AUP Chapter E36.9 Flood Hazard Risk Assessment Report

Prepared by (company name): McKenzie & Co Ltd
Date: 31/01/2025

Site Address: 53A&B, 55 Russell Road, Orewa West
Application No:

Select level of assessed risk from drop down list attached to each cell below

a) The frequency, duration and scale of the flooding hazard;

State If the site being developed will be impacted by flooding in more frequent events than 1 % AEP If assessment is for overland flow, determine trigger event as well as 1% AEP scenario. An assessment of the duration of the flooding hazard for the 1 % AEP event should be made supported with a study of the hydrology of the contributing sub catchments that is ppropriate for the scale of the risk. Describe extent of flooding on site along with discharge rates, depths and velocities at critical points on the developed site.*	The site is currently subject to flooding. All residential and utility lots will be outside the flooded widths with building floor levels achieving required freeboard. 18 scenarios have been modelled and assessed for the 2, 5, 10, 20, 50 and 100 year events for the pre- and post development, with and without 3.8 degree climate change. No scenarios trigger a flood event within the development site. Flood duration is the same for pre and post development due to the site location being lower in a large contributing catchment. Flows, depths and velocities are shown from drawings 3725-0-4500 onwards. There is negligible flooding risk to upstream and downstream properties in the post- development scenario. In addition to the 1% AEP event, a full MPD analysis based on the future urban zone was assessed. Finished floor levels for the proposed lots have been designed to have 500mm freeboard in this scenario.	LOW

b) The type of activity being undertaken and its vulnerability to flooding events;

Identify the activity or activities incorporated in the proposed development as listed in table E36.4.1. Described the vulnerability (exposure) of the activity or activities to the flood events determined by the investigation into the flooding hazards impacting the site described in E36.9(a). This should include whether the building footprint, any vehicle parking area and means of egress are within the flooding extent.	The site is residential only with supporting roads, utility lots, and riparian margins. No buildings, parking or egress routes will be located within the flood extents. Roadways will be located above the flood extents.	LOW

c) The consequences of a flooding event in relation to the proposed activity and the people likely to be involved in that activity;

Identify the impacts on the proposed activity during a flood event e.g. if the building footprint is fully or partially within the flooded area what level will the flooding reach in respect to the living areas and other components of the dwelling. If egress from the building will be flooded, to what depth and for what period of time. Identify any potential for damage to, or deterioration of, the structural and functional integrity of the building resulting from the intensity and or frequency of flooding.	No building foot prints are within the flood plain. Earthworks are proposed to contour the land to direct overland flowpaths away from buidlings. Modelling demonstrates no egress issues due to flooding within the site as the road levels are above the 100 year flood plain.	LOW

d) The potential effects on public safety and on other property;

Describe effects on public safety if the activity will include public use. Identify any potential flooding of upstream or downstream properties that may be affected by the proposed activity	No adverse effect on public safety will occur due to the development. No increase in flood risk will occur upstream or downstream of the devlopment due to the development activities. Increase in depth due to additional runoff will be contained within the existing channels and no overtopping anticipated.	LOW

e) Any exacerbation of an existing flooding hazard risks or creation of a new flooding hazard risk;

Describe results of investigation into any potential effects on other property if the activity results in diversion of flood flow or overland flow. Identify any new activity that results in an increase to the number of people exposed to an existing flood risk.	The proposal does not change any OLFP outside of the site, or the general function of the flood plain. All entry and exit points of OLFPs to the site will remain the same, nor will there be any reduction in capacity to convey the OLFPs. No changes to other neighbouring properties is intended. The proposal will not create any new natural hazards.	LOW

h) The design and construction of buildings and structures to mitigate the effects of natural hazards;

Decribe how the potential flooding effects identified above, determined by investigation and described in detail in a flooding report, will be mitigated by the design and materials of the building.	None of the buildings are within the 1% AEP floodplain. General freeboard for habitable floors applied for proposed buildings. OLFPs will be channelled within the road reserve and avoid habitable areas.	LOW

j) Site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event;

Decribe how the potential flooding effects identified above, including any effects on upstream and downstream properties, determined by investigation and described in detail in a flooding report, will be mitigated by the design form of any structures and site works. Describe measures proposed to provide safe egress from property	Vehicle Access is by the NoR6 collector road and an entry road off Upper Orewa Road. As these roadways are considerably higher in elevation than the floodplain levels access into the development is safe for vehicles. Roads are located above floodplain levels, all dwellings have safe egress.	LOW

l) Ay measures and/ or plans proposed to mitigate the natural hazard or the effects of the natural hazard.

Describe any other measures to mitigate the flooding hazard which can include information about future works planned by Auckland Council in the wider catchment that will reduce the flooding risk. Include any other measures to mitigate effects that are not described above.	The modeling shows there is low risk in flooding hazard. All stormwater measures within the Delmore Development have been designed to the 1% MPD scenario.	LOW