

Appendix 7

Auckland Unitary Plan (Operative in Part)

Assessment of Natural Hazard, Climate Change and Flooding Objectives and Policies

Refence	Objective or Policy	Assessment
B10.2 Natural Hazards and Climate Change		
Objective B10.2.1 (1)	Communities are more resilient to natural hazards and the effects of climate change.	<p>The proposed rezoning approach provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. This approach provides the future owners of the countryside living lots with resilience to natural hazards and the effects of climate change as they will be able to locate their dwellings and associated wastewater disposal fields on those areas of the plan change site that are not subject to flood hazards.</p> <p>The future shared access road can also be provided substantially outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. Only a small section of the road will be required to be raised (through a natural depression between the land areas located outside of the flood plain) to ensure the entire road is located with a minimum freeboard of 200mm at the lowest point above the calculated flood level of RL 4.4m during a 1% AEP flood event. This will ensure that the resilience of future owners to natural hazards and the effects of climate change can be appropriately provided for at the time of subdivision and development.</p> <p>The existing provisions of the Auckland Unitary Plan (Operative in part) (AUP (OP)) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the resilience of future owners to natural hazards and the effects of climate change. In this respect, any future subdivision and development on the plan change site will require resource consent under the rules contained in Table E36.4.1 of the AUP (OP). These rules enable the risk of adverse effects from flood hazards to be appropriately assessed at the</p>

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		<p>time of subdivision and development and for significant adverse effects to be avoided through refusal of resource consent where necessary.</p> <p>It is therefore considered that the plan change request will give effect to the overall intent of this objective.</p>
Objective B10.2.1 (2)	The risks to people, property, infrastructure and the environment from natural hazards are not increased in existing developed areas.	The plan change request will not increase the risk to people, property and infrastructure in the existing developed areas of Clevedon, including the existing surrounding lifestyle properties. As such, it is considered that the plan change request will give effect to the overall intent of this objective.
Objective B10.2.1 (3)	New subdivision, use and development avoid the creation of new risks to people, property and infrastructure.	<p>The proposed rezoning approach provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. This approach has been taken to avoid the creation of new risks to people, property and infrastructure. The plan change request provides for the location of all specified building areas and associated wastewater disposal areas outside of the identified flood plain and / or coastal inundation flood areas. It also provides for the ability for a shared access road to be located with a minimum freeboard of 200mm at the lowest point above the calculated flood level of RL 4.4m during the 1% AEP flood event.</p> <p>Those parts of the properties at 272 and 278 Clevedon-Kawakawa Road that are contained entirely within the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas will be retained in the Rural – Rural Coastal Zone to avoid any new subdivision, use and development on the properties resulting in new risks to people, property and infrastructure.</p> <p>The existing provisions of the AUP (OP) will ensure that appropriate approaches are taken at the time of subdivision and development to ensure the potential flood risks are avoided. In this respect, any future subdivision and development on the plan change site will require resource consent under the rules contained in Table E36.4.1 of the AUP (OP). These rules enable the risk of adverse effects from flood hazards to be appropriately assessed at the time of subdivision and development and for significant</p>

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		<p>adverse effects to be avoided through refusal of resource consent where necessary. As such, if a subdivision and development is subsequently proposed that cannot avoid the creation of new risks to people, property and infrastructure, this can be adequately addressed at this time.</p> <p>It is therefore considered that the plan change request will give effect to the overall intent of this objective.</p>
Objective B10.2.1 (4)	The effects of climate change on natural hazards, including effects on sea level rise and on the frequency and severity of storm events, is recognised and provided for.	The AUP (OP) identifies the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. The AUP (OP) has therefore already recognised and provided for the effects of climate change on the flood hazards that are associated with the land. The proposed rezoning approach provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. This approach recognises and provides for the identified natural hazards risks associated with climate change. It is therefore considered that the plan change request will give effect to the overall intent of this objective.
Objective B10.2.1 (5)	The functions of natural systems, including floodplains, are protected from inappropriate subdivision, use and development.	The rezoning approach has considered the constraints and risks posed by the flood plain, flood prone areas and overland flow paths. This has resulted in only those parts of the plan change site that are substantially located outside the 1% AEP flood plain, coastal inundation areas and flood prone areas being included in the area that has been requested to be rezoned Rural - Countryside Living and included in Clevedon sub precinct C. This provides the opportunity for all future specified building areas and associated on-site wastewater disposal areas within the future countryside living lots to be located outside of the flood plain, coastal inundation areas and floor prone areas. The area requested to be rezoned also provides the opportunity for the future specified building areas (including on-site wastewater disposal areas) to be located clear of the identified overland flow paths. The approach adopted will therefore provide for the protection of the functions of natural systems at the time of subdivision and development.

