Department of Conservation
Te Papa Atawhai

Applicant Information Form 1a
Notified or Non-notified process

We recommend that you contact your usual permissions advisor, or the appropriate Department of Conservation Office to discuss the application prior to completing the application forms - see appendix for contact details.

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 must be completed for all longer term applications (ie not one-off applications), then please fill in and attach the form(s) for the activities you wish to undertake. If extra space is required for answering please attach and label according to the relevant section.

Once you have filled in your application form, please complete this checklist to ensure that all components of your application form are complete. This will help prevent any possible delays in the processing of your application:

Legal status registration number (if not an individual)

Written testimonials (if required)

Written consultations (if applicable)

All appropriate activity application forms - for concessions we require the applicant information form **and** relevant activity form(s)

Supporting evidence for Environmental Impact Assessment (if required)

Supporting information and detail including maps, site plans, building plans as required in activity forms. **Note some applications require GPS Co-ordinates**

Supporting evidence for details of activity forms

Have you read the section regarding the liability of the applicant for payment of fees?

Have you signed your application?

All efforts in putting together a detailed application are greatly appreciated and will allow the Department to effectively and efficiently process your application.

A. Applicant Details

Applicant Name (full name of registered company or individual)	Southland Regional Council

Legal Status of applicant (tick)	**Individual**		**Registered Company**		**Trust**	**Incorporated Society**	
Other (please specify full details)	Local Authority						

Please supply the company, trust or incorporated society registration number:

If an individual please supply your date of birth (this is a unique identifier for you):

Trading Name (if different from Applicant name)	Environment Southland
Postal Address	Private Bag 90116 Invercargill 9840
Street Address (if different from Postal Address)	Cnr North Road & Price Street Invercargill
Registered Office of Company or Incorporated Society (if applicable)	

Phone	+64 3 2115115	**Website**	www.es.govt.nz
Contact Person and role	Noel Hinton Catchment Manager (until 28 Sept 2018)		
Phone	+64 3 2115115	**Cell Phone**	
Email	Noel.hinton@es.govt.nz		
Contact Person and role	Paddy Haynes, Catchment Manager (post 28 Sept 2018)		
Phone	+64 3 2115115	**Cell Phone**	
Email	Paddy.haynes@es.govt.nz		

B. Activities applied for

Please fill in all the forms that are applicable in order to cover all the activities the applicant wishes to undertake on public conservation land. Please tick below the forms that have been completed, and attach.

ACTIVITY		FORM	✓
Grazing		2a	
Land use:			
A.	Tenanting and/or using existing DOC facility/structure	3a	
B.	Use of public conservation land for private/commercial facility/structure	3b	
C.	Easements across public conservation land including right of way, stock access, convey electricity, drain sewerage, waterpipes etc	3c	✓
Guiding/Tourism/Recreation:			
A.	Walking/Hiking/Tramping/Hunting/Fishing/Horses/4WD activities etc	4a	
B.	Watercraft activities	4b	
C.	Aircraft activities	4c	
Filming		5a	
Sporting Events		6a	
Other (activities that may not be sufficiently covered in the above forms)		7a	

C. Background Experience of Applicant

Please provide relevant information relating to the applicant's ability to carry out the proposed activity (e.g. details of previous concessions, membership of professional organisations and relevant qualifications). Attach details and label Attachment 1a:C.

Local Authority charged with the provision of protection of property from damage by floods, authorised by the Soil Conservation and Rivers Control Act 1941

Has the Applicant or any of the company directors, trustees, partners, or anyone involved with the Application been convicted of any offence? Does the Applicant or any of the company directors, trustees, partners, or anyone involved with the Application have any current criminal charges pending before the court? If yes, please supply details.

No

D. Testimonials

Please attach two written testimonials, together with the names, occupations, addresses and phone numbers of two people who will vouch for the proficiency of the applicant in the proposed activity. At least one testimonial should contain information in relation to the financial viability and standing of the applicant. These testimonials are to be labelled Attachment 1a:D.

E. Consultation Undertaken

Most applications require consultation with whanau/hapu/iwi (local Maori), and other interested parties. Please read the information on the DOC website and contact the nearest Department of Conservation office to discuss what is required. Written expert views, advice or opinions concerning your proposal may also be attached to support the application. Attach any proof of consultation to the application and label Attachment 1a:E.

F. Insurance

Concessionaires are required to indemnify the Minister against any claims or liabilities arising from their actions. If this application is approved, the applicant will be required to hold Public Liability, Forest and Rural Fire Act Extension Insurance, and possibly Statutory Liability and/or vehicle insurance. The level of cover will depend on the nature of the activity. Please contact the nearest Department of Conservation office to discuss what is required.

G. Public Notification

Some activities and/or types of concession applications require public notification if the Department forms an intent to grant the concession. This increases the time and cost of processing the concession. The usual circumstances when public notification is required are thus:

- The Application is for exclusive use of public conservation land (ie a lease);
- The Application is for a licence for a term longer than 10 years;
- Other concessions do not require public notification unless the adverse effects of the activity are such that it is required.

A permissions advisor can advise you as to the type of concession your activity requires and whether or not it needs notification.

H. Fees and costs

Processing Fees:

Section 60B of the Conservation Act contains the statutory provisions regarding processing fees.

The Department recovers all direct and indirect costs to process a concession application from Applicants regardless of whether the application is approved or declined. The cost of processing a concession depends on whether the application needs to be notified or not (see Public Notification section above), and/or whether the application is a standard application or is complicated/complex.

The estimated cost of processing a standard non-notified concession is **$1540 + GST**. If the application meets the criteria for notification or the application is particularly complex or complicated then further costs will be incurred. In this situation the Applicant will be sent an estimate of costs. Applicants are also entitled to request an estimate of costs at any point but the Department may impose a charge for preparing such an estimate. Estimates are not binding.

The Department will ordinarily invoice the Applicant for processing fees after a decision has been made on the application but in some cases interim invoices will be issued. If at any stage an application is withdrawn the Department shall invoice the Applicant for the costs incurred by the Department up to that point. Applicants are required to pay the processing fees within 28 days of receiving an invoice. The Director-General is entitled to recover any unpaid fees as a debt.

The Director-General of Conservation has discretion to reduce or waive processing fees. If your application is for landing aircraft for personal recreational use you may be eligible for a reduction of 50% of the processing fee.

The Department may obtain further information either from the applicant or from any other relevant source in order to process the application. The applicant will be advised of any information obtained from other sources. The cost of obtaining such information will be charged to and recovered from the applicant. The applicant will be informed as soon as practicable from receipt of the application if further information is required before this application form can be fully processed by the Department.

Reduction in Processing Fees for exceeding processing timeframe:

If the Department fails to meet its processing timeframes the fees will be reduced at a rate of 1% per day late, up to a maximum of 50% of the total processing fee. The reduction will not apply if the Applicant's actions have delayed the process.

Ongoing Fees:

If your application is approved, you will also be required to pay annual fees throughout your concession. These are:

- Annual management fee to cover administration time; and/or
- Monitoring fee (if required) to cover the cost of monitoring the effects of your activity; and/or
- Activity fee per head (if a recreation concession), or a minimum fee per year; and/or
- Annual rental (if a land use concession eg lease)

Please contact the nearest Department of Conservation office to discuss the applicable fee and processing timeframe for the application.

Terms and Conditions for an Account with the Department of Conservation:

Have you held an account with the Department before? (Please tick)	Yes	✓	No	

If yes, under what name: Southland Regional Council.

1. I/We agree that the Department of Conservation can provide my details to the Department's Credit Checking Agency to enable it to conduct a full credit check.
2. 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.
3. I/We agree to notify the Department of Conservation of any disputed charges within 14 days of the date of the invoice.
4. I/We agree to fully pay the Department of Conservation for any invoice received on or before the due date.
5. I/We agree to pay all costs incurred (including interest, legal costs and debt recovery fees) to recover any money owing on this account.
6. 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 of the credit account are not met.
7. 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.

Declaration

I certify that the information provided on this application form and all attached additional forms and information is to the best of my knowledge true and correct.

Note: The Minister can vary any concession granted if the information given in this application contains inaccuracies.

Signature (Applicant)	Noel Hinton Catch Mgr	**Date**	25-9-18
Signature (Witness)	C. S. Young	**Date**	25/9/18
Witness Name	COLIN YOUNG		
Witness Address	C/- ENVIRONMENT SOUTHLAND INVC'LL.		

This application is made pursuant to Sections 17R and 17S of the Conservation Act 1987 [and (where applicable) Section 49 of the National Parks Act 1980/Section 59A of the Reserves Act 1977].

Applicants should familiarise themselves with the relevant provisions of the Conservation Act 1987, the Reserves Act 1977 and the National Parks Act 1980 relating to concessions.

Once the application is complete, the Minister has 20 days within which to advise the applicant whether the application is declined on the grounds that the application does not comply with or is inconsistent with the provisions of the Act or any relevant Conservation Management Strategy or Conservation Management Plan. If the Minister does not so advise the applicant the application will be processed in accordance with Section 17T of the Conservation Act 1987.

The purpose of collecting this information is to enable the Department to process your application. The Department will not use this information for any reason not related to that purpose.

Department of Conservation
Te Papa Atawhai

Appendix 1: Who to contact?

If you have a query relating to a permit or concession the offices below specialise in the following topics. For queries relating to topics not listed below contact the office closest to where you are based.

Hamilton

Contact our Hamilton office for:

- agriculture, beehive, vehicle, ski field and grazing concessions

Permissions Team
Private Bag 3072
Hamilton 3240
Ph +64 27 200 9648
Email: permissionshamilton@doc.govt.nz

Christchurch

Contact our Christchurch office for:

- Retail, ski field, access/easements, Wild Animal Recovery Operations (WARO) and helihunting concessions
- Sounds Foreshore authorisations and all permits relating to Marine Mammals

Permissions Advisor (Support)
Private Bag 4715
Christchurch Mail Centre
Christchurch 8140
Ph +64 3 371 3700
Email: permissionschristchurch@doc.govt.nz

Hokitika

Contact our Hokitika office for:

- Events, vehicle, boating, access/easements, grazing and extraction of materials concessions
- Mining and access arrangements.

Permissions Advisor (Support)
Private Bag 701
Hokitika 7842
Ph +64 3 756 9117
Email: permissionshokitika@doc.govt.nz

Dunedin

Contact our Dunedin office for:

- Aircraft (other than helihunting and WARO), boating, ski field, access/easement and grazing concessions.

Permissions Advisor (Support)
PO Box 5244
Dunedin 9058
Ph +64 3 477 0677
Email: permissionsdunedin@doc.govt.nz

Department of Conservation
Te Papa Atawhai

Concession Application Form 3c - Easements

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 involves any access across public conservation land, and 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. Examples of this type of activity are:

- a right to convey water:
- a right to drain water:
- a right to drain sewage:
- a right of way (access):
- a right to convey electricity:
- a right to convey telecommunications and computer media:
- a right to convey gas.

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 in detail the proposed activity, eg an accessway, cable or pipeline. Please include any details of construction eg location, building dimensions, materials, purpose, number of people and vehicles involved etc

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

Provide information about when and how the easement area will be used.

Please attach a map of the site, a detailed site plan and drawings of proposal (as necessary). If possible include photographs of the site. Any attachments should be labelled Attachment 3c:A.

The application seeks concession to:

1. Occupy approximately 3.15ha, part of Conservation Unit D430175: Crown Land (Marginal Strip) Reserved from sale. Part of Block IX Mararoa Survey District. True right bank of the Upukerora River approximately 1.5km above SH 94 Bridge, centred on NZTM Grid Ref: 1189654E 4957808N for the purpose of storage and processing of river gravels extracted for the purpose of Channel Capacity Maintenance from identified sites within the Upukerora River downstream of the SH94 Bridge;

and

2. Access across Conservation Land part of Conservation Unit D430005: Crown Land held for Conservation Purposes, Legal Description SO 482307 at three sites downstream of the SH94 Bridge for the purpose of consented river gravel removal for the management of channel capacity for the passage of floodwater to protect infrastructure.

The three sites centered on NZTM Grid Reference are:
Beach 1 1188472E 4959432N
Beach 2 1188532E 4958612N
Beach 3 1188315E 4958244N

Attached Plans:
3CA1 The Location of Sites relative to DOC administered land;
3CA2 The location of the Proposed Storage and Processing Site upstream of SH94;
3CA3 The detailed location of the three extraction sites downstream of SH94.

Proposed Storage and Processing Area

The site is part of an area previously operated under Concession Number PAC-14-26-04-01 by Carran Scott Contracting.
The extraction downstream of SH94 is for the management of channel capacity for the carrying of floodwaters. As such, extraction is promoted that removes the material from the river without any stockpiling or processing being allowed at the site of the extraction.

By Environment Southland holding and controlling the extractions, there is a need for best efficiency being obtained by having a site that allows for stockpiling and processing in close proximity.

The site applied uses a part of the envelope previously occupied by Carran Scott Contracting and is an area that over time has gained some acceptance as a work site on the Lower Upukerora. Attachment 3CA2 identifies;

- Existing fencing to be retained;
- New fence to be erected;
- Existing fence to be removed;
- And the removal of industrial activity from approximately half of the original site with the return of that area to that of being available for public use.

There is currently a well formed road that accesses the site from SH94 Bridge up the true right bank of the Upukerora that was constructed and maintained by Carran Scott Contracting. ES will commit to maintaining the road to its current standard as part of a concession being granted for the sites use.

It would be expected that conditions attached to the concession would be similar to that obtained by Carran Scott Contracting regards the likes of weed control, hours of operation, hazardous substances etc which would be acceptable to Environment Southland (See attachment 3CA6.)

The management proposal estimates that 20,000 to 44,000 m3 of material will require extraction downstream of SH94 per annum, dependant on river events in any one year. This would be a maximum use in terms of storage and processing at the site based on the area that is available.

Channel Capacity Management downstream of SH94

Environment Southland applied for Consent to extract from 3 sites downstream of SH94 as a long term management of channel capacity for protection of infrastructure and land from inundation.

The application (Appended as Attachment 3CA4) details:

Following a consultation process with Fish & Game, DOC and Te Ao Marama,
Environment Southland has been granted a consent with conditions (Attachment 3CA5)

If you wish to build, extend or add to any **permanent or temporary structures** on public conservation land (eg pumpsheds, toilets, fences, storage facilities). 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

N/A

B. Term

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

Note: An application for an easement 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.

The application is for Concession with a term of 10 years.

Noting the dynamic nature of the Upukerora River at this location it is considered that a review of the programme for success/outcome/change in river behaviour at 10 years is appropriate.

For the management of Health & Safety requirements at the storage and processing site it is considered that an exclusive interest in that land is required, that can be managed by the proposed fencing programme. Access around the site for public use is retained outside of the fenceline.

C. 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. 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 3a:C.

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**
Marginal Strip and Conservation land adjoining the Upukerora River	*Public access and recreation*		*See Sect 3-6 of Consent application (Attachment 3CA4)*
	Cultural and Archaeological Values		Granted Consent & conditions (Attachment 3CA5)
			Cultural Impact Assessment (Attachment 3CC1)
			Archaeological Assessment for Marakura/Upukerora River (Attachment 3CC2)

D. Other

Is there any further information you wish to supply in support of your application? Please attach if necessary and label Form 3c:D

environment SOUTHLAND REGIONAL COUNCIL
Te Taiao Tonga

DOC_Land_...
maj_townships

Attachment 3CA1

Upukerora River
Channel Capacity Management Proposal
Location of Sites relative to DOC Administered Land
July 2018

N
1:10,170

DATA SOURCE: ES GIS 2018

environment SOUTHLAND REGIONAL COUNCIL
Te Taiao Tonga

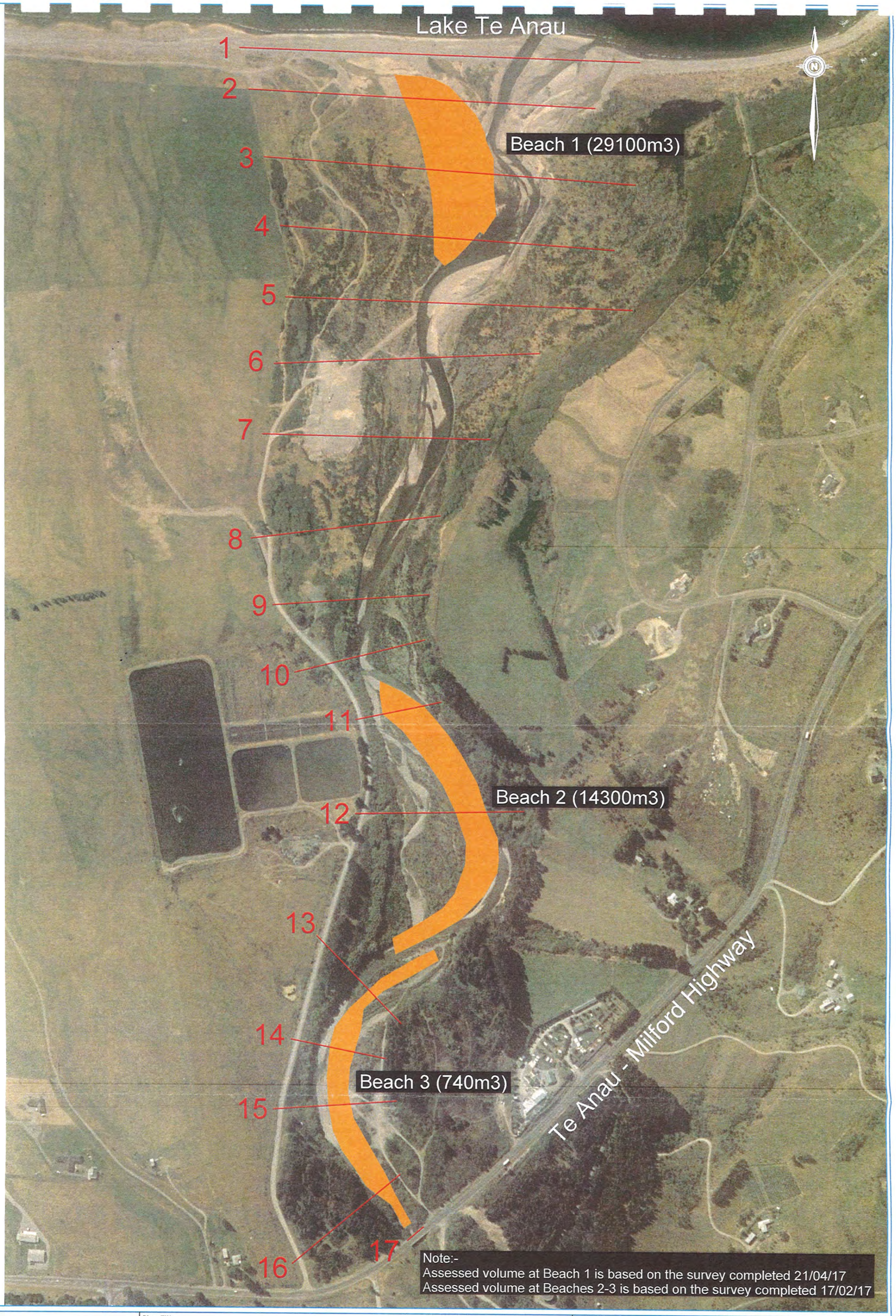
Attachment 3CA2

Upukerora River
Proposed Storage and Processing Site.
Environment Southland

N

1:2,034

DATA SOURCE: ES GIS 2018



TrueSouth
SURVEY SERVICES LTD
Phone 03 218 8030 Fax 03 218 8044
78 Doon Street, PO Box 534
Invercargill 9840
www.truesouth.co.nz

Plan Title:

Attachment 3CA3

Upukerora River
Channel Capacity Management

Plan Description:
Cross Sections Surveyed April 2017
Proposed Beaches to be Scraped (shaded orange)

Revision:

Plan Info:
Page: 1 of 1
Date:
Fri Oct 13 10:08:55 2017
Scale: 1:5000 @A3

Project Info:
Project No.: 5404
Client Info: Environment Southland
Noel Hinton

Survey Info:
Horizontal Datum:
Vertical Datum: Dunedin - Bluff 1960
Origin of Heights: Trig 14091 (A1HK)
N. 5519849.38 E. 2099063.24
R.L. 270.28

OPUS

Attachment 3CA4

Environment Southland

Gravel Extraction from Lower Upukerora River for Flood Control Purposes

Resource Consent Application

Environment Southland

Gravel Extraction from Lower Upukerora River for Flood Control Purposes

Prepared By

Christie Robinson
Graduate Planner

Reviewed By

Luke McSoriley
Team Leader - Planning

Opus International Consultants Ltd
Invercargill Office
Opus House, 65 Arena Avenue
PO Box 647, Invercargill 9840
New Zealand

Telephone: +64 3 211 3580
Facsimile: +64 3 214 2896

Date: August 2017
Reference: VQ421.95
Status: Final

APPLICATION FOR RESOURCE CONSENT
PURSUANT TO SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

To: Environment Southland
Private Box 90116
INVERCARGILL 9810

Environment Southland applies for the following resource consents:

1. The type of Resource Consent sought is:

RMA Section	Resource Consent Sought	Period Sought
Section 13	Extraction of gravel from three areas of the Upukerora River for flood control purposes	35 years

2. The activity to which this application relates is:

   - The extraction of gravel from three sections of the lower Upukerora River as required for flood control purposes.

3. The **owner of the land** to which the application relates is: The Crown and Department of Conservation.

4. The **Address** and **Legal Description** of the property to which the application relates is: **Upukerora River,** being Section 2 Survey Office Plan 482307 which is held for Conservation purposes and the adjoining legal riverbed.

5. **Other resource consents**: No other consents are required.

6. Attached, in accordance with the Fourth Schedule of the Resource Management Act 1991, Site Descriptions a description of the proposed activity and **an assessment of the environmental effects** the proposed activity may have on the environment.

7. Included is an assessment of the proposed activity against the matters set out in Part 2 of the Resource Management Act 1991.

8. I attach an assessment of the proposed activity against any relevant provisions of a document referred to in section 104(1)(b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.

9. Nothing in this application is affected by section 165ZH(1)(c) of the Resource Management Act 1991 (which relates to marine and coastal occupation).

10. The proposed activity is NOT within an area covered by a customary marine title group planning document under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011.

11. The application is NOT for any form of subdivision under the Act.

12. Information, as required by the relevant Regional Plan (Appendix A) is contained in the attached document.

13. Attached is **all other information required** to be included in the application by the Regional Plan, The Resource Management Act 1991 or any regulations made under that Act.

Signed: _____ Date: _____

On Behalf of:
(Not for Service)
Catchment Management Division
Environment Southland
Private Bag 90116
Invercargill 9840

Address for Service:
Opus International Consultants Ltd
PO Box 647
INVERCARGILL

ATTENTION: Christie Robinson
P (03) 211 3580
F 021 501 249
E christie.robinson@opus.co.nz

Contents

1 Introduction

1.1 Purpose of Report

This application has been prepared in accordance with Section 88 of the Resource Management Act 1991 (RMA), and provides a description of the proposal with an assessment of the actual and potential effects on the environment, as required by the Fourth Schedule of the RMA.

1.2 Background

The Southland Regional Council (Environment Southland), the applicant, is responsible for river maintenance in Southland. This includes flood and erosion protection works that ensure community safety and well-being, and allow for sustainable economic development without compromising environmental values. The Catchment Management Division (CMD) of Environment Southland undertake activities to achieve the abovementioned responsibilities. The activities of the CMD are underpinned by statutory documents including the Soil Conservation and Rivers Control Act 1941.

The Upukerora River (the River) rises in the Livingston Mountains and flows south west to enter Lake Te Anau to the north of the Te Anau township. Flooding of properties surrounding the lower reaches of the River is an ongoing problem. Environment Southland has in recent years actively monitored the build-up & decline of gravel in the 4km area of the River upstream of its confluence with Lake Te Anau. When monitoring shows that the bed within this section has aggraded, CMD staff advice the Southland District Council given they own property/infrastructure in the vicinity of potential flooding and guide existing gravel extraction operators to the aggraded sites.

Since monitoring started in 1996 major changes in river positions has led to ongoing bed degradation, headwaters retreat and lateral erosion the section of River upstream of the SH 94 bridge. This has in turn resulted loss to channel flow capacity due to the impacts of aggradation through the delta section of the River downstream of SH 94 bridge. Large amounts of gravel have moved from upstream of the SH94 bridge, downstream increasing the risk of the river channel moving outside the existing river channel.

1.3 Proposal

The applicant seeks consent to abstract gravel from the aggraded bed of the Lower Upukerora River at three sites as a form of flood control to enable pre-emptive river management.

A preliminary assessment undertaken indicated that a total of 29,500m^3 (bulk) is available for extraction from the three sites on an annual basis. The volumes to be extracted from each site each year are as follows:

- Site 1: 8,500m^3
- Site 2: 16,000m^3
- Site 3: 5,000m^3

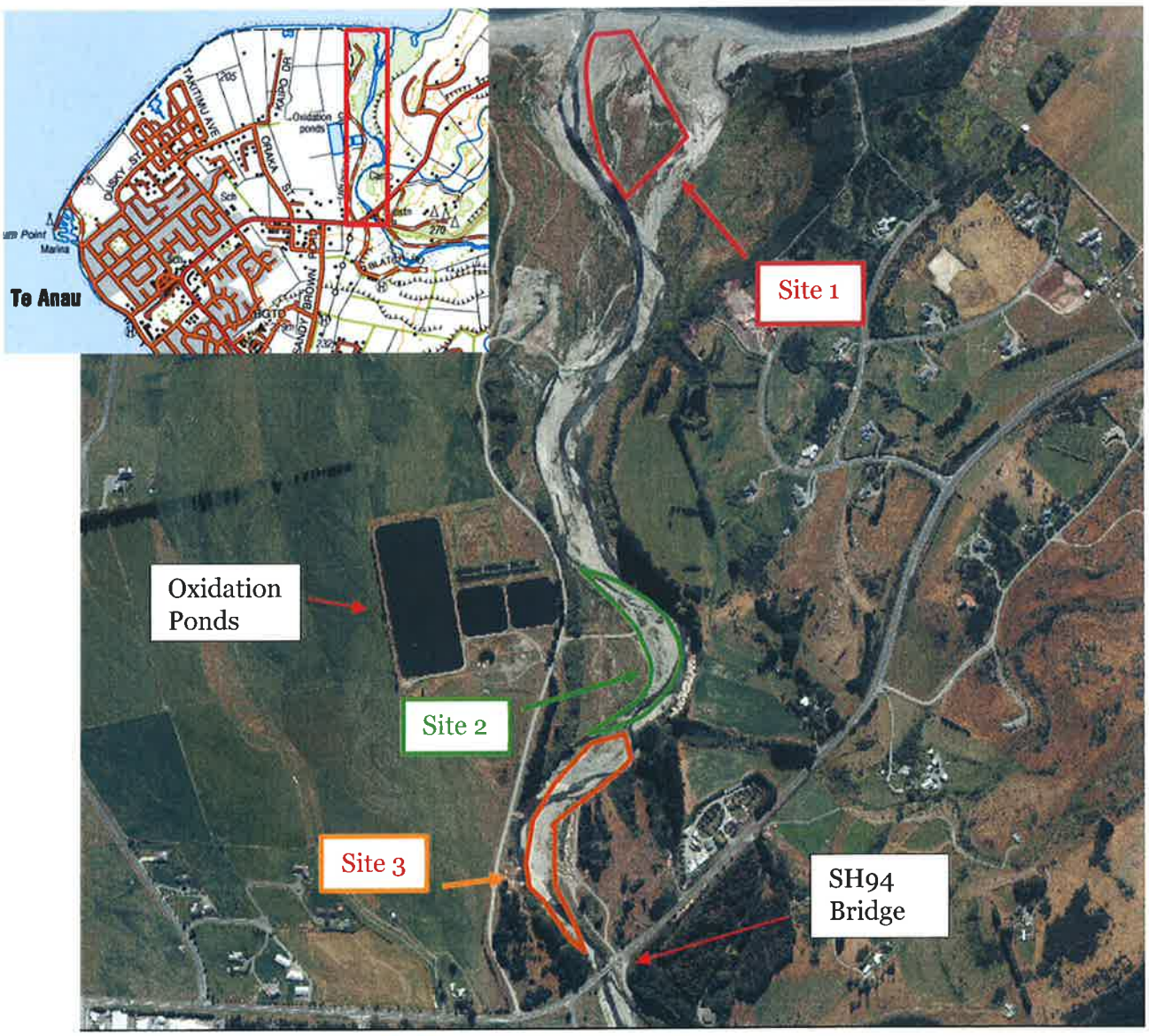
It is proposed that contractors who abstract the gravel retain the abstracted material for commercial use in the local area.

