

# Online submission

This is a submission that was made online via the Council's website.

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<b>Wish to be heard</b>	Yes
<b>Joint presentation</b>	Yes
<b>Trade competition</b>	I could not gain an advantage in trade competition through this submission.
<b>Directly affected</b>	N/A
<b>Withhold contact details?</b>	No

# Submission points

Plan section	Provision	Support/oppose	Reasons	Decision sought
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HAZ - Hazards and Risks  
HAZ - Hazards and Risks  
Amend

1. The elevated terrace on Rural Section 1884, State Highway 6, Tartare is approximately 7-9m above the Tartare Stream's mean channel flow and over 300m from the streams edge. Compare this with the area poised for future development and in the flood susceptibility zone adjacent to the recent Cron Street extension which the council spent 1million dollars on. This area is a similar distance from the edge of the Tartare to the terrace edge, however is approximately 3-4m above the Tartare's mean river flow.

2. We have recently started to build on our property and as part of the resource consent process we were required to get a Hazard management report from a suitably qualified engineer with a focus on flooding. We received this report on 15th June 2022. The report stated that " Through LIDAR information and GPS coordinates of the building platform for the proposed dwelling, we consider the site to be greater than 5m above the level of the stream. In the event of a 1-in-100-year flood, we consider it unlikely that the building location will be flooded.To be flooded from the stream at the same elevation as the building location, the stream will need to flow overland around 750m, against its natural stream bed channel direction, which we consider unlikely to occur.

3. Currently there is no flood specific research for the Tartare stream so I am using data from the nearby and significantly larger Waiho river. This data shows that in the 100-year Waiho flood scenario, they predict that the water level could reach 6.1m above mean channel flow (LRS Consulting 2014). The Tartare Stream is a 'stream' with a significantly smaller rainfall catchment area than the Waiho, which is a large 'River'. Therefore it can be confidently assumed that in the 100 year flood scenario, the Tartare Stream water level will be significantly lower than the prediction for the Waiho River . Therefore I am suggesting that any land above the purple 5m lidar line on page 6 of the attached engineering report is reverted back to flood susceptibility zone.

I recently purchased a 12 hectare block off land - Rural Section 1884, State Highway 6, Tartare bordering the Northern side of the Tartare stream in Franz Josef. At the time of purchasing I looked into the TTPP draft plan and this block of land was in the flood susceptibility category. I consider this original assessment fair as it is bordering a river but much of the property is on a an elevated terrace so was shocked to see in the latest plan it has now been updated into the flood severe category. I would like to see the raised terrace on this property reallocated back to flood susceptibility category.

Currently how the map has been redrawn, it looks as if a toddler has been given a crayon to draw a line through this property and this is what has been decided on.

I have attached the hazard management report I received on the 15th June 2022 for this property. I propose that real data is used and that anything above the 5m LIDAR line on this property (pg 6) in purple is reverted back to the flood susceptibility zone.