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		<p>The future shared access road can be designed to provide a minimum freeboard of 200mm at the lowest point above the flood level (RL 4.4m) during a 1% AEP flood event. Rotten rock / brown rock or similar approved engineering fill would be used to build up the road on the flood plain area with a maximum batter slope of 1 in 3 (33% gradient). Where the road will cross the major overland flow path it is proposed to install 2 x 675mm diameter culverts at the crossing with headwall and riprap erosion protection. The culverts would be sized to be 100 year at inlet control without overtopping the road level. As such, the water depth will be less than 200mm across the private road during the 1% AEP event, which complies with the AUP (OP) requirements and will not restrict access during a flood event. This design approach can provide for the continued protection of the natural functioning of the overland flow paths and the surrounding flood plain areas.</p> <p>It is therefore considered that the plan change request will give effect to the overall intent of this objective.</p>
Objective B10.2.1 (6)	The conveyance function of overland flow paths is maintained.	As outlined above the conveyance function of the overland flow paths located on the plan change site can be maintained using industry standard best practice design approaches at the time of subdivision and development. It is therefore considered that the plan change request will give effect to the overall intent of this objective.
Policy B10.2.2 (1)	Identify areas potentially affected by natural hazards, giving priority to those at high risk of being affected, particularly in the coastal environment	The areas potentially affected by natural hazards on the plan change site have been identified. The rezoning approach has considered the constraints and risks posed by the flood plain, flood prone areas and overland flow paths. This has resulted in only those parts of the plan change site that are substantially located outside the 1% AEP flood plain, coastal inundation areas and flood prone areas being included in the area that has been requested to be rezoned Rural - Countryside Living and included in Clevedon sub precinct C. This provides the opportunity for all future specified building areas within the countryside living lots and associated on-site wastewater disposal areas to be located outside of the flood plain, coastal inundation areas and flood prone areas. It is therefore considered that the plan change request will give effect to the overall intent of this policy.

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Policy B10.2.2 (2)	Undertake natural hazard identification and risk assessments as part of structure planning.	The plan change request process has involved natural hazard identification and risk assessment. It is therefore considered that the plan change request will give effect to the overall intent of this policy.
Policy B10.2.2 (3)	Ensure the potential effects of climate change are taken into account when undertaking natural hazard risk assessments.	The potential effects of climate change have been taken into account through the plan change request process. It is therefore considered that the plan change request will give effect to the overall intent of this policy.
Policy B10.2.2 (4)	Assess natural hazard risks: (a) using the best available and up-to-date hazard information; and (b) across a range of probabilities of occurrence appropriate to the hazard, including, at least, a 100-year timeframe for evaluating flooding and coastal hazards.	The flood hazard risks have been assessed in line with the direction of this policy in consultation with Healthy Waters. The flood risk assessment is detailed in the Engineering and Infrastructure Assessment Report provided in support of the plan change request (Technical Report No. 2 attached as Appendix 5 to the Statutory Assessment Report). It is therefore considered that the plan change request will give effect to the overall intent of this policy.
Policy B10.2.2 ()	Manage subdivision, use and development of land subject to natural hazards based on all of the following: (a) the type and severity of potential events, including the occurrence natural hazard events in combination; (b) the vulnerability of the activity to adverse effects, including the health and safety of people and communities, the resilience of property to damage and the effects on the environment; and (c) the cumulative effects of locating activities on land subject to natural hazards and the effects on other activities and resources	The proposed rezoning approach provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. This approach has been adopted to ensure future subdivision, use and development enabled on the land is managed in accordance with the direction of this policy. In this respect, <ul style="list-style-type: none"> • the type and severity of potential flood events has been established and will be managed by providing for all future specified building areas (including on-site wastewater disposal areas) within the countryside living lots to be located outside of the flood plain, coastal inundation areas and floor prone areas located on the plan change site; • the health and safety of future owners and the resilience of future countryside living lots to damage and effects of flooding has been addressed by providing for all future specified building areas (including on-site wastewater disposal areas) within the countryside living lots

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		<p>to be created by future subdivision and development to be located outside of the flood plain, coastal inundation areas and floor prone areas located on the plan change site and providing for a shared access road that can be designed to provide a minimum freeboard of 200mm at the lowest point above the flood level (RL 4.4m) during a 1% AEP flood event; and</p> <ul style="list-style-type: none"> the rezoning approach has considered the constraints and risks posed by the flood plain, flood prone areas and overland flow paths located on the plan change site and has effectively excluded as far as practicable the land subject to flood hazards from being included within the expanded Rural – Countryside Living Zone and Clevedon Sub precinct C (with the land primarily subject to flood hazards being retained in the Rural – Rural Coastal Zone). <p>It is therefore considered that the plan change request will give effect to the overall intent of this policy.</p>
Policy B10.2.2 (6)	<p>Adopt a precautionary approach to natural hazard risk assessment and management in circumstances where:</p> <p>(a) the effects of natural hazards and the extent to which climate change will exacerbate such effects are uncertain but may be significant, including the possibility of low-probability but high potential impact events; or</p> <p>(b) the level of information on the probability and/or impacts of the hazard is limited.</p>	<p>The effects of the flood hazards on the future subdivision and development that will be enabled by the plan change request and the extent to which climate change will exacerbate such effects are certain based the flood risk assessments that have been completed in respect to the area in the past. There is also an adequate level of information available on the probability and /or impacts of the flood hazards based the flood risk assessments that have been completed in respect to the area in the past. As such, a precautionary approach is not required in respect to the requested extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas.</p>
Policy B10.2.2 (7)	<p>Avoid or mitigate the effects of activities in areas subject to natural hazards, such as earthworks, changes to natural and built drainage systems,</p>	<p>The extent of earthworks, changes to natural and built drainage systems and new or modified structures required to implement the subdivision and development that will be enabled by the plan change request will be relatively limited. There will also be no vegetation clearance required (in fact the plan change request will enable substantial re-</p>

