



Building Platform (“Floor Level”) Advice for Applicants

Introduction

The District Plan requires building platforms (“floor levels”) to be set at a certain level. The level is determined by two things, AEP level and freeboard.

Further detail on each of these topics is included below. A flow chart to assist in the decision making process is also appended to the end of this advice.

Information specific to properties within the Waiotaha Drifts subdivision is also appended.

AEP – Annual Exceedance Probability

The Annual Exceedance Probability is the chance or probability of a natural event (such as storm tide) of a particular size or greater occurring, or being exceeded annually, and is usually expressed as a percentage.

The 1% AEP flood level refers to a 1 in a 100 year inundation/flood event. This is a bigger and less frequent flood. To avoid the 1 in 100 year event, building platform (floor level) must be higher than that required to achieve the 2% AEP level.

The 2% AEP flood level refers to a 1 in a 50 year inundation/flood event. This is a smaller, more frequent flood.

The District Plan rules (zone standards) require the building platform (“floor level”) of buildings in the Coastal Environment to be set above the 1% AEP flood level (plus freeboard). The requirements in the coastal environment are more onerous given their proximity to the coast and susceptibility to inundation/flooding. It is to be noted that the “Coastal Environment” is plotted on the built form maps within the District Plan.

The rules for properties anywhere else in the District, including the town centre, require the building platform (floor level) within buildings to be set at the less onerous 2% AEP level (plus freeboard).

Provision of a building platform that prevents entry of surface water in a 2% AEP event is also the minimum required to meet building code requirements for new residential buildings (Clause E1 (Surface Water)).

How do I find out what the AEP level for my property is?

The AEP level for each property is determined by Opotiki District Council, however the Regional Council help us in determining levels for properties which are **not** in the Waioatahe Drifts subdivision or the Opotiki Township.

In cases where properties are **not** in the Waioatahe Drifts subdivision or Opotiki Township, applicants **must** obtain a letter from the Regional Council confirming the applicable AEP level and this letter must be submitted with the building consent/resource consent application. The letter must be issued within 6 months of the date of application.

A request for an AEP level from BOPRC can be made online at:

<https://www.boprc.govt.nz/do-it-online/request-or-enquire/flood-level-report/>

If your property is within the Waioatahe Drifts subdivision, please refer to the map and table appended for the AEP and required platform level.

For properties within the Opotiki Township applicants are advised to contact the resource consent officer and they will confirm the floor level.

Freeboard

A freeboard allowance is added to the calculated AEP flood level to account for any uncertainties associated with historical data and hydraulic assessments.

The application of a freeboard is at the Council's discretion. However, the table below taken from the Subdivision and Development Standard NZS4404; 2010, will be used as a baseline when determining the appropriate freeboard to be applied.

Table 3: Minimum Freeboard Requirements

Type of Structure	Freeboard height above design inundation level
Non-habitable residential buildings and detached garages*	0.20m
Commercial and industrial buildings*	0.30m
Habitable dwellings (including attached garages)*	0.50m
Major community facilities related to supply of electricity, telecommunications, water supply or wastewater disposal	0.60m
Bridges and buildings over watercourses (freeboard to the underside of structure)^	0.60m

* Levels as per NZS4404: 2010 Land Development and Subdivision Infrastructure

^ Levels as per NZTA Bridge Manual, SP/M/022, 3rd edition, May 2016

In some instances, particularly in the Coastal Environment, the Regional Council are unable to provide precise AEP levels due to uncertainty around modelled information. In these circumstances, the Regional Council are likely to include an allowance for imprecision, and this inclusion will be confirmed in the letter they provide detailing the appropriate AEP level.

In such cases, the council may only add freeboard if the "allowance for estimate imprecision and phenomena not expressly included in the calculations" does not equate to the full freeboard specified in Table 3 in NZS4404:2010.

However, any reduction below the AEP + minimum freeboard requirement may also need to be supported by evidence (in the form of an engineer's report) to justify the level proposed. Council staff can confirm what information is required on a case by case basis.

What do the building platform (“floor level”) rules apply to?

