New approach to make buildings more resilient

Changes are being introduced for some new buildings in Dunedin to protect them further from the effects of an earthquake.

The new approach puts more focus on site investigation and foundation strength in areas that may be susceptible to liquefaction or lateral spread (a landslide that mainly occurs on or around sloping ground). This means stronger foundations will be required on some properties.

Dunedin City Council (DCC) land hazard records indicate properties in some areas, such as Brighton, the Taieri Plain, South Dunedin and North East Valley, may be susceptible to liquefaction or lateral spread in an earthquake. Now that we have that information we are introducing a new approach to make buildings on those properties more resilient.

This approach will apply to most new buildings on properties which have been identified as being at moderate to high risk of liquefaction or lateral spread following an earthquake. This land is referred to as Domain C in the GNS Science Consultancy Report 2014/068: Assessment of Liquefaction Hazards in the Dunedin City District.

People can find out if their property is affected by checking their land information memorandum (LIM) or project information memorandum (PIM). The changes don’t apply to buildings such as simple sheds and barns that are seldom occupied.

We believe it’s responsible to take practical steps to protect new homes and businesses from known risks. The aim is to keep people safe and protect their investment and we are letting people know about this new approach now so they can seek advice and be prepared.

The changes mean there are three ways people can build on ground which may be at moderate or high risk of liquefaction or lateral spread following an earthquake.

The first way is to adopt the foundation design guidelines developed for some land following the Canterbury earthquakes. This land is known as technical category (TC2) land.

The second option is to use the NZS3604 building standard for foundations. However, to construct a new building on an at-risk site, ground testing must be carried out, using soil test methods set out in the standard. This will show whether that particular location is “good ground” where the standard method of construction is suitable. The results of the tests must be provided with the building consent application. It’s important to note the NZS3604 soil test methods are not specifically designed to assess potentially liquefiable sites.

The third option is to have a specific engineering solution designed for the particular site. This would be based on ground testing of the site and would have to be approved as part of the building consent process.

This new approach brings the DCC in line with other building control authorities.

For more information
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