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	vegetation clearance and new or modified structures, so that the risks of natural hazards are not increased.	vegetation of the plan change site). As such, the risks of natural hazards will not be increased as a result of the subdivision and development enabled by the plan change request. Any potential for adverse effects or increased risks can be appropriately managed (avoided, remedied or mitigated) at the time of resource consent through the existing provisions of the AUP (OP). It is therefore considered that the plan change request will give effect to the overall intent of this policy.
Policy B10.2.2 (8)	Manage the location and scale of activities that are vulnerable to the adverse effects of natural hazards so that the risks of natural hazards to people and property are not increased.	The plan change request will manage the location and scale of future vulnerable activities to ensure the future risks from flooding to people and property are not increased. In this respect, the proposed rezoning approach only provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. The provisions of Clevedon Sub precinct C also limit the scale of countryside living subdivision and development that can be undertaken on the plan change site (only 11- 12 new dwellings will be enabled on the site). It is also pertinent to note the nature and characteristics of countryside living subdivision and development, which provides for relatively large site sizes, means there is options provided to appropriately avoid or mitigate any potential for adverse effects from flood hazards, and thereby ensure the risks to future owners are not increased. It is therefore considered that the plan change request will give effect to the overall intent of this policy.
Policy B10.2.2 (9)	Encourage activities that reduce, or do not increase, the risks posed by natural hazards, including any of the following: (a) protecting and restoring natural landforms and vegetation; (b) managing retreat by relocation, removal or abandonment of structures; (c) replacing or modifying existing	As outlined above the subdivision and development enabled by the plan change request will not result in earthworks, changes to the natural and built drainage systems or vegetation clearance that will increase the identified flooding and coastal inundation hazards. The plan change request will in fact provide the catalyst needed to achieve the protection and restoration of the natural landforms and vegetation located within the plan change site and adjacent to the plan change site. As detailed in the supporting Ecological Report (Technical Report No. 9 attached as Appendix 12) there is potential for positive effects as part of any future subdivision and development on the plan change site through the implementation of

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	<p>development to reduce risk without using hard protection structures;</p> <p>(d) designing for relocatable or recoverable structures; or</p> <p>(e) providing for low-intensity activities that are less vulnerable to the effects of relevant hazards, including modifying their design and management.</p>	<p>the identified enhancement opportunities, such as wetland and riparian restoration, inanga spawning habitat creation and improvement to fish passage.</p> <p>The report concludes that the implementation of these ecological enhancement opportunities at the time of subdivision and development of the site would result in a net ecological gain. These ecological enhancement opportunities will be required and can be achieved through the existing provisions of Clevedon Sub precinct C.</p> <p>The plan change request does provide for low intensity residential development as required by the existing provisions of Clevedon Sub precinct C. These activities will be less vulnerable to the identified flood hazards as all specified building areas will be located outside of the identified flood plains. This is an intentional management approach adopted by the plan change request.</p> <p>It is therefore considered that the plan change request will give effect to the overall intent of this policy.</p>
<p>Policy B10.2.2 (10)</p>	<p>Encourage redevelopment on land subject to natural hazards to reduce existing risks and ensure no new risks are created by using a range of measures such as any of the following:</p> <p>(a) the design and placement of buildings and structures;</p> <p>(b) managing activities to increase their resilience to hazard events; or</p> <p>(c) change of use to a less vulnerable activity.</p>	<p>The proposed rezoning approach provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. This approach has been adopted to ensure future subdivision, use and development enabled on the land by the plan change request is managed in accordance with the direction of the policy.</p> <p>In this respect, the plan change request does provide for the reduction of existing risks and will ensure that no new risks are created by ensuring that all future dwellings and associated on-site wastewater infrastructure can be located outside of the identified flood plains. This will ensure that future subdivision and development is managed to ensure resilience is provided to future flood events.</p> <p>It is therefore considered that the plan change request will give effect to the overall intent of this policy.</p>
<p>Policy B10.2.2 (11)</p>	<p>Strengthen natural systems such as flood plains, vegetation and</p>	<p>As outlined above the subdivision and development enabled by the plan change request will not result in earthworks, changes to the natural and built</p>

