ANZ Centre, 267 High Street,
PO Box 13960, Christchurch,
8141, New Zealand
T: +64 3 366 3521 // **F:** +64 3 366 3188
E: info@beca.com // www.beca.com

Queenstown Lakes District Council
74 Shotover Street
Queenstown
9300

Attention: Onur Oktem

Dear Onur,

Gorge Road Debris Flow and Rockfall Risk - National Policy Statement for Natural Hazards Assessment

Overview

Beca Limited (Beca) previously completed natural hazard risk assessments for two alluvial fans in the Gorge Road area for Queenstown Lakes District Council (QLDC; Beca, 2020). The assessment indicated parts of both fans are subject to debris flow and rockfall risk. There is extensive existing residential development on both fans. The extents of the study areas are shown in Figure 1.

QLDC has requested that Beca re-assess the debris flow and rockfall risk posed to the Reavers Fan and Brewery Creek Fan areas in accordance with the recently released National Policy Statement for Natural Hazards (NPS-NH, MoE, 2025). Consistent with the Beca 2020 study, risk to both life and property have been considered. This letter report summarises findings of the assessment.

The NPS-NH presents a qualitative risk matrix, risk tolerability criteria and high-level guidance on managing risk through mitigation or avoidance. This assessment identifies areas of 'medium' risk which the NPS-NH recommends be 'avoided or mitigated proportionate to the level of risk'. No areas of 'very high' risk which would warrant avoiding in line with the NPS-NH were identified. NPS-NH does not recommend action for risk categories lower than 'medium'.

The NPS-NH sets out an alternative methodology to the Australian Geomechanics Society (AGS, 2007c) approach, the prevailing industry guidance on risk tolerability at the time of the Beca 2020 study. The assumptions made in converting the likelihood and consequence parameters from Beca 2020 to the classifications required for the NPS-NH risk assessment are described below. Results of the NPS-NH assessment are shown in Attachment A and maps showing 'medium' risk areas (analogous to 'areas requiring hazards to be avoided or mitigated proportionate to the level of risk') are shown in Attachment B.

The assessment set out in this letter has been directly informed by the hazard likelihoods and consequences from the Beca (2020) debris flow and rockfall assessments and has included a review of new information obtained since the 2020 study. The derived ranges of likelihood and consequence for potentially damaging events have not changed. Risk levels, tolerability and high-level guidance have however been amended from the Beca 2020 study to follow the NPS-NH.

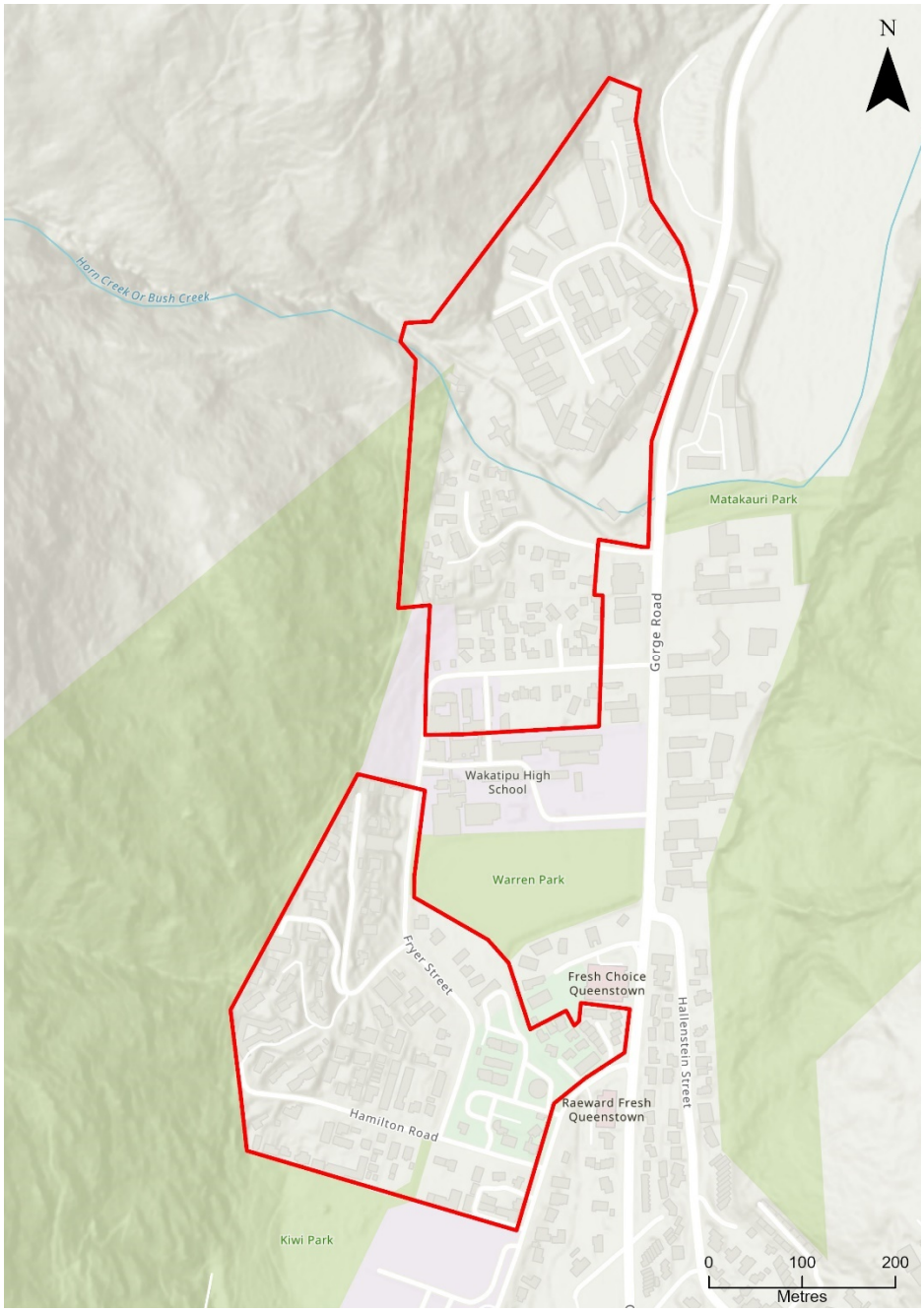


Figure 1: Gorge Road study areas with Brewery Creek Fan to the north and Reavers Fan to the south

Background

Beca (2020) undertook quantitative assessments of the risk to life and property from debris flow and rockfall on the Reavers and Brewery Creek fans in Queenstown. The assessments were originally completed in general accordance with the AGS (2007c) guidelines for landslide risk management (AGS, 2007c) and considered the hazard posed under three event scenarios; small (higher likelihood), medium (medium likelihood), and large (lower likelihood).

The NPS-NH came into force on 15 January 2026 and provides direction to local authorities under the Resource Management Act 1991 for managing natural hazard risk associated with subdivision, land use and development. The NPS-NH requires councils to assess natural hazard risk using a qualitative risk matrix considering the event likelihood and anticipated consequences to both people and property. The likelihood

levels adopted in the NPS-NH (2025) are set out in Table 1 and consequence criteria in Table 2. The qualitative risk matrix is shown in Figure 2. The assessed risk level is intended to inform decision making in line with the NPS-NH (2025) guidance.

Table 1: Likelihood levels from NPS-NH (2025)

Likelihood level	Annual exceedance probability (AEP)	Average recurrence interval (ARI) or 'return period'
Almost certain	10% or more	Up to and including 10 years
Very likely	10% to 5%	Over 10 and up to and including 20 years
Likely	5% to 2%	Over 20 and up to and including 50 years
Possible	2% to 1%	Over 50 and up to and including 100 years
Unlikely	1% to 0.2%	Over 100 and up to and including 500 years
Rare	0.2% to 0.02%	Over 500 and up to and including 5,000 years
Very rare	Less than 0.02%	More than 5,000 years

Table 2: Consequence levels adopted by the NPS-NH (2025)

Consequence level	Damage to property	Potential for injury or fatalities
Catastrophic	Severe damage to land and building(s), potential for collapse or total destruction of structures. Building(s) need to be demolished, rebuilt or relocated.	High threat to life safety, with probable fatalities and/or critical injuries.
Major	Major damage to land and building(s), including structural damage. Loss of use and substantial repair required.	Unsafe for people, with potential for many injuries, or critical injuries and/or fatalities.
Moderate	Some damage to land and non-structural damage to building(s). Limited loss of use, repairs required.	Unsafe for people, with potential for injuries, although expected to be minor.
Minor	Minor damage to land and building(s). No loss of use, minimal repairs required.	Isolated minor injuries possible.
Negligible	No loss of use, no building repairs required.	No injuries.

Consequence Level	Likelihood Level: Almost Certain	Very Likely	Likely	Possible	Unlikely	Rare	Very Rare
ARI (years)	up to 10	10-20	20-50	50-100	100-500	500-5000	> 5000
AEP	10% or more	10% to 5%	5% to 2%	2% to 1%	1% to 0.2%	0.2% to 0.02%	< 0.02%
Catastrophic	Very High	Very High	Very High	High	Medium	Medium	Medium
Major	Very High	Very High	High	High	Medium	Medium	Medium
Moderate	High	High	High	Medium	Medium	Low	Low
Minor	Medium	Medium	Medium	Medium	Low	Low	Low
Negligible	Low	Low	Low	Low	Low	Low	Low

Figure 2: NPS-NH (2025) qualitative risk matrix

NPS-NH Risk Assessment

Details of the debris flow and rockfall risk assessments in accordance with the NPS-NH (2025) are summarised below.