1.4 Site Description

The Upukerora River is located to the east of the Te Anau township. The three extraction sites are all located upstream of the SH94 bridge, and are within 2km from the Rivers confluence with Lake Te Anau. Access to the each of the sites can be gained via side roads and existing tracks.

The Southland District Council's oxidation ponds (wastewater treatment for the Te Anau township) are located adjacent to the true left bank of the River.

Rural and rural residential activities occur on either side of the River.



1.5 Method

- Prior to each extraction event the three sites will be surveyed to determine how much gravel has accumulated.

- When gravel has built up at each of the three sites to the levels described above, an extraction activity will commence.
- Gravel will be extracted via beach skimming rather than through the excavation of channels.
- Before entering the bed of the River, machinery will be refuelled and thoroughly cleaned.
- Machinery will enter the bed via existing access/stockpiling sites adjacent to the River.
- All extractions will be extracted from the dry bed of the River. In the event where flowing water separates the bank and the aggraded bed, the minimum amount of movements across the channel will be undertaken. Extracted gravel will be loaded on to a truck for removal or stockpiled at existing stockpiling areas adjacent to each site.

2 Consents Required

2.1 Gravel Extraction from Upukerora River

2.1.1 Operative Regional Water Plan for Southland 2010

Rule 41(b) – Gravel Extraction: The excavation or disturbance of the bed of any river, *modified watercourse, stream or lake for the purpose of extracting gravel or aggregate for flood or erosion control or the protection of infrastructure is a restricted discretionary activity.*

The Council will restrict its discretion to the following matters:

(i) The location of the extraction;
(ii) The design of the works and the quantity of material extracted;
(iii) Any effects on infrastructure, flood risk, river morphology and dynamic (including erosion and deposition), aquatic and riverine ecosystems and habitat, historic heritage and the spiritual and cultural values and beliefs of the tangata whenua;
(iv) Any standard conditions in Rule 48(a) that cannot be met.

2.1.2 Proposed Southland Water and Land Plan 2016

Rule 73(b) – Gravel Extraction: *The excavation or disturbance of the bed of any river, modified watercourse, stream or lake for the purpose of extracting gravel or aggregate for flood or erosion control or the protection of infrastructure is a restricted discretionary activity provided the following conditions are met:*

(i) Fish passage shall not be impeded as a result of the activity;
(ii) There shall be no be disturbance of the roosting and nesting areas of the black fronted tern, black billed gull, and banded and black fronted dotterel;

(iii) Any activity in the water shall be kept to a minimum to avoid, as must as practicable, discolouration to the river or lake. Where any sediment release occurs, it will be only temporary;

(iv) Any bed disturbance shall be kept to the minimum necessary to undertake the activity and shall be returned as near as practicable to its original channel shape, area, depth, or gradient on completion of the activity (with the exception of revegetation);

(v) No fuel storage or machinery refuelling shall occur on any area of the bed;

(vi) No contaminants, other than sediment released from the bed, shall be discharge to water during the activity unless allowed by a relevant permitted activity rule or resource consent;

(vii) There are no recorded historic heritage sites, at the site of the activity;

(viii) Before any equipment, machinery, or operating plant is moved to a new activity site it shall be effectively cleaned to prevent the spread of "pests" or "unwanted organisms" as defined by the Biosecurity Act 1993;

(ix) All equipment, machinery, operating plant and debris associated with the bed disturbance activity shall be removed from the site on completion of the activity; and,

(x) From the beginning of November until the end of May, there shall be no disturbance of the tidal river habitat up to the spring tide level.

Environment Southland will restrict its discretion to the following matters:

1. *The location of the extraction;*
2. *The design of the works and the quantity of material extracted; and,*
3. *Any effects on infrastructure, flood risk, river morphology and dynamics (including erosion or deposition), aquatic and riverine ecosystems and habitat, taonga species, historic heritage and the spiritual and cultural values and beliefs of the tangata whenua.*

2.1.3 Summary

The proposed gravel extraction from the Upukerora River is a restricted discretionary activity.

3 Assessment of Effects

Section 88 of the RMA requires an assessment of any actual or potential effects on the environment that may arise from a proposed activity, and the way in which any adverse effects may be avoided, remedied or mitigated. The activity is a restricted discretionary activity under both the Regional Water Plans. The matters to which Council's discretion is restricted to are:

- The location of the extraction;
- The design of the works and the quantity of material extracted;
- Any effects on infrastructure, flood risk, river morphology and dynamics (including erosion or deposition), aquatic and riverine ecosystems and habitat, taonga species, historic heritage and the spiritual and cultural values and beliefs of the tangata whenua; and,

- Any conditions of Rule 48(a) of the Operative Water Plan that cannot be met.

3.1 Location - Identified Sites

The three sites identified by the applicant for gravel extraction activity have been selected as these areas are where large volumes of gravel tend to build-up and contribute to the flooding issue. All locations are downstream of the SH94 bridge as shown in site photograph in Section 1.5.

The three sites are deemed to be aggregating at a rate which allows for the proposed volumes to be extracted at a rate that will have a positive effect in terms of mitigating flood risks. The three sites where gravel extraction is proposed are where gravel accumulates and increases in bed load occur and as such are deemed the most appropriate locations for extraction activity.

3.2 Design, Quantity and Method

The applicant has undertaken surveys and then assessed said surveys to identify an accurate volume of bed load gravels for removal.

The activity is generally dictated by the amount of gravel which builds up at each of the sites, therefore the activity is 'responsive' in contrast to activity that extracts gravel for specific use purposes and therefore requires a certain volume. If the rate of gravel build up slows or reduces and less extraction activity needs to occur this is a positive from the applicant's perspective.

The volume given is an estimate which has been calculated by the applicant. The volume is deemed to be sufficient given the possible variables.

Works will be undertaken by beach skimming rather than through any deep excavation or cuttings.

All extracted materials being transported by truck out of the floodway.

The design and methods described are the most appropriate given the location and volumes proposed.

3.3 Effects on Flooding and River Morphology and Dynamics

The proposed gravel extractions are an appropriate means of decreasing the flooding risk of the River. The proposed gravel extractions will result in the morphology and dynamics of the River changing. Where River flows would usually be blocked by aggregated gravel, water will now be able to flow through/across these areas.

The following photos (sourced from Environment Southland's website), show the extent of flooding during different flood events:

Photo 1: Upukerora River at SH94 Bridge (2002)

Photo 2: Downstream of SH94 Bridge, near Sites 1 and 2 (n.d.)

Photo 3: Upukerora River at Oxidation Ponds (2002)

Over time the course of the River will naturally change as it has done previously. The proposed removal of gravel at the three sites will essentially revert the bed of a River back to a 'more natural' state once each extraction activity is completed. The effect of the proposal on the dynamics and morphology and these naturally occurring changes will be negligible.

3.4 Effects on Aquatic and Riverine Ecosystems, Habitats and Taonga Species

The proposed extraction activities will occur in the dry bed of the River as aggraded sections of gravel will generally be above the water level of the River. The extraction activities will not result in the introduction of any contaminants to the River.

In accordance with Rule 48(a)(ii) of the Operative Water Plan and Rule 73(b)(ii), no bed disturbance activities will occur within roosting and nesting areas of the black fronted tern, black billed gull, and banded and black fronted dotterel. It is suggested that a condition to this effect could be imposed as part of the resource consent.

Removal of vegetation is not proposed in association with the proposed gravel extractions.

As mentioned in Section 3.3, any changes to the morphology and dynamics of the River, which has the potential to influence the aquatic habitat, will be not be significant. Movement of gravel is a natural process in a braided river bed channel.

3.5 Effects on Infrastructure

The Southland District Council own and operate a wastewater treatment plant (including oxidation ponds) and roads adjacent to the River. As shown in Photo 3 above, in flooding events the River can cut into the true left bank endangering the ponds and roads.

The NZ Transport Agency maintains the SH94 bridge across the River which is upstream of the identified sites. Photo 1 shows flood flows passing under the bridge.

By maintaining the capacity of the channel by clearing out aggregated gravels, flood flows will be less likely to breach to banks of the River or be restricted up-stream.

The proposal will have positive effects on infrastructure by mitigating potential adverse effects of flooding.

3.6 Effects on Cultural and Heritage Values

There are no known sites of historic or cultural significance in the immediate vicinity of the site. It should be noted that the gravel extraction activities will occur within the bed of a braided river which is often subject to high flows and has a relatively dynamic channel.

During each extraction activity, Ngai Tahu's 'Accidental Discovery Protocol' will be followed if any items of potential archaeological significance are uncovered because of the earthworks.

The effect of the proposal on cultural values will be negligible provided accidental discovery protocols are followed.

3.7 Conditions of Rule 48(a) of Operative Water Plan

Rule 48(a) of the Operative Water Plan contains standard conditions for bed disturbance activities. All conditions of Rule 48(a) will be met.

4 Statutory Considerations

4.1 Section 5 Resource Management Act 1991

All resource consent application must be considered against Part 2 of the Resource Management Act 1991 (RMA). To grant a resource consent, Council must be satisfied that by granting the application, Part 2 of the RMA will be achieved.

Section 5 sets out that the purpose of the RMA is to promote the sustainable management of natural and physical resources. Section 5 requires that activities be managed to avoid, remedy or mitigate adverse effects on the environment. The proposal will be undertaken in a way that avoids or mitigates adverse effects on water quality and aquatic and riverine habitats. By removing the gravel from the River channel, the flood risk posed to infrastructure in the vicinity of the River will decrease. These infrastructure assets form part of the physical environment and must be managed sustainably. The proposal in avoiding and mitigation potential flood risk in a manner that also avoids and mitigates potential adverse effects on the natural environment is considered to be consistent with Section 5 of the RMA.

Section 6 of the RMA lists matters of national importance which must be recognised. Sections 6(a), (c), (d), (e) and (h) are relevant to the proposal. The proposal will not have significant effects on the natural character of the River or on significant indigenous vegetation. The proposed gravel activities are proposed as a means of managing the risks of natural hazards on existing infrastructure. The proposal is deemed to be consistent with Section 6 of the RMA.

Section 7 sets out other matters which must be given particular regard. The proposal includes means of mitigating the effects of the extraction activity on the environment including the maintenance of amenity values and the quality of the environment, and the development of natural and physical resources. The proposal is deemed to be consistent with Section 7 of the RMA.

Section 8 of the RMA requires all persons exercising functions under the Act to take into account the principles of the Treaty of Waitangi (Te Tiriti O Waitangi). The relevant iwi management plan has been considered below and local iwi will be consulted and their written approval sought. The proposal accounts for the principles of the Treaty of Waitangi and Section 8 of the RMA.

4.2 Soil Conservation and Rivers Control Act 1941

Under Section 126 of the Soil Conservation and Rivers Control Act 1941 (SCRC Act), it is the function of Catchment Boards to minimise and prevent damage within its district by floods and erosion. The applicant acts as the Catchment Board for Southland and therefore is required to meet the function outlined in the SCRC Act.

The proposed work will enable the applicant to meet their function requirements.

4.3 Southland Regional Policy Statement

A number of objective and policies relevant to this proposal are included within the Proposed Southland Regional Policy Statement. The provisions of the Proposed RPS which are subject to appeals are marked with an asterisk (*).

4.3.1 Regional Policy Statement for Southland 1997

The following objectives and policies from the Regional Policy Statement for Southland are those of particular relevance to the application:

5.5 - Water Quality

Objective 5.1: *To sustain the quality of the Region's water resources so as to:*

(a) Meet the needs of a range of uses, including the reasonably foreseeable needs of future generations; and,
(b) Safeguard the life-supporting capacity of water and related ecosystems.

Objective 5.2: *To ensure that in the use and development of water and land resources, and the discharge of contaminants, water quality is maintained and wherever practicable enhanced.*

Comments:
The proposal has the potential to have adverse effects on water quality as the works will occur within the bed of the River. The applicant's proposal contains measures which will mitigate any adverse effects on water which may arise during or at the completion of the works.

The proposal is considered to be consistent with the objectives and policies of the operative regional policy statement.

4.3.2 Proposed Southland Regional Policy Statement 2012

The following objectives and policies of particular relevance apply to the proposal are:

Objective WQUAL.1 – Water quality goals*: *Water quality in the region:*

(a) Safeguards the life-supporting capacity of water and related ecosystems;

(b) Safeguards the health of people and communities;

(c) Is maintained, or improved in accordance with freshwater objectives formulated under the National Policy Statement for Freshwater Management 2014;

(d) Is managed to meet the reasonably foreseeable social, economic and cultural needs of future generations.

Policy WQUAL.1 – Overall management of water quality*:

(a) Identify values of surface water, groundwater and water in coastal lakes, lagoons, tidal estuaries, salt marshes and coastal wetland, and formulate freshwater objectives in accordance with the National Policy Statement for Freshwater Management 2014; and

(b) Manage discharges and land use activities to maintain water quality, or improve it, to ensure freshwater objectives are met.

Policy WQUAL.2 – All waterbodies*: *In managing water quality, particular regard will be had to the following contaminants:*

(a) Nitrogen;
(b) Phosphorus;
(c) Sediment;
(d) Microbiological contaminants.

Policy WQUAL.6 – Social, economic and cultural benefits: *Recognise the social, economic and cultural benefits that may be derived from the use, development or protection of water resources.*

Objective BRL.1 – lake and river bed values: *All significant values of lakes and rivers are maintained and enhanced.*

Policy BRL.3 – Managing gravel resources: *The region's fluvial gravel resource shall be managed sustainably and in such a way as to:*

(a) Manage adverse effects of removal of gravel on the ecological, recreational, amenity and cultural values, particularly tangata whenua cultural values, existing uses, natural character and physical processes of lakes and rivers;

(b) Avoid or remedy the adverse effects of rivers on adjacent land; and,

(c) Provide for the social, economic and cultural wellbeing of people and communities.

Policy BRL.5 – Social, economic and cultural benefits: *Recognise the social, economic and cultural benefits that may be derived from the us, development or protection or river and lake beds.*

Objective NH.1 – Communities becoming more resilient: *The risks to people, communities, their businesses, property and infrastructure from the effects of natural hazards are understood and avoided, remedied or mitigated, resulting in communities becoming more resilient.*

Policy NH.6 – Mitigate the effects of natural hazards: *Mitigate the adverse effects of natural hazards on new subdivision and development in areas other than those at significant risk.*

Objective INF.1 – Southland's Infrastructure: *Southland's regionally significant, nationally significant and critical infrastructure is secure, operates efficiently, and is appropriately integrated with land use activities and the environment.*

Policy INF.3 – Infrastructure protection: *Protect regionally significant, nationally significant and critical infrastructure, particularly from new incompatible land uses and activities under, over or adjacent to the infrastructure.*

Policy INF.4 – Natural Hazards: *The risks to infrastructure from natural hazards and climate change effects are avoided, remedied, or mitigated including through design and construction.*

Comments:
The actual and potential adverse effects of the activity on the environment have been addressed in Section 3 of this report. The applicant will be undertaking the proposed gravel abstraction in the dry bed, mitigating effects of the proposal on water quality. The proposal will have positive effects in terms of mitigation of flood risk and the management of the surrounding infrastructure.

The activities proposed by way of this application are considered consistent with the relevant objectives and policies of the Proposed Regional Policy Statement.

4.4 Regional Water Plans

4.4.1 Regional Water Plan for Southland 2010

The objectives and policies of the Regional Water Plan for Southland relevant to this proposal are considered and discussed below.

Objective 10 – Habitats and ecosystems: *To maintain or enhance the diversity and integrity of aquatic and riverine habitats and ecosystems.*

Objective 13 – Natural character and outstanding natural features: *To protect natural character and outstanding natural features of rivers and lakes from inappropriate use and development.*

Policy 32 – Manage structures and bed disturbance activities in the beds of rivers (including streams and modified watercourses) and lakes: *Manage structures and bed disturbance activities in the beds of rivers and lakes, to avoid, remedy or mitigate adverse effects on:*

(a) Water quality and quantity;

(b) Habitats, ecosystems and fish passage where this is normally expected to occur;
(c) Indigenous biological diversity;
(d) Historic heritage, and the spiritual and cultural values and beliefs of the tangata whenua;
(e) Public access (except in circumstance where public health and safety are at risk) and amenity values;
(f) Natural character and outstanding natural features;
(g) River morphology and dynamics including erosion and sedimentation;
(h) Flood risk;
(i) Infrastructural assets; and
(j) Navigational safety.

Policy 33 – Provide for the extraction of gravel: Provide for the extraction of gravel to meet the needs of the community, in a way that avoids, remedies or mitigates adverse effects on the riverine environment; and

(a) maintains or enhances aquatic and riparian habitat; or
(b) equates to no net loss of habitat in the River channel and floodplain; or
(c) maintains or enhances flood protection, erosion control or the integrity of physical resources.

Comments:
As outlined in Section 3 of this application, the adverse effects of the proposed extraction activity will be insignificant. The aggradation of gravel at the identified sites gives rise to flooding issues at adjoining land and nearby infrastructure. The proposal will be an appropriate means of addressing these issues. Overall the proposal will have positive effects on the environment.

The proposed activities are considered to be consistent with the relevant objectives and policies of the Operative Regional Water Plan.

4.4.2 Proposed Southland Water and Land Plan 2016

Objective 1: *Land and water and associated ecosystems are managed as integrated natural resources, recognising the connectivity between surface water and groundwater, and between freshwater, land and the coast.*

Objective 2: *Water and land is recognised as an enabler of the economic, social and cultural wellbeing of the region.*

Objective 14: *The range and diversity of indigenous ecosystem types and habitats within dryland environments, rivers, estuaries, wetlands and lakes including their margins, and their life-supporting capacity are maintained or enhanced.*

Objective 18: *All activities operate at "good(environmental) management practice" or better to optimise efficient resource use and protect the region's land, soils, and water from quality and quantity.*

Policy 28 – Structures and bed disturbance activities of rivers (including streams and modified watercourses and lakes: *Manage structures and bed disturbance activities in the beds of rivers and lakes to avoid, remedy or mitigate adverse effects on:*

1. *Water quality and quantity;*
2. *Habitats, ecosystems and fish passage;*
3. *Indigenous biological diversity;*
4. *Historic heritage;*
5. *The spiritual and cultural values and beliefs of the tangata whenua;*
6. *Mātaitai and taiapure;*
7. *Public access (except in circumstance where public health and safety are at risk) and amenity values;*
8. *Natural character values and outstanding natural features;*
9. *River morphology and dynamics including erosion and sedimentation;*
10. *Flood risk;*
11. *Infrastructural assets; and,*
12. *Navigational safety.*

Policy 29 – Provide for the extraction of gravel: *Provide for the extraction of gravel to meet the needs of the community, in a way that avoids, remedies or mitigates adverse effects on rivers and their margins; and:*

1. *Maintains or enhances aquatic and riparian habitat; or*
2. *Ensures no-long term net loss of habitat in the river channel and floodplain; or*
3. *Maintains or enhances flood protection, erosion control or the integrity of physical resources; and*
4. *Does not adversely affect the cultural values associated with the river, including mahinga kai and taonga species habitat, mātaitai and taiapure, and,*
5. *Does not adversely affect recreational values.*

Policy 30 – Drainage maintenance: *In recognition of the community benefits of maintaining flood capacity and land drainage, ensure that daring maintenance activities within artificial watercourses and the beds of modified watercourse area management in a way that either:*

1. *Avoids, remedies or mitigates significant adverse effects on the aquatic environment; or,*
2. *Maintains or enhances habitat value.*

Policy 38 – Natural Hazards: *Reduce the susceptibility of the Southland community and environment to natural hazards by improving planning, responsibility and community awareness for the avoidance and mitigation of natural hazards.*

Comments:
The policies of the Proposed Water Plan provide for the extraction of gravel where the activity maintains or enhances flood protection. The applicant seeks to undertake the proposed gravel extractions to lessen the frequency and scale of flooding events in the vicinity of the site – protecting the physical environment.

Measures taken by the applicant and anyone undertaking works on their behalf will ensure that the mitigation measures outlined in Section 3 are adopted to limit any adverse effects on the environment that may arise as a result of the works.

The proposal is consistent with the relevant objectives and policies of the Proposed Southland Water and Land Plan 2016.

4.5 Te Tangi a Tauira

3.5.11 – Rivers

Policy 2: Promote river management that adopts the priorities established in the Te Runanga o Ngai Tahu Freshwater Policy 1997. These priorities are:

- Sustain the mauri of the waterbodies within the catchment;
- Meet the basic health and safety needs of humans (drinking water);
- Protect cultural values and uses;
- Protect other instream values (indigenous flora and fauna);
- Meet the health and safety needs of humans (sanitation)
- Provide water for stock;
- Provide for economic activities including abstractive uses; and
- Provide for other uses.

3.5.15 – Activities in the Beds and Margins of Rivers

Policy 1: *Assess application for gravel extraction in terms of the following considerations:*

a. *cultural values associated with the River (e.g. mahinga kai or taonga species habitat);*
b. *amount of material extracted;*
c. *design of extraction operations;*
d. *times of year that extraction will occur;*
e. *number of existing consents associated with the location;*
f. *how any adverse effects are being mitigated;*
g. *monitoring provisions;*
h. *cumulative effects assessment.*

Policy 3: *Require that Ngai Tahu Ki Murihiku Accidental Protocol is a condition on resource consents.*

Policy 5: *Discourage gravel extraction via beach skimming, except where it is demonstrated that beach areas area aggrading and lateral erosion is a concern.*

Policy 11: *Require that placement of culverts and other flood works activities in the beds or margins of waterways is such that the passage of native fish and other stream life is not impeded.*

Policy 13: *Require that the placement of culverts and other flood works activities in the beds or margins of waterways occurs in a manner that minimises disturbance to the streambed.*

Policy 15: *Require that that placement of culverts and other flood works activities in the beds or margins of waterways occur at times of low or no flow.*

Comments:
The proposed gravel extraction is deemed to be necessary works to maintain the flood capacity of the River. Extraction activities will occur during period of low or no flow to mitigate the effects of the activity on water quality and aquatic ecosystems.

Surveys have shown that the areas identified have been aggrading and the proposal considered to be an appropriate means of undertaking the extraction activity thereby mitigating potential flood risk.

The applicant has promoted the use of a condition which require the adoption of Ngai Tahu's Accidental Discovery Protocol.

Te Ao Marama are considered to be an affected party and their written approval has been sought.

The proposal is considered to be consistent with the policies of Te Tangi a Tauira.

5 Consultation

The following groups are considered affected parties:

- Land Information New Zealand (LINZ) (as the assumed owner);
- Te Ao Marama Incorporated;
- Department of Conservation; and,
- Fish and Game New Zealand.

Written approvals from the abovementioned parties will be sought and supplied to Council once obtained.

6 Conclusion

The applicant seeks a long-term resource consent for the extraction of gravel from the Upukerora River.

The works will be undertaken in a way that avoids or mitigates potential adverse effects on the environment while achieving positive environmental effects through protection of infrastructure from flood risk. The significance of the surrounding infrastructure makes the proposed works of high importance.

Appendix 1 – Location of Extraction Sites and Cross Sections

TrueSouth
SURVEY SERVICES LTD
Phone 03 218 8030 Fax 03 218 8044
78 Doon Street, PO Box 534
Invercargill 9840
www.truesouth.co.nz

Plan Title:
Attachment 3CA3

Upukerora River Channel Capacity Management

Plan Description:
Cross Sections Surveyed April 2017
Proposed Beaches to be Scraped (shaded orange)

Revision:

Plan Info:
Page: 1 of 1
Date
Fri Oct 13 10:08:55 2017
Scale: 1:5000 @A3

Project Info:
Project No. 5404
Client Info: Environment Southland
Noel Hinton

Survey Info:
Horizontal Datum.
Vertical Datum: Dunedin - Bluff 1960
Origin of Heights. Trig 14091 (A1HK)
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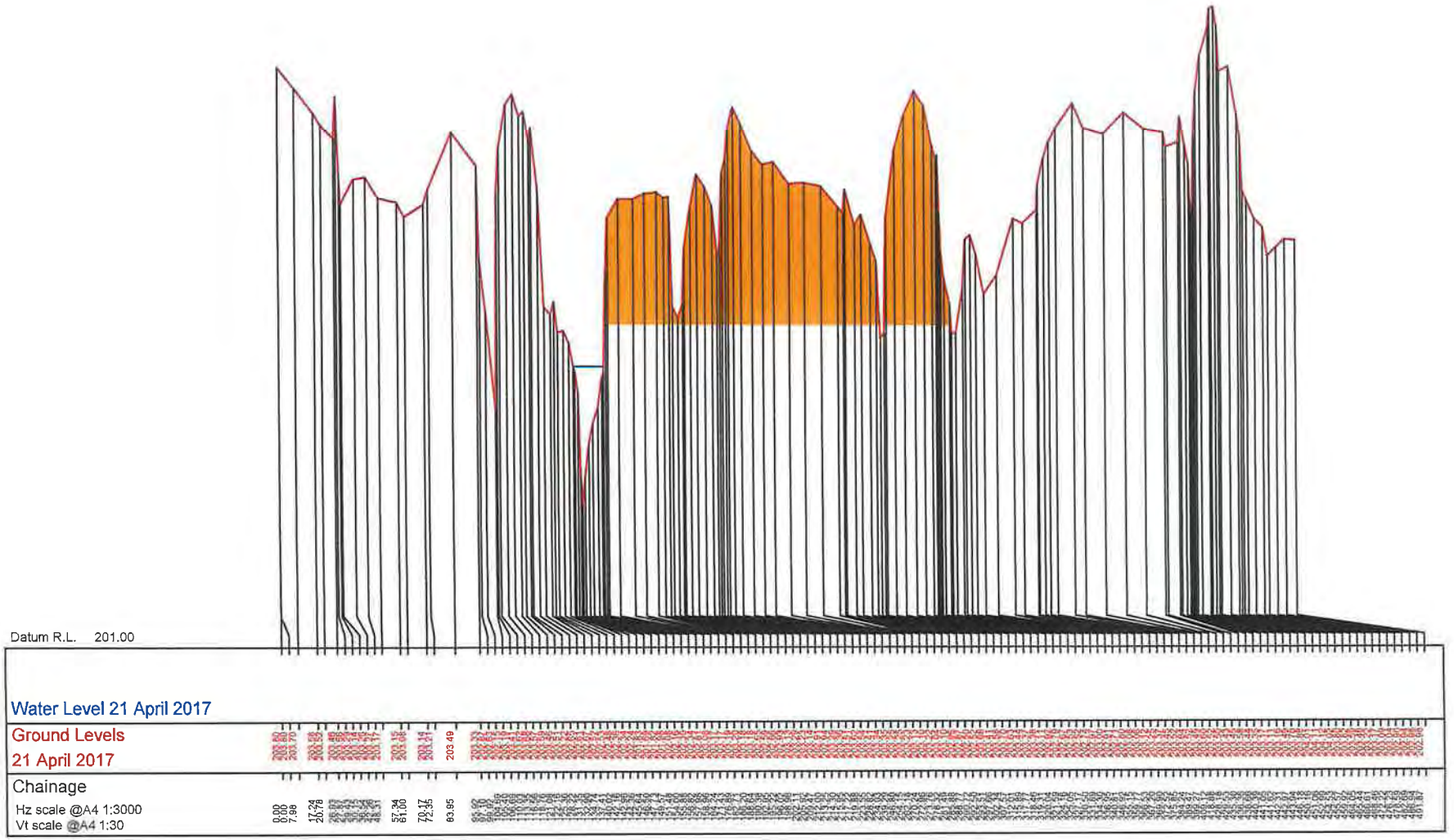
R.L. 270.28



