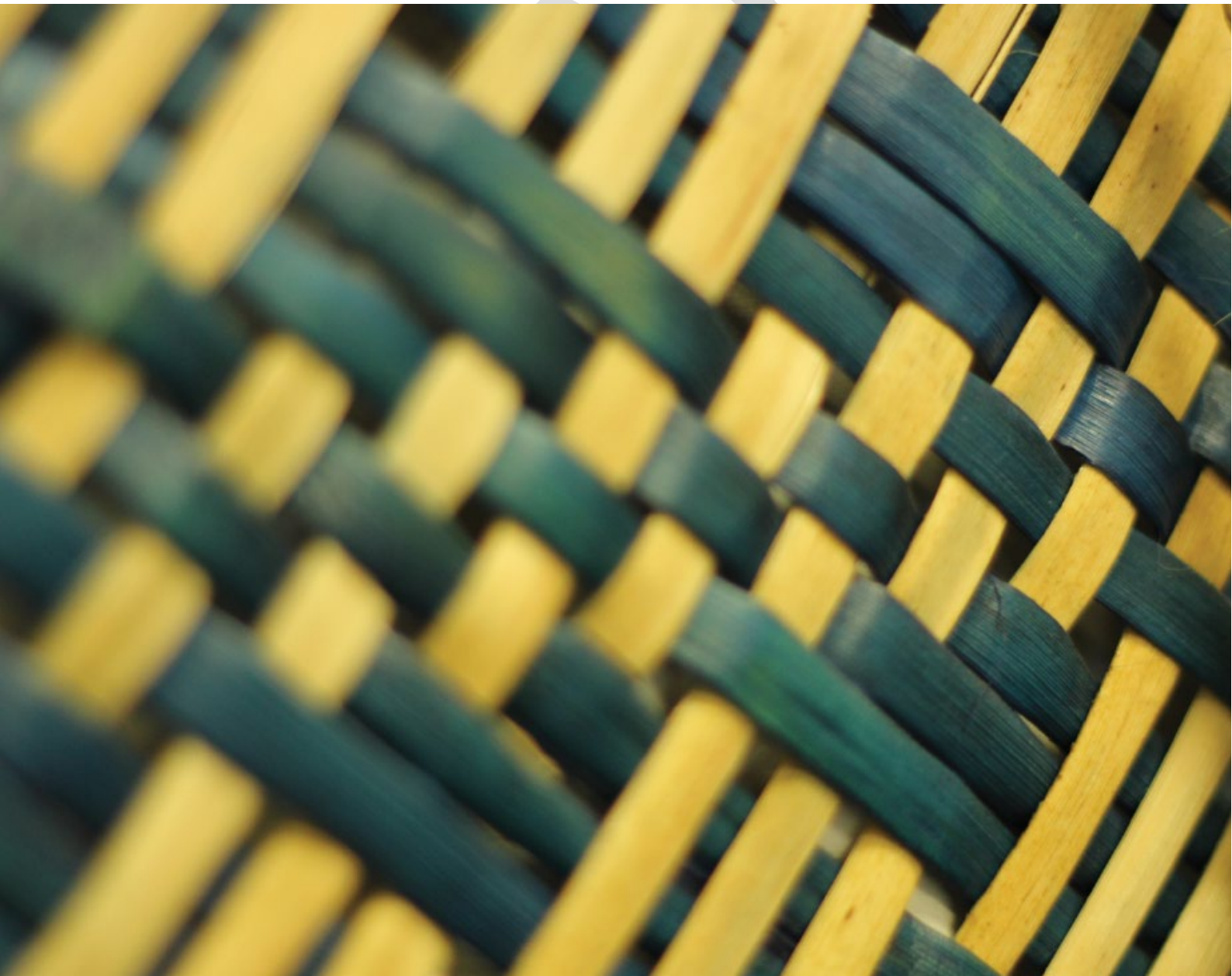
Boffa Miskell

Kāpiti Coast Urban Development Greenfield Assessment

Prepared for Kāpiti Coast District Council

DRAFT

13 October 2021



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Prepared by:	Andrew Banks Planner, Senior Professional Boffa Miskell Limited	
Reviewed by:	Hamish Wesney, Planner, Partner Boffa Miskell Limited	
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Executive Summary

On current estimates, without changes to the district plan, there will be a theoretical shortfall of 8,865 district plan-enabled dwellings in the district by 2050[1]. This theoretical shortfall can be met through enabling additional greenfield growth, intensification and infill development throughout the district. This assessment addresses the potential for greenfield growth to meet some of this shortfall.

This assessment has been prepared to inform the development of future changes to the district plan. The assessment finds that there is an estimated 32,840[2] dwellings that could be enabled across all 32 study areas. Based on an assessment of constraints and opportunities each area has been grouped into a "priority" group, as outlined in the following table, and in figure 1:

Priority group	Description	Theoretical dwelling estimate
1	The area is a good candidate for short or medium term urban development.	1,800dwellings[2]
2A	The area is a candidate for medium or long term urban development, although there are a number of constraints that need to be overcome.	6,560 dwellings
2B	The area is a potential candidate for medium or long term urban development, however there are several constraints to overcome that may require significant strategic decision-making..	17,680 dwellings
3	The area is an unlikely candidate for long term urban development, on the basis that there are numerous and significant constraints that are unlikely to be overcome.	6,800 dwellings
	Total theoretical dwelling estimate	**32,840[2] dwellings**

All of the greenfield study areas[3] assessed were found to be subject to unique combinations of constraints that would need to be overcome in some way to enable their development.

There are a number of key issues that would apply to the development of most or all of the greenfield study areas covered by this assessment. These include:

[1] Note that this theoretical shortfall is derived from the 2019 Housing and Business Development Capacity Assessment (HBA). This number is subject to revision once the revised HBA has been released.

[2] Note that this assessment considers two development scenarios for the airport site (referred to as scenarios A and B). The figures noted in the table include the theoretical dwelling estimate for scenario A. Under scenario B, the figure for priority group 1 would be 2,980 dwellings, and the total theoretical dwelling estimate figure would be 34,020 dwellings.

[3] The terms "greenfield study areas", "greenfield area" and "future urban study areas" are used interchangeably throughout this report.

- **Flood hazard and storm water management.** This assessment assumes new urban areas should not be exposed to currently mapped flood hazard. It was noted that the potential quantity and quality of storm water runoff is a matter that will require further investigation as part of the development of each area. Council is currently updating the existing flood hazard modelling to account for the effects of climate change, and this updated modelling will provide further information on the flood hazard associated with each area.
- **Waterbodies.** There is an extensive network of rivers, steams, drains and wetlands that will need to be carefully managed in the context of urban development.
- **Water and wastewater infrastructure.** Any new greenfield area will require the provision of reticulated water and wastewater infrastructure. Existing capacity is relatively constrained and additional greenfield growth could trigger local or system-wide upgrades and/or necessitate the development of new assets (such as new water sources and/or new wastewater treatment facilities).
- **Transport.** Congestion in some parts of the road network that will need to be addressed to accommodate growth. In addition to this, a key issue is the poor access to public transport north of Waikanae. Growth in this area without the extension of the commuter rail network is likely to involve increased reliance on private vehicle trips and put significant pressure on park and ride facilities in Waikanae.
- **Highly productive land.** There are large areas of cohesive, highly productive land, particularly to the north of Waikanae. Development of greenfield land will require a trade-off between the benefits of urban growth and the benefits of retaining the land in productive use.
- **Liquefaction.** Large parts of the district are subject to a high risk of liquefaction. This can be seen as a proxy for poor ground conditions, and while this assessment assumes these can be overcome through engineering, this could impact on development costs.
- **Responding to climate change.** The assessment has assumed that new urban areas should not be located next to the coastline, however the extent of coastal hazard is still being modelled, and the assessment may need to be updated in future to account for this. In addition to this, new urban areas will need to consider the degree to which they are located and designed to meet the district's emissions reduction aspirations.

The prioritisation of areas outlined in this assessment is based on a qualitative assessment of the relative degree of constraints associated with each area. As a result, developing those areas identified as priority 1 and 2A would result in the following overall approach to urban form:

- Consolidation of existing urban areas by developing greenfield sites located within existing urban areas (such as the airport site);

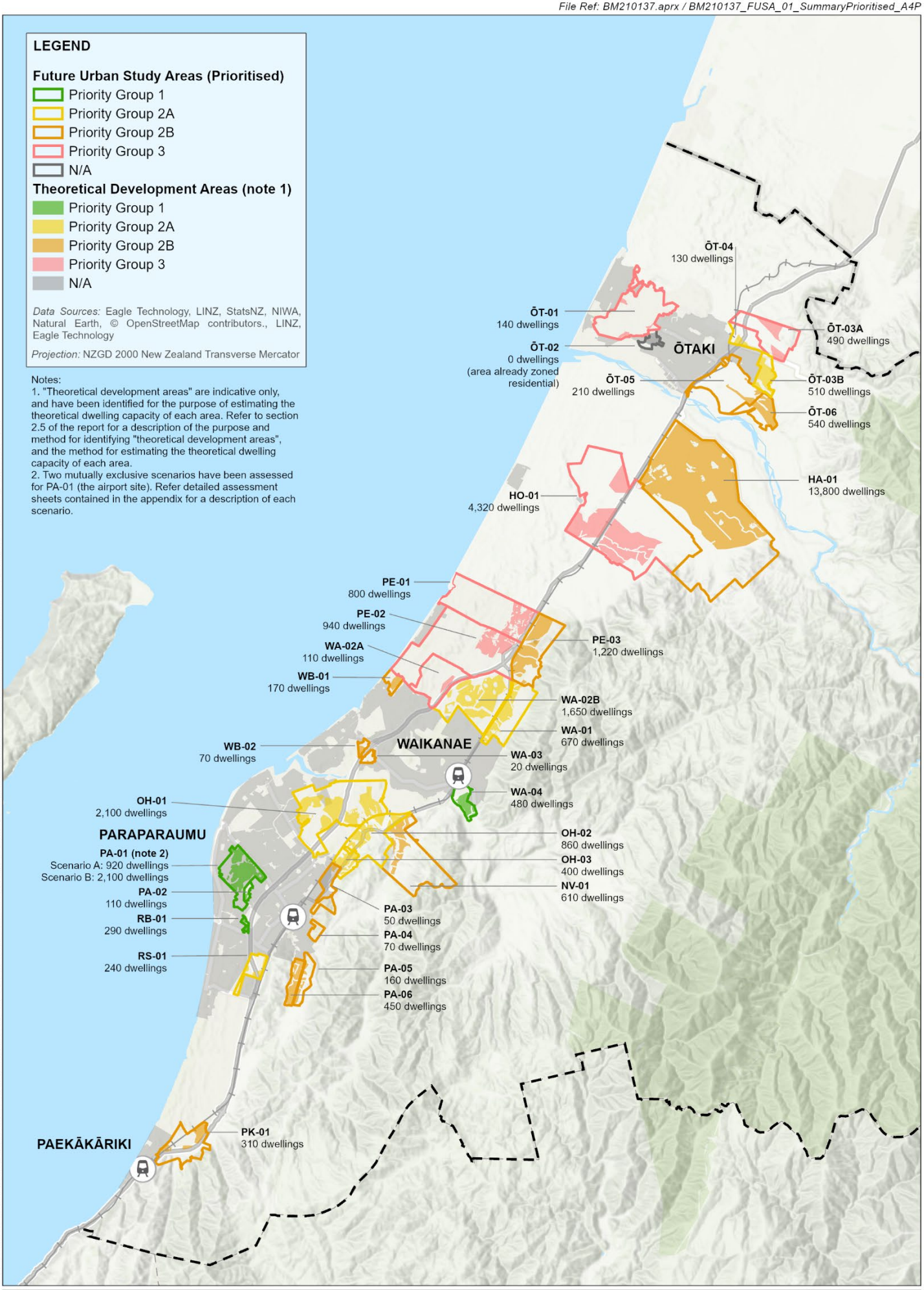
- Incremental extension of existing urban environments to the north and east of Paraparaumu, to the north-east of Waikanae and to the east of Ōtaki.

Overall, where constraints can be overcome it is possible for greenfield growth to meet and even exceed the estimated shortfall of dwellings in the district. This means that the district has options for growth into the future, which raises higher level questions about how growth should be prioritised. These questions include:

- Should greenfield growth focus on consolidating and incrementally extending existing areas (the approach outlined in this assessment)? or
- Could greenfield growth be accommodated through a comprehensively planned new town in a low-risk area? or
- Could the district pursue a combination of approaches?

As these questions are strategic in nature, the answers to them are most appropriately addressed through the District Growth Strategy, which is currently being prepared and is scheduled for community consultation. As a result, this document is subject to change based on the ongoing development of the Growth Strategy, including the outcome of community consultation on the Strategy.

This report is a draft document and is intended to be revised as further information relevant to the assessments becomes available. The assessment may be updated in future following engagement with mana whenua.



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KĀPITI URBAN DEVELOPMENT

Future Urban Study Areas Summary Prioritised

Date: 13.10.2021 | Revision: 2

Plan prepared for Kāpiti Coast District Council by Boffa Miskell Limited

Project Manager: hamish.wesney@boffamiskell.co.nz | Drawn: ABa

Figure 1

Contents

Appendices

1.0 Purpose

The population of the Kāpiti Coast district is expected to increase by 30,000 people by the year 2050[4], and this is expected to result in demand for an additional 13,800 dwellings[5] over the same period. It is possible to meet this shortfall through a mixture of greenfield and intensification development.

The purpose of this report is to provide a qualitative and quantitative assessment of the potential residential development capacity associated with a series of potential greenfield growth areas identified throughout the district.

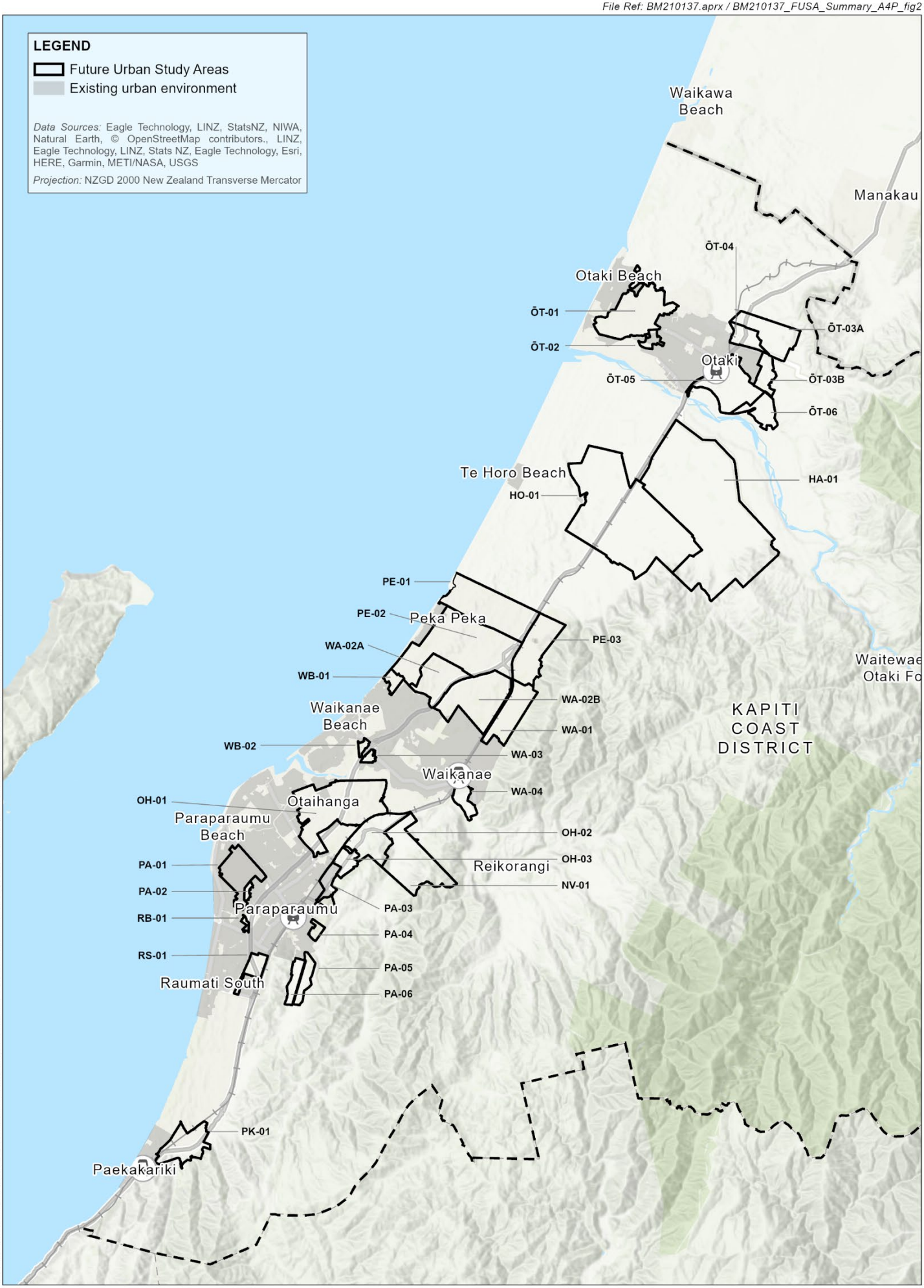
In addition to this, the purpose of this report is also to:

- Identify preliminary "prioritisation" of potential greenfield growth areas based on the identification of constraints and opportunities associated with each area;
- Provide a basis for identifying areas that could become part of the Future Urban Zone or another zone enabling development;
- Provide comment on the draft District Growth Strategy, where this is relevant to the assessment.

A separate report addresses the potential for intensification within existing urban areas, taking in to account the intensification policies associated with the National Policy Statement on Urban Development. This report has been prepared to inform the development of future changes to the district plan. It is a draft document and is intended to be revised as further information relevant to the assessments becomes available.

[4] 4Sight Consulting. (June 2021). *Kāpiti Coast Growth Strategy Review – Growth Scenarios Report,* p.3.

[5] Based on updated demand analysis by Sense Partners, for the 2021 HBA (yet to be published). Recieved 9th August 2021.



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KĀPITI URBAN DEVELOPMENT

Future Urban Study Areas Summary

Date: | Revision: 0

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Figure 2

2.0 Methodology

The following section outlines the methodology used to undertake the assessment. The overall methodology is summarised in the following table:

Steps taken	Timing
Identification of "future urban study areas" with Council officers	May 2021
Development of assessment framework	June 2021
Mapping of spatial influences and constraints	June 2021
Draft qualitative assessment of "future urban study areas"	June – July 2021
Refine qualitative assessment based on workshop with Council officers	July 2021
Undertake theoretical dwelling estimate	July 2021
Prioritisation of potential growth areas	July – August 2021
Workshop of draft assessment with Council officers	August 2021
Refine assessment	August – September 2021

2.1 Identification of areas for assessment

32 areas for assessment were identified through a workshop with Council officers in May 2021 (refer figure 2).

These areas are subsequently referred to as "Future Urban Study Areas". The boundaries of these areas are intended to represent the general area for assessment, rather than a proposed area for future urban development or a proposed future urban zoning.

2.2 Assessment framework

Prior to undertaking the assessment, a list of assessment criteria was developed to cover the range of matters relevant to the consideration of urban development within the district. The purpose of the assessment criteria are to provide the terms of reference for the subsequent qualitative assessment.

Development of the assessment criteria was informed by a range of strategy and policy documents. A key influence on the development of the assessment criteria was the draft Kāpiti Growth Strategy[6,7,8]. As a part of the development of the Growth Strategy (which is ongoing), the Council developed a series of draft "principles for growth". The draft principles are assumed to articulate the matters that are of value or importance to the district in its growth and urban development. As such, they have provided the context for the development of the assessment criteria. These principles are described more extensively in the documentation associated with the Growth Strategy, but in summary these include:

- Supporting mana whenua aspirations;

[6] 4 Sight Consulting. (28 June 2021). *Kāpiti Draft Growth Strategy Review – Growth Scenarios Report.*

[7] KCDC. *Revised Draft Growth Principles following 6 April Workshop.* Received 1 June 2021.

[8] KCDC. (30 September 2021). *Growing Well: Community Consultation Document*.

- Embracing the opportunities of growth;
- Valuing our environment;
- Encouraging low-carbon living;
- Fostering strong communities;
- Enabling choice.

In addition to the draft Kāpiti Growth Strategy, the following policy and strategy documentation also informed the development of the assessment criteria:

- All gazetted National Policy Statements;
- The draft National Policy Statements for Indigenous Biodiversity and Highly Productive Land (to the extent that they have been developed);
- The Wellington Regional Growth Framework (July 2021);
- The Kāpiti Long Term Plan 2021;
- Ināia tonu nei: a low emissions future for Aotearoa (Climate Change Commission, 2021).

A draft set of assessment criteria was workshopped with Council officers in June 2021,following which the assessment criteria were further refined.

The assessment criteria are presented as an "assessment framework" contained in Appendix 1. For each of the assessment criteria, this framework describes:

- A qualitative description of the assessment criteria and its relevance to the Kāpiti District;
- Draft growth principles (from the draft Kāpiti Growth Strategy) that are relevant to each of the assessment criteria;
- Aspects of national policy statements that are relevant to the assessment criteria;
- Other strategy and policy that has informed the development of the assessment criteria;
- Spatial factors or constraints that are relevant to the assessment criteria;
- The outcomes sought by the assessment criteria.

The assessment criteria may be reviewed and updated in future following engagement with mana whenua.

2.3 Identification of spatial Influences and constraints

The spatial influences and constraints were assembled into a GIS using ArcGIS Pro, from which spatial influences and constraints maps were produced that covered the entire district. To enable the maps to be legible, the maps were organised into themes, with each theme representing multiple assessment criteria. The themes and their associated assessment criteria are identified in the assessment framework, and are broken down as follows:

Map theme	Assessment criteria
Urban environment	Urban form Local neighbourhoods Activity centres
Urban function	Residential development Business land Transport networks Infrastructure and servicing
Natural environment and landscape	Natural ecosystem values Water bodies Landscape and open space values Heritage Values
Hazards	Natural hazards and land risks
Land development constraints	Topography Land use compatibility Highly productive land Climate change (low-carbon futures)
Mana whenua	Mana whenua values Iwi development aspirations

The information contained in the maps has been assembled from publicly available sources, and the source of each data layer is noted in parenthesis within the legend to each map. The data sources include:

- The Kāpiti Coast District Council;
- The Greater Wellington Regional Council;
- Waka Kotahi;
- Department of Conservation;
- Heritage New Zealand Pouhere Taonga;
- The New Zealand Archaeological Association;
- Land Information New Zealand;
- The New Zealand Land Resource Inventory (Landcare Research);
- Te Puni Kōkiri.

It is noted that the areas, sites and places of significance to mana whenua identified in the maps have been sourced from publicly available sources, including KCDC, GWRC, Heritage New Zealand, Te Puni Kōkiri and Land Information New Zealand. It is acknowledged that the mana whenua position on sites of significance within their rohe may differ from the sites identified in these maps. The maps may be updated based on engagement with mana whenua.

The assessment is based on the information available at the time of the assessment. However it is noted that mapping and modelling for the following matters are in the process of being updated by the Council:

- **Flooding and stormwater modelling.** KCDC are currently working on updating existing flood modelling, but this will not be available in time for this assessment. The current assessment is based on existing flood modelling, but does acknowledge areas

where further flood modelling investigation is being undertaken. This assessment accounts for updated flood hazard modelling in the Hadfield and Muaupoko catchments, however the assessment may need to be reviewed and revised as further updates to flood hazard modelling become available.

- **Coastal hazard modelling.** The Takutai Kāpiti project is working to establish a coastal hazard model. This assessment currently acknowledges proximity to the coast, however the assessment may be updated in future to account for hazard modelling released as part of the Takutai Kāpiti project.

In addition to this, the assessment may be reviewed and revised as new spatial information on other matters becomes available.

Map books identifying the spatial influences and constraints associated with each theme are contained in Appendix 2.

2.4 Qualitative assessment

Following the development of the assessment framework and spatial influences and constraints mapping, a qualitative assessment of each of the 32 study areas was undertaken. The purpose of the qualitative assessment is to identify the key constraints and opportunities associated with the potential urban development of the area. The assessment process involved:

- Observation on how the urban development of each area might relate to the each criterion withinthe assessment framework;
- On the basis of these observations, identify whether the development of the area would be consistent with the assessment criterion, using a traffic light system of assessment.

The results of the assessment are summarised in the section 3.1, and outlined in detail in Appendix 3A and 3B.

The assessment process involved:

- Desktop review of each of the study areas, based on the mapping of spatial influences and constraints;.
- Recording observations on how the urban development of each area might relate to each criterion within the assessment framework. Observations were supplemented by workshops held with Council officers to provide additional information on particular subject areas;
- On the basis of these observations, identify whether the development of the area would be consistent with the assessment criterion, using a traffic light system of assessment.

The following table describes that traffic light system of assessment used:

Rating	Description
	Development in the area is likely to align with the outcomes sought by the assessment criteria. The area is relatively free of constraints, or there are some constraints but these could be readily managed. Development in the area may also be an opportunity to resolve existing constraints or achieve positive outcomes.

Rating	Description
	Development in the area would be somewhat inconsistent with the outcomes sought by the assessment criteria. The area is relatively constrained, and management of the constraints could have impacts on the cost, complexity or timing of development. Development is unlikely to resolve existing constraints in the area, and may aggravate them.
	Development in the area is inconsistent with the outcomes sought by the assessment criteria. The area is heavily constrained, and management of the constraints are likely to have a significant impact on the cost, complexity or timing of development. Development is likely to significantly aggravate existing constraints in the area.

It should be noted that the assessment is not a linear or weighted combination assessment, and does not use a numerical scoring system. This is partly because it can be difficult to numerically weight the relative importance of the diverse range of matters associated with urban development. Rather, the purpose of the qualitative assessment is to provide an indication of the relative complexity of urban development in each of the study areas.

As noted above, several subject area workshops were held with Council officers to assist the assessment of specific matters. These included:

- A workshop on transport networks, which looked at existing known capacity issues in transport networks across the district;
- A workshop on waste water and water supply services, which looked at existing constraints and potential "tipping points" for the upgrading of existing infrastructure systems;
- A workshop on coastal hazard, flood hazard and stormwater issues, which identified high level issues across the district.

Following the completion of an initial draft assessment of all study areas, a further workshop was held with Council officers on the 19th of July. The purpose of the workshop was to calibrate the draft assessment, and identify the key issues with any of the study areas. The assessment was subsequently refined to incorporate the feedback gained at the workshop.

The assessment may be updated in future following engagement with mana whenua, or where new information becomes available.

2.5 Theoretical dwelling estimate

The theoretical dwelling estimate provides a high-level estimate of the number of dwellings that may be able to be accommodated through urban development within the study area. This assessment was undertaken after the preparation of the qualitative assessment, as the qualitative assessment provided a good information basis for understanding the spatial constraints that might influence development within the study area. The results of this assessment are contained within a table in the detailed assessment of each study area (refer Appendix 3B).

The calculation of theoretical dwelling supply is based on the following process:

Step 1: identify "theoretical development areas" within the study area

The starting point for identifying the theoretical dwelling capacity involved identifying "theoretical development areas" within each study area that may be appropriate for urban development.

These areas have been represented visually as a hatching within the aerial photograph contained in the detailed assessment of each study area (refer Appendix 3B).

The primary purpose of identifying these areas was to provide a basis for a plausible estimate of the dwelling capacity for each study area. Therefore, the extent and location of these areas should be interpreted as general in nature, and the identification of these areas should not be seen to exclude the possibility of development in other areas. They should also not be interpreted as 'proposed' areas for urban development, as they have not been developed as part of a structure planning or similar process. Notwithstanding this, the areas identified as "theoretical development areas" are a useful proxy for areas of low constraint within each of the study areas.

The identification of "theoretical development areas" involved the high-level identification of approximate areas within each study area that exhibited a low degree of combined constraints (based on the mapping outlined in section 2.3). These areas avoid some (but not all) of the constraints associated with the study area. The following table outlines the constraints that have been avoided, and identifies the reason for doing so. It has been assumed that constraints not identified in the table may be able to be managed through policy, design or engineering solutions.

Constraints avoided in identifying "theoretical development areas"		
Constraint	**Reasoning**	**Spatial reference**
Flood hazard areas	• Policies in the District Plan have the effect of discouraging urban development in areas prone to flood hazard (policy NH-P3). • In the context of comprehensive urban development, it is likely to be difficult to provide flood free building areas in areas subject to flood hazard without altering the downstream effects of flooding (NH-P3 and NH-FLOOD-10, 12 and 13). • Urban development in areas of flood hazard could be considered inappropriate in the context of the natural hazard policy (policy 51) of the RPS.	Flood hazard areas identified in the KCDC District Plan. Updated flood hazard modelling for the Muaupoko and Hadfield catchments received from KCDC on the 20th August 2021.
Areas of high combined earthquake hazard	• Combined earthquake hazard (as mapped by the Regional Council), includes the combined considerations of liquefaction hazard, ground shaking and earthquake induced slope failure. • Urban development in areas of high combined earthquake hazard could be considered inappropriate in the context of the natural hazard policy (policy 51) of the RPS.	Combined earthquake hazard as identified by GWRC.
Areas in proximity of the coast	• Urban development in proximity to the coast could be considered inappropriate in the context of the natural hazard policy (policy 51) of the RPS. • The Takutai Kāpiti project community-led coastal adaptation project is intended to provide a specific response to planning for coastal hazards, so it would be inappropriate to rezone areas adjacent to the coast for urban development in advance of the Takutai Kāpiti project. • As the extent of coastal hazard has not yet been determined through mapping, general	General coastal areas as discussed in the Council officer workshop on the 19th of July. Note this only applies to study areas PE-01, PE-02 and WB-01. The assessment may be updated to take into account coastal hazard areas identified as a part of the Takutai Kāpiti project, when modelling information becomes available.

Constraints avoided in identifying "theoretical development areas"		
Constraint	**Reasoning**	**Spatial reference**
	areas to avoid were informed through workshopping with Council officers.	
Areas within 20m of waterbodies, including streams, rivers, drains, lakes, ponds and wetlands	• There is strong policy protection for waterbodies outlined in the National Policy Statement for Freshwater. • A 20m setback is assumed on the basis that the esplanade reserve provisions of the RMA may be triggered (although it is acknowledged that this will vary based on the specific nature of the waterbody).	Rivers, streams and drains identified in the KCDC district plan. Waterbodies (including wetlands) identified in the GWRC Proposed Natural Resources Plan. Waterbodies identified by Land Information New Zealand. Site specific unmapped waterbodies readily identifiable from aerial photography.
Ecological sites, conservation open space and QEII covenant sites	• There is strong policy protection for indigenous vegetation within the District Plan. • Construction of buildings within identified ecological sites is generally a discretionary activity (ECO-R13).	Ecological sites identified in the KCDC District Plan. Conservation open space identified in the KCDC District Plan. QEII sites identified by the Department of Conservation.
Outstanding natural features and landscapes, and special amenity landscapes	• There is strong policy protection for outstanding natural features and landscapes in the District Plan (policy NFL-P1) and the Regional Policy Statement (policy 50); • It is assumed that it will be difficult to maintain or enhance the values associated with special amenity landscapes and undertake comprehensive urban development within those landscapes (policy NFL-P2).	Outstanding natural features and landscapes identified in the GWRC Proposed Natural Resource Plan. Special amenity landscapes identified in the KCDC District Plan.
Areas of topography steeper than 1:5	• The New Zealand Standard for Land Development (NZS4404:2010) specifies a maximum steepness for vehicle access of 1:5.	Slope analysis identifying areas of topography steeper than 1:5.
Areas within 40m of the National Grid	• Strong policy direction within the National Policy Statement for Electricity Transmission to avoid reverse sensitivity effects on the national grid (policy 10).	National grid lines as identified in the KCDC District Plan.
Wāhi tapu sites	• Strong policy protection for wāhi tapu sites in the District Plan (policy SASM-P1).	Wāhi tapu sites identified in the KCDC District Plan.

The resultant areas are identified as a "gross theoretical development area" within the detailed assessment of each study area (refer Appendix 3B).

Step 2: calculation of net theoretical development area

For most areas, it was assumed that approximately 30% of the gross theoretical development area would need to be set aside for public purposes (for example, the formation of roads and other access, the provision of open space or other amenities, or the provision of areas for stormwater management).

Some greenfield areas may require an area or areas set aside for centres or mixed use zoning and/or space provision for other public or community facilities such as schools. The analysis undertaken is not sufficiently detailed to determine the area of land required for these activities, so it is assumed that they will be able to be accommodated in the 30% set aside.

For small areas (less than 1 hectare) with direct access to roads, it was assumed that no area would need to be set aside for public purposes.

Step 3: estimation of potential dwelling capacity

Estimation of the theoretical dwelling capacity for each area is based on the dwelling densities used for the review of the draft Kāpiti Growth Strategy[9]. These densities are described in the following table:

Density	Dwellings/hectare	Indicative number of floors
High	100	12 or fewer
Medium-high	80	4 – 6
Medium	60	4 – 6
Medium-low	40	3 or fewer
Low	20	2 or fewer

A density mix is applied to the net theoretical development area in each study area. The mix is recorded in the "theoretical dwelling supply assessment" table contained in the detailed assessment of each study area (refer Appendix 3B), which also records the reasons for adopting the mix. The theoretical dwelling estimate is a simple multiplication of the density mix by the net theoretical development area.

Note that the assessment does not consider the potential for market uptake to reduce dwelling supply, although it is noted that the Kāpiti Growth Strategy review applies a 70% uptake to greenfield growth areas[10].

[9] 4Sight Consulting. (June 2021). *Kāpiti Coast Growth Strategy Review – Growth Scenarios Report,* p.57.

[10] Ibid.

3.0 Assessment

3.1 Observations

The assessment has highlighted the extensive and layered nature of constraints to greenfield development across the district. There are very few greenfield areas that are not constrained in some way, and this may in part explain why these areas have yet to be urbanised.

The following section provides observation on a range of matters associated with greenfield urban growth that have emerged as a result of this assessment, for further consideration as part of any future planning response.

3.1.1 Flood hazard and stormwater management

Based on existing modelling, the presence of flood hazard is extensive, particularly around Ōtaki and coastal areas (to the west of the Expressway) at Te Horo, Peka Peka, Waikanae, Paraparaumu and Paekakariki.

The assessment accounts for flood hazard by identifying the overall areas where flood hazard is a significant constraint as part of the qualitative assessment, and excluding areas subject to flood hazard from the estimate of theoretical dwelling capacity. However, it is noted that the district flood (stormwater) hazard model is presently being updated. Updated flood hazard modelling may alter the appropriateness and capacity of the study areas in relation to this assessment. Updated modelling will be particularly important for large areas that currently appear to be relatively hazard free, such as Hautere. This assessment accounts for updated flood hazard modelling in the Hadfield and Muaupoko catchments, however the assessment may need to be reviewed and revised as further updates to flood hazard modelling become available.

During the assessment process, it was also observed that managing the effects of storm water runoff from new urban areas in a manner that does not increase down-stream flood risk and does not degrade down-stream water quality will be a significant consideration for any future urban area.

3.1.2 Water bodies and wetlands

There is an extensive network of waterways that traverse the district. In the hill country areas of the district, these manifest as stream headwaters, whereas in the lower lying and flatter areas (particularly to the west of the Expressway) these manifest as networks of drains that feed into tributaries and streams. Alongside these, there are a number of identified wetlands in the district, which typically occur in the low-lying areas to the west of the Expressway. There are also likely to be unmapped wetlands located throughout the lower lying areas of the district.

The National Policy Statement for Freshwater Management and the National Environmental Standards for Freshwater have the combined effect of providing significant policy and regulatory protection to existing water bodies, regardless of whether they have been mapped. The assessment accounts for mapped waterbodies by identifying the degree to which they are present within each of the study areas and excluding areas within a buffer of each waterbody from the dwelling capacity calculation. However, the assessment does not account for

unmapped waterbodies, and for greenfield areas the presence of unmapped wetlands will be a particular issue.

3.1.3 Water and wastewater services

The provision of reticulated potable water supply and wastewater services will be a key issue for the development of any greenfield growth area. While some greenfield growth areas are located next to urban environments with reticulated services, the development of any greenfield growth area will require the establishment of new reticulated services in that area, and connections to the wider reticulated system.

During the assessment, Council officers expressed a range of concerns around the ability for existing reticulated water and wastewater services to accommodate extensive greenfield growth. As a result, significant growth could trigger the need for local or system-wide upgrades.

Considering water supply, the following issues were raised by the assessment:

- Any growth in Ōtaki is likely to trigger upgrades to the town water supply system, which may include introducing reservoir storage to the system and adding an additional supply source;
- Growth in the Hautere area would likely need to be supported by a new water supply from the Ōtaki catchment, in order to avoid inappropriate catchment mixing. Any new water supply would also need to be supported by reservoir storage and reticulation;
- Growth in the areas to the south of Peka Peka is more manageable based on existing supplies at Waikanae and Paekākāriki, however the effects of the growth of each area on the existing town supply system would need to be considered on a case by case basis.

Considering wastewater services, the following issues were raised by the assessment:

- Existing reticulation networks throughout the district are relatively constrained. Where greenfield growth is connected to existing town reticulation networks, this may have flow-on effects on down-stream pipes and pumpstations, which may need to be upgraded as a result. Capacity upgrades at the existing treatment facilities in Ōtaki and Otaihanga may need to be brought forward to accommodate growth.
- Consideration may need to be given to a new wastewater treatment facility to service areas of significant new greenfield growth to the north of Waikanae and in Te Horo/Hautere. Care would need to be taken to avoid catchment mixing.
- Paekākāriki has no wastewater reticulation, and all treatment and disposal is undertaken on site. Significant growth in the area may require consideration of methods for providing reticulated wastewater infrastructure to the area, including through the provision of a local treatment facility, or by enabling wastewater to be piped to the treatment facility at Otaihanga.

Notwithstanding these issues, the scale of potential growth (and the potential upgrades required) presents as opportunity to review the way in which water supply and wastewater services are delivered across the district at a strategic level. This also presents the opportunity to coordinate the supply of greenfield land with infrastructure and the planned provision and availability of infrastructure, and avoid issues associated with ad-hoc or incremental additions to existing infrastructure systems.

3.1.4 Public transport, active modes and the road network

During the assessment, it was highlighted that areas to the north of Waikanae are poorly served by public transport. The key reason for this is the termination of commuter rail services at Waikanae. As a result, growth in the district to the north of Waikanae could result in both of the following:

- Increased reliance on private vehicle commuter trips for people living to the north of Waikanae;
- Significant increase in pressure on park and ride facilities around the Waikanae railway station.

These issues are compounded by growth within the Horowhenua district to the north of Ōtaki. While there may be a range of solutions to address this, the most obvious solution is to extend commuter rail services beyond Waikanae. This extension would be a particularly important consideration for any areas of significant growth to the north of Waikanae (for example at Hautere). It is acknowledged that decisions on the upgrade of the railway network and provision of public transport are a KiwiRail and regional council matter respectively, and that KCDC have previously advocated for improved public transport connections to the north of Waikanae. Any commitment to growth north of Waikanae may support the case for extending commuter rail services.

For any greenfield growth area, provision for active modes of transport within the area, and integration with existing active mode networks may help to improve access to commuter rail services, as well as improve access to established centres within the district. The degree to which this can be achieved through greenfield growth will rely to a certain extent on the location and quality of the existing active mode transport network. A key asset in this regard is the provision for active modes associated with the Expressway, which in effect will (when completed) provide an active mode spine that extends the length of the district. However greenfield growth areas that are not connected to this may need to consider other methods of ensuring that they can be connected by active modes to commuter rail and established centres.

A number of other issues associated with the capacity of the road network were identified during the assessment, however these are generally location specific rather than district wide. These are covered in the assessment of each individual area and would be most effectively addressed on an area-specific basis.

3.1.5 Highly productive land

Large parts of the flatter, non-urban areas within the district would meet the definition of “highly productive land” under the consultation draft of the National Policy Statement for Highly Productive Land[11]. This land classification is particularly the case for the extent of the district to the north of Waikanae. Urbanising areas of highly productive land would have the effect of removing these areas from the primary production capacity of the district, and this is likely to have both economic and food supply impacts.

A National Policy Statement for Highly Productive Land, if gazetted, could alter the policy context for considering the urbanisation of greenfield areas within the district. It is uncertain whether or when gazetting this policy statement may occur.

[11] Generally defined as land classified as LUC 1, 2 or 3 in the New Zealand Land Resource Inventory. Ministry for Primary Industries. (August 2019). *Valuing Highly Productive Land*, p.50.

3.1.6 Liquefaction

In general, almost the entire extent of the district to the west of the Expressway is subject to a high risk of liquefaction. A high risk of liquefaction can be interpreted as a proxy for poor quality ground conditions, which in some parts of Kāpiti can include areas of peat. While the assessment assumes that this constraint could be managed through engineering, such an assumption should be confirmed through technical assessment at a site-specific level.

3.1.7 Responding to climate change

By creating new urban environments, greenfield growth creates path dependencies that 'lock in' lifestyle choices that can contribute to emissions, as well as increasing the exposure of communities to future risks associated with a changing climate. While overall urban form strategies to reduce emissions and adapt to climate change are most appropriately dealt with at the level of the District Growth Strategy, this assessment has considered each growth area in terms of its potential to contribute to emissions reduction and climate change adaptation efforts.

New developments offer the opportunity to design communities in a way that avoids locking in emissions, if they are planned appropriately[12]. Measures to support emissions reduction include:

- Enabling access to public and active modes of transport;
- Planning new urban environments to ensure that they have good access to local services and amenities can reduce reliance on short vehicle trips;
- Encouraging the development of buildings that are efficient in terms of energy use and embodied emissions;
- Considering the possibility to provide for renewable energy sources.

Adaptation to the effects of climate change involves acknowledging the increased risks associated with development in the coastal area, in addition to increased risk of flooding associated with more frequent rainfall events and rising ground water levels. As part of this assessment, currently modelled areas of flood hazard, and areas within proximity of the coast have been generally avoided in estimating the theoretical dwelling capacity of each area. However, KCDC are currently updating coastal hazard and flood modelling to account for the increased effects of climate change, and it is recommended that the assessment of each area is reviewed once the models have been updated.

Alongside this, it is relevant to consider the long-term impacts of climate change adaptation on the district, in particular the retreat from existing urban areas that are increasingly at risk. In this respect, new low-hazard growth areas may be able to provide development capacity to support long-term moves away from higher-hazard areas.

3.1.8 Other matters

The assessment has highlighted a range of other issues specific to each area. These are highlighted in the observations associated with each area assessment (contained in Appendix

[12] He Pou a Rangi Climate Change Commission. (May 2021). *Ināia tonu nei: a low emissions future for Aotearoa,* pp.255-258.

3B). It is expected that these issues would be addressed at the time when the area is proposed to become a zone that enables urban development.

3.2 Prioritisation of potential growth areas

The potential greenfield growth areas have been grouped into 'priority' categories. As outlined in the methodology, this grouping was not a linear weighted process, rather an overall judgement based on the nature and degree of constraints and opportunities associated with each individual area. Each priority group (including the total theoretical dwelling estimate for each group) is identified in the table below:

Priority group	Description	Theoretical dwelling estimate
1	**The area is a good candidate for short or medium term urban development.** Development of the area presents the opportunity to achieve a range of positive outcomes. There are relatively few constraints to development in the area, and those that do exist could be managed through structure planning and/or other planning mechanisms.	1,800 dwellings[13]
2A	**The area is a candidate for medium or long term urban development, although there are a number of constraints that need to be overcome.** Development of the area presents the opportunity to achieve a range of positive outcomes, however there are a number of constraints that need to be overcome.	6,560 dwellings
2B	**The area is a potential candidate for medium or long term urban development, however there are several constraints to overcome that may require significant strategic decision-making.** Development of the area could contribute to long-term positive outcomes, however there are a number of constraints associated with the area and overcoming them is likely to have an impact on Council's long-term planning and strategic decision-making. OR **The area is likely to only contribute marginally to housing supply.**	17,680 dwellings
3	**The area is an unlikely candidate for long term urban development, on the basis that there are numerous and significant constraints that are unlikely to be overcome.** There are numerous significant constraints to development of the area. Some of these constraints are so significant that they are unlikely to be overcome. These areas could however be considered again in the future if circumstances change.	6,800 dwellings
	Total theoretical dwelling estimate across all study areas	**32,840[15] dwellings**

Note that an earlier iteration of this assessment included only three priority groups, however it was found that a significant majority of the theoretical dwelling capacity was identified to be within priority group 2. This was seen to be an unhelpful outcome. As a result, the priority group 2 was split into two groups (2A and 2B). The key difference between the two new categories is

[13] Note that this assessment considers two development scenarios for the airport site (referred to as scenarios A and B). The figures noted in the table include the theoretical dwelling estimate for scenario A. Under scenario B, the figure for priority group 1 would be 2,980 dwellings, and the total theoretical dwelling estimate figure would be 34,020.

that the development of areas located in category 2B is likely to have an impact on Council's long-term planning and strategic decision-making.

The following table (and figure 1 at the beginning of the document) summarises estimated theoretical dwelling capacity and priority grouping of each potential greenfield growth area considered as part of this assessment. Appendix 3A provides a more detailed summary, while Appendix 3B provides a detailed assessment of each individual growth area.

Area ref. (refer figure 1)	Locality	Theoretical dwelling estimate	Priority group
ŌTAKI			
ŌT-01	Ōtaki (west)	140	3
ŌT-02*	Ōtaki (west)	0 (already zoned Residential)	N/A
ŌT-03A	Ōtaki (east)	490	3
ŌT-03B	Ōtaki (east)	510	2A
ŌT-04	Ōtaki (east)	130	2A
ŌT-05	Ōtaki (east)	210	2B
ŌT-06	Ōtaki (east)	540	2B
TE HORO, PEKA PEKA & WAIKANAE			
HA-01	Hautere	13,800	2B
HO-01	Te Horo	4,320	3
PE-01	Peka Peka (north)	800	3
PE-02	Peka Peka (south)	940	3
PE-03	Peka Peka (east)	1,220	2B
WA-01	Waikanae (east)	670	2A
WA-02A	Waikanae (north-west)	110	3
WA-02B	Waikanae (north-east)	1,650	2A
WA-03	Waikanae (west)	20	2B
WA-04	Waikanae (south)	480	1
WB-01	Waikanae Beach (north)	170	2B
WB-02	Waikanae Beach (east)	70	2B
OTAIHANGA & NIKAU VALLEY			
OH-01	Otaihanga	2,100	2A
OH-02	Otaihanga (east)	860	2A
OH-03	Otaihanga (south)	400	2A
NV-01	Nikau Valley (north)	610	2B
PARAPARAUMU, RAUMATI & PAEKAKARIKI			
PA-01 A**	Paraparaumu (airport site, scenario A)**	920	1
PA-01 B**	Paraparaumu (airport site, scenario B)**	2,100	1
PA-02	Paraparaumu (west)	110	1
PA-03*	Paraparaumu (north-east)	50	2B
PA-04	Paraparaumu (east)	70	2B
PA-05	Paraparaumu (south-east)	160	2B
PA-06	Paraparaumu (south-east)	450	2B
RB-01	Raumati Beach	290	1

Area ref. (refer figure 1)	Locality	Theoretical dwelling estimate	Priority group
RS-01	Raumati South	240	2A
PK-01	Paekakariki (east)	310	2B

Notes:

* Area is already partially zoned Residential. Only the component of theoretical dwelling estimate that is not located in the part of the area zoned Residential has been included.

** These are mutually exclusive development scenarios. Refer to the assessment sheets contained in appendix 3B for further information.

On the assumption that development of greenfield growth areas progressed in line with the priority groupings outlined above, this would result in an overall pattern of greenfield growth defined by the following characteristics:

- Consolidation of the existing urban environment through development of greenfield sites within existing urban areas;
- Modest expansion of existing urban environments in areas with relatively low combined constraints;
- Incremental expansion of existing infrastructure networks (although significant upgrades may be required).

On this basis, it is evident that future development within the potential greenfield growth areas outlined in this assessment could contribute to addressing the potential shortfall in plan-enabled dwelling capacity noted the beginning of this report. The extent to which this capacity is incorporated future district plan changes would be determined by the degree to which intensification of existing urban areas is considered as a part of the overall mix of new plan-enabled development capacity.

3.3 Observations on the draft District Growth Strategy

The following section highlights some key observations on the growth scenarios tested as part of the Growth Strategy review[14].

It is difficult to directly compare the scenarios tested in the Growth Strategy review to the work undertaken in this assessment. Both exercises have different briefs, this report addresses greenfield areas only (where the growth strategy review addressed greenfield, intensification and infill growth), and the growth areas identified in the growth strategy review are defined differently to the potential greenfield growth areas that were the subject of this assessment. The following observations should be seen in this context.

3.3.1 Strategic options for greenfield growth

The initial prioritisation of growth areas outlined in the previous section presents an option for greenfield urban growth that is defined by consolidation of the existing urban environment and extending existing urban environments in to connected areas with relatively low constraints. In terms of intent, this probably sits somewhere between scenarios 2 and 3 of the District Growth Strategy review.

However, it is possible to consider other strategic options for greenfield growth. As noted in the prioritisation table in section 3.2, those areas identified as priority 2B are areas that could be candidates but their development would require significant strategic decisions to be made. It is possible to conceive of a number of alternative approaches to greenfield urban growth in the district, based on different strategic decisions. These could include:

- Consolidation and extension of existing urban environments in areas with relatively moderate constraints (the approach effectively outlined in section 3.2); or
- Focus greenfield growth on creating a new, comprehensively planned town in a low risk area;
- Adopt a mixture of both approaches.

[14] These observations are based on review of the District Growth Strategy, as it was at June 2021. It is acknowledged that the District Growth Strategy has evolved since these observations were made, and will continue to evolve as a result of community consultation on the strategy. See: 4Sight Consulting. (June 2021). *Kāpiti Coast Growth Strategy Review – Growth Scenarios Report*.

The following table compares these approaches:

Options	Characteristics	Strategic decisions	Priority changes (compared to the option outlined in section 3.2)	Theoretical dwelling estimate (priority 1 and 2A)
Consolidation and modest expansion of existing urban areas (the option outlined in this assessment)	Development of greenfield areas within existing urban environments. Development of well connected areas with relatively low constraints on the edge of existing urban environments.	Accept incremental growth of established urban environments and associated infrastructure. Acknowledge that there are lower-risk areas that may not be developed.		9,560
Focus greenfield growth on creating a resilient new town in a low-risk location	Development of greenfield areas within existing urban environments. Existing urban environments are not extended. Focus on developing a resilient new town in a relatively low risk area outside of the existing urban environment (at Hautere).	Requires a significant commitment to infrastructure development. Prioritising long-term resilience above other matters. Requires a commitment to long-term planning of a new town, which is likely to involve a high degree of planning risk. Accept a low level of medium term greenfield development. Sacrificing highly productive land.	HA-01 becomes priority 2A. ŌT-03B, ŌT-04, WA-01, WA-02B, OH-01, OH-02, OH-03 and RS-01 become priority 2B.	16,600
Consolidation and modest expansion of the existing urban environment, alongside the creation of a resilient new town	Development of greenfield areas within existing urban environments. Development of well connected areas with relatively low constraints on the edge of existing urban environments. Planning for a new town in a relatively low risk area outside of the existing urban environment (at Hautere).	Requires a significant commitment to infrastructure development. May require prioritising long-term resilience over other matters. Requires a commitment to long-term planning of a new town, which is likely to involve a high degree of planning risk. Requires planning for significantly more growth than forecast. Sacrificing highly productive land.	HA-01 becomes priority 2A.	23,390

These options illustrate that the district can choose to develop its greenfield areas in different ways, based on priorities set at a strategic level. Such decisions could have the effect of reprioritising the greenfield growth areas outlined in this assessment.

Once the District Growth Strategy is settled, it may be necessary to review the prioritisation outlined in this assessment, to ensure that it aligns with the strategy.

3.3.2 Other observations on the District Growth Strategy

The following other observations are provided on the District Growth Strategy review:

- Scenario 3[15] assumes significant greenfield growth in the Waikanae North/Peka Peka area. Our assessment considers this scenario relates to the area covered by PE-01, PE-02, PE-02, WA-01, WA-02A and WA-02B. Combined, our estimate of the theoretical dwelling capacity of these areas is approximately half of what would be required to enable the population growth outlined in scenario three. In addition to this, based on this assessment the Peka Peka area as one of the most constrained areas in the district. On this basis, it is recommended that the extent to which any growth scenario relies on greenfield growth in Peka Peka is reviewed.
- Assumptions around population growth in Te Horo/Hautere in scenario 3 are generally in line with our theoretical dwelling estimate for this area. However, to enable the growth allowed for in scenario 4 would likely require the incorporation of a greater degree of medium to medium-high density dwelling typologies.

[15] 4Sight Consulting. (June 2021). *Kāpiti Coast Growth Strategy Review – Growth Scenarios Report*, pp.24-28.

4.0 Conclusion

On current estimates, without changes to the district plan, there will be a theoretical shortfall of 8,865 dwellings in the district by 2050. This shortfall can be met through a mix of additional greenfield growth, intensification and infill development throughout the district. This assessment addresses the potential for greenfield growth to meet some of this shortfall.

Following a qualitative and quantitative methodology, this assessment has found the following:

- That across all areas studied, there is a theoretical capacity of 32,840 dwellings that could be delivered through a range of dwelling typologies.
- Greenfield areas in the district are constrained to varying degrees. There are no unconstrained areas, and each area is subject to a unique combination of constraints. Key constraints include:
    - Flood hazard and stormwater management;
    - Waterbodies, including rivers, streams drains and wetlands;
    - Capacity of existing water and wastewater infrastructure and the ability to deliver this to new areas;
    - Land risks, in particular liquefaction;
    - Presence of highly productive land;
    - Responding to climate change hazards and emissions reduction.
- After the consideration of constraints, there is a theoretical capacity of 8,360[16] dwellings in areas that exhibit low to moderate degrees of combined constraints (priority groups 1 and 2A), so long as these constraints can be overcome. Development of these areas would result in an urban form characterised by consolidation of existing urban areas, alongside the extension of urban environments around Paraparaumu, Waikanae and Ōtaki.

Overall, where constraints can be overcome it is possible for greenfield growth contribute to addressing the estimated shortfall of dwellings in the district. This means that the district has options for growth into the future, which raises higher level questions about how growth should be prioritised. These questions include:

- Should greenfield growth focus on consolidating and incrementally extending existing areas? or
- Could greenfield growth be accommodated through a comprehensively planned new town in a low-risk area? or
- Could the district pursue a combination of approaches?

As these questions are strategic in nature, the answers to them are most appropriately addressed through the District Growth Strategy, which is currently being prepared and consulted upon. As a result, the prioritisation of growth areas may need to be reviewed once the Growth Strategy has been settled.

[16] Based on scenario A for the airport site. Under scenario B, this figure would be 9,540 dwellings.

In addition to this, the assessment and associated findings may be subject to change following engagement with mana whenua, and where new information on a range of matters becomes available

Appendix 1: Assessment Criteria Framework

BOFFA MISKELL

BM210137 Kāpiti Urban Development and Intensification

Assessment Criteria Framework

WORKING DRAFT

Date: 08.10.2021

Revision notes: Updated to reflect revised growth principles wording.

Theme		URBAN ENVIRONMENT				URBAN F
Assessment criteria		Urban form	Local neighbourhoods	Activity centres	Residential development	Business land
Description		Urban form is an overall condition which is derived from the combination of a the footprint of urban areas, their distribution, density, street pattern, distribution of open space, and building scale. Cohesive urban form is integral to the planning urban growth as it influences the accessibility, liveability, sustainability and adaptability of the place. New growth areas located adjacent to existing urban areas or along/near key transport corridors have the potential to link well with existing urban areas. In contrast, poorly connected new growth areas have the potential to undermine social connection and cohesion, increase the cost of providing infrastructure services, and reduce their accessibility, liveability, sustainability and adaptability. The Kāpiti district has a distinctive and established pattern of urban development which is primarily defined by a series of urban centres (Paraparaumu, Waikanae, and Ōtaki), connected along a north-south spine (the state highway and railway network), alongside a network of connected coastal neighbourhoods. The Wellington Regional Growth Framework anticipates that urban growth will build upon the established hierarchy of centres, supplimented by the expansion of Waikanae and Otāki, as well as other potential greenfield areas. At the same time, other high level policy encourages the consolidation of urban areas within the coastal environment. Cohesive urban growth will respond to both the established pattern of urban development, as well as national, regional and local strategies and policies for how it should develop.	The Kāpiti district is composed of a diverse collection of connected centres and neighbourhoods. Each of these have their own place-based features and qualities that distinguish them from one another, and make them attractive places to live, work or play. The unique identity of a place can also contribute to the establishment and maintenance of a sense of local community. Urban growth and development has the potential to change existing centres and neighbourhoods. Change is not of itself a bad outcome, however it is important that urban intensification and growth responds to its local context, recognises the features and qualities that make a place distinctive, and builds upon these to ensure that the future centre or neighbourhood is an attactive and well functioning place to live, work and play. Areas of urban intensification will need to consider how intensification can be undertaken in a way that enhances the local sense of place, and enchances the demarkation between smaller communities and Kāpiti's main centres. Areas of new urban growth will need to consider their relationship to existing adjacent neighbourhoods, and whether the development is of a sufficient scale that it needs to consider how its own sense of neighbourhood is defined, maintained and distinguished from surrounding neighbourhoods.	Activity centres are where communities shop, work, access community services, relax and socialise. They function as a focal point for the provision of services and social interaction. Activity centres will provide for community facilities including libraries, community halls, schools, hospitals and parks. Activity centres both support, and are supported by, residential growth and intensification. For areas of urban intensification, activity centres provide the access to amenity that improves the attractiveness of living in a more densely occupied urban environment. This means that activity centres need to be supported to grow and develop to meet the needs of surrounding residential growth. Residential intensification will consider the form and function of existing activity centres, and their ability to provide for surrounding residential intensification. For new growth areas, proximity to activity centres and community facilities is important in ensuring the development of a viable and well functioning community, with ready accessibility to the amenity and services that these centres provide. New growth areas will need to consider how they provide for, or connect to, activity centres in order to support their development.	Providing for growth in housing supply is a key aspect of planning for growth. Residential development capacity refers to the potential for growth in the number of dwellings in the district enabled through integrated planning, in addition to the existing potential for growth already enabled. The target capacity will be informed by the Housing and Business Capacity Assessment. Residential development capacity will also consder the degree of choice in housing types enabled through integrated planning, and the degree to which housing choice is spatially distributed in a cohesive manner throughout the district.	A well functioning urban environment will provide for local employment in addition to housing capacity. Areas associated with commercial or industrial uses will be located, connected to and integrated with other land uses such as housing, open space and transport networks in a cohesive manner that acknowledges the scale, nature and character of its use. In districts and regions subject to growing housing demand, there may be pressure to convert existing or planned business land into housing. Cohesive urban growth will acknowledge the finite nature of land available for business uses, and in particular that some business land uses (such as industrial land) may not integrate well with housing growth.
Key Kāpiti growth principles	**Supporting mana whenua aspirations**	●	●	●	●	●
	Embracing the opportunities of growth	●	●	●	●	●
	Valuing our environment	●	●			
	Encouraging low-carbon living	●		●	●	●
	Fostering strong communities	●	●	●		
	Enabling choice	●		●	●	
Key policies from National Policy Statements	National Policy Statement on Urban Development 2020	Policy 1(e); 3(b), (c) and (d).		Policy 1(c).	Policy 1(a)(i); 2; and 8.	Policy 1(b); and 2.
	New Zealand Coastal Policy Statement 2010	Policy 6(1)(b) and (c).				
	National Policy Statement for Freshwater Management 2020	Clause 3.5(4).				
	National Policy Statement on Electricity Transmission 2008					
	National Policy Statement for Renewable Electricity Generation 2011					
	Draft National Policy Statement Indigenous Biodiversity 2019					
	Draft National Policy Statement for Highly Productive Land 2019					
Other key stategy and policy influences (to be developed further)		~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)
Spatial influences and constraints		~ Existing urban areas (KCDC areas currently zoned for urban development). ~ Future urban development areas (KCDC Future Urban Development zone). ~ Extent of the metropolitan centre zone equivalent (KCDC). ~ Walkable catchment from the metropolitan centre zone equivalent (KCDC). ~ Rapid transit stops (train stations). ~ Walkable catchment from existing or planned rapid transit stops (KCDC). ~ The extent of the Coastal Environment (KCDC Coastal Environment layer).	~ Special character areas (KCDC).	~ Location of civic centres (KCDC Civic and Community zone). ~ Location of district, town and local centres (KCDC District, Town and Local Centre zones). ~ Location of schools. ~ Location of libraries. ~ Location of hospitals.	~ Existing areas zoned fo urban residential development (KCDC Residential and Beach Residential zones). ~ Areas planned for residential development (KCDC Future Urban Development zone, Potential Residential Areas layer). ~ Medium density housing precinct (KCDC). ~ Focussed infill precinct (KCDC).	~ Existing areas zoned for commercial purposes (KCDC Town Centre, District Centre and Local Centre zones). ~ Existing areas zoned for industrial or services purposes (KCDC Industrial/Service and Outer Business Centre zones).
Outcomes sought (Future Urban Study Areas)		~ Growth builds cohesively on established patterns of urban development; ~ Development around established centres and networks.	~ Consideration of the impacts of growth on established neighbourhoods; ~ Recognition that urban development may require the establishment of new neighbourhoods to develop.	~ Urban growth in proximity to established district, town and local centres; ~ Recognition that new centres may be required to support expansive urban development.	~ Contribution to dwelling supply; ~ Contribution to dwelling diversity and choice.	~ Urban development does not come at the expense of business uses, particularly industrial uses.
Outcomes sought (Urban Intensification Study Areas)		~ Height and density of development responds to the established centres hierarchy and access to rapid transit stops.	~ Consideration of the impacts of intensification on established neighbourhood character.	~ Intensification is accessible to a range of commercial activities and community services.	~ Contribution to dwelling supply; ~ Contribution to dwelling diversity and choice.	~ Intensification does not come at the expense of business uses, particularly industrial uses. ~ Intensification has the ability to accommodate a range of commercial uses, where appropriate.

BOFFA MISKELL
BM210137 Kāpiti Urban Development and Intensification

Assessment Criteria Framework

WORKING DRAFT

Date: 08.10.2021
Revision notes: Updated to reflect revised growth principles wording.

Theme		UNCTION		NATURAL ENVIRONMENT AND LANDSCAPE		
Assessment criteria		**Transport networks**	**Infrastructure and servicing**	**Natural ecosystem values**	**Water bodies**	**Landscape and open space values**
Description		Transport networks are important for enabling people to move throughout urban areas to schools, work, commercial centres, and other activities and services. Choice in mode of transport is important to liveability and sustainability – active modes (walking and cycling), public transport, cars and heavy vehicle transport should be accessible options for people as the district grows. Transport networks within the Kāpiti district are influenced by the presence of the current, former and future location of State Highway 1, as well as the rail corridor, which form a north-south spine that traverses the district. Local networks provide connectivity to and between local centres that are prediominantly located to the west of this spine. At the same time, the relocation of the state highway network has opened up new opportunities for connected development to take place in the space between the new and existing network, particularly around Parapaumu and Waikanae. Regional public transport services focus on the railway line, which is services by stops at Paekakariki, Paraparaumu and Waikanae. Local public transport is serviced through a network of bus routes that connect local communities back to the railway line. New urban growth areas need to consider the degree to which they can readily connect in to these existing networks, including whether they can support the provision of public and active modes of transport. Areas of intensification, where individual car ownership is likely to become less necessary, will need to consider the degree to which they can connect into established or planned public transport, cycling or walking networks.	Sustainable urban growth needs to be cooridinated with the provision of infrastructure and services. The ability to connect easily with reticulated infrastructure can reduce the economic and environmental costs of new development and is a key influence on servicing feasibility. The feasibility of servicing an area with water and wastewater infrastructure is a key determinant of its overall development feasibility, with areas that have significant constraints in terms of the ability to provide cost-effective servicing being less feasible as growth options. Areas of residential intensification should consider the capacity constraints associated with existing reticulated infrastructure networks, and intensification will need to be coordinated with any work required to increase the capacity of existing infrastructure. Areas of new growth will need to consider their proximity to existing main trunk infrastructure networks, their ability to connect to these, and the effects of this on the wider network.	The Kāpiti district is home to a diverse range of natural environments and associated ecosystems that include terrestrial natural environments, riverine, wetland and freshwater environments and the natural coastal environment. These natural environments are not confined to rural areas, and are woven into both the urban and rural environments. Urban growth should seek to protect existing environmental values, and enhance or restore natural environmental values where there is the opportunity to. This includes protecting or enhancing existing ecological corridors across the district, and protecting significant natural areas, habitats, ecosystems, wetlands, fresh water resources with significant value and indigenous biodiversity, in both the coastal and terrestrial environments. Urban intensification should consider the presence of the existing natural ecosystems in the urban environment, and the entent to which they can be accommodated or supported by intensification.	The Kāpiti district is home to a large number and diverse range of water bodies. These not only include the larger Waikanae and Ōtaki rivers, but also the numerous networks of streams, drains, lakes and ponds that occupy the flatter coastal areas of the district. Recent fresh water reforms have established a national planning framework for freshwater. At the core of this framework is the concept of Te Mana o te Wai, which refers to the vital importance of water for sustaining life in New Zealand. When managing fresh water, it establishes a hierarchy that means prioritising the health and wellbeing of water first, then the health needs of people, followed by the ability for people and communities to provide for their social, economic and cultural wellbeing. A water body is fresh water in a river, lake, stream, pond, wetland or aquifer that is not located in the coastal marine area. Development has the potential to impact upon existing water bodies through increased runoff from impervious surfaces and increased contaminant loads from vehicle areas such as roads and car parking, and sediment runoff associated with earthworks. At the same time develoment can also have physical spatial effects on water bodies, particularly where they are accidentally or purposefully altererd (such as through reclamation, redirection or bridging) to enable development. In the context of Te Mana o te Wai, any effects of urban development that may cause degredation of existing water bodies will be considered as undesireable.	The Kāpiti district is composed of a diverse range of natural and modified landscapes that contribute to local identity and sense of place. These include a range of features and landscapes that are recognised at a regional and district level as being of value. At the same time, the existing network of coastal, rural and urban open spaces provide an underlying framework of amenity that supports the existing and future urban environment. Intensification of existing urban areas, and the growth of new urban area will need to be sensitive to the range of landscapes that are of value at a district, regional and national level. In particular, outstanding natural features and landscapes will be recognised and maintained, and natural coastal character along currently non-urbanised coastal margins will be maintained. Intensification of existing urban areas should seek to protect and enhance existing open space networks and the public amenity that they provide. At the same time it will consider the potential increase in demand for public open space in the context of residential intensfication. The development of new urban areas will need to be accompanied by suitable expansion of the open space network.
Key Kāpiti growth principles	**Supporting mana whenua aspirations**	•	•	•	•	•
	Embracing the opportunities of growth	•	•			
	Valuing our environment			•	•	•
	Encouraging low-carbon living	•		•		
	Fostering strong communities	•		•		•
	Enabling choice	•				
Key policies from National Policy Statements	National Policy Statement on Urban Development 2020	Policy 1(c).	Policy 10(b); and 3.2(1)(c).	Clause 3.32(1)(a).	Clause 3.32(1)(a) and (b).	Clause 3.32(1)(a) and (d),
	New Zealand Coastal Policy Statement 2010			Policy 12(1) and (2).		Policy 6(1)(i); 13(1)(a) & (b); 15(1)(a) and (b); & 18(b).
	National Policy Statement for Freshwater Management 2020			Policy 9.	Objective 1; policy 6; 7; and 8.	Policy 6; 7; 8; and 9.
	National Policy Statement on Electricity Transmission 2008					
	National Policy Statement for Renewable Electricity Generation 2011					
	Draft National Policy Statement Indigenous Biodiversity 2019			Policy 6; policy 7; clause 3.16; and clause 3.17(4).		
	Draft National Policy Statement for Highly Productive Land 2019					
Other key stategy and policy influences (to be developed further)		~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)
Spatial influences and constraints		~ Location of National, Regional and Arterial roads (Waka Kotahi National Road Centreline data); ~ Transmission Gully, M2PP, PP2O, O2NL. ~ Railway lines. ~ Railway stations. ~ Bus routes (GWRC). ~ Cycle network (GWRC/KCDC).	~ Location of existing "main trunk" wastewater services (KDCD). ~ Location of existing "main trunk" water supply services (KCDC). ~ Identification of areas where existing 3 waters infrastructure capacity is constrained (KCDC).	~ Ecological sites (KCDC Ecological Sites). ~ Key indigenous trees (KCDC Key Indigenous Trees). ~ Key native ecosystem areas (GWRC Key Native Ecosystems). ~ Areas of significant indigenous biodiversity (GWRC). ~ Extent of the coastal environment (KCDC Coastal Environment layer).	~ Wetlands (GWRC). ~ Rivers, streams, lakes and their margins (KCDC Rivers, Streams and Drains, LINZ Rivers and Lakes). ~ Drinking water collection areas (KCDC);	~ Existing public open spaces (KCDC Open Space zones). ~ Existing DoC estate (DOC); ~ Existing regional parks (GWRC); ~ QEII Sites (QEII National Trust); ~ Outstanding waterbodies (GWRC); ~ Geological areas and features (GWRC & KCDC); ~ Areas of Outstanding and High Natural Character (KCDC); ~ Outstanding Natural Features and Landscapes (KCDC); ~ Special Amenity Landscapes (KCDC); ~ Notable treesand notable tree areas (KCDC); ~ Esplanade reserves, strips and riparian margins to the Coastal Marine Area (GWRC). ~ Extent of the coastal environment (KCDC Coastal Environment layer).
Outcomes sought (Future Urban Study Areas)		~ Coordination of growth with the capacity of established transport networks; ~ Transport choice, and access to active modes and public transport.	~ Coodination of growth with the capacity of existing reticulated services networks; ~ Ability to connect new growth to reticulated services; ~ Recognition that growth in some areas may trigger significant upgrades to existing infrastructure systems.	~ Providing for natural environmental values; ~ Recognising the sensitivity of natural ecosystems.	~ Minimising the impacts of urban growth on exsiting water bodies; ~ Opportunities to improve water quality through urban development.	~ Recognition of Kāpiti's distinct landscapes; ~ Access to public open space.
Outcomes sought (Urban Intensification Study Areas)		~ Intensification in proximity to rapid transit stops. ~ Intensification is accessible public and active transport networks.	~ Coodination of intensification with the capacity of existing reticulated services networks; ~ Recognition that intensification in some areas may trigger significant upgrades to existing infrastructure systems.	~ Providing for natural environmental values; ~ Recognising the sensitivity of natural ecosystems.	~ Minimising the impacts of intensification on exsiting water bodies; ~ Opportunities to improve water quality through urban development.	~ Recognition of Kāpiti's distinct landscapes; ~ Access to public open space.

BOFFA MISKELL
BM210137 Kāpiti Urban Development and Intensification

Assessment Criteria Framework

WORKING DRAFT

Date: 08.10.2021
Revision notes: Updated to reflect revised growth principles wording.

Theme			LAND DEVELOPMENT			
Assessment criteria		**Heritage values**	**Topography**	**Natural hazards and land risks**	**Land use compatibility**	**Highly productive land**
Description		The Kāpiti district has a rich history, and this is acknowledged through the range of heritage places and areas that are recognised at a district and regional level, as well as through the Heritage New Zealand list. In addition to this, there are a number of archeological sites distributed across the district. The intensification of existing urban environments will need to consider the potential effects of intensification on urban sites of historic significance. New growth areas will need to consider the potential effects of urbanisation on sites or areas of heritage siginificance that have normally been defined by their rural setting. In addition to this, new growth areas should acknowledge the likelyhood of archeaological discovery associated with development.	The Kāpiti district is defined by its location between the mountains and the sea. As a result, there are a range of topographies across the district, including steep mountainous and foothill terrain, intermediate valleys with moderate topographic complexity, and comparatively flat coastal land. Towards the north of the district, the amount of flat land increases as the distance between the mountans and the sea opens up. While it is possible to build new urban areas over relatively steep or very undulating ground, the requirements to prepare steep land for growth can be costly and have adverse effects on the land and the wider environment. Conversely, developing urban environments on relatively flat land is both cheaper, and likely to have lower impacts on the environment. Urban growth should acknoweldge that it will be easier to develop and intensify flat areas, and relatively more challenging to develop or intensify areas with steep or complex topography.	Natural hazards present a risk to the wellbeing of communities, as well as to their ongoing health and safety. Some areas are potentially subject to natural hazards which provide significant risks associated with occupation of the land for residential or business uses. Some areas already have physical works and mitigations in place, or effective measures could be put in place as part of new development. In other areas, natural hazard effects cannot easily be mitigated, so growth areas that avoid critical hazards are favoured. Intensification of existing urban areas and development of new urban areas should consider earthquake related hazards, hazards associated with river and stream flooding, and hazards associated with the coastal environment. When considering the exposure of development to natural hazards, the influence of climate change on the nature, scale and frequency of natural hazards such as flooding, coastal erosion and inundation will also be a key consideration in the planning of urban intensification and growth that is both adaptable to and resilient towards the potential effects of climate change. The potential presence of contaminated land will also be a consideration for development, as land remediation can contribute to the cost and complexity of urban development.	As urban areas grow there are increasing instances where relatively sensitive activities come into contact with potentially incompatible land uses such as industrial activities, intensive agriculture or horticultural land uses and significant infrastructure. This can result in residents raising concerns about noise and air emissions, odour and traffic. However, land uses which may be incompatible with residential living or business activities are vital to the overall functioning of urban areas and to the district's economy and are often limited in where they can locate. The growth and intensification of residential areas needs to recognise the potential for reverse sensitivity effects on existing established uses, and planned uses, particularly where these uses are significant to the local, regional or national economy. To minimise the potential for adverse effects on sensitive uses, it is considered more desirable to direct new growth areas away from incompatible types of land use.	Highly productive land (land with an LUC Class I, II or III) are valued by the community for their productive purpose as they are highly fertile and require less irrigation or fertiliser to grow plants and food. This is particularly the case for the Kāpiti district, which has a high degree of horticulture and agricultural land use. Areas of potential urban growth containing highly productive land should be considered carefully in the context of the district before being allocated for residential or business development. There is a preference to maintain the availability of highly productive land (particularly where it is well located in terms of climate, water availability, and access to transport routes and labour markets) for productive uses for future generations and to protect its productive capacity from inappropriate subdivision, use, and development. The presently proposed National Policy Statement for Highly Productive Land is likely to be highly relevant to the consideration of areas of potential future urban growth in the Kāpiti district, in the event that it becomes operative. Note that the proposed NPS is unlikely to effect areas of proposed urban intensification.
Key Kāpiti growth principles	**Supporting mana whenua aspirations**	•	•	•	•	•
	Embracing the opportunities of growth				•	
	Valuing our environment		•	•		•
	Encouraging low-carbon living					
	Fostering strong communities	•				
	Enabling choice					
Key policies from National Policy Statements	National Policy Statement on Urban Development 2020	Clause 3.32(1)(a).		Policy 1(f); and clause 3.32(1)(a).	Clause 3.32(1)(c).	Clause 3.32(1)(b).
	New Zealand Coastal Policy Statement 2010	Policy 6(1)(j); and 17.		Policy 25(b); and 25(f).		
	National Policy Statement for Freshwater Management 2020					
	National Policy Statement on Electricity Transmission 2008				Policy 10.	
	National Policy Statement for Renewable Electricity Generation 2011				Policy D.	
	Draft National Policy Statement Indigenous Biodiversity 2019					
	Draft National Policy Statement for Highly Productive Land 2019				Policy 5(b), (c) and (d).	Policy 2(d); and 3.
Other key stategy and policy influences (to be developed further)		~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021)	~ Wellington Regional Growth Framework (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021)	~ Wellington Regional Growth Framework (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021)
Spatial influences and constraints		~ District heritage areas and places (KCDC); ~ Sites on the Heritage New Zealand List (Heritage NZ); ~ Archaeological sites and areas (NZ Archaeological Association).	~ Steep slopes (areas with a slope of greater than 1:4, or 14 degrees).	~ Fault avoidance areas (KCDC Fault Avoidance Area). ~ Combined earthquake hazard areas (severity 4 and 5 only) (GWRC). ~ Rivers and streams (KCDC). ~ Flood hazard areas (KCDC Flood Hazard layer). ~ Flood extents (KCDC & GWRC). ~ Potentially contaminated land (GWRC SLUR). ~ Extent of coastal hazard data not available.	~ National grid lines and development buffer (KCDC); ~ Natural gas distribution (KCDC); ~ State highway network reverse sensitivity buffer areas (Waka Kotahi, may need a special request); ~ Rail corridor designation (KCDC). ~ Renewable electricity generation assets. ~ Quarries (KCDC); ~ Intensive horticultural or agricultural areas (KCDC TBC); ~ Location of industrial areas (KCDC Industrial zone); ~ Location of the airport designation, air noise boundary, and protected surfaces (KCDC). ~ Location of other sensitive land uses (KCDC). ~ Designations (KCDC).	~ LUC I, II and III soils (exclude KCDC existing and planned urban areas from this).
Outcomes sought (Future Urban Study Areas)		~ Recognising existing heritage sites and areas; ~ Acknowledging the likelyhood of archaeological discovery.	~ Urban growth responds to topographical conditions	~ Urban growth seeks to avoid to flood hazard areas. ~ Exposure to earthquake hazard and liquefaction is minimised. ~ Urban growth seeks to avoid exposure to coastal hazards. ~ Remediation of contaminated land is acknowledged. ~ Increased hazards associated with climate change are acknowledged.	~ Minimising the potential for reverse sensitivity effects on infrastructure or key land uses.	~ Retaining the productive potential of highly productive land.
Outcomes sought (Urban Intensification Study Areas)		~ Recognising existing heritage sites and areas; ~ Acknowledging the likelyhood of archaeological discovery.	~ Intensification responds to topographical conditions	~ Intensification seeks to avoid to flood hazard areas. ~ Exposure to earthquake hazard and liquefaction is minimised. ~ Intensification seeks to avoid exposure to coastal hazards. ~ Remediation of contaminated land is acknowledged. ~ Increased hazards associated with climate change are acknowledged.	~ Minimising the potential for reverse sensitivity effects on infrastructure or key land uses.	NOT APPLICABLE TO INTENSIFICATION.

BOFFA MISKELL
BM210137 Kāpiti Urban Development and Intensification

Assessment Criteria Framework

WORKING DRAFT

Date: 08.10.2021
Revision notes: Updated to reflect revised growth principles wording.