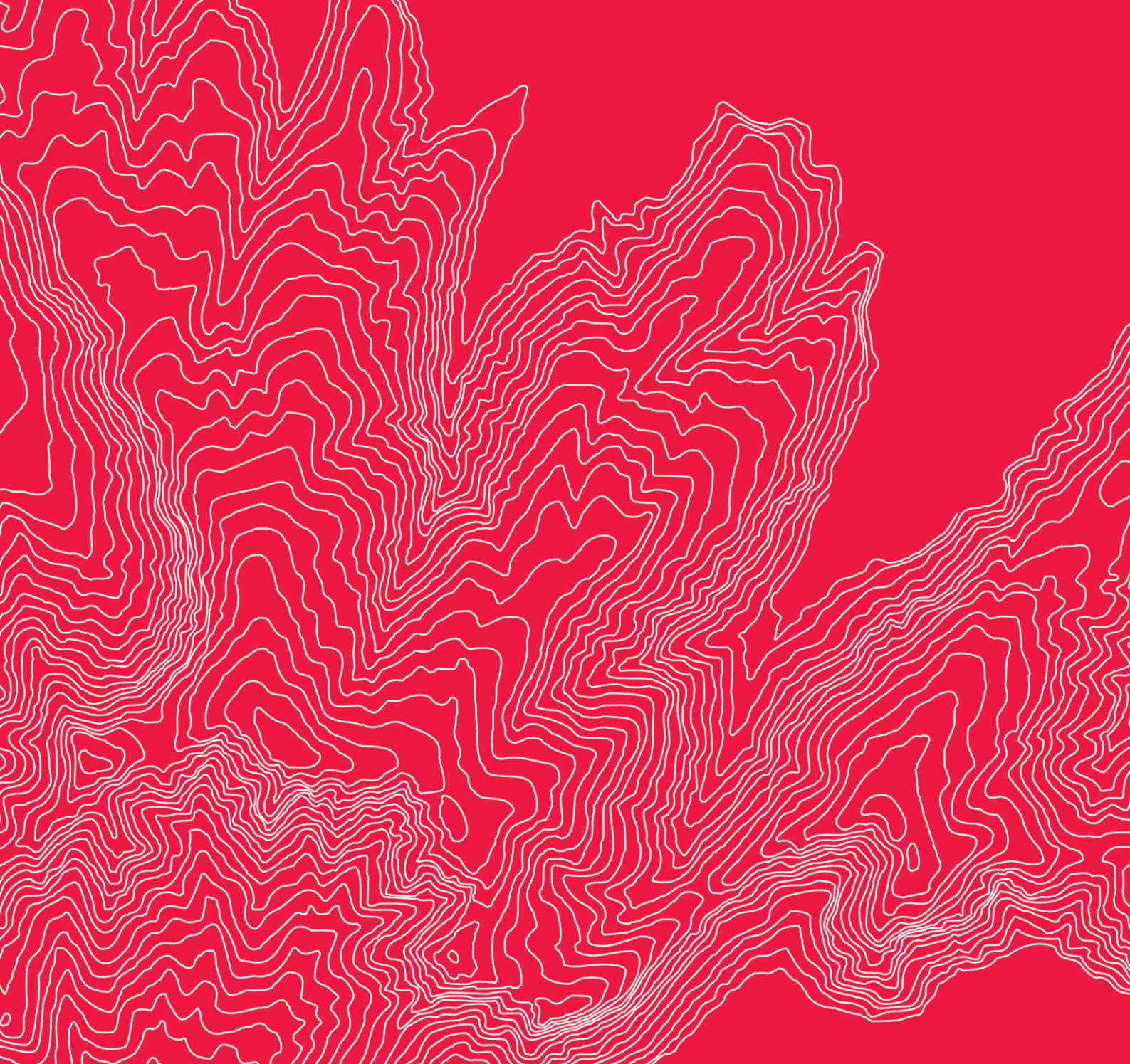
I am more than happy to give the person in charge of making these important decisions a boots on the ground tour as I find it extremely frustrating that decisions like this are being made from an office chair.

# Documents included with submission

**Document name** Natural Hazard Report RS 1884, Franz Josef Prepared for Barny Young 510318

**File** [510318\\_naturalhazardsreport\\_20220615.pdf](#)

**Description**



# Natural Hazard Report

**eliot  
sinclair**

**RS 1884, Franz Josef**  
Prepared for Barny Young  
510318

# Natural Hazard Report

RS 1884, Franz Josef



Prepared for Barny Young

510318

## Quality Control Certificate

Eliot Sinclair & Partners Limited

[eliotsinclair.co.nz](http://eliotsinclair.co.nz)

Action	Name	Signature	Date
<b>Prepared by:</b>	Emily Wilson Civil Engineer BE(Hons) Civil MEM		14 June 2022
<b>Directed, reviewed, and approved for release by:</b>	Stuart Challenger Civil Engineer   Branch Manager, Hokitika BE NatRes BSc CMEngNZ CPEng		15 June 2022
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<b>Figure 1. Aerial indicating approximate building location, 5m LIDAR contours shown in purple, and pond location in blue (Eliot Sinclair, 2022).</b>	<b>3</b>
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# 1. Introduction

## 1.1. Scope of Works

Eliot Sinclair has been engaged by Barny Young to undertake a Natural Hazard Assessment for his proposed residential building on Rural Section 1884, Franz Josef. The purpose of the report is to respond to the Westland District Council's Request for Further Information (RFI) in relation to potential risk of damage from natural hazards, including flooding.

# 2. Site Description

## 2.1. Legal Description

The site of the proposed dwelling is Rural Section 1884 which has a parcel area of around 12.2Ha. It sits on the northern side of Tatare Stream, around 2.5km north of Franz Josef township.

# 3. Natural Hazards Assessment

To determine whether there is a significant risk from natural hazards, decision-makers are guided by the requirements of RMA Section 106(1A). This requires a combined assessment of:

- The likelihood of natural hazards occurring (whether individual or in combination);
- The material damage that would result from natural hazards to land where the consent is sought, neighbouring land, or structures;
- Any likely subsequent use of the land where the consent is sought that would accelerate, worsen, or result in material damage of the kind referred to in the previous point.

Decision-makers are required to consider the magnitude of risk of natural hazards, including natural hazards that have a high impact but low probability of occurrence. This aligns the assessment with the definition of 'effect' Section 3 of the RMA.