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Plan Title:

Upukerora River - Cross Section 2
Beach Scraping area (shaded orange) is 108.4m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
Page: 1 of 1
Date: Thu 27 Apr 2017 - 11:39AM
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Scale Vertical: 1:30 @A4

Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

Survey Info:
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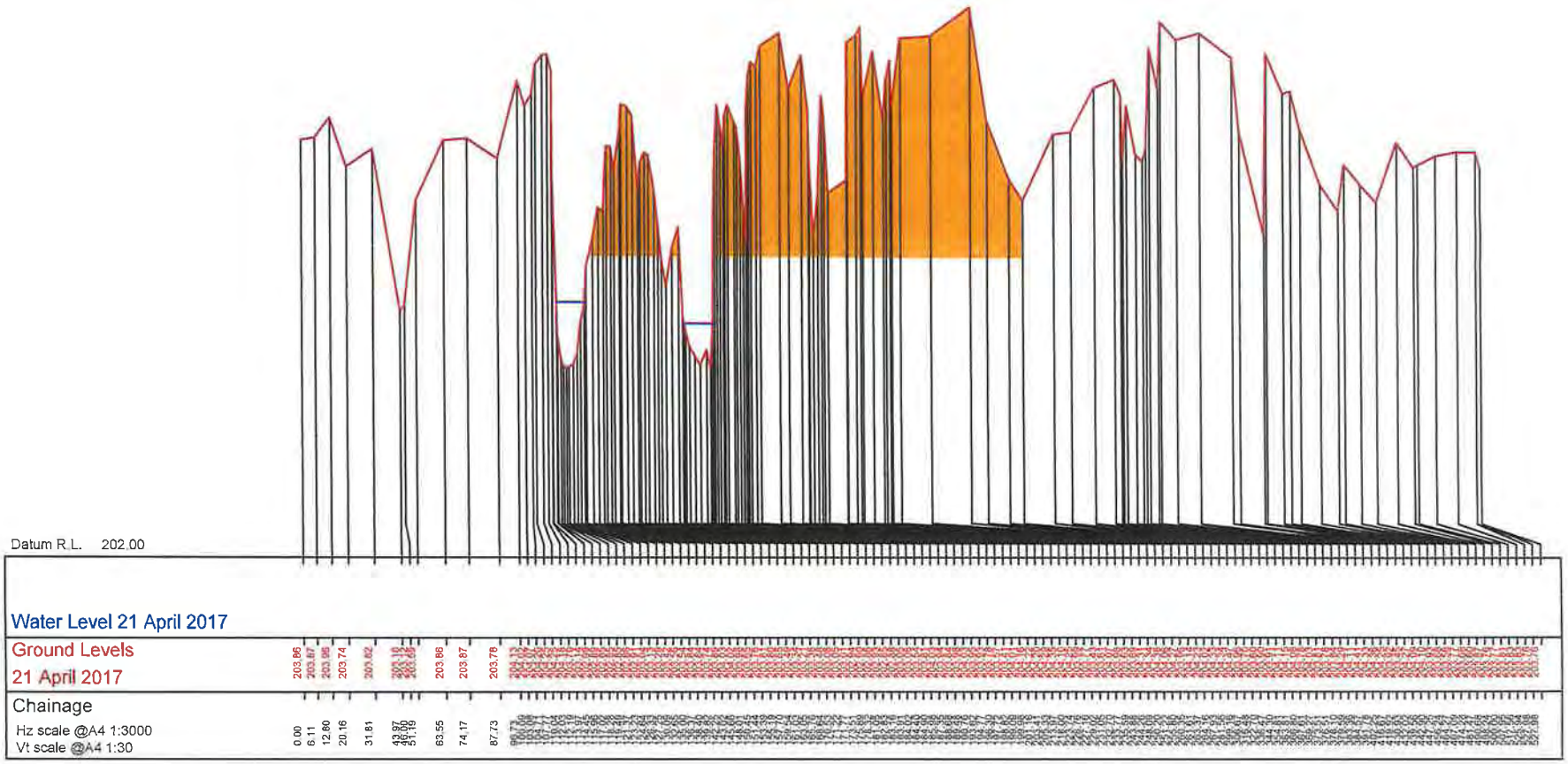

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Plan Title:

Upukerora River - Cross Section 3
Beach Scraping area (shaded orange) is 117.2m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
Page: 1 of 1
Date: Thu 27 Apr 2017 - 11:19AM
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Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

Survey Info:
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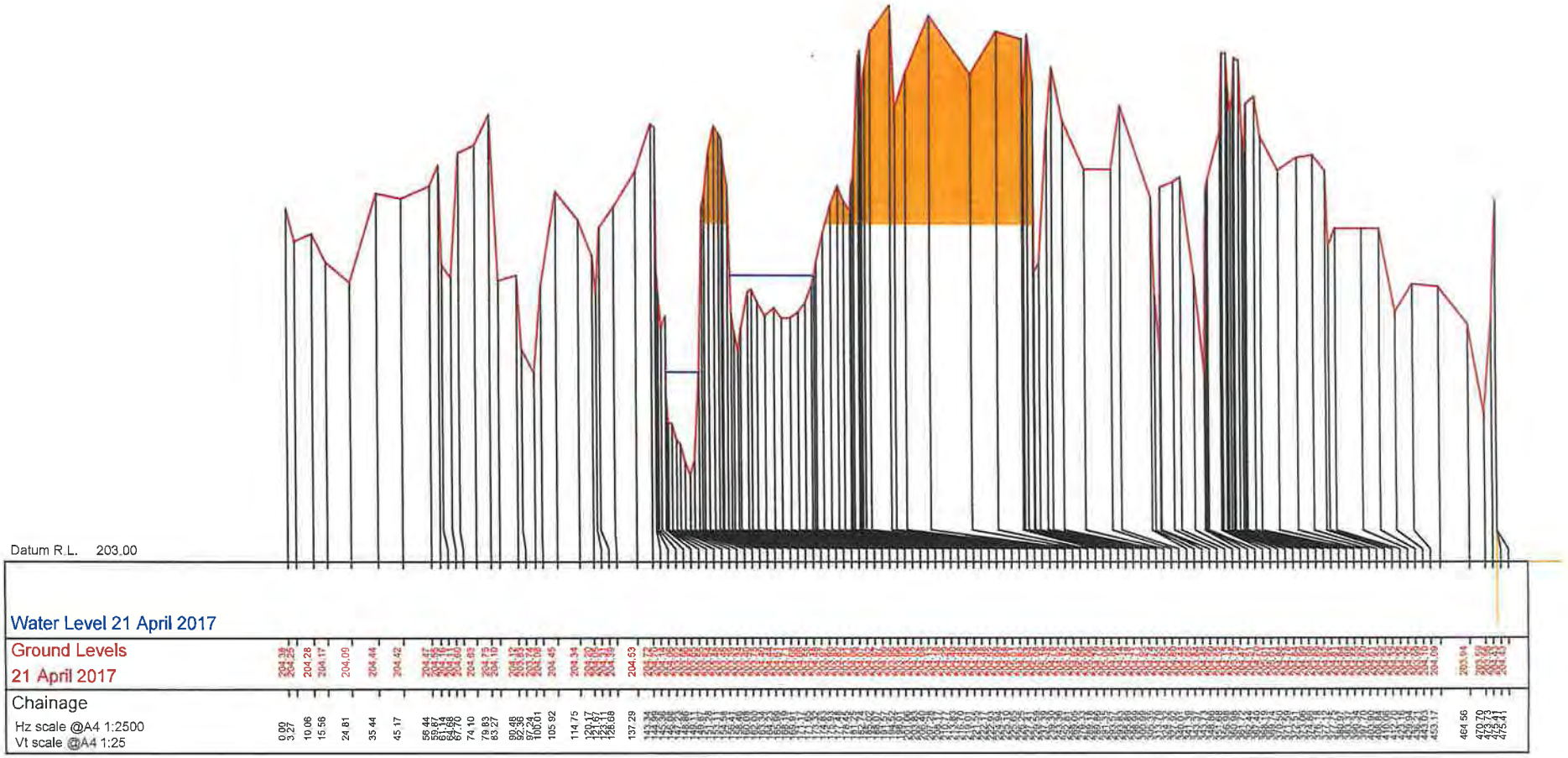

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Plan Title:

Upukerora River - Cross Section 4
Beach Scraping area (shaded orange) is 52.7m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
Page 1 of 1
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Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

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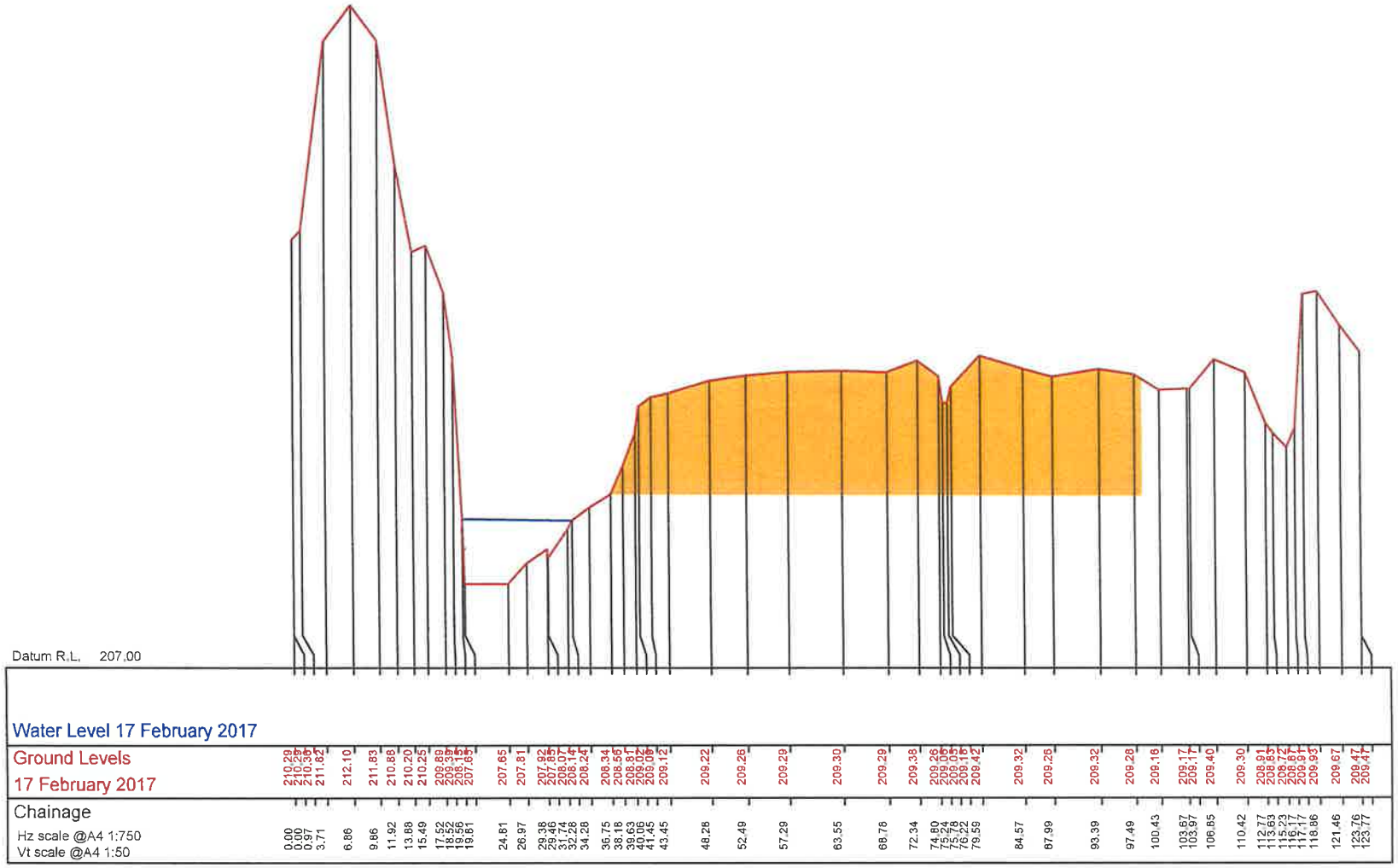

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Plan Title:

Upukerora River - Cross Section 11
Beach Scraping area (shaded orange) is 55.3m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
Page 1 of 1
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Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

Survey Info:
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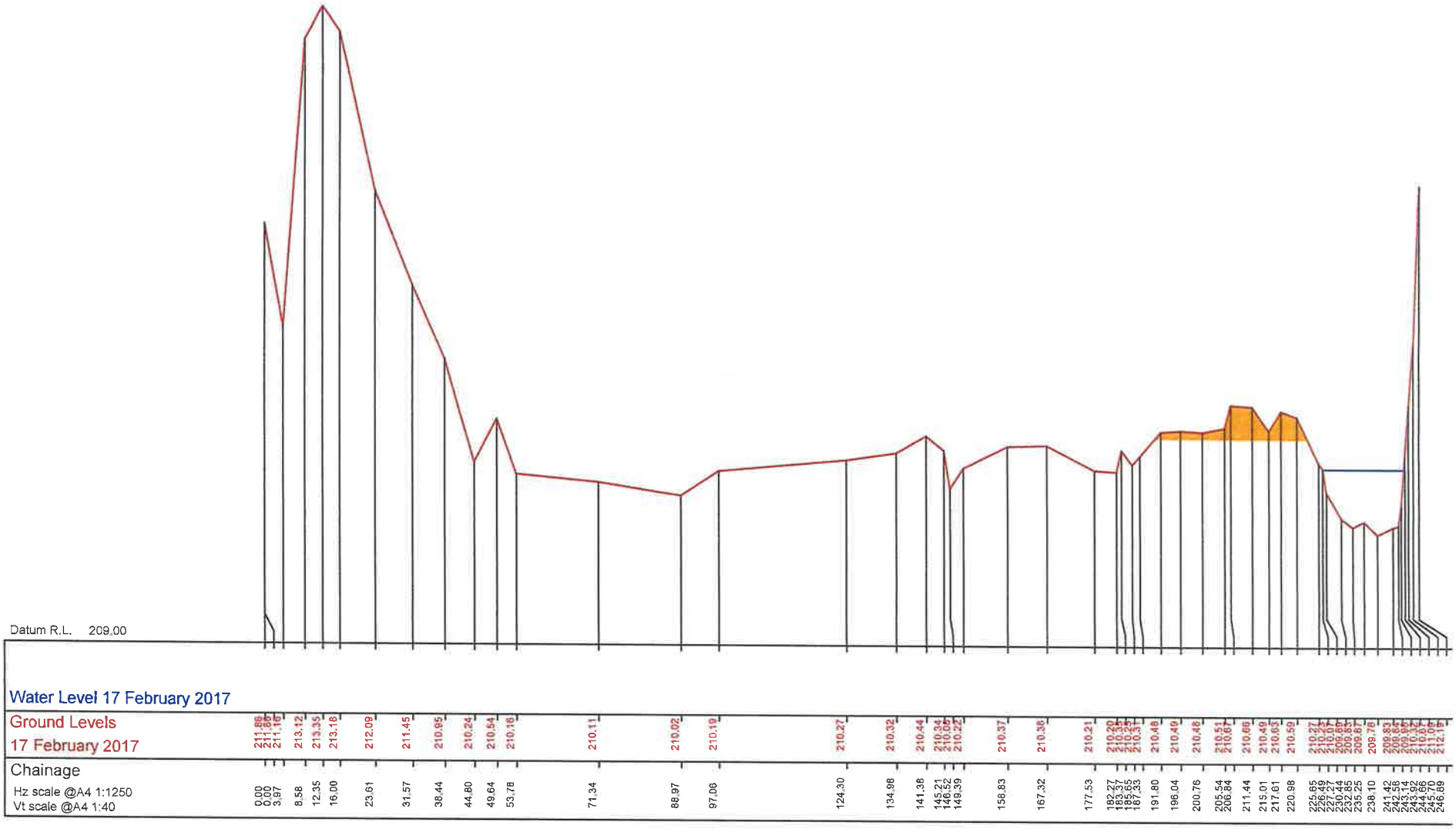

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Plan Title:

Upukerora River - Cross Section 12
Beach Scraping area (shaded orange) is 3.8m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
Page: 1 of 1
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Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

Survey Info:
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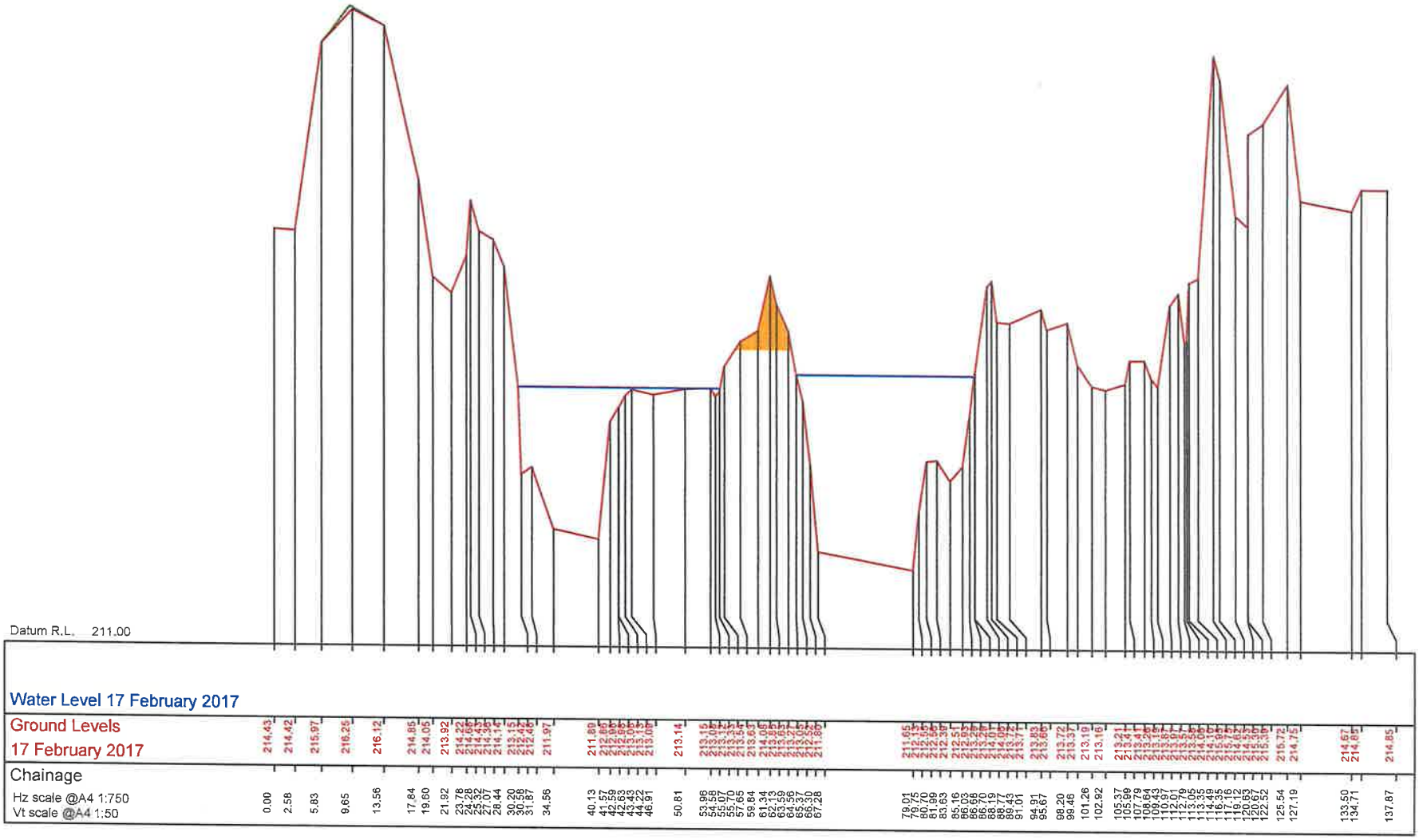

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Plan Title:

Upukerora River - Cross Section 14
Beach Scraping area (shaded orange) is 1.7m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
Page: 1 of 1
Date: Thu 30 Mar 2017 - 11:55AM
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Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

Survey Info:
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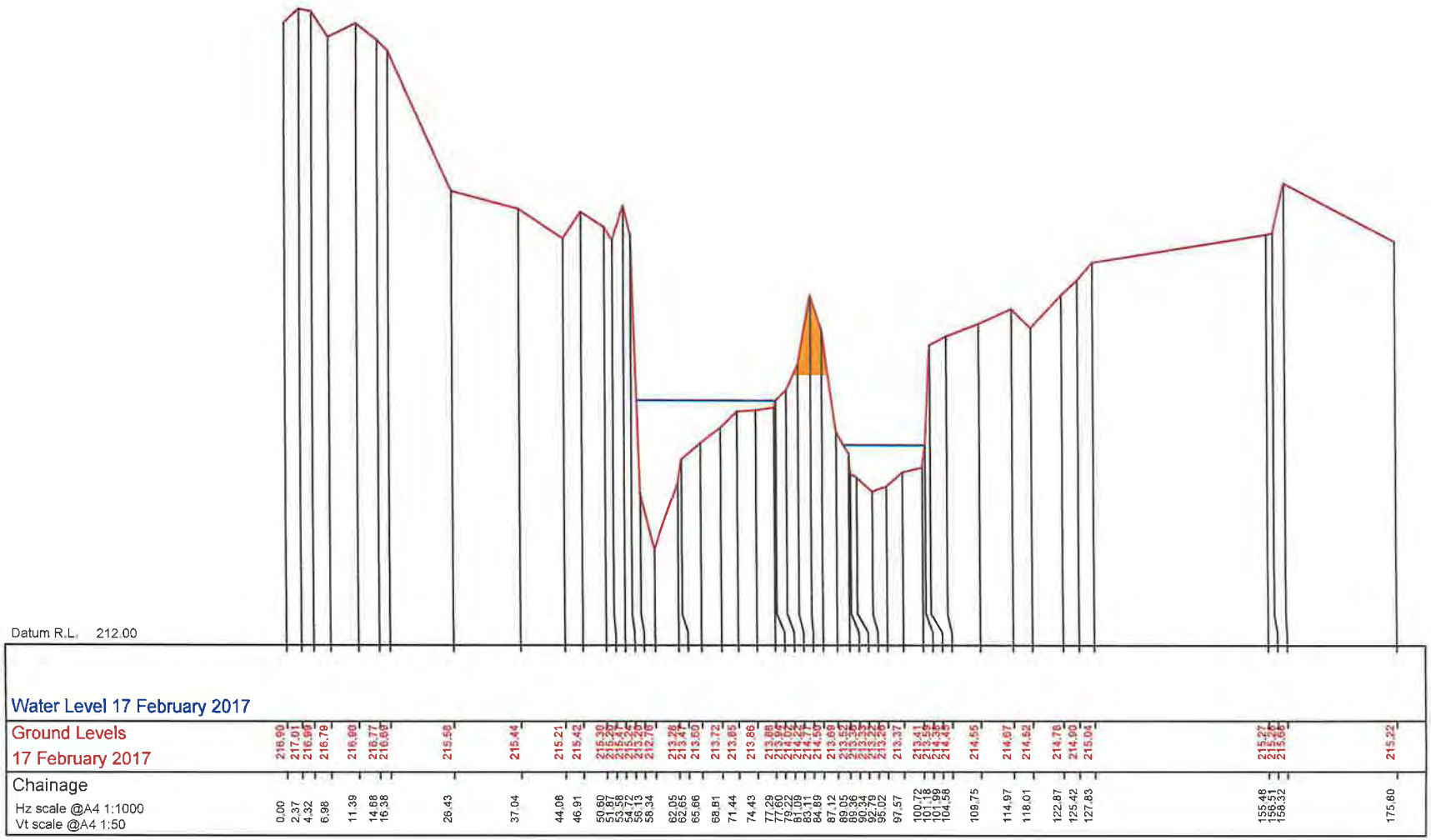

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Plan Title:

Upukerora River - Cross Section 15
Beach Scraping area (shaded orange) is 1.4m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
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Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

Survey Info:
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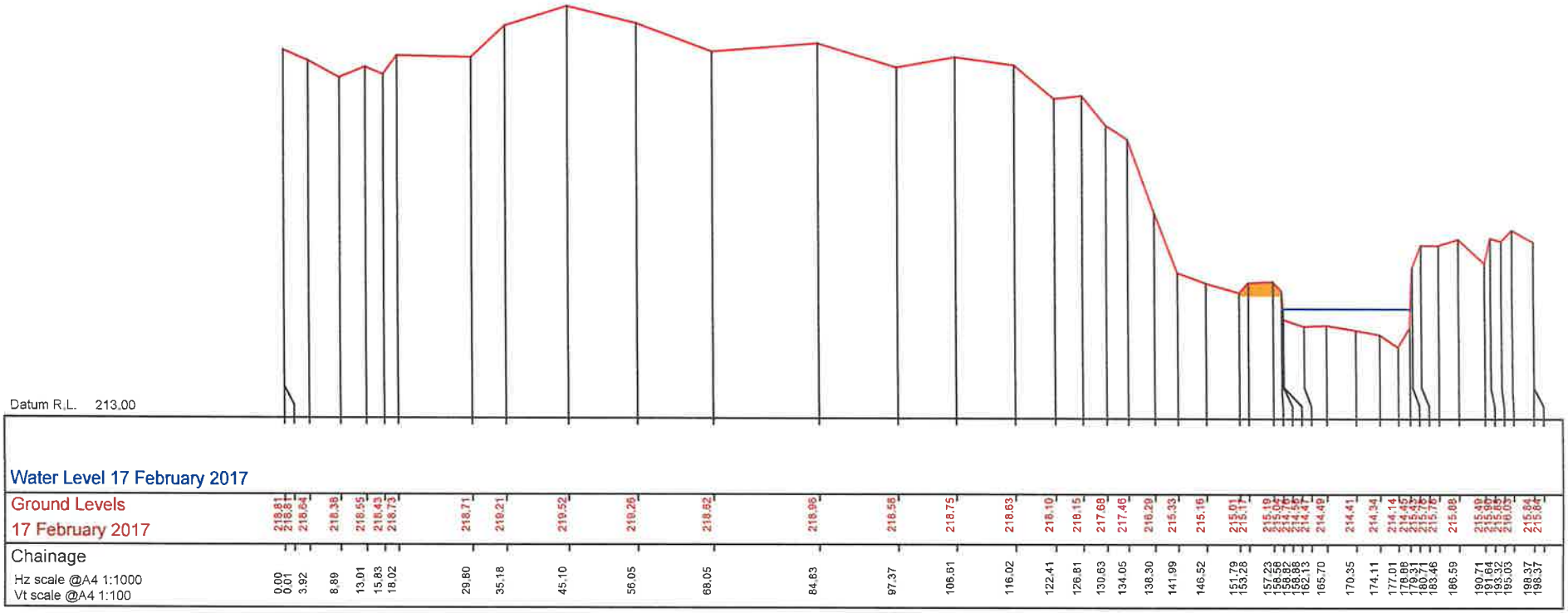
N. 5519849.38 E. 2099063.24
R.L. 270.28



TrueSouth
SURVEY SERVICES LTD
Phone 03 218 8030 Fax 03 218 8044
78 Doon Street, PO Box 534
Invercargill 9840
www.truesouth.co.nz

Plan Title:

Upukerora River - Cross Section 16
Beach Scraping area (shaded orange) is 1.3m2 @ 0.2m above water level

Plan Description:

View Downstream
True Left Bank (left side of plot)

Revision:

Plan Info:
Page: 1 of 1
Date: Mon 27 Feb 2017 - 11:12AM
Scale Horizontal: 1:1000 @ A4
Scale Vertical: 1:100 @A4

Project Info:
Project No.: 4553
Client Info: Environment Southland
Noel Hinton

Survey Info:
Horizontal Datum: NZ Map Grid
Vertical Datum: Dunedin - Bluff 1960
Origin of Heights: Trig 14091
(A1HK)
N. 5519849.38 E. 2099063.24
R.L. 270.28

Appendix 2 – Written Approvals

Attachment 3CA5

AUTH-20171582

environment SOUTHLAND
REGIONAL COUNCIL
Te Taiao Tonga

Noel Hath
Catchment Manager
7.9.2018

Cnr North Road and Price Street
(Private Bag 90116
DX YX20175)
Invercargill

Telephone (03) 211 5115
Fax No. (03) 211 5252
Southland Freephone No. 0800 76 88 45

Land Use Consent

Pursuant to Section 104C of the Resource Management Act 1991, a resource consent is hereby granted by the Southland Regional Council to the **Catchment Management Division** of the **Southland Regional Council, Private Bag 90116, Invercargill 9840** from **5 September 2018**

Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.