Debris Flow

Likelihood

The recurrence intervals for the three scenarios adopted for the Beca (2020) debris flow assessment were considered in the NPS-NH (2025) assessment. The three scenarios were assigned ranges of recurrence intervals in the Beca (2020) study to account for uncertainty within the assumptions. The likelihoods of the single scenario with the largest spatial extents requiring consideration under the NPS-NH have been adopted, as detailed below.

a. Reavers Fan

- The return periods for the three debris flow scenarios from the Beca (2020) study are all greater than 100 years, equating to likelihood of 'unlikely' or lower.
- Given the assessed very long return periods (very low likelihood) of the largest event, this scenario was not considered in the NPS-NH assessment as the assigned return period range (6,700 to 20,000) is well outside the 'more than 5,000-year period' adopted for 'very rare' events (Table 1). Any occurrence of an event of this magnitude pre-dates the current alluvial fan landform.
- The likelihood adopted for the NPS-NH analysis relates to the 'medium' scenario which is 2,500 to 6,700 and sits in the 'rare' to 'very rare' category.

b. Brewery Creek Fan

- The largest modelled event was adopted for the assessment which corresponds to a likelihood range of 2,500 to 10,000 years. This gives a 'rare' to 'very rare' likelihood in accordance with (Table 1) and falls within the return periods requiring consideration under the NPS-NH (2025).

Consequence

The consequence assessment focused on identifying areas with 'major' to 'severe' consequences as this results in 'medium' risk under the assigned event likelihoods (see Figure 2). Areas with 'moderate' or lower consequence would result in a risk of 'low'.

a. Damage to Property

The consequences of damage to property was assessed using the outputs from RiskScape modelling, which were used to inform the Beca (2020) quantitative property risk assessment (Woods et al., 2021). The RiskScape assessment was completed using New Zealand-specific landslide vulnerability functions developed for timber-frames structures by Massey et al. (2019) which has been further developed by Wolter et al (2024). The vulnerability functions present mathematical relationships between hazard intensity (debris flow height) and the damage ratio. Damage ratios range from 0 to 1 (inclusive) and reflect the repair cost divided by the replacement cost (Woods et al., 2021), with 1 equating to total loss.

Correlations between the standard damage states from RiskScape and the NPS-NH consequence criteria are presented in Table 3. A damage ratio of >0.4 is inferred to correlate with 'major' to 'catastrophic' damage. The damage ratio descriptions also align with observations made on Reavers fan by Beca following the 2023 debris inundation event in which up to 0.2m of debris inundation caused evacuations and minor building damage requiring repair (Beca, 2024).

Table 3: Correlations between Wolter et al. (2024) damage ratios and NPS-NH Consequence descriptions

Damage Ratio	Description	Corresponding NPS-NH Consequence
0	None: No damage/ damage is outside building footprint	Negligible – No loss of use/no repairs required
0.0 - 0.2	Insignificant: Minor non-structural damage, superficial inundation	Minor – Minor damage to land and building(s). No loss of use, minimal repairs required.
0.2-0.4	Light: Non-structural damage only, moderate inundation	Moderate – Some damage to land and non-structural damage to building(s). Limited loss of use, repairs required.
0.4-0.6	Moderate: Moderate inundation, reparable structural damage	Major – Major damage to land and building(s) including structural damage. Loss of use and substantial repair required
0.6-0.8	Severe: Irreparable structural damage, key structural elements fail	Catastrophic – Severe damage to land and building(s), potential for collapse or total destruction. Building(s) need to be demolished, rebuilt, or relocated.
0.8-1.0	Critical: Structural integrity fails, impact-induced collapse	

The extent of each alluvial fan with a damage ratio greater than 0.4 (i.e. 'major') was assessed using the Massey et al. (2019) vulnerability function and debris flow heights from the corresponding model for the medium debris flow scenario. This damage ratio of 0.4 aligns with an approximate debris flow height of 1.8m. The corresponding downslope extents of flow heights of 1.8m approximate the extent of 'medium' risk based on the adopted event likelihood. Extents of medium risk derived for Reavers and Brewery Creek fans are shown in Attachment B.

b. Potential for injury or fatalities

The NPS-NH (2025) 'potential for injury or fatality' consequence assessment considers the vulnerability of the 'person most at risk' both inside and outside of a building. Vulnerability inside a building is linked to the ability of debris to enter the building, while outside is related to the ability of a person to survive the impact.

The vulnerability of people to debris flow was assessed based on the assumptions in the Beca (2020) study with consideration of the NPS-NH (2025) consequence criteria set out in Table 2. The assessment focused on scenarios which would cause 'major' to 'catastrophic' consequences which corresponds with critical injuries and/or fatalities as outlined in Table 2.

- For people inside a building, it was assumed that a debris flow height of 1m or greater could enter the building and result in 'major' to' catastrophic' consequences.
- For people outside, it was assumed that a debris flow height of 1m or greater would be sufficient to severely injure or bury a person resulting in 'major' to 'catastrophic' consequences.

The extent of each alluvial fan with a modelled debris inundation height of 1m or greater was subsequently assessed from the models used in the corresponding risk assessment by Beca (2020; i.e. medium likelihood scenarios for Reavers and largest scenarios for Brewery Creek). The downslope extents of flow heights greater than 1m were approximated for each alluvial fan by overlying the relevant model outputs. The resultant extents for Reavers and Brewery Creek fans are shown in Attachment B and represent the downslope extent of 'medium' risk, and therefore the downslope extent of avoidance or mitigation.

Rockfall NPS-NH Risk Assessment

Likelihood

Rockfall likelihood reflects the annual probability that a single released rock will roll far enough down the hill to reach a person or property. In absence of new information, the framework adopted in Beca (2020) was aligned with the NPS-NH (2025) likelihood categories shown in Table 1.

Beca (2020) considered the annual probability of rockfall occurring, including estimates of the number of rocks that could be released in any given event, and the probability of impact between a rock and a person or property. Three separate hazard zones reflecting differing probabilities of travel were defined using the modelled number of deposited rocks.

For risk to persons, the rockfall likelihood incorporates the spatial probability that a rock passes through a person-sized space (i.e. impacts a person) along the width of the slope, and the temporal probability that a person is actually present. This is then divided by the width of the slope considered in the analysis.

For property risk, the rockfall likelihood considers the probability that a rock moves through a section of slope potentially occupied by a building. The spatial probability is then adjusted for the typical width of a property as a proportion of the width of slope considered in the analysis.

Average likelihoods determined for each scenario in each rockfall hazard zone were then summed to estimate average annual return periods for a rockfall impact for each hazard zone. The likelihood levels assigned to each zone in accordance with the criteria set out in Table 1 of the NPS-NH (2025) are set out in Table 4.

Table 4: Likelihood levels adopted for the rockfall assessment for Brewery Creek and Reavers Fans

	Rockfall Hazard Zone (Beca 2020)	Likelihood in accordance with NPS-NH
Risk to life	Zone 1	Rare
	Zone 2	Rare
	Zone 3	Very Rare
Risk to property	Zone 1	Unlikely
	Zone 2	Unlikely
	Zone 3	Rare

Consequence

The consequence assessment for rockfall focused on identifying areas with at least ‘major’ consequences.

a. Damage to Property

The ‘damage to property’ consequences from rockfall were assessed using the RiskScape output (Woods et al., 2021) informed by the Beca (2020) study. The RiskScape rockfall assessment applied the vulnerability function for falling debris from Massey et al. (2019) which considers the debris velocity to derive damage ratios. Damage ratios for rockfall are consistent with the ratios and corresponding damage states outlined for debris flows in Table 3, with a damage ratio of >0.4 inferred to correlate with ‘major’ to ‘catastrophic’ damage. The Massey et al. (2019) vulnerability function indicates that this corresponds to a kinetic energy of greater than approximately 25kJ.

The area subject to rockfall resulting in a damage ratio >0.4 (i.e. ‘major’ or greater) was derived from the outputs of the RAMMS:Rockfall models. The modelled trajectories show that most rocks have kinetic

energies greater than 25kJ in Zone 2 and many exceed 100kJ. It is assumed that any properties located within this zone would experience consequences consistent with ‘major’ or ‘catastrophic’ (i.e. structural damage) if impacted. The assessment did not consider the position of current properties, which allows for potential impacts to any future development to be considered.

The modelled trajectories show that the majority of rocks stop before Zone 3. Consequences within this zone are therefore anticipated to be ‘moderate’ or less, which combined with the event likelihood, gives ‘low’ risk in accordance with Figure 2 from the NPS-NH (2025).

b. Potential for injury or fatalities

The potential for injury or fatality considers the consequences to a person impacted by a boulder on the slope (i.e. outside) and from a boulder entering a home (i.e. inside). Vulnerability functions for people being struck by rockfall have been proposed by Finlay et al. (1999) which were used to inform the Beca (2020) study. Values range from 0 to 1, representing the likelihood that an injury sustained by the individual is fatal (i.e. vulnerability of 1).