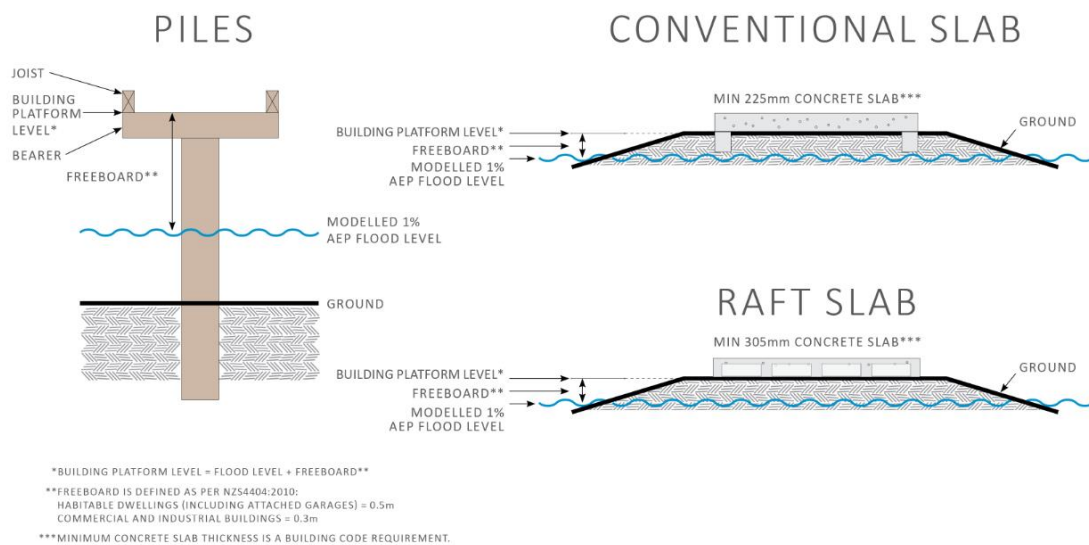
The rules (zone standards) in the District Plan refer to the “floor level” of “buildings”. There is no exception for non-habitable buildings. The definition of “building” in the plan has been changed to the Building Act definition, which is very broad (see Sections 8 and 9 <http://www.legislation.govt.nz/act/public/2004/0072/141.0/DLM306036.html>). That means that almost everything is caught – including non-habitable buildings such as garages and farm buildings.

It is also worth noting that the Building Act contains a schedule (Schedule 1 - <http://www.legislation.govt.nz/act/public/2004/0072/141.0/DLM5770963.html>) that sets out projects for which building consent is not required. These projects still fall within the definition of building, they are simply excluded from the need to obtain a building consent.

As such, some projects that do not require building consent (because they are excluded from building consent requirements by Schedule 1) may still require resource consent because they are caught by the overall definition of “building”. This includes things like “single storey detached buildings less than 10m² in floor area” etc. These types of buildings must still comply with the minimum platform (floor level) rules or obtain resource consent,

How do I design and construct a compliant building platform (“floor level”)?

The building platform (floor level) (AEP + freeboard) shall be measured from the prescribed water level (e.g a 1% or 2% AEP event + freeboard) to either the building platform level, the underside of the floor joists, or underside of the floor slab as shown in Figure 1.



To enable council staff to readily confirm that your proposal complies with the requirements, all applicants for building consent or resource consent must complete the form appended to this advice with the information relevant to your specific site and building project and submit it with the application.

If you propose to build up the ground level of your property to achieve the building platform level, you will need to ensure that your design includes measures to avoid any displacement of surface water onto adjoining properties. In many cases, a piled foundation may be necessary or most desirable.

The District Plan also contains rules and limits for earthworks on properties located in the Coastal Environment. The Bay of Plenty Regional Natural Resources Plan) also has rules relating to earthworks.

Will I need resource consent?

If a proposal can meet the building platform (floor level) requirements (1 or 2% AEP + the appropriate freeboard), no resource consent is required in relation to this matter.

If a proposal cannot meet the building platform (floor level) requirement, resource consent is required.

Any application will need to provide information and evidence to support the proposed lower building platform level. Depending on the specific proposal, this may require a report from a qualified engineer, architect or building relocation company that details how the building has been designed to withstand damage from inundation or to avoid adverse effects.