Details of Permit

Purpose for which permit is granted:		To extract up to 44,000 cubic metres per year of gravel via beach skimming method from the bed of the Upukerora River/Marakura River
Location	- site locality	The bed of the Upukerora River/Marakura River, between the Te Anau Milford Highway bridge and Lake Te Anau
	- map reference	Site 1 1,188,420E 4,959,570N NZTM Site 2 1,188,540E 4,958,570N NZTM Site 3 1,188,330E 4,958,240N NZTM
	- catchment	Waiau catchment
Legal description of land at the site:		Crown riverbed, Section 52 Block IX Mararoa SD and Section 2 SO 482307
Expiry date:		5 September 2033

Schedule of Conditions

1. This resource consent authorises the extraction of up to 44,000 cubic metres of gravel per year from the bed of the Upukerora River/Marakura River within the areas shown in Appendix C, as described in the application for resource consent dated 20 October 2017.

2. Gravel extraction activities undertaken in this first year shall commence at Site 3 and then progress downstream to Sites 2 and 1.

3. Gravel extraction is to occur by beach skimming and shall not reduce the base level height of any beach. The base level height is defined as 200 mm above a normal water level of 215.0m as measured at the Consent Authority's Te Anau – Milford Road water level monitoring site).

4. The final surface is to be a plane grading downstream with a gradient comparable to that of the adjacent main stem flow under normal river conditions.

5. Prior to each gravel extraction event, the consent holder shall:

   a. Survey the contours of beaches within Sites 1 – 3 to determine the volume of gravel that may sustainably be extracted above the base level height (200m above a water level of 215.0m). Survey information shall be retained by the Consent Holders and made available to the Council upon request.
   b. Notify the Consent Authority in writing no less than three working days prior to the commencement of each extraction event.

6. The consent holder shall undertake comparative cross sectional and thalweg surveys in the Upukerora River bed, between the Te Anau Milford Highway bridge and Lake Te Anau, every three years to determine any changes to the mean bed level and channel length.

7. The consent holder shall supply a monitoring report to the Council within six month of completing each set of comparative cross sectional and thalweg surveys detailing:
   a. The annual volumes of gravel extracted pursuant to the consent; and
   b. Any changes in the mean bed level and thalweg of the Lower Upukerora River.

8. Extraction areas are to be clearly marked out by the Consent Holder prior to a gravel extraction occurring.

9. The consent holder shall ensure that during the exercise of this consent:

   a. there are no works from within the wet bed of the watercourse;
   b. the extraction does not extend below water level;
   c. no heavy vehicles shall cross flowing water;
   d. fish passage is not impeded as a result of the exercise of this consent;
   e. silt disturbance and instream works are kept to a minimum;
   f. there shall be no damage to trees on the river bed or in riparian areas;
   g. there shall be no works within 50 metres of the kōwhai tree at NZTM co-ordinates 1,188,242E 4,959,598N.
   h. there shall be no stockpiling of gravel in the bed of the river, within a floodway or on stop banks;
   i. there shall be no washing or refuelling of machinery in the bed of the watercourse;
   j. all construction equipment, machinery, plant, and debris are removed from the site on completion of the works; and,
   k. all parties involved with the extraction activity are provided with a copy of the resource consent and the associated plans.

10. When exercising this consent, the consent holder shall maintain a daily record of the volume of gravel extracted and submit this record to the Consent Authority monthly.

11. Prior to any works authorised by this consent being carried out during the period 1 September to 31 January, the consent holder shall ensure that:

a. a suitably qualified person inspects the proposed area of works, no earlier than eight days prior to any works being carried out, to locate any breeding sites of birds listed in Appendix A of this consent;
b. the person carrying out the inspection prepares a report that identifies all the located bird breeding or nesting sites or conversely that no sites were identified, and provides copies of that report to the Department of Conservation (Te Anau), and to the Consent Authority;
c. the name and qualifications of the person carrying out the inspection are provided with the report;
d. any person carrying out works authorised by this consent are informed of any bird breeding or nesting sites located; and
e. where work ceases for more than eight days, the site will be re-inspected for bird breeding and nesting sites in accordance with parts (a) to (d) of this condition prior to recommencement of works.
f. Vehicles and/or machinery shall not be operated within 50 metres of birds which are nesting or rearing their young in the bed of the river, as identified by the inspection undertaken in accordance with condition (a).

12. If an event (such as contamination to water from a fuel or sediment discharge incident) occurs that may have significant adverse effect on water quality at the abstraction point of a registered drinking-water supply, the consent holder shall notify, as soon as reasonably practicable, the following:

- Environment Southland (ph 03 211 5115 or 03 211 5225 after hours); and
- Southland District Council (ph 0800 732 732).

13. The consent holder shall take all reasonable precautions to minimise the spread of pest plants and aquatic weeds. In particular, the consent holder shall:

- remove any vegetation caught on the machinery;
- where necessary, clear vegetation from the site before gravel is extracted;
- avoid working in areas where aquatic weeds such as Lagarosiphon major are known to be present (for information, contact Environment Southland); and
- to avoid the spread of the didymosphenia geminata or any other pest plant, do not use machinery in the berm or bed of the river that has been used in any area where the pest plant(s) are known to be present in the previous 20 working days, unless it has been thoroughly cleansed.

14. The consent holder shall pay an annual administration and monitoring charge to the Consent Authority, collected in accordance with Section 36 of the Resource Management Act, 1991. This charge may include the costs of inspecting the site up to two times each year (or otherwise as set by the Consent Authority's Annual Plan).

15. In the event of a discovery, or suspected discovery, of a site of cultural importance (Waahi Taonga/Tapu) during the construction, the consent holder shall immediately cease operations in that location and inform the local iwi authority (Te Ao Marama Inc, phone 03 931 1242). Operations may recommence at a time as agreed upon in writing with the Consent Authority. The discovery of Koiwi (human skeletal remains) or Taonga or artefact material (e.g. pounamu/greenstone) would indicate a site of cultural importance. Appendix B to this consent outlines the process that is to be followed in the event of such a discovery.

16. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent during the period 1 February to 30 September each year, or within two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, or on receiving monitoring results, for the purposes of:

a. determining whether the conditions of this permit are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the permit, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the permit;
b. ensuring the conditions of this consent are consistent with any National Environmental Standards Regulations, relevant plans and/or Policy Statement;
c. amending the monitoring programme to be undertaken; or
d. adding or adjusting compliance limits.

for the **Southland Regional Council**

Jayne MacDonald
Commissioner

Notes:

1. *Avoid spreading Didymo – Environment Southland strongly recommends that the consent holder, and any person or contractor engaged by the consent holder to carry out the works authorised by this consent, use the "check, clean, dry" management approach as set out in the Biosecurity Management Guidelines (available at www.biosecurity.govt.nz or from Environment Southland) when entering and leaving the river environs.*

Appendix A: listed birds for the purpose of Condition 11

- Banded dotterel
- Black-backed Gull
- Black-billed gull
- Black-fronted tern
- Black Shag
- Canadian Geese
- South Island Pied Oyster Catcher
- Paradise Duck
- Pied Stilt
- Skylark
- Spur-winged Plover
- Swallow
- White-faced Heron

Appendix B: Protocol in the event of a discovery, or suspected discovery, of a site of cultural importance (Waahi Taonga/Tapu)

1. *Kōiwi tangata accidental discovery*

If Kōiwi tangata (human skeletal remains) are discovered, then work shall stop immediately and the New Zealand Police, Heritage New Zealand (details below) and Te Ao Marama Inc (Ngai Tahu (Murihiku) Resource Management Consultants) shall be advised. Contact details for Te Ao Marama Inc are as follows:

Te Ao Marama Inc
Murihiku Marae, 408 Tramway Road, Invercargill
P O Box 7078, South Invercargill 9844
Phone: (03) 931 1242

Te Ao Marama Inc will arrange a site inspection by the appropriate Tangata Whenua and their advisers, including statutory agencies, who will determine how the situation will need to be managed in accordance with tikanga māori.

2. *Archaeological Sites*

Archaeological sites are protected under the Heritage New Zealand Pouhere Taonga Act (2014), and approval is required from Heritage New Zealand before archaeological sites can be modified, damaged or destroyed.

Not all archaeological sites are known or recorded precisely. Where an archaeological site is inadvertently disturbed or discovered, further disturbance must cease until approval to continue is obtained from Heritage New Zealand. As stated above, the New Zealand Police and Te Ao Marama Inc also need to be advised if the discovery includes kōiwi tangata/human remains.

Heritage New Zealand
C/- Dr M Schmidt, Regional Archaeologist Otago/Southland
PO Box 5467, Dunedin 9058
Phone: (03) 470 2364 Mobile 027 240 8715 mschmidt@heritage.org.nz

3. *Taonga or artefact accidental discovery*

If taonga or artefact material (e.g. pounamu/greenstone artefacts) other than kōiwi tangata is discovered, disturbance of the site shall cease immediately and Southland Museum and Te Ao Marama Inc shall be notified of the discovery by the finder or site archaeologist in accordance with the Protected Objects Act 1975. All taonga tuturu are important for their cultural, historical and technical value and are the property of the Crown until ownership is resolved.

4. *In-situ (natural state) pounamu/greenstone accidental discovery*

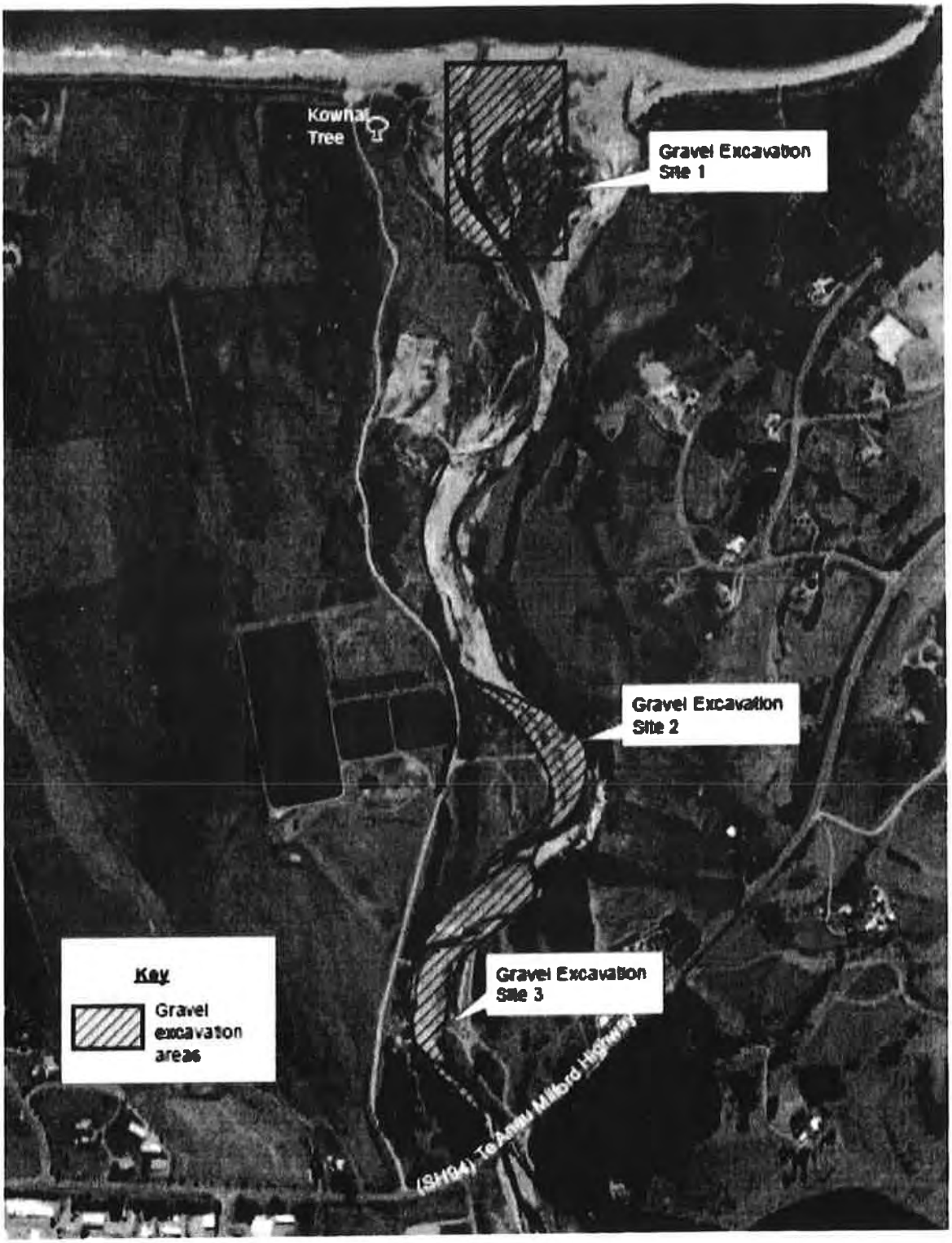
Pursuant to the Ngai Tahu (Pounamu Vesting) Act 1997, all natural state pounamu/greenstone in the Ngai Tahu tribal area is owned by Te Runanga o Ngai Tahu. Ngai Tahu Pounamu Management Plans provide for the following measures:

- any *in-situ* (natural state) pounamu/greenstone accidentally discovered should be reported to Te Runanga o Ngai Tahu staff as soon as is reasonably practicable. Te Runanga o Ngai Tahu staff will in turn contact the appropriate Kaitiaki Papatipu Runanga;
- in the event that the finder considers the pounamu is at immediate risk of loss such as erosion, animal damage to the site or theft, the pounamu/greenstone should be carefully covered over and/or relocated to the nearest safe ground.

The find should then be notified immediately to the Programme Leader – Ohanga, at Te Rūnanga o Ngāi Tahu. Their details are as follows:

Te Rūnanga o Ngāi Tahu
C/- Programme Leader - Ohanga
Te Whare o Te Wai Pounamu
15 Show Place, P O Box 13-046, Otautahi/Christchurch 8021
Phone: (03) 366 4344 Web: www.ngaitahu.iwi.nz

Appendix C: Excavation Areas



Attachment: 3CA6

SCHEDULE 3

Special Conditions

ES AUTH – 20171582

1) Only the storage and processing of gravel from [redacted] is permitted. No materials from other locations are to be brought into this area.

2) Any equipment brought in from outside the Te Anau area is to be thoroughly cleaned before arrival in order to prevent the introduction of noxious weeds.

3) The site is to be kept clean at all times and all plant and equipment removed as soon as it is no longer required.

4) Storage of contracting machinery is not permitted on site.

5) No hazardous materials or fuels are to be stored on site.

6) Any fuel or oil spillage to be dealt with by the removal of contaminated soils to an authorized disposal facility.

7) Should these works produce any areas of bare soil the Concessionaire must carry out weed control until the site is stabilised.

8) Warning signs are to be placed on SH 94 whilst lorries are entering and leaving the site.

9) There shall be no excavation, crushing or sorting of gravel in the proximity of roosting and nesting black billed gulls, stilts, oyster catchers, black fronted terns and banded and black fronted dotterels.

10) No trees (with the exception of willow) to be damaged or removed.

11) No work at all is to be carried out within 80m of the significant matai tree which has Maori carvings.

12) Plant and machinery is to be operated only between 8am and 6pm Monday to Friday and not at all during Statutory Holidays.

13) If any artefact or evidence of cultural significance is discovered, work is to cease and Ngai Tahu and the Department of Conservation are to be informed immediately.

14) By completion of the term of the licence, all materials and equipment, including all extracted gravel, is to be removed from the site. The restoration is to be implemented to the satisfaction of the Area Manager, Te Anau.

TE AO MARAMA INC.

Cultural Impact Assessment

Land Use Consent to Extract Gravel from the Marakura/Upukerora River

Prepared for the Southland Regional Council (Environment Southland)

March 2018

Acknowledgements

The compilation of the report was greatly assisted and contributed to by Jane Kitson and Muriel Johnstone.

Thanks to the whānau attending a hīkoi who came and visited the site and gave advice on the proposed application including; Muriel Johnstone, Ailsa Cain, Riki Dallas and Shona Fordyce.

This report has been peer reviewed by Dean Whaanga, Jane Kitson and Muriel Johnstone.

Executive Summary

The Southland Regional Council (Environment Southland) has applied to excavate and remove gravel from the bed of the Upukerora (Marakura) River. This Cultural Impact Assessment was requested by Te Rūnanga o Ōraka-Aparima (Oraka- Aparima Rūnaka) as part of the submission process to document the cultural values within the proposed area to ensure that those values are not being harmed during the consent duration.

The proposal is to extract from three sites via a beach skimming operation, the three sites have been identified as areas where gravel accumulation may adversely affect the Lower Marakura ability to pass flood events. The selected sites are all below the SH94 Bridge to Milford. This could impact on surrounding infrastructure including the SH94 Te Ana-au-Milford Road Bridge, Te Ana-au Sewage Ponds (owned by the Southland District Council), and freehold title land on the true left bank of the river.

Te Ao Marama Inc. represents these four rūnanga on matters in particular those matters pertaining to the management of natural resources under the Resource Management Act, 1991 and the Local Government Act, 2002.

The proposed gravel extraction is within the wider takiwā of Oraka Aparima Rūnaka and in the area of the kāinga Te Kowhai where the location is based on written and oral evidence

The area where the application is taking place is already impacting on cultural values and has done historically, the Southland District Council sewage system is discharging to the river, past land use (pastoral farming, burning etc.) and past gravel extractions. According to the applicant all of the sites have been extracted from within the last ten years

The proposed extraction could have a major effect on cultural values, in particular on wāhi tapu and wāhi taonga.

This Cultural Impact Statement has identified the following values that are of importance that need to be considered as part of Environment Southlands consent application for the gravel extraction:

- Ki uta ki tai: The need to consider the effects of the project from ki uta ki tai and that activities in the lower part of the catchment has an effect on the higher part of the catchment and vice versa.
- The area is a known kāinga where archaeological evidence has been found. Wāhi tapu, wāhi taonga and archaeological sites need to be protected.
- Mauri: The effect of gravel extraction on the Mauri, on both the aesthetic value of the area and the constant alteration of the river bed.
- Although not owned or operated by Environment Southland- the effect of the sewage treatment and discharge on Cultural values including Wai, Mahinga Kai, Mauri, Ki Uta Ki Tai and Wāhi Tapu/ Wāhi Taonga.
- Kaitiakitanga: The ability for rūnanga to actively input into activities within the area and help to actively manage those.

The recommendations from rūnanga are:

- That an archaeological assessment is undertaken to determine whether there is a need for further archaeological investigations.
- Confine transport routes across the riverbed, to the stockpile areas and from stock pile areas so as not to disturb archaeological sites. This may require some archaeological survey work to determine the best areas to concentrate heavy machinery activity.
- That the lone kōwhai tree on the true left side of the junction of the river and the lake is protected, currently it has a vine growing and smothering it and we recommend that some rehabilitation is undertaken to enhance the survival of this taonga rākau.
- No extraction during August-January to avoid bird nesting times.
- Where extraction is occurring some areas are left higher so there is dry and untouched habitat for birds and the potential wave action that comes down the lake.
- There is currently a large amount of pest plants/weeds on site, disturbance from extraction could exacerbate this issue, the rūnanga recommend that there is some pest plant control work undertaken to mitigate this effect, and where it is applicable plant natives, in particular Kōwhai.

The ES proposal is highly likely to impact on the relationship of Ngāi Tahu whānui and their culture and traditions with their ancestral land, water, sites, wāhi tapu, and other taonga (RMA s6) and impinge on kaitiakitanga (RMA s7).

Contents

Introduction

The Southland Regional Council (Environment Southland) has applied to excavate and remove gravel from the bed of the Upukerora (Marakura) River. This Cultural Impact Assessment was requested by Te Rūnanga O Oraka Aparima Incorporated (Oraka Aparima Rūnaka) as part of the submission process to document the cultural values within the proposed area to ensure that those values are not being harmed during the consent duration.

Ngāi Tahu ki Murihiku have a long and enduring relationship with the area of the proposed gravel extraction area. Ngāi Tahu is interlinked to the landscape and the resources that lie within it. This relationship is imbued with spiritual and cultural values that impose responsibilities of kaitiakitanga on Ngāi Tahu whānui to nurture and care for the environment.

Marakura Gravel Extraction Consent Application

The applicant (Environment Southland/ Catchment Management Division) is responsible for river control in Southland; this includes flood and erosion protection works that ensure community safety and well-being, and allows for sustainable economic development without compromising environmental values.

The proposal is to extract gravel from three sites via a beach skimming operation[1], for flood control and channel maintenance purposes. Council has identified these three sites as areas where gravel accumulation may adversely affect the Lower Marakura ability to pass flood events. The selected sites are all below the SH94 Bridge to Milford and could impact on surrounding infrastructure including the SH94 Te Anau (Te Ana-au)-Milford Road Bridge, Te Ana-au Sewage Ponds (owned by the Southland District Council), and freehold title land on the true left bank of the river.

The excavation at the three sites will remove up to 44,000 cubic metres of gravel per year to a level at least 200mm above normal water level. Skimming will occur at the river side and worked away from the river to ensure no stockpiling occurs in the river bed.

The volumes requiring initial extraction from each site are as follows:

1. 29,100 cubic metres
2. 14,300 cubic metres
3. 740 cubic metres.

[1] Scraping material off the surface layer of the dry bed of the river.

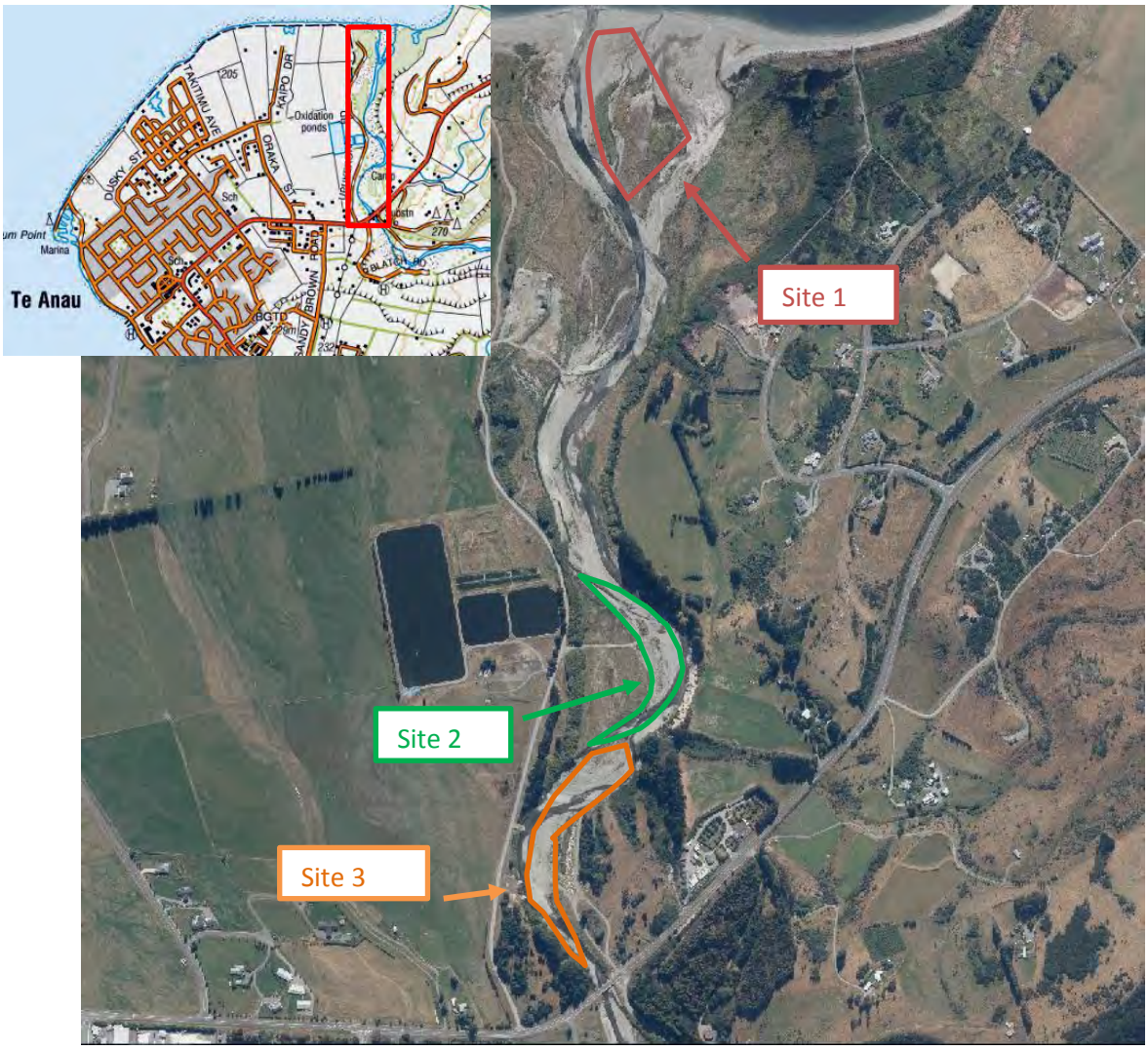


Figure 1: Map of extraction area and location within Te Ana-au Township. Retrieved from AEE for Gravel extraction at Marakura.

It is proposed that contractors who abstract the gravel retain the abstracted material for commercial use in the local area. Each of the sites will be actively monitored, with extraction of gravels which replenish the site being progressively undertaken as required.

Environment Southland have identified that the management of river capacity and the installation of hard and vegetative edge protection at key sites is seen as the best long-term management of the risk from flooding of this reach of the Marakura River.

The consent duration applied for is 15 years and the area to which the application relates to is owned by the Crown and the Department of Conservation.

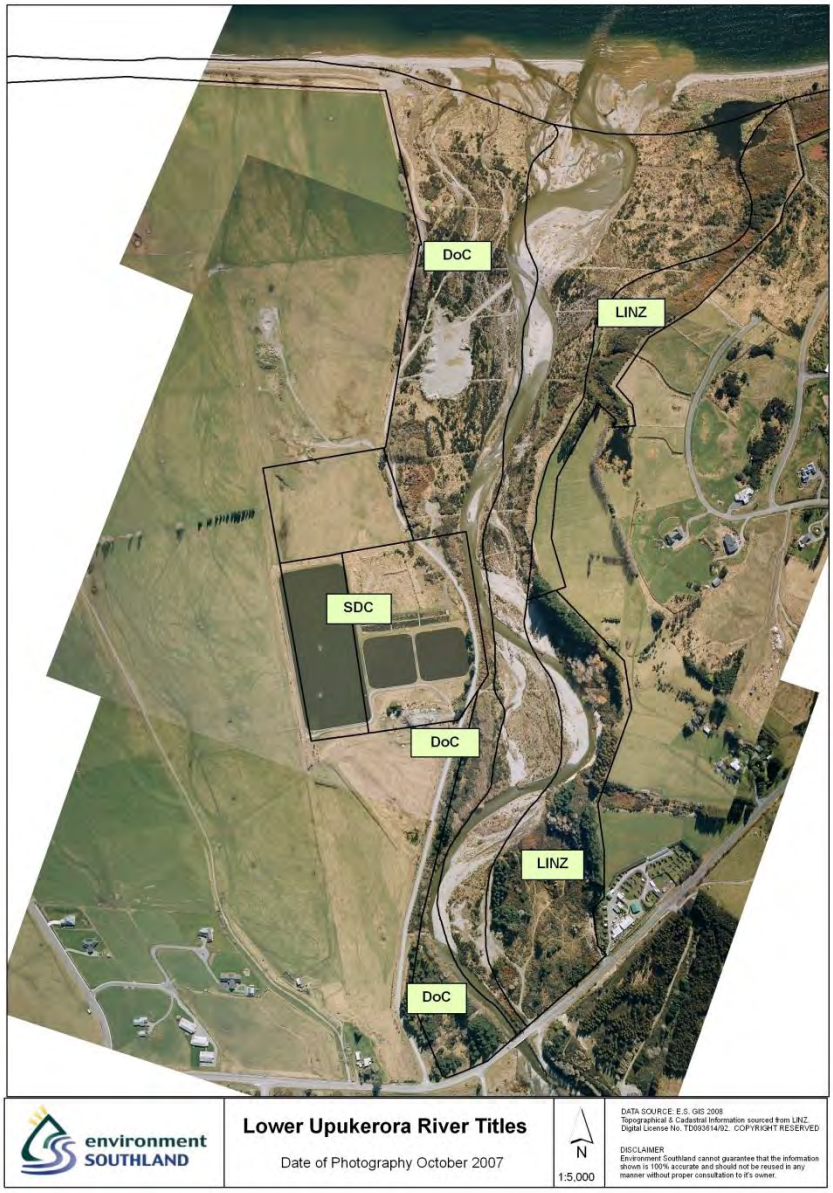


Figure 2: Map of landowners within the application area. Retrieved from Noel Hinton, Environment Southland

Marakura River Catchment

The Marakura River headwaters are within the Livingstone Mountains and the mouth of the river is located to the east of the Te Ana-au Township. The majority of the river drains native beech forest however; the lower river is locally influenced by pastoral farming, the sewage ponds that are adjacent to the river and existing gravel extractions that take place in the lower River.

