisturbed areas, but rather seeks to improve and formalise existing walking tracks and access points, and therefore no additional disturbance of shorebirds is anticipated.

While it is likely that the boardwalk will increase the numbers of visitors to the beach as a result of the boardwalk, this is of lower concern in relation to the disturbance of shorebirds than the location of the boardwalk itself. It is expected that by formalising the accessway, there is less potential for disturbance of nesting birds than the existing situation where informal access may increase the chance of the public encountering nesting birds.

Construction is planned to start in March 2021, this is during autumn after shore birds have finished nesting. The boardwalk will be preassembled off site and laid in sections. This activity is temporary and there will be minimal noise or vibration that could disturb shorebirds.

Overall, the boardwalk is expected to have positive effects on the dune vegetation, by formalising access. Any adverse effects on vegetation and associated fauna habitat are assessed as being low.

## 4.3 Potential impacts on stability, sediment and flooding

An Engineering Statement has been produced for the boardwalk and is attached as Appendix D to this report.

It is stated in the Engineering Statement that the timber boardwalk construction is expected to have virtually no impact on flooding risk to nearby properties, as the sand dune environment is porous and any stormwater received by the structure will simply fall through the cracks in the wood and percolate into the sand below. As any stormwater is expected to just percolate into the sand and the sand dune environment is not generally subjected to flooding, any effect on sedimentation and flooding will be negligible.

As stated in the construction methodology above, the sand underlying the boardwalk will be prepared through compacting the underlying sand to create a stable base for the boardwalk to lay on. A lattice of joists will be placed on the compacted sand, and filled in, then the boardwalk will be placed on top.

## 4.4 Coastal Erosion

The proposed boardwalk lies within the TCDC District Plan Current Coastal Erosion Line (CCEL) along most of its length. The available data indicates dynamic shoreline (toe of dune) fluctuations of up to 12-15m over the period since 1944 to the present; as measured between the most seaward and the most eroded shorelines. The most severe erosion associated with these shoreline fluctuations appears to have occurred in the late 1950's and again in the late 1970's. However, there is no evidence of any erosion in this period that would have been sufficient to affect any part of the proposed boardwalk. The highest risk area occurs at the southern end of the proposed boardwalk, where erosion in 1978 (and probably also in the late 1950's) reached a location just seaward of the proposed boardwalk.[1]

[11] Dahm, J. *Whangamata Boardwalk: Coastal Erosion & Dune Management Assessment,* June 2020.

Evidence suggests the CCEL is probably overly conservative in this area and that, with current sea-level, the risk to the boardwalk from coastal erosion is very low; limited to the southernmost 100-200m of the boardwalk. The boardwalk is located on the back dune area, adjacent to the existing carpark. It is to be constructed in a way that can be modified and realigned if necessary in the future to avoid any sea level rise impacts. It is noted that the proposed term of this concession allows future investigations into the appropriateness of the structure location in any future applications.

## 4.5 Potential visual and amenity impacts

The potential visual and amenity impacts of the boardwalk will be minimal, both during construction and when the boardwalk is operational. The aim of this proposal is to formalise an existing well-worn walking route with a natural, low impact wooden boardwalk. The construction design provides for minimal disturbance of the sand and constructed in 10m sections for the ability to 'roll' and relocate or remove (see Figures 8 and 9). The boardwalk will sit at ground level and will not block any view of the dunes or the beach for any residents along the route. The boardwalk will be natural in colour to blend in with the coastal environment, and where vegetation was removed to install the boardwalk, remedial planting will occur. The boardwalk design is a 'lightweight' structure that will be discrete part of the existing dune environment (i.e. no large piles or permanent fences etc) and designed to be compatible with the existing dune form.

During construction, temporary construction fences will be erected around sections of the boardwalk and only small machinery such as a bobcat will be used. It is considered that the visual and amenity impact during installation will be temporary and minimal.

## 4.6 Public Consultation

The boardwalk project has been a priority for the Whangamata community since 2011, as part of Council's district-wide consultation process, which resulted in the Coromandel Blueprint. This Blueprint was endorsed by local communities and adopted by Community Boards and Council. Key moves identified by the Whangamata community under this plan included improved cycle and walkway linkages around the harbour, as a means of improving liveability and connectivity for residents and visitors.

The Whangamata Community Board proposed a budget for the boardwalk project as part of the 2018-2028 Long Term Plan (LTP). This was endorsed by Council following consultation on the LTP.

The "2018 LTP Consultation Document" highlighted "major projects happening in the Whangamata area" and included Whangamata Beach Boardwalk extensions. A handout was made available to community groups and at Council Offices for the public which featured "Proposed Projects in the Whangamata Community Board Area" (including the proposed boardwalk). There was also an advertisement in the local newspaper (Coastal News) informing the community on open days (e.g. at Whangamata Market during easter weekend) and where to get further information such as the website (tcdc.govt.nz/ltp). Council also held a public meeting in March 2018 at the Whangamata Memorial Hall to discuss the proposed project and answer queries.

Public feedback was also provided from 30 December 2019- 9 February 2020 (peak summer period) with a public drop-in session held in January 2020. TCDC received 410 formal submissions from the consultation. Approximately 60 per cent of submissions supported the proposed boardwalk concept and 40 per cent did not support it.

Those who support the boardwalk want to have improved access for those with disabilities, would like to see a tourist attraction to bring more visitors to Whangamata and want to protect the dunes and reduce erosion.

These who oppose the proposal are concerned by the visual impacts on the coast, ecological impacts from users, coastal erosion and the use of public funds to build the boardwalk.

Please refer to the Community Board report on public feedback included in Appendix E of this report.

## 4.7 Cultural Effects

TCDC have engaged with the following iwi throughout the development of the project, this group includes:

- Ngati Pu
- Ngati Hako
- Ngaati Whanaunga
- Ngati Tamatera
- Ngati Hei

Various meetings and hui have been held over the past year including:

- September 2019 - Initial contact with Iwi
- September 2019 – On site meeting (Ngati Hako and Ngaati Whanaunga)
- October 2019 – On site meeting with Ngati Pu
- December 2019 – Draft boardwalk concept sent for feedback
- February 2020 – TCDC follow up for design feedback
- March 2020 – Hui in Thames to discuss project
- May 2020 – Post COVID 19 Hui
- August 2020 – Design Hui

Iwi are supportive of the project and have discussed the following with TCDC:

- Iwi requested areas of cultural reference, which could include interpretation signage or other design features.
- Ngati Pu have requested that they have naming rights to the walkway.
- Ngati Pu have also asked that sites of significance are protected and want to review archaeologist report
- Native plantings come from that area only.
- Iwi are concerned with the current state of erosion on the beach and support a project with as little impact as possible on the natural landscape during and after construction of the boardwalk.
- Rubbish bin placement was important to be located far from the Iwi history piece.
- Design hui are ongoing with iwi

Overall iwi are supportive of the boardwalk through Esplanade Drive and are working closely with TCDC to determine the cultural narrative of the boardwalk. Minutes from these meeting are attached in Appendix F.

## 4.8 Archaeological Effects

An archaeological assessment was commissioned by TCDC in January 2020. The assessment found that no known archaeological sites are recorded in the works area to date. However, if new archaeology was identified as a result of earthworks during boardwalk construction the following points are noted in the archaeological assessment:

- The information that they may contain would be valuable to better understand this landscape. Site function and period of use would be valuable information, and likely to require radiocarbon dating to realise. This information would also inform the contextual value of the site, if present.
- The condition of any site that may be discovered is likely to be highly variable, from very poor condition to good, based on the effects of erosion and pro-gradation of the foreshore system. With changes in climate occurring, understanding sea level rise and its impact (erosion) on coastal sites discovered needs to be considered in future by TCDC and others.
- As a public space, the boardwalk does have inherent amenity values, and any archaeological discoveries made during the course of works could be communicated through information boards and artworks if appropriate.
- Identifying archaeological sites would also aid future management of the public space most appropriately.
- There are no rarity values or significance assigned at this time.
- The area of works is of significance to tangata whenua and they should advise on cultural values.

The archaeological effects are minimal as there are no recorded sites and the assessment has recommended that a General Archaeological Authority pursuant to Section 48 of the Heritage New Zealand Pouhere Taonga Act 2014 be granted prior to any ground works commencing associated with this project. This authority is currently being sought from Heritage New Zealand Pouhere Taonga.

# 5 Assessment of Alternatives

The proposal is to formalise an existing path to prevent further erosion from occurring within the coastal environment, the following is an assessment of alternatives considered.

## 5.1 Locations

The grass strip along Esplanade Drive is a wide flat strip of well-trodden grass that leads to the surf club. This area is the ideal place to put the path, as it provides access to the coast and can be done without disturbing the dune habitat as it has already been developed and modified. An alternative could be to construct a new path through the fore dunes in this section, however, this would disturb the dune habitat, could lead to erosion and this would be contrary to the aims of the project.

Another alternative could be to have the path on the residential side of Esplanade Drive, however, that would require a road crossing, which could create health and safety risks. This could also affect the existing on street parking and reduce the amenity values provided by having the path on the seaward side of Esplanade Drive.

Another alternative is to excavate the grass berm along Esplanade Drive so that the path can be located along the existing curb line. This option was dismissed due to the level of earthworks required. This concept shown in Figure 12 below.


Figure 12: Showing alternative route with path at street level, this option has been dismissed due to the higher level of Earthworks required.

## 5.2 Construction methods

Various construction methods have been explored including a methodology utilising piles as shown in Figure 13 below. However, this methodology was discounted to reduce the impact on the dunes through earthworks and disturbance and instead the low profile, light weight lattice option has been progressed instead.


Figure 13: Showing proposed methodology using piles, this option was also dismissed.

## 5.3 Do nothing

An option is to leave the current situation as is and not construct a formalised pathway. The do nothing option would still provide public access in this area of the coast, however it is noted that a grassed verge provides some access challenges to certain members of the public with limited mobility. The existing park amenity furniture is also old and dated and there is lost opportunities for iwi to tell their story and provide points of cultural interest.

The absence of a formalised pathway also means that dune areas will continue to be worn by existing public access and the risk of dune blow out remains. The do nothing option will result in less overall long term dune improvements through more coordinated management of access. Over time, ad hoc structures have been provided along the dune area to try to manage and facilitate recreational access, with safe vehicles and pedestrian access and dune protection. These efforts have largely failed due to a lack of a clear plan and co-ordination of dune planting and pedestrian access.

# 6 Proposed monitoring programme

An erosion and sediment control plan will be designed and implemented by the contractor during installation of the boardwalk, and the project engineer will assist with monitoring.

Planting after construction will occur alongside the pathway, and further revegetation of the boardwalk area and the dunes will be monitored by Beachcare/ Coastcare after construction.

The stability of the pathway will be monitored by the project engineer, to ensure that the path doesn't experience slumping or bowing or movement.

While it is unlikely there will be any potential erosion around the pathway, this will be monitored and TCDC will report issues to DoC.

# 7 Conclusion

The purpose of this application is to seek a DoC Concession for the use of land along Esplanade Drive in Whangamata to install a boardwalk which will formalise the existing path along the grass berm.

The boardwalk aims to meet many of the objectives within the Conservation Act 1987 by working with iwi partners, promoting ecological restoration while also providing access to the coast and enhancing the existing recreational values. TCDC have dedicated a lot of time to meet with the local community and have had a high level of public engagement, including over 400 submissions, with the majority in support.

The overall impact of the boardwalk being installed will be positive for the stability and ecology of the dunes and consistent with the purpose of marginal strips. Any potential adverse effect from construction will be managed through an erosion and sediment control plan and re-planting of the dunes around the boardwalk.

It is therefore requested that DoC issue a concession for the use of the boardwalk. TCDC are seeking a term 30 years for the boardwalk.

# A

## Appendix A – Project Map

# OVERALL PROJECT PLAN

# OVERALL PROJECT PLAN

# B

Appendix B – Ecological Report

# Whangamata Coastal Boardwalk

## Ecological Assessment

Prepared for Thames-Coromandel District Council
Prepared by Beca Limited

**3 July 2020**


Creative people together transforming our world

# Contents



# Appendices

## Revision History

| Revision Nº | Prepared By | Description | Date |
|---|---|---|---|
| 1 | **Claire Webb** | Draft 1 for technical review | 10.03.2020 |
| 2 | Claire Webb | Draft 2 client review | 16.03.2020 |
| 3 | Claire Webb | Final Report | 03.07.2020 |
| | | | |
| | | | |

## Document Acceptance

| Action | Name | Signed | Date |
|---|---|---|---|
| Prepared by | **Claire Webb**<br>**Senior Ecologist** |  | 03.07.2020 |
| Reviewed by | **Adam Fraser**<br>**Senior Associate** |  | 16.03.2020 |
| Approved by | | | |
| on behalf of | Beca Limited | | |

# 1 Background

Thames-Coromandel District Council are investigating options for the construction of a new coastal boardwalk between Esplanade Drive and Hunt Road in Whangamata. The boardwalk will enable safe access along the coastal edge and provide improved access to and from the beach and local streets for all users. It is anticipated that the construction of the boardwalk will be undertaken in two stages namely; Esplanade Drive to end of the road and secondly, coastal back dunes to the Hunt Road car park.

Public consultation on the Whangamata Boardwalk project raised several concerns regarding the ecological values of the dunes and the potential for the boardwalk to adversely impact dune ecology. In response to these concerns, Thames-Coromandel District Council engaged Beca Ltd to undertake a desktop ecological report to:

- Better understand the ecological values and significance of the dunes including native fauna;
- Identify key ecological concerns and constraints for the boardwalk project including review and reference of other examples of similar boardwalk projects;
- Provide recommendations to be considered as a part of the detailed design of the boardwalk and ongoing operation to safeguard ecological values of the dunes.

# 2 Ecological Context

Whangamata falls within the Tairua Ecological District covering the eastern and southern borders of the Coromandel range and eastern coast hill country. The ecological district originally comprised of extensive coastal forest, intertidal estuaries, coastal cliffs and dunelands.

The dunelands present are aeolian dunes that form parallel to the shoreline as a result of wind-blown sand accumulating within vegetation. Beaches and associated dunelands alternatively experience periods of accretion and erosion over several decades ultimately stabilising in a dynamic equilibrium between these phases. Most dune systems on the east coast of the middle and upper North Island were heavily forested prior to human settlement. This vegetation was seriously disrupted through clearance and grazing by early Maori and European settlement leading to widespread sand de-stabilisation and erosion problems around New Zealand.

Historic aerial photographs of Tairua, Pauanui and Whangamata prior to development show wide vegetated dune systems that extend beyond the present coastal reserves. Foredunes were colonised largely by spinifex (*Spinifex sericeus*) and pingao (*Ficinia spiralis*), native sand-binding species common to active dunes, whilst backdune communities included native rushland ecosystems characterised by oioi (*Apodasmia similis*), poehuehue (*Mulenbeckia complexa),* knobby clubrush (*Ficinia nodosa*), flax (*Phormium sp*) and toetoe (*Austrodria spledens*).

Within the Waikato Region, 98% of coastal sand dune vegetation has been lost since 1840 with the remaining 2% extensively modified. Furthermore, several dune plant species are now listed as nationally threatened including pingao, sand pimelea, sand tussock, and sand spurge.

Several Thames-Coromandel district beaches (Including Whangamata) which have had a significant seaward advance since beach development commenced 7000-7500 years ago and are now backed by wide coastal plains composed of coastal dunelands. These have however been rapidly developed with coastal dune systems restricted to foredunes backed by narrow grassed coastal reserves.


Figure 1: Location of Whangamata Coastal Boardwalk Project shown in red.

# 3 Ecological Values and Significance

## 3.1 Coastal dune ecosystem

Coastal dunes along Ocean Beach consist only of a single, parallel foredune that experiences periods of erosion and accretion each lasting several years. The Whangamata duneland at Esplanade Drive experienced a temporary erosion cycle with associated decrease in dune height and shoreline distance relative to a baseline captured in 1981[1] during 2015. Based on recent aerial photos, the dunes appear to be accreting once again with the foredune leading edge actively being colonised by spinifex.

[1] Coastal Action Plan Whangamata, J. Dahm, 2015

The foredune was restored in circa 2002 through weed control and planting of spinifex (*Spinifex sericeus*, conservation status: not threatened) and pingao (*Finicina spiralis,* conservation status: At Risk - declining). These species have increased dune resilience and facilitated the seaward development of the dune during accretion cycles.

Figure 2: Typical view of seaward slope of foredune.

The crest and leeward slope of the foredune is restricted by the road and grades from unconsolidated sand colonized by mixed native-exotic vegetation such as spinifex, hare's tail (*Lagurus ovatus*) and kikuyu (*Cenchrus clandestinus*), *Gazania sp*., tree lupin (*Lupinus arboreus*) and agapanthus (*Agapanthus praecox subsp. Orientalis*). No true bankdune or dune slack communities exist beyond the foredune as a result of residential and roading development (Figure 3).

Figure 3: Backdune vegetation showing mixed native-exotic vegetation.

The foredune and beach provide habitat for several native fauna species commonly found within dune ecosystems including katipo spider; copper butterfly and the shiny black sand scarab (one of New Zealand's largest beetles) as well as several sea and shore birds such as the New Zealand dotterel, red-billed gull, black-back gull, blue penguin and variable oystercatchers[2].

Northern NZ dotterels and oyster catchers routinely forage along the Ocean Beach dunes during the summer months. Otahu Point is a known breeding site for dotterels and oyster catchers which is located approximately 3km east of the proposed boardwalk. In 2016, six pairs nested at Otahu Point whilst a further five pairs nested along the rest of the beach within the dunes.

Key threats to sea and shore birds are mammalian predators such as cats, rats and mustelids as well as uncontrolled dogs. In addition, disturbance by beach goers during breeding season (Aug-Mar inclusive) can result in birds being displaced or abandoning active nests. Department of Conservation volunteers (Dotterel Minders) fence off areas around Otahu Point and further along Ocean Beach help to raise awareness and demarcate sensitive areas during this time.

The ecological value of the Ocean Beach foredune is typical of degraded coastal dunes found throughout the Waikato region because they no longer represent the full range of diversity and pattern expected of intact coastal dune ecosystem[3]. The lack of true back dune form and function as well as the diversity of dune species such as herbfields within dune slacks means that the ecological values of the Esplanade Drive to Hunt Road dunes are limited. The dunes along this stretch of coastline are not scheduled as Significant Natural Area or Natural Character Area under the Thames-Coromandel District Plan however sand dune

[2] iNaturalist NZ, citizen science species records database, accessed 3 July 2020.

[3] Coromandel Peninsula Ecological Assessment of Natural Character for Thames-Coromandel District Council, Focus – Resource Management Group, 2010.

ecosystems are a priority for protection and enhancement under the New Zealand Coastal Policy Statement (2010).

The key ecological values pertain to the establishment and maintenance of foredune vegetation and the ecosystem services and ecological natural character that it provides including nesting and foraging habitat for coastal shorebirds.

# 4 Ecological considerations for proposed boardwalk

The proposed boardwalk consists to three main sections; Esplanade Drive Promenade, Open Grassed Reserve and Meander through the Dunes (Whangamata Boardwalk Concept Plan, 2019). Typically, the construction of boardwalks involves vegetation clearance and earthworks during the construction phase and an increase in foot traffic and recreational use of the dunes and beach during the operational phase.