Examples of appropriate mitigation measures may include:

- The materials to be used in the building and their ability to withstand impact and damage from inundation (i.e. use of concrete panels or concrete block, lack of internal linings such as gip, height of electrical fittings and services).
- Design and installation of flood protection barriers (ie on doorways and windows to prevent water entering a building)
- Use of piled foundations and the ability to raise or relocate the building overtime.
- The proposed use of the building (e.g whether it is non-habitable).

Additionally, the applicant will need to review and assess the objectives and policies on natural hazards in the District Plan, as well as those in the relevant regional and national planning documents, and demonstrate consistently with them as part of any application for resource consent.

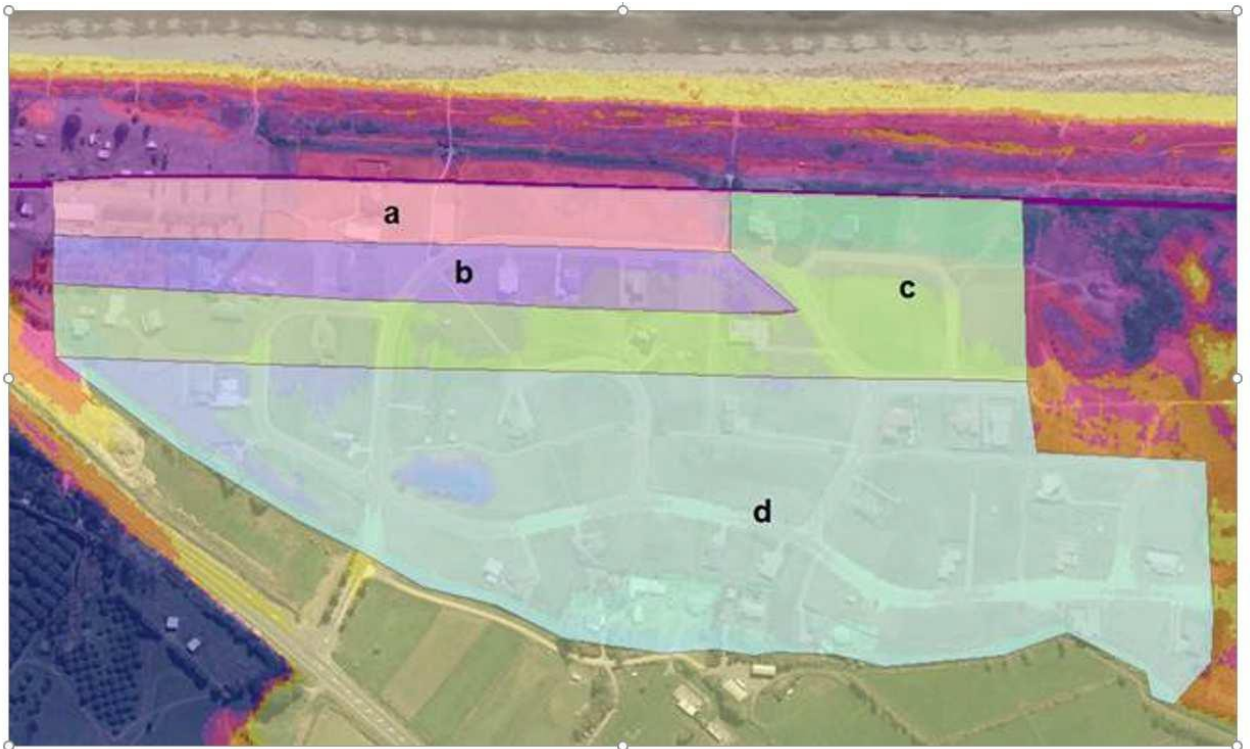
It is recommended that any applicant discuss their proposal with a Planner at the Council before preparing a resource consent application for a development that does not achieve the minimum platform level.

When should I lodge a building consent?

It is recommended that any resource consent application be lodged, and a decision issued, before any associated building consent application is made. Determination of the platform level will affect the detailed plans and information required for the building consent application. Regardless of any resource consent decision, a building must still achieve Clause E1 (Surface Water) of the Building Code.

If the land to which the building consent application relates is subject to a natural hazard(s) such as flooding/inundation, then the building consent will be issued subject to Sections 72-74 of the Building Act. This applies regardless of whether or not the specific building proposal achieves the minimum platform level.