Figure 3: Map of the Upukerora Catchment. Retrieved from Google maps.

Mana Whenua

Te Rūnanga o Ngāi Tahu is the tribal representative body of Ngāi Tahu whānui, established under the Te Rūnanga o Ngāi Tahu Act, 1996. There are 18 Rūnanga Papatipu that constitute the membership of Te Rūnanga o Ngāi Tahu. The Te Rūnanga o Ngāi Tahu Act, 1996 and the Ngāi Tahu Claims Settlement Act, 1998 give recognition of the status of Rūnanga Papatipu as the repositories of the kaitiaki and manawhenua status of Ngāi Tahu Whānui over the natural resources within their takiwā boundaries.

In Murihiku there are four Papatipu Rūnanga whose members hold manawhenua status within the region. Te Rūnanga o Ngai Tahu (Declaration of Membership) Order 2001 describes the takiwā of these four as follows:

- Te Rūnaka o Waihopai - centres on Waihopai and extends northwards to Te Mata-au sharing an interest in the lakes and mountains to the western coast with other Murihiku Rūnanga and those located from Waihemo southwards.
- Te Rūnanga o Awarua - centres on Awarua and extends to the coasts and estuaries adjoining Waihopai sharing an interest in the lakes and mountains between Whakatipu-Waitai and Tawhititarere with other Murihiku Rūnanga and those located from Waihemo southwards.
- Te Rūnanga o Oraka Aparima - centres on Oraka and extends from Waimatuku to Tawhititarere sharing an interest in the lakes and mountains from Whakatipu-Waitai to Tawhititarere with other Murihiku Rūnanga and those located from Waihemo southwards.
- Te Rūnanga o Hokonui - centres on the Hokonui region and includes a shared interest in the lakes and mountains between Whakatipu-Waitai and Tawhitarere with other Murihiku Rūnanga and those located from Waihemo southwards.

Te Ao Marama Inc. represents these four rūnanga on matters in particular those matters pertaining to the management of natural resources under the Resource Management Act, 1991 and the Local Government Act, 2002.

The proposed gravel extraction is within the wider takiwā of Oraka Aparima Rūnaka.

Te Ao Marama Inc.

Ngāi Tahu ki Murihiku formed an entity known as Te Ao Marama Incorporated, which is made up of representatives from Te Rūnaka o Waihopai, Te Rūnanga o Awarua, Oraka Aparima Rūnaka and Te Rūnanga o Hokonui. Te Ao Marama Incorporated is authorized to represent the four Southland Rūnanga Papatipu in resource management and local government matters.

It is a business unit providing a direct link to local Rūnanga Papatipu, consent applicants, the local authorities and Te Rūnanga o Ngāi Tahu. Resource consent applicants who want to liaise with iwi can contact Te Ao Marama Incorporated, who can then arrange for consultation with the appropriate Rūnanga Papatipu.

Figure 4: Murihiku (light Grey) and location of Rūnanga Papatipu (Retrieved from: Ngāi Tahu ki Murihiku, 2008)

Report Scope and Objectives

This report documents Ngāi Tahu ki Murihiku cultural values associated with the lower Marakura River Catchment from its source to the sea. In doing so it will provide background information to help Environment Southland to better understand the Ngāi Tahu ki Murihiku values of the river and catchment. It will inform Environment Southland on the impacts for the proposed gravel extraction against those cultural values.

This report provides some context and information and aids the Kaitiaki Rūnanga Papatipu (via Te Ao Marama Inc.) on these issues and may assist further discussions on Environment Southland consent application. However, this report simply provides background information and cannot be considered to represent any decisions by the Kaitiaki Rūnanga Papatipu (via Te Ao Marama Inc.).

Disclaimer: Cultural information contained within this report cannot be distributed or used without the permission of Oraka Aparima Rūnaka.

Oraka Aparima Rūnaka members and Te Ao Marama Inc. staff undertook a site visit to the proposed Gravel extraction site and other sites in the catchment on the 24 February 2018.

Legal and Policy Scope

It is helpful to understand the broad legal and policy context for Ngāi Tahu ki Murihiku natural resource management.

Various legislation, policies and agreements helps guide TAMI's policy development for resource management in Murihiku. These include responsibilities under the Local Government Act 2002, Resource Management Act 1991, Ngāi Tahu Claims Settlement Act 1998, NZ Pouhere Taonga Act 2014, and RMA national directives such as the National Policy Statement for Freshwater Management and Regional plans (including Water and Coastal) Please see Figure 6.

Te Rūnanga o Ngāi Tahu Act, 1996

Te Rūnanga o Ngāi Tahu Act 1996 (the TRONT Act) was passed in 1996, to give a legal identity to the Ngāi Tahu iwi. The TRONT Act establishes the body corporate of Te Rūnanga o Ngāi Tahu as the tribal representative body of Ngāi Tahu Whānui, with relevant provisions including the following:

- Section 3: "this Act binds the Crown and every person (including any body politic or corporate) whose rights are affected by any provisions of this Act";
- Section 5: describes the takiwā or tribal area of Ngāi Tahu Whānui, as including all the lands, islands and coasts of the South Island/Te Waipounamu south of White Bluffs/Te Parinui o Whiti on the east coast and Kahurangi Point/Te Rae o Kahurangi on the west coast;
- Sections 7 and 13: defines the members of Ngāi Tahu Whānui and the members of the Rūnanga Papatipu of Ngāi Tahu Whānui;
- Section 15 (status of Te Ngāi o Ngāi Tahu):

1. Te Rūnanga o Ngāi Tahu shall be recognised for all purposes as the representative of Ngāi Tahu Whānui.

2. Where any enactment requires consultation with any iwi or with any iwi authority, that consultation shall, with respect to matters affecting Ngāi Tahu Whānui, be held with Te Rūnanga o Ngāi Tahu.

3. Te Rūnanga o Ngāi Tahu, in carrying out consultation under subsection (2) of this section:

> a. shall seek the views of such Rūnanga Papatipu of Ngāi Tahu Whānui and such hapū as in the opinion of Te Rūnanga o Ngāi Tahu may have views that they wish to express in relation to the matter about which Te Rūnanga o Ngāi Tahu is being consulted;
>
> b. shall have regard, among other things, to any views obtained by Te Rūnanga o Ngāi Tahu under paragraph (a) of this subsection; and
>
> c. shall not act or agree to act in a manner that prejudices or discriminates against, any Rūnanga Papatipu of Ngāi Tahu or any hapu unless Te Rūnanga o Ngāi Tahu believes on reasonable grounds that the best interests of Ngāi Tahu Whānui as a whole require Te Rūnanga o Ngāi Tahu to act in that manner.

First Schedule: Identifies the Rūnanga Papatipu of Ngāi Tahu Whānui and their respective takiwā.

Ngāi Tahu Claims Settlement Act, 1998

The Ngāi Tahu Claims Settlement Act 1998 gives effect to the provisions of the Deed of Settlement, entered into between Ngāi Tahu and the Crown in 1997. The key elements of the Ngāi Tahu settlement can be summarised as follows:

- Apology: Crown apologises unreservedly to Ngāi Tahu Whānui for the suffering and hardship caused to Ngāi Tahu;
- Aoraki/Mount Cook: gifting of Aoraki, co-management and renaming;
- Cultural Redress: restores effective Kaitiakitanga;
- Non-Tribal Redress: provides certainty and results;
- Economic Redress: income generated by tribal assets provides funds for social and cultural development.

A significant component of the Ngāi Tahu Settlement is the cultural redress elements, which seek to restore the ability of Ngāi Tahu to give practical effect to its kaitiaki responsibilities. Relevant "cultural redress" elements of the Ngāi Tahu Settlement include:

- ownership and control: pounamu/greenstone, high country stations, four specific sites (including Rarotoka/Centre Island, Whenua Hou/ Codfish Island, former Crown Titi Islands) and Wahi Taonga;
- Mana Recognition: Statutory Acknowledgements, Deeds of Recognition, Tōpuni, Dual Place Names;
- Mahinga kai: Nohoanga, Customary Fisheries Management, Taonga Species Management, Coastal Space;
- Management Input: Statutory Advisor, Dedicated Memberships, Department of Conservation Protocols, Resource Management Act Implementation, Heritage Protection Review.

Resource Management Act, 1991

The Resource Management Act 1991 (RMA) is New Zealand's primary piece of legislation for sustainably managing natural and physical resources. The RMA contains various provisions that incorporate Maori values into the management of natural resources.
Key provisions include the requirement in the RMA for all persons exercising functions and powers (including policy/plan making and resource consent processes) to:

- recognise and provide for, as a matter of National Importance:
    - the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other Taonga;
    - the protection of historic heritage from inappropriate subdivision, use, and development;
    - the protection of recognised customary activities;
- have particular regard to Kaitiakitanga;
- Take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The RMA makes specific provisions for iwi management plans. In relation to iwi management plans, regional councils and territorial authorities are required to "…take into account any relevant planning document recognised by an iwi authority and lodged with a local authority…", under the provisions of Sections 61(2A)(a), 66(2A)(a), 74(2A)(a) of the RMA. This is relevant to local authorities preparing a Regional Policy Statement, Regional Plans and District Plans.

Te Tangi a Tauira, 2008

In 2008 Te Tangi a Tauira: Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan was published. This Iwi Management Plan consolidates Ngāi Tahu ki Murihiku values, knowledge and perspectives on natural resource and environmental management issues. Its prime purpose is to assist Ngāi Tahu ki Murihiku in carrying out kaitiaki roles and responsibilities. It is

also designed to assist local authorities and government agencies in understanding tangata whenua values and policy. It lets applicants and consultants understand issues that need to be addressed in applications to achieve whānau ora. It provides a framework for Nga Tahu ki Murihiku to effectively participate in environmental policy and planning, in order to achieve good environmental outcomes and healthy environments for iwi and the wider community.

Other Matters

The above list is not exhaustive. There are various other statutes, regulations, policies, and associated legal mechanisms of potential or actual relevance to iwi resource management within Murihiku, such as: NZ Pouhere Taonga Act, Te Rūnanga o Ngai Tahu Freshwater Policy, Maori Commercial Aquaculture Claims Settlement Act, The Conservation Act and the Reserves Act.

Regulatory and Iwi Context for Te Ao Marama Inc.

This diagram outlines the hierarchy of agreements, acts, policies, plans and values that help inform Te Ao Marama Inc.'s policy development, views and expectations for resource management in Murihiku.

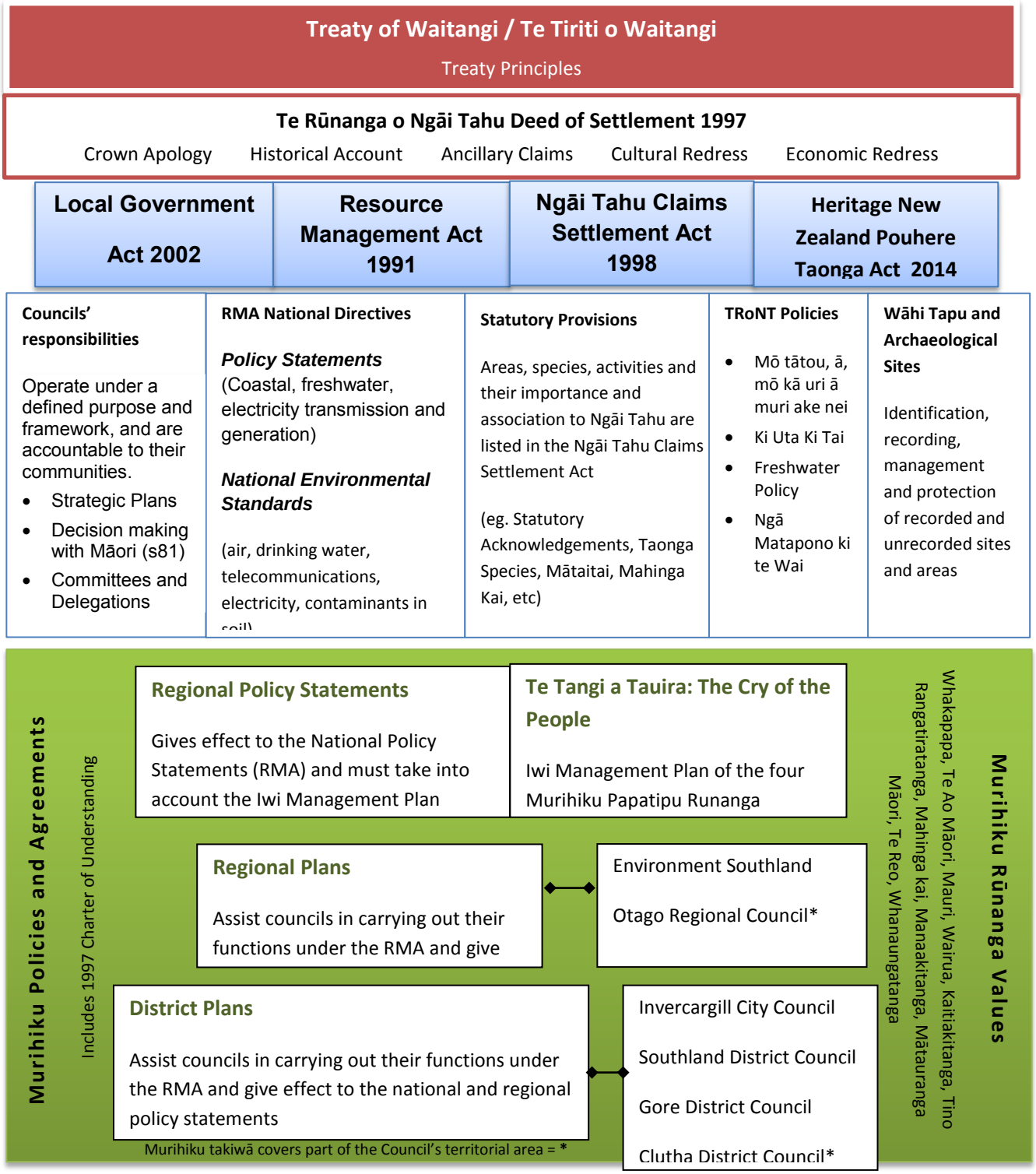


FIGURE 5: THE REGULATORY RESOURCE MANAGEMENT FRAMEWORK THAT HELPS INFORM TE AO MĀRAMA INCORPORATED POLICY DEVELOPMENT IN MURIHIKU. (SOURCE: TE AO MĀRAMA INC, A. CAIN)

Cultural Landscape

The diverse landscape of the Marakura and surrounding area is broadly captured in the below statement:

> *"Our tūpuna had considerable knowledge of whakapapa, traditional trails and tauranga waka, places for gathering kai and other taonga, and ways in which to use the resources of the rivers, estuaries, coastal wetlands, lakes, coasts and lands of Murihiku. While the last 170 years have resulted in significant changes to our waterways and wider natural and cultural landscapes their importance to us has not diminished."*
>
> *Michael Skerrett, Evidence for the Proposed Plan Change 13 (New dairy farming) for the Regional Water Plan for Southland 2010*

Cultural landscapes represent the "combined works of nature and man" and the term embraces a diversity of manifestations of the interaction between humankind and the natural environment. Cultural landscapes often reflect specific techniques of sustainable land-use, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature.[2]

In tradition Fiordland represents the upsides of Te Waka o Aoraki, the waka that foundered and turned Aoraki and his brothers into stone. Rākaihautū arrived in the Waka Uruao and led his group down the middle of the island digging the freshwater lake of Te Wai Pounamu.

Ngāi Tahu whānui have had a long history in this area, particularly being attracted by the bountiful mahinga kai and pounamu resources of Fiordland[3]. This area had a network of coastal settlements, pounamu trails, quarries, kāinga (villages), nohoanga (seasonal camping areas) and fishing grounds.[4]

The Lake itself, Te-Ana-au has important associations with pounamu trails, mahinga kai, kāinga, wāhi tapu, wāhi taonga and nohoanga.

The associations are documented in the landscape as place names, sites, whakapapa and uses of the area.

Kaitiakitanga

Te Tangi a Tauira, 2008 describes kaitiakitanga as 'the exercise of guardianship/stewardship by the tangata whenua of an area and resources in accordance with tikanga Maori.' Kaitiakitanga underpins the concept of maintaining the balance of human interactions with the environment. Kaitiaki are the interface between the natural and spiritual realm of resource management.[5]

Mauri

The primary management principle for Ngai Tahu is the maintenance and enhancement of the mauri or life-giving essence of an area or resource. Mauri can be tangibly represented in terms of elements of the physical health of the land, a river, or surrounding biodiversity. While there are also many

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[2] World Heritage Centre, 2013
[3] Kiston, 2015.
[4] Corry & Puentener, 1993; Te Rūnanga o Ngāi Tahu, 2003.
[5] Kitson, 2015.

intangible qualities associated with the spiritual presence of a resource, elements of physical health which Ngai Tahu use to reflect the status of mauri and to identify the enhancements needed include:

- Aesthetic qualities e.g. natural character;
- Indigenous flora and fauna;
- Life supporting capacity and ecosystem robustness;
- For rivers, the continuity of flow of water (of high quality) from the mountain source of a river to the sea;
- Fitness for cultural usage; and
- Productive capacity.

It is important to Māori to exercise kaitiakitanga to protect and maintain the mauri of taonga.

Ki Uta Ki Tai

Ngāi Tahu whānui use ki uta ki tai (from the mountains to the sea) as an overall approach to resource management, it is also a concept that manages the environment holistically. To apply ki uta ki tai correctly it requires coordinated and holistic management of the elements of a catchment including air, water, land and coast.

It is important to note that within this paradigm that if one place is affected then it impacts on all parts of a catchment, just like if one part of a body is hurt then it impacts on the whole of your body.[6]

Wai

The physical value of good water and land to Ngāi Tahu can be seen within the patterns of settlement and occupation throughout.[7] Water is fundamental to the health and wellbeing of who we are as Māori. The health, wellbeing and Mauri of the water are directly linked to the health and wellbeing of the people.

The characteristics of the water body (smell, shape, bed, flow, etc.) have a direct impact on its health and surrounding lands, what is harvested from it and when. Preferential sites for mahinga kai tend to be hāpua (estuaries, lagoons), repo (wetlands), outlets and the riparian zones of rivers, streams and lakes.[8]

Mahinga Kai

The Ngāi Tahu Claims Settlement Act 1998 defined mahinga kai as 'the customary gathering of food and natural materials, and the places where those resources are gathered.' Mahinga kai is more broadly explained in Te Tangi a Tauira (2008) as being about:

[6] Kitson, 2018.
[7] Te Marino Lenihan, 2013
[8] Cain, A & Whaanga D, 2017.

Places, ways of doings things, and resources that sustain the people. It includes the work that is done (and the fuel that is used) in the gathering of all natural resources (plants, animals, water, sea life, pounamu) to sustain well-being. This includes the ability to clothe, feed and provide shelter.[9]

Mahinga kai is central to the Ngāi Tahu way of life and cultural wellbeing. It represents the ninth component of the 'Nine Tall Trees' that comprised the Ngāi Tahu Claim; an intrinsic part of the tribe's identity, or the "DNA of Ngāi Tahu".[10]

Mahinga kai is central to our relationships with places, waterways, species and resources, and to the cultural, spiritual, social and economic well-being of Ngāi Tahu. It is a vehicle for the intergenerational transfer of Mātauranga (knowledge).[11]

The River, its surrounding waterways and land were extremely important for Murihiku Māori for mahinga kai. Through years of development and change the opportunities for gathering kai have substantially decreased, it is important for us to halt the decline.

There were rich and varied mahinga kai resources within the Te-Ana-Au catchment. Resources included (but not exclusive of):

- Manu (birds) such as, Weka, Kākāpō, Takahē, Waterfowl, Kererū, Tui, Korimako (bellbird).
- Tuna (eels), Whitebait, Upukororo (grayling- now extinct), Smelt.
- Wai kōura (freshwater crayfish).
- Ti Kouka, Harakeke, Aruhe (bracken fern root), Pikopiko.
- Bone, feathers and clays etc.
- Major transport route for Pounamu and crossing to the West Coast.

Privatization of land, land clearance and development and the additions hydro-electric schemes in the catchment have had severe adverse effects on mahinga kai. Yet, Ngai Tahu whānui still retain strong associations and connections with the area.[12]

Statutory acknowledgements

A Statutory Acknowledgement is an acknowledgement by the Crown of the special relationship Ngāi Tahu has with identified areas, particular cultural, spiritual, historical, and traditional association with those areas (known as statutory areas).

Statutory Acknowledgements are a mechanism that ensures that the particular association with certain significant areas in the South Island are identified and that Te Rūnanga o Ngāi Tahu is informed when a proposal may affect one of these areas. Statutory acknowledgements are recognised in the proposed Southland Water and Land Plan.

The gravel extraction proposal falls within the Te Ana-au (Te Anau) Statutory Acknowledgement (see Appendix 1).

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[9] Te Tangi a Tauira, 2008.
[10] Kitson, J. 2017.
[11] Kitson, J. 2017.
[12] Kitson, 2015.

Wāhi Ingoa: Place Names

Because Kai Tahu moved throughout Te Waipounamu, their knowledge of the land was intimate and detailed. This knowledge was preserved in the naming of places. Indeed, the stories of ancestors' journeys of exploration and the creation and shaping of the land also acted as "oral maps", with place names and meanings woven carefully into them. So the places and their names were part of a memory system in which religious belief, history, and geography were combined.

[Dacker, 1990]

As Ngāi Tahu moved throughout Te Wai Pounamu their presence was preserved in the naming of places. Names within the Marakura Catchment reinforce our connections to Ngāi Tahu creation traditions, tūpuna, incidents, and mahinga kai resources. There are multiple names for the area around Marakura, below are some names from within the takiwā:

- Marakura is the traditional Māori name for the Marakura River that flows into the south-western side of Te Ana-au (Lake Te Ana-au). Marakura is also a kāinga situated at the river mouth. The name Marakura was recorded by Rāwiri Te Awha, who was brought up at Te Ana-au and regarded as an authority on the traditional Māori place names within the region.
- Te Kōwhai is a kāinga located on the eastern shore of Te Ana-au (Lake Te Ana-au) towards the mouth of the Marakura River.
- Whitiaka Te Rā was a kāinga/ nohoanga near the mouth of the Marakura. The same name has been given to a site near View Hill (Motu rau).
- Tihaka lies in the middle of Te Ana-au (Lake Te Ana-au).
- Te Ana-au is the correct spelling for Lake Te Anau.
- Te-Titiro-o-Tukare (Lookout Hill) is a small hill on the eastern shoreline of Te Ana-au (Lake Te Ana-au).
- Te-Rua (Dock Bay) is a small bay at the southern end of Te Ana-au (Lake Te Ana-au).
- Marakura-Upukororo??? Upokororo (the Eglinton River) in Murihiku (Southland) has its headwaters at Ōtapara (Lake Gunn). It flows in a generally southern direction into Te Ana-au (Lake Te Ana-au). Upokororo is the Māori name for the now-extinct New Zealand grayling (Prototroctes oxyrhynchus). The young of this slender, silvery smelt were once common in lowland freshwater rivers and streams, and grew to maturity in saltwater. The Upokororo River was part of the traditional travel route that provided access between Te Ana-au and Piopiotahi (Milford Sound).
- Tākaro
- Taramea.

Wāhi Tapu & Wāhi Taonga

"Field surveys in these areas [Lakes Te Ana-au and Manapouri] reveal the presence of sites over a wide area, including some on islands in the lakes indicating that canoes or rafts were used locally. The remains of large eel channels have been located, which give some insight into Maori economy and the supportive social organization. The presence of debarked trees around the lakes points to the manufacture of bark bags for preserving birds and eels. Large ovens are located in the grassland areas and many others have been observed by locals, suggesting the Maoris caught birds, probably moa, or dug up cabbage tree roots which they cooked locally. Duff's work in the Takahe Valley indicates that Maori penetrated the mountains from this area to hunt takahe and the small bush moa"

[Coutts 1982, Doc.31 in WAI 27, cited in Corry & Puentener, 1993]

There are a number of wāhi tapu/ wāhi taonga in the Marakura catchment and within Lake Te Ana-au. Generally archaeological sites have been found or identified following accidental discovery by the farming community. Te Tangi a Tauira Iwi Management Plan for the Southland area contains maps that show in visual form the location of these sites. However, it must be understood that this does not represent all sites that are of importance to Ngai Tahu as there will be many unrecorded sites. The sites identified only provide an understanding about the importance of areas to Ngai Tahu.

There is reference to two different kāinga located around the extraction area. Te Kōwhai- located to the west of the junction of the Marakura and Lake Te Ana-au, Marakura the kāinga that was close to the river and Whiti aka Te Rā that was located near the mouth of the Marakura.

The proposed gravel extraction is where Te Kowhai was located. The knowledge of the location of this kāinga is based on written and oral evidence

There are three recorded sites in the proposed gravel extraction area including a village, a carved tree and a site where pounamu was found. Maps of these can be found in appendix 2. This signifies the evidence of Ngāi Tahu occupation and use within the area. There is a high probability that there are other archaeological sites in the area.

The proposed gravel extraction site is located along one of the trails that leads tūpuna from the coast to the inland lakes and further abroad to such areas as Whakatipu Waitai (Martins Bay) and over to the upper and lower Whakatipu-Wai-Māori (Lake Wakatipu).

Assessment of effects on Cultural Values

As stated by Environment Southland within the application gravel extractions can have benefits for prevention of floods and erosion whilst ensuring the communities safety and well-being. Te Tangi a Tauira (2008) speaks specifically about gravel extractions within Fiordland and the Southland Plains and the effect that they have on cultural values. A full list of policies can be found in Appendix 3 and 4.

