NATURAL HAZARDS, PLANNING MAPS, GEOTECHNICAL REPORTS & INSURANCE

Most Councils have a set of planning maps showing areas that are more or less likely to be subject to various natural hazards. The hazards most widely mapped usually include land stability, flood / coastal inundation and liquefaction; but they may also hold information on other hazards such as coastal erosion, fault rupture, volcanic eruption, tsunami, etc.

The purpose of a planning map is to indicate, usually quite roughly, which parts of their District are most likely to have an issue with a particular natural hazard, so that when an application for resource consent or building consent comes in, the planners at Council will know whether a site-specific geotechnical assessment is required for that application or not. A slope instability planning map may, for example, be as rudimentary as simply highlighting all the land that is steeper than say 18° (or steeper than a 1V:3H slope). Where a Council has more funding and resources available, the map may include additional information such as geology or historic instability features.

Similarly, a liquefaction planning map may simply use a geological map to highlight all low-lying areas with recently deposited soils (i.e. those soils most at risk of liquefaction in an earthquake event). Some Councils however, have been able to refine this with a number of deep soil tests and multiple analysis points.

THE KEY POINT

The key point here is that the maps are a trigger for Council to ask for detailed, site-specific information for a particular project.

In some cases, the geoprofessional may be able to confirm that the risk of instability or liquefaction is negligible, even without testing the soils, based on experience and prior knowledge. In other cases, however, soil tests will be required, located in key areas on the property in question, along with detailed specific analysis, in order to quantify the risk and to allow design of appropriate mitigation measures.

Where a site has been subject to previous geotechnical assessments, e.g. during a previous subdivision process, depending on the age of that assessment, the subdivision assessment would be expected to take priority over the planning map.

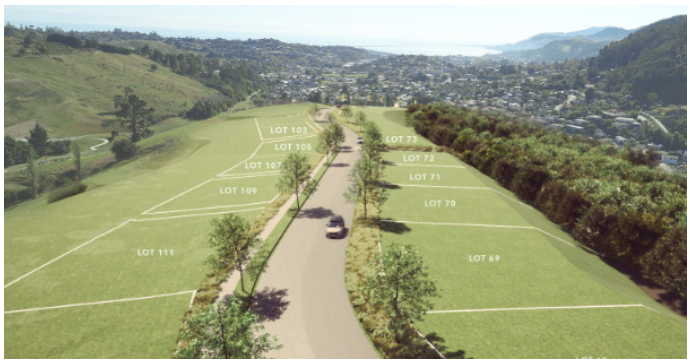
Where a site has been built upon and that building process was also subject to geotechnical assessment, then the site-specific assessment would be expected to take priority over both the subdivision report AND the planning maps.

It is simply not feasible, nor is it necessary for Councils to have to continually update planning maps to take into account all of the subdivision and site-specific assessments that are prepared.

In summary:

- Where no previous geotechnical assessments are available, Council will refer to the planning maps to determine if geotechnical input is needed;
- Where a subdivision geotechnical report is available, this will take precedence over a planning map;
- Where a site-specific report is available, this will take precedence over both the subdivision report AND the planning map.

Examples



1.

A builder wants to purchase a section in a new subdivision. The property is located within a Slope Instability Area (on a planning map). A geotechnical report was completed at the time of subdivision completion. The report sets out details of all the earthworks completed and confirms that the original ground has been cut down several metres, resulting in a flat section, suitable for development per NZS 3604.

- No geotechnical input is required during the building consent process;
- The section is considered to be fully stable and there should be no insurance issues arising.

Examples

2.

A builder wants to purchase a section in a new subdivision. The property is located within a Slope Instability Area (on a planning map). A geotechnical report was completed at the time of subdivision completion. The report sets out details of all the earthworks completed and certifies the engineered fill that was placed within the section. The report identifies that the property is on sloping ground and requires additional site-specific geotechnical input prior to application for building consent. It gives a number of recommendations for future earthworks, foundations and retaining requirements.

- The builder will need to engage a geoprofessional to assess the site in light of their specific building proposal. Each set of building plans will have a different set of issues to be addressed and may require additional soil investigations and slope stability analyses. The geotechnical report will then be used to inform the design of the house, its foundations, retaining wall design and earthworks design.