The vulnerabilities adopted in the 2020 study correspond to consequences of ‘potential injuries but unlikely to cause death’. This is inferred to correspond with ‘major’ consequences under the NPS-NH (2025).

The spatial extents of ‘major’ consequences was assessed using the modelled rockfall trajectories and end points from the RAMMS:Rockfall modelling. The downslope extent of ‘major’ consequences was taken as the 1% probability line (i.e. 99% of the modelled rocks have come to rest before this point). The boundary approximates the downslope extent at which people, both inside and outside, could potentially receive injuries corresponding to ‘major’ as per Table 2.

Risk Assessment Outcomes

The likelihood and consequence ranges for debris flow and rockfall at Brewery Creek and Reavers fans have been used to assign updated life and property risk levels in line with the recently released NPS-NH.

Given that the return periods for all debris flow and rockfall scenarios from the Beca (2020) study are greater than 100 years, likelihood is ‘unlikely’ or lower, and therefore the highest risk level possible under the NPS-NH matrix is ‘medium’. The ‘medium’ risk zone correlates with recommended action to ‘avoid or mitigate proportionate to the level of risk’. No areas of ‘very high’ risk from debris flow or rockfall hazards within the study areas were derived from the assessment, which would require avoidance in line with NPS-NH.

Results of the risk assessments are shown in Attachment A, with map outputs showing the extent of ‘medium’ risk to people and property from both debris flow and rockfall on each fan shown in Attachment B.

If you have any questions about the information included in this letter please don't hesitate to contact us.

Yours sincerely,

Anna Punt
Principal – Engineering Geology

on behalf of
Beca Limited

Phone Number: +64 3 366 3521
Email: Anna.Punt@beca.com

Paul Horrey
Senior Principal - Geotechnical

on behalf of
Beca Limited

Phone Number: +64 3 550 0041
Email: Paul.Horrey@beca.com

Copy

Dave Wallace, QLDC
Alyson Hutton, QLDC

Applicability

This letter has been prepared by Beca Limited (Beca) on the specific instructions of Queenstown Lakes District Council (Client). It is solely for our Client's use for the purpose for which it is intended in accordance with the agreed scope of work. Any use or reliance by any person contrary to the above, to which Beca has not given its prior written consent, is at that person's own risk.

No responsibility is accepted by Beca for the use of any part of this report in any context, or for any purpose, other than that stated herein.

References

Australian Geomechanics Society (2007c). Practice Note Guidelines for Landslide Risk Management 2007c,

Beca (2020). Natural Hazards Affecting Gorge Road, Queenstown. Report prepared for Queenstown Lakes District Council, Queenstown, New Zealand. Revision 2, Dated12 November 2020.

Beca (2024). Reavers Catchment Inspection – Landslide Source, Letter report prepared for Queenstown Lakes District Council, Queenstown, New Zealand, Dated 17 January 2024.

Finlay, PJ., Mostyn, GR., Fell, R. (1999). Landslides: Prediction of Travel Distance and Guidelines for Vulnerability of Persons, Proceedings 8th Australia New Zealand Conference on Geomechanics Hobart, p. 1-105-113.

Massey, CI, Thomas K-L, King AB, Singeisen C, Horspool NA, Taig T. (2019). SLIDE (Wellington): Vulnerability of dwellings to landslides (Project No. 16/SP740). Lower Hutt (NZ): GNS Science. 76p. (GNS Science report; 2018/27)

Ministry for the Environment (2025). National Policy Statement for Natural Hazards. 15 December 2025. Wellington, New Zealand.

Otago Regional Council (ORC) (2021). Proposed Otago Regional Policy Statement June 2021. Clean Appeals Version, Otago, New Zealand.

Wolter, A, Easterbrook-Clarke, LH, Lin, SL, Boyes, AF. (2024). RNC2 Weather and Wildfire Landslide Project: analysis of recent rainfall-induced landslide datasets for vulnerability functions. Lower Hutt (NZ): GNS Science. 53p. GNS Science report 2024/21.

Woods, R.J., Thomas, K-L., Scheele, FR., Canessa, S., Horspool, NA. (2021). Queenstown debris flow and rockfall loss modelling for land-use planning policy options. Lower Hutt, New Zealand: GNS Science. 35 p. Consultancy Report 2021/07.