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	<p>riparian margins, beaches and sand dunes in preference to using hard protection structures</p>	<p>drainage systems or vegetation clearance that will increase the identified flooding and coastal inundation hazards.</p> <p>The plan change request will in fact provide the catalyst needed to achieve the protection and restoration of the natural landforms and vegetation located within the plan change site and adjacent to the plan change site. As detailed in the supporting Ecological Report (Technical Report No. 9 attached as Appendix 12) there is potential for positive effects as part of any future subdivision and development on the plan change site through the implementation of the identified enhancement opportunities, such as wetland and riparian restoration, inanga spawning habitat creation and improvement to fish passage. The report concludes that the implementation of these ecological enhancement opportunities at the time of subdivision and development of the site would result in a net ecological gain. These ecological enhancement opportunities will be required and can be achieved through the existing provisions of Clevedon Sub precinct C.</p> <p>It is therefore considered that the plan change request will give effect to the overall intent of this policy.</p>
<p>Policy B10.2.2 (12)</p>	<p>Minimise the risks from natural hazards to new infrastructure which functions as a lifeline utility by:</p> <p>(a) assessing the risks from a range of natural hazard events including low probability but high potential impact events such as tsunamis, earthquake and volcanic eruptions;</p> <p>(b) utilising design, location and network diversification to minimise the adverse effects on infrastructure and to minimise the adverse effects on the community from the failure of that infrastructure.</p>	<p>This policy is not relevant to the plan change request.</p>

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Policy B10.2.2 (13)	<p>Require areas potentially affected by coastal hazards over the next 100 years to do all of the following:</p> <p>(a) avoid changes in land use that would increase the risk of adverse effects from coastal hazards;</p> <p>(b) do not increase the intensity of activities that are vulnerable to the effects of coastal hazards beyond that enabled by the Plan;</p> <p>(c) in the event of redevelopment, minimise natural hazard risks through the location and design of development; and</p> <p>(d) where it is impracticable to locate infrastructure outside of coastal hazard areas, then ensure coastal hazard risks are mitigated.</p>	<p>The plan change site is located within the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise area. The plan change site is therefore potentially affected by coastal hazards over the next 100 years.</p> <p>The proposed rezoning approach only provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. Those areas of the plan change site that are located within the predominate part of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise area are to be retained in the Rural – Rural Coastal Zone to ensure the overall direction of the policy is achieved.</p> <p>More specifically, the proposed rezoning approach will provide for the direction of the policy to be given effect to as follows:</p> <ul style="list-style-type: none"> • The change in land use to countryside living will not increase the risk of adverse effects from coastal hazards as all specified building platforms will be located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas; • The plan change request will not increase the intensity of activities that are vulnerable to the effects of coastal hazards as the countryside living activities enabled by the plan change request will be located on the land that is not located within the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas; • The coastal flood risks will be managed by providing for all specified building areas and associated wastewater disposal areas to be located on the land within the plan change site that is not located within the % AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas; • All on-site infrastructure that will be required for the future countryside living activities can be located outside of the coastal hazard areas; and

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		<ul style="list-style-type: none"> The future shared access road can be provided substantially outside of the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas, with only a small section of the road being required to be raised (through a natural depression on the site) to ensure the entire road is located with a minimum freeboard of 200mm at the lowest point above the calculated flood level of RL 4.4m during a 1% AEP flood event. <p>While there is some tension with the directive nature of this policy given the extended Rural – Countryside Living Zone and Clevedon Sub precinct C will contain some small areas of land that may be affected by coastal hazards, this is not a dissimilar situation to the adjacent land that is located within the Rural – Countryside Living Zone and Clevedon Sub precinct C. The future subdivision and development to be enabled by the plan change request can be managed so that specified building areas and associated wastewater disposal areas are located on land that is not affected by coastal hazards. As such, it is considered that the plan change request will give effect to the overall intent of this policy direction.</p>
E36.2 Objectives – Natural Hazards and Flooding		
E36.2 (1)	Subdivision, use and development outside urban areas does not occur unless the risk of adverse effects to people, property, infrastructure and the environment from natural hazards has been assessed and significant adverse effects are avoided, taking into account the likely long-term effects of climate change	<p>The AUP (OP) has identified the plan change site as being subject to natural hazards. Parts of the plan change site are located within the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise area.</p> <p>The risk of adverse effects from flood hazards including the likely long-term effects of climate change to the future owners of the countryside living lots that will be created by the subdivision and development enabled by the plan change request has been assessed. Any potential for significant adverse effects can be avoided through the location of the specified building areas and the associated wastewater disposal areas on the land that is located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas.</p> <p>The proposed rezoning approach therefore only provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located</p>

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		<p>outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. Those areas of the plan change site that are located within the predominate part of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas are to be retained in the Rural – Rural Coastal Zone.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this objective.</p>
E36.2 (2)	<p>Subdivision, use and development, including redevelopment in urban areas, only occurs where the risks of adverse effects from natural hazards to people, buildings, infrastructure and the environment are not increased overall and where practicable are reduced, taking into account the likely long term effects of climate change.</p>	<p>The plan change site is not an urban area. This objective is not therefore relevant to the plan change request.</p>
E36.2 (3)	<p>Subdivision, use and development on rural land for rural uses is managed to ensure that the risks of adverse effects from natural hazards are not increased and where practicable are reduced.</p>	<p>As outlined above the risk of adverse effects from flood hazards including the likely long-term effects of climate change to the future owners of the countryside living lots that will be created by the subdivision and development enabled by the plan change request has been assessed. Any potential for significant adverse effects can be avoided through the location of the specified building areas and the associated wastewater disposal areas on the land that is located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas.</p> <p>The proposed rezoning approach therefore provides for the management of the risks of adverse effects from the identified flood hazards in a manner that will ensure that these adverse effects are not increased.</p> <p>The existing provisions of the AUP (OP) (which includes the objectives and policies contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for</p>