The RMA defines natural hazards as: *Any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.*

Hazard identification is a key component of any site-specific risk assessment. The risk assessment for relevant natural hazards at the site is presented below, which considers the likelihood and consequences of the hazard at the site in the context of the proposed activity (rural residential subdivision) as compared against the current site context.

We have considered the risk of subsidence, falling debris, erosion, tsunami, land slippage, sedimentation, wind, drought, fire, geothermal activity, climate change, sea level rise, and volcanic activity and conclude these are very unlikely to pose an unacceptable risk to life at this site.

In relation to other potential natural hazards, we comment as follows;

### 3.1. Earthquake Shaking

NZ is a seismically active country. New buildings and infrastructure will be designed, consented, and built to acceptable industry standards and New Zealand Building Code requirements and as such will be designed for any likely shaking as detailed in the current design codes, which will address the risk.

### 3.2. Earthquake Fault Rupture

The nearest active fault is the Alpine Faultline, recorded on the GNS Active Faults Database<sup>1</sup>, which lies approximately 750m from the proposed dwelling location. Based on available data the site is likely to be located outside the minimum 20m fault avoidance zone recommended by the Ministry for the Environment<sup>2</sup>. The site is in Earthquake Zone 4 as defined in NZS3604: 2011.

### 3.3. Liquefaction

The site is classified in the West Coast Regional Liquefaction Assessment<sup>3</sup> as being in an area where liquefaction damage is possible. The geological map<sup>4</sup> notes the site is underlain with Holocene River deposits (Q1alvgvl) consisting of generally unweathered; variable mixtures of gravel/sand/silt/clay forming low-level terraces or abandoned river plains. As this site is immediately adjacent to the hills, the ground has been formed by very active deposition which causes the finer particles to wash through, hence the majority of the substrata is going to be gravels with cobbles, sands and silts and the occasional boulder. Because of the granular nature of the soils, they are not considered likely to liquefy, they may undergo settlement as the seismic shaking compacts the loose to medium dense granular soils. However, the ground immediately below the building has been replaced with well graded and compacted sandy gravels, which will form a dense raft immediately below the building that will reduce the effects of any settlement.

### 3.4. Flooding

#### 3.4.1. Tatare Stream

The risk of damage to the proposed dwelling from flooding of the adjacent Tatare Stream has been assessed. The site has not been identified during the West Coast Regional Council's contracted Natural Hazards Companion Map<sup>5</sup> for the Te Tai o Poutini Plan as being located within a severe flood hazard zone as it is identified as being in a zone of susceptibility to flood hazard.

Through LIDAR information and GPS coordinates of the building platform for the proposed dwelling, we consider the site to be greater than 5m above the level of the stream. In the event of a 1-in-100-year flood, we consider it unlikely that the building location will be flooded.

To be flooded from the stream at the same elevation as the building location, the stream will need to flow overland around 750m, against its natural stream bed channel direction, which we consider unlikely to occur.

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<sup>1</sup> [Data.gns.cri.nz/af/](https://data.gns.cri.nz/af/)

<sup>2</sup> Planning for Development of Land on or Close to Active Faults: A Guideline to Assist Resource Management Planners in New Zealand (Published July 2003).

<sup>3</sup> Beca Limited. West Coast Regional Liquefaction Assessment, 1 November 2021