Attachment A – NPS-NH Assessment

Debris Flow Assessment

Reavers Fan

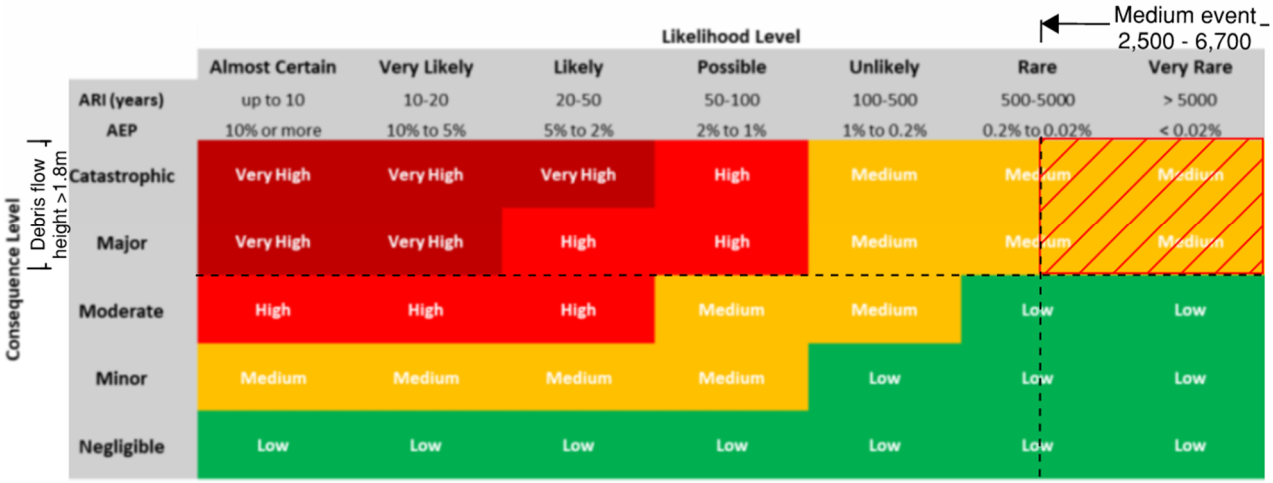


Figure A1: Resultant debris flow risk to property on Reavers Fan

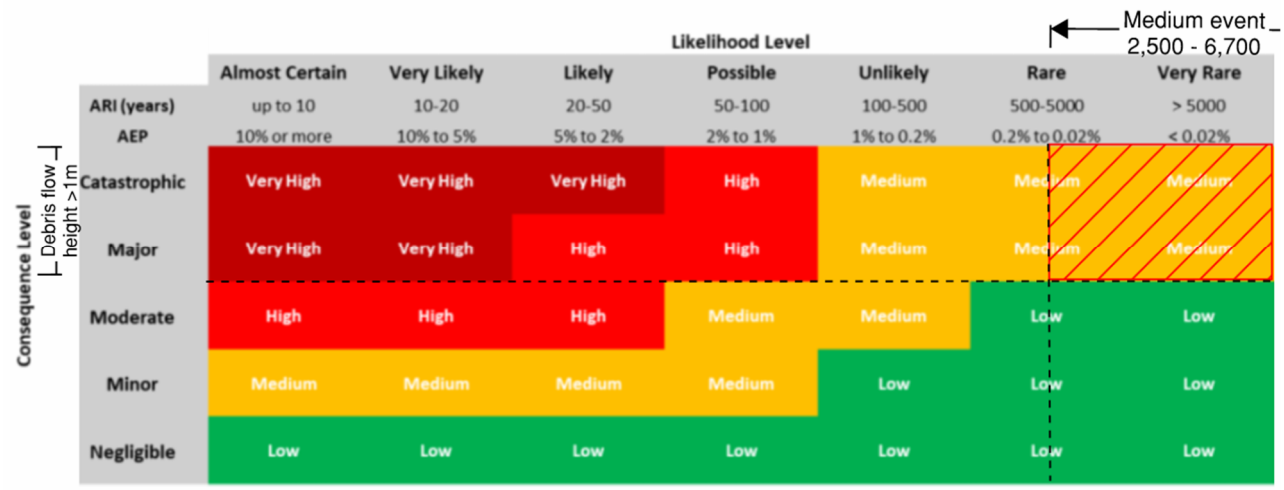


Figure A2: Resultant debris flow risk to life on Reavers Fan

Brewery Creek Fan

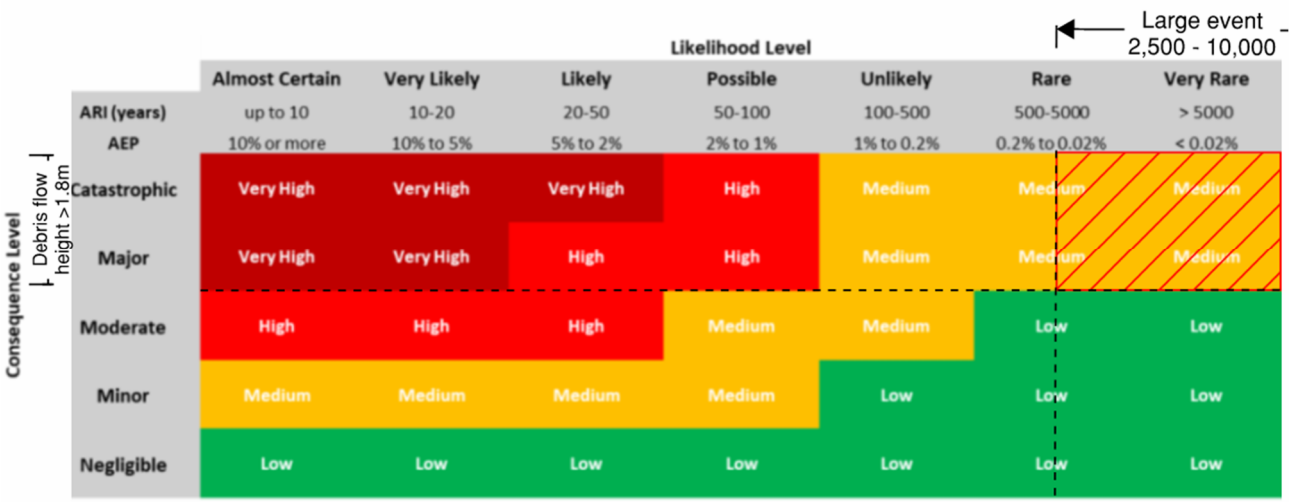


Figure A3: Resultant debris flow risk to property on Brewery Creek Fan

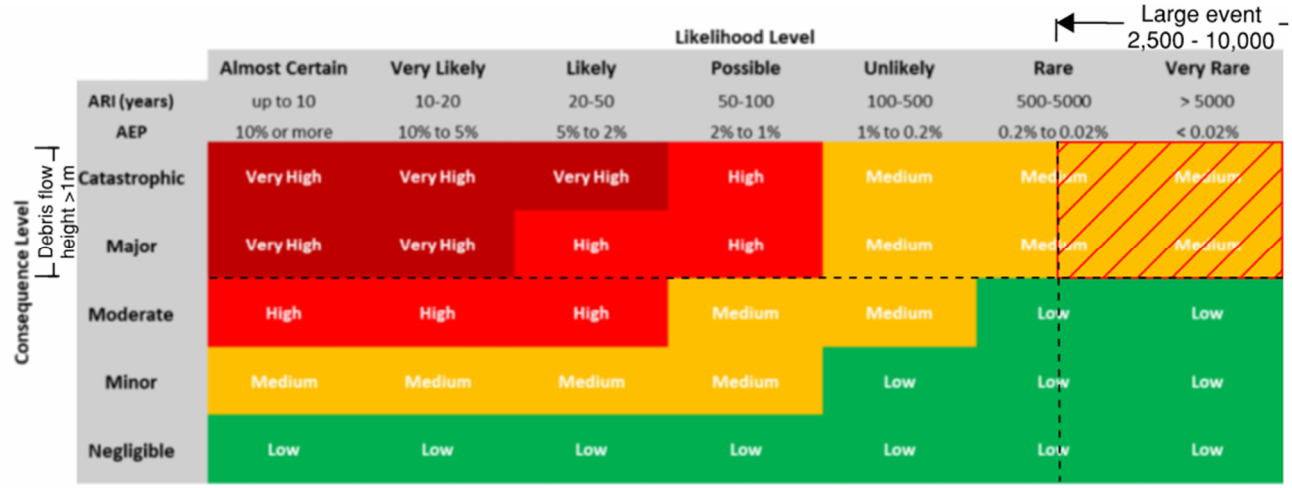


Figure A4: Resultant debris flow risk to life on Brewery Creek Fan

Rockfall Assessment

Reavers Fan

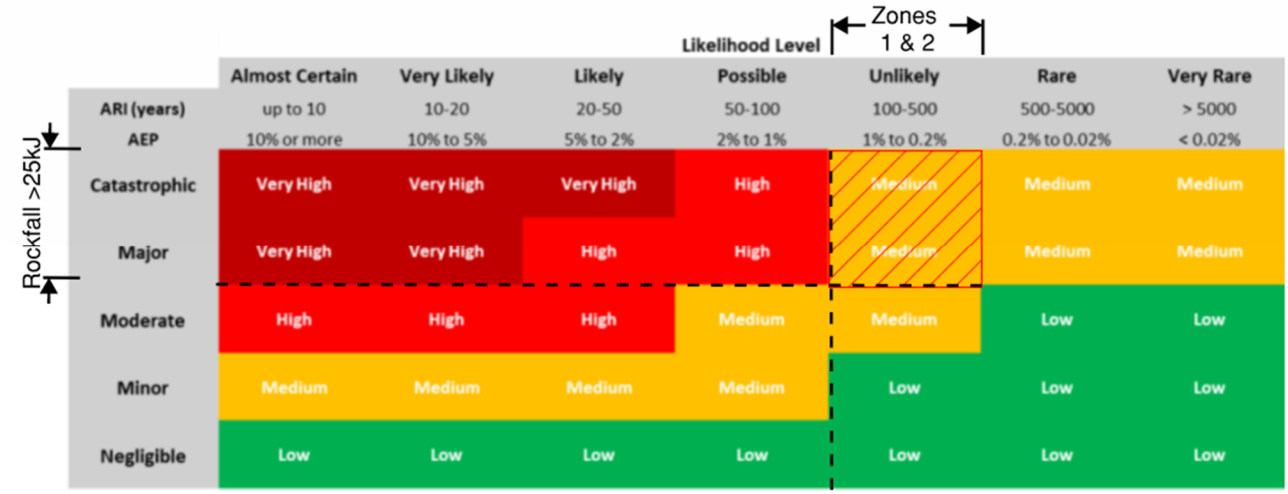


