

# 1

# Resource Consent Application



This application is made under Section 88 of the Resource Management Act 1991.

### Charges/Deposits

A deposit **must** accompany the application (see page 7 for amounts). The applicant will be invoiced for all costs incurred in processing this application that exceed the deposit.

Please note that Council cannot accept electronic lodgement of applications at this time.

(For Office Use Only)

Deposit Paid: \$5000.00  
chg.

Please complete the application in pen. For questions marked with an \* you will find notes on page 4

### 1. \*Applicant(s) Details

Applicant(s) name(s) in full: Southern Clams Ltd

Attention: Mr Roger Belton

OR Company Name (in full) Southern Clams Ltd

OR Names of Trustees (in full) if Applicant is a Trust \_\_\_\_\_

or Name of Incorporation \_\_\_\_\_

Postal Address PO Box 483  
Dunedin  
Post Code 9016

Street Address (not a P O box number) 16 Bombay Street  
Dunedin, New Zealand  
Post Code 9016

Phone Number Business 03 477 1505 Private \_\_\_\_\_  
Mobile 027 224 9487 Fax 03 479 2698

Email Address dave@nzclams.com / roger@nzclams.com

### 2. Consultant/Contact Details (if not applicant)

Name of Consultant/ Contact Person:  
Ron Sutherland

Postal Address PALMS Ltd  
PO Box 751  
BLENHEIM Post Code 7420

Phone Number Business 03 578 1733 Private \_\_\_\_\_  
Mobile 027 220 7299 Fax 03 578 1797

Email Address palmsltd@xtra.co.nz

### 3. a) \*Are there any current or expired resource consents relating to this proposal?

Yes  No

If yes, give Consent Number(s) and Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**b) Has there been a previous application for this activity that was returned as incomplete?**

Yes       No

If yes, give Consent Number(s) and Description: CRC/RM 13.108  
Application for consent to occupy Coastal Marine Area for aquaculture purposes.  
\_\_\_\_\_  
\_\_\_\_\_

**c) Have you a pre-application lodged with Council for this activity?**

Yes       No

If yes, give pre-application Number(s) and Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**d) Have you spoken to a Council staff member about this application prior to lodging this application?**

Yes       No      If yes, please state name of staff member \_\_\_\_\_

**4. The applicant is (tick one):**  owner     leasee     prospective purchaser    **of the land on which the activity occurs.**

**5. \*Who is the owner of the land on which the activity occurs/is to occur? (only complete if applicant is not the landowner)**

Name of landowner:      CROWN  
Postal Address      \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ Post Code \_\_\_\_\_  
Phone Number      Business \_\_\_\_\_      Private \_\_\_\_\_  
   Mobile \_\_\_\_\_      Fax \_\_\_\_\_  
Email Address      \_\_\_\_\_

**6. \*Who is the occupier of the land on which the activity occurs/is to occur? (only complete if the applicant is not the land occupier)**

Name of land occupier      N/A  
Postal Address      \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ Post Code \_\_\_\_\_  
Phone Number      Business \_\_\_\_\_      Private \_\_\_\_\_  
   Mobile \_\_\_\_\_      Fax \_\_\_\_\_  
Email Address      \_\_\_\_\_

**7. \*Who leases the land on which the activity occurs/is to occur? (only complete if land is leased and it is not leased to the applicant)**

Name of land lease N/A

Postal Address \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ Post Code \_\_\_\_\_

Phone Number Business \_\_\_\_\_ Private \_\_\_\_\_  
 Mobile \_\_\_\_\_ Fax \_\_\_\_\_

Email Address \_\_\_\_\_

**8. Tick the consents required in relation to this proposal:**

Water

- Take Surface Water
- Take Groundwater
- Divert
- Dam

Discharge onto or into:

- Land
- Water
- Air

Land Use:

- Bore construction
- Bore alteration
- Activities in or on beds of lakes or rivers or floodbanks
- Disturbance of contaminated land

Coastal:

- Activities in the coastal marine area (i.e., below mean high water spring tide)?

*Where you have indicated that a consent is required, you must complete the appropriate Application Form before your application can be processed. Application Forms can be found on the Council's website: [www.orc.govt.nz](http://www.orc.govt.nz)*

**9. What is the maximum term of consent you are seeking?** 35 years

**10. Territorial Local Authority in which activity is situated?**

- Dunedin City Council
- Clutha District Council
- Central Otago District Council
- Queenstown Lakes District Council
- Waitaki District Council

**11. \*Do you require any other resource consent from any local authority for this activity?**

Yes   No

If Yes, please list: \_\_\_\_\_

Have these consents been applied for/issued? Yes No

If Yes, please give the date applied for or issued: \_\_\_\_\_

## Notes on Application Form Details

### 1. Applicant(s) Details

A resource consent can only be held by a legal organisation or fully named individual(s). A legal organisation includes a limited company, incorporated group or registered trust. If the application is for a trust the full names of all trustees are required. If the application is not for a limited company, incorporated group or trust, then you must use fully named individual(s).

### 2. Consultant/Contact Details

If you are using a consultant/agent for this application put their details here. If you are not, leave question 2 blank.

### 3. Previous Consent

Do you currently have a resource consent to do the activity that you are applying to renew with this application? If so, please enter the permit number if known and a brief description including the date of issue and the expiry date.

### 5-7 Landowner, occupier and leasee

If you are not the landowner, land occupier or leasee of the land where the activity will be undertaken, you may be required to obtain their unconditional written approval to your application. On pg 6 there is a form that can be used.

### 11. Additional Consents

If you are carrying out earthworks or building work you may need other consents from either the ORC or your Territorial Local Authority.

## Declaration

**Before signing the declaration below, in order to provide a complete application have you remembered to:**

Fully completed this Form 1 and the necessary Application Forms

Attached the required deposit. (see pg 8 for amounts)  
*Cheques payable to Otago Regional Council*

**Please note:** your deposit may not cover the entire cost of processing your application. At the end of the application process you will be invoiced for any costs that exceed the deposit. Interim invoices may be sent out for applications, where appropriate.

**If the required deposit does not accompany your application, staff will contact you on the number provided on this form to request payment and after 3 working days your application will returned if no further payment is made for the required deposit.**

**I/we hereby certify that to the best of my/our knowledge and belief, the information given in this application is true and correct.**

**I/we undertake to pay all actual and reasonable application processing costs incurred by the Otago Regional Council.**

Name/s DAVID C REDSHAW  
(BLOCK CAPITALS)

Signature/s D. Redshaw  
(or person authorised to sign on behalf of applicant)

Designation Operations Manager Date 25/7/14  
(e.g., owner, manager, consultant)

Otago Regional Council Postal Address: 70 Stafford St, Private Bag 1954, Dunedin 9054



**Written Approvals of Persons Likely to be Adversely Affected**



I/We (Please print full name/s) \_\_\_\_\_  
of (Address) \_\_\_\_\_  
have studied the proposal by (Applicant) \_\_\_\_\_  
for a Resource Consent (Number) \_\_\_\_\_ to \_\_\_\_\_  
and give my/our written approval to the proposed activity/activities.  
Signature/s \_\_\_\_\_ Date \_\_\_\_\_  
*(or person authorised to sign on behalf of affected party/parties)*  
Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

**Please note:** If this application is subsequently notified the above approval does not constitute a submission as required under Section 96 of the Resource Management Act 1991.

I/We (Please print full name/s) \_\_\_\_\_  
of (Address) \_\_\_\_\_  
have studied the proposal by (Applicant) \_\_\_\_\_  
for a Resource Consent (Number) \_\_\_\_\_ to \_\_\_\_\_  
and give my/our written approval to the proposed activity/activities.  
Signature/s \_\_\_\_\_ Date \_\_\_\_\_  
*(or person authorised to sign on behalf of affected party/parties)*  
Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

**Please note:** If this application is subsequently notified the above approval does not constitute a submission as required under Section 96 of the Resource Management Act 1991.

I/We (Please print full name/s) \_\_\_\_\_  
of (Address) \_\_\_\_\_  
have studied the proposal by (Applicant) \_\_\_\_\_  
for a Resource Consent (Number) \_\_\_\_\_ to \_\_\_\_\_  
and give my/our written approval to the proposed activity/activities.  
Signature/s \_\_\_\_\_ Date \_\_\_\_\_  
*(or person authorised to sign on behalf of affected party/parties)*  
Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

**Please note:** If this application is subsequently notified the above approval does not constitute a submission as required under Section 96 of the Resource Management Act 1991.

## Consultation

Under Section 95E of the Resource Management Act 1991 (the Act) the Council will identify affected parties to an application and if the application is to be processed on a non-notified basis the unconditional written approval of affected parties will be required. Consultation with potentially affected parties and interested parties can be commenced prior to lodging the application.

Consultation may also be required with the appropriate Tangata Whenua for the area. The address of the local Iwi office is: Kai Tahu ki Otago Ltd, P O Box 446, Level 1, 258 Stuart Street, Central City, Dunedin, Fax (03) 477-0072, Phone (03) 477-0071, email: info@kthkold.co.nz. If you require further advice please contact the Otago Regional Council.

Good consultation practices include:

- Giving people sufficient information to understand your proposal and the likely effects it may have on them
- Allowing sufficient time for them to assess and respond to the information
- Considering and taking into account their responses

## Information Requirements

In order for any consent application to be processed efficiently in the minimum time and at minimum cost, it is critical that as much relevant information as possible is included with the application. **Where an application is significantly incomplete, the Consent Authority may decide not to accept the application for processing.**

An application for a resource consent must include an Assessment of Effects as outlined in the Fourth Schedule of the Resource Management Act 1991 and reproduced below. The extent of detail required should be relative to the scale and significance of the potential adverse effects the activity may have on the receiving environment.

### **Resource Management Act 1991**

#### **FOURTH SCHEDULE—ASSESSMENT OF EFFECTS ON THE ENVIRONMENT**

1. **Matters that should be included in an assessment of effects on the environment –**  
Subject to the provisions of any policy statement or plan, an assessment of effects on the environment for the purpose of section 88(6)(b) should include:
  - (a) A description of the proposal.
  - (b) Where it is likely that an activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity.
  - (c) *Repealed, as from 7 July 1993, by s 225 Resource Management Act 1993 (1993 No 65).*
  - (d) An assessment of the actual or potential effect on the environment of the proposed activity.
  - (e) Where the activity includes the use of hazardous substances and installations, an assessment of any risks to the environment which are likely to arise from such use.
  - (f) Where the activity includes the discharge of any contaminant, a description of:
    - i). The nature of the discharge and the sensitivity of the proposed receiving environment to adverse effects; and
    - ii). Any possible alternative methods of discharge, including discharge into any other receiving environment.
  - (g) A description of the mitigation measures (safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect.
  - (h) An identification of those persons interested in or affected by the proposal, the consultation undertaken, and any response to the views of those consulted.
  - (i) Where the scale or significance of the activity's effect are such that monitoring is required, a description of how, once the proposal is approved, effects will be monitored and by whom.
2. **Matters that should be considered when preparing an assessment of effects on the environment –** Subject to the provisions of any policy statement or plan, any person preparing an assessment of the effects on the environment should consider the following matters:
  - (a) Any effect on those in the neighbourhood and, where relevant, the wider community including any socio-economic and cultural effects.
  - (b) Any physical effect on the locality, including any landscape and visual effects.
  - (c) Any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity.
  - (d) Any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural, or other special value for present or future generations.
  - (e) Any discharge of contaminants into the environment, including any unreasonable emission of noise and options for the treatment and disposal of contaminants.
  - (f) Any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations.

Set out below are details of the amounts payable for those activities to be funded by fees and charges, as authorised by s36(1) of the Resource Management Act 1991.

### Resource Consent Application Fees (from 1 July 2012)

Note that the fees shown below are a **deposit** to be paid on lodgement of a consent application and applications for exemptions in respect of water metering devices. This deposit will not usually cover the full cost of processing the application, and further costs are incurred at the rate shown in the scale of charges. GST is included in all fees and charges.

<b>Publicly Notified Applications:</b> 3	<b>\$</b>
First application	5,000.00
Concurrent applications	225.00

<b>Non Notified Applications and Limited Notified Applications:</b> 3	<b>\$</b>
First application (except those below)	1,000.00
Concurrent applications 1	50.00
Administrative variation	500.00
Exemptions from water measuring Regulations	200.00
Bores	500.00
Gravel	500.00

Hearings Per Note 2 below

<b>Transfers and Certificates Deposits:</b>	<b>\$</b>
Transfer of Mining Privilege	100.00
Transfer – other	100.00
Priority Table	100.00
Section 417 Certificate	200.00
Certificate of Compliance	200.00
Section 125 – Extension of Term	100.00
All Other Costs	As per Scale of Charges

<b>Scale of Charges:</b>	<b>From 1 July 2012</b>
	<b>\$</b>
Staff time per hour:	
* Executive staff	235.00
* Senior Technical/Scientist	147.00
* Technical/Scientist	94.00
* Administration	77.00
Disbursements	Actual
Additional site notice	Actual
Advertisements	Actual
Vehicle use per kilometre	0.70
Travel and accommodation	Actual
Testing charges	Actual
Consultants	Actual

**Notes**

1. For additional permits in respect of the same site, activity, applicant, time of application, and closely related effect as the first application.
2. The deposit payable shall be 90% of the cost of a hearing as calculated by Council in accordance with information contained in the application file and using the scale of charges. The amount payable will be due at least 10 working days before the commencement of the hearing. If the amount is not paid by the due date, then the Otago Regional Council reserves the right under S36 (7) of the Resource Management Act to stop processing the application. This may include cancellation of the hearing.

Should a hearing be cancelled or postponed due to the non payment of the charge, the applicant will be invoiced for any costs that arise from that cancellation or postponement.

Following completion of the hearing process, any shortfall in the recovery of hearing costs will be invoiced, or any over recovery will be refunded to the applicant.

Under Section 100A of the RMA, one or more submitters may make a request to have a resource consent application heard by one or more hearing commissioners who are not members of Council. In this case the applicant will pay the amount that Council estimates it would cost for the application to be heard had the request not been made, and the submitter(s) who made the request will pay, in equal shares, the cost of the application being heard that exceeds that amount payable by the applicant.

Further, the applicant may request to have a resource consent application heard by one or more hearing commissioners who are not members of Council. In this case, the applicant will pay the full costs.

3. Where actual and reasonable costs are less than the deposit paid, a refund will be given.

**Review of Consent Conditions**

Following the granting of a consent, a subsequent review of consent conditions may be carried out at either request of the consent holder, or, as authorised under Section 128, as a requirement of Council. Costs incurred in undertaking such reviews will be payable by the consent holder at the rates shown in the Scale of Charges above

## Compliance Monitoring Charges (from 1 July 2012)

### 1. Performance Monitoring

The following charges will apply to the review of performance monitoring reports for all consent holders, except those listed in section 1.4 below. The charges shown are annual fixed fees per performance monitoring report or plan, and are inclusive of GST.

