

Lorna Jackson

From: gay.vidal@xtra.co.nz
Sent: Tuesday, 24 May 2016 04:17 p.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 546215

This resource consent application submission has been made via the Council website on **24 May 2016 4:16pm**.
The details are listed below.

Personal information

Name WAYNE@GAY VIDAL
Address 87 MAIN SOUTH RD EAST TAIREI 9024 DUNEDIN
Contact phone 03 4896543
Fax
Email address gay.vidal@xtra.co.nz

Submission details

Consent number SUB-2016-28@LUC-2016-169
Position I support this application
Wish to speak? No
Present jointly to hearing? No
Parts of application that submission relates to Resource application for 82 Riccarton Road as stated above by Mainland Properties into 3 residential lots
Reasons for submission We support the application to sub divide
Desired decision we would like it passed as we support the development of more residences in this area

From: gay.vidal@xtra.co.nz
Sent: Monday, 23 May 2016 04:54 p.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 546124

This resource consent application submission has been made via the Council website on **23 May 2016 4:54pm**.
The details are listed below.

Personal information

Name WAYNE@GAY VIDAL
Address 87 MAIN SOUTH RD EAST TAIREI 9024 DUNEDIN
Contact phone 03 4896543
Fax
Email address gay.vidal@xtra.co.nz

Submission details

Consent number fub/2016/28&LUB/2016/169
Position I support this application
Wish to speak? No
Present jointly to hearing? No
Parts of application that submission relates to To subdivide the site at 82 Riccarton Road east, Mosgiel into 3 lots
Reasons for submission We agree that it would benefit the area to become residential
Desired decision to agree to the subdivision submitted by Mainland Poultry to subdivide 3 sites for residential use

FORM 13**SUBMISSION ON A PUBLICLY NOTIFIED APPLICATION
CONCERNING RESOURCE CONSENT UNDER SECTION 96,
RESOURCE MANAGEMENT ACT 1991**

To: Dunedin City Council

Submission on: Resource Consent Application SUB-2016-28 and LUC-2016-169 82
Riccarton Road East (held in Computer Freehold Register 171990)

Name of Submitter: New Zealand Fire Service Commission ('the NZFS Commission')

Address for service: C/- Beca Ltd
PO Box 13960
Christchurch 8141

Attention: Alice Burnett

Phone: (03) 550 0038

Email: alice.burnett@beca.com

This is a submission on an application submitted by Cubitt Consulting Limited for subdivision and land use consent to subdivide into three lots and establish a dwelling on each lot at 82 Riccarton Road East (held in Computer Freehold Register 171990).

The specific parts of the application that the NZFS Commission's submission relates to are:

The provision of sufficient water supply and access for firefighting purposes to the proposed development, which may impact upon the operations of the NZFS Commission.

Reason for submission:

In achieving the sustainable management of natural and physical resources under the RMA 1991, decision makers must have regard to the health and safety of people and communities. Furthermore, there is a duty to avoid, remedy or mitigate actual and potential adverse effects on the environment. The risk of fire represents a potential adverse effect of low probability but high potential impact. The NZFS Commission has a responsibility under the Fire Service Act 1975 to provide for firefighting activities in a safe, effective and efficient manner. As such, the NZFS Commission monitors development occurring under the RMA 1991 to ensure that, where necessary, appropriate consideration is given to fire safety.

In the case of this application, the NZFS Commission notes that mention has been made of the provision of a firefighting water supply to all three proposed lots (page 8 of the application). The NZFS Commission supports this approach taken by the applicant.

The NZFS Commission seeks to inform the applicant and the Council that should the application be granted, that a condition be placed on the consent to comply with the New Zealand Standard for the provision of a firefighting water supply, known as the New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008. This provides standards for the provision of a firefighting water supply in both reticulated and non-reticulated systems and access to these supplies in order to enable the NZFS to respond to a fire emergency efficiently and effectively. Further details on determining maximum fire size and the required quantity of firefighting water are outlined in Appendix H and J of the SNZ PAS 4509:2008.

The NZFS Commission also wishes to highlight the importance of providing adequate access to any on-site firefighting water supply that is installed. Firefighting appliances require a minimum access width and clearance height of 4 metres when attending a fire emergency in order to reach both the dwelling and the fire fighting water supply in a timely manner, as illustrated in Appendix B to this submission.

The NZFS Commission's submission is:

This is a **neutral** submission on behalf of the NZFS Commission. The NZFS Commission wishes to ensure that, if granted, the proposed subdivision can adequately provide for the operational requirements of the NZFS so that the NZFS can carry out its responsibilities in a safe, effective, and efficient manner as required by the Fire Service Act 1975.

It is important to the NZFS Commission that the proposed subdivision and land use activities recognise the importance of emergency services to the health and safety, and the well-being of future occupants. The NZFS Commission considers that the any future dwellings must be provided with an adequate fire fighting water supply in accordance with SNZ PAS 4509:2008 in order to reduce the fire risk.

The NZFS has qualified staff, experienced in this area, and would be happy to assist and advise on the fire safety aspects of the proposed land use activity.

The NZFS Commission seeks the following decision from the consent authority:

That, should the consent be granted, conditions be included on the consent stating the following:

1. *The minimum formed width of vehicular access to the dwellings shall not be less than four metres wide and have a vertical clearance of no less than four metres high to ensure New Zealand Fire Service appliances have sufficient vehicular access to the property.*
2. *The proposed dwellings must be provided with an adequate fire fighting water supply in accordance with SNZ PAS 4509:2008 in order to reduce the fire risk.*
3. *Underground tanks or tanks that are partially buried (provided the top of the tank is no more than 1 metre above ground) may be accessed by an opening in the top of the tank whereby couplings are not required. A hardstand area adjacent to the tank is required in order to allow a fire service appliance to park on it and access to the hardstand area must be provided as above.*

That the following advice note be included in the consent:

ADVICE NOTE:

For more information on how to comply with Conditions 1 & 2 above on how to provide for NZFS operational requirements refer to the New Zealand Fire Service Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008 (*this can be retrieved from*

<http://www.fire.org.nz/Business-Fire-Safety/Building-Design/Documents/NZFS-firefighting-water-supplies-code-of-practice.pdf>).