Both the construction and operational phases of the project have the potential to adversely impact dune ecology but also offer ecological benefits through low impact design and restoration opportunities.

## 4.1 Negative impacts on dune ecology

### 4.1.1 Removal of dune vegetation

Key construction phase concerns are the loss of foredune vegetation and associated habitat as well as the interruption of natural dune formation processes i.e. change in patterns of sand deposition within the foredune. Vegetation removal and associated impacts can be reduced by minimizing the overall extent of clearance e.g. narrower strip and/ or by locating structures outside of dune vegetation or within areas of lower vegetation value.

The Esplanade Drive Promenade concept design situates the boardwalk at the crest of the existing foredune, mostly within the grassed embankment. Some vegetation removal at the crest of the dune may be required for construction. The vegetation along the edge of the foredune and grass embankment is generally of lower value where grass tends to encroach upon the native plants. The extent of clearance will however determine the overall impact on the dunes but is likely to be no more than moderately adverse. The Open Grassed Reserve boardwalk is currently designed to be outside of the dune vegetation with no vegetation removal anticipated.

The Meanders through the Dunes section of the boardwalk presents two conception designs. Option 8A traverses the foredune enabling beach goers to experience the sand dunes and coastal views from within the foredune. Current design makes use of a ‘light touch’ construction methodology designed to create a platform on top of the dunes rather than a hard, concrete pathway. This option will involve the removal of approximately 3m-wide strip of vegetation as well as earthworks. Option 8b formalizes the existing walking track along the leeward side of the foredune and will also involve vegetation clearance to facilitate the 3m-wide boardwalk.

Option 8a has greater adverse ecological impacts on dune ecology given its location within the foredune itself. The seaward and crest of the foredune are dynamic zones where aeolian (wind) dune formation processes are at their most active. Vegetation removal and disruption within this zone could lead to areas of destabilization and blow outs which are then vulnerable to weed invasion and accelerated erosion. Furthermore, a reduction in dune habitat for dune flora, insects and shore birds could result. Option 8b is a lower impact on dune ecology by being set back from the seaward face of the dunes and reducing overall footprint by leveraging the existing walking track pathway and reducing vegetation clearance within lower value dune vegetation.

Overall, the removal of dune vegetation for the construction of the boardwalk is of low ecological concern as vegetation clearance is not expected to substantively reduce the amount of vegetation within the dunes to the extent that permanent, long-term ecological impacts will occur.

### 4.1.2 Disturbance of nesting and roosting shore birds

Ocean Beach provides nesting, roosting and foraging habitat for several coastal shorebird species, in particular, dotterels and oyster catchers which make use of the dunes for nesting habitat. Ongoing disturbance of shorebirds by beach goers can cause birds to abandon nests during the breeding season or increase the risk of inadvertent trampling of nests. These impacts are often most severe where no formal access across dunes is provided and beach users routinely make their way through the dunes indiscriminately increasing chances of nests being damaged or disturbed. Boardwalks and formalised accessways help to minimise disturbance if located appropriately away from known nesting areas. There is also a risk that boardwalks will also increase visitor numbers more generally, increasing disturbance however, this is of lower concern than the location of the boardwalk itself.

In the current concept plan, the location and design of the boardwalk does not create any additional access to previously undisturbed areas but rather seeks to improve and formalise existing walking tracks and beach access points. No additional disturbance is anticipated as a result of the project and represents very little change in disturbance compared to existing conditions.

### 4.1.3 Increased recreational impacts e.g. litter, tracking and trampling of dune vegetation.

Feedback received on the project has also raised concerns with respect to an overall increase in visitor numbers to Ocean Beach and with improved dunes access resulting in an increase in the recreational use of the dunes for picnicking, cycling and walking with associated issues such as litter and trampling of vegetation. All these activities if undertaken within the dunes can have ongoing adverse impacts on dune ecology especially where vegetation is unable to recover adequately from trampling. Given that well-used informal accessways current exist for the entire length of the proposed boardwalk and that no new access to formerly undisturbed areas will be facilitated through this project, the potential impact on dune ecology is low-moderate depending on the actual increase in visitor numbers (if any) and whether visitors begin to use the dunes more frequently.

## 4.2 Ecological Benefits

### 4.2.1 Enhancement of dune ecosystem

The boardwalk project provides an opportunity to remove weed species and revegetate some of the existing beach accessways. The boardwalk concept plan sets out a basic suite of native, foredune species that will be used in revegetation and enhancement plantings along the boardwalk including spinifex, pingao and wiwi. All of these species are appropriate for the dune ecosystem. Furthermore, opportunities to undertake some weed control especially along the crest and leeward slope of the dune will further enhance the dunes.

Several similar projects such as Caroline Bay, Timaru[4] , Mapua, Nelson[5] and Lyall Bay, Wellington[6] have facilitated dune restoration through revegetation and enhancement planting as part of the project.

[4] https://www.coastalrestorationtrust.org.nz/site/assets/files/1185/case_study_no_02_timaru.pdf

[5] https://www.mfe.govt.nz/more/environmental-remediation-projects/mapua-contaminated-site-clean

[6] Lyall Bay Five Year Dune Restoration Plan, prepared for Wellington City Council and Greater Wellington Regional Council Coastline Consultants, 2009

Caroline Bay is a good example of successful dune restoration with public access. Initially, the area comprised of unvegetated sand flats with low ecological and amenity values. Over time, accessways were formalized and the area was planted with native sand-binding species to facilitate the development of a foredune (Figure 4). In addition, back dune areas were restored to great a greater diversity of dune ecosystems within the site.

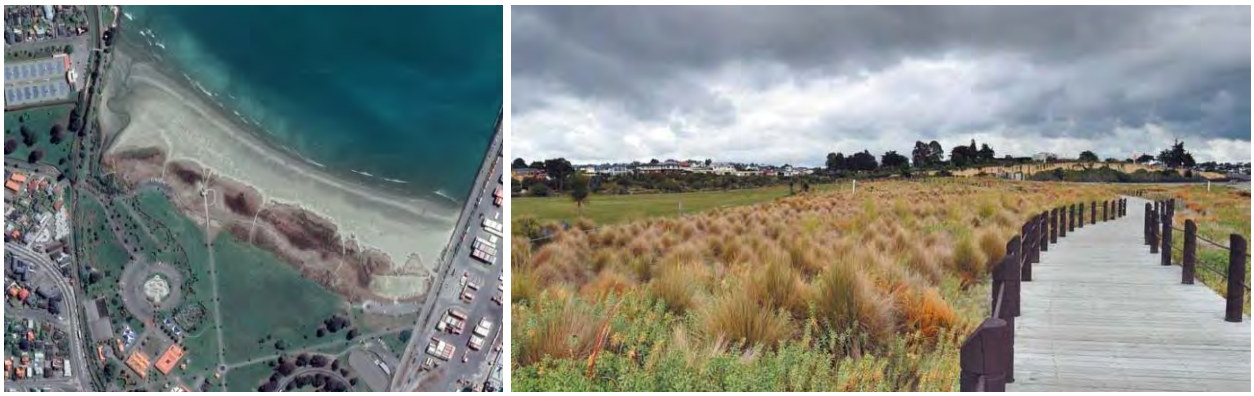

Figure 4: Caroline Bay boardwalk and dunes, Timaru

### 4.2.2 Reduction in the number of accessways

The boardwalk also offers the opportunity to reduce the number of beach access points through the dunes. At present, there are approximately 11 beach accessways through the proposed project area of which seven occur within a 130m stretch of dune. Further northwards, accessway are less defined suggesting that most access occurs indiscriminately through the dunes.

Reducing edge effects from numerous beach accessways will allow the foredune to expand and function naturally improving overall resilience, regeneration and ecological value.

### 4.2.3 Formalisation of coastal walkway and access points

Clearly defining a coastal walkway and associated beach access points will help to direct beach users to appropriate access points avoiding adverse impacts on dune ecology as discussed in Section 3. The recent development of a coastal walkway at Mount Maunganui demonstrates the benefits of low impact design and the formalisation of a coastal access. This project provided coastal access adjacent to the Mount Maunganui dune systems, aligning with defined beach access point in accordance with best practice dune management[7] for pedestrian access.

### 4.2.4 Avoidance of known nesting sites

The ecological benefits of the proposed boardwalk also include the ability to avoid known shorebird nesting sites by locating the boardwalk and access points away from known nesting sites. This reduces foot-traffic in proximity to nesting birds preventing disruption of the breeding season or injury of the birds themselves. The proposed boardwalk does not necessarily change the level of disturbance that the birds already experience and offers an additional opportunity to further minimise impacts where practical by avoiding known nest sites.

# 5 Recommendations

The key ecological concerns pertain to both the construction and operational phases of the project as they relate to the removal of dune vegetation and potential increase in recreational use of the dunes. Additional

[7] https://www.coastalrestorationtrust.org.nz/site/assets/files/1185/9.2_accessways.pdf

disturbance of shorebirds is not anticipated in comparison to the existing conditions but offers the opportunity to further minimise impacts on nesting birds by reducing the number of accessways to the beach.

Positive ecological benefits include formalisation of the coastal walkway which will help to direct beach users away from sensitive dune vegetation and shorebird nesting sites. Reducing the number of accessways provides the opportunity to enhance the foredune through revegetation facilitating natural coastal processes and increasing resilience of the dune system. On balance, the boardwalk is expected to have positive effects on the foredune with little to no adverse on foredune vegetation and associated fauna habitat.

To maximise positive ecological benefits and safeguard ecological values, detailed design of the boardwalk should consider the following recommendations:

1. Minimise vegetation clearance by locating the boardwalk away from foredune vegetation along Esplanade Promenade and Open Grassed Reserve sections.

2. Leverage existing walking tracks and beach access points to reduce overall footprint of the project. Option 8b is the preferred option for the Meander through the dunes section. This option has a comparatively lower ecological impact that Option 8a.

3. Revegetation / restoration planting should be undertaken using appropriate, eco-sourced dune species to minimise edge effects where vegetation removal is necessary and also to enhance any areas of dune vegetation disturbed during the construction phase of the project.

4. Education and signage – providing information along the boardwalk on dune restoration efforts, protection of bird nest areas etc.

# C

Appendix C – Letter from TCDC Community Facilities

08 June 2020

Dear Dean Glen

Certificate of Compliance - Whangamata Beachfront Boardwalk

I am writing as activity manager, and asset manager for the Thames-Coromandel District Council's coastal activity. This letter helps with some of the context for the Certificate of Compliance application for the proposed Whangamata beachfront boardwalk, and more specifically Council's role in management and protection of the coastal environment.

The Thames-Coromandel District Council has a coastal protection activity which allows Council to set levels of service, prioritise programme of works and bring in revenue through rates, to help manage and protect the coastal environment. Council's 2018-2028 LTP highlights that:

- Council provides harbour facilities to support recreation, tourism-related activities, commercial fishing and aquaculture.
- Council also undertakes dune replenishment and beach nourishment to manage the effects of coastal hazards on existing development and infrastructure.
- Council, along with the Waikato Regional Council, plays a role in planning for and managing the effects of coastal hazards, including dune restoration and care.

In Council's 2018-2028 Long Term Plan it highlighted coastal erosion as a key challenge facing our district and allocated significant resourcing to look at this issue in a proactive way.

In the 2018/19-year Council's 2018-2028 LTP allocated $2.6 million to undertake a district wide assessment of areas at risk of coastal erosion which will then inform a programme of coastal protection works in the 2019/20 Annual Plan.

As part of the programme of coastal protection works a total of $67,156 has been identified over the next three years, specifically for Dune planting and protection programme in the Whangamata area. In addition to this, Thames-Coromandel District Council has recently partnered with Coastcare-Beachcare and have employed a full time Coastal Management Co-ordinator, Tanya Patrick to manage and co-ordinate dune planting and restoration with local communities. I have attached a copy of a TCDC's News and Public Notice to this letter highlighting Council's role in partnership with WRC and Coastcare-Beachcare.

Dune planting has been scheduled to be undertaken alongside the proposed boardwalk at Whangamata during the June-August planting season. This programme includes weed control in preparation, which is scheduled to start in the next few weeks. Over the next three years a programme will be agreed with Coastcare-Beachcare around seasonal planting of the dunes in tandem with the Boardwalk.

If you have any further queries please do not hesitate to contact me on [redacted] or e-mail [redacted]

Yours sincerely

Derek Thompson
Communities Facilities Manager
OPERATIONS

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## Partnering up to care for our beaches

05 November 2019

**When you are walking the beaches around the Coromandel this summer, you may notice some new signs reminding people to take care of our precious coastal environment.**


Waikato Coastcare

When you are walking the beaches around the Coromandel this summer, you may notice some new signs reminding people to take care of our precious coastal environment.

The Coastcare - Waikato signs, pictured above, ask people to use marked access ways to get to the beach to help protect our sand dunes.

Our Council is proud to be part of the Coastcare partnership alongside the Waikato Regional Council (WRC), the Department of Conservation (DOC) and iwi and to work in with Forest & Bird NZ and ratepayer groups to protect and restore our coast.

Coastcare was recently rebranded from Beachcare – a programme that started more than 10 years ago bringing together groups of people who work to protect the coast in their area. Work involves restoring dunes with native dune plants, building access ways, controlling pest plants and animals, installing signs, community education and monitoring beaches for changes or problems that need attention.


Our Coromandel 2019-20

Open up the e-version of the latest hot issue of our annual magazine - it's jam-packed with fun things to do in the Coromandel, events and updates on what's happening at Council.

- Open e-magazine

Like us on Facebook.

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- Sign up

**Authorised By:**
Communications manager

**Last reviewed:** 05/11/2019
**Next review:** 05/11/2020

- Heritage
- Libraries
- Long Term Plan
- Mercury Bay News
- Mountain biking
- Opening Hours
- Parks and Reserves
- Rates News
- Road Closure
- Roading and Transport
- Rubbish and Recycling
- Standing Committees
- Tairua-Pauanui News
- Thames Centennial Pool
- Thames News
- Tourism News
- Treaty Settlements
- Walking tracks
- Wastewater
- Water
- Water Shutdowns
- Water Restrictions
- Whangamata News
- Weather
- Whitianga Town Centre Upgrade
- World War 1 - Memorial Forest
- Youth


We have more than ten Coastcare groups across the Coromandel including in Opito Bay, Buffalo Beach and Cooks Beach. For a map of where local groups are located, click here.

Our Council's coastal management coordinator Tanya Patrick says we're lucky to have some of the most beautiful beaches in the country on the Coromandel.

"It's certainly one of the main reasons people choose to visit and live here and it's significant to be working together with our agency partners to take care of our coastal environment," Tanya says.

"We can all play our part to look after our beaches by staying off the sand dunes, not driving on beach reserves or dunes and taking rubbish with us when we leave the beach," Tanya says.

A Coastcare group recently planted about 1500 native plants on the sand dunes around beach access 9 on Pauanui Beach (pictured below). The group was helped by the Hikuai School and local volunteers.

These sorts of planting days happen frequently across the district and if you want to get involved with a planting day near you, please contact tanya.patrick@tcdc.govt.nz

For more information on Coastcare programme, click here:

THAMES COROMANDEL DISTRICT COUNCIL

## Building a sustainable coastal future

A project that sees us working closely with our coastal communities is the development of Shoreline Management Plans (SMPs).

Following on from the adoption of our Coastal Management Strategy and Coastal Hazards Policy in 2018, our Council is underway with a three-year project to define the flooding and erosion risks to people and the social, cultural, economic and natural environment across all parts of our coastline over the next century and beyond.

All of our coastal communities will be relied upon to tell us their coastal stories, pass on their knowledge of coastal environments, engage in discussions and work through solutions.

Our Council's operations group manager Bruce Hinson says SMPs are one of the proactive steps our Council is taking in response to the challenge of climate change for our communities, ensuring we are engaged, prepared, protected and safe in the long-term.

"Over the next three years, with your valued input, we will produce SMPs that cover the entire Thames-Coromandel coast," Mr Hinson says.

"This is your coast. We believe that by striving together to create resilient coastal environments we will ensure thriving coastal communities long into the future," Mr Hinson says.

More information: tcdc.govt.nz/coastal

# D

Appendix D – Engineers Statement

Urban Solutions Limited
201 Victoria Street West,
Auckland Central 1010,
PO Box 5738, Wellesley Street,
Auckland 1141, New Zealand

urbansolutions.co.nz

Andrew Hill
Beca
32 Harington Street,
Tauranga 3110

26/06/2020

Sent by email to [redacted]

# ENGINEERING STATEMENT – WHANGAMATA BOARDWALK

I understand that the pending Waikato Regional Council COC application for the Whangamata Boardwalk requires additional information before it can be lodged. I have prepared a brief statement as a chartered engineer to confirm that there is no known engineering or stormwater reason or issue to cause concern with respect to flooding or sediment impacts. Specially the construction of the timber boardwalk in my opinion will comply with the permitted activity standards -under 5.1.5 of the WRC Plan including:

- e. The activity shall not result in neighbouring land becoming subject to flooding.
- m. avoid the adverse effects of sediment on water bodies.

The timber boardwalk construction is estimated to have virtually no impact on the potential to cause a flooding risk to the neighbouring land. The primary reason for this is that sand dune environment is highly porous in nature and is rarely subject to flooding. The stormwater falling on the timber boardwalk will fall through the gaps in the boards or the side and percolate into the sand below. In additional the residential properties are on the upside of the boardwalk alignment.

The installation of the boardwalk will involve profiling the underlying sand to form a suitable base. It is expected that the preparation of the sand base will either be by manually raking, screeding and rolling or by small machinery such as a bobcat. It will be a requirement for the contractor to prepare an erosion and sedimentation control plan in accordance with WRC guidelines for the engineer's approval prior to commencing the works. A pre-commencement site meeting will be held on site with the contractor, engineer and principal to ensure a clear understanding of the plans and mitigation measures in place.

It is expected that the site would be fenced and screened off from the public in sections as the works progress along the route. If wind borne sand becomes an issue, the fence could easily be modified to incorporate screening fabric to prevent sand migration.

During the works, the engineer will be undertaking regular construction monitoring to check compliance with the erosion and sedimentation control plan and ensure the works are constructed in accordance with the specifications and construction drawings.

[redacted]

Upon completion, reinstatement of the site will be carried out to a tidy condition including cleaning of the site, removal of all equipment and plant and disestablishment of fencing.

**Sincerely,**

Lorenzo Canal CPEng
Director
M [redacted]
E [redacted]

# E

Appendix E – Consultation Record

## Andrew Hill

**Subject:** FW: Planning/Ecology input

Hi Ross,

Thank you for your consent enquiry.

Provided that works are occurring through back dunes only and you can comply with the below standard and terms when undertaking earthworks (listed below as 5.1.5 Conditions for Permitted Activity Rule), no regional council consents would be required.

If you cannot comply with the standards and terms below and earthworks for forming a track are occurring in coastal frontal dunes over a length of more than 100 metres then consent would be required for earthworks in a high risk erosion area.