In regard to this extraction the following policies are particularly important:

Section	Number	Policy	Comment
Fiordland	3.2.2.2	Consider small scale, low impact mining proposals on a case-by-case basis.	The application is considered to be a medium-large scale proposal with up to a maximum of 660,000 cubic metres extracted over the consent period.
	3.2.2.6	Carry out gravel and sediment extraction from riverbeds in a manner that avoids or remedies adverse environmental impacts, including the establishment of weeds as a result of disturbance.	There are currently pest plants/ weeds growing along the margins and riverbed. Any disturbance that creates weed establishment needs to be mitigated. Weed control and planting of native plants would help with this issue.
	3.2.2.7	Avoid compromising cultural sites of archaeological value as a consequence of excavation activities that disturb older soil deposits, either directly or via unintended collapse of river and stream banks, or by erosion effects.	The activity is on a site of a kāinga there is potential for further archeological evidence to be found within the vicinity of the proposed extraction area. See comment in 3.5.15.3. The activity needs to avoid any disturbance of archaeological sites.
Te Rā a Takitimu (Southland Plains)	3.5.15.2	Land use consents to carry out activities in the beds and margins of rivers should include information about ecological, cultural, natural and community values associated with the surrounding areas (e.g. adjacent wetlands, bird nesting sites, in stream life, community use of the area; inanga/whitebait habitat).	Application did not consider any cultural effects to be known in the immediate vicinity of the extractions sites despite their being recorded archaeological sites
	3.5.15.3	Require that the Ngāi Tahu ki Murihiku Accidental Discovery	Application has made reference to using the Accidental Discovery

		Protocol (see Appendix 6) is a condition on resource consents.	Protocol. Please find a copy in appendix 5.
	3.5.15.4	Require consent conditions for gravel extraction activities stipulating the use of "work windows" and other methods to ensure that such activities do not: a) disturb roosting and/or nesting sites of birds during the operation/activity; b) adversely affect native fish species (e.g. interrupt spawning); c) cross flowing water with heavy vehicles; d) extract gravel where there is, or there is the potential to be, running water; e) Damage native vegetation on the river bed or riparian area.	The application notes a condition to be implemented to ensure no disturbance to roosting birds or their feeding areas. The draft conditions need to ensure that there are no works within the bed of the watercourse that no vehicles shall cross flowing water, fish passage will not be impeded and silt disturbance and instream works are kept to a minimum. There needs to be no damage to trees on the river bed.
	3.5.15.5	Discourage gravel extraction via beach skimming, except where it is demonstrated that beach areas are aggrading and lateral erosion is a concern.	The application states the river is aggrading, there is no mention of erosion. During our site visit we noticed that the true right of the river could be considered to be cutting into the bank. Skimming will commence at the river side of the area to be excavated and worked away from the river bed ensuring no gravel stock piling in the river bed.

The area where the application is taking place is already impacting on cultural values and has done historically, the Southland District Council sewage system is discharging to the river, past land use (pastoral farming, burning etc.) and past gravel extractions. The sites have been extracted from within the last ten years.

Rūnanga pointed out markers that are within the site and relate to cultural use and occupation, including the kōwhai tree that is on the true left of the river bed and ti kouka on the true left of the active river. Recent cultural monitoring of the River mouth indicated that whānau would like the sole kōwhai to have protection as a marker of the Te Kōwhai kāinga.

The activities have altered the Mauri of the river bed and margins. Gravel extractions generally take place in areas that are important for mahinga kai, ki uta ki tai, kaitiakitanga, wai and wāhi tapu/ wāhi taonga.

The proposed extraction could have a major effect on cultural values, in particular on wāhi tapu and wāhi taonga.

Conclusion

The application is to remove gravel from the lower part of the Marakura River where there has been occupation and use by mana whenua. This site has/ is used for a sewage treatment and discharge area, gravel extraction and pastoral farming.

This Cultural Impact Statement has identified the following values that are of importance that need to be considered as part of Environment Southlands consent application for the gravel extraction:

- Ki uta ki tai: The need to consider the effects of the project from ki uta ki tai and that activities in the lower part of the catchment has an effect on the higher part of the catchment and vice versa.
- The area is a known kāinga where archaeological evidence has been found. Wāhi tapu, wāhi taonga and archaeological sites need to be protected.
- Mauri: The effect of gravel extraction on the Mauri, on both the aesthetic value of the area and the constant alteration of the river bed.
- Although not owned or operated by Environment Southland- the effect of the sewage treatment and discharge on Cultural values including Wai, Mahinga Kai, Mauri, Ki Uta Ki Tai and Wāhi Tapu/ Wāhi Taonga.
- Kaitiakitanga: The ability for rūnanga to actively input into activities within the area and help to actively manage those.

The ES proposal is highly likely to impact on the relationship of Ngāi Tahu whānui and their culture and traditions with their ancestral land, water, sites, wāhi tapu, and other taonga (RMA s6) and impinge on kaitiakitanga (RMA s7).

Recommendations

- That an archaeological assessment is undertaken to determine whether there is a need for further archaeological investigations.
- Confine transport routes across the riverbed, to the stockpile areas and from stock pile areas so as not to disturb archaeological sites. This may require some archaeological survey work to determine the best areas to concentrate heavy machinery activity.
- That the lone kōwhai tree on the true left side of the junction of the river and the lake is protected currently has a vine growing and smothering it and we recommend that some rehabilitation is undertaken to enhance the survival of this taonga rākau.
- No extraction during August-January to avoid bird nesting times.
- Where extraction is occurring some areas are left higher so there is dry and untouched habitat for birds and the potential wave action that comes down the lake.
- There is currently a large amount of pest plants/weeds on site, disturbance from extraction could exacerbate this issue, the rūnanga recommend that there is some pest plant control work undertaken to mitigate this effect, and where it is applicable plant natives, in particular Kōwhai.

Bibliography

Coutts, P. (1968). A field survey of some traditional Māori Sites in the Te Anau Region.

Environment Southland. (2016). Southland Water and Land Plan. ES.

Kitson J. 2015. Jericho Wind Farm Cultural Values Report. Kitson Consulting Client Report for Te Ao Mārama Inc., Oraka-Aparima Rūnanga & Pioneer Generation. Invercargill. 70 pages

Kitson, J. (2017). Statement of Evidence: Technical evidence on behalf of Te Rūnanga o Ngāi Tahu. Te Rūnanga o Ngāi Tahu

Kitson J, Cain A, Williams E, Blair SR, Johnstone MNTH, Davis J, Grey M, Kaio A, Anglem R, Young R, Whaanga D. 2018. Developing a Murihiku Cultural Water Classification System. Report prepared for the Ngā Kete o Te Wānanga Murihiku Rūnanga Advisory Group, Te Ao Mārama Inc and Ōraka-Aparima Rūnaka. NIWA, Wellington, NZ.

Lenihan, S. M. (2014). Brief of evidence of Shaun Te Marino Matthew Lenihan for Te Rūnanga o Ngāi Tahu, Ngā Rūnanga and Ngāi Tahu Property Ltd. Retrieved from Te Rūnanga O Ngāi Tahu website: http://www.chchplan.ihp.govt.nz/wpcontent/uploads/2015/03/Evidence_066_Te_Runanga_o_Ngai_Tahu_Shaun_Te_Marino_Matthew_Lenihan.pdf

Ngai Tahu ki Murihiku. (2008). Ngai Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan: Te Tangi a Tauira. Invercargill: Te Ao Marama Inc.

NV Interactive (http://www.nvinteractive.co.nz). (2018). Homepage — Cultural Mapping Project — Te Rūnanga o Ngāi Tahu. Retrieved from http://www.kahurumanu.co.nz/

Pauling, C. (2003). KI UTA KI TAI Mountains to the Sea Natural Resource Management: A scoping document for developing Mountains to the Sea Natural Resource Management Tools for Ngäi Tahu. Christchurch.

Whaanga, D., & Cain, A. (2017). Statement of evidence: Cultural Evidence on behalf of Te Rūnanga O Ngāi Tahu. Te Rūnanga O Ngāi Tahu.

White, T. (1893). A Māori pā at Lake Te Anau.

Appendices

Appendix 1: Schedule 58. Statutory acknowledgement for Te Ana-au (Lake Te Anau)

Statutory area

The statutory area to which this statutory acknowledgement applies is the lake known as Te Ana-au (Lake Te Anau), the location of which is shown on Allocation Plan MD 42 (SO 12259).

Preamble

Under section 206, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic, and traditional association to Te Ana-au, as set out below.

Ngāi Tahu association with Te Ana-au

Te Ana-au is one of the lakes referred to in the tradition of "Ngā Puna Wai Karikari o Rakaihautu" which tells how the principal lakes of Te Wai Pounamu were dug by the rangatira (chief) Rakaihautu. Rakaihautu was the captain of the canoe, Uruao, which brought the tribe, Waitaha, to New Zealand. Rakaihautu beached his canoe at Whakatū (Nelson). From Whakatū, Rakaihautu divided the new arrivals in two, with his son taking one party to explore the coastline southwards and Rakaihautu taking another southwards by an inland route. On his inland journey southward, Rakaihautu used his famous kō (a tool similar to a spade) to dig the principal lakes of Te Wai Pounamu, including Te Ana-au.

For Ngāi Tahu, traditions such as this represent the links between the cosmological world of the gods and present generations, these histories reinforce tribal identity and solidarity, and continuity between generations, and document the events which shaped the environment of Te Wai Pounamu and Ngāi Tahu as an iwi.

Te Ana-au figures in Ngāi Tahu histories as one of the last places where Ngāi Tahu and Ngāti Mamoe came into conflict after the peace established between Rakiihia and Te Hautapunui o Tū. After Rakiihia had died, his bones were stripped of flesh and were buried in a cave on a cliff facing the seaside near Dunedin. However, a landslip led to the bones being uncovered. The bones were found by Ngāi Tahu fishermen and made into fish hooks, an act designed to insult. Among Māori it was a practice to take the bones of enemy leaders who had recently died, fashion them into fish hooks and present fish caught with them to the enemy as a gift. Once the fish had been eaten, the enemy would be told they had feasted on fish that had in turn feasted on their dead.

While Ngāi Tahu were fishing with their Ngāti Mamoe relations, one of the Ngāi Tahu fishermen referred to the fish biting the bones of Rakiihia. The Ngāti Mamoe fisherman recognised the insult and checked the cave in which their leader had been interred. Finding that the grave had been desecrated, the Ngāti Mamoe found and killed the son of a senior Ngāi Tahu rangatira (chief). Before

Ngāi Tahu could retaliate, the Ngāti Mamoe were warned that they should leave the coast for the inland lakes where they would not be found. Ngāti Mamoe headed to Te Ana-au. Among this Ngāti Mamoe party was Rakiihia's brother, Pukutahi. Pukutahi fell sick along Te Ana-au's shoreline and rested while his followers explored the lake to find a safer place.

Approaching the lakes, Te Hau, the leader of the Ngāi Tahu party, observed that the fugitives had divided in two, and unfortunately for Pukutahi, decided to follow the trail up to Te Ana-au. The Ngāti Mamoe camp was found and in the morning the chiefs of Ngāti Mamoe, including Pukutahi, were killed. This was to be one of the last battles between the tribes.

The lake was an important mahinga kai in the interior. The tūpuna had considerable knowledge of whakapapa, traditional trails and tauranga waka, places for gathering kai and other taonga, ways in which to use the resources of Te Ana-au, the relationship of people with the lake and their dependence on it, and tikanga for the proper and sustainable utilisation of resources. All of these values remain important to Ngāi Tahu today.

The mauri of Te Ana-au represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the lake.

Purposes of statutory acknowledgement

Pursuant to section 215, and without limiting the rest of this schedule, the only purposes of this statutory acknowledgement are—

(a) to require that consent authorities forward summaries of resource consent applications to Te Rūnanga o Ngāi Tahu as required by regulations made pursuant to section 207 (clause 12.2.3 of the deed of settlement); and

(b)to require that consent authorities, Heritage New Zealand Pouhere Taonga, or the Environment Court, as the case may be, have regard to this statutory acknowledgement in relation to Te Ana-au, as provided in sections 208 to 210 (clause 12.2.4 of the deed of settlement); and

(c)to empower the Minister responsible for management of Te Ana-au or the Commissioner of Crown Lands, as the case may be, to enter into a Deed of Recognition as provided in section 212 (clause 12.2.6 of the deed of settlement); and

(d) to enable Te Rūnanga o Ngāi Tahu and any member of Ngāi Tahu Whānui to cite this statutory acknowledgement as evidence of the association of Ngāi Tahu to Te Ana-au as provided in section 211 (clause 12.2.5 of the deed of settlement).

Limitations on effect of statutory acknowledgement

Except as expressly provided in sections 208 to 211, 213, and 215,—

(a) this statutory acknowledgement does not affect, and is not to be taken into account in, the exercise of any power, duty, or function by any person or entity under any statute, regulation, or bylaw; and

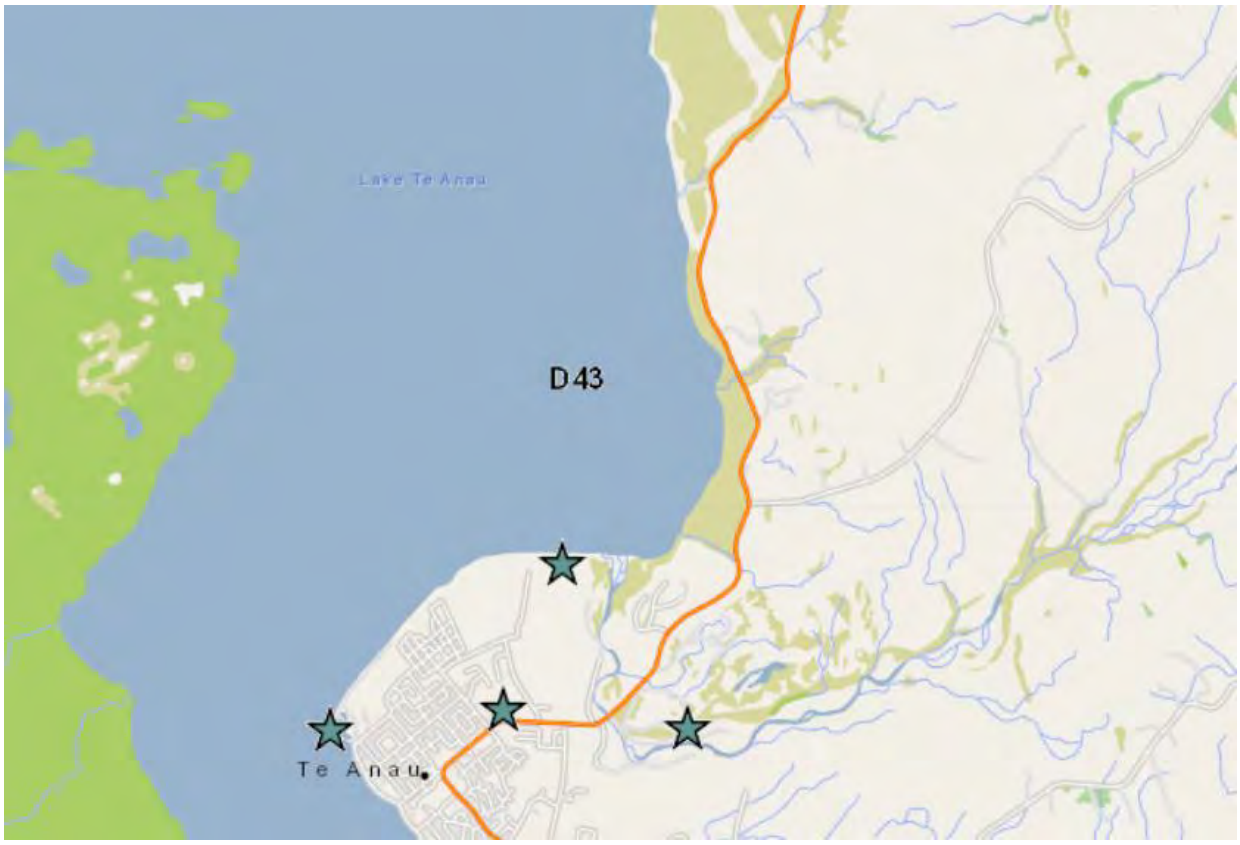
(b) without limiting paragraph (a), no person or entity, in considering any matter or making any decision or recommendation under any statute, regulation, or bylaw, may give any greater or lesser weight to Ngāi Tahu's association to Te Ana-au (as described in this statutory acknowledgement) than that person or entity would give under the relevant statute, regulation, or bylaw, if this statutory acknowledgement did not exist in respect of Te Ana-au.

Except as expressly provided in this Act, this statutory acknowledgement does not affect the lawful rights or interests of any person who is not a party to the deed of settlement.

Except as expressly provided in this Act, this statutory acknowledgement does not, of itself, have the effect of granting, creating, or providing evidence of any estate or interest in, or any rights of any kind whatsoever relating to, Te Ana-Au.

Schedule 58: amended, on 20 May 2014, by section 107 of the Heritage New Zealand Pouhere Taonga Act 2014 (2014 No 26).

Appendix 2: Recorded Archaeological Sites



Recorded archaeological sites within the Marakura catchment. Retrieved from http://www.archsite.org.nz/

Appendix 3: Iwi management plan policies: Mining and Gravel Extraction

Te Tangi a Tauira Section 3.3 Te Ata Whenua.

3.3.2 Mining and Gravel Extraction

Currently, there is no mining activity within Fiordland, except for the use of shingle and rock for road and track maintenance and protection in the National Park. Mining activities are controlled by the Crown Minerals Act (CMA) 1991 and the Resource Management Act 1991. Section 61 (1A) of the CMA prohibits the Minister of Conservation from entering into any access arrangement for mining within any national park, effectively prohibiting mining from Fiordland. Furthermore, the New Zealand Historical Places Trust also has a statutory responsibility in managing potential impacts on archaeological sites as a result of mining and gravel extraction and are therefore considered an affected party.

While Ngāi Tahu ki Murihiku support keeping Fiordland free of large scale mining, there is concern that such regulation may impede access and removal of pounamu (see Section 3.3.3 Pounamu).

Ngā Take - Issues

•Mining or extraction activities that have significant adverse effects on land, waterways and biodiversity, or the association of tangata whenua to culturally important places.

•Gravel extraction for road maintenance (Transit NZ) and adverse effects related to plant pest spread and river bed disturbance

• Future mining opportunities, and consistency with the Ngāi Tahu vision for the Fiordland landscape

•Protecting culturally important landscapes from mining activity.

•Ensuring Ngāi Tahu access to pounamu resources in Fiordland is not limited by legislation regulating mining on conservation land.

Ngā Kaupapa - Policy

1.Avoid the establishment of large scale commercial mining (not including pounamu) in Fiordland, as it is inconsistent with the values and vision for the region.

2.Consider small scale, low impact mining proposals on a case-by-case basis.

3.Recognise customary rights to access and removal of pounamu in Fiordland as a permitted activity. This must be exercised under the umbrella of Pounamu Management Plans, and sustainable practices.

4. Require that all gravel for road and track maintenance is sourced locally, to minimise the risk of plant pest and seed spread into Fiordland.

5.Require that machinery and trucks used by contractors to build and maintain roads and tracks are steam cleaned before entering Fiordland.

6.Carry out gravel and sediment extraction from riverbeds in a manner that avoids or remedies adverse environmental impacts, including the establishment of weeds as a result of disturbance.

7.Avoid compromising cultural sites of archaeological value as a consequence of excavation activities that disturb older soil deposits, either directly or via unintended collapse of river and stream banks, or by erosion effects.

8.All mining undertaken within lands administered by the Department of Conservation with the potential to affect pounamu shall carry the Mining Access (Pounamu) standard condition (Appendix 5).

9.Require that, in the event of the discovery of pounamu and pounamu bearing rock during any exploration and/or prospecting activity, no samples of pounamu are taken, other than in accordance with the Te Rūnanga o Ngāi Tahu Pounamu Resource Management Plan (2002), or other pounamu plans developed by Ngāi Tahu.

Cross-reference:

Provision 3.3.3 Pounamu – Access and Management, Section 3.3 Te Atawhenua – Fiordland

Appendix 4: Iwi management plan policies: Activities in the Beds and Margins of Rivers

Te Tangi a Tauira Section 3.5 Te Rā A Takitimu

3.5.15 Activities in the Beds and Margins of Rivers

Section 13 of the Resource Management Act 1991 requires consent for activities in the beds of rivers. Such activities include using, placing, altering or removing any structures (e.g. culverts), extraction of gravel, or reclaiming or draining part of the river or lakebed.

Ngāi Tahu ki Murihiku policies on gravel extraction and other activities in the beds and margins of rivers focus on balancing the protection of river environments, and the cultural values associated with such environments, while recognising the need to ensure a supply of gravels/aggregate and undertake flood works.

Ngā Take - Issues

- Pressure for taking gravel from beaches where those beaches are perceived to be aggrading and leading to lateral erosion.
- Potential effects of beach skimming on rivers – e.g. can destroy bird nesting sites.
- Changes to the natural character of rivers.
- Installation of culverts into the beds of streams and adverse effects on the waterway via sedimentation, weed establishment and habitat damage.
- Effects of instream excavation and dredging activities on fisheries values.
- Stream bed degradation, and bank erosion.
- Impacts on nesting or roosting birds.
- Loss or degradation of riparian areas.
- Culverts and bridges for stock crossings – impacts on bird nesting sites and fish habitat by making rivers wider, flatter, shallower and increasing temperature.
- Loss of habitat for native flora and fauna.

Ngā Kaupapa - Policy

Gravel extraction

1. Assess applications for gravel extraction in terms of the following considerations:
   a. cultural values associated with the river (e.g. mahinga kai or taonga species habitat);
   b. amount of material extracted;
   c. design of extraction operations;
   d. times of year that extraction will occur;
   e. number of existing consents associated with the location;
   f. how any adverse effects are being mitigated;
   g. monitoring provisions;
   h. cumulative effects assessment.
2. Land use consents to carry out activities in the beds and margins of rivers should include information about ecological, cultural, natural and community values associated with the

surrounding areas (e.g. adjacent wetlands, bird nesting sites, instream life, community use of the area; inanga/whitebait habitat).

3. Require that a Ngāi Tahu ki Murihiku Accidental Discovery Protocol (see Appendix 6) is a condition on resource consents.
4. Require consent conditions for gravel extraction activities stipulating the use of "work windows" and other methods to ensure that such activities do not:
   a. disturb roosting and/or nesting sites of birds during the operation/activity;
   b. adversely affect native fish species (e.g. interrupt spawning);
   c. cross flowing water with heavy vehicles;
   d. extract gravel where there is, or there is the potential to be, running water;
   e. damage native vegetation on the river bed or riparian area.
5. Discourage gravel extraction via beach skimming, except where it is demonstrated that beach areas are aggrading and lateral erosion is a concern.
6. Where gravel extraction occurs on beaches that are aggrading, monitoring of streambed elevation must be a condition of consent. The goal must be to maintain bed height.
7. Advocate for the creation of habitat ponds to facilitate gravel extraction activities, whereby such activities incorporate restoration of riverine habitat, primarily on inactive reaches of the river system (see Case Study box, page 163).
8. Require that the design, construction and maintenance of habitat ponds are such that habitat is created, and not just 'holes' on floodplains or in riverbeds.
9. Support and encourage programmes to monitor the effectiveness of habitat ponds as a fishery and waterfowl habitat.
10. Work collaboratively with Regional Councils, the Department of Conservation, Fish and Game and MFish with respect to gravel extraction activities and applications, for information sharing and discussion of issues.

Case Study: **Habitat Ponds for Gravel Extraction**

Historically, the Southland region has obtained the bulk of its river sourced aggregate through the skimming of gravel beaches and bars, and in-stream dredging. Such activities have resulted in adverse effects on some rivers, including bed degradation, bank erosion, changes to river channel structure and riverine ecology (e.g. fishery values).

Today, river restoration and rehabilitation has become part of managed gravel extraction activities on the Southland plains. Floodway ponds, oxbow lakes and backwaters are examples of habitat that is being restored in conjunction with gravel extractions away from the active river channel. Effectively, gravel is extracted from a site, which then fills with water creating habitat for fish and waterfowl. Habitat ponds can offset some of the habitat loss that has occurred over time.

The location and design of habitat ponds is important to ensuring that such activities do not have adverse effects on cultural and ecology values. For example, old oxbows can be deepened and developed to create a backwater, as opposed to creating a “hole” in an area less suitable for habitat. Further, sites should be located in areas where birds are not trying to nest. Rather, they should be located in areas that are infested with gorse or broom. Finally, ponds must be deep enough to hit groundwater, as groundwater gives fish relief during hot periods.

For Ngäi Tahu ki Murihiku, gravel extraction via habitat ponds can be a win win situation if managed sustainably and monitored carefully.

Appendix 5: Accidental Discovery Protocols

Appendix A
Protocol in the event of a discovery, or suspected discovery, of a site of cultural importance (Waahi Taonga/Tapu)

1. *Kōiwi tangata accidental discovery*
If Kōiwi tangata (human skeletal remains) are discovered, then work shall stop immediately and the New Zealand Police, Heritage New Zealand (contact details below) and Te Ao Marama Inc (Ngai Tahu (Murihiku) Resource Management Consultants) shall be advised. Contact details for Te Ao Marama Inc are as follows:

Te Ao Marama Inc
Murihiku Marae, 408 Tramway Road, Invercargill
P O Box 7078, South Invercargill 9844
Phone: (03) 931 1242

Te Ao Marama Inc will arrange a site inspection by the appropriate Tangata Whenua and their advisers, including statutory agencies, who will determine how the situation will be appropriately managed in accordance with tikanga māori.

2. *Archaeological Sites*
Archaeological sites are protected under the Heritage New Zealand Pouhere Taonga Act (2014), and approval is required from Heritage New Zealand before archaeological sites can be modified, damaged or destroyed.

Not all archaeological sites are known or recorded precisely. Where an archaeological site is inadvertently disturbed or discovered, further disturbance must cease until approval to continue is obtained from Heritage New Zealand. As stated above, the New Zealand Police also need to be advised if the discovery includes kōiwi tangata /human remains.

Heritage New Zealand Regional archaeologist contact details:
Dr Matthew Schmidt
Regional Archaeologist Otago/Southland
Heritage New Zealand
PO Box 5467
Dunedin
Ph. +64 3 470 2364, mobile 027 240 8715
Fax. +64 3 4773893
mschmidt@heritage.org.nz

3. *Taonga or artefact accidental discovery*
If taonga or artefact material (e.g. pounamu/greenstone artefacts) other than kōiwi tangata is discovered, disturbance of the site shall cease immediately and Southland Museum and Te Ao Marama Inc. shall be notified of the discovery by the finder or site archaeologist in accordance with the Protected Objects Act 1975. All taonga tuturu are important for their cultural, historical and technical value and are the property of the Crown until ownership is resolved.

4. *In-situ (natural state) pounamu/greenstone accidental discovery*

Pursuant to the Ngai Tahu (Pounamu Vesting) Act 1997, all natural state pounamu/greenstone in the Ngai Tahu tribal area is owned by Te Runanga o Ngai Tahu. Ngai Tahu Pounamu Management Plans provide for the following measures:

- any *in-situ* (natural state) pounamu/greenstone accidentally discovered should be reported to Te Runanga o Ngai Tahu staff as soon as is reasonably practicable. Te Runanga o Ngai Tahu staff will in turn contact the appropriate Kaitiaki Papatipu Runanga;

- in the event that the finder considers the pounamu is at immediate risk of loss such as erosion, animal damage to the site or theft, the pounamu/greenstone should be carefully covered over and/or relocated to the nearest safe ground.

The find should then be notified immediately to the Programme Leader – Ohanga, at Te Rūnanga o Ngāi Tahu. The contact details are as follows:

Programme Leader - Ohanga
Te Rūnanga o Ngāi Tahu
Te Whare o Te Wai Pounamu
15 Show Place
P O Box 13-046,
Otautahi/Christchurch 8021
Phone: (03) 366 4344: Fax: (03) 341 6792
Web: www.ngaitahu.iwi.nz

Archaeological Assessment for Marakura/Upukerora River

Prepared for Environment Southland

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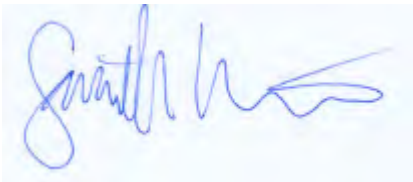
Prepared By



Sam Kurmann
Archaeologist

Reviewed By

Emily Howitt
Archaeologist

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Document History and Status

Revision	Date	Author	Reviewed by	Approved by	Status
1	7/6/18	Sam Kurmann	Emily Howitt		Draft 1
2	11/6/18	Sam Kurmann	Emily Howitt		Final Draft

Revision Details

Revision	Details

1. Introduction

1.1. Purpose of this Report

WSP Opus were commissioned by the Southland Regional Council (Environment Southland) to prepare an archaeological assessment for the proposed gravel extraction along the Marakura/Upukerora River near Te Anau, Southland (Figure 1). The recommendation for an archaeological assessment was made in the Cultural Impact Assessment (CIA) prepared by Te Ao Marama Inc (TAMI) on behalf of Te Rūnanga o Ōraka Aparima for the same project.