Examples

3.

A family want to buy a house that has recently been finished and has code compliance. The property is located within a Slope Instability Area (on a planning map). The builder has a site-specific geotechnical report confirming that all stability issues have been addressed. The house was located above a steep slope and the foundations deepened as required in the report. A site certification letter was provided by the geoprofessional once all the works had been completed.

- The house would not be expected to suffer from future landslip events originating either on or off the property. No caveats or additional levies should be necessary to insure the property.
- If the new owner wishes to rebuild or build an extension in the future, they may need to engage a geoprofessional at that time, depending on the wording of the site-specific report.

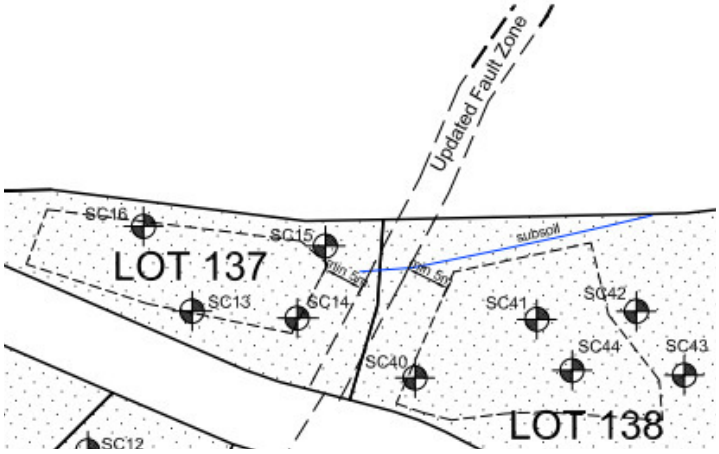
Examples

4.

A property with an existing house is shown to be within a Fault Avoidance Zone (on a planning map). The owner wishes to build a new sleepout and there is no previous reporting for the site.

- A site-specific geotechnical report will be required. The purpose will be to try and identify the fault location and to ensure that the new sleepout is sufficiently offset from the fault.

Examples



5.

A builder wants to purchase a section in a new subdivision. The property is located within a Fault Avoidance Zone (on a planning map). The subdivision report states that the fault was more accurately located during the subdivision works and includes a plan showing the location of the fault and a recommended offset from that fault to where the building will need to be.

- Provided the builder locates their new house beyond the designated offset, no additional geotechnical reporting should be necessary . The risk of fault rupture has been appropriately mitigated and there should be no insurance issues arising.

Examples

6.

A developer wants to subdivide their property, creating two new lots. The property is located within an area identified as being potentially subject to liquefaction.

- The developer will need to engage a geoprofessional to complete a site-specific liquefaction assessment. This will require some site investigations, the extent of which will depend on a number of factors including elevation, groundwater depth, geology etc. The report will provide advice on suitability for various foundations and outline any remedial works needed.

Examples

7.

A couple want to build on a vacant section within a recently finished subdivision. The property is located within an area identified as being potentially subject to liquefaction. The subdivision geotechnical completion report confirms that investigations and analyses were completed to quantify the risk of liquefaction. The report sets out two different foundation options that are considered suitable for buildings on these new sections and confirms that provided these foundations are adopted, the risk of liquefaction would be sufficiently mitigated and building code requirements met.

- The couple's designer uses one of the recommended foundation options and a geoprofessional reviews the plans, confirming that the proposed foundations meet the requirements set out in the subdivision report.
- No further issues are anticipated and the building should be able to be insured as normal.

Frequently Asked Questions:

Q: What if the property file doesn't include my geotechnical report?
A: Email the Council with a copy of the full report and ask them to add it to the property file.

Q: What should I do if my insurance company declines to insure the property or insists on charging me more for a hazard that has already been mitigated / addressed?
A: Send them a copy of the relevant geotechnical report. If they won't change their position, try approaching an insurance broker who will have access to a range of insurance companies. If this doesn't work, talk to a local geoprofessional who may be able to identify any outstanding issues or intervene on your behalf.

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