Figure A5: Resultant rockfall risk to property on Reavers Fan

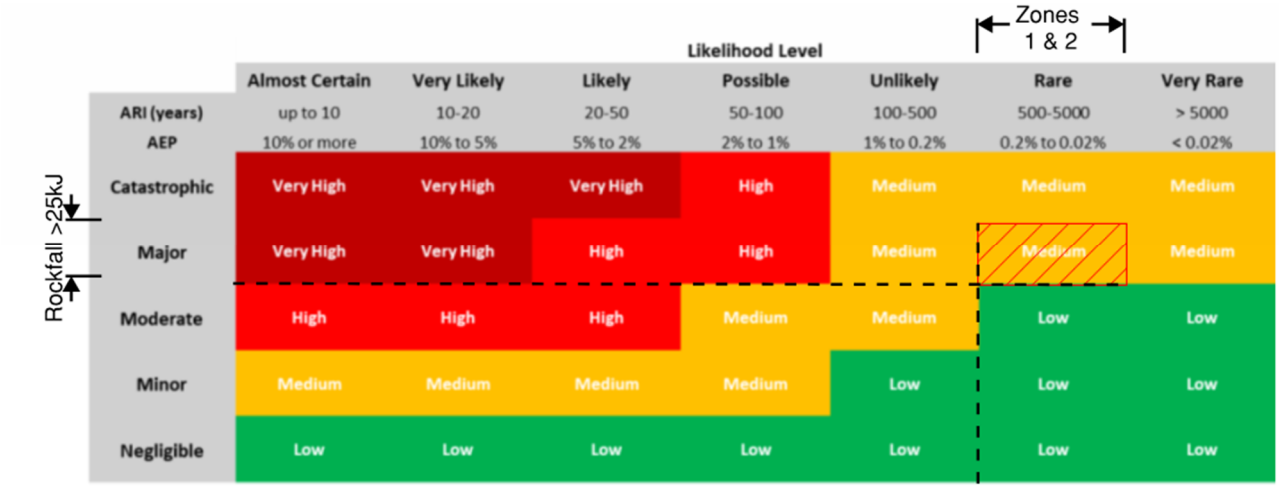


Figure A6: Resultant rockfall risk to life on Reavers Fan

Brewery Creek Fan

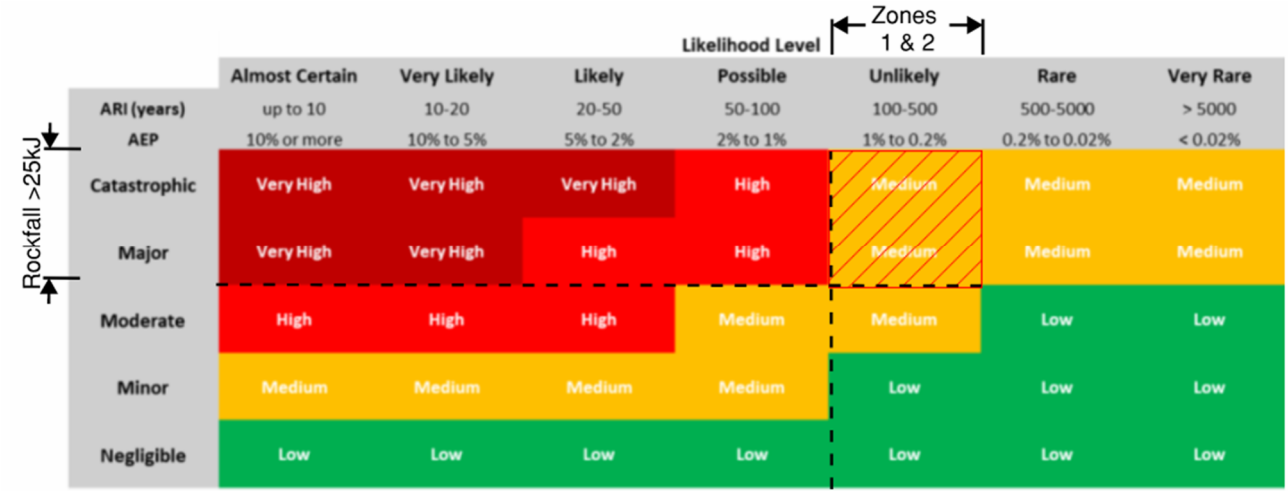


Figure A7: Resultant rockfall risk to property on Brewery Creek Fan

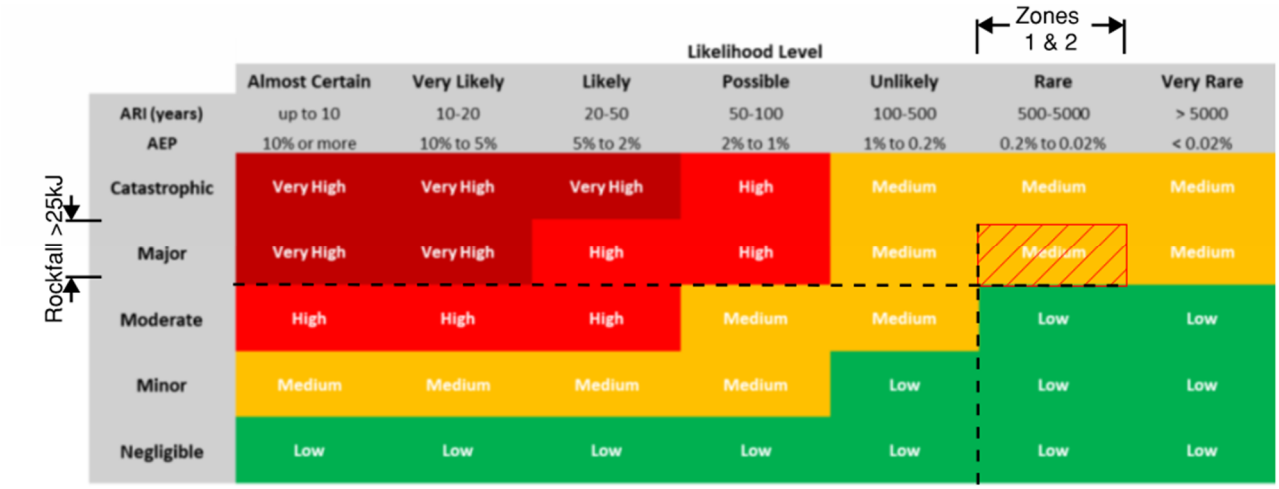
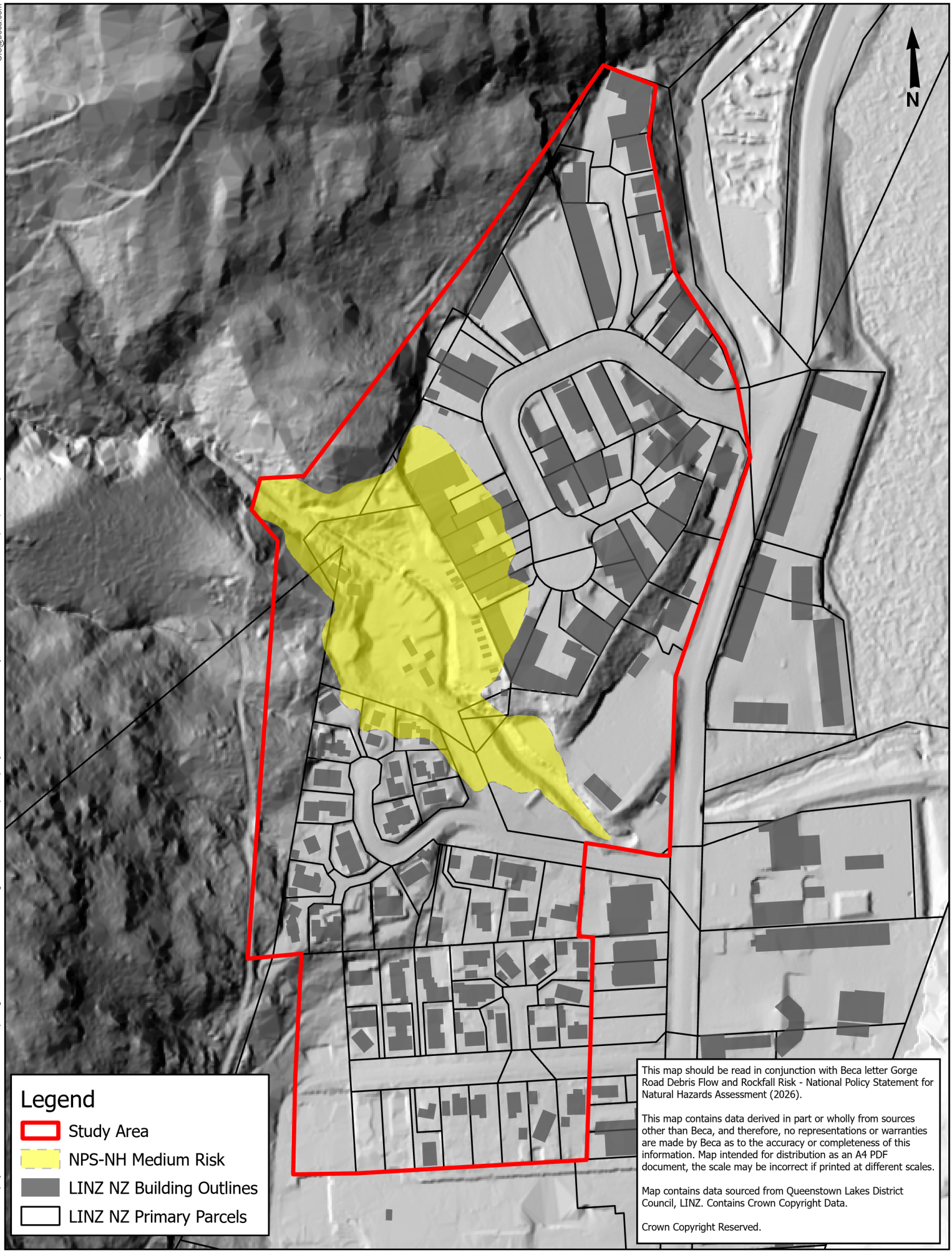


Figure A8: Resultant rockfall risk to life on Brewery Creek Fan

Attachment B - Map outputs



Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

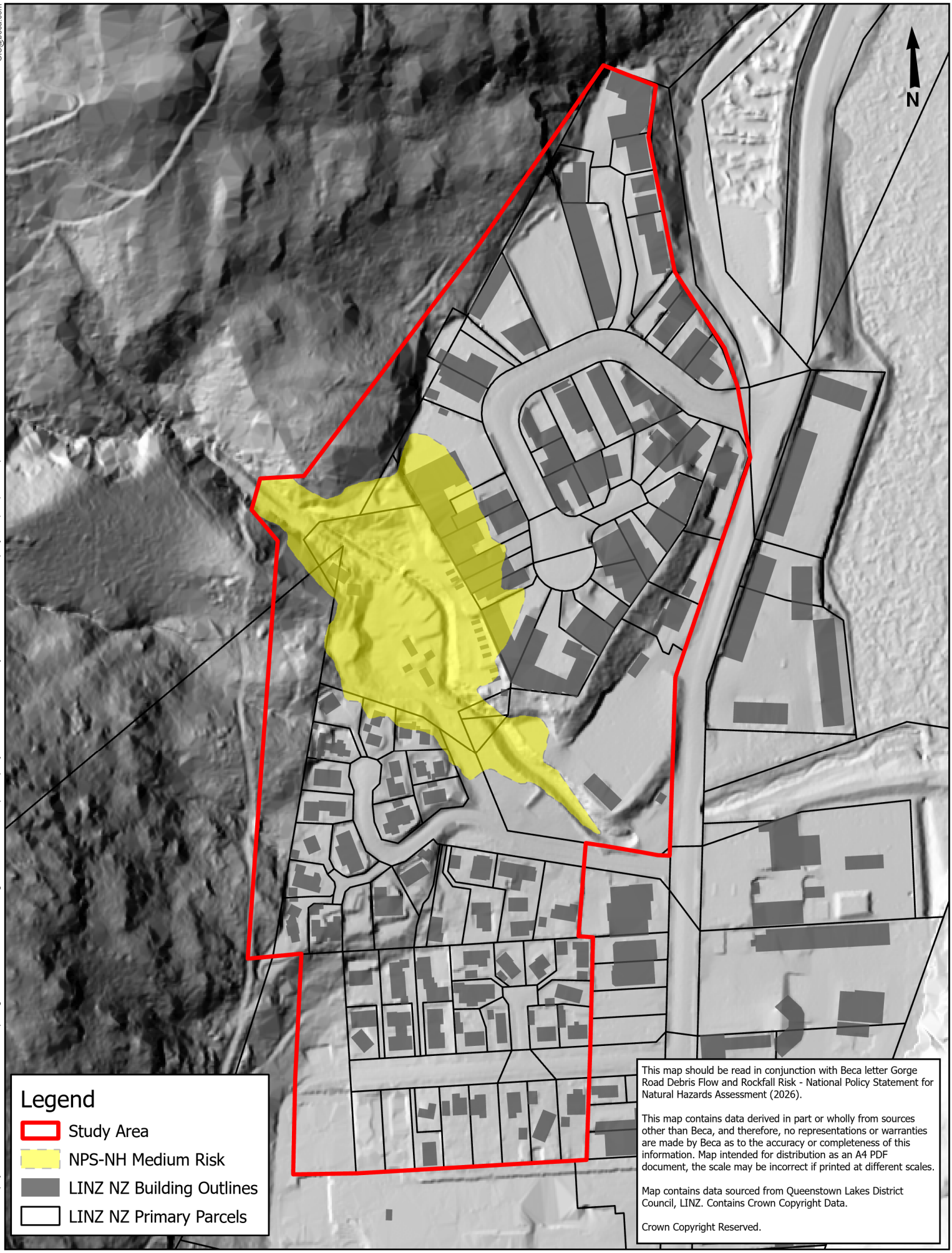
Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

