

11 December 2025
Job No: 1016043.2000

Precinct Properties New Zealand Limited
c/- RCP Ltd

email: [REDACTED]

Attention: Bianca Hurrell

Dear Bianca

Downtown Carpark Site Development PC120 Risk Assessment

1 Introduction and Background

This letter presents the geotechnical assessment of landslide risk in accordance with Plan Change 120 (PC120), with respect to the proposed Downtown Carpark Site development.

The Project site is located at 2 Lower Hobson Street, at the corner of Lower Hobson Street and Customs Street West within the Auckland CBD (legal description Lot 9 DP 60151). The proposed site to be developed is approximately 6,442 m² in area, with the site being on land reclaimed in stages between 1850 and 1920 by the Auckland Harbour Board. Figure 1.1 shows the location of the site.

The site is relatively level, with the ground surrounding the site varying from RL 4 m to RL 5 m. A 9-storey (1 below ground level and 8 suspended floors) public carpark building known as the Downtown Carpark currently occupies the site.

The proposed development includes the demolition of the existing Downtown Carpark building (together with the Lower Hobson Street pedestrian bridge and Customs Street West vehicle ramp located within part of the road reserve). The redevelopment of the site will provide for a mixed-use precinct providing for commercial, residential, hotel, retail, food and beverage, and civic uses. The redevelopment involves three podium buildings, two towers, and four levels of shared basement extending up to RL -10.32m (approximately 14m below ground level).

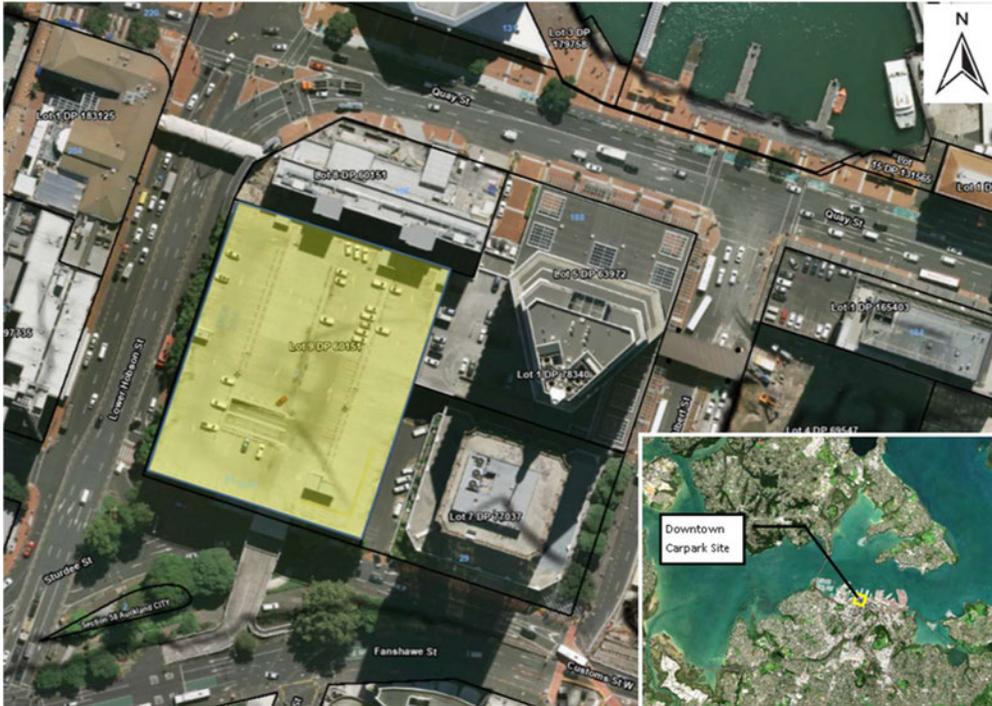


Figure 1.1: Downtown Carpark Site Development.

2 Geotechnical Assessment for PC120

2.1 General

A landslide hazard risk assessment has been prepared in accordance with Appendix 24 of the Auckland Unitary Plan¹, which sets out Auckland Council's prescribed methodology for assessing landslide hazard risk for land use and land use changes. This provides a quantitative and semi-quantitative basis for evaluating landslide risk significance within mapped susceptibility areas.