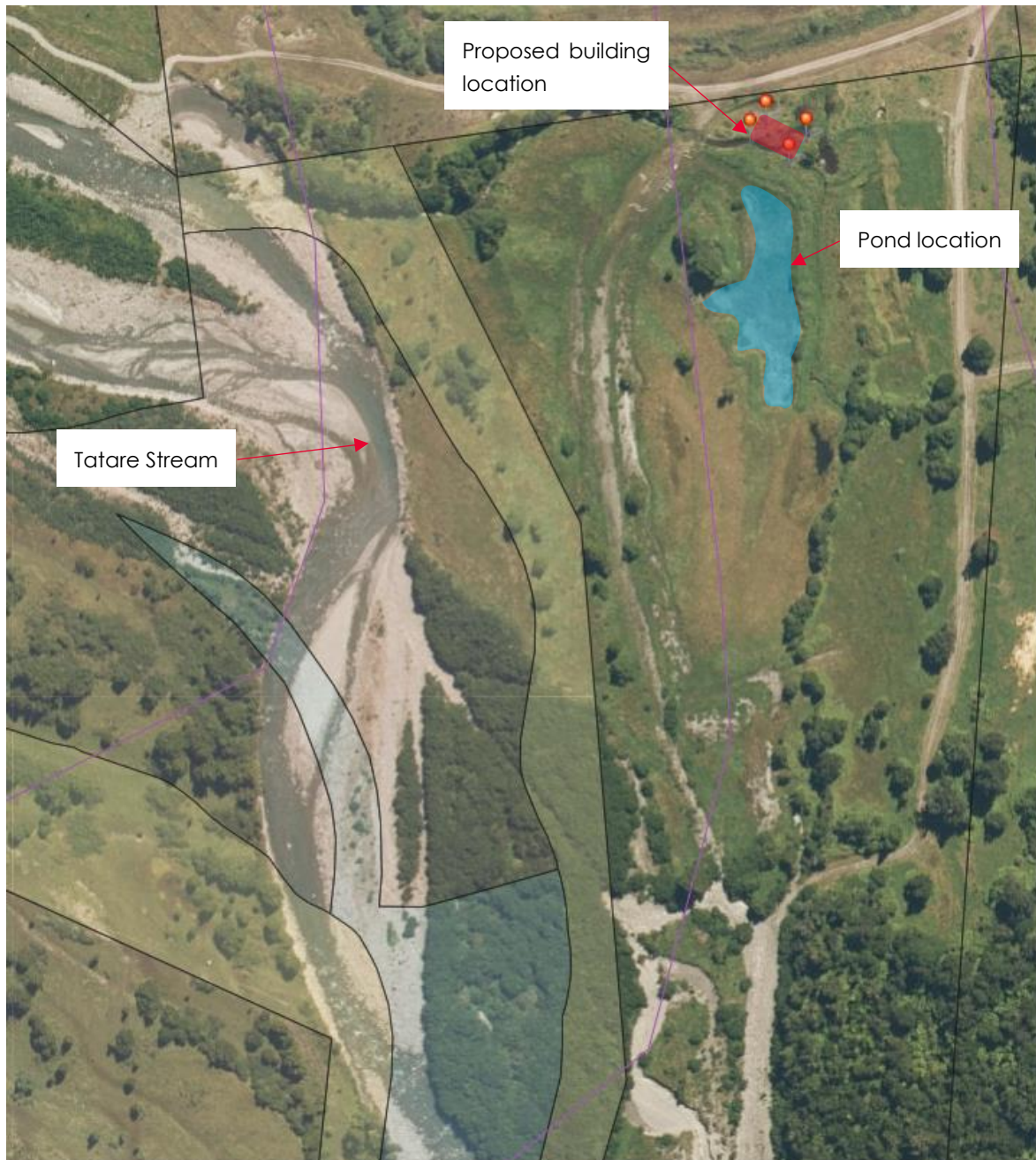
<sup>4</sup> Cox, S.C.; Barrell, D.J.A. (compilers) 2007: Geology of the Aoraki area: scale 1:250,000. Lower Hutt: GNS Science. Institute of Geological & Nuclear Sciences 1:250,000 geological map 15. 71 p. + 1 folded map. Institute of Geological and Nuclear Sciences Limited.

<sup>5</sup> <https://tftp.nz/wp-content/uploads/2022/02/Natural-Hazard-Companion-Maps-v4.pdf>



### 3.4.2. Onsite pond

There is a man-made pond onsite which is approximately 1,750m<sup>2</sup> (0.18Ha) in area, and at least 10m from the proposed dwelling location which is located to the north. In the event of a substantial rainfall, and the pond was to overflow, we consider it would overflow along its western edge and towards the Tatare Stream. We do not consider it likely the building location will be flooded.



**Figure 1. Aerial indicating approximate building location, 5m LIDAR contours shown in purple, and pond location in blue (Eliot Sinclair, 2022).**

## 4. Recommendations

We consider it unlikely the proposed dwelling is at risk of damage from natural hazards, including flooding from the Tatare Stream, or the pond onsite. We recommend having the building founded on piles and raised from the surrounding ground level further reduces the risk of inundation in the unlikely event the building location is flooded.

## Disclaimer

Comments made in this geotechnical report are based on Eliot Sinclair's visual inspection and desktop study of the site, and the most recent version of the Ministry of Business, Innovation and Employment Guidelines.

Whilst every care was taken during our investigation and interpretation of subsurface conditions, there is a risk there could be subsoil strata or features at depth that we are unaware of. Additionally, on-going seismicity in the general area may lead to deterioration or additional ground settlement that could not have been anticipated at time of writing of this report.

At time of foundation excavation, should the exposed soil conditions vary from those described in this report then Eliot Sinclair & Partners Ltd should be contacted to advise if the recommendations of this report remain valid. Further, should the requirements of MBIE's guidelines, NZ Standards or the NZBC that relate to foundations and floors be updated, then Eliot Sinclair should be contacted to advise if the recommendations of this report remain valid.

This report has been prepared for the benefit of Barny Young, and the Westland District Council.

No liability is accepted by this company, or any employee of this company, with respect to the use of this report by any other party or for any purpose other than what is described in Section 1 of this report.