Brewery Creek Fan Debris Flow Life Risk (NPS)

Figure 1

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-01



Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

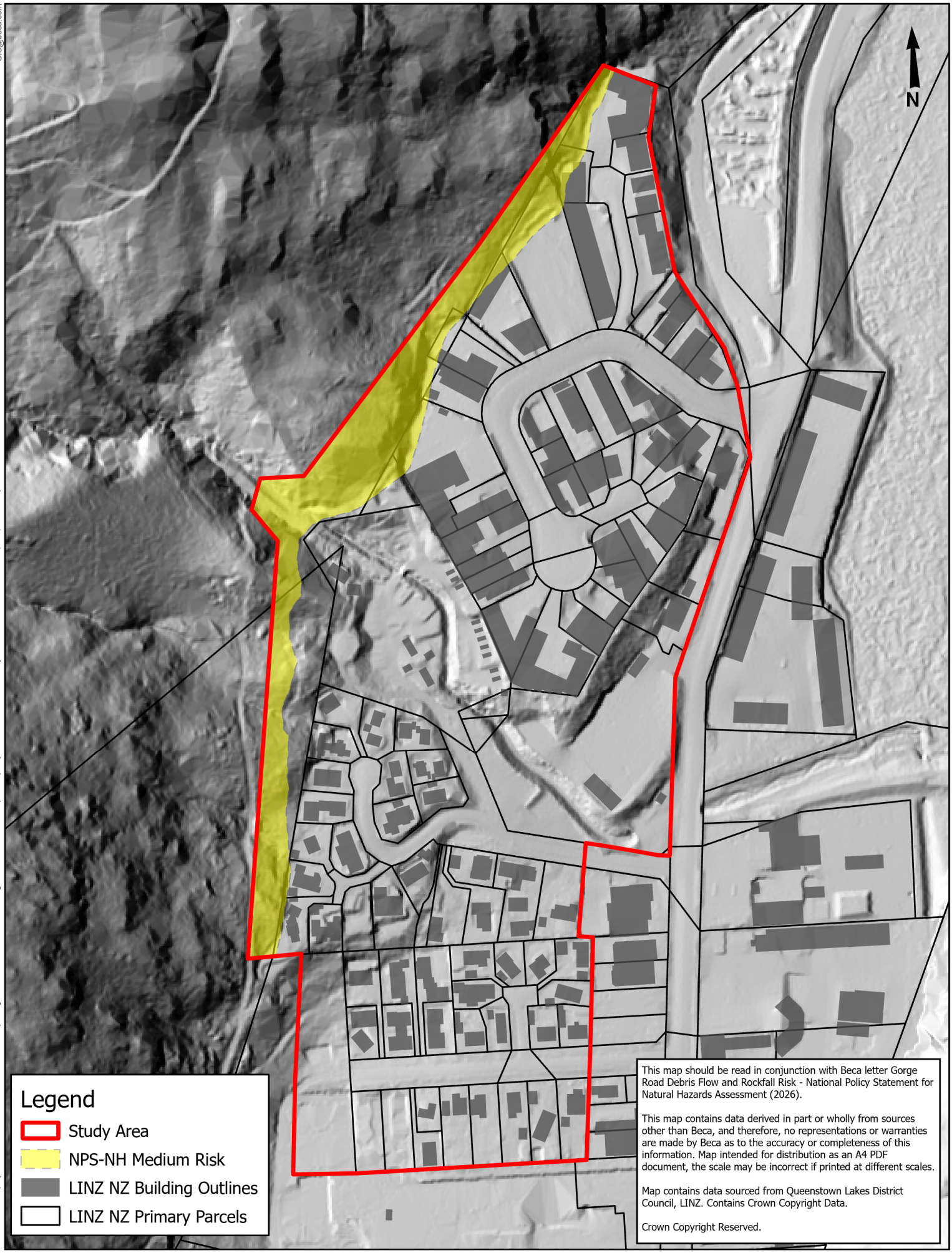
Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

Brewery Creek Fan
Debris Flow Property Risk (NPS)

Figure 2

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-02



Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

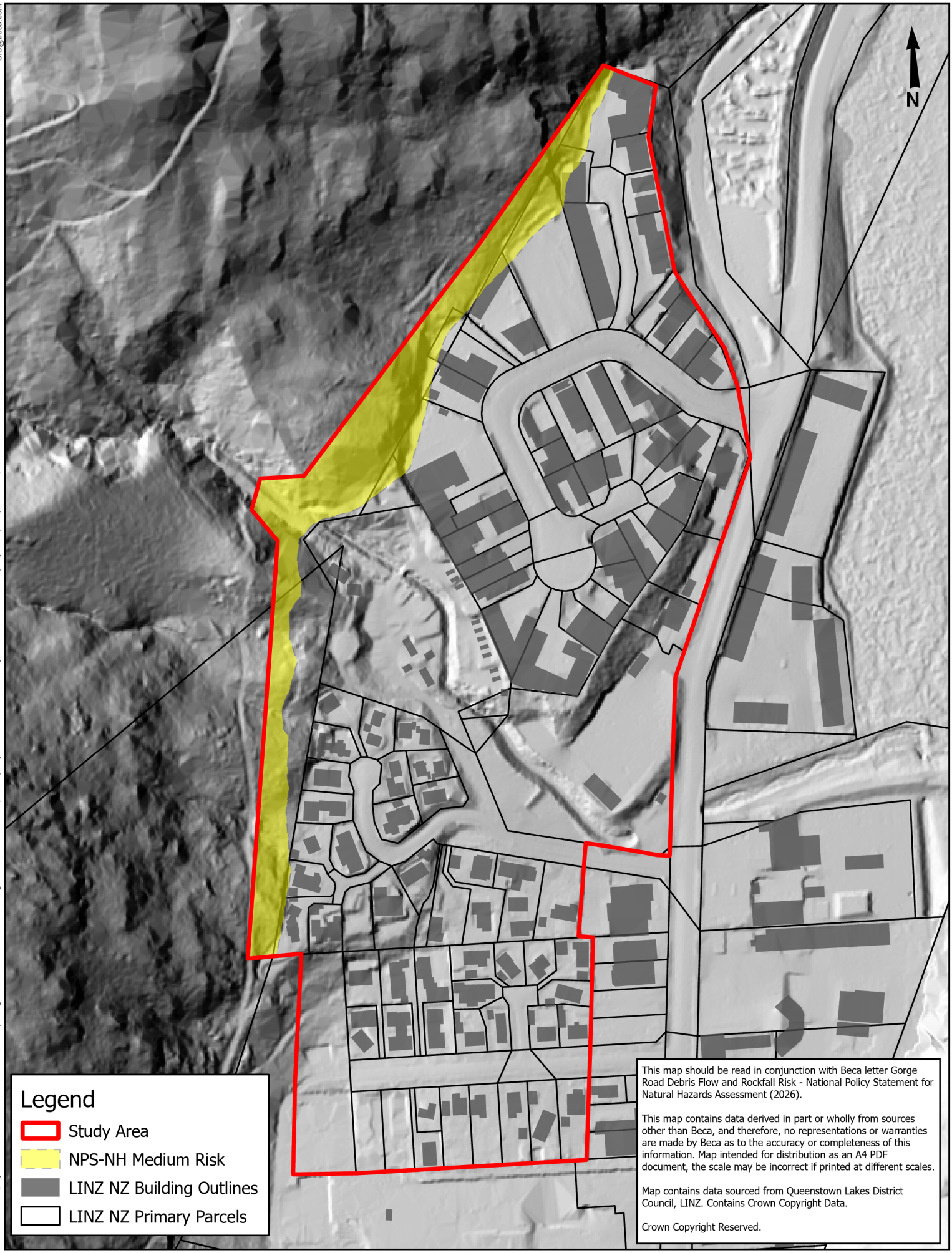
Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