In particular, the following should be noted:

- *For more information on suction sources see Appendix B, SNZ PAS 4509:2008, Section B2.*
- *For more information on flooded sources see Appendix B, SNZ PAS 4509:2008, Section B3.*
- *The reserve capacities and flow rates stipulated in the above conditions are relevant only for single-family dwellings. In the event that any proposed dwelling provides for more than single-family occupation then the consent holder should consult with the NZFS as larger capacities and flow rates may be required.*

The NZFS Commission wishes to be heard in support of their submission.

If others make a similar submission, the NZFS Commission will consider presenting a joint case if a hearing is held.



*(Signature of person authorised to
sign on behalf of New Zealand
Fire Service Commission)*

13 June 2016

Appendix A

Alternative methods to achieve compliance with SNZ PAS 4509:2008 ('the NZFS Code'):

The NZFS Commission highly recommends that the best method to comply with the NZFS Code is the installation of a domestic sprinkler system in accordance with *Fire Sprinkler Systems for Houses NZS 4517:2010*, particularly in remote areas located some distance from the nearest NZFS fire station. Domestic sprinklers provide a highly effective means of early fire suppression which minimises the risk of loss of life, property damage and negative effects on the environment. Domestic sprinklers quickly apply water directly to the source of the fire and are the most reliable method to control a fire. Water usage by sprinklers is a lot less than that used by attending fire appliances, as water is only delivered onto the area of the fire rather than all sprinklers activating simultaneously. This contains the fire using minimum amounts of water. The systems are easily installed at the point of construction and are designed to be visually discreet. The NZFS Code recommends that a standard dwelling with an installed domestic sprinkler system requires a minimum dedicated water supply of 7,000 litres. This water storage can be provided within a proposed potable water tank through including a reserve supply with a cut-off valve to maintain 7,000 litres at all times as shown in the figure below.

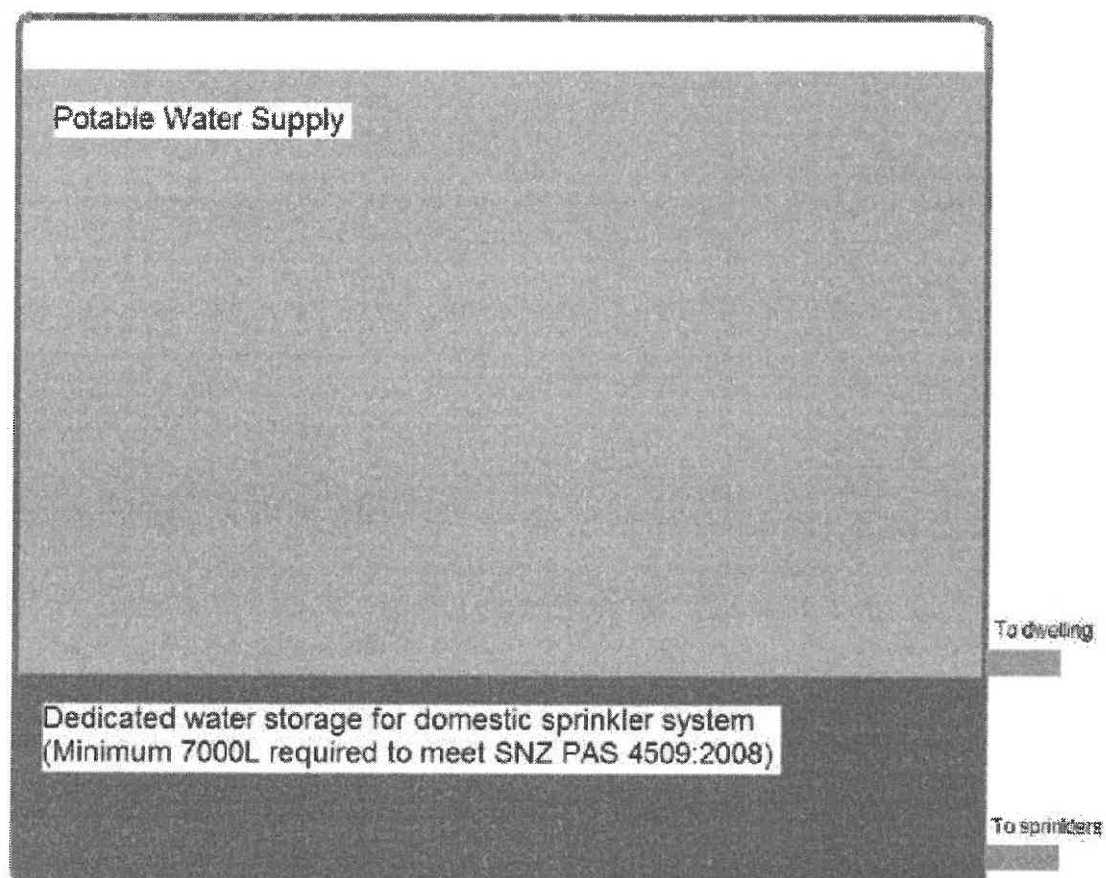
Another means of complying with the NZFS Code is the installation of a dedicated firefighting water supply to be used by the NZFS in the event of an emergency. The NZFS recommends a 20,000 litre fire-fighting water supply be made available for a single family dwelling. In the event that the proposed dwelling provides for more than single family occupation, then the Applicant should consult with the NZFS as a static fire fighting water supply greater than 20,000 litres will be required. It is essential that the tanked fire fighting water supply is located within 90m of the proposed dwelling. As well as the minimum water storage, the NZFS Code identifies other associated requirements, such as a compliant 100 mm female round thread coupling with an on/off valve, and a hard-standing surface within 6 metres of the coupling for fire appliances to park on.

