

Engineering Outcomes, Limited
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25 November 2025

**PROPOSED SUBDIVISION
WEST COAST ROAD WAIPAPAKAURI; LOT 2 DP 394720
RESPONSE TO REQUEST FOR FURTHER INFORMATION (TRAFFIC)
FAR NORTH DISTRICT COUNCIL REF. 2260100-RMASUB**

By Dean Scanlen

BE(Hons)(Civil), CPEng, IntPE(NZ), CMEngNZ

1. This is a response to item 1 of a request for further information (RFI) in relation to the application for this subdivision, which is:

Please provide clarification regarding the sight distance for the entrance, specifically confirming whether it complies with the relevant engineering standards. As per Councils roading teams review, the sight distances to the crossing do not meet the requirements set in the Engineering Standards. If it does not meet the required standards, kindly outline the proposed measures to mitigate any associated effects.

Summary of Conclusions

2. I conclude that, with vegetation trimming and/or, perhaps, small volumes of earthworks, sight distances associated with the crossing will at least meet the council standard along all vectors.
3. Any earthworks are unlikely to de-stabilise the hillside but, if necessary, should still be assessed by a geotechnical engineer at the design stage post-consent.

The proposal

4. The proposal creates three titles from the single parent title described in plans by von Sturmerns entitled "Proposed subdivision of Lot 2 DP 394720"; referenced 12571 and dated February 2023 (revised July 2023) (appended).
5. The entrance crossing referred to in the RFI already exists and is on the northern side of West Coast Road 1.77 kilometres west of the Far North Road/SH1. It leads to all three proposed lots and existing dwellings on all of those lots.

Assessment - Sight Distances

6. Complying sight distances have been determined from first principals using speed surveys at the limit of visibility in each direction, from which the 85 percentile speed is obtained¹. The complying sight distances calculated from those have been compared with both measurements of sight distance at the site and a ground surface model created using LiDAR data.
7. The operating speeds are 72 km/hr westbound and 78 km/hr eastbound for which the complying sight distances are 95 and 110 metres respectively. Sightlines for those sight distances are plotted in Figure 1.
8. The available sight distances are somewhat below those standards in both directions – 75 metres towards the west and 102 metres towards the east. However, according to a ground model constructed from LiDAR data, both sightlines are everywhere above the ground surface.
9. LiDAR data is less accurate when, as under both complying sightlines, there is vegetation including trees. In fact, I have been advised by professional surveyors that such data can result in errors of as much as 2 metres in the height of the ground.
10. Neither complying sightline is consistently 2 metres above the ground surface as indicated by the LiDAR data, so it is possible that some earthworks will be necessary. Even if earthwork proves necessary, those will be relatively minimal and entirely in sandy ground² where there is minimal chance of destabilisation of the slopes above. Even so, if necessary, all earthworks should still be assessed by a geotechnical engineer at the design stage post-consent³.
11. The sight distances from the lane opposite the crossing are significantly greater than those from the crossing.
12. A large proportion of trips generated in the subdivision will be to/from the east⁴. As such, the sight distance east of the crossing is significantly less important than others.
13. No crashes have been reported at the crossing location since at least the start of 2020 despite all three lots having occupied dwellings on them and the sight distances currently not meeting the council's standards.
14. I finally note that both sightlines are currently entirely over the site. However, the boundaries are being adjusted, as part of the subdivision, to bring both sightlines entirely into road reserve⁵.

Report prepared by Dean R Scanlen

BE(Hons)(Civil), CPEng, IntPE(NZ), CMEngNZ

¹ With twenty-five vehicles surveyed. The council's most recent standards for sight distance, in the table in Sheet 4 of its *Engineering Standards 2023*, are for a downhill gradient of 12%, so are extremely conservative (that gradient has been determined using back-calculation). The notes to that table state that, on collector roads, those sight distances are the "approach sight distance" calculated with a driver-reaction time of 2.0 seconds. In contrast, this part of West Coast Road is very close to level. A friction coefficient of 0.36 has also been adopted.