	<b>From 1 July 2012</b>
	<b>\$</b>
<b>1.1. Discharge to Air Consent</b>	
Measurement of contaminants from a Stack report	38.50
Ambient air quality measurement of contaminants report	66.50
Management plans and maintenance records	33.50
Annual Assessment report	66.50
<b>1.2. Discharge to Water, Land and Coast \$</b>	
• Effluent Systems	Environmental Quality report 31.00
• Active Landfills	Environmental Quality report 38.50
	Annual Assessment report 87.00
	Management Plans 174.00
• Closed Landfills	Environmental report 23.00
	Annual Assessment report 23.00
	Management Plans 87.00
• Stormwater	Environmental Quality report 20.50
	Management Plans 87.00
• Industrial Discharges	Effluent quality report 28.00
	Environmental report 61.50
	Annual Assessment report 77.00
	Management Plans 174.00
<b>1.3. Water Takes</b>	
Calibration data reports	13.00
Manual return of data per take	66.50
Datalogger return of data per take sent to ORC	23.00
Datalogger return of data per take collected by ORC	Collection costs + 23.00
Telemetry data per consent	33.50
Low flow monitoring charge*	
- Kakanui at McCones	327.00
- Unnamed Stream at Gemmels	1,431.00

\*Charge for monitoring sites established by the ORC specifically to monitor consented activities in relation to river flows.

### 1.4. Set Fees for Specific Consent Holders

Performance monitoring fees as shown below will apply to the following consent holders:

Dunedin City Council	\$15,890.00
Central Otago District Council	\$5,409.00
Clutha District Council	\$8,358.00
Queenstown Lakes District Council	\$7,629.00
Waitaki District Council	\$5,753.00
Oceana Gold	\$53,043.00
Ravensdown	\$5,742.00
Contact Energy \$	4,262.00
Trustpower	\$3,381.00
Pioneer Generation	\$2,792.00

### 2. Audit

Audit work will be charged at half of the actual cost incurred, with the actual costs being calculated using the Scale of Charges.

### 3. Non-Compliance, Incidents and Complaints

Enforcement work on consent conditions, and remedying negative effects from permitted activities – Scale of Charges.

### 4. Consent Establishment Inspections

One off inspection by Council on establishment work carried out by consent holders – \$150.00 (incl. GST), from 1 October 2010 - \$155.00

### Gravel Inspection and Management

Gravel extraction fee – \$0.66 per cubic metre (incl. GST). Where more than 10,000 cubic metres of gravel is extracted within a prior notified continuous two month period, the actual inspection and management costs will be charged, as approved by the Director Corporate Services.

**RESOURCE CONSENT APPLICATION  
BY SOUTHERN CLAMS LTD  
TO ESTABLISH THREE AQUACULTURE SITES  
WITHIN OTAGO HARBOUR**

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**ASSESSMENT OF ENVIRONMENTAL IMPACT FOR A COASTAL PERMIT  
OCCUPANCY AND DISTURBANCE OF THE SEABED**

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PREPARED FOR  
**SOUTHERN CLAMS LTD**

PREPARED BY  
**RD SUTHERLAND - PALMS LTD**

Version: 5 Aug 2014

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**ASSESSMENT OF ENVIRONMENTAL IMPACT  
FOR A COASTAL PERMIT OCCUPANCY  
AND DISTURBANCE OF THE SEABED**

**APPLICATION BY SOUTHERN CLAMS LTD TO  
ESTABLISH THREE AQUACULTURE SITES WITHIN OTAGO HARBOUR**

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## **1 The Proposal**

Southern Clams Ltd wish to establish three sites within Otago Harbour for aquaculture purposes. Each area is as defined on the attached site plans.

They are;

- i. Site 1804/1 11.41ha
- ii. Site 1804/2 9.05ha
- iii. Site 1805/3 6.80ha

All sites are allied to existing shellfish sanitation programmes being (1804 and 1805) and as a consequence holding shellfish on these sites will fall under the umbrella of each sanitation programme (see Section 4.0, National Shellfish Sanitation Programme, Section 9.0, Water Quality Effects, Biotoxins, and Biosecurity). The existing shellfish sanitation growing water areas for 1804 and 1805 would need to be extended (by 20.46ha for 1804 and 5.6ha for 1805) in order to include all of the proposed aquaculture areas.

## **2 Structures**

The following structures will be installed;

Long-lines will be anchored to the seabed with either concrete block anchors or screw anchors (the anchor system for each long-line will be determined by water depth and seabed materials. Each long-line will be a cable backbone and will be supported by double ended floats. On the outside line a navigation light and radar reflector will be installed. Shellfish will be held in cages, up to three deep and a metre long (see photos 1 & 2). The end float for each line will be red and have the owner's name and consent number marked on it.

Diagram 1 - 4 illustrates long-line layout for site 1804/1

Diagram 5 - 8 illustrates long-line layout for site 1804/2

Diagram 9 - 12 illustrates long-line layout for site 1805/3

A site elevation plan, which will be common to all sites, is presented to indicate how the site will be depicted sub surface. (Diagrams 4, 8 and 12)

### **2.1 Site 1804/1 Structures and Layout**

The site is 400m long and 310m wide. Diagrams 1-4 illustrate site location, site dimensions and long-line layout.



There will be three blocks of long-lines, each block with up to 10 long-lines, with a total of 30 long-lines for the site. Each backbone is 123m long, total backbone length will be 3690m. There will be two 10m gaps through the blocks of long-lines that will allow boat access for crop management and transit.

Long-lines spacing's are at 15m and warps to anchors will be 10m to block or screw anchors. An orange float will be placed at the end of each line and at the centre of the three lines on the western side of the site. Up to 15 surface floats per long-line will be used.

Some 145m in the west side of the site will be unutilised

SEPA baskets will be hung from the backbone (see photos 1 & 2, page 4).

## **2.2 Site 1804/2 Structures and Layout**

The site has boundary dimensions of 255m wide and 355.10m long. Diagrams 5-8 illustrate site location, site dimensions and long-line layout.

There will be three blocks of long-lines, each block will have up to 9 long-lines, with a total of 27 long-lines for the site. This will give a total backbone length of 2529m. There will be two access gaps, one of 24m and the other 26m between the blocks of long-lines for crop management and limited access.

Long-lines spacing's are at 15m and warps to anchors will be 10m to block or screw anchors. An orange float will be placed at the end of each line and at the centre of the three lines on the western side of the site. Up to 15 surface floats per long-line will be used.

The long-lines will occupy 135m, while the inner zone of 128.5m will have no structures installed and be clear of structures.

SEPA baskets will be hung from the backbone (see photos 1 & 2, page 4).

## **2.3 Site 1805/3 Structures and Layout**

The site has boundary dimensions of 170m wide and 400m long. Diagrams 9-12 illustrate site location, site dimensions and long-line layout.

There will be three blocks of long-lines, each with up to 6 long-lines per block, with a total of 18 long-lines for the site. The back bone lengths are 108m long, with a total backbone length of 1944m. There will be two 20m access gaps between the blocks of long-lines that will allow boat access for crop management and transit.

Long-lines spacing's are at 15m and warps to anchors will be 10m to block or screw anchors. An orange float will be placed at the end of each line and at the centre of the three lines on the western side of the site. Up to 15 surface floats per long-line will be used.

The long-lines will occupy 95m, while the inner zone of 9.0m will have no structures installed and be clear of structures.

SEPA baskets will be hung from the backbone (see photos 1 & 2, page 4).

### **3 Species to be farmed.**

Species proposed to be farmed include the following;

- i. Bluff Oysters
- ii. Queen Scallops
- iii. Tuaki – Clams
- iv. Paddle Crabs

#### **3.1 Bluff Oysters**

Bluff Oysters will be sourced from a hatchery in Bluff Harbour where they will grow until near marketable size. The oysters will then be transported to Dunedin loaded in baskets at approximately 10kg per basket and held in water of the harbour for 2-8 weeks before being marketed live either in New Zealand, or exported.

#### **3.2 Queen Scallops**

Queen Scallops are locally caught off the Otago coast under quota by the company and other fishermen and sold direct to market or frozen. Development of an aquaculture holding area will enable the company to hold scallops and allow sale of fresh product.

#### **3.3 Tuaki - Clams**

The company currently harvests clams on sand banks within the harbour. Clams are harvested and processed at the Company's Dunedin Factory and then shipped live to New Zealand and overseas markets. The company from time to time harvest product that is oversized for the market and wish to hold larger harvested stock for short for specific markets.

#### **3.4 Paddle Crabs**

Paddle Crabs are marketed by Southern Clams after the crabs are caught by commercial fishermen. Having a facility to hold the crabs for short periods will assist in keeping crabs in seawater until a reasonable number are congregated for sale.

## **4 Management Process for the Crop**

### **4.1 National Shellfish Sanitation Programme**

#### **4.1.1 Background**

Southern Clams Ltd operates under protocols of the New Zealand National Biotxin Plan for sites 1804 and 1805. The National Plan had its original base arising from the 1980 Shellfish Memorandum of Understanding between the United States Food and Drug Administration, and the then MAF (now MPI) in which MAF agreed to operate in accordance with the National Shellfish Sanitation Programme Manual of Operations, Parts I and II. In 2006 the National Marine Biotxin Management Plan was made redundant by the revocation of the Meat Act 1981, and the introduction and implementation of the Animal Products (Specification for Molluscan Bivalve Shellfish) Notice 2006.

The Animal Products (Specification for Bivalve Molluscan Shellfish) Notice 2006 sets out the necessary requirements in order to meet specifications of the RCS-BMS. Clause 45 requires the development



and implementation of a marine Biotoxin management plan for each growing area in consultation with the shellfish industry.

The plan is designed to meet the requirements of the Animal Products (Specification for Bivalve Molluscan Shellfish) Notice 2006 and covers shellfish growing areas 1804 and 1805, and is applicable to Littleneck Clams and Queen Scallops. Application to extend the range of species covered will be made should this application for consent be successful.

#### **4.1.2 Monitoring and Sampling under the Sanitation Plan**

Representative samples of BMS are collected from harvested product at the factory by the QA Manager and sent for testing for the presence of toxins during harvesting seasons.

Littleneck Clams and Queen Scallops are sampled and tested as indicated by results and closures (see Section 9.0)

Phytoplankton sampling is not carried out as a formal part of this commercial Biotoxin monitoring programme, but relies on the non-commercial Biotoxin programme (site PI013,) to supply this information. The laboratory at Cawthron is aware of the Southern Clams analysis schedule and co-ordinates the flesh sampling in accordance with the non-commercial results from the phytoplankton sampling. Both Aquatic Reporting and Compliance (ARC) and Southern Clams are in receipt of results from weekly samples from the non-commercial sites at the harbour entrance.

Phytoplankton samples are collected from Blueskin Bay on a weekly basis by laboratory staff at Portobello Marine Lab and analysed to provide a support programme (non-commercial) to the shellfish testing programme by way of an early warning system.

In Otago growing areas, 'background levels' of marine Biotoxins are considered to be 'not detected'.

#### **4.2 Crop Management**

Oysters are the primary shellfish to be held. They will be delivered to the company and loaded into SEPA baskets as depicted in photos (1) and (2) on page 4.

The long-line float system is the least intrusive method of holding oysters as regards to physical disturbance of the seabed. The baskets will be taken by the companies work boat and hung and labelled on long-lines. Each shipment will be held as a separate tagged entity by both block and long-line to enable the requirements of the shellfish sanitation programme to be met.

On completion of the holding period oysters will be retrieved and dispatched to the company's factory for processing and packaging prior to dispatch for local or export markets. Monitoring of the crop will be a regular occurrence between three and six visits per week dependent on arrivals of product and market demands. Much of the activity will also be tied to the company's existing harvest of clams. The process of a crop management will be complementary.

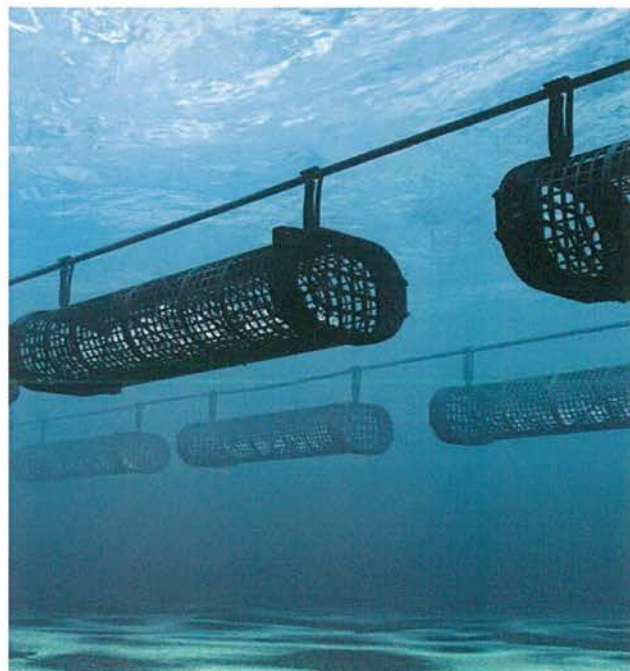
Over time it is anticipated 3 tonne of oysters will be processed per week over a 38 week season. Some 120 tonne of oysters though put will be achieved per year. There will however be periods when no oysters will be onsite, especially from December to March/April, when the oysters are spawning and lose condition.

It is expected 500kg will be held per long-line (50 cages) and 6 long-lines will be required per relay based on 3 tonnes per week. A 2-8 week holding period is anticipated.

Photo 1



Photo 2



### 4.3 The Relay Period

During the period December to March, the main spawning period, no stock will be present on the site. All buoys will be removed for cleaning and stored until required for the next season's activity. Anchors, with warps and backbone will be lowered to the seabed and raised again at the commencement of the



new season. A small buoy will demarcate anchor sites, while the corner buoys holding navigation lights will be retained.

When the sites are in use up to 15 surface buoys per long-line will be required.

#### 4.4 Water Depths

Water depths for the sites are measured from 'growing area' boundary away on a MLWS tide.

Refer to Appendix1 maps for each area to locate West/East perpendicular to 'growing area' boundary.

Site 1804/1	West	0.2m to 0.5m
	East	1.0m to 2.0m
Site 1804/2	West	6.0m to 6.5m
	East	5.8m to 7.6m
Site 1805/3	West	5.0m to 5.9m
	East	1.8m to 2.0m

## 5 Context

This proposal has developed with the underpinning of New Zealand Government Economic and Business Development agenda that has a focus on sustainable business growth especially the second of four strategic planks and "building a more production and competitive economy.