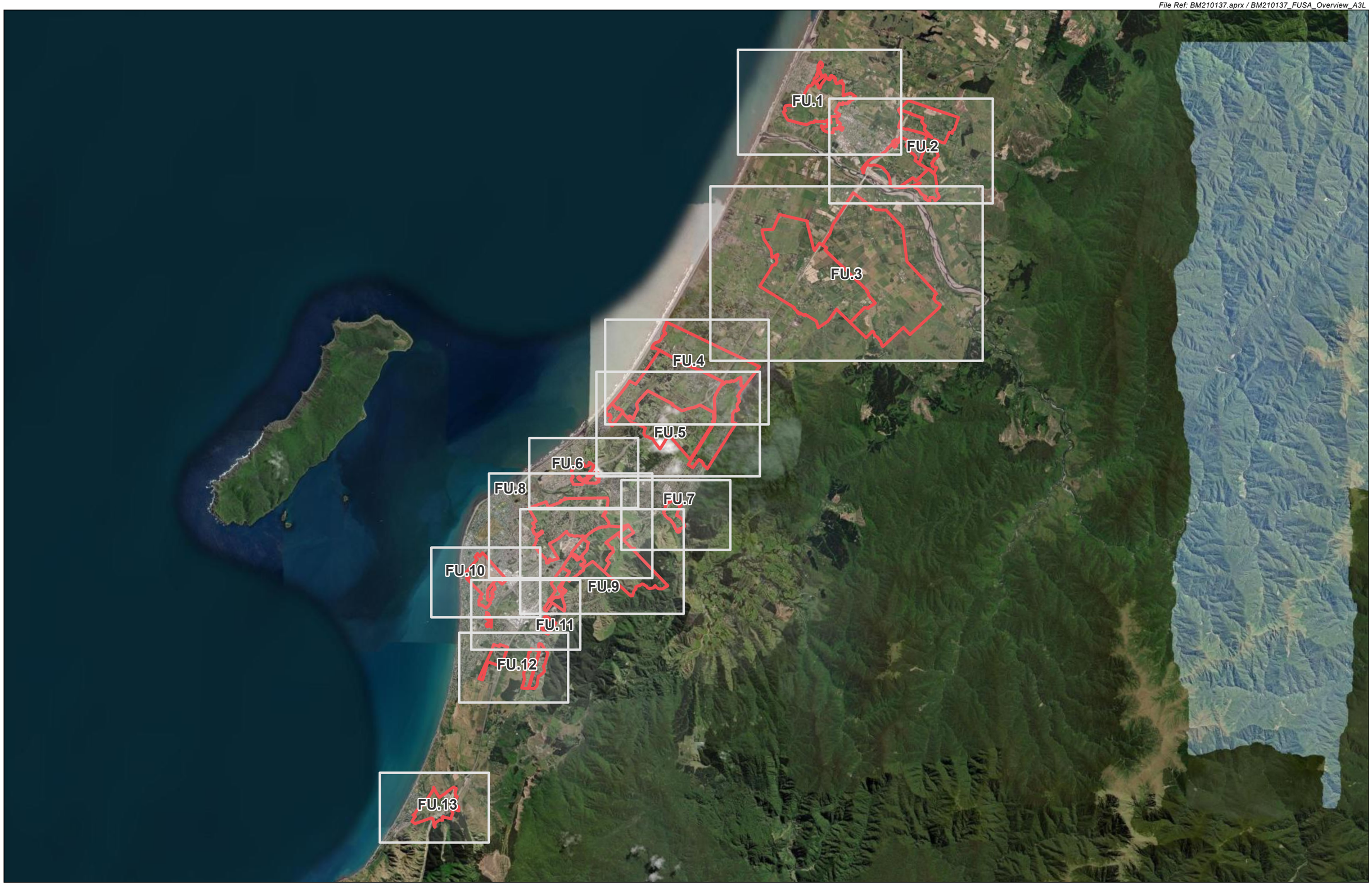
Theme		MANA WHENUA	
Assessment criteria	**Climate change (low-carbon futures)**	**Mana whenua values**	**Iwi development aspirations**
Description	The Kāpiti district has a goal of transitioning to a low carbon future. The intensification of existing urban environments and the development of new urban environments can have long term implications for the ability for communities to reduce their emissions. The way in which urban environments develop determine the range of choices that people have in order to reduce their emissions, be it through lower transport emissions, reduced energy consumption associated with operating and maintaining a home. Communities, can be designed in a way that avoids locking in emissions if services, amenities, facilities and infrastructure are provided for at the planning stage. Areas of urban growth and intensification will need to consider the degree to which they support sustainable transport choices and consumption patterns, and whether or not development may be resource efficient or resource intensive. Note that the impacts of climate change on natural hazards are considered separately under the "Natural hazards and land risks" category.	The Council is working in partnership with mana whenua to on the development of the district growth strategy that respects the values held by mana whenua. Early engagement as part of the district growth strategy review has identified a number of values, including (but not limited to): ~ Education of and representation of whakapapa to whenua and water in the district; ~ Careful location and implementation of development in relation to freshwater management and mahinga kai; ~ Ensuring wāhi tapu and other taonga are protected, and respecting the intellectual property that mana whenua hold over this knowledge; ~ Maintaining customary rights and access; ~ Enabling iwi to exercise kaitiakitanga, ensuring the sustainable utilisation of land, caring for the healthy wairua and mauri of the environment, the people and the community; ~ Decision making informed by mana whenua. TO BE DEVELOPED THROUGH ENGAGEMENT.	The Council is working in partnership with mana whenua on the development of the district growth strategy that is supportive of iwi and hapu development aspirations. Early engagement as part of the district growth strategy review has identified a number of aspirations, including (but not limited to): ~ Unlocking Māori owned-land; ~ Providing for business and papakāinga development aspriations; ~ Providing locally for the growth of iwi; ~ Growing the capacity of and skills of rangatahi and whānau to support their economic wellbeing. TO BE DEVELOPED THROUGH ENGAGEMENT.
Key Kāpiti growth principles	**Supporting mana whenua aspirations**	•	TO BE DEVELOPED THROUGH ENGAGEMENT	TO BE DEVELOPED THROUGH ENGAGEMENT
	Embracing the opportunities of growth	•		
	Valuing our environment	•		
	Encouraging low-carbon living	•		
	Fostering strong communities			
	Enabling choice			
Key policies from National Policy Statements	National Policy Statement on Urban Development 2020	Objective 8; policy 1(e) and (f).	Policy 1(a)(ii); and 9(b).	Policy 1(a)(ii); and 9(b).
	New Zealand Coastal Policy Statement 2010	Policy 3(2).	Policy 2(a) and (f); and 6(1)(d).	Policy 2(a) and (f); and 6(1)(d).
	National Policy Statement for Freshwater Management 2020			
	National Policy Statement on Electricity Transmission 2008			
	National Policy Statement for Renewable Electricity Generation 2011			
	Draft National Policy Statement Indigenous Biodiversity 2019			
	Draft National Policy Statement for Highly Productive Land 2019			
Other key stategy and policy influences (to be developed further)		~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021) ~ Ināia tonu nei: a low emissions future for Aoteroa (Climate Change Commission, 2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)	~ Kāpiti Draft Growth Strategy Review (2021) ~ Wellington Regional Growth Framework (2021) ~ Kāpiti Long Term Plan (2021)
Spatial influences and constraints			TO BE DEVELOPED THROUGH ENGAGEMENT ~ Statutory acknowledgement areas (KCDC and GWRC); ~ Waahi tapu sites (KCDC); ~ Sites of significance to mana whenua (GWRC); ~ Location of marae (Maori Maps).	TO BE DEVELOPED THROUGH ENGAGEMENT ~ Māori freehold land (Ministry of Justice). ~ Location of iwi or hapu community social services. ~ Other iwi/hapu landholdings (TBC).
Outcomes sought (Future Urban Study Areas)		~ Enabling low emissions choices by ensuring that urban growth is accessible to and integrated with amenities, facilites and infrastructure. ~ Preferring resource-efficient over resource intensive development types	~ Respecting mana whenua values and kaupapa ~ Protecting sites and areas of significance to mana whenua	~ Supporting mana whenua to provide for their own needs ~ Enabling iwi to meet their economic development and housing aspriations
Outcomes sought (Urban Intensification Study Areas)		~ Enabling low emissions choices by ensuring that intensification is accessible to and integrated with amenities, facilites and infrastructure. ~ Preferring resource-efficient over resource intensive development types	~ Respecting mana whenua values and kaupapa ~ Protecting sites and areas of significance to mana whenua	~ Supporting mana whenua to provide for their own needs ~ Enabling iwi to meet their economic development and housing aspriations

Appendix 2: Spatial influences and constraints mapping

Future Urban Study Area
Spatial Influences and Constraints
Mapping

Urban Environment

File Ref: BM210137.aprx / BM210137_FUSA_Overview_A3L



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Data Sources: KCDC, BML, Earthstar Geographics

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Map Index

Future Urban Study Areas

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Future Urban Study Area Mapbook

Date: 15 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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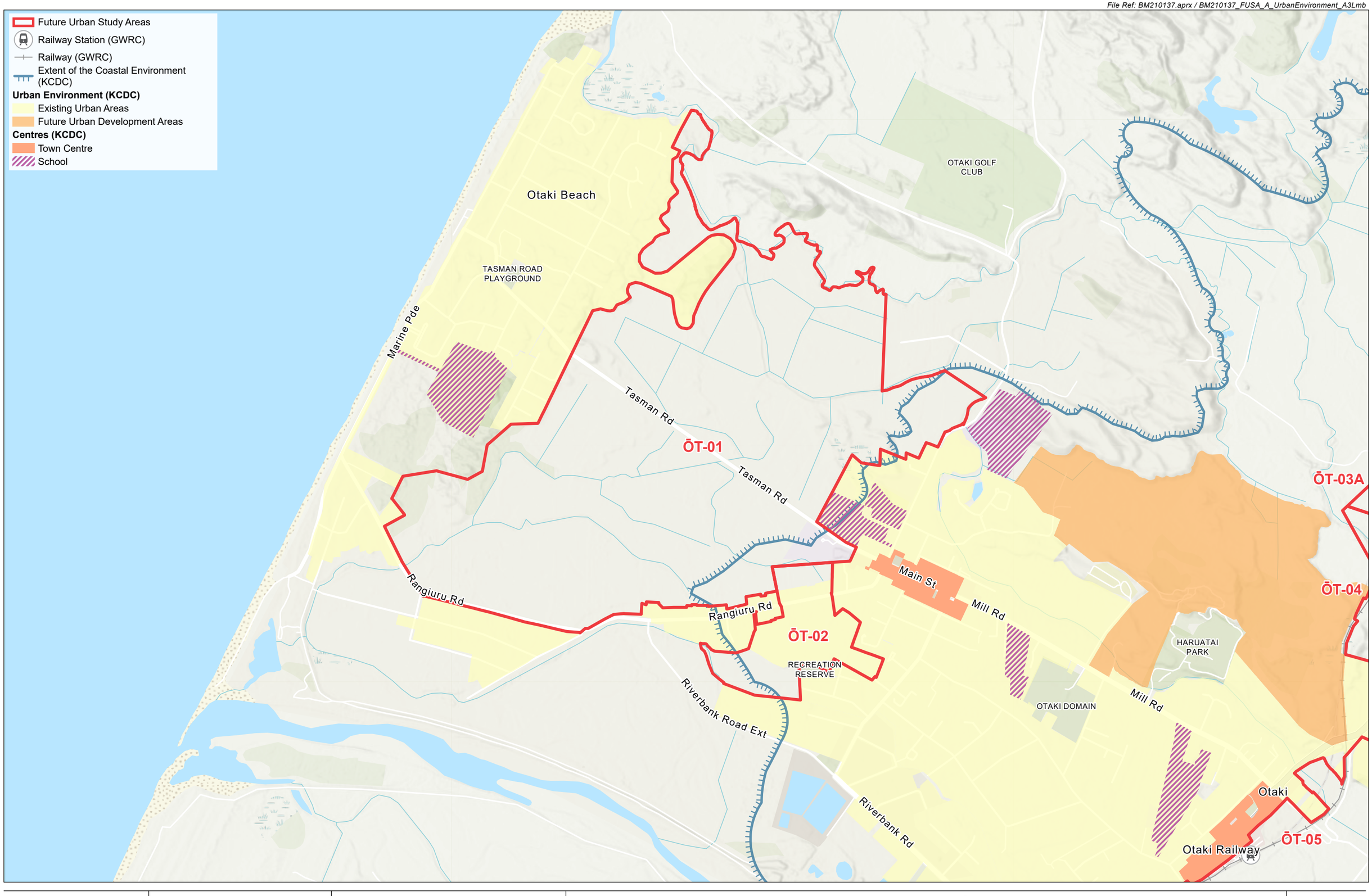

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Ōtaki West

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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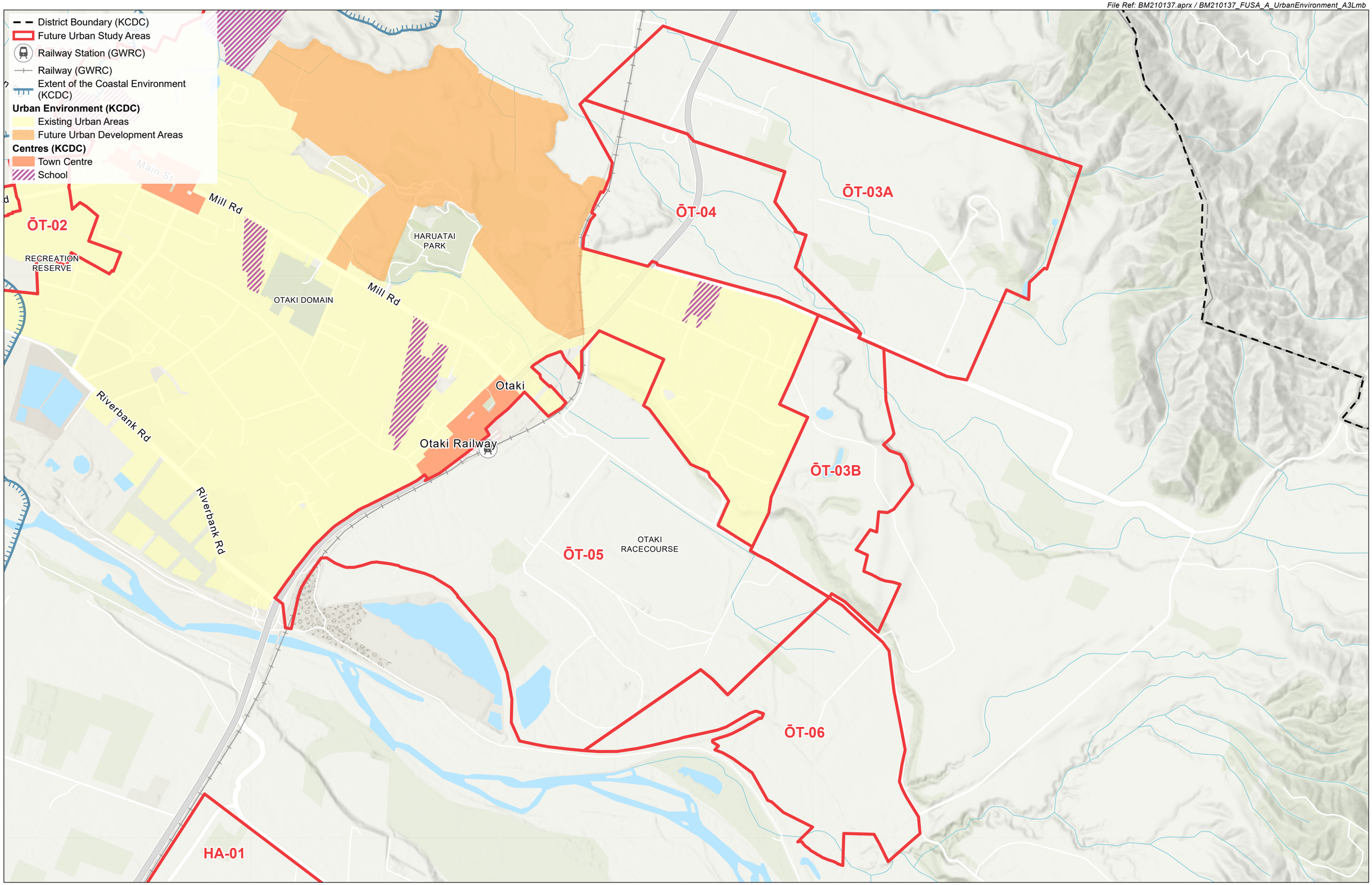

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Ōtaki East

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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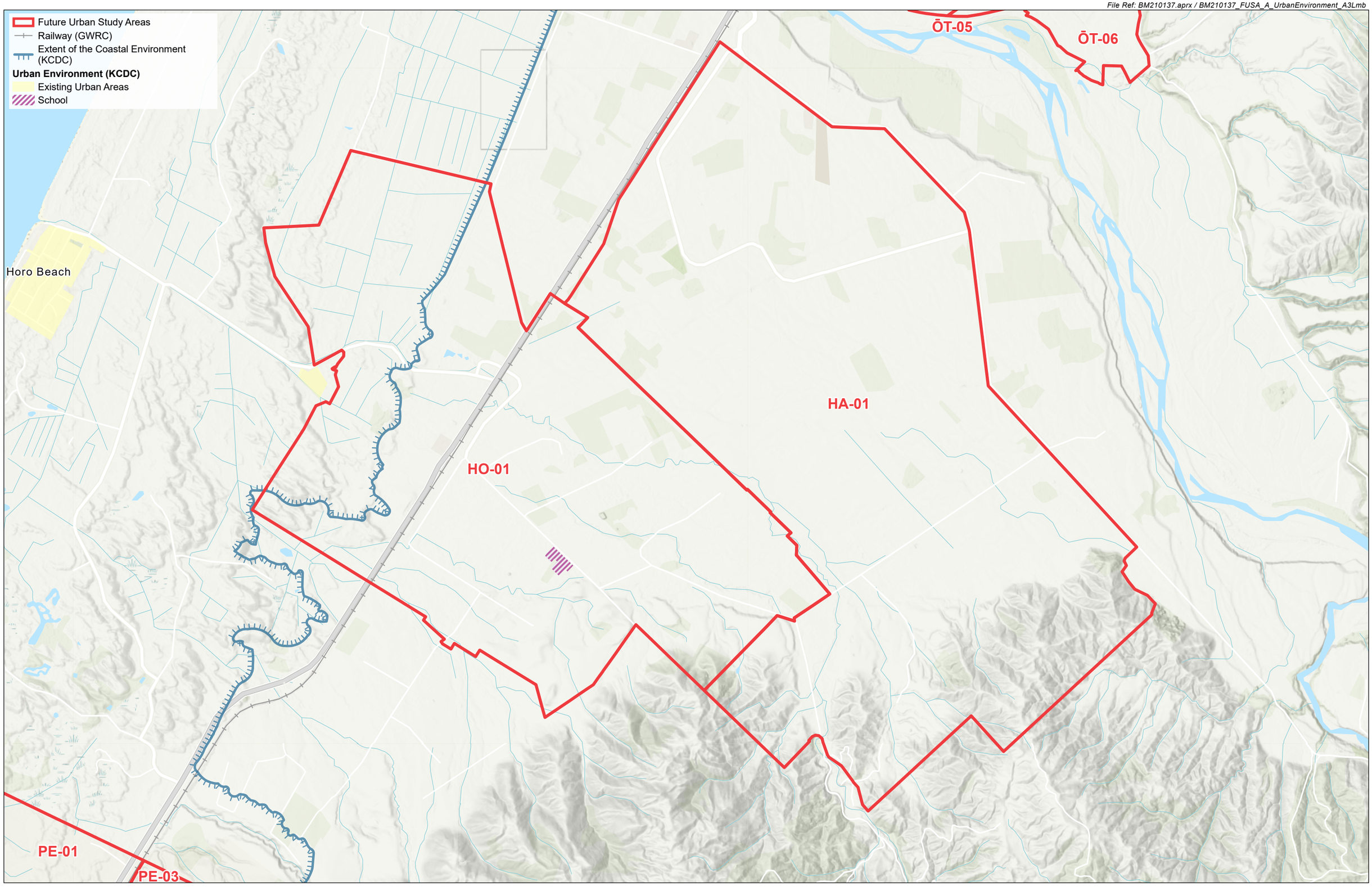

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Te Horo/Hautere

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.3.A

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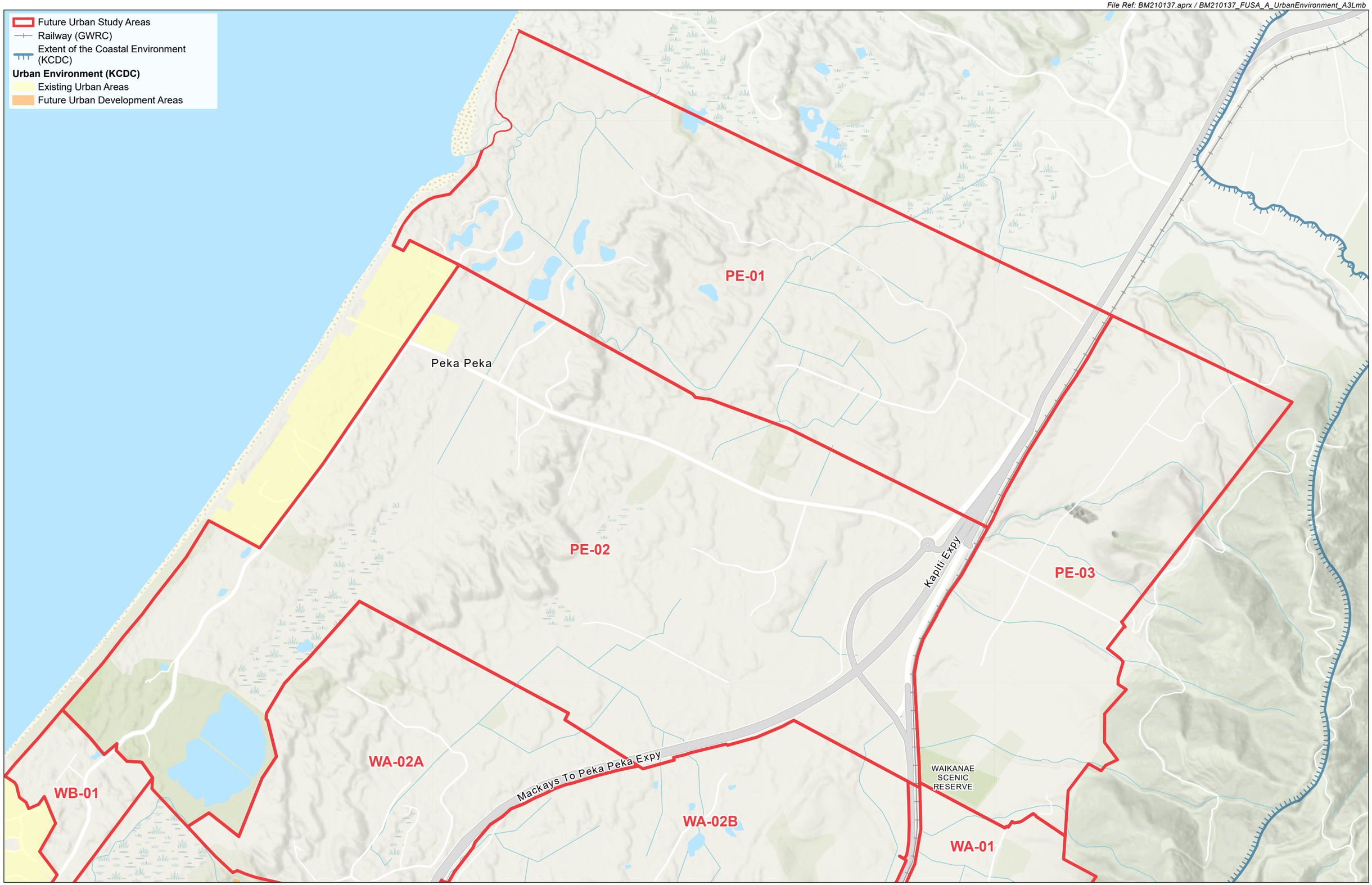

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Peka Peka

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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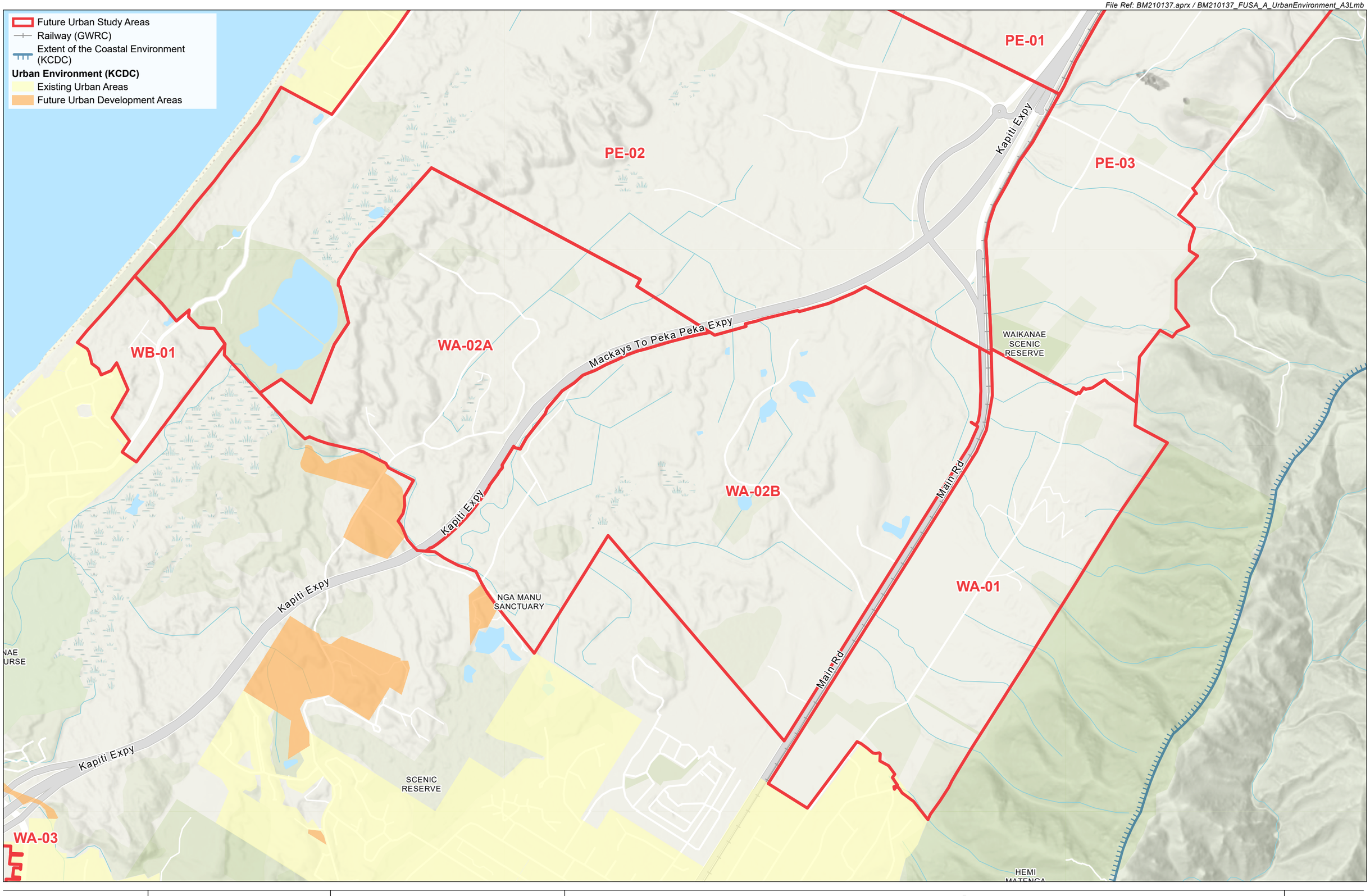

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Waikanae North

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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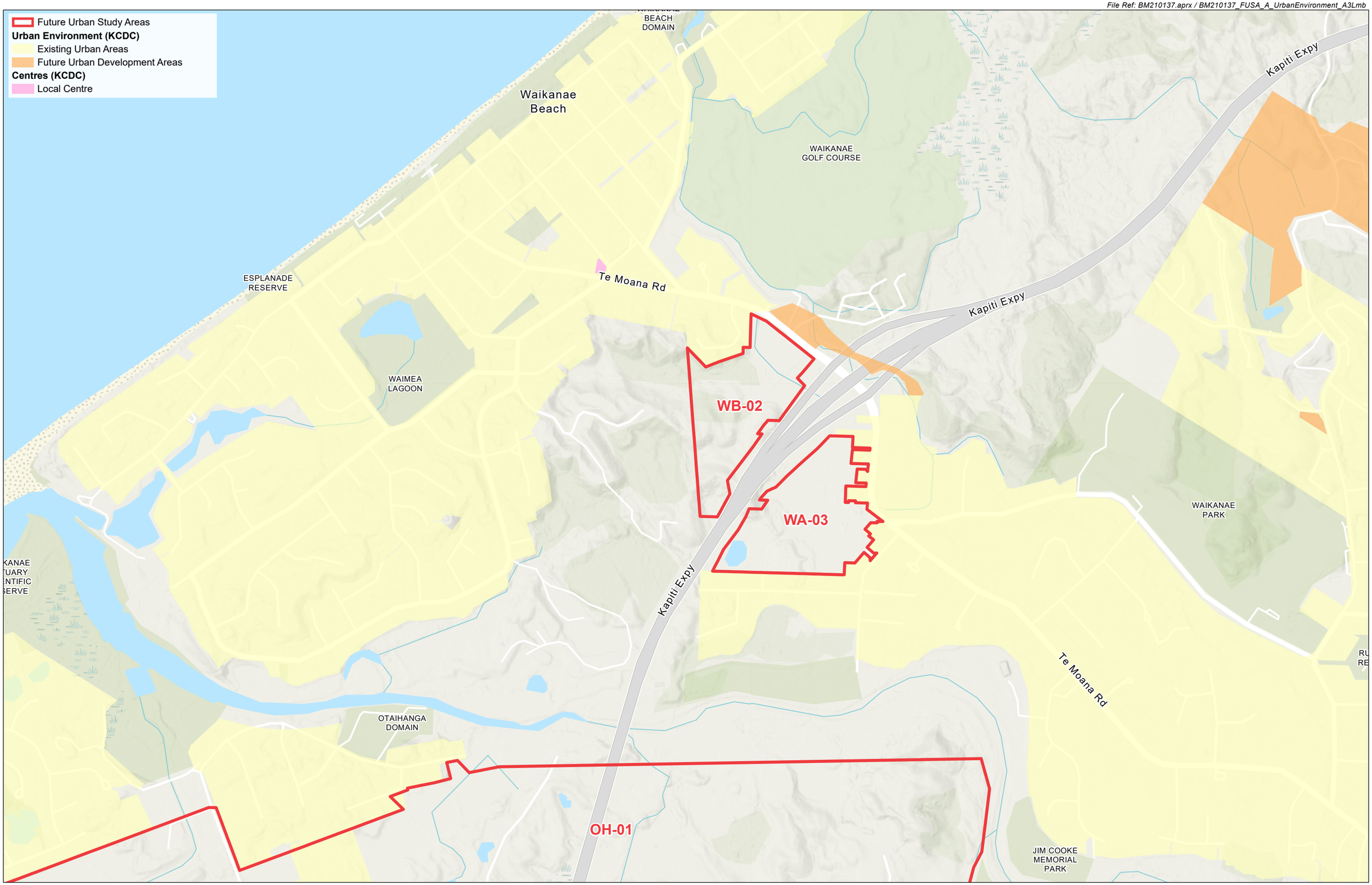

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Waikanae West

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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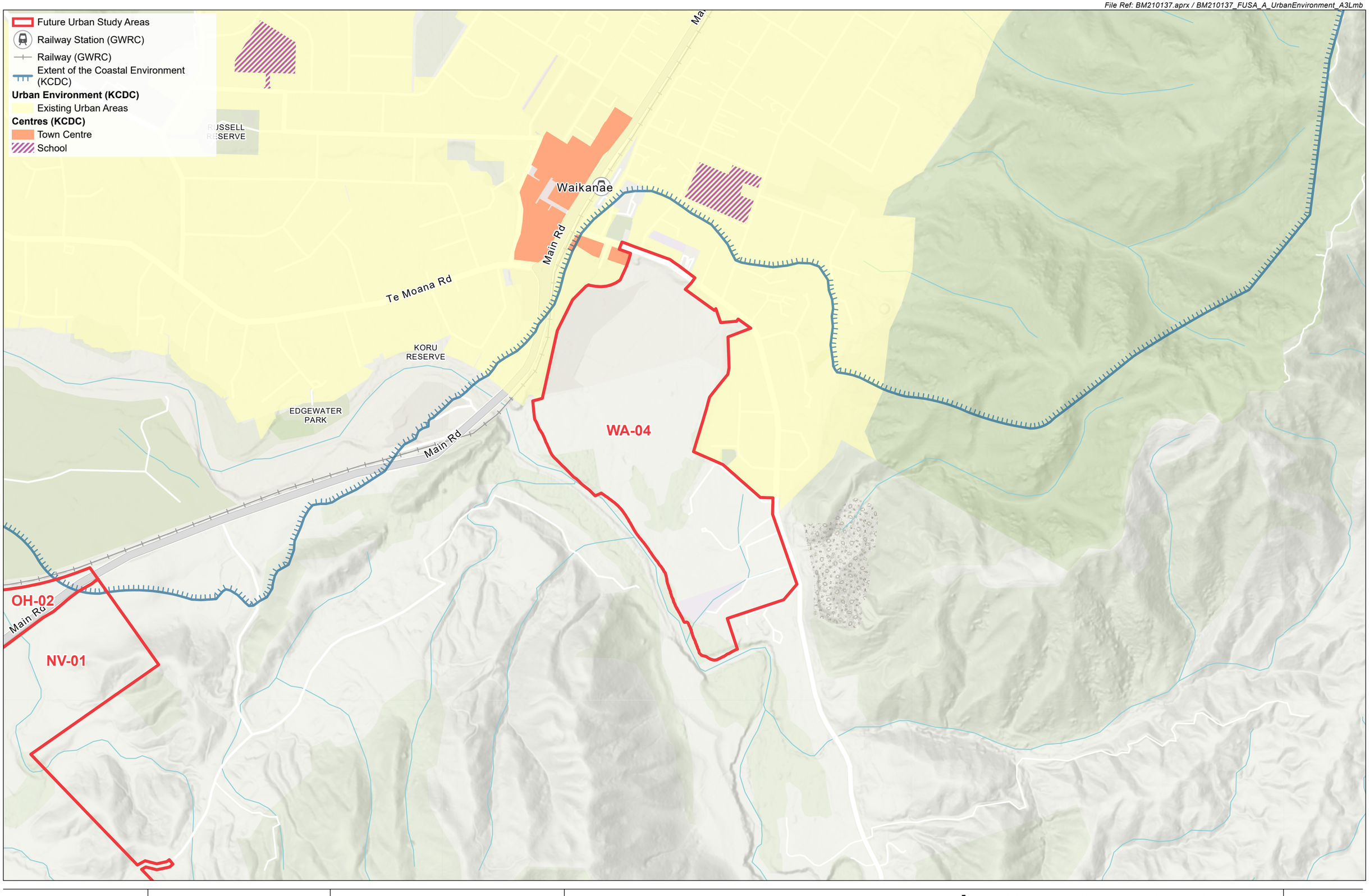

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Waikanae East

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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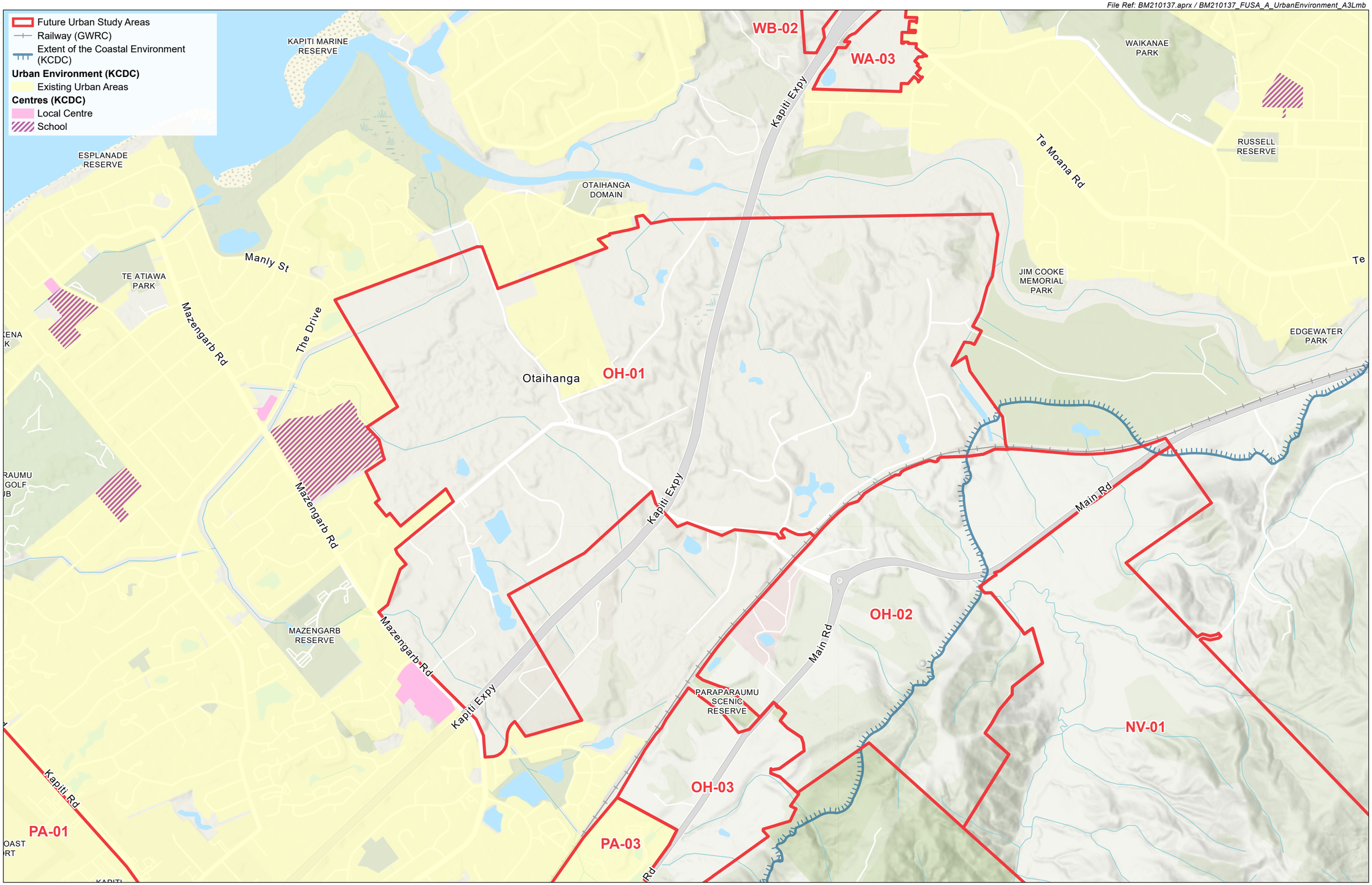

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Otaihanga

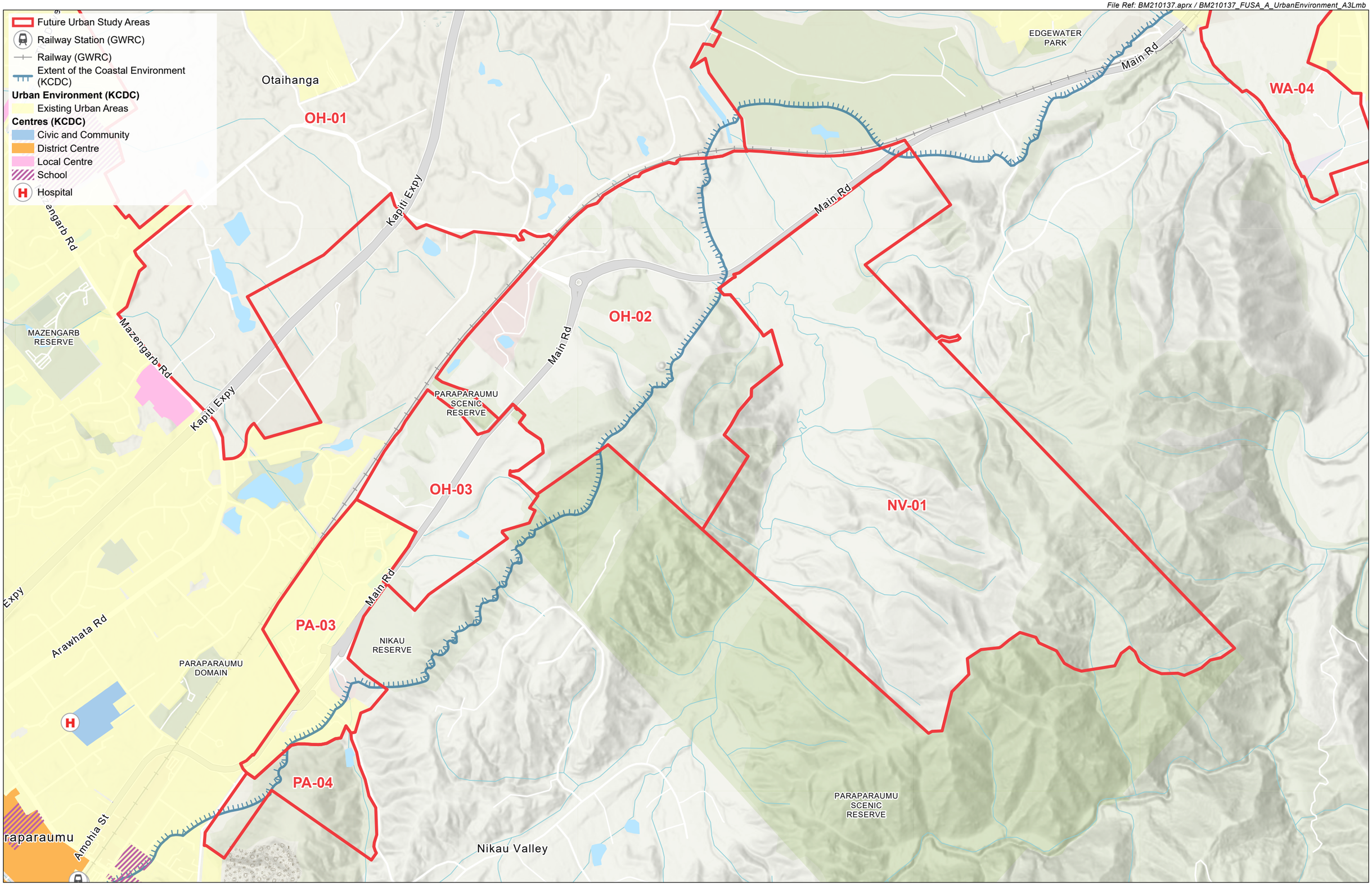
Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.8.A

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Otaihanga South-east

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.9.A

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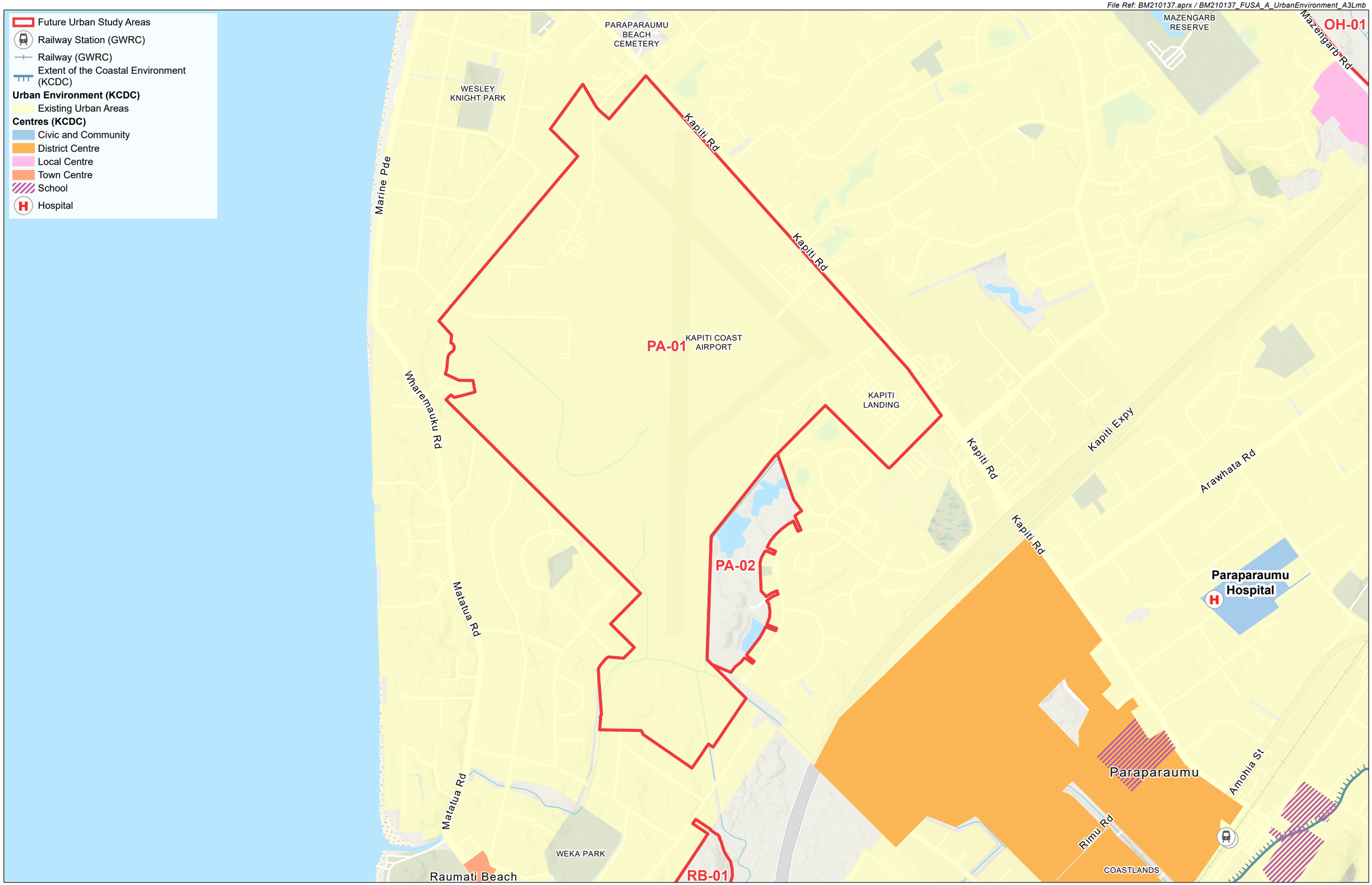

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Paraparaumu Central

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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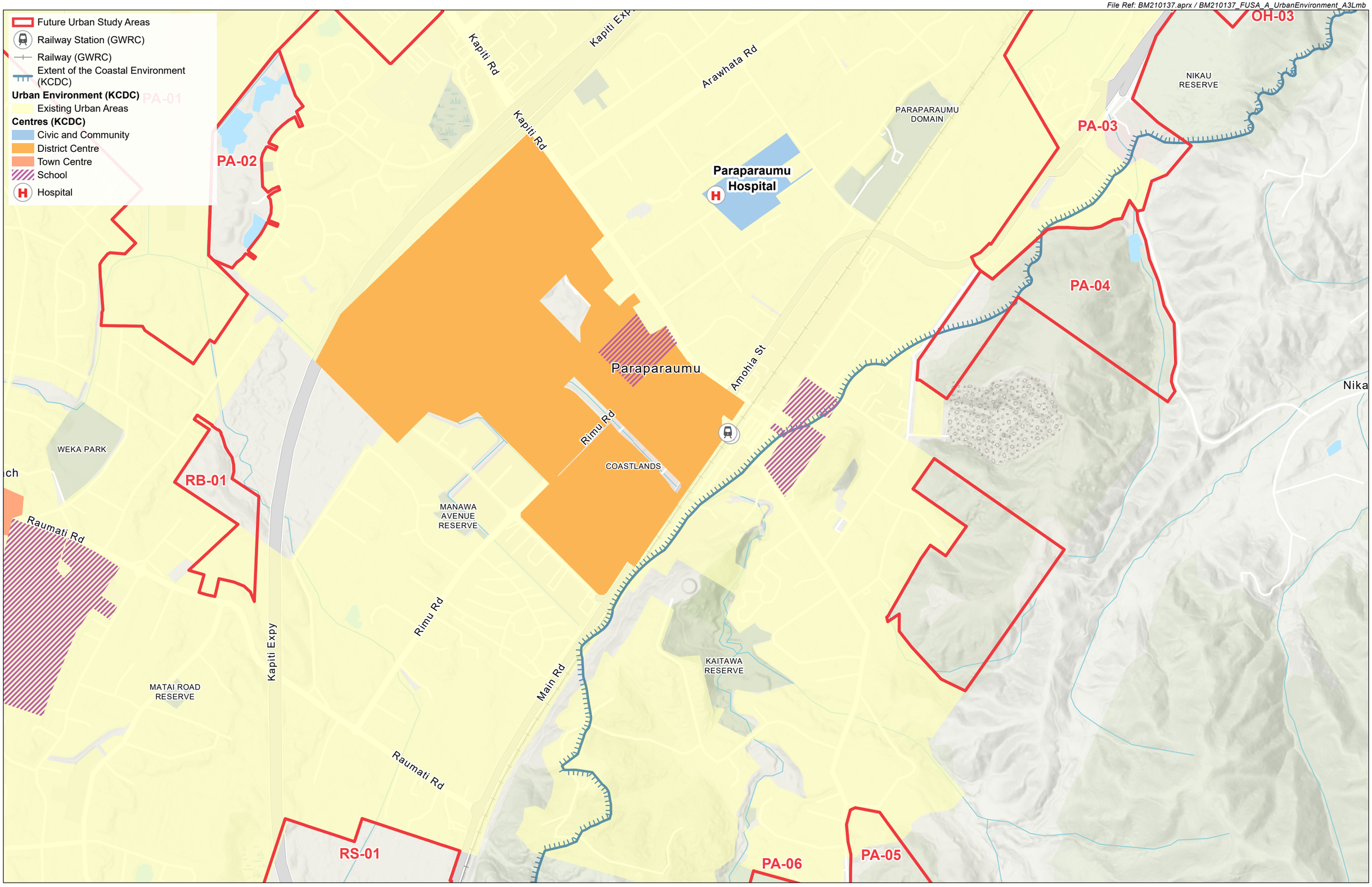

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Paraparaumu East

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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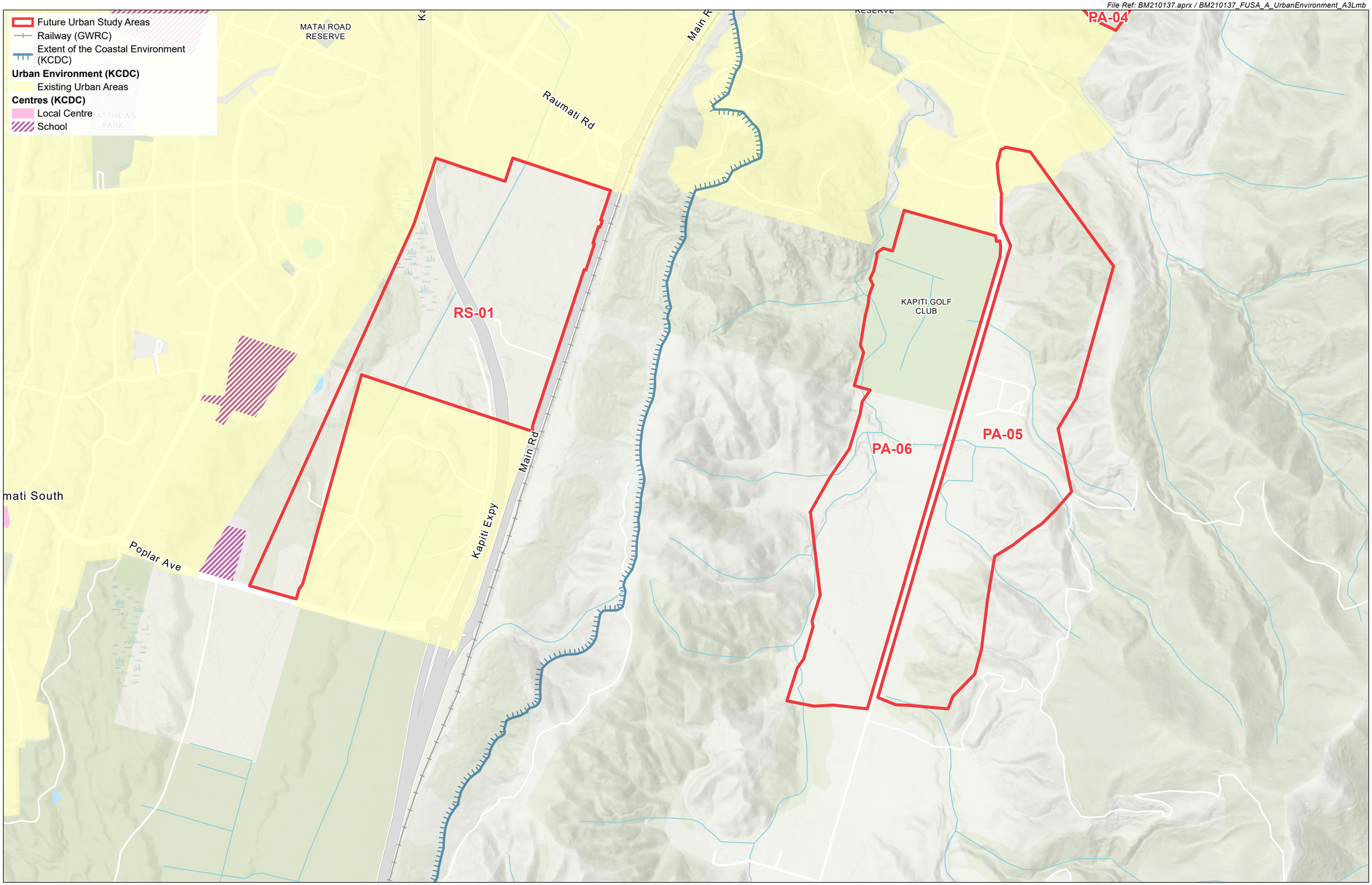

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Paraparaumu South

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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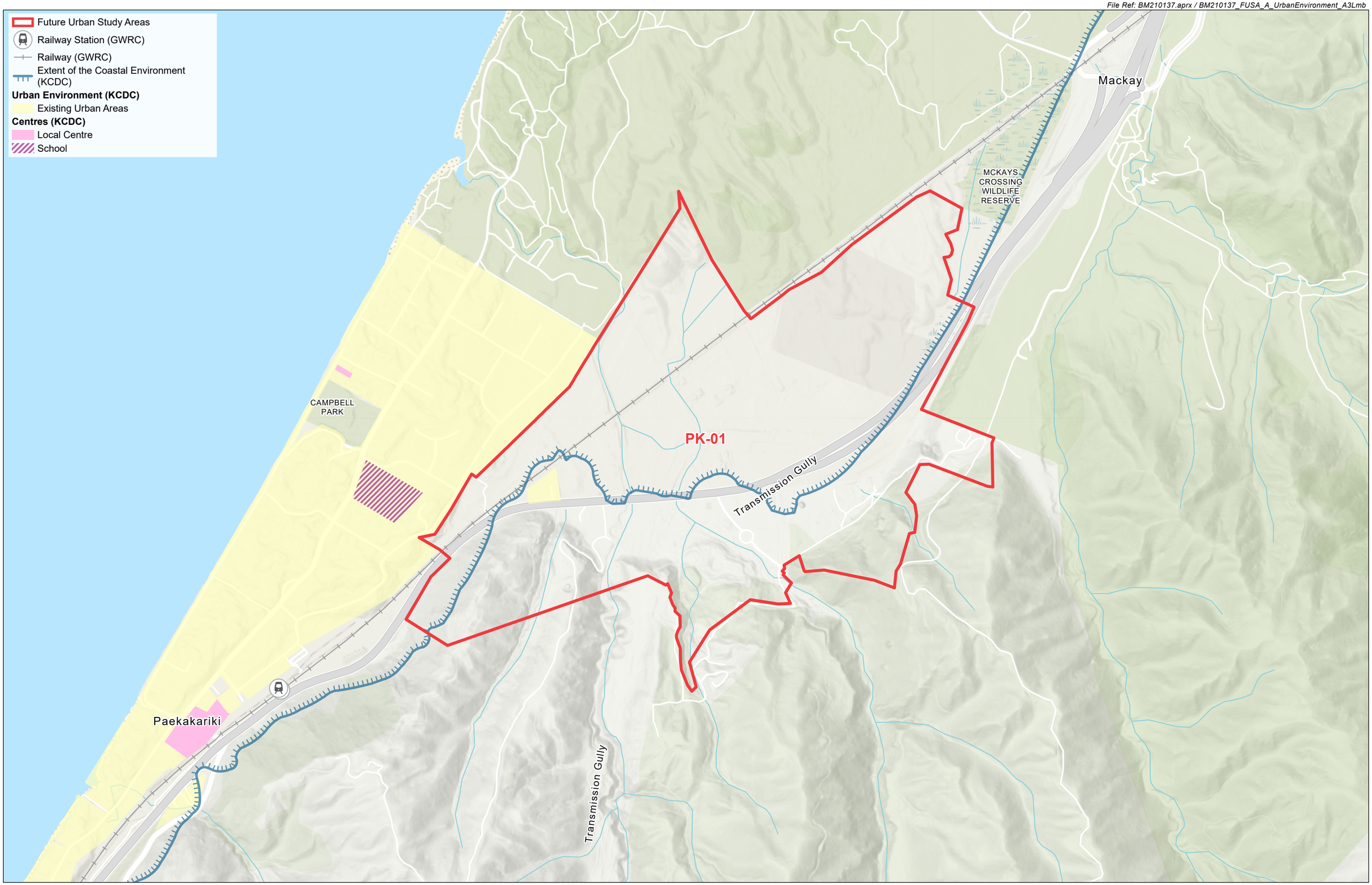

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Environment

Future Urban Study: Paekakariki East

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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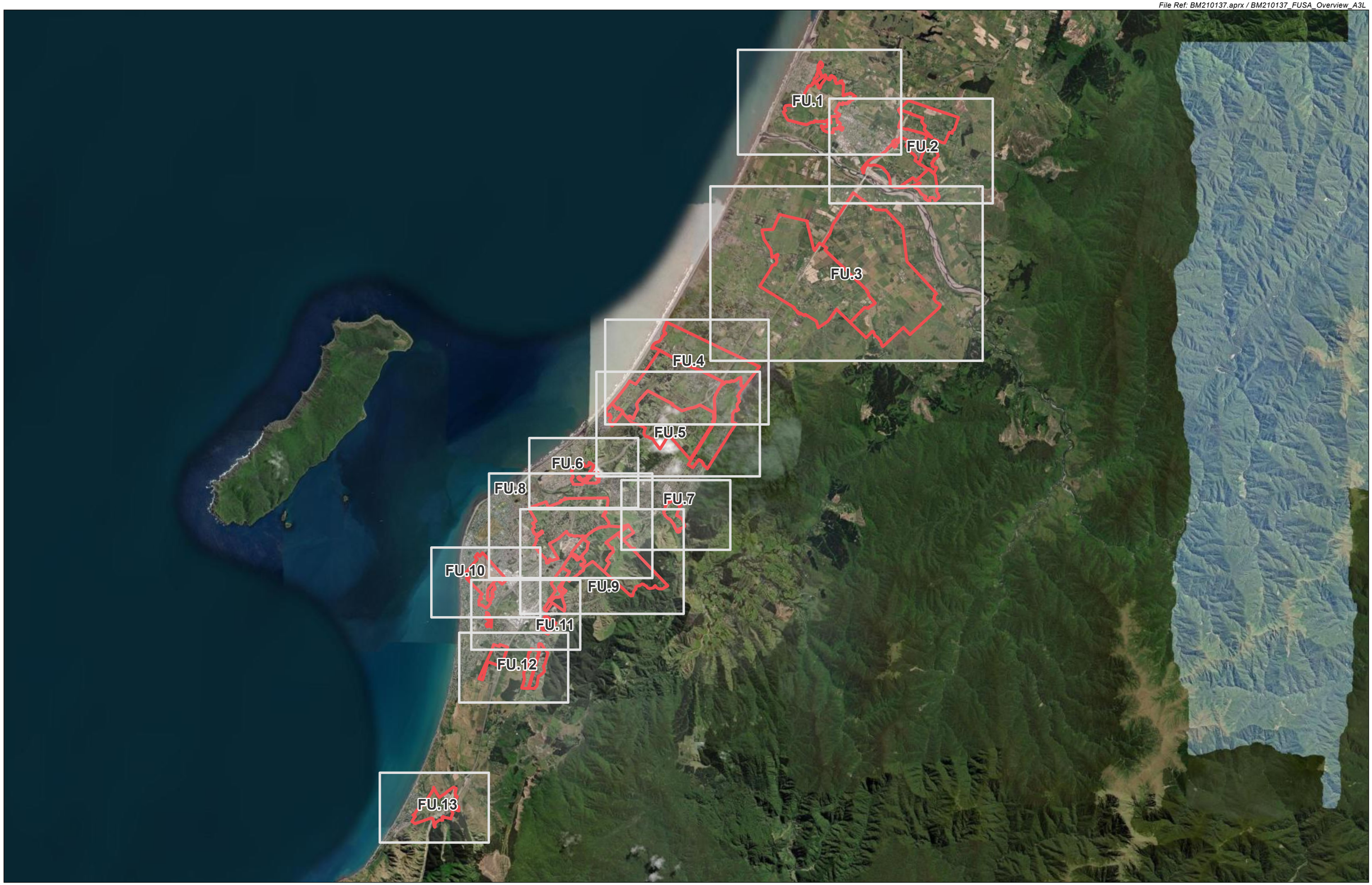
Future Urban Study Area
Spatial Influences and Constraints
Mapping

Urban Function

File Ref: BM210137.aprx / BM210137_FUSA_Overview_A3L



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Data Sources: KCDC, BML, Earthstar Geographics

Projection: NZGD 2000 New Zealand Transverse Mercator

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Map Index

Future Urban Study Areas

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Future Urban Study Area Mapbook

Date: 15 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FUSA

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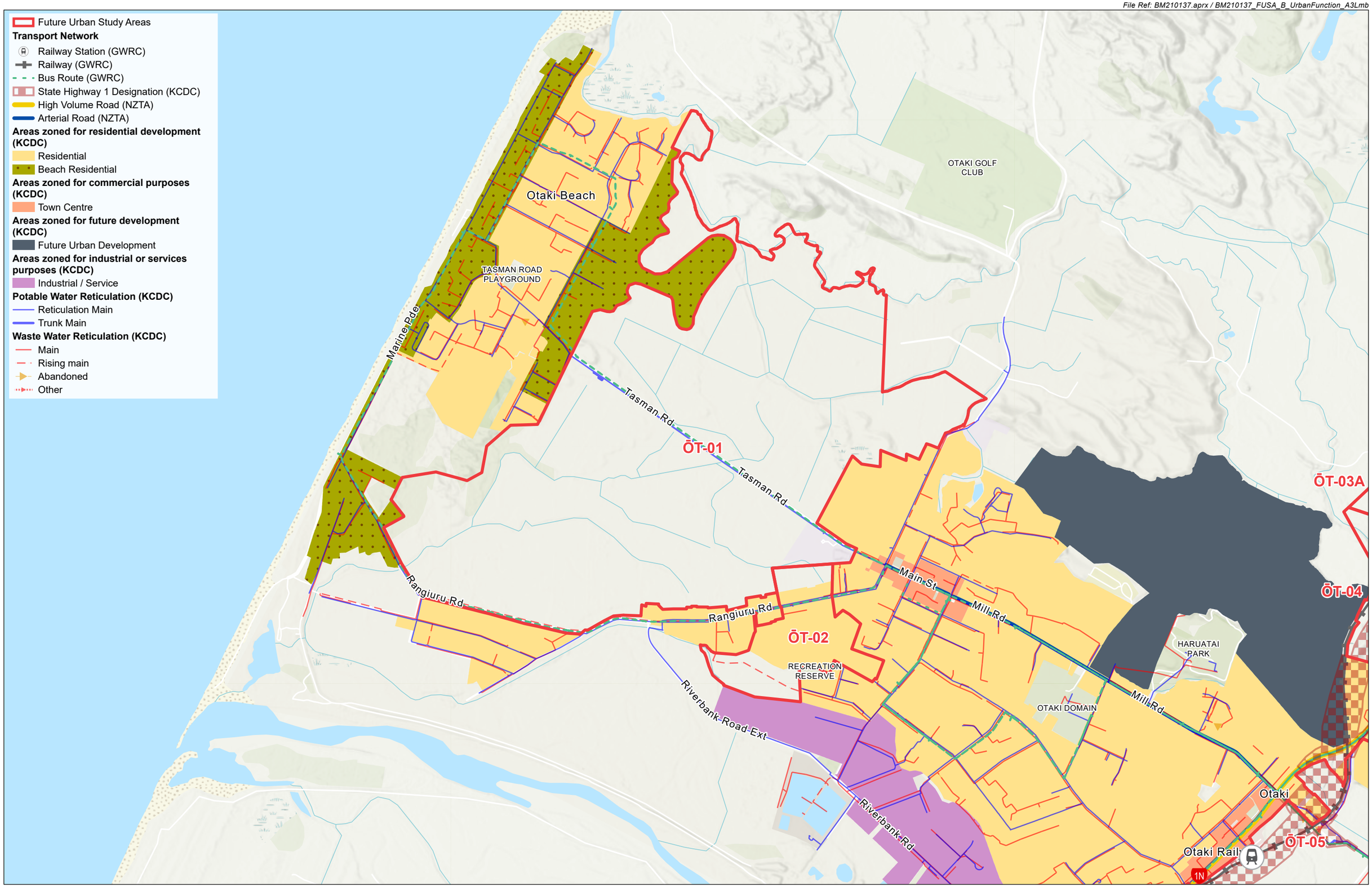

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Ōtaki West

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.1.B

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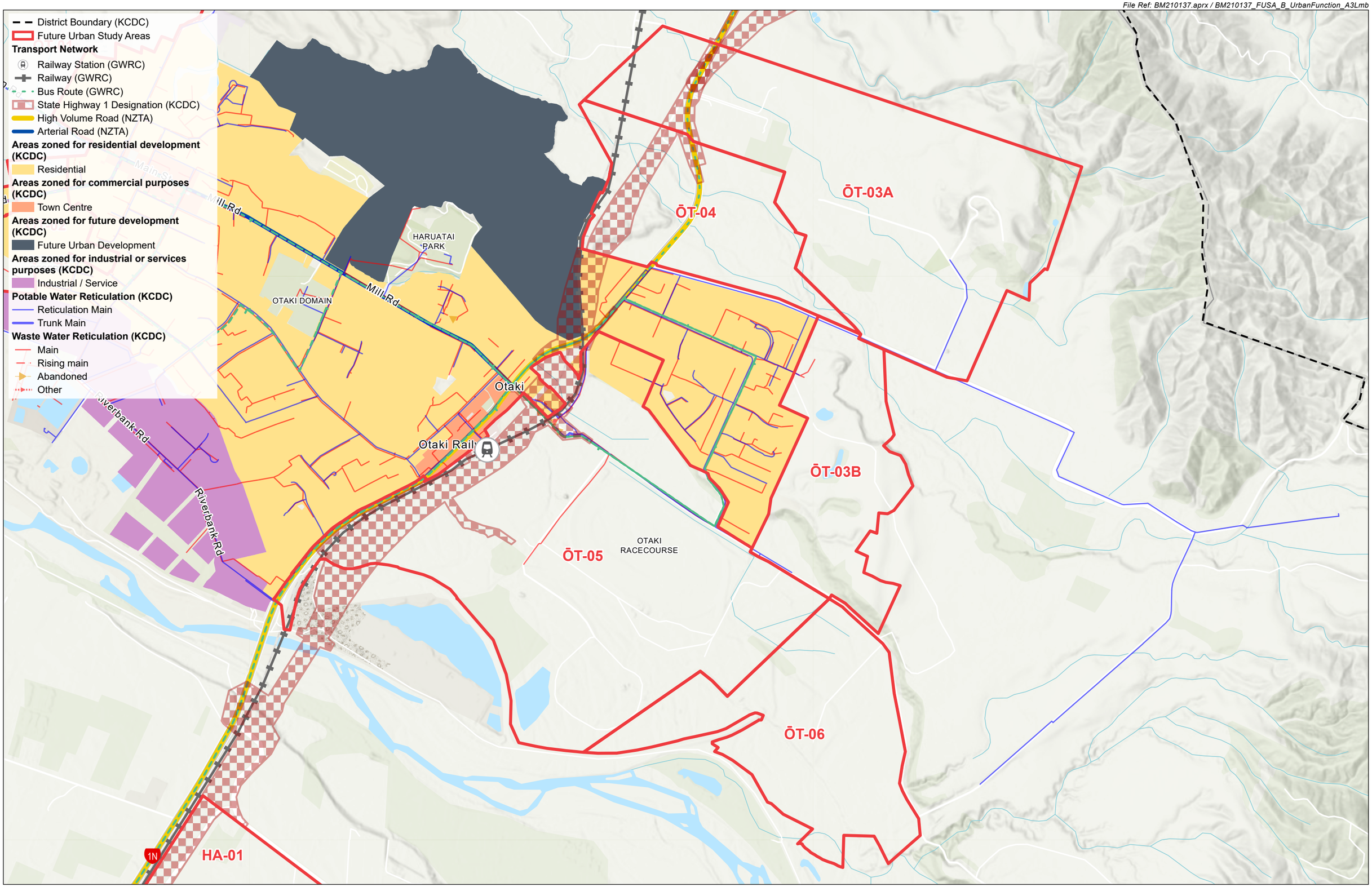

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Ōtaki East

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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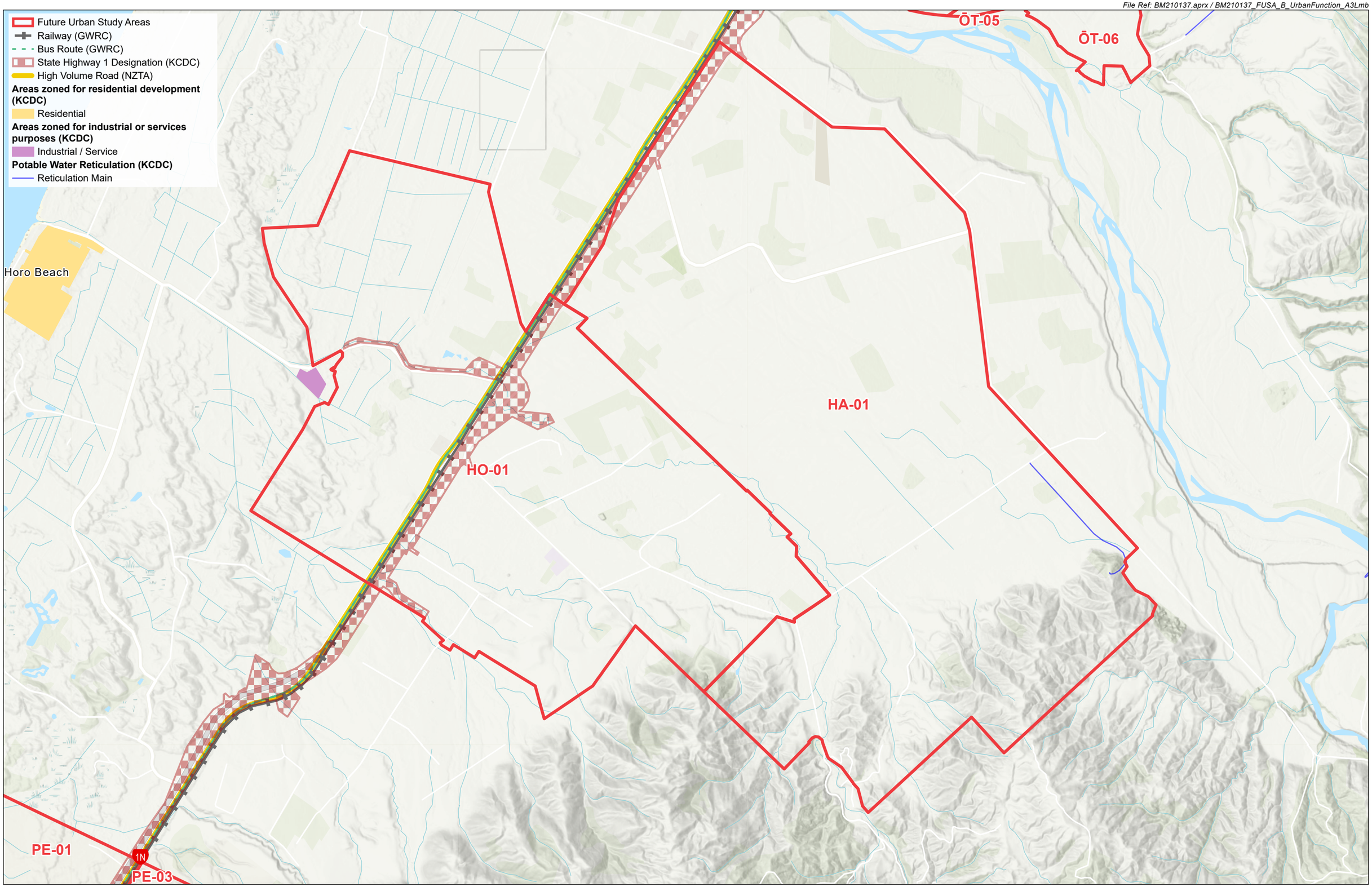

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Te Horo/Hautere

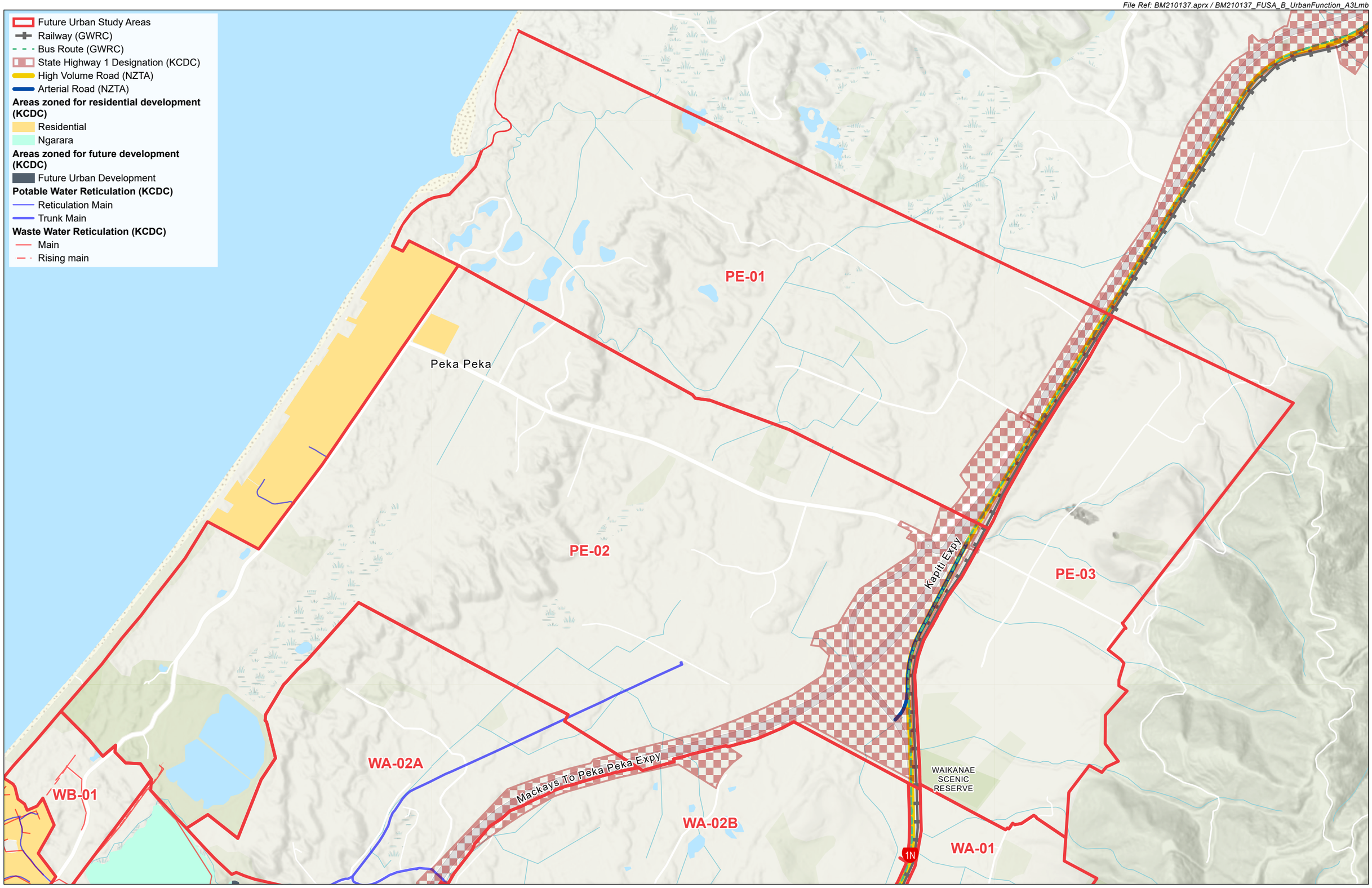
Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.3.B

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Peka Peka

Date: 30 July 2021 | Revision: 0

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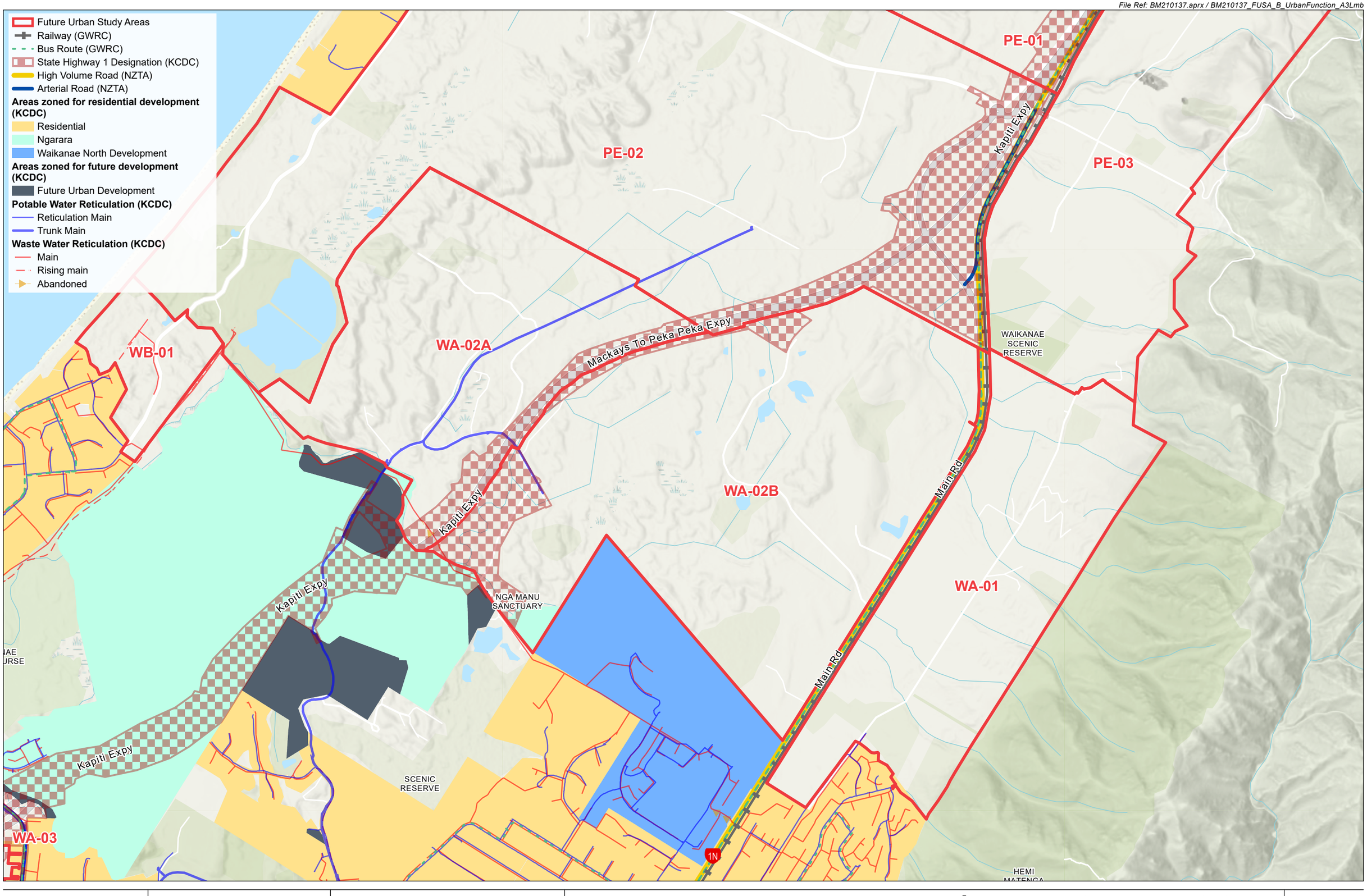
Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.4.B