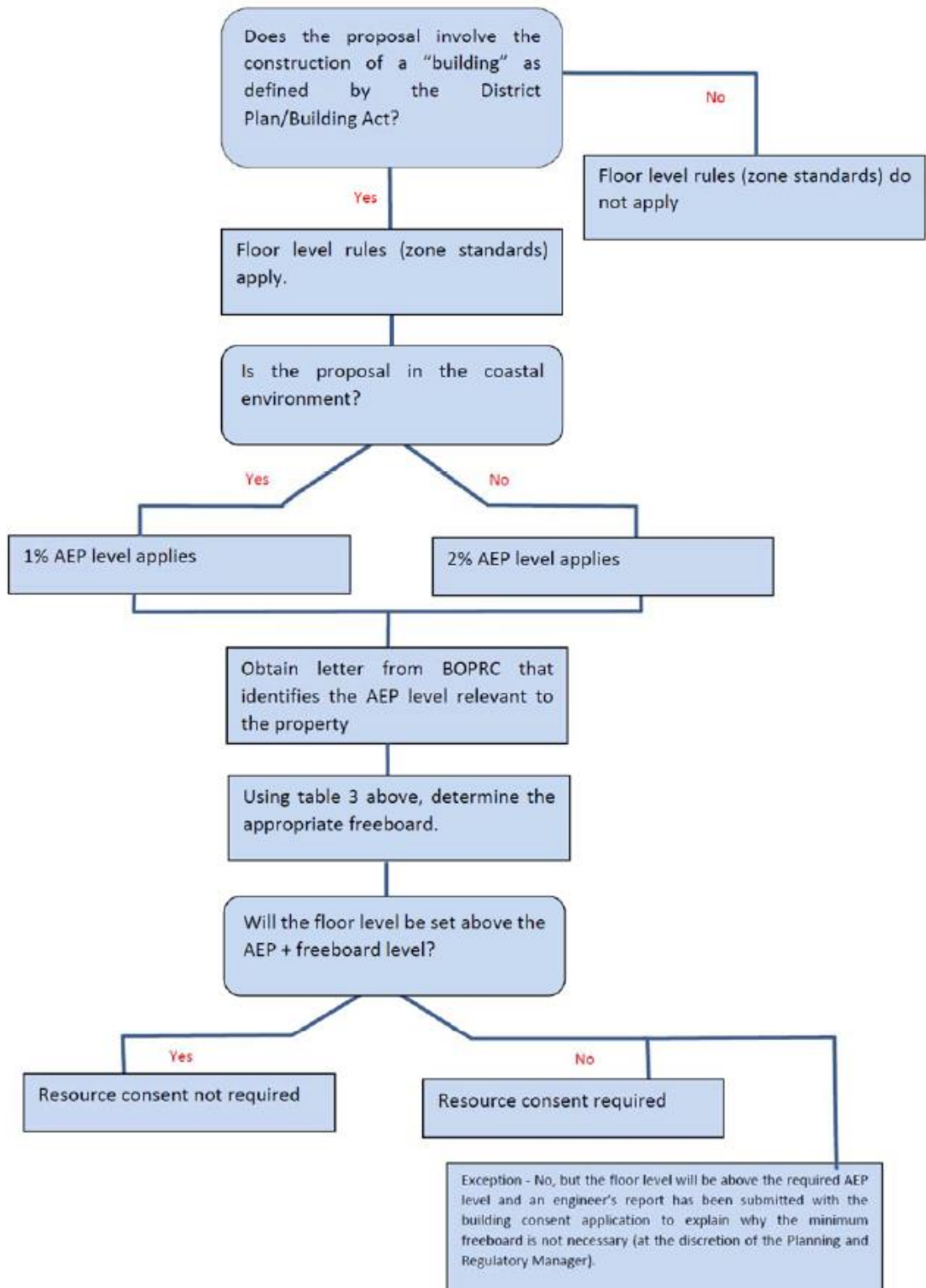
Waiotaha Drifts Platform Level Table



All levels in Moturiki Datum.	AREAS				
		a	b	c	d
Coastal Calculator (CC) 1% AEP LEVELS to year 2130 under RCP 8.5	Relocatable Activity	6.12m	3.84m	3.84m	3.84m
	Future adaption Limited	6.52m	4.24m	4.24m	4.24m
Freeboard	Includes Freeboard	Yes	No	No	No
	Freeboard to be added for a dwelling (including attached garage) as per policy NZS4404/ODC		500mm	500mm	500mm