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		<p>the appropriate management of the identified flood risks. In this respect, any future subdivision and development on the plan change site will require resource consent under the rules contained in Table E36.4.1 of the AUP (OP). These rules enable the risk of adverse effects from flood hazards to be appropriately assessed at the time of subdivision and development and for significant adverse effects to be avoided through refusal of resource consent where necessary.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this objective.</p>
E36.2 (4)	<p>Where infrastructure has a functional or operational need to locate in a natural hazard area, the risk of adverse effects to other people, property, and the environment shall be assessed and significant adverse effects are sought first to be avoided or, if avoidance is not able to be totally achieved, the residual effects are otherwise mitigated to the extent practicable.</p>	<p>As outlined above all specified building areas and the associated wastewater disposal areas on the countryside living lots that will be enabled by the plan change request can be located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. As such, all on-site infrastructure required by the future dwellings will not need to be located within the identified natural hazard areas.</p> <p>The future shared access road can be designed to provide a minimum freeboard of 200mm at the lowest point above the flood level (RL 4.4m) during a 1% AEP flood event. Rotten rock / brown rock or similar approved engineering fill would be used to build up the road on the flood plain area with a maximum batter slope of 1 in 3 (33% gradient). Where the road will cross the major overland flow path it is proposed to install 2 x 675mm diameter culverts at the crossing with headwall and riprap erosion protection. The culverts would be sized to be 100 year at inlet control without overtopping the road level. As such, the water depth will be less than 200mm across the private road during the 1% AEP event, which complies with the AUP (OP) requirements and will not restrict access during a flood event. This design approach can provide for the continued protection of the natural functioning of the overland flow paths and the surrounding flood plain areas.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this objective.</p>
E36.2 (5)	Subdivision, use and development including	As has been outlined above at the resource consent stage there will be design options available to ensure

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	<p>redevelopment, is managed to safely maintain the conveyance function of floodplains and overland flow paths.</p>	<p>that future subdivision, use and development can maintain the conveyance function of flood plains and overland flow paths. It is therefore considered that the plan change request will be consistent with the overall intent of this objective.</p>
E36.2 (6)	<p>Where appropriate, natural features and buffers are used in preference to hard protection structures to manage natural hazards.</p>	<p>As outlined above the plan change request will provide the catalyst needed to achieve the protection and restoration of the natural landforms and vegetation located within and adjacent to the plan change site. This includes appropriate planting within the flood plain that is located over the low-lying area located within the area to be rezoned to create a wetland area. It is therefore considered that the plan change request will be consistent with the overall intent of this objective.</p>
E36.3 Policies – Natural Hazards and Flooding		
E36.3 (1)	<p>Identify land that may be subject to natural hazards, taking into account the likely effects of climate change, including all of the following:</p> <p>(a) coastal hazards (including coastal erosion and coastal storm inundation, excluding tsunami);</p> <p>(b) flood hazards;</p> <p>(c) land instability; and</p> <p>(d) wildfires.</p>	<p>The AUP (OP) has identified the plan change site as being subject to natural hazards. Parts of the plan change site are located within the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise area.</p>
E36.3 (3)	<p>Consider all of the following, as part of a risk assessment of proposals to subdivide, use or develop land that is subject to natural hazards:</p> <p>(a) the type, frequency and scale of the natural hazard and whether adverse effects on the development will be</p>	<p>The plan change request has considered these matters in the assessment of the identified flood risks. This has resulted in only those parts of the plan change site that are substantially located outside the 1% AEP flood plain, coastal inundation areas and flood prone areas being included in the area that has been requested to be rezoned Rural - Countryside Living and included in Clevedon sub precinct C. This provides the opportunity for all future specified building areas (including on-site wastewater disposal areas) within the countryside living lots to be located outside of the flood plain, costal inundation areas and floor prone areas. The area requested to be rezoned also provides the opportunity for the future</p>

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	<p>temporary or permanent;</p> <p>(b) the type of activity being undertaken and its vulnerability to natural hazard events;</p> <p>(c) the consequences of a natural hazard event in relation to the proposed activity;</p> <p>(d) the potential effects on public safety and other property;</p> <p>(e) any exacerbation of an existing natural hazard risk or the emergence of natural hazard risks that previously were not present at the location;</p> <p>(f) whether any building, structure or activity located on land subject to natural hazards near the coast can be relocated in the event of severe coastal erosion, inundation or shoreline retreat;</p> <p>(g) the ability to use non-structural solutions, such as planting or the retention or enhancement of natural landform buffers to avoid, remedy or mitigate hazards, rather than hard protection structures;</p> <p>(h) the design and construction of buildings and structures to</p>	<p>specified building areas (including on-site wastewater disposal areas) to be located clear of the identified overland flow paths.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the appropriate management of the identified flood risks. This will include an appropriate flood risk assessment in line with this policy direction that is specific to the subdivision and development that is proposed at this time.</p>