***5.1.5 Conditions for Permitted Activity Rule***

a. *Organic material shall not be placed in fill where its subsequent decomposition will lead to land instability.*
b. *Erosion/sediment controls shall be installed and maintained on all earthworks during and on completion of the works to avoid the adverse effects of sediment on water bodies.*
c. *Cut-offs or culverts shall be designed and installed to prevent scour, gullying or other erosion.*
d. *Any erosion or instability of the coastal environment, or the beds of rivers and lakes or wetlands shall be avoided or remedied if it does occur.*
e. *The activity shall not result in neighbouring land becoming subject to flooding.*
f. *All disturbed vegetation, soil or debris shall be deposited or contained to prevent the movement of disturbed matter so that it does not result in:*
    i. *the diversion, damming or blockage of any river or stream, or*
    ii. *the passage of fish being impeded, or*
    iii. *the destruction of any habitat in a water body or coastal water, or*
    iv. *flooding or erosion.*
g. *The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan, in any district plan, in the New Zealand Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where Historic Places Trust approval has been obtained.*
h. *The concentration of suspended solids in any point source discharge arising from the activity shall comply with the suspended solids standards as set out in Method 3.2.4.6. This condition applies only to permitted activity rules and excludes any non-point source discharges from roading, tracking and vegetation clearance activities (refer condition o) below).*
i. *Any discharge of contaminants into air arising from the activity shall comply with the permitted activity conditions in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.*
j. *In the event of any waahi tapu that is not subject to g) above being identified by the Waikato Regional Council to the person undertaking the activity, the activity shall cease insofar as it may affect the waahi tapu. The activity shall not be recommenced without the approval of the Waikato Regional Council.*
k. *No storage or mixing of fuels, oils, or agrichemicals shall be undertaken in areas where deliberate or inadvertent discharge is likely to enter any permanent natural surface water body.*
l. *All vegetation that is being felled within five metres of a perennial water body shall be felled away from the water body, except edge vegetation, or vegetation leaning over a water body, which if necessary may be felled in accordance with safety practices.*
m. *All exposed areas of soil resulting from the activity shall be stabilised against erosion by vegetative cover or other methods as soon as practical following completion of the activity and no later than six*

*to twelve months from the date of disturbance to avoid the adverse effects of sediment on water bodies.*

*n. The activity shall not be located within 20 metres of a Significant Geothermal Feature.*

*o. The concentration of suspended solids in any non-point discharges from roading, tracking and vegetation clearance activities shall meet the following standards;*

*i. The activity or discharge shall not result in any of the following receiving water standards being breached:*

*ii. in Waikato Region Surface class waters - 100 grams per cubic metre suspended solids concentration*

*iii. in Indigenous Fisheries and Fish Habitat class waters - 80 grams per cubic metre suspended solids concentration*

*iv. in Trout Fisheries and Trout Spawning Habitat class waters - 25 grams per cubic metre suspended solids concentration*

*v. in Contact Recreation class waters - black disc horizontal visibility greater than 1.6 metres*

*vi. in Natural State class waters - the activity or discharge shall not increase the concentration of suspended solids in the receiving water by more than 10 percent*

*Standard a) shall apply, except where the suspended solids concentration or black disc horizontal visibility in the receiving water is greater than the standards specified, at the time and location of discharge or of undertaking the activity. Then there shall not be any increase (i.e. further deterioration) in the receiving water suspended solids concentration or black disc horizontal visibility of more than 20% as a result of the activity or discharge.*
*The point at which compliance with this standard shall be measured is after reasonable mixing has occurred which in any instance does not exceed 200 metres from the point of discharge.*

*a. Soil disturbance associated with the construction of a road or track within 20 metres of a culvert or bridge provided for in Rules 4.2.8.1, 4.2.8.2, 4.2.9.1, 4.2.9.2 and 4.2.9.3;*

*i. Shall not occur adjacent to Significant Indigenous Fisheries and Fish Habitat Class waters during August to December inclusive and Significant Trout Fisheries and Trout Habitat class waters during May to September inclusive; and,*

*ii. Shall be stabilised against erosion by vegetative cover or other methods as soon as practical following completion of the activity and no later than two months from the date of disturbance to avoid the adverse effects of sediment on water bodies; and*

*iii. The location of the proposed soil disturbance shall be notified to the Waikato Regional Council in writing at least 10 working days prior to commencing construction.*

Please advise if you require further clarification or require any further information.

Kind regards,
Christin

**Christin Atchinson** | SENIOR RESOURCE OFFICER | Coasts and Inland Waters, Resource Use
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato
Take a look at the work we do
P: [redacted]
M: [redacted]
F: facebook.com/waikatoregion
Private Bag 3038, Waikato Mail Centre, Hamilton, 3240

**From:** Suzanne O'Rourke <Suzanne.O'Rourke@waikatoregion.govt.nz>
**Sent:** Wednesday, 11 September 2019 11:32 AM
**To:** Ross Ashby [redacted]
**Cc:** Christin Atchinson [redacted]
**Subject:** FW: Coastal Walkway

Hi Ross,

Thanks for your query below.

Christin will be in touch further in response to your query.

**Suzanne O'Rourke** | TEAM LEADER | Coasts and Inland Waters, Resource Use
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato
Take a look at the work we do
P: [redacted]
M: [redacted]
F: facebook.com/waikatoregion
Private Bag 3038, Waikato Mail Centre, Hamilton, 3240

**From:** Ross Ashby [redacted]
**Sent:** Monday, 9 September 2019 10:29 AM
**To:** Coasts and Inland water queries [redacted]
**Subject:** Coastal Walkway

Good morning Suzanne, I am a project manager at TCDC and am in the early stages of setting up a project team for a dune walkway project in Whangamata. The main drivers behind this project is to help formalise a single walkway through the back dunes of Whangamata Beach to reduce heavy damage to the dune system by all the informal pathways. I am also engaging a ecologist, and Jim Dham to help with the route alignment and a dune planting and restoration plan. Firstly I would like to understand what requirements there are from WRC, ie consenting or anything else I may not be aware of.

Below is an outline of the project – Are you able to advise of any consenting requirements at this early point, and anything else we may wish to consider. We have a meeting next **Thursday 19th of September** on site to discuss and look at possible routes. If you think it worthwhile, it might be good to have someone from WRC attend as well?

Look forward to hearing from you

Regards

**Ross Ashby**
Project Manager
Thames-Coromandel District Council
Private Bag, 515 Mackay Street, Thames.
Cell: [redacted] P: [redacted] DDI: [redacted] f: [redacted]
e: [redacted]
w: www.tcdc.govt.nz



**LTP project update - Whangamata Boardwalks from Project Manager Ross Ashby**

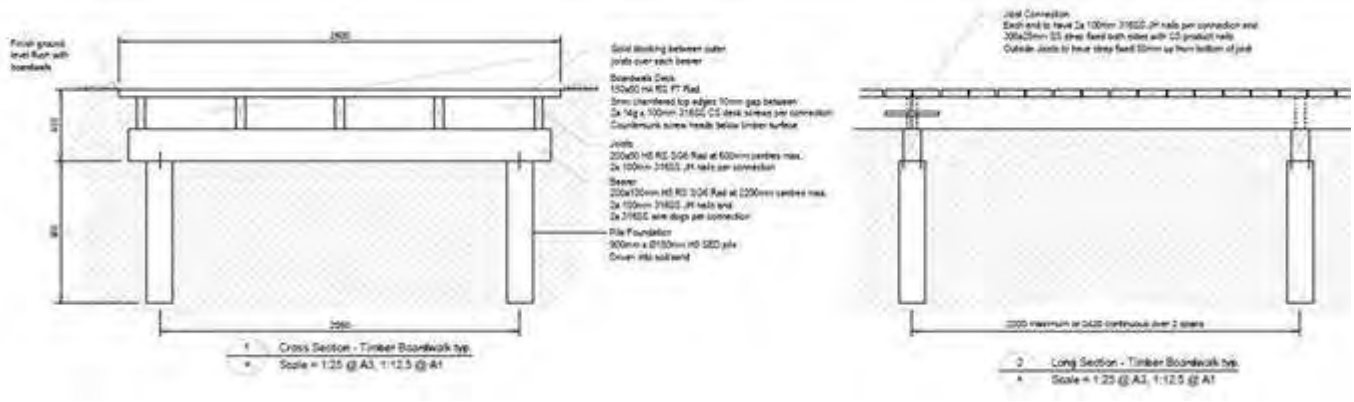
Below is the budget which starts in 2019/2020.
2019-2020 - $295k
2020/2021-$179k

**Project scope;**
To formalise the public walkway that exists along the back dune edge from the northern end of Whangamata Beach starting at Hunt Road car park (access 4) to join with the new Surf Club boardwalk (Access 9).There is currently an informal unformed sand track that meanders through the dunes from these points which is well used during peak

periods, a formed walkway of either boardwalk or mulch would assist in protecting dune flora and fauna from this foot traffic damage.
Construct a new boardwalk approximately 970m in length from Hunt Road car park to join with the Surf Club boardwalk (Access 9).

Work to be undertaken in 2 stages to align with budgets:
Year 1 (Stages One and Two below)-Esplanade Drive - Access 9 - 8 approx. 330m
Dune Edge from Access 8 - 6 approx. 297m
Year 2 (stage three) - Dune edge from Access 6 - 4 approx. 343m

**Typical Cross Section:**



**Issues/Status/Risks**

- Vast majority of Boardwalk is on Esplanade Reserve - Crown Land Administered by DOC.
- DOC would have to agree to an easement - For this to be acceptable would need Iwi support and possibly ecological assessment. As part of this easement, it is likely that weed control would be a requirement.
- It appears at first glance that the walkway may be a permitted activity under District Plan zoning Open Space and within the Coastal Environment line: walkway could be deemed informal recreation activity which is permitted under the district plan. However a lawful development certificate would be needed to clarify this.
- Earthworks - In the coastal environment earthworks would have to comply maximum area of 10,000m2 and 2,500m2 maximum volume - likely that any boardwalk would comply with this
- Section 29 -of the District Plan also regulate removal of indigenous vegetation. Compliance with Section 29 would be required and a discussion with WRC - however on face of it if boardwalk following existing well-worn path, then likely to be very little vegetation removed at all.
- Waikato Regional Council consent -To be confirmed.
- There are a number of archaeological sites located along the foreshore an application to Heritage NZ may be needed for works within the vicinity of these location and an archaeological assessment.

**Ross Ashby**
Project Manager
Thames-Coromandel District Council
Private Bag, 515 Mackay Street, Thames.
Cell: [redacted] P: [redacted] DDI: [redacted] f: [redacted]
e: [redacted]
w: www.tcdc.govt.nz

# Whangamata Boardwalk Extension Project Feedback and Options Report

| | |
|---|---|
| TO: | Whangamata Community Board |
| FROM: | Ross Ashby - Project Manager Infrastructure |
| DATE: | 18 November 2020 |

## 1 Background

Long Term Plan

Following community direction for improved walking and cycling connections around Whangamata's coastal edge, the Whangamata Community Board proposed a budget in the 2018-2028 Long Term Plan for a boardwalk extension from the existing boardwalk at the Surf Club through to Mooloo Crescent. Ultimately, the Board would like the boardwalk to be built through to Hunt Road.

As part of its statutory requirements in preparing the 2018-2028 Long Term Plan under the Local Government Act 2002, Thames-Coromandel District Council produced the "2018 Long Term Plan Consultation Document" (this can be viewed on Council's website on https://www.tcdc.govt.nz/ltp).

This document highlighted "Major projects happening in the Whangamata area," and included Whangamata Beach Boardwalk Extensions on pages 25 and 26. A more targeted handout was made available to community groups and at Council Offices for the public which featured "Proposed Projects in the Whangamata Community Board Area". There was also an advertisement in the Coastal News which directed people to find out more on Easter Sunday (1 April 2018) at the Whangamata Market or to visit www.tcdc.govt.nz/ltp. Additionally, there was a public meeting on Saturday, 17 March 2018 from 3pm to 5pm at the Whangamata Memorial Hall.

Eight submissions were received on the proposed budget as part of the Long Term Plan process, with Council endorsing the budget ($557,000) and prioritising the project over the 2019/2020 ($295,000) and 2020/2021 ($179,000) financial years, with $83,000 allocated in year 2025/2026.

Further Community Engagement – Concept Plan

Over the months of October and November 2019, landscape architects Beca were engaged to undertake a concept design to provide information to adjoining residents and the wider community on two possible alignment options and conceptual images, and materials on how the walkway might look. During this period, the Department of Conservation was contacted seeking input into the concept and approval in principle. The concept design was also informed by initial meetings on site with three iwi representatives, Ngaati Hako, Ngati Whanaunga and Ngaati Pu. The concept design was also informed by:

- Jim Dahm – Coastal Scientist
- Tonkin and Taylor – Ecologist
- Beca: Engineers and Consultants – Landscape architects
- Thames-Coromandel District Council Staff

Concept plans and preliminary discussions were finalised in December 2019. Following this, a second round of consultation was undertaken with the Whangamata community. This was not a formal statutory consultation process, but rather an opportunity to assess the views and preferences of interested and affected persons pursuant to the decision-making requirements in section 78 of the Local Government Act.

- A project page was set up on Thames-Coromandel District Council's website, and letters were sent to all adjoining residents registered contact addresses on 20 December 2019 informing them of the proposal, and seeking feedback on the two alignment options by 31 January 2020.
- Additionally, a public drop in session was arranged for public to hear more about the proposal, as well as an opportunity for adjoining residents to discuss the proposal during Auckland Anniversary weekend on Monday 27 January 2020.
- The project details and feedback dates were advertised in Coastal News on 19 December 2019. On 30 December 2019, Council electronic newsletter, website and Facebook also advertised the feedback period and project details.
- On 22 January 2020 another Coastal News advert went out with the full concept plan.
- On 30 January 2020 an update was provided in the Coastal News regarding submission dates and that Council would receive late submissions until 7January 2020.

The concept plans were also sent to the Department of Conservation, and all three iwi for formal feedback.

## 2 Discussion

Project Objectives/Drivers

The key drivers behind the proposed boardwalk extension are as follows:

- An opportunity to provide a formalised boardwalk through the well-worn path through the existing dune system.
- To improve, revegetate and repair the dune system by restricting pedestrian access to a single path, with opportunities for establishing native vegetation ultimately improving shoreline erosion and ecology.
- Improve access for all ages and abilities
- Improved picnic and seating at the esplanade end
- Improved passive surveillance and reduced opportunity for antisocial behaviour

Land Status

During the concept plan consultation period, a letter was received requesting suspension of stage 1 of the Boardwalk Project until the Board and/or Council has concluded its review of the Whangamata Reserve Management Plan pursuant to s 41(4) and (8) of the Reserves Act.

A response by Council's Legal department, indicating that the Boardwalk was on land (Marginal Strip) that is administered by the Dept of Conservation (DOC) on behalf of the Crown, and is not owned, managed or controlled under any formal arrangement by Council. As such it is not subject to a reserve management plan (RMP) under section 41 of the Reserves Act.

A second letter was received on 28th of February 2020 further requesting suspension of Stage 1 of the Boardwalk Project, until matters have been progressed with the Department of Conservation under s24C of the Conservation Act.

Discussions are currently underway with the Department of Conservation, in parallel with the Whangamata community and directly adjoining residents. In order to meet s24C of the Conservation Act, DOC need to be satisfied with the level of information provided. An e-mail received on 18 February 2020 from DOC indicated that a formal submission proposal should be made with an independent assessment of effects including ecological effects, alongside those considered by Treaty partners and the community.

It is intended that no construction will occur until a formal process under the Conservation Act has been finalised, which meets the requests of this letter, however design and planning work needs to continue to inform this process.

Independent review of the consultation and reserve management process from Brookfields indicates that there is enough confusion around land ownership to warrant further consultation as part of the detailed design stage to clarify the land status and its statutory management, including the role of the Crown as landowner.

## 3 Significance and Engagement

Public Feedback on Concept Plan

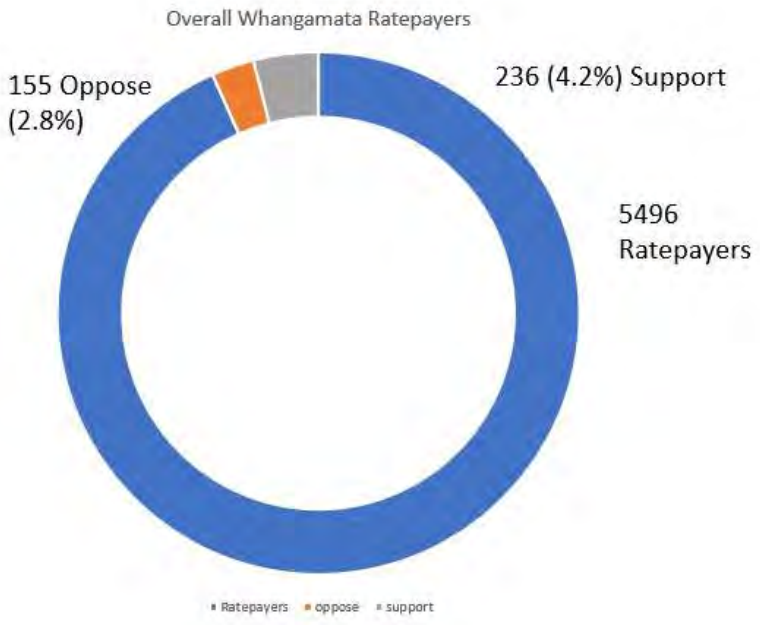
Feedback was sought on the proposed concept plan; and provided two route alignment options. As stated under background above, the principle of whether the project should be prioritised and budgeted for, was consulted on with the community thorough the 2018-2028 Long-Term Plan process. This process included opportunity for submissions, public hearings and final deliberation by Council. The conclusion of this process was Council allocating budget over two years to complete the project.

Notwithstanding the above, feedback at the public open days, and through e-mail and submissions, expressed concern around lack of knowledge on the proposal and a choice on a 'no boardwalk' option was raised. All submissions can be viewed on TCDC's website: https://docs.tcdc.govt.nz/store/default/6244340. For complete transparency the summary of all feedback includes an analysis of any submitter registering their opposition to the boardwalk, as well as those who were in favour.

We received a total of 409 submissions over the consultation period between 1 and 31January 2020. On further analysis, 18 submissions against the proposal were from the same computer Internet Protocol (IP) address.

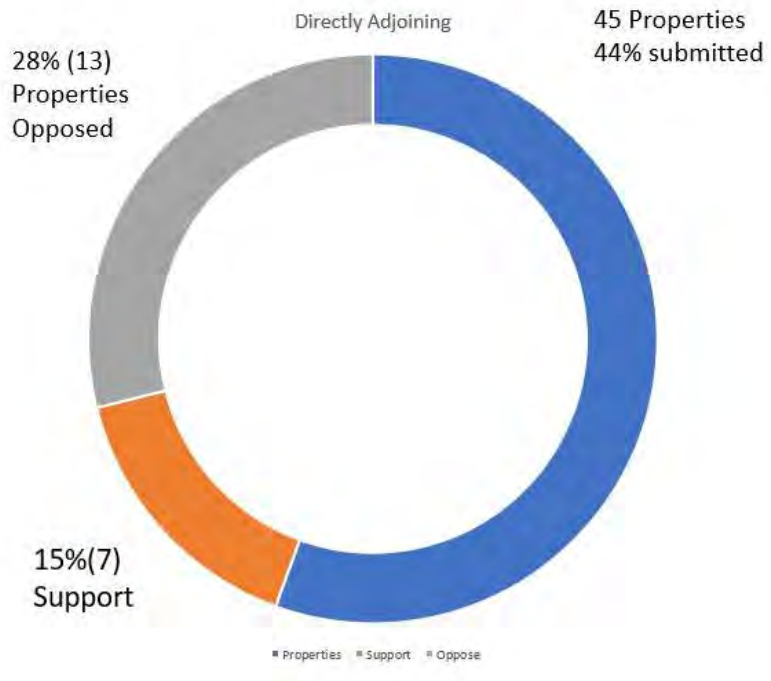
Overall 60% support the proposal with 40% opposed.

