Appendix 1.4 – Recommended amendments to Interpretation chapter from Natural Hazards topic

COASTAL HAZARD AREA	means areas of coastal erosion hazard and coastal flooding hazard mapped by the Northland Regional Council and included in the District Plan maps as follows: a. Coastal Flood Hazard Zone (CFHZ1) – extent of the 50-year ARI status water level at 2080 0.6 m sea level rise (RCP8.5M)). b. Coastal Flood Hazard Zone 2 (CFHZ2) – extent of the 100-year ARI static water level at 2130~~080~~[1] including 1.2 m sea level rise (RCP8.5M). c. Coastal Flood Hazard Zone 3 (CFHZ3) – extent of the 100-year ARI static water level at 2130~~080~~[2] including 1.5 m sea level rise (RCP8.5H+). d. Coastal Erosion Hazard Zone 1 (CEHZ1) – an area potentially susceptible to coastal erosion (66% probability) by 2080 with 0.33 m sea level rise from 2019 – (RCP 8.5M). e. Coastal Erosion Hazard Zone 2 (CEHZ2) – an area potentially susceptible to coastal erosion (5% probability) by 2130 with 0.85 m sea level rise from 2019 – (RCP 8.5M). f. Coastal Erosion Hazard Zone 3 (CEHZ2) – an area potentially susceptible to coastal erosion (5% probability) by 2130 with 1.17 m sea level rise from 2019 – (RCP 8.5H+).
LAND SUSCEPTIBLE TO INSTABILITY	means any of the following: 1. Land which is specifically known and documented to have been subject to instability, on the basis of past geotechnical reports or council records; 2. Land which is underlain by 'Low Hazard' geological units as listed below, and is sloping steeper than 1V:3H (18°); 3. Land which is underlain by 'Medium Hazard' geological units as listed below, and is sloping steeper than 1V:5H (11°); 4. Land which is underlain by 'High Hazard' geological units as listed below; 5. Land which is overlain by boulders and is any distance downslope of slopes steeper than 1V:1H (45°); 6. Land which is within 15m of a slope greater than 1V:3H (18°); 7. Land which has been subject to, or is within 20m of land that has been subject to ~~past modification including~~ [3]un-documented (non-engineered) cuts and fill slopes exceeding 1.5m in vertical height; or 8. Land which is horizontally within 2 times the cliff height from the crest of cliffs and/or within 1.5 times the cliff height from the base of cliffs, where a cliff is taken as a slope exceeding 1V:1H (45°). **The 'Low Hazard' geological units are:** • Waipapa Group, • Caples Terrane,

[1] Kingheim (S601.004).
[2] Kingheim (S601.004).
[3] Northland Planning and Development (S502.005).

	• Te Kuiti Group (Kamo Coal Measures, Ruatangata Sandstone, Mangapapa Mudstone, Whangarei Limestone), • Houhora Complex, • Tangihua Complex, • Waipoua Basalt, • Kerikeri Volcanic Group (Rhyolite Domes, Basalt, Scoria). **The 'Medium Hazard' geological units are:** • Matatau Complex of Northland Allochthon (Taipa Mudstone, Mahurangi Limestone), • Otaua Group (Waitiiti Formation, Omapere Conglomerate, Waiwhatawhata Conglomerate), • Parengarenga Group (Paratoetoe Formation, Tom Bowling Formation, Kaurahoupo Conglomerate), • Awhitu Group (dune sands, high terraces, alluvium), • Tauranga Group Pleistocene and Holocene river lake and estuarine deposits, • Kariotahi Group (dune sands, river lake and estuarine deposits). **The 'High Hazard' geological units are:** • Mangakahia Complex (Punakitere Sandstone, Whangai Formation, Hukerenui Mudstone, Melange of Northland Allochthon), • Mangonui Formation, • Tauranga Group Pleistocene and Holocene hill slope deposits. These are listed generally according to their GNS Science 'Key Name' as displayed on the NZ Geology Web Map or the unit names shown on the GNS Science QMAP series 1:250,000 geology maps: Any units not listed above should be considered against the hazard designation of units in the same geological group if available, or should be considered as land which may be susceptible to instability (i.e. meeting the criteria) where no matching geological unit can be determined. The land to be assessed under the criteria should be taken as the area to be developed under a consent application, rather than the subject property as a whole. In the case of a subdivision this would be a nominated building site within a vacant proposed lot. When determining slope angles against the criteria, maximum angles through the assessed area and immediately above and below the area should be considered. The scope of assessment should be widened as necessary to satisfy the criteria (e.g. for Criteria 4, assessment must extent all the way upslope of the assessed land).