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Waikanae North

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.5.B

DRAFT

- Future Urban Study Areas
- Bus Route (GWRC)
- State Highway 1 Designation (KCDC)
- Arterial Road (NZTA)

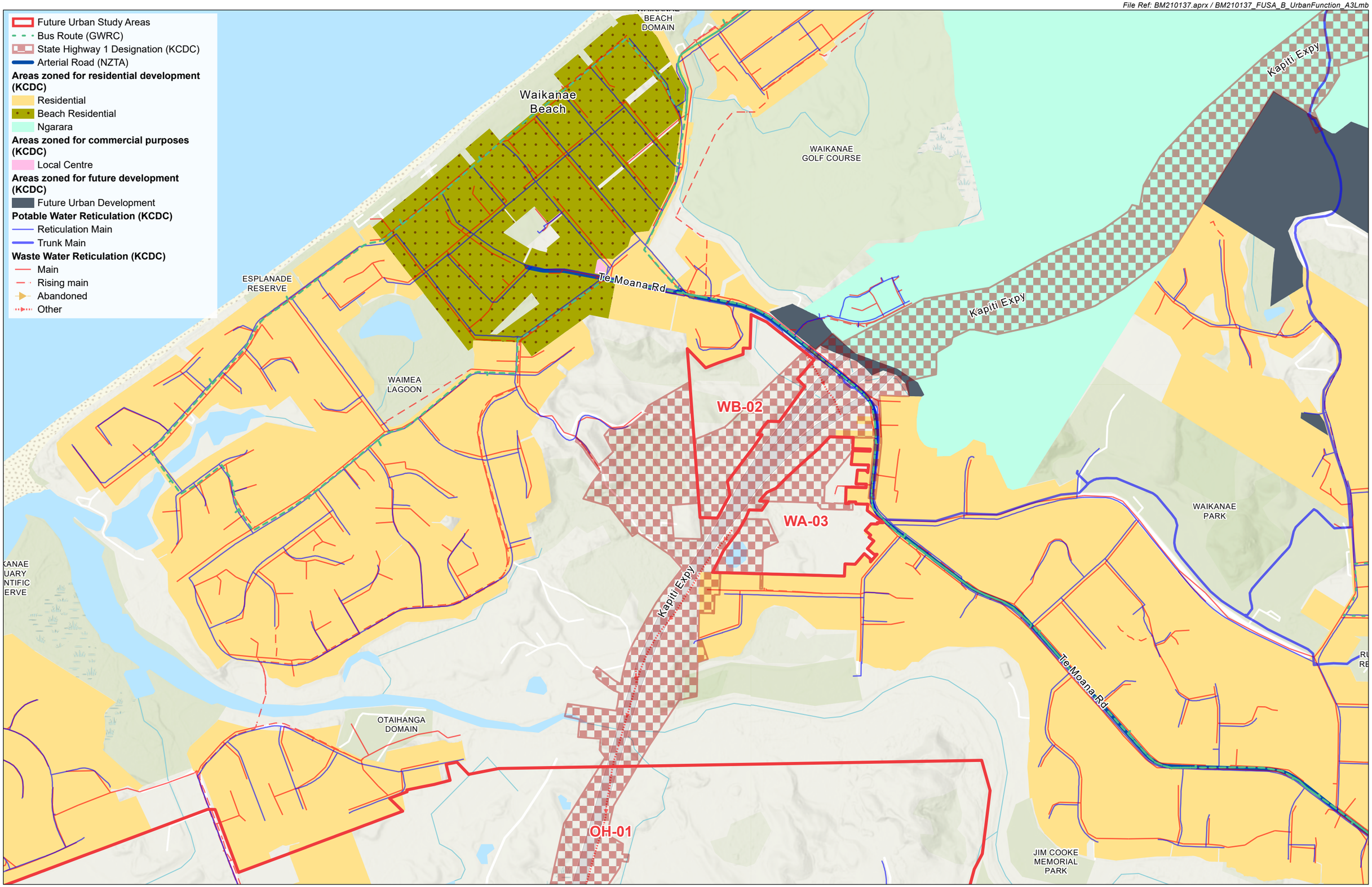
Areas zoned for residential development (KCDC)
- Residential
- Beach Residential
- Ngarara

Areas zoned for commercial purposes (KCDC)
- Local Centre

Areas zoned for future development (KCDC)
- Future Urban Development

Potable Water Reticulation (KCDC)
- Reticulation Main
- Trunk Main

Waste Water Reticulation (KCDC)
- Main
- Rising main
- Abandoned
- Other



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Waikanae West

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.6.B

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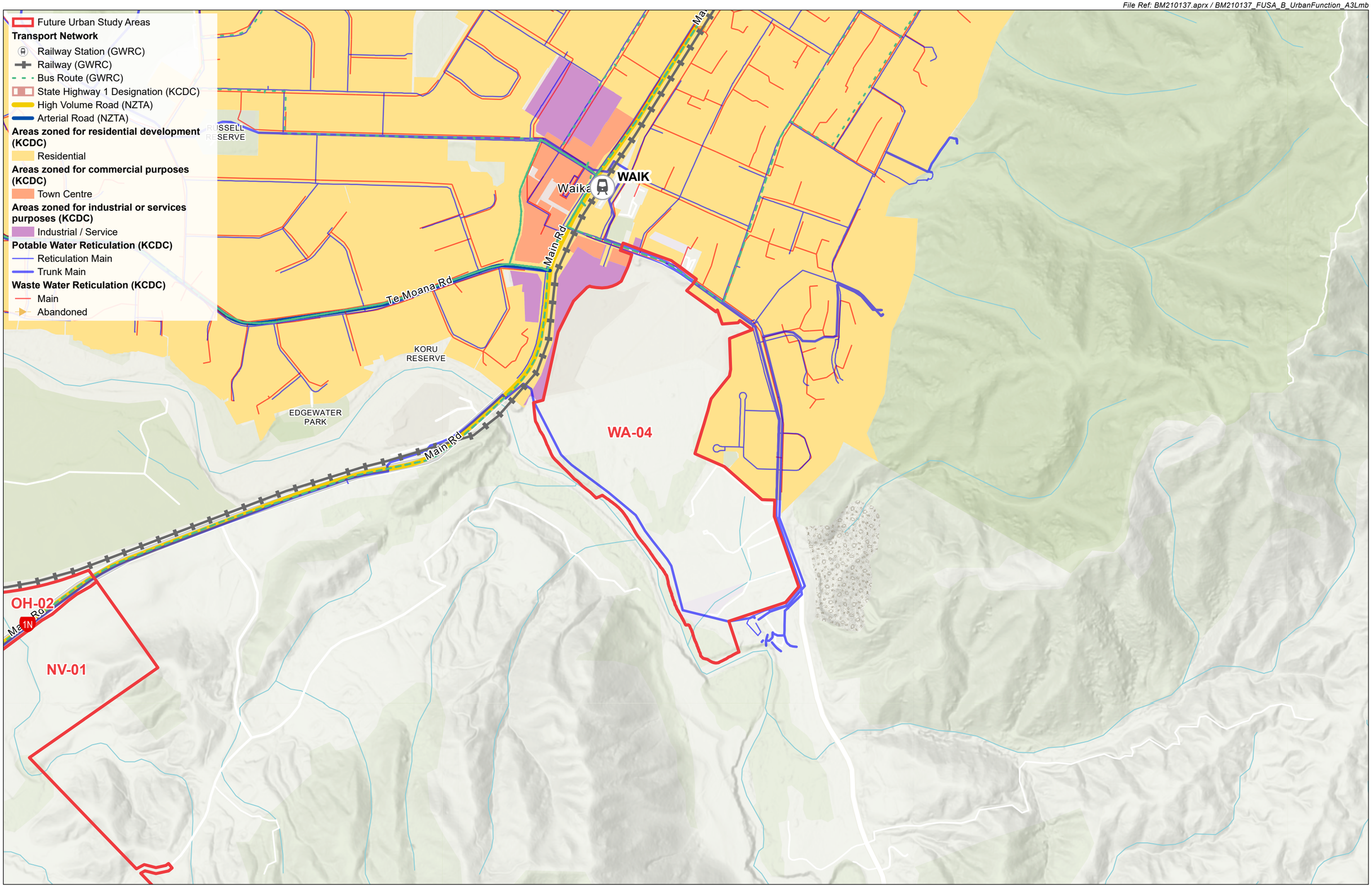

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Waikanae East

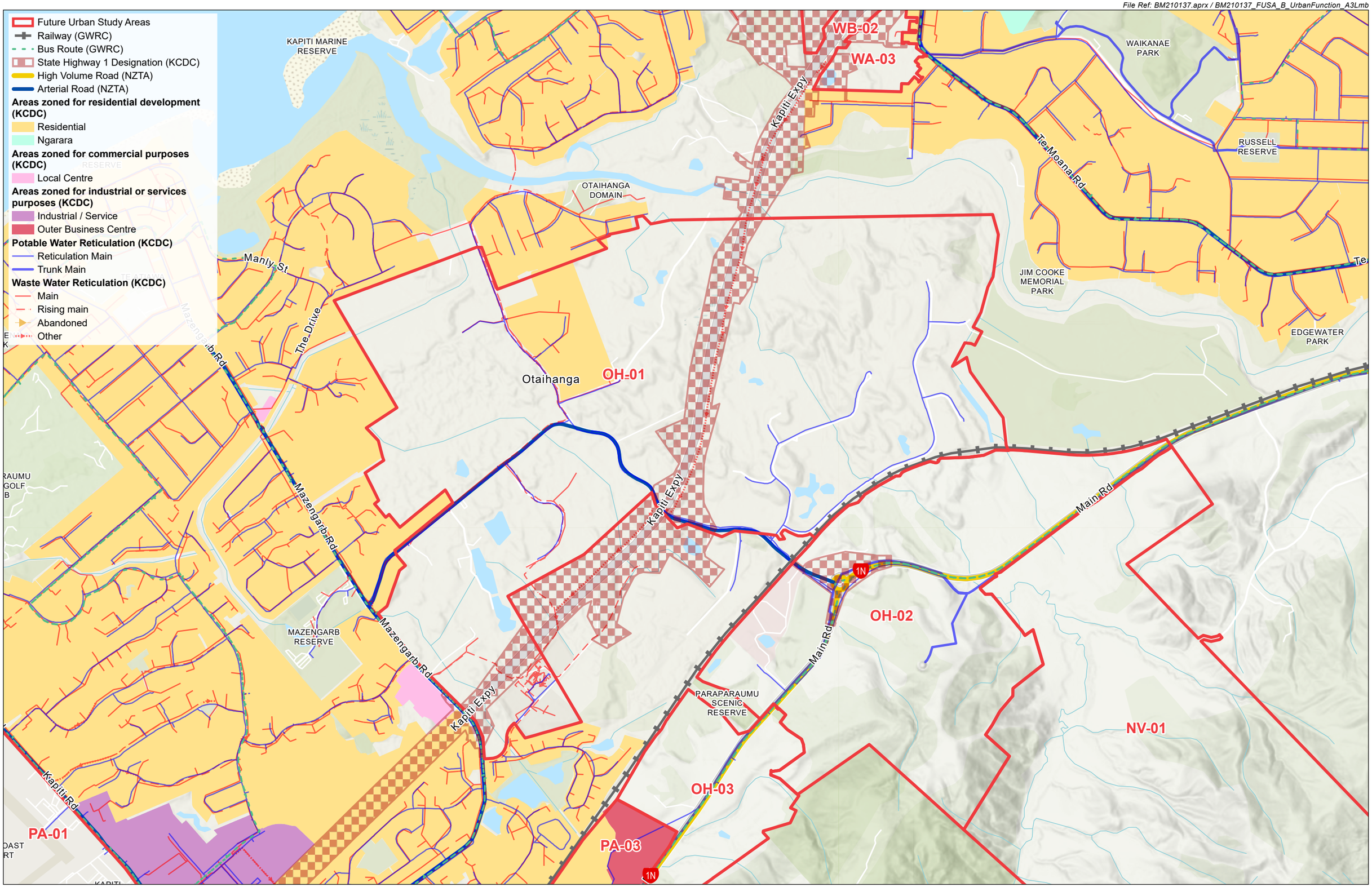
Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.7.B

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Otaihanga

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.8.B

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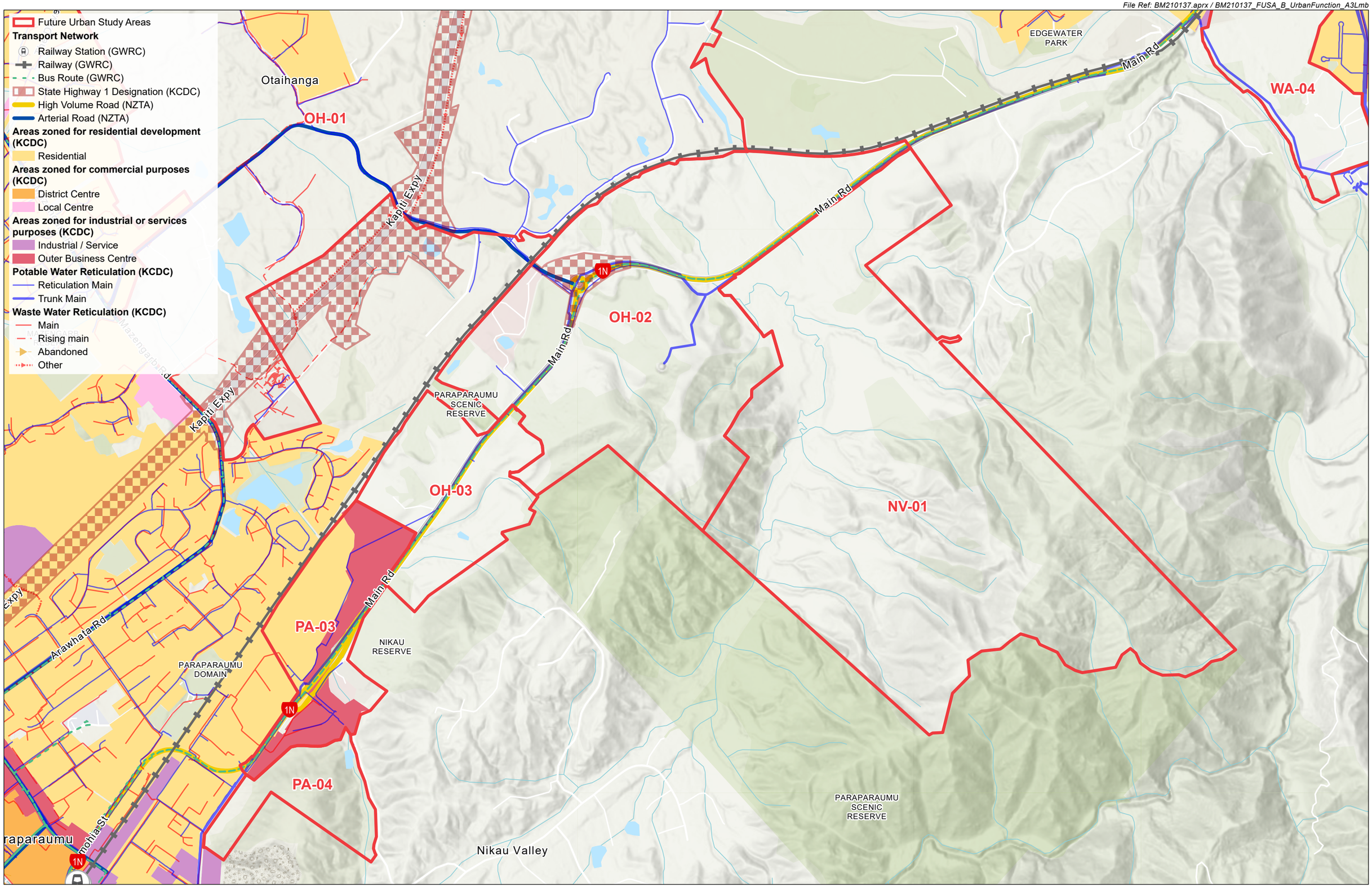

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Otaihanga South-east

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.9.B

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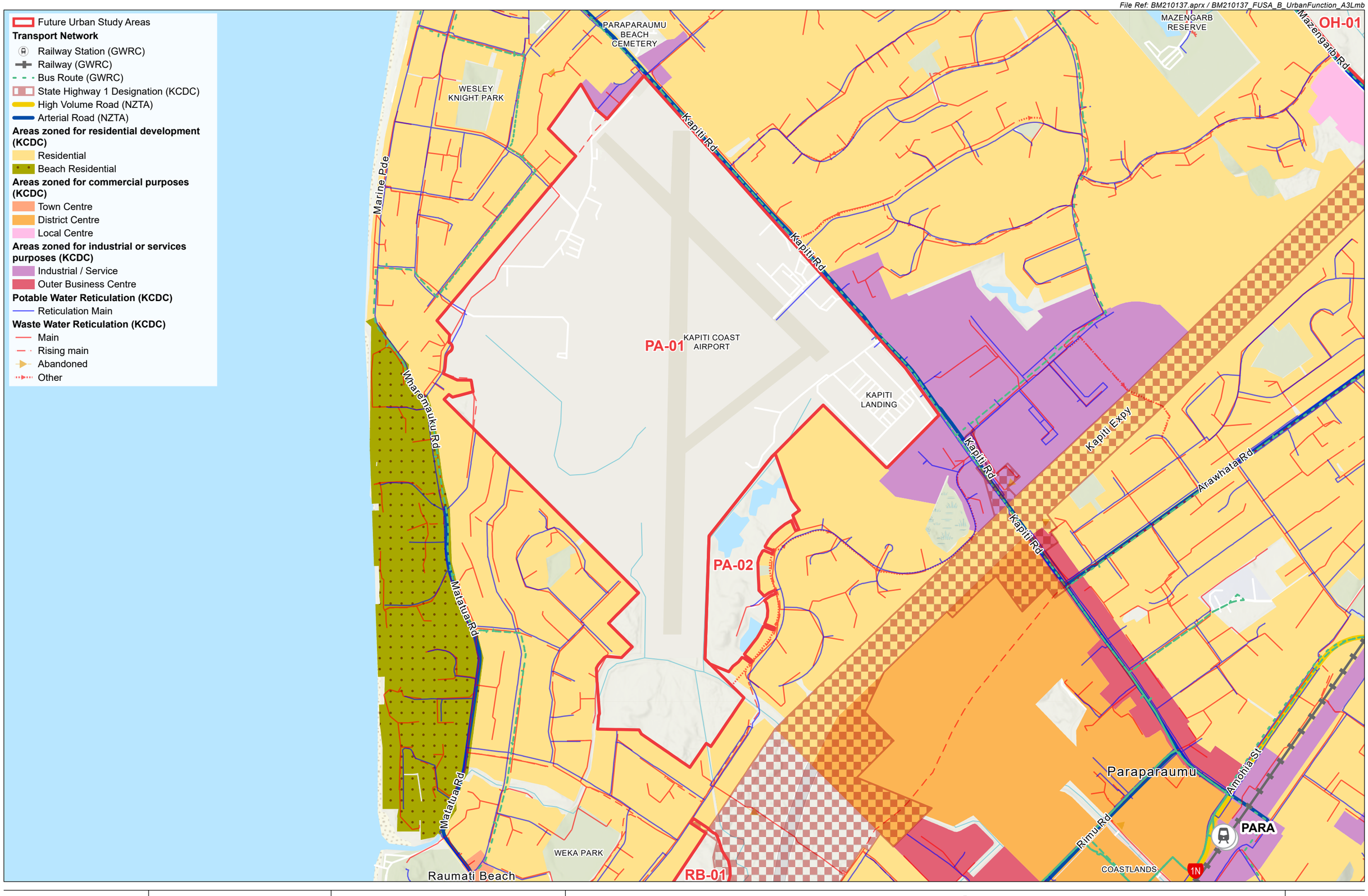

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Paraparaumu Central

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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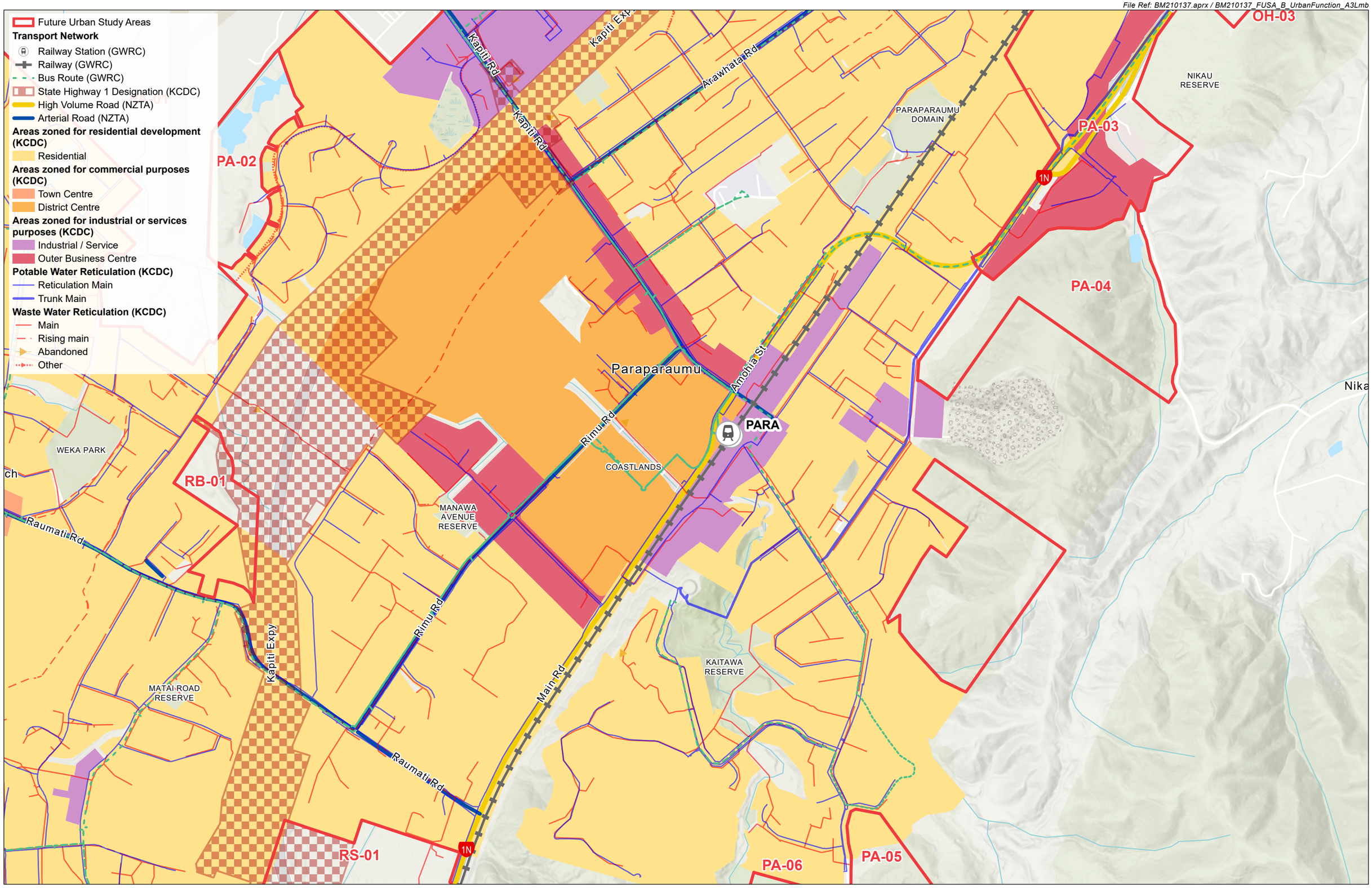

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Paraparaumu East

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.11.B

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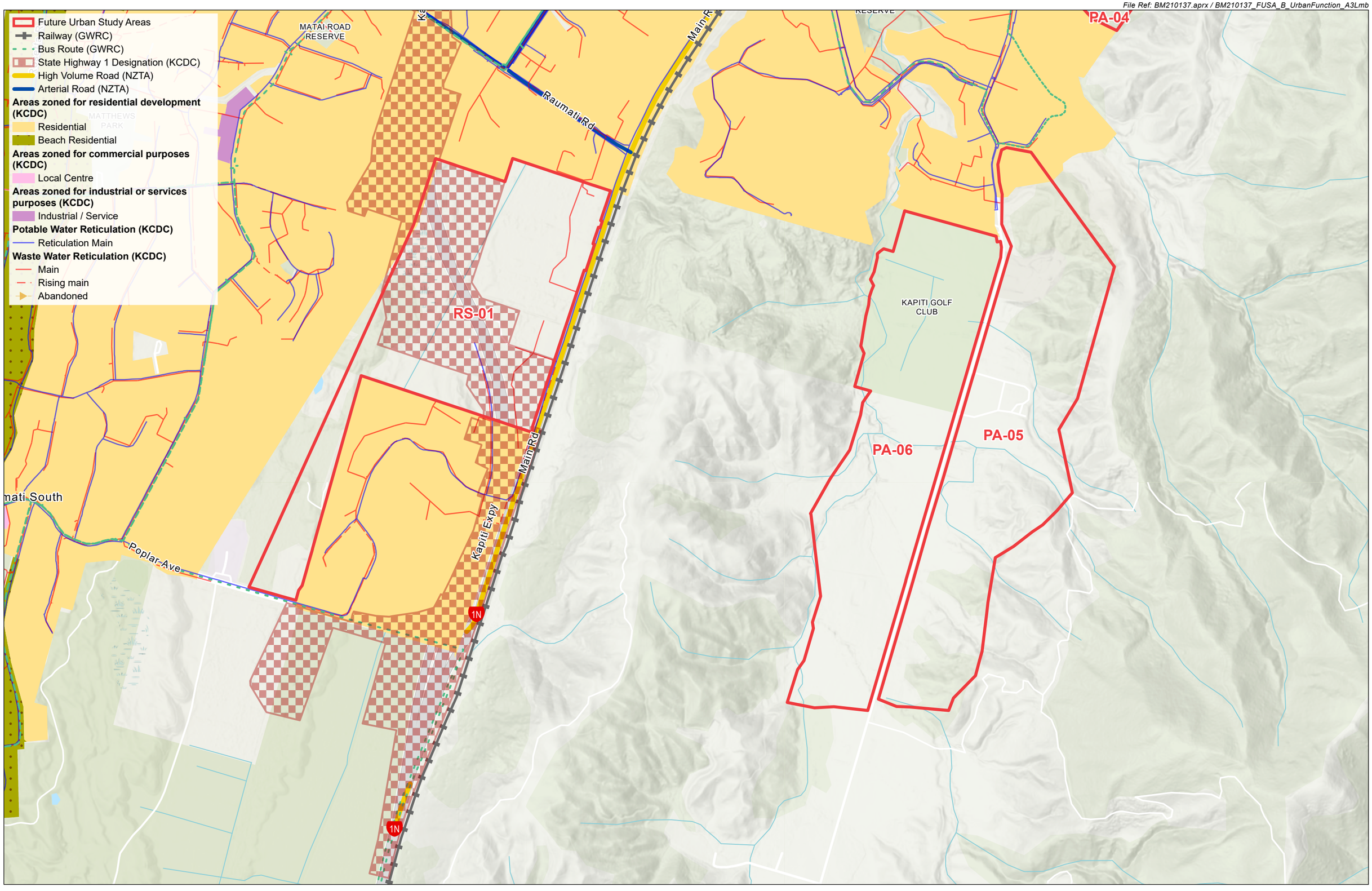

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Paraparaumu South

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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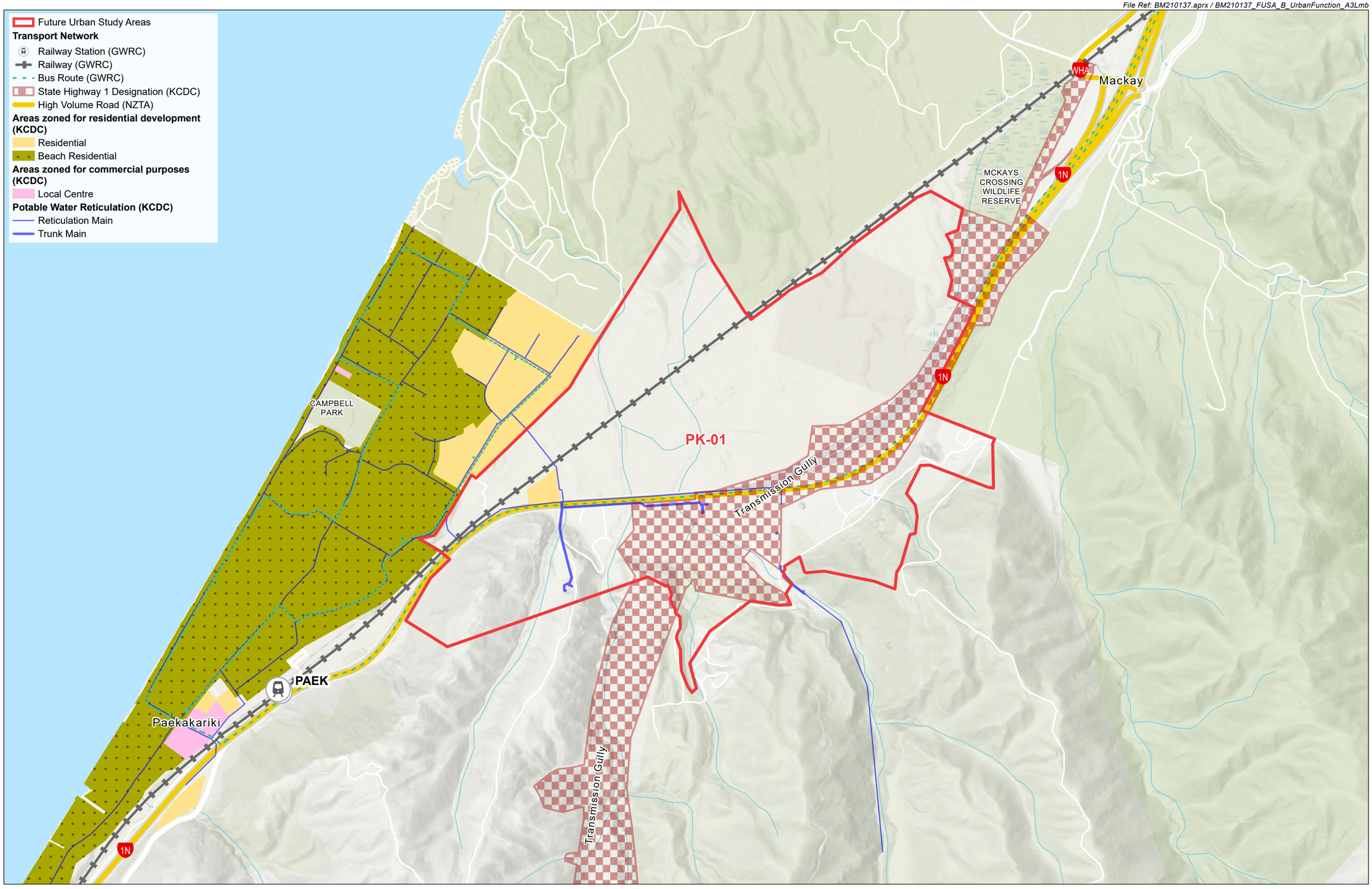

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Urban Function

Future Urban Study: Paekakariki East

Date: 30 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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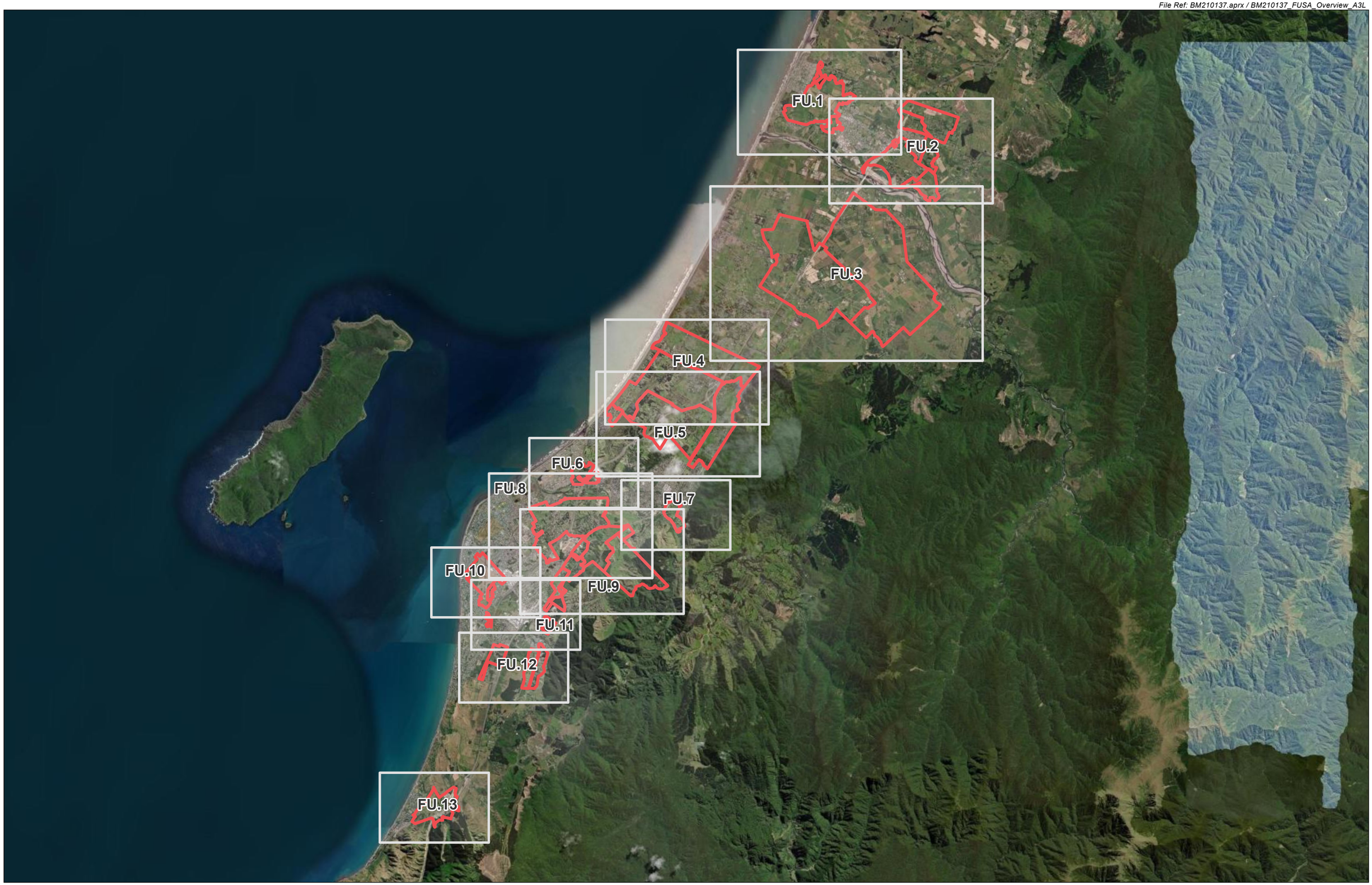
Future Urban Study Area
Spatial Influences and Constraints
Mapping

Natural Environment and Landscape

File Ref: BM210137.aprx / BM210137_FUSA_Overview_A3L



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Data Sources: KCDC, BML, Earthstar Geographics

Projection: NZGD 2000 New Zealand Transverse Mercator

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Map Index

Future Urban Study Areas

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Future Urban Study Area Mapbook

Date: 15 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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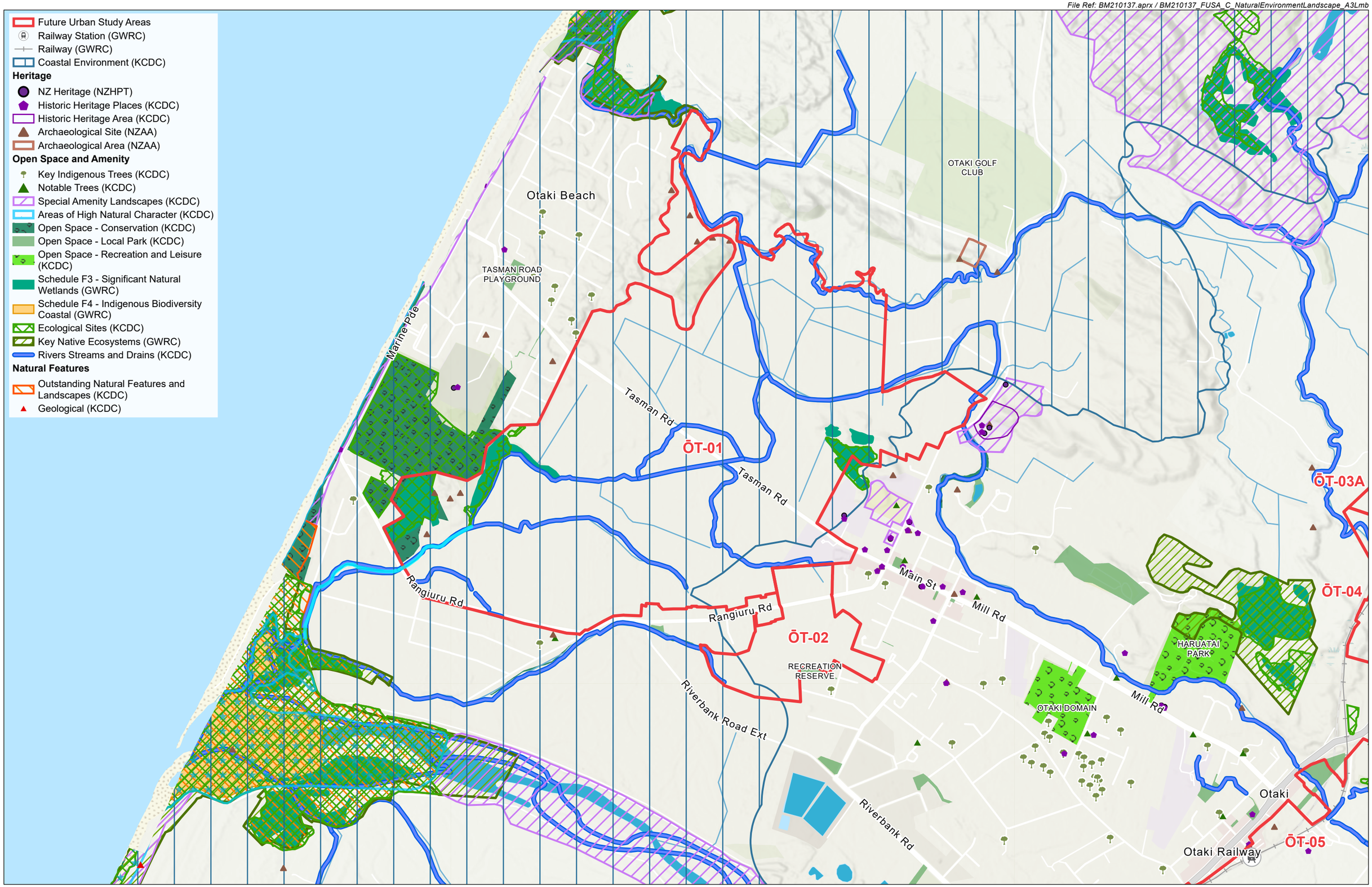

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Ōtaki West

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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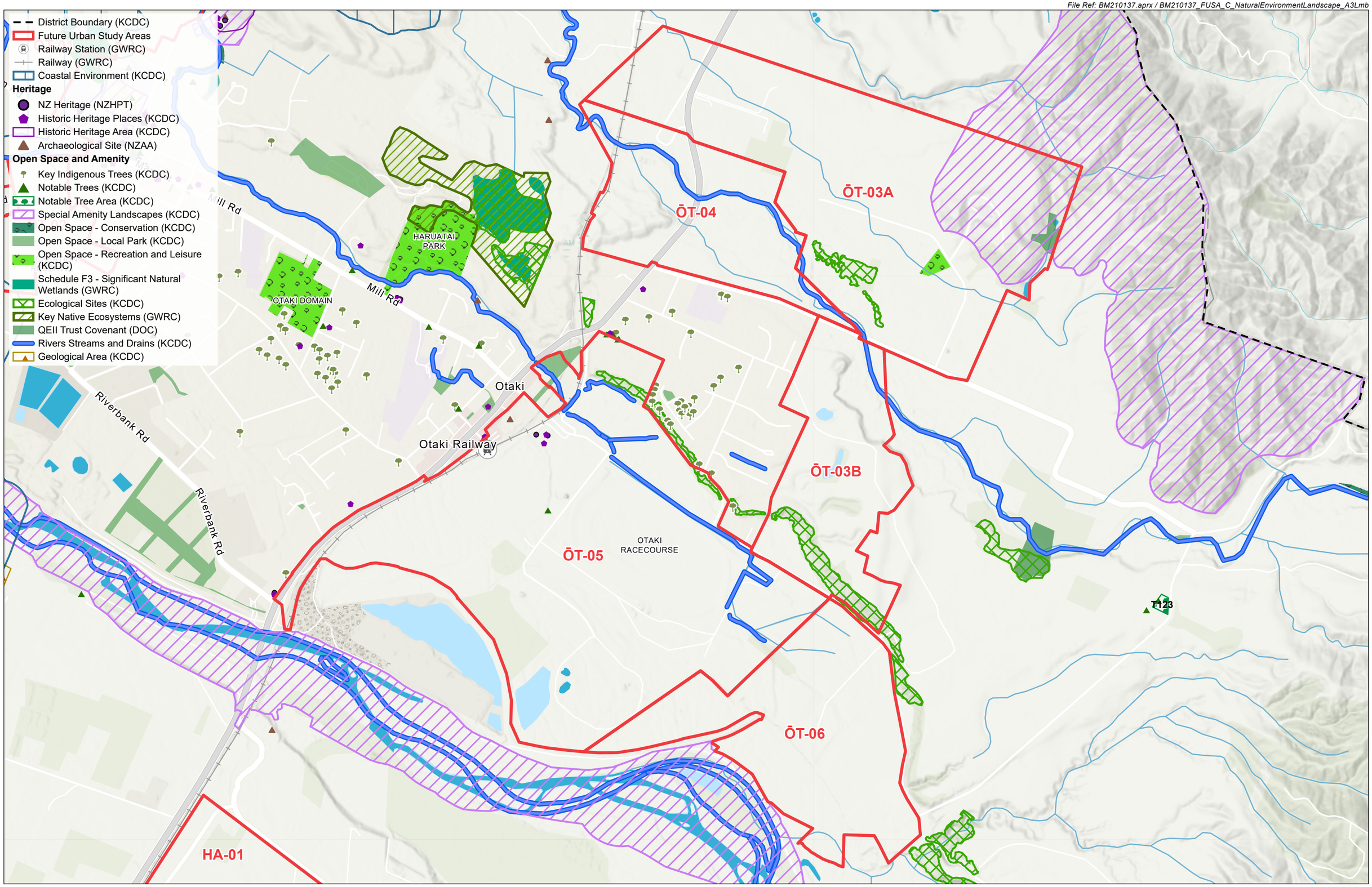

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape

Future Urban Study: Ōtaki East

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.2.C

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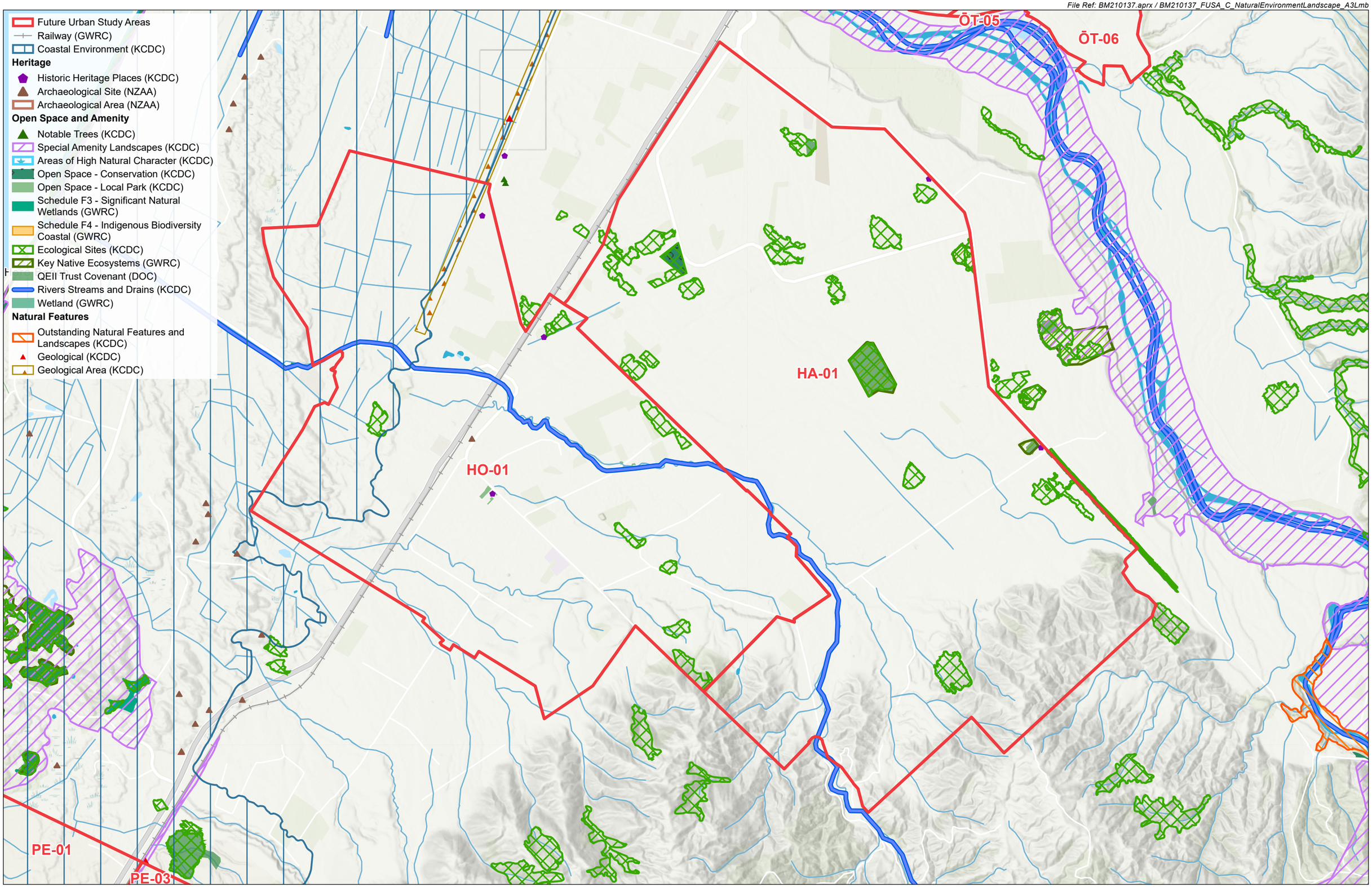

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Te Horo/Hautere

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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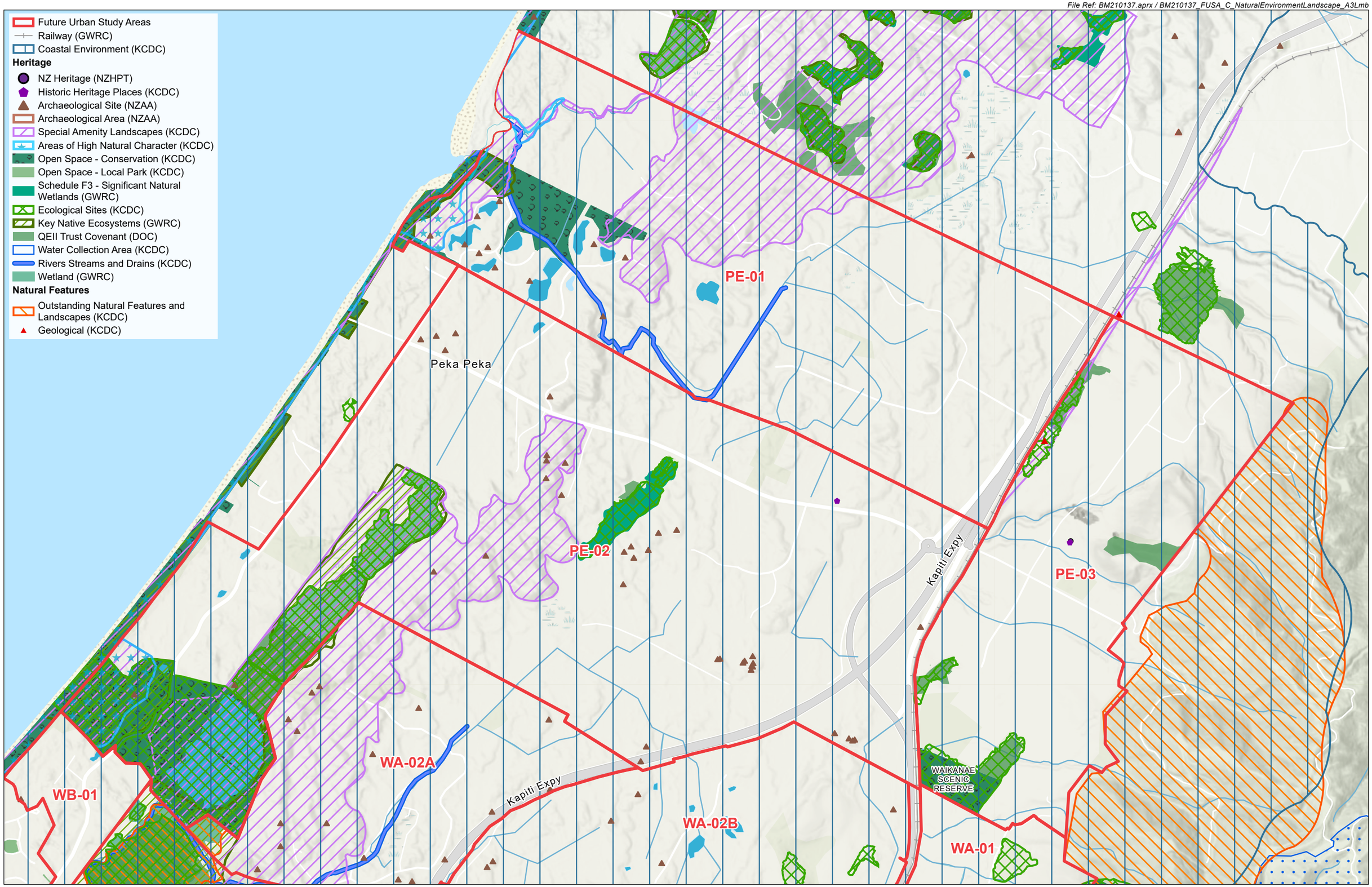

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Peka Peka

Date: 24 August 2021 | Revision: 0

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Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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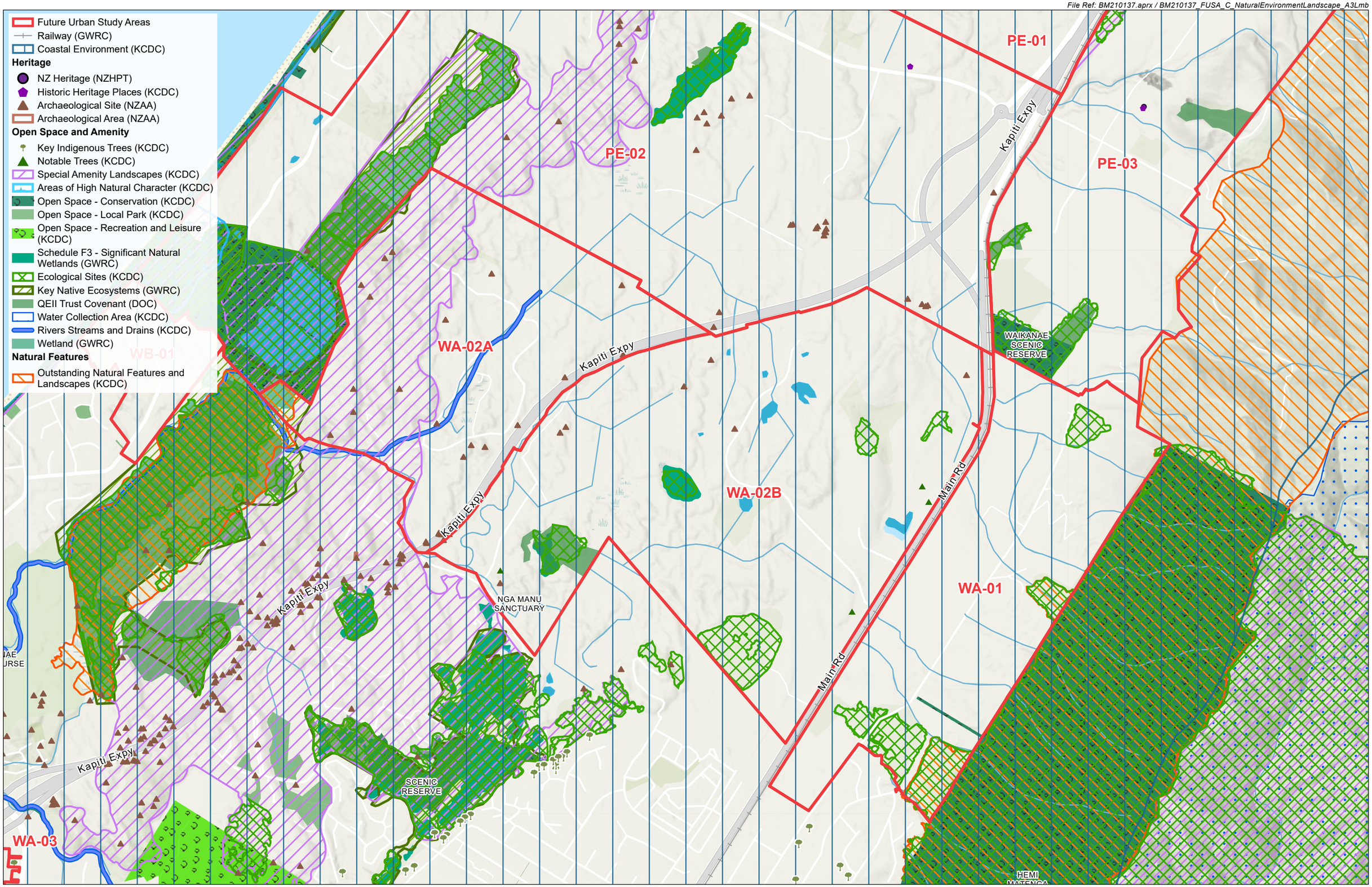

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Waikanae North

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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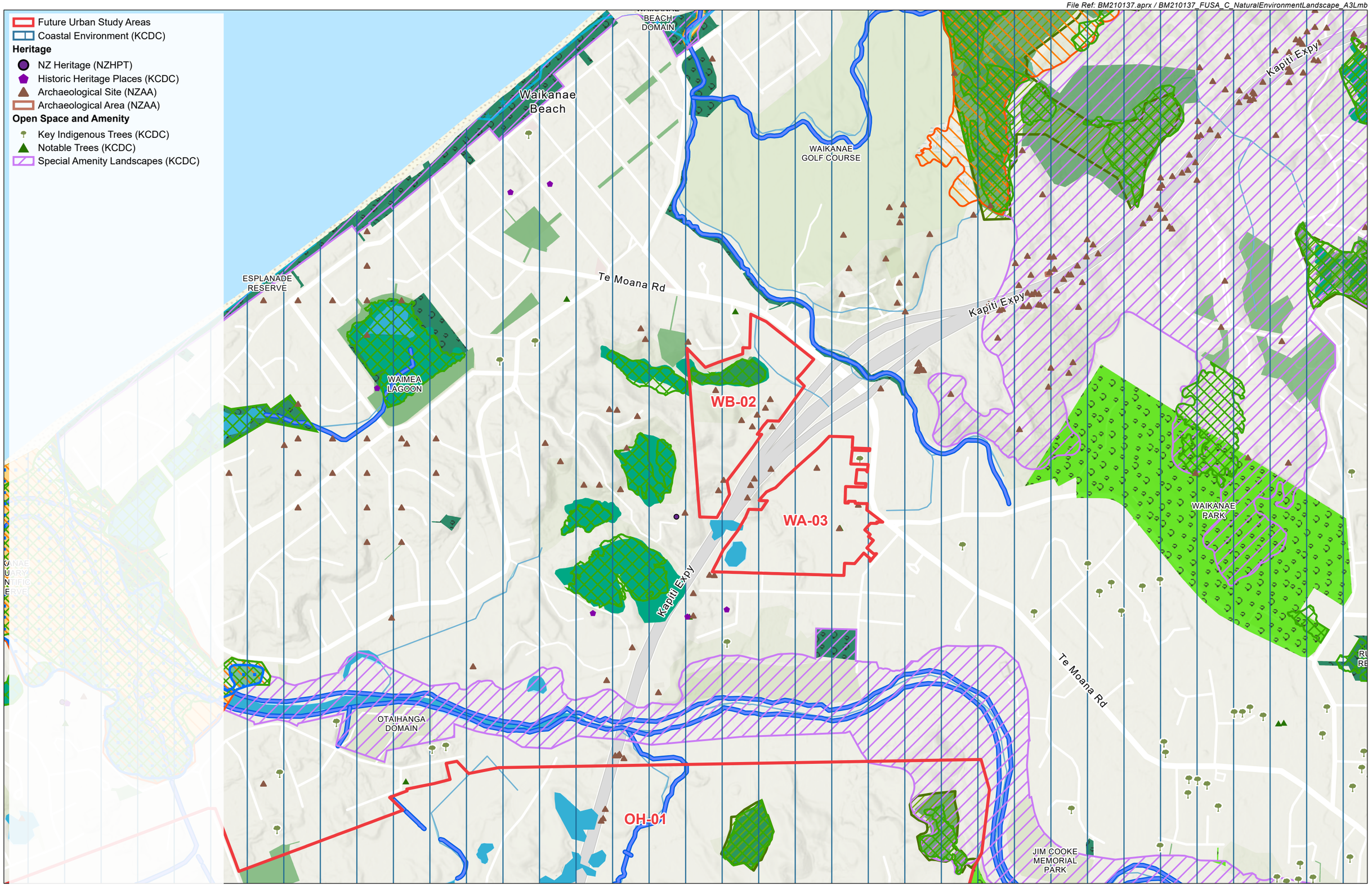

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Waikanae West

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

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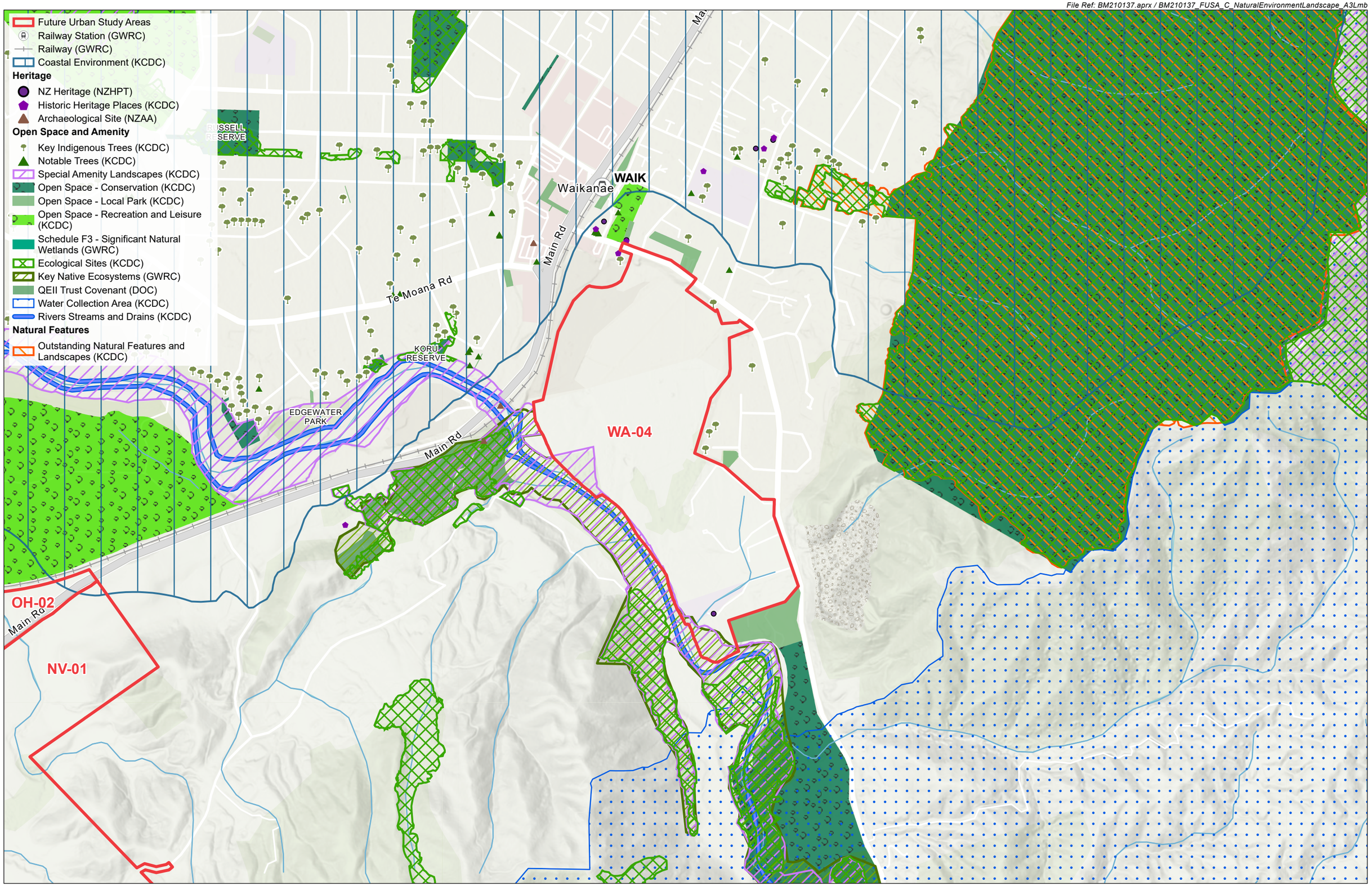

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Waikanae East

Date: 24 August 2021 | Revision: 0

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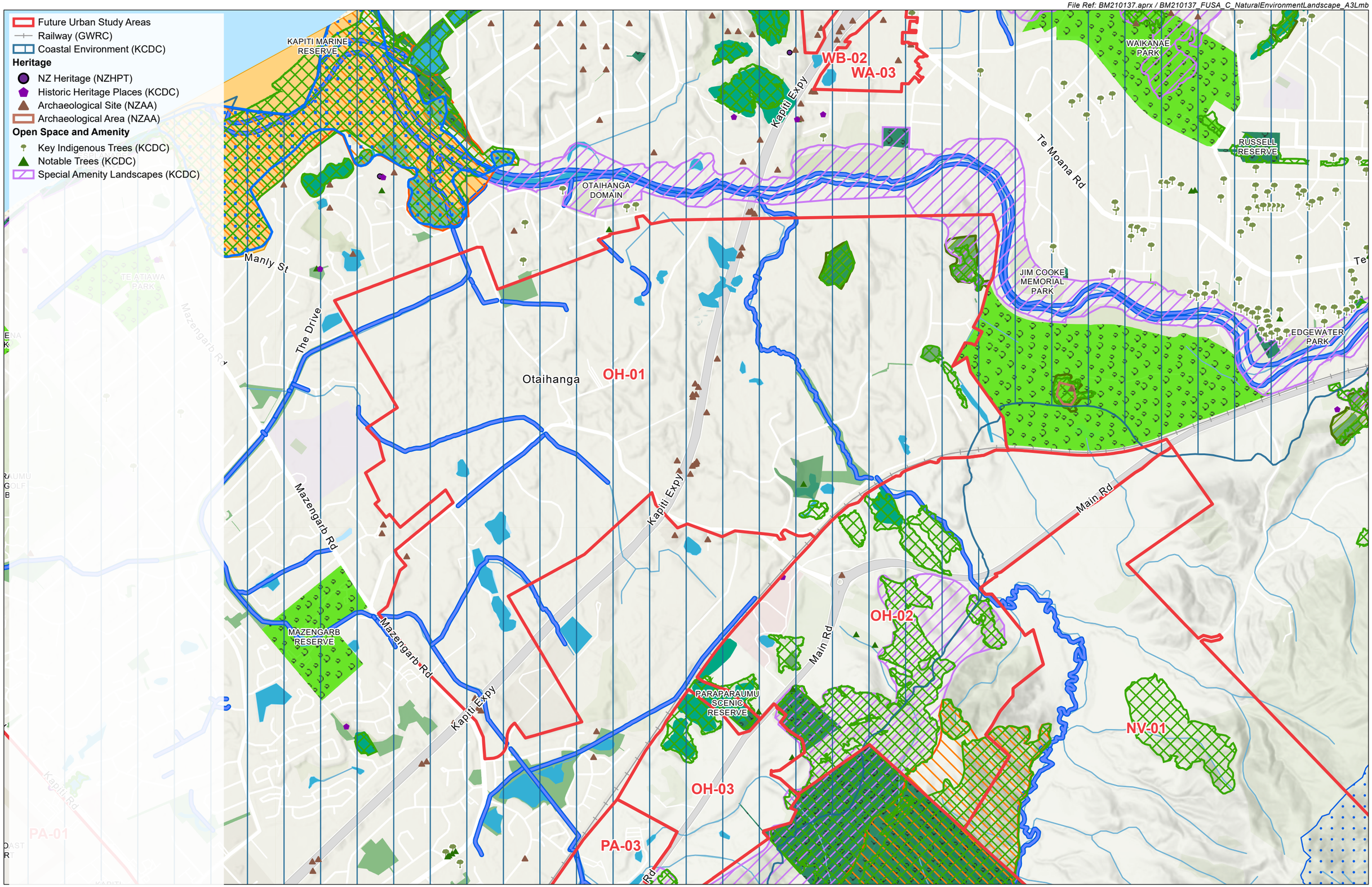

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Otaihanga

Date: 24 August 2021 | Revision: 0

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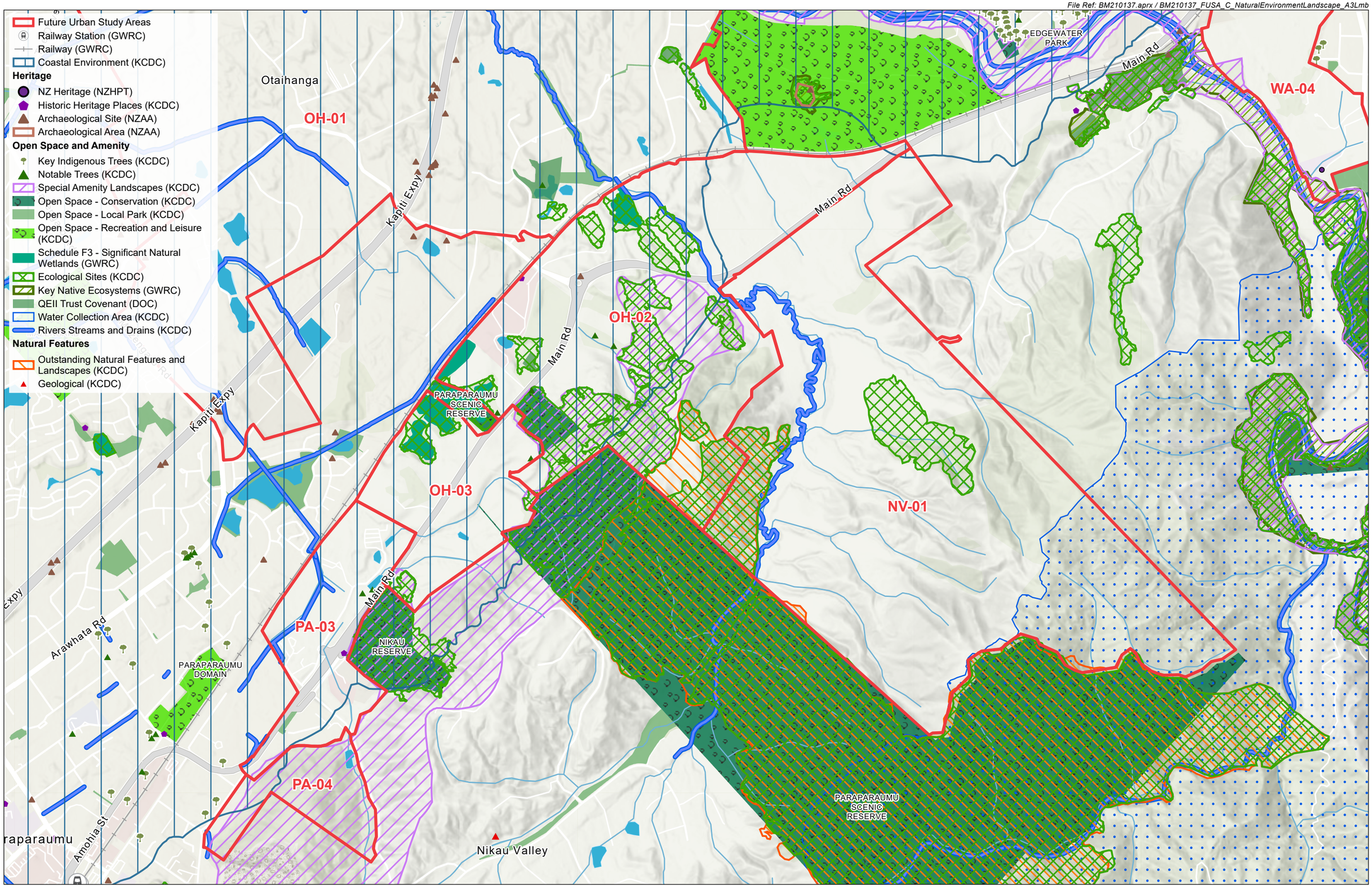

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Otaihanga South-east

Date: 24 August 2021 | Revision: 0

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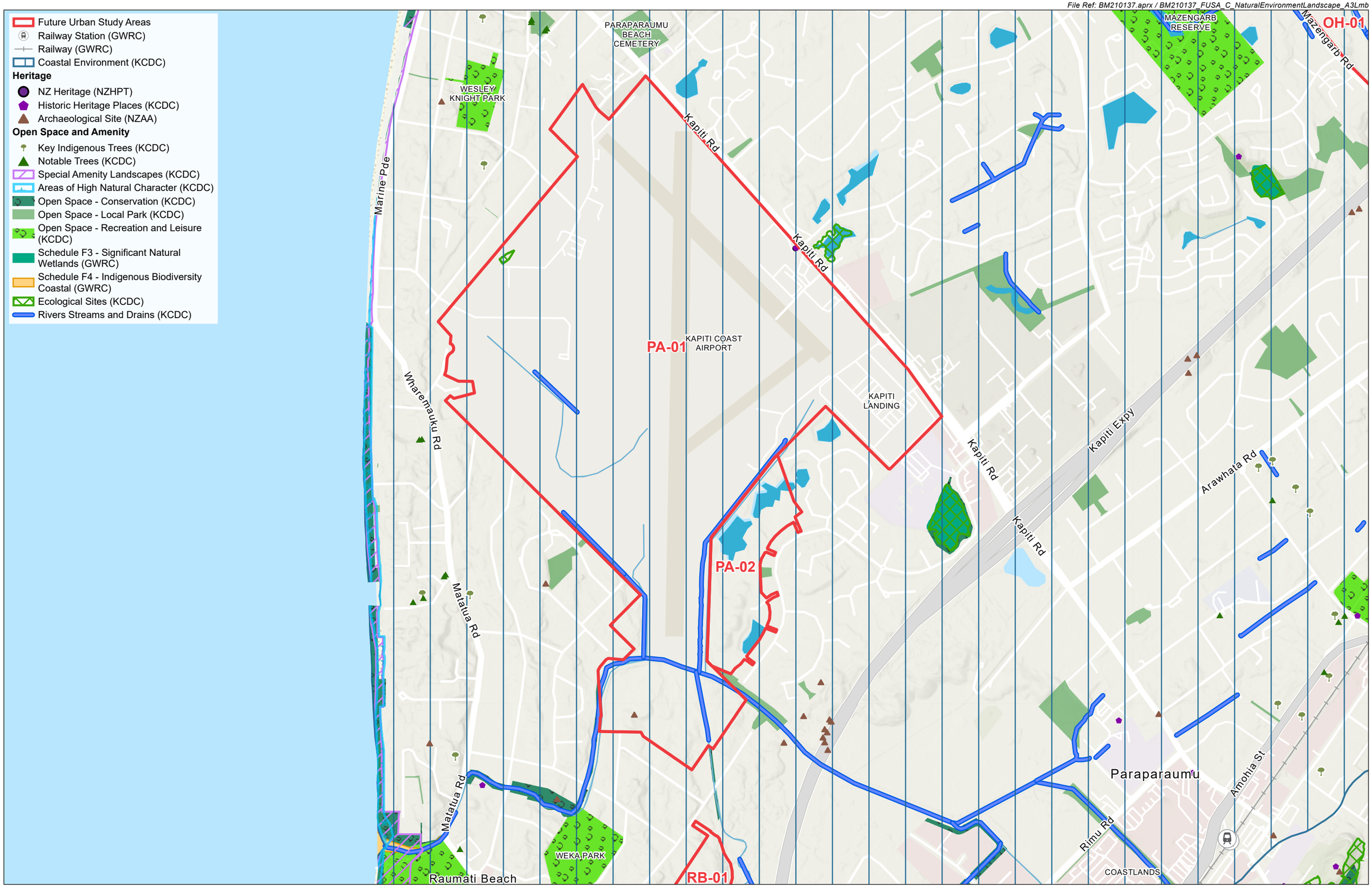

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape

Future Urban Study: Paraparaumu Central

Date: 24 August 2021 | Revision: 0

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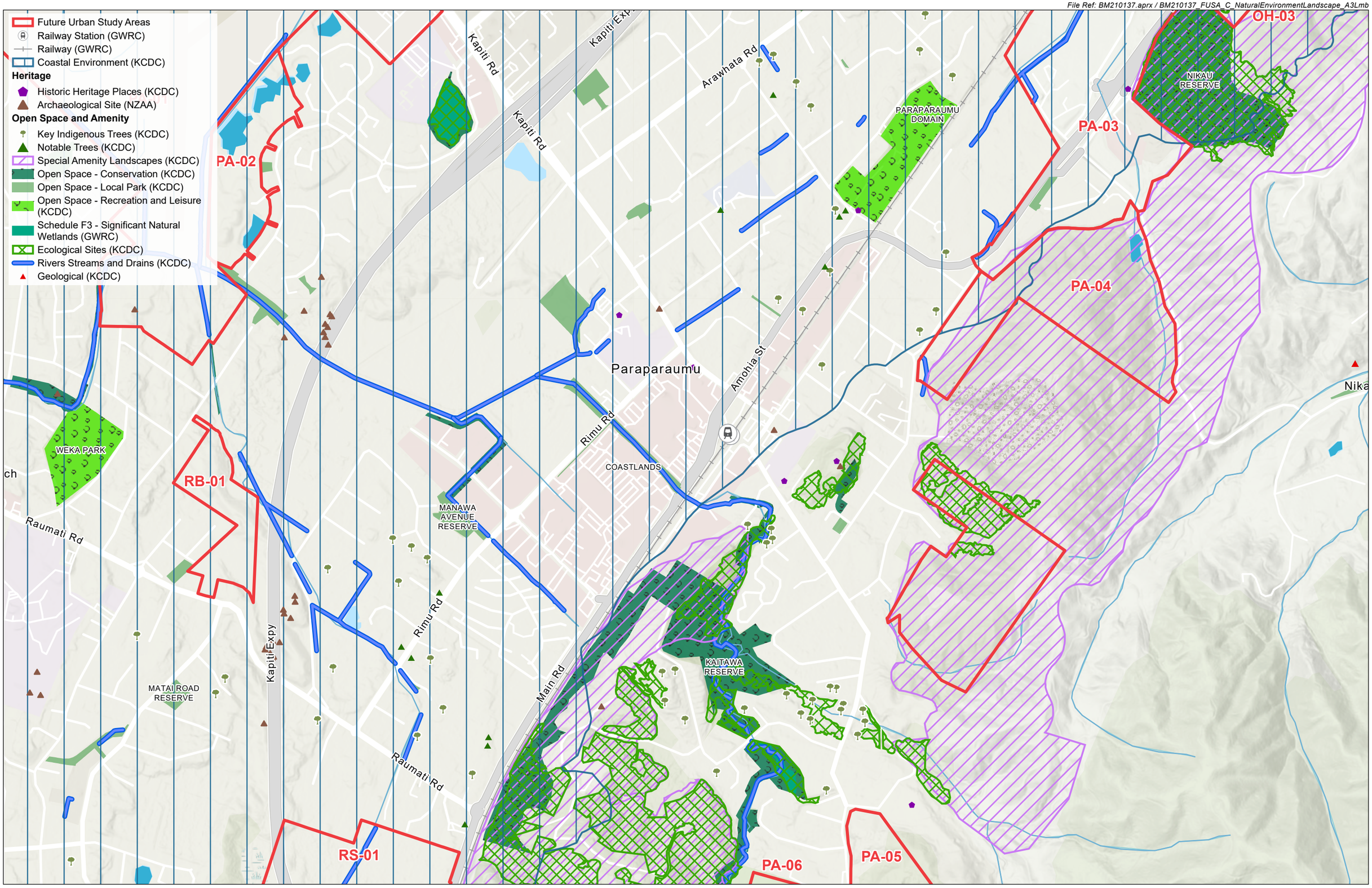