The assessment process follows four key stages:

- 1 **Stage 1 – Desk Study:** Identification of any evidence of historical or potential landslide hazards affecting the site based on the landslide hazard maps provided on Auckland Council GeoMaps.²
- 2 **Stage 2 – Method Selection:** Determination of the appropriate risk assessment method (Method 1 or 2) based on mapped susceptibility and the sensitivity of the proposed land use.
- 3 **Stage 3 – Risk Assessment:** Application of the selected method to determine the likelihood, consequences, and overall risk classification associated with potential landslide events.
- 4 **Stage 4 – Planning Application:** Use of the assessed risk level to determine the appropriate activity status under Table E36.4.1B of the Auckland Unitary Plan.

The following sections detail the landslide hazard risk assessment undertaken in accordance with the prescribed methodology.

¹ <https://new.aucklandcouncil.govt.nz/en/plans-policies-bylaws-reports-projects/our-plans-strategies/unitary-plan/auckland-unitary-plan-modifications/proposed-plan-changes/pc-120-housing-intensification-resilience.html>

² <https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html>

2.2 Stage 1 – Desk Study

Landslide susceptibility in the Auckland Council study was assessed for two distinct landslide types:

- 1 Shallow, smaller scale landslides; and
- 2 Large-scale landslide features.

Risk was assessed based on potential landslide-inducing variables, including local conditions, such as topography and geological conditions, and statistical analysis of a 'landslide inventory' of historical mapped landslides. The results were divided into 5 risk classes (Very Low, Low, Medium, High and Very High).

The following sections outline the desk study review undertaken based on the Auckland Council Geomaps information provided, with site-specific context provided where relevant to support the final risk assessment categories adopted.

2.2.1 Landslide Hazard Inventory

Based on a review of the landslide hazard desktop information provided on Auckland Council Geomaps, the nearest historical landslides have been mapped over 1.3km from the site, in St Marys Bay to the west (as depicted on Figure 2.1) and Judges Bay to the east. Given the distance of these events, they are not considered relevant to this development.



Figure 2.1: Site location (cyan) with nearest mapped landslides (yellow)

2.2.2 Shallow Landslide Risk

Shallow landslide risk at the site is generally 'very low to low' across the building footprint, as shown in Figure 2.2 below, which is consistent with topography of the area being generally flat to gently sloping.

However, a single 'Moderate' landslide risk block intersects the south-western corner of the site. On further inspection of the ground profile within this area, the ground profile is entirely flat with no

exposed cut faces or slopes present (as shown in Figure 2.3). The Fanshawe Street retaining wall is located 20 to 50 metres to the south of the building which may locally influence the desktop landslide risk rating, however this is not considered a credible landslide risk to the development.

Based on our review of the shallow landslide risk maps, and our interpretation of these maps at select locations, we considered the shallow landslide risk to be **Very Low to Low**.