Brewery Creek Fan Rockfall Life Risk (NPS)

Figure 3

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-03



Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

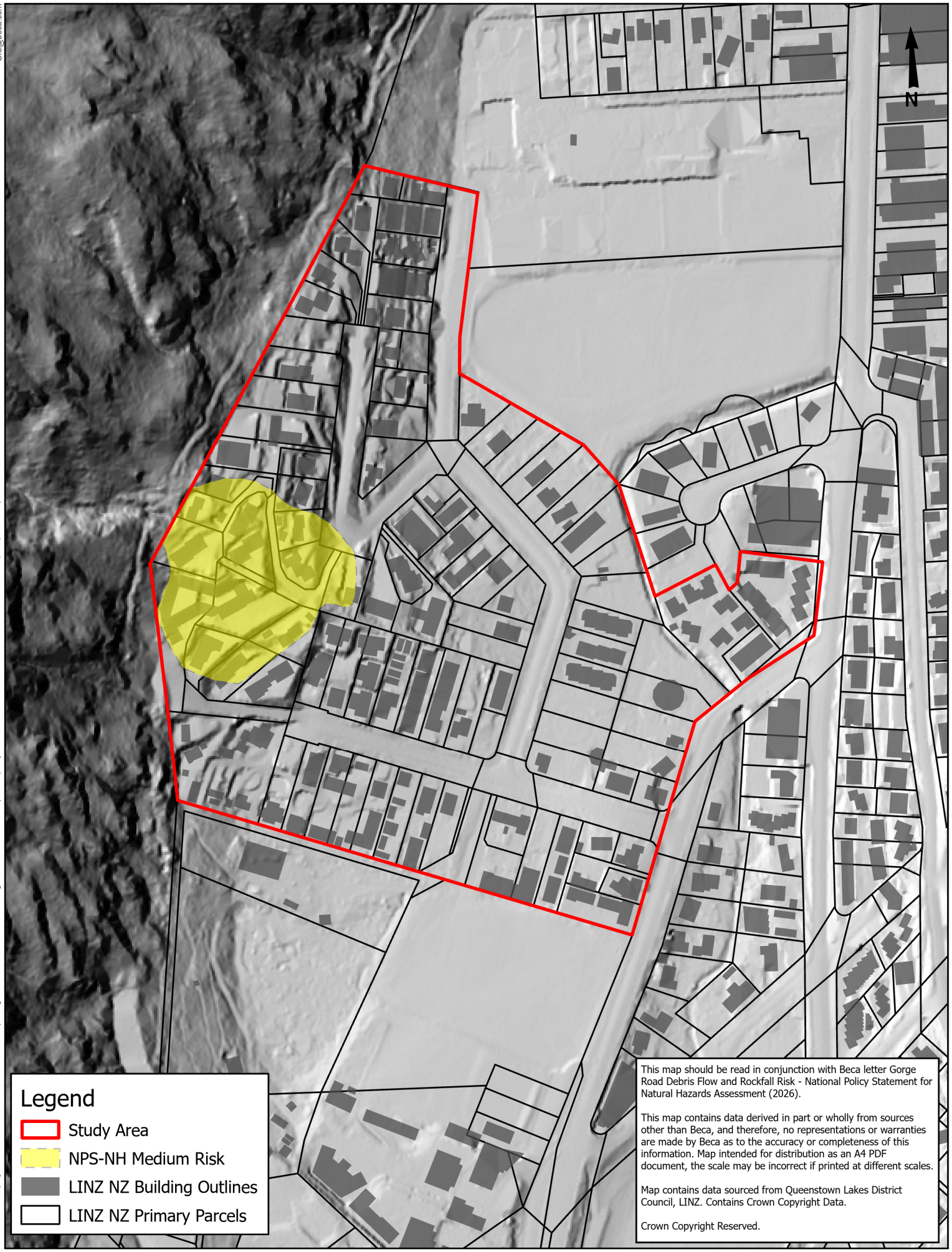
Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

Brewery Creek Fan Rockfall Property Risk (NPS)

Figure 4

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-04



This map should be read in conjunction with Beca letter Gorge Road Debris Flow and Rockfall Risk - National Policy Statement for Natural Hazards Assessment (2026).

This map contains data derived in part or wholly from sources other than Beca, and therefore, no representations or warranties are made by Beca as to the accuracy or completeness of this information. Map intended for distribution as an A4 PDF document, the scale may be incorrect if printed at different scales.

Map contains data sourced from Queenstown Lakes District Council, LINZ. Contains Crown Copyright Data.

Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

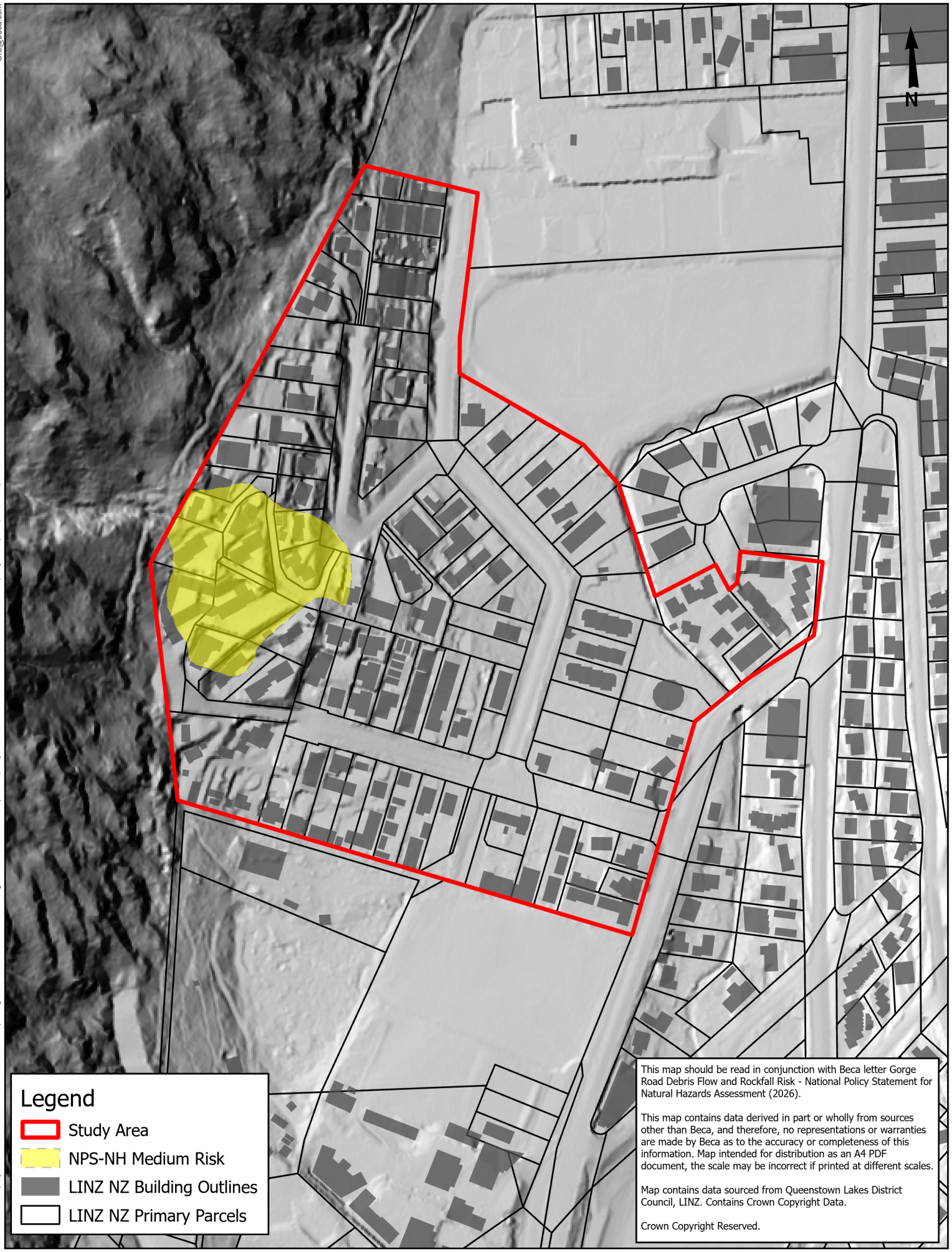
Reavers Fan
Debris Flow Life Risk (NPS)

Figure 5

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-05

Path: \\Beca.net\projects\402\4023579\1-WIP\WG-GIS\01-Map\GorgeRd_NaturalHazards\GIS_GorgeRd_NaturalHazards.aprx Map Layout: GIS-4023579-Reavers Fan Debris Flow Life Risk (NPS) Date Exported: 2/06/2026 3:38 PM



This map should be read in conjunction with Beca letter Gorge Road Debris Flow and Rockfall Risk - National Policy Statement for Natural Hazards Assessment (2026).

This map contains data derived in part or wholly from sources other than Beca, and therefore, no representations or warranties are made by Beca as to the accuracy or completeness of this information. Map intended for distribution as an A4 PDF document, the scale may be incorrect if printed at different scales.