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Paraparaumu East

Date: 24 August 2021 | Revision: 0

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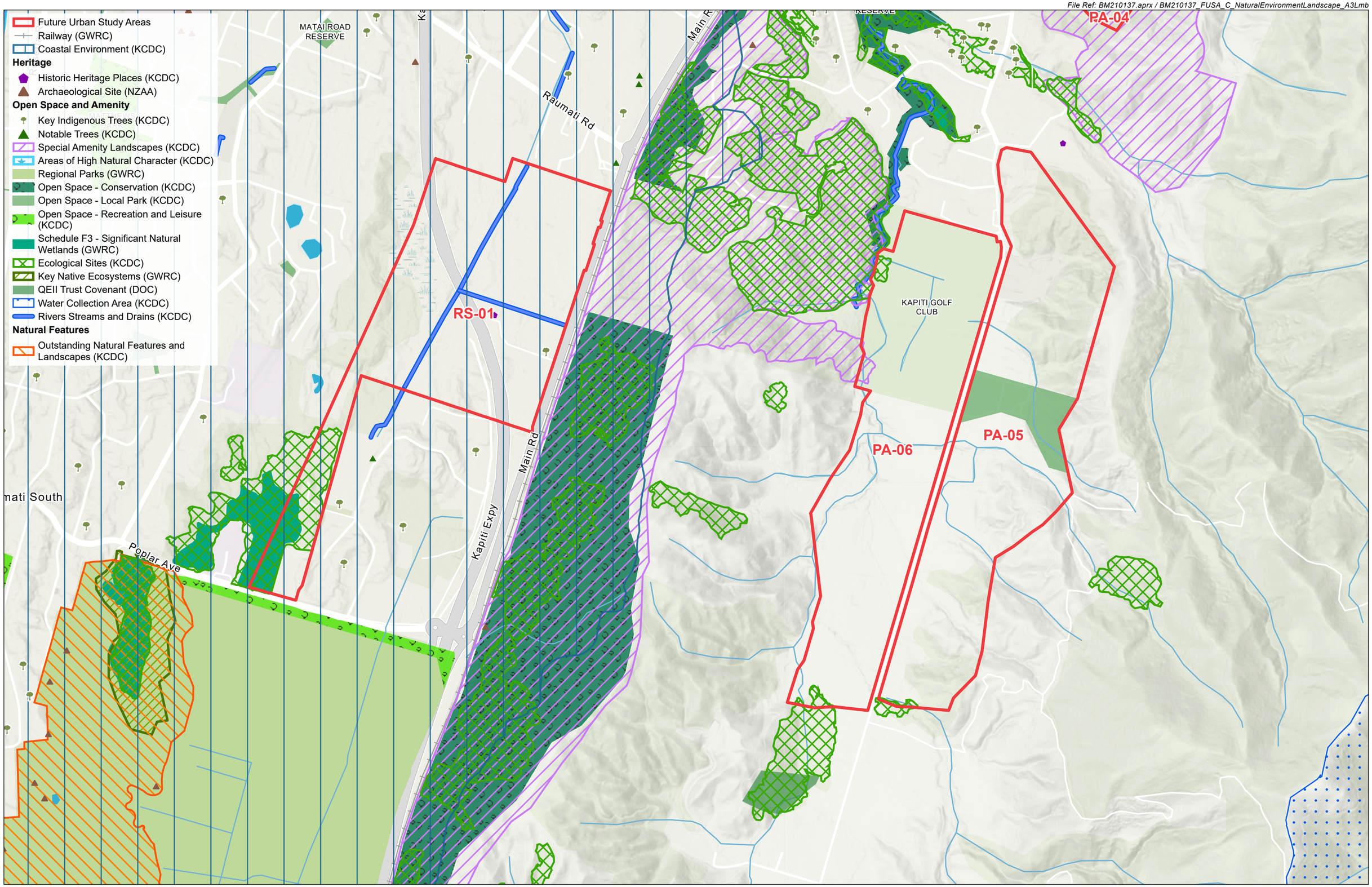

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape

Future Urban Study: Paraparaumu South

Date: 24 August 2021 | Revision: 0

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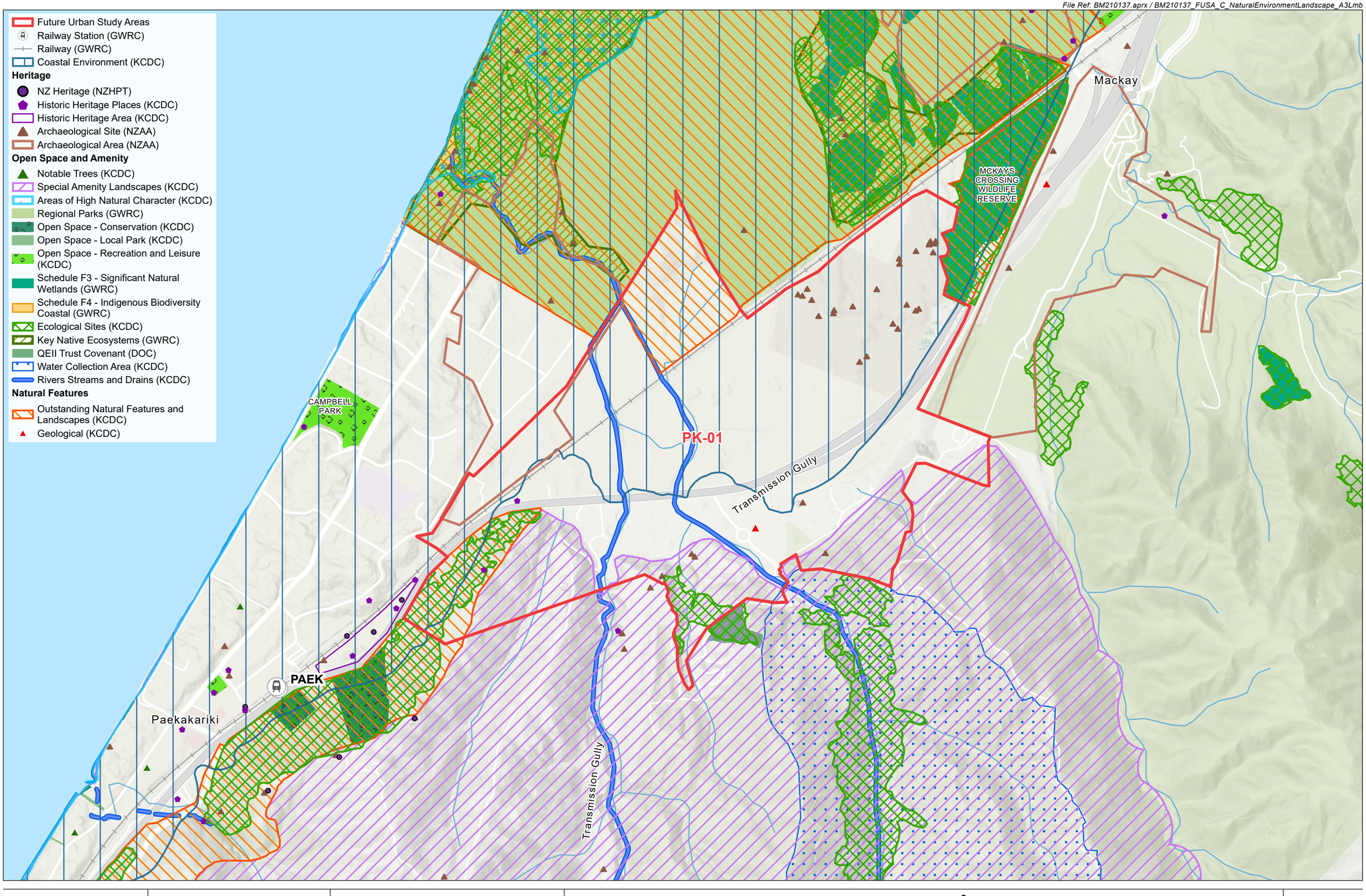

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Natural Environment and Landscape
Future Urban Study: Paekakariki East

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

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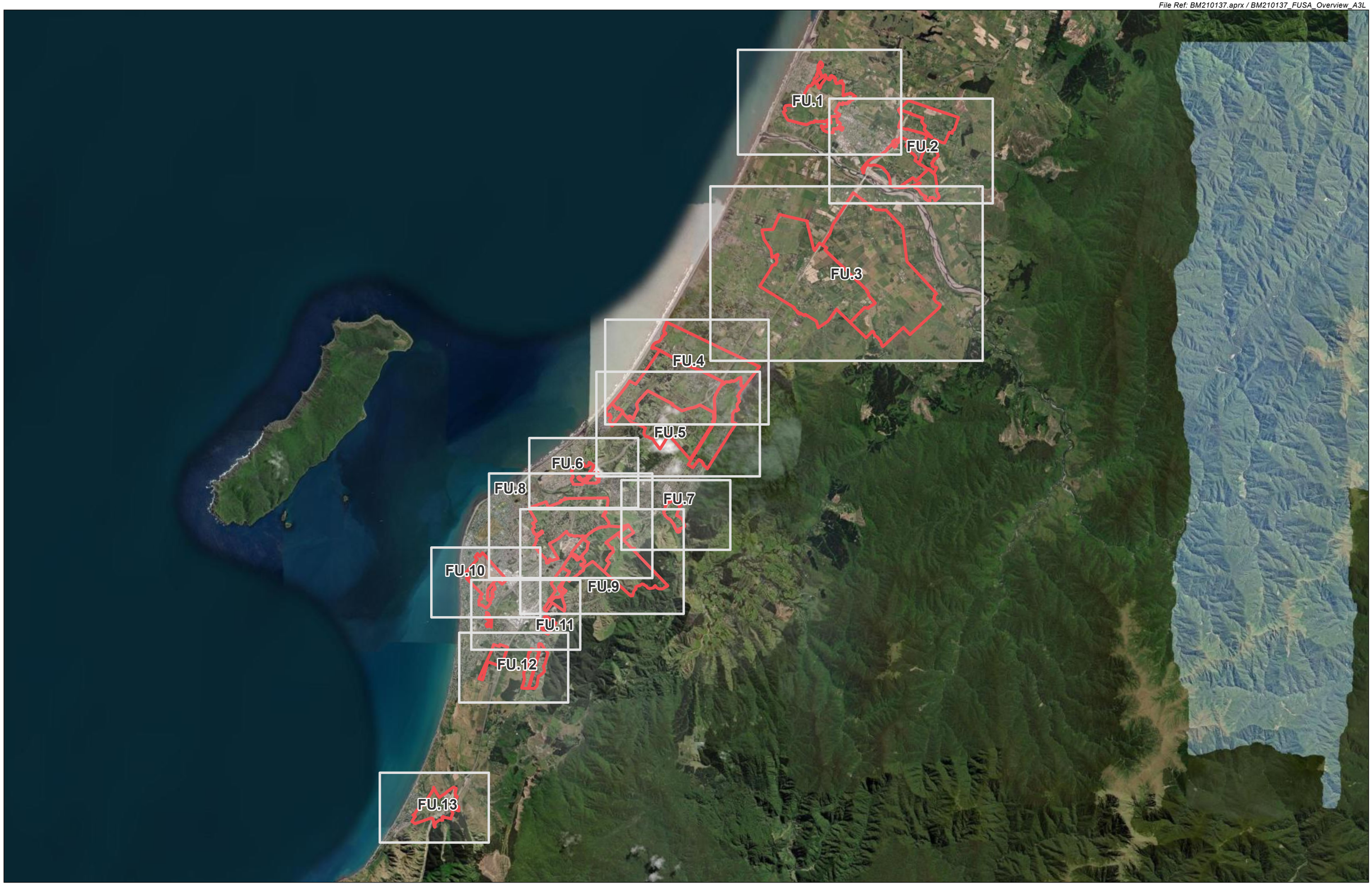
Future Urban Study Area
Spatial Influences and Constraints
Mapping

Land Development Constraints

File Ref: BM210137.aprx / BM210137_FUSA_Overview_A3L



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Data Sources: KCDC, BML, Earthstar Geographics

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LEGEND

Map Index

Future Urban Study Areas

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Future Urban Study Area Mapbook

Date: 15 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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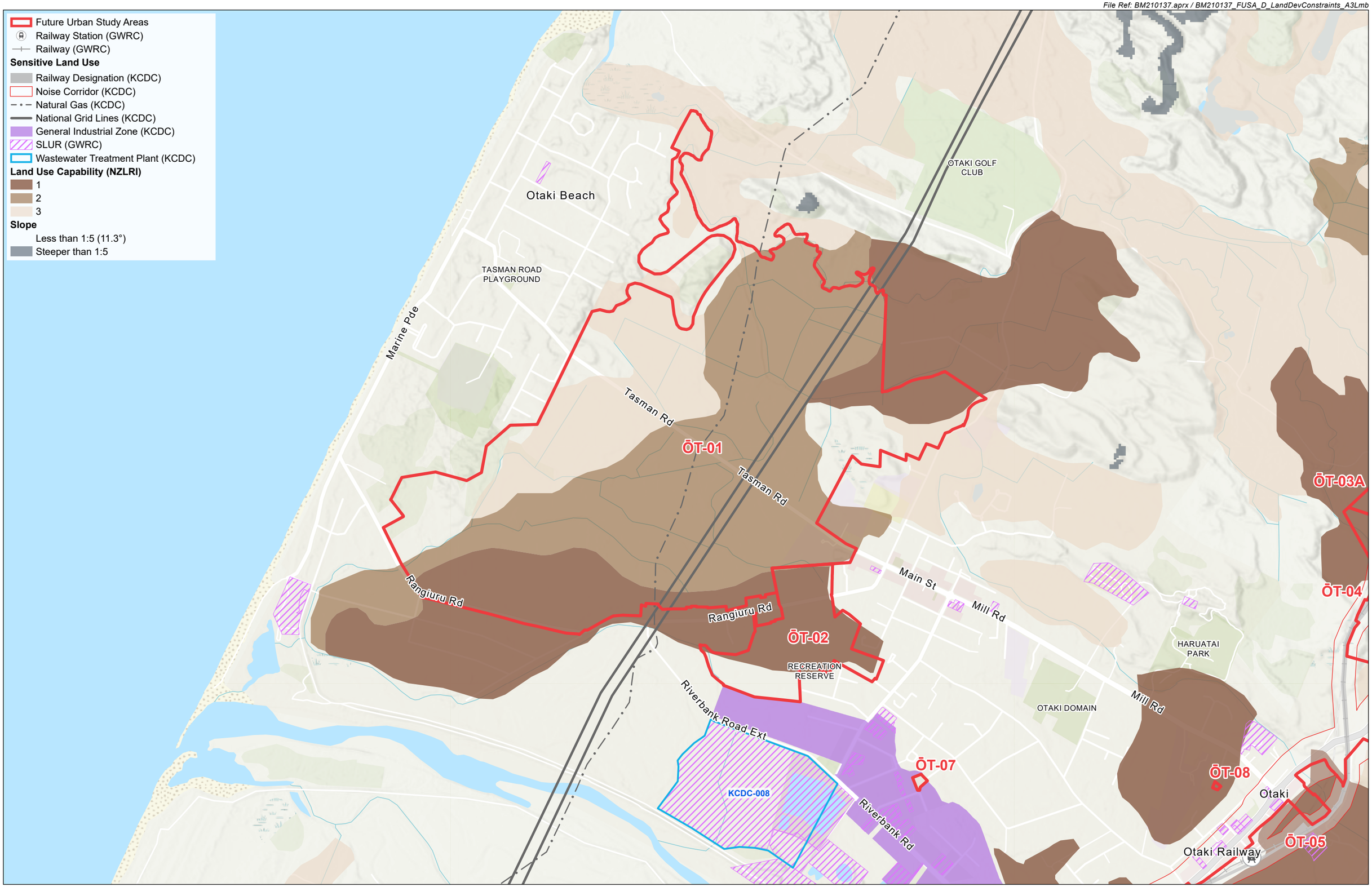

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Ōtaki West

Date: 24 August 2021 | Revision: 0

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Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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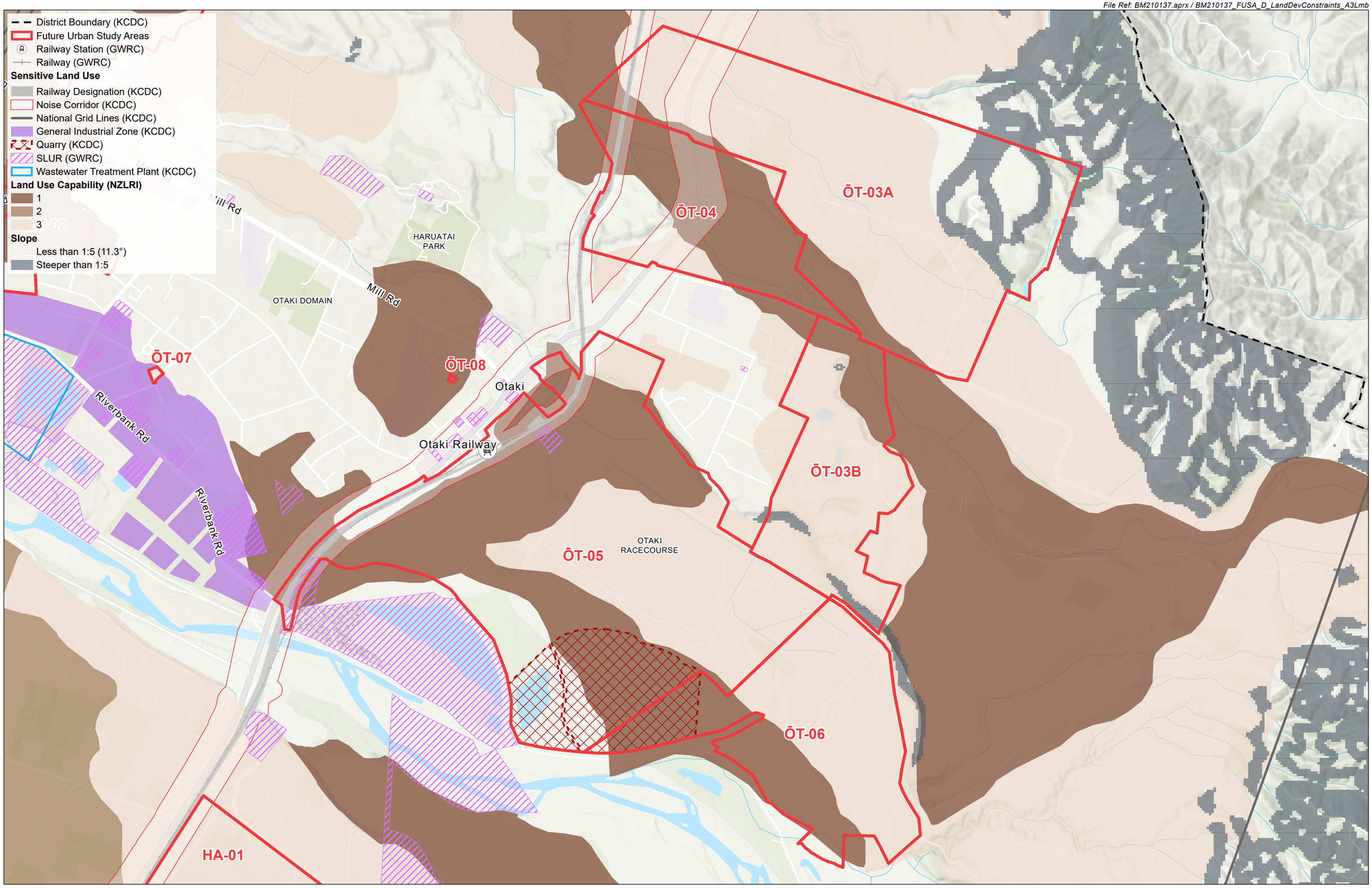

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Ōtaki East

Date: 24 August 2021 | Revision: 0

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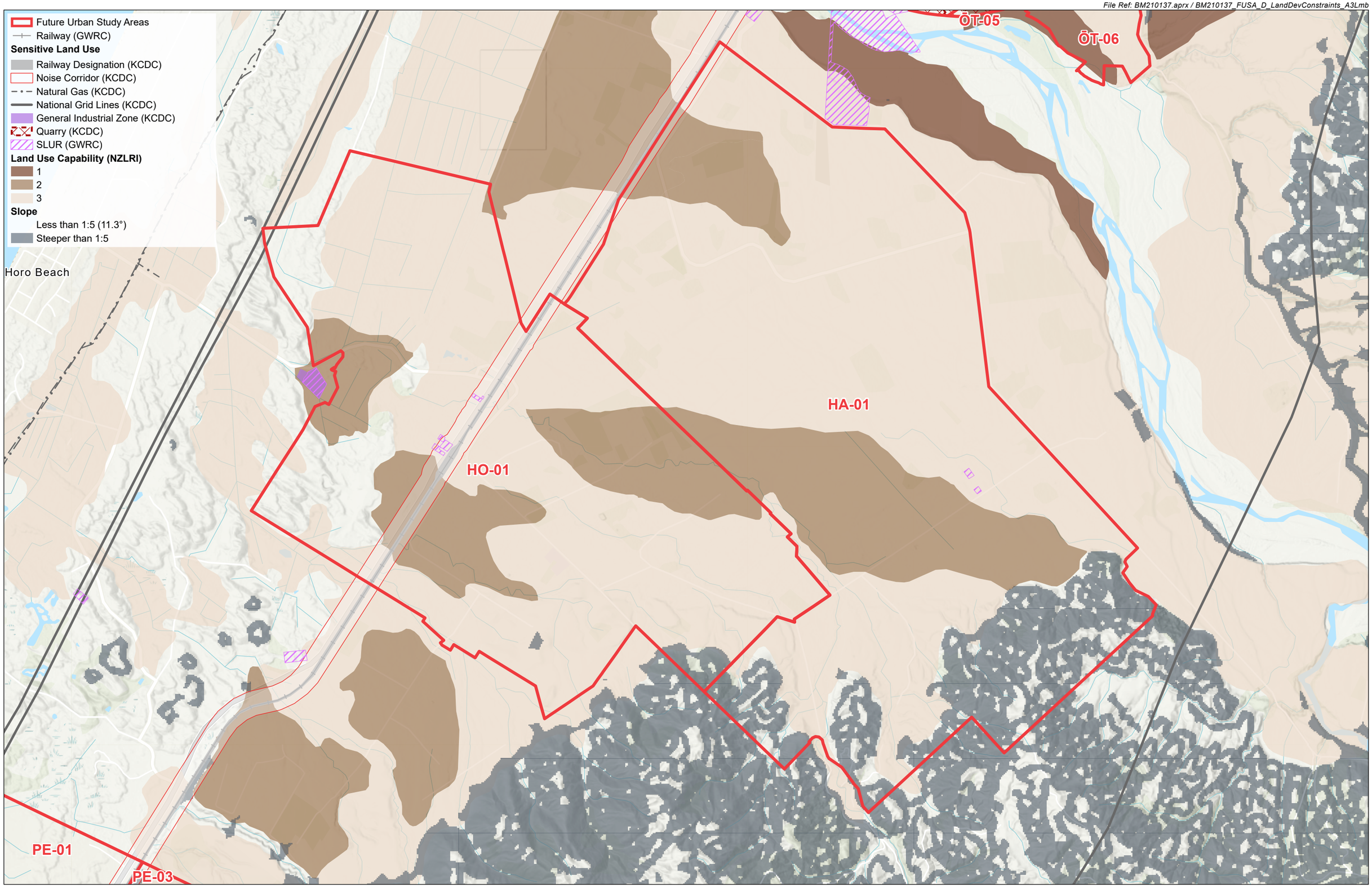

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Te Horo/Hautere

Date: 24 August 2021 | Revision: 0

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FU.3.D

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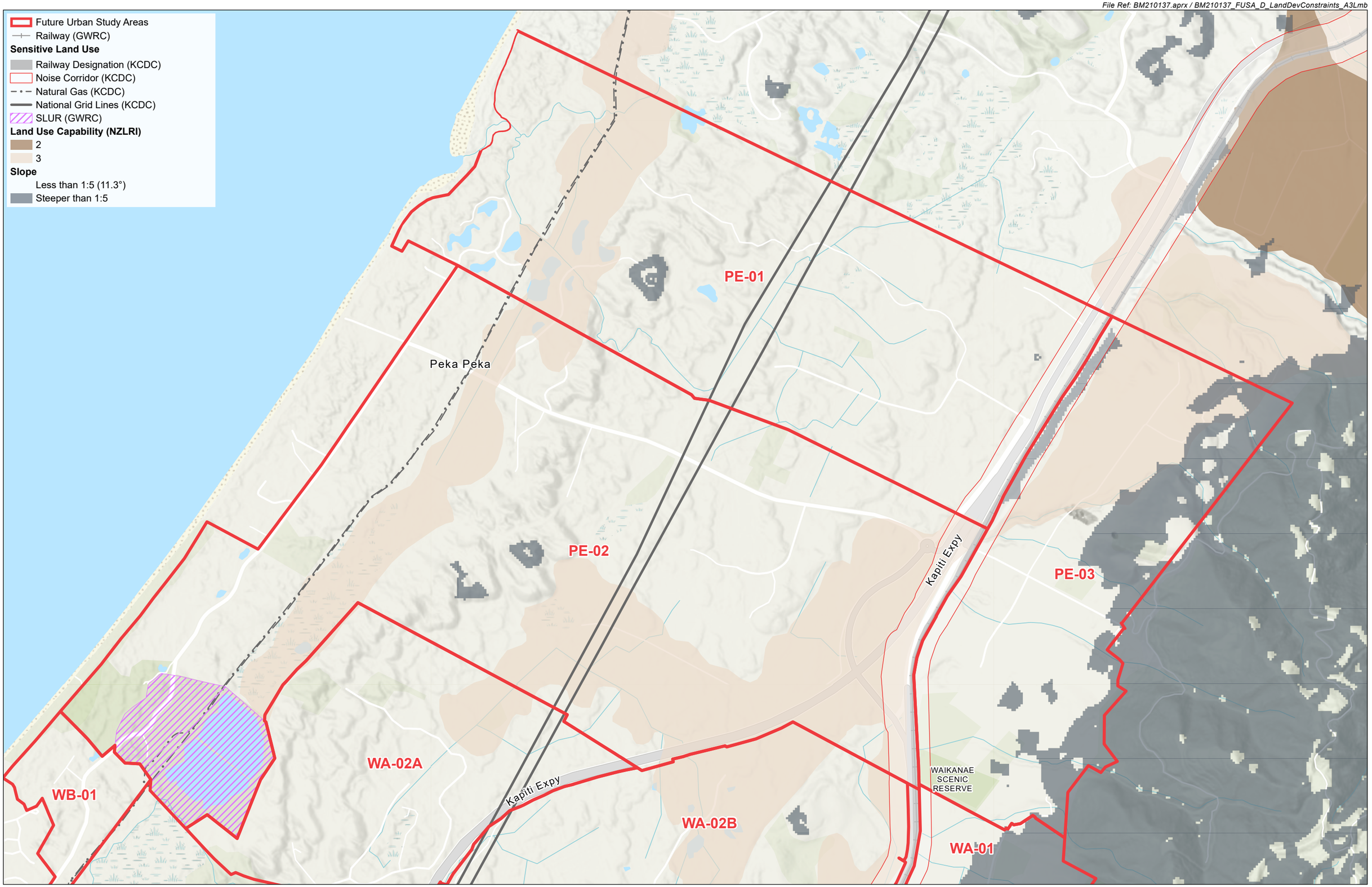

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Peka Peka

Date: 24 August 2021 | Revision: 0

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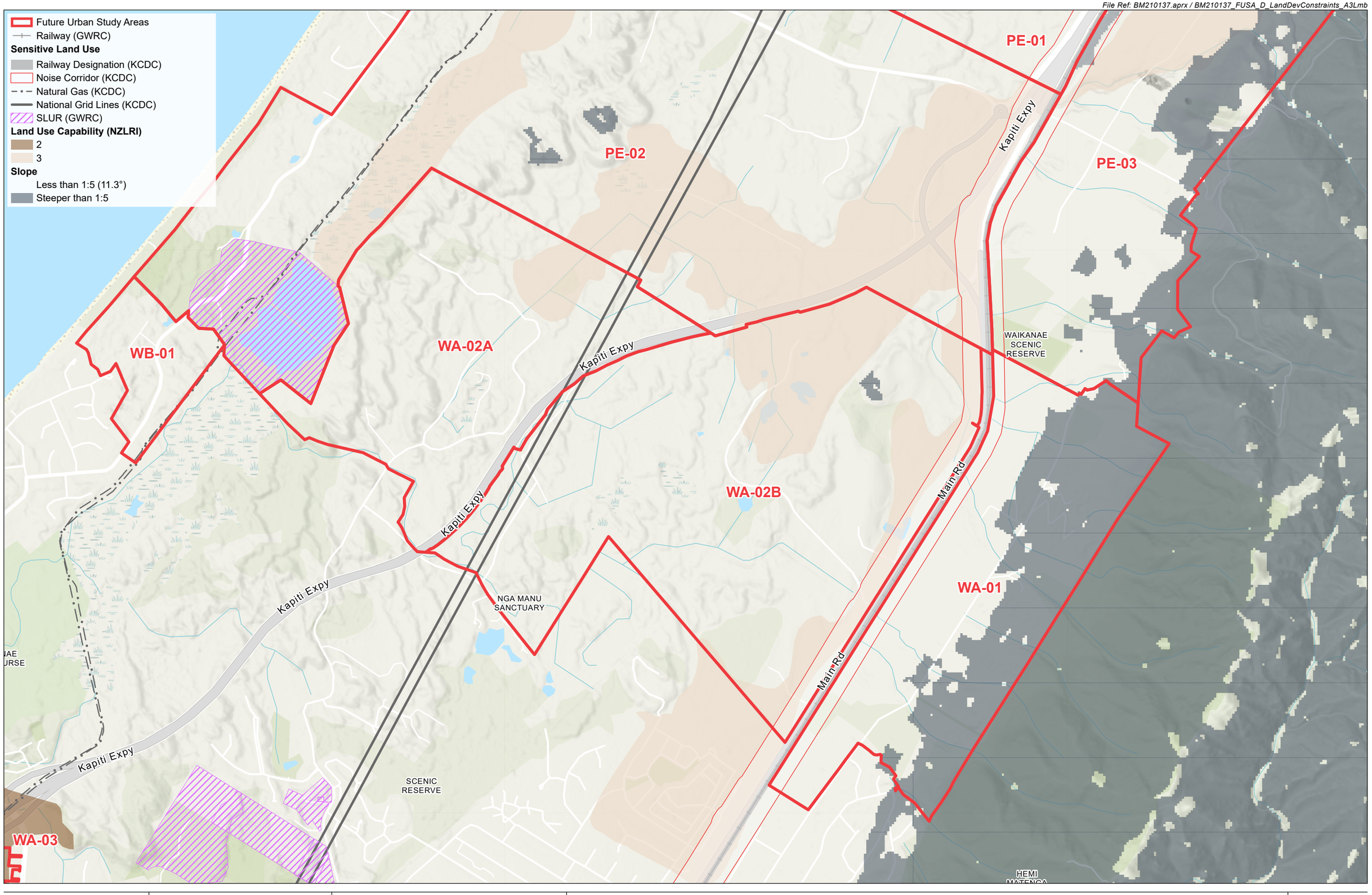

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints

Future Urban Study: Waikanae North

Date: 24 August 2021 | Revision: 0

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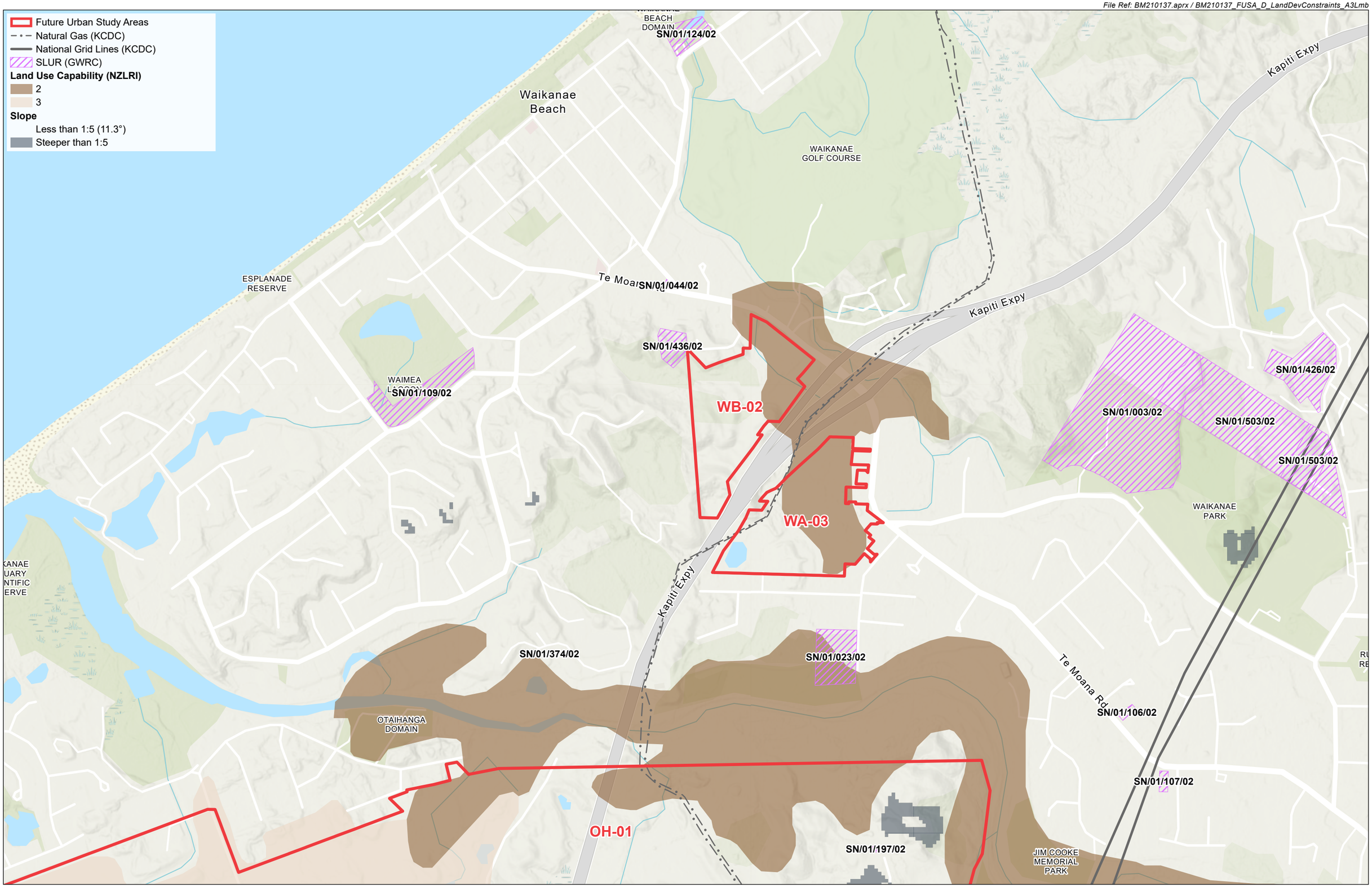

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Waikanae West

Date: 24 August 2021 | Revision: 0

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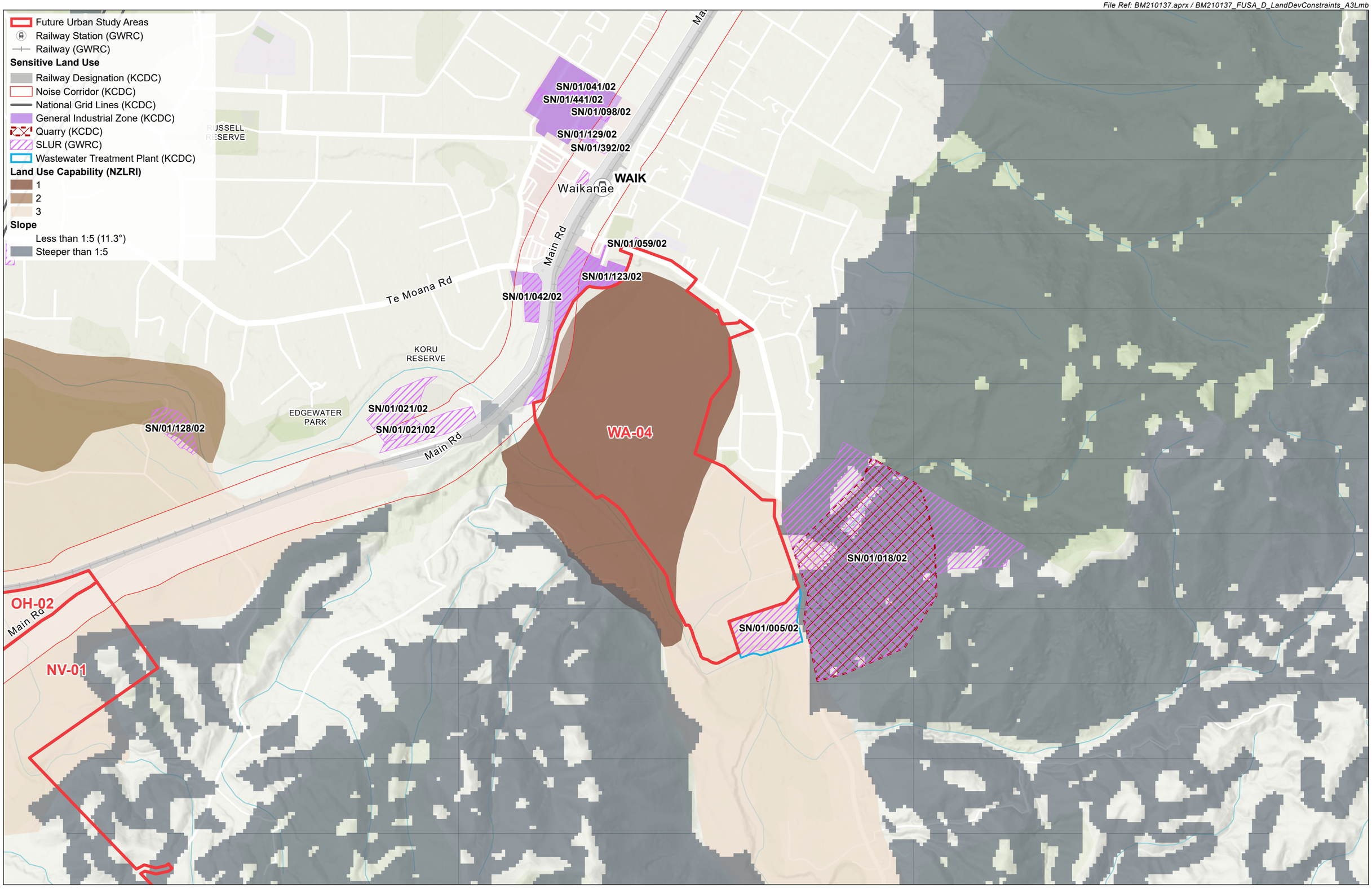

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Waikanae East

Date: 24 August 2021 | Revision: 0

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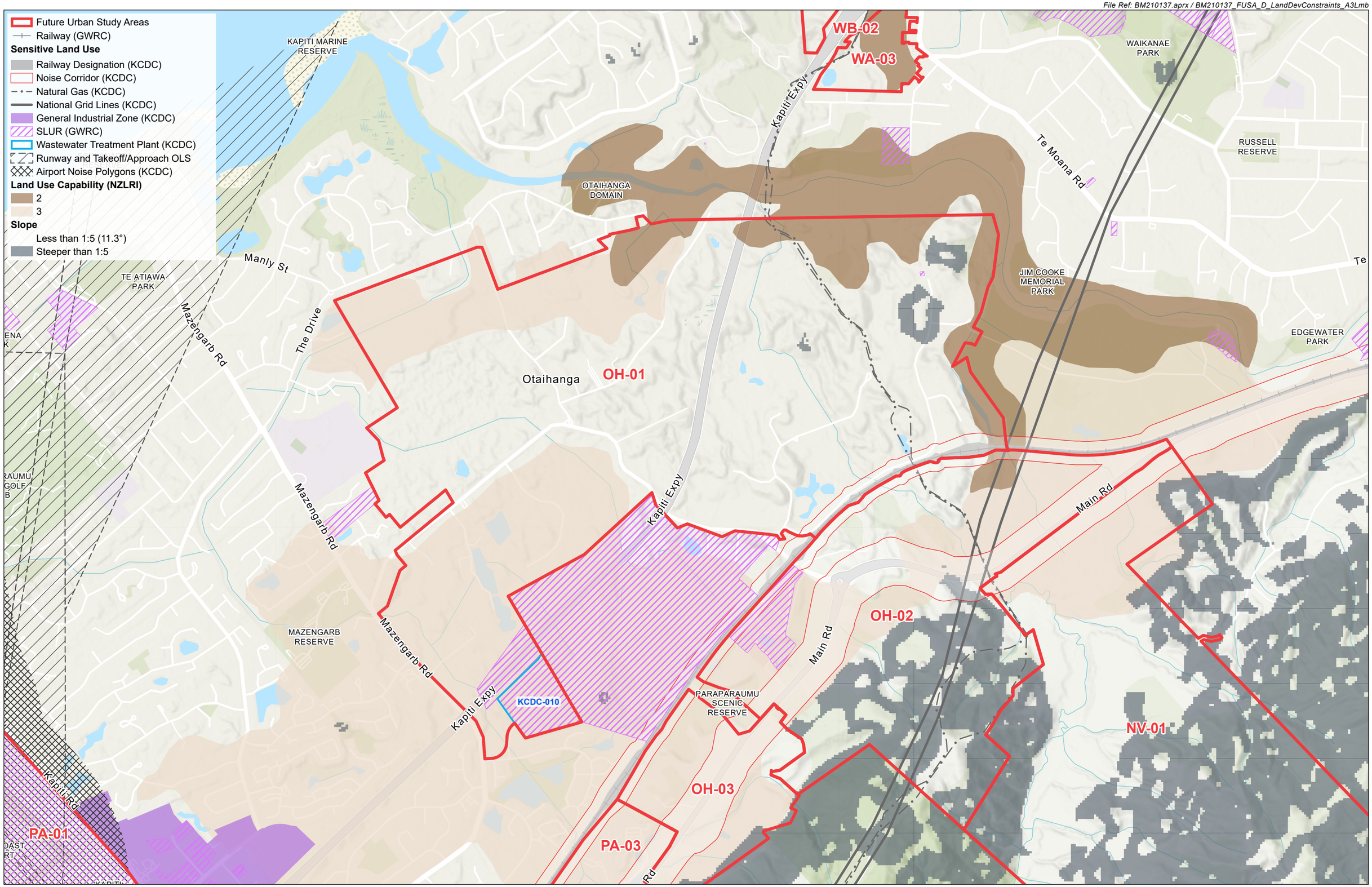

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Otaihanga

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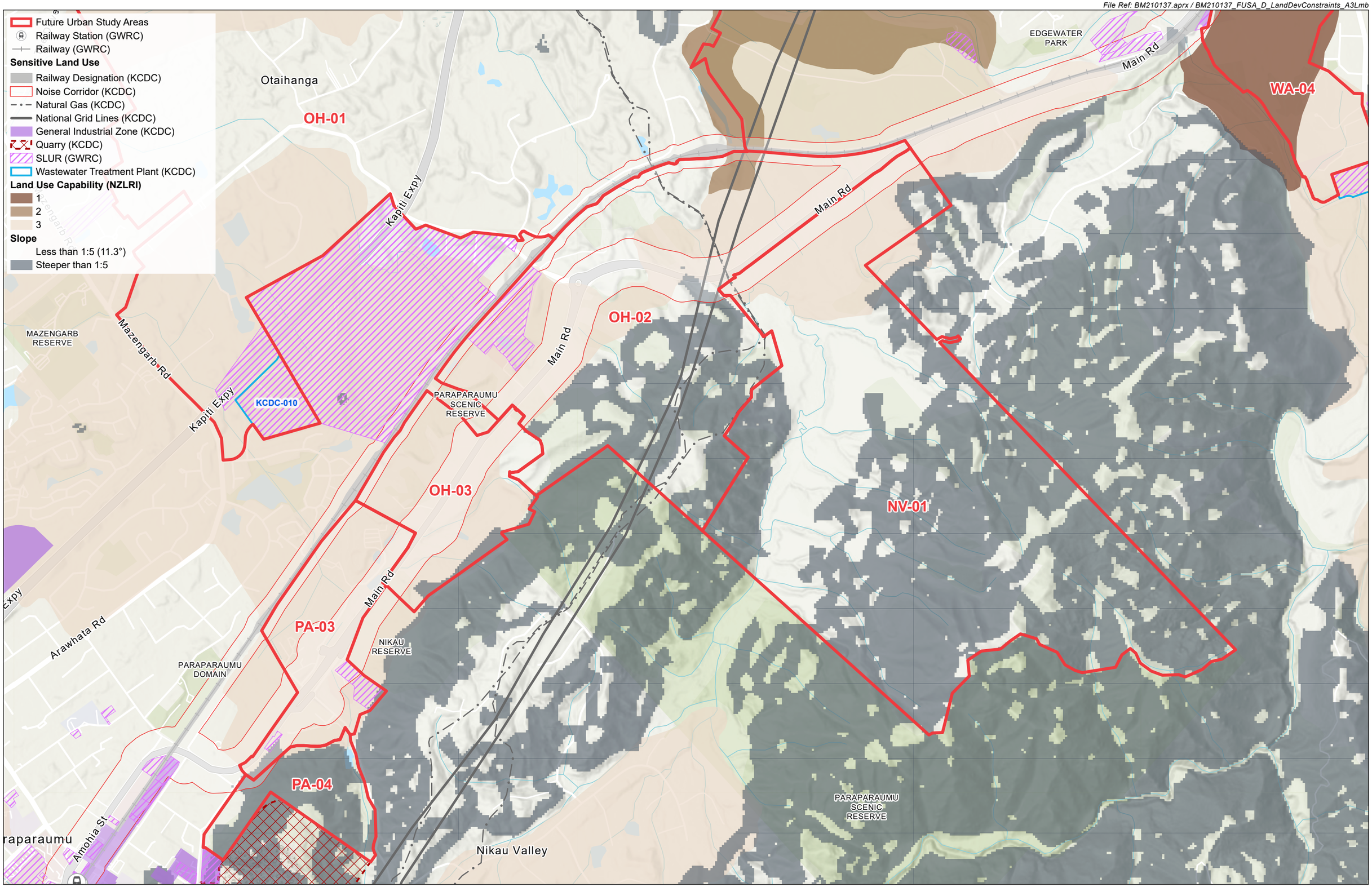

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Otaihanga South-east

Date: 24 August 2021 | Revision: 0

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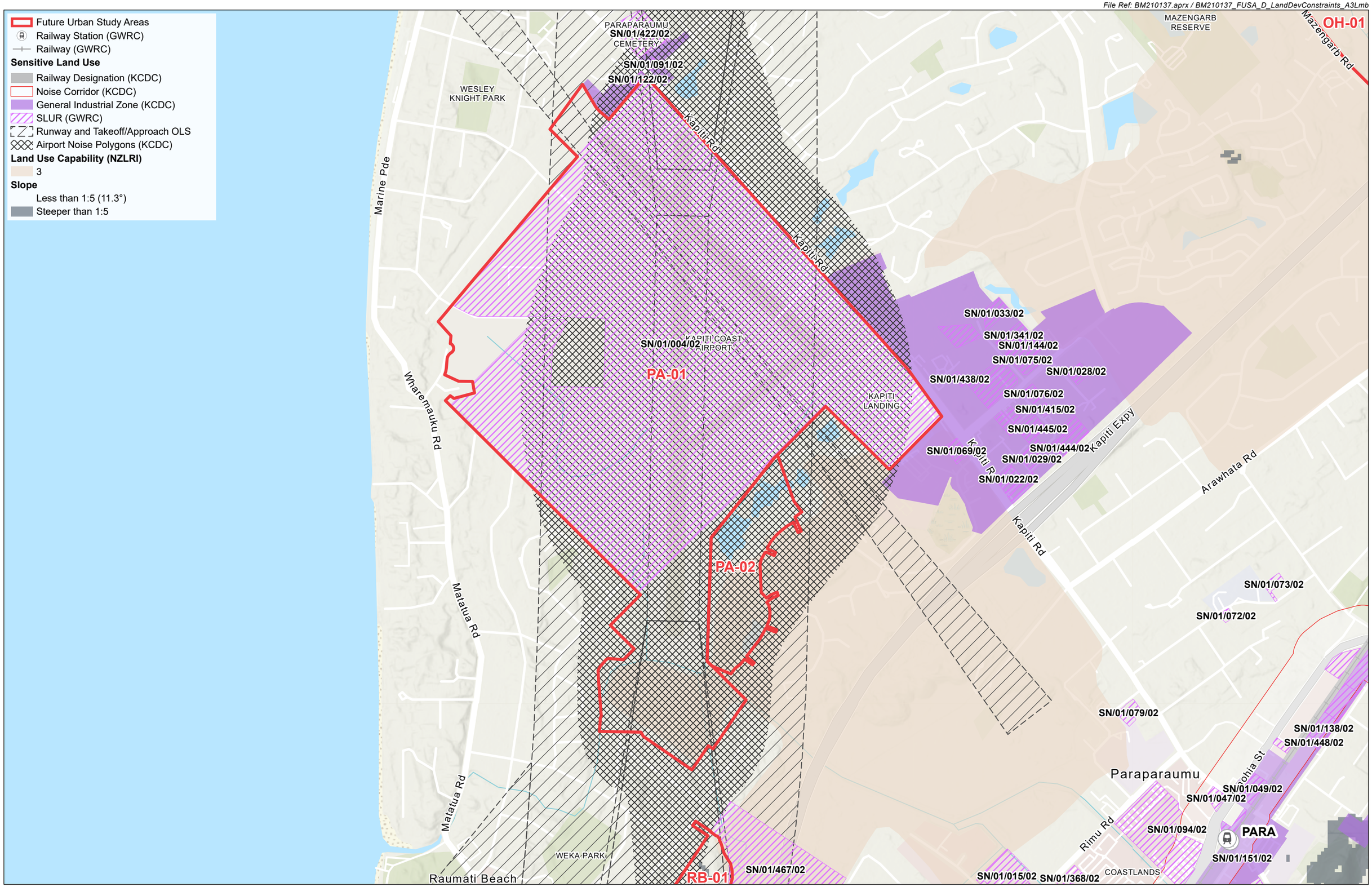

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Paraparaumu Central

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FU.10.D

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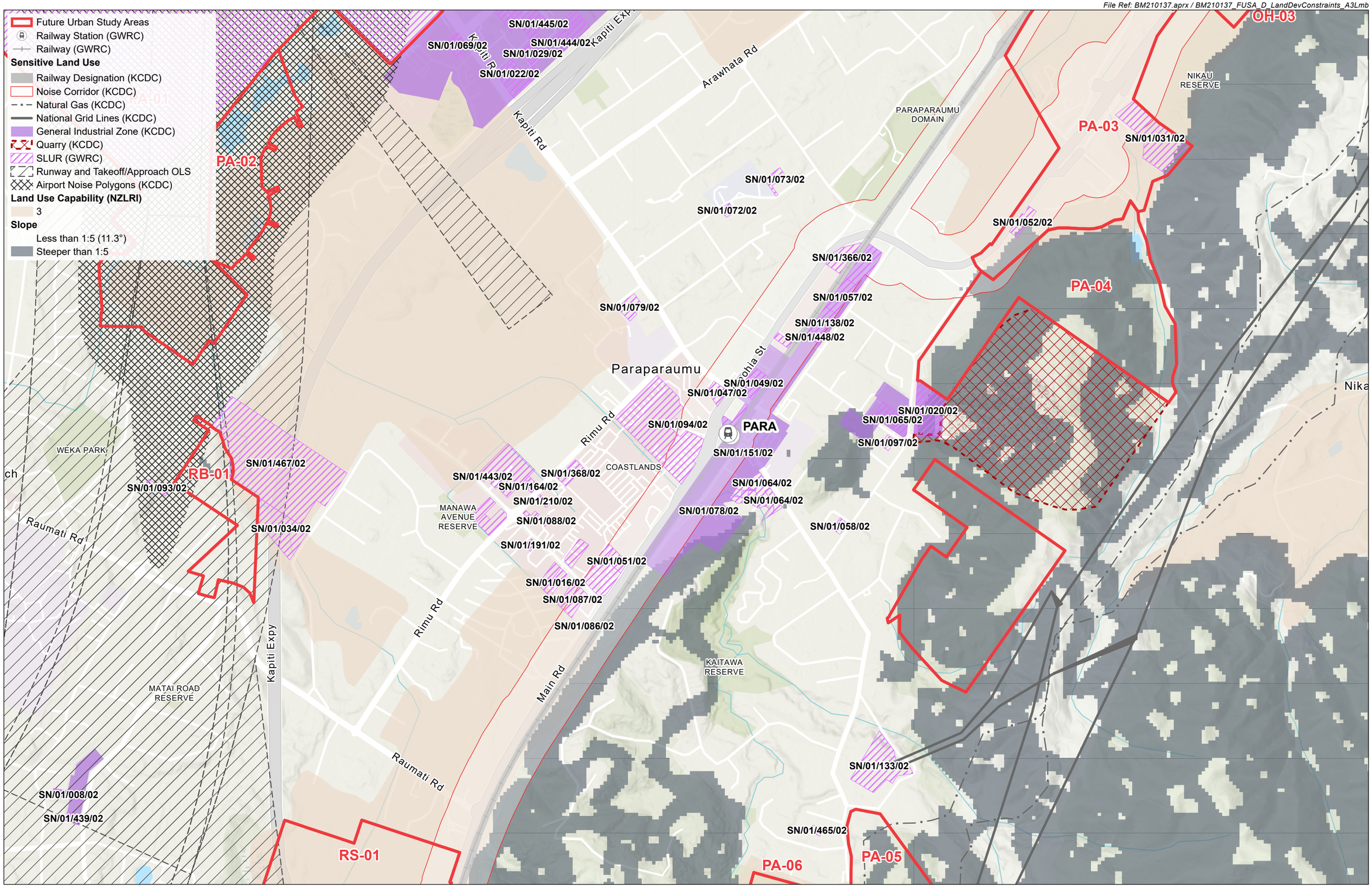

Boffa Miskell

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Paraparaumu East

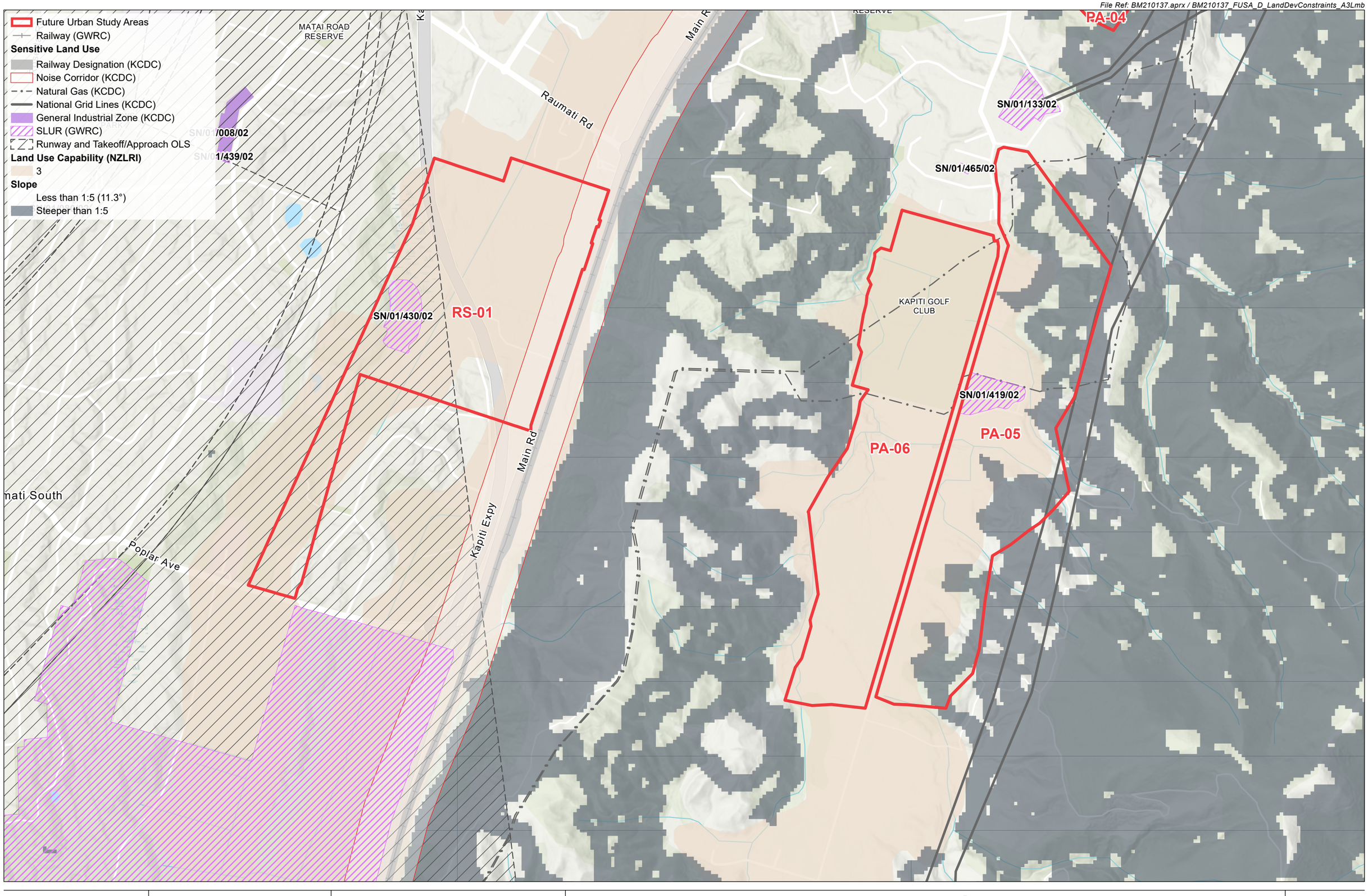
Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.11.D

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints
Future Urban Study: Paraparaumu South

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.12.D

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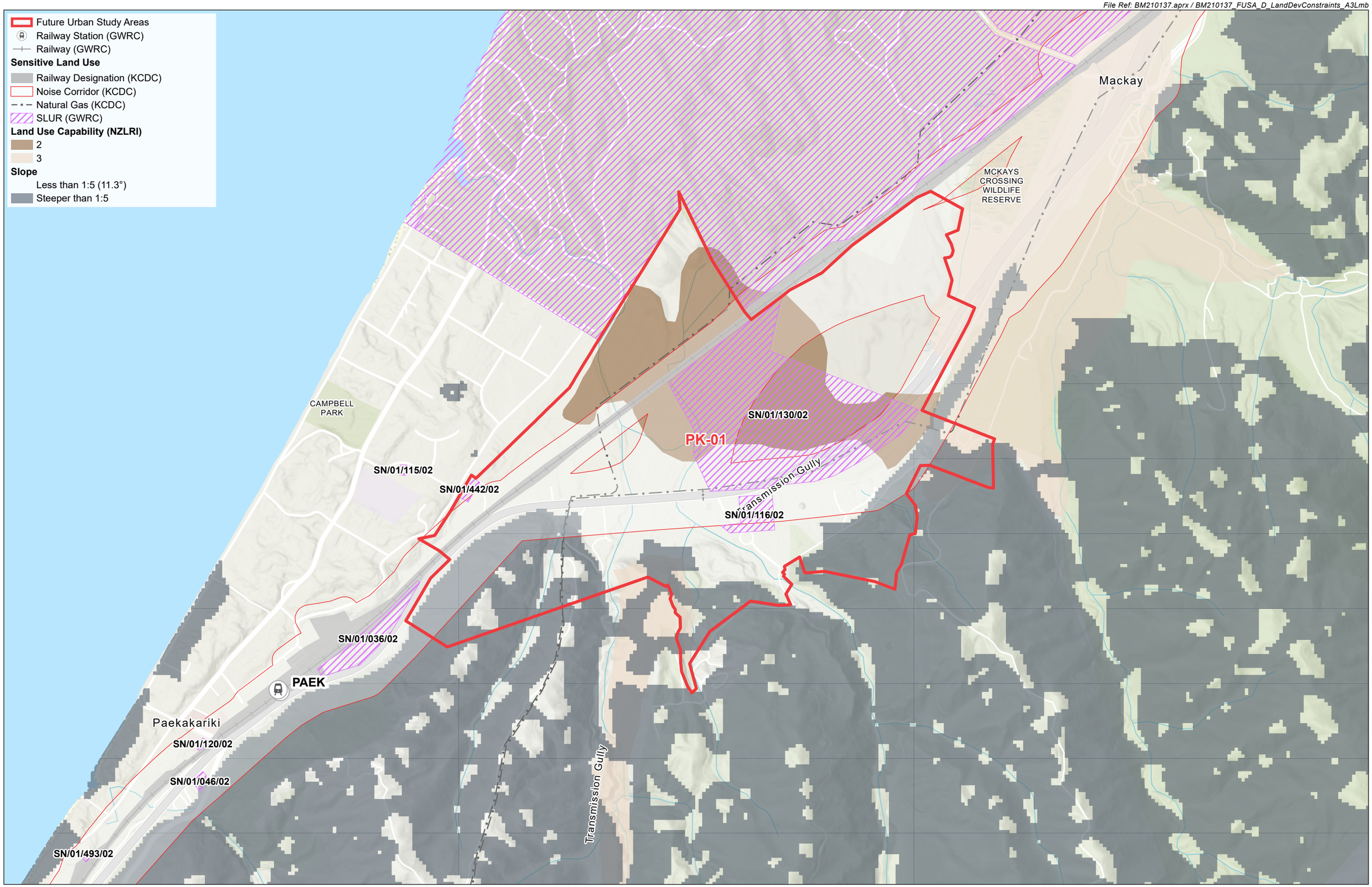

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Land Development Constraints

Future Urban Study: Paekakariki East

Date: 24 August 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

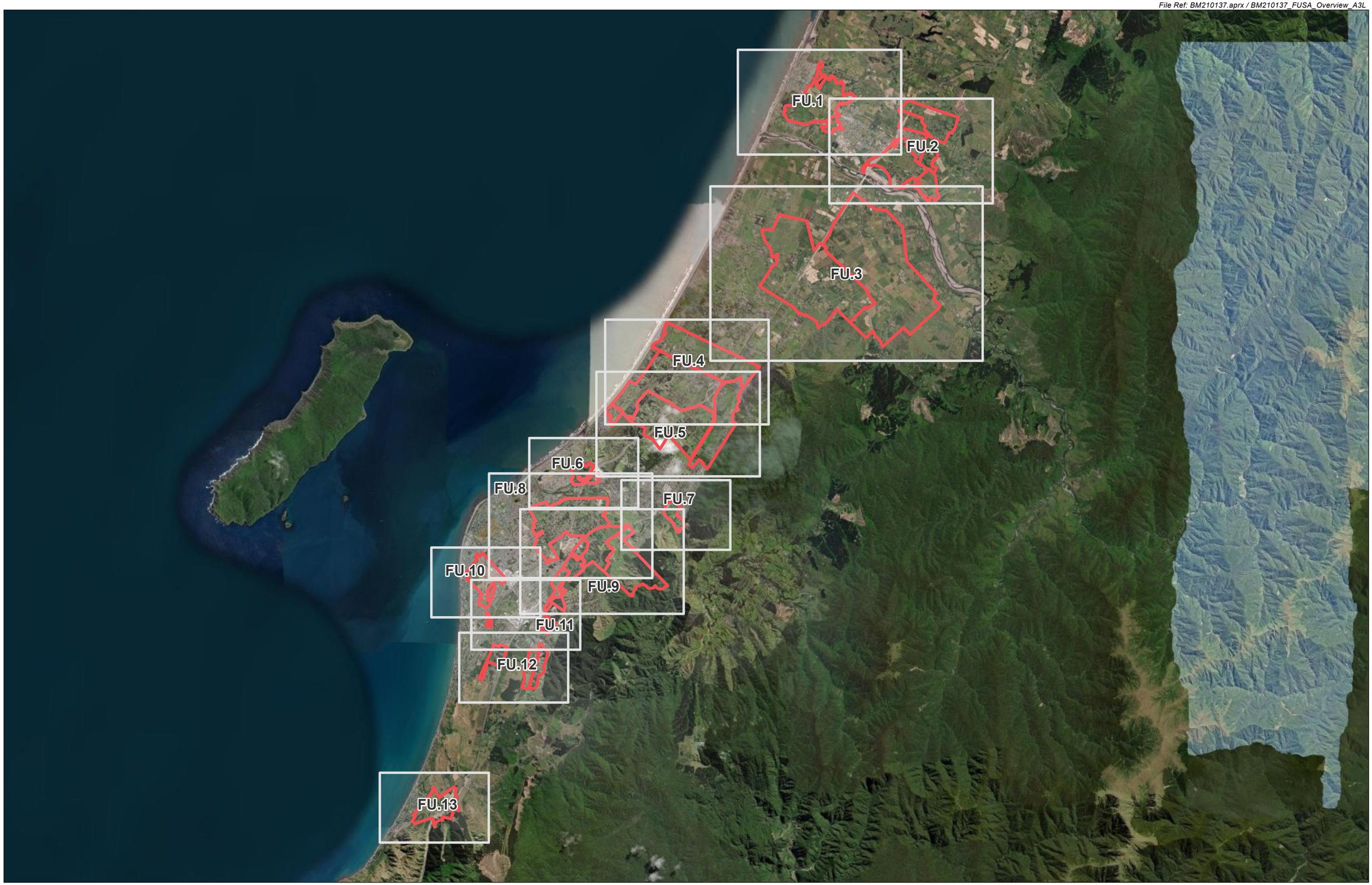
FU.13.D

DRAFT

Future Urban Study Area
Spatial Influences and Constraints
Mapping

Hazards

File Ref: BM210137.aprx / BM210137_FUSA_Overview_A3L



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Data Sources: KCDC, BML, Earthstar Geographics

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Map Index

Future Urban Study Areas

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Future Urban Study Area Mapbook

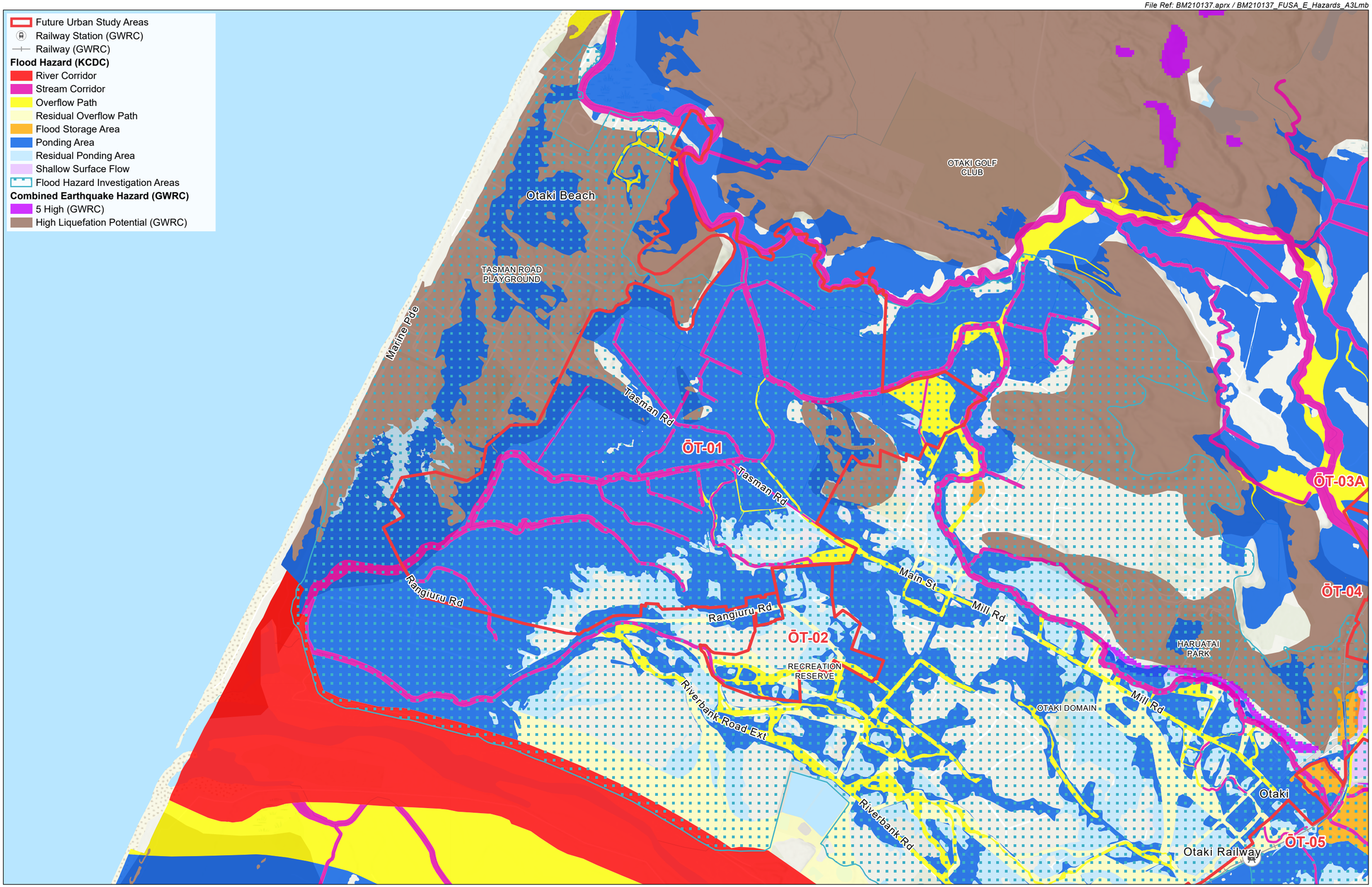
Date: 15 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FUSA

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Ōtaki West

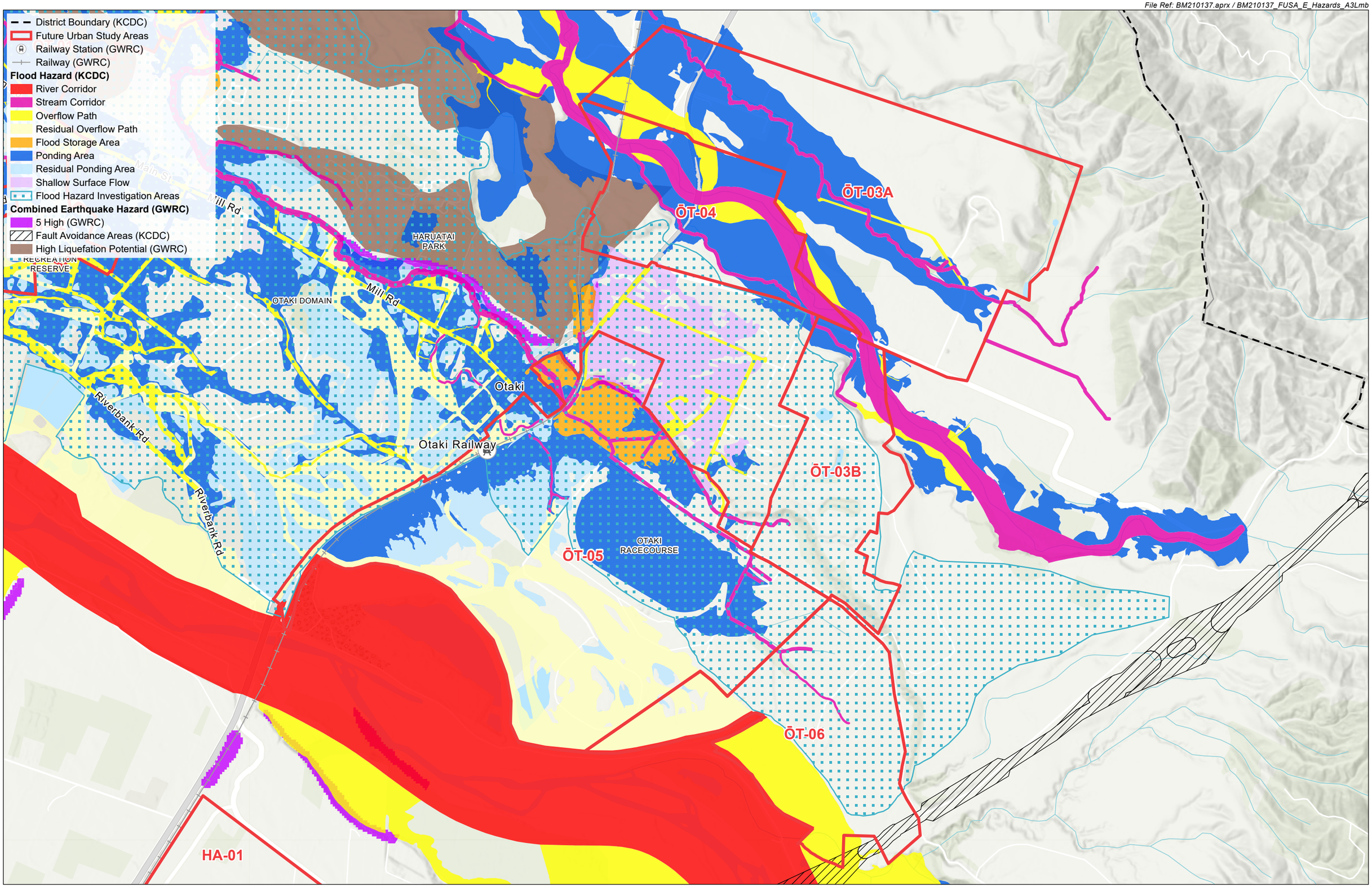
Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.1.E

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Ōtaki East

Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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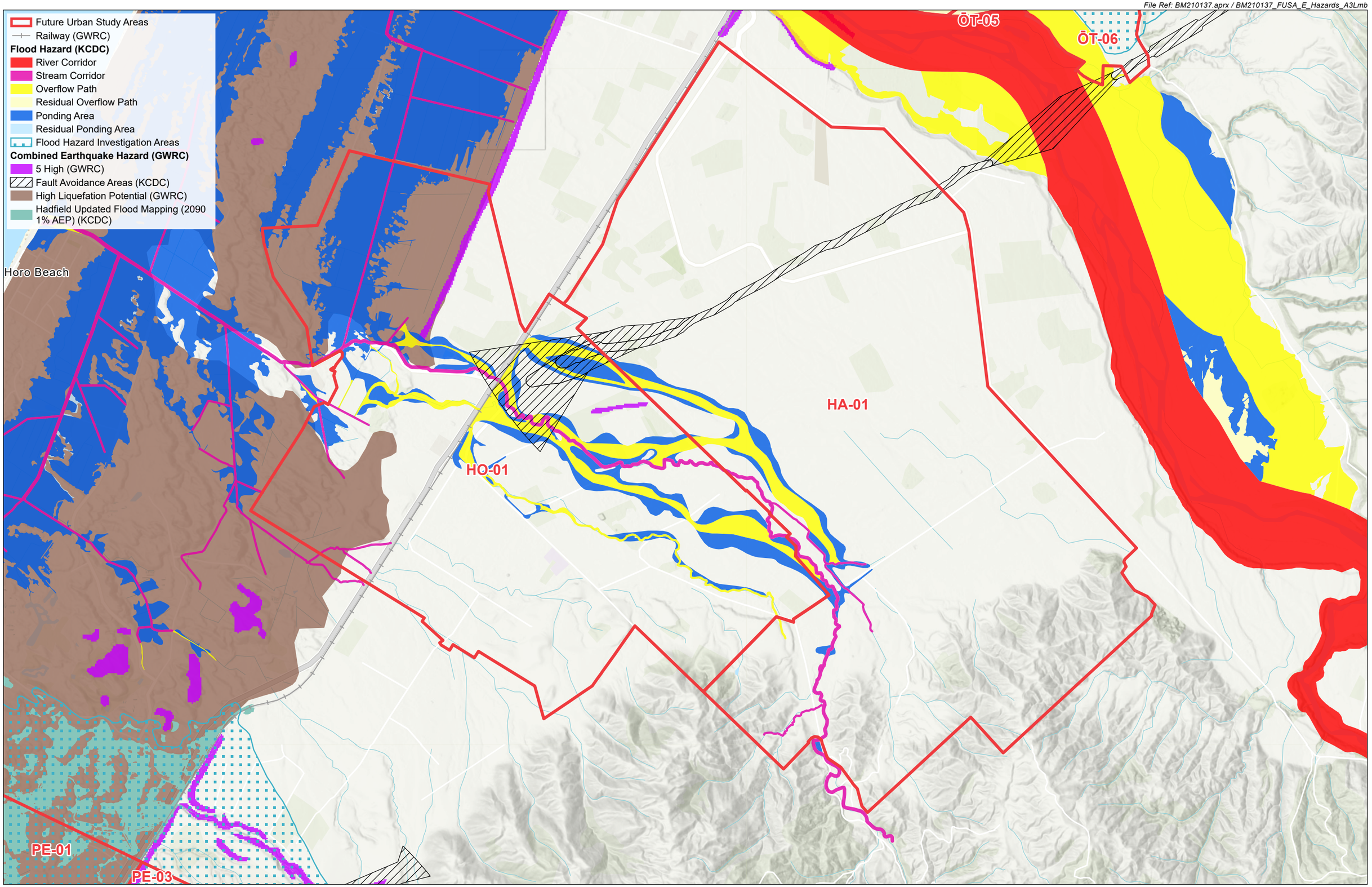

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Data Sources: KCDC, BML, Additional Basemap Imagery: Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors., LINZ, Eagle Technology, LINZ, Stats NZ, Eagle Technology, Esri, HERE, Garmin, METI/NASA, USGS

Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Te Horo/Hautere

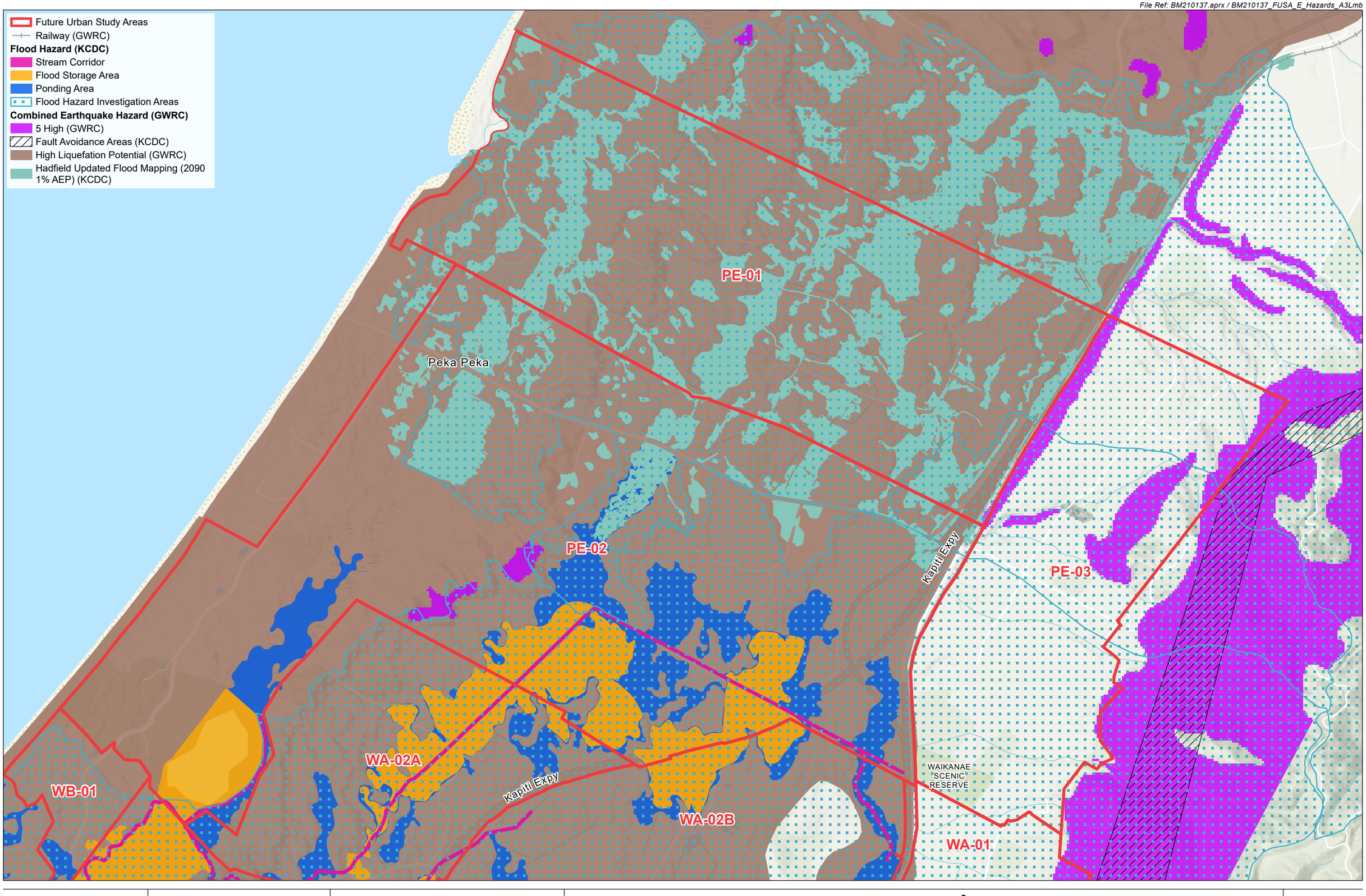
Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.3.E