	Freeboard to be added for a non-habitable residential building (e.g a detached garage) as per NZS4404/ODC policy		200mm	200mm	200mm
Alternative AEP above General Ground Level (GGL)	Minimum height above GGL	0.8m	0.5m	0.3m	None - unless building in overland flow path
	Includes estimate imprecision and phenomena not explicitly included in calculations	Yes	Yes	Yes	
Minimum Floor Level for Dwelling (including attached garage) as determined by ODC	Greater of CC 1% AEP level or 0.8m above GGL	Greater of 1% AEP level plus 500mm freeboard or 0.5m above GL	Greater of 1% AEP level plus 500mm freeboard or 0.3m above GL	Greater of 1% AEP level plus 500mm freeboard or 0.3m above GL	1% AEP level plus 500mm freeboard. OR 0.5m only if in overland flow path.
Minimum Floor Level for non-habitable residential building (eg a detached garage) as determined by ODC	Greater of: CC 1% AEP level or 0.8m above GGL	Greater of: 1% AEP level plus 200mm freeboard or 0.5m above GL	Greater of: 1% AEP level plus 200mm freeboard or 0.3m above GL	Greater of: 1% AEP level plus 200mm freeboard or 0.3m above GL	1% AEP level plus 200mm freeboard. OR 0.5m only if in overland flow path.

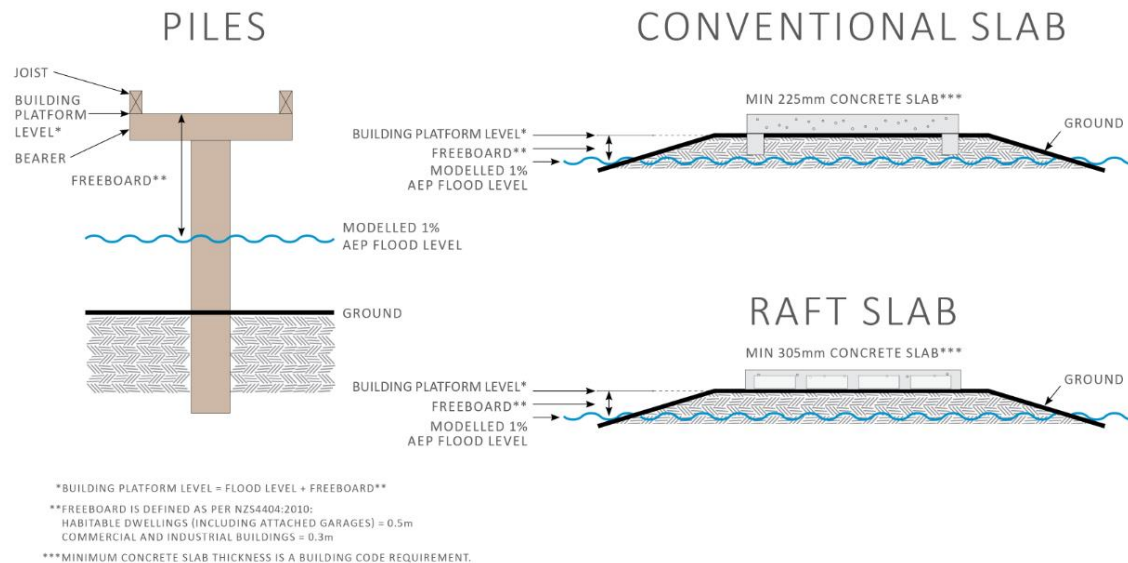
Flow chart: Steps to determine minimum platform (floor level) and any resource consent requirement



PLATFORM LEVEL (FLOOR LEVEL) FORM TO BE SUBMITTED WITH BUILDING AND OR RESOURCE CONSENT APPLICATIONS

Please fill in the table below to demonstrate how your proposed building complies with the Council floor level requirements:

Building Platform Level (Finished floor level)	
Freeboard Applied	
1% AEP Level	
2% AEP Level	
Ground Level	



Further information relating can be found on our advice note titled Building Platform ("Floor Level") Advice for Applicants which can be found on the Councils website.