Aside from the installation of domestic sprinkler systems or dedicated static water storage tanks, there are other water sources that can achieve compliance with the NZFS Code. Such alternative sources can be water from any year-round source such as dams, swimming pools, stream water, seawater, etc., provided that source is adequately available for use by the NZFS and it meets the other requirements of the NZFS Code that includes a hard-standing area for fire appliances. Hard stand areas are required to have a minimum width of 4.5 metres.

The NZFS have qualified staff, experienced in this area, and would be happy to assist and advise on the matters covered in this submission. The NZFS is committed to working with developers to identify the most effective form of compliance for each individual situation.

Figure 1:

Water storage option for domestic sprinklers



Appendix B: Access for Fire Appliances in Rural Areas



NEW ZEALAND
**FIRE
SERVICE**

If we can't get to you,
we can't help you.



Delays in an emergency can be devastating

If a fire breaks out, many rural property owners face an increased risk due to their remote location and the distance from the nearest fire brigade.

Even when we arrive, our response can be compromised by our fire appliances not being able to gain access onto driveways due to overhanging branches or narrow gates and fence lines. There are also issues with no clear pathways to water resources on properties.

Remember the 4x4 Rule

In an emergency it's critical our fire appliances and crews can get to you as soon as possible.

Access to driveways and water supplies

MUST have a width and height
clearance of at least four metres.

If you ever have to call 111, always quote your RAPID number and ensure it is clearly displayed on your mailbox.



NEW ZEALAND
**FIRE
AUTHORITY**
Your safety is our priority



NEW ZEALAND
**FIRE
SERVICE**



SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under sections 95A.

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

SUB-2016-28 & LUC-2016-169

Applicant: Mainland Property (204) Limited

Site Address:

82 Riccarton Road East, Mosgiel

Description of Proposal:

To subdivide the site into three lots of 2.0 to 2.5ha and to establish residential activity on each of the new lots.

I/~~we~~ wish to lodge a submission on the above resource consent application:

Your Full Name: Margaret Sandra Scott

Address for Service (Postal Address): 103 Main St Rd, East Taieri

Post Code: 9029

Telephone: 03 489 2030

Facsimile: _____

Email Address: msscott@xta.co.nz

I: ~~Support~~ ~~Neutral~~ / Oppose this ApplicationI: Do/~~Do Not~~ wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

ie specific parts of the application that this submission relates to are:

- 1) Slip prone area — as per letter received from DCC Dec last year
- 2) Rural Zoning — non complying — visual into my property from the Taieri —

My submission is [Include the reasons for your views]:

- 3) URGY — concerned at impact on water run off from house — "stormwater and effluent from site will be disposed of using approved systems" — no detail — water source mainly from on site collection but could be more. In particular Site 2 — is directly above my house — I have a water run off problem at the moment — see council notes from 2012 31st May & then Oct 2015 — sent to council — as there is a ditch behind my house part of property flood causes problems I can see a household — no future buildings ever — of water ~~also~~ making it worse.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

- Not to build
- more specific conditions over planting — not more bulky
- dealing with drainage — & effluent disposal in future more specific

Signature of submitter: M Scott

(or person authorised to sign on behalf of submitter)

Date: 14/June 16

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Thursday, 16 June 2016 at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is C/O Cubitt Consulting Limited, 11 Bedford Street, Dunedin 9012.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.



7 June 2016

50 The Octagon, PO Box 5045, Moray Place
 Dunedin 9058, New Zealand
 Telephone: 03 477 4000, Fax: 03 474 3488
 Email: dcc@dcc.govt.nz
www.dunedin.govt.nz

M S Scott
 103 Main South Road
 East Taieri
 Mosgiel 9024

Dear Madam

**Notified Resource Consent application SUB-2116-28 & LUC-2016-169 for the property at
 82 Riccarton Road East, East Taieri**

Further to our telephone conversation this morning please find enclosed in response to your request:

An aerial photo showing property addresses adjacent to and including the subject site;
 A copy of the scheme plan/site proposal;
 A lighter copy of the aerial photo incorporating the scheme plan/site proposal;
 A lighter copy of the site proposal from the geotechnical report.

It is intended that the site proposal plan and the aerial photo are viewed in conjunction with each other.

For further information please contact the handling officer for this application, Lianne Darby on 4743692.

Yours faithfully

Lorna Jackson
 Planning Administrator

Encl.

The original copies posted
 out were totally inappropriate
 for people to comment on—
 could not be read

RMA Form 13
Submission on publicly notified application concerning resource consent
Section 96 Resource Management Act 1991

To: Dunedin City Council
PO Box 5045
Dunedin 9058

Name of submitter: Otago Regional Council

This is a submission in opposition of resource consent applications: SUB-2016-28 and LUC-2016-169

Applicant: Mainland Property (2004) Ltd

Brief Description of Application: Subdivide 82 Riccarton Road East, Mosgiel into three lots, and associated residential activity, both non-complying activities under the operative district plan, and the proposed second generation district plan (2GP).

Submission overview

The specific parts of the application that this submission relates to are:

- unplanned intensification of rural land
- natural hazards
- on-site water discharges

This submission is:
The ORC opposes this application.

Decision requested

The Otago Regional Council seeks the decision that Dunedin City Council (DCC) decline consent unless it is satisfied that:

1. Any natural hazards can be appropriately mitigated, and
2. Management of stormwater and wastewater will not exacerbate the risk of land instability on or beyond the proposed lots.
3. The subdivision does not set a precedent for further unplanned intensification of rural land near Mosgiel.