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Peka Peka

Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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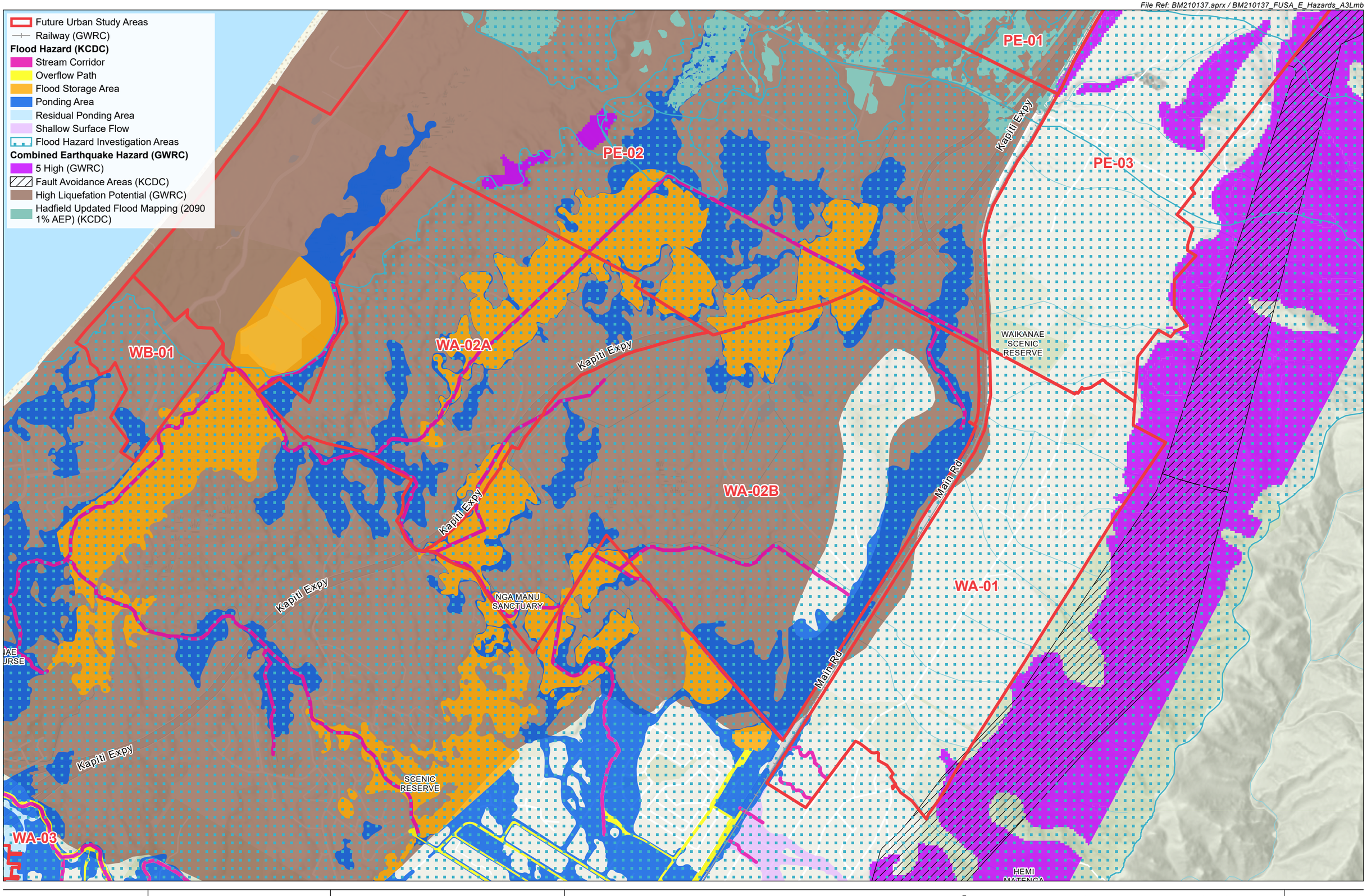
DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Waikanae North

Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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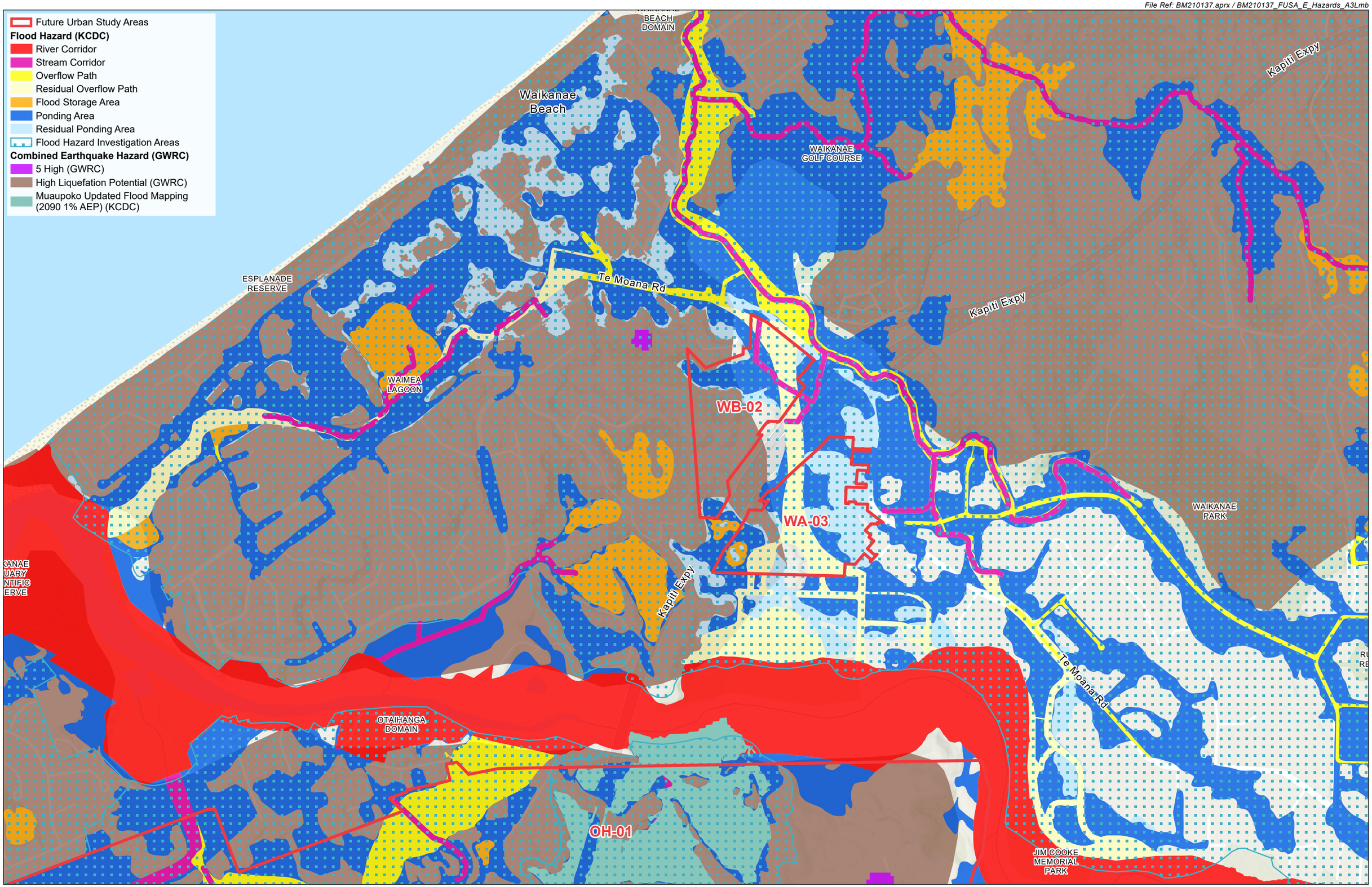

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Waikanae West

Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.6.E

DRAFT

Future Urban Study Areas
Railway Station (GWRC)
Railway (GWRC)

Flood Hazard (KCDC)
River Corridor
Stream Corridor
Overflow Path
Residual Overflow Path
Ponding Area
Residual Ponding Area
Shallow Surface Flow
Flood Hazard Investigation Areas

Combined Earthquake Hazard (GWRC)
5 High (GWRC)
Fault Avoidance Areas (KCDC)
High Liquefation Potential (GWRC)

WAIK
Waikanae
Main Rd
Te Moana Rd
KORU RESERVE
EDGEWATER PARK
Main Rd
WA-04
OH-02
Main Rd
NV-01

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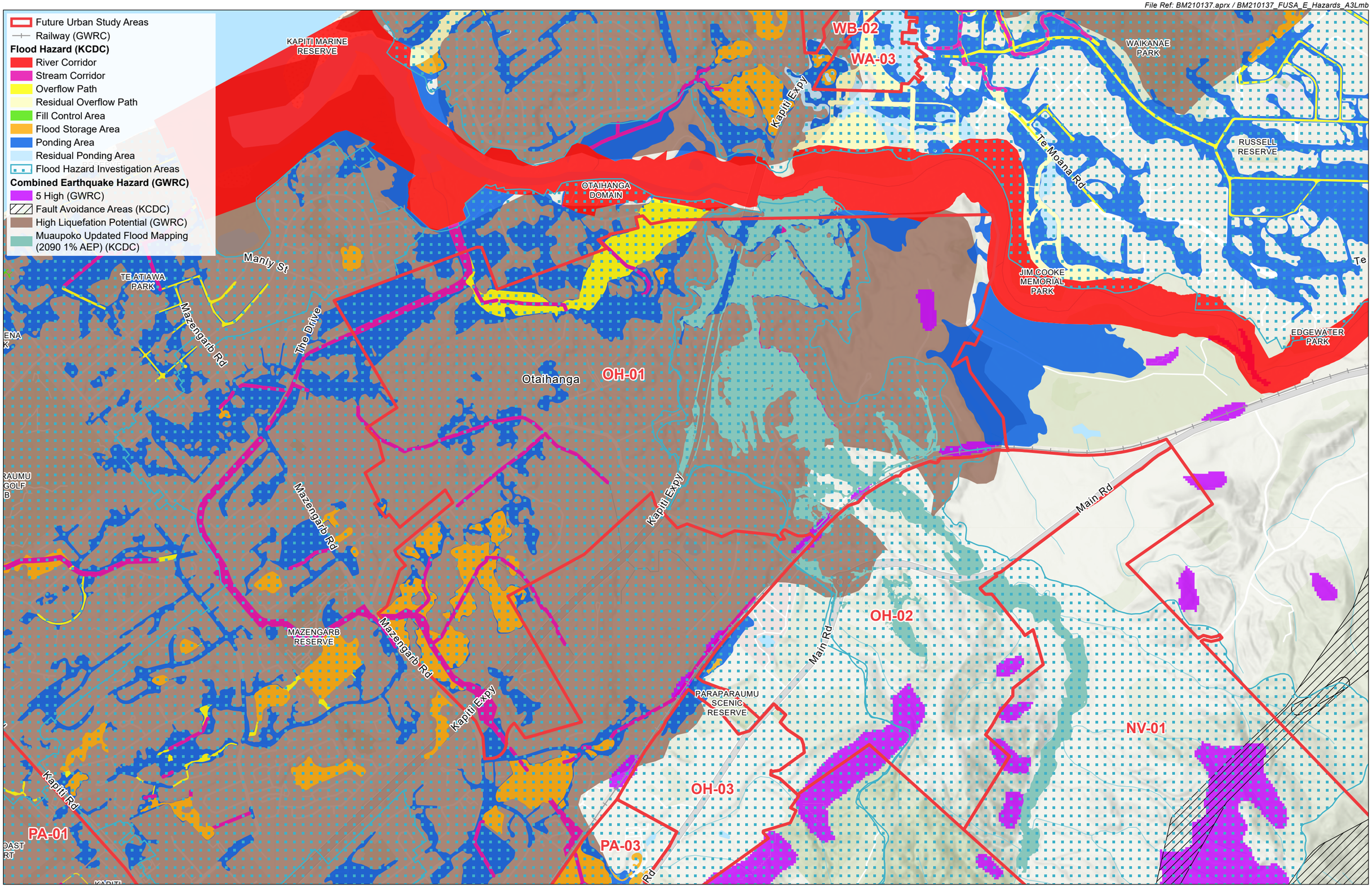
Data Sources: KCDC, BML, Additional Basemap Imagery: Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors., LINZ, Eagle Technology, Esri Community Maps Contributors, LINZ, Stats NZ, Eagle Technology, Esri, HERE, Garmin, METI/NASA, USGS
Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION
Hazards
Future Urban Study: Waikanae East
Date: 24 August 2021 | Revision: 1
Plan prepared for KCDC by Boffa Miskell Limited
Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.7.E

DRAFT



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Data Sources: KCDC, BML, Additional Basemap Imagery: Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors., LINZ, Eagle Technology, Esri Community Maps Contributors, LINZ, Stats NZ, Eagle Technology, Esri, HERE, Garmin, METI/NASA, USGS

Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Otaihanga

Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.8.E

DRAFT

Future Urban Study Areas
Railway Station (GWRC)
Railway (GWRC)

Flood Hazard (KCDC)
River Corridor
Stream Corridor
Overflow Path
Flood Storage Area
Ponding Area
Shallow Surface Flow
Flood Hazard Investigation Areas

Combined Earthquake Hazard (GWRC)
5 High (GWRC)
Fault Avoidance Areas (KCDC)
High Liquefation Potential (GWRC)
Muaupoko Updated Flood Mapping (2090 1% AEP) (KCDC)

Otaihanga
OH-01
Kapiti Expy
Main Rd
EDGEWATER PARK
WA-04
MAZENGARB RESERVE
Mazengarb Rd
OH-02
PARAPARAUMU SCENIC RESERVE
OH-03
NV-01
PA-03
NIKAU RESERVE
Arawhata Rd
PARAPARAUMU DOMAIN
PA-04
Amohia St
Nikau Valley
PARAPARAUMU SCENIC RESERVE

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION
Hazards
Future Urban Study: Otaihanga South-east
Date: 24 August 2021 | Revision: 1
Plan prepared for KCDC by Boffa Miskell Limited
Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.9.E

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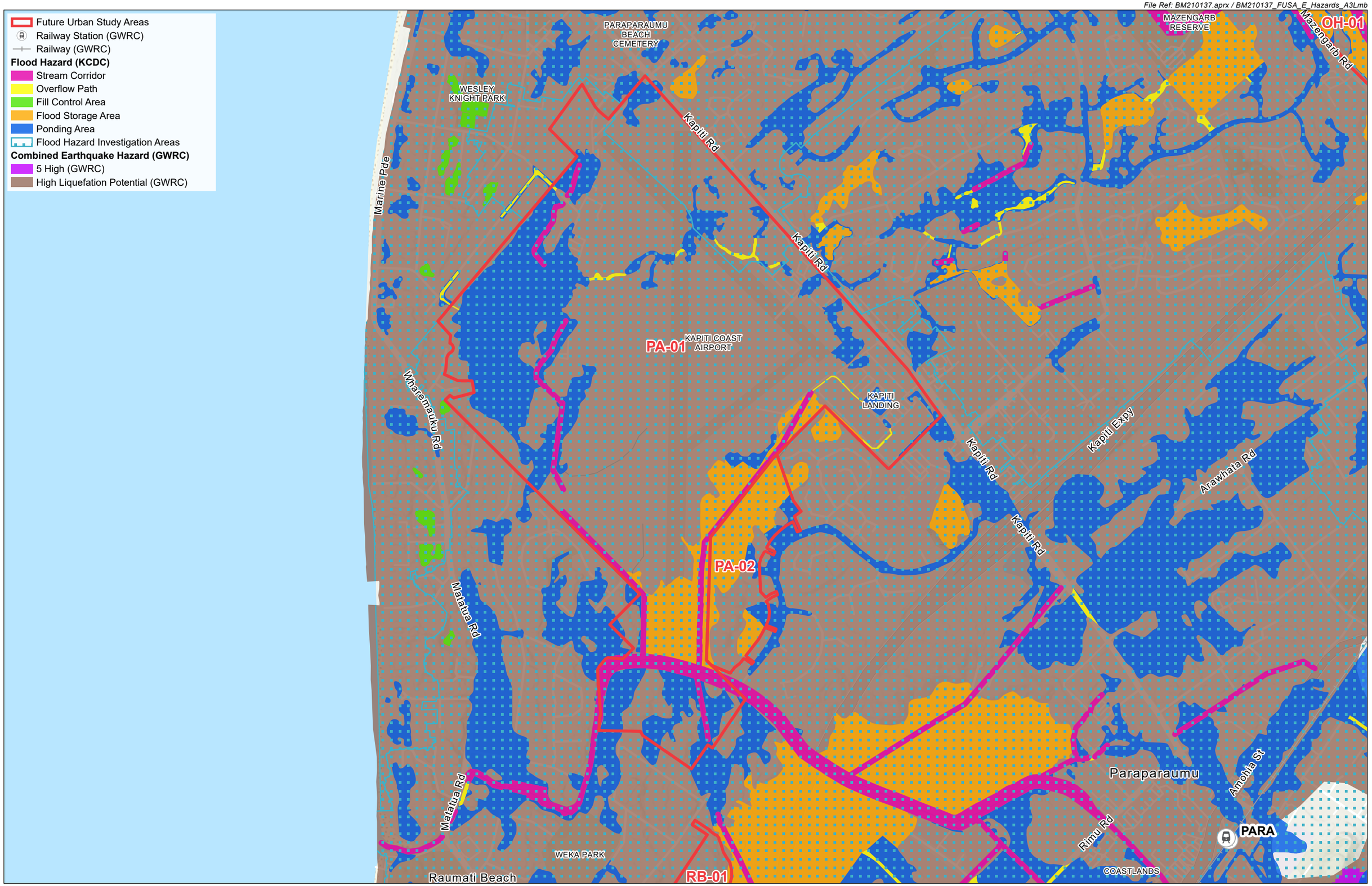

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Paraparaumu Central

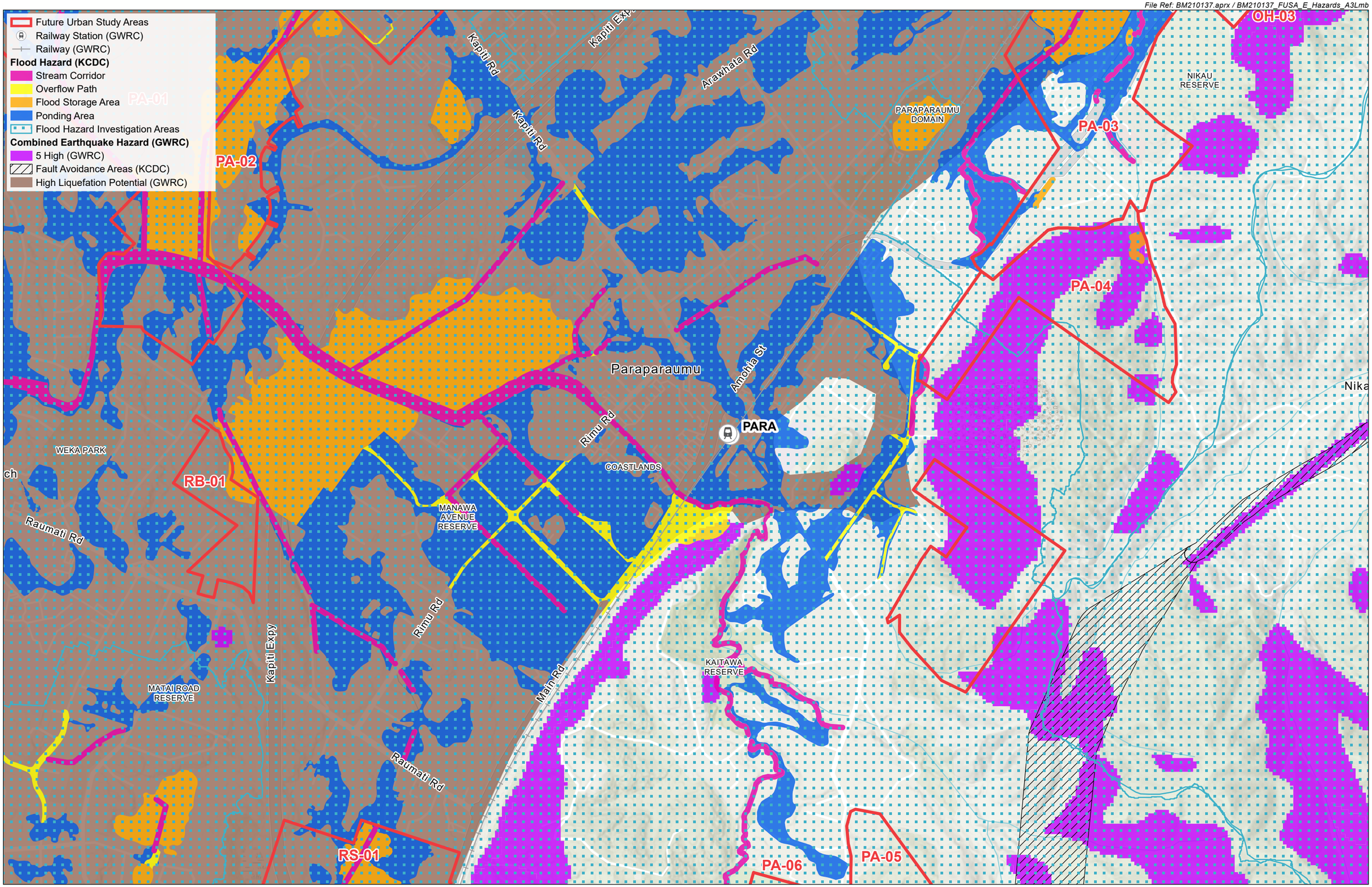
Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.10.E

DRAFT



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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Paraparaumu East

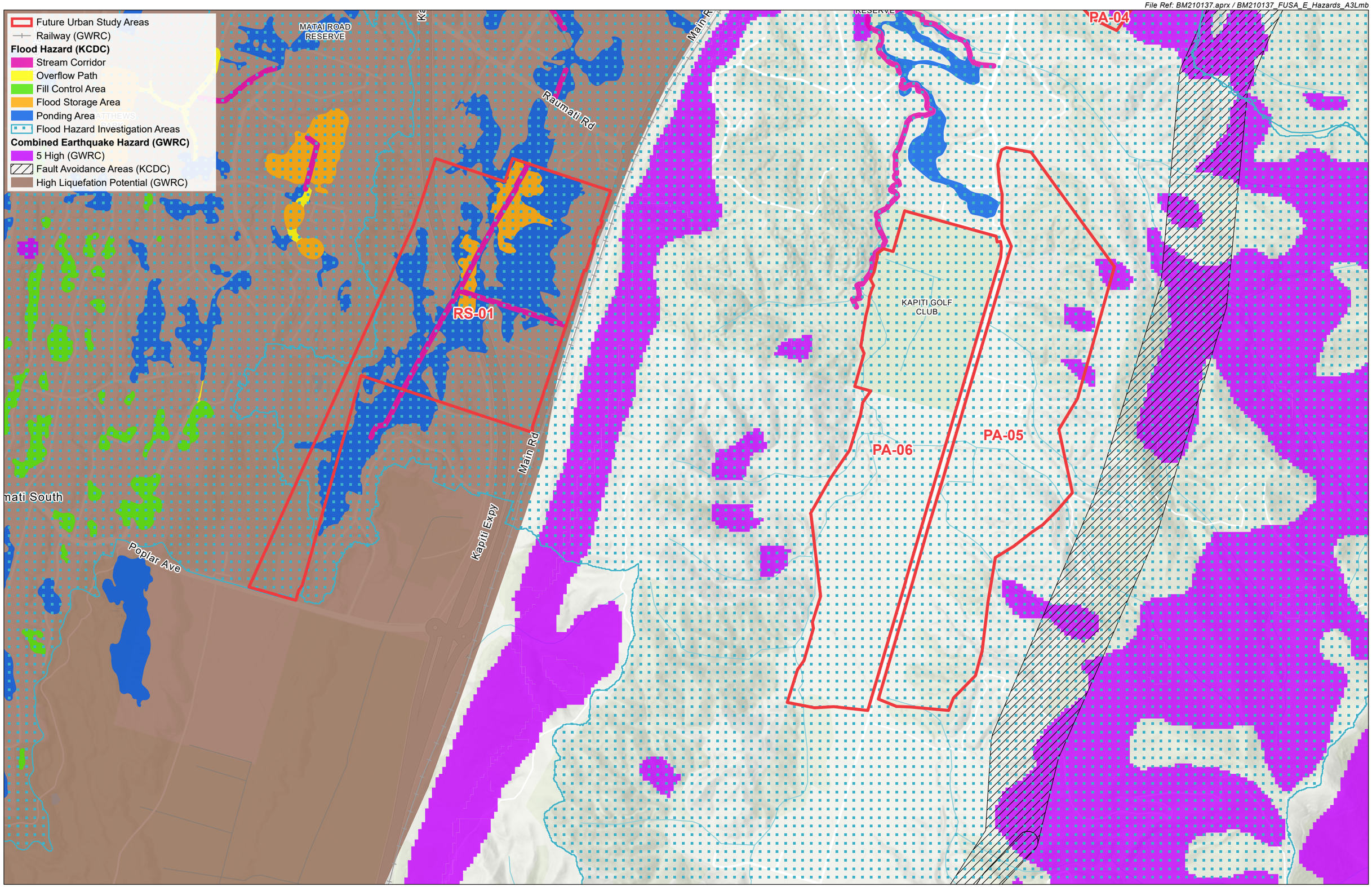
Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.11.E

DRAFT



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Data Sources: KCDC, BML, Additional Basemap Imagery: Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors., LINZ, Eagle Technology, Esri Community Maps Contributors, LINZ, Stats NZ, Eagle Technology, Esri, HERE, Garmin, METI/NASA, USGS

Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Paraparaumu South

Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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Projection: NZGD 2000 New Zealand Transverse Mercator

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Hazards

Future Urban Study: Paekakariki East

Date: 24 August 2021 | Revision: 1

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

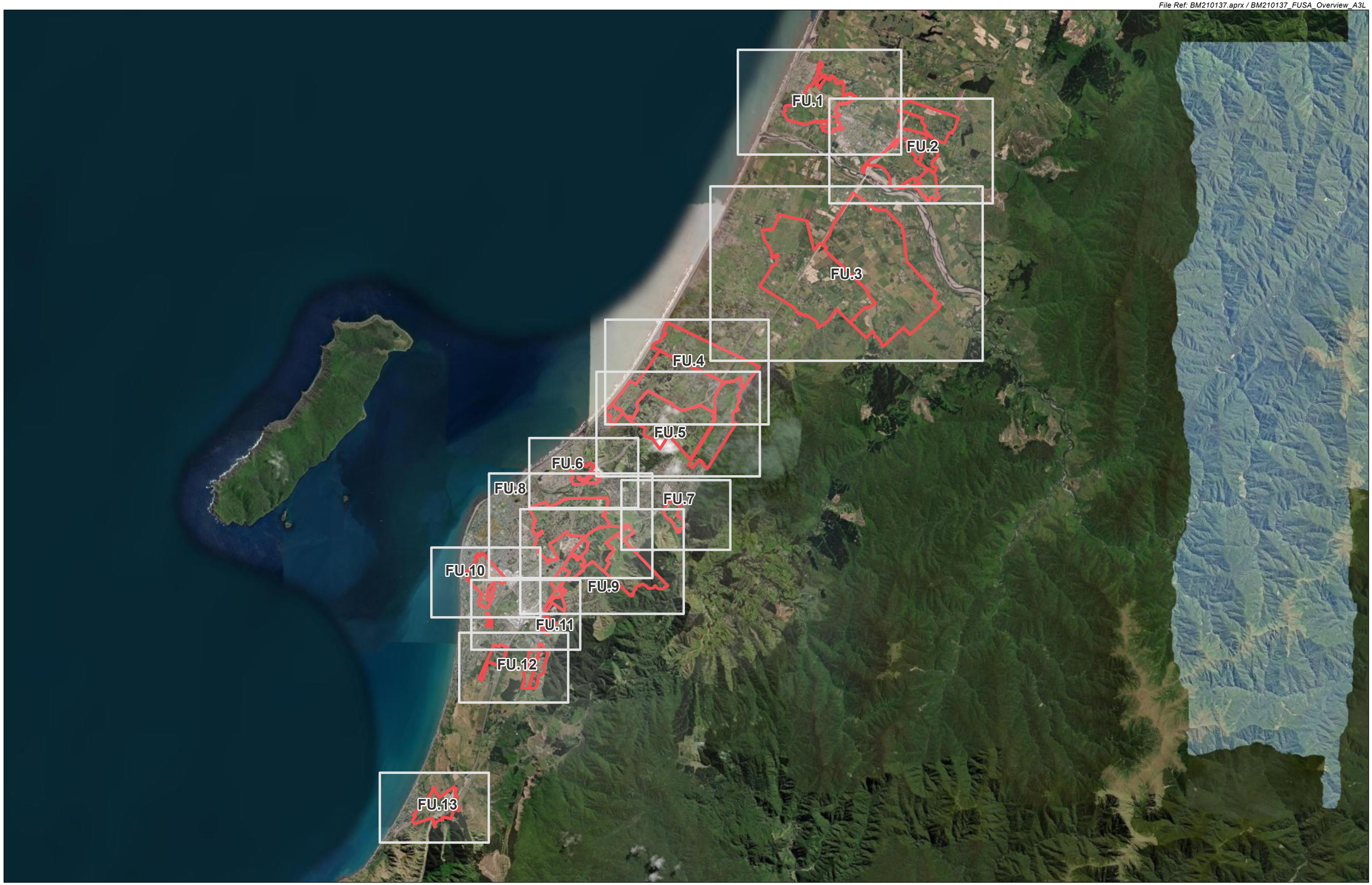
FU.13.E

DRAFT

Future Urban Study Area
Spatial Influences and Constraints
Mapping

Mana Whenua

File Ref: BM210137.aprx / BM210137_FUSA_Overview_A3L



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1:125,000 @ A3

Data Sources: KCDC, BML, Earthstar Geographics

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Map Index

Future Urban Study Areas

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Future Urban Study Area Mapbook

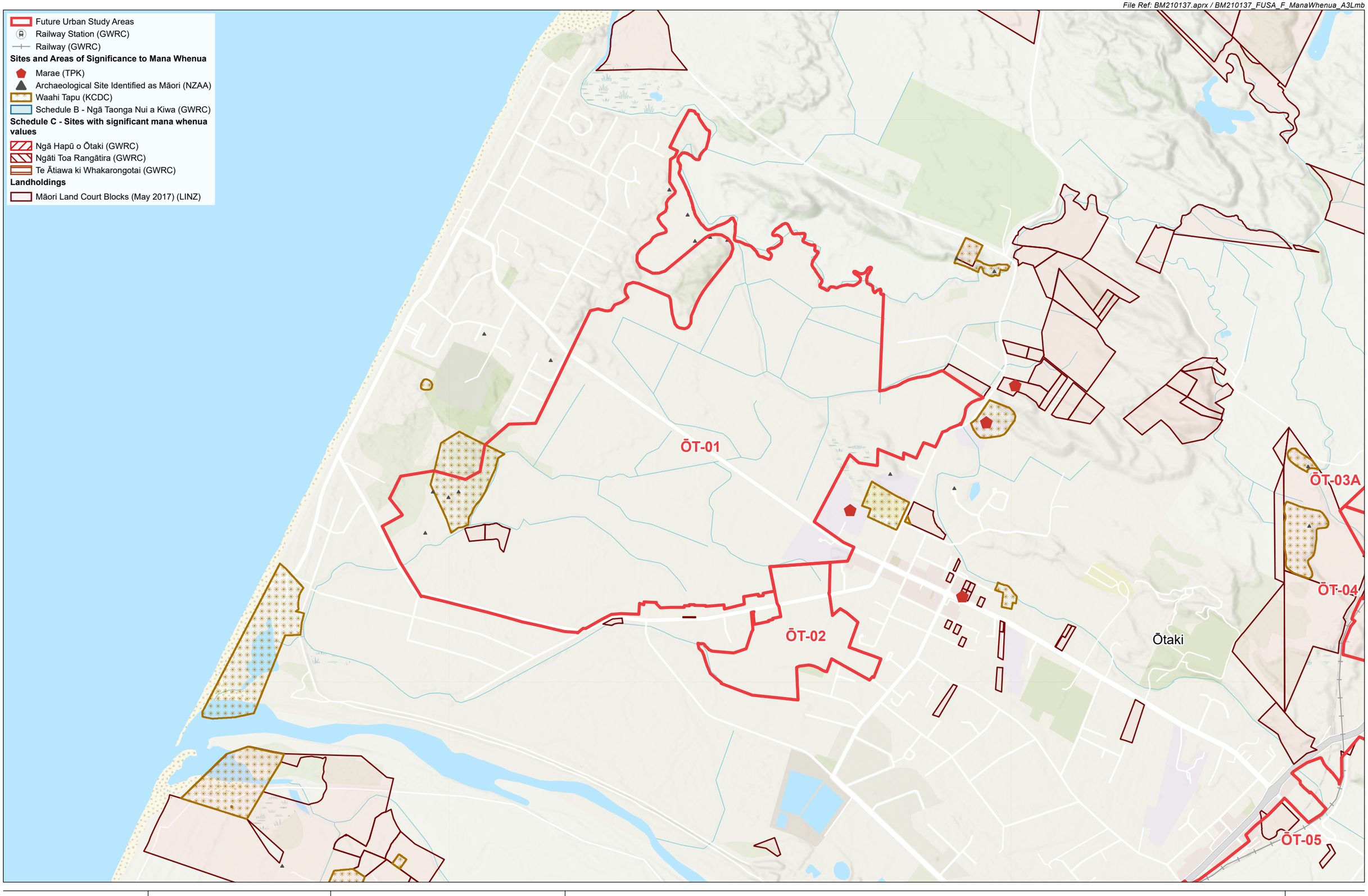
Date: 15 July 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FUSA

DRAFT



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Data Sources: KCDC, BML, Additional Basemap Imagery: Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors., LINZ, Eagle Technology

Projection: NZGD 2000 New Zealand Transverse Mercator

Note: the areas, sites and places of significance identified in this map have been sourced from publicly available sources, including KCDC, GWRC, Heritage New Zealand, Te Puni Kōkiri and Land Information New Zealand. It is acknowledged that the mana whenua position on sites of significance within their rohe may differ from the sites identified in this map.

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua
Future Urban Study: Ōtaki West

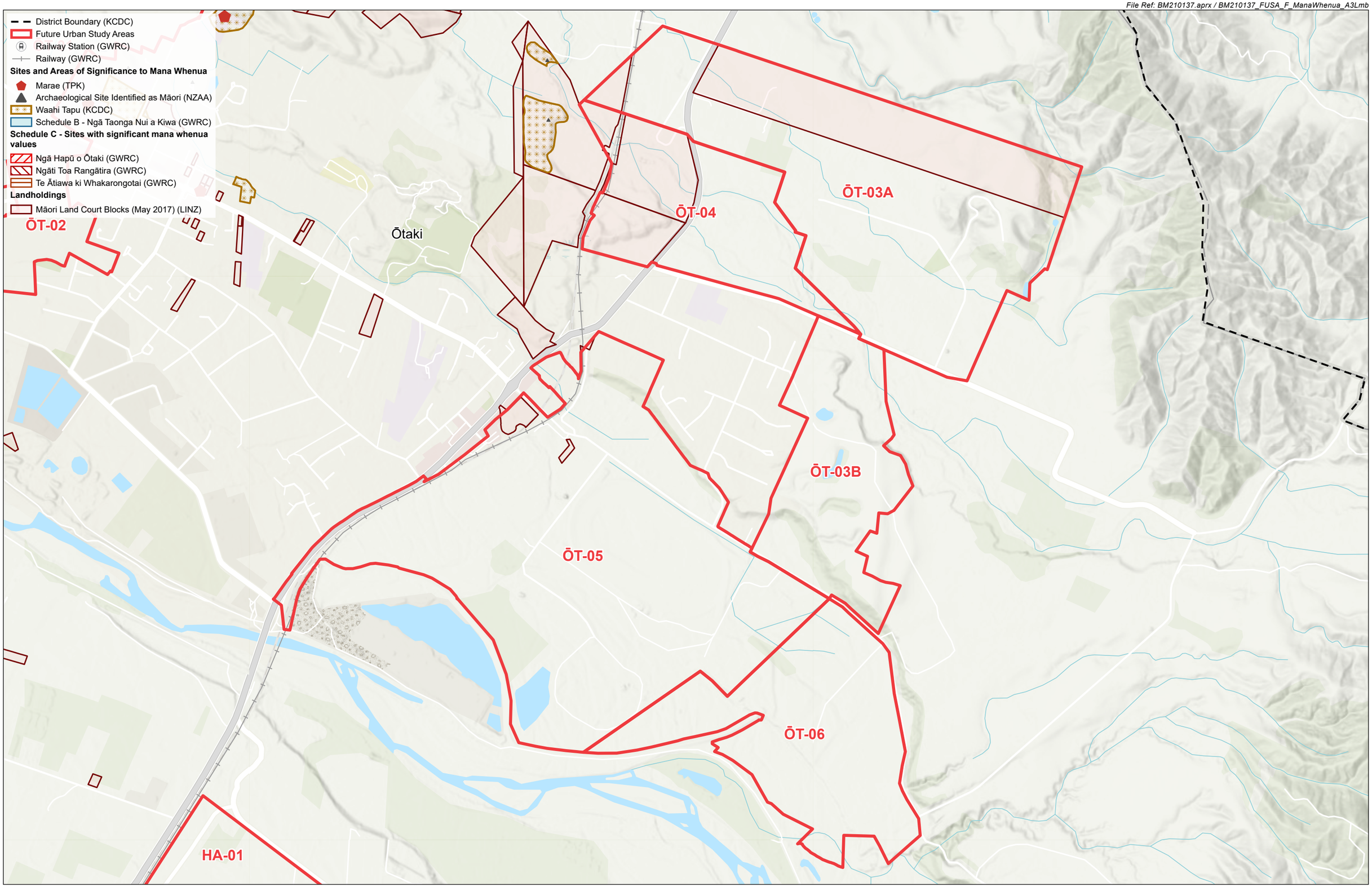
Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.1.F

DRAFT



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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Ōtaki East

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.2.F

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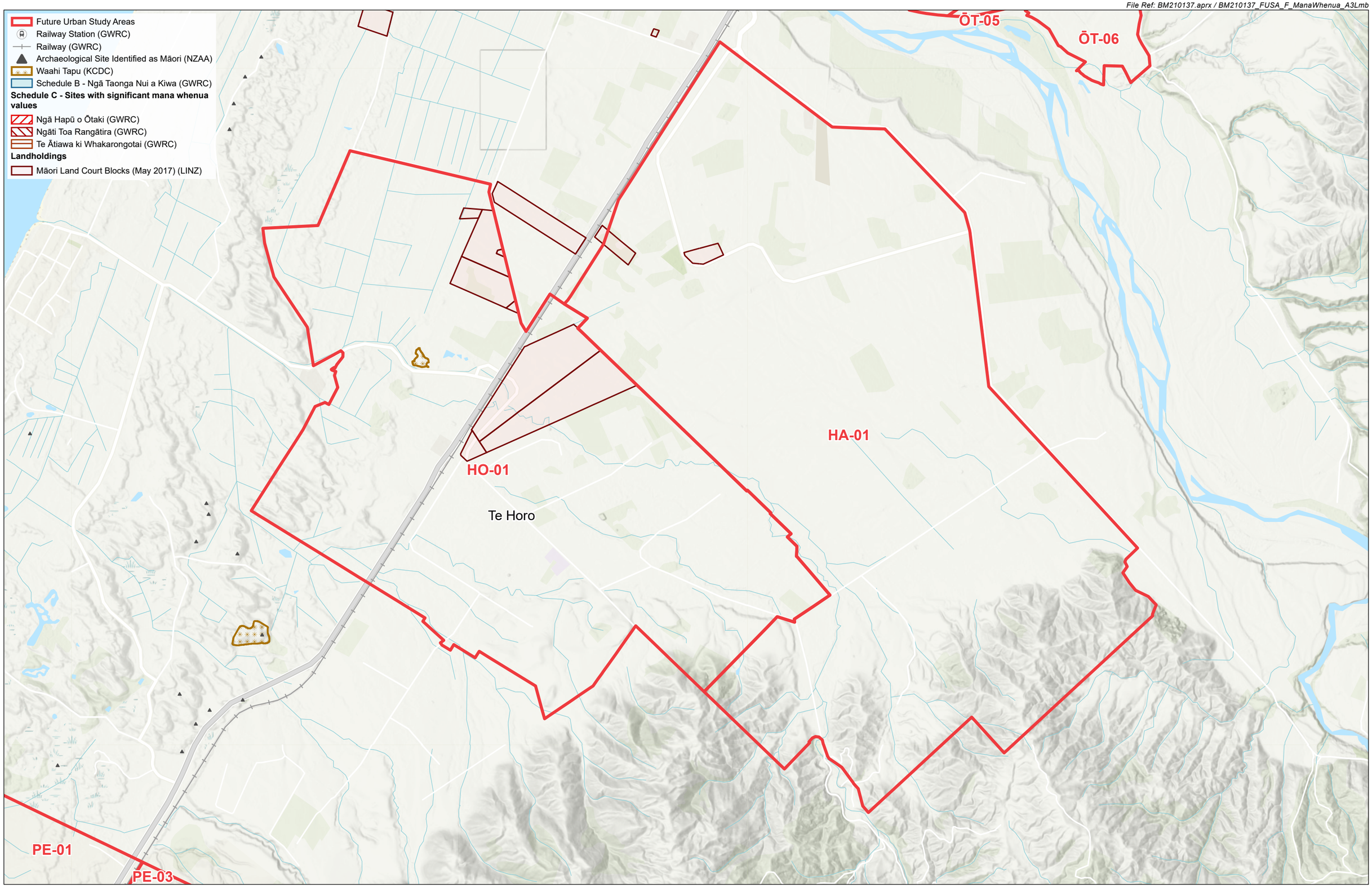

Boffa Miskell

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1:25,000 @ A3

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Te Horo/Hautere

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

FU.3.F

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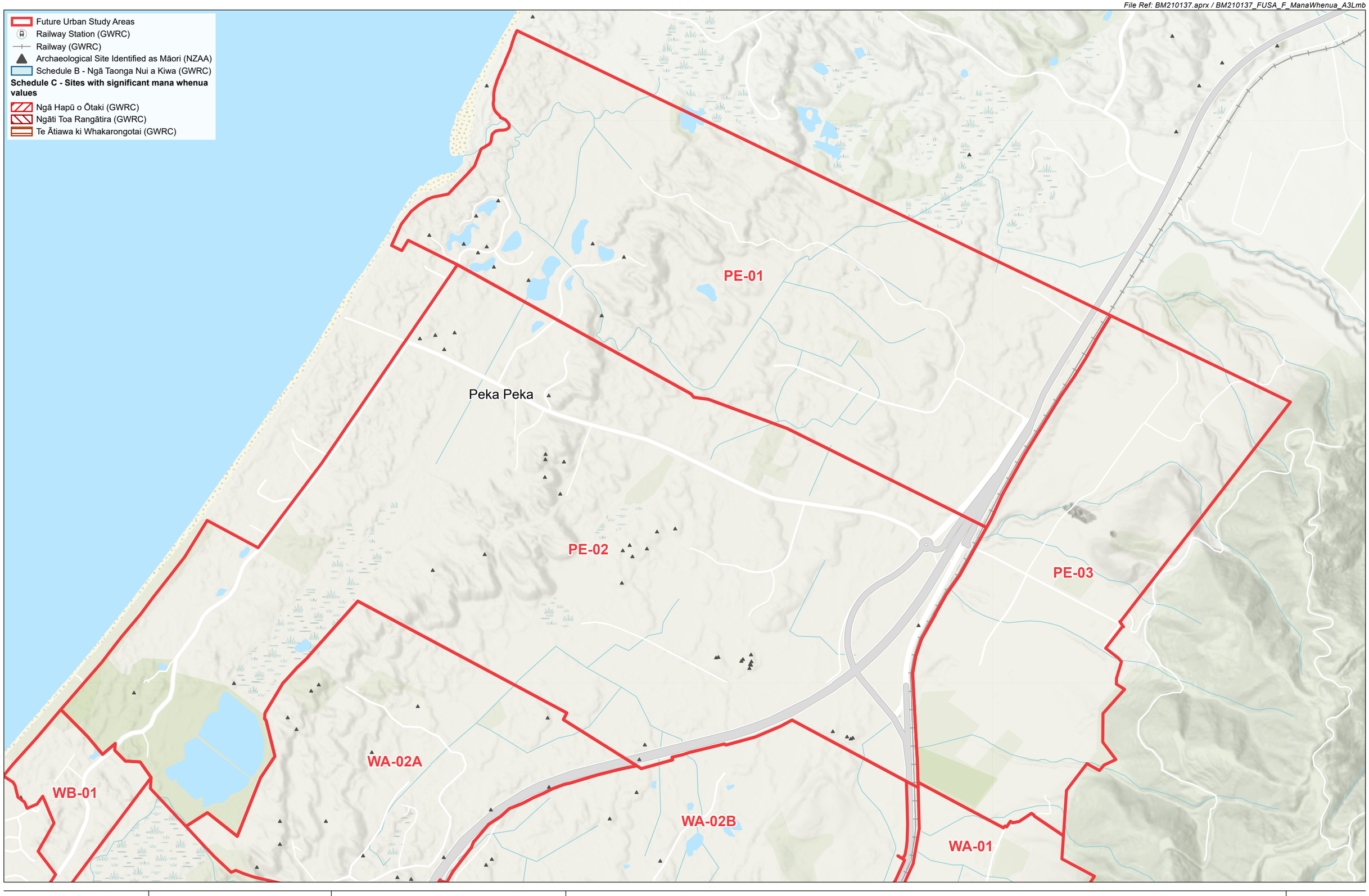

Boffa Miskell

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0 400 m

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua
Future Urban Study: Peka Peka

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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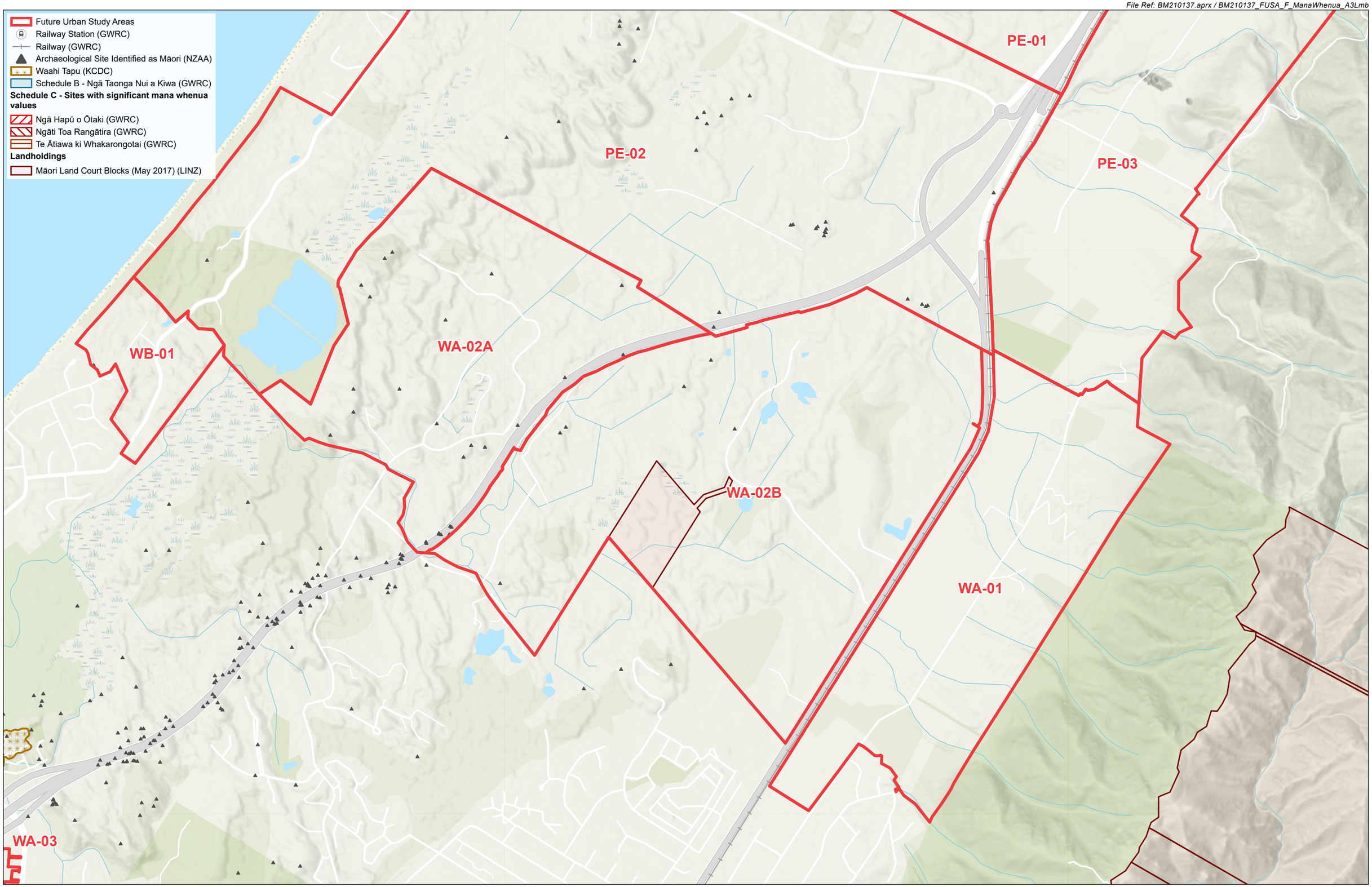

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Waikanae North

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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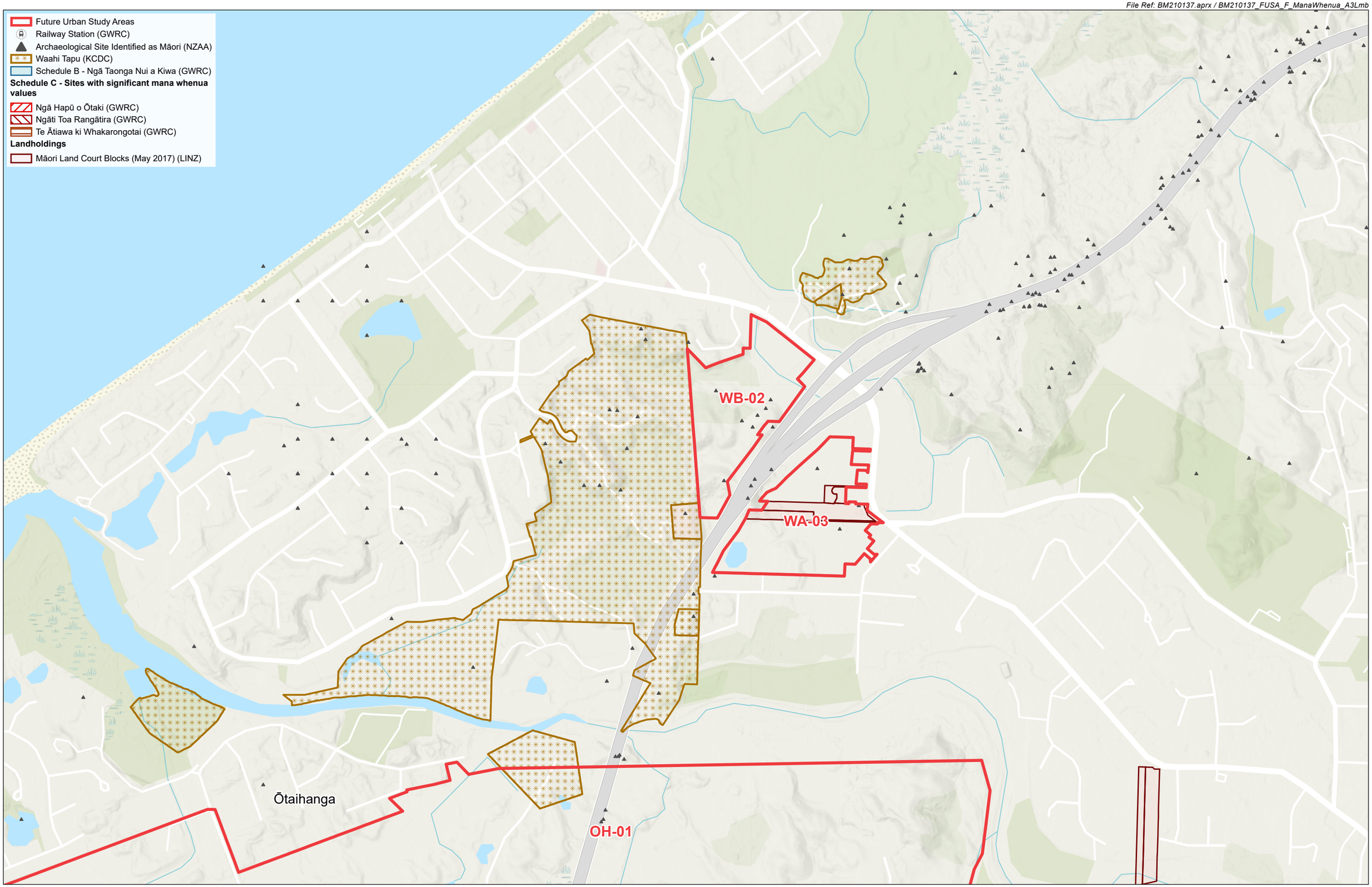

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Waikanae West

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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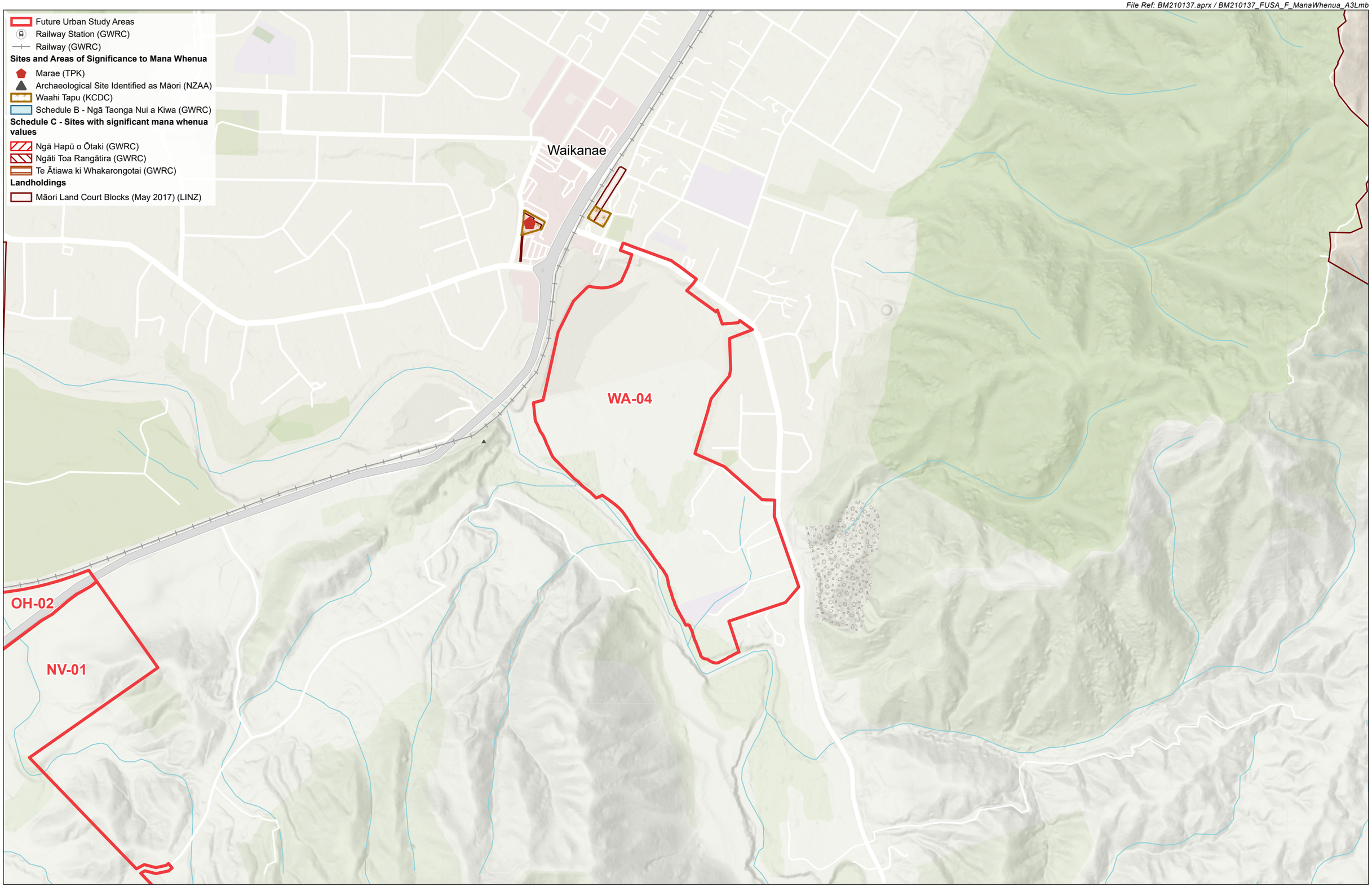

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Waikanae East

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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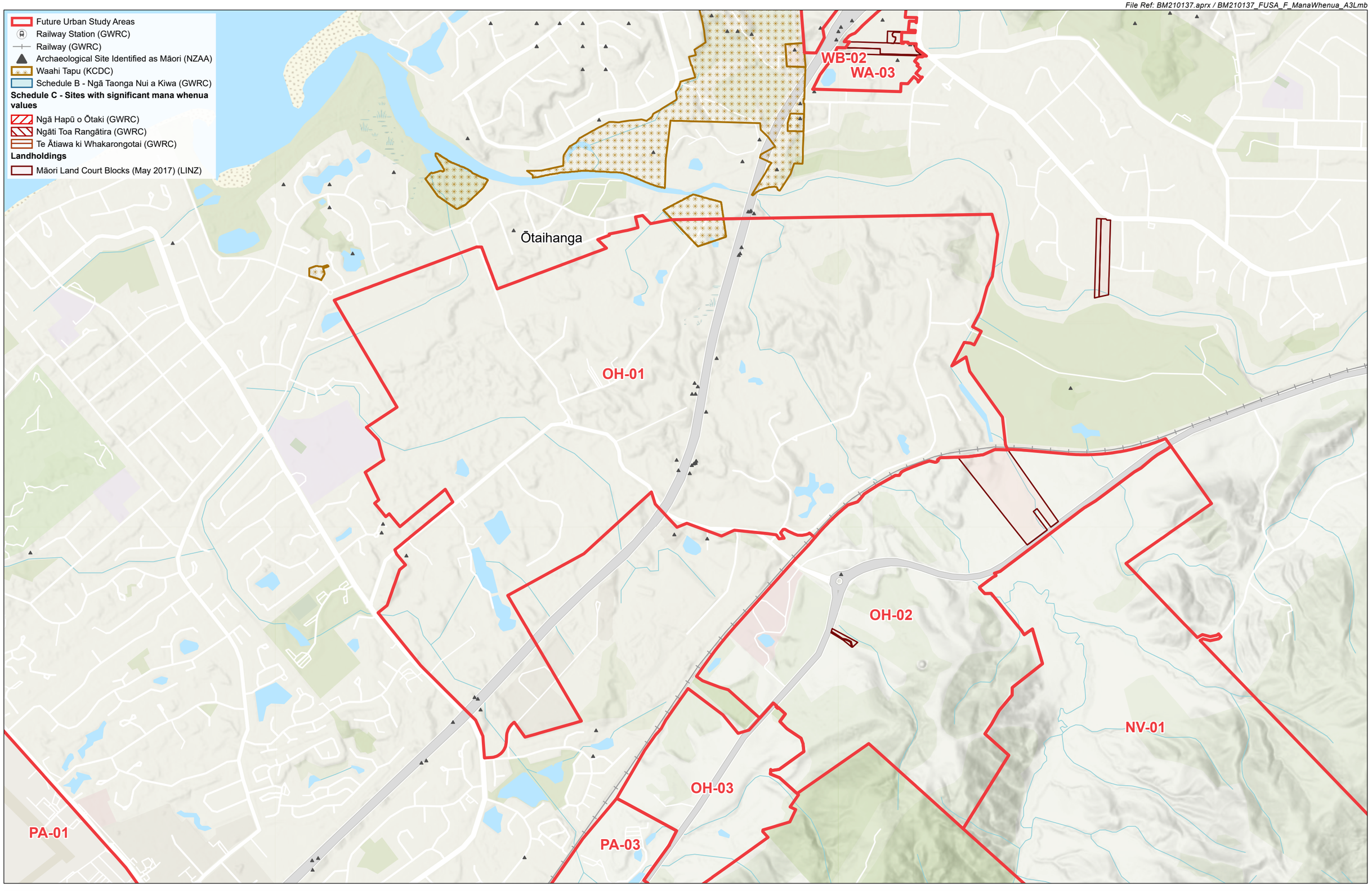

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Otaihanga

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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Future Urban Study Areas
Railway Station (GWRC)
Railway (GWRC)
Archaeological Site Identified as Māori (NZAA)
Schedule B - Ngā Taonga Nui a Kiwa (GWRC)

Schedule C - Sites with significant mana whenua values

Ngā Hapū o Ōtaki (GWRC)
Ngāti Toa Rangātira (GWRC)
Te Ātiawa ki Whakarongotai (GWRC)

Landholdings

Māori Land Court Blocks (May 2017) (LINZ)

OH-01
OH-02
OH-03
PA-03
PA-04
WA-04
NV-01
Paraparaumu

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Projection: NZGD 2000 New Zealand Transverse Mercator

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Otaihanga South-east

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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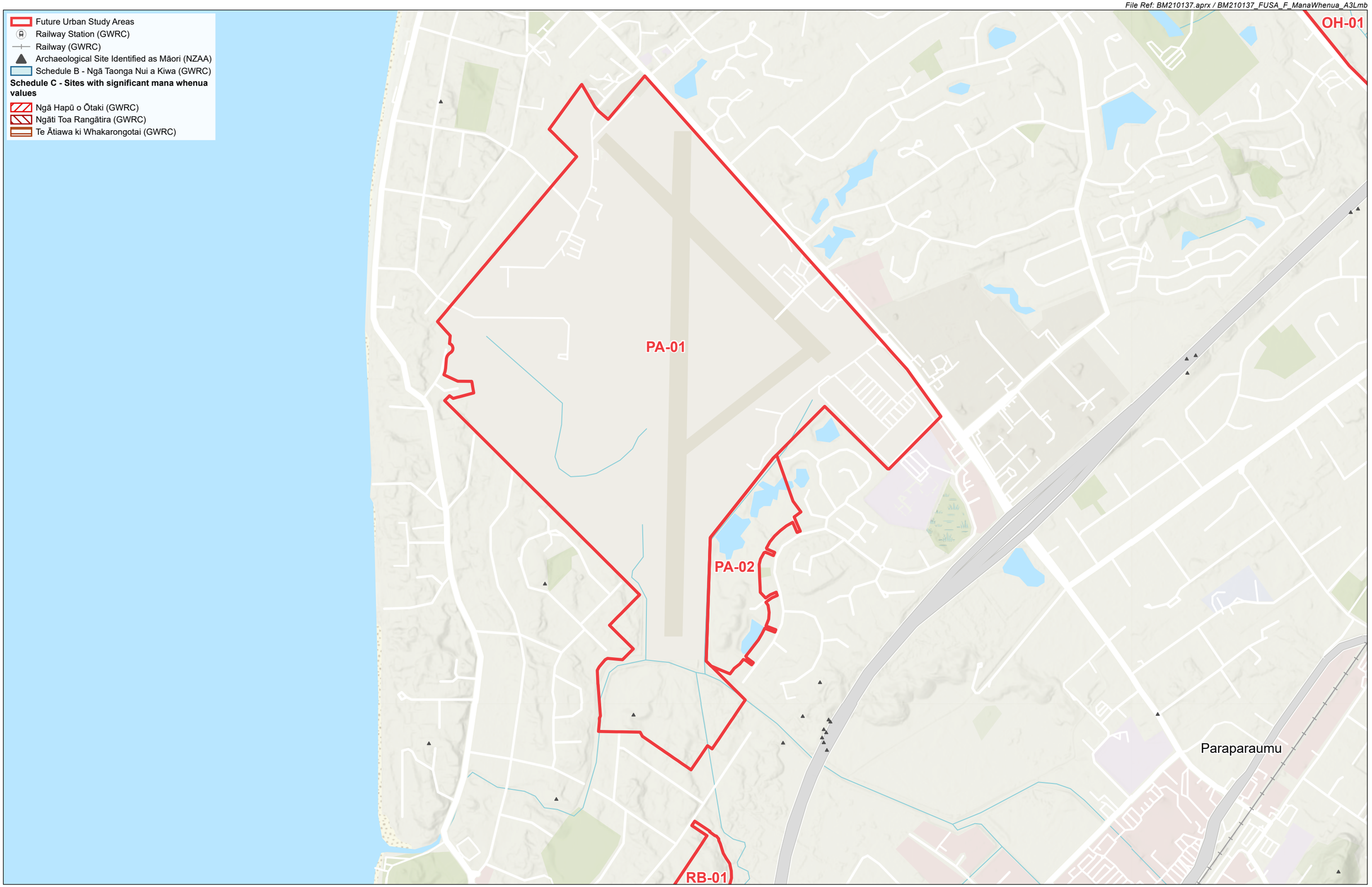

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Paraparaumu Central

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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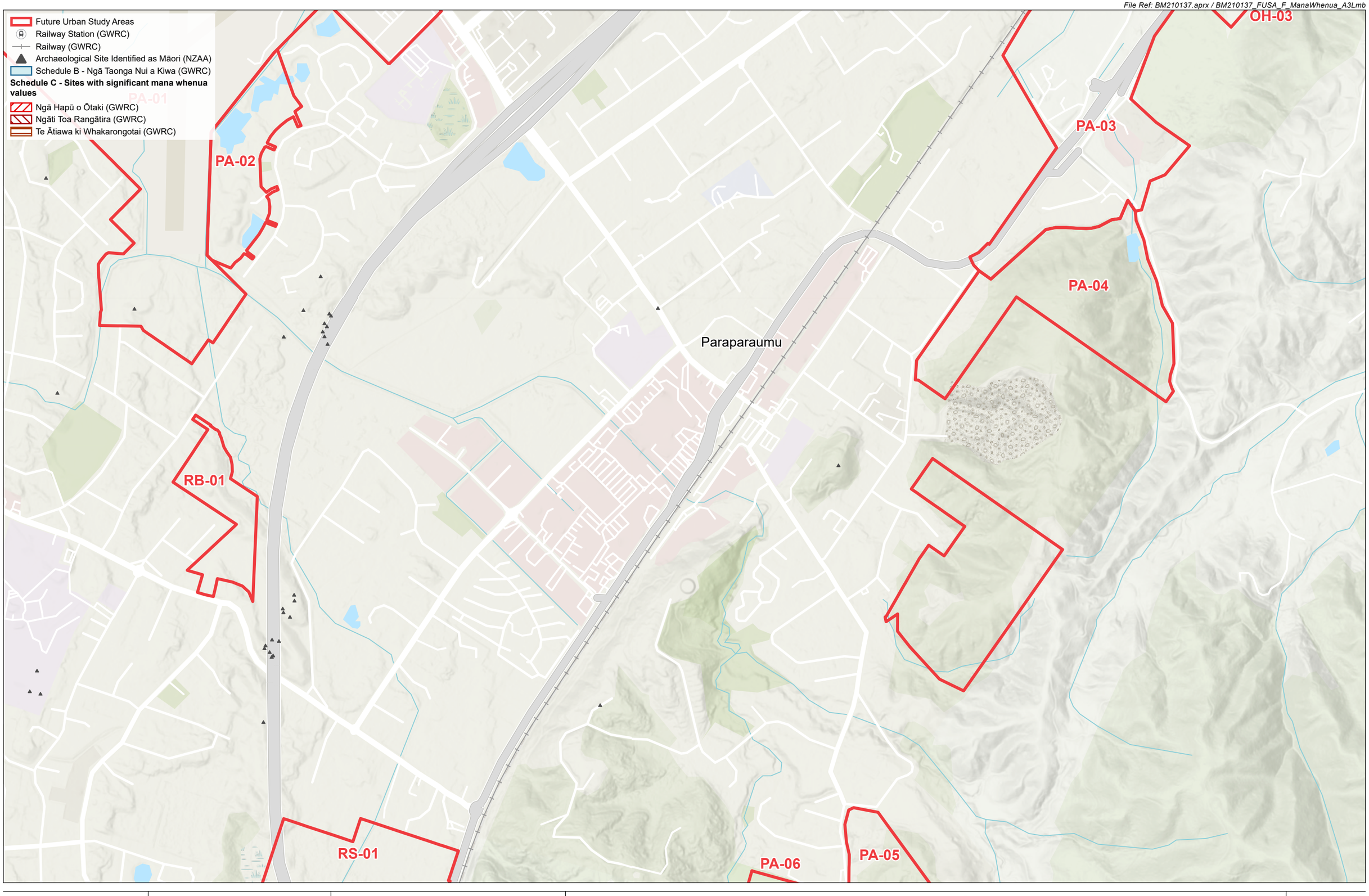

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Projection: NZGD 2000 New Zealand Transverse Mercator

Note: the areas, sites and places of significance identified in this map have been sourced from publicly available sources, including KCDC, GWRC, Heritage New Zealand, Te Puni Kōkiri and Land Information New Zealand. It is acknowledged that the mana whenua position on sites of significance within their rohe may differ from the sites identified in this map.

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Paraparaumu East

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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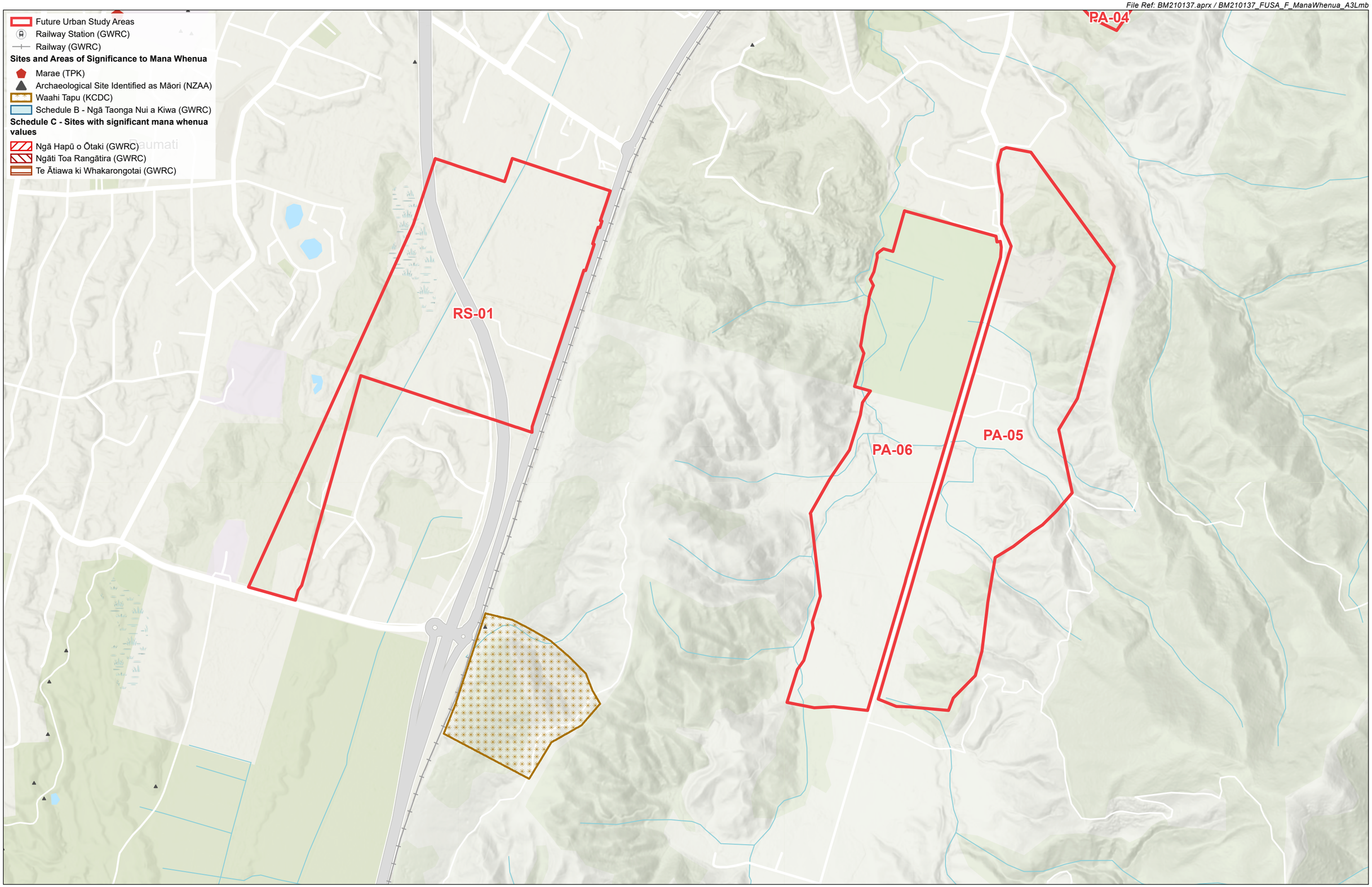

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Projection: NZGD 2000 New Zealand Transverse Mercator

Note: the areas, sites and places of significance identified in this map have been sourced from publicly available sources, including KCDC, GWRC, Heritage New Zealand, Te Puni Kōkiri and Land Information New Zealand. It is acknowledged that the mana whenua position on sites of significance within their rohe may differ from the sites identified in this map.

KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Paraparaumu South

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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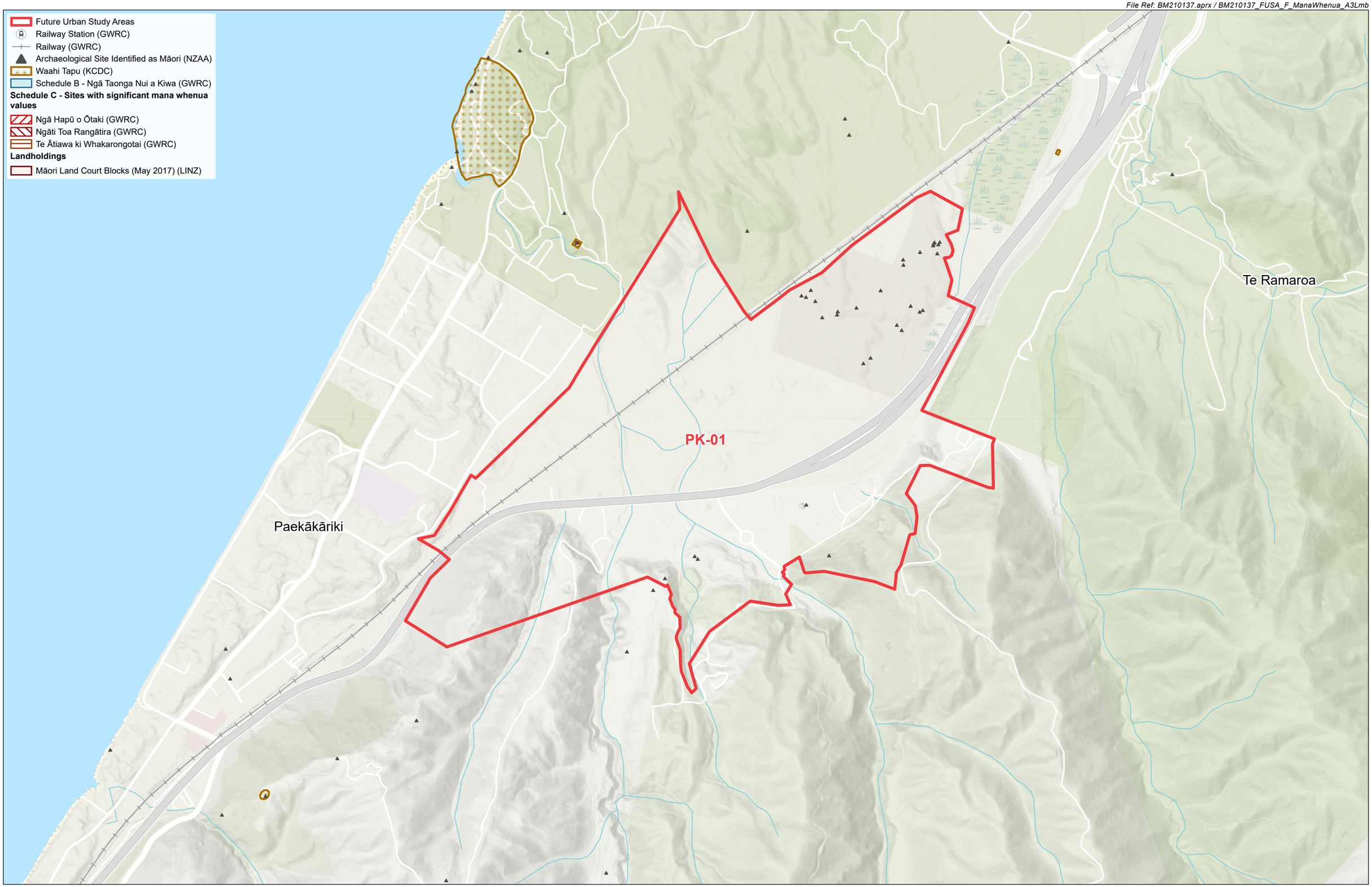

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KĀPITI URBAN DEVELOPMENT AND INTENSIFICATION

Mana Whenua

Future Urban Study: Paekakariki East

Date: 01 September 2021 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: marc.baily@boffamiskell.co.nz | Drawn: HHu | Checked: ABa

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Appendix 3A: Assessment of Study Areas – summary table

Future Urban Study Areas **Assessment Summary**

Ref.	Location	Area (ha)	Key Constraints	Key Opportunities	Mana whenua values	Iwi development aspirations	Urban form	Local neighbourhoods	Activity centres	Residential development	Business land	Transport networks	Infrastructure & servicing	Natural ecosystems	Waterbodies	Landscape and open space	Heritage	Topography	Natural hazards & land risks	Land use compatibility	Highly productive land	Climate change (low-carbon futures)	Theoretical dwelling estimate	Overall priority group
ŌTAKI																								
ŌT-01	Ōtaki (west)	249.3ha	• Streams, drains and wetlands. • Significant presence of flood hazard. • Highly productive land. • Poor access to public transport. • Constrained water supply. • Wāhi tapu.	• Contiguous expansion of urban Ōtaki. • Close proximity to Ōtaki. • Improved access to Ōtaki Beach. • Relatively flat.																			140	3
ŌT-02	Ōtaki (west)	21.8ha	• Flood hazard. • Poor access to public transport.	• Contiguous expansion of urban Ōtaki. • Close proximity to Ōtaki. • Relatively unconstrained.																			0 (190 already zoned Residential)	N/A
ŌT-03A	Ōtaki (east)	141.2ha	• Disconnected from established urban environments. • Poor access for all forms of transport. • Highly productive land. • Established rural lifestyle development. • Constrained water supply and waste water reticulation.	• Some areas appropriate for residential development.																			490	3
ŌT-03B	Ōtaki (east)	52.5ha	• Highly productive land. • Constrained water supply and waste water reticulation.	• Contiguous extension of the Waitohu Neighbourhood. • Relatively free from natural hazard.																			510	2A
ŌT-04	Ōtaki (east)	53.0ha	• Poor access to public transport. • Flood hazard and liquefaction. • Highly productive land. • Constrained water supply and waste water reticulation.	• Proximity to Ōtaki town centre. • Relatively flat.																			130	2A
ŌT-05	Ōtaki (east)	188.8ha	• High-consequence flood hazard associated with stop bank failure. • Dividing effect of the Expressway. • Highly productive land. • Poor access to public transport. • Constrained water supply and waste water reticulation.	• Proximity to Ōtaki town centre. • Relatively flat. • Open space provision associated with the river.																			210	2B
ŌT-06	Ōtaki (east)	71.3ha	• Disconnected from established urban environments. • Poor access for all forms of transport. • Highly productive land. • Constrained water supply and waste water reticulation.	• Relatively flat. • Low risk of natural hazards to majority of the area.																			540	2B
TE HORO, PEKA PEKA AND WAIKANAE																								
HA-01	Hautere	1,169ha	• Disconnected from established urban environments. • Poor access to public transport. • Highly productive land. • No reticulated services.	• Relatively flat. • Relatively low natural hazard risk. • Significant contribution to dwelling supply. • Connectivity opportunities (a new railway station).																			13,800	2B
HO-01	Te Horo	878.8ha	• Disconnected from established urban environments. • Poor access to public transport. • Waterbodies. • Flood hazard and liquefaction. • Highly productive land. • No reticulated services.	• Relatively flat. • Significant contribution to dwelling supply. • Area to the east of the Expressway is likely to be easier to develop. • Partnership with Māori freehold land owners.																			4,320	3

Ref.	Location	Area (ha)	Key Constraints	Key Opportunities	Mana whenua values	Iwi development aspirations	Urban form	Local neighbourhoods	Activity centres	Residential development	Business land	Transport networks	Infrastructure & servicing	Natural ecosystems	Waterbodies	Landscape and open space	Heritage	Topography	Natural hazards & land risks	Land use compatibility	Highly productive land	Climate change (low-carbon futures)	Theoretical dwelling estimate	Overall priority group
PE-01	Peka Peka (north)	296.1ha	• Disconnected from established urban environments. • Poor access for all forms of transport. • Extensive flood hazard. • Liquefaction and coastal hazard. • Established rural lifestyle development. • No reticulated services.	• Access to coastal open space. • Opportunity for a cohesive cluster of development around the roundabout, in coordination with adjacent areas.																			800	3
PE-02	Peka Peka (south)	462.8ha	• Disconnected from established urban environments. • Poor access to activity centres. • Poor access to public transport. • Wetlands and waterbodies. • Extensive flood hazard. • Liquefaction and coastal hazard. • Established rural lifestyle development. • No reticulated wastewater services.	• Access to coastal open space. • Opportunity for a cohesive cluster of development around the roundabout, in coordination with adjacent areas.																			940	3
PE-03	Peka Peka (east)	173.9ha	• Disconnected from established urban environments. • Steep topography. • Established rural lifestyle development. • Extending services to the area.	• Low natural hazard risk. • Opportunity for a cohesive cluster of development around the roundabout, in coordination with adjacent areas.																			1,220	2B
WA-01	Waikanae (east)	135.8ha	• Steep topography. • Established rural lifestyle development. • Congestion at the Elizabeth Street intersection. • Extending services to the area.	• Proximity to Waikanae town centre. • Low natural hazard risk.																			670	2A
WA-02A	Waikanae (north-west)	140.3ha	• Dividing effect of the Expressway. • Disconnected from established urban environments (north of Ngarara). • Flood hazard and liquefaction. • Established rural lifestyle development. • Extending wastewater services to the area.	• Area to the east of the Expressway is more appropriate to develop.																			110	3
WA-02B	Waikanae (north-east)	250.4ha	• Streams, drains and ponds. • Flood hazard and liquefaction. • Established rural lifestyle development. • Extending wastewater services to the area.	• Cohesive expansion of Waikanae North.																			1,650	2A
WA-03	Waikanae (west)	11.1ha	• Flood hazard and liquefaction. • Expressway designation.	• Consolidation of urban form. • Reasonable access to Waikanae town centre. • Partnership with Māori freehold land owners.																			20	2B
WA-04	Waikanae (south)	45.0ha	• Highly productive land. • Flood hazard in parts. • Congestion at the Elizabeth Street intersection.	• Close proximity to Waikanae town centre. • Relatively unconstrained, low risk area.																			480	1
WB-01	Waikanae Beach (north)	23.7ha	• Low access to activity centres. • Flood hazard, liquefaction and coastal hazard. • Established rural lifestyle development. • Poor access to public transport.	• Good access to coastal open space.																			170	2B
WB-02	Waikanae Beach (east)	10.4ha	• Expressway designation. • Ecological sites, wetlands and waterbodies. • Flood hazard and liquefaction. • Adjacent wāhi tapu site (urupā).	• Consolidation of urban form. • Reasonable access to Waikanae town centre.																			70	2B

Ref.	Location	Area (ha)	Key Constraints	Key Opportunities	Mana whenua values	Iwi development aspirations	Urban form	Local neighbourhoods	Activity centres	Residential development	Business land	Transport networks	Infrastructure & servicing	Natural ecosystems	Waterbodies	Landscape and open space	Heritage	Topography	Natural hazards & land risks	Land use compatibility	Highly productive land	Climate change (low-carbon futures)	Theoretical dwelling estimate	Overall priority group
OTAIHANGA AND NIKAU VALLEY																								
OH-01	Otaihanga	373.7ha	• Flood hazard and liquefaction. • Established rural lifestyle development. • The dividing effect of the Expressway.	• Cohesive expansion of Paraparaumu. • Reasonable access to Paraparaumu. • Good access to existing open spaces.																			2,100	2A
OH-02	Otaihanga (east)	153.6ha	• Disconnected from established urban environments. • Low access to activity centres. • Southern portion too steep to develop. • Ecological areas and wetlands.	• Relatively low natural hazard risk. • Good connectivity to old SH1.																			800	2A
OH-03	Otaihanga (south)	41.9ha	• The dividing effect of the railway line. • Established rural lifestyle development. • Wetlands.	• Development of the Lindale Mixed Use Zone. • Proximity to Paraparaumu.																			400	2A
NV-01	Nikau Valley (north)	254.3ha	• Disconnected from established urban environments. • Low access to activity centres. • Steep topography. • Poor accessibility.	• The northern extent of the area is well connected and relatively unconstrained.																			610	2B
PARAPARAUMU, RAUMATI AND PAEKAKARIKI																								
PA-01 A*	Paraparaumu (airport, scenario A)*	126.6ha	• Notable reverse sensitivity effects on the operational airport. • Kāpiti Road capacity constraints. • Fragmented development of urban form, particularly to the west. • Existing waterbodies. • Flooding, liquefaction and potentially contaminated land.	• Proximity to activity centres and public transport. • Flat site.																			920*	1
PA-01 B*	Paraparaumu (airport, scenario B)*	126.6ha	• Kāpiti Road capacity constraints. • Existing waterbodies. • Flooding, liquefaction and contaminated land.	• Cohesive urban growth and consolidation of urban form. • Significant increase in dwelling supply in close proximity to the Metropolitan Centre. • Close proximity to activity centres and public transport. • Flat site.																			2,100*	1
PA-02	Paraparaumu (west)	8.9ha	• Proximity to the airport. • Waterbodies. • Flood hazard and liquefaction.	• Consolidation of established urban form. • Close proximity to activity centres and public transport.																			110	1
PA-03	Paraparaumu (north-east)	38.6ha	• Flood hazard. • Maintaining business uses. • Dividing effect of the railway line.	• Development of the Lindale Mixed Use Zone. • Proximity to Paraparaumu.																			50 + 190 (already zoned Residential)	2B
PA-04	Paraparaumu (east)	36.4ha	• Steep topography across the entire area. • Close proximity to the quarry. • Earthquake induced slope failure.	• Proximity to Paraparaumu.																			70	2B
PA-05	Paraparaumu (south-east)	44.2ha	• Low connectivity and resilience in the transport network. • Steep topography. • Cemetery located centrally in the area.	• Proximity to Paraparaumu. • Low natural hazard risk.																			160	2B
PA-06	Paraparaumu (south-east)	40.4ha	• Low connectivity and resilience in the transport network. • Existing golf course.	• Proximity to Paraparaumu. • Low natural hazard risk.																			450	2B
RB-01	Raumati Beach	5.9ha	• Expressway designation. • Some steep topography. • Liquefaction.	• Consolidation of established urban form. • Close proximity to activity centres and public transport.																			290	1
RS-01	Raumati South	43.6ha	• Wetlands and waterbodies. • The Expressway designation. • Liquefaction and flood hazard.	• Consolidation of established urban form. • Proximity to Paraparaumu and Raumati Beach.																			240	2A

Ref.	Location	Area (ha)	Key Constraints	Key Opportunities	Mana whenua values	Iwi development aspirations	Urban form	Local neighbourhoods	Activity centres	Residential development	Business land	Transport networks	Infrastructure & servicing	Natural ecosystems	Waterbodies	Landscape and open space	Heritage	Topography	Natural hazards & land risks	Land use compatibility	Highly productive land	Climate change (low-carbon futures)	Theoretical dwelling estimate	Overall priority group
PK-01	Paekakariki (east)	123.1ha	• Accessibility and transport network constraints. • Dividing effect of the railway line. • Liquefaction and flood hazard. • Wastewater servicing.	• Proximity to Paekakariki. • Development as a catalyst to resolve existing issues with access and servicing.																			310	2B

Notes:
* These are mutually exclusive development scenarios. Refer to the assessment sheets for a detailed description of each.

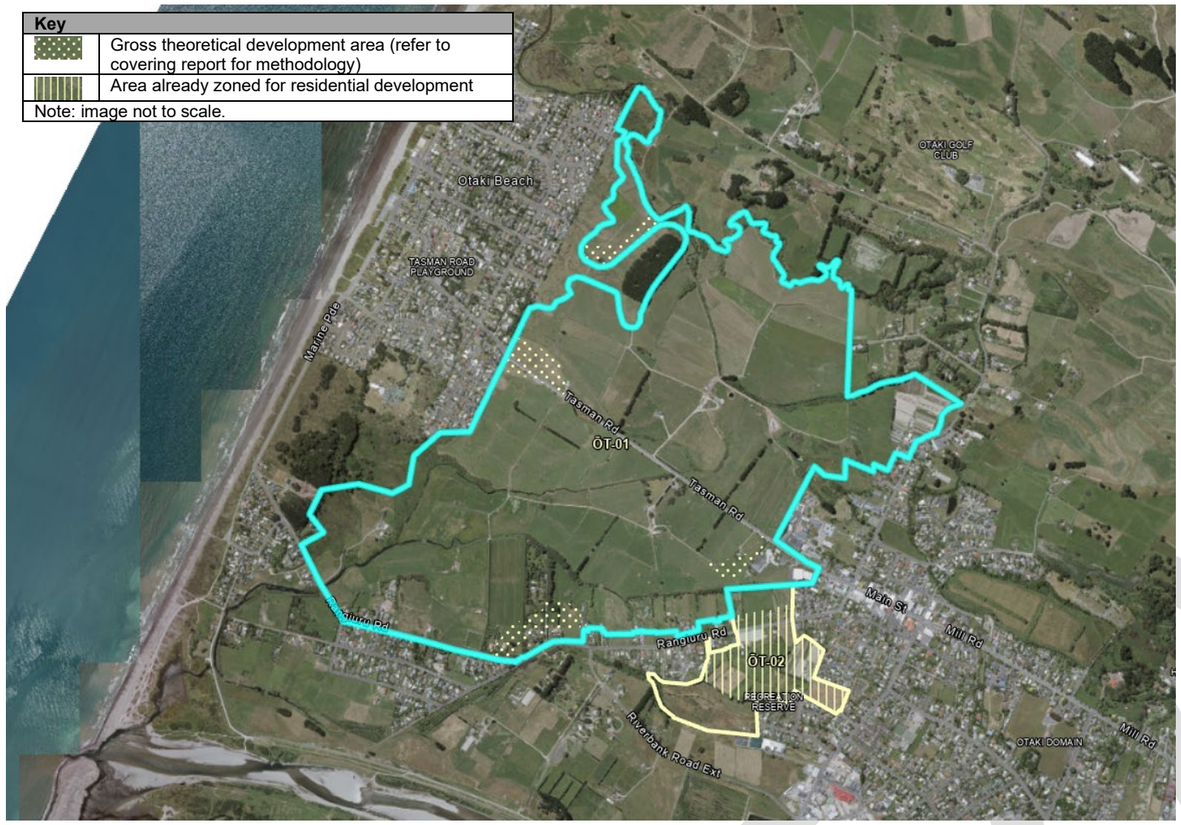
Appendix 3B: Assessment of Study Areas

Future Urban Study Area Assessments

Otaki

Future Urban Study Area **ŌT-01**

Key	
	Gross theoretical development area (refer to covering report for methodology)
	Area already zoned for residential development
Note: image not to scale.	



Area information	
Locality	Ōtaki (west)
Location	To the west of Ōtaki, between Ōtaki and Ōtaki Beach, on the north and south side of Tasman Road.
Total area (ha)	249.3ha
Existing zoning	General Rural Zone and Natural Open Space Zone

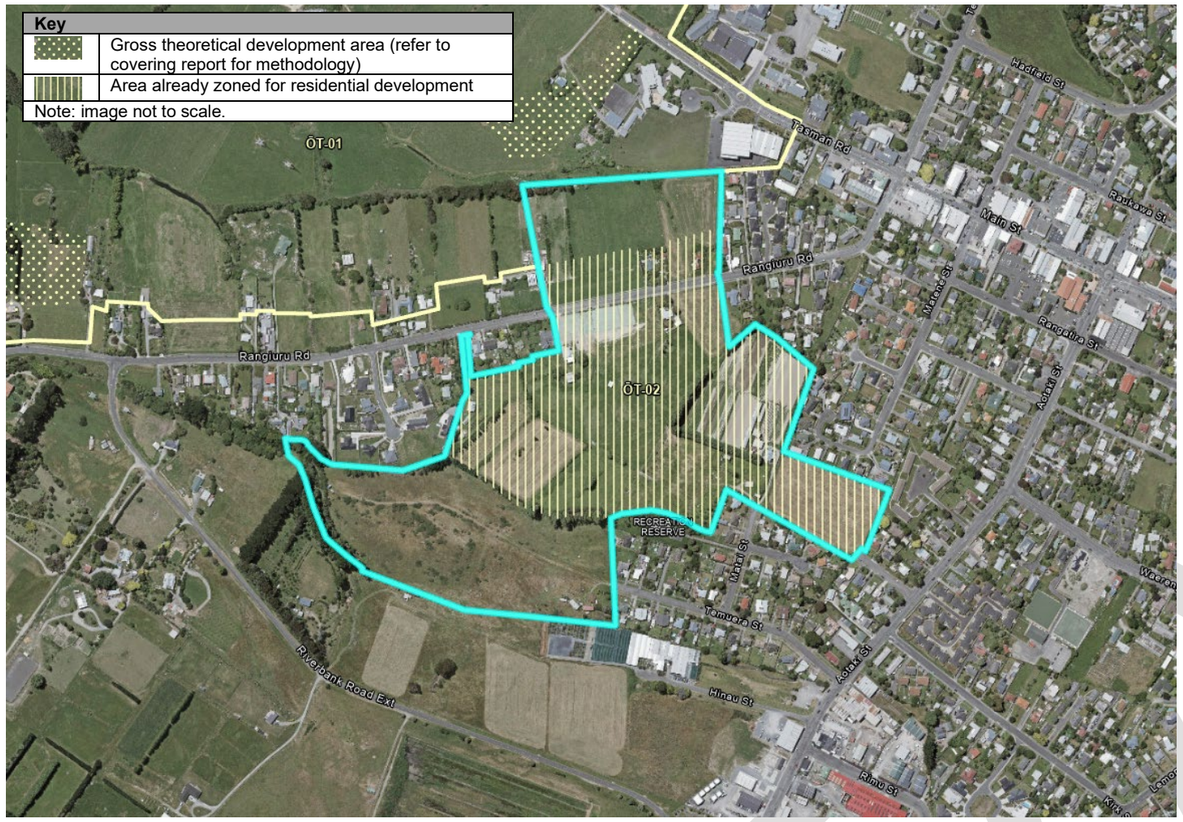
Key constraints	Key opportunities
• Streams, drains and wetlands. • Significant presence of flood hazard. • Highly productive land. • Poor access to public transport. • Constrained water supply. • Wāhi tapu.	• Contiguous expansion of urban Ōtaki. • Close proximity to Ōtaki. • Improved access to Ōtaki Beach. • Relatively flat.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
9.8ha	30%	6.9ha	100%	0%	0%	0%	0%	140	• Extensive flood hazard in the area leaves little room for urban development. • Theoretical development areas lack cohesion. • Low density development assumed based on wider flood hazard.

Criteria	Observations	Rating
Mana whenua values	• There is a wāhi tapu site located in the south west corner of the growth area. • The Rangiuru Stream adjacent to this is identified as a site of significance to Ngā Hapu o Ōtaki as well as the Ōtaki river mouth downstream from the site. • There are a number of marae, kura, wananga and urupa located within Ōtaki to the east of the growth area. • The area is seen as sensitive based on the extensive network of streams and waterways that pass through the area.* • The carrying capacity of te Taiao around Ōtaki generally is constrained, and this may limit the degree to which further urban development can be accommodated.*	
Iwi development aspirations	• There is some Māori freehold land located within the area to the south of the Rangiuru Stream. • There is a larger amount of Māori freehold land located outside the growth area to the north east (along Convent Road).	
Urban form	• Extensive flood hazard in the area leaves little room for urban development. As a result, theoretical development areas lack cohesion, although they are generally attached to established urban form.	
Local neighbourhoods	• Development of the area could reduce the existing clear distinction between the Ōtaki and Ōtaki beach neighbourhoods. • This could be mitigated through the structuring of urban and open space within the new urban area.	
Activity centres	• The eastern edge of the growth area is close to the Ōtaki Main Street Town Centre Zone. • There is little access to existing activity centres along the Ōtaki Beach edge of the area, so a new activity centre would likely need to be incorporated into the development of the area.	
Residential development	• Extensive flood hazard in the area leaves little room for urban development, and as a result, the potential for additional housing supply is marginal.	
Business land	• There is no existing business land within or at the boundary of the growth area. The size of the growth area could incorporate new business activity.	
Transport networks	• The centre and south of the growth area is well connected by Tasman Road and Rangiuru Road. • New access would be required to the northern extent of the area. • Significant growth may put pressure on existing east-west connectivity across Ōtaki. • There is a generous shared pathway along Tasman Road. • There is an existing bus route that runs along Tasman Road and Rangiuru Road, however all areas in Ōtaki have poor access to regional public transport.	
Infrastructure and servicing	• Existing water supply reticulation mains run along Tasman Road and Rangiuru Road. • The water bores that supply the entire town are located on Tasman Road, within the western extent of the area. • Development of the area may trigger town-wide upgrades to the water supply, particularly reservoir storage. • Existing waste water mains run along the southern edge of the area at Rangiuru Road. • Development in the area may require a direct connection to Ōtaki waste water treatment plant. Alternatively connection to the existing network may require upgrades to existing pipes and pump stations. • The Ōtaki waste water treatment plant is located to the south of the area.	
Natural ecosystem values	• There are listed ecological areas at the western and eastern edges of the growth area. • Development may have an impact on downstream coastal ecological areas at the mouth of the Waitohu Stream to the north, and the Ōtaki river to the south.	
Water bodies	• There is an extensive network of streams and drains that traverse the site. These flow in to the Waitohu Stream at the northern edge of the site, and the Ōtaki river mouth to the south. • There are wetlands located within the western and eastern extents of the growth area.	
Landscape and open space values	• There are no recognised amenity landscapes located within the area, although the dunes are a notable topographic feature defining the western edge of the area. • Development within the area will have good access to coastal open space at Ōtaki Beach, although neighbourhood parks may be required within the growth area. • Development has the potential to incorporate enhanced access to coastal open space from Ōtaki (as per the KCDC Draft Open Space Strategy).	
Heritage values	• There are no listed heritage features on the site. • There are a number of archaeological sites located at the northern and south western extents of the growth area.	
Topography	• The area is relatively flat.	
Natural hazards and land risks	• A significant majority of the area is located within a flood hazard area. Flooding within this area is deep and flowing, and as such flooding may be considered a “fatal flaw” for further development of the area. • There is a high water table in the area, which may • The area is likely to be subject to the effects of climate change due to its close proximity to the coast. • There are areas of high liquefaction potential along the western and eastern edges of the site.	
Land use compatibility	• National grid and the natural gas network traverse the site from north to south.	
Highly productive land	• The majority of the area is classed as highly productive land. Most of this is LUC classes 1 and 2. • There is existing horticultural land use at the easternmost extent of the area.	
Climate change (low-carbon futures)	• Growth would be located close to existing amenity and local public transport networks, but not existing regional public transport. • Growth may be majority extensive greenfield development. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **ŌT-02**



Area information	
Locality	Ōtaki (west)
Location	To the west of Ōtaki Main Street Town Centre, on Rangiuru Road.
Total area (ha)	21.8ha
Existing zoning	General Residential Zone and General Rural Zone

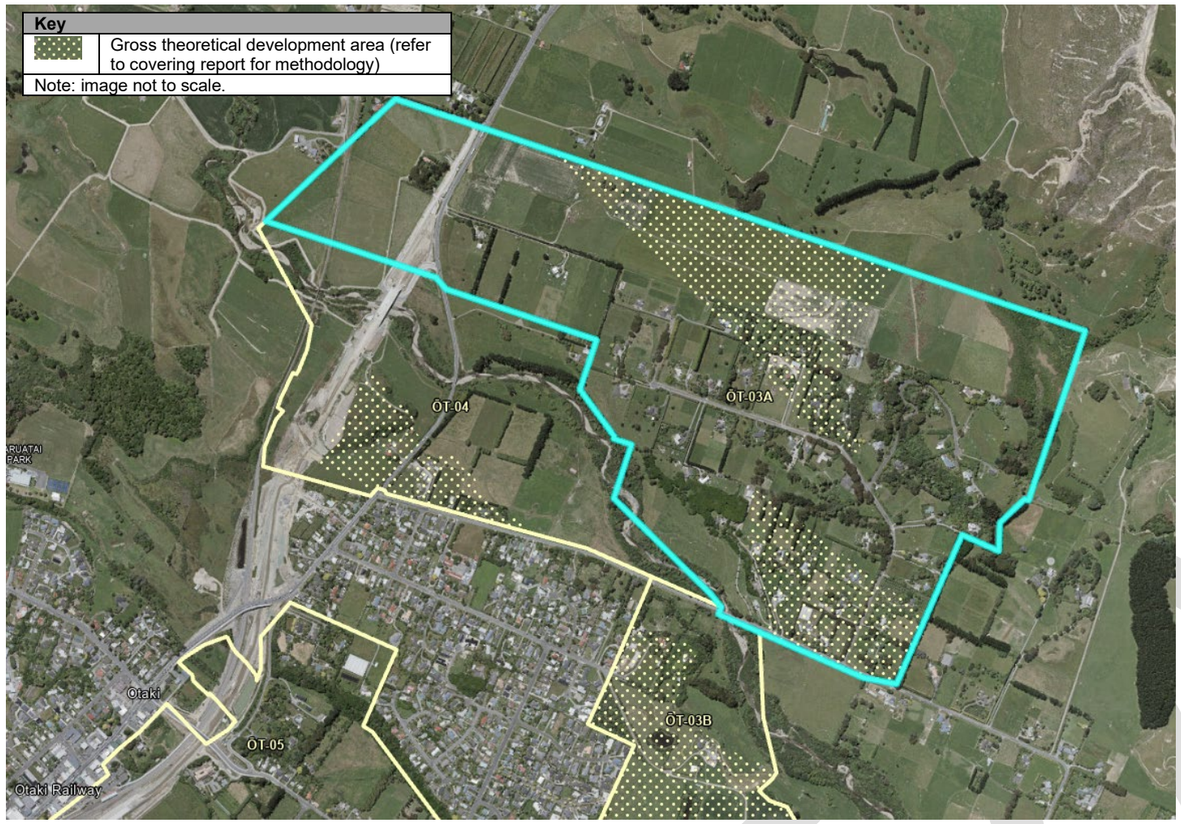
Key constraints	Key opportunities
• Flooding. • Poor access to public transport.	• Contiguous expansion of urban Ōtaki. • Close proximity to Ōtaki. • Relatively unconstrained.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
13.5ha	30%	9.5ha	100%	0%	0%	0%	0%	190	• While some of the area is covered in flood hazard, the extent of the area already zoned General Residential is assumed to be appropriate for residential development. • Despite close proximity to Ōtaki, low density development is assumed based on wider flood hazard.

Criteria	Observations	Rating
Mana whenua values	• The Ngātoko stream and Ngātoko waipuna are located at the southern edge of the area. This is identified as a site of significance to Ngā Hapu o Ōtaki. • There is a wānanga located immediately to the north of the area (on Tasman Road). • The carrying capacity of te Taiao around Ōtaki generally is constrained, and this may limit the degree to which further urban development can be accommodated.*	
Iwi development aspirations		
Urban form	• Development would fill an existing gap between urban Ōtaki and a neighbouring small residential area to the west. • A central portion of the area is already zoned for residential development. • Development of the area would be cohesive with the existing Ōtaki urban form.	
Local neighbourhoods	• Growth could be undertaken as a cohesive extension to the existing neighbourhood located to the south-west of Ōtaki main street.	
Activity centres	• The growth area is located within close proximity of the Ōtaki Main Street Town Centre Zone, and would be likely to contribute positively to the existing activity within this zone.	
Residential development	• Presence of flood hazard limits the potential dwelling supply.	
Business land	• There is no existing business land within or at the boundary of the growth area. • The General Industrial Zone is located to the south of the zone, and there could be opportunity to extend this into the area if there were sufficient demand.	
Transport networks	• The area is well connected to Ōtaki Main Street by Rangiuru Road, and there are additional connection opportunities to existing roads along the southern edge of the area. • There is an existing bus route that runs along Rangiuru Road, however all areas in Ōtaki have poor access to regional public transport.	
Infrastructure and servicing	• Existing water supply reticulation mains run along Rangiuru Road. • Existing waste water mains run along Rangiuru Road, and through the southern extent of the are. • Development of the area may trigger upgrades to existing pipes and pump stations between the area and the waste water treatment plant. • The Ōtaki waste water treatment plant is located to the south of the area.	
Natural ecosystem values	• There are no ecological areas identified in the area, although there is a small conservation area located to the west of the area.	
Water bodies	• The head of the Ngātoko stream is located the westernmost corner of the area. This flows into the Ōtaki river mouth. • A drain head is located to the north of Rangiuru road.	
Landscape and open space values	• There are no recognised amenity landscapes located within the site. • There is an existing neighbourhood open space located at the southern edge of of the area.	
Heritage values	• There are no listed heritage features on the site. • There are no recorded archaeological sites within the area.	
Topography	• The area is relatively flat.	
Natural hazards and land risks	• A majority of the area is located within a flood hazard area, although there is a core that is not. • The area is likely to be subject to the effects of climate change due to its close proximity to the coast. • There area is not identified as having a high liquefaction potential.	
Land use compatibility	• Development of the area may lead to reverse sensitivity effects on the General Industrial Zone to the south. • The Ōtaki waste water treatment plant is located 300m to the south of the area.	
Highly productive land	• A majority of the land is classed as LUC 1. However as this area is also zoned General Residential, it would not meet the draft definition of highly productive land. • There appears to be some horticultural land use located within the area, although this is located on residential zoned land.	
Climate change (low-carbon futures)	• Growth would be located close to existing amenity and local public transport networks, but not existing regional public transport. • The compact nature of the area will likely result in higher density and less extensive development types. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **ŌT-03A**



Area information	
Locality	Ōtaki (east)
Location	To the east of Ōtaki, the area around Greenwood Boulevard to the north of Waitohu Valley Road.
Total area (ha)	141.2ha
Existing zoning	Rural Lifestyle Zone and Rural Production Zone

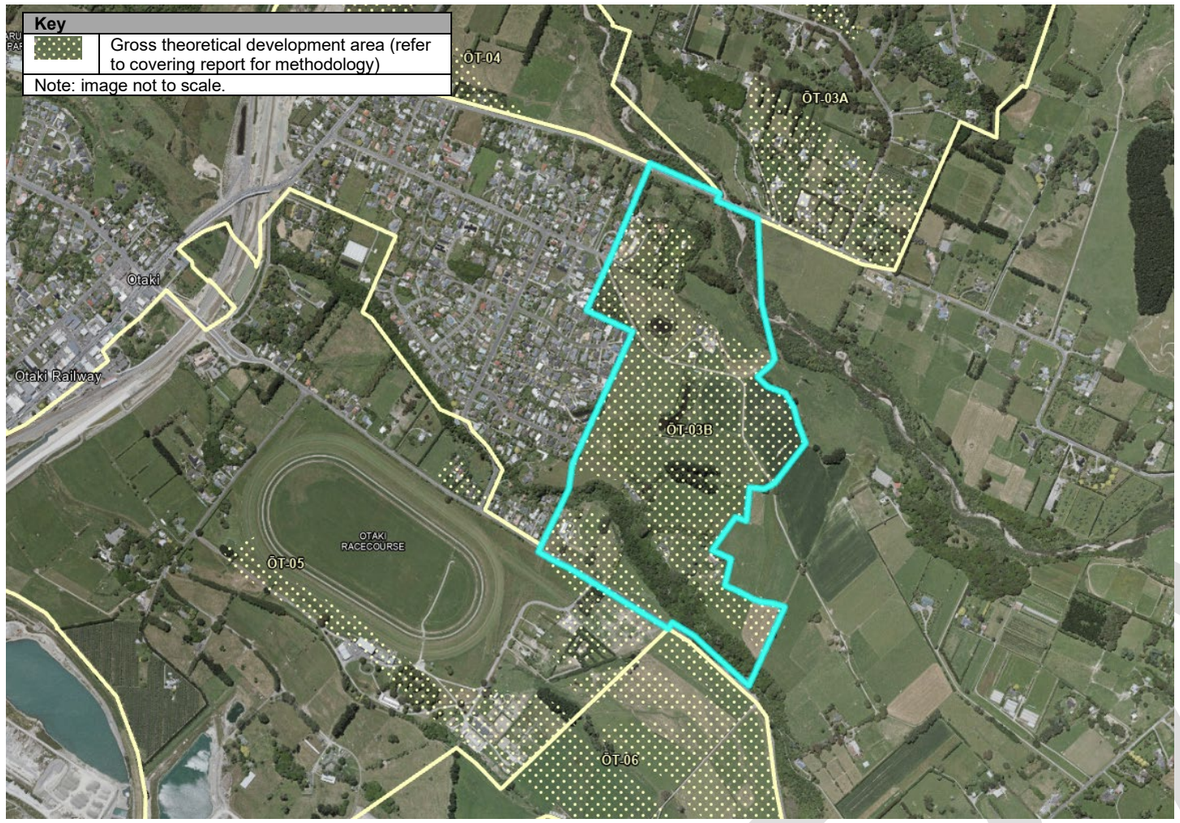
Key constraints	Key opportunities
• Disconnected from established urban environments. • Poor access for all forms of transport. • Highly productive land. • Established rural lifestyle development. • Constrained water supply and waste water reticulation.	• Some areas appropriate for residential development.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
34.7ha	30%	24.3ha	100%	0%	0%	0%	0%	490	• Theoretical development areas primarily avoid the flood hazard associated with the tributary stream that runs through the area, as well as steep topography in the east. • Resultant development are highly disconnected, so a low density is assumed.

Criteria	Observations	Rating
Mana whenua values	• There are no recorded sites of significance within the area, although there are a number of wāhi tapu sites and sites of significance to Ngā Hapu o Ōtaki (including an urupā) located downstream of the site on the alongside the Waitohu Stream. • The carrying capacity of te Taiao around Ōtaki generally is constrained, and this may limit the degree to which further urban development can be accommodated.*	
Iwi development aspirations	• There is a large block of Māori freehold land located along the northern edge of the area, and a smaller block of freehold land located to the west of the railway line.	
Urban form	• Development would be isolated and not contiguous with any existing urban environment, and would be surrounded by the rural environment. • Theoretical development areas are disconnected, isolated and incohesive.	
Local neighbourhoods	• The established rural residential environment would likely be significantly altered by more intensive urban development.	
Activity centres	• There are no existing activity centres in proximity to the area. • New development would likely require some form of neighbourhood activity centre.	
Residential development	• The area has the potential to contribute modestly to dwelling supply, although distance to established centres and urban environments may result in low density development and a low diversity of dwelling types.	
Business land	• There is no existing business land within or at the boundary of the growth area.	
Transport networks	• The area to the south of Waitohu Valley Road could connect into Waitohu Valley Road, Te Manuao Road and Rahui Road. • The area north of Waitohu Road has a low degree of accessibility and will have limited connection opportunities. • The area is not served by public transport or active modes, and these may be difficult to integrate in to new development. • All areas in Ōtaki have poor access to regional public transport.	
Infrastructure and servicing	• Existing water supply reticulation mains run along Waitohu Valley Road. Water supply extends into the area along Greenwood Boulevard. • Development of the area may trigger significant town-wide upgrades to the water supply, including replacement of the reticulation network and the provision of reservoir storage. • There is no existing waste water reticulation to the northern extent of the area. • The southern extent of the area has access to a waste water main located off Te Manuao Road in Waitohu. • Development in the area may trigger significant upgrade requirements to existing wastewater pipework and pumpstations between the area and the Ōtaki waste water treatment plant. • The area is relatively distant to the Ōtaki wastewater treatment plant.	
Natural ecosystem values	• There is an area of indigenous forest to the north of Waitohu Valley Road recognised as an ecological site (K166). • There is a QEII covenant site located at the north-western edge of the area.	
Water bodies	• The Waitohu stream flows along the southern edge of the area. • A tributary to the Waitohu stream flows through the central portion of the area.	
Landscape and open space values	• There is a Special Amenity Landscape located in the northeastern extent of the area. • There is a small amount of recreational open space located within the rural lifestyle area to the north of Waitohu Valley road.	
Heritage values	• There are no listed heritage features on the site. • There are no recorded archaeological sites within the area.	
Topography	• The area to the north of Waitohu Valley Road is relatively flat, except for a steeper portion in the north-east corner of the site.	
Natural hazards and land risks	• The area around the Waitohu Stream and the tributary stream to the north of Waitohu Valley Road is subject to flooding risk. • There area is not identified as having a high liquefaction potential.	
Land use compatibility	• The State Highway 1 and North Island Main Trunk corridors traverse the north-western corner of the site. • Existing rural lifestyle land uses may be resistant to residential intensification.	
Highly productive land	• A significant majority of the land would be classified as highly productive land, although a majority of it is LUC 3.	
Climate change (low-carbon futures)	• Low access to active modes of transport means that growth in this area would likely require vehicle trips in order to access basic services. • Growth in this area would likely be low-density/extensive greenfield growth or rural lifestyle development. • Significant work and expenditure of resources are likely required to extend services to the area. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **ŌT-03B**



Area information	
Locality	Ōtaki (east)
Location	To the east of Ōtaki, accessible via Waitohu Valley Road and Rahui Road
Total area (ha)	52.5ha
Existing zoning	Rural Lifestyle Zone and Rural Production Zone

Key constraints	Key opportunities
• Highly productive land. • Constrained water supply and waste water reticulation.	• Contiguous extension of the Waitohu Neighbourhood. • Relatively free from natural hazard.

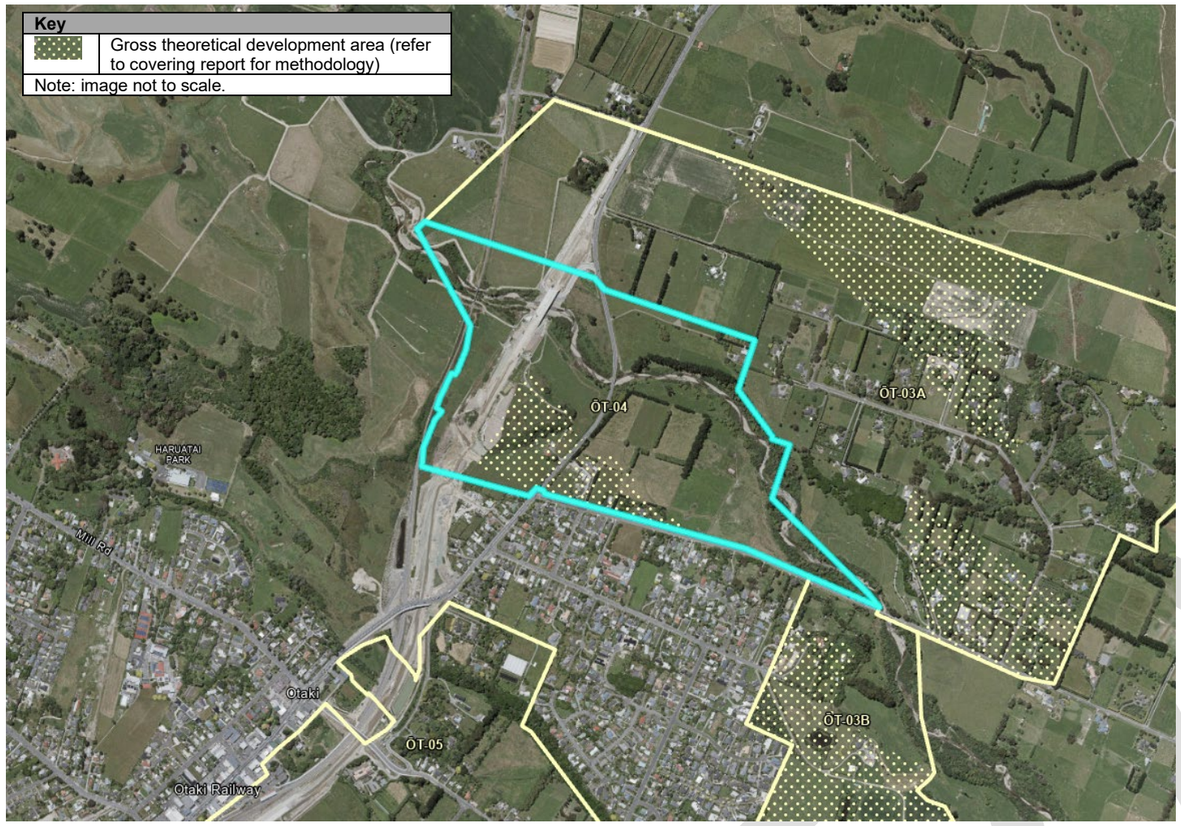
Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
36.6ha	30%	25.6ha	100%	0%	0%	0%	0%	510	• Low density development is assumed based on the urban fringe location.

Criteria	Observations	Rating
Mana whenua values	• There are no recorded sites of significance within the area, although there are a number of wāhi tapu sites and sites of significance to Ngā Hapu o Ōtaki (including an urupā) located downstream of the site on the alongside the Waitohu Stream. • The carrying capacity of te Taiao around Ōtaki generally is constrained, and this may limit the degree to which further urban development can be accommodated.*	
Iwi development aspirations	• There is a large block of Māori freehold land located along the northern edge of the area, and a smaller block of freehold land located to the west of the railway line.	

Criteria	Observations	Rating
Urban form	• Development would be contiguous with the existing urban environment to the east of Ōtaki.	
Local neighbourhoods	• Development may alter the existing neighbourhood at Waitohu, particularly as access to the development area would likely be through the existing neighbourhood..	
Activity centres	• There are no existing local centres with Waitohu, although there is a school. • New development would likely require some form of neighbourhood activity centre within the existing Waitohu area.	
Residential development	• The area has the potential to contribute to dwelling supply. • Location on the fringe of Waitohu may result in a lower diversity of dwelling types, however it may encourage intensification of established areas within Waitohu.	
Business land	• There is no existing business land within or at the boundary of the growth area.	
Transport networks	• The area could connect into Waitohu Valley Road, Te Manuao Road and Rahui Road. • Otaki town centre would be accessible via active modes of transport from the area. • All areas in Ōtaki have poor access to regional public transport.	
Infrastructure and servicing	• Existing water supply reticulation mains run along Rahui Road to the south, and Waitohu Valley Road within the central extent of the area. • Development of the area may trigger significant town-wide upgrades to the water supply, including replacement of the reticulation network and the provision of reservoir storage. • The area has access to a waste water main located off Te Manuao Road in Waitohu. • Development in the area may trigger significant upgrade requirements to existing wastewater pipework and pumpstations between the area and the Ōtaki waste water treatment plant. • The area is relatively distant to the Ōtaki wastewater treatment plant.	
Natural ecosystem values	• There is a strip of indigenous forest to the north of Rahui Road recognised as an ecological site (K018). • There is a QEII covenant site located at the north-western edge of the area.	
Water bodies	• The Waitohu stream flows through the northern extent of the area. • There are some existing ponds located in the area to the south of Waitohu Valley Road.	
Landscape and open space values	• There are no special amenity landscapes in the area. • There is limited access to existing open space within the existing Waitohu area and development may need to be supported by new open space.	
Heritage values	• There are no listed heritage features on the site. • There are no recorded archaeological sites within the area.	
Topography	• The majority of the area to the south of the Waitohu stream is elevated and undulating. • There is a distinct flat area along the southern boundary (to the north of Rahui Road), separated from the raised area to the north by a vegetated slope.	
Natural hazards and land risks	• Apart from the northern extent of the area adjacent the Waitohu Stream, the majority of the area is relatively free of flood risk (although the area is subject to further flood modelling). • There area is not identified as having a high liquefaction potential.	
Land use compatibility	• There are no notable land use compatibility issues associated with the area.	
Highly productive land	• A significant majority of the land would be classified as highly productive land, although a majority of it is LUC 3.	
Climate change (low-carbon futures)	• Growth in this area could be supported by active modes of access to local services. • Close proximity to transport and activity centres may encourage less extensive development types. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **ŌT-04**



Area information	
Locality	Ōtaki
Location	To the east of Ōtaki, on the north side of Waitohu Valley road.
Total area (ha)	53.0ha
Existing zoning	Rural Production Zone

Key constraints	Key opportunities
• Poor access to public transport. • Flooding and liquefaction. • Highly productive land. • Constrained water supply and waste water reticulation.	• Proximity to Ōtaki town centre. • Relatively flat.

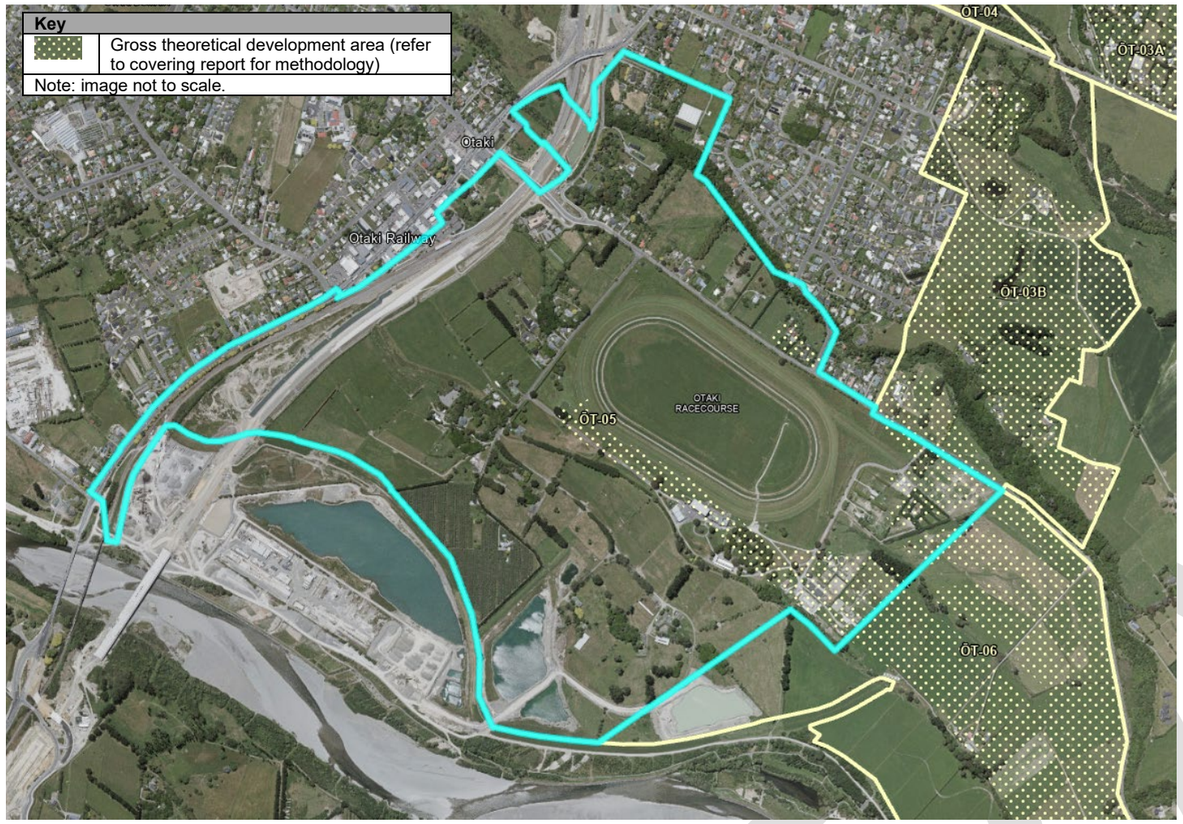
Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
7.8ha	30%	5.5ha	80%	20%	0%	0%	0%	130	• A small amount of medium-low density development has been assumed based on proximity to Ōtaki town centre.

Criteria	Observations	Rating
Mana whenua values	• There are a number of wāhi tapu sites and sites of significance to Ngā Hapu o Ōtaki (including an urupā) located downstream of the site on the alongside the Waitohu Stream, at the western edge of the area. • The carrying capacity of te Taiao around Ōtaki generally is constrained, and this may limit the degree to which further urban development can be accommodated.*	

Criteria	Observations	Rating
Iwi development aspirations	• The western half of the area is comprised of Māori freehold land.	
Urban form	• Development in this area would function as a contiguous northern extension of the established Waitohu urban area on the southern side of the Waitohu Valley Road. • Development of the area would be surrounded on three sides by the rural environment.	
Local neighbourhoods	• Development in the area could be undertaken in a manner that reinforces the existing established residential neighbourhood of Waitohu to the south.	
Activity centres	• There are no existing activity centres in proximity to the area. • New development would likely require some form of neighbourhood activity centre, and this could be an opportunity to increase access to amenity for the established neighbourhood east of Ōtaki.	
Residential development	• Development of the area has the potential to contribute modestly to dwelling supply, and proximity to Ōtaki town centre may encourage higher density typologies. • Development of this area may encourage further development and/or intensification of Waitohu to the south.	
Business land	• There is no existing business land within or at the boundary of the growth area. • Proximity to old State Highway 1 may support the consideration of new business land in this area, particularly in the west.	
Transport networks	• The area is in close proximity to the new State Highway 1 interchange at Ōtaki. • There is direct connection to Ōtaki via old State Highway 1 and Waitohu Valley Road. • An existing bus route passes through the area. • The area is within a walkable distance of the Ōtaki Rail centre, however Ōtaki us poorly served by regional train public transport.	
Infrastructure and servicing	• Existing water supply reticulation mains run along Waitohu Valley Road to the south of the area. • Development of the area may trigger town-wide upgrades to the water supply, particularly reservoir storage. • The area has access to a waste water main located at the corner of Waitohu Valley Road and old SH1. • Development in the area may trigger significant upgrade requirements to existing wastewater pipework and pumpstations between the area and the Ōtaki wastewater treatment plant. • The area is relatively distant to the Ōtaki wastewater treatment plant.	
Natural ecosystem values	• There are no ecological sites identified within the area.	
Water bodies	• The Waitohu stream flows through the central portion of the area. • A tributary to the Waitohu stream flows through the southern portion of the area.	
Landscape and open space values	• There are no amenity landscapes identified in the area. • There is limited access to open space in the area, or in the neighbourhood of Waitohu to the south. New neighbourhood open space would likely be required as part of the development of this area, and this could provide amenity benefit to the existing urban area to the south.	
Heritage values	• There are no listed heritage features on the site. • There are no recorded archaeological sites within the area.	
Topography	• The majority of the area is relatively flat. • There is some steeper terrain along the western edge of the area, although this coincides with the construction of the new expressway.	
Natural hazards and land risks	• The majority of the area is located within an area of flood risk. • There is an area of high liquefaction potential located along the western edge, by the railway line.	
Land use compatibility	• The State Highway 1 and North Island Main Trunk corridors traverse the western edge of the site.	
Highly productive land	• A significant majority of the land would be classified as highly productive land, and a majority of this is LUC 1.	
Climate change (low-carbon futures)	• Growth in this area could be supported by active modes of access to local services. • Close proximity to transport and activity centres may encourage less extensive development types. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **ŌT-05**



Area information	
Locality	Ōtaki
Location	To the east of Ōtaki, south of Rahui Road, around the racecourse.
Total area (ha)	188.8ha
Existing zoning	Rural Production Zone and General Residential Zone

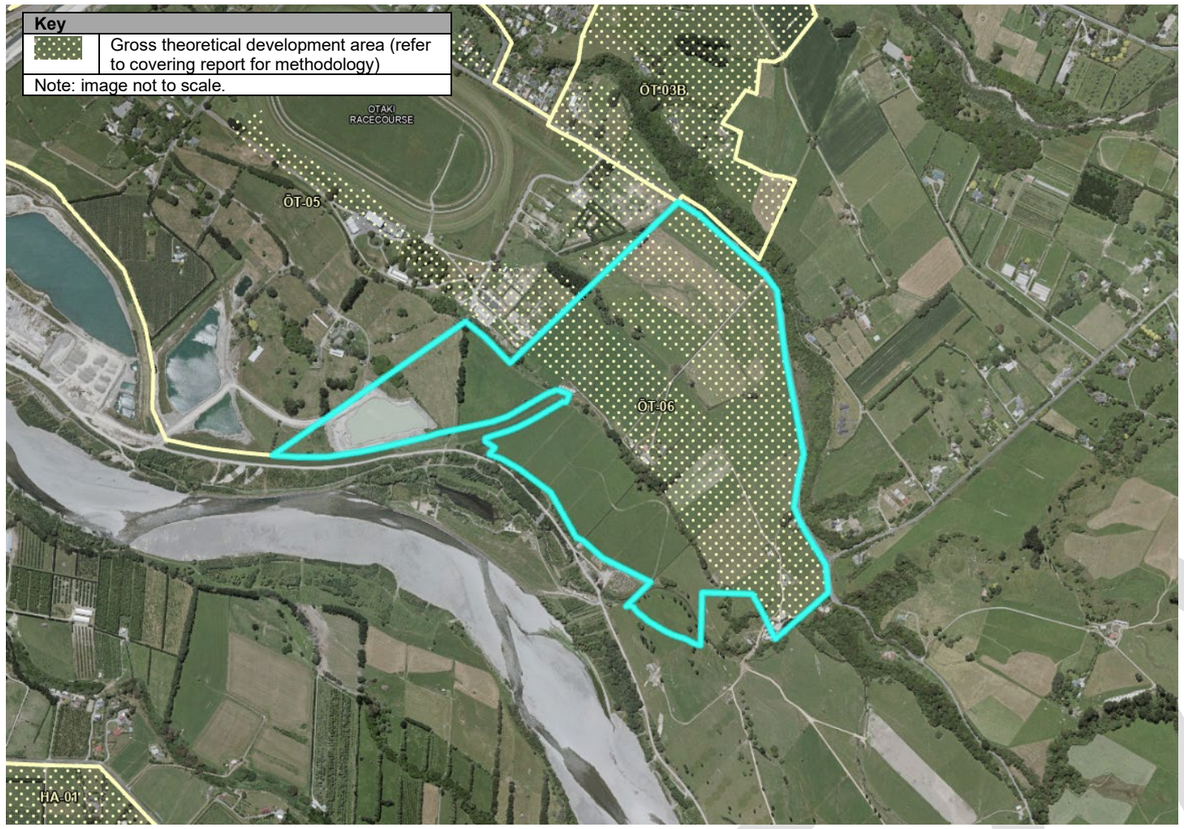
Key constraints	Key opportunities
• High-consequence flood hazard associated with stop bank failure. • Dividing effect of the Expressway. • Highly productive land. • Poor access to public transport. • Constrained water supply and waste water reticulation.	• Proximity to Ōtaki town centre. • Relatively flat. • Open space provision associated with the river.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
15.3ha	30%	10.7ha	100%	0%	0%	0%	0%	210	• Due to flood hazard, theoretical development areas are poorly shaped and disconnected from Ōtaki. Low density development is assumed as a result. • Resolution of flood hazard may enable significantly improved urban form and dwelling supply outcomes.

Criteria	Observations	Rating
Mana whenua values	• A remnant of the Haruātai Stream located to the north-west of the racecourse is recognised as a site of significance to Ngā Hapu o Ōtaki. • Te Awa o Ōtaki (Ōtaki River) to the south of the area is recognised as a feature of significance to Ngā Hapu o Ōtaki. • The carrying capacity of te Taiao around Ōtaki generally is constrained, and this may limit the degree to which further urban development can be accommodated.* • Tread carefully in areas near to the Ōtaki River. Areas close to the river may be more appropriate for open space uses.*	
Iwi development aspirations	• A section of Māori freehold land is located on the southern side of Rahui Road, to the south of the Expressway overbridge. • There may be some desire by the owners of the racecourse to develop their land.*	
Urban form	• Due to the extensive flood hazard, development in the area is likely to focus around the southern edge of Waitohu, and be relatively disconnected from Ōtaki. • Urban form and land use will need to consider the presence of the Expressway along the western edge. This may have the effect of restricting density close to the town centre.	
Local neighbourhoods	• Due to the delineations of the Expressway to the west, and the vegetated embankment and level change to the north, it is likely that this area would develop as a distinct neighbourhood.	
Activity centres	• There is potential for development of this area to strengthen the Ōtaki town centre, however this would require improved connectivity for active modes across the SH1 and the rail corridor. • Even where improved access to Ōtaki town centre is achievable, a new neighbourhood activity centre may be required to support residential development.	
Residential development	• Extensive flood hazard in the area reduces the potential for urban development, and as a result, the potential for additional housing supply is modest. • Development of this area may encourage further development and/or intensification of Waitohu to the north.	
Business land	• There is no existing business zoned land within the growth area. • Proximity to State Highway 1 may support new business land in this area, and this may be an effective use of land next to the Expressway (where residential development may otherwise cause reverse sensitivity effects).	
Transport networks	• The area is in close proximity to the new State Highway 1 interchange at Ōtaki. • There is direct connection to Ōtaki via old State Highway 1 and Waitohu Valley Road. • An existing bus route passes through the area. • The northern extent of the area is within a walkable distance of the Ōtaki Rail centre, however Ōtaki us poorly served by regional train public transport.	
Infrastructure and servicing	• Existing water supply reticulation mains run along Rahui road. • Development of the area may trigger town-wide upgrades to the water supply, particularly reservoir storage. • Existing waste water mains run along Rahui Road to the north of the area, and into the area along Te Roto Road. • Development in the area may trigger significant upgrade requirements to existing wastewater pipework and pumpstations between the area and the Ōtaki wastewater treatment plant. • The area is relatively distant to the Ōtaki wastewater treatment plant.	
Natural ecosystem values	• There is a strip of indigenous forest to the north of Rahui Road recognised as an ecological site (K018). • Opportunity to support this ecological connection through development of the area.	
Water bodies	• A series of drains run along the northern edge of the area. These eventually flow into the Waitohu Stream to the north west of Ōtaki. • There are a number of ponds along the southern edge of the area associated with the aggregate facility. • Current land uses are likely to have contributed to degraded water quality.	
Landscape and open space values	• There are no amenity landscapes identified in the area. • The strip of indigenous forest along the north edge of the area is visually prominent. • The Ōtaki racecourse is significantly sized de-facto open space. • There is opportunity to support/enable the development of east-west open space along the river.	
Heritage values	• The Capital Dairy site (located to the south of the Rahui Road Expressway overpass) is a heritage site recognised by KCDC and HNZPT. • There is an archaeological site located on the northern edge of the area, underneath the new Expressway.	
Topography	• The majority of the area is relatively flat.	
Natural hazards and land risks	• The majority of the site is subject to some form of flood risk. High consequences to flood hazard if there is failure in the Ōtaki River stop banks. • The Capital Dairy site is identified on the Selected Land Use Register. • There area is not identified as having a high liquefaction potential.	
Land use compatibility	• The State Highway 1 and North Island Main Trunk corridors traverse the western edge of the site. • Residential growth may have reverse sensitivity effects on the quarry site to the south.	
Highly productive land	• A significant majority of the land would be classified as highly productive land, and a significant amount of this is LUC 1.	
Climate change (low-carbon futures)	• Growth in this area could be supported by active modes of access to local services. • Close proximity to transport and activity centres may encourage less extensive development types. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **ŌT-06**



Area information	
Locality	Ōtaki
Location	To the south-east of Ōtaki racecourse, south of Rahui Road.
Total area (ha)	71.3ha
Existing zoning	Rural Production Zone

Key constraints	Key opportunities
• Disconnected from established urban environments. • Poor access for all forms of transport. • Highly productive land. • Constrained water supply and waste water reticulation.	• Relatively flat. • Low risk of natural hazards to majority of the area.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
38.8ha	30%	27.2ha	100%	0%	0%	0%	0%	540	• Potential development avoids flood hazard areas towards the river. • Low density development assumed based on disconnection from Ōtaki.

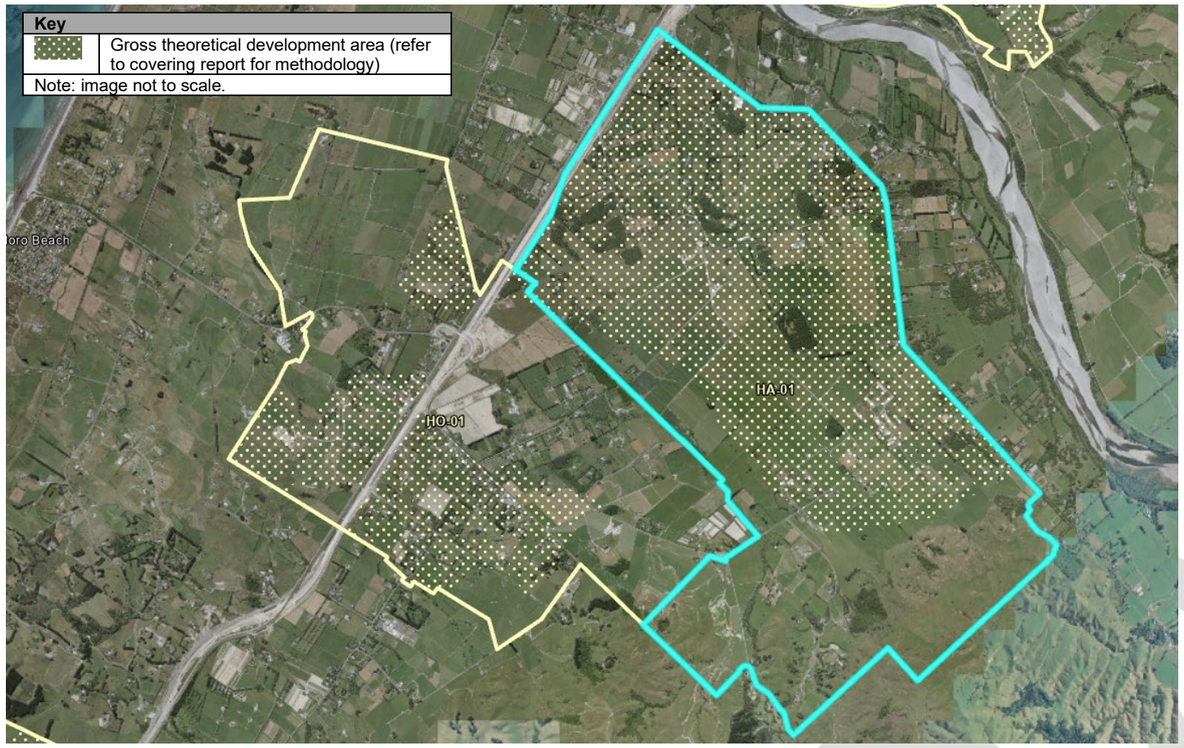
Criteria	Observations	Rating
Mana whenua values	• Te Awa o Ōtaki (Ōtaki River) to the south of the area is recognised as a feature of significance to Ngā Hapu o Ōtaki. • The carrying capacity of te Taiao around Ōtaki generally is constrained, and this may limit the degree to which further urban development can be accommodated.* • Tread carefully in areas near to the Ōtaki River. Areas close to the river may be more appropriate for open space uses.*	
Iwi development aspirations		
Urban form	• This area is entirely rural. Development in this area would be disconnected from any existing urban environment.	
Local neighbourhoods	• There is no established neighbourhood within or around the area. • Development would require the establishment of a neighbourhood.	
Activity centres	• There is no existing activity centre within proximity to the area. • Development in the area would need to be supported by the development of an activity centre.	
Residential development	• The large land area has the potential to contribute to dwelling supply, although distance to established centres and urban environments may result in low density development and a low diversity of dwelling types.	
Business land	• There is no existing business zoned land within the area.	
Transport networks	• The area is connected by Rāhui road, although the road is narrow and winding in this location. • It may be possible to incorporate active modes of transport to Ōtaki town centre in coordination with development of the area to the west. • There is no existing public transport to the area, and Ōtaki more broadly has poor access to regional public transport.	
Infrastructure and servicing	• There is no existing reticulated water supply to the area. The nearest reticulated water supply is on Rahui road adjacent to the racecourse. • Development of the area may trigger town-wide upgrades to the water supply, particularly reservoir storage. • There is no existing reticulated waste water to the area. The nearest reticulated water supply is on Rahui road adjacent to the racecourse. • Development in the area may trigger significant upgrade requirements to existing wastewater pipework and pumpstations between the area and the Ōtaki wastewater treatment plant. • The area is relatively distant to the Ōtaki wastewater treatment plant.	
Natural ecosystem values	• There are no recognised ecological sites within the area.	
Water bodies	• The headwaters of a drain originate in the north of the area, to the south of Rāhui Road. This drain runs past the Ōtaki racecourse and eventually flows in to the Waitohu Stream. • A tributary to the Ōtaki River flows through the southern extent of the area.	
Landscape and open space values	• There are no amenity landscapes identified in the area, although the Ōtaki River to the south of the area is recognised as a special amenity landscape. • There are no existing open spaces in the area. Development of the area would likely need to be supported by the development of new open space.	
Heritage values	• There are no identified heritage features in the area. • There are no archaeological sites identified in the area.	
Topography	• The majority of the area is relatively flat.	
Natural hazards and land risks	• The southern extent of the area is subject to flood risk associated with the Ōtaki river. • A fault avoidance area runs through the south-easternmost edge of the area. • There area is not identified as having a high liquefaction potential.	
Land use compatibility	• The quarry site is located in the westernmost extent of the area.	
Highly productive land	• A significant majority of the land would be classified as highly productive land, although the majority of this would be classified as LUC 3.	
Climate change (low-carbon futures)	• Growth in this area would likely require vehicle trips in order to access basic services, although active modes of access to Ōtaki town centre may be able to be incorporated. • Growth in this area would likely be low density/extensive greenfield growth or rural lifestyle development. • Significant work and expenditure of resources are likely required to extend services to the area. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area Assessments

Te Horo, Peka Peka and Waikanae

Future Urban Study Area **HA-01**



Area information	
Locality	Hautere
Location	To the east of Te Horo, bounded by Ōtaki Gorge Road to the north-west
Total area (ha)	1,169.1ha
Existing zoning	Rural Production Zone, General Rural Zone

Key constraints	Key opportunities
• Disconnected from established urban environments. • Poor access to public transport. • Highly productive land. • No reticulated services.	• Relatively flat. • Relatively low natural hazard risk. • Significant contribution to dwelling supply. • Connectivity opportunities (a new railway station).

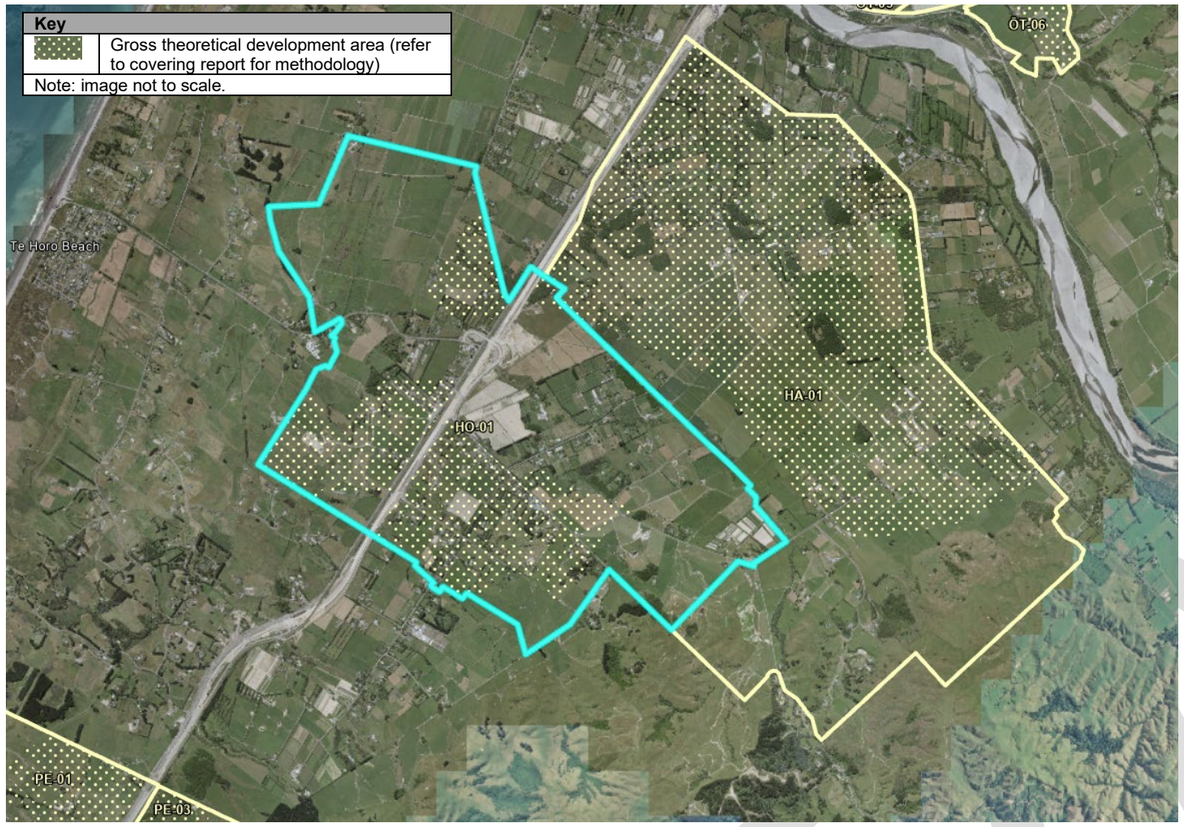
Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
704.1ha	30%	492.9ha	70%	20%	10%	0%	0%	13,800	• Theoretical development areas avoid flood hazard areas associated with the Mangaone Stream, steep topography in the south, and a range of ecologically significant sites located throughout the area. • A mix of densities is proposed on the assumption that development of the area is comprehensively planned, and a train station is provided.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area. • Any new water supply to the area must be associated with the Ōtaki catchment. Bringing in water from an outside catchment must be avoided.* • Areas towards the Ōtaki river side of the area may be more sensitive to urban development.* • The Taiao may have more capacity to support urban development than the areas to the north of the Ōtaki river, where the Taiao is more constrained.*	
Iwi development aspirations	• There are two sections of Māori freehold land located at the western edge of the area, around Old Hautere Road.	
Urban form	• Development in this area would challenge the established hierarchy of urban form on the Kāpiti coast. • There is no existing urban form in Hautere, and no existing urban environment from which a cohesive urban form could be developed. • Development of the area would require a comprehensively planned urban form response in order to establish an entirely new, cohesive urban area. Development of a new town would be a significant and long-term undertaking.	
Local neighbourhoods	• The area is predominantly defined by rural agricultural/grazing uses, with some rural lifestyle land uses. • The existing rural neighbourhood would likely be significantly altered by the establishment of an urban environment in the area.	
Activity centres	• There is no established activity centre (shops, school or public services) within the area. • Development in the area may challenge the established centres hierarchy within the district. • Any new development would require the establishment of an activity centre or network of centres to support the associated scale of residential development.	
Residential development	• The area is relatively flat and has the potential to contribute significantly to dwelling supply. • Comprehensive planning would be required to ensure a diverse range of typologies are delivered.	
Business land	• While there is no existing business zoned land, there appear to be some higher intensity agricultural uses located in the area. • Proximity to the Expressway may suit the development of business land in the area.	
Transport networks	• The area is predominantly accessed by Ōtaki Gorge Road and Old Hautere Road from the north. Access to the southern extent of the area is provided by Hautere Cross Road. • There is south-bound access to and northbound egress from the Expressway at Ōtaki Gorge Road. • A shared path is proposed to be incorporated into the Peka Peka to Ōtaki section of the Expressway. • Urban development would require new local access networks. • There is no local public transport in the area, and no local access to regional public transport. • Opportunity to provide a railway station to support the development of the area.	
Infrastructure and servicing	• There is no existing substantial water supply to the area. Development of the area would need to be supported by a new water source associated with the Ōtaki river, and associated treatment, storage (reservoir) and reticulation systems. This would involve significant cost and complexity. • There is no existing waste water reticulation in the area. New development in the area would likely trigger the requirement for a new waste water treatment facility and reticulation network. This would involve significant cost and complexity.	
Natural ecosystem values	• There are over a dozen identified ecological sites within the area, most of which are recognised for their indigenous vegetation values. • There is a QEII trust covenant site located in the centre of the area.	
Water bodies	• The Mangaone Stream runs along the southern extent of the area. Much of the land appears to drain into this stream.	
Landscape and open space values	• The stand of Totara trees on Otaki Gorge Road is recognised as a special amenity landscape. • The Kiripiti Scientific Reserve is located in the north west of the area, at the corner of Old Hautere Road. Aside from this, there are no other public open spaces in the area. • New public open spaces would be required to support new urban development in the area.	
Heritage values	• The Old Post Office on the corner of Ōtaki Gorge Road and Hautere Cross Road is a listed heritage building. • There are no identified archaeological sites in the area.	
Topography	• The majority of the area is relatively flat, except for the southern portion which is relatively steep.	
Natural hazards and land risks	• Aside from a limited area around the Mangaone Stream, the area appears to be relatively free of flood risk. However there is limited flood and stormwater modelling associated with the area. Further work would be required to establish the extent of hazard associated with flooding and stormwater. • There is a fault avoidance area located through the northern extent of the area. • There is a small amount of land on the SLUR located to the north of Hautere Cross Road. • No land is identified as being at high risk of liquefaction. • The effects of stormwater runoff of urban development on potential flooding in the area are unknown. • There is some flooding associated with localised drains.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the Expressway along the north-western edge of the area. • The Ōtaki Aerodrome is located in the north of the area, between Ōtaki Gorge Road and Old Hautere Road. • There appears to be come intensive agricultural activity to the north of old Hautere Road that may be vulnerable to reverse sensitivity effects. • The area to the north of Old Hautere Road includes rural lifestyle development that may be resistant to urban development.	
Highly productive land	• The entire area is likely to meet the definition of highly productive land, although a majority of the area is LUC 3.	

Criteria	Observations	Rating
Climate change (low-carbon futures)	• Growth in this area would likely require vehicle trips in order to access basic services, although active modes of access to Ōtaki town centre and Waikanae via the Expressway may be able to be incorporated. • Construction of an entirely new urban centre is likely to be emissions intensive. • Significant work and expenditure of resources are likely required to create the infrastructure networks required to service the area. • Low access to regional public transport may result in increased private vehicle commuting.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **HO-01**



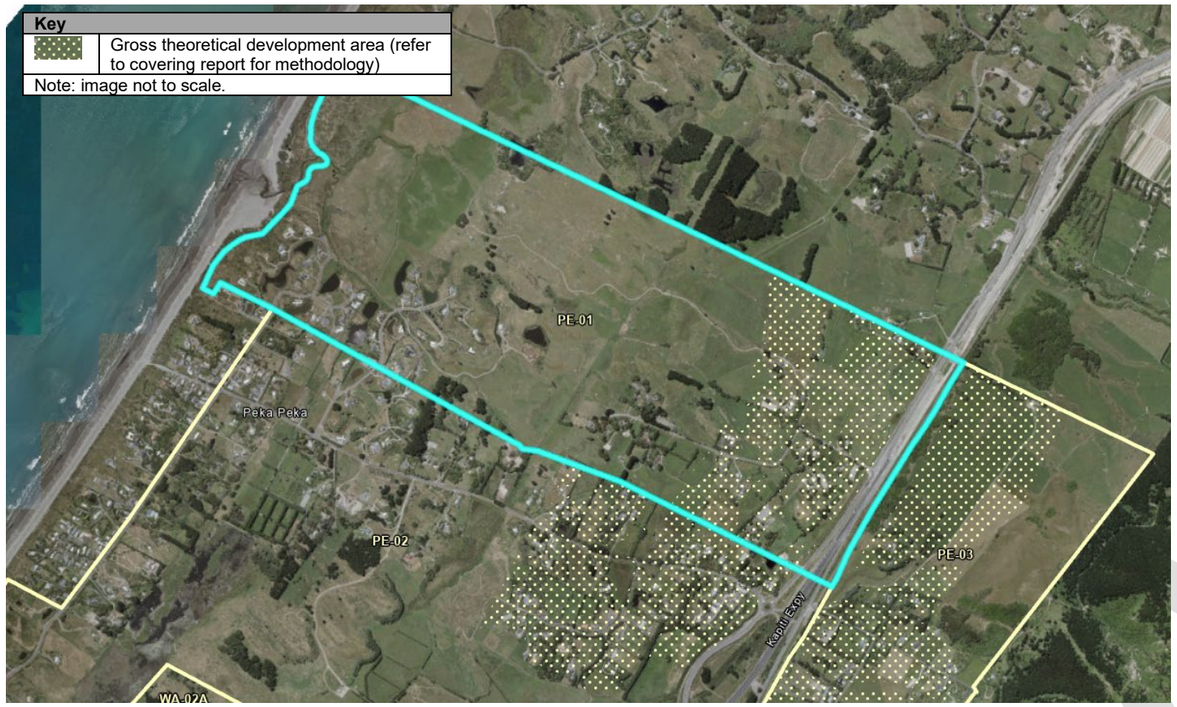
Area information	
Locality	Te Horo
Location	Both sides of the Expressway at Te Horo
Total area (ha)	878.8ha
Existing zoning	Rural Production Zone and General Rural Zone

Key constraints	Key opportunities
• Disconnected from established urban environments. • Poor access to public transport. • Flooding and liquefaction. • Waterbodies. • Highly productive land. • No reticulated services.	• Relatively flat. • Significant contribution to dwelling supply. • Area to the east of the Expressway more appropriate to develop. • Partnership with Māori freehold land owners.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
257.2ha	30%	180.0ha	80%	20%	0%	0%	0%	4,320	• Theoretical development areas avoid flood hazard areas associated with the Mangaone Stream, steep topography in the south, and a range of ecologically significant sites located throughout the area. • Density mix assumes that development is comprehensively planned.

Criteria	Observations	Rating
Mana whenua values	• A number of areas along the Mangaono Stream are identified as being of significance to Ngā Hapu o Ōtaki. • There is a wāhi tapu site located to the north of the Mangaone Stream to the west of the Expressway. This is identified as a taumata site.	
Iwi development aspirations	• There are some large areas of Māori freehold land located in the northern extent of the area on both sides of the Expressway.	
Urban form	• Development in this area would challenge the established hierarchy of urban form on the Kāpiti coast. • There are is a loosely cohesive extent of low-density built form located along old SH1 and School Road. These areas are separated by the Expressway. • Development of the area would require a comprehensively planned urban form response in order to establish a new, cohesive urban area. Development of a new town would be a significant and long-term undertaking. • Development of a unified urban form will be challenged by the presence of the Expressway.	
Local neighbourhoods	• There is a degree of low-density settlement located on old SH1 and School road, on both sides of the Expressway. • The existing low-density neighbourhood would be significantly altered by development of an urban environment in the area.	
Activity centres	• There are existing small activity centres (including shops, a community centre, and a school), although these are dispersed on both sides of the Expressway, rather than clustered. • Development within the area may require the establishment of a new consolidated activity centre (as a town centre or neighbourhood centre zone). • Development in the area may challenge the established centres hierarchy within the district.	
Residential development	• The area is relatively flat and has the potential to contribute significantly to dwelling supply. • Comprehensive planning would be required to ensure a diverse range of typologies are delivered.	
Business land	• There is no existing business land within or at the boundary of the area. • There is an extent of industrial zoned land used for concrete plant at the western edge of the site. • Proximity to the Expressway may suit the development of business land in the area.	
Transport networks	• The area is accessed by old SH1, with an overpass providing access to the area east of the Expressway. • There is no direct access to the Expressway. • A shared path is proposed to be incorporated into the Peka Peka to Ōtaki section of the Expressway. • Urban development would require new local access networks. • There is no local public transport in the area, and no local access to regional public transport.	
Infrastructure and servicing	• There is no existing substantial water supply to the area. Development of the area would need to be supported by a new water source associated with the Ōtaki river, and associated treatment, storage (reservoir) and reticulation systems. This would involve significant cost and complexity. • There is no existing waste water reticulation in the area. New development in the area would likely trigger the requirement for a new waste water treatment facility and reticulation network. This would involve significant cost and complexity.	
Natural ecosystem values	• There are six identified ecological sites within the area, most of which are recognised for their indigenous vegetation values.	
Water bodies	• The Mangaone Stream runs through the centre of the area. Much of the land appears to drain into this stream. • Several smaller streams and drains located throughout southern and western halves of the area.	
Landscape and open space values	• There are no recognised amenity landscapes located within the site. • An area of remnant sea cliff is identified in the northern extent of the area. • There are small extents of public open space associated with the community hall on School Road. • New public open spaces would be required to support new urban development in the area.	
Heritage values	• The Te Horo Community Hall on School Road is listed as a heritage site. • The old Te Horo Railway Station (to the north of the Expressway overpass) is listed as a heritage site. • The “Whalers Wife’s House” located south of the Te Waka Road/Swamp Road intersection is a listed heritage site, and may be the oldest structure in the district. • There is a recorded archaeological site located between Winiata Link Road and the Expressway.	
Topography	• The majority of the area is relatively flat.	
Natural hazards and land risks	• There are a number of overland flow paths associated with the Mangaone Stream that flow through the area. • Much of the northern extent of the area is subject to flooding risk. • The western extent of the are is identified as having a high liquefaction potential. • There is a fault avoidance area located in the central northern part of the area. • There are some SLUR sites located on the western side of the Expressway.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the Expressway. • There appears to be some rural lifestyle development on the eastern side of the Expressway that may be resistant to urban development.	
Highly productive land	• A significant majority of the area is likely to meet the definition of highly productive land, although a majority of the area is LUC 3.	
Climate change (low-carbon futures)	• Growth in this area would likely require vehicle trips in order to access basic services, although active modes of access to Ōtaki town centre and Waikanae via the Expressway may be able to be incorporated. • Construction of an entirely new urban centre is likely to be emissions intensive. • Significant work and expenditure of resources are likely required to create the infrastructure networks required to service the area. • Low access to regional public transport may result in increased private vehicle commuting.	

Future Urban Study Area **PE-01**



Area information	
Locality	Peka Peka
Location	To the north of the Peka Peka Expressway interchange, spanning from the coast to the inland hills
Total area (ha)	296.1ha
Existing zoning	General Rural Zone, Rural Production Zone, Rural Lifestyle Zone and Natural Open Space Zone

Key constraints	Key opportunities
• Disconnected from established urban environments. • Extensive flood hazard. • Poor access for all forms of transport. • Liquefaction and coastal hazard. • Established rural lifestyle development. • No reticulated services.	• Access to coastal open space. • Opportunity for a cohesive cluster of development around the roundabout, in coordination with adjacent areas.