In terms of aquaculture this has centred on the Government launch of an overarching National Aquaculture Strategy and an Action Plan to support Aquaculture Growth in New Zealand. That strategy in conjunction with Aquaculture New Zealand was to focus the industry on;

1. Promoting environmental sustainability and integrity of aquaculture.
2. Securing and promoting investment in aquaculture.
3. Promoting Maori success in aquaculture.
4. Developing the market for New Zealand aquaculture products.
5. Maximising opportunities for innovation.
6. Strengthening the partnership with government and other stakeholders.

This project has the potential to deliver on all six items.

## 6 The Present Environment

### 6.1 The Marine Environment

The company has periodically engaged Ryder Consulting to undertake assessment of the environment around the intertidal sand banks of the central area of Otago Harbour. The studies included infauna community and biomass surveys for *Austrovenus stutchburyi*.

The intertidal banks are comprised of sands and fine silts while expanses of *Zostera* beds are present on and adjacent to the banks. These beds have been mapped by the company and are replicated in

diagrams 13 and 14 in Appendix 1. However most of the vegetation material adjacent to the site is *Ulva* rather than *Zostera*. The depth of water precludes the establishment of *Zostera*.

The studies undertaken by Ryder Consulting were to provide biological assessment of the effect of harvesting clams and an avi-fauna assessment to identify and determine any potential threats to values considered important to the intertidal banks, and species present, and utilisation by birdlife. Ongoing monitoring of these areas is being undertaken by the company. To date there has been no significant adverse effects noted on the banks, or bird habitat.

With the proposal the effect of introducing anchoring systems will create a small zone of disturbance to the seabed, which is minor, but does not displace species. Further, suspended baskets holding shellfish will not release oysters or scallops to the seabed. As a consequence, pseudo-faeces produced by shellfish will be negligible in the context of sediment movement by tidal cycle and wind generated disturbance of sediments in this area. It is unlikely, given the tide and wave characteristics of the harbour that any material dislodged from the long-lines and baskets will not be detectable. Observation has shown no effect from monitoring in Bluff or Marlborough.

The proposal is essentially depurate and purge of shellfish and crabs. The Oysters are coming from a 'cultivated' environment – that is, they are not wild caught and will have negligible fine sediment attached. Pseudo-faeces produced as indicated is negligible, given the current speeds anticipated adjacent to the main channel, and the depth of water in which the various species will be held. Further the species will be held for relatively short periods of 2 to 8 weeks which is a short timeframe for fine sediments or biofouling to develop on cages, long-lines and buoys. The product is extracted and transported in cages further reducing the potential to generate sediment or dislodge biofouling organisms.

Observations from the hatchery and grow out areas in Bluff Harbour and on oyster lines in Marlborough reinforce this view in comparison to say a mussel farm which will have a growing cycle of 12-24 months and generate a high degree of pseudo-faeces and biofouling. In that situation the pseudo-faeces is turned over very quietly under long-lines by seabed living fauna.

## 6.2 The Land Environment

The area adjacent to each site is intertidal sandbank with substantial areas of main navigation channel to the west of the sites and to the east, further channels, and embayments that may be utilised for recreational purposes.

To the east lies the hill country of the Otago Peninsular with the settlements of Harwood, Lower Portobello, Portobello and Broad Bay. To the west steep hillsides are also present with the communities Port Chalmers and Sawyers Bay. All are well distanced from the sites and are unlikely to have any effect on them.

## 7 Navigation Matters

Consideration of navigational matters has been done following the Aquaculture Management Areas and Marine Farm Guidelines prepared by Maritime Safety Authority.



The guidelines identify matters of navigational safety as falling within four distinct groups being;

- i. Location
- ii. Marking and Lighting
- iii. Safety Management
- iv. Control and Compliance

Each of the sites is considered under these headings.

## **7.1 Site 1804/1**

### **7.1.1 The Structures & Site Design**

#### **7.1.1.1 Location – (Eastern side of sand bank)**

Access to any bay, recognised anchorage or mooring area should not be impeded. There are no moorings in the vicinity of the site.

*“The Guidelines, at 5.2.4, state that: “as minimum figures.....inshore farms **shall not** be located within 50 metres of any recognised navigational route” For the purpose of clarity, the Guidelines define an inshore farm as one sited within 200 metres from mean low water and an offshore farm as sited in coastal waters beyond 200 metres from mean low water. In the case of the latter, “the farm **shall not** be located within 1000 metres of any recognised navigational route”*

The proposed farm lies within 200 metres of mean low water.

*“It is clear, however, that this application would potentially lie within in both 1000m and 500m of the recognised navigation route within the Port Chalmers and the upper harbour. The Guidelines, at 5.2.3 state “certain areas, such as within enclosed bays adjacent to recognised navigational route may be in a safe position...” Based on the historic route to the Port, occupation by a farm at this site, and form, it will not create additional navigational safety concerns. The application seeks to create a farm of 11.415ha well within the normal navigation route.”*

Due to the presence of existing navigational aids (beacons) and the shallow nature of the area proposed to be occupied there is unlikely to be a hazard to large vessels manoeuvring or small boat passage.

Recreational boats can and do traverse between longlines and it is anticipated that the practice will occur here although most vessels will utilise the main marked channel. There is ample room to navigate between the lines as they are 15m apart with 2 breaks between longlines sets of 10m allowing across site access.

In the east there is a substantial area of open water though shallow towards lower Portobello. Much of this expanse of water is utilised for recreational boating particularly by yacht clubs. Consultation with the clubs had indicated that the location proposed for the site is unlikely to impact on yachting activities. There is no exclusive use of the water space. It is open to access by vessels and small recreational craft (kayaks).

### 7.1.1.2 *Marking and lighting*

The lighting plan will be developed for the site in conjunction with the Harbour Master. Should the prepared form be approved, a lighting plan will need to be determined and issued. The Applicant will be required to complete MNZ form 16006, complete the relevant sections and return this to the Harbour Master for approval of a lighting plan prior to installation of any additional structures. This form is to accompany the proposed structure diagram.

### 7.1.1.3 *Safety Management*

The Applicant, on the consent being granted, will prepare a safety management plan that includes, but is not limited to:

- a) Design plan for the layout and structure of the farm as indicated in site diagrams;
- b) A maintenance plan, suitable for the moorings, navigational lighting and associated equipment [radar reflectors, reflective tape etc], together with a record system of all maintenance undertaken. This is to be made available for checking by the Harbour Master on request;
- c) A mooring design plan for the size of the structure, and the position intended with respect to water depth, tides and currents, sea and swell conditions, and seabed composition. Proof of being fit-for-purpose rests with the Applicant.

### 7.1.1.4 *Control and Compliance*

- a) The maintenance of the farm structures and associated equipment is kept up to a satisfactory level, and any action taken is recorded
- b) That authorised lighting and ongoing maintenance is kept to a satisfactory standard
- c) To ensure ongoing compliance, the applicant site will be subject to random audits

### 7.1.1.5 *Conclusion*

The application has been assessed as potentially having an impact on navigation safety in that structures will be within 500 metres of the navigation route to Port Chalmers and the Upper Harbour. However given the positioning of the site it is unlikely to give rise to navigation safety issues with appropriate structures, lighting and radar reflection tape.

#### Checklist

Positioning distances	Yes	No	N/A
50 metre clearance between mean low water and inshore boundary (except inter-tidal)	X		
200 metre clearance from jetties and other points of regular use	X		
200 metre clearance from any headland	X		
200 metre clearance from any water-ski lanes or other reserved areas	X		
Clearance from recognised navigational routes – inshore/off-shore* (5.2.4)		X	



Location	Yes	No	N/A
Weather, currents and tides	X		
Clear of narrow channels, navigational bottlenecks and port approaches	X		
Not impeding access to bays, or impeding navigation within the bay		X	
Anchorage, moorings		X	
Fishing		X	
Type, number and proximity of recreational users			X
Access to dwellings and other foreshore structures			X
Safe haven			X
Working traffic, access to shore	X		
Access for small craft between and around the application site	X		
Simple shape	X		

## 7.2 Site 1804/2

### 7.2.1 The Structures & Site Design

#### 7.2.1.1 Location – (Western side of sand bank)

Access to any bay, recognised anchorage or mooring area should not be unduly impeded. There are no embayments, anchorages or moorings in the vicinity of the site. Water depth is shallow.

*“The Guidelines, at 5.2.4, state that: “as minimum figures.....inshore farms **shall not** be located within 50 metres of any recognised navigational route” For the purpose of clarity, the Guidelines define an inshore farm as one sited within 200 metres from mean low water and an offshore farm as sited in coastal waters beyond 200 metres from mean low water. In the case of the latter, “the farm **shall not** be located within 1000 metres of any recognised navigational route”*

The proposed farm lies inshore from 200 metres of mean low water.

It is clear, however, that this application would potentially lie within in both 1000m and 500m of the recognised navigation route within the Otago Harbour routes. The Guidelines, at 5.2.3 state *“certain areas, such as within enclosed bays adjacent to recognised navigational route may be in a safe position...”* Based on the historic navigation to this site, and its form, will not create additional navigational safety concerns.

The site lies well east of the main navigation channel and is unlikely to be accessed from the west. Longlines are 15m apart with two access gaps between sets of longlines of 24m that will accommodate larger recreational vessels and harvesting barges.

### 7.2.1.2 Marking and lighting

The lighting plan will be developed for the site in conjunction with the Harbour Master. Should the prepared form be approved, a lighting plan will need to be determined and issued. The Applicant will be required to complete MNZ form 16006, complete the relevant sections and return this to the Harbour Master for approval of a lighting plan prior to installation of any additional structures. This form is to accompany the proposed structure diagram.

### 7.2.1.3 Safety Management

The Applicant, on the consent being granted, will prepare a safety management plan that includes, but is not limited to:

- a) Design plan for the layout and structure of the farm as depicted in the site and layout plans;
- b) A maintenance plan, suitable for the moorings, navigational lighting and associated equipment [radar reflectors, reflective tape etc], together with a record system of all maintenance undertaken. This is to be made available for checking by the Harbour Master on request;
- c) A mooring design plan for the size of the structure, and the position intended with respect to water depth, tides and currents, sea and swell conditions, and seabed composition. Proof of being fit-for-purpose rests with the Applicant.

### 7.2.1.4 Control and Compliance

- a) The maintenance of the farm structures and associated equipment is kept up to a satisfactory level, and any action taken is recorded
- b) That authorised lighting and ongoing maintenance is kept to a satisfactory standard
- c) To ensure ongoing compliance, the applicant site will be subject to random audits

### 7.2.1.5 Conclusion

The application has been assessed as potentially having an impact on navigation safety in that structures will be within 500 metres of the navigation route in the Harbour.

However given the position on the east side of the sand bank it is highly unlikely to affect access or navigation.

#### Checklist

Positioning distances	Yes	No	N/A
50 metre clearance between mean low water and inshore boundary (except inter-tidal) <i>[Note: These sand/shell banks are completely covered at high water]</i>	X		
200 metre clearance from jetties and other points of regular use	X		
200 metre clearance from any headland	X		
200 metre clearance from any water-ski lanes or other reserved areas	X		
Clearance from recognised navigational routes – inshore/offshore *(5.2.4)	X		



Location	Yes	No	N/A
Weather, currents and tides	X		
Clear of narrow channels, navigational bottlenecks and port approaches	X		
Not impeding access to bays, or impeding navigation within the bay		X	
Anchorage, moorings		X	
Fishing		X	
Type, number and proximity of recreational users			X
Access to dwellings and other foreshore structures			X
Safe haven			X
Working traffic, access to shore	X		
Access for small craft between and around the application site	X		
Simple shape	X		

### 7.3 Site 1805/3

#### 7.3.1 The Structures & Site Design

##### 7.3.1.1 Location

Access to any bay, recognised anchorage or mooring area should not be impeded. There are no moorings in the vicinity of the site.

*"The Guidelines, at 5.2.4, state that: "as minimum figures.....inshore farms **shall not** be located within 50 metres of any recognised navigational route" For the purpose of clarity, the Guidelines define an inshore farm as one sited within 200 metres from mean low water and an offshore farm as sited in coastal waters beyond 200 metres from mean low water. In the case of the latter, "the farm **shall not** be located within 1000 metres of any recognised navigational route"*

The proposed farms lie within 200 metres of mean low water.

It is clear, however, that this application would potentially lie within in both 1000m and 500m of the recognised navigation route within the upper Port Chalmers. The Guidelines, at 5.2.3 state "*certain areas, such as within enclosed bays adjacent to recognised navigational route may be in a safe position...*" Based on the historic route to the Port occupation by a farm at this site, and from it, will not create additional navigational safety concerns."

Due to the presence of existing navigational aids (beacons) and the very shallow nature of the area proposed to be occupied, no effects in large vessel movement or small boat access are anticipated. Longlines are 15m apart and two access gaps of 20m separate the three sets of longlines proposed.

Recreational boats can and do traverse between longlines and it is anticipated that the practice will occur here although most vessels will utilise the main marked channel.

#### **7.3.1.2 Marking and lighting**

The lighting plan will be developed for the site in conjunction with the Harbour Master. Should the prepared form be approved, a lighting plan will need to be determined and issued. The Applicant will be required to complete MNZ form 16006, complete the relevant sections and return this to the Harbour Master for approval of a lighting plan prior to installation of any additional structures. This form is to accompany the proposed structure diagram.

#### **7.3.1.3 Safety Management**

The Applicant, on the consent being granted, will prepare a safety management plan that includes, but is not limited to:

- a) Design plan for the layout and structure of the farm;
- b) A maintenance plan, suitable for the moorings, navigational lighting and associated equipment [radar reflectors, reflective tape etc], together with a record system of all maintenance undertaken. This is to be made available for checking by the Harbour Master on request;
- c) A mooring design plan for the size of the structure, and the position intended with respect to water depth, tides and currents, sea and swell conditions, and seabed composition. Proof of being fit-for-purpose rests with the Applicant.

#### **7.3.1.4 Control and Compliance**

- a) The maintenance of the farm structures and associated equipment is kept up to a satisfactory level, and any action taken is recorded
- b) That authorised lighting and ongoing maintenance is kept to a satisfactory standard
- c) To ensure ongoing compliance, the applicant site will be subject to random audits

#### **7.3.1.5 Conclusion**

The application has been assessed as potentially having an impact on navigation safety in that structures will be within 500 metres of the navigation route to Upper Otago Harbour. However given the positioning of the site it is unlikely to give rise to navigation safety issues with appropriate structures, lighting and radar reflection tape.