The Otago Regional Council wishes to be heard in support of this submission.

Mission Statement: "To promote the sustainable development and enhancement of Otago's resources"
70 Stafford St, Private Bag 1954, Dunedin 9054. Telephone (03) 474-0827



1 Setting

82 Riccarton Road East is a largely green field site with two existing structures in the top south east corner of the property.



Figure 1. Proposed subdivision location

2 Natural Hazards

2.1 Risk

A search of the ORC's natural hazards database identifies land instability issues affecting this site. The report is appended to this submission.

While the application is for a three lot subdivision, a recent, natural hazard assessment has only been provided for one of the lots.

It notes that geotechnical information in respect to natural hazards for proposed lots 1 and 2 was considered as part of previous consent processes in 2004 and 2006 but it was not supplied with this new application.

A geotechnical assessment is provided with the application only for proposed lot 3, which the ORC's natural hazard unit has reviewed.

2.2 Comments on Geotechnical Report

ORC is concerned that the geotechnical report is insufficient for the DCC to make a decision on this application.

There is a sizeable mapped landslide feature in the centre of the property, approximately 150 metres long by 100 metres wide. This was originally mapped by McKellar (1990). This feature is clearly visible on LiDAR and aerial imagery which is shown below in Figure 2.



Figure 2. Mapped landslide feature by McKellar (1990) at 82 Riccarton Road East. Other small landslide scarps outlined.

The geotechnical report supporting the application identified part of this area of instability but appears to present the landslide as a series of smaller slips confined to loess, rather than one larger deep-seated landslide complex. There are other areas of instability on the property not identified in this report.

Furthermore there is no assessment of global stability on the property. There is extensive land instability in the surrounding area, including across all three proposed lots. There is no evidence that excavations, ground test or subsurface investigations were undertaken on the proposed building platforms.

The site has Loess slopes as present on the site which are very prone to shallow erosion such as tunnelling, small mobile slips and gully erosion.

2.3 Wastewater and stormwater

ORC's concerns as to conditions on this site are significant as it is proposed to discharge both wastewater and stormwater to land on site. It is important that consideration is given to how this further concentration of water on to land could adversely affect land instability conditions on the site including the discharge of water on proposed lots 1 and 2.

3 Assessment of Application

It is important to assess the application against the objectives and policies of the operative and proposed Regional Policy Statements as well as the operative district plan and the proposed 2GP.

3.1 Regional Policy Statement

There is no assessment of the current Regional Policy Statement (RPS) nor the proposed RPS in the application.

Policy 11.5.3 of the current RPS guides restricting development on sites or areas recognised as being prone to significant hazards unless adequate mitigation can be provided.

While the application notes the property is subject to a land instability hazard, ORC's position is that further information is required to determine how the proposed lots may be affected by this risk as well as how the activities may affect the land instability conditions. Relying on an 10 year old assessment of land instability in relation to Lots 1 and 2, is not appropriate, particularly as the scale and characteristics of that risk may have changed in that time. For example many areas of land with land instability were affected by the Otago coastal flooding event on 3 June 2015 and it is uncertain if the applicant's site was affected.

If subdivision consent is granted, then the assessment of natural hazards can inform any assessment of land use applications for structures such as residential dwellings including the consideration of resident's health and safety.

3.2 Proposed Regional RPS

While the objectives and policies of the proposed RPS cannot be given as much weight as the operative RPS, they must be considered. This is particularly important given the proposed RPS reflects much stronger and up to date guidance as to the community's expectations in managing resources. It is also the RPS process is well advanced with hearings having concluded.

3.2.1 Risk

Objective 3.2 the proposed RPS requires the following:

- Managing natural hazard risk (Policy 3.2.4) based on:
 - the risk posed, likelihood and consequences
 - implications of residual risk
 - community's tolerance of that risk

- Avoiding increased risk (Policy 3.2.6) including:
 - avoiding activities that significantly increase risk
- Reducing existing natural hazard risk (Policy 3.2.7) by:
 - discouraging activities that increase risk
 - considering the use of exit strategies for areas of significant risk
 - reassessing natural hazard risk, and community tolerance of that risk, following significant natural hazards events.

The subdivision of land which is an undeveloped green field area of land (for the purpose of building two new residential dwellings) is inconsistent with Policy 3.2.6 of the proposed RPS. Granting of the subdivision also encourages an activity that will increase the risk by allowing a change in the use of an undeveloped area. This is inconsistent with Policy 3.2.7.

Any building platforms should be located on appropriately safe ground to ensure any natural hazard risk and residual risk is managed so that the likelihood and consequence is 'low' as per Table 11.1 of the 2GP.

3.2.2 Urban Growth

Objective 3.8 of the proposed RPS requires that urban growth is well designed and integrates effectively with adjoining urban and rural environments.

Policy 3.8.3 requires that subdivision, use and development of rural land is managed to avoid fragmentation of land where primary production capacity may be lost and creating unplanned demand for provision of infrastructure.

ORC's recognises that the site has less productive potential than land that is on the Taieri Plains due to its size and slope.

The effect of creating further hard surfaces (which effects water run off) and the resulting pressure on drainage – whether by reticulated services or natural land drainage must also be considered. Given the proposal is a non-complying activity under both the operative district plan and the proposed 2GP, care is required to ensure an undesirable precedent is not set, particularly against the new, more restrictive site size rules (16.7.4.1 and 16.9.5.5) of the 2GP.

The effect of having to allow further consents to be granted, both in the immediate area and elsewhere, in 'exception' to the current district plan and proposed 2GP rules would result in a cumulative effect on potential land productivity, infrastructure demand and environmental services over time. This would be contrary to Objective 3.8 and its policies in the proposed RPS.