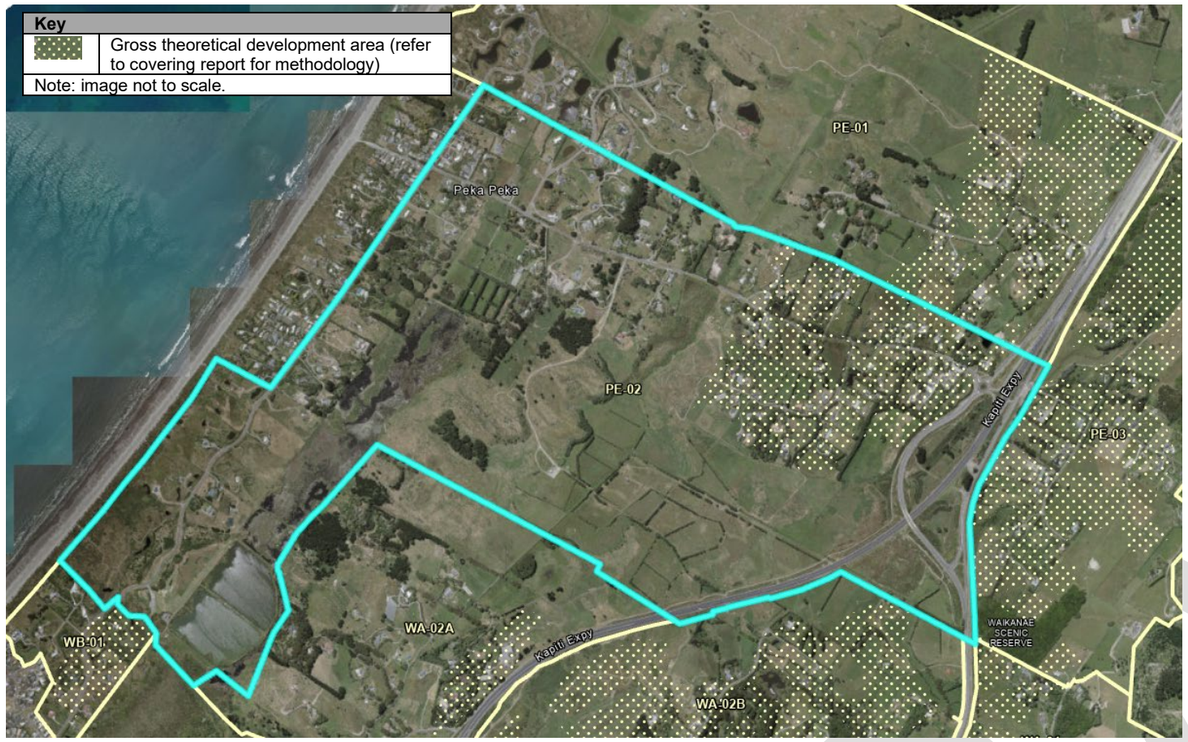
Theoretical dwelling estimate

Gross theoretical develop-ment area	Public realm provision (roads and reserves)	Net theoretical develop-ment area	Density mix					Estimated dwellings	Notes (refer to covering report for methodology and general notes)
			Low (20d /ha)	Low-Med (40d /ha)	Med (60d /ha)	Med-high (80d /ha)	High (100d /ha)		
47.7ha*	30%	33.4ha	80%	20%	0%	0%	0%	800	• Combined constraints in the western (coastal) extent of the area result in the eastern extent of the area being more appropriate for potential development. • Density mix assumes that development is comprehensively planned alongside adjacent areas, with higher density clustered around a new centre. • Theoretical development area is influenced by extensive flood hazard identified in the area.

Criteria	Observations	Rating
Mana whenua values	• The mouth and the inland reaches of the Kōwhai Stream are identified as being of significance to Ngā Hapu o Ōtaki. • There are a number of middens identified along the western edge of the area.	
Iwi development aspirations		
Urban form	• Aside from the small settlement at Peka Peka Beach to the south, there is no established urban form in or adjacent to the area. • Development of this area is likely to lack cohesion in relation to the larger urban environment of Waikanae to the south. • Combined constraints associated with the western extent of the area mean that urban form is likely to establish in the east of the area, around the Peka Peka interchange. • Comprehensive planning in coordination with adjacent growth areas would be required to ensure an internally cohesive urban form is developed.	
Local neighbourhoods	• The area is predominantly defined be rural lifestyle development to the south, and rural activity to the north. • The existing rural lifestyle neighbourhood would likely be significantly altered by the establishment of an urban environment in the area.	
Activity centres	• There is no established activity centre (shops, school or public services) within or adjacent to the area. • Development in the area would require the support of a new activity centre in the vicinity of Peka Peka. • Development of a new activity centre could support established residential activity at Peka Peka Beach.	
Residential development	• The area has the potential to contribute to dwelling supply. • Comprehensive planning of the area would be required to ensure a range of dwelling typologies. • Lower risk areas towards the Expressway may be more appropriate to develop.	
Business land	• There is no existing business zoned land in the area. • Proximity to the Expressway may suit the development of business land in the area.	
Transport networks	• There is limited road access to this area, and new networks would need to be developed to provide access to the interior of this area. • Access to the expressway is northbound only. Development in the area will put additional pressure on Paetawa Road/Rutherford Drive and Old SH1, both of which are already constrained. • There is limited/no active mode access to Waikanae town centre. • There is no local public transport in the area. • While the area is close to Waikanae Station, distance and lack of active mode options may put pressure on park-and-ride facilities at Waikanae station.	
Infrastructure and servicing	• There is no existing reticulated water supply to the area. Development in the area would likely need to be supported by a new connection to the existing supply at Waikanae. • New development in the area may need to be supported by new water storage infrastructure (reservoirs). • There is no existing waste water reticulation in the area. New development in the area would need to be piped to Otaihanga in the south. This may trigger upgrades to the existing waste water treatment facility at Otaihanga. • Alternatively, where there is significant development in the area, this could be supported by a new waste water treatment facility associated with growth areas further to the north (at Hautere and Te Horo).	
Natural ecosystem values	• The coastal edge is identified as a key regional native ecosystem. • There is an area of native bush to the east of the railway line identified as an ecological site.	
Water bodies	• A stream and series of drains run through much of the central and western extent of the area. • There are a number of small lakes and ponds located in the western extent of the area.	
Landscape and open space values	• The central and western edge of the area are dunelands, much of which is identified as a special amenity landscape. • Development in the area would have good access to coastal open space.	
Heritage values	• There are no listed heritage items in the area. • There are a number of identified archaeological sites in the east of the area.	
Topography	• The topography is relatively undulating, based on the underlying dune landscape.	
Natural hazards and land risks*	• Updated flood hazard modelling has identified that the area is subject to extensive flood hazard. • There is concern about the effects of stormwater runoff and potential for flooding in the coastal and lower area. • The area in close proximity to the coast will be at increased risk of climate change associated hazards. • Almost the entire extent of the area is identified as having a high risk of liquefaction.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the Expressway along the north-western edge of the area. • The national grid traverses the central portion of the area. • The natural gas supply network traverses the western portion of the area. • Established rural lifestyle development in the area may be resistant to urban development.	
Highly productive land	• There is a strip of LUC 3 land located in the western portion of the area, although this is not particularly cohesive.	
Climate change (low-carbon futures)	• Growth in this area would likely require vehicle trips in order to access basic services. • Extending infrastructure services to the area may be resource intensive. • Low access to regional public transport may result in increased private vehicle commuting.	

* Note: assessment has been updated to incorporate updated flood hazard modelling for the Hadfield catchment.

Future Urban Study Area **PE-02**



Area information	
Locality	Peka Peka
Location	The area between Peka Peka Beach and the Expressway, south of Peka Peka Road
Total area (ha)	462.8ha
Existing zoning	General Rural Zone, Rural Lifestyle Zone, Natural Open Space Zone and General Residential Zone

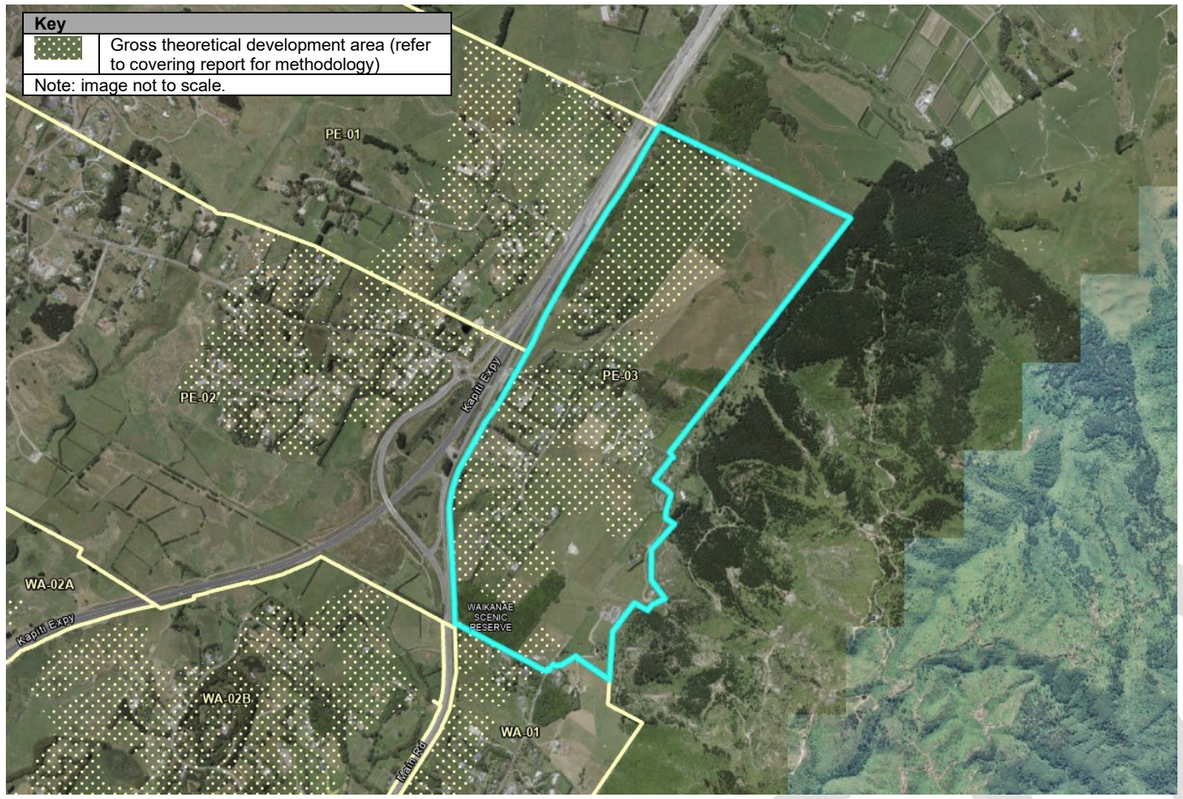
Key constraints	Key opportunities
• Disconnected from established urban environments. • Poor access to activity centres. • Poor access to public transport. • Wetlands and waterbodies. • Liquefaction and coastal hazard. • Extensive flood hazard. • Established rural lifestyle development. • No reticulated wastewater services.	• Access to coastal open space. • Opportunity for a cohesive cluster of development around the roundabout, in coordination with adjacent areas.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
56.2ha*	30%	39.3ha	80%	20%	0%	0%	0%	940	• Combined constraints in the western (coastal) extent of the area result in the eastern extent of the area being more appropriate for potential development. • Density mix assumes that development is comprehensively planned alongside adjacent areas, with higher density clustered around a new centre.

Criteria	Observations	Rating
Mana whenua values	• The headwaters of the Waimeha and Ngarara Streams run along the southern extent of the area and are recognised as a site of significant to Te Ātiawa ki Whakarongotai. • There are a number of middens identified throughout the area.	
Iwi development aspirations		
Urban form	• Aside from the small settlement at Peka Peka Beach to the west, there is no established urban form in or adjacent to the area. • Larger scale urban development in this area is likely to lack cohesion in relation to the larger urban environment of Waikanae to the south. • It may be more appropriate to establish a new urban area around the Peka Peka interchange to the east. • Comprehensive planning in coordination with adjacent growth areas would be required to ensure an internally cohesive urban form is developed.	
Local neighbourhoods	• While a degree of development could be undertaken in a manner consistent with the established neighbourhood scale, larger scale urban development may impact the established neighbourhood at Peka Peka Beach.	
Activity centres	• There is no established activity centre (shops, school or public services) within or adjacent to the area. • Development in the area would require the support of a new activity centre in the vicinity of Peka Peka. • Development of a new activity centre along Peka Peka Road would support established residential activity at Peka Peka Beach.	
Residential development	• The area has the potential to contribute to dwelling supply. • Comprehensive planning of the area may be required to ensure a range of dwelling typologies. • Lower risk areas towards the Expressway may be more appropriate to develop.	
Business land	• There is no existing business zoned land in the area. • Proximity to the Expressway may suit the development of business land in the area.	
Transport networks	• Peka Peka Road provides the primary access to and through the area. • Access to the expressway is northbound only. Development in the area will put additional pressure on Paetawa Road/Rutherford Drive and Old SH1, both of which are already constrained. • There is limited/no active mode access to Waikanae town centre. • There is no local public transport in the area. • While the area is close to Waikanae Station, distance and lack of active mode options may put pressure on park-and-ride facilities at Waikanae station.	
Infrastructure and servicing	• There is a water supply trunk main that passes through the southern extent of the area. • New development in the area may need to be supported by new water storage infrastructure (reservoirs). • There is no existing waste water reticulation in the area. New development in the area would need to be piped to Otaihanga in the south. This may trigger upgrades to the existing waste water treatment facility at Otaihanga. • Alternatively, where there is significant development in the area, this could be supported by a new waste water treatment facility associated with growth areas further to the north (at Hautere and Te Horo).	
Natural ecosystem values	• Much of the south-western extent of the area is identified as an area of ecological significance associated with the Te Harakiki Swamp. • There is an area of ecological significance located centrally within the area, associated with Peka Peka Road swamp.	
Water bodies	• There is a wetland located centrally in the area, to the south of Peka Peka Road. • There is a large wetland (Te Harakiki Swamp) located in the south western coastal extent of the area. • There are two large waterbodies located in the south-westernmost extent of the area, within Pharazyn Reserve. • There are two smaller ponds located to the south of Peka Peka Beach, on Paetawa Road. • There are a number of drains along the southern extent of the area that eventually flow in to Ngarara stream.	
Landscape and open space values	• The central and south-western extents of the area are dunelands, much of which is identified as a special amenity landscape. • Development in the area would have good access to coastal open space, as well as the public open space at Pharazyn Reserve.	
Heritage values	• There are no listed heritage items in the area. • There are a number of identified archaeological sites located through the area, and the risk of archaeological discovery is likely to be high.	
Topography	• The topography is relatively undulating, based on the underlying dune landscape.	
Natural hazards and land risks*	• There is some flood risk associated with the central and southern portions of the area, particularly around the wetlands. Updated flood hazard modelling has identified extensive flood hazard to the northern extent of the area. • The area in close proximity to the coast will be at increased risk of climate change associated hazards. • The entire extent of the area is identified as having a high risk of liquefaction. • Land within the Pharazyn Reserve is identified on the SLUR.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the Expressway. • The national grid traverses the central portion of the area. • The natural gas supply network traverses the western portion of the area. • Established rural lifestyle development in the area may be resistant to urban development in the area.	
Highly productive land	• There is an area of LUC 3 land located in the eastern ad southern extents of the area around the Expressway; • There is a strip of LUC 3 land running north-south through the area to the east of Peka Peka Beach.	
Climate change (low-carbon futures)	• Growth in this area would likely require vehicle trips in order to access basic services. • Extending infrastructure services to the area may be resource intensive. • Low access to regional public transport may result in increased private vehicle commuting.	

* Note: assessment has been updated to incorporate updated flood hazard modelling for the Hadfield catchment.

Future Urban Study Area **PE-03**



Area information	
Locality	Peka Pela
Location	The area to the east of the Expressway, around Hadfield Road
Total area (ha)	173.9ha
Existing zoning	Rural Lifestyle Zone, Natural Open Space Zone

Key constraints	Key opportunities
• Steep topography. • Established rural lifestyle development. • Congestion at the Elizabeth Street intersection. • Extending services to the area.	• Low natural hazard risk. • Opportunity for a cohesive cluster of development around the roundabout, in coordination with adjacent areas.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
86.8ha	30%	60.8ha	100%	0%	0%	0%	0%	1,220	• Theoretical development area avoids steep topography in the east. • Low density development assumed on the basis of steeper terrain in the area. • Flood hazard in this area is unknown, and updates to flood hazard modelling may reduce theoretical development area.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area.	
Iwi development aspirations		
Urban form	• There is no established urban form in the area. • Development would likely extend from the area around the Expressway interchange. • Comprehensive planning in coordination with adjacent growth areas would be required to ensure an internally cohesive urban form is developed.	
Local neighbourhoods	• The existing rural lifestyle neighbourhood would likely be progressively altered by growth of the urban environment.	
Activity centres	• There are no existing activity centres in the area. • Development in the area would likely need to be serviced by a new local activity centre.	
Residential development	• The area has the potential to contribute to dwelling supply. • Comprehensive planning of the area may be required to ensure a range of dwelling typologies.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• There is convoluted access to Hadfield Road via Peka Peka roundabout to the north. • Additional access could be supported by a connection to Huia Street in the south. • Development in this area will put pressure on existing level crossings across the railway. • Incorporation of active modes into Huia Street would provide good access to Waikanae Station to the south and reduce pressure on park and ride facilities.	
Infrastructure and servicing	• There is no reticulated water supply to the area. • New development in the area may need to be supported by new water storage infrastructure (reservoirs). This could be undertaken in coordination with other growth areas. • There is no reticulated waste water infrastructure in the area. • The area is a significant distance from the Otaihanga waste water treatment plant. Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are a number identified ecological sites located within the area, all of which are identified for indigenous vegetation values. • There are a number of QEII Trust covenant sites located in the area.	
Water bodies	• A number of streams traverse the area from east to west.	
Landscape and open space values	• Development in the area would have good access to established public open space at Waikanae Scenic Reserve, and Hemi Matenga Memorial Park. • Opportunity to create connections to the ridgeline track to the east.	
Heritage values	• The Lovat House in the northernmost extent of the area (29 Hadfield Road) is a listed heritage feature. It would be possible to incorporate this positively into any new development in the area. • There are no identified archaeological sites in the area.	
Topography	• The area slopes up from the west to the east. • The majority of the area to the east of Huia Street would likely be too steep to develop as an urban area.	
Natural hazards and land risks	• There is a small amount of land identified as a high risk of earthquake hazard. • A small amount of land at the western margin of the area is identified as being subject to high liquefaction risk.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the railway line. • Established rural lifestyle development in the area may be resistant to urban development in the area.	
Highly productive land	• There is no highly productive land (LUC 1 to 3) in the area.	
Climate change (low-carbon futures)	• Incorporation of active modes could reduce dependence on vehicle trips to access services in Waikanae town centre. • Extending infrastructure services to the area may be resource intensive. • Development around complex topography may be resource intensive. • Low access to regional public transport may result in increased private vehicle commuting.	

Future Urban Study Area **WA-01**

Area information	
Locality	Waikanae
Location	The area to the east of the Expressway, between Waikanae and Peka Peka
Total area (ha)	135.8ha
Existing zoning	Rural Lifestyle Zone, Natural Open Space Zone

Key constraints	Key opportunities
• Steep topography. • Established rural lifestyle development. • Congestion at the Elizabeth Street intersection. • Extending services to the area.	• Proximity to Waikanae town centre. • Low natural hazard risk.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
48.2ha	30%	33.7ha	100%	0%	0%	0%	0%	670	• Theoretical development area avoids steep topography in the east. • Density mix assumed on the basis of proximity to Waikanae.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance in the area.	
Iwi development aspirations		
Urban form	• Development in this area could be undertaken as a cohesive expansion of the urban area of eastern Waikanae to the south. • Development could be undertaken in coordination with a new centre around the Peka Peka interchange to the north. • Development may be fragmented by the presence of waterways and ecological sites in the area.	
Local neighbourhoods	• The existing rural lifestyle neighbourhood would likely be progressively altered by growth of the urban environment. • Growth may impact on the established neighbourhood at Waikanae East.	
Activity centres	• The nearest activity centre is at Waikanae Town Centre to the south. Growth in the area may support the established town centre at Waikanae. • Progressive growth to the north may need to be supported by a new local activity centre.	
Residential development	• The area has the potential to contribute to dwelling supply, although this may be challenged by steep topography. • Potentially fragmented development areas and steeper terrain may result in lower density dwelling typologies.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• Access to the area is via Huia Street to the south. • There is an opportunity to provide a new connection between Hadfield Road in the north and Huia Street. • Development in this area will put pressure on the intersection of Elizabeth Street and Main Road, which is already constrained. • Development in this area will put pressure on existing level crossings across the railway. • Incorporation of active modes into Huia Street would provide good access to Waikanae Station to the south, and reduce pressure on park and ride facilities.	
Infrastructure and servicing	• Existing reticulated water supply terminates on Huia Street at the southern edge of the area. Development of the area would require water supply to be extended up Huia Street. • New development in the area may need to be supported by new water storage infrastructure (reservoirs). This could be undertaken in coordination with other growth areas. • Existing waste water reticulation terminates on Huia Street at the southern edge of the area. Development of the area would require waste water reticulation to be extended up Huia Street. • The area is a significant distance from the Otaihanga waste water treatment plant. Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are a number identified ecological sites located within the area, all of which are identified for indigenous vegetation values. • The Hemi Matenga Memorial Park defines the eastern extent of the area.	
Water bodies	• A number of streams traverse the area from east to west.	
Landscape and open space values	• Development in the area would have good access to established public open space at Waikanae Scenic Reserve, and Hemi Matenga Memorial Park. • Opportunity to create connections to the ridgeline track to the east.	
Heritage values	• There are no identified heritage sites in the area. • There are no identified archaeological sites in the area.	
Topography	• The area slopes up from the west to the east. • The majority of the area to the east of Huia Street would likely be too steep to develop as an urban area.	
Natural hazards and land risks	• A small amount of land at the western margin of the area is identified as being subject to high liquefaction risk.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the railway line. • Established rural lifestyle development in the area may be resistant to urban development in the area.	
Highly productive land	• There is no highly productive land (LUC 1 to 3) in the area.	
Climate change (low-carbon futures)	• Incorporation of active modes could reduce dependence on vehicle trips to access services in Waikanae town centre. • Extending infrastructure services to the area may be resource intensive. • Development around complex topography may be resource intensive. • Low access to regional public transport may result in increased private vehicle commuting.	

Future Urban Study Area **WA-02A**

Area information	
Locality	Waikanae
Location	The area to the north of Ngarara, to the east of the Expressway
Total area (ha)	140.3ha
Existing zoning	General Rural Zone

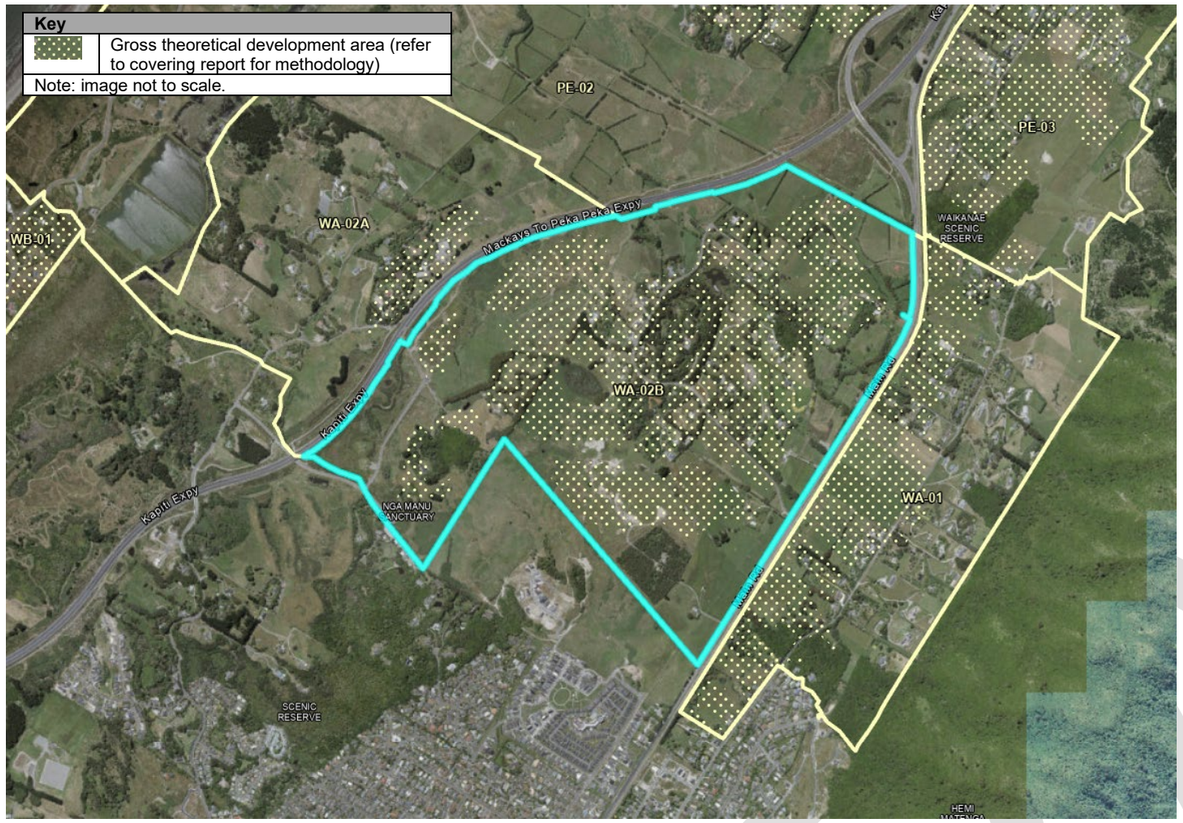
Key constraints	Key opportunities
• Dividing effect of the Expressway. • Discontinuous with established urban environments (north of Ngarara). • Flooding and liquefaction. • Established rural lifestyle development. • Extending wastewater services to the area.	• Area to the east of the Expressway is likely more appropriate to develop.

Theoretical dwelling estimate

Gross theoretical develop-ment area	Public realm provision (roads and reserves)	Net theoretical develop-ment area	Density mix					Estimated dwellings	Notes (refer to covering report for methodology and general notes)
			Low (20d /ha)	Low-Med (40d /ha)	Med (60d /ha)	Med-high (80d /ha)	High (100d /ha)		
8.1ha	30%	5.7ha	100%	0%	0%	0%	0%	110	• Extensive flood hazard, the presence of waterbodies, ecological sites and significant amenity landscapes limit the theoretical development area. • Low density is assumed on the basis of the small and fragmented nature of potential development.

Criteria	Observations	Rating
Mana whenua values	• The headwaters of the Waimeha and Ngarara Streams run along the southern extent of the area, and are recognised as a site of significant to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations	• There is a section of Māori freehold land located in the southern extent of the area to the east of the Expressway.	
Urban form	• Development of cohesive form in the area is complicated by the low-density Ngarara precinct. Development of the area may leave Ngarara as a disassociated low density. • The presence of the Expressway could lead to disconnected growth on either side of the Expressway. • Multiple constraints in the area are likely to result in fragmented and non-cohesive urban development.	
Local neighbourhoods	• The existing rural lifestyle precinct at Ngarara would likely be progressively altered by growth of the urban environment to the north. • Expansion of the urban environment may support the development of a future neighbourhood around Waikanae North. • Development of neighbourhoods in the area would be complicated by the Expressway, which completely disconnects the eastern extent of the area from the western extent.	
Activity centres	• Development to the west of the Expressway would have no access to established activity centres, and may need to be supported by the development of a new centre.	
Residential development	• Limited theoretical development area caused by multiple constraints results in a marginal contribution to dwelling supply.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• The area to the west of the Expressway (north of Ngarara) is poorly connected, with limited future options for improved connectivity. • The area to the east of the Expressway has good options for future connectivity both to existing networks in Waikanae North, and to old SH1. • Incorporation of active modes development would facilitate access to Waikanae Town Centre and Waikanae Station, and reduce pressure on park and ride facilities.	
Infrastructure and servicing	• There is a water supply trunk main that passes through the area. • New development in the area may need to be supported by new water storage infrastructure (reservoirs). This could be undertaken in coordination with other growth areas. • There is no existing wastewater reticulation to the area. • The area is a significant distance from the Otaihanga waste water treatment plant. Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are no identified ecological sites in the area, although there may be ecological sites associated with dunelands and waterbodies that pass through the area.	
Water bodies	• The area is relatively wet. Tributaries to the Ngarara stream run through the area.	
Landscape and open space values	• A large portion of the duneland in the area is recognised as a special amenity landscape. • The could incorporate access to coastal open space at Pharazyn reserve.	
Heritage values	• There are no listed heritage features in the area. • There are a number of archaeological sites located throughout the area.	
Topography	• The topography of the area is relatively undulating.	
Natural hazards and land risks	• A number of parts of the area are subject to flood risk. Low lying areas are particularly wet. • Almost the entire area is identified as being subject to high liquefaction risk.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the Expressway. • The national grid traverses the central portion of the area. • Established rural lifestyle development in the area may be resistant to urban development (particularly to the west of the Expressway).	
Highly productive land	• There is a small amount of potentially highly productive land (LUC 3) located in the northern extent of the area, although this is relatively non-cohesive.	
Climate change (low-carbon futures)	• Growth in this area would likely require vehicle trips in order to access basic services. • Extending infrastructure services to the area may be resource intensive. • Low access to regional public transport may result in increased private vehicle commuting.	

Future Urban Study Area **WA-02B**



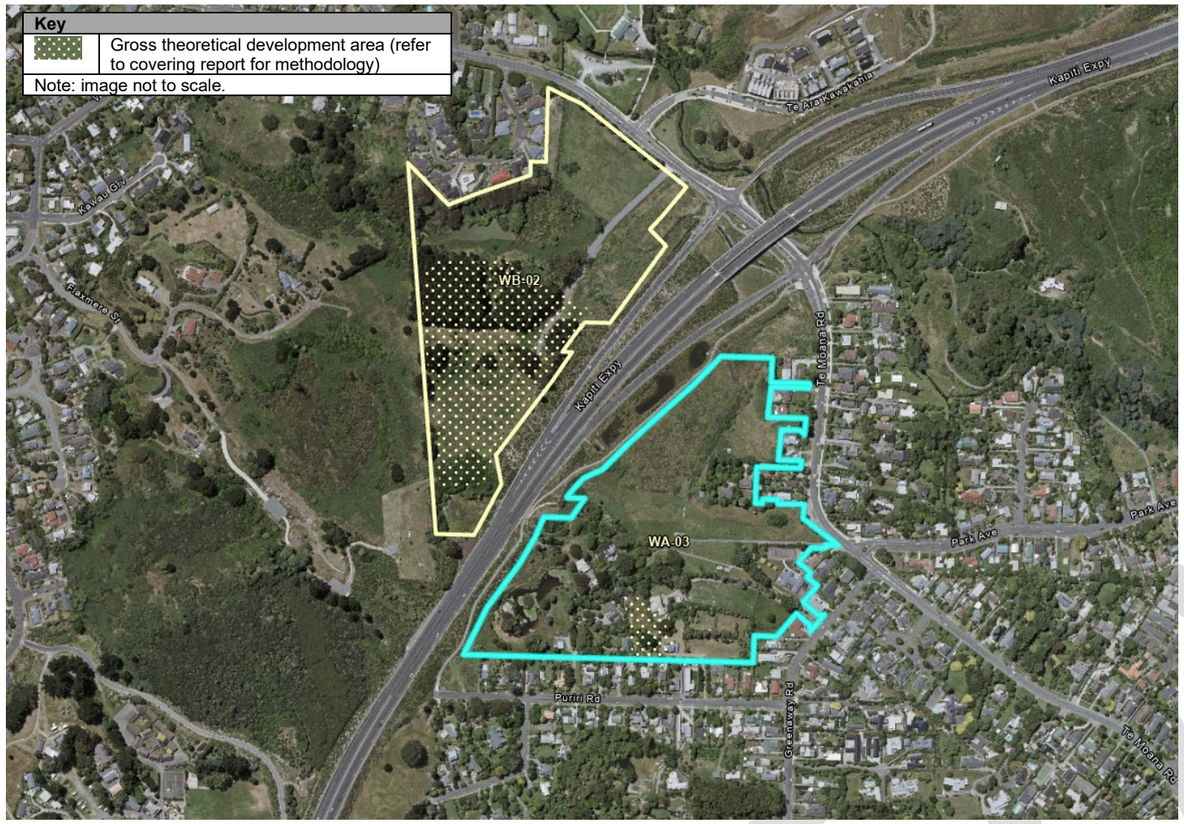
Area information	
Locality	Waikanae
Location	The area to the north of Waikanae North, between the Expressway and old SH1
Total area (ha)	250.4ha
Existing zoning	General Rural Zone

Key constraints	Key opportunities
• Streams, drains and ponds. • Flooding and liquefaction. • Established rural lifestyle development. • Extending wastewater services to the area.	• Cohesive expansion of Waikanae North.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
117.9ha	30%	82.5ha	100%	0%	0%	0%	0%	1,650	• Potential development is fragmented by the presence of flood hazard and the extensive presence of waterways, wetland and ecological sites. • Low density development is assumed on the basis of the potentially fragmented nature of development.

Criteria	Observations	Rating
Mana whenua values	• The headwaters of the Waimeha and Ngarara Streams run along the southern extent of the area, and are recognised as a site of significant to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations	• There is a section of Māori freehold land located in the southern extent of the area to the east of the Expressway.	
Urban form	• Development in this area could be undertaken as a cohesive expansion of the Waikanae North urban area (once that area is developed. • Urban form in the area will be relatively fragmented based on the presence of waterways, wetlands, ecological sites and flood hazard in the area.	
Local neighbourhoods	• The existing rural lifestyle area would likely be progressively altered by growth of the urban environment to the north.	
Activity centres	• Development in the area could be supported by the new mixed use local centre being developed at Waikanae North. • Development further to the north of the area will have low access to existing activity centres, and may need to be supported by an additional local centre.	
Residential development	• The area has the potential to contribute to dwelling supply. • The fragmented nature of potential development in the area is likely to lead to low density supply.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• The area to the east of the Expressway has good options for future connectivity both to existing networks in Waikanae North, and to old SH1. • Incorporation of active modes development would facilitate access to Waikanae Town Centre and Waikanae Station, and reduce pressure on park and ride facilities.	
Infrastructure and servicing	• There is a water supply trunk main that extents across the Expressway into the eastern extent of the area. • New development in the area may need to be supported by new water storage infrastructure (reservoirs). This could be undertaken in coordination with other growth areas. • There is an existing waste water main that runs along the southern extent of the area. Waste water reticulation would need to be extended in to the area to the north. • The area is a significant distance from the Otaihanga waste water treatment plant. Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are a number of identified ecological sites associated with indigenous vegetation and a wetland located in the area to the east of the Expressway.	
Water bodies	• The Ngarara Stream runs along the southern extent of the area and a number of tributaries flow throughout the area into this stream. • There are a number of small waterbodies and wetlands located in the area to the east of the Expressway.	
Landscape and open space values	• There are no special amenity landscapes identified in the area. • The area to the east of the expressway could incorporate access to Ngā Manu reserve to the south.	
Heritage values	• There are no listed heritage features in the area. • There are a number of archaeological sites located throughout the area.	
Topography	• The topography of the area is relatively undulating.	
Natural hazards and land risks	• A number of parts of the area are subject to flood risk. Low lying areas are particularly wet. • Almost the entire area is identified as being subject to high liquefaction risk.	
Land use compatibility	• There is potential for reverse sensitivity effects in proximity to the railway line. • There is potential for reverse sensitivity effects in proximity to the Expressway. • The national grid traverses the central portion of the area. • Established rural lifestyle development in the area may be resistant to urban development (particularly to the west of the Expressway).	
Highly productive land	• There is a small amount of potentially highly productive land (LUC 3) located in the northern extent of the area to the east of the Expressway.	
Climate change (low-carbon futures)	• Incorporation of active modes could reduce dependence on vehicle trips to access services in Waikanae town centre. • Extending infrastructure services to the area may be resource intensive. • Development around complex topography may be resource intensive. • Low access to regional public transport may result in increased private vehicle commuting.	

Future Urban Study Area **WA-03**



Area information	
Locality	Waikanae
Location	The area located between the Expressway and Te Moana Road
Total area (ha)	11.1ha
Existing zoning	General Rural Zone

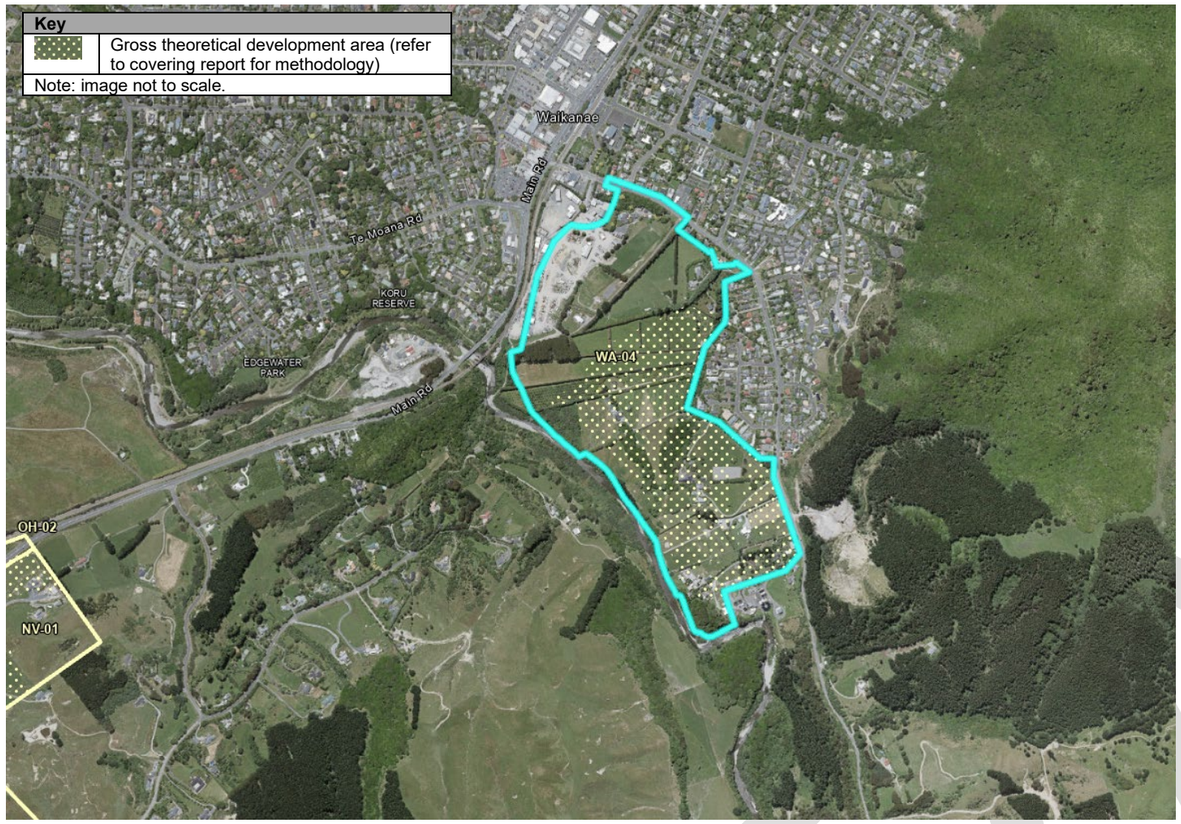
Key constraints	Key opportunities
• Flooding and liquefaction. • Expressway designation.	• Cohesive expansion of Waikanae. • Reasonable access to Waikanae town centre. • Partnership with Māori freehold land owners.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
0.4ha	0%	0.4ha	0%	100%	0%	0%	0%	20	• Extensive flood hazard in the majority of the area results in a marginal extent of theoretical development area. • Low-medium density is assumed on the basis of close proximity to Waikanae.

Criteria	Observations	Rating
Mana whenua values	• The headwaters of the Waimeha to the east of the area are recognised as a site of significant to Te Ātiawa ki Whakarongotai. • There are a number of archaeological sites located throughout the area. • The influence Takamore urupā and wāhi tapu site to the west is a significant consideration in terms of development of the area.*	
Iwi development aspirations	• The central portion of the area is Māori freehold land.	
Urban form	• Development of the area would function as a cohesive consolidation of urban form at Waikanae.	
Local neighbourhoods	• Development of the area would be an extension of the established neighbourhood at western Waikanae.	
Activity centres	• The area has good access to the local centre on the corner of Te Moana Road and Waimea Road, although this requires crossing the Expressway. • Development of the area is likely to support the development of the existing local centre. • Waikanae town centre is located approximately 3.5km to the east, along Te Moana Road. • The nearest schools are at Waikanae to the east.	
Residential development	• Extensive flood hazard covering most of the area reduces potential development. Potential to contribute to dwelling supply is marginal as a result. • Location within urban Waikanae may encourage the development of a range of typologies.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• There is access to the area from Te Moana Road and Greenaway Road. • The area has immediate access to the Expressway via the adjacent interchange. • There is an existing bus route that runs along Te Moana Road. • There is reasonable access to Waikanae Station and town centre via active modes along Te Moana Road. Some parts of Te Moana Road include a cycle lane.	
Infrastructure and servicing	• Existing water supply trunk and reticulation mains run along Te Moana Road adjacent to the area. • Existing waste water reticulation runs along Te Moana Road adjacent to the area. • Depending on scale, development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are no identified ecological sites within the area.	
Water bodies	• There is a pond located in the south-western extent of the site.	
Landscape and open space values	• There are no identified special amenity landscapes in the area. • The area has good access to open space Waikanae Park.	
Heritage values	• There are no listed heritage features in the area. • There are a number of archaeological sites located throughout the area.	
Topography	• The topography of the area is flat towards Te Moana Road, and increasingly hilly towards the Expressway.	
Natural hazards and land risks	• The majority of the area is identified as being subject to flood risk. High consequence hazard associated with the flooding of the Waikanae river in this location. Could be a potential “fatal flaw” for development in this location. • The south-western corner of the area is identified as being subject to high liquefaction risk.	
Land use compatibility	• A significant portion of the area is covered by the Expressway designation, although this could be reviewed with Waka Kotahi, and is not necessarily a constraint. • Development is likely to have reverse sensitivity effects on the Expressway. • The natural gas network runs through the western portion of the area. • Established rural lifestyle development in the area may be resistant to urban development. • The influence Takamore urupā and wāhi tapu site to the east is a significant consideration in terms of development of the area.*	
Highly productive land	• The eastern half of the area is identified as LUC 1, however it is relatively discontinuous with other potentially highly productive areas.	
Climate change (low-carbon futures)	• Consolidation of existing urban form and connecting to established infrastructure services is likely to be less resource intensive. • The area has good access to activity centres and regional public transport, with reasonable opportunities for access to these areas by active modes of transport.	

Notes:
* Feedback on mana whenua values and iwi development aspirations was obtained during the Council Officer workshop on the 19th of July. It is acknowledged that engagement with mana whenua will provide the basis for understanding mana whenua values and iwi development aspirations.

Future Urban Study Area **WA-04**



Area information	
Locality	Waikanae
Location	The area to the south of Elizabeth Street in central Waikanae, to the east of the Waikanae River
Total area (ha)	45.0ha
Existing zoning	Rural Production Zone

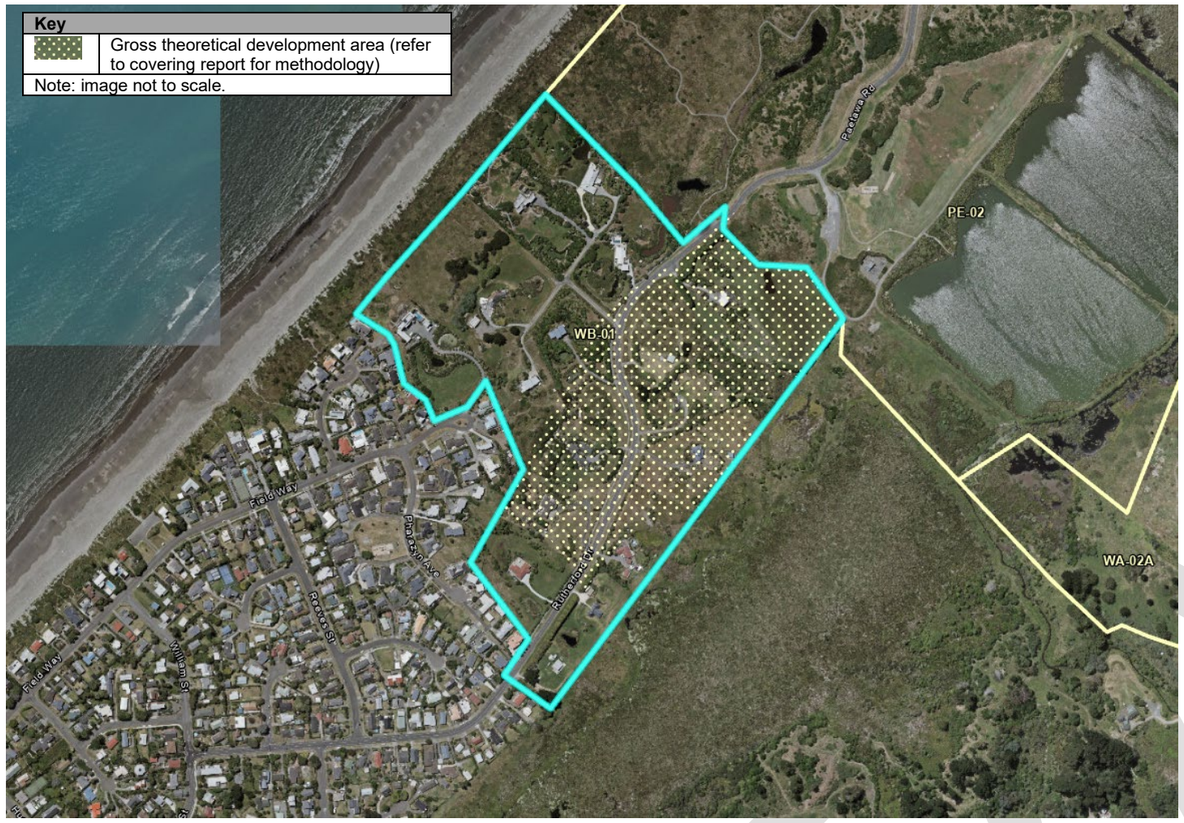
Key constraints	Key opportunities
• Highly productive land. • Flooding in parts. • Congestion at the Elizabeth Street intersection.	• Close proximity to Waikanae town centre. • Relativley unconstrained, low risk area.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
21.5ha	30%	15.1ha	60%	20%	20%	0%	0%	480	• Theoretical development area avoids flood hazard in the north. • Density mix is assumed to be supported by proximity to Waikanae town centre.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area. • The Waikanae river, to the east of the area, is identified as a site of significance to Te Ātiawa ki Whakarongotai. • The areas near the river may be particularly sensitive to the effects of urban development.*	
Iwi development aspirations		
Urban form	• Development of the area would function as a cohesive extension of the established urban form at central Waikanae.	
Local neighbourhoods	• Development of the area would be an extension of the established neighbourhood at eastern Waikanae.	
Activity centres	• The area is located immediately to the south of the Waikanae town centre. • Development of the area is likely to support the development of the existing Waikanae town centre. • The nearest schools are at located in Waikanae to the west.	
Residential development	• Development of the area has the potential to contribute to housing supply. • Close proximity to Waikanae town centre and station may encourage the development of a range of typologies, including higher density typologies.	
Business land	• There is existing general industrial zone land located to the north-west of the area. • While not zoned for business uses, a portion of the area adjacent to the industrial zone appears to be used for industrial purposes.	
Transport networks	• There are three points of access to the site along Elizabeth Street and Reikorangi Road. • The existing intersection at Elizabeth Street and Main Road is already constrained, and development of the area is likely to put further pressure on this intersection. • The area is within a walkable catchment of the Waikanae railway station.	
Infrastructure and servicing	• The area is located adjacent to the existing Waikanae water treatment facility. • Existing water supply trunk mains run around both sides of the area. • Existing waste water reticulation runs along Elizabeth Street, although this may need to be extended down Reikorangi Road to access the southern extent of the area. • Depending on scale, development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are no identified ecological sites located within the area. • The banks of the Waikanae river, which run adjacent to the south-western extent of the area, are recognised as a key native ecosystem.	
Water bodies	• A tributary drain to the Waikanae river runs through the southern extent of the area. • The Waikanae river runs adjacent to the south-western extent of the area.	
Landscape and open space values	• A special amenity landscape associated with the Waikanae river is located within the western extent of the area. • The area would have relatively good access to established open spaces within Waikanae to the north, however development of the area would likely need to be supported by new open spaces.	
Heritage values	• The Union Parish Church, located in the southern extent of the area, is recognised as a historic place by Heritage New Zealand. It would be possible to manage development in the area to complement and support existing heritage values. • There are no identified archaeological sites within the area.	
Topography	• The topography of the area is relatively flat.	
Natural hazards and land risks	• The northern portion of the area, and the area adjacent the bank of the Waikanae river, is subject to flooding risk. • A fault avoidance area runs through the central portion of the area. • The area is not identified as being subject to high liquefaction risk.	
Land use compatibility	• Development of the area may have reverse sensitivity effects on the adjacent industrial area. • Development of the area may have reverse sensitivity effects on the adjacent quarry. • Development of the area may have reverse sensitivity effects on the railway line.	
Highly productive land	• The entire area is likely to meet the definition of highly productive land, with a majority of it being LUC 1.	
Climate change (low-carbon futures)	• Consolidation of existing urban form and connecting to established infrastructure services is likely to be less resource intensive. • The area has good access to activity centres and regional public transport, with reasonable opportunities for access to these areas by active modes of transport.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area **WB-01**



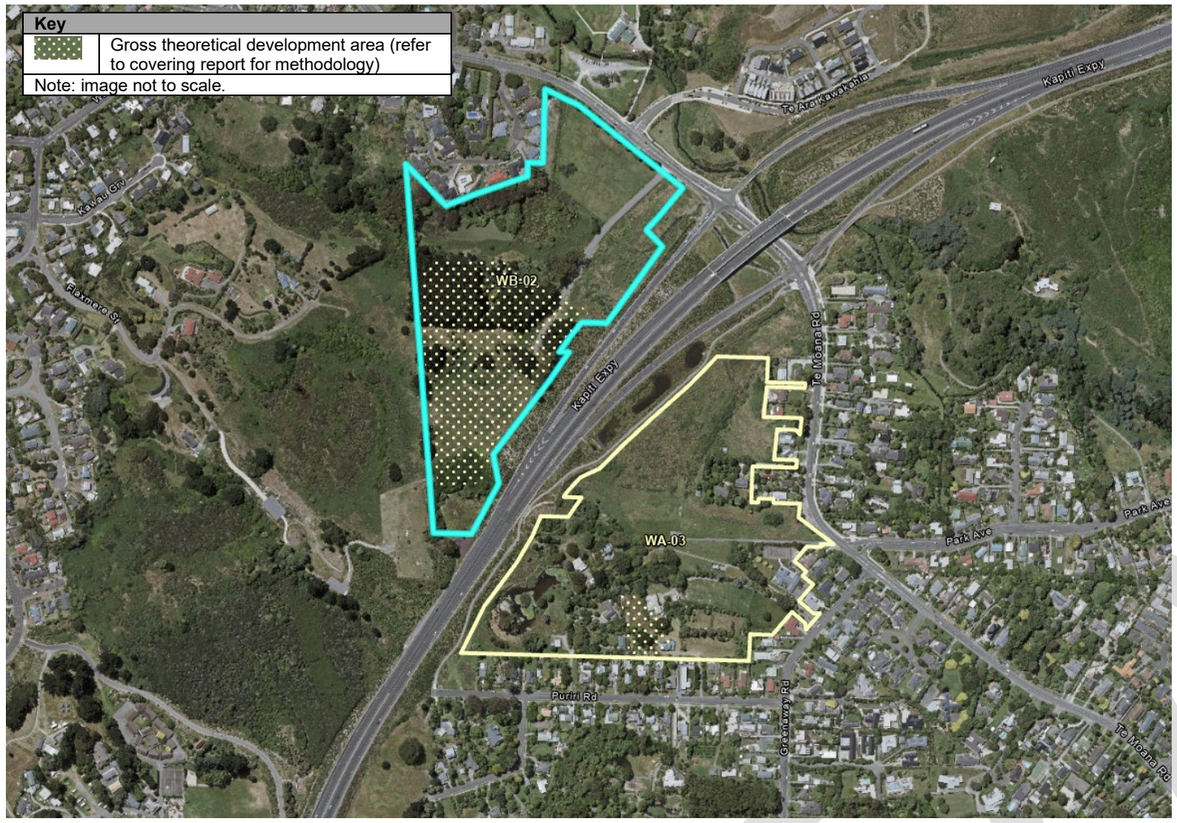
Area information	
Locality	Waikanae Beach
Location	The area between Waikanae Beach and Pharazyn Reserve
Total area (ha)	23.7ha
Existing zoning	General Rural Zone

Key constraints	Key opportunities
• Low access to activity centres. • Flooding, liquefaction and coastal hazard. • Established rural lifestyle development. • Poor access to public transport.	• Good access to coastal open space.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
10.2ha	30%	7.1ha	80%	20%	0%	0%	0%	170	• Theoretical development area avoids flood hazard in the south, and the general coastal area. • Assumed that proximity to coastal amenity and open space will support some low-medium density development.

Assessment criteria	Observations	Rating
Mana whenua values	• The Ngarara stream to the east of the area is recognised as a site of significance to Te Ātiawa ki Whakarongotai. • There is an archaeological site in the west of the area (identified as a midden).	
Iwi development aspirations		
Urban form	• Development of the area would be a logical northern extension of Waikanae Beach. • Pharazyn Reserve would function as a natural edge to the Waikanae Beach urban form. • Development of the area may be inconsistent with the New Zealand Coastal Policy Statement's policy around consolidating urban areas in the coastal environment.	
Local neighbourhoods	• Development in the area would function as a northern extension of the established neighbourhood at Waikanae Beach.	
Activity centres	• The nearest local activity centre is located approximately 2km south of the area, and the nearest schools are located in Waikanae. • The area is relatively distant to Waikanae town centre, which is accessible via Te Moana Road (about 7km away). • A new activity centre may need to be developed to support growth in the area.	
Residential development	• The area is relatively small, and would have the potential to contribute moderately to dwelling supply. • Proximity to coastal and open space amenity may encourage the development of a range of housing types.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• Access to the area is from Rutherford Drive, which is already constrained. • Waikanae station is about 7km from the area, so development is likely to put pressure on park and ride facilities at the station. • It would be possible to use active modes to access Waikanae town centre, however there are no direct routes.	
Infrastructure and servicing	• There is an existing water supply reticulation main on Rutherford Drive that terminates at the southern edge of the area. This would need to be extended in to the area. • There is an existing waste water main that runs along the south-eastern edge of the area. • Existing infrastructure supply to the area is relatively good.	
Natural ecosystem values	• There are no identified ecological sites in the area, although the area is surrounded on the north by ecological sites associated with Pharazyn Reserve, and ecological sites associated with Te Harakeke swamp to the east.	
Water bodies	• There is a small pond located in the north-eastern extent of the area. • The Te Harakeke swamp is located to the east of the area.	
Landscape and open space values	• The area has a direct relationship with the coastal environment, located to the north west. • There are no identified special amenity landscapes within the area, although the coastal area to the west and north is recognised as a special amenity landscape. • The area would have excellent access to coastal open space, as well as open space at Pharazyn Reserve.	
Heritage values	• There are no listed heritage features in the area. • There is an archaeological site in the west of the area (identified as a midden).	
Topography	• The topography of the area is gently undulating.	
Natural hazards and land risks	• A portion of the southern area (around Rutherford Drive) is subject to flood risk. • Close proximity to the coast means the area is likely to be subject to increased coastal hazard risks associated with climate change and sea level rise. This could be a potential "fatal flaw" for development in the area, although the portion of the site around Rutherford Drive (away from the coast) may have less risk. • The entire area is identified as being subject to high liquefaction risk.	
Land use compatibility	• The natural gas network runs along the eastern edge of the area. • Established rural lifestyle development in the area may be resistant to urban development.	
Highly productive land	• There is no highly productive land in the area.	
Climate change (low-carbon futures)	• It is possible to use active modes to access services at Waikanae town centre, although the route is long and not direct. • The area has access to regional public transport, although this is likely to involve vehicle trips to and from Waikanae Station.	

Future Urban Study Area **WB-02**



Area information	
Locality	Waikanae Beach
Location	The area to the west of the Expressway and south of Te Moana Road
Total area (ha)	10.4ha
Existing zoning	General Rural Zone

Key constraints	Key opportunities
• Expressway designation. • Ecological sites, wetlands and waterbodies. • Flooding and liquefaction. • Adjacent wāhi tapu site (urupā).	• Cohesive expansion of established urban form. • Reasonable access to Waikanae town centre.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
4.2ha	30%	2.9ha	80%	20%	0%	0%	0%	70	• Theoretical development area avoids combined constraints associated with flooding and wetlands in the north. • Proximity to Waikanae and Waikanae Beach is assumed to support a mix of densities.

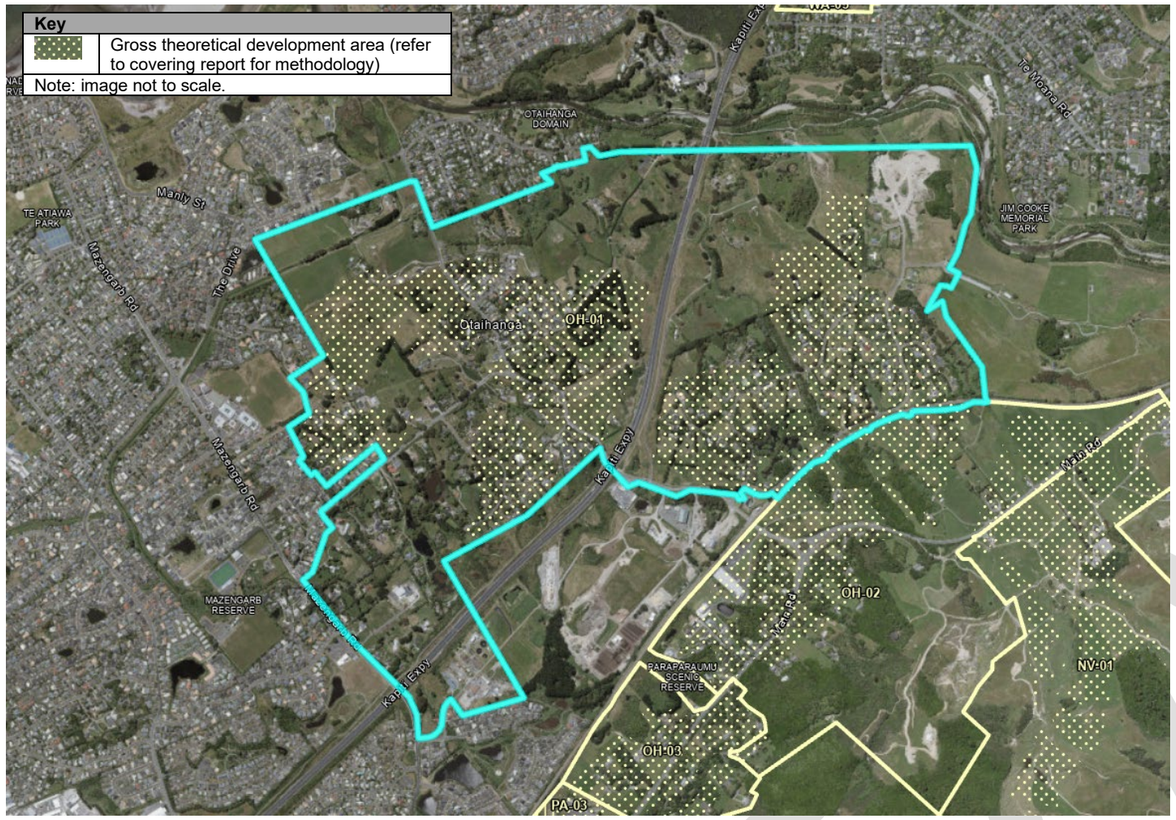
Criteria	Observations	Rating
Mana whenua values	• The Takamore urupā is located in the area, and there is a wider wāhi tapu area associated with this that covers the majority of the western half of the area. • There are a number of archaeological sites located throughout the area. • The influence Takamore urupā and wāhi tapu site to the west is a highly site, and there is likely to be sensitivity towards urban development near the site.*	
Iwi development aspirations		
Urban form	• Development of the area would function as a cohesive consolidation of urban form at Waikanae, although constraints associated with the site mean that development is likely to establish away from Te Moana Road.	
Local neighbourhoods	• Development of the area would be an extension of the established neighbourhood at Waikanae Beach.	
Activity centres	• The area has good access to the local centre on the corner of Te Moana Road and Waimea Road. • Development of the area is likely to support the development of the existing local centre. • Waikanae town centre is located approximately 4km to the east, along Te Moana Road. • The nearest schools are at Waikanae to the east.	
Residential development	• Combined constraints in the area limit the theoretical development area, and as a result the potential to contribute to housing supply is marginal.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• There is access to the area from Te Moana Road, Flaxmere Street and Gates Road. • The area has immediate access to the Expressway via the adjacent interchange. • There is an existing bus route that runs along Te Moana Road. • There is reasonable access to Waikanae Station and town centre via active modes along Te Moana Road. Some parts of Te Moana Road include a cycle lane.	
Infrastructure and servicing	• Water supply and waste water reticulation extent in to the area via Flaxmere Street. • Depending on scale, development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are a number of identified ecological sites associated with wetlands in the area. • There is a QEII covenant site located in the north of the area.	
Water bodies	• There are a number of significant wetlands located throughout the area. • A tributary to the Waikanae River is located in the south-western extent of the area. • The Waimeha Stream is located to the north of the area. A drain that flows to the stream runs through the north of the area.	
Landscape and open space values	• There are no identified special amenity landscapes in the area. • The area has good access to open spaces within Waikanae Beach, as well as coastal open space.	
Heritage values	• There are no listed heritage features in the area. • There are a number of archaeological sites located throughout the area.	
Topography	• The area is relatively hilly.	
Natural hazards and land risks	• North eastern and south-western parts of the area are identified as being subject to flood risk. High consequence hazard associated with the flooding of the Waikanae river in this location. • The majority of the area is identified as being subject to high liquefaction risk. • There is a SLUR site located along the northern extent of the area	
Land use compatibility	• A significant portion of the area is covered by the Expressway designation, although this could be reviewed with Waka Kotahi, and is not necessarily a constraint. • Development is likely to have reverse sensitivity effects on the Expressway. • Established rural lifestyle development in the area may be resistant to urban development. • Significant presence of urupa and wāhi tapu sites over much of the western extent of the area.	
Highly productive land	• The north-eastern portion of the area is identified as LUC 1, however it is relatively discontinuous with other potentially highly productive areas.	
Climate change (low-carbon futures)	• Consolidation of existing urban form and connecting to established infrastructure services is likely to be less resource intensive. • The area has good access to activity centres and regional public transport, with reasonable opportunities for access to these areas by active modes of transport.	

Notes:
* Some high-level observations were provided during a workshop with Council officers in July. Observations are subject to further engagement with mana whenua.

Future Urban Study Area Assessments

Otaihanga & Nikau Valley

Future Urban Study Area **OH-01**



Area information	
Locality	Otaihanga
Location	The area to the east of the railway line and both sides of the Expressway, from Paraparaumu to the Waikanae river
Total area (ha)	373.7ha
Existing zoning	Rural Lifestyle Zone, General Residential Zone and Open Space Zone

Key constraints	Key opportunities
• Flooding and liquefaction. • Established rural lifestyle development. • The dividing effect of the Expressway.	• Cohesive expansion of Paraparaumu. • Reasonable access to Paraparaumu. • Good access to existing open spaces. • Southward Car Museum area should be considered separately as part of OH-02 or OH-04 to the south.

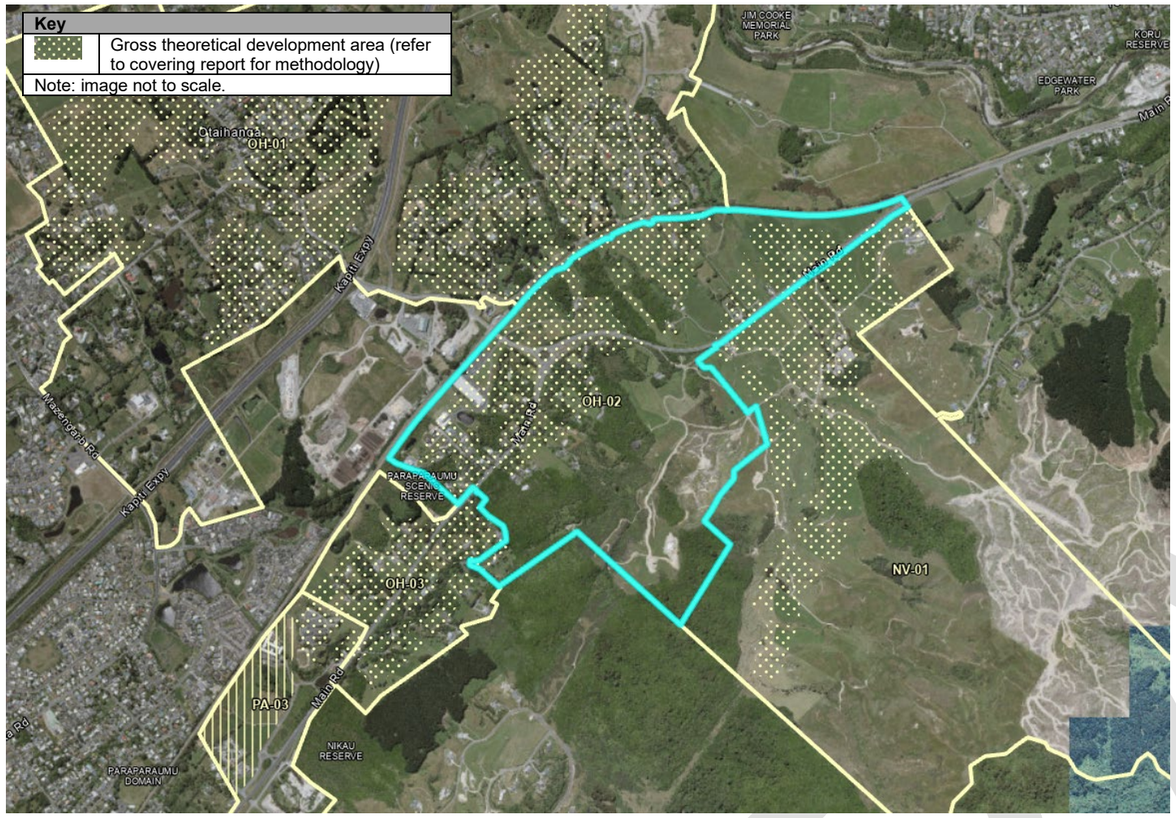
Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
125.4ha**	30%	87.8ha	80%	20%	0%	0%	0%	2,100	• Theoretical development area avoids combined constraints associated with flood hazard, wetlands and waterways. Resulting theoretical development area is somewhat fragmented. • Proximity to Paraparaumu is assumed to support a mix of densities, although this is tempered by the potentially fragmented nature of development.

Criteria	Observations	Rating
Mana whenua values	• There is a wāhi tapu site located at the northern extent of the area. • The Maungakotukutuku stream is identified as a site of significance to Te Ātiawa ki Whakarongotai. • There are a number of identified archaeological sites located along the Expressway route. • There could be concerns around development towards the river.	
Iwi development aspirations		
Urban form	• Development of the area would represent a cohesive expansion of Paraparaumu towards Waikanae. • The division caused by the Expressway will challenge the development of cohesive urban form to the east of the Expressway, where development would be separated from the west.	
Local neighbourhoods	• To the west of the expressway, development could occur as an extension of existing neighbourhoods within Paraparaumu. • The division caused by the Expressway may require the development of a separate new neighbourhood to the east of the Expressway. • The existing rural lifestyle neighbourhood would likely be significantly altered by the expansion of the urban environment in to the area.	
Activity centres	• There are existing local centres located to the west. While these will be supported by new development, they are unlikely to be large enough to service new development in the area. • A new local centre may need to be established to support development within the area. • The division caused by the Expressway may require the development of a separate local centre to service the area to the east of the Expressway. • Paraparaumu College is located next to the area.	
Residential development	• The large area has the potential to contribute significantly to dwelling supply. • Comprehensive planning could enable a diverse range of typologies.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• Access to the western extent of the area is via Mazengarb Road and Ratanui Road/Otaihanga Road that pass through the area. • Access to the eastern extent of the area is Otaihanga Road and the Otaihange Roundabout at old SH1. • There is no local access to or from the Expressway. • There are two Expressway crossing points (at Mazengarb Road and Otaihanga Road). • The Expressway includes an active mode shared path that provides access to Paraparaumu and Waikanae. • There is a bus route along Mazengarb Road. • There is potential to provide a new train station along the railway line to service the area in future. • Paraparaumu station is about 4km by active modes along the Expressway and Kāpiti road. Development of the area may put pressure on existing park and ride facilities at the station.	
Infrastructure and servicing	• Existing water supply reticulation mains pass through the area on Ratanui Road and Otaihanga Road. • Existing waste water mains run along Otaihanga Road and Ratanui road in the western extent of the area, although there are no wastewater mains located in the east of the area. • The area is in close proximity to the Otaihanga waste water treatment plant, so a direction connection to the plant may be possible. • Significant development in the area may trigger upgrades to the existing waste water treatment plant.	
Natural ecosystem values	• There are some smaller ecological sites identified in the east of the area. • There are likely to be sensitive ecological systems associated with wetlands and dunelands in the area. • There are three QEII covenant sites located in the eastern extent of the area.	
Water bodies	• The Muaupoko/Maungakotukutuku stream flows through the eastern extent of the area, into the Waikanae river. • There are a number of drains in the western extent of the area that flow into the Waikanae estuary. • There are a number of ponds located throughout the entire area.	
Landscape and open space values	• The relatively undeveloped nature of the area functions as a green ‘break’ between Paraparaumu and Waikanae. Development of the area may dilute this, although this could be mitigated by the structuring of green space within the area. • There is a special amenity landscape located in the north-eastern most extent of the area, adjacent the Waikanae river. • The area has good access to existing open spaces. • Development of the area should recognise the desire for the district to develop open space connections between the mountains and the sea.	
Heritage values	• There is a heritage listed monument located on the Southward Car Museum Site. • There are a number of identified archaeological sites located along the Expressway route.	
Topography	• The topography is relatively undulating, with steeper topography located in the north-eastern extent of the area.	
Natural hazards and land risks**	• The northern and south western extents of the area are subject to flood risk. • Updated flood hazard modelling has identified the south-easter extent around the Muaupoko Stream as subject to flood hazard. • Almost the entire extent of the area is identified as having a high risk of liquefaction.	
Land use compatibility	• The Otaihanga waste water treatment plant is located in the southern extent of the area. • Development may have reverse sensitivity effects on the Expressway. • The natural gas network runs through the eastern extent of the area. • The former Paraparaumu landfill is located to the south of the area. • Established rural lifestyle development in the area may be resistant to urban development.	

Criteria	Observations	Rating
Highly productive land	• Parts of the northern fringe of the area are identified as LUC 1 soil. • Pars of the northern and south western extent of the area are identified as LUC 3 soil. • The broader extent of LUC 1-3 land surround the area lacks cohesion.	
Climate change (low-carbon futures)	• Significant expansion of the urban environment in the area is likely to be resource intensive. • Extending infrastructure services to the area may be resource intensive. • Urban development in the area has the opportunity to integrate with existing active mode routes along the expressway to provide access to Paraparaumu.	

Notes:
* Feedback on mana whenua values and iwi development aspirations was obtained during the Council Officer workshop on the 19th of July. It is acknowledged that engagement with mana whenua will provide the basis for understanding mana whenua values and iwi development aspirations.
** Assessment has been updated to incorporate updated flood hazard modelling for the Muaupoko catchment.

Future Urban Study Area **OH-02**



Area information	
Locality	Otaihanga
Location	The area both sides of the Otaihanga Roundabout, with the railway line to the west
Total area (ha)	153.6ha
Existing zoning	Rural Production Zone, Natural Open Space Zone

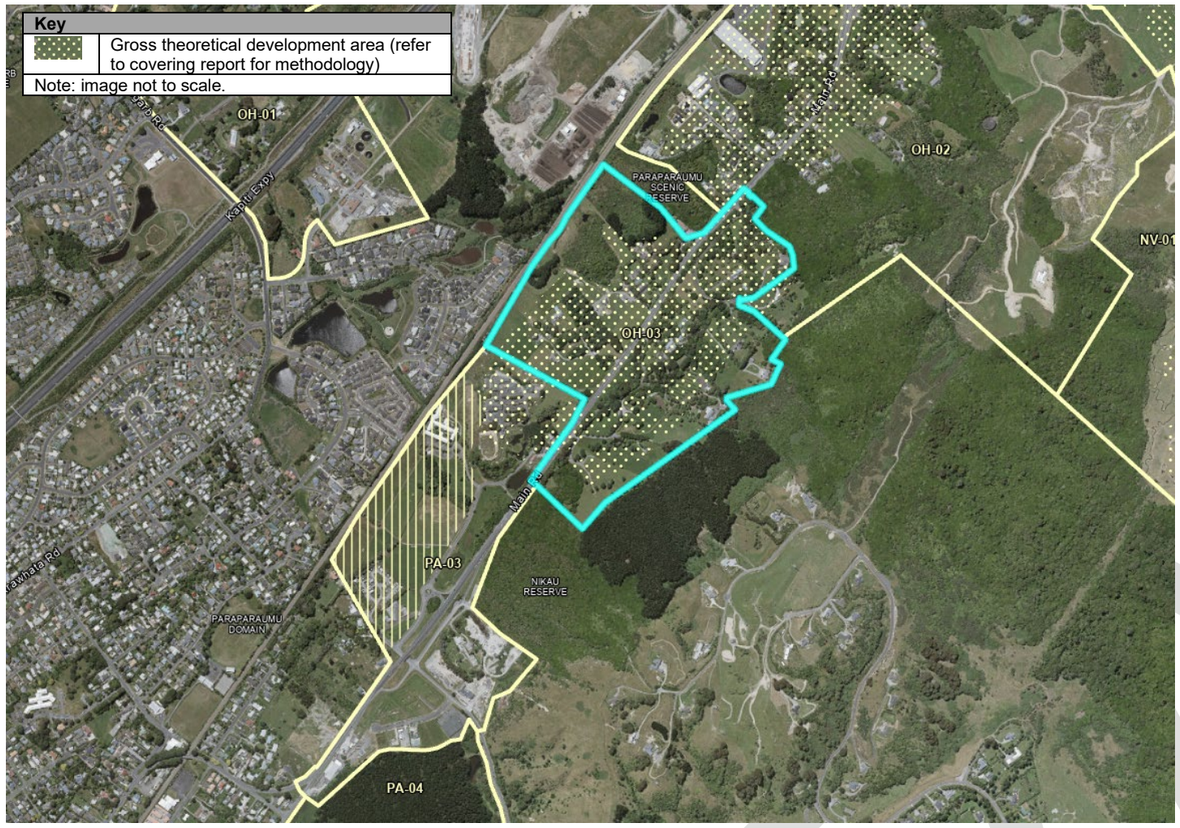
Key constraints	Key opportunities
• Disconnected from established urban environments. • Low access to activity centres. • Southern portion of the area too steep to develop. • Ecological areas and wetlands.	• Relatively low natural hazard risk. • Good connectivity to old SH1.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
51.3ha*	30%	35.9ha	80%	20%	0%	0%	0%	860	• Theoretical development area avoids combined constraints associated with steep topography, ecological areas, waterways and the National Grid. • A mix of densities is assumed on the basis of proximity to Paraparaumu.

Criteria	Observations	Rating
Mana whenua values	• A portion of the Maungakōtukutuku stream is identified as a site of significance to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations	• There is a larger block of Māori freehold land located in the north-eastern extent of the area. • There is a smaller block om Māori freehold land located to the south of the Otaihanga roundabout.	
Urban form	• There is no established urban form in the area. • Development of the area would not be cohesive with established urban form until areas to the south have been developed.	
Local neighbourhoods	• There is no established local neighbourhood in the area. Development of the area would require the establishment of a cohesive neighbourhood.	
Activity centres	• There is no established local centre in or near the area. • There are no schools in or near the area. • A local centre may be required to support development within the area.	
Residential development	• The large area has the potential to contribute significantly to dwelling supply. • Comprehensive planning could enable a diverse range of typologies.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• The area has good access to Main Road (old SH1), which passes through the area. • There is a cycle route located along Main Road, into Paraparaumu. • There is a bus route along Main Road. • There is potential to provide a new train station along the railway line to service the area in future. • Paraparaumu station is about 3km by active modes along Main Road. Development of the area may put pressure on existing park and ride facilities at the station.	
Infrastructure and servicing	• An existing water supply trunk main runs through the area on old SH1. • An existing water supply reservoir is located within the area. • There are no existing waste water mains in the area. Waste water mains would need to be extended to the area. • The area is close to the Otaihanga waste water treatment plant. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is a large grouping of identified ecological sites located centrally within the area. These are recognised for their indigenous vegetation values.	
Water bodies	• The Muaupoko/Maungakotukutuku stream flows through the central extent of the area, into the Waikanae river. • There is a wetland associated with the Muaupoko stream, located in the central northern extent of the area. • There is a wetland located to the southwest of the Southward Car Museum.	
Landscape and open space values	• The Akatarawa Outstanding Natural Landscape is located in the southern portion of the area. • A special amenity landscape is located in the southern extent of the area. • The ONL and special amenity landscapes are generally located within steep terrain, so are unlikely to be a desirable area to develop. • New public open spaces may be required to support development in the area.	
Heritage values	• There are no identified heritage sites located in the area. • There is an archaeological site recorded under the Otaihanga roundabout, although this has since been found to be a natural feature.	
Topography	• Topography in the area to the south of Main Road/Otaihanga roundabout is likely too steep to develop. • Topography in the area to the north of Main road is gently undulation/relatively flat.	
Natural hazards and land risks*	• Updated flood hazard modelling has identified the extent around the Muaupoko Stream as subject to flood hazard. • Parts of the northern extent of the area are identified as having a high risk of liquefaction.	
Land use compatibility	• The national grid traverses the area from north to south. • The natural gas network traverses the area from north to south. • Reverse sensitivity effects on the railway line.	
Highly productive land	• Parts of the area are identified as LUC 3, with a small part identified as LUC1. • The broader extent of LUC 1-3 land surround the area lacks cohesion and confined by existing land use.	
Climate change (low-carbon futures)	• Expansion of the urban environment in the area is likely to be resource intensive. • Extending infrastructure services to the area may be resource intensive. • Urban development in the area has the opportunity to integrate with existing active mode routes along old SH1 to provide access to Paraparaumu and Waikanae.	

* Assessment has been updated to incorporate updated flood hazard modelling for the Muaupoko catchment.