The graph below shows the number of submitters in relation to overall ratepayers in Whangamata:



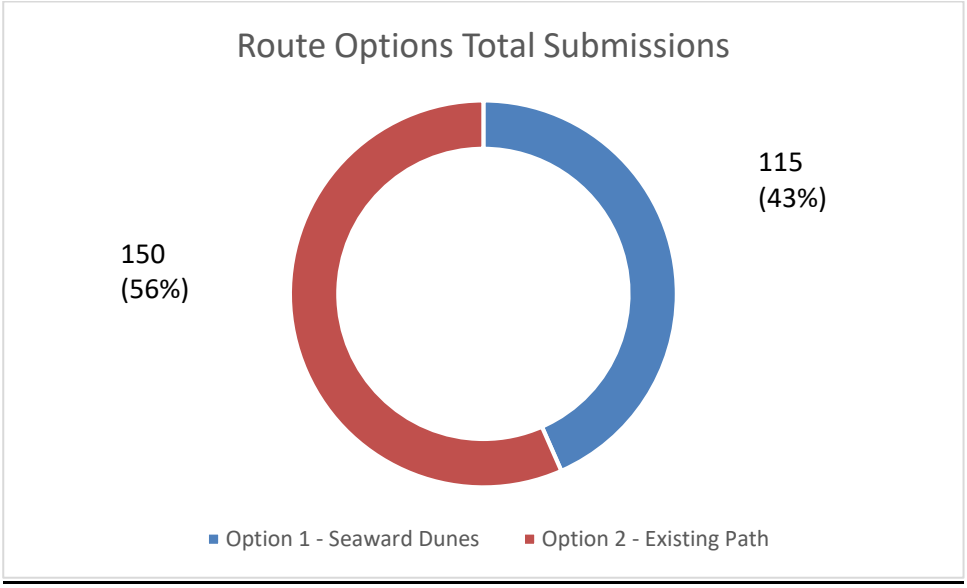

31 submissions were received from directly adjoining residents (including properties north of Mooloo Crescent – outside of stage 1), of which 24 of these submissions (77%) opposed the proposal. When assigning submitters to property addresses, 44% (or 45 properties) of the total number of properties made a submission.

Looking at this in further detail, of those submitters directly adjoining stage 1, 23 submissions were against (10 of these submissions were from 2 addresses), with 9 submission for the proposal. Of the 45 properties (44% of all properties adjoining) submitted, 13 properties (28% of all adjoining properties) opposed the project, with 7 properties (15% of all adjoining properties) supporting the proposal.

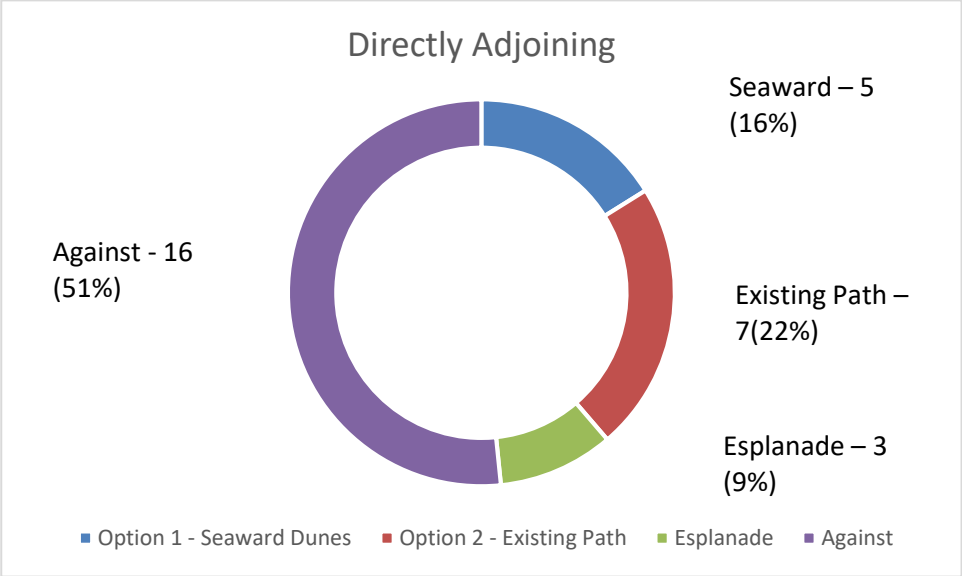



Preferred Route

56% (150 submissions) in total preferred the existing path, with 43% (115 submissions) preferring the seaward, dune option.




Of those submissions directly adjoining the proposed walkway, 51% were against the proposal and did not indicate a preference, with slightly more submitters 7 (22%) preferring the existing path, than the seaward (5 submitters – 16%). 3 submitters indicated that the esplanade end should be built only.




<u>Issues Identified</u>
There were some consistent key themes in all feedback provided. A summary of these key issues is provided below and a response where appropriate:

*Dunes*
The proposed Boardwalk will have a detrimental effect on the natural character and values of the existing dune system.

*Sea Level Rise*
The boardwalk will be subject to coastal erosion.

*Security*

More people using the walkway will generate more anti-social behaviour.

*Increased Use*
The Boardwalk will be used by more people on bikes, scooters, skateboards who will leave rubbish and create noise.

Reduced privacy for adjoining landowners

Iwi

A hui was held on Thursday 12 March 2020 with two of the three iwi to get a clearer understanding of the proposal, and determine support and next steps. Initial conversations with all three iwi that informed the concept plan provided the following high-level directions:

- Need to have a hui to discuss the project as a united iwi position
- Opportunity to tell story and layers of history
- Design features included
- Signage and stories about the natural environment, islands, plant species etc
- Importance of navigation
- Opportunity to bring iwi together
- Improve wheelchair access to the beach

Following the hui further discussions were to be had within and between the three iwi to discuss:

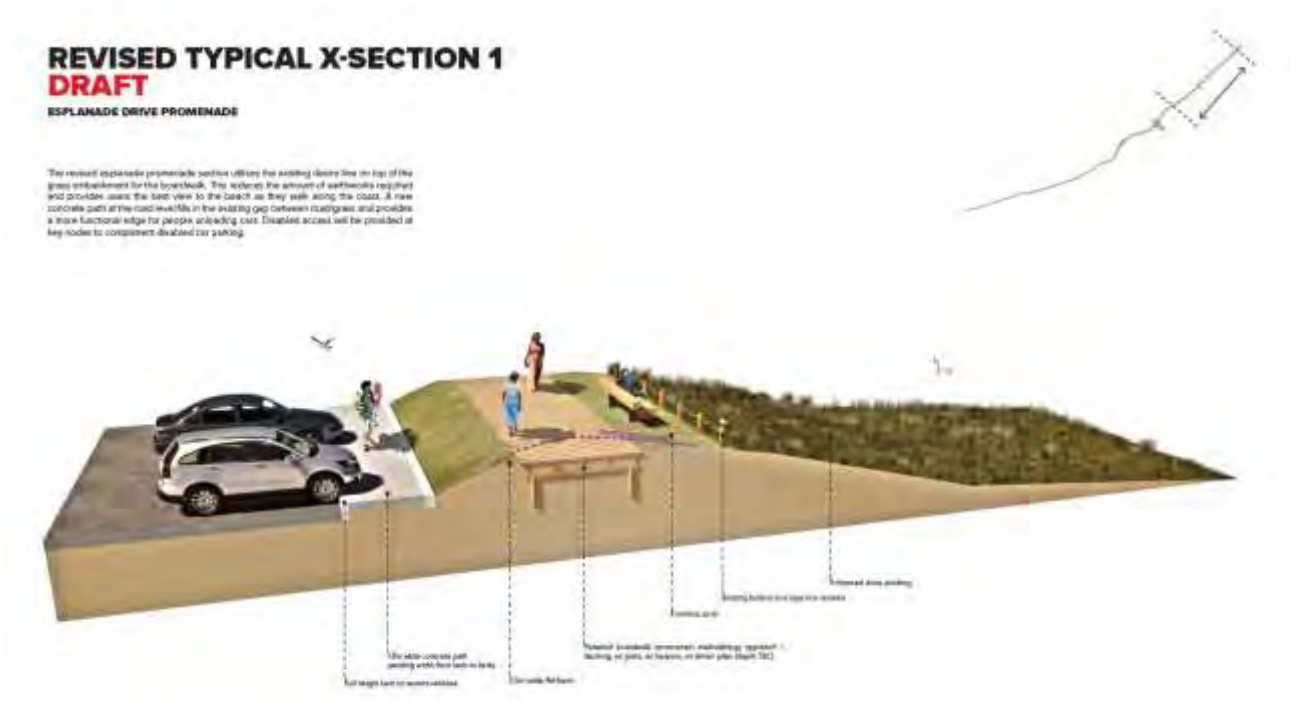
1. Principle of allowing more people to walk in the dunes in the northern section
2. The heavily modified Esplanade area has less cultural significance to iwi
3. If a boardwalk was agreeable in the dune system, there is an opportunity to restrict pedestrian access in some areas with ropes and bollards to protect significant sites
4. Sourcing of local plants for dune restoration
5. Opportunities to include cultural design and interpretation signage

## 4 Assessment of Options

Design Response

Following public, iwi and input from the ecologist, the following design responses are proposed:

1. Look into construction methodology options to find a cost-effective low impact design that will provide a high quality, long lasting product.
2. Split the boardwalk into two distinct design phases by creating 1) a wheelchair accessible loop around the esplanade, with improved access to the beach and improvements for those at the esplanade end; 2) provide a simple natural boardwalk through the dune section by removing seating and lighting.
3. Shifting the boardwalk to the top of the dune at the esplanade where most people want to walk and removing the need to change the dune profile.
4. Creating a formal concrete footpath along the seaward side of the esplanade between the two existing curbs
5. Retain the existing beach dune access at the Esplanade at the same angle to retain and enhance existing dune planting and direct beach access.


## RMA and Conservation Act Requirements

A high-level assessment has been undertaken on the concept plan against the rules and policies of the Thames-Coromandel District Council Operative and Proposed District Plan. An initial review has also been undertaken against the Waikato Regional Plan.

This review is not definitive as detailed design and a Certificate of Compliance will determine the activity status; however, it is possible that a resource consent may be needed.

Discussions are underway with the Department of Conservation. DOC have indicated that they require technical reports and consultation including:

- Ecological Assessment
- Archaeological Assessment
- Design standards of the Boardwalk
- Iwi Consultation

There are two approaches with the Department of Conservation (DoC) that would be applicable to the Boardwalk. 1) Under section 23 H of the Conservation Act, the minister appoints TCDC to manage the marginal strip through an agreement without a concession. 2) Council applies for a concession from DoC under Part 3b of the Conservation Act, which required a formal application that includes an Environmental Impact Assessment. Under the concession process a license to occupy is applied and wold likely be for a period of more than 10 years. This triggers a public notified process before DoC grant any such concession.

Council's Community Facilities Manager prefers progressing a control and management agreement on the reserve with the Department of Conservation. This will enable TCDC to continue to assess yearly concession applications and have more of a day to day role in management of people requiring access from Council parks and roads to the beach. Further discussions will be held with the DoC to progress this.

Reports/Supporting information

| Report | Summary | Status |
|---|---|---|
| Ecological | Required for Conservation Act requirements and possible RMA requirements | Draft complete |
| Archaeological | Required for Conservation Act requirements and possible RMA requirements. Required for Heritage New Zealand Assessment | Draft complete – under review by iwi, awaiting submission to Heritage New Zealand |
| Coastal Erosion | Possible RMA requirement | Draft Complete |

Budget and Costs

Total budget for the project is $474,000. An updated estimate of costs is set out below. It must be emphasised that a more accurate cost estimate will only be known following detailed design and outcome of any tender and consenting requirements.

| **Option** | **Item** | **Estimate** |
|---|---|---|
| | Design, Consenting, Construction Management | $173,700 |
| Option 1A (Esplanade) - 3m wide joists and decking only at 310m | | $305,769 (no concrete or lighting) |
| Option 2B (Dune Area) 2.5m wide joists and decking only at 340m | | $121,721 (no concrete, furniture or lighting) |

Total estimate for the complete boardwalk from the Esplanade through to Mooloo Crescent is estimated at $601,190 ($127,190 over existing budget). Estimated costs for completing just the Esplanade is $479,469 ($5,469 over budget). Note that these costs do not include public notified hearings should a publicly notified resource consent be required.

Further investigations are underway with engineers to look at alternative construction methodology which reflects feedback received by the community on a light construction approach, reducing the need for over-engineered structures. At the time of writing, draft engineering drawings have been completed for a floating boardwalk.

Once constructed, the boardwalk would appear very similar to the existing boardwalk outside the surf club. The boardwalk would be built in 10m sections off-site and installed in sections on top of the sand to reduce need for piles and excessive excavation. Decking would be treated boards that have been dried to eliminate twisting. Four semi-flexible wire strands would hold the decking together with steel washer spacers.

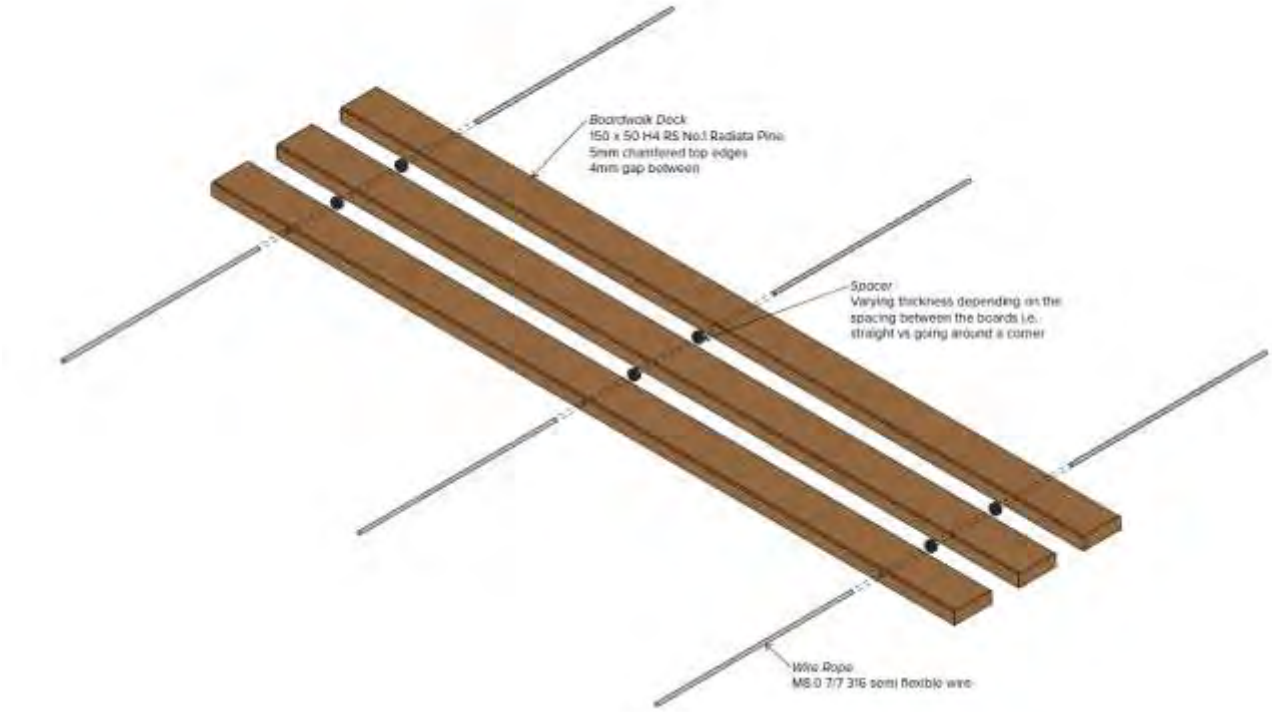
With the Whangamata Community Board's approval, a trial to construct a 10m section could be undertaken at one of the beach accessways on the Esplanade. This could be constructed and installed in April 2020 for $5,000. If Council's Communities Facilities Manager and Parks Representative are happy with the trial, the sections could be used for beach access improvements which already has budget, and could also be used for all, or part of, the Boardwalk extension project. Some key advantages of this approach include:

1. Limited excavation needed, much softer construction approach
2. Building off site reduces construction noise and costs
3. Relatively flexible and can be moved during periods of erosion much more easily and at less cost than a more permanent structure.

Disadvantages: this is a relatively new design and is somewhat untested. Maintenance costs are also untested; however, it is anticipated that these costs would be less than a more heavily engineered wooden structure.

*STRAIGHT BOARDWALK DECK*
The spacers will be the same thickness.

*CURVED BOARDWALK DECK*
As the deck curves around, the spacers will get larger to fill the larger gaps.




A revised estimate table comparing the new design with traditional wood construction is as follows:

| Item | Wood | New (Wood and Cable) |
|---|---|---|
| **Total (Esplanade Only)** | $479,469 | $313,985 |
| **Total (Esplanade and Dunes)** | $601,195 | $446,390 |

Timelines/Next steps

1. Decision to progress to detailed design by Whangamata Community Board – 31 March 2020
2. Construct 10m trial boardwalk to be installed at dune access on Esplanade
3. Detailed design and cost estimates completed
4. Resource consent lodged
5. Further public engagement on detailed design
6. Further iwi engagement on detailed design
7. Progress with concession through Department of Conservation
8. Tender

Summary

The proposed Boardwalk will have some very real benefits in enhancing useability of the Whangamata Beach for the local community and visitors, and will also be a catalyst for long term dune restoration, helping to retain and enhance the dune environment and ultimately reduce erosion risks to adjoining residential properties.

As shown in the number of submissions received, this project has a high public profile, with majority of submissions in favour, however a number of directly adjoining residents opposed to the proposal due to perceived impact on amenity values.

The proposed boardwalk is on Marginal Strip Crown land and will be subject to approval by the Department of Conservation under the Conservation Act. Of particular relevance is the Conservation Act Par IVA which relates to - Marginal strips which are held for conservation purposes for maintaining adjacent water bodies and natural values and to enable public access and recreational use of these strips and adjacent waters. The boardwalk project seeks to achieve both these objectives as it would facilitate continued use of the marginal strip for public recreation and access with an alternative being the use of further controls to prevent or limit use and access to prevent damage to this sensitive terrain.

There is the possibility that the project will require resource consent. As part of the consent effects on people and the environment will need to be considered, with the possibility of further public notification.