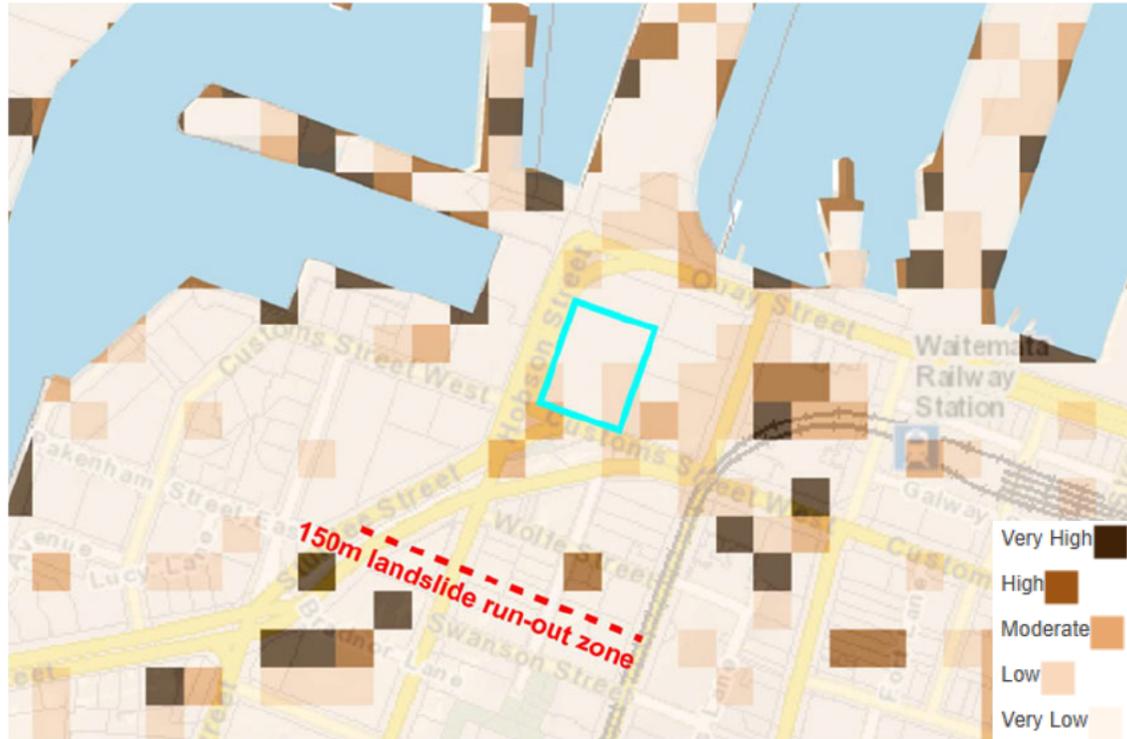


Figure 2.2: Shallow landslide risk map of the area surrounding the site



Figure 2.3: Customs Street West looking west towards 'Moderate' landslide risk area (source Google Streetview, October 2024)

2.2.3 Large Scale Landslide Risk

Large scale landslide risk at the site is generally **Very Low to Low** across the building footprint and surrounding area, as shown in Figure 2.4 below, which is consistent with topography of the area being generally flat to gently sloping.