Reference	Objective or Policy	Assessment
	<p>mitigate the effects of natural hazards;</p> <p>(i) the effect of structures used to mitigate hazards on landscape values and public access;</p> <p>(j) site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event; and</p> <p>(k) the duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the likely effects of climate change.</p>	
E36.3 (1)	<p>Control subdivision, use and development of land that is subject to natural hazards so that the proposed activity does not increase, and where practicable reduces, risk associated with all of the following adverse effects:</p> <p>(a) accelerating or exacerbating the natural hazard and/or its potential impacts;</p> <p>(b) exposing vulnerable activities to the adverse effects of natural hazards;</p> <p>(c) creating a risk to human life; and</p>	<p>As outlined above the proposed rezoning approach has resulted in only those parts of the plan change site that are substantially located outside the 1% AEP flood plain, coastal inundation areas and flood prone areas being included in the area that has been requested to be rezoned Rural - Countryside Living and included in Clevedon sub precinct C. This provides the opportunity for all future specified building areas (including on-site wastewater disposal areas) within the future countryside living lots to be located outside of the flood plain, coastal inundation areas and flood prone areas.</p> <p>The plan change request therefore will not accelerate or exacerbate the potential impacts of the identified flood risks; expose vulnerable activities to adverse effects from flooding; create a risk to human life; or increase the natural hazard risk to adjacent properties or infrastructure.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of</p>

Reference	Objective or Policy	Assessment
	(d) increasing the natural hazard risk to neighbouring properties or infrastructure.	<p>subdivision and development to provide for the appropriate management of the identified flood risks. This will include an appropriate flood risk assessment in line with the policy direction that is specific to the subdivision and development that is proposed at this time.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.</p>
E36.3 (5)	Ensure that subdivision, use and development on rural land for rural uses and in existing urban areas subject to coastal hazards avoids or mitigates adverse effects resulting from coastal storm inundation, coastal erosion and sea level rise of 1m through location, design and management.	<p>As outlined above the proposed rezoning approach has resulted in only those parts of the plan change site that are substantially located outside the 1% AEP flood plain, coastal inundation areas and flood prone areas being included in the area that has been requested to be rezoned Rural - Countryside Living and included in Clevedon sub precinct C. This provides the opportunity for all future specified building areas (including on-site wastewater disposal areas) within the future countryside living lots to be located outside of the flood plain, coastal inundation areas and floor prone areas.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate management and design approaches are taken at the time of subdivision and development to provide for the appropriate management of the identified coastal inundation risks.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.</p>
E36.3 (6)	Avoid subdivision, use and development in greenfield areas which would result in an increased risk of adverse effects from coastal hazards, taking account of a longer-term rise in sea level.	<p>The proposed rezoning approach only provides for the extension of the Rural – Countryside Living Zone and Clevedon Sub precinct C over those parts of the properties at 272, 274 and 278 Clevedon-Kawakawa Road that are substantially located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. Those areas of the plan change site that are located within the predominate part of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise area are to be retained in the Rural – Rural Coastal Zone to ensure the overall direction of the policy is achieved.</p> <p>Overall, the change in land use to countryside living will not increase the risk of adverse effects from</p>

Reference	Objective or Policy	Assessment
		coastal hazards as all specified building areas will be located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.
E36.3 (7)	Ensure that buildings in areas subject to coastal hazards are located and designed to minimise the need for hard protection structures.	The future buildings enabled by the plan change request will not be subject to coastal hazards as they will be located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. These future buildings will not require hard protection structures to avoid, mitigate or remedy the adverse effects from coastal hazards. It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.
E36.3 (8)	Ensure that when locating any new infrastructure in areas potentially subject to coastal hazards consider, where appropriate, an adaptive management response taking account of a longer-term rise in sea level.	<p>The future shared access road can be designed to provide a minimum freeboard of 200mm at the lowest point above the flood level (RL 4.4m) during a 1% AEP flood event. Rotten rock / brown rock or similar approved engineering fill would be used to build up the road on the flood plain area with a maximum batter slope of 1 in 3 (33% gradient). Where the road will cross the major overland flow path it is proposed to install 2 x 675mm diameter culverts at the crossing with headwall and riprap erosion protection. The culverts would be sized to be 100 year at inlet control without overtopping the road level. As such, the water depth will be less than 200mm across the private road during the 1% AEP event, which complies with the AUP (OP) requirements and will not restrict access during a flood event.</p> <p>This design approach can provide for the continued protection of the natural functioning of the overland flow paths and the surrounding flood plain areas. It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.</p>
E36.3 (9)	Require habitable areas of new buildings and substantial additions, alterations, modifications or extensions to existing buildings located in coastal storm inundation areas to be above the 1 per cent	As outlined above the proposed rezoning approach has resulted in only those parts of the plan change site that are substantially located outside the 1% AEP flood plain, coastal inundation areas and flood prone areas being included in the area that has been requested to be rezoned Rural - Countryside Living and included in Clevedon sub precinct C. Consistent with this policy direction this means all future specified building areas (including on-site wastewater disposal areas) within the future