4 Conclusion

The applicant's proposal will result in allowing three dwellings to be built on three separate lots of land. In respect to the identified natural hazard of land instability which effects this property, ORC's position is the geotechnical information and assessment in support of the application is insufficient.

ORC is also concerned that as this application, as one of the first applications to be considered under the relevant rules of the proposed 2GP as a non-complying activity, granting of consent may set an undesirable precedent. While ORC appreciates consideration must be also given to the current district plan's rules, it must be recognised that these current rules were developed at a time when there was less pressure on the fragmentation of rural land and the associated effects this has on infrastructure and ecosystem services such as natural land drainage. A focus of the application's argument for allowing consent is around amenity values and character. DCC must give appropriate weight to the direction the community has requested in the development of both the proposed RPS and 2GP in respect to development and use of land in rural areas and potential adverse effects.

.....
Fraser McRae
Director Policy, Planning and Resource Management

16 June 2016

.....
Date

Address for service of submitter: Otago Regional Council
Private Bag 1954
DUNEDIN
Telephone: (03) 474 0827
Fax: (03) 479 0015
Email: warren.hanley@orc.govt.nz
Contact person: Warren Hanley
Resource Planner - Liaison

A copy of this submission has been sent to:

Mainland Property (2004) Ltd
C/- Cubitt Consulting Ltd
11 Bedford Street
Dunedin 9012



Natural Hazards Database Report

The information displayed is schematic only and serves as a guide.
It has been compiled from Otago Regional Council's records and is made available in good faith but its accuracy or completeness is not guaranteed.
Cadastral Information has been derived from Land Information New Zealand (LINZ) Core Record System Database (CRS).

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Wednesday, 8 June 2016

Valuation Information

Valuation Number

2790114216

Parcel Information

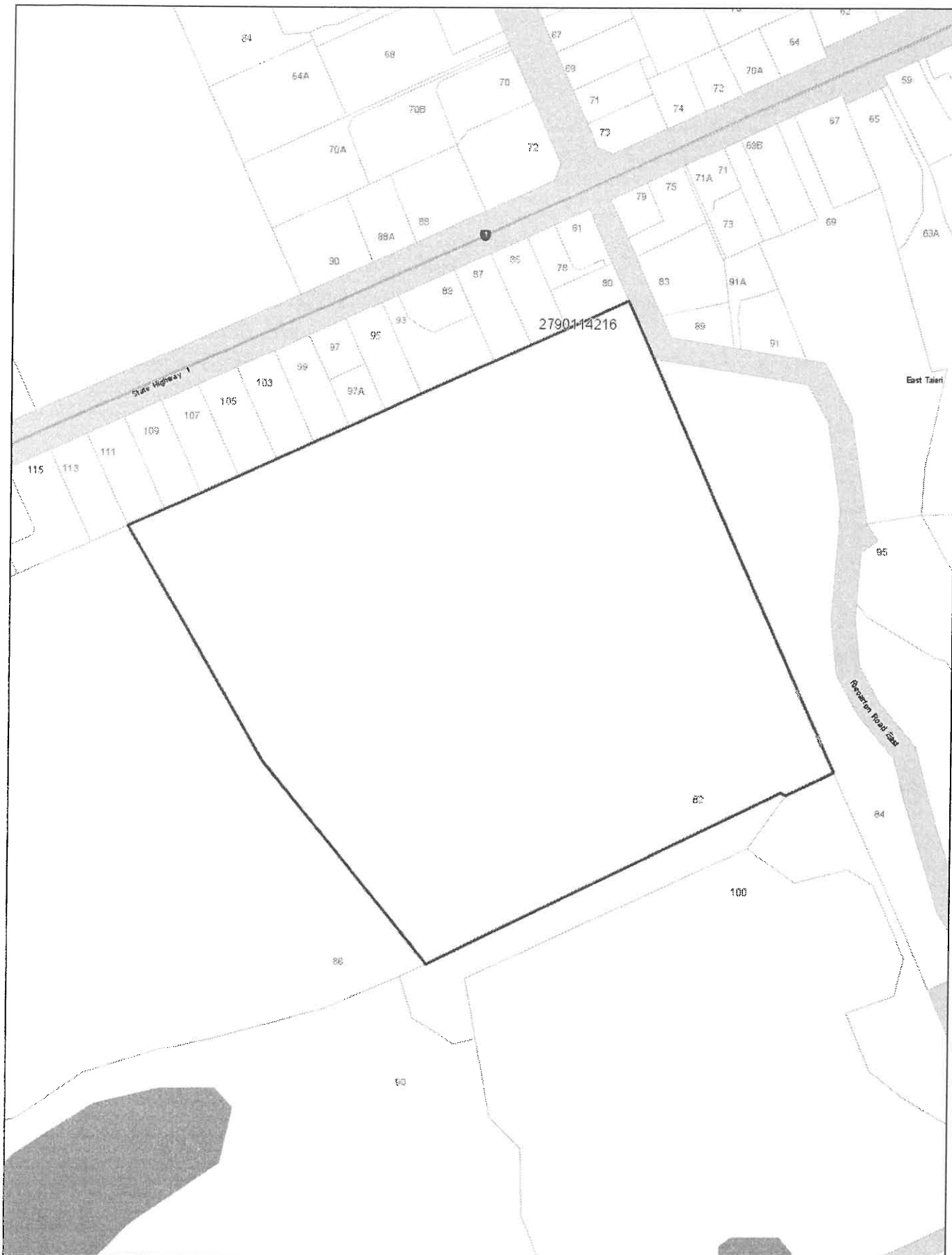
LINZ Parcel Information

Parcel Id	Appellation	Affected Surveys	Survey Area	Calculated Area
6745082	Lot 28 DP 341800	DP 341800	66862	66829