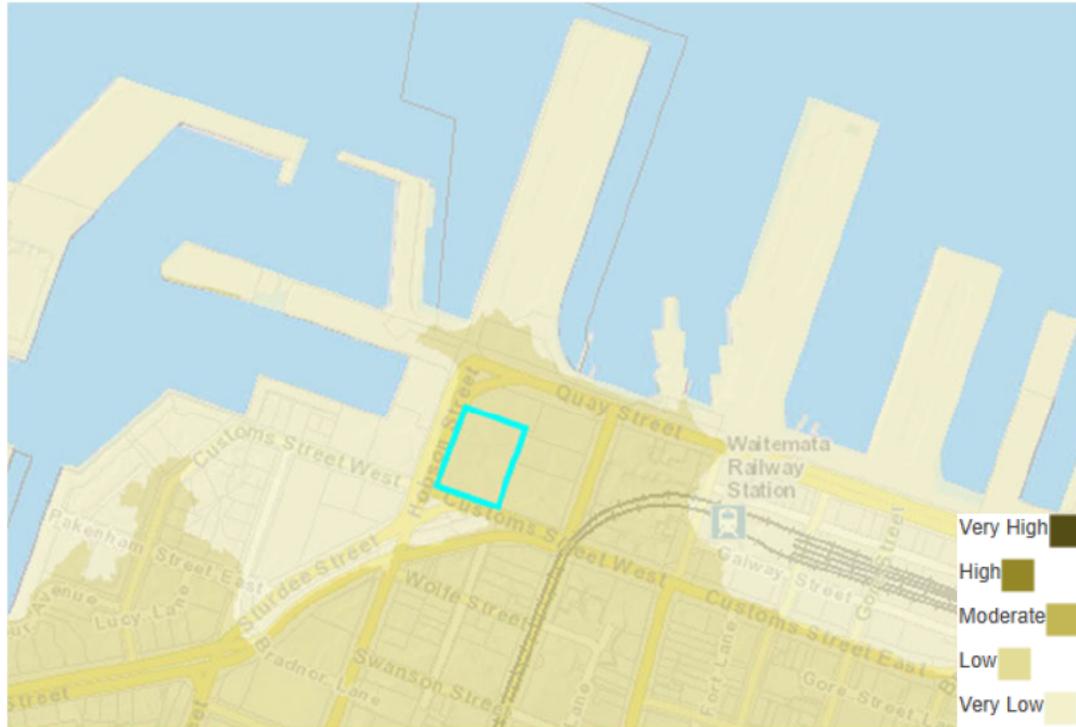


Figure 2.4: Deep landslide risk map of the area surrounding the site

2.2.4 Landslide Run-out Risk

The PC120 assessment methodology also considers landslide run-out risk, being the highest landslide susceptibility class mapped within 150m of the site in any direction, from which debris from a landslide could reach the site (i.e. directly uphill from the site).

As shown on Figure 2.2 above, shallow landslide risk upslope of the site is generally 'very low to low', however a single landslide block categorised as 'high' risk is located within the 150m landslide runout perimeter at the corner of Wolfe St and Federal St. On further inspection of this area, the ground profile in this area is flat to gently sloping with no cut faces or slopes present (refer Figure 2.5).

Based on our review of the landslide risk maps, and our interpretation of these maps at select locations, we considered the landslide risk run-out risk to be **Very Low to Low**.

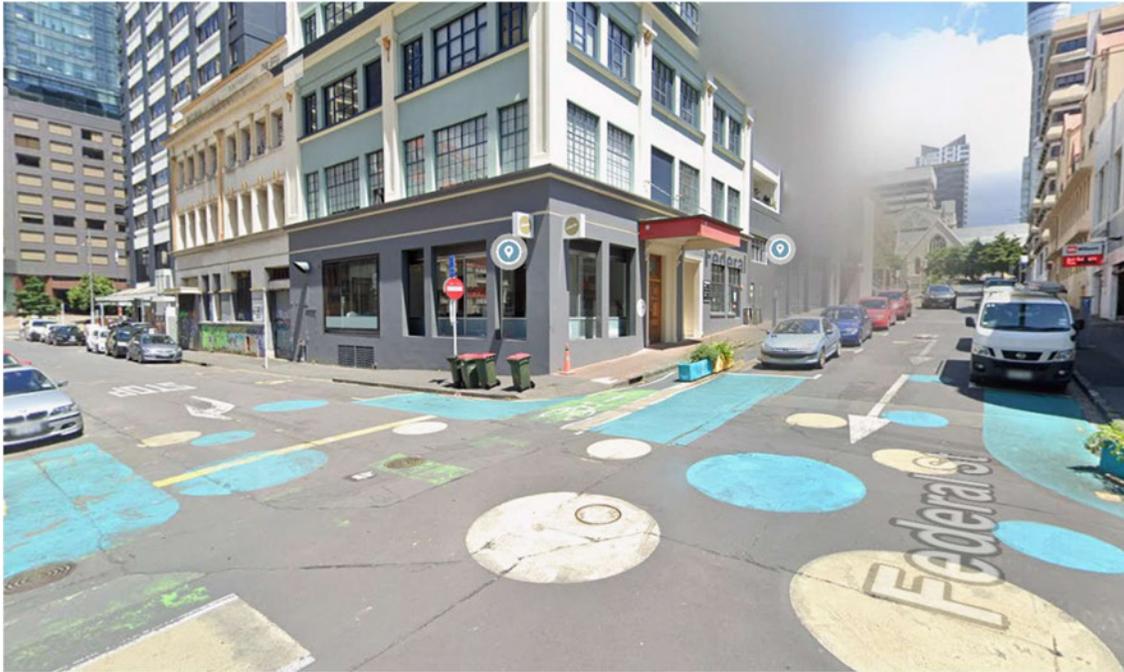


Figure 2.5: Wolfe Street / Federal Street intersection looking south-east towards High landslide risk area (source Google Streetview, January 2023)

2.2.5 Quay Street Seawall

Several areas classified as having a ‘high to very high’ shallow landslide risk are located downslope of the site, towards the north along the Quay Street seawall. While these zones do not present a direct run-out hazard to the site, any instability of the seawall could indirectly affect the development area, particularly following a significant seismic event and associated liquefaction of the reclaimed soils. Accordingly, this report includes further assessment of the landslide risks related to the Quay Street seawall.