Reference	Objective or Policy	Assessment
	annual exceedance probability (AEP) coastal storm inundation event including an additional sea level rise of 1m.	countryside living lots will be located above the 1 per cent annual exceedance probability (AEP) coastal storm inundation event including an additional sea level rise of 1m.
E36.3 (10) – (12)	These policies relate to defences against coastal hazards.	The policies relating to defences against coastal hazards are not relevant to the plan change request as the plan change request will not result in subsequent modification, alteration or removal of sand dunes and vegetation on sand dunes, hard protection works or activities within beach areas.
E36.3 (13) – (15)	These policies relate to flood plains in urban areas.	<p>The plan change site is not an urban area. These policies are not therefore relevant to the plan change request.</p> <p>However, it is pertinent to note that the countryside living subdivision and development that will be enabled by the plan change request will result in specified building areas and associated wastewater disposal areas that are located outside of the 1 per cent annual exceedance probability (AEP) flood plain.</p>
E36.3 (16)	In rural areas, avoid where practicable locating buildings accommodating more vulnerable activities in the 1 per cent annual exceedance probability (AEP) floodplain and manage other buildings and structures so that flood hazards are not exacerbated.	<p>As outlined above the plan change request provides for any potential for significant adverse effects associated with the identified flood risks to be avoided through the location of the specified building areas and the associated wastewater disposal areas on the land that is located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas.</p> <p>This design approach for the shared access road will also provide for the continued protection of the natural functioning of the overland flow paths and the surrounding flood plain areas. As such, the flood hazards will not be exacerbated through the need to locate a small section of the shared access road within the flood plain.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the appropriate management of the identified flood risks. In this respect, any future subdivision and development on the plan change site will require resource consent under the rules contained in Table E36.4.1 of the AUP (OP). These rules enable the risk of adverse effects from flood hazards to be</p>

Reference	Objective or Policy	Assessment
		<p>appropriately assessed at the time of subdivision and development and for significant adverse effects to be avoided through refusal of resource consent where necessary.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this policy.</p>
E36.3 (17)	On greenfield land outside of existing urban areas, avoid locating buildings in the 1 per cent annual exceedance probability (AEP) floodplain.	As outlined above the plan change request provides for any potential for significant adverse effects associated with the identified flood risks to be avoided through the location of the specified building areas and the associated wastewater disposal areas on the land that is located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas. It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.
E36.3 (18)	Enable flood tolerant activities to locate in the 1 per cent annual exceedance probability (AEP) floodplain where these activities do not involve buildings or structures that exacerbate the flood hazard to other properties upstream or downstream of the site	<p>At the time of subdivision and development a small section of the shared access road will need to be located within the 1% AEP flood plain. The shared access road and associated structures will not exacerbate the flood hazard to other properties upstream or downstream of the plan change site.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate design approaches are taken at the time of subdivision and development to ensure flood hazards are not exacerbated.</p>
E36.3 (19)	Require fences, storage of materials and goods and car parking in the 1 per cent annual exceedance probability (AEP) floodplains to not exacerbate the flood hazard to other properties upstream or downstream of the site.	The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate design approaches are taken at the time of subdivision and development (including use of consent notices for such requirements) to ensure the requirements of this policy are met.
E36.3 (1)	Require earthworks within the 1 per cent annual exceedance probability (AEP) floodplain to do all of the following:	The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken for the management of earthworks at the time of subdivision and development to ensure the requirements of this policy are met and that any

Reference	Objective or Policy	Assessment
	<p>(a) remedy or mitigate where practicable or contribute to remedying or mitigating flood hazards in the floodplain;</p> <p>(b) not exacerbate flooding experienced by other sites upstream or downstream of the works; and</p> <p>(c) not permanently reduce the conveyance function of the floodplain.</p>	<p>potential for adverse effects are appropriately avoided, remedied or mitigated.</p>
E36.3 (21)	<p>Ensure all development in the 1 per cent annual exceedance probability (AEP) floodplain does not increase adverse effects from flood hazards or increased flood depths and velocities, to other properties upstream or downstream of the site.</p>	<p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to ensure the requirements of this policy are met. It is pertinent to note in this respect that the plan change request provides for all specified building areas and associated wastewater disposal areas to be located outside of the 1% AEP flood plain.</p>
E36.3 (22)	<p>Required the storage and containment of hazardous substances in floodplains so that the integrity of the storage method will not be compromised in a flood event.</p>	<p>It is not likely that the subdivision and development enabled by the plan change request will result in the storage and containment of hazardous substances in the flood plain areas.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to ensure the requirements of this policy are met. It is pertinent to note in this respect that the plan change request provides for all specified building areas and associated wastewater disposal areas to be located outside of the 1% AEP flood plain.</p>
E36.3 (23)	<p>Provide for flood mitigation measures which reduce flood-related effects and provide for the reconstruction of culverts and bridges</p>	<p>At the time of subdivision and development a small section of the shared access road will need to be located within the 1% AEP flood plain. The shared access road and associated structures will not exacerbate the flood hazards to other properties upstream or downstream of the plan change site.</p>