Map contains data sourced from Queenstown Lakes District Council, LINZ. Contains Crown Copyright Data.

Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

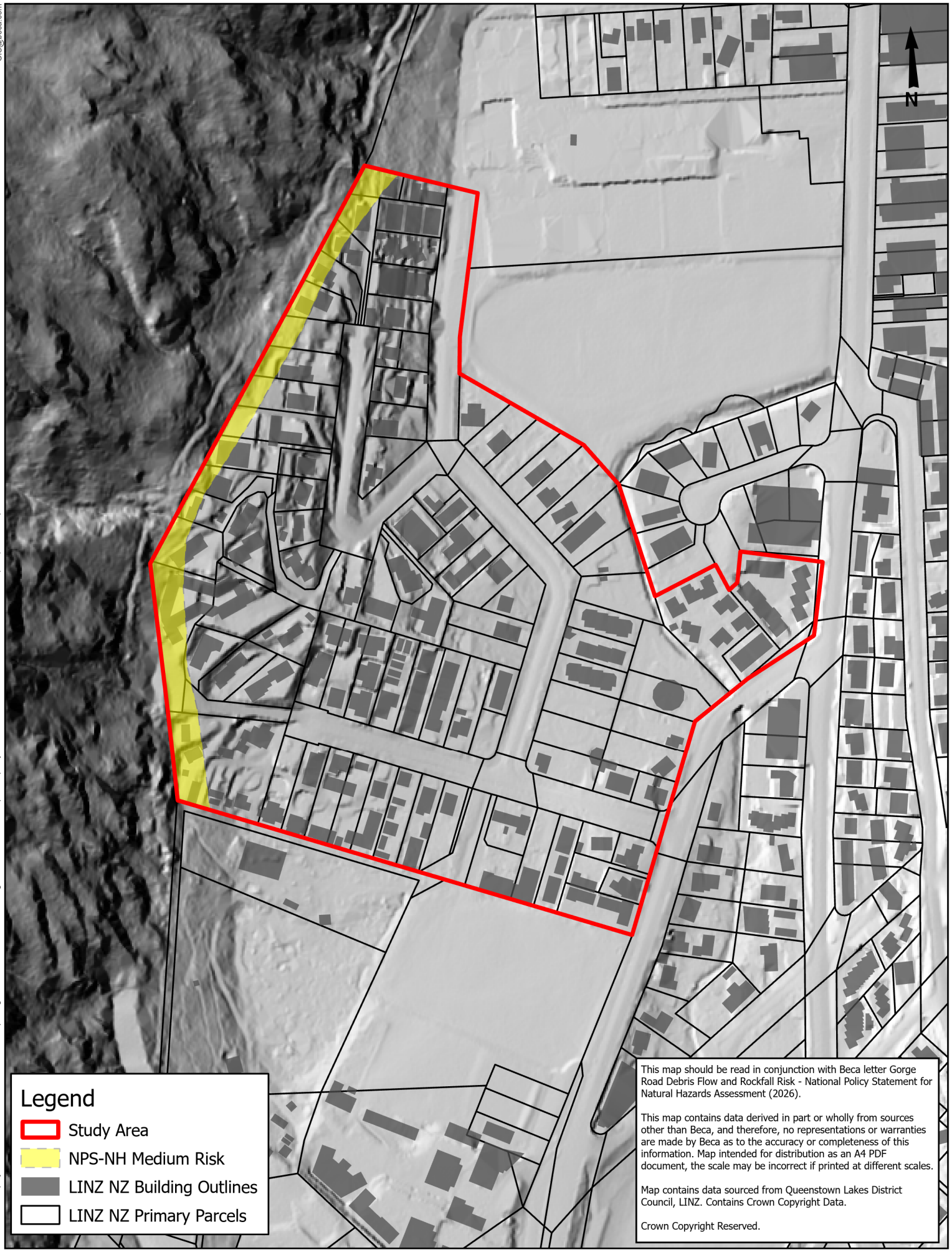
Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

Reavers Fan
Debris Flow Property Risk (NPS)

Figure 6

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-06



This map should be read in conjunction with Beca letter Gorge Road Debris Flow and Rockfall Risk - National Policy Statement for Natural Hazards Assessment (2026).

This map contains data derived in part or wholly from sources other than Beca, and therefore, no representations or warranties are made by Beca as to the accuracy or completeness of this information. Map intended for distribution as an A4 PDF document, the scale may be incorrect if printed at different scales.

Map contains data sourced from Queenstown Lakes District Council, LINZ. Contains Crown Copyright Data.

Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

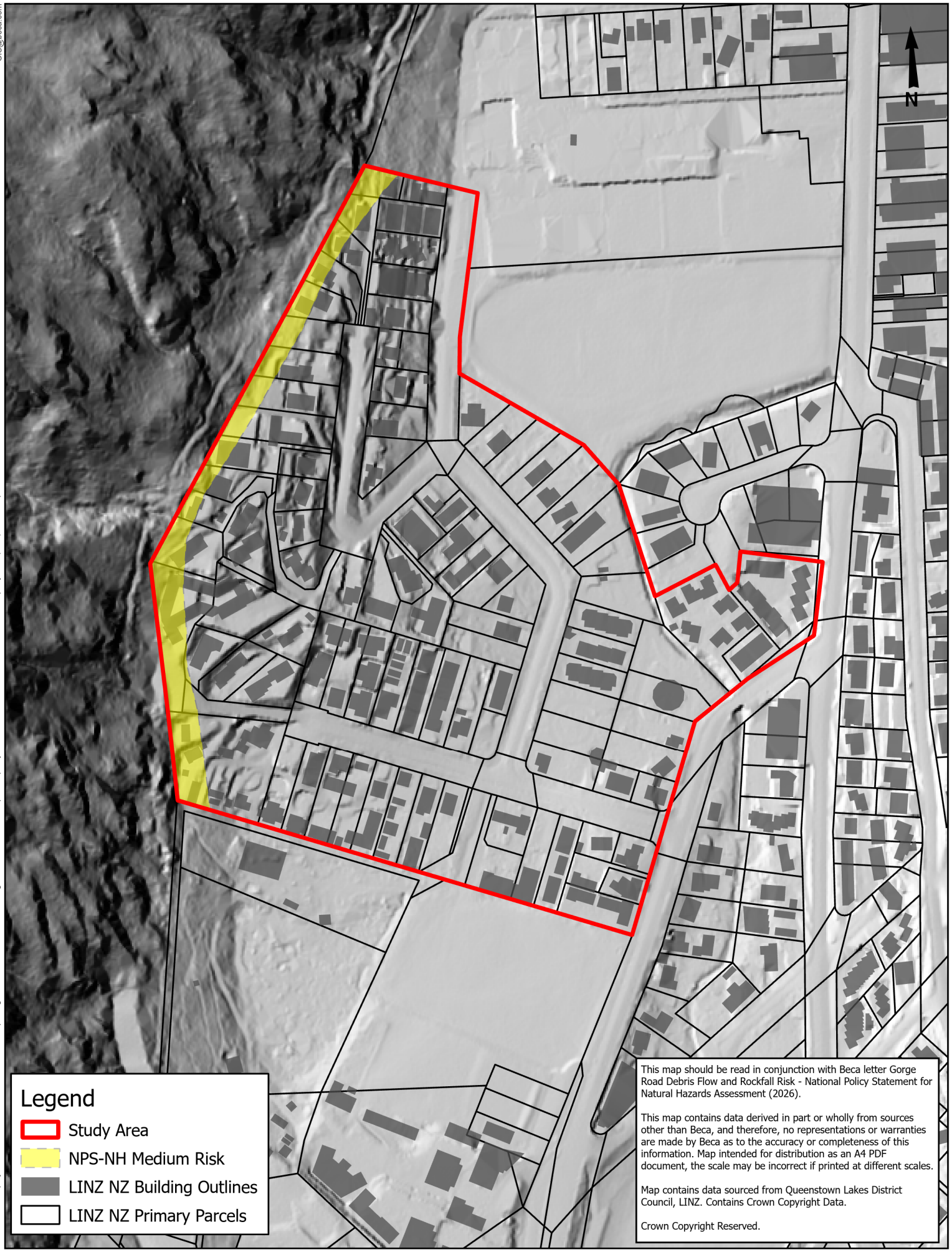
Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

Reavers Fan
Rockfall Life Risk (NPS)

Figure 7

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-07



This map should be read in conjunction with Beca letter Gorge Road Debris Flow and Rockfall Risk - National Policy Statement for Natural Hazards Assessment (2026).

This map contains data derived in part or wholly from sources other than Beca, and therefore, no representations or warranties are made by Beca as to the accuracy or completeness of this information. Map intended for distribution as an A4 PDF document, the scale may be incorrect if printed at different scales.

Map contains data sourced from Queenstown Lakes District Council, LINZ. Contains Crown Copyright Data.

Map Scale @ A4: 1:3,000

0 20 40 60 80

Metres

Revision	0.2
Status	Verified
Author	ROSMART
Verifier	BC
Date	02/06/2026

Reavers Fan
Rockfall Property Risk (NPS)

Figure 8

Beca

Project	Gorge Road Natural Hazards
Client	QLDC
Discipline	GIS
Drawing Number	GIS-4023579-08