This report presents an archaeological assessment of the Marakura/Upukerora River gravel extraction site. It identifies the presence and values of archaeological sites in this area and discusses impacts on the sites from proposed activities. It is a supporting document for an Archaeological Authority application to Heritage New Zealand Pouhere Taonga (Heritage New Zealand).

1.2. Project Location

Te Anau is in the south-western corner of the South Island, situated between high relief mountain ranges on a flat river plain that drains into Lake Te Anau (Figure 1). The township is located at the southern extent of Lake Te Anau. The terminal end of the Marakura/Upukerora River is located approximately 1.5 km north east of the Te Anau township, north of State Highway 94. Gravel extraction is proposed immediately north of the State Highway bridge in three different places (Figures 2 and 3). The surrounding land is owned by private and public entities.

Figure 1. Map showing location of Marakura (Upukerora) River, Te Anau (blue rectangles) within the wider geographical setting (source: ArchSite 2018).

1.3. Background and Proposal

Environment Southland has a responsibility for the management of flooding controls in the Southland Region. On occasion, flooding has occurred near the Marakura/Upukerora River Mouth and subsequent monitoring of the river's attributes has occurred as a result. The river is dynamic and subsequent retreat, erosion and growth processes have occurred in this lower river delta section. With the foregoing in mind, the river channel has been decreased due to gravel from upstream of the bridge flowing into the area. Environmental monitoring of the Marakura/Upukerora River has revealed that there is a risk that the current river channel may be subject to further flood events. Potential effects including the river channel breaking its banks if action is not taken to address this risk. The effects of any potential floods have been considered to have far-reaching impacts of nearby local infrastructure in the Te Anau township, including water treatment ponds, key access infrastructure (the State Highway 94 Bridge to Milford Sound) and nearby residential properties.

Environment Southland proposes to remove gravel from three sites where gravel is building up (Figures 2 and 3) in an attempt to stabilise the flow of the river. This will consist of gravel extraction "from the aggraded bed of the Lower Upukerora River… as a form of flood control to enable pre-emptive river management" (Robinson 2018: 1). The methodology proposed to undertake this gravel extraction is by using a "beach skimming operation that commences at each site at a height of 200 mm above normal water level" (*ibid.*) using a mechanical excavator to extract a total of 44 000m^3 over three sites (Figure 2) As part of the resource consent process a Cultural Impact Assessment was prepared (Blair 2018). This recommended that an archaeological assessment of the works be prepared considering the proximity of the area of gravel extraction to recorded archaeological sites.

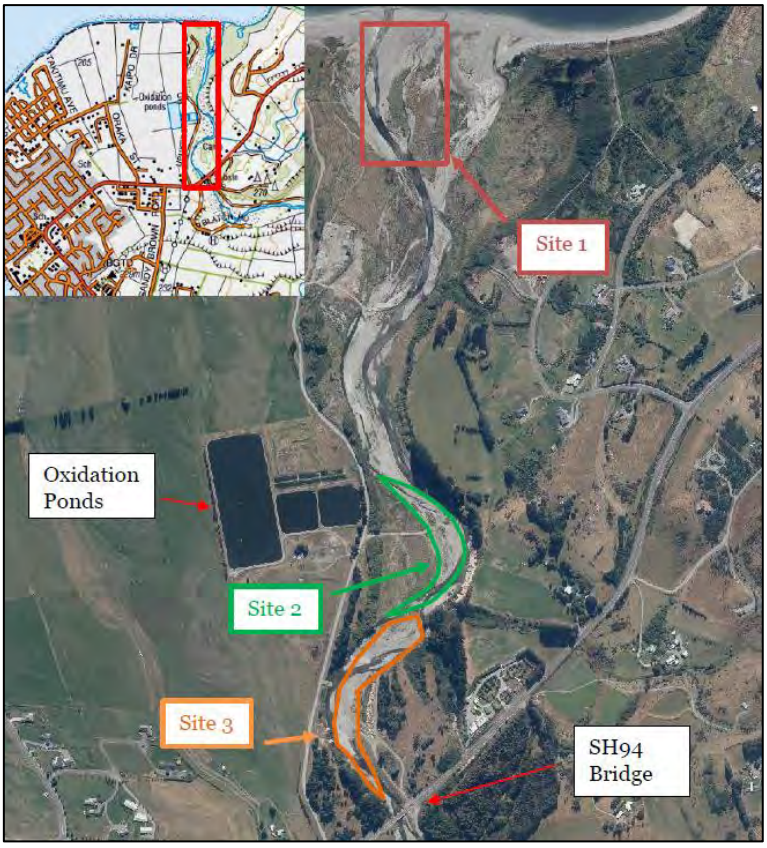


Figure 2. Image showing the sites of gravel extraction (taken from Robinson 2018).

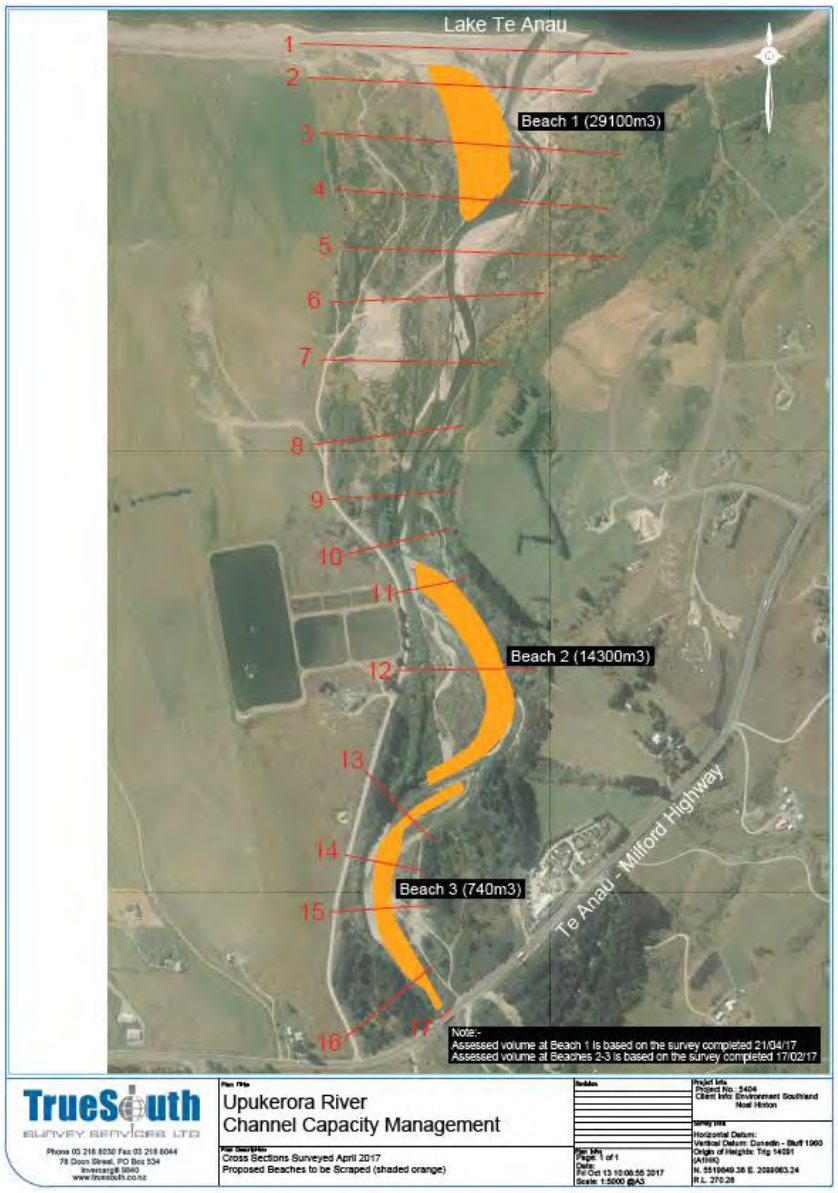


Figure 3. Plans showing details of proposed gravel extraction site along the Marakura/Upukerora River, Te Anau. The orange polygons indicate the three sites of gravel extraction (Source: Client Supplied Image).

2. Statutory Requirements

There are two main pieces of legislation in New Zealand that legislate for work affecting archaeological sites. These are the *Heritage New Zealand Pouhere Taonga Act 2014* (HNZPTA) and the *Resource Management Act 1991* (RMA).

2.1. The *Heritage New Zealand Pouhere Taonga Act* 2014

The HNZPTA promotes the identification, protection, preservation and conservation of the historic and cultural heritage of New Zealand. It provides blanket protection to all archaeological sites whether they are recorded or not. The provisions of the HNZPT Act are administered by Heritage New Zealand Pouhere Taonga (Heritage New Zealand). It is illegal to destroy, damage or modify archaeological sites, without first gaining an archaeological authority to do so from Heritage New Zealand Pouhere Taonga.

The HNZPTA contains a consent (authority) process for any work affecting an archaeological site. An archaeological site is defined under Section 6 as: (a) any place in New Zealand, including any building or structure (or part of a building or structure), that— (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and (ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and (b) includes a site for which a declaration is made under Section 43(1) of the Act.

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

The archaeological authority process applies to all sites that fit the HNZPTA definition, regardless of whether:

- The site is recorded in the New Zealand Archaeological Association (NZAA) Site Recording Scheme or entered into the Heritage New Zealand List,
- The site only becomes known about as a result of ground disturbance, and/or,
- The activity is permitted under a district or regional plan, or a resource or building consent has been granted.

2.2. The *Resource Management Act* 1991

Part II of the *RMA* outlines the Purposes and Principles of the RMA. In outlining the purpose of the RMA, Section 5 states:

(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, "sustainable management" means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –

a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

b) Safeguarding the life supporting capacity of air, water, soil, and ecosystems; and

c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

Section 6 of the RMA outlines that "in achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance." In 2003 amendments to the RMA elevated historic heritage to a Matter of National Importance under Section 6 (f), which identifies the need for "the protection of historic heritage from inappropriate subdivision, use, and development."

A definition of Historic Heritage was also added with the amendments to the RMA. This defines Historic Heritage as:

a) Those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures deriving from any of the following qualities:

(i) archaeological;

(ii) architectural;

(iii) cultural;

(iv) historic;

(v) scientific;

(vi) technological; and

b) Includes –

(i) historic sites, structures, places, and areas; and (ii) archaeological sites; and (iii) sites of significance to Māori, including wāhi tapu; and (iv) surroundings associated with the natural and physical resources.

As such, when considering applications under the RMA, the consenting authority must have regard to historic heritage as a Matter of National Importance.

This assessment covers archaeological values only and is based on HNZPTA assessment requirements.

3. Methodology

This archaeological assessment report is based on desk-top research and a field survey of the project area. Research was carried out using a range of historic and archaeological information sources including:

- New Zealand Archaeological Association (NZAA) Site Record Database (ArchSite).
- The Heritage New Zealand Pouhere Taonga (Heritage New Zealand) List/Rārangi Kōrero.
- Kā Huru Manu, The Cultural Mapping Project by Ngāi Tahu.
- Primary literature.
- LINZ survey plans, historic maps and photographs from various sources.
- Historic newspapers (Papers Past website).
- Published resources about the history of Te Anau.

Archaeologist Sam Kurmann also undertook a site visit on the 22nd of May 2018 to inspect the proposed site. She was accompanied by Stevie-Rae Blair from TAMI and another Rūnaka member, Jay. As the area was already of known interest to Ngāi Tahu, the purpose of the site visit was to determine the presence of any archaeological remains near to the project area. A site walkover was undertaken and a visual inspection of the ground occurred. Because the proposed works are confined to the river channel with minimal bank works, the focus was on locating any unrecorded remains in the vicinity. The assessment focused on the areas marked in Figures 2 and 3, named Site/Beach 1-3.

The assessment of archaeological values was based on a consideration of the impacts of the proposed works on both potential and known archaeological sites in the area. These sites were

characterised using the archaeological values of condition, rarity, contextual values, information potential, amenity value and cultural associations. This was done in accordance with the Heritage New Zealand guidelines.

3.1. Limitations

This report does not include an assessment of Māori cultural values. Statements are made regarding the location and nature of archaeological sites and their archaeological values. The statements on the cultural significance come directly from the Cultural Impact Assessment (CIA) that has been prepared by Stevie-Rae Blair (2018) regarding the site. The views of Tangata Whenua are not presented in this report.

4. Background

4.1. Environmental Setting

The Marakura/Upukerora River has its headwaters in the Livingston Mountains and flows towards south east towards Te Anau where it turns north to its confluence with Lake Te Anau. Te Anau is situated on geological substrate called “Prospect Formation”, a non-glacial geological formation specific to the Te Anau basin (Manville 1996: 429-430). The Marakura/Upukerora River is a braided river that cuts through a gravel-sand substrate. It has a moderate catchment size that drains into a narrow, braided river to Lake Te Anau where it terminates.

The vegetation that surrounds the river within the project area is relatively short-lived and small. There are exotic pines, eucalypts and lupins around the project area. One kōwhai stands near the mouth of the river, on the true left side near Site 1. To the west of the river is a high scarp and hill which has undergone residential development (Figure 4).

Figure 4. Photograph of the Marakura/Upukerora River looking east over the river mouth (taken 22 May 2018).

4.2. Māori Occupation of Te Anau Region

The following section was informed by the CIA (Blair 2018), Kā Huru Mana, and conversations with members of Te Rūnaka o Ōraka Aparima.

Te Anau is part of an extensive landscape of inland travel routes that connect the coast of Southland with the interior. This route also connected people to the West Coast. Prior to the arrival of Europeans, Māori travelled inland to undertake hunting, exploration expeditions and resource procurement. Traditions state that Lake Te Anau (correctly Te Ana-au) was initially formed by the ancestor Rākaihautū, who used his digging stick to form the lake[1] . The only formal archaeological excavation that has been done in the area was at Takahē Valley by Atholl Anderson (1982). Evidence from this site shows that the inland landscape was successfully navigated by people throughout human occupation in Aotearoa. The region was known for the abundance of birds such as moa (*Dinornithidae* sp.) and later weka (*Gallirallus* sp.), takahē (*Porphyrio hochstetteri),* ducks (Anatidae family) and kiwi, and fresh water fish such as tūna (*Anguilla* sp.) and lamprey (*Geotria australis*) (Anderson 1982). Cultural knowledge confirms this observation (Blair 2018). Anderson notes that weka and takahē were hunted in the winter months when they were fattest (Anderson 1982: 61). The interior contains evidence of cooking events of tī kōuka (*Cordyline australis*) and bracken fern (*Pteridium esculentum*) (Anderson 1982). People were also travelling through the interior to extract pounamu (greenstone) from local sources.

4.3. Māori occupation around the project area

The Marakura/Upukerora River flows into the Lake Te Anau from the Livingstone Mountains. The lake drains into the Waiau River, through Lake Manapouri, and then back into the Waiau River which meets the ocean at Te Waewae Bay. This route became an important pathway for tangata whenua. It connected the coast with the interior and acted as a transport route. At the mouth confluence of the Marakura/Upukerora River, a village (kāik) was reported (Hall-Jones 1968: 30-31; Anderson 1982). Marakura refers to both the river and a kāik situated at the true left bank of the confluence of the river and the lake (although Blair (2018) reports that this kāik was also known as Whiti aka Te Rā). The name refers directly to the red algae that is in abundance throughout Lake Te Anau. Marakura is also the Māori name for Te Anau (Hall-Jones 1968). The village was reportedly occupied during the eighteenth and nineteenth centuries where Rawiri Te Awha lived when he was young. Rawiri Te Awha returned to the site in 1872 to see the pounamu that was cached there (Anderson 1982: 66). The importance of this village was highlighted as it was purportedly a site of agriculture in the interior based on European crops (ibid.). Another reference to a kāik is made at the true left bank of the Marakura/Upukerora River Mouth. This has been referred to as Te Kōwhai (Blair 2018). This kāik site was indicated by a kowhai (Sophora sp.) tree located near to the settlement. It was not clear whether this had been planted or whether it was a naturally occurring tree that had been fostered.

It is telling that the archaeological surveys in the region all occurred a long time ago because the nature of the reports mostly draw upon Taylor White's, a European who took up land at on the western side of Lake Wakatipu, original 1859 observations and it has not been relocated since. According to White, the village was destroyed by a fire. Reasons for the fire were unclear. Beattie (1955) suggests that it was a grass fire, although nobody else has commented on how it started. The location of the village was described by Mr Duncan Murray-Menzies as being "*half-way*

[1] Ngāi Tahu Cultural Atlas, Kā Huru Manu, accessed 15/May/2018

between Bluegum Point and the mouth of the Upuk" [sic], and Henry reported a "*Maori oven in a hollow, within a stone's throw of the lake… may have been within the old course of the river*" (Hall-Jones 1968: 31). This location is further west of the project area.

White's observations of the kāik included the presence of parts of the thatched roof (Beattie 1949, Hall-Jones 1968; Anderson 1982). The remains of a waka were also noted, where Beattie stated that "*the bow carving of a canoe was found buried in the sand near Marakura*" (1955: 16). The remains of charred posts were reported at the site of the village, and cooking areas with ovens were also present there. Fishing for eels and bird hunting was especially noted in the area, and the construction of eel weirs was reported (Hall-Jones 1968: 31). Areas of pounamu manufacture were reported from within the kāik (*ibid.*). Māori were using the interior of north-west Southland as travel routes for fowling, fishing and procurement of pounamu. There is historical evidence of permanent settlement at the mouth of the Marakura/Upukerora River. Hall-Jones (1968: 31-32) describes Europeans later moving through the landscape and curio-hunting through this village site.

4.4. European occupation of Te Anau

The Te Anau region was officially surveyed for a township in 1891 (Hall-Jones 1968: 146). The township was initially named Marakura, meaning red earth after the red lichen around the lake (*ibid.*). Europeans were moving through this area exploring and eventually took up pastoral runs in the area. In 1891, Te Anau had "*one large inn, one four-horse coach and half a dozen other buildings*" (Hall-Jones 1968: 147). The focus of the European settlement was around the current location of the project area and therefore outside of this project area. There is no evidence of historical European occupation within the area of gravel extraction.

5. Previous Archaeological Work

5.1. Previous Archaeological Reports

No previous archaeological reports pertaining to the recorded archaeological sites (see Section 5.2) were located in the Heritage New Zealand digital library, nor were any recent reports held by Heritage New Zealand. However, there are some general archaeological reports on the archaeology of Te Anau. Peter Coutts provided a synthesis for the archaeology of Fiordland. He noted the importance of river valleys as transport connections between inland and the coast, probably for people to undertake seasonal hunting ventures (Coutts 1982: 141-145). The most prominent archaeological investigation in the region was undertaken at Takahē Valley by Atholl Anderson in the 1970s (Anderson 1982).

Specific to Lake Te Anau, Coutts conducted an archaeological survey in the 1960s and noted eel channels as well as cooking features where people were hunting birds and harvesting cabbage trees (Coutts 1969; Coutts 1982: 145). He also identified that people were debarking trees around the Lake to make bags that were for preserving hunted animals (*ibid.*). Coutts does, however, note that the entire Fiordland region has been remarkably understudied and that potential still exists for further archaeological sites to be recognised.

5.2. NZAA site records

There are three archaeological site records (D43/1, D43/2 and D43/20) within 1.5 km of the Marakura/Upukerora River on the New Zealand Archaeological Association (NZAA) database (Figure 5 and Table 1). None of these site records are situated within the project area.

Table 1. Summary of recorded archaeological sites near to the project area.

NZAA ID	Site Type	Grid Coordinates (NZTM)	Approximate distance to the nearest point of project area	Details from Site Record Forms (See Appendix 1)
D43/1	Midden/Oven	E1187364 N4958070	1.25 km	Site recorded due to hearsay but has been repeatedly ploughed and fossicked since the 1900s. Ovens and artefacts were fossicked from the site, including greenstone and moa bone.
D43/2	Unclassified – Māori Village Site	E1187963 N4959574	0.5 km	Located at the south side of the confluence of Marakura River and Lake Te Anau. In 1859, Taylor White reported that the site consisted of several whare and evidence of European contact. It was also noted that the site had been burnt to the ground.
D43/20	Art	E1189267 N4957872	1.3 km	Site is described as a dendroglyph on a tree. Coutts (1969) has described this as potentially depicting a person during the early period, but has since degraded.

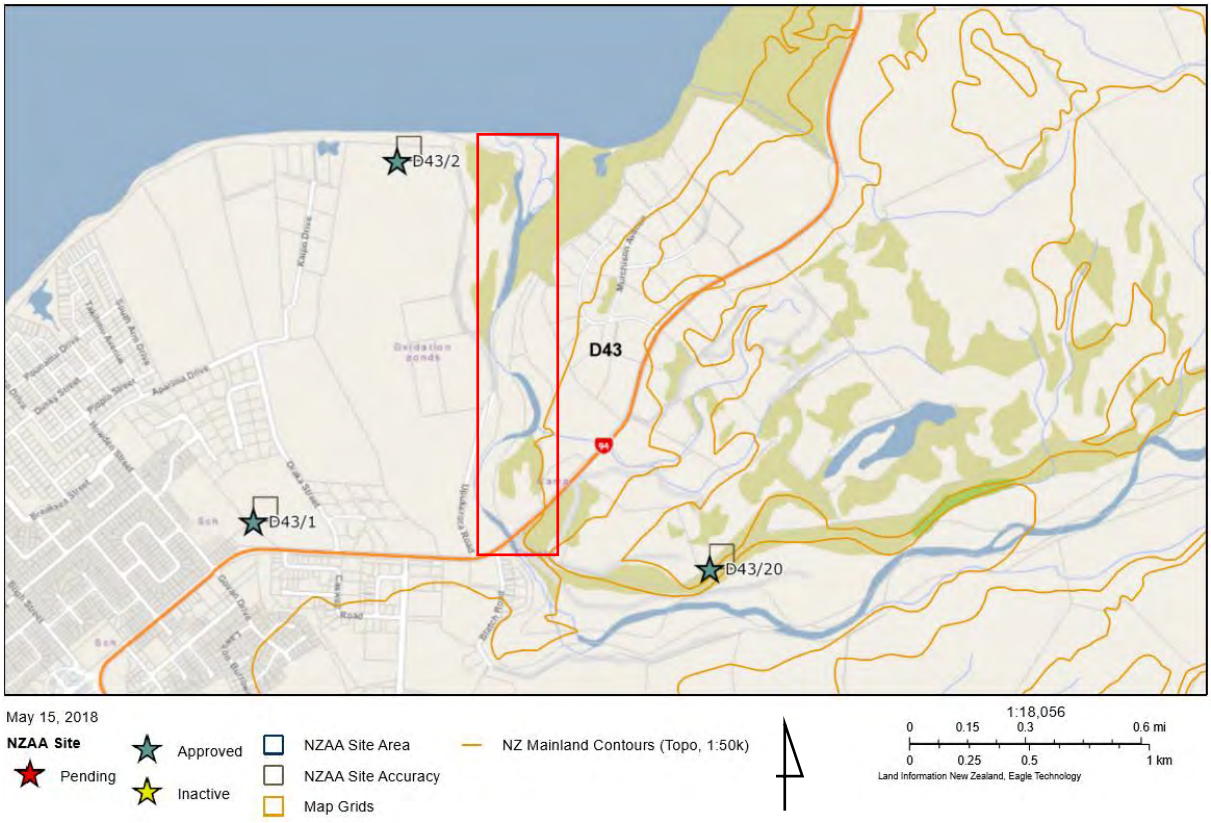


Figure 5. Map showing recorded archaeological sites near the project area (red outline; source: ArchSite).

6. Site Visit Results

Sam Kurmann, archaeologist, visited the project area on the 22nd of May 2018. She was accompanied by Stevie Blair, Te Ao Marama Inc (TAMI) and a Rūnaka member. A walk over of the project area was undertaken. The river was swollen due to the rain at the time of the visit (Figure 4).

6.1. Site/Beach 1

A walkover of the true left side of Site 1 was undertaken, as per the site area indicated in Figure 3. The area is shown in Figures 6-8. The ground consisted of river gravel in course grey brown sand matrix (Figure 9). This area has clearly been affected by flooding. Access was not possible for the true right side of Site 1. From the opposite side of the river, a patch of harakeke (flax, *Phormium tenax*) was visible, which may have been used as a marker in historic times. Also, a kōwhai tree (Figure 10) was located on the true right side of the river. No surface archaeological remains were observed during this site walkover. The project area was especially dynamic and it was unlikely that archaeological remains would survive in there.

6.2. Sites/Beaches 2 & 3

Sites 2 and 3 were visited concurrently due to their close proximity to each other. Site 2 was located to the south of the former gravel extraction area. The river was swollen due to the rain and the effects of flooding were clear, as the water was coming through scour channels over the banks of

the river. The ground consisted of the same gravel and sand material as at Site 1 (Figure 11Figure 13). No visible cultural remains were evident at the site where gravel extraction was proposed.

The true left and right sides of Site 3 were walked over (Figure 14). This is the area where the least amount of gravel extraction is proposed. The river channel was in flood at the time of the visit and it was not clear exactly where the gravel would be extracted from. However, the ground also consisted of gravel and sand as before. The area appeared to have been modified due to flooding, and also the existing gravel extraction works between Sites 1 and 2. Exotic trees were present on both sides of the Marakura/Upukerora River.

6.3. Archaeological Site D43/2

During the survey, an attempt to relocate archaeological site D43/2 was made. This site was recorded approximately 0.5 km west of Site 1. Electric deer fences prohibited access, but photographs were taken from a distance. Clearly visible in this area was the effects of the dry river bed (which is visible on aerial/satellite imagery) and old river channels ran through there. This created an undulating effect. The possibility of old tuna/eel traps in the area was suggested, although these were not visible from such a distance. No evidence of archaeological site D43/2 was encountered, although again, because of the inaccessibility the site was difficult to accurately survey.

6.4. Archaeological Site D43/20

The author also visited further upstream to try and relocate archaeological site D43/20, although this relocation was unsuccessful because it was on private land and inaccessible.

Figure 6. Photograph of the River Mouth looking east along Site 1 (taken 22 May 2018).

Figure 7. Photograph looking east along the River Mouth, Site 1 (taken 22 May 2018).

Figure 8. Photograph looking west along the River Mouth, Site 1 (taken 22 May 2018).

Figure 9. Photograph of the ground composition near the river edge on the true left bank of the river in Site 1 (taken 22 May 2018).

Figure 10. Photograph of the kōwhai tree near the project area (taken 22 May 2018).

Figure 11. Photograph showing Site 2 looking north towards the river mouth (taken 22 May 2018).

Figure 12. Photograph showing Site 2 looking south west showing the scarp of the eastern hill that bounds the river. Also visible is the exotic vegetation in Site 2 (taken 22 May 2018).

Figure 13. Photograph of site 2 looking north towards the river mouth, showing the river channel that has formed when the River is in flood (taken 22 May 2018).

Figure 14. Photograph of Site 3 from the true right bank of the River (taken 22 May 2018).

7. Archaeological and other Values

Archaeological values relate to the potential of a place to provide evidence and information on the history of New Zealand. This is framed within the existing body of archaeological knowledge and current research. Statements on archaeological values of the project area are made below in regard to the Heritage New Zealand Pouhere Taonga guidelines for writing archaeological reports. No recorded archaeological remains are situated within the project area of gravel extraction (as presented in the site plans throughout this assessment). No unrecorded archaeological remains were encountered during the site visit.

Therefore, this section presents the *potential* archaeological values in the case of encountering unrecorded archaeological sites during excavation works. The following criteria are accounted for to assess *possible* archaeological values from within the project footprint:

- Condition – is the site in good condition?
- Rarity or uniqueness – is the site notable in any other way in comparison to other sites of its kind?
- Contextual value – Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; first, the relationship between features within a site, and second, the wider context of the surroundings or setting of the site.
- Information potential – What current research questions or areas of interest could be addressed with information from the site?
- Amenity value (e.g. educational, visual, landscape) – Does the site(s) have potential for public interpretation and education?
- Cultural associations – Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Māori, European, or Chinese.