#### Checklist

<b>Positioning distances</b>	Yes	No	N/A
50 metre clearance between mean low water and inshore boundary (except inter-tidal)	X		
200 metre clearance from jetties and other points of regular use	X		
200 metre clearance from any headland	X		
200 metre clearance from any water-ski lanes or other reserved areas	X		
Clearance from recognised navigational routes – inshore/off-shore* (5.2.4)		X	



Location	Yes	No	N/A
Weather, currents and tides	X		
Clear of narrow channels, navigational bottlenecks and port approaches	X		
Not impeding access to bays, or impeding navigation within the bay		X	
Anchorage, moorings		X	
Fishing		X	
Type, number and proximity of recreational users			X
Access to dwellings and other foreshore structures			X
Safe haven			X
Working traffic, access to shore	X		
Access for small craft between and around the application site	X		
Simple shape	X		

## 8 Commercial and Recreational Fishing

### 8.1 Commercial Fishing

Commercial fishing or rather shellfish harvest from the sand banks will occur adjacent to the sites. This is undertaken by the applicant with the wild harvest of clams. Other commercial fishing activities are not known to occur at any of the sites.

### 8.2 Recreational Fishing

Recreational fishing does occur in Port Otago and random fishing following shoals of fish may take place adjacent to the sites. It is common for fish to be attracted to marine farms over time and may they become a target for recreational fishers in the future.

## 9 Effects on Water Quality

Water quality of the area is high. The proposed activity relies on excellent water quality to enable flushing of the species proposed to be held onsite. Protocols are in place with Southern Clams Harvesting Management Plan for Sites 1804 and 1805. Sanitary Surveys have been conducted and have concluded that based on peak instantaneous flows in the Leith River at below 20m<sup>3</sup>/second site 1804 is not closed but if above 20m<sup>3</sup>/second then 1804 is closed to harvesting for four days.

For site 1805 the criteria;

- less than 2m<sup>3</sup>/second                      site not closed
- greater than 2m<sup>3</sup>/second                      site closed for 2 days

- 5.5m<sup>3</sup>/second site closed for 3 days
- greater than 40m<sup>3</sup>/second site closed for 4 days
- greater than 60m<sup>3</sup>/second site closed for 5 days

These sites are affected by run off and pollution effects from land which essentially effects all fishing. Site 1804 rarely shows any effect.

During harvest operations some discolouration is due to fine sediments caught in cages, or organic or biodegradable materials dislodged during handling may occur, however it will be minor effect as the cages are held in the water for short periods, 2-8 weeks. Such release will not be detectable on the seabed or water column soon after the retrieval of cages occurs.

## 9.1 Biotoxins & Biosecurity

Southern Clams has a marine Biotxin Management Plan which provides for regular testing, in the growing and holding areas proposed. Background levels of marine Biotoxins are considered to be not detected. Port Otago as it is a large water body with high water turnover with excellent capacity for mixing of water with tidal current turnover and wind and wave action through the Port.

Phytoplankton are naturally occurring micro-organisms that provided nourishment for marine life and are the building blocks of the sea. Test for phytoplankton that are nontoxic to shellfish are made but can produce Biotoxins harmful to humans at higher concentrations. These include paralytic shellfish poisoning (PSP), diarrhetic shellfish poisoning (DSP), amnesic shellfish poisoning (ASP) and neurotoxic shellfish poisoning (NSP). Testing for phytoplankton that produce these effects is currently undertaken at site 1804 and 1805 around which a comprehensive management system has developed. This includes a Biotxin testing schedule, maximum permissible levels of marine Biotxin levels and marine Biotxin closure and opening protocols.

## 9.2 Biosecurity Measures

### 9.2.1 Oysters

Oysters are derived from hatchery stock and are no live caught from dredged oysters. Biosecurity within the hatchery is in the primary location to identify any disease potentially able to infect oysters such as the parasite "Bonamia". Oysters are naturally distributed in the harbour but there have been no reports of parasites including "Bonamia" within the natural fishery.

### 9.2.2 Queen Scallops

No known parasites in New Zealand. They can be affected by Biotoxins and harmful algal blooms, however testing is in place for these effects.

### 9.2.3 Paddle Crabs

No known virus or parasites in New Zealand. Paddle Crabs are naturally occurring within the Port Otago environment.

### 9.2.4 Undaria

Undaria is a foreign seaweed that has established itself in Otago Harbour. It highly likely Undaria will colonise growing structure and will require management. Harvesting of the seaweed will assist in control and may have the potential to be used in the food industry or horticulture in home gardens.



Harvest is designed as a management tool to control the extent and spread of the seaweed on the sites, the material harvested will be disposed of on land.

## **10 Effects on Productivity**

Holding shellfish at these sites will have no effect on the productivity of the water of Otago Harbour. Productivity in coastal waters is driven by global weather patterns, La Nina, El Nina sequences, as has been illustrated by research into productivity of the Marlborough Sounds (Zeldis et al 2013). Such patterns are present throughout New Zealand and as such small marine farms are unlikely to affect local productivity. Productivity or phytoplankton uptake in mussel farms returns to background levels within short distances of growing lines (5-15m) and given the short duration of holding shellfish (oysters) in this pattern, effects on productivity are unlikely to be detectable.

## **11 Kāi Tahu Ki Otago – Natural Resource Management Plan**

### **11.1 Introduction**

The applicants approached Kāi Tahu Ki Otago Ltd consultants to discuss the proposal on 15<sup>th</sup> August 2013. The three prospective sites were identified and proposal outlined.

Te Rūnanga o Ōtākou considered the proposal but could not support it given insufficient information on the potential effects the proposal would have on Otago Harbour.

Importantly Kāi Tahu Ki Otago Ltd drew attention to Te Rūnanga o Ōtākou as Kaitiaki for Otago Harbour and that an application for a Mātaitai reserve for Otago Harbour had been made that recognises the traditional importance to Maori for customary food gathering.

The applicant acknowledges the above and the fact that Kāi Tahu Ki Otago Natural Resource Management Plan was prepared in 2005. The consultants Kāi Tahu Ki Otago identified a number of matters that they considered needed to be addressed in the light of their Natural Resource Management Plan.

The matters identified requiring further exploration follow, however these matters are regarded as an initial assessment to enable consultation over specific matters and means to resolve those matters, between Te Rūnanga o Ōtākou and the applicant.

### **11.2 Kāi Tahu Ki Otago Natural Resource Management Plan**

The Otago Harbour Catchment is a special feature of the Otago region and is highly valued by Kāi Tahu Ki Otago. These values are articulated in the preamble to chapter 8.

#### **Wai Māori and Wai Tai**

A concern that there is a deterioration of inlet health and impacts on the mauri and life supporting capacity of the sea is raised in their plan. A series of policies are established to support the objective where the following are relevant to the proposal.

#### **“Wai Māori and Wai Tai Policies in the Otago Harbour Catchment**

1. To establish a Mātaitai in the lower harbour/outer peninsula.”

Application has been made for a Mātaitai, and is in “process”. How this effects a “relaying” operation is uncertain as it is not a wild harvest in the sense of taking product from the area. It should be noted that site 1805 is in the upper Harbour, and therefore outside the proposed Mātaitai area.

*The Natural Resource Management Plan 2005, Policy*

*8.2.3 Wai Māori and Wai Tai Policies in the Otago Harbour Catchment*

*1. To establish a Mātaitai in the lower harbour/outer peninsula.*

5. “To promote best practice methods for waterway, river and harbour works that:
  - i. Provide for fish passage at all times.”  
There is no effect on fish passage with proposed structures.
  - ii. “Minimise sedimentation during proposed works.”  
Placing screw or block anchors will not cause any rise in sedimentation. The structures and lines will not generate scour channels.
  - iii. “Minimise the risk of contaminants entering the waterway.”  
No contaminants will enter the water. The activity requires a high water quality and will assist in drawing attention to that need in the Harbour. This is also reinforced with the shellfish sanitation programme required for farming.

#### “Monitoring and Research

6. To promote and participate in co-ordinated research into the natural processes within the Otago Harbour.”  
Management of the site will assist in monitoring natural processes within the Harbour. Already the applicant’s field research and survey reports add considerably to Harbour research data.
7. “To encourage monitoring, including cultural monitoring, of the health of waters within the Otago Harbour and Catchment.”  
The applicants could assist in monitoring of the health of waters within the Harbour in conjunction with the programme required for export of product for the Harbour.

#### Wāhi Tapu

The applicants are unaware of Wāhi Tapu sites in the vicinity of the proposed aquaculture zones, however consultation on this issue to ensure there is no loss of Wāhi Tapu will be undertaken.

#### Mahika Kai and Biodiversity

The Natural Resource Management Plan 2005 identifies a number of issues relating to Mahika Kai and Biodiversity. They include;

- “Impact of invasive aquatic species such as exotic seaweeds on kaimoana and wāhi taoka.”  
*Undaria* has established in Otago Harbour and is likely to attach to growing structures of the proposal. As in other parts of New Zealand where aquaculture is prioritised harvesting of *Undaria* as a management tool on structures takes place. This material can be used in a variety of ways for garden mulch to food additives. Seaweed farming is becoming established, for example NZ *Undaria* Ltd, producers of ‘Seafire’ analgesia balm. This is a method that has merit for discussion with Iwi.



- "Loss of important cultural species from Otago Harbour Catchment."  
Two are possible one of these species that have been in decline though reports indicate some populations continue to exist. Enhancement of these populations may be an opportunity through this proposal and will be a matter for consultation.
- "Impact of commercial and other activities on tuaki."  
The proposal will not affect tuaki beds or sea lettuce beds.
- "Impact of land management and unsustainable fishing practices on freshwater fish species and kaimoana.
- Some mahika kai species within Otago Harbour Catchment are considered culturally unsafe for consumption?
- Risks of kaimoana from discharges in the Harbour including sedimentation and storm water runoff."  
The proposal requires water quality of a high standard such that both Iwi and the applicant wish discharges into the Harbour minimised.

### **Cultural Landscapes**

Cultural Landscapes are identified in the Management Plan and consultation on these matters will be undertaken to ensure the proposal has minimal effect on these values. From the applicant's perspective encouraging the programme in identified area that have been subject to landscape changes that is ongoing should reduce that overall impact on cultural landscape values.

## **12 Sustainable Economic Development**

The proposal forms the last leg of significant development of hatchery raised juveniles that are grown out in Bluff Harbour. The process avoids wild harvest for a cultivated product that will have its 'finishing' touches provided by 'relaying' oysters in Otago Harbour.

Other synergies also have evolved as sending product to market will be alongside clams to both New Zealand and export distributors. There will be opportunities to fully use transport to get product to airline freight tonnage out of Christchurch and development processes and equipment to prepare crops for market.

Based on the initial 120 tonne year target it is envisaged the company is likely to require three further field staff to manage the sits on water and four factory workers to process and pack product.

At least one new management and harvesting vessel will be required with heavy lift capacity for carry anchors, ropes and baskets as well as harvested product. Flow on effects will be noticeable to equipment suppliers, ropes, anchors, baskets and in-factory grading equipment.

The process will be labour intensive as each oyster will be harvested individually, packed and delivered live. Within five years growth targets are 240 tonne. It is considered that the project will inject \$1.65 -

2.2 million into the local economy and six new positions will be generated, up to \$6m pa. Export earnings, while capital expenditure for the development will exceed \$7 million.

### **13 Statutory Considerations**

The Otago Regional Council has in operative Regional Coastal Plan of which Chapter 5 focuses on Coastal Management. Within the plan four areas have been identified with different values for those areas being;

1. Coastal Protection Areas
2. Coastal Development Areas
3. Coastal Recreation Areas
4. Coastal Harbour Side Areas

The objective of the plan is to;

"To provide for the use and development of Otago's Coastal marine area while monitoring and enhancing its natural character, outstanding natural features and landscapes, and its ecosystems, amenity, cultural and historical values"

The objective is supported by a series of policies. Policy 5.4.1 recognises coastal protection areas and although parts of Otago Harbour have protection areas none are near to the proposed aquaculture sites.

#### **13.1 Coastal Development Areas**

CDA4 Otago Harbour with the following values is identified. They are;

Communal Port facilities, fishing facilities, recreational facilities, navigational aides, navigational channels, groynes, the Mole.

#### **13.2 Coastal Recreational Areas**

CRA9 Otago Harbour encompasses all of Otago Harbour except that identified as CDA4. The proposed aqua cultural activity falls within this zone. The main recreational uses within the zone are; "boating, fishing and walking".

Recreational use of the areas within the site has been under observation and discussions with recreational groups to ensure as far as possible the activity proposed does not compromise recreational pursuits.

The proposal, because of its location and distance from areas of activity is unlikely to adversely affect recreational values or pursuits. The activity proposed requires a coastal location and is well separated from other activities.

The Otago Harbour is estimated to have a water area of some 4,800ha and each of the sites are as listed in the below. Also outlined is the area estimated to be taken up by surface structures.



Site	Nominal Area (ha)	% of Harbour	Surface Structure Area (ha)
1804/1	11.41	0.237	0.738
1804/2	9.00	0.1875	0.5056
1805/3	6.80	0.1416	0.3888
<b>TOTAL</b>	<b>27.21</b>	<b>0.5659</b>	<b>1.6324</b>

Total area of the sites is 27.21ha or 0.56% of the harbour while structures occupy 1.6324ha or 0.034%.

### 13.3 Public Areas & Occupation of Space

Each site has been positioned to avoid public access being denied. Each site is capable of being accessed by recreational boats, however, as can be seen by the diagrams the waters are shallow requiring care transiting such zones.

At times there may be restricted public access for operational reasons namely health and safety concerns and for a significant portion of the year surface structures will be removed allowing access.

The Plan states Policy 53;

#### “7.3 Objectives

##### 7.3.1 To maintain and as far as practical enhance public access to Otago’s coastal marine area.

###### Principal reasons for adopting

Section 6 of the Act requires that the maintenance and enhancement of public access to and along the margins of the coastal marine area will be recognised and provided for.

##### 7.3.2 To provide for activities requiring the occupation of the coastal marine area.

###### Principal reasons for adopting

Some activities require occupation of the coastal marine area in order to be able to carry out that activity. Access may be restricted due to safety concerns, through the need to ensure the security of the activity is not compromised, or for other reasons. In order to provide for the social, economic and cultural wellbeing of Otago’s communities, the requirement to have exclusive access in some areas must be recognised, and where appropriate provided for.....”

### 13.4 Structures & Signs

Structures and signs are required to provide for recreational, communal and industrial purposes and marine farms are identified as commercial structures. The plan identifies a series of issues to be considered in developing proposals.

“8.2.1 Structures in the coast marine area may adversely affect sites of cultural significance within and adjacent to the coastal marine area.”

Given the location of the sites no effect onsite of cultural significance is anticipated. Consultation on this matter will be undertaken to confirm.



“8.2.2 Structures in the coastal marine area are sometimes used for activities which could be located outside the coastal marine area, while some activities have no practicable alternative other than to locate in the coastal marine area.”

There is no practical alternative other than to locate in the coastal marine area is illustrated. The structures proposed do not reduce space available for public use and vessels are able to proceed onto and through the site. Structures proposed are kept to a minimum with adequate access between longlines.