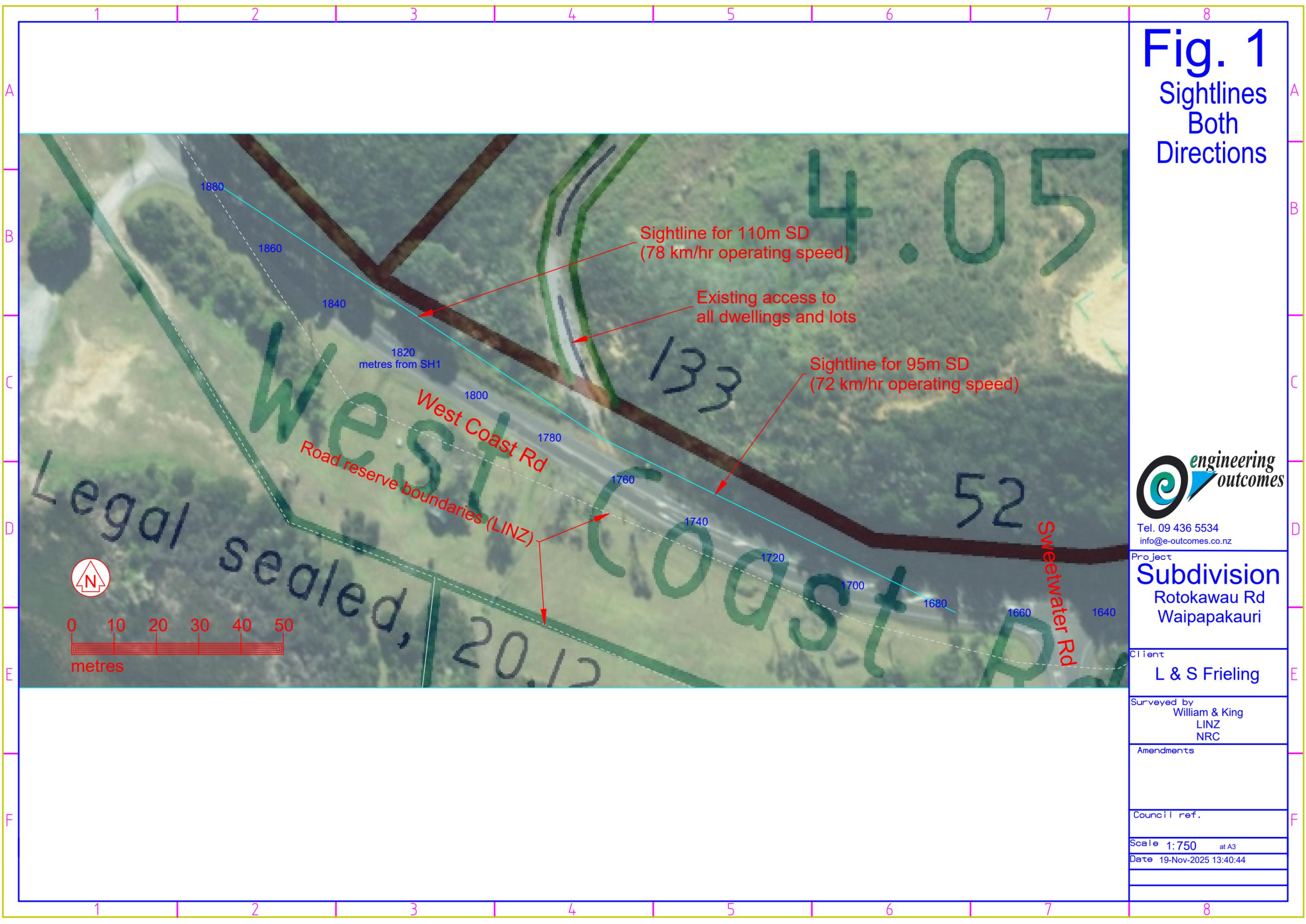
² The hill above this part of West Coast Road consists almost entirely, perhaps entirely, of sand. It is likely an old dune.

³ The associated risk to the subdivision is considered no more than negligible, so geotechnical assessment is not necessary prior to the granting of consent.

⁴ The only common destination in the other direction is an access to 90 Mile Beach via the Waipapakauri ramp.

⁵ In fact, this part of West Coast Road is also entirely within the parent lot, with the nearer road reserve boundary as much as 14 metres south of the road carriageway. The subdivision will also address this.

Fig. 1
Sightlines
Both
Directions



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Project
Subdivision
Rotokawau Rd
Waipapakauri

Client
L & S Frieling

Surveyed by
William & King
LINZ
NRC

Amendments

Council ref.

Scale 1:750 at A3

Date 19-Nov-2025 13:40:44

Photo 1. A panorama of West Coast Road from west (left) to east (right) centred on the site access and viewed from the southern side of West Coast Road.



Photo 2. West Coast Road looking west from the access crossing.



Photo 3. West Coast Road looking east from the access crossing.



Photo 4. The hill above West Coast Road west of the access connection point showing the vegetation that will need to be removed to achieve complying sight distance in this direction - almost entirely low-value exotic species and/or weeds. The situation is similar east of the crossing. The trees in this photo are red gums, so not natives, but should also not need to be completely removed. Rather, only a small number of their branches might need to be removed.



MEMORANDUM OF EASEMENTS			
Purpose	Shown	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
Right of Way	A	Lot 2 hereon	Lots 1 & 3 hereon
Right to convey Electricity & Telecommunications	B	Lot 3 hereon	Lots 1 & 2 hereon
	C	Lot 3 hereon	Lots 1 & 2 hereon

30m
30m
Shape factor
(Min. 10m from boundary)

Local Authority: Far North District Council

Total Area: 41.4650ha
Comprised in: RT 378745

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AREAS AND MEASUREMENTS SUBJECT TO FINAL SURVEY



Pt Sec 64
Blk VIII Opoe SD

1
DP 394720

Sec 2
50 484985

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.



VON STURMERS

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PROPOSED SUBDIVISION OF LOT 2 DP 394720

PREPARED FOR: L & S FRIELING

Name	Date	ORIGINAL SCALE	SHEET SIZE
Survey	NW Jan 2023		
Design			
Drawn	SH Feb 2023		
Rev	SH 26-07-2023		

Surveyors Ref. No:
15271
Series
Sheet of