



31 July 2020

Waitomo District Council
PO Box 404
Te Kuiti 3941

Our ref: 1250/7667//MDC Admin
Building DSA Letter.docx

Attention: Quin Powell

Dear Quin,

Detailed Seismic Reassessment of Waitomo District Council Administration Building

As advised, the building no longer requires post-disaster functions; as such, it is not required to meet Importance Level 4 (IL4). We have now completed a review and update of the Detailed Seismic Assessment (DSA) of the Waitomo District Council Administration building at Importance Level 2 (IL2). The reassessment was carried out after reviewing all the provided documents noted below in the basis of assessment.

Executive Summary

The two-storey part of the building attained the following percentage new building standard in the two principal directions:

Two-Storey Structure

Transverse: 70%NBS (IL2).

Longitudinal: 75%NBS (IL2)

Hence the building is classed as low or medium risk.

The detailed seismic reassessment is considered to provide a relatively quick, high-level and qualitative measure of the building's performance.

Introduction

This detailed seismic reassessment has been based on the original DSA of two-storey structure only at IL4. The critical structural weakness of two-storey structure is 40%NBS (IL4) at the first level in transverse direction.

Basis for the Reassessment

The information we have used for our DSA reassessment includes:

- Previous IEP report done by DMC Ltd; received at 28/06/2019.



- Partial building structural drawings as made available, received at 05/07/2019.
- Geotechnical Assessment provided by Mark T Mitchell Ltd, which considers the site soil to be soil class C. received at 28/06/2019.
- Previous site inspection notes, no destructive testing.
- Original DSA report for IL4 purpose by GHD Ltd. Issued to client at 26/08/2019.

Waitomo District Council Administration Building

Detailed Seismic Assessment Results

Our detailed seismic assessment of the two-storey part of building indicates the building can achieve 41%NBS (IL4) in the longitudinal direction and 40%NBS (IL4) in the transverse direction with soil class C. After the removal of post-disaster function, the building becomes IL2 with a corresponding decrease in earthquake return period and magnitude of load. The detailed seismic reassessment of this part of building therefore indicates a seismic performance rating of 70%NBS (IL2), corresponding to a 'Grade B' building as defined by the New Zealand Society for Earthquake Engineering (NZSEE) building grading scheme. This is above the threshold for earthquake prone buildings (34%NBS) and above the threshold for earthquake risk buildings (67%NBS) as recommended by the NZSEE.

Discussion

Our detailed seismic reassessment concluded that the Administration Building is 70%NBS (IL2). This seismic performance rating is considered accurate, as it is based up the detailed seismic assessment result for IL4.

Conclusion

Our detailed seismic reassessment for this building, carried out using the previous DSA results indicates overall scores of the buildings are as follows;

- Two-Storey and overall Building – 70%NBS (IL2) (corresponds to a Grade B building, as defined by the NZSEE building grading scheme.)

We trust this letter of detailed seismic reassessment meets your current requirements. We would be pleased to discuss further with you any issues raised in this report.

Please do not hesitate to contact me if you would like clarification of any aspect of this letter.

Yours sincerely

Edison Luo

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