Reference	Objective or Policy	Assessment
	where those measures do not create or exacerbate flooding upstream or downstream or otherwise increase flood hazards	The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the appropriate management of the design of the shared access road.
E36.3 (24)	Enable the planting and retention of vegetation cover to enhance amenity values, green linkages and ecological values in floodplains as long as it does not create or exacerbate flooding upstream or downstream or otherwise increase flood hazards.	<p>The plan change request will facilitate the planting and retention of vegetation cover to enhance amenity values, green linkages and ecological values in flood plains.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the requirements of the policy.</p>
E36.3 (25)	When considering mitigation of flood hazards where buildings are located in floodplains, promote measures such as use of water resistant materials and flood-proof utility connections to increase resilience to flood damage.	As outlined above the plan change request provides for any potential for significant adverse effects associated with the identified flood risks to be avoided through the location of the specified building areas and the associated wastewater disposal areas on the land that is located outside of the 1% AEP flood plain and the Coastal Inundation 1 per cent AEP Plus 1m Control - 1m sea level rise areas.
E36.3 (26)	Construct accessways, including private roads, so that flood hazard risks are not increased.	As outlined above the required shared access road can be constructed so flood hazard risks are not increased.
E36.3 (27)	Enable the construction and maintenance of flood mitigation works to reduce flood risks to people, property, infrastructure and the environment.	This policy is not particularly relevant to the plan change request as flood mitigation works will not be required at the time of subdivision and development to reduce flood risks to people, property, infrastructure and the environment, other than the construction of the shared access road above the flood plain level.
E36.3 (28)	Take into account any authorised earthworks or drainage infrastructure which avoids, remedies or mitigates flood hazards when assessing proposed subdivision, use or development.	This policy relates directly to the resource consent stage.

Refence	Objective or Policy	Assessment
E36.3 (29)	Maintain the function of overland flow paths to convey stormwater runoff safely from a site to the receiving environment.	<p>At the time of subdivision and development sections of the shared access road will need to be located within overland flow paths. There are design approaches that can be taken at this time to ensure that the conveyance function of the overland flow paths is maintained.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the appropriate management of the design of the shared access road.</p>
E36.3 (30)	Require changes to overland flow paths to retain their capacity to pass stormwater flows safely without causing damage to property or the environment.	<p>At the time of subdivision and development sections of the shared access road will need to be located within overland flow paths. There are design approaches that can be taken at this time to ensure that the conveyance function of the overland flow paths is maintained.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the appropriate management of the design of the shared access road.</p>
E36.3 (31)	<p>Identify land that may be subject to land instability taking into account all of the following features:</p> <p>(a) proximity to cliffs; steepness of land;</p> <p>(b) geological characteristics; and</p> <p>(c) uncontrolled fill.</p>	<p>KGA Geotechnical Limited has completed a preliminary geotechnical investigation of the property at 278 Clevedon-Kawakawa Road to ascertain whether the land located outside of the flood plain that will become available for development as a result of the proposed rezoning will be suitable for the subsequent development. The findings of this investigation are detailed in the Geotechnical Investigation Report (Technical Report No. 1 attached as Appendix 4 to the Statutory Assessment Report).</p> <p>The preliminary geotechnical assessment has confirmed that based on the review of the available geotechnical information and the initial site investigations that the site will generally be suitable for the subdivision and development that will be enabled by the proposed rezoning and the subsequent construction of dwellings on the site.</p> <p>The assessment does not identify any significant geotechnical issues that may be associated with the</p>

Reference	Objective or Policy	Assessment
		<p>site, or specific measures that need to be put in place, other than good construction practice with an appropriate level of monitoring by a competent engineer or engineering geologist, and appropriate site-specific investigation and design at the building consent stage.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.</p>
E36.3 (32)	Require risk assessment prior to subdivision, use and development of land subject to instability.	<p>As outlined above a preliminary geotechnical investigation has been completed to ascertain whether the land located outside of the flood plain that will become available for development as a result of the proposed rezoning will be suitable for the subsequent development.</p> <p>The preliminary geotechnical assessment has confirmed that based on the review of the available geotechnical information and the initial site investigations that the site will generally be suitable for the subdivision and development that will be enabled by the proposed rezoning and the subsequent construction of dwellings on the site.</p> <p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the appropriate management of any land subject to instability.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.</p>
E36.3 (21)	Locate and design subdivision, use and development first to avoid potential adverse effects arising from risks due to land instability hazards, and, if avoidance is not practicably able to be totally achieved, otherwise to remedy or mitigate residual risks and effects to people, property and the	<p>As outlined above a preliminary geotechnical investigation has been completed to ascertain whether the land located outside of the flood plain that will become available for development as a result of the proposed rezoning will be suitable for the subsequent development.</p> <p>The preliminary geotechnical assessment has confirmed that based on the review of the available geotechnical information and the initial site investigations that the site will generally be suitable for the subdivision and development that will be enabled by the proposed rezoning and the subsequent construction of dwellings on the site.</p>

Refence	Objective or Policy	Assessment
	environment resulting from those hazards.	<p>The existing provisions of the AUP (OP) (which includes the provisions contained in Chapter E36 – Natural Hazards and Flooding) will ensure that appropriate approaches are taken at the time of subdivision and development to provide for the appropriate management of any land subject to instability.</p> <p>It is therefore considered that the plan change request will be consistent with the overall intent of this policy direction.</p>