Future Urban Study Area **OH-03**



Area information	
Locality	Otaihanga
Location	The area to the east of the railway line, south of Paraparaumu Scenic Reserve.
Total area (ha)	41.9ha
Existing zoning	Rural Production Zone

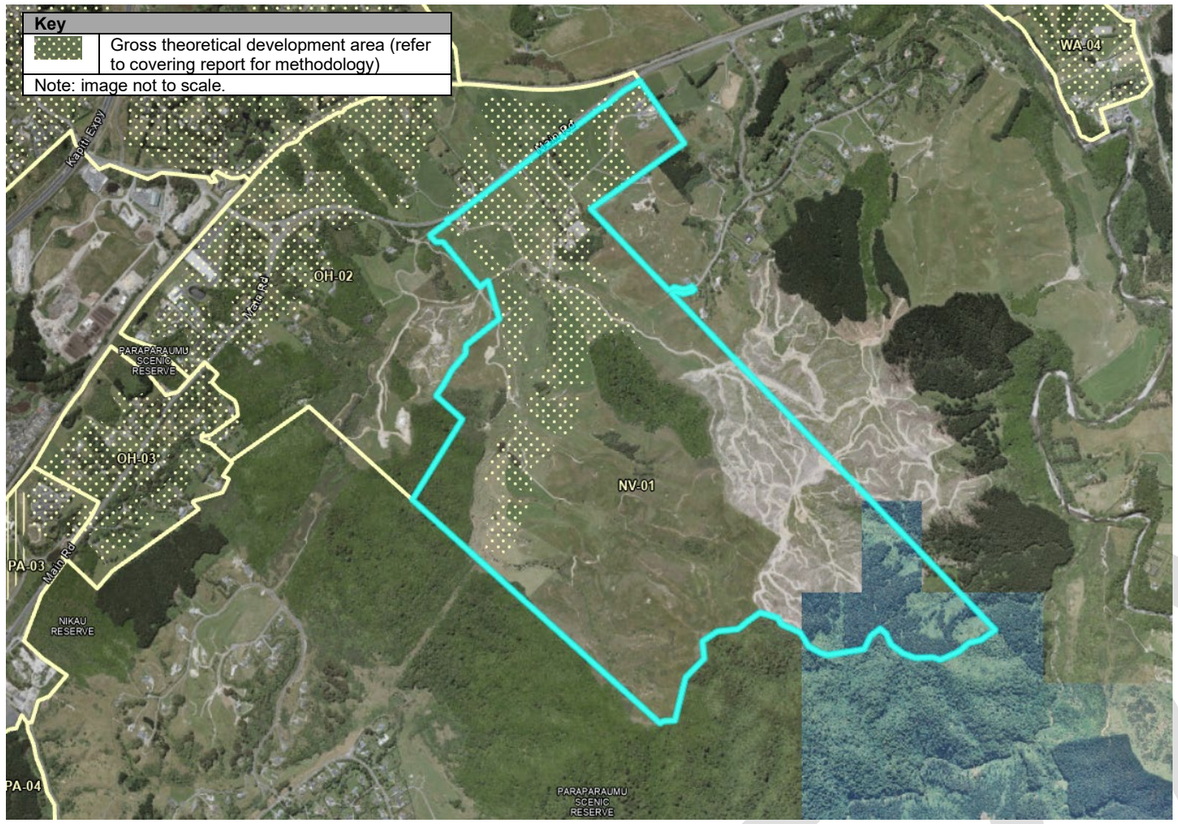
Key constraints	Key opportunities
• The dividing effect of the railway line. • Established rural lifestyle development. • The Paraparaumu Scenic Reserve wetland.	• Development of the Lindale Mixed Use Zone. • Proximity to Paraparaumu.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
24.1ha	30%	16.9ha	80%	20%	0%	0%	0%	400	• Theoretical development area avoids combined constraints associated with steep topography, ecological areas, and flood hazard. • A mix of densities is assumed on the basis of proximity to Waikanae.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area.	

Criteria	Observations	Rating
Iwi development aspirations		
Urban form	• Development of the area could be undertaken as a cohesive extension to Paraparaumu's established urban form, particularly in combination with the development of the area to the south.	
Local neighbourhoods	• The railway line to the west of the area will limit the degree to which the area can connect into existing neighbourhoods within Paraparaumu to the west. • The existing rural lifestyle neighbourhood would likely be significantly altered by the expansion of the urban environment in to the area.	
Activity centres	• Lindale Village is located directly to the south of the area. • Future development of the Mixed Use Zone area to the south of the area could provide a focal point for activity in the wider area. Development in the area may support further development of this Mixed Use Zone. • The nearest schools are located in Paraparaumu to the south.	
Residential development	• The area has the potential to contribute to dwelling supply. • Proximity to Paraparaumu may encourage the development of a range of typologies.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• The area has good access to Main Road (old SH1), which runs through the area. • There is a a cycle route into Paraparaumu located on Main Road. • There is a bus route along Main Road. • Paraparaumu station is about 3km by active modes along Main Road. Development of the area may put pressure on existing park and ride facilities at the station. • There is no connectivity across the railway line into northern Paraparaumu.	
Infrastructure and servicing	• An existing water supply trunk main runs through the area on old SH1. • There are no existing waste water mains in the area. Waste water mains would need to be extended to the area. • The area is close to the Otaihanga waste water treatment plant. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is an identified ecological site located in the northern extent of the area, associated with the Paraparaumu scenic reserve. • Part of the ecological site associated with the Nikau Reserve extends into the southern portion of the area.	
Water bodies	• A wetland extends into the northern portion of the area.	
Landscape and open space values	• There are no special amenity landscapes identified in the area, although there is one located in the hills to the south-east of the area. • The area has good access to established open space at Nikau Reserve and Paraparaumu Scenic Reserve.	
Heritage values	• There is a time capsule buried at the entrance to Nikau Reserve, which is identified as a heritage item. • There are no identified archaeological sites located in the area.	
Topography	• The area gently slopes from the west to the east.	
Natural hazards and land risks	• The majority of the area is unconstrained by natural hazard risks. • A portion of the northern area (around the wetland) is subject to flood risk. • No parts of the area are identified as having a high risk of liquefaction. • The site to the south of Nikau Reserve is on the SLUR.	
Land use compatibility	• There may be reverse sensitivity effects on the railway line. • Established rural lifestyle development in the area may be resistant to urban development.	
Highly productive land	• The majority of the area are identified as LUC 3. • The broader extent of LUC 1-3 land surround the area lacks cohesion and confined by existing land use.	
Climate change (low-carbon futures)	• Extending infrastructure services to the area may be resource intensive. • Urban development in the area has the opportunity to integrate with existing active mode routes along old SH1 to provide access to Paraparaumu.	

Future Urban Study Area **NV-01**



Area information	
Locality	Nikau Valley
Location	The area to north of established Nikau Valley, and to the south-east of Main Road (old SH1).
Total area (ha)	254.3ha
Existing zoning	Rural Production Zone

Key constraints	Key opportunities
• Disconnected from established urban environments. • Low access to activity centres. • Steep topography. • Poor accessibility (to the southern extent of the area).	• The northern extent of the area is well connected and relatively unconstrained.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
43.8ha*	30%	30.7ha	100%	0%	0%	0%	0%	610	• Theoretical development area avoids combined constraints associated with steep topography, ecological areas, waterways and flood hazard. • Low density development is assumed on the basis of steeper topography and an urban fringe location.

Criteria	Observations	Rating
Mana whenua values	• A portion of the Maungakōtukutuku stream is identified as a site of significance to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations		
Urban form	• There is no established urban form in the area. • Development of the area would not be cohesive with established urban form until areas to the north-west have been developed.	
Local neighbourhoods	• There is no established local neighbourhood in the area. Development of the area would require the establishment of a cohesive neighbourhood.	
Activity centres	• There is no established local centre in or near the area. • There are no schools in or near the area. • A local centre may be required to support development within the area, but this would likely need to be developed in coordination with the development of adjacent areas.	
Residential development	• The large area has the potential to contribute to dwelling supply, however topographic challenges in the south may constrain this. • Comprehensive planning would be required enable a diverse range of typologies.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• The northern portion of the area has good access to Main Road (old SH1). • There is a a cycle route into Paraparaumu located on Main Road. • There is a bus route along Main Road. • The majority of the area will be relatively distant from Main Road in the north, and will therefore have a low degree of accessibility for all modes of transport. • New internal road networks would need to be established to enable development. • Development a new road over to Nikau Valley in the south may improve accessibility and resilience (mostly for vehicles). • Development of the area is likely put pressure on existing park and ride facilities at Paraparaumu or Waikanae stations.	
Infrastructure and servicing	• An existing water supply trunk main runs through the area on old SH1. • An existing water reservoir supplies the area. Development should take place below the reservoir. • An additional water reticulation main connects to the north-east of the area from Aston Road. • There are no existing waste water mains in the area. Waste water mains would need to be extended to the area. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is an identified ecological site located centrally within the area. • The ecological site associated with the Paraparaumu Scenic Reserve extends into the area to the west.	
Water bodies	• The Muaupoko/Maungakotukutuku stream flows through the central extent of the area, into the Waikanae river. • A number of tributaries to this stream flow throughout the area. • There is a potential opportunity to restore wetlands and waterbodies in the area.	
Landscape and open space values	• An Outstanding Natural Landscape is located in the western extent of the area. • The area does not have existing access to open space. Open spaces would be required to support development in the area.	
Heritage values	• There are no identified heritage sites located in the area. • There are no identified archaeological sites located in the area.	
Topography	• The majority of the eastern extent and part of the western extent of the area are likely too steep to develop. • The central northern portion of the area (to the south of Main Road), is relatively flat and more appropriate for development.	
Natural hazards and land risks*	• The northern extent of the area (to the south of Main Road) is relatively unconstrained. • Updated flood hazard modelling has identified the extent around the Muaupoko Stream as subject to flood hazard. • The steep country in the east of the area includes two fault avoidance areas. • Steeper topography in the west and east may be subject to a higher risk of earthquake induced slope failure.	
Land use compatibility	• There are no particular reverse sensitivity issues associated with the area.	
Highly productive land	• Some of the northern extent of the area are identified as LUC 3. • The broader extent of LUC 1-3 land surround the area is relatively incohesive and confined by existing land use.	
Climate change (low-carbon futures)	• Expansion of the urban environment into the hilly area to the south is likely to be resource intensive. • Extending infrastructure services to the area may be resource intensive, particularly to the centre and south of the area. • Active mode connectivity will be difficult to the hillier south of the area. Development in the hillier areas may encourage higher emissions lifestyles.	

* Assessment has been updated to incorporate updated flood hazard modelling for the Muaupoko catchment.

Future Urban Study Area Assessments

Paraparaumu, Raumati & Paekakariki

Future Urban Study Area **PA-01 Scenario A**

Key	
	Gross theoretical development area (refer to covering report for methodology)
	Indicative airport area*.

Note: image not to scale.

Area information		
Locality	Paraparaumu	**Scenario A** considers the theoretical development of the site where an operational airport is retained. See notes for a description of the assumptions made in determining the extent of site associated with an operational airport.
Location	The Kāpiti airport site	
Total area (ha)	126.6ha	
Existing zoning	Airport Zone	

Key constraints	Key opportunities
• Notable reverse sensitivity effects on the operational airport. • Kāpiti Road capacity constraints. • Fragmented development of urban form, particularly to the west. • Existing waterbodies. • Flooding, liquefaction and potentially contaminated land.	• Proximity to activity centres and public transport. • Flat site.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
33.0ha	30%	23.1ha	40%	30%	20%	10%	0%	920	• This scenario adopts the same theoretical development area and density mix assumptions as scenario B

Criteria	Observations	Rating
Mana whenua values	• The Wharemauku stream is recognised as a site of significance to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations		

Criteria	Observations	Rating
Urban form	• Partial redevelopment would result in separate areas of development to the west and the east of the runway. • Development on the western side of the runway could become fragmented in order to avoid existing flood hazards and waterbodies in the western extent of the area. • Partial development of the site in the short- to medium-term may limit options for comprehensive redevelopment of the site in the long-term.	
Local neighbourhoods	• The eastern extent could be developed in a manner that is contiguous with established neighbourhoods. • Due to potentially fragmented nature of development on the western side of the runway, there is a risk that the western extent of the area develops as a cul-de-sac neighbourhood, although this could be resolved through carefully designed access to the north.	
Activity centres	• The eastern extent of the area is within an 800m walkable catchment of Paraparaumu Metropolitan Centre. • Because access is not available across the runway, careful consideration would be required to ensure development in the western extent of the area has convenient access to Paraparaumu Metropolitan Centre and Paraparaumu Beach Town Centre. • Development is likely to support the development of established centres.	
Residential development	• The large area has the potential to contribute significantly to dwelling supply. • Close proximity to a number of centres is likely to result in a range of typologies.	
Business land	• A range of business/commercial activities take place in the Kāpiti Landing area (the eastern portion of the area along Kāpiti Road). Careful consideration of residential development will be required in order to avoid displacing business land uses.	
Transport networks	• Kāpiti Road is the most congested road in the district, and development in the area will put further pressure on the local road network. • Alterations to the surrounding road network are planned to relieve some of this congestion. Work to the network is contingent on NZTA funding and not planned to be completed until the mid-2030's. • Paraparaumu Metropolitan Centre is accessible via active modes along the Wharemauku stream. • There could be some accessibility and resilience benefits to retaining an operational airport.	
Infrastructure and servicing	• The area has potential access to existing water supply reticulated mains on all sides. • Existing wastewater mains are located on Kāpiti Road, which is the edge of the are closest to the Otaihanga wastewater treatment plant. Connecting the western area to new wastewater networks may be complicated by the presence of the runway. • Development in the area may trigger upgrades to the existing wastewater plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is a small orchid habitat identified in the western extent of the area, although this may be protected from urban development by the presence of flood hazard in the area.	
Water bodies	• The Wharemauku stream runs through the southern portion of the area, and there are a number of drains located throughout the area, most of which flow to the Wharemauku stream. • There may be unmapped wetlands located within the area.	
Landscape and open space values	• Public open spaces in the surrounding area are not significantly sized, and it would be likely that new public open space would be required to support development in the area. • The western extent of the area would have good access to coastal open space. • There are no special amenity landscapes identified in the area.	
Heritage values	• The Air Traffic Control Tower (located off Kāpiti Road) is a listed heritage building. There is an opportunity for development to recognise and provide for existing heritage values associated with the tower. • There is an archaeological site (identified as a midden) located in the southern portion of the area.	
Topography	• The area is relatively flat.	
Natural hazards and land risks	• Parts of the western and southern extents of the area are identified as being subject to flood hazard. • The entire extent of the area is identified as having a high risk of liquefaction. • The majority of the area is identified on the SLUR.	
Land use compatibility	• Airport noise may lead to a compromised living environment for new residential activities developed in close proximity to the runway strip. • Development in close proximity to the runway strip may limit the ability for the airport to expand operations and could risk future non-compliances should civil aviation regulations around obstacle limitation surfaces change in the future. • Development of new residential environments in close proximity to the runway strip may increase exposure of the airport to operational hazards (for example, increased risk of bird strike associated increase in bird habitats on private land).	
Highly productive land	• There is a small amount of LUC 3 land located in the southern portion of the area, although this is not cohesive and is surrounded by urban area.	
Climate change (low-carbon futures)	• Consolidation within the existing urban environment is likely to be less resource intensive than greenfield development outside the urban area. • Development in the area has good access to public transport, active modes and local centres, so is likely to promote less emissions intensive lifestyles.	

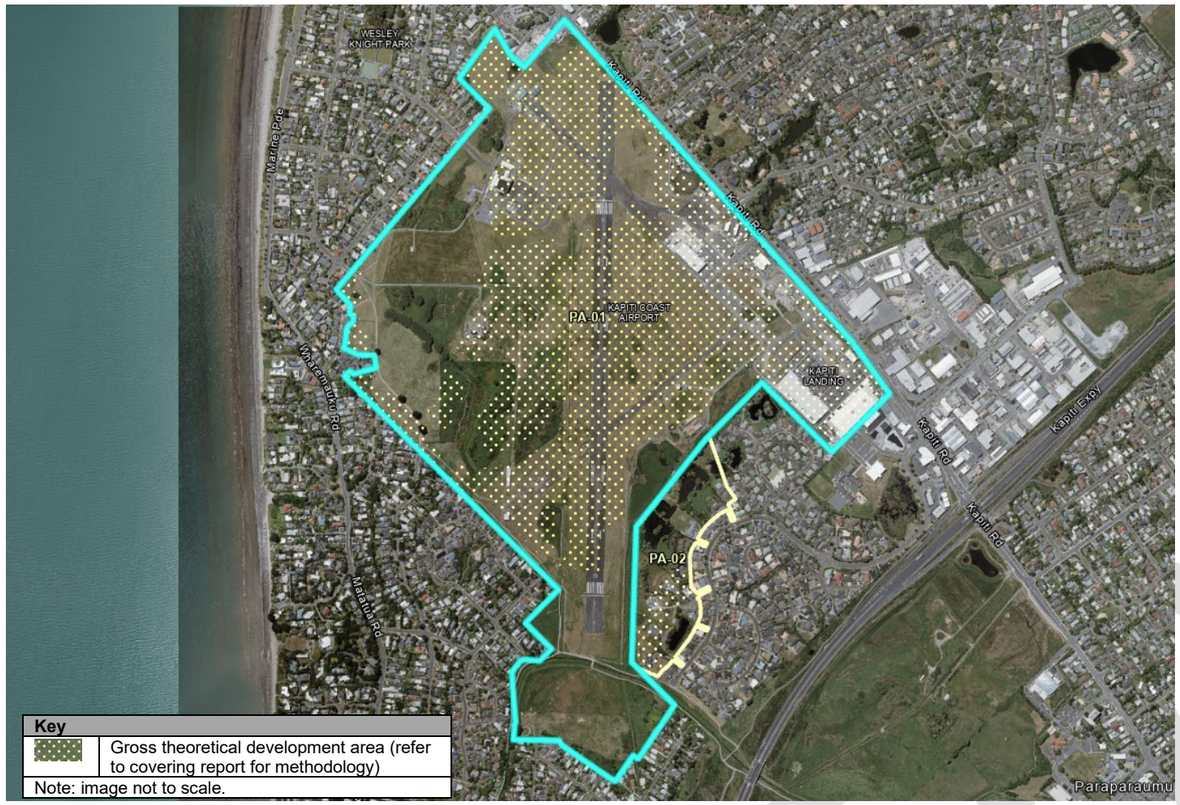
Notes:

*An "indicative airport area" (refer the red dashed line in figure 3 below) has been assumed based on the following:

- The areas outlined in the Kāpiti Coast Airport Aerodrome Designation (KCAHL-001) contained within the District Plan that are: runway strips, take off and approach surfaces, and the areas of land underneath the extent of transitional side surface that is below 8m above ground level.
- The space between runways 16/34 and 12/30 and the space around the existing terminal on Dakota Road;
- Land within the innermost "air noise boundary" identified in the District Plan.

This area is indicative only and must not be relied on as the actual extent required to maintain an operational airport. Identification of the area has been undertaken through a high-level planning assessment only and has not been informed by specialist aeronautical design or compliance advice.

Future Urban Study Area **PA-01 Scenario B**



Key	
	Gross theoretical development area (refer to covering report for methodology)
Note: image not to scale.	

Area information		
Locality	Paraparaumu	**Scenario B** considers the theoretical development of the site without an operational airport.
Location	The Kāpiti airport site	
Total area (ha)	126.6ha	
Existing zoning	Airport Zone	

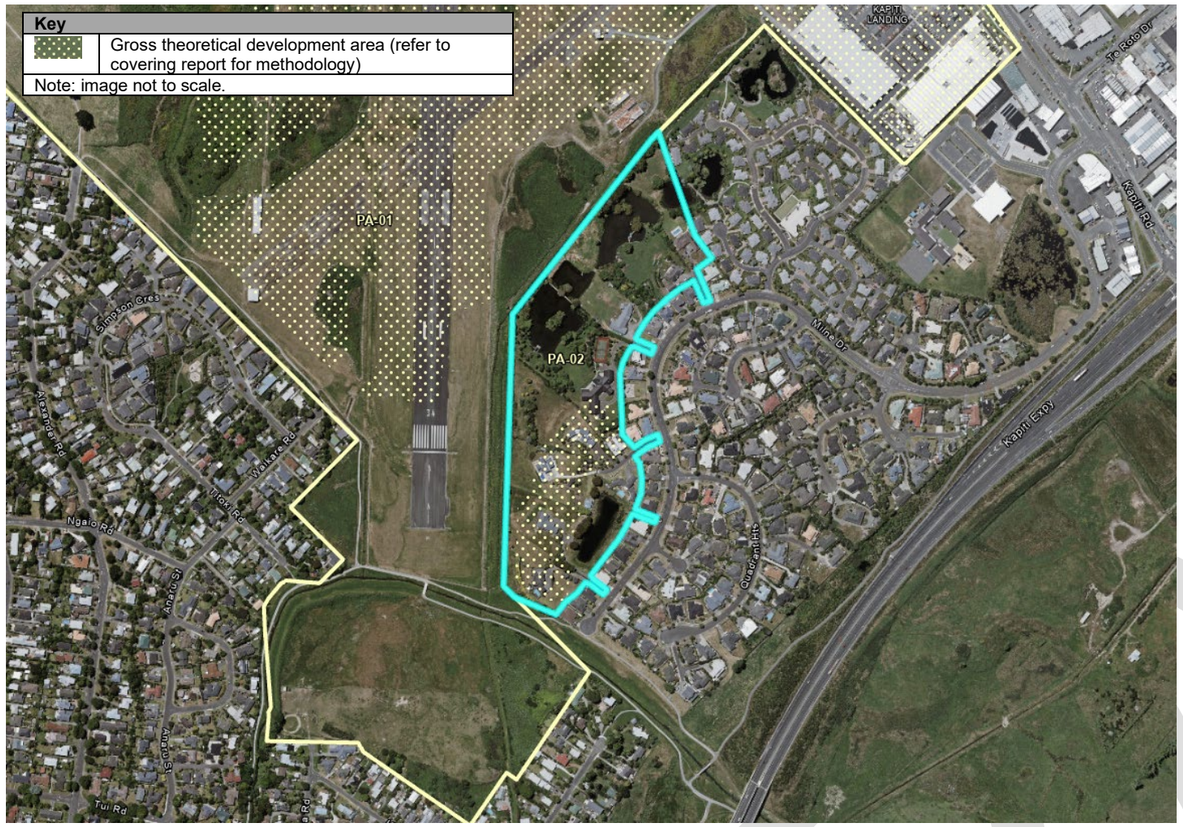
Key constraints	Key opportunities
• Kāpiti Road capacity constraints. • Existing waterbodies. • Flooding, liquefaction and contaminated land.	• Cohesive urban growth and consolidation of urban form. • Significant increase in dwelling supply in close proximity to the Metropolitan Centre. • Close proximity to activity centres and public transport. • Flat site.

Theoretical dwelling estimate

Gross theoretical develop-ment area	Public realm provision (roads and reserves)	Net theoretical develop-ment area	Density mix					Estimated dwellings	Notes (refer to covering report for methodology and general notes)
			Low (20d /ha)	Low-Med (40d /ha)	Med (60d /ha)	Med-high (80d /ha)	High (100d /ha)		
74.6ha	30%	52.2ha	40%	30%	20%	10%	0%	2,100	• Theoretical development area avoids flooding constraints in the west and south. • Close proximity to Paraparaumu district centre (including part of the site being located within the walkable catchment) is assumed to support higher density typologies. • Assumes Kāpiti Landing is redeveloped.

Criteria	Observations	Rating
Mana whenua values	• The Wharemauku stream is recognised as a site of significance to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations		
Urban form	• Development of the area would result in a cohesive expansion of the existing urban environment, and result in the consolidation of Paraparaumu's overall urban form. • Increased scale and density of development in the eastern-most extent of the site (along Kāpiti Road) provisions of the NPS-UD.	
Local neighbourhoods	• Development would be of a scale and significance that may result in the establishment of a new neighbourhood within the development area. Comprehensive planning may be required to ensure that development cohesively integrates with established neighbourhoods adjacent to the area.	
Activity centres	• The southern and eastern extents are within an 800m walkable catchment of Paraparaumu Metropolitan Centre. • The northern extent of the area is in close proximity to Paraparaumu Beach town centre. • Development is likely to support the development of established centres.	
Residential development	• The large area has the potential to contribute significantly to dwelling supply. • Close proximity to a number of centres is likely to result in a range of typologies.	
Business land	• A range of business/commercial activities take place in the Kāpiti Landing area (the eastern portion of the area along Kāpiti Road). Careful consideration of residential development will be required in order to avoid displacing business land uses.	
Transport networks	• Kāpiti Road is the most congested road in the district, and development in the area will put further pressure on the local road network. • Alterations to the surrounding road network are planned to relieve some of this congestion. Work to the network is contingent on NZTA funding and not planned to be completed until the mid-2030's. • Paraparaumu Metropolitan Centre is accessible via active modes along the Wharemauku stream.	
Infrastructure and servicing	• The area has potential access to existing water supply reticulated mains on all sides. • Existing wastewater mains are located on Kāpiti Road, which is the edge of the are closest to the Otaihanga wastewater treatment plant. • Development in the area may trigger upgrades to the existing wastewater plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is a small orchid habitat identified in the western extent of the area, although this may be protected from urban development by the presence of flood hazard in the area.	
Water bodies	• The Wharemauku stream runs through the southern portion of the area and there are a number of drains located throughout the area, most of which flow to the Wharemauku stream. • There may be unmapped wetlands located within the area.	
Landscape and open space values	• Public open spaces in the surrounding area are not significantly sized, and it would be likely that new public open space would be required to support development in the area. • The western extent of the area would have good access to coastal open space. • There are no special amenity landscapes identified in the area.	
Heritage values	• The Air Traffic Control Tower (located off Kāpiti Road) is a listed heritage building. There is an opportunity for development to recognise and provide for existing heritage values associated with the tower. • There is an archaeological site (identified as a midden) located in the southern portion of the area.	
Topography	• The area is relatively flat.	
Natural hazards and land risks	• Parts of the western and southern extents of the area are identified as being subject to flood hazard. • The entire extent of the area is identified as having a high risk of liquefaction. • The majority of the area is identified on the SLUR.	
Land use compatibility	• There are few land use compatibility/reverse sensitivity constraints associated with the area.	
Highly productive land	• There is a small amount of LUC 3 land located in the southern portion of the area, although this is not cohesive and is surrounded by urban area.	
Climate change (low-carbon futures)	• Consolidation within the existing urban environment in an area with access to existing infrastructure may be less resource intensive than greenfield development outside of the urban area. • Development in the area has good access to public transport, active modes and local centres, so is likely to promote less emissions intensive lifestyles.	

Future Urban Study Area **PA-02**



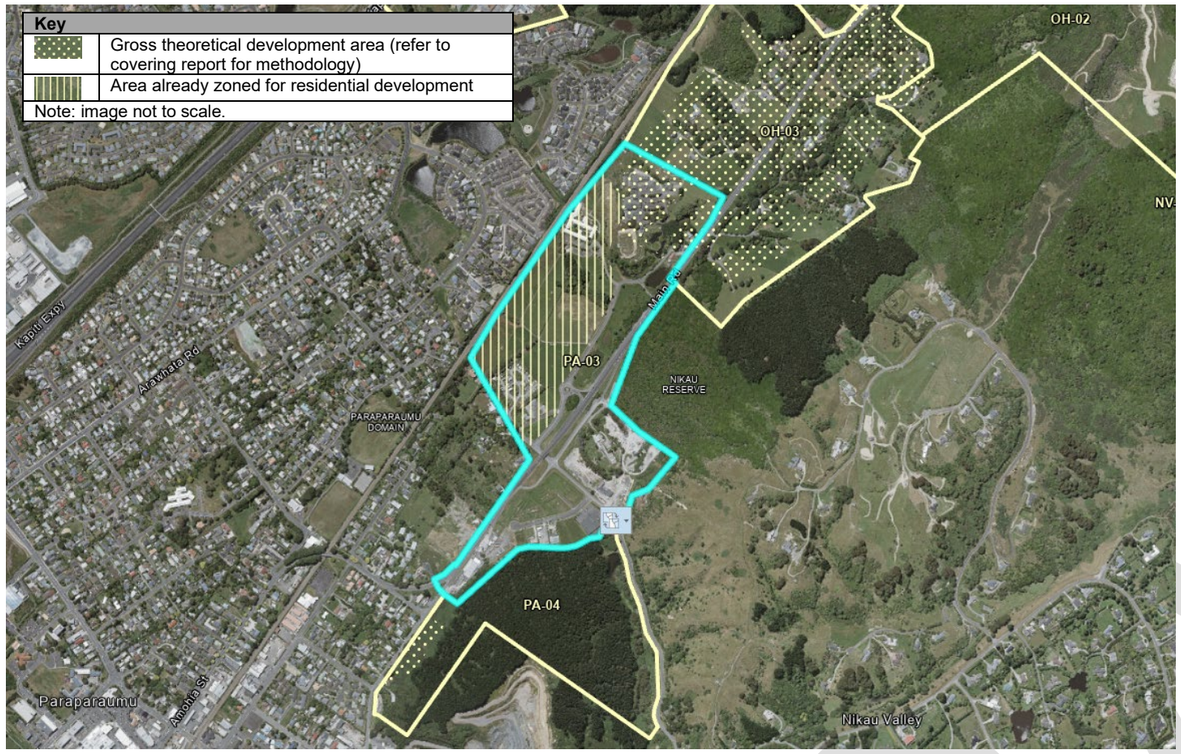
Area information	
Locality	Paraparaumu
Location	The area of land between Milne Drive and the Kāpiti Airport
Total area (ha)	8.9ha
Existing zoning	Rural Lifestyle Zone

Key constraints	Key opportunities
• Proximity to the airport. • Waterbodies. • Flooding and liquefaction.	• Consolidation of established urban form. • Close proximity to activity centres and public transport.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
1.9ha	30%	1.3ha	0%	0%	0%	100%	0%	110	• Theoretical development area is relatively small as a majority of the area is subject to combined constraints associated with flood hazard and waterbodies. • Medium-high density assumed on the basis that the area is within the walkable catchment of Paraparaumu district centre.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area, although the Wharemauku stream is recognised as a site of significance to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations		
Urban form	• Development of the area would function as a cohesive consolidation of the Paraparaumu's established urban form.	
Local neighbourhoods	• Development of the area could be undertaken in a manner that integrates with the established neighbourhood to the south-east.	
Activity centres	• The area is within a walkable catchment of Paraparaumu District Centre.	
Residential development	• The area is relatively small and would contribute modestly to dwelling supply.	
Business land	• There is no existing business zoned land in the area.	
Transport networks	• Existing access is available at a number of points along Milne Drive. • Private land may need to be acquired to provide road-width access into the area. • The area is well connected by active modes to Paraparaumu district centre, and would have ready access to Paraparaumu railway station.	
Infrastructure and servicing	• The area has access to existing water supply on Runway Lane/Milne Drive. • The area has access to existing waste water mains on Runway Lane/Milne Drive. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are no identified ecological sites within the area.	
Water bodies	• There are a number of ponds that cover a large portion of the area.	
Landscape and open space values	• There is a small open space located adjacent to the area, on Milne Drive. Development of the area may seek to extend this. • There is are no special amenity landscapes identified within the area.	
Heritage values	• There are no listed heritage sites in the area. • There are no identified archaeological sites in the area.	
Topography	• The area is relatively flat.	
Natural hazards and land risks	• A significant portion of the area is subject to flooding risk. • The entire extent of the area is identified as having a high risk of liquefaction.	
Land use compatibility	• The site sits within development controls associated with the airport designation (obstacle limitation surfaces and air noise boundary controls). • Development of the area may have reverse sensitivity effects on the airport. • Existing rural lifestyle development may be resistant to urban intensification.	
Highly productive land	• There is no LUC 1 to 3 land located in the area.	
Climate change (low-carbon futures)	• Consolidation within the existing urban environment is likely to be less resource intensive than greenfield development outside the urban area. • The area has good access to public transport, active modes and local centres, so is likely to promote less emissions intensive lifestyles.	

Future Urban Study Area **PA-03**



Area information	
Locality	Paraparaumu
Location	The to the west of Nikau Reserve in eastern Paraparaumu
Total area (ha)	38.6ha
Existing zoning	General Residential Zone, Mixed Use Zone

Key constraints	Key opportunities
• Flood hazard. • Maintaining business uses. • Dividing effect of the railway line.	• Development of the Lindale Mixed Use Zone. • Proximity to Paraparaumu.

Theoretical dwelling estimate

Gross theoretical develop-ment area	Public realm provision (roads and reserves)	Net theoretical develop-ment area	Density mix					Estimated dwellings	Notes (refer to covering report for methodology and general notes)
			Low (20d /ha)	Low-Med (40d /ha)	Med (60d /ha)	Med-high (80d /ha)	High (100d /ha)		
13.7ha (area already zoned Residential)	30%	9.6ha	100%	0%	0%	0%	0%	190	• Area already zoned residential is subject to flood hazard and ecological constraints • Medium-high density assumed on the basis that the area is within the walkable catchment of Paraparaumu district centre.
3.7ha (area not zoned Residential)	30%	2.6	100%	0%	0%	0%	0%	50	• Area is located within the Lindale Mixed Use zone and avoids flood hazard. • Mixed use zone to the south of main road is excluded on the basis of existing business uses.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area.	
Iwi development aspirations		
Urban form	• Development of the area would function as a cohesive extension to the established urban form at Paraparaumu. • The area is already partially urbanised.	
Local neighbourhoods	• The railway line to the west of the area will limit the degree to which the area can connect into existing neighbourhoods within Paraparaumu to the west. • There is limited established neighbourhood in the area. Establishment of a cohesive neighbourhood may require further growth within the existing urban area to the south.	
Activity centres	• Development of the Mixed Use Zone in the area could provide a focal point for activity in the wider area. Residential development in the area may support further development of this Mixed Use Zone. • The area is located 1.5km from Paraparaumu district centre, which generally accessible by active modes.	
Residential development	• Additional residential development potential (beyond areas already zoned for Residential development) is marginal.	
Business land	• The area contains existing business land under a Mixed Use zoning. There may be pressure to develop this for residential uses. • The area to the east of Main Road is largely used for commercial and light industrial purposes. • Lindale Village is already being considered for residential development.	
Transport networks	• The area has good access to Main Road (old SH1), which runs through the area. • There is a partial cycle route into Paraparaumu located on Main Road. • There is a bus route along Main Road. • Paraparaumu station is about 1.5km by active modes along Main Road. Development of the area may put pressure on existing park and ride facilities at the station. • There is no connectivity across the railway line into northern Paraparaumu.	
Infrastructure and servicing	• Existing water supply trunk mains run along Main Road. • The area has good access to existing water supply reticulation mains, which run throughout the area. • The southern extent of the area has access to existing waste water mains. • The area is close to the Otaihanga waste water treatment plant. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are no identified ecological sites within the area, although there are ecological sites associated with the Nikau Reserve to the west of the area. • There is the potential for ecologically sensitive sites associated with potential wetland areas located to the west of Lindale Drive.	
Water bodies	• A drain passes though the area which eventually flows in to the Waikanae estuary. • There are a number of ponds located around Lindale village. • There may be unidentified wetlands located within low lying areas of the site.	
Landscape and open space values	• The area has good access to open space at Nikau Reserve. • A special amenity landscape runs along the south-eastern boundary of the area.	
Heritage values	• There are no listed heritage sites in the area. • There are no identified archaeological sites in the area.	
Topography	• The area to the west of Main Road is relatively flat. • The area to the east of main road slopes gently to the east.	
Natural hazards and land risks	• A majority of the central portion of the area is subject to flood risk, and the majority of the area is identified as a flood storage area. • No part of the area is identified as having a high risk of liquefaction. • There is a site on the SLUR located in the southern portion of the area.	
Land use compatibility	• There may be reverse sensitivity effects on the railway line.	
Highly productive land	• The majority of the area is LUC 3. • The broader extent of LUC 1-3 land surround the area lacks cohesion and confined by existing land use.	
Climate change (low-carbon futures)	• Cohesive expansion within the existing urban environment is likely to be less resource intensive than greenfield development outside the urban area. • Urban development in the area has the opportunity to integrate with existing active mode routes along old SH1 to provide access to Paraparaumu.	

Future Urban Study Area **PA-04**

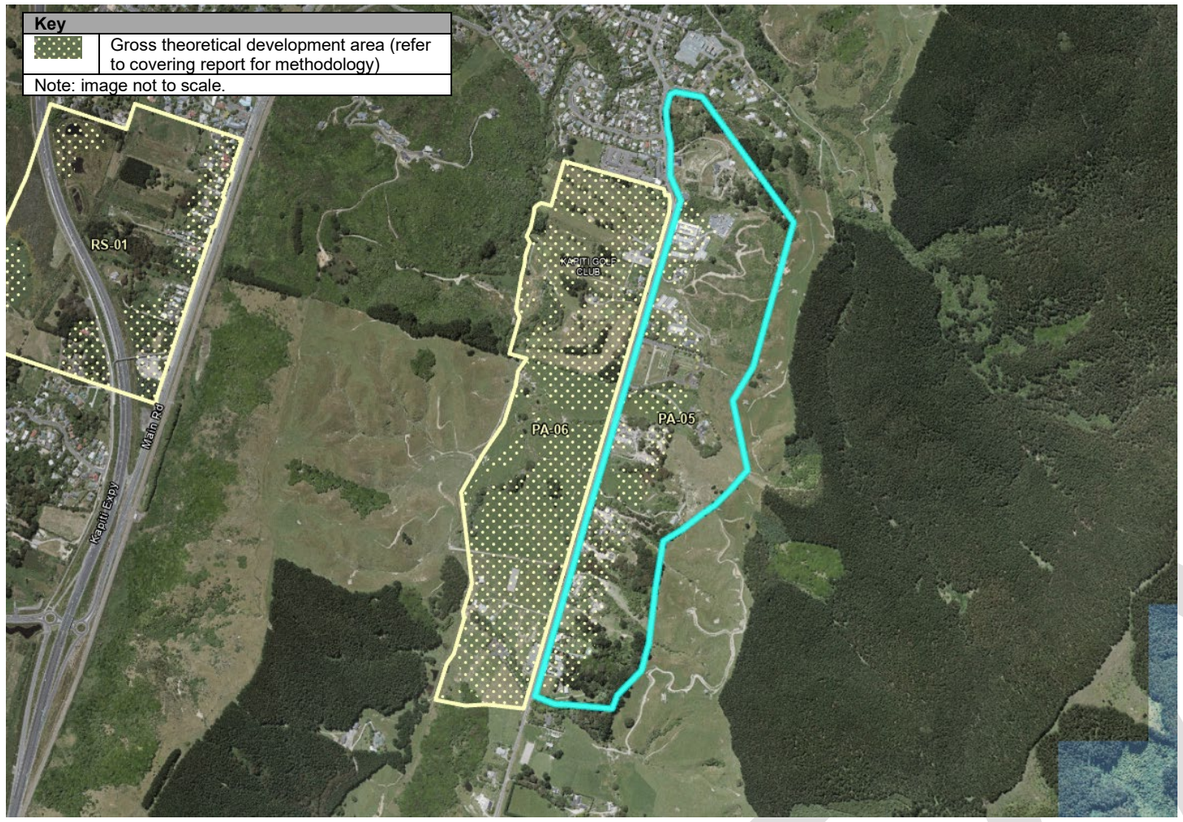
Area information	
Locality	Paraparaumu
Location	Two areas to the north and south of the quarry, directly to the east of Paraparaumu station.
Total area (ha)	36.4ha
Existing zoning	Rural Production Zone

Key constraints	Key opportunities
• Steep topography across the entire area. • Close proximity to the quarry. • Earthquake induced slope failure. • Visual impacts of development on the landscape.	• Proximity to Paraparaumu. • Flatter land along Ruahine Street is the most suitable for development.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
0.9ha	0%	0.9ha	0%	0%	0%	100%	0%	70	• Theoretical development area avoids the steep terrain the covers the significant majority of the area. • Medium high density assumed on the basis that the area is within the walkable catchment of Paraparaumu railway station.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area.	
Iwi development aspirations		
Urban form	• While urban development in the area would be a direct expansion of the central Paraparaumu urban environment, steep topography is likely to result in fragmented and low density urban form.	
Local neighbourhoods	• Development in the area could be undertaken in a manner that integrates with the established neighbourhoods to the east of Paraparaumu centre.	
Activity centres	• The area is within a walkable catchment of Paraparaumu District Centre.	
Residential development	• Steep topography means the area is likely to only contribute modestly to housing supply. • Steep topography is likely to result in low density dwelling types. • There is a small extent of flat land located on Ruahine Street that would be more appropriate for residential development.	
Business land	• There is no existing business zoned land within the area. • Potential opportunity for business uses along Ruahine Street.	
Transport networks	• The northern extent of the area is accessible from Ruahine Road and Nikau Palm Road. • The southern extent of the area appears to have only one access point from the end Mamaku Street (a cul-de-sac). • The area is within a walkable catchment of Paraparaumu railway station.	
Infrastructure and servicing	• The northern extent of the area has access to existing water supply trunk mains along Ruahine Street. • The southern extent of the area has limited access to existing water supply (nearest reticulation mains are located on Kaimanawa Street and Ruapehu Street). • The nearest reticulated waste water mains to the north area are located on Ruahine Street/Tararua Street. • The nearest reticulated waste water mains to the south area are on Mamaku Street/Kaimanawa Street. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are ecological sites located within the southern extent of the area.	
Water bodies	• A waterway runs along the eastern edge of the northern part of the area.	
Landscape and open space values	• There is a low degree of existing open space on the eastern side of Paraparaumu. Development in the area may need to be supported by new open space. • A special amenity landscape covers the entire extent of the southern area, and a significant majority of the northern part of the area.	
Heritage values	• There are no listed heritage sites in the area. • There are no identified archaeological sites in the area.	
Topography	• Apart from a small strip of land adjacent Ruahine Road, the entire area is steep and will be difficult to develop.	
Natural hazards and land risks	• Large extents of the northern and southern areas are subject to a high risk of earthquake induced slope failure.	
Land use compatibility	• Reverse sensitivity effects on the quarry site located between the northern and southern extents of the area.	
Highly productive land	• There is no LUC 1-3 soil in the area.	
Climate change (low-carbon futures)	• Construction of urban environment and services within steep terrain is likely to be more resource intensive. • The area has good access to public transport, active modes and local centres, so is likely to promote less emissions intensive lifestyles, although this may be offset by steep topography encouraging increased private vehicle use.	

Future Urban Study Area **PA-05**



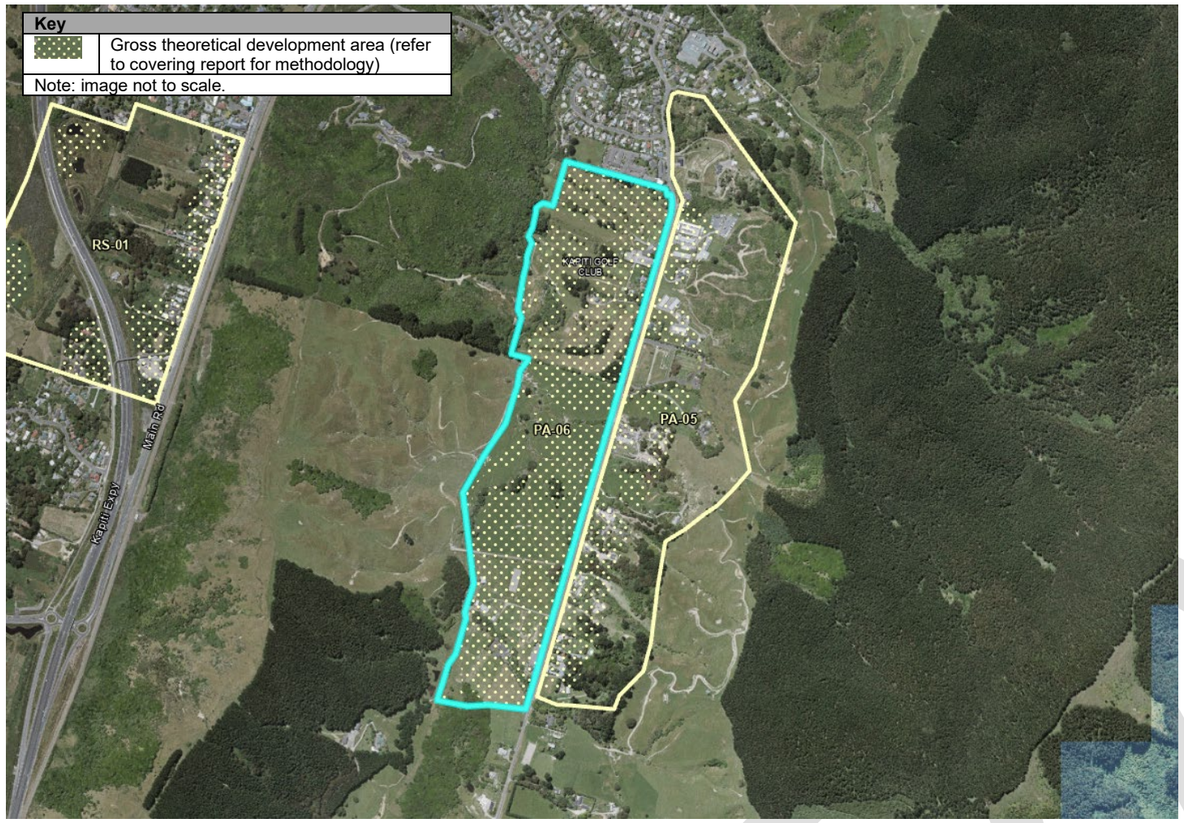
Area information	
Locality	Paraparaumu
Location	The area to the south of Paraparaumu, east of Valley Road
Total area (ha)	44.2ha
Existing zoning	Rural Production Zone, Open Space Zone

Key constraints	Key opportunities
• Low connectivity and resilience in the transport network. • Steep topography. • Cemetery located centrally in the area.	• Proximity to Paraparaumu. • Low natural hazard risk.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
13.5ha	30%	9.5ha	100%	0%	0%	0%	0%	160	• Theoretical development area avoids combined constraints associated with steep topography, waterbodies and an existing cemetery. • Low density assumed on the basis of the urban fringe location.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance within the area.	
Iwi development aspirations		
Urban form	• Development would function as a contiguous southern extension of the established urban area to the east of Paraparaumu. • The existing cemetery in the centre of the area will form a natural break in urban development. Urban form and connectivity may struggle to develop cohesively south of this. • The extent to which this is cohesive with the established urban form will be limited by the valley topography, which would result in a long, narrow and one-way extension of the urban environment.	
Local neighbourhoods	• The area risks being developed as a large cul-de-sac with little interconnectivity, and this may challenge the development of a cohesive neighbourhood in the area. • The existing rural lifestyle neighbourhood in the southern extent of the area would likely be significantly altered by the expansion of the urban environment.	
Activity centres	• The northern extent of the area is located 1.5km from Paraparaumu district centre and the southern extent is located approximately 3km from the centre. • Development of a local centre may be required to support development in the area. • Paraparaumu School is located on the eastern side of the railway line.	
Residential development	• Combined constraints in the area are likely to result in a modest contribution to dwelling supply. • Comprehensive planning may be required to encourage a diverse range of typologies.	
Business land	• There is no existing business zoned land within the area.	
Transport networks	• The area is accessed by Valley Road. This is essentially a rural road that would require significant upgrades to accommodate urban development. • The area has low network resilience. While there is a second exit to Mackay's interchange via Waterfall Road, this route is subject to regular landslips. • Topography and the presence of the cemetery will make it difficult to develop north-south connectivity within the area (east of Valley Road). • There is no provision for existing active modes to access Paraparaumu centre and railway station (although these could be incorporated in Valley Road upgrades). • Development in the area is likely to put pressure on the intersection and level crossing at Kāpiti Road, which is already congested. • Development of the area is likely to put pressure on park and ride facilities at Paraparaumu station.	
Infrastructure and servicing	• Existing water supply reticulation mains and waste water mains terminate on Valley Road at the northern edge of the site. Development of the area will require extension of both existing mains up Valley Road. • Development at the edge of the water supply network may require additional investment to maintain flow and pressure. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is a small portion of ecological site identified along the southern edge of the area.	
Water bodies	• Tributaries to the Wharemauku stream flow through the area.	
Landscape and open space values	• The cemetery located centrally within the area is likely to remain as an enduring open space, although its function as a neighbourhood open space may be limited. • New open space will likely be required to support development in the area. • There are no identified special amenity landscapes in the area.	
Heritage values	• There are no listed heritage sites in the area. • There are no identified archaeological sites in the area.	
Topography	• The eastern half of the area is steep and will be difficult to develop. • The western half of the area gently slopes from south to north.	
Natural hazards and land risks	• The area is relatively unconstrained by natural hazards. • There are no identified flood risks in the area. • No part of the area is identified as subject to high risk of liquefaction.	
Land use compatibility	• The cemetery located centrally within the are is likely to resist urban development. • The natural gas network passes through the central and northern extents of the area. • Existing rural lifestyle development in the southern extent of the area may be resistant to urban development.	
Highly productive land	• The area is part of a relatively cohesive extent of LUC 3 soil that extents up the valley.	
Climate change (low-carbon futures)	• Extending the urban environment and services to the area may be resource intensive. • Development in the area may result in increased vehicle trips to Paraparaumu local centre, although this may be able to be offset by incorporation of active modes into Valley Road and the road network between the area and Paraparaumu centre.	

Future Urban Study Area **PA-06**



Area information	
Locality	Paraparaumu
Location	The area to the south of Paraparaumu, west of Valley Road
Total area (ha)	40.4ha
Existing zoning	Rural Production Zone, Open Space Zone

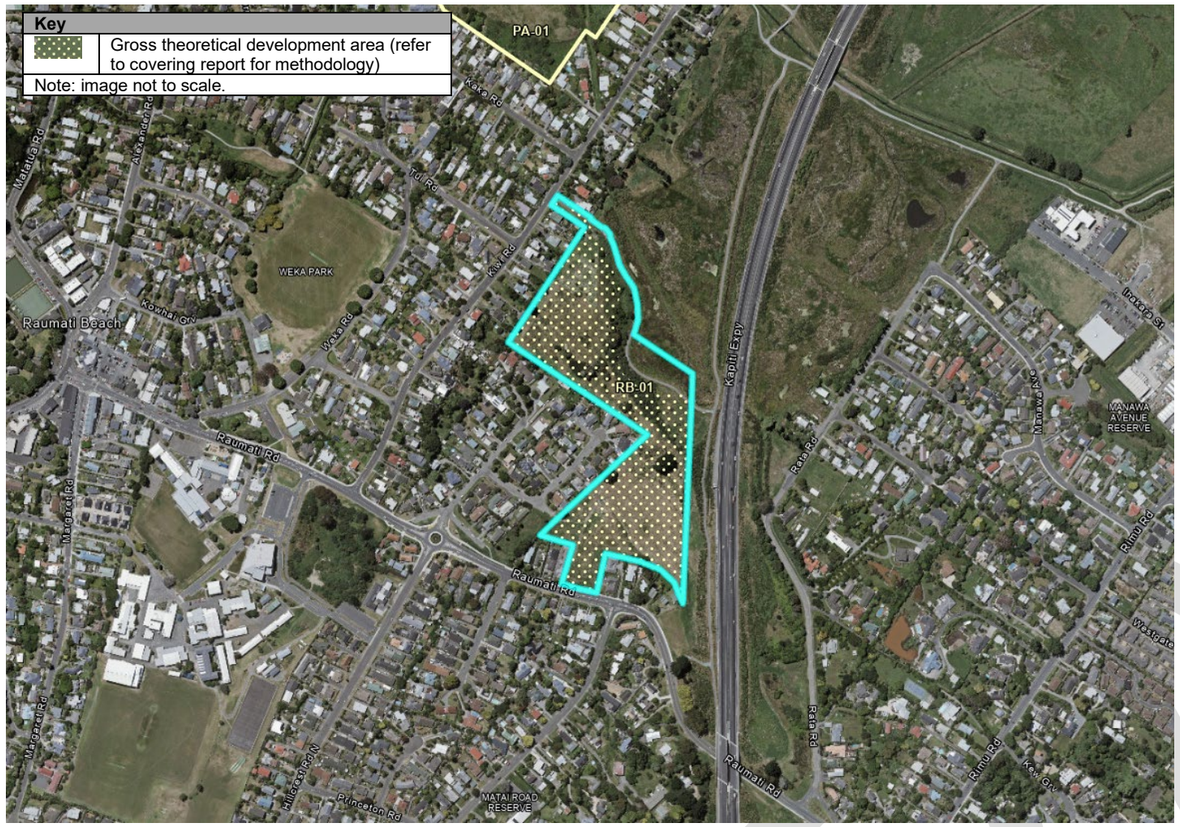
Key constraints	Key opportunities
• Low connectivity and resilience in the transport network. • Existing golf course.	• Proximity to Paraparaumu. • Low natural hazard risk.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
32.4ha	30%	22.7ha	100%	0%	0%	0%	0%	450	• Theoretical development area avoids a number of waterbodies that pass through and along the western edge of the area. • Low density assumed on the basis of the urban fringe location.

Criteria	Observations	Rating
Mana whenua values	• The headwaters of the Wharemauku stream are identified as an awa of significance to Te Ātiawa ki Whakarongotai.	
Iwi development aspirations		

Criteria	Observations	Rating
Urban form	• Development would function as a contiguous southern extension of the established urban area to the east of Paraparaumu. • The extent to which this is cohesive with the established urban form will be limited by the valley topography, which would result in a long, narrow extension of the urban environment.	
Local neighbourhoods	• The area risks being developed as a large cul-de-sac with little interconnectivity, and this may challenge the development of a cohesive neighbourhood in the area.	
Activity centres	• The northern extent of the area is located 1.5km from Paraparaumu district centre and the southern extent is located approximately 3km from the centre. • Development of a local centre may be required to support development in the area. • Paraparaumu School is located on the eastern side of the railway line.	
Residential development	• The area has the potential to contribute to dwelling supply. • Comprehensive planning may be required to encourage a diverse range of typologies.	
Business land	• There is no existing business zoned land within the area.	
Transport networks	• The area is accessed by Valley Road. This is essentially a rural road that would require significant upgrades to accommodate urban development. • The area has low network resilience. While there is a second exit to Mackay's interchange via Waterfall Road, this route is subject to regular landslips. • There is no provision for existing active modes to access Paraparaumu centre and railway station (although these could be incorporated in Valley Road upgrades). • Development in the area is likely to put pressure on the intersection and level crossing at Kāpiti Road, which is already congested. • Development of the area is likely to put pressure on park and ride facilities at Paraparaumu station.	
Infrastructure and servicing	• Existing water supply reticulation mains and waste water mains terminate on Valley Road at the northern edge of the site. Development of the area will require extension of existing networks up Valley Road. • Development at the edge of the water supply network may require additional investment to maintain flow and pressure. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is a small portions of ecological sites identified along the southern and north-western edges of the area.	
Water bodies	• The headwaters of the Wharemauku stream run along the western extent of the area, and there are a number of tributaries that flow through the area. • The stream is 'lively' and has been known to shift in location.	
Landscape and open space values	• The open space associated with Kāpiti golf club may be lost to urban development in the area. • New open space will likely be required to support development in the area. • A small portion of special amenity landscape is located in the western extent of the area.	
Heritage values	• There are no listed heritage sites in the area. • There are no identified archaeological sites in the area.	
Topography	• The area slopes gently from south to north.	
Natural hazards and land risks	• The area is relatively unconstrained by natural hazards. • There is potential flooding associated with the Wharemauku stream, and • No part of the area is identified as subject to high risk of liquefaction.	
Land use compatibility	• The natural gas network passes through the central and northern extents of the area. • Existing rural lifestyle development in the southern extent of the area may be resistant to urban development.	
Highly productive land	• The area is part of a relatively cohesive extent of LUC 3 soil that extents up the valley.	
Climate change (low-carbon futures)	• Extending the urban environment and services to the area may be resource intensive. • Development in the area may result in increased vehicle trips to Paraparaumu local centre, although this may be able to be offset by incorporation of active modes into Valley Road and the road network between the area and Paraparaumu centre.	

Future Urban Study Area **RB-01**



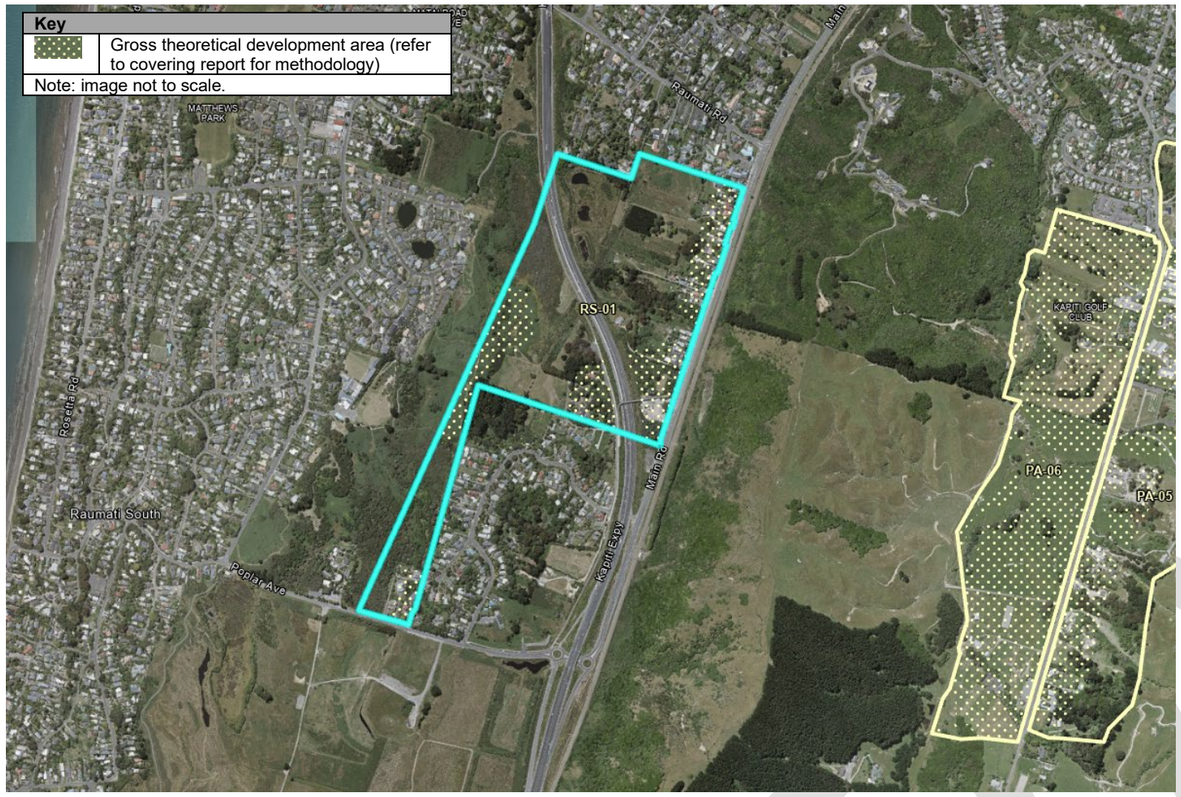
Area information	
Locality	Raumati Beach
Location	Between Raumati Road and Kiwi Road, west of the Expressway
Total area (ha)	5.9ha
Existing zoning	General Residential Zone, Rural Lifestyle Zone

Key constraints	Key opportunities
• Expressway designation. • Some steep topography. • Liquefaction.	• Consolidation of established urban form. • Close proximity to activity centres and public transport.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
5.1ha	30%	3.6ha	0%	0%	0%	100%	0%	290	• Theoretical development area avoids flooding and steep topography north east of the area. • Medium high density assumed on the basis that the area is within the walkable catchment of Paraparaumu railway station.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance in the area.	
Iwi development aspirations		
Urban form	• Development of the area would function as a cohesive consolidation of the Paraparaumu's established urban form.	
Local neighbourhoods	• Development of the area could be undertaken in a manner that integrates with the established neighbourhood of Raumati Beach to the west.	
Activity centres	• The area is within a walkable catchment of Paraparaumu District Centre. • The area is within close proximity to Raumati Beach town centre. • Development of the area is likely to support the development of established centres.	
Residential development	• The area has the potential to contribute to modestly to dwelling supply. • Close proximity to a range of centres would likely encourage a range of typologies.	
Business land	• There is no existing business zoned land within the area.	
Transport networks	• The area has access to Raumati Road and Kiwi Road. • There is a bus route on Raumati Road. • The area is well connected by active modes to Paraparaumu district centre, and would have ready access to Paraparaumu railway station.	
Infrastructure and servicing	• The area has access to existing water supply and waste water mains on Kiwi Road and Raumati Road. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There are no identified ecological sites located in the area.	
Water bodies	• There are no water bodies located within the area, although a tributary to the Wharemauku stream flows along the northern edge of the area.	
Landscape and open space values	• The area has good access to existing public open space in the surrounding area. • There are no special amenity landscapes identified in the area.	
Heritage values	• There are no listed heritage sites in the area. • There are no identified archaeological sites in the area, although there are a number of sites identified to the south-east of the area.	
Topography	• There is an extent of steep topography located in the north of the area.	
Natural hazards and land risks	• The northern edge of the area is subject to flood risk. • The area is identified as subject to high risk of liquefaction.	
Land use compatibility	• The Expressway designation covers the eastern extent of the area. • Obstacle limitation surfaces associated with the airport cover the area. • A portion of the air noise boundary associated with the airport is located in the north of the area.	
Highly productive land	• There is a small portion of LUC 3 land in the northern extent of the area. • The broader extent of LUC 1-3 land surrounding the area lacks cohesion and confined by existing land use.	
Climate change (low-carbon futures)	• Consolidation within the existing urban environment is likely to be less resource intensive than greenfield development outside the urban area. • The area has good access to public transport, active modes and local centres, so is likely to promote less emissions intensive lifestyles.	

Future Urban Study Area **RS-01**



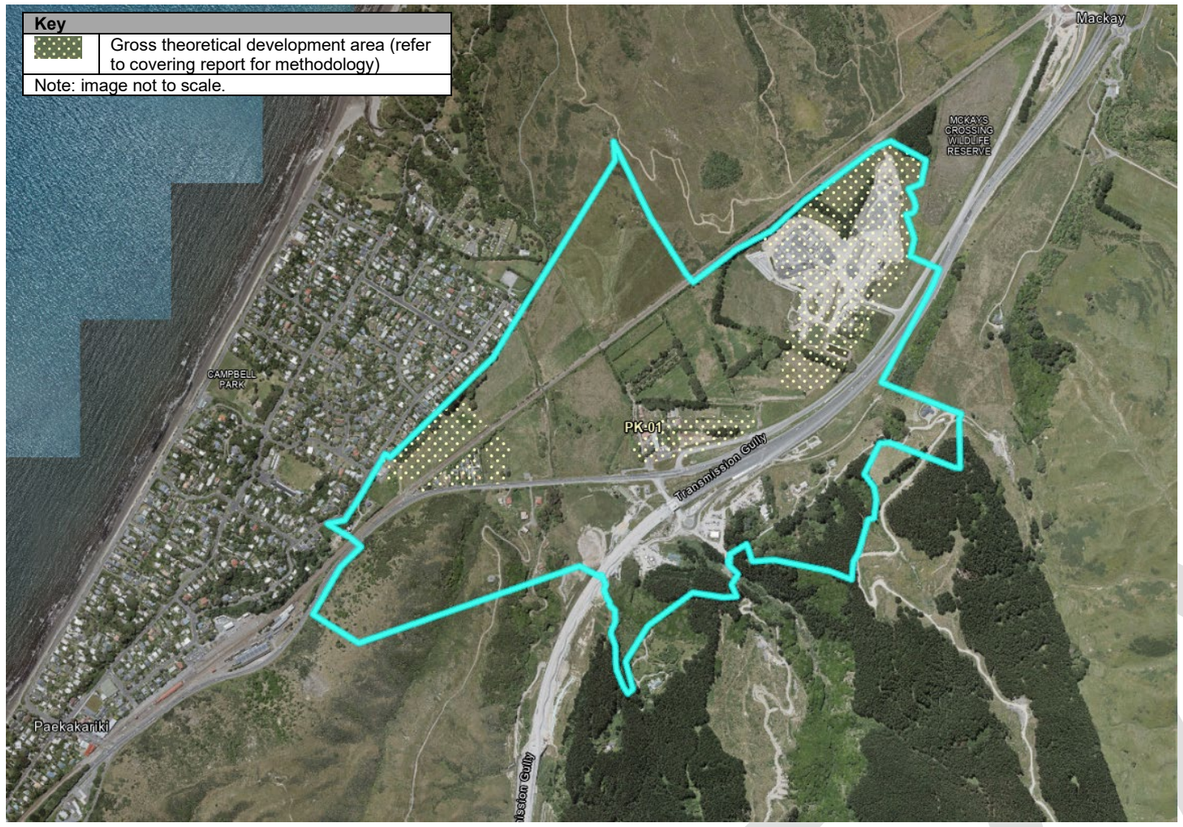
Area information	
Locality	Raumati South
Location	To the west of Main Road and the north of Poplar Avenue, both sides of the Expressway.
Total area (ha)	43.6ha
Existing zoning	General Rural Zone

Key constraints	Key opportunities
• Wetlands and waterbodies. • The Expressway designation. • Liquefaction and flooding.	• Consolidation of established urban form. • Proximity to Paraparaumu and Raumati Beach.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
12.7ha	30%	8.9ha	50%	50%	0%	0%	0%	240	• Theoretical development area is relatively fragmented as it avoids large areas of flood hazard and wetlands. • Some low-medium density is assumed to be supported based on proximity to Paraparaumu, although this is tempered by the fragmented nature of theoretical development areas, which are assumed to attract a lower density.

Criteria	Observations	Rating
Mana whenua values	• There are no mapped sites of significance in the area.	
Iwi development aspirations		
Urban form	• Development of the area would consolidate established urban form at Raumati South. • Development of a cohesive urban form will be challenged by the dividing effect of the Expressway, as well as the presence of flood hazard and wetlands. • The area should also include the extent of General Rural Zone land to the west, to avoid this being left as a sliver.	
Local neighbourhoods	• Development of the area could be undertaken in a manner that integrates with the established neighbourhoods at Raumati South. • Development may improve connectivity of the established neighbourhood on the corner of Main Road and Poplar Ave to surrounding areas in Raumati South.	
Activity centres	• Paraparaumu district centre is relatively accessible to the area. • The Raumati South local centre is relatively accessible to the area, and development of the area may support activity at the centre.	
Residential development	• Combined constraints in the area are likely to inhibit development, and as a result the area has the potential to contribute moderately to dwelling supply. • Proximity to a range of centres would likely encourage a range of typologies.	
Business land	• There is no existing business zoned land within the area.	
Transport networks	• The northern extent of the area is accessible via Main Road. • Access to the southern extent of the area will be more challenging. The southern extent is accessible via Poplar Ave, as well a convoluted access via Leinster Ave. • The area has good access to Paraparaumu via active modes along the Expressway.	
Infrastructure and servicing	• The area has access to existing water supply reticulated mains on Main Road, Poplar Ave and Rongomau Lane. • The area has access to existing waste water mains on Main Road, Poplar Ave and Rongomau Lane. • Development in the area may trigger upgrades to the existing waste water plant, and/or pipes and pump stations between the area and the plant.	
Natural ecosystem values	• There is an ecological site associated with a wetland located in the southern extent of the area (off Poplar Ave). • There are no identified ecological sites located in the northern extent of the area.	
Water bodies	• There is a wetland located in the southern extent of the area (north of Poplar Ave). • A tributary to the Wharemauku stream flows along the northern edge of the area. • There appears to be ponds or wetlands associated with the Expressway, located in the area to the east of the Expressway.	
Landscape and open space values	• The area has good access to open space in Queen Elizabeth Park to the south. • There is a notable tree listed in the northern extent of the area. • There is no special amenity landscape identified within the area.	
Heritage values	• There is a listed heritage building located in the northern extent of the area adjacent to the Expressway. • There are no identified archaeological sites in the area.	
Topography	• The northern extent of the area is relatively flat. • The southern extent of the area is gently undulating.	
Natural hazards and land risks	• The central portion of the area is subject to flood risk. • The area is identified as subject to high risk of liquefaction. • There is an old land fill site located within the western extent of the area. • The area is an old swamp, and there is potential significant ground water issues that would need further investigation.	
Land use compatibility	• The Expressway designation covers much of the central portion of the area.	
Highly productive land	• The majority of the area is identified as LUC 3. • The broader extent of LUC 1-3 land surrounding the area lacks cohesion and confined by existing land use.	
Climate change (low-carbon futures)	• Consolidation within the existing urban environment is likely to be less resource intensive than greenfield development outside the urban area. • The area has good access to public transport, active modes and local centres, so is likely to promote less emissions intensive lifestyles.	

Future Urban Study Area **PK-01**



Area information	
Locality	Paekakariki
Location	The area to the east of Paekakariki, to the south of Queen Elizabeth Park.
Total area (ha)	123.1ha
Existing zoning	General Rural Zone, Rural Production Zone and General Residential Zone

Key constraints	Key opportunities
• Accessibility and transport network constraints. • Dividing effect of the railway line. • Liquefaction and flooding. • Wastewater servicing. • Potential land contamination.	• Proximity to Paekakariki. • Development as a catalyst to resolve existing issues with access and servicing.

Theoretical dwelling estimate									
Gross theoretical develop-ment area	**Public realm provision (roads and reserves)**	**Net theoretical develop-ment area**	**Density mix**					**Estimated dwellings**	**Notes (refer to covering report for methodology and general notes)**
			Low (20d /ha)	**Low-Med (40d /ha)**	**Med (60d /ha)**	**Med-high (80d /ha)**	**High (100d /ha)**		
22.4ha	30%	15.7ha	100%	0%	0%	0%	0%	310	• Theoretical development area is relatively fragmented as it avoids large areas of flood hazard and waterways. • Fragmented and urban fringe nature of development is assumed to attract lower density typologies.

Criteria	Observations	Rating
Mana whenua values	• The Wainui stream is identified as a site of significance to Ngāti Toa Rangatira. • The Te Puka stream is identified as a site of significance to Te Ātiawa ki Whakarongotai. • There are a number of archaeological sites located throughout the area.	
Iwi development aspirations		
Urban form	• Development of the area would function as an inland expansion of the established urban form at Paekakariki. • The dividing effects of the railway line and the Expressway, as well as extensive flood hazard are likely to challenge the cohesive development of urban form in the area.	
Local neighbourhoods	• Significant development in the area is likely to have effects on the established neighbourhood at Paekakariki.	
Activity centres	• Development in the are is likely to support activity in the existing local centre at Paekakariki. • Eastern parts of the area will be relatively distant from the established local centre. • There is a local primary school to the west of the area, although the nearest high school is in Paekakariki.	
Residential development	• The presence of extensive flood hazard restricts potential development, and is likely to result in a modest contribution to dwelling supply. • Comprehensive planning may be required to ensure a range of typologies are delivered.	
Business land	• There is no existing business zoned land within the area.	
Transport networks	• Development in the area will put additional pressure on the Beach Road intersection with SH1. This intersection is already congested and has safety issues. • Access to the northern extent of the area requires access through Tilley Road, which is narrow in parts. • The presence of the railway may prohibit the development of internal networks within the area. • It could be possible to connect Tilley Road to the Transmission Gully interchange with an overbridge over the railway. This would have the benefit of providing an access route to Paekakariki that avoids a level crossing. • There is reasonable access to Paekakariki station, although distance may encourage vehicle trips to the station and put pressure on park and ride facilities.	
Infrastructure and servicing	• The area has access to existing water supply mains and reservoir storage. • There is no existing reticulated waste water at Paekakariki. New development would require a new reticulated network, piped up to the existing waste water treatment facility at Otaihanga. • Development of the area may trigger requirements to upgrade the existing plant at Otaihanga. • On-site solutions for wastewater may be possible, although this may significantly reduce development density.	
Natural ecosystem values	• There are a number of ecological sites identified in the south of the area.	
Water bodies	• There is a relatively significant presence of streams and drains throughout the area. • The Te Puka and Wainui streams traverse the central portion of the site. • There are a number of other drains that traverse the site.	
Landscape and open space values	• An ONL covers part of the northern extent of the area. • A special amenity landscape and part of an ONL covers the southern portion of the area. • The area has good access to open space in Queen Elizabeth Park to the north.	
Heritage values	• There is a listed heritage building located in the small residential area to the north of SH1. • There is a heritage site listed as a kumara pit in the hills in the south-western extent of the area. • There is a large number of archaeological sites located in the north east of the area.	
Topography	• The area to the south of SH1 is relatively steep. • The central extent of the area is relatively flat. • The northern extent of the area is gently undulating.	
Natural hazards and land risks	• The central portion of the area is subject to flood risk. • The significant majority of the area is identified as subject to high risk of liquefaction. • The steep terrain in the south of the area is subject to a high risk of earthquake induced slope failure. • The majority of the central portion of the area is identified on the SLUR as potentially contaminated. • The Te Puka and Wainui streams are mobile and subject to erosion. • Ground water levels in the area are known to be high.	
Land use compatibility	• Reverse sensitivity effects associated with the Transmission Gully interchange. • Reverse sensitivity effects associated with the railway line.	
Highly productive land	• The majority of the area is identified as LUC 1. • The broader extent of LUC 1-3 land surrounding the area is not particularly cohesive.	
Climate change (low-carbon futures)	• Extending the urban environment and services to the area may be resource intensive. • Development in the area may result in increased vehicle trips to access district services, although this may be able to be offset by incorporation of active modes to provide improved access to Paekakariki station.	

Appendix 3C: Theoretical dwelling estimate

BOFFA MISKELL

Future Urban Study Area Theoretical Dwelling Estimate

Future Urban Study Area	Location	Total Area (ha)	Gross Potential Development Area (ha)	Public realm provision (roads and other reserves) (%)	Net Potential Development Area (ha)	Density Distribution										Theoretical dwelling estimate	Priority group
						Low (20du/ha)		Medium-Low (40du/ha)		Medium (60du/ha)		Medium-High (80du/ha)		High (100du/ha)			
						% of Net Potential Development Area	Estimated Dwellings	% of Net Potential Development Area	Estimated Dwellings	% of Net Potential Development Area	Estimated Dwellings	% of Net Potential Development Area	Estimated Dwellings	% of Net Potential Development Area	Estimated Dwellings		
ŌTAKI																	
ŌT-01	Ōtaki (west)	249.3	9.8	30%	6.9	100%	140	0%	-	0%	-	0%	-	0%	-	**140**	3
ŌT-02	Ōtaki (west) (already zoned Residential)	21.8	13.5	30%	9.5	100%	190	0%	-	0%	-	0%	-	0%	-	**190**	N/A
ŌT-03A	Ōtaki (east)	141.2	34.7	30%	24.3	100%	490	0%	-	0%	-	0%	-	0%	-	**490**	3
ŌT-03B	Ōtaki (east)	52.5	36.6	30%	25.6	100%	510	0%	-	0%	-	0%	-	0%	-	**510**	2A
ŌT-04	Ōtaki (east)	53.0	7.8	30%	5.5	80%	90	20%	40	0%	-	0%	-	0%	-	**130**	2A
ŌT-05	Ōtaki (east)	188.8	15.3	30%	10.7	100%	210	0%	-	0%	-	0%	-	0%	-	**210**	2B
ŌT-06	Ōtaki (east)	71.3	38.8	30%	27.2	100%	540	0%	-	0%	-	0%	-	0%	-	**540**	2B
TE HORO, PEKA PEKA & WAIKANAE																	
HA-01	Hautere	1,169.0	704.1	30%	492.9	70%	6,900	20%	3,940	10%	2,960	0%	-	0%	-	**13,800**	2B
HO-01	Te Horo	878.8	257.2	30%	180.0	80%	2,880	20%	1,440	0%	-	0%	-	0%	-	**4,320**	3
PE-01	Peka Peka (north)	296.1	47.7	30%	33.4	80%	530	20%	270	0%	-	0%	-	0%	-	**800**	3
PE-02	Peka Peka (south)	462.8	56.2	30%	39.3	80%	630	20%	310	0%	-	0%	-	0%	-	**940**	3
PE-03	Peka Peka (east)	173.9	86.8	30%	60.8	100%	1,220	0%	-	0%	-	0%	-	0%	-	**1,220**	2B
WA-01	Waikanae (east)	135.8	48.2	30%	33.7	100%	670	0%	-	0%	-	0%	-	0%	-	**670**	2A
WA-02A	Waikanae (north-west)	140.3	8.1	30%	5.7	100%	110	0%	-	0%	-	0%	-	0%	-	**110**	3
WA-02B	Waikanae (north-east)	250.4	117.9	30%	82.5	100%	1,650	0%	-	0%	-	0%	-	0%	-	**1,650**	2A
WA-03	Waikanae (west)	11.1	0.4	0%	0.4	0%	-	100%	20	0%	-	0%	-	0%	-	**20**	2B
WA-04	Waikanae (south)	45.0	21.5	30%	15.1	60%	180	20%	120	20%	180	0%	-	0%	-	**480**	1
WB-01	Waikanae Beach (north)	23.7	10.2	30%	7.1	80%	110	20%	60	0%	-	0%	-	0%	-	**170**	2B
WB-02	Waikanae Beach (east)	10.4	4.2	30%	2.9	80%	50	20%	20	0%	-	0%	-	0%	-	**70**	2B
OTAIHANGA & NIKAU VALLEY																	
OH-01	Otaihanga	373.7	125.4	30%	87.8	80%	1,400	20%	700	0%	-	0%	-	0%	-	**2,100**	2A
OH-02	Otaihanga (east)	153.6	51.3	30%	35.9	80%	570	20%	290	0%	-	0%	-	0%	-	**860**	2A
OH-03	Otaihanga (south)	41.9	24.1	30%	16.9	80%	270	20%	130	0%	-	0%	-	0%	-	**400**	2A
NV-01	Nikau Valley (north)	254.3	43.8	30%	30.7	100%	610	0%	-	0%	-	0%	-	0%	-	**610**	2B
PARAPARAUMU, RAUMATI & PAEKAKARIKI																	
PA-01 A*	Paraparaumu (airport, scenario A)*	126.6	33.0	30%	23.1	40%	180	30%	280	20%	280	10%	180	0%	-	**920**	1
PA-01 B*	Paraparaumu (airport, scenario B)*	126.6	74.6	30%	52.2	40%	420	30%	630	20%	630	10%	420	0%	-	**2,100**	1
PA-02	Paraparaumu (west)	8.9	1.9	30%	1.3	0%	-	0%	-	0%	-	100%	110	0%	-	**110**	1
PA-03	Paraparaumu (north-east) (area zoned Residential)	38.6	13.7	30%	9.6	100%	190	0%	-	0%	-	0%	-	0%	-	**190**	N/A
	Paraparaumu (north-east) (area not zoned Residential)		3.7	30%	2.6	100%	50	0%	-	0%	-	0%	-	0%	-	**50**	2B
PA-04	Paraparaumu (east)	36.4	0.9	0%	0.9	0%	-	0%	-	0%	-	100%	70	0%	-	**70**	2B
PA-05	Paraparaumu (south-east)	44.2	11.5	30%	8.1	100%	160	0%	-	0%	-	0%	-	0%	-	**160**	2B
PA-06	Paraparaumu (south-east)	40.4	32.4	30%	22.7	100%	450	0%	-	0%	-	0%	-	0%	-	**450**	2B
RB-01	Raumati Beach	5.9	5.1	30%	3.6	0%	-	0%	-	0%	-	100%	290	0%	-	**290**	1
RS-01	Raumati South	43.6	11.5	30%	8.1	50%	80	50%	160	0%	-	0%	-	0%	-	**240**	2A
PK-01	Paekakariki (east)	123.1	22.4	30%	15.7	100%	310	0%	-	0%	-	0%	-	0%	-	**310**	2B

Note:

* These are mutually exclusive development scenarios. Refer to the assessment sheets for a detailed description of each.

About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

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Auckland	**Hamilton**	**Tauranga**	**Wellington**	**Christchurch**	**Queenstown**	**Dunedin**
+64 9 358 2526	+64 7 960 0006	+65 7 571 5511	+64 4 385 9315	+64 3 366 8891	+64 3 441 1670	+64 3 470 0460