The Quay Street Strengthening Project was undertaken between 2019 and 2021, led by Auckland Transport, which involved upgrading the existing Quay Street seawall to enhance seismic resilience and protect critical infrastructure along the waterfront. Within the Princes Wharf Zone near to the site, a grid of overlapping jet grout columns were installed landward of the seawall to improve ground stability, resist lateral spreading, and reduce deformation during seismic events. This ground improvement significantly mitigates the risk of seawall movement or failure, thereby safeguarding adjacent developments.

In addition to the strengthening works, the proposed four-level basement is to be founded at a depth extending below the liquefiable deposits (reclamation fill / alluvium), into the competent East Coast Bays Formation (ECBF) rock. As a result, the basement structure will be largely isolated from liquefaction-induced ground movements and potential seawall instability.

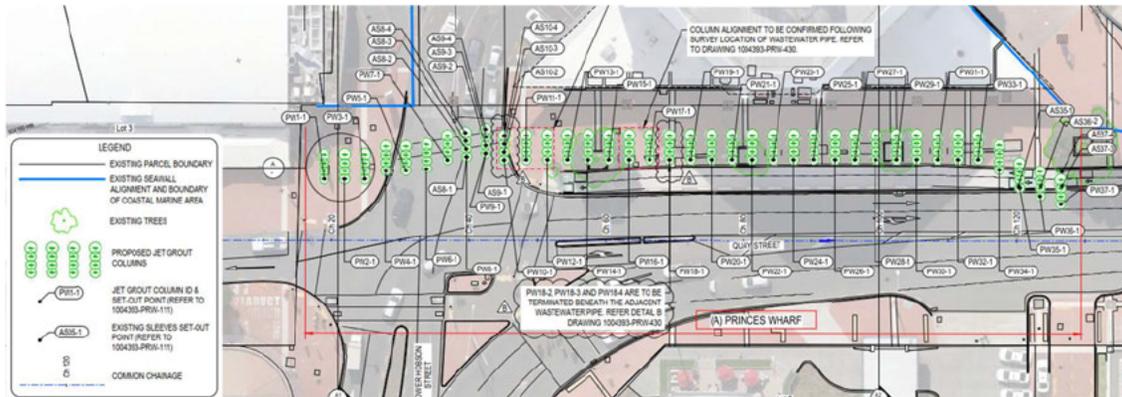


Figure 2.6: Quay Street Seawall strengthening layout drawing for Princes Wharf section

2.2.6 Summary of Desk Study Assessment

Based on our interpretation of the Landslide Risk Susceptibility assessment provided on Auckland Council GeoMaps, the classification for the site is considered to be **Very Low to Low**. Accordingly, no Stage 2 or 3 assessments are considered to be required to complete the assessment process.

2.3 Stage 4 – Application of Risk Assessment Outcomes

The results of the Stage 1 assessment indicates that the overall landslide risk for the site is very low to low (acceptable). Accordingly, the activity status for the proposed development is consistent with that of a low landslide hazard risk site under Table 36.4.1B of the Auckland Unitary Plan³.

3 Applicability

This report has been prepared for the exclusive use of our client Precinct Properties New Zealand Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

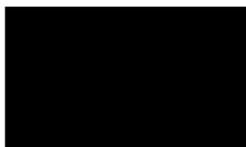
Tonkin & Taylor Ltd

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³ <https://new.aucklandcouncil.govt.nz/content/dam/ac/docs/plans/unitary/pc-120/52-pc120-chapter-e-natural-hazards-and-flooding.pdf>