Condition

Potential site condition is unknown. It is likely that if archaeological sites did/do exist they will have been modified substantially or destroyed by flooding events around the river. The closest recorded site was reportedly burnt to the ground and the river channels near the suggested site location could indicate flooding events near to the site.

Rarity/Uniqueness

The archaeological landscape at Te Anau has not been thoroughly studied. Most of the archaeological knowledge of the area was recorded several decades ago. Therefore, if archaeological remains are encountered, these sites would likely be both rare and unique. Moreover, modern archaeological techniques could be applied to the investigation and would increase the information potential from any remains. Archaeological knowledge of the interior of the South Island, especially in this region, is limited and there is any information here would be very important.

Contextual Value

Any archaeological sites found will have contextual value as elements of inland Māori occupation.

Information Potential

If intact archaeological sites are found there will be potential for scientific information to be recovered by archaeological means, related to:

- Māori subsistence practices,
- The state of seafood resources available to them at the time,
- Timing of site formation,
- Any lithic artefacts etc., recovered can provide evidence of past interaction spheres through geological sourcing, and
- Plant macrofossils and microfossils can provide paleoenvironmental evidence.

Amenity Value

The amenity value of any sites is high. Access to the site locations is good and the sites are adjacent to a public DOC reserve (where the Marakura/Upukerora River is located).

Cultural Associations

Māori: Te Rūnanga o Ōraka-Aparima, Ngāi Tahu.

8. Assessment of Effects

8.1. Research Results

The results of the research of the site visit and the analysis of supporting documents revealed an interesting archaeological landscape at the Marakura/Upukerora River, Te Anau. The area was utilised by Māori moving through the landscape to gather inland resources such as pounamu and hunting and fishing. Moreover, the Cultural Impact Assessment indicated that the area is of high cultural significance.

There are two recorded archaeological sites within the area, however, these do not extend into the footprint of the gravel extraction area. No archaeological evidence existed within the project area. A kowhai tree of cultural significance was evident near to Site 1 of the project area. This was probably associated with the kāik at the recorded archaeological site near the river mouth, as trees were used as markers for people moving through the landscape.

No archaeological remains pertaining to European occupation of the project area were encountered, nor did the historic research indicate a high risk for encountering European archaeological sites.

While the wider area around the Marakura/Upukerora River is of cultural and archaeological significance, there is no current physical evidence to suggest that sites are present within the area of gravel extraction. As such, the likelihood for encountering unrecorded archaeological sites within the project area is considered to be low. The only areas that potential could occur are around the access tracks and care should be taken to use the access ways that already exist near the River.

8.2. Proposed works

This archaeological assessment has been prepared to evaluate the impacts of the proposed gravel extraction works at the Marakura/Upukerora River, Te Anau. The proposed works are currently under application for a resource consent to Environment Southland (also, the applicant). These works are required to remediate flood events at the river, and to provide additional protection to nearby infrastructure. The works that are proposed here include the extraction of gravel from within the river bed, using a beach skimming operation. Access for mechanical excavators and machinery to allow the skimming operation will be made using existing tracks.

8.3. Potential Effects

The results of this archaeological assessment show that tangata whenua have lived around the Marakura/Upukerora River since before European arrival to the area in the late nineteenth century. No archaeological indicators were observed during the site visit within the area, although no subsurface investigations were made as part of this assessment.

Based on the results of this research, no archaeological sites have been identified within the project area. Additionally, the area is within a dynamic river environment which changes course and floods regularly, limiting the potential for archaeological sites to have remained undisturbed. Therefore, the project works are considered to have low potential for impacting archaeological sites. With this in consideration, the works will not require an archaeological authority.

8.4. Site Management

The gravel skimming operation should proceed under an Accidental Discovery Protocol (ADP). An ADP requires that in the case of any suspected archaeological remains being encountered during the gravel skimming operation, ground works must cease immediately and the advice of an archaeologist should be sought. Contractors should be briefed about the potential to encounter archaeological remains within the project area before proceeding with the ADP.

All pre-1900 archaeological sites are protected under the provisions of the *Heritage New Zealand Pouhere Taonga Act* 2014, whether the sites are recorded or not. It is illegal to destroy, damage or modify archaeological sites without an authority from Heritage New Zealand.

The presence of a kōwhai tree is likely to indicate the kāik site located near the Marakura/Upukerora River Mouth. Works that encroach towards the tree should be avoided completely. Contractors on site should be briefed of the cultural significance of the area. Engagement with TAMI should be undertaken concerning works near the tree.

9. Recommendations

There is a low risk of encountering archaeological remains during the gravel extraction works at the Marakura/Upukerora River. The following recommendations are based on the results of the assessment. It should be noted that archaeological values differ from cultural values and therefore, slightly different recommendations may be reached here than in the CIA. The following recommendations are made:

- It is recommended that gravel extraction works proceed under an Accidental Discovery Protocol (ADP). This will require a contractor briefing.

- Works (including installation of access tracks) must not occur within 50 metres of the Kōwhai tree. Any changes in scope that may impede upon the ground in the vicinity of the tree may require changes to the recommendations of this archaeological assessment.

- Should any scope change occur that may impact an area outside of this archaeological assessment the advice of an archaeologist should be sought.

10. References

Anderson, A. 1982. 'Maori settlement in the interior of Southern New Zealand from the early 18th to late 19th centuries A.D.', *The Journal of the Polynesian Society,* pp. 53/80 [available online at http://www.jps.auckland.ac.nz/document//Volume_91_1982/Volume_91%2C_No._1/Maori_settlement_in_tht_interior_of_Southern_New_Zealand_from_the_early_18th_to_late_19th_centuries_A.D.%2C_by_A._AndeAnde%2C_p_53-80/p1].

Beattie, H. 1949. *The Maoris and Fiordland,* Otago Daily Times and Witness Newspapers Co. Ltd., Otago, New Zealand.

Beattie, H. 1955. *The Attractions of Te Anau,* Otago Daily Times Company, Otago, New Zealand.

Blair, S. 2018. 'Cultural Impact Assessment: Land Use Consent to Extract Gravel from the Marakura/Upukerora River', report prepared for Southland Regional Council (Environment Southland).

Coutts, P. 1969. 'A field survey of some traditional Māori sites in the Te Anau region', *New Zealand Archaeological Association Newsletter*, 12(4), pp. 224-227 [Available online at https://nzarchaeology.org/download/a-field-survey-of-some-traditional-maori-sites-in-the-te-anau-region].

Coutts, P. 1982. 'Fiordland', in Prickett, N. (ed.). *The First Thousand Years: Regional Perspectives in New Zealand Archaeology*. Dunmore Press Limited, Palmerston North, New Zealand, pp. 140-159.

Hall-Jones, J. 1968. *Early Fiordland,* A. H. & A. W. Reed, Wellington, New Zealand.

Manville, V. 1996. 'Sedimentology and stratigraphy of Prospect Formation, Te Anau Basin, western Southland, New Zealand', *New Zealand Journal of Geology and Geophysics,* 39(3) pp. 429-444 [Available online at https://doi.org/10.1080/00288306.1996.9514724].

Ngāi Tahu Cultural Atlas, Kā Huru Manu, accessed 15/May/2018.

Robinson, C. 2018. 'Gravel extraction from Lower Upukerora River for Flood Control Purposes', unpublished report prepared for Environment Southland, WSP-Opus.

Site Record Form, D43/1, NZAA SRS, 15/05/2018.

Site Record Form, D43/2, NZAA SRS, 15/05/2018.

Site Record Form, D43/20, NZAA SRS, 15/05/2018.

Appendix A – Site Record Forms

D43/1

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

ARCHSITE archaeological site recording scheme

Site Record Form

NZAA SITE NUMBER: D43/1

SITE TYPE: Midden/Oven

SITE NAME(s):

DATE RECORDED:

SITE COORDINATES (NZTM) Easting: 1187364 **Northing:** 4958070 **Source:** CINZAS

IMPERIAL SITE NUMBER: S140/1 **METRIC SITE NUMBER:** D43/1

Finding aids to the location of the site

The aids to relocation originally recorded seem to be for the entire south end of Lake Te Anau and the given grid reference seems to be arbitrary.

Brief description

It appears large quantities of greenstone were found here, but the area has been heavily ploughed and fossicked since about 1900. This site was recorded on the basis of hearsay information.

Recorded features

Artefact

Other sites associated with this site

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: D43/1

Site description

Condition of the site

Nothing was found during the upgrade visit and it appears the grid reference represents a large area where various artefacts and ovens have been found in the past. There are numerous land uses in the general area.

Statement of condition

Current land use:

Threats:

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: D43/1

Supporting documentation held in ArchSite

AU - - - - - - AA IS:

SITE REFERENCE FORM (PROVISIONAL)

Map number S 140
Map name (not yet published)
Grid reference N/A c. TO210

SITE NUMBER 1140/1

SITE TYPE Settlement (?)

E 177000 N 321000

In order to put certain data, admittedly very incomplete, on paper, in the hope that it can be followed up later, the following should be recorded:-

NEAR TE ANAU TOWNSHIP

In September 1961, Mrs.A.L.Naylor, of 57 Grey Street, Invercargill, reported to me that there had been a site on the 'other side' of Te Anau township. Mr. Barwell, of Brown's Pharmacy, 125 Dee Street, Invercargill, told me on 11th October 1961 that this site was on the Eglington Valley side of the township, but that it has been heavily ploughed and fossicked about 1900. There had been a lot of greenstone found there, apparently, which had been sold to England. (Mr. Barwell's source - his father.)
I think that this site may well have been just on the margin of the present township, where there is now crib development by the side of the Milford Road.
D.R.Simmons informs me that there is material from this site in the Otago Museum.

1 May 1964 P.Gathercole.

Extra information - Attached to SRF letter Dec 15 1883 In NZ JNL Science 82-4 1884 Re traces of Ovens at south end of Te Anau and the mouth of the Upekerora river - where wharves were built Moa bones found possibly cultivated Potatoes

D43/2

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

ARCHSITE archaeological site recording schema

Site Record Form

NZAA SITE NUMBER: D43/2

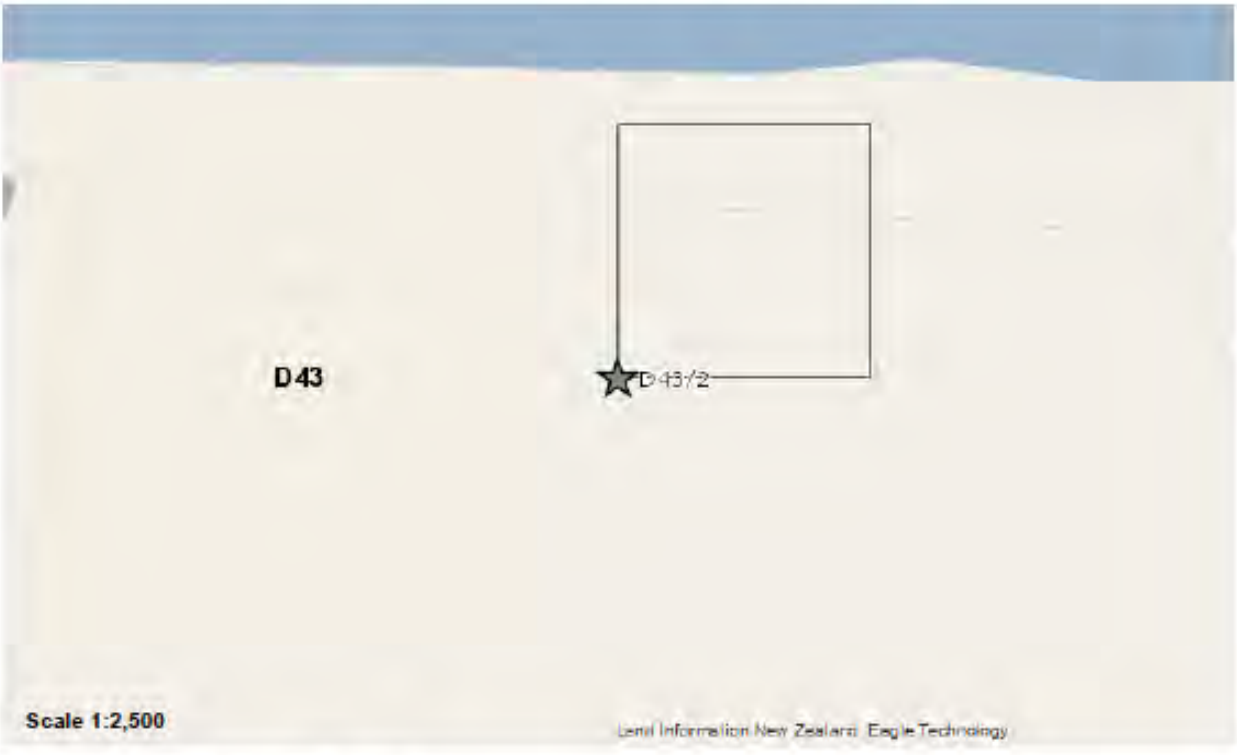
SITE TYPE: Unclassified

SITE NAME(s):

DATE RECORDED:

SITE COORDINATES (NZTM) Easting: 1187963 **Northing:** 4959574 **Source:** CINZAS

IMPERIAL SITE NUMBER: S140/3 **METRIC SITE NUMBER:** D43/2



Finding aids to the location of the site

DOC.

Brief description

Village.

Recorded features

Other sites associated with this site

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: D43/2

Supporting documentation held in ArchSite

AG AB-- C- AA Is

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD FORM

SITE NUMBER S140/3

Map number S140
Map name Te Anau
Map edition NZMS 1 1st ed. 1973
Grid Reference c.777227

SITE NAME: MAORI
OTHER Upukerora River Mouth

SITE TYPE Maori village site.

E177700 N322700

1. Aids to relocation of site
"on the south side of the Upukerora R River at the junction of the lake"

2. State of site; possibility of damage or destruction
The remains of the settlement were burned out by white settlers sometime prior to 1860.

3. Description of site (NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.)
See attached account by Taylor White, extracted from the T.N.Z.I. Vol 26 1893 p515-515.
N.B. This site is possibly the same site or part there of as that recorded as S140/1 (see S140/1 site record form). There is also a possibility the Upukerora River Mouth has changed and completely obliterated the described site.
White examined the charred remains of the Maori settlement in late 1859. He described the remains of several whares, and evidence of European contact, in the form of nails made of worked hoop iron.

4. Owner not known
Address

Tenant/Manager
Address

Attitude

Attitude

5. Methods and equipment used recorded from literature
Photographs taken: Yes/No (Describe on Photograph Record Form)
Date recorded late 1859

6. Aerial photograph or mosaic No.

Site shows:
Clearly/badly/not at all

7. Reported by Original notes re this site extracted by F.J. Teal Anthro. Dept, O.U.
Address

Filekeeper

Neville A. Ritchie
Anthropologist
Assistant Director
Southland Museum
INVERCARGILL

Date Dec 1973

Date 26/10/76

D43/20

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

ARCHSITE archaeological site recording schema

Site Record Form

NZAA SITE NUMBER: D43/20

SITE TYPE: Art

SITE NAME(s):

DATE RECORDED:

SITE COORDINATES (NZTM) Easting: 1189267 **Northing:** 4957872 **Source:** CINZAS

IMPERIAL SITE NUMBER: **METRIC SITE NUMBER:** D43/20

Finding aids to the location of the site

DOC.

Brief description

Carved tree.

Recorded features

Dendroglyph

Other sites associated with this site

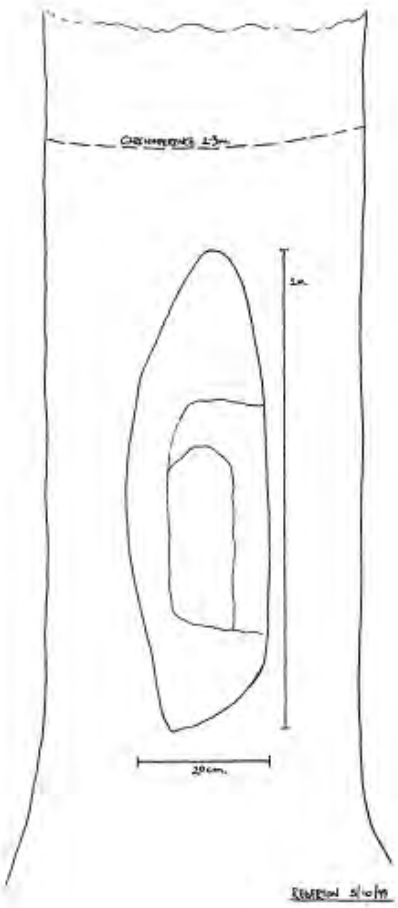
NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: D43/20

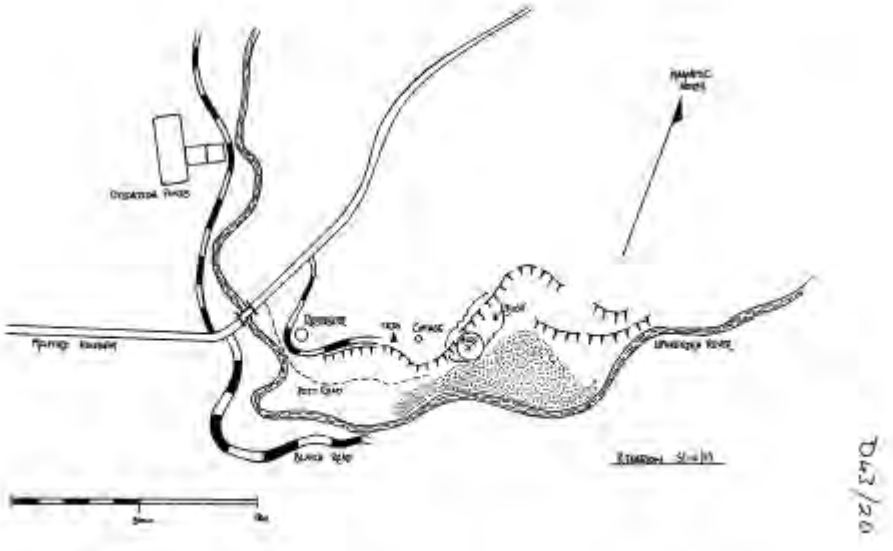
Supporting documentation held in ArchSite

D43/20

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

New Zealand Archaeological Association:
SITE RECORD FORM - NZMS 260
NZMS map number: D43
NZMS map name: Te Anau
NZMS map edition: 1

NZAA NZMS SITE NUMBER: D43/20
DATE VISITED: 30/9/99
SITE TYPE: Carved Tree
SITE NAME:
MAORI S149
~~OTHER: European~~

Grid Reference: Easting 20 993 Northing 75 198
Longitude 167 45'14" Latitude 45 24'50"

1. Aids to relocation of site (attach sketch map)
Leave the Milford Highway, walk up stream on the north bank of the Upukerora river on a dirt road past the pony club area. After walking about 1.3km (winding) the Miro tree is located in the first patch of tall bush (predominantly beech) on the steep hillside on the north of the river flat. A muddy back water (currently dry) has to be crossed then a steep climb made up the hillside (dirt). The Miro is the only one of its species in the vicinity. It has had most of its branches shorn off by trees either side which have fallen over. It is visible from the dirt road, as it is at the "front" of the patch of bush (refer to photograph and sketch map attached).

2. State of site and possible future damage
The tree has been severely damaged in recent time by the trees either side falling and removing most of its branches. This may mean the death of the tree in the near future if it is not attended to. The carving itself is in reasonable condition given its probable age. Cut marks (adze?) are still evident in some parts of the carved area, and dry rot has effected only a small portion of the 'de-barked' area. No fauna is evident in the carving, and as the tree has grown the bark has grown over some of the originally carved area is a roll. This will probably not continue or become worse.

3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here).
Mrs Irene Goldsmith advised the Department of Conservation about the tree. The first recorded inspection of the tree was by her grandfather, Captain Roberts (formerly of GSS Hinemoa, and later skipper of Towers on Lake Te Anau) in c.1906. She was taken to the tree by her father (Jim Roberts) in the late 1950s. The knowledge she has of the tree carving and its purpose has been passed down from her Grandfather, and is as follows. The tree was one of three markers (in a triangle) or four markers (in a diamond shape) used to indicate the location of a burial of a Maori person of some importance. Two other markers were probably rocks. One rock was located on the opposite bank of the Upukerora river on the steep hillside. Irene refers to it as being 'kite shaped.' In the 1950s Ted Thomas gained permission to remove the rock, but it was destroyed during the transport. The third marker, another rock, has only been located once, by Ted Roberts while pig hunting in the valley with his father, when he literally tripped over it but did not then know its significance. It has not been relocated. Irene has a story that the burial along with a cache of greenstone may have been reburied in the Borland Valley, not far from the Milford Road but is not sure that this is the same body. Irene also told that there was never any birdlife in that patch of bush in her father or grandfather's times. Ted Roberts had visited the site with Olive Bradshaw of Skiff, and she had said there had been had occurrences there. No details were given. In addition Irene has been told that Maori continued to make a regular journey through the area, perhaps to visit the location, passing through Lynwood Homestead, up until around 1896.

The carved tree is the only Miro amongst a stand of Beech forest on the steep hillside on the north of the Upukerora river flat. The carving faces to the north east (60). It measures 1m from top to bottom, and is 20cm wide at its widest point. The circumference of the tree is 2.3m. (Drawing attached.)

4. Owner: Crown. Marginal Strip (Land administered by DOC) Tenant/Manager: Te Anau Area Office
Address: Address: PO Box 29 Te Anau

5. Nature of information (fieldtrip, brief or extended visit, etc.): Reported by Irene Goldsmith. Visited by Rachael Egerton, DOC with Irene, Rangimarie Te Maihaera, and Evan ?, on 30/9/99.
Photographs (reference numbers, and where they are held): Copies attached. Negatives held by DOC Te Anau Area Office.
Aerial photographs (reference numbers, and clarity of site):

6. Reported by: Rachael Egerton, Department of Conservation. Fileskeeper: Kari Gillies
Address: PO Box 29, Te Anau Date: ~~October 1999~~ 2-6-2000

7. Key words: Maori, Te Anau, Upukerora, tree

8. New Zealand Register of Archaeological Sites (for office use)
NZHPT Site Field Cards

CP = Type of site CC = Present condition and future danger of destruction
= Local environment today = Security code
BL = Land classification TT = Local body

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Memorandum

To	Christie Robinson
Copy	Luke McSoriley
From	Sam Kurmann
Office	Dunedin Office
Date	14 June 2018
Subject	Archaeology Risk at Marakura/Upukerora River, Te Anau

1 Introduction

This archaeological risk check has been prepared for the proposed installation of groynes along the Marakura/Upukerora River, Te Anau (Figure 1). The proposed works involve installation of the groynes and involves some excavation to the cliff and bank face, directly adjacent to the river bank (Figure 2).

The purpose of this document is to present the recommendations for managing archaeological risk associated with these works. It also presents the requirements for an Accidental Discovery Protocol (ADP) to be implemented for this project.

Figure 1. Location of site works (blue outline) along the Marakura/Upukerora River.

Figure 2. Location plan for groynes installation (supplied).

1.1 Scope

This memo has been prepared following a request from Christie Robinson to assess the archaeological risk at the site of installation of 10 groyne structures at the Marakura/Upukerora River, Te Anau. The project location is approximately 1.4 km upstream (east) of the State Highway 94 Te Anau-Milford bridge, on the true left margin of the river bed (Figure 2).

This memorandum is informed by the New Zealand Archaeological Association Site Recording Scheme database and a brief site visit that was undertaken on the 22nd of May 2018. No below ground investigations were made and the true left bank of the river was only seen from a distance due to access to the site location and the river being in flood.

2 Definition of an Archaeological Site

An archaeological site is defined in the *Heritage New Zealand Pouhere Taonga Act* 2014 as any place in New Zealand that either:

(a) i) was associated with human activity before 1900; or

ii) is the site of the wreck of any vessel where the wreck occurred before 1900; and

(b) is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand.

It is illegal to destroy or modify an archaeological site without an authority from Heritage New Zealand Pouhere Taonga.

3 Limitations of this Memo

This review does not present the views of local iwi regarding the cultural significance of the area. Such assessments can only be made by tangata whenua as Māori concerns may encompass a wider range of values than those associated with archaeological sites.

The advice presented here is only for the project design described and does not account for any changes to project scope, design or footprint unless otherwise stated. This memo is not a complete archaeological assessment.

4 Results

No archaeological sites have been recorded within 100 metres of the project area. The nearest recorded site (D43/20) is located approximately 500 metres away from the river on the hill north west of the project area. The site was recorded as a dendroglyph on a miro tree.

The Marakura/Upukerora River is a place of importance to Tangata Whenua. The river was used as part of a network for fowling and fishing, as well as resource procurement (Blair 2018; Kurmann 2018). At the confluence of the Marakura/Upukerora River and Lake Te Anau, three kāik (settlements) have been reported.

The visit to the site did not reveal any indicators of archaeological remains. The ground on the true right side of the river consisted of water rolled gravel with sandy silt within it. The ground on the true left side of the river was not accessible for close inspection. However, from a distance, the ground appeared to have eroded out of the exposed scarp (Figures 3 and 4). The exposed scarp consisted of alluvially deposited gravels with a moderately developed topsoil. Most of the project works will occur below this scarp, within the area of eroded ground in the river channel.

5 Conclusion and Recommendations

No archaeological remains were evident within the project area. Considering the above information, it is recommended that an Accidental Discovery Protocol (ADP) should be followed to manage any unexpected archaeological discoveries. Please note that only an archaeologist is suitably qualified to recommend that site works are undertaken following an Accidental Discovery Protocol (ADP).

Figure 3. View of the eastern extent of the project area from the true right of the river (taken 22 May 2018).

Figure 4. View of the western extent of the project area from the true right side of the river (taken 22 May 2018).

6 Accidental Discovery Protocol (ADP)

In the event of any discovery of suspected archaeological remains:

1. The contractor/digger operator must cease all physical works immediately within a 20 metre radius of the find and advise the Site Manager or Foreman.

2. The Site Manager or Foreman shall secure the find area to prevent further damage and report the find to the Project Manager and Project Archaeologist immediately. Where no Project Archaeologist has been appointed, the Project Manager should contact Heritage New Zealand Pouhere Taonga (Heritage NZ) to report the find.

3. The Project Archaeologist, or representative from Heritage NZ, will attend to the site as soon as possible and advise the Project Manager on whether the find is archaeological or not and how best to proceed.

4. If the find is confirmed as archaeological, then Heritage NZ must be contacted immediately to report the find and an Authority sought for the remaining earthworks. Site works must remain stood down during the application, processing and appeal periods for the Authority decision. Please note, this can result in a delay to works of up to 40 working days depending on how quickly an application can be lodged with Heritage New Zealand.

5. If human remains (koiwi tangata), then the Project Manager must also contact NZ Police and, in the case of Māori remains, the appropriate iwi group or kaitiaki representative, and seek advice for how to proceed. The remains must not be moved or disturbed further until a process for repatriation has been agreed to between all parties.

6. Once an Authority has been obtained from Heritage NZ, the Project Archaeologist will then attend site and formerly record and investigate the find before any physical works proceed. The Project Archaeologist will advise the Project Manager when physical works can resume in the location of the find.

It is an offence under S.87 of the *Heritage New Zealand Pouhere Taonga Act 2014* to modify or destroy an archaeological site without an Archaeological Authority from Heritage New Zealand irrespective of whether the works are permitted or consent has been issued under the Resource Management Act.

This protocol does not apply when an Authority issued under the *Heritage New Zealand Pouhere Taonga Act* 2014 is in place.

IF IN DOUBT, STOP AND ASK; TAKE A PHOTO AND SEND IT TO THE PROJECT ARCHAEOLOGIST

6.1 Archaeological Indicators

The archaeological remains may look like the following:

- Shell or bone midden;
- Charcoal stained soil in association with shell, charcoal concentrations or oven stones.

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