### 13.5 Consideration of Alternatives

Consideration of alternatives to using open water techniques was considered. They included;

- i) Putting shellfish in tanks and piping seawater through them;  
This option was rejected because of a number criteria could not be satisfied
  - a. Location  
No property of suitable size to hold a tank that would allow holding relayed stock each on an individual tank farm for up to 8 weeks was identified.
  - b. Energy and Pumping Costs  
Energy and pumping costs for recirculation were considerable and required a further suite of consents for the taking of seawater and discharge of seawater including biodegradable materials in suspension.
  - c. Biotoxins & Biosecurity  
Biotoxins and biosecurity are already in place for sites 1804 and 1805 and provide a sound management process with considerable background on phytoplankton identification both in the water column and shellfish flesh.

Establishment of a new zone that met suitable sanitation protocols was problematic in that if situated in the upper harbour impact of closures of the fishery arising from pollutants from land catchment storm effects occur, early, or could be longer lived, than those in open water where very good dispersion is met in the outer harbour.

“8.2.3 Structures in the coastal marine area may adversely affect the natural character of the coastal marine area through their proliferation in undeveloped or semi-developed areas.”

The harbour is highly developed area with commercial shipping movements and supporting infrastructure. The natural character will have subtle changes at each site, but this does not excessively modify the natural character of the area which is already modified. There will not be a proliferation of sites beyond which are proposed.

“8.2.4 Structures in the coastal marine areas may adversely affect the conservation values within and adjacent to the coastal marine area.”

Assessment of the coastal marine area has been undertaken by the applicant, particularly the benthic environment. No conservation values are adversely affected by the proposal.

“8.2.5 Structures may cause undesired changes to the natural physical coastal processes acting upon the foreshore or seabed.”

Careful consideration has been made of the structures to be used. The connection with the seabed will be made using both, screw anchors or concrete block anchors. They have a minimal footprint and are unlikely to create scour or allow deposition profiles to develop.

Each longline with surface floats ensures all trays are held above the seabed and the gaps between longlines will not encourage flow surges of water at any stage of the tidal cycle.

“8.2.6 Structures in the coastal marine area may be adversely affected by possible sea level rise and other natural hazards.”

Structures will not be affected by sea level rise. In the potential event of a tsunami structures may be affected but are unlikely to cause disruption to other harbour users.

“8.2.7 Inappropriately located or designed signs within coastal harbour side area can have an adverse effect on public access, visual amenity, safety and navigation.”

The location of the sites have been carefully considered to ensure substantial separation distances from potential viewing public, public access, safety and navigation. The structures and low profile are not a dominant feature against the backdrop of surrounding sea and landscape. Navigation by large vessels is not compromised. The sites lie beyond navigation beacons and are in shallow water. Recreational navigation can adequately move around and through the proposed structures as is common in other parts of New Zealand.

The Plan Objective in relation to structures;

“8.3 Objectives

8.3.1 To recognise and provide for values associated with;

- a) Areas of cultural significance; and
- b) Areas of conservation value; and
- c) Areas of public amenity;

When considering structures within the coastal marine area.

8.3.2 To preserve the natural character of Otago's coastal marine area as far as practicable from the adverse effects associated with structures.

8.3.3 To provide for the development of appropriate new structures and maintenance of existing structures, whilst minimising the use of structures for activities which do not require a coastal marine area location.

8.3.4 To take into account the effects of natural physical coastal processes when considering structures in the coastal marine area.”



The above objectives have been considered in the design and evaluation of the proposal, and as such Sections 6 & 7 especially 6(a) of the Resource Management Act requires preservation of the natural character of the Coastal Marine Area and protection of the area from inappropriate subdivision and use and development.

The use and development is appropriate in terms of scale, location and impact, and has positive benefits to the economic and social development of the community.

The proposal falls within Schedule 3 Coastal Recreation Area being on the boundary of a Coastal Development Area. It is appropriate to locate the activity at the interface and is in context with existing adjacent uses, including shellfish harvesting. Appropriate development is important for the social, economic and cultural wellbeing of people of Otago.

#### **14 Alteration of the Foreshore and Seabed**

The seabed at the proposed sites will not be affected by placement of anchoring systems. The physical slope of the seabed will not change. As a consequence there will be no effect in conservation values, public amenity, and natural character of the seabed or natural physical processes operating at the site.

#### **15 Discharges**

There will be no discharges resulting from the activity or negative effect and water quality.

#### **16 Noise**

Noise is unlikely to be propagated at the site, apart from the use of vessels used to manage the site. There will be no effect on wildlife or amenity of the area as all sites lie close to areas used periodically by surface craft. The extent of use of the area is minimal in the context of use of the harbour area.

In regard to separation distances, these are significant and boat or winch noise is anticipated to be negligible

#### **17 New Zealand Coastal Policy Statement**

Regional Policy Statements and Regional Plans must give effect to the New Zealand Coastal Policy Statement which has occurred in Otago. There are seven objectives with supporting policies.

The objectives under consideration in this proposal are;

“Objective 1

To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land,..”

The objective to maintain natural biological and physical processes, provide protection for sites/areas of significant natural ecosystem and monitoring control water quality.

The proposal does not compromise this objective 1 or that of objective 2.



“Objective 2

To preserve the natural character of the coastal environment and protect natural features and landscape values through:”

Objective 3 relates to principles of the Treaty of Waitangi.

“Objective 3

To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment by:

- recognising the ongoing and enduring relationship of tangata whenua over their lands, rohe and resources;
- promoting meaningful relationships and interactions between tangata whenua and persons exercising functions and powers under the Act;
- incorporating mātauranga Māori into sustainable management practices; and
- recognising and protecting characteristics of the coastal environment that are of special value to tangata whenua.”

The proposal recognises the relationship of tangata whenua over their lands, rohe and resources. Consultation with tangata whenua will be ongoing recognising that relationship. Effectively operation within the water column as proposed does not adversely affect resources. Operating in a sustainable manner is an objective of the applicant.

“Objective 4

To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:”

It is recognised that the coastal marine area is an extensive area of public space. The proposal has been discussed with recreational users of the harbour and positioning of the sites has recognised recreational use and as such each site is located outside high recreational use zones.

Objective 6 is highly relevant to this proposal.

“Objective 6

To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use and development recognising that:

- the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;
- some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities;
- functionally some uses and development can only be located on the coast or in the coastal marine area;.....

- the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities;
- the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land;
- the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected;.....”

### **17.1 New Zealand Coastal Policy Statement 2010 Policies**

Policies 2, 3, 4, 6, 8, 9 and 11 of the New Zealand Coastal Policy Statement 2010 (NZCPS) are of relevance to this matter. In one way, the NZCPA attempts to enable the development of aquaculture (policy 8) but it also directs authorities to apply an integrated management approach to the use and development of natural and physical resources (policy 4). Specifically, authorities are directed to recognise the economic contributions that people may gain from the use of the coastal marine area (policy 6), whilst protect habitats, areas and migratory routes of indigenous species that are important for commercial purposes (policy 11). If the effects from a proposal are uncertain or unknown, authorities are directed to adopt a precautionary approach to decision making (policy 3).”Policy 9 looks to recognising port systems to ensure proposals do not affect port operations.

#### **17.1.1 Ecology**

Objective 1 and policies 3 and 11 of the New Zealand Coastal Policy Statement 2010 (NZCPS) are of relevance to this proposal. The first objective of this document sets out to safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems. It seeks to do this by: maintaining natural biological and physical processes in the coastal marine area; recognising their dynamic, complex and interdependent nature, protecting representative of significant natural ecosystems and sites of biological importance, and maintaining the diversity of New Zealand coastal flora and fauna. The supporting policies (3 & 11), at least in this context, direct a precautionary approach to be taken when potential effects on biodiversity are unknown or not well understood. There the NZCPS directs that important habits are protected to the maximum benefit of the ecosystem.”

The effects of the proposal have been assessed against practices elsewhere in New Zealand. The effects of aquaculture are well known especially the benign impacts of oyster management in cages.

#### **17.1.2 Public Access**

The NZCPS, through Objectives 1 and Policy 18, directs that public open space qualities and recreation opportunities of the coastal marine area are maintained and enhanced, specifically by recognising that the coastal marine area is an extensive area for the public to use and enjoy. The supporting policy reiterates that the need for open public space (in the coastal marine area) for public use, recreation, and appreciation needs to be recognised and linked with any consideration of natural character, amenity, future needs and likely impacts of coastal processes. The protection and enhancement of public access therefore is elevated to a high level in the coastal marine area and whilst it must be balanced against the other development provisions of the New Zealand Coastal Policy Statement, its consideration is not just limited to physical access but the needs of future generations, recreation (and future recreation) and public appreciation.”



In this respect the sites have been positioned to ensure public open space and recreational opportunities are maintained as separation of location for recreational activities has been a significant criteria in evaluating each site.

**Policy 6** outlines activities in the coastal environment in particularly (2);

- a) "recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations;
- b) recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;
- c) recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places;...
- e) promote the efficient use of occupied space, including by:
  - i) requiring that structures be made available for public or multiple use wherever reasonable and practicable;
  - ii) requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and
  - iii) considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay."

This proposal meets these policies.

#### **"Policy 8 Aquaculture**

Recognise the significant existing and potential contribution of aquaculture to the social, economic and cultural wellbeing of people and communities by:

- a) including in regional policy statements and regional coastal plans provision for aquaculture activities in appropriate places in the coastal environment, recognising that relevant considerations may include;
  - i) the need for high water quality for aquaculture activities; and
  - ii) the need for land-based facilities associated with marine farming;
- b) taking into account of the social and economic benefits of aquaculture, including any available assessments of national and regional economic benefits; and
- c) ensuring that development in the coastal environment does not make water quality unfit for aquaculture activities in areas approved for that purpose."

The proposal is considered to be located in an appropriate place within Otago Harbour and will have sustainable, economic benefits to the community.

## **18 Resource Management Act Considerations**

The proposal has been prepared by considering;



- a) Any actual and potential effects in the environment of allowing the activity and the provisions continued in the New Zealand Coastal Policy Statement and the Regional Coastal Plan for Otago.
- b) Part 2 Matters  
The proposal has also been considered in relation to Part 2 Matters of the Act. The foregoing assessment has identified several effects and policies that need to be addressed.

### **18.1 Ecological Values**

Sections 6(c), 7 (d), 7(f) and 7(g) in Part 2 set forth obligations to protect significant vegetation and habitats (as a matter of national importance), and regard intrinsic, quality and finite characteristics of ecosystems. It is evident that the sites do not contain habitats that are important or significant in the context of Otago Harbour environment. The community, through the relevant objectives and policies of the Coastal Plan and Planning Maps have identified that such important habitats should be protected and enhanced for the benefit of the community, the environment and future generations. Therefore it is considered that the proposal is not inconsistent with Sections 6(c), 7 (d), 7(f) and 7(g) and therefore would be contributing to sustainable management.

### **18.2 Landscape Values**

It is assessed that the proposal is consistent with Sections 6(a), 6(b), and 7(c) of Part 2. These sections set forth obligations to preserve the natural character of the coast and protect outstanding natural landscapes from inappropriate development (as a matter of national importance), and regard the maintenance and enhancement of amenity values. The quality of the environment is not pristine due to the proximity of Port activities including navigation lights, piles, shipping channel markers, seawalls, wharfs and Port infrastructure, railway causeways and a wider catchment that has a substantial suburban development that backdrops the sites. The sites are generally inconspicuous against the existing development/modification in the Harbour.

### **18.3 Public Access**

Section 6(d) of Part 2 sets forth an obligation to recognise and provide for the maintenance and enhancement of public access to and along the coastal marine area as a matter of national importance. The establishment of a marine farm cannot be said to be maintaining or enhancing public access over what currently exists at the sites. It cannot be considered as anything but a reduction in access levels. However it is not a full prevention of access as the nature of the surface occupation still provides a degree of access to and along the coastal marine area albeit with a certain amount of inconvenience.

The sites lie outside the normal navigation routes identified on the Plan maps.

### **18.4 Cultural Values**

In the absence of information to the contrary it is considered that the proposal does not conflict with the relevant matters of Sections 6(e), 6(g), 7(a), and 8 of Part 2.

Section 6 sets forth an obligation that the Council recognise and provide for matters of national importance, including the relationship of Maori and their culture and traditions (Section 6(e) and the protection of protected customary rights (Section 6(g)).

Section 7 also sets forth an obligation to have particular regards to kaitiakitanga (Section 7(a)) and the ethic of stewardship (Section 7aa)). This section imposes a duty to be 'on enquiry' of those relevant matters such as Iwi guardianship of a resource and the taking of environmental responsibility for the resource.

Section 8 sets forth an obligation to take into account the principles of the Treaty of Waitangi which imparts protection of lands, access and rights.

The applicants are unaware of any archaeological sites in the vicinity. Consultation with Iwi about the proposal will be undertaken to confirm a view on the proposal and sustainable management of resource from their perspective.

### 18.5 Sustainable Management

The purpose of the Resource Management Act is to promote sustainable management of natural and physical resources. This is qualified by Section 5(2) which seeks to balance development and conservation interests based on community wellbeing's while sustaining the potential and capacity of resources and ecosystems and managing adverse effects.

In this assessment conclusion, the proposal, as applied for, will promote the sustainable management of natural and physical resources. Several issues have been examined above and found not to create adverse effects that are more than minor. The proposal is consistent with the policy intent of the community enhanced in the Coastal Plan. Occupation and use of public space is integral to the establishment, operation and maintenance of a marine farm. The proposal promotes sustainable management of natural and physical resources.

## 19 Consultation

Consultation will be undertaken with a variety of organisations and individuals interested in the resource of the Port. Previous consultation has been held with a range of groups who will be contacted over or about the modified proposal.

They are, but not limited to if during the process other groups or individuals would like to be informed;

Iwi/ Te Rūnanga o Ōtākou	Natalie Karaitiana / Nic Hedley
KTKO Ltd	Administrator
Harbour Master/Port Otago	via ORC
Hoani Langsbury:	Taiaroa Heads/ Royal Albatross Colony, centre manager.
Michelle Pearce:	DOC, Southern Regional Office
Lala Fraser:	STOP
Des Adamson:	DCC EDU
Alan Richardson:	Trade & Enterprise NZ
Jocelyn Harris:	Sustainable Dunedin



Tessa Mills: Broad Bay Community Centre

John Christie: Chamber of Commerce

Prof Abby Smith: University of Otago Marine Science Department

Allen Frazer / Christine Bowden / Paul Creswell / Daniel Lees: MPI

Brendon Flack / Dr Chris Hepburn: Kati Huirapa Runaka Ki Puketeraki

Prof John Jillet / Robyn McDonald: Peninsula trust

Peter Brown / Lincoln Coe: Port Otago Ltd

All seven Yachting and Boat Clubs operating in the Harbour.

The NZ Coastguard,  
MNZ,

Otago Peninsula Community Board Christine Garey

North End Rowing Club.

Otago Rowing Club

University Rowing Club

High School Rowing Club

Otago Boys Rowing Club

Dunedin Windsports Association Paul Vliesta

## 20 References

- Regional Plan – Coast for Otago
- New Zealand Coastal Policy Statement 2010
- Resource Management Act 1991
- Kai Tāhu Ki Otago; 2005 *National Resource Management Plan*;
- Ryder Consulting, 2009; *Investigation into Feasibility of Commercial Harvest of Clams (Austrovenus stutchburyi) in Otago Harbour*
- D. Onley, December 2008 – March 2010; *Report of Monitoring of Birds in relation to Clam Harvesting in Otago Harbour.*
- Ryder Consulting, 2008; *Clams (Austrovenus stutchburyi) Resources and Habitat Survey in Otago Harbour, Otago*
- A. Campbell; *Shellfish Monitoring Programme*
- R.G. Boyd, 2008; *Fisheries Resource in Otago Harbour and on the adjacent land Port Otago Ltd*





# Appendix 1

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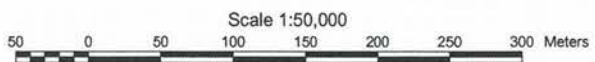
<i>Diagram 1</i>	<i>Site 1804/1 Locality Map</i>
<i>Diagram 2</i>	<i>Site 1804/1 Hydrographic Chart Overlay</i>
<i>Diagram 3</i>	<i>Site 1804/1 Site Plan</i>
<i>Diagram 4</i>	<i>Site 1804/1 Layout Plan</i>
<i>Diagram 5</i>	<i>Site 1804/2 Locality Map</i>
<i>Diagram 6</i>	<i>Site 1804/2 Hydrographic Chart Overlay</i>
<i>Diagram 7</i>	<i>Site 1804/2 Site Plan</i>
<i>Diagram 8</i>	<i>Site 1804/2 Layout Plan</i>
<i>Diagram 9</i>	<i>Site 1805/3 Locality Map</i>
<i>Diagram 10</i>	<i>Site 1805/3 Hydrographic Chart Overlay</i>
<i>Diagram 11</i>	<i>Site 1805/3 Site Plan</i>
<i>Diagram 12</i>	<i>Site 1805/3 Layout Plan</i>
<i>Diagram 13</i>	<i>Photos of Tuaki</i>
<i>Diagram 14</i>	<i>Growing area 1804</i>
<i>Diagram 15</i>	<i>Growing area 1805</i>



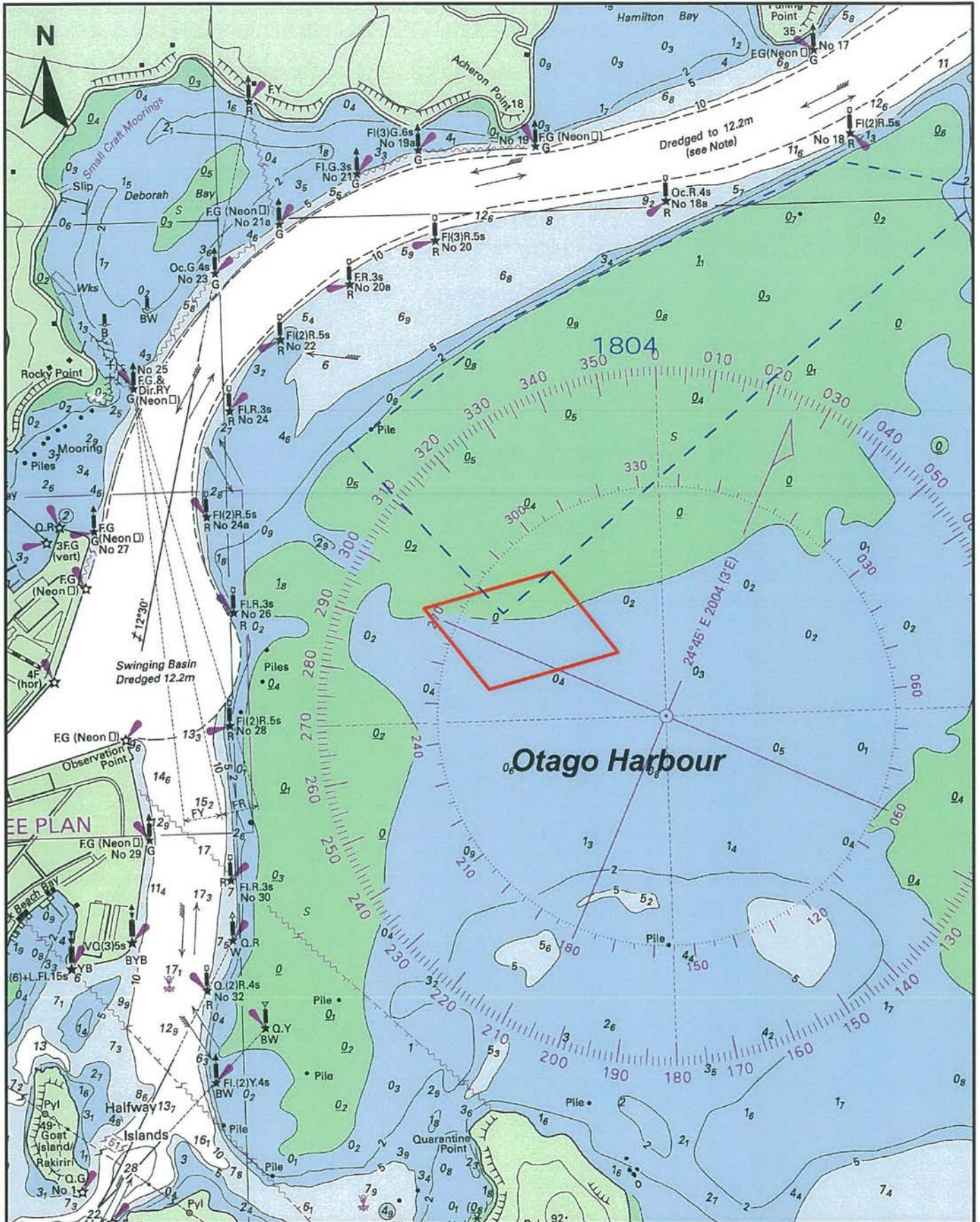


## Locality Map Proposed Coastal Permit (Ref 1804/1) Otago Harbour

13 December 2013







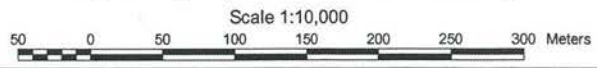
**REFERENCE**

- Proposed Coastal Permit
- Sanitation Area

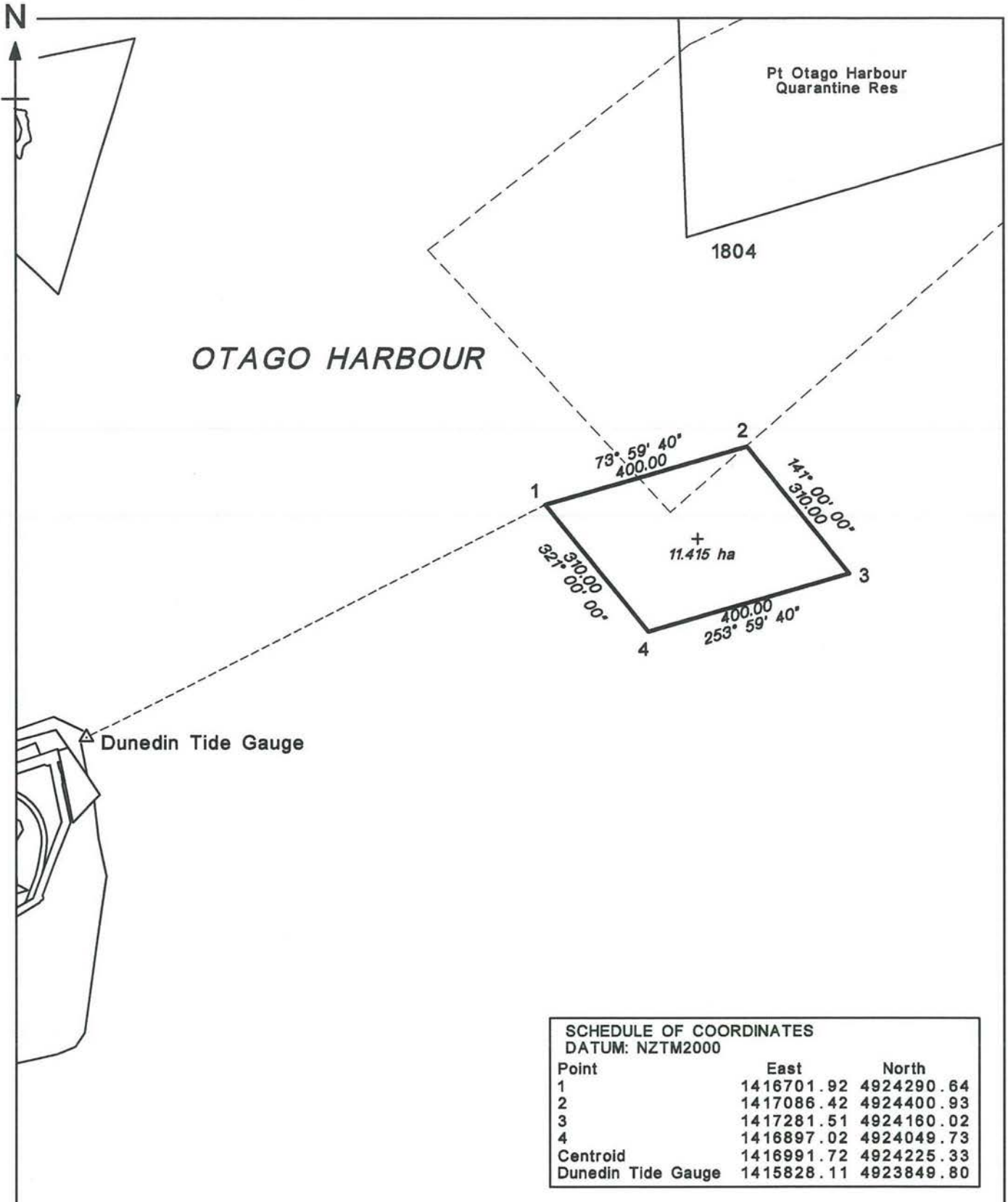


**Proposed Coastal Permit  
(Ref 1804/1)  
Otago Harbour  
Hydrographic Chart Overlay**

13 December 2013







SCHEDULE OF COORDINATES		
DATUM: NZTM2000		
Point	East	North
1	1416701.92	4924290.64
2	1417086.42	4924400.93
3	1417281.51	4924160.02
4	1416897.02	4924049.73
Centroid	1416991.72	4924225.33
Dunedin Tide Gauge	1415828.11	4923849.80



PALMS

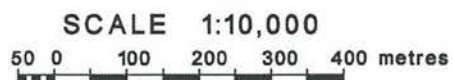
5 December 2013

# Proposed Coastal Permit

## Sanitation Area 1804

### Site Reference 1804/1

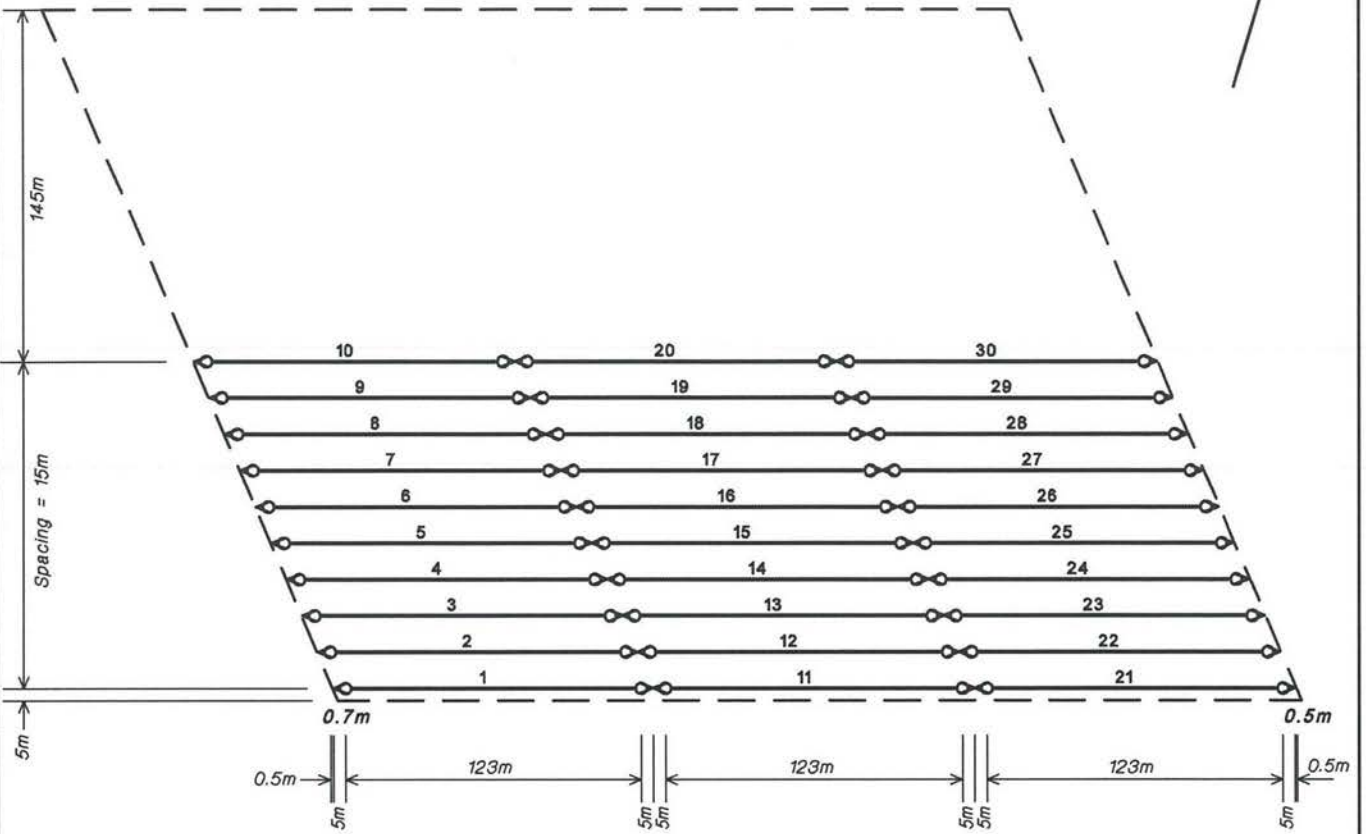
### Otago Harbour



MF\_2325c

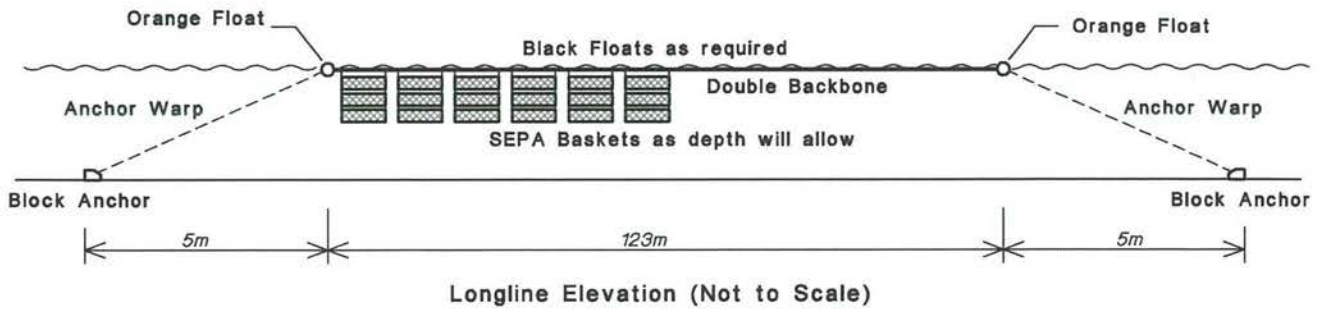


# OTAGO HARBOUR



Longline Spacing = 15m  
 Total Longlines = 30  
 Backbone Length = 123m  
 Total Backbone Length = 3960m  
 Warp Surface Loss = 5m  
 Depths are approx

- REFERENCE**
- < Anchor
  - o Orange Float
  - Double Backbone
  - - - Anchor Warp



PALMS

6 December 2013

## Structures Plan Proposed Coastal Permit (1804/1) Otago Harbour

SCALE 1:3,000



MF\_2325c





## Locality Map Proposed Coastal Permit (Ref 1804/2) Otago Harbour

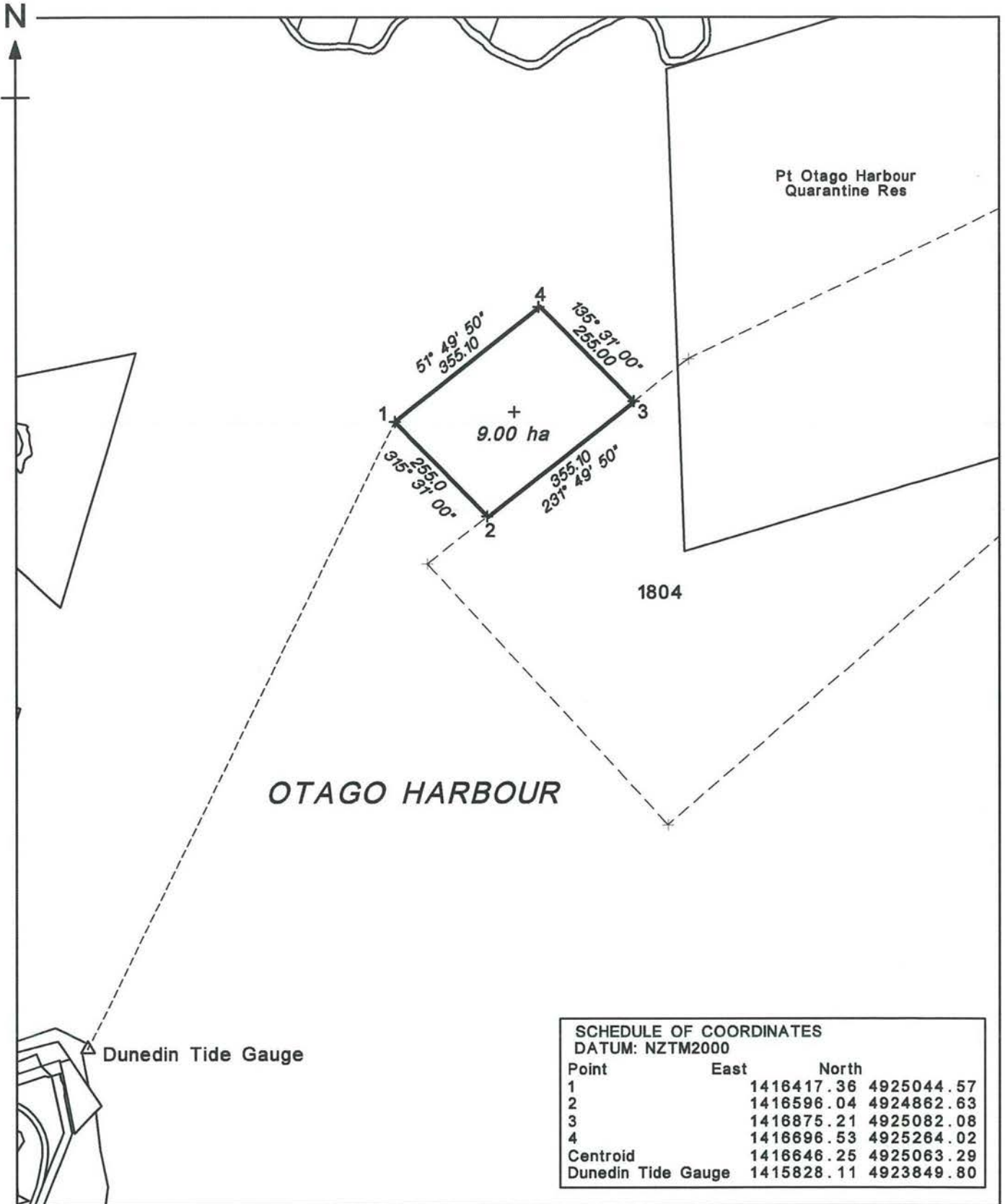
13 December 2013











SCHEDULE OF COORDINATES		
DATUM: NZTM2000		
Point	East	North
1	1416417.36	4925044.57
2	1416596.04	4924862.63
3	1416875.21	4925082.08
4	1416696.53	4925264.02
Centroid	1416646.25	4925063.29
Dunedin Tide Gauge	1415828.11	4923849.80



PALMS

# Proposed Coastal Permit

## Sanitation Area 1804

### Site Reference 1804/2

### Otago Harbour

SCALE 1:10,000



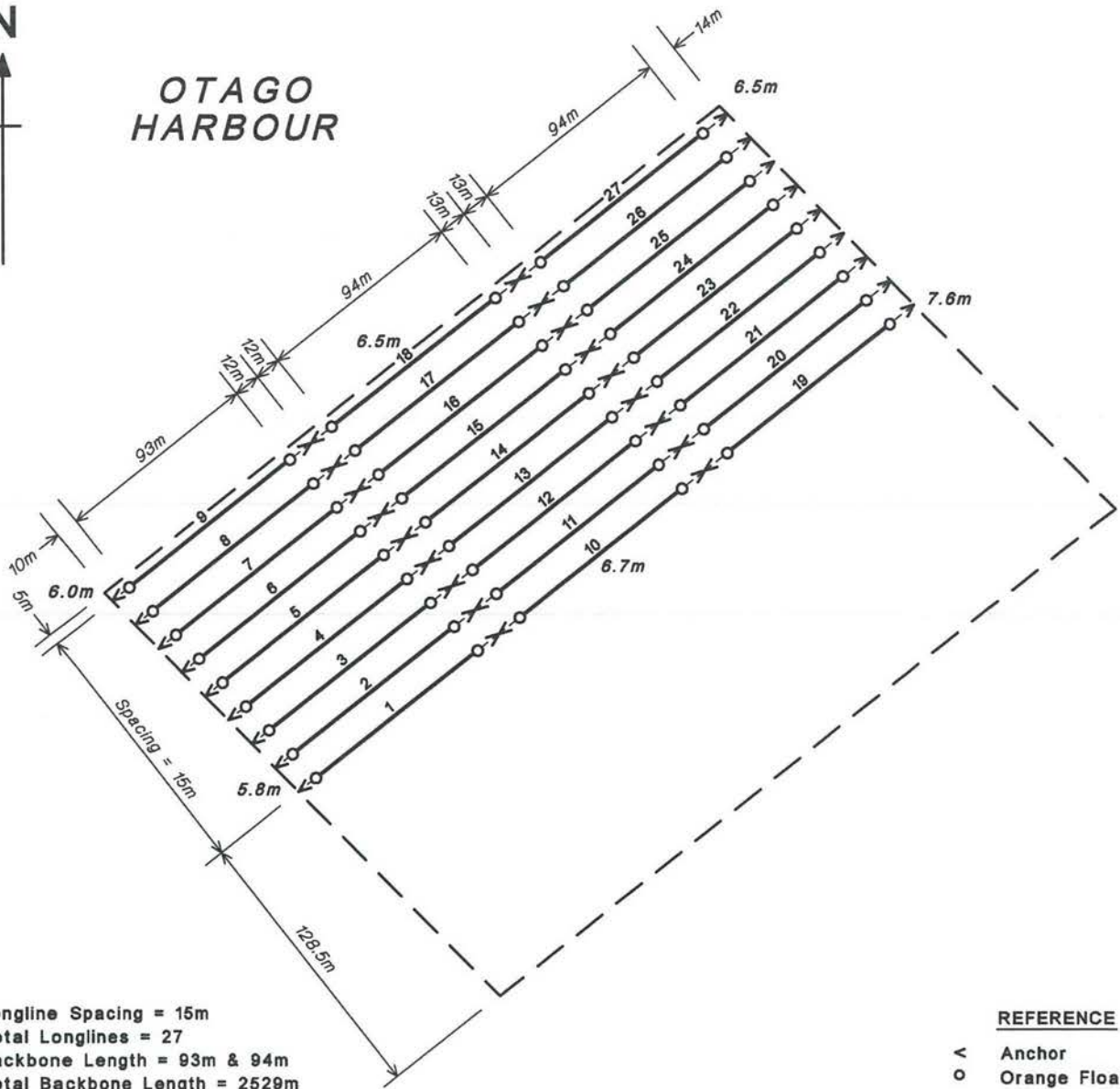
5 December 2013

MF\_2325b





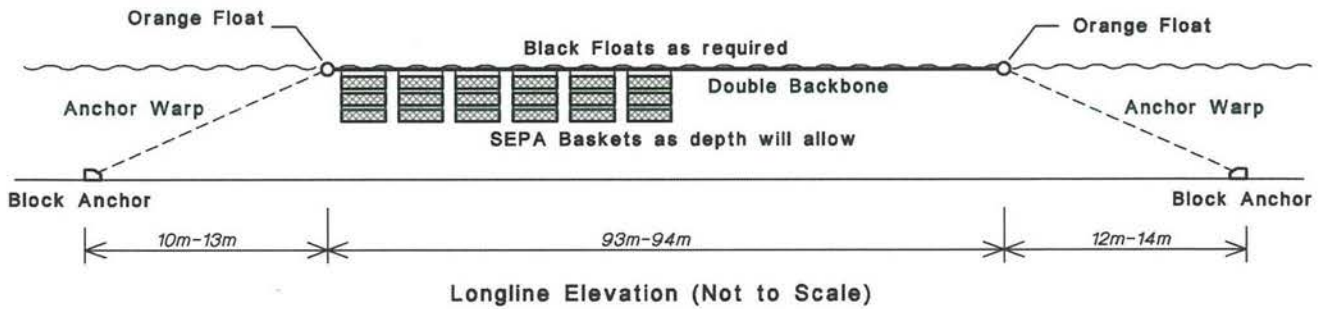
# OTAGO HARBOUR



Longline Spacing = 15m  
 Total Longlines = 27  
 Backbone Length = 93m & 94m  
 Total Backbone Length = 2529m  
 Warp Surface Loss = 10m - 14m  
 Depths are approx

### REFERENCE

- < Anchor
- o Orange Float
- Double Backbone
- - - Anchor Warp



PALMS

6 December 2013

## Structures Plan Proposed Coastal Permit (1804/2) Otago Harbour

SCALE 1:3,000



MF\_2325b





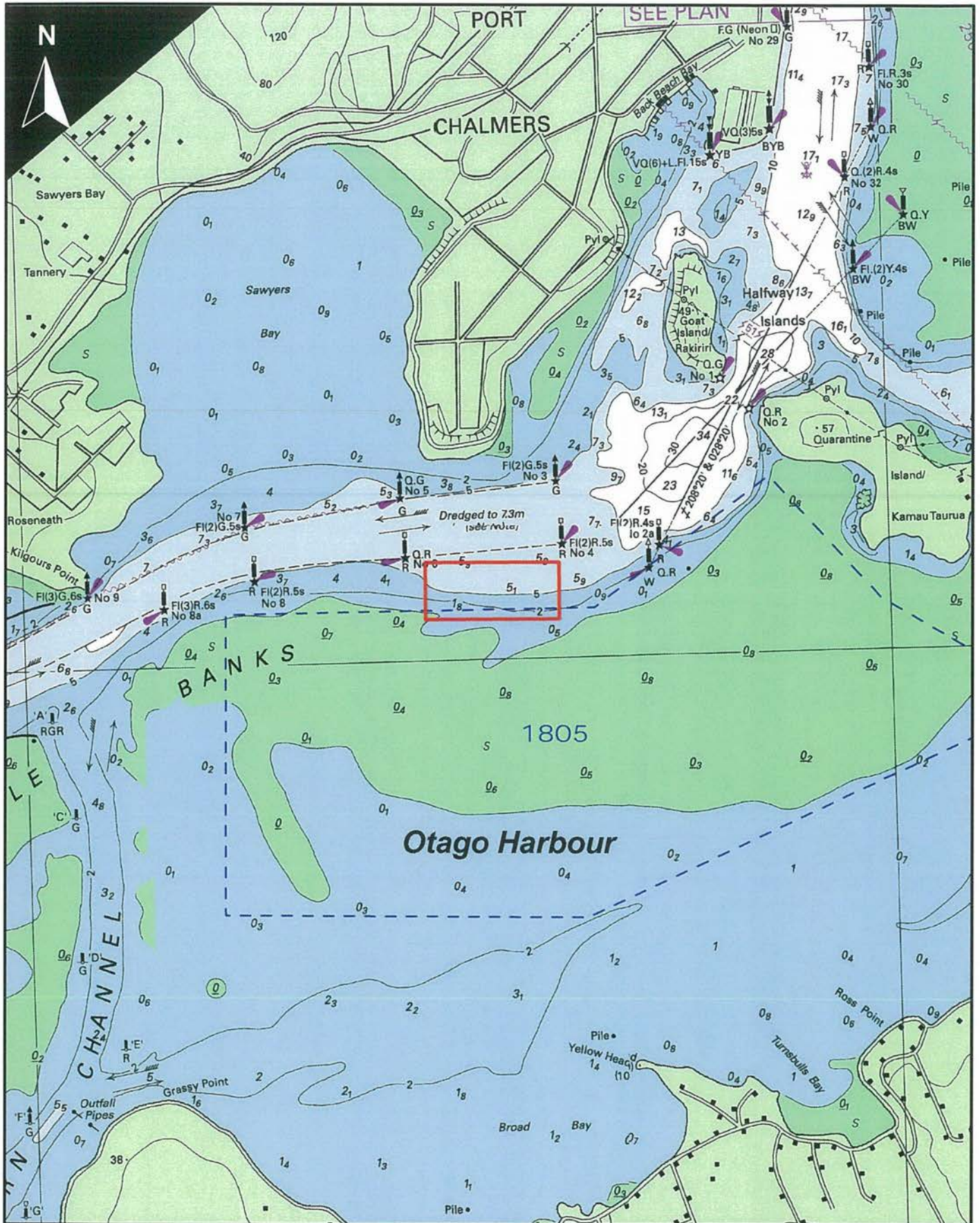
PALMS

## Locality Map Proposed Coastal Permit (Ref 1805/3) Otago Harbour

13 December 2013

Scale 1:50,000  
50 0 50 100 150 200 250 300 Meters





**REFERENCE**

- Proposed Coastal Permit
- Sanitation Area

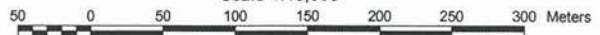


PALMS

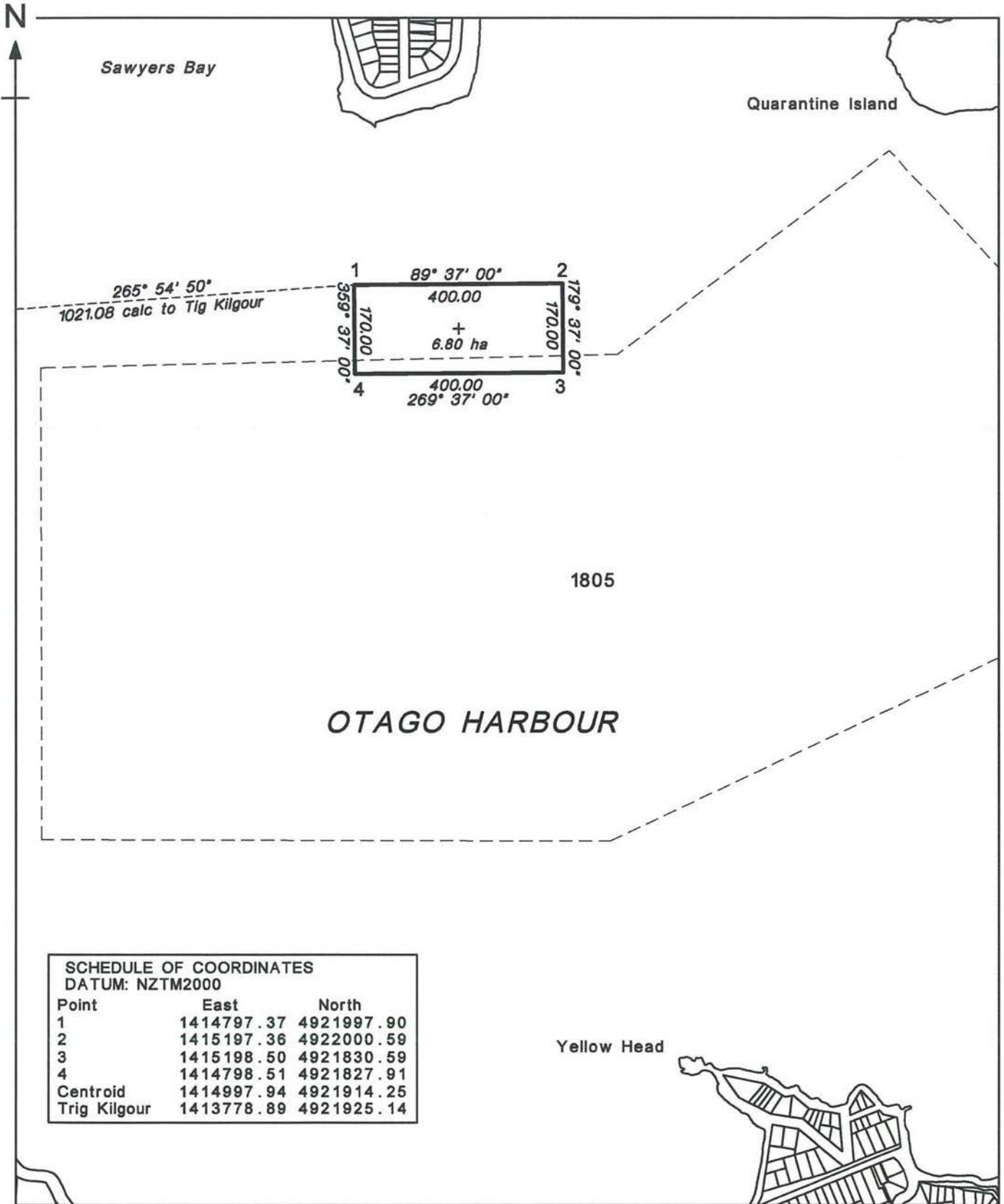
29 January 2014

**Proposed Coastal Permit  
(Ref 1805/3)  
Otago Harbour  
Hydrographic Chart Overlay**

Scale 1:15,000







**SCHEDULE OF COORDINATES**  
 DATUM: NZTM2000

Point	East	North
1	1414797.37	4921997.90
2	1415197.36	4922000.59
3	1415198.50	4921830.59
4	1414798.51	4921827.91
Centroid	1414997.94	4921914.25
Trig Kilgour	1413778.89	4921925.14

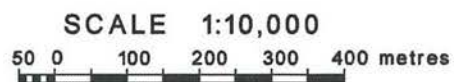
# Proposed Coastal Permit

Sanitation Area 1805  
 Site Reference 1805/3  
*Otago Harbour*



**PALMS**

29 January 2014

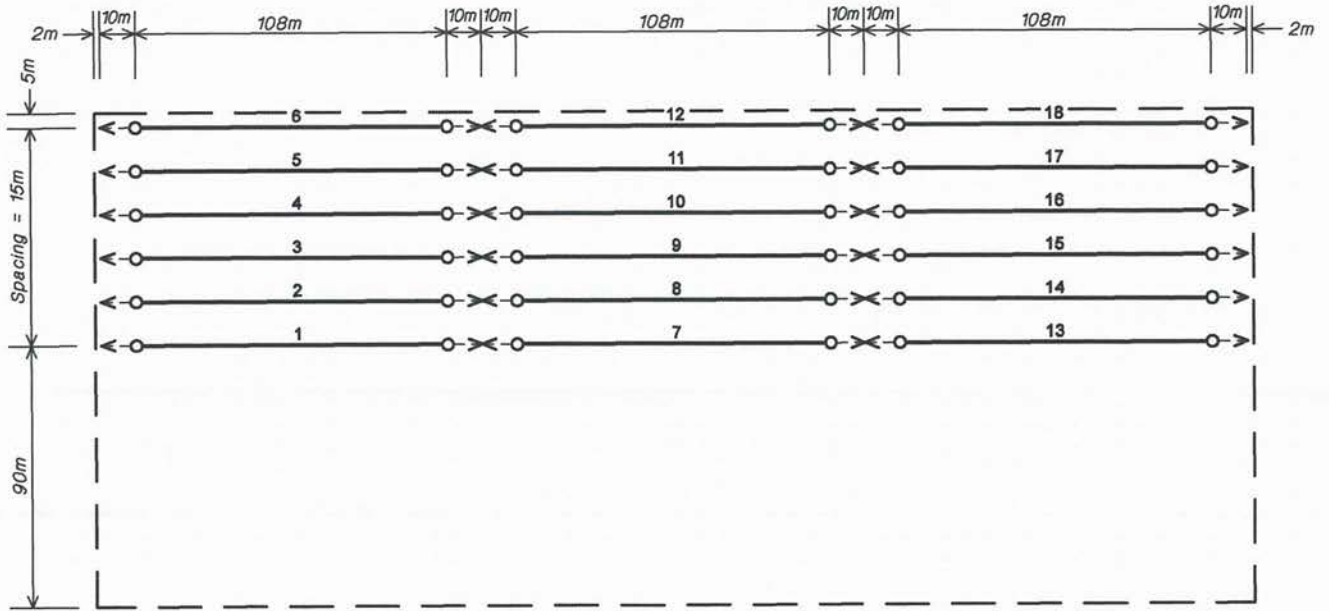


MF\_2325a4





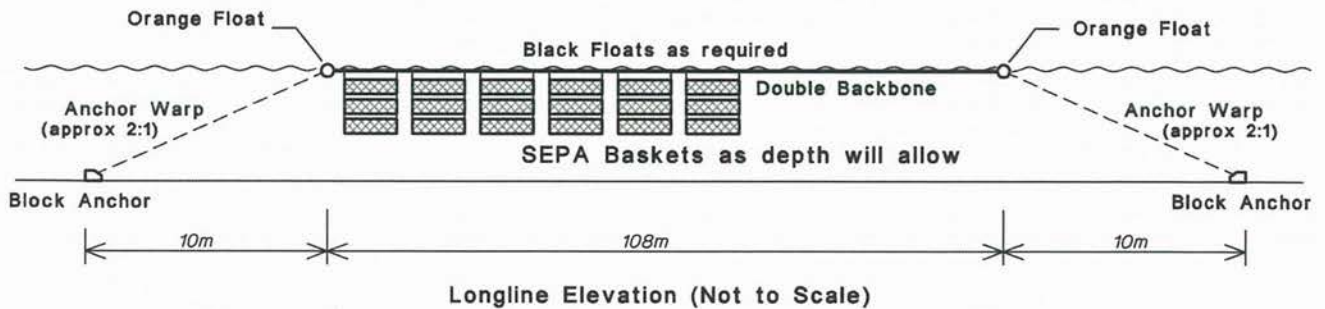
# OTAGO HARBOUR



Longline Spacing = 15m  
 Total Longlines = 18  
 Backbone Length = 108m  
 Total Backbone Length = 1944m  
 Warp Surface Loss = 10m

### REFERENCE

- < Anchor
- o Orange Float
- Double Backbone
- - - Anchor Warp



PALMS

29 January 2014

## Structures Plan

### Proposed Coastal Permit (1805/3)

### Otago Harbour

SCALE 1:2,500



MF\_2325a4

Diagram 13

Photos of vessel TUAKI







AAA 1804/2

Growing area 1804

AAA 1804/1



An aerial photograph of a coastal area, likely a bay or estuary. A red boundary line is drawn across the image, enclosing a large area of water and land. The water is a mix of dark blue and greenish-brown, indicating varying depths and sediment levels. The land is a mix of light brown and green, suggesting a mix of sand, mud, and vegetation. Several small red markers are scattered across the water area. The text 'AAA 1805/3' is overlaid on the left side of the image, and 'Growing area 1805' is overlaid in the center. There are also several small white labels with red borders, some of which contain the number '1805'.

AAA 1805/3

Growing area 1805



# 12

## Coastal Permit Application



(For Office Use Only)

Consent No.: \_\_\_\_\_

Restricted Coastal Activity:

Yes

No

Use this form for activities on the beach or seabed.

Show the location of the activity and adjoining properties on your map on Form 1. Include design plans and details with this application.

### Part A: General

1. Describe the activity and purpose:

Establish three aquaculture sites; 1804/1 (11.415ha), site 1804/2 (9.0ha) and site 1805/3 (6.80ha) with anchoring and longline structures to hold and farm the following species; Bluff Oysters, Queen Scallops, Tuaki – Clams and Paddle Crabs.

- |  | Yes                                 | No                                  |
|--|-------------------------------------|-------------------------------------|
| 2. Are you:  |                                     |                                     |
| (a) Reclaiming or draining?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| (b) Erecting, reconstructing, placing, altering, extending, removing or demolishing any structure? | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| (c) Disturbing the foreshore or seabed by excavating, drilling or tunneling?                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| (d) Depositing any substance?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| (e) Destroying, damaging or disturbing the seabed?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| (f) Introducing or planting any exotic or introduced plant?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| (g) Occupying the beach or seabed?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| (h) Removing sand, shingle or other material?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

3. (a) Describe how establishing the activity (ie construction) will affect the coastal marine area (ie the area below mean high water spring):

Construction will involve placing anchors with block or screw anchors wound into the seabed. The footprint for both systems is small less than 1m<sup>2</sup> for screw anchors and 2m<sup>2</sup> for block anchors.

(b) Describe how the completed work will affect the coastal marine area:

The work will have minimal impact on the coastal marine area.

4. What is the proposed commencement date of the work? Unknown

5. What is the proposed completion date? \_\_\_\_\_

## Part A: General (contd.)

6. Will the work be completed in stages? Yes  No
7. Is the work: Permanent  Or temporary
8. Who will be undertaking the work: Southern Clams Ltd
9. What are the proposed hours of operation/ construction?  
6am – 6pm on workdays when tide and weather conditions permit.

## Part B: Assessment of Effects on the Environment

1. Name the coastal area where the activity will take place?  
Otago Harbour
2. What is the area of the land involved? 1804/1 (11.415ha), 1804/2 (9.0ha), 1805/3 (6.8ha) hectares.
3. Are there any alternative locations or methods for carrying out the work? Yes  No
- (a) I yes, where and how?  
\_\_\_\_\_  
\_\_\_\_\_
- (b) Why have you chosen this location or method over the others?  
The sites where chosen as they fall within zones with approved shellfish sanitation programmes.  
\_\_\_\_\_
4. Please provide a GPS location of the activity in NZTM 2000 (New Zealand Transverse Mercator projection) format:  
Refer to AAE / Southern Clams Ltd  
Accurate GPS Location: E..... N.....  
*NOTE: This should be two seven digit numbers for example E1415593 N4923363*



## Part B: Assessment of Effects on the Environment (Contd.)

	Yes	No	Not Known
5. Within a reasonable distance of the activity are there are:			
(a) Obvious signs of fish, eels, insect life, aquatic plants, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Wetlands (e.g., swamp areas)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Waste discharges (e.g., from rural sources, industries sewage plants)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Recreational activities carried out (e.g., swimming, fishing, canoeing, boating)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Areas of particular aesthetic or scientific value (e.g. archaeological sites)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Will hazardous or toxic chemicals be used or stored on site (e.g, fuel)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Will the water quality be affected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(h) Will access to the coastal area be affected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(i) Areas or aspects of significance to Iwi?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(j) Will the proposed activity increase the risk of flooding?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Describe the plants, animals and habitat of the surrounding area:

See attached AEE

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If you have answered yes to any of the above, describe what effects your proposed coastal permit may have and the steps you propose to take to mitigate these.

See attached AEE

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