Draft ecological assessment, archaeological assessment and coastal erosion assessments have been completed. Progress to detailed design, resource consent and concession application with the Department of Conservation will further determine the exact effects of the project and any mitigation that could ameliorate these.

Changes to the concept plan as a result of community feedback are recommended in this report, including the boardwalk to be located on the existing informal walking track at the back of the dunes. The Boardwalk at the Esplanade is to be re-positioned at the top of the dunes, with improved disabled access.

Estimated costs with traditional wood construction are within budget for the Esplanade section. Estimates for the new wood and cable construction methodology would enable a boardwalk to be built through to Moloo Crescent within the current budget, however there are still some uncertainties around this estimate and the feasibility of construction. Further detailed design, trail and tender will provide more accurate information.

## **5** Suggested Resolutions

That the Whangamata Community Board:

1. Receives the "Whangamata Boardwalk Extension Project Feedback and Options Report" dated 16 March 2020.
2. Acknowledges and thanks all the submitters to the proposed Boardwalk Concept
3. That Council halts any construction until the outcome of the resource consent and concession process under the Conservation Act are determined.
4. Supports the progress of the Boardwalk project to detailed design for an alignment 2 (b) within the existing walkway at the back dunes. Progress includes resource consenting (if required) and procurement to incorporate the changes outlined under the 'Design response' heading of this report.
5. To progress discussions with the Department of Conservation in favour of a control and management agreement of the Marginal Strip.
6. To engage further with adjoining residents, iwi and Department of Conservation as part of the detailed design process and to provide clarity around the land ownership.
7. Supports the investigation and construction of a 10m trial boardwalk to be installed at a beach access along the Esplanade.

F

# Appendix F – Coastal Erosion & Dune Management Assessment

# Whangamata Boardwalk:

## Coastal Erosion & Dune Management Assessment

**Prepared for: Thames Coromandel District Council**

Prepared by: J Dahm, Eco Nomos Ltd, Thames

**June 2020**

# Contents

# 1. Purpose of Report

Thames Coromandel District Council (TCDC) propose to extend the existing coastal boardwalk along the seaward edge of Esplanade Drive at Whangamata (Stage 1) with a possible future extension to Hunt Road, as shown on the plans prepared by Beca (2020) (Figure 1).


**Figure 1: View of overall project plan showing the location of the proposed Stage 1 work and a possible "Future Stage" which would extend the boardwalk to Hunt Road (Clipped from Project Plan shown on p2 of Beca, 2020).**

Eco Nomos Ltd have been engaged by TCDC to assess the vulnerability of the proposed boardwalk to coastal erosion and provide recommendations on matters related to dune management.

# 2. Coastal Erosion Hazard

## 2.1 Previous Work

Coastal erosion hazard in this area has previously been assessed by Dahm and Munro (2002), Dahm and Gibberd (2009, 2012 & 2015) and (for the area near St Patricks Row) by Eco Nomos (2019).

The shoreline in the study area is backed by Holocene coastal dunes which have advanced seaward by approximately 1200m, building the low coastal dune plain on which the township of Whangamata is located. Dahm and Munro (2002) drilled and dated this coastal dune plain at various points between the most landward and the most seaward dunes. They found that the coastal dunes on which the

settlement of Whangamata is located began to form at least 7200 years ago, shortly after sea-level reached existing elevations following the most recent postglacial sea-level rise. From about 6500 years ago, the shoreline began advancing seaward quite rapidly (15-20m/century), but with the rate of seaward advance slowly decreasing over time (Dahm and Munro, 2002). Over, the last 1000-1500 years, seaward advance has averaged only about 4m per century and the actual rate has probably declined over this period (Dahm and Munro, 2002; Eco Nomos, 2019).

Available data suggests the net shoreline advance has now ceased and the coast is now in dynamic equilibrium; simply fluctuating backwards and forwards over time, but with no significant trend for either permanent seaward advance or permanent shoreline retreat (Dahm and Munro, 2002; Dahm and Gibberd, 2009).

Dahm and Gibberd (2009) considered the maximum erosion likely with these dynamic fluctuations and existing sea-level, estimating the worst likely erosion for a return period of at least 100 years. The erosion estimates were developed using beach profile data from WRC long term shoreline (beach profile) monitoring sites and then cross-checked against a wide range of data to ensure they were adequately conservative. These erosion estimates form the basis for the Current Coastal Erosion Line (CCEL) plotted on Council's planning maps.

The proposed boardwalk lies within the CCEL along most of its length suggested it could potentially be impacted by very rare and severe erosion. However, the CCEL erosion hazard area is designed to be conservative (Dahm and Gibberd, 2009) and so a site specific review is required to assess the risk more accurately for any particular location. The likelihood of erosion sufficiently severe to impact the walkway is reviewed in Section 2.2, with focus on a planning timeline of 50 years. The increased vulnerability to coastal erosion that could accompany projected future sea-level rise is considered in Section 2.3.

## 2.2 Review of Vulnerability to Coastal Erosion with Existing Sea-Level

Available data for the study area has been compiled (Table 1) and been reviewed to better assess the *likelihood* of erosion risk with existing sea-level – with focus on a planning timeline of 50 years. This data includes:

- Vertical aerial photography covering the period from May 1944 to the present, including photography from Retrolens and Google Earth
- Whites Aviation oblique aerial photographs taken between 1948 and 1979, from Alexander Turnbull Library
- WRC Beach profile shoreline monitoring data for WRC sites CCS 55/1 (data from 1993 onwards) and CCS 56 (data from 1979 onwards) (FIG showing location). The data for these sites consists of periodic shore-normal surveys across the beach and frontal dune.
- Historic shoreline mapping prepared for WRC in 1993, showing historic shorelines mapped from ortho-rectified aerial photographs (available for 1944, 1959, 1973, 1978, and 1987) (WRC data)
- Photographs taken within the area by the author (generally annually or more frequent over the last 20 years)

| Date | Data |
|---|---|
| | |
| **1944** | Mapped Shoreline (WRC data) |
| **1944 (SN292)** | Vertical Aerial Photography (SN 292) |
| **1948** | Oblique Aerial Photographs– Whites Aviation |
| **1950** | Oblique Aerial Photographs– Whites Aviation |
| **1953** | Oblique Aerial Photographs – Whites Aviation |
| **1954** | Vertical Aerial Photography (SN854) |
| **1955** | Oblique Aerial Photographs – Whites Aviation |
| **1959** | Mapped Shoreline (WRC data) |
| **1959** | Vertical Aerial Photography |
| **1959** | Oblique Aerial Photographs – Whites Aviation |
| **1962** | Oblique Aerial – Whites Aviation |
| **1965** | Oblique Aerial – Whites Aviation |
| **1966** | Vertical Aerial Photography (SN 1870) |
| **1972** | Oblique Aerial – Whites Aviation |
| **1973** | Mapped Shoreline (WRC data) |
| **1973** | Vertical Aerial Photography (SN3269) |
| **1978** | Mapped Shoreline (WRC data) |
| **1979** | Oblique Aerial Photographs – Whites Aviation |
| **1979-Present** | Beach profile data (CCS56) |
| **1980** | Vertical Aerial Photography |
| **1983** | Vertical Aerial Photography (SN8163) |
| **1987** | Mapped Shoreline (WRC data) |
| **1993-Present** | Beach profile data (CCS55/1) |
| **2001** | Google Earth aerial photograph |
| **2002-Present** | Photographs from field inspections by author (generally annual or more frequent for this period) |
| **2004** | Google Earth aerial photograph |
| **2007** | Google Earth aerial photograph |
| **2008** | Google Earth aerial photograph |
| **2010** | Google Earth aerial photograph |
| **2012** | Google Earth aerial photograph |
| **2013** | Google Earth aerial photograph |
| **2016** | Google Earth aerial photograph |
| **2018** | Field inspection and survey |

**Table 1: Shoreline change data reviewed for study area**

Collectively, this data provides a comprehensive view of shoreline change in the area over the 76 year period since the original aerial photography in May 1944 (Table 1). Collectively, the historic shoreline mapping and the beach profile data cover the entire period. The aerial and other photography provides additional data to fill gaps in the shoreline mapping and beach profile records.

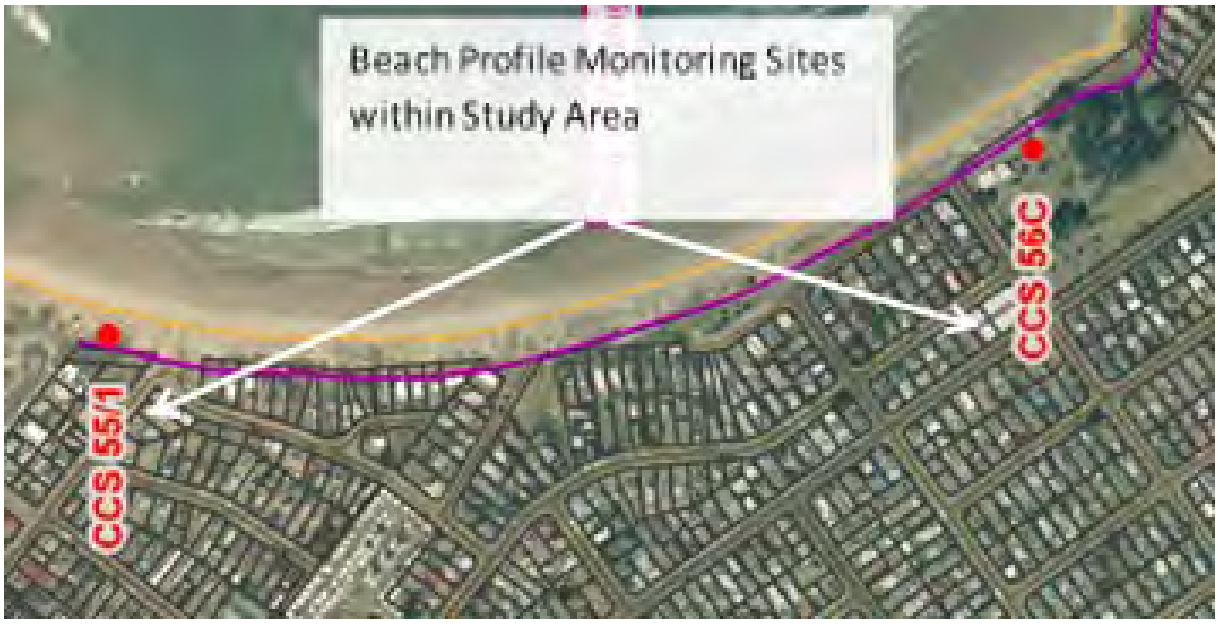



**Figure 2: View showing location of WRC beach profile monitoring sites within the study area (CCS 55/1 and CCS 56)**

The WRC historic mapped shorelines from historic aerial photographs for the study area are shown in Figure 3 and Figure 4. In general, the mapped "shorelines" lie seaward of the proposed boardwalk, but there are localised areas where they are embayed inland (see areas circled in Figure 3 and Figure 4) and would intercept the proposed boardwalk, particularly the shorelines mapped from 1944 and 1959 aerials.

However, a check of the original historic aerial photographs for these years indicates that the embayed shorelines simply reflect vegetation disturbance, and not shoreline erosion. The shoreline mapping fixed the "seaward edge of vegetation" as a proxy for the shoreline. This is usually a reasonable approximation when dunes are well vegetated. However, in areas with significant vegetation disturbance, the mapped line follows the line of vegetation disturbance rather than the shoreline.

Close inspection of the aerial photography listed in Table 1 indicates that the most landward (i.e. eroded) shorelines occurred in 1959 and 1978. While the "edge of vegetation" mapped from the 1944 aerial photograph lies further landward (see Figure 3 and Figure 4), this simply reflected vegetation disturbance and wind erosion associated with major public access locations; with the shoreline (toe of dune) actually much further seaward.


**Figure 3: Historic mapped shorelines from 1944, 1959, 1973, 1978 and 1987 for part study area (WRC data).**

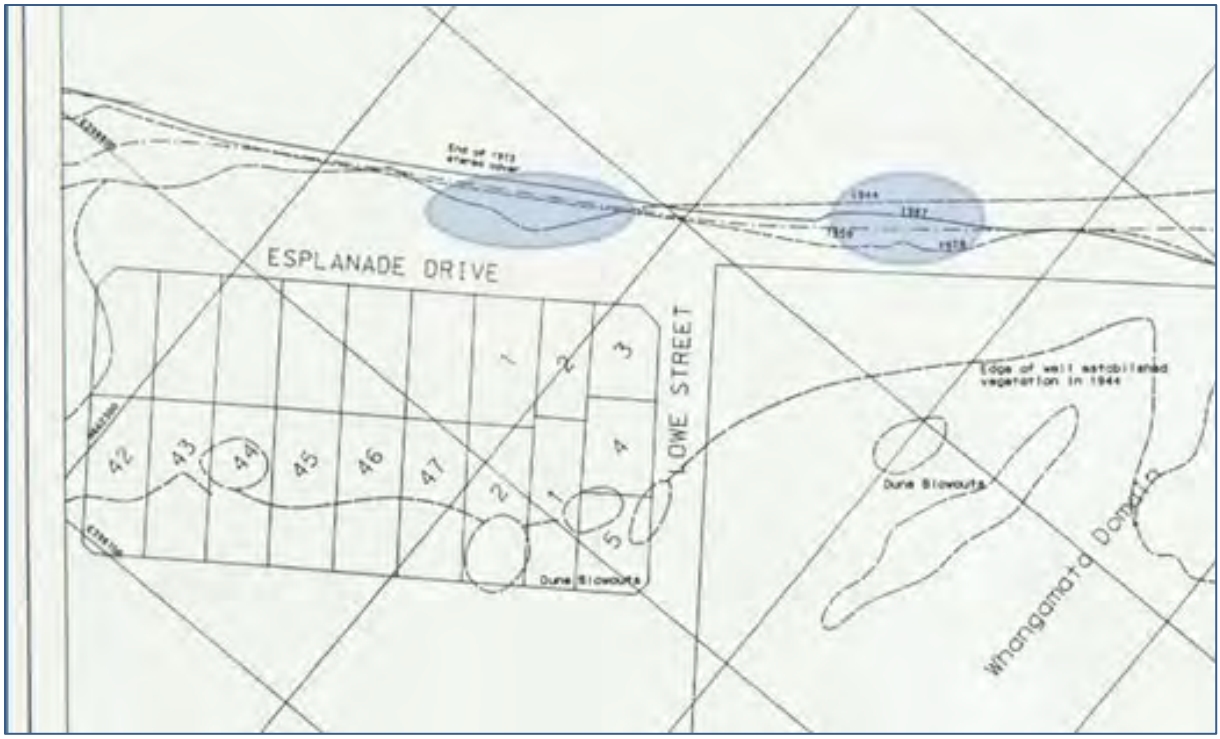



**Figure 4: Historic mapped shorelines from 1944, 1959, 1973, 1978 and 1987 for remainder of study area (WRC data).**

The 1959 shoreline was mapped from aerial photography flown at a relatively large scale (1:43000). Accordingly, while the image quality was good, the firm that undertook the mapping estimated accuracy of the mapped shoreline at only ±4m (Letter from PhotoSurvey Ltd to WRC, dated 7 September 1993). Nonetheless, checks conducted during this study suggest that the 1959 mapped shoreline shown in Figure 3 and Figure 4 is reasonably accurate, except for the wind erosion embayments associated with vegetation disturbance around major accessways.

An example of the wind erosion damage can be seen in Figure 6, which indicates severe wind erosion damage near the seaward end of Winifred Avenue in the 1950's; probably due to vehicles accessing the beach over the dunes in this area. This vegetation disturbance rather than coastal erosion explains the embayment evident in this area in the shoreline mapping (Figure 3). Oblique aerial photography also indicates that the toe of the frontal dune at that time was seaward of the proposed location of the boardwalk over the full length of the study area (Figure 7).

The closest erosion has come to the route of the proposed boardwalk occurred in the July 1978 storm; when erosion cut back very close to the seaward edge of the grassed reserve at the southern end of Esplanade Drive (Figure 8). This is also reflected in the beach profile data for site CCS56 (FIG – location only), with the earliest survey at this site (surveyed in February 1979, about 8 months after the storm) showing the most landward toe of dune so far measured. However, the earliest oblique aerial photograph following the storm (flown in February 1979) indicates that the erosion only went close to Esplanade Drive at the southern end (Figure 9).

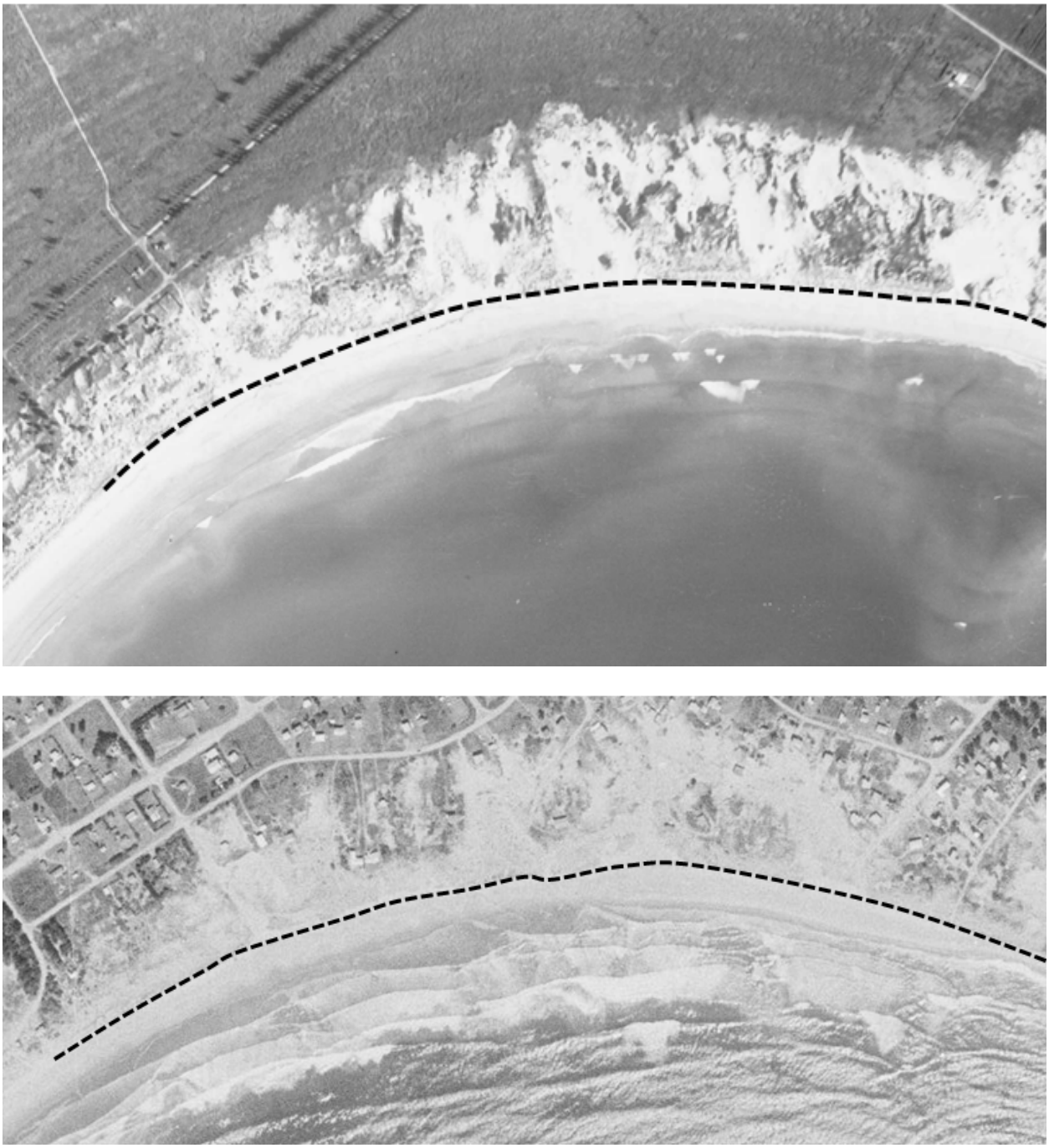


**Figure 5: Views of study area from 1944 (top) and 1959 (bottom) aerial photographs. It can be seen that the shoreline (dashed line) lay well seaward of the seaward edge of vegetation. (Aerial photos sourced from Retrolens).**

**Figure 6: Severe wind erosion damage near the seaward end of Winifred Avenue in 1959 (enlarged from Whites Aviation photo (WA-49858, Alexander Turnbull Library).**

**Figure 7: View of study area in 1959 - enlarged from WA-49861 (Alexander Turnbull Library)**

**Figure 8: Erosion fronting surf club and Esplanade Dive following the storm of July 1978 (Photo supplied by Ray and Faye Madden)**

**Figure 9: View of Esplanade Drive in 1979, showing dune width remaining after 1978 storm. The shoreline has not been this far landward since.**

In summary, the available data indicates dynamic shoreline (toe of dune) fluctuations of up to 12-15m over the period since 1944 to the present; as measured between the most seaward and the most eroded shorelines. The most severe erosion associated with these shoreline fluctuations appears to have occurred in the late 1950's and again in the late 1970's. However, there is no evidence of any erosion in this period that would have been sufficient to affect any part of the proposed boardwalk. The highest risk area occurs at the southern end of the proposed boardwalk, where erosion in 1978 (and probably also in the late 1950's) reached a location just seaward of the proposed boardwalk.

Geomorphic data suggests that slightly larger fluctuations (up to about 20m) might be experienced over time. If so, the southern end of the boardwalk might be impacted by rare and severe erosion near the peak of erosion periods. However, the data suggests that the area north of Graham Street is not likely to be affected by erosion associated with existing sea-level.

Overall, the review suggests the CCEL is probably overly conservative in this area and that, with current sea-level, the risk to the boardwalk from coastal erosion is very low; limited to the southernmost 100-200m of the boardwalk.

## 2.3 Potential Impact of Projected Sea-Level Rise

In the longer term, present best projections suggest that mean sea level is likely to rise over the next 50-100 years and beyond (IPCC, 2013, MfE, 2017). If such change occurs, it is likely to give rise to a trend for permanent shoreline retreat superimposed on the current dynamic fluctuations (Dahm and Gibberd, 2012).

While the timing and scale of future sea level rise is subject to considerable uncertainty, existing national guidance (MfE, 2017) provides a range of future sea-level rise scenarios for coastal planning (Table 2). These are based on the scenarios (Representative Concentration Pathways or RCPs) modelled in the most recent (2013) assessment by the Intergovernmental Panel for Climate Change (IPCC). The different sea-level rise projections associated with these various scenarios reflects the existing range of uncertainty and MfE (2017) note that all are plausible scenarios (i.e. there is no "best estimate").

For non-habitable assets like the proposed boardwalk with a functional need to be at the coast, MfE (2017) recommend consideration of at least 0.65m sea-level rise over the next 100 years; essentially equivalent to the RCP4.5 scenario in Table 2. Accordingly, this scenario is adopted for the proposed walkway, though the uncertainty around future sea-level rise (Table 2) needs to be noted.

In addition to the uncertainty around sea-level rise, there is uncertainty around shoreline response to future sea-level rise. Most present estimates are based on a simple equilibrium profile model known as the Bruun Rule. Estimates developed by Dahm and Gibberd (2012) using the Bruun Rule suggested that permanent net erosion of 30-35m could occur at Whangamata for every 1m of sea-level rise.

Accordingly, for sea-level rise of approximately 0.36m over the next 50 years to 2070 (see RCP4.5, Table 2), permanent erosion of about 12m could occur. This would increase the probability of the boardwalk being impacted by erosion along Esplanade Drive, particularly towards the southern end. However, in areas north of Esplanade Drive the risk from erosion would likely remain low, with the boardwalk unlikely to be impacted.

| NZ SLR scenario<br>Year | NZ RCP2.6 M (median)<br>[m] | NZ RCP4.5 M (median)<br>[m] | NZ RCP8.5 M (median)<br>[m] | NZ RCP8.5 H+ (83rd percentile)<br>[m] |
|---|---|---|---|---|
| 1986–2005 | 0 | 0 | 0 | 0 |
| 2020 | 0.08 | 0.08 | 0.09 | 0.11 |
| 2030 | 0.13 | 0.13 | 0.15 | 0.18 |
| 2040 | 0.18 | 0.19 | 0.21 | 0.27 |
| 2050 | 0.23 | 0.24 | 0.28 | 0.37 |
| 2060 | 0.27 | 0.30 | 0.36 | 0.48 |
| 2070 | 0.32 | 0.36 | 0.45 | 0.61 |
| 2080 | 0.37 | 0.42 | 0.55 | 0.75 |
| 2090 | 0.42 | 0.49 | 0.67 | 0.90 |
| 2100 | 0.46 | 0.55 | 0.79 | 1.05 |
| 2110 | 0.51 | 0.61 | 0.93 | 1.20 |
| 2120 | 0.55 | 0.67 | 1.06 | 1.36 |
| 2130 | 0.60* | 0.74* | 1.18* | 1.52 |
| 2140 | 0.65* | 0.81* | 1.29* | 1.69 |
| 2150 | 0.69* | 0.88* | 1.41* | 1.88 |

**Table 2: Possible future sea-level rise scenarios (RCP2.6-RCP8.5H*), showing decadal increments for each scenario (Table 10, p106 from MfE, 2017).**

## 2.4 Management of Coastal Erosion

It is recommended that an adaptive management approach be adopted for the management of coastal erosion.

In the near future, it is recommended that focus be placed on maintaining a good cover of appropriate native vegetation seaward of the accessway to minimise wind erosion and to maximise natural sand trapping and dune building functions. This will maximise the benefit of the natural dune protection.

In the future event that erosion threatens the proposed boardwalk, it is recommended that push-ups initially be used to repair erosion-damaged dunes and maintain an adequate natural dune defence. By way of a trigger, it is recommended that such action be considered if erosion ever reaches within 5m of the boardwalk; as measured from the seaward edge of the boardwalk to top landward edge of any erosion scarp. This work can be undertaken under existing resource consents held by Council for such work.

In the event of rare and severe erosion not able to be adequately mitigated by push-ups, landward relocation will be required. Over the next 50 years, even with up to 0.3-0.4m sea-level rise, such erosion is only likely to be experienced in areas seaward of Esplanade Drive. Moreover, it will likely only be experienced at the peak of an erosion cycle associated with dynamic shoreline fluctuations; with the boardwalk then able to be reinstated once the shoreline moves back into an accretion period.

In the areas north of Esplanade Drive (i.e. beyond Stage 1 - see Figure 1), erosion is not likely to threaten the boardwalk within the next 50 years unless sea-level rise exceeds 0.3-0.4m or the erosion response to sea-level rise exceeds present Bruun Rule estimates.

# 3. Dune Management Considerations

The primary concern relevant in respect to dune management is the prevention of damage to native dune vegetation as a consequence of forming the boardwalk and the increased human use likely to accompany the boardwalk.

## 3.1 Stage 1 Area

The Esplanade Drive area of Whangamata Beach is one of the most heavily used beachfront areas in New Zealand, particularly over summer. As a result, up until mid-2000 the dunes in this area suffered extreme vegetation damage as a consequence of poor management of human access between the beach and Esplanade Drive; with the dunes in this area primarily unvegetated and subject to wind erosion (see top photo in Figure 10).

This problem was addressed by Whangamata Coastcare and TCDC in 2000 with improved management of human access and planting of native vegetation. This work successfully established a strong cover of native dune vegetation (see middle and lower photos in Figure 10).

In the period between 2000 and 2011, the shoreline in this area was in an accretion cycle and the restored dune extended seaward by 8-10m (Figure 10). In recent years, there has been some wave erosion and the duneline has retreated by about 5m. However, a good cover of dune vegetation has been maintained and most beach access continues to be via the formed accessways (Figure 11).

The construction of the proposed boardwalk in this area will occur on the grassed reserve landward of the native-vegetated dune and therefore will not affect the dune vegetation.

The main potential risk to the dune arises from the possibility of increased short-cutting across the dune (i.e. between the defined accessways), though the risk is low given the well-established accessways and good compliance with use of these by beach users. It is important however that beach access remains well managed in this area; including maintaining a low visual barrier (e.g. the existing bollards and ropes) where-ever the boardwalk runs along the back edge of the dune. Beach accessways also need to be maintained in good condition to encourage use and discourage short-cutting.

The existing pattern of beach access is not likely to be significantly altered in the central and southern areas of Stage 1 where there are closely spaced beach accessways and the pattern of use is well established but nonetheless monitoring is important.

The increased use likely at the northern end of Esplanade Drive, where beach accessways are more widely spaced, means that careful monitoring of this area is required in the years immediately following construction of the boardwalk. If informal accessways develop with accompanying dune damage, it is important that these are either closed off promptly or made into a formal dune accessways (the latter action only undertaken where it is clear than an additional beach access is warranted).

**Figure 10: View of dune seaward of Esplanade Drive prior to Coastcare restoration in 2000 (top photo), in 2004 four years after restoration (middle photo) and in 2011 (lower photo).**


**Figure 11: Recent aerial view of Whangamata Esplanade sowing good cover of dune vegetation and well managed beach access.**

Access management would also be helped by appropriate planting seaward of the bollards to form a more natural barrier. Low planting is desirable to maintain views. For instance, a width of at least 1.5-2m of knobby clubrush would be useful (planting at about 0.6m spacing to ensure a good density). *Muehlenbeckia complexa* could also be inter-planted once the knobby clubrush establishes to form a denser natural barrier.

As discussed in Section 2, the dune seaward of Esplanade Drive is occasionally severely eroded. Such erosion typically cumulates over a number of storms and years. During such natural erosion cycles, the dune seaward of Esplanade Drive will narrow considerably, particularly towards the southern end. It is important not to over-react to such natural erosion as it will naturally self-repair (as it did following similar erosion in the 1950's and 1970's – Section 2) once the erosion cycle is over; provided a good cover of spinifex and pingao is maintained. If the erosion extends back close to the boardwalk, then dune push-ups may be required to maintain adequate natural protection through the peak of the erosion period (see Section 2.4).

## 3.2 Possible Future Extension to Hunt Road

Human use and access in this dune area is currently poorly managed with a number of ad hoc pathways and associated dune damage; particularly between Esplanade Drive and Mooloo Crescent (Figure 10 and Figure 11). In general, these ad hoc pathways are associated with various alongshore pathways and beach accessways from individual homes.


**Figure 12: Recent aerial view of the area between Esplanade Drive and Mooloo Crescent (top photo) and between Mooloo Crescent and Hunt Road (bottom photo). Note the extensive ad hoc accessways and associated dune damage.**


**Figure 13: View of area between Mooloo Crescent and Hunt Road.**

Experience with dune trails and cycleways indicates they reduce damage to sensitive dune vegetation because they significantly enhance public use and access, while also providing a single well-defined and easy to use path for pedestrians and cyclists (e.g. Figure 14); linked to designated beach accessways.

**Figure 14: View of Motu Trails dune cycleway and walkway**

A boardwalk in the area between Esplanade Drive and Hunt Road would rationalize alongshore use to a single pathway, enabling planting and repair of the alongshore accessways no longer in use. It would also allow for rationalization of across dune beach access paths, replacing existing ad hoc walkways with a lesser number of well-managed and well-defined cross-shore pathways.

The nature and width of dune and vegetation disturbance required to place the track is likely to be relatively minor; in most areas likely to be limited to a footprint less than 2m either side of the boardwalk. The width of disturbance can also be kept to a minimum by locating the track to minimise cut and fill requirements, and by keeping cut and fill slopes as steep as is practical (ideally 1:1.5, where practicable). The *in situ* sands will be slightly more compacted than the disturbed sands, so cut angles will likely be able to stand at slightly steeper slopes. The disturbance is not likely to lead to any significant wind erosion issues. Nonetheless, bare areas adjacent to the boardwalk should be planted with appropriate native dune vegetation (see discussion below) once the work is completed. Periodic targeted spraying should also be undertaken until native dune vegetation has re-established, to suppress any exotic species that invade disturbed areas.

Any boardwalk will result in increased human use (and likely quite markedly so) as it will enhance public access and amenity. This is clearly a desirable outcome, but management will be required to ensure that the increased human pressure does not exacerbate dune damage.

In particular, users are likely to want to periodically access the beach. Cross-shore beach accessways will be required at appropriate locations to avoid short-cutting between the boardwalk and the sea with associated ad hoc pathways and dune damage. It is probable that only 6-7 cross-shore beach accessways will be required off the boardwalk, including the main public access locations at St Patricks Row, Mooloo Crescent and Hunt Road; with attention to existing patterns of use in locating these accessways. Other existing informal tracks and accessways should be closed off with planting. Experience with the Esplanade Drive restoration indicates that a high level of user compliance is achieved once defined cross-shore accessways are established. However, it is important to monitor use and to quickly address any ad hoc pathways that begin to develop.

Given the desire of many locals to maintain a natural appearance in this area and avoid too many human-built structures, planting can be used to help define the boardwalk margins and discourage shot-cutting. For example, given the backdune location (Figure 1) it would be relatively simple to establish a 3-5m width of knobby clubrush, *Muehlenbeckia complexa* and other appropriate native backdune species along the seaward side of the boardwalk to avoid the need for bollards and ropes. Coastcare groups in the Coromandel have over 27 years' experience with dune planting and have successfully restored large areas of similar dune vegetation.

These species can also be used to define the landward end of the cross dune beach accessways, from where they leave the boardwalk up to near the crest of the main frontal dune. Definition of the paths using vegetation alone will be more difficult in areas further seaward, where only spinifex and pingao (both relatively low species) are likely to survive. However, experience elsewhere at this and other beaches suggests that simple informal paths will suffice, provided the orientation of the pathway is well defined in backdune areas. However, if significant issues develop at the seaward end (i.e. people cutting diagonally across the sensitive frontal dune vegetation), then alternatives (e.g. low key fences) may be required. Initially, it is recommended to opt for naturally vegetated, low-key sand accessways without fencing; but to upgrade these in critical areas if problems develop. This adaptive management approach will minimise loss of natural character through human-built structures.

Experience with the Esplanade Drive beach accessways indicates that most cross-shore pathways can be left as sand pathways and will not require surfacing. However, in the high use Hunt Road area, the wide grassed reserve at the landward end tends to promote ad hoc walkways in all directions and the heavy use significantly disrupts vegetation. Accordingly, the main accessway in this area will require more thought. If it is desired to avoid fences and other human-built structures, then the landward end will need to be narrowed down using appropriate native plantings (e.g. knobby clubrush and *Muehlenbeckia complexa* and/or hardy low shrubs), with plantings or fencing also used to guide beach users from the car-parking area to the accessway entrance. If it is desired to maintain the existing wide grassed entrance, then fences and formed accessways will likely be required to minimise dune damage.

In the longer term it would be useful to work with Coastcare to establish suitable native rushland and vineland vegetation communities on both sides of the accessway, extending from property boundaries to the landward side of the main frontal dune, a width of typically 20-25m. While knobby clubrush and *Muehlenbeckia complexa* are the dominant components of these vegetation communities along the eastern Coromandel, there are also a wide of other backdune species that can also be incorporated to enhance ecological and amenity values. Coastcare groups along the eastern Coromandel have successfully restored significant areas of these backdune communities at many beaches over the last 27 years. Obviously, existing remnant native vegetation communities would be retained and incorporated into this work.

The boardwalk will also provide greater opportunity to better inform locals and visitors about the dunes. This provides significant opportunities for community information and engagement. For instance, significant planting has been undertaken in community working bees along the popular Motu Trails dune pathway (Figure 15), with over 20,000 plants planted by 2018 (RNZ, 2018). It is recommended that Council work with Coastcare to take full advantage of the community engagement opportunities the boardwalk will offer; both to enhance the dune ecosystem along this area (e.g. through community working bees) and to enhance community understanding of natural dune ecosystems (e.g. useful and informative signage).

**Figure 15: Volunteers planting native vegetation on the Motu Trail dunes as part of a community working bee**

# 4. Summary

The proposed boardwalk is assessed to be at relatively low risk from coastal erosion with existing sea-level. Available historic data indicates no evidence of erosion sufficient to affect any part of the boardwalk in at least the last 75-80 years. There is potential for the structure to be temporarily affected towards the southern end of Esplanade Drive near the peak of a severe erosion cycle, but available data suggests the risk is low. Recommendations are provided to manage this issue if it arises.

With projected future sea-level rise, the risk to the boardwalk from coastal erosion will increase along Esplanade Drive over time, particularly south of Graham Street; but the boardwalk is likely to remain viable in this area for several decades with appropriate management of erosion as required. Appropriate planning will however be required to maintain the viability of the boardwalk in this area in the longer term if significant sea-level rise occurs. The proposed future extension between Esplanade Drive and Hunt Road is likely to remain secure from erosion for at least the next 50 years, even with sea-level rise of up to 0.3-0.4m.

The boardwalk will enhance public access and amenity and is likely to increase human use. Various recommendations are provided to ensure appropriate management of the dunes. Overall, with appropriate management the effect of the boardwalk on the dunes is likely to be positive; rationalizing existing ad hoc dune accessways and reducing dune damage. The boardwalk will also offer increased opportunities to engage the local and visitor community, both to enhance the natural dune ecosystem and to increase community understanding of nationally threatened dune ecosystems. It is recommended that Council work closely with Coastcare and other parties (e.g. Dunes Trust) to make full use of these opportunities.

# References

Dahm, J and Munro, A. 2002: Coromandel Beaches: Coastal Hazards and Development Setback Recommendations. Environment Waikato Technical Report 02/06: 180pp.

Dahm, J. & Gibberd, B., 2009: Coromandel Beaches – Coastal Hazards: Review of Primary Development Setback at Selected Beaches. Report prepared for Thames-Coromandel District Council, October 2009.

Dahm and Gibberd, 2012: Coromandel East Coast Beaches: Potential impacts of projected climate change on coastal erosion over the next century and review of future coastal erosion setback. Report prepared for Thames Coromandel District Council by the Focus Resource Management Group, November 2012. 9p.

Eco Nomos 2019: Coastal Hazards Assessment for 120 St Patrick's Row. Report prepared for RMS Surveyors, Whangamata June 2018. 23p.

Ministry for the Environment, 2017: Coastal Hazards and Climate Change. Guidance for Local Government. Published by the Ministry for the Environment, Wellington, NZ, December 2017.

RNZ, 2018: Restoring the Opotiki Dunes Trail. https://www.rnz.co.nz/national/programmes/the-weekend/audio/2018728542/jim-robinson-restoring-the-opotiki-dunes-trail

# G

Appendix G – Archaeology Assessment

# Archaeological Survey and Assessment of Effects: Whangamata Coastal Walkway

Legal Description: WHA-0594-1470

Parcel ID: 4,567,986

Prepared by:

Mishmish Heritage (Productions Ltd.)

January 2020

## Table of Contents

## 1. Introduction and Summary of Findings

Ross Ashby of Thames Coromandel District Council has commissioned MishMish Heritage (Productions ltd) based at Waihi Beach to undertake a survey of a section of foreshore dune where boardwalk construction is planned. The aim of the survey and this report is to assess the potential, and archaeological risk of the project.

There are no recorded archaeological sites in the works area, nor within c. 900m, however the absence of archaeological sites does not necessarily mean the absence of human land use pre 1900AD.

The closest archaeological landscape to these works is a significant archaic Maori settlement.

It is considered that there is potential for archaeology to be sealed within the Holocene dune ridges here, at depth, and maybe of variable condition. This information is considered valuable to better understand the use of this past environment.

It is therefore the recommendation of this report that;
*A General Archaeological Authority Application pursuant to Section 48 of the HNZPTA 2014 be applied for, and would be in place prior to ground works commencing. This assessment will attached to this application for this consent.*

It is also the recommendation of this report that;

- This consent will allow for the modification and destruction of any archaeological deposits and features encountered, with conditions,
- Archaeological monitoring occur during excavation works,
- An Archaeological Instruction to guide and inform earthworks and understanding of the HNZPTA should be lodged with the General Archaeological Authority Application made
- The results of archaeological findings and analysis should be reported to Heritage New Zealand Pouhere Taonga following completion of ground works as per the conditions of the consent granted.
- That tangata whenua be part of ongoing communication regarding archaeological findings and analysis.

It is a legal obligation that the physical evidence of pre-1900 New Zealand be investigated, analysed and recorded to standard professional practise prior to modification or destruction, and an archaeological authority be granted by Heritage New Zealand Pouhere Taonga (HNZPT) allows for this. Archaeology that is both recorded and unrecorded is protected in New Zealand by the Heritage New Zealand Pouhere Taonga Act 2014.
The overriding aim of archaeological monitoring, recording and investigation is to gather information pertaining to New Zealand's past, which will provide greater knowledge and understanding of the nation's history.

Archaeology is considered a finite and non-renewable resource which should be valued.

This is report is limited to archaeological effects and values, and tangata whenua should be consulted at the earliest opportunity to indicate cultural values that may be affected or significant to this project.

## 2. The Project and Legal Description

A portion of Whangamata Beach Reserve starting adjacent to Esplanade Drive is to have a formalised boardwalk along the seaward side of the existing track to the north end of Whangamata Beach. It will be located along the top of the dune system. This work is an extension to the existing boardwalk built in 2017 to the south of these works, see figure 1 and 2.

*Figure 1; Whangamata Boardwalk, established in 2017, to the south of the proposed works.*

- Physical address: Whangamata Beach Reserves
- Parcel ID: 4, 567, 986
- Parent Park Asset ID: WHA-0594
- Parcel Park Asset ID: WHA-0594-1470
- Ward: Whangamata
- Council: Thames-Coromandel District Council

The site is located beneath the southern mouth of Whangamata Harbour along the dune barrier system to the east of Whangamata township. Whangamata Harbour is situated on the east Coromandel coast, 29km north of the major port of Tauranga. The 3.8km long Holocene sandy barrier spit encloses a small meso-tidal estuarine lagoon to the north which is connected to the sea by a narrow elongated entrance channel. The Holocene barrier dunes have been developed as a holiday resort village, typical of similar embayed barrier systems on this coast. (Healy and Dell, 1987.)

## 3. Scope of Works

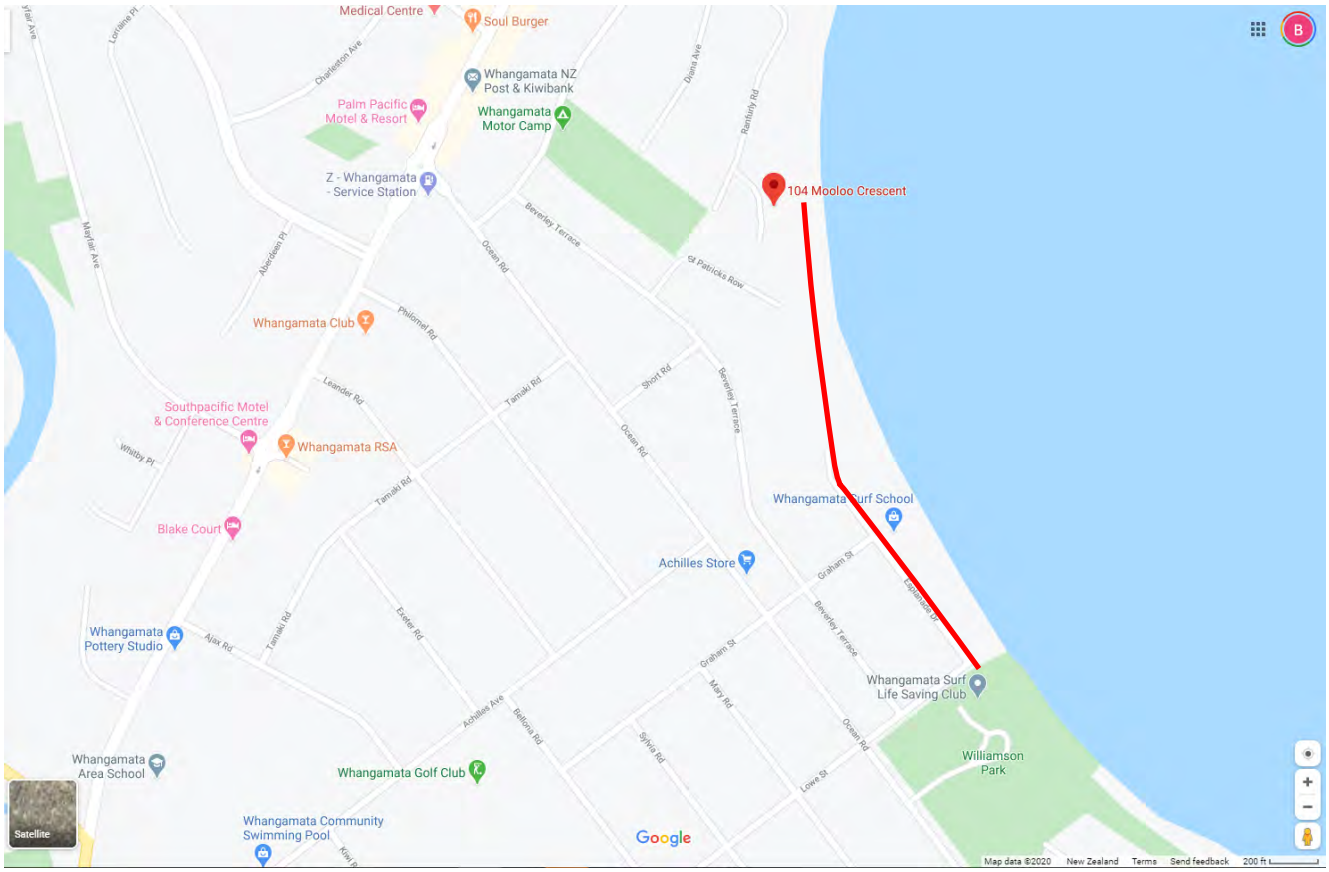
To formalise the public walkway that exists along the back-dune edge from the northern end of Whangamata Beach. The Walkway will be an extension of the existing boardwalk constructed in 2017 as part of the redevelopment of Williamson Park. Seen in Figure 3, the boardwalk will be up to 650m in length with posts driven in about every 1m, with posts both sides of the boardwalk. Excavation to 400mm along the length of the route is required, and he finished board walk will be level with the ground surface.

The walkway will extend along the top of the dune system adjacent to Esplanade Drive.

It will be located seaward of the existing informal back dune path. Depending on cost estimates it is likely that budget will cover the section along Esplanade Drive.

Should there be budget, the pathway would extend north to connect with the public footpath that leads back to Whangamata centre at 104 Mooloo Crescent. This report covers from Williamson Park to 104 Mooloo Crescent.


*Figure 2: above and below, the boardwalk location (the route in red)*



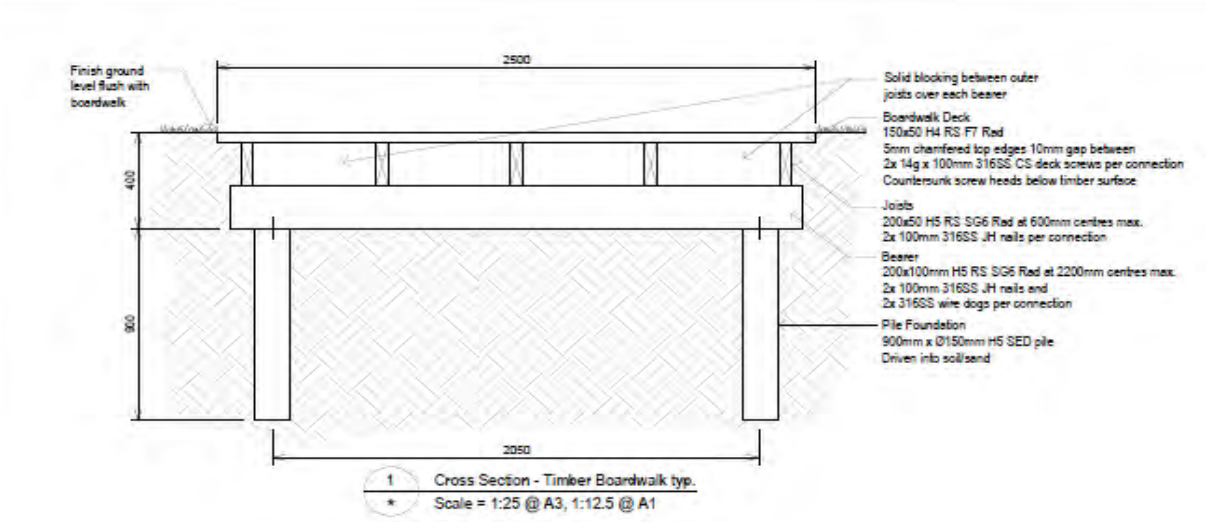


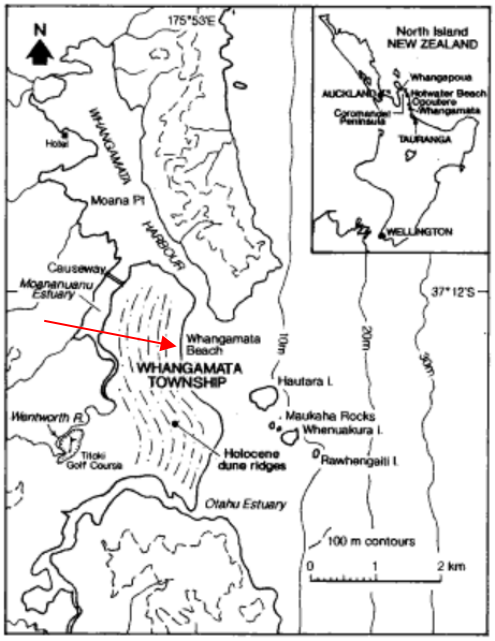

*Figure 3; Typical Cross-section of the Proposed Boardwalk.*

## 4. Physical Environment

The area of works was classified by Sheffield et. Al. (1995) (Figure 4) as being part of a low Holocene barrier dune ridge system, forming over the past 10,000 years following stabilisation of sea levels and the progradation of sediment to create the series of low barrier dunes from the foreshore and running parallel to it inland, seen in Figure 5 in aerial photography dated 1944.

Today the foreshore dunes remain relatively unmodified, however behind the fore dunes, the ridges have been levelled to create public reserve space and residential housing. The reserve is home to a café, toilets and Whangamata surf lifesaving buildings. Mature pine are also present.

At the northern and southern end of the board walk route residential housing sits immediately adjacent.




Whangamata, located on the eastern Coromandel, New Zealand, consists of a series of low Holocene barrier dune ridges, formed by wave action into a cuspate foreland in the lee of Hauturu Island. Only a small part of the catchment is represented on the map.

*Figure 4: Geology of the works area. Source: Sheffield, A.T., Healy, T.R., and McGlone, M.S., 1995. Estuarine Sedimentation Rates – Infilling Rates of a Steepland Catchment Estuary, Whangamata, New Zealand. Journal of Coastal Research Vol. 11, No.4, 1995. Pg 1294-1308. (Image pg.1296)*

*Figure 5; Aerial Photograph 17/05/1944, SN292-985-38 showing rows of barrier ridge dunes (Source Retrolens). Approximate works area highlighted red.*

## 5. History

Whangamata (Whanga meaning harbour, and mata being the locally sourced obsidian) is one of the shallowest coastal harbours along the east coast of New Zealand, providing an abundance of resources and food during its known 600-800 year history of occupation. The environment was favourable to human settlement due to the plentiful availability for kaimoana and access to other marine and river resources, and inland access. The foothills and valleys that surround the area demonstrate modification for the creation of mara (gardens). The local obsidian, whilst not as high quality as the source on Tuhua, Mayor Island, is of significant cultural value.

The land was fought over throughout its history. In 1872 the Native Land Court awarded title to all lands adjacent to Whangamata Harbour to Ngati Whanaunga hapu, and lands to the south to Ngati Pu. Ancestral and traditional names for Whangamata coastal regions are displayed on a survey map of 1879, seen in Figure 6 that was produced for the Native Land Court, and relate to the works area suggesting land use and possible settlement. This information is absent from the survey map prepared in 1915, seen in Figure 7. And the earliest survey plan of 1873 seen in Figure 8, is undecipherable.


*Figure 6; Survey, 1879, Produced in the native land court. Shows place names associated with the foredune at Whangamata. The red annotation shows the approx. length of the works area.*


*Figure 7; Site survey 1915 of Whangamata. Works area indicated by a red arrow.*

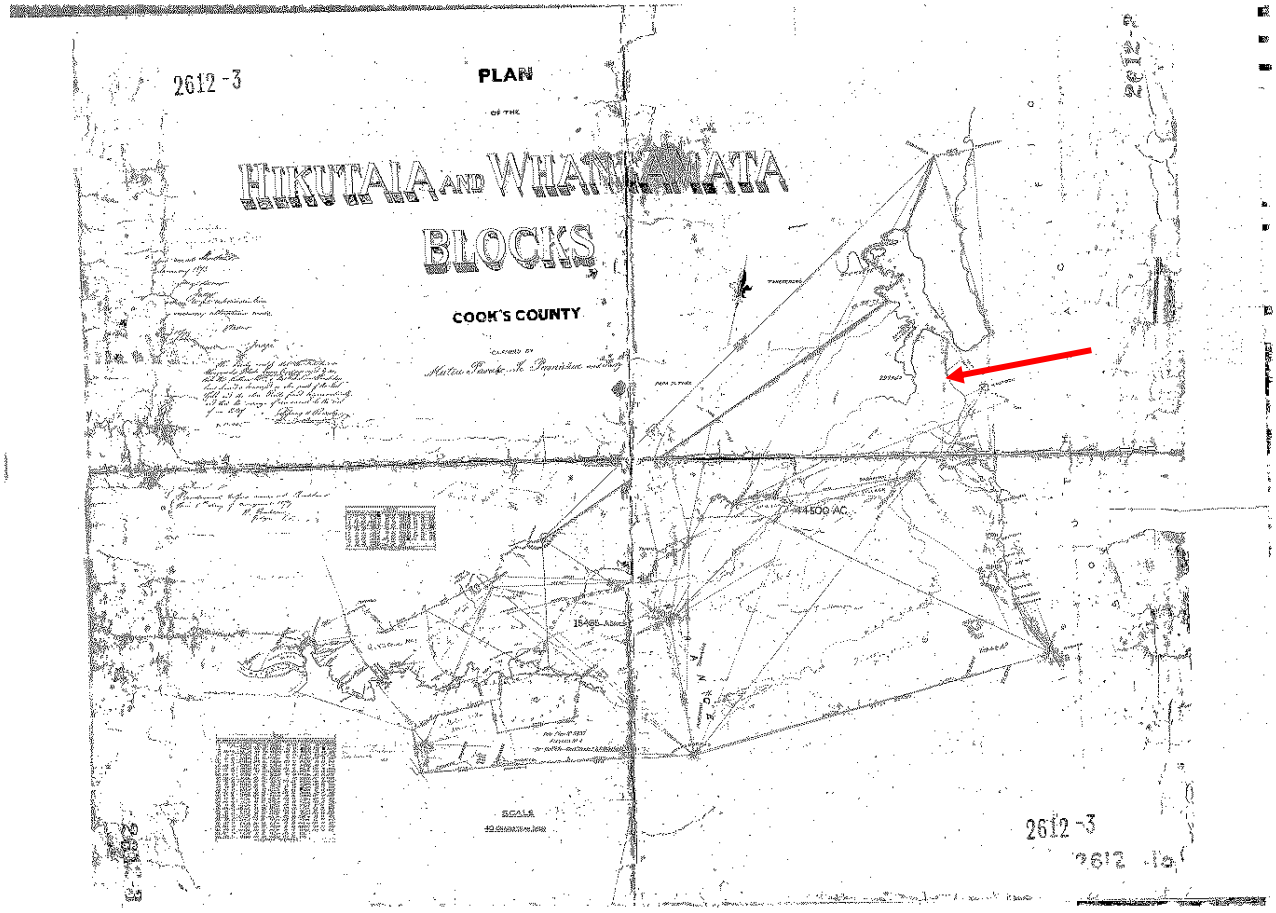



*Figure 8; Site survey, 1873. The works areas is indicated by a red arrow.*

## 6. Archaeological Landscape

The greater Whangamata landscape is a densely recorded archaeological environment of Maori settlement and land use, seen in Figure 9. This density of sites does not extend to the Whangamata township situated between Whangamata Harbour and the Otahu Estuary in the lee of Hauturu Island.

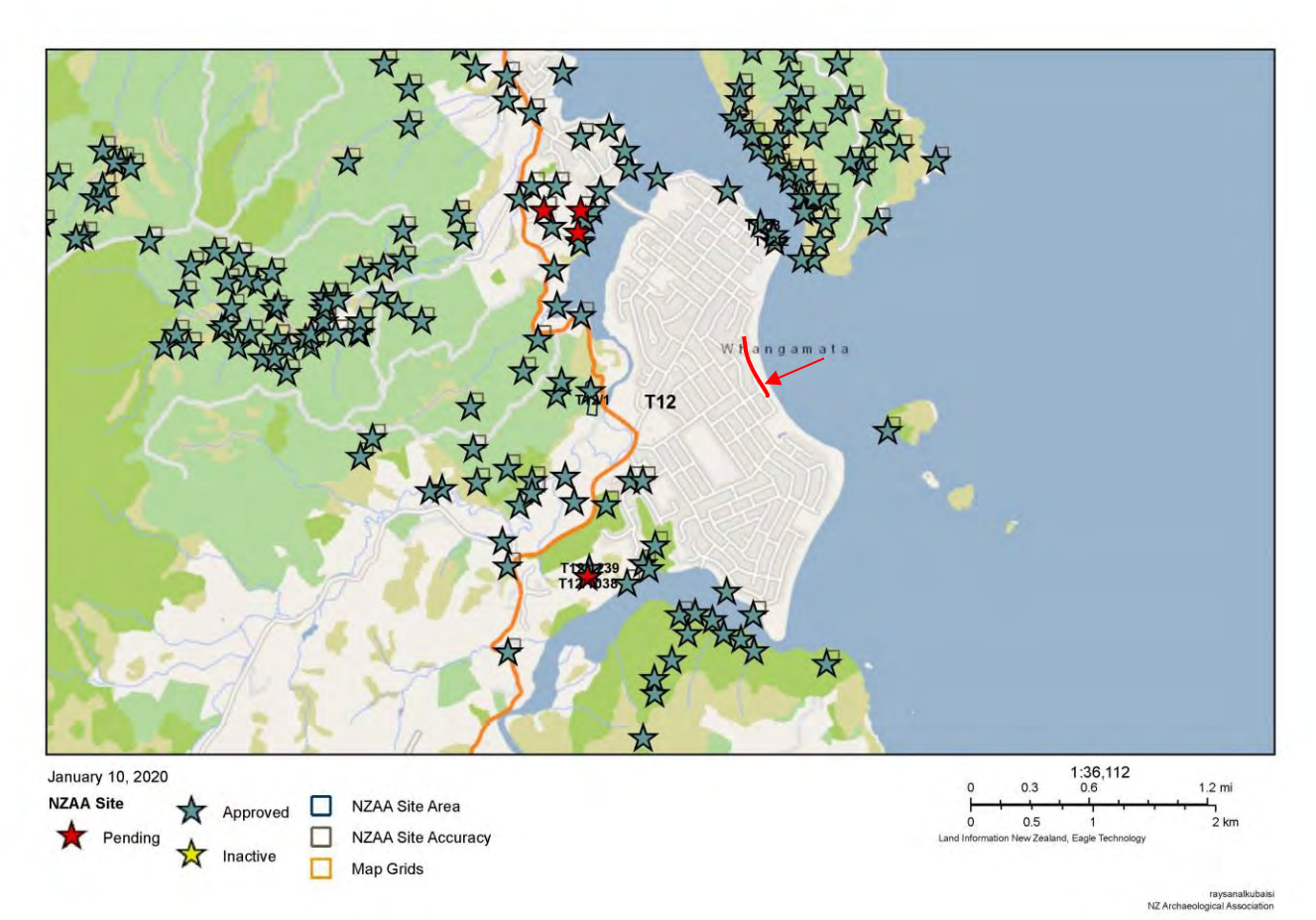



*Figure 9; NZAA ArchSite map showing recorded archaeology in and around Whangamata*

Built on the reclaimed Holocene dune ridges, recorded archaeology has only been found to the north, at the entrance to the Harbour, and to the south at the entrance to Otahu estuary. Little is known about the foredune area where the proposed works are situated as no development has been undertaken.

The sites to the north at the location at the Whangamata Ocean Sports Club and Cabana Lodge are known to be associated with the location of an early Maori village, known as "Whangamata Wharf Site, T12/2 and T12/3". These sites are considered nationally and locally important. (Phillips, C. 2012)

The results from excavations by Warren Gumbley at Cabana Lodge demonstrate that early Maori, 1350-1400 AD, occupied the site. Palynological evidence substantiates that the first Maori people settled and cleared the Whangamata estuary area 600-800 years ago (McGlone, 1983, 1988, 1989).

Artefactual evidence from the Coromandel Coast supports dates between the 12th and 15th centuries (Easedale and Jacomb, 1982). Harrison (1988) reported that archaeological investigations indicate a change in the cultural activities at Whangamata - 'two strikingly different cultural layers stratigraphically separated by sterile sand. In each case the lower contained large flightless bird (moa) bones and archaic artefacts, whereas the upper layer consisted of predominantly of lenses of concentrated bivalve shell (clam) midden of 19th century age at

Whangamata and 17th or 18th century at the adjacent Tairua Harbour.' However due to the very active nature of Holocene dune environments it would be expected to see multiple periods of erosion, building and stabilisation that would protect some phases of history and completely remove other periods.

Phillips (2015) summarised that – 'In times of stabilisation vegetation communities became established, but these can be removed by erosion. The result is a patchwork, with each section of a dune showing different histories; some might represent a more or less complete history of change, while others will have large periods missing. Objects in the dunes can be mixed together by deflation, so that a 2010 beer bottle can rest beside a 16th century obsidian flake and 200-year-old moa bone.'

## 7. Site Survey

A walkover of the site was undertaken by MishMish Heritage on 25th November 2019. The entire length of the proposed works, approximately 650m at most, and its immediate vicinity was visually assessed.

The southern portion of the proposed boardwalk is located on the back-dune edge whilst a portion of the northern section is slightly set back on the softer downwind slope of the dunes, between ridges. The entirety of the route follows the alignment of informal tracks created by pedestrians along the foreshore. Refer Figures 10-15 for images of the works area.

Evidence of 1980s attempts to prevent on-going erosion is visible along the southern extents, where a deposition of clay and stones can intermittently be seen and has produced a less than natural profile to the dune barrier. Dune migration to the north has effectively covered any topographical and artefactual evidence that may exist. A deposit of shell midden (Figure 10) was located within the dunes amongst dune vegetation, but establishing a date visually was not possible, and may relate to modern waste disposal.


*Figure 10: Shell midden disposal.*


*Figure 11: Location of shell disposal seen, near the end of the boardwalk planned at 104 Mooloo Crescent. Source: MishMish Heritage.*

*Figure 12: The start of the route at Williams Park, next to The Esplanade. Alignment approximate. Looking North.*

*Figure 13: Typical foreshore dune landscape with existing tracks that will be formalised with the board walk. Source: MishMish Heritage.*

*Figure 14: Looking south from 104 Mooloo Crescent where boardwalk may end. Source: MishMish Heritage*

*Figure 15: Example of previously consolidated foreshore using clay, rock and bark.*

## 8. Discussion and Conclusion

Based on the information available to date, and research associated with the compilation of this assessment report, there is no doubt that Whangamata township is located within a dense and popular area in terms of pre-1900AD landscape, typically determined by Maori living in and having connection with the area over a c. 700 years period.

The absence of recorded archaeology within the town and foreshore is not considered to be a reliable source of data regarding the potential for archaeological sites to be encountered during these works. Dune sites across along the East Coast of the Coromandel and Bay of Plenty are periodically encountered at depth, buried and invisible, below current ground dune surface, and the lack of intrusive ground works in the route of the boardwalk means that they may not have been encountered to date. The 1879 survey plan also supports Maori land use prior to 1900AD.

The known use of dune systems next to foreshores, may result in the discovery of deposits related to mahinga kai, shell middens, small scale cultivation soils, settlement evidence and taonga/artefacts. This should be considered possible as an area between known estuary mouth settlements, at Whangamata (north) and Otahu (south).

The use of dune environments for the laying out or burial of ko iwi (human remains) is also known along the east coast of the Coromandel and Bay of Plenty, and cannot be completely discounted at this time, and discussion with tangata whenua regarding this is recommended.

Whilst the nature of board walk construction is often minor in its impact on archaeological evidence, excavation for foundations have the potential for archaeological evidence to be revealed.

## 9. Assessment of Effects

Based on the current and supplied scope of works, the effect on archaeology should be minor, but there is reasonable cause to suspect archaeology could be encountered and this would be valuable information to better understand pre-1900AD land use in the Whangamata foreshore area, where no sites are currently known.

It is expected that a percentage of archaeological sites encountered, if encountered, would be effected by these works, i.e. the site would not be destroyed. The project design has posts being bored into position resulting in limited ability to identify archaeology, however post bore checks have proved fruitful in past experience. The stripping of the track length has the potential to reveal archaeology and unlikely to destroy whole sites if present.

## 10. Assessment Archaeological Values and Significance

As previously stated, no known archaeological sites are recorded in the works area to date however, if new archaeology was identified as a result of earthworks during boardwalk construction,

- The information that they may contain would be valuable to better understand this landscape. Site function and period of use would be valuable information, and likely to require radiocarbon dating to realise. This information would also inform the contextual value of the site, if present.
- The condition of any site that may be discovered is likely to be highly variable, from very poor condition to good, based on the effects of erosion and pro-gradation of the foreshore system. With changes in climate occurring, understanding sea level rise and its impact (erosion) on coastal sites discovered needs to be considered in future by TCDC and others.
- As a public space, the boardwalk does have inherent amenity values, and any archaeological discoveries made during the course of works could be communicated through information boards and artworks if appropriate.
- Identifying archaeological sites would also aid future management of the public space most appropriately.
- There are no rarity values or significance assigned at this time.
- The area of works is of significance to tangata whenua and they should advise on cultural values.

## 11. Recommendations

It is therefore recommended that:

- A General Archaeological Authority pursuant to Section 48 of the Heritage New Zealand Pouhere Taonga Act 2014 be granted prior to any ground works commencing associated with this project;

With conditions that:

- Archaeological monitoring of all earthworks relating to stripping of the dunes be undertaken,
- Investigation and recording of shell midden seen in survey to establish its archaeological nature, if any,
- Archaeological checking of a sample of bore holes if the archaeologist deems appropriate,
- Archaeological recording of all archaeology exposed through works including descriptions, drawings, photography and survey, and sampling where appropriate, with time, space and resources allowed for this,
- Where practical, any archaeology exposed by soil stripping be preserved in situ with archaeological guidance of the reburial of exposed archaeological features. Where this is not possible time must be given for its investigation and recording.

  If the project archaeologist is not on site, and archaeology is suspected, protocols to follow should be guided by;
- A Site Instruction and Suspected Discovery Protocol be compiled and lodged with HNZPT at the time of Archaeological Authority Application to ensure Contractors and the client are aware of the archaeological process during works and their legal obligations, including;
    - Appropriate notice of works start date be given, at least 5 working days,
    - A pre-start of work site meeting and archaeological induction occur prior to works commencing,
    - If the discovery of archaeology is suspected as a result of earthworks (for example, shell midden, burnt stones, charcoal, obsidian, bone), works should be halted and the project archaeologist consulted. Once consulted, works will recommence as soon as possible and in accordance of the law.
    - Appropriate time, space and budgets be allowed for the investigation, sampling and recording of any archaeology discovered,
    - On-going communication throughout the project occur and be at the earliest opportunity in the planning phase between the client or their representative, contractor, HNZPT, tangata whenua and the project archaeologist,
    - Conditions stated by HNZPT in the authority granted be fulfilled including post fieldwork analysis and reporting, including adequate budgets allowed.
    - Cultural monitoring protocols be in place for any proposed works, and should be provided by tangata whenua.

## 12. Limitations and Constraints

Archaeological features are not always visible, especially at ground surface. In order to further reduce archaeological risk, it is recommended that those involved in earthworks should undergo an archaeological induction to ensure that they are component to identify possible archaeological remains during works such as these.

## 13. Legal Obligations

### The Heritage New Zealand Pouhere Taonga Act 2014

The purpose of the Act is to promote the identity, protection, preservation and conservation of the historic and cultural heritage of New Zealand.

Both archaeological and heritage values are considered.

The Heritage New Zealand Pouhere Taonga Act 2014 (here after referred to as the HNZPT Act) defines an archaeological site as a place associated with pre-1900 human activity, where there may be evidence relating to the history of New Zealand. Historic and cultural heritage may relate to post-1900 activity, and its identification may be important to a particular place and its identity.

There are a variety of pre-1900 archaeological sites in New Zealand including, but not limited to:

• Maori and European midden (rubbish) dumps and structures, Maori pa sites and cultivation, gardening or food storage features in the form of pits, rock art sites or shipwrecks.

Any person who intends on carrying out work that may modify or destroy an archaeological site, or to investigate a site using invasive archaeological techniques, must first obtain an authority from Heritage New Zealand Pouhere Taonga. The process applies to sites on land of all tenure including public, private and designated land. The HNZPT Act contains penalties for unauthorised site damage or destruction.

## Resource Management Act 1991

The Resource Management Act 1991 (s.6) identifies the protection and management of the historic environment as one of the mandates for local authorities. It provides guidelines for the appropriate use, development and management of historic heritage, and the natural and cultural environment. Section 6 (f) recognises this function as a matter of national importance (RMA Amendment Act 2003) and provides regulations for sustainable management.

By definition, historic heritage includes those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, this includes:

Historic sites, structures, places and areas; archaeological sites; and sites of significance to Maori.

Under the RMA, local authorities have the responsibility to identify significant heritage areas, places and objects in district plans and to provide an appropriate level of protection and management of these resources.

This also includes historic heritage as defined in the RMA (s.2) with the following qualities that may reflect and allow greater appreciation and understanding of New Zealand's history and culture through:

Natural and physical resources, archaeology, architecture, culture, history, science and technology.

Local authorities have a responsibility to protect historic heritage within their district or region. Protecting historic heritage involves identifying historic heritage places, managing adverse effects and promoting the protection of heritage values in accordance with conservation principles (NZHPT 2004).

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# Preliminary Archaeological Test Pit Results – The Esplanade, Whangamata

MishMish Heritage visited Whangamata Esplanade to assess the revised area of works on November 14th 2020 and determined that substantial earthworks and levelling to a depth ranging from 25-40cm across the entirety of the Esplanade area had occurred. A combination of spade dug test pits and probing has been used to assess this. The ground was probed every 2m and test pits dug episodically along the route proposed.

The depth of the disturbance and modification is deeper than the excavation required for laying the path.

No deposits suggesting archaeology were encountered.

Therefore there is no recommendation for an archaeological authority to be in place in this area of works to lay the path.

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Below the depth of modification the ground was hard and impenetrable by spade and probe suggesting compaction previously. This ground would require a digger to penetrate and assess.

The methodology to be used to install posts and supports to the pathway, is through ramming or driving in the posts to up to 1.2m depth. This method of post installation will not enable archaeology to be viewed, if it is present at depth. If excavation to depth in the current public access area and dune environment was used, it is considered hazardous for archaeologists and contractors, hence post ramming is supported.

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The northern end of the area to be affected by works has been infilled with ash, clay and chipping seen at depth, and in which services have been installed.

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The recommendation going forward is that there is no physical evidence to suggest an archaeological authority is required at this time prior to the commencement of works, as no archaeological impacts have been identified.

When works are undertaken in 2021, the TCDC archaeological discovery protocols should be used and the appointed project archaeologist be notified if deposits/features/artefacts or taonga are unexpectedly suspected by contractors.

To minimise archaeological risk to the project further a pre-start archaeological induction could be undertaken to educate the ground workers regarding the identification of archaeological material.

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The original assessment by MishMish Heritage included an area of works where the boardwalk extended in front of residential homes within unmodified sand dunes. Archaeological risk remains in this area, and an archaeological authority be considered when these works are planned for.

This short report is for the use of TCDC (Ross Ashby) at this stage, photography will be added before submission to HPT.

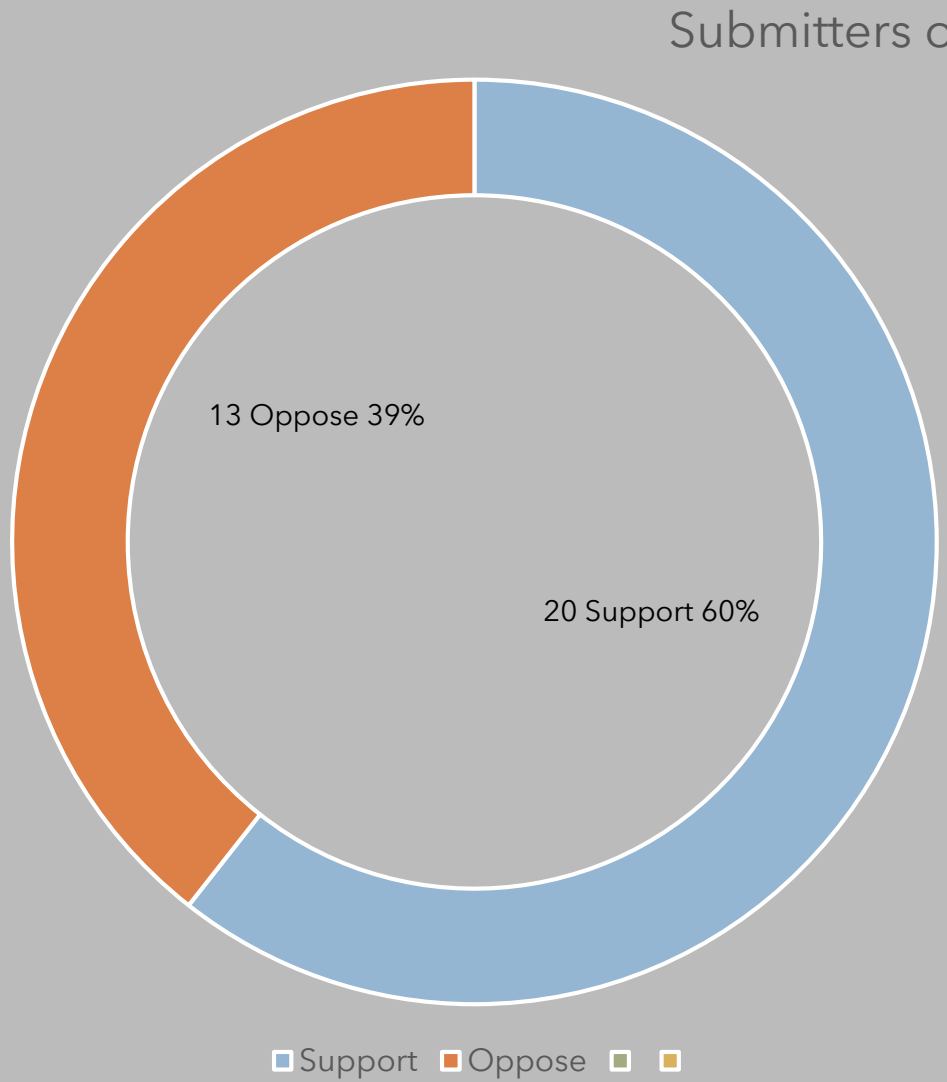
# TRIAL BOARDWALK

Update Report

# Instillation – 10m wooden board on rails




# Summary Of Submissions



# Key Submission Points

- More flexible structure needed
- Boards/planks need to be close together for wheelchair access
- Could be slippery in winter
- Needs to accommodate settling sand
- Consider using concrete stressed planks

# Conclusion

Boardwalk removed by contractor, strong support by the community board and members of the community for it to be re-instated

Contractor and engineer inspection on completion of trail indicated that proposed design worked well for the duration of the instillation

External rails provided some structure for the boards to attach and reduced possibility of warping

Greatly reduced substructure and therefore extent of modification to substrate

Instillation quick, however some difficulty with

Positive impact on surrounding dune, limited pedestrian erosion and allowed for dune planting to be established