Title Information

LINZ Title Information

Title No	Status	Type	Land District	Issue Date	Guarantee Status	Estate Description	Owners
171990	LIVE	Freehold	Otago	2005-06-08	Guarantee	Fee Simple, 1/1, Lot 28 Deposited Plan 341800, 66,862 m2	1



**Otago
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Council**

Land Map

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Scale 1:2500

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Original Sheet Size 210x297mm



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Aerial Photo Map

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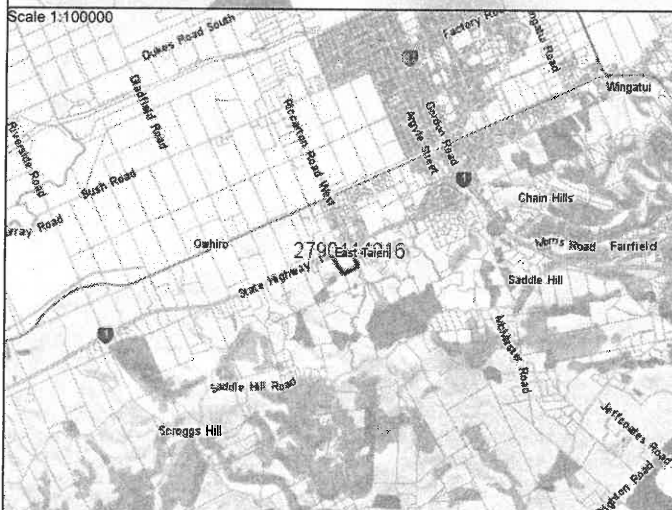
Wednesday, 8 June 2016

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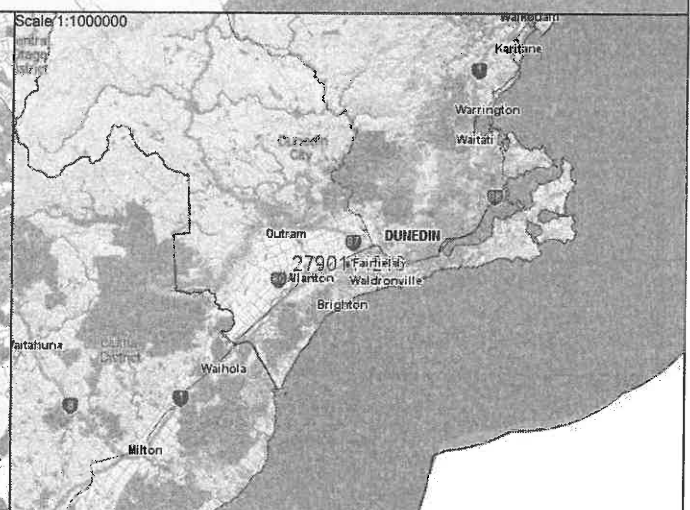
Scale 1:10000



Scale 1:100000



Scale 1:1000000



Location Maps

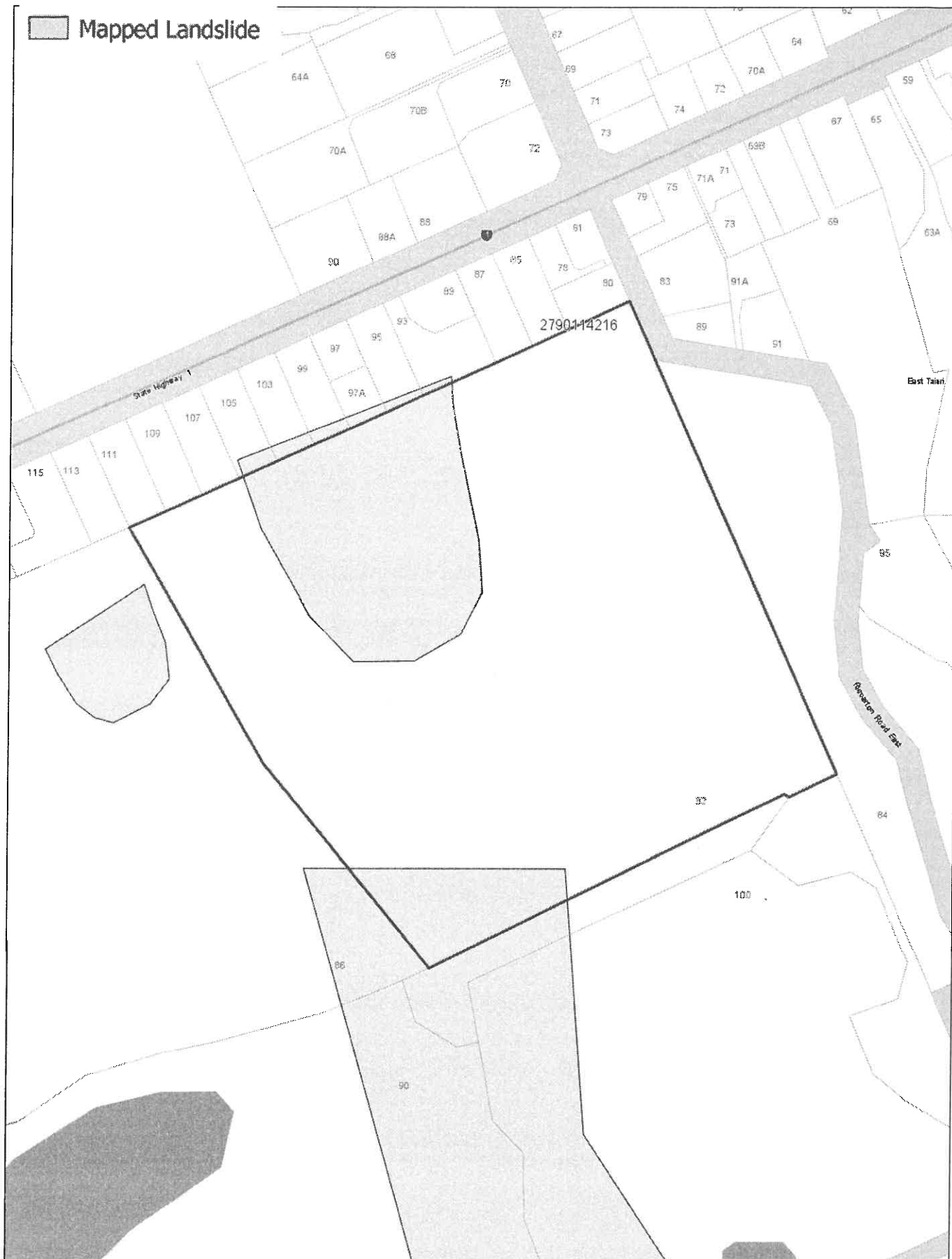
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Landslides Map

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Landslides Data

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Landslide Information

Landslide Information

Source Report	Movement Type	Map Source	Map Scale	Movement_Geology	Disclaimer
Air photo interpretation for QMAP Dunedin		GNS	50000		This Natural Hazards Database provides information about known occurrences of hazards. The hazard information is generally relevant over a reasonably wide area. As such, the information contained within this database is not a substitute for a Land Information Memoranda (LIM), which will provide relevant hazard information relating to specific parcels of land.
Miscellaneous map of New Zealand-southwest Dunedin Urban		GNS	25000		This Natural Hazards Database provides information about known occurrences of hazards. The hazard information is generally relevant over a reasonably wide area. As such, the information contained within this database is not a substitute for a Land Information Memoranda (LIM), which will provide relevant hazard information relating to specific parcels of land.



**Otago
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Documents

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Wednesday, 8 June 2016

1. Flood Reports

List of Flood Reports for the Otago Region

Document Title	Relevance Category	Date Publication
Flood Response Handbook (June 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=6	M	39203
Taieri River Investigation Report (May 1964) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=7	M	23498
Flood Hazard on the Taieri Plain and Strath Taieri (2014) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=588		2014/06/10
Flood event 24 - 29 May 2010 (June 2010) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=76	H	2010/06/01
July Floods 07 (Aug 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=66	H	2007/08/06
Flood Procedures Summary Document (Nov 2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=64		2006/11/20
Mosgiel Flood Event 25-26 April 2006 and future action (Nov 2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=39	H	2006/11/11
Otago Flood Event 25th and 26th April 2006 (May 2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=73	H	2006/05/25
Floodplain development and flooding risk in Otago (Sep 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=90		2005/09/08
Managing Lower Taieri Floods A Fresh Approach To An Old Problem (1995) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=41		1995/06/01
Taieri Plains Flood Emergency Response Report (Feb 1988) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=129		1988/02/01
Flood Report for the February and March 1986 Floods (June 1986) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=13		1986/06/01
Taieri Plains Flood June 1980 - The Forgotten Flood A Commentary on Events During and After the Flood (October 1982) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=40		1982/10/01
Otago Catchment Board Flood Report 1980 - A Collection of Diary Notes, Reports, Data and Press Clippings (1980) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=17		1980/12/12
Flooding at Taieri and Waipori (June 1980) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=115		1980/06/30
The 100 Year Flood - 1978 (1978) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=116	L	1978/12/31
Flood Disaster 1978 (Nov 1978) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=117		1978/11/30
The Great Flood of '78 (Aug 1978) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=118		1978/08/01
Flooding and Flood Control on the Taieri Plain (1966) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=112	H	1966/12/01
Supplement to Floods in New Zealand 1920-53 - District Maps (1957) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=120		1957/12/31
Floods on the Taieri Plain (1923-1924) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=38		1924/01/01
Plan showing flood area on Taieri Plains during May 1923 (1923) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=521	H	1923/01/05
1920 New Zealand Taieri River (May 1920) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=37	L	1920/06/01
Floods in the Taieri Plains - ODT Articles (1870 to 1917) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=121		1917/11/05

Document Title	Relevance Category	Date Publication
Report of the Commission on the Floods in the Taieri River (June 1880-March 1917) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=42		1917/03/01
Report of the Waipori and Taieri Rivers Commission (March 1917) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=43		1917/03/01

2. Flood Protection Reports

List of Flood Protection Reports for the Otago Region

Document Title	Relevance Category	Date Publication
Lower Taieri Flood Control and Drainage Scheme Classification (April 1986) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=149	M	32618
Lower Taieri Flood Control and Drainage Scheme (May 1988) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=146	M	32269
A Preliminary Evaluation of the Proposed Taieri Flood Control and Drainage Scheme (Sep 1985) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=145	L	31291
Lower Taieri Flood Control and Drainage Scheme - Final Proposal (July 1985) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=148	M	31229
LTFPDS EIA Analysis of Submissions Received (Oct 1984) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=147	M	30956
Flood Protection Management Bylaw (2012) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=575		2012/09/01
Flood Protection Management Bylaw (Sep 2012) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=556	H	2012/01/09
Lower Taieri Flood Hazard Mitigation - School Road Diversion Channel (April 2009) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=217		2009/04/03
East Taieri Scheduled Drain Alterations, Wyllies Crossing (April 2009) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=181	L	2009/04/03
Lower Taieri River Flood Protection Scheme Flooding Risk Assessment and Scheme Review - Update (April 2008) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=218		2008/04/11
Pump Station Condition Assessment (Aug 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=224		2007/08/22
Taieri Floodplain Risk Mitigation Plan "Progress Report (April 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=232		2007/04/16
Taieri Floodplain Risk Mitigation Plan (May 2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=233		2006/05/25
Floodbank Stability Assessment, Lower Taieri Scheme (Jan 2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=183		2006/01/19
Floodbank Stability Assessment, Lower Clutha and Taieri Flood Protection Schemes - Update (Nov 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=250		2005/11/11
Lower Clutha and Taieri Floodbank Systems Geotechnical Evaluation - Stage 2 (Sep 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=159		2005/09/01
Floodbank Stability Assessment, Lower Clutha and Taieri Flood Protection Schemes (July 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=252		2005/07/19
Lower Taieri Floodbank System Geotechnical Evaluation (June 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=171		2005/06/01
Flood Control on the Lower Taieri (November 1994) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=162		1994/11/01
Lower Taieri Flood Control and Drainage Scheme - Progress Report for the Year to 31 March 1989 (May 1989) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=165		1989/05/01
Lower Taieri Flood Control and Drainage Scheme Classification Final Draft (February 1986) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=166		1986/02/01
Lower Taieri Flood Control and Drainage Scheme Environmental Impact Assessment (May 1984) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=167		1984/05/01
Lower Taieri Flood Control Drainage Scheme Preliminary Proposal (April 1984) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=168		1984/04/01
Lower Taieri Flood Control & Drainage Scheme Preliminary Proposal (September 1983) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=163		1983/09/01

Document Title	Relevance Category	Date Publication
Lower Taieri Flood Control & Drainage Scheme Preliminary Proposal (August 1983) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=164		1983/08/01
Lower Taieri Flood Control Project Volume 1 (2nd Edition) Revised East Taieri Internal Flood Control and Drainage Scheme (June 1974) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=170		1974/06/01
Lower Taieri Flood Control Project Volume 1 East Taieri Internal Flood Control and Drainage Scheme (October 1970) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=169		1970/10/01
Taieri Plain Pumping Station (1932-1933) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=172		1933/01/01

3. Alluvial Fan Reports

List of Alluvial Fan Reports for the Otago Region

Document Title	Relevance Category	Date Publication
Otago Alluvial Fans Project Supplementary Investigation (Apr 2009) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=267	H	39904
Otago Alluvial Fans Project Regional Review (Mar 2009) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=266	H	39873
Otago Alluvial Fans Project - Interim Report (May 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=268	L	39203
Assessment of debris flow potential on alluvial fans in Otago, New Zealand, using morphometry (June 2010) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=276	L	2010/06/01
Otago Alluvial Fans Hazards (April 2009) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=271	H	2009/04/06
Otago Alluvial Fans Hazard Identification (June 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=270	M	2007/06/01

4. Seismic Reports

List of Seismic Reports for the Otago Region

Document Title	Relevance Category	Date Publication
Seismic Risk in the Otago Region (Mar 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=281	H	38412
Earthquake Hazards in the Otago Region (Aug 1995) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=282	M	34912
Report received Seismic Risk in the Otago Region (May 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=285	M	2005/05/27
Strain Accumulation and Episodicty of Fault Movements in Otago (June 2004) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=289	L	2004/06/01
Otago Regional Council issues associated with the 22 August earthquake (Aug 2003) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=284	L	2003/08/25
Planning for Development of Land on or Close to Active Faults (July 2003) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=578		2003/07/01
Seismic Risk in Otago (May 2003) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=286	M	2003/05/21
Probability of Rupture of the Alpine Fault Allowing for Uncertainties (Sep 2000) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=287	L	2000/09/01
Probability and Consequences of the next Alpine Fault Earthquake (Mar 1998) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=295	L	1998/03/31
Seismotectonic Evaluation of Fault Structures in East Otago (1991) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=292	L	1991/12/31

5. Tsunami Reports

No Tsunami Reports available

6. Coastal Reports (including Storm Surge)

No Coastal Reports (including Storm Surge) available

7. Landslide Reports

List of Landslide Reports for the Otago Region

Document Title	Relevance Category	Date Publication
Regional Landslip Risk and Inventory Project (July 2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=369	H	2006/07/19
Regional Landslip Risk and Inventory Project Report (IID) (2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=584		2006/07/11

8. General Natural Hazard Reports

List of General Natural Hazard Reports for the Otago Region

Document Title	Relevance Category	Date Publication
Natural Hazards on the Taieri Plains Otago (July 2012) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=542	H	25/07/2012
Trends and Variability of Temperature Extremes in Southern New Zealand (Nov 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=485	L	2007/11/08
Emergency Management (Aug 2006) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=483	L	2006/08/01
Precipitation Variability in the South Island of New Zealand (Dec 2005) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=491	L	2005/12/01
Safeguarding Otago's Water Resources a State of the Environment Report (April 2001) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=504	L	2001/01/04
North and Coastal Otago River Catchments Monitoring Report (Nov 2000) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=516	L	2000/01/11
The effects of the 1999 Drought on Otago's Rivers (Jan 2000) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=570		2000/01/01
The Climate and Weather of the Otago Region (1968) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=502	L	1968/12/31
Report of the Waipori and Taieri Rivers Commission (Mar 1917) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=498	L	1917/03/16
Rivers Commission Reports on the Taieri (1880 to 1906) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=497	L	1906/12/31

9. Gravel and Sedimentation Reports

No Gravel and Sedimentation Hazard Reports available

10. Snow Reports

List of Snow Reports for the Otago Region

Document Title	Relevance Category	Date Publication
The Potential Impact of Climate Change on Seasonal Snow Condition in NZ (Nov 2010) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=420	L	2010/01/11
Natural Hazards 2006 - The Canterbury Snowstorm (Mar 2007) Link to Document: http://orc.intramaps.co.nz/intramaps/DMSNZ/NHDB/showPDF.aspx